APPENDIX B

HEC-RAS MODELING RESULTS – UNDEVELOPED B (METRIC)

0.2% ACE (500-YR)

0.5% ACE (200-YR)

1% ACE (100-YR)

2% ACE (50-YR)

5% ACE (20-YR)

10% ACE (10-YR)

20% ACE (5-YR)

50% ACE (2-YR)

67% ACE (1.5-YR)

5% BY DURATION

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	0.2% - 500yr	1384.9	1282.26	1278.12	3.09	2.45	48.55	27.49	110.15	456.47	3.58	2.01	4.14	4.14
Sweet Grass County	A1	RM 478.10	225378	0.2% - 500yr	1384.9	1281.73	1277.66	3.8	3.29	80.6	48.83	115.1	484.21	2.65	1.61	4.07	4.07
Sweet Grass County	A1	RM 478.00	224862	0.2% - 500yr	1384.9	1281.24	1277.97	3.65	3.37	76.98	60.35	137.18	433.24	2.37	1.86	3.27	3.27
Sweet Grass County	A1	RM 477.91	224362	0.2% - 500yr	1384.9	1280.64	1277.65	4.16	3.34	90.25	54.32	88.2	505.31	2.56	1.54	2.98	2.98
Sweet Grass County	A1	RM 477.81	223862	0.2% - 500yr	1384.9	1280.21	1276.96	3.6	3.05	59.35	42.47	127.58	407.42	2.17	1.55	3.25	3.25
Sweet Grass County	A1	RM 477.72	223354	0.2% - 500yr	1384.9	1279.93	1276.32	2.72	2.36	45.5	31.55	185.23	570.03	1.98	1.37	3.61	3.61
Sweet Grass County	A1	RM 477.63	222892	0.2% - 500yr	1384.9	1279.83	1275.76	1.84	1.58	19.81	13.41	265.2	762.49	2.28	1.54	4.07	4.07
Sweet Grass County	A1	RM 477.49	222220	0.2% - 500yr	1384.9	1279.66	1276.07	1.82	1.51	17.82	12.57	256.97	805.83	2.14	1.51	3.59	3.59
Sweet Grass County	A1	RM 477.40	221702	0.2% - 500yr	1384.9	1279.6	1275.47	1.46	1.06	11.55	7.75	242.4	862.31	2.88	1.93	4.13	4.13
Sweet Grass County	A1	RM 477.31	221259	0.2% - 500yr	1384.9	1279.11	1275.74	3.25	1.75	57.48	23.98	122.85	874.05	2.84	1.18	3.37	3.37
Sweet Grass County	A1	RM 477.21	220767	0.2% - 500yr	1384.9	1278.88	1275.28	3.06	1.74	49.55	19.34	126.43	891.24	3.07	1.19	3.59	3.59
Sweet Grass County	A1	RM 477.11	220252	0.2% - 500yr	1384.9	1278.58	1274.86	3.12	1.78	55.89	28.18	147.45	885.31	2.44	1.22	3.72	3.72
Sweet Grass County	A1	RM 477.04	219860	0.2% - 500yr	1384.9	1278.25	1275.13	3.31	1.84	61.72	29.42	131.95	905.02	2.53	1.21	3.12	3.12
Sweet Grass County	A1	RM 476.95	219422	0.2% - 500yr	1384.9	1277.77	1274.55	3.51	2.14	73.99	36.94	155.66	870.69	2.13	1.06	3.22	3.22
Sweet Grass County	A1	RM 476.84	218828	0.2% - 500yr	1384.9	1277.47	1273.95	2.93	2.01	48.6	25.69	134.66	818.58	2.52	1.32	3.52	3.52
Sweet Grass County	A1	RM 476.75	218345	0.2% - 500yr	1384.9	1277.16	1273.54	2.86	2.03	43.4	22.74	172.58	816.75	2.44	1.27	3.62	3.62
Sweet Grass County	A1	RM 476.66	217855	0.2% - 500yr	1384.9	1276.84	1273.45	3.03	1.95	49.06	24.68	160.17	904.52	2.41	1.21	3.38	3.38
Sweet Grass County	A1	RM 476.57	217396	0.2% - 500yr	1384.9	1276.46	1273.09	3.47	1.99	65.26	29.01	98.93	888.03	2.9	1.28	3.38	3.38
Sweet Grass County	A1	RM 476.47	216861	0.2% - 500yr	1384.9	1276.14	1273.04	3.19	2.05	57.03	26.64	126.17	893.93	2.58	1.21	3.1	3.1
Sweet Grass County	A1	RM 476.38	216362	0.2% - 500yr	1384.9	1275.91	1272.1	2.98	1.79	46.89	22.51	105.41	909.14	3.1	1.48	3.82	3.82
Sweet Grass County	A1	RM 476.28	215816	0.2% - 500yr	1384.9	1275.15	1271.85	4.08	3.34	92.86	39.7	100.31	773.95	2.67	1.13	3.3	3.3
Sweet Grass County	A1	RM 476.15	215126	0.2% - 500yr	1384.9	1274.7	1271.76	3.33	2.59	63.79	39.72	133.16	724.99	2.39	1.49	2.94	2.94
Sweet Grass County	A1	RM 476.01	214437	0.2% - 500yr	1384.9	1274.42	1270.96	2.63	2.37	38.19	25.96	153.37	492.04	2.73	1.85	3.47	3.47
Sweet Grass County	A1	RM 475.91	213787	0.2% - 500yr	1384.9	1273.92	1270.35	3.05	2.82	51.46	44.95	163.67	217.98	2.68	2.35	3.57	3.57
Sweet Grass County	A1	RM 475.76	213072	0.2% - 500yr	1384.9	1273.48	1270.22	3.14	2.38	54.4	34.98	146.41	333.57	2.72	1.75	3.26	3.26
Sweet Grass County	A1	RM 475.63	212347	0.2% - 500yr	1384.9	1273.27	1269.34	2.48	2.05	32.75	24.66	173.18	297.15	3.03	2.27	3.93	3.93
Sweet Grass County	A1	RM 475.47	211539	0.2% - 500yr	1384.9	1272.72	1268.97	3.11	2.95	51.17	39.54	144.1	217.67	3.06	2.36	3.75	3.75
Sweet Grass County	A1	RM 475.35	210875	0.2% - 500yr	1384.9	1272.01	1268.88	3.85	3.41	80.32	49.05	120.05	250.02	2.92	1.77	3.13	3.13
Sweet Grass County	A1	RM 475.24	210333	0.2% - 500yr	1384.9	1272.03	1267.53	2.71	2.33	35.65	24.42	118.16	331.19	4.1	2.79	4.5	4.5
Sweet Grass County	A2	RM 475.12	209673	0.2% - 500yr	1384.9	1271.04	1267.9	4.43	3.72	110.97	71.57	116.67	275.19	2.53	1.63	3.13	3.13
Sweet Grass County	A2	RM 475.00	209034	0.2% - 500yr	1384.9	1270.26	1266.93	3.57	3.56	74.34	73.88	167.97	199.37	2.31	2.3	3.33	3.33
Sweet Grass County	A2	RM 474.87	208359	0.2% - 500yr	1384.9	1270.09	1266.75	2.71	2.45	38.89	29.57	80.83	368.75	3.2	2.38	3.34	3.34
Sweet Grass County	A2	RM 474.76	207797	0.2% - 500yr	1384.9	1269.55	1266.42	3.66	2.8	72.72	38.27	77.58	400.84	2.94	1.52	3.13	3.13
Sweet Grass County	A2	RM 474.67	207305	0.2% - 500yr	1384.9	1269.07	1266.29	3.77	3.12	79.52	50.39	66.54	321.43	2.71	1.67	2.77	2.77
Sweet Grass County	A2	RM 474.54	206635	0.2% - 500yr	1384.9	1268.78	1264.92	2.85	2.38	43.26	21.51	128.46	388.75	3.04	1.51	3.86	3.86
Sweet Grass County	A2	RM 474.43	205945	0.2% - 500yr	1384.9	1268.45	1265.16	3.04	2.13	49.19	20.52	89.64	511.66	3.1	1.27	3.28	3.28
Sweet Grass County	A2	RM 474.30	205321	0.2% - 500yr	1384.9	1268.21	1264.46	2.73	1.74	39.39	17.93	133.9	656.1	3.13	1.41	3.75	3.75
Sweet Grass County	A2	RM 474.21	204877	0.2% - 500yr	1384.9	1267.74	1264.22	3.55	2.1	66.36	23.16	103.15	685.48	3.15	1.09	3.52	3.52
Sweet Grass County	A2	RM 474.12	204378	0.2% - 500yr	1384.9	1267.65	1263.24	2.72	1.63	39.5	18.05	140.42	851.02	3	1.36	4.4	4.4
Sweet Grass County	A2	RM 474.01	203787	0.2% - 500yr	1384.9	1266.98	1263.55	3.65	2.42	76.23	30.58	138.78	681.01	2.45	0.98	3.43	3.43
Sweet Grass County	A2	RM 473.87	203072	0.2% - 500yr	1384.9	1266.56	1263.52	3.3	2.18	58.48	21.6	100.52	843.23	2.7	0.99	3.04	3.04
Sweet Grass County	A2	RM 473.74	202395	0.2% - 500yr	1384.9	1266.23	1263.06	2.83	1.98	44.27	20.08	121.34	771.94	2.71	1.22	3.17	3.17
Sweet Grass County	A2	RM 473.62	201781	0.2% - 500yr	1384.9	1265.96	1262.63	2.71	1.77	41.63	19.78	150.66	830.79	2.5	1.18	3.33	3.33
Sweet Grass County	A2	RM 473.50	201110	0.2% - 500yr	1384.9	1265.67	1261.83	2.5	1.83	34.97	17.66	179.13	804.55	2.65	1.32	3.84	3.84
Sweet Grass County	A2	RM 473.36	200362	0.2% - 500yr	1384.9	1265.42	1261.08	2.52	1.87	32.05	14.67	133.21	669.84	3.61	1.64	4.34	4.34
Sweet Grass County	A2	RM 473.27	199862	0.2% - 500yr	1384.9	1265.16	1260.81	2.91	2.23	43.3	22.98	117.77	514.7	3.41	1.8	4.36	4.36
Sweet Grass County	A2	RM 473.17	199362	0.2% - 500yr	1384.9	1264.89	1260.56	3.08	2.33	46.3	17.64	102.94	414.46	4	1.51	4.33	4.33
Sweet Grass County	A2	RM 473.08	198879	0.2% - 500yr	1384.9	1264.33	1260.56	3.88	3.28	78.58	42.87	105	341.15	3.23	1.75	3.77	3.77
Sweet Grass County	A2	RM 472.98	198340	0.2% - 500yr	1384.9	1264.19	1260.21	3.16	2.5	51.5	23.33	120.55	438.67	3.36	1.52	3.98	3.98
Sweet Grass County	A2	RM 472.89	197862	0.2% - 500yr	1384.9	1263.56	1260.5	4.08	2.76	92.27	40.69	108.06	463.08	2.72	1.19	3.07	3.07
Sweet Grass County	A2	RM 472.79	197362	0.2% - 500yr	1384.9	1263.33	1259.98	3.27	2.29	58.83	25.09	136.27	560.57	2.72	1.16	3.34	3.34
Sweet Grass County	A2	RM 472.70	196862	0.2% - 500yr	1384.9	1262.69	1259.35	3.89	2.67	86.63	37.44	125.74	490.86	2.45	1.06	3.34	3.34
Sweet Grass County	A2	RM 472.60	196360	0.2% - 500yr	1384.9	1262.63	1259.01	2.51	1.98	36.04	23.08	181.89	449.19	2.43	1.56	3.62	3.62
Sweet Grass County	A2	RM 472.50	195816	0.2% - 500yr	1384.9	1262.33	1258.53	2.65	2.07	40.32	27.34	177.8	438.72	2.45	1.65	3.8	3.8
Sweet Grass County	A2	RM 472.41	195349	0.2% - 500yr	1384.9	1262	1258.52	2.79	2.29	45.55	31.12	198.55	413.8	2.3	1.57	3.48	3.48
Sweet Grass County	A2	RM 472.31	194860	0.2% - 500yr	1384.9	1261.77	1258.34	2.73	2.06	39.9	22.23	149.41	444.53	3	1.67	3.43	3.43
Sweet Grass County	A2	RM 472.22	194356	0.2% - 500yr	1384.9	1261.6	1257.3	2.77	1.9	36.98	17.48	115.58	451.71	3.49	1.61	4.3	4.3
Sweet Grass County	A2	RM 472.09	193660	0.2% - 500yr	1384.9	1260.94	1257.45	3.87	2.48	80.31	33.17	93.59	457.04	3.06	1.22	3.49	3.49
Sweet Grass County	A2	RM 471.95	192935	0.2% - 500yr	1384.9	1260.88	1256.05	2.61	1.67	33.12	15.94	103.53	430.78	4.08	1.93	4.83	4.83
Sweet Grass County	A2	RM 471.86	192442	0.2% - 500yr	1384.9	1260.23	1256.23	4.08	2.53	85.05	40.05	76.65	336.62	3.53	1.63	4	4
Sweet Grass County	A2	RM 471.75	191870	0.2% - 500yr	1384.9	1260.1	1256.47	2.94	2.02	45.69	24.86	134.52	496.63	3.09	1.68	3.63	3.63

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	0.2% - 500yr	1384.9	1259.33	1256.54	4.08	2.74	95.16	39.22	124.48	501.42	2.45	1.01	2.79	2.79
Sweet Grass County	A2	RM 471.52	190686	0.2% - 500yr	1384.9	1258.99	1255.75	2.99	1.9	48.65	19.34	127.76	730.48	2.87	1.13	3.24	3.24
Sweet Grass County	A2	RM 471.38	189910	0.2% - 500yr	1384.9	1258.27	1255.44	3.46	2.32	75.26	33.35	150.55	733.96	1.83	0.81	2.83	2.83
Sweet Grass County	A2	RM 471.28	189362	0.2% - 500yr	1384.9	1257.73	1254.65	2.7	2.15	47.83	29.84	228.65	643.53	1.6	1	3.08	3.08
Sweet Grass County	A2	RM 471.18	188875	0.2% - 500yr	1384.9	1257.37	1254.2	2.78	2.12	41.42	22.07	155.58	616.95	1.99	1.06	3.17	3.17
Sweet Grass County	A2	RM 471.06	188150	0.2% - 500yr	1384.9	1257.04	1253.95	2.42	1.62	35.07	21.53	140.6	654.57	2.13	1.31	3.09	3.09
Sweet Grass County	A2	RM 470.94	187526	0.2% - 500yr	1384.9	1256.65	1253.58	2.85	1.96	43.99	23.15	108.67	584.91	2.52	1.32	3.08	3.08
Sweet Grass County	A2	RM 470.84	186938	0.2% - 500yr	1384.9	1256.43	1252.88	2.42	1.72	34.1	20.08	157.2	665.09	2.36	1.38	3.55	3.55
Sweet Grass County	A2	RM 470.73	186362	0.2% - 500yr	1384.9	1256.29	1253.49	1.89	1.58	21.25	15.46	189.13	611.72	2.16	1.57	3.22	3.22
Sweet Grass County	A2	RM 470.65	185977	0.2% - 500yr	1384.9	1256.04	1252.18	2.32	1.76	30.02	16.81	202.91	671.55	2.65	1.48	3.86	3.86
Sweet Grass County	A2	RM 470.56	185491	0.2% - 500yr	1384.9	1255.93	1252.52	2.11	1.61	24.41	14.77	189.32	674.61	2.82	1.7	3.42	3.42
Sweet Grass County	A2	RM 470.44	184875	0.2% - 500yr	1384.9	1255.81	1251.39	2.02	1.49	20.47	11.63	158.35	447.31	3.69	2.08	4.42	4.42
Sweet Grass County	A2	RM 470.35	184363	0.2% - 500yr	1384.9	1254.81	1251.52	4.39	3.55	107.86	65.47	113.84	248	2.6	1.57	3.28	3.28
Sweet Grass County	A2	RM 470.23	183828	0.2% - 500yr	1384.9	1254.5	1251.51	3.04	2.5	53.86	36.95	180.8	346.68	2.32	1.6	2.99	2.99
Sweet Grass County	A2	RM 470.13	183304	0.2% - 500yr	1384.9	1254.27	1249.86	2.67	2.34	40.43	31.02	162.28	306.35	2.54	1.93	4.41	4.41
Sweet Grass County	A2	RM 470.05	182914	0.2% - 500yr	1384.9	1254.17	1250.59	2.23	2.02	27.84	22.61	175.23	321.59	2.62	2.13	3.58	3.58
Sweet Grass County	A2	RM 469.93	182267	0.2% - 500yr	1384.9	1253.29	1249.62	3.99	3.3	86.93	43.11	105.63	299.81	2.84	1.4	3.67	3.67
Sweet Grass County	A2	RM 469.85	181860	0.2% - 500yr	1384.9	1252.99	1249.59	3.84	2.78	78.93	36.96	96.24	370.91	3.03	1.41	3.4	3.4
Sweet Grass County	A2	RM 469.75	181348	0.2% - 500yr	1384.9	1252.96	1248.77	2.67	1.93	36.64	18.54	116.21	420.7	3.4	1.7	4.19	4.19
Sweet Grass County	A2	RM 469.68	180952	0.2% - 500yr	1384.9	1252.71	1249.31	2.93	2	46.1	23.37	135.73	460.25	2.98	1.51	3.39	3.39
Sweet Grass County	A2	RM 469.58	180427	0.2% - 500yr	1384.9	1252.64	1247.94	2.31	1.62	26.19	14.31	130.56	400.45	3.94	2.14	4.7	4.7
Sweet Grass County	A2	RM 469.47	179860	0.2% - 500yr	1384.9	1252.25	1247.85	3.24	2.09	50.55	24.77	93.72	366.36	3.76	1.81	4.4	4.4
Sweet Grass County	A2	RM 469.39	179400	0.2% - 500yr	1384.9	1251.88	1248.45	3.53	2.61	67.98	41.42	118.53	306.48	2.85	1.73	3.43	3.43
Sweet Grass County	A2	RM 469.30	178975	0.2% - 500yr	1384.9	1251.81	1247.55	2.88	2.08	41.38	19.19	106.16	385.75	3.8	1.73	4.26	4.26
Sweet Grass County	A2	RM 469.21	178467	0.2% - 500yr	1384.9	1251.19	1248.31	3.98	2.87	88.65	42.31	107.26	389.65	2.61	1.24	2.88	2.88
Sweet Grass County	A2	RM 469.09	177862	0.2% - 500yr	1384.9	1250.9	1247.12	2.38	1.7	31.39	17.65	118.23	537.9	2.71	1.52	3.78	3.78
Sweet Grass County	A2	RM 469.00	177350	0.2% - 500yr	1384.9	1250.22	1247.58	3.97	2.59	92.64	43.08	89.39	545.38	2.28	1.05	2.64	2.64
Sweet Grass County	A2	RM 468.90	176865	0.2% - 500yr	1384.9	1249.92	1246.48	2.6	1.96	34.78	20.25	157.69	536.71	2.44	1.41	3.45	3.45
Sweet Grass County	A2	RM 468.80	176341	0.2% - 500yr	1384.9	1249.61	1246.11	2.87	2.09	46.46	23.87	136.31	599.61	2.59	1.32	3.49	3.49
Sweet Grass County	A2	RM 468.71	175823	0.2% - 500yr	1384.9	1249.31	1246.41	2.82	2.22	47.36	28.78	147.29	589.53	2.15	1.31	2.91	2.91
Sweet Grass County	A2	RM 468.57	175192	0.2% - 500yr	1384.9	1249.15	1245.17	2.06	1.6	23.57	14.84	178.26	723.68	2.7	1.68	3.98	3.98
Sweet Grass County	A2	RM 468.42	174099	0.2% - 500yr	1384.9	1248.42	1244.97	3.08	2.39	54.54	33.69	168.48	536.5	2.42	1.49	3.45	3.45
Sweet Grass County	A3	RM 468.25	173324	0.2% - 500yr	1384.9	1248.22	1242.97	2.47	1.69	30.18	14.81	129.09	600.32	3.79	1.84	5.25	5.25
Sweet Grass County	A3	RM 468.16	172855	0.2% - 500yr	1384.9	1248.01	1243.58	2.86	1.94	42.74	22.96	119.05	593.68	3.22	1.72	4.42	4.42
Sweet Grass County	A3	RM 468.07	172364	0.2% - 500yr	1384.9	1247.97	1243.89	2.17	1.6	24.7	14.39	136.65	663.25	3.23	1.87	4.08	4.08
Sweet Grass County	A3	RM 467.97	171839	0.2% - 500yr	1384.9	1247.27	1244.32	4.07	2.87	95.28	53.65	92.44	553.6	2.45	1.36	2.95	2.95
Sweet Grass County	A3	RM 467.87	171312	0.2% - 500yr	1384.9	1247.03	1243.46	2.68	2.34	39.71	27.21	159.56	557.53	2.73	1.87	3.57	3.57
Sweet Grass County	A3	RM 467.78	170840	0.2% - 500yr	1384.9	1246.48	1243.74	3.71	2.92	79.67	46.52	100.58	397.27	2.38	1.39	2.74	2.74
Sweet Grass County	A3	RM 467.69	170376	0.2% - 500yr	1384.9	1246.2	1242.96	3.12	2.48	55.06	33.93	115.51	526.62	2.58	1.57	3.24	3.24
Sweet Grass County	A3	RM 467.55	169614	0.2% - 500yr	1384.9	1245.83	1242.1	2.55	2.15	37.9	25.87	133.88	622.16	2.3	1.56	3.72	3.72
Sweet Grass County	A3	RM 467.41	168870	0.2% - 500yr	1384.9	1245.62	1241.15	2.26	1.47	26.18	12.76	133.26	856.93	3.4	1.64	4.48	4.48
Sweet Grass County	A3	RM 467.30	168362	0.2% - 500yr	1384.9	1244.98	1242.15	4.03	2.24	90.47	33.83	90.65	862.63	2.68	0.99	2.82	2.82
Sweet Grass County	A3	RM 467.16	167641	0.2% - 500yr	1384.9	1244.66	1240.78	2.36	1.44	30.41	13.4	159.04	876.07	2.81	1.23	3.88	3.88
Sweet Grass County	A3	RM 467.00	166780	0.2% - 500yr	1384.9	1244.23	1240.48	2.83	1.63	45.18	20.67	141.03	864.14	2.55	1.15	3.75	3.75
Sweet Grass County	A3	RM 466.83	165902	0.2% - 500yr	1384.9	1243.78	1239.84	2.91	1.64	44.67	19.18	111.13	807.3	3.16	1.34	3.94	3.94
Sweet Grass County	A3	RM 466.73	165364	0.2% - 500yr	1384.9	1243.43	1239.81	3.13	1.88	52.1	21.4	115.43	627.69	3.06	1.25	3.62	3.62
Sweet Grass County	A3	RM 466.64	164858	0.2% - 500yr	1384.9	1242.92	1239.36	3.8	2.32	72.52	27.17	100.5	646.83	2.75	1.02	3.55	3.55
Sweet Grass County	A3	RM 466.49	164108	0.2% - 500yr	1384.9	1242.55	1239.67	3.05	1.85	51.66	27.25	107.44	676.08	2.64	1.39	2.88	2.88
Sweet Grass County	A3	RM 466.25	162845	0.2% - 500yr	1384.9	1241.28	1238.71	4	2.58	92.16	33.4	79.36	613.36	2.52	0.88	2.57	2.57
Sweet Grass County	A3	RM 465.79	160351	0.2% - 500yr	1384.9	1240.31	1236.48	2.32	1.17	28.94	13.17	110.96	873.99	3.07	1.36	3.83	3.83
Sweet Grass County	A3	RM 465.01	155919	0.2% - 500yr	1384.9	1238.06	1234.44	3.54	2.6	68.86	28.64	129.45	522.86	2.77	1.15	3.62	3.62
Sweet Grass County	A3	RM 464.68	154254	0.2% - 500yr	1384.9	1237.06	1233.35	2.91	2.22	48.14	25.25	171.81	610.83	2.49	1.3	3.71	3.71
Sweet Grass County	A3	RM 464.48	153160	0.2% - 500yr	1384.9	1236.52	1232.71	2.58	1.85	38.32	20.58	183.52	614.4	2.42	1.3	3.81	3.81
Sweet Grass County	A3	RM 464.33	152378	0.2% - 500yr	1384.9	1236.12	1232.61	2.61	1.81	38.69	20.74	183.37	630.56	2.47	1.32	3.51	3.51
Sweet Grass County	A3	RM 464.16	151621	0.2% - 500yr	1384.9	1235.81	1232.45	2.48	1.67	34.76	19.09	166.91	921.07	2.52	1.38	3.36	3.36
Sweet Grass County	A3	RM 464.04	150961	0.2% - 500yr	1384.9	1235.54	1231.48	2.61	1.62	34.52	17.53	118.42	881.94	3.56	1.79	4.06	4.06
Sweet Grass County	A3	RM 463.88	150174	0.2% - 500yr	1384.9	1234.87	1231.85	3.52	2.55	70.88	43.03	136.95	694.89	2.44	1.48	3.02	3.02
Sweet Grass County	A3	RM 463.78	149616	0.2% - 500yr	1384.9	1234.53	1230.54	3.07	2.38	52.29	35.78	149.53	554.74	2.68	1.83	3.99	3.99
Sweet Grass County	A3	RM 463.67	149069	0.2% - 500yr	1384.9	1234.25	1230.86	2.99	2.09	49.6	33.34	136.34	745.44	2.7	1.81	3.39	3.39
Sweet Grass County	A3	RM 463.59	148630	0.2% - 500yr	1384.9	1234.04	1230.39	2.86	1.93	42.89	28.12	139.26	1294.49	2.95	1.93	3.65	3.65
Sweet Grass County	A3	RM 463.49	148111	0.2% - 500yr	1384.9	1233.23	1229.73	4.12	2.92	96.15	50.4	121.16	1225.14	2.51	1.31	3.5	3.5

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	0.2% - 500yr	1384.9	1232.72	1229.72	2.81	1.98	46.69	28.33	179.41	1411.42	2.19	1.33	3.01	3.01
Sweet Grass County	A3	RM 463.20	146616	0.2% - 500yr	1384.9	1232.37	1228.95	2.53	1.65	38.22	22.73	124.46	1521.51	2.19	1.28	3.42	3.42
Sweet Grass County	A3	RM 463.06	145881	0.2% - 500yr	1384.9	1232.18	1228.89	1.82	1.07	19.41	12.64	147.76	1517.11	2.3	1.49	3.28	3.28
Sweet Grass County	A4	RM 462.79	144435	0.2% - 500yr	1384.9	1232.07	1228.25	1.2	0.7	7.63	5.02	133.61	1472.2	3.11	2.01	3.82	3.82
Sweet Grass County	A4	RM 462.16	141146	0.2% - 500yr	1384.9	1229.59	1226.15	3.6	2.24	73.63	31.72	106.85	899.41	2.53	1.07	3.44	3.44
Sweet Grass County	A4	RM 461.97	140135	0.2% - 500yr	1384.9	1229.08	1226.06	2.67	1.62	41.82	25.24	120.82	742.12	2.27	1.37	3.02	3.02
Sweet Grass County	A4	RM 461.71	138705	0.2% - 500yr	1384.9	1227.57	1224.75	3.99	3.09	97.42	48.84	101.5	506.67	2	1	2.81	2.81
Sweet Grass County	A4	RM 461.52	137683	0.2% - 500yr	1384.9	1227.17	1222.31	2.57	1.76	32.35	12.1	84.17	713	4.05	1.45	4.86	4.86
Sweet Grass County	A4	RM 461.33	136718	0.2% - 500yr	1384.9	1226.94	1223.38	2.19	1.64	26.52	16.7	124.34	845.05	2.74	1.72	3.57	3.57
Sweet Grass County	A4	RM 461.14	135736	0.2% - 500yr	1384.9	1226.22	1222.44	3.32	2.19	59.2	27.36	117.37	592.78	3	1.37	3.78	3.78
Sweet Grass County	A4	RM 460.99	134951	0.2% - 500yr	1384.9	1225.73	1221.98	3.29	2.3	57.83	25.86	121.6	499.24	3.04	1.35	3.74	3.74
Sweet Grass County	A4	RM 460.85	134214	0.2% - 500yr	1384.9	1224.88	1222.07	3.87	3.12	82.57	40.72	147.93	399.36	2.3	1.13	2.81	2.81
Sweet Grass County	A4	RM 460.74	133616	0.2% - 500yr	1384.9	1224.29	1220.27	3.34	2.9	58.13	26.83	123.1	319.06	3.28	1.5	4.02	4.02
Sweet Grass County	A4	RM 460.63	133067	0.2% - 500yr	1384.9	1224.27	1218.9	2.58	2.24	30.4	9.7	105.59	399.38	4.99	1.55	5.37	5.37
Sweet Grass County	A4	RM 460.50	132281	0.2% - 500yr	1384.9	1223.78	1221.12	3.42	2.67	69.86	41.28	151.99	497.67	2.14	1.26	2.66	2.66
Sweet Grass County	A4	RM 460.38	131785	0.2% - 500yr	1384.9	1223.64	1220.5	2.45	1.85	32.93	18.33	139.17	622.79	2.42	1.34	3.14	3.14
Sweet Grass County	A4	RM 460.29	131287	0.2% - 500yr	1384.9	1223.38	1219.97	2.59	2.03	37.75	20.36	135.07	502.63	2.6	1.39	3.41	3.41
Sweet Grass County	A4	RM 460.19	130793	0.2% - 500yr	1384.9	1223.2	1219.38	2.49	2.05	32.85	22.31	118.6	361.01	3.09	2.1	3.81	3.81
Sweet Grass County	A4	RM 460.08	130210	0.2% - 500yr	1384.9	1222.83	1218.23	2.87	2.36	41.84	23.45	132.3	406.6	3.47	1.94	4.6	4.6
Sweet Grass County	A4	RM 459.99	129763	0.2% - 500yr	1384.9	1222.48	1218.01	3.33	2.89	55.73	35.98	110.76	363.81	3.62	2.32	4.47	4.47
Sweet Grass County	A4	RM 459.90	129246	0.2% - 500yr	1384.9	1222.31	1217.62	3.11	2.77	47.01	33.79	106.75	256.64	4.03	2.89	4.69	4.69
Sweet Grass County	A4	RM 459.81	128792	0.2% - 500yr	1384.9	1221.26	1218.15	4.8	4.6	125.22	94.48	99.73	265.83	2.87	2.16	3.11	3.11
Sweet Grass County	A4	RM 459.72	128310	0.2% - 500yr	1509.5	1221.33	1217.31	3.3	2.66	56.59	34.26	127.21	379.74	3.29	1.98	4.02	4.02
Sweet Grass County	A4	RM 459.62	127798	0.2% - 500yr	1509.5	1221.19	1217.46	2.9	2.36	44.32	25.83	128.42	452.64	3.09	1.8	3.72	3.72
Sweet Grass County	A5	RM 459.53	127324	0.2% - 500yr	1509.5	1220.38	1217.26	3.95	3.76	89.68	61.02	156.91	272.69	2.42	1.64	3.12	3.12
Sweet Grass County	A5	RM 459.44	126881	0.2% - 500yr	1509.5	1220.25	1216.93	3.03	2.87	51.01	41.65	185.47	492.42	2.65	2.16	3.32	3.32
Sweet Grass County	A5	RM 459.31	126192	0.2% - 500yr	1509.5	1219.81	1215.66	3.15	2.85	52.83	38.92	153.23	579.49	3.06	2.25	4.15	4.15
Sweet Grass County	A5	RM 459.24	125848	0.2% - 500yr	1509.5	1219.47	1215.69	3.49	3.15	65.97	49.29	145.56	639.31	2.91	2.17	3.78	3.78
Sweet Grass County	A5	RM 459.16	125420	0.2% - 500yr	1509.5	1218.8	1215.82	4.08	4.02	96.77	83.35	158.87	395.69	2.33	2	2.98	2.98
Sweet Grass County	A5	RM 459.02	124624	0.2% - 500yr	1509.5	1218.6	1214.8	2.63	2.43	37.77	26.99	200.81	616.48	2.81	2	3.8	3.8
Sweet Grass County	A5	RM 458.79	123371	0.2% - 500yr	1509.5	1217.64	1214.02	3.46	3.12	65.34	34.52	152.03	339.57	2.81	1.48	3.62	3.62
Sweet Grass County	A5	RM 458.48	121727	0.2% - 500yr	1509.5	1216.52	1213.35	2.93	2.8	51.83	47.78	165.37	310.54	2.09	1.93	3.17	3.17
Sweet Grass County	A5	RM 458.36	121100	0.2% - 500yr	1509.5	1215.52	1212.73	4.16	3.62	100.17	68.1	117.71	273.23	2.25	1.53	2.79	2.79
Sweet Grass County	A5	RM 458.25	120543	0.2% - 500yr	1509.5	1215.52	1211.35	2.56	2.22	33.58	24.88	122.03	270.25	3.41	2.52	4.18	4.18
Sweet Grass County	A5	RM 458.13	119849	0.2% - 500yr	1509.5	1215.26	1211.21	2.62	2.38	35.69	29.25	131.08	238.86	3.26	2.66	4.05	4.05
Sweet Grass County	A5	RM 458.03	119256	0.2% - 500yr	1509.5	1215.1	1210.09	2.53	2.25	30.75	21.48	122.91	228.99	4.22	2.93	5.01	5.01
Sweet Grass County	A5	RM 457.87	118444	0.2% - 500yr	1509.5	1214.72	1209.57	3.01	2.84	41.88	29.15	104.9	222.5	4.73	3.28	5.15	5.15
Sweet Grass County	A5	RM 457.76	117858	0.2% - 500yr	1509.5	1214.48	1210.24	3.1	3	48.61	42.17	137.04	200.93	3.53	3.06	4.25	4.25
Sweet Grass County	A5	RM 457.66	117350	0.2% - 500yr	1509.5	1214.17	1210.03	3.32	3.16	56.46	46.47	132.62	274.36	3.39	2.79	4.14	4.14
Sweet Grass County	A5	RM 457.54	116694	0.2% - 500yr	1509.5	1213.76	1209.93	3.46	3.18	62.24	48.01	131.05	252.75	3.24	2.51	3.82	3.82
Sweet Grass County	A5	RM 457.35	115703	0.2% - 500yr	1509.5	1212.33	1209.69	4.49	4.49	120.83	120.83	156.69	156.69	2.14	2.14	2.64	2.64
Sweet Grass County	A5	RM 457.20	114921	0.2% - 500yr	1509.5	1212.2	1208.7	2.67	2.67	38.61	38.29	197.6	199.22	2.87	2.84	3.49	3.49
Sweet Grass County	A5	RM 457.02	113974	0.2% - 500yr	1509.5	1211.76	1208.04	3.1	2.26	49.66	26.16	103.04	385.18	3.3	1.73	3.71	3.71
Sweet Grass County	A5	RM 456.84	113009	0.2% - 500yr	1509.5	1211.22	1206.55	3.12	2.8	47.74	29.97	120.66	219.33	3.92	2.45	4.67	4.67
Sweet Grass County	A5	RM 456.68	112164	0.2% - 500yr	1509.5	1210.38	1206.59	4.06	3.91	85.76	69.82	113.81	145.75	3.25	2.65	3.79	3.79
Sweet Grass County	A5	RM 456.55	111455	0.2% - 500yr	1509.5	1210.16	1206.19	3.16	3.08	52.04	44.29	146.88	177.58	3.24	2.76	3.97	3.97
Sweet Grass County	A5	RM 456.43	110857	0.2% - 500yr	1509.5	1209.81	1205.33	3.38	3.07	55.72	29.79	110.87	234.09	3.96	2.1	4.47	4.47
Sweet Grass County	A6	RM 456.29	110121	0.2% - 500yr	1509.5	1209.24	1205.45	3.8	3.4	71.14	33.83	118.64	286.58	3.28	1.55	3.79	3.79
Sweet Grass County	A6	RM 456.18	109508	0.2% - 500yr	1509.5	1208.79	1205.45	3.75	3.33	76.87	34.24	139.71	362.89	2.81	1.25	3.34	3.34
Sweet Grass County	A6	RM 456.03	108721	0.2% - 500yr	1509.5	1208.4	1204.59	3.05	2.62	51.68	27.67	176.21	403.79	2.68	1.43	3.81	3.81
Sweet Grass County	A6	RM 455.84	107742	0.2% - 500yr	1509.5	1208.07	1204.05	2.55	2.16	33.25	21.39	183.51	394.79	3.07	1.98	4.02	4.02
Sweet Grass County	A6	RM 455.70	106976	0.2% - 500yr	1509.5	1207.7	1203.14	2.86	2.8	39.43	34.96	143.46	360.97	3.67	3.25	4.57	4.57
Sweet Grass County	A6	RM 455.56	106256	0.2% - 500yr	1509.5	1207.17	1203.35	3.55	3.16	62.45	35.69	119.56	398.32	3.44	1.96	3.82	3.82
Sweet Grass County	A6	RM 455.39	105360	0.2% - 500yr	1509.5	1206.96	1202.74	2.73	2.49	37.85	29.09	151.06	318.81	3.5	2.68	4.22	4.22
Sweet Grass County	A6	RM 455.26	104667	0.2% - 500yr	1509.5	1205.88	1202.83	4.46	3.73	111.95	68.84	125.73	299.85	2.55	1.56	3.05	3.05
Sweet Grass County	A6	RM 455.09	103771	0.2% - 500yr	1509.5	1205.58	1201.58	2.64	2.22	36.06	22.63	159.87	322.02	3.38	2.11	3.99	3.99
Sweet Grass County	A6	RM 454.95	103072	0.2% - 500yr	1509.5	1204.9	1201.94	3.55	3.25	75.05	58.79	179.76	274.06	2.16	1.7	2.96	2.96
Sweet Grass County	A6	RM 454.82	102364	0.2% - 500yr	1509.5	1204.6	1200.61	2.64	2.5	39.25	34.95	179.16	254.99	2.67	2.37	3.99	3.99
Sweet Grass County	A6	RM 454.72	101863	0.2% - 500yr	1509.5	1204.08	1200.47	3.25	3.24	55.83	55.27	193.59	195.39	2.4	2.38	3.61	3.61
Sweet Grass County	A6	RM 454.64	101419	0.2% - 500yr	1509.5	1203.95	1199.69	2.7	2.66	38	34.44	195.79	222.12	2.85	2.58	4.26	4.26
Sweet Grass County	A6	RM 454.53	100846	0.2% - 500yr	1509.5	1203.45	1199.59	3.46	3.14	59.89	35.06	120.59	237.97	3.45	2.02	3.86	3.86

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	0.2% - 500yr	1509.5	1203.16	1199	3.49	3.15	61.85	33.43	115.82	249.49	3.55	1.92	4.16	4.16
Sweet Grass County	A6	RM 454.29	99597	0.2% - 500yr	1509.5	1202.85	1198.71	3.28	2.85	53.85	35.68	114.12	217.72	3.68	2.43	4.13	4.13
Sweet Grass County	A6	RM 454.15	98861	0.2% - 500yr	1509.5	1202.46	1198.68	3.28	3.09	53.76	40.71	136.69	196.22	3.3	2.49	3.78	3.78
Sweet Grass County	A6	RM 454.00	98105	0.2% - 500yr	1509.5	1202.08	1198.53	3.08	3.08	47.53	46.76	195.3	198.6	2.51	2.47	3.55	3.55
Sweet Grass County	A6	RM 453.89	97523	0.2% - 500yr	1509.5	1201.74	1198.31	3.08	2.97	50.01	46.41	181.46	207.75	2.63	2.44	3.43	3.43
Sweet Grass County	A6	RM 453.78	96929	0.2% - 500yr	1509.5	1201.58	1197.07	2.65	2.44	35.06	20.52	153.06	290.98	3.65	2.13	4.51	4.51
Sweet Grass County	A6	RM 453.67	96361	0.2% - 500yr	1509.5	1201.29	1197.77	2.99	2.55	46.87	33.09	151.58	280.71	2.98	2.11	3.53	3.53
Sweet Grass County	A6	RM 453.58	95863	0.2% - 500yr	1509.5	1201.18	1196.37	2.52	2.5	30.48	29.25	182.6	192.07	3.84	3.69	4.81	4.81
Sweet Grass County	A6	RM 453.48	95355	0.2% - 500yr	1509.5	1200.41	1196.86	4.05	3.89	84.51	60.65	118.04	172.6	3.14	2.25	3.55	3.55
Sweet Grass County	A6	RM 453.35	94633	0.2% - 500yr	1509.5	1199.79	1196.43	3.99	3.84	83.63	70.51	133.91	232.81	2.8	2.37	3.36	3.36
Sweet Grass County	A7	RM 453.23	93994	0.2% - 500yr	1509.5	1199.44	1196.41	3.43	3.23	62.87	56.95	113	258.12	2.54	2.3	3.03	3.03
Sweet Grass County	A7	RM 453.11	93361	0.2% - 500yr	1509.5	1199.26	1195.68	2.53	2.5	27.37	26.98	275.44	294.05	2.08	2.05	3.58	3.58
Sweet Grass County	A7	RM 453.01	92863	0.2% - 500yr	1509.5	1198.85	1195.38	3.09	3	35.03	34.65	259.66	294.85	1.72	1.71	3.47	3.47
Sweet Grass County	A7	RM 452.91	92363	0.2% - 500yr	1509.5	1198.73	1194.85	2.77	2.24	37.8	24.19	117.27	336.64	3.18	2.03	3.89	3.89
Sweet Grass County	A7	RM 452.82	91863	0.2% - 500yr	1509.5	1198.44	1194.65	2.88	2.74	43.17	39.32	111.14	183.59	3.28	3	3.79	3.79
Sweet Grass County	A7	RM 452.72	91363	0.2% - 500yr	1509.5	1198.36	1193.29	2.45	2.31	28.54	22.93	144.32	192.31	4.23	3.39	5.07	5.07
Sweet Grass County	A7	RM 452.64	90932	0.2% - 500yr	1509.5	1198.13	1194.02	2.94	2.37	43.86	32.64	133.5	295.76	3.5	2.6	4.11	4.11
Sweet Grass County	A7	RM 452.53	90362	0.2% - 500yr	1509.5	1197.63	1193.87	3.6	3.2	65.11	47.66	116.37	198.53	3.24	2.37	3.76	3.76
Sweet Grass County	A7	RM 452.43	89864	0.2% - 500yr	1509.5	1197.29	1193.52	3.66	3.22	67.31	46.8	111.78	204.34	3.31	2.3	3.77	3.77
Sweet Grass County	A7	RM 452.33	89331	0.2% - 500yr	1509.5	1197.03	1193.16	3.38	3.03	57.06	34.85	134.45	295.72	3.15	1.92	3.86	3.86
Sweet Grass County	A7	RM 452.25	88863	0.2% - 500yr	1509.5	1196.69	1192.91	3.48	3.16	61.24	40.56	138.6	234.84	3.07	2.04	3.78	3.78
Sweet Grass County	A7	RM 452.16	88399	0.2% - 500yr	1509.5	1196.44	1192.68	3.49	2.62	61.59	29.09	119.78	370.48	3.29	1.55	3.76	3.76
Sweet Grass County	A7	RM 452.06	87882	0.2% - 500yr	1509.5	1196.23	1192.4	3.22	2.41	52.79	21.85	120.32	434.52	3.51	1.44	3.83	3.83
Sweet Grass County	A7	RM 451.96	87394	0.2% - 500yr	1509.5	1196.02	1191.9	3.18	2.46	52.34	30.69	125.87	315.53	3.32	1.94	4.12	4.12
Sweet Grass County	A7	RM 451.86	86835	0.2% - 500yr	1509.5	1195.83	1191.79	2.98	2.31	43.31	28.28	122.39	280.68	3.57	2.33	4.04	4.04
Sweet Grass County	A7	RM 451.75	86230	0.2% - 500yr	1509.5	1195.43	1191.43	3.22	3.22	51.69	50.98	134.08	135.95	3.49	3.45	3.99	3.99
Sweet Grass County	A7	RM 451.61	85483	0.2% - 500yr	1509.5	1195.16	1190.7	2.95	2.92	44.96	41.03	152.65	302.22	3.34	3.06	4.45	4.45
Sweet Grass County	A7	RM 451.49	84861	0.2% - 500yr	1509.5	1194.57	1191.07	3.69	3.34	68.13	43.2	126.46	226.36	3.15	2	3.5	3.5
Sweet Grass County	A7	RM 451.34	84113	0.2% - 500yr	1509.5	1194.55	1190.06	2.46	2.34	29.58	20.86	150.96	496.95	4	2.81	4.49	4.49
Sweet Grass County	A7	RM 451.20	83363	0.2% - 500yr	1509.5	1193.76	1189.8	3.93	3.61	77.59	42.77	103.86	284.17	3.63	1.99	3.96	3.96
Sweet Grass County	A7	RM 451.10	82863	0.2% - 500yr	1509.5	1193.64	1189.79	3.25	3.12	53.64	40.33	133.83	273.09	3.44	2.59	3.86	3.86
Sweet Grass County	A7	RM 451.00	82325	0.2% - 500yr	1509.5	1193.54	1189.55	2.81	2.54	40.08	28.63	118.3	321.82	3.49	2.49	4	4
Sweet Grass County	A7	RM 450.86	81602	0.2% - 500yr	1509.5	1193.4	1188.29	2.28	1.99	48.64	22.78	90.13	334.91	5.02	2.26	5.11	5.11
Sweet Grass County	A7	RM 450.73	80923	0.2% - 500yr	1509.5	1192.2	1188.46	4.51	3.92	108.02	69.11	101.7	195.98	3.09	1.96	3.74	3.74
Sweet Grass County	A7	RM 450.63	80374	0.2% - 500yr	1509.5	1191.91	1188.16	3.68	3.45	72.3	46.96	135.95	240.66	2.98	1.94	3.75	3.75
Sweet Grass County	A7	RM 450.53	79863	0.2% - 500yr	1509.5	1191.66	1187.88	3.31	3.15	55.34	41.16	151.61	216.56	2.98	2.21	3.78	3.78
Sweet Grass County	A7	RM 450.43	79300	0.2% - 500yr	1509.5	1191.43	1187.72	3.09	2.81	47.8	32.64	133.66	274.87	2.87	1.96	3.71	3.71
Sweet Grass County	A7	RM 450.34	78849	0.2% - 500yr	1588.8	1191.14	1188.05	3.19	2.88	54.85	42.77	125.83	261.63	2.7	2.11	3.09	3.09
Sweet Grass County	A7	RM 450.23	78298	0.2% - 500yr	1588.8	1191.06	1186.92	2.29	1.92	26.34	14.26	203.19	519.56	3.24	1.75	4.14	4.14
Sweet Grass County	A7	RM 450.14	77822	0.2% - 500yr	1588.8	1190.78	1186.4	2.83	2.24	41.47	21.04	152.44	478.45	3.36	1.68	4.38	4.38
Sweet Grass County	A7	RM 450.05	77362	0.2% - 500yr	1588.8	1190.1	1187.2	3.92	3.35	84.31	43.15	139.97	377.81	2.78	1.41	2.9	2.9
Sweet Grass County	A7	RM 449.96	76841	0.2% - 500yr	1588.8	1189.91	1186.28	3.3	2.5	55.99	31.52	128.68	398.72	3.44	1.92	3.62	3.62
Sweet Grass County	A7	RM 449.86	76356	0.2% - 500yr	1588.8	1189.48	1185.58	3.72	2.71	69.69	27.56	110.58	559.95	3.59	1.41	3.9	3.9
Sweet Grass County	A7	RM 449.77	75860	0.2% - 500yr	1588.8	1189.13	1185.68	3.67	2.99	67.41	35.5	168.44	420.58	2.4	1.26	3.44	3.44
Sweet Grass County	A7	RM 449.68	75373	0.2% - 500yr	1588.8	1188.85	1185.9	3.06	2.62	55.1	33.54	220.37	481.1	2.25	1.37	2.95	2.95
Sweet Grass County	A7	RM 449.59	74904	0.2% - 500yr	1588.8	1188.71	1184.15	2.85	2.29	39.62	18.93	112.53	451.06	4.11	1.92	4.56	4.56
Sweet Grass County	A7	RM 449.48	74351	0.2% - 500yr	1588.8	1188.19	1184.86	3.74	3.06	80.08	47.08	121.9	360.59	2.45	1.44	3.34	3.34
Sweet Grass County	A7	RM 449.37	73741	0.2% - 500yr	1588.8	1188.06	1184.73	2.4	1.94	32.74	19.38	210.35	619.47	2.5	1.48	3.33	3.33
Sweet Grass County	A7	RM 449.26	73165	0.2% - 500yr	1588.8	1187.96	1184.33	2.16	1.3	23.18	12.71	128.66	854.19	3.06	1.66	3.62	3.62
Sweet Grass County	A7	RM 449.10	72364	0.2% - 500yr	1588.8	1187.13	1183.97	4.14	1.94	92.2	36.31	87.4	849.09	3.03	1.16	3.16	3.16
Sweet Grass County	A7	RM 449.00	71858	0.2% - 500yr	1588.8	1186.58	1183.97	3.88	2.33	88.21	44.51	113.75	688.13	2.3	1.14	2.61	2.61
Sweet Grass County	A7	RM 448.88	71223	0.2% - 500yr	1588.8	1186.45	1183.11	2.06	1.79	24.23	16.98	232.16	689.47	2.45	1.71	3.34	3.34
Sweet Grass County	A7	RM 448.76	70537	0.2% - 500yr	1588.8	1186.42	1182.01	1.28	1.23	9.04	8.34	312.73	683.82	2.69	2.48	4.4	4.4
Sweet Grass County	A7	RM 448.55	69424	0.2% - 500yr	1588.8	1186.18	1181.8	2	1.69	19.51	14.18	154.14	738.51	3.91	2.84	4.38	4.38
Sweet Grass County	A7	RM 448.41	68815	0.2% - 500yr	1588.8	1185.21	1181.16	4.28	3.87	83.06	57.93	108.05	180.87	3.3	2.27	4.04	4.04
Sweet Grass County	A7	RM 448.32	68353	0.2% - 500yr	1588.8	1185.2	1179.91	2.6	2.58	31.18	29.39	126.03	186.17	4.84	4.57	5.29	5.29
Sweet Grass County	A7	RM 448.23	67851	0.2% - 500yr	1588.8	1184.73	1179.82	3.43	3.37	55.65	43.67	105.4	202.68	4.4	3.43	4.91	4.91
Sweet Grass County	A7	RM 448.07	67043	0.2% - 500yr	1588.8	1184.35	1180.7	3.38	2.81	60.83	33.19	149.15	454.88	3.04	1.65	3.65	3.65
Sweet Grass County	A7	RM 447.94	66348	0.2% - 500yr	1588.8	1184.08	1180.22	3.12	1.99	49.13	19.93	125.42	557.76	3.55	1.43	3.86	3.86
Sweet Grass County	A7	RM 447.85	65863	0.2% - 500yr	1588.8	1183.68	1180.39	3.51	2.28	66.74	29.18	136.95	583.18	2.89	1.26	3.29	3.29
Sweet Grass County	A7	RM 447.75	65363	0.2% - 500yr	1588.8	1183.56	1179.55	2.88	2.03	39.38	18.06	143.24	480.61	3.56	1.63	4.01	4.01

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	0.2% - 500yr	1588.8	1183.18	1179.59	3.43	2.14	60.16	23.66	121.32	556.7	3.42	1.33	3.58	3.58
Sweet Grass County	A7	RM 447.56	64365	0.2% - 500yr	1588.8	1182.61	1179.67	3.99	2.47	89.91	42.75	136.94	537.86	2.52	1.2	2.94	2.94
Sweet Grass County	A7	RM 447.49	64001	0.2% - 500yr	1588.8	1182.43	1179.82	3.14	2.31	56.18	32.22	193.72	508.58	2.36	1.35	2.61	2.61
Sweet Grass County	A7	RM 447.39	63473	0.2% - 500yr	1588.8	1181.89	1178.85	3.97	2.47	83.92	36.18	94.16	575.91	2.67	1.14	3.04	3.04
Sweet Grass County	A7	RM 447.27	62880	0.2% - 500yr	1588.8	1181.54	1178.26	3.35	2.27	63.38	29.72	108.82	583.94	2.6	1.2	3.28	3.28
Sweet Grass County	A7	RM 447.17	62358	0.2% - 500yr	1588.8	1181.23	1177.92	3.18	1.98	56.85	29.51	112.86	601.66	2.59	1.33	3.3	3.3
Sweet Grass County	A7	RM 447.08	61863	0.2% - 500yr	1588.8	1180.82	1177.91	3.27	1.99	63.81	37.61	102.96	631.59	2.16	1.27	2.9	2.9
Sweet Grass County	A7	RM 446.98	61358	0.2% - 500yr	1588.8	1180.31	1177.28	3.47	2.06	64.49	28.79	95.83	693.39	2.7	1.2	3.03	3.03
Sweet Grass County	A7	RM 446.89	60841	0.2% - 500yr	1588.8	1179.98	1176.94	3.51	2.01	68.13	31.56	81.09	746.66	2.72	1.25	3.03	3.03
Sweet Grass County	A7	RM 446.80	60396	0.2% - 500yr	1588.8	1179.77	1175.92	2.93	1.92	45.84	25.15	96.31	777.68	3.04	1.65	3.85	3.85
Sweet Grass County	A7	RM 446.70	59903	0.2% - 500yr	1588.8	1179.53	1176.22	3.31	2.1	57.95	26.18	65.99	763.49	3.26	1.4	3.32	3.32
Sweet Grass County	A7	RM 446.60	59371	0.2% - 500yr	1588.8	1179.3	1175.91	3.02	1.98	47.08	23.86	77.2	666.61	3.12	1.54	3.39	3.39
Sweet Grass County	A7	RM 446.51	58868	0.2% - 500yr	1588.8	1179.14	1175.24	2.71	2.04	38.72	21.73	117.15	581.59	3.16	1.76	3.89	3.89
Sweet Grass County	A7	RM 446.41	58363	0.2% - 500yr	1588.8	1178.95	1174.39	2.52	1.88	31.68	16.44	148.64	553.51	3.3	1.71	4.56	4.56
Sweet Grass County	A7	RM 446.30	57762	0.2% - 500yr	1588.8	1178.74	1174.85	2.63	1.88	34.45	16.22	123.97	532.58	3.36	1.58	3.9	3.9
Sweet Grass County	A7	RM 446.22	57365	0.2% - 500yr	1588.8	1177.99	1174.39	3.97	3.59	82.41	40.68	129.45	298.52	3.02	1.48	3.6	3.6
Sweet Grass County	A7	RM 446.12	56852	0.2% - 500yr	1588.8	1177.82	1174.04	3.33	2.66	56	23.49	140.19	448.52	3.19	1.33	3.79	3.79
Sweet Grass County	A7	RM 446.02	56303	0.2% - 500yr	1588.8	1177.73	1173.3	2.89	2.01	39.95	18.44	98.42	406.38	4.35	1.94	4.44	4.44
Sweet Grass County	A7	RM 445.94	55871	0.2% - 500yr	1588.8	1176.98	1173.6	4.39	3.33	102.93	43.11	95.2	390.73	3.07	1.26	3.39	3.39
Sweet Grass County	A7	RM 445.82	55236	0.2% - 500yr	1588.8	1176.89	1173.05	2.52	2.18	34.6	22.99	209.16	391.44	2.81	1.86	3.85	3.85
Sweet Grass County	A7	RM 445.71	54753	0.2% - 500yr	1588.8	1176.74	1172.38	2.41	2.18	28.37	19.47	210.48	350.45	3.03	2.08	4.36	4.36
Sweet Grass County	A7	RM 445.60	54202	0.2% - 500yr	1588.8	1176.52	1172.32	2.59	2.28	33.25	21.44	188.77	343.35	3.16	2.03	4.2	4.2
Sweet Grass County	A7	RM 445.46	53453	0.2% - 500yr	1588.8	1175.95	1171.04	3.44	2.95	57.62	37.58	131.45	260.99	3.25	2.11	4.91	4.91
Sweet Grass County	A7	RM 445.36	52888	0.2% - 500yr	1588.8	1175.79	1170.25	3.13	2.38	48.6	24.23	105.4	423.86	3.83	1.89	5.54	5.54
Sweet Grass County	A7	RM 445.26	52344	0.2% - 500yr	1588.8	1174.88	1171.35	4.49	3.72	107.62	47.81	105.99	319.14	3.03	1.34	3.53	3.53
Sweet Grass County	A7	RM 445.17	51873	0.2% - 500yr	1588.8	1174.45	1171.83	4.12	3.57	96.28	48.64	137.49	371.2	2.52	1.27	2.62	2.62
Sweet Grass County	A7	RM 445.07	51376	0.2% - 500yr	1588.8	1174.52	1170.28	2.44	2.06	31.31	19.54	181.57	494.4	3.21	1.99	4.24	4.24
Sweet Grass County	A7	RM 444.97	50844	0.2% - 500yr	1588.8	1173.96	1170.19	3.47	2.94	61.78	31.65	148.01	416.79	2.94	1.5	3.78	3.78
Sweet Grass County	A7	RM 444.88	50352	0.2% - 500yr	1588.8	1173.7	1170.05	3.32	2.65	56.84	28.19	144.09	390.82	3.1	1.53	3.65	3.65
Sweet Grass County	A7	RM 444.79	49860	0.2% - 500yr	1588.8	1173.29	1169.94	3.64	2.77	71.12	35.41	132.48	386.07	2.99	1.48	3.34	3.34
Sweet Grass County	A7	RM 444.69	49316	0.2% - 500yr	1588.8	1173.2	1169.55	2.31	2.21	28.68	24.98	399.43	484.93	1.74	1.52	3.65	3.65
Sweet Grass County	A7	RM 444.60	48863	0.2% - 500yr	1588.8	1172.89	1167.23	3	1.9	40.44	11.83	88	566.83	5.3	1.47	5.66	5.66
Sweet Grass County	A7	RM 444.50	48367	0.2% - 500yr	1588.8	1172.94	1169.73	1.02	1.57	13.1	14.51	195.6	667.91	1.48	1.64	4.28	4.28
Sweet Grass County	A7	RM 444.41	47863	0.2% - 500yr	1588.8	1172.78	1168.6	2.19	1.53	23.4	11.23	129.86	727.15	3.62	1.73	4.18	4.18
Sweet Grass County	A7	RM 444.30	47336	0.2% - 500yr	1588.8	1172.71	1168.26	1.92	1.38	17.8	10.24	167.8	735.06	3.8	2.18	4.45	4.45
Sweet Grass County	A7	RM 444.20	46789	0.2% - 500yr	1588.8	1172.12	1167.97	3.6	2.51	66.11	35.4	107.59	657.96	3.5	1.85	4.15	4.15
Sweet Grass County	A7	RM 444.12	46346	0.2% - 500yr	1588.8	1171.29	1167.62	4.53	3.58	106.6	52.22	100.96	306.88	3.34	1.6	3.67	3.67
Sweet Grass County	A7	RM 444.02	45829	0.2% - 500yr	1588.8	1171.11	1167.57	3.63	3	64.26	31.34	143.97	727.87	2.94	1.43	3.54	3.54
Sweet Grass County	A7	RM 443.91	45243	0.2% - 500yr	1588.8	1170.82	1167.08	3.26	2.54	58.18	25.83	153.96	828.06	2.81	1.24	3.74	3.74
Sweet Grass County	A7	RM 443.84	44853	0.2% - 500yr	1588.8	1170.39	1167.23	3.57	2.92	73.78	35.07	173.99	699.55	2.34	1.11	3.16	3.16
Sweet Grass County	A7	RM 443.75	44415	0.2% - 500yr	1588.8	1170.2	1166.67	2.94	2.47	47.25	21.75	183.8	778.08	2.8	1.29	3.53	3.53
Sweet Grass County	A7	RM 443.64	43870	0.2% - 500yr	1588.8	1170.18	1166.09	2.27	1.62	26.48	14.53	110.6	891.91	3.42	1.86	4.09	4.09
Sweet Grass County	A7	RM 443.53	43290	0.2% - 500yr	1588.8	1170.02	1165.72	2.45	1.81	29.24	15.5	87.59	839.5	4.01	2.1	4.3	4.3
Sweet Grass County	A8	RM 443.45	42860	0.2% - 500yr	1588.8	1169.5	1165.25	3.37	2.77	57.72	27.97	139.17	768.19	3.23	1.57	4.25	4.25
Sweet Grass County	A8	RM 443.35	42363	0.2% - 500yr	1588.8	1168.52	1164.95	4.75	4.21	120.8	73.85	101.62	602.11	3.03	1.84	3.58	3.58
Sweet Grass County	A8	RM 443.25	41863	0.2% - 500yr	1588.8	1168.35	1165.05	3.48	2.79	65.43	35.41	127.8	731.69	2.9	1.57	3.3	3.3
Sweet Grass County	A8	RM 443.16	41342	0.2% - 500yr	1588.8	1168.1	1165.43	3.05	2.18	54.23	31.24	152.93	905.65	2.3	1.32	2.67	2.67
Sweet Grass County	A8	RM 443.07	40863	0.2% - 500yr	1588.8	1167.73	1164.49	3.15	2	56.78	29.4	139	959.01	2.46	1.27	3.24	3.24
Sweet Grass County	A8	RM 442.97	40345	0.2% - 500yr	1588.8	1167.44	1164.28	2.81	1.91	42.3	27.07	162.62	763.49	2.36	1.51	3.16	3.16
Sweet Grass County	A8	RM 442.88	39863	0.2% - 500yr	1588.8	1167.22	1164.06	2.48	1.87	34.78	22.11	177.36	831.59	2.3	1.46	3.17	3.17
Sweet Grass County	A8	RM 442.78	39363	0.2% - 500yr	1588.8	1166.43	1164.18	3.86	3.2	95.99	59.74	146.08	663.77	1.7	1.06	2.57	2.57
Sweet Grass County	A8	RM 442.68	38840	0.2% - 500yr	1588.8	1166.17	1162.8	2.78	2.1	38.4	22.28	117.57	647.21	2.54	1.47	3.37	3.37
Sweet Grass County	A8	RM 442.60	38390	0.2% - 500yr	1588.8	1166.11	1162.57	1.99	1.6	21.82	13.31	157.4	596.54	2.73	1.66	3.54	3.54
Sweet Grass County	A8	RM 442.50	37863	0.2% - 500yr	1588.8	1165.68	1162.29	3.33	2.2	53.58	24.34	102.55	600.4	2.65	1.2	3.4	3.4
Sweet Grass County	A8	RM 442.42	37461	0.2% - 500yr	1588.8	1165.47	1162.07	3.08	2.24	45.4	23.38	121.06	572.39	2.42	1.24	3.41	3.41
Sweet Grass County	A8	RM 442.32	36914	0.2% - 500yr	1588.8	1165.21	1161.85	2.98	2.2	48.74	23.91	107.71	572.11	2.78	1.36	3.37	3.37
Sweet Grass County	A8	RM 442.24	36451	0.2% - 500yr	1588.8	1164.94	1161.75	3.01	2.3	46.49	24.31	130.05	613.41	2.4	1.25	3.19	3.19
Sweet Grass County	A8	RM 442.12	35820	0.2% - 500yr	1588.8	1164.65	1161.12	2.91	2.13	41.78	19.71	123.17	745.92	2.7	1.27	3.53	3.53
Sweet Grass County	A8	RM 442.03	35367	0.2% - 500yr	1588.8	1164.32	1161.18	3.14	2.37	55.73	29.12	123.16	696.78	2.52	1.32	3.15	3.15
Sweet Grass County	A8	RM 441.95	34945	0.2% - 500yr	1588.8	1164.27	1160.28	2.3	1.65	28.01	13.78	133.86	873.19	3.11	1.5	3.99	3.99
Sweet Grass County	A8	RM 441.84	34360	0.2% - 500yr	1588.8	1163.8	1160.33	3.05	2.12	47.86	24.33	186.27	625.52	2.36	1.2	3.47	3.47

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	0.2% - 500yr	1588.8	1163.46	1160.06	3.14	2.09	51.62	23.49	171.23	786.48	2.51	1.14	3.4	3.4
Sweet Grass County	A8	RM 441.65	33357	0.2% - 500yr	1588.8	1163.35	1159.78	2.47	1.55	31.84	15.53	173.66	1003.51	2.99	1.45	3.57	3.57
Sweet Grass County	A8	RM 441.53	32732	0.2% - 500yr	1588.8	1162.86	1159.44	3.21	1.91	56.94	22.71	152.04	974.8	2.74	1.09	3.42	3.42
Sweet Grass County	A8	RM 441.47	32366	0.2% - 500yr	1588.8	1162.7	1158.95	3.02	1.74	48.14	17.37	138.98	952.18	3.11	1.12	3.75	3.75
Sweet Grass County	A8	RM 441.38	31928	0.2% - 500yr	1588.8	1162.76	1158.24	1.93	1.23	18.96	10.57	153.74	1128.06	3.44	1.91	4.52	4.52
Sweet Grass County	A8	RM 441.27	31350	0.2% - 500yr	1588.8	1162.22	1158.76	3.6	2.15	70	25.78	97.16	1167.45	2.93	1.07	3.47	3.47
Sweet Grass County	A8	RM 441.18	30882	0.2% - 500yr	1588.8	1161.99	1158.5	2.65	1.61	36.36	15.13	125.73	1087.79	2.87	1.19	3.49	3.49
Sweet Grass County	A8	RM 441.07	30295	0.2% - 500yr	1588.8	1161.84	1158.19	2.38	1.5	30.38	13.3	149.54	1040.31	2.95	1.29	3.66	3.66
Sweet Grass County	A8	RM 441.00	29913	0.2% - 500yr	1588.8	1161.76	1157.63	2.26	1.43	27.43	12.84	146.59	970.66	2.97	1.38	4.13	4.13
Sweet Grass County	A8	RM 440.80	28852	0.2% - 500yr	1588.8	1161.02	1157.49	3.66	2.34	68.44	23.99	103.86	750.9	3.07	1.07	3.53	3.53
Sweet Grass County	A8	RM 440.60	27841	0.2% - 500yr	1588.8	1160.22	1157.2	2.98	2.14	49.51	24.6	121.05	598.36	2.64	1.31	3.01	3.01
Sweet Grass County	A8	RM 440.51	27361	0.2% - 500yr	1588.8	1159.41	1156.41	4.15	2.97	98.85	50.91	109.89	516.76	2.45	1.25	3	3
Sweet Grass County	A8	RM 440.42	26862	0.2% - 500yr	1588.8	1159.06	1156.26	3.47	2.61	68.78	35.09	89.34	660.33	2.47	1.25	2.8	2.8
Sweet Grass County	A8	RM 440.30	26223	0.2% - 500yr	1588.8	1159.03	1155.63	1.84	1.52	18.67	13	97.18	794.24	2.75	1.9	3.4	3.4
Sweet Grass County	A8	RM 440.17	25466	0.2% - 500yr	1588.8	1158.85	1154.7	2.35	1.76	28.21	13.08	64.56	752.56	3.6	1.61	4.14	4.14
Sweet Grass County	A8	RM 440.06	24863	0.2% - 500yr	1588.8	1158.54	1153.97	2.65	2.05	35.5	14.78	131.05	722.06	3.6	1.48	4.57	4.57
Sweet Grass County	A8	RM 439.96	24366	0.2% - 500yr	1588.8	1158.24	1154.18	3.23	2.22	52	17.04	95.94	703.79	3.72	1.21	4.06	4.06
Sweet Grass County	A8	RM 439.87	23863	0.2% - 500yr	1588.8	1157.87	1153.59	3.46	2.14	56.84	13.73	103.39	915.77	3.9	0.93	4.28	4.28
Sweet Grass County	A8	RM 439.77	23365	0.2% - 500yr	1588.8	1157.71	1153.6	3.14	1.9	48.14	13.21	124.68	1094.71	3.41	0.93	4.12	4.12
Sweet Grass County	A8	RM 439.68	22863	0.2% - 500yr	1588.8	1157.3	1153.45	3.52	2.24	60.5	15.14	135.36	1015.71	2.96	0.73	3.85	3.85
Sweet Grass County	A8	RM 439.58	22363	0.2% - 500yr	1588.8	1157.31	1153.39	2.45	1.38	30.09	10.35	150.28	1097.67	3.26	1.12	3.92	3.92
Sweet Grass County	A8	RM 439.49	21863	0.2% - 500yr	1588.8	1157.18	1152.86	2.51	1.37	30.47	9.42	116.13	1073.98	4.03	1.23	4.31	4.31
Sweet Grass County	A8	RM 439.39	21363	0.2% - 500yr	1588.8	1157.08	1153.06	2.38	1.39	28.49	10.84	131.98	1103.36	3.58	1.34	4.02	4.02
Sweet Grass County	A8	RM 439.30	20863	0.2% - 500yr	1588.8	1156.91	1152.92	2.64	1.46	34.52	12.84	110.38	1012.56	3.62	1.33	3.99	3.99
Sweet Grass County	A8	RM 439.20	20353	0.2% - 500yr	1588.8	1156.33	1152.64	3.65	2.38	66.46	17.09	111.19	847.16	3.29	0.84	3.69	3.69
Sweet Grass County	A8	RM 439.11	19864	0.2% - 500yr	1588.8	1155.78	1152.34	3.19	2.15	53.28	17.76	98.01	785.16	3.17	1.05	3.44	3.44
Sweet Grass County	A8	RM 439.01	19360	0.2% - 500yr	1588.8	1155.31	1152.4	3.58	2.49	68.2	24.94	130.42	793.73	2.36	0.86	2.9	2.9
Sweet Grass County	A8	RM 438.91	18848	0.2% - 500yr	1588.8	1155.13	1151.92	2.85	2.04	42.51	16.45	121.85	915.29	2.77	1.07	3.22	3.22
Sweet Grass County	A8	RM 438.82	18363	0.2% - 500yr	1588.8	1154.86	1151.23	2.92	2.09	46.12	20.63	120.42	925.3	2.89	1.29	3.63	3.63
Sweet Grass County	A8	RM 438.73	17853	0.2% - 500yr	1588.8	1154.63	1151.37	2.75	2.15	39.15	24.58	124.01	787.46	2.58	1.62	3.26	3.26
Sweet Grass County	A8	RM 438.63	17363	0.2% - 500yr	1588.8	1154.53	1150.74	2.3	1.91	27.17	19.32	100.37	520.36	3.34	2.38	3.78	3.78
Sweet Grass County	A8	RM 438.54	16863	0.2% - 500yr	1588.8	1154.38	1150.59	2.36	2.06	28.39	18.92	105.71	330.7	3.56	2.33	3.79	3.79
Sweet Grass County	A8	RM 438.43	16307	0.2% - 500yr	1588.8	1154.1	1149.52	2.63	2.45	34.84	24.78	165.05	297.83	3.58	2.54	4.59	4.59
Sweet Grass County	A9	RM 438.36	15889	0.2% - 500yr	1588.8	1153.96	1149.4	2.65	2.55	31.94	27.46	187.56	293.3	3.15	2.71	4.56	4.56
Sweet Grass County	A9	RM 438.26	15363	0.2% - 500yr	1588.8	1153.23	1149.84	4.11	3.2	88.16	37.18	115.65	397.27	2.97	1.25	3.39	3.39
Sweet Grass County	A9	RM 438.16	14863	0.2% - 500yr	1588.8	1152.99	1149.31	3.58	2.4	63.84	23.62	123.27	572.29	3.15	1.16	3.68	3.68
Sweet Grass County	A9	RM 438.07	14394	0.2% - 500yr	1588.8	1152.62	1149.19	3.73	2.4	76.05	28.23	129.03	640.09	2.81	1.04	3.43	3.43
Sweet Grass County	A9	RM 437.96	13827	0.2% - 500yr	1588.8	1152.47	1149.19	3.01	1.82	47.61	20.64	119.96	741.91	2.73	1.18	3.27	3.27
Sweet Grass County	A9	RM 437.88	13363	0.2% - 500yr	1588.8	1152.29	1148.94	2.92	1.74	43.34	20	109.09	744.43	2.72	1.25	3.35	3.35
Sweet Grass County	A9	RM 437.78	12844	0.2% - 500yr	1588.8	1151.9	1148.72	3.42	2.03	61.43	26.88	99.77	712.85	2.75	1.19	3.18	3.18
Sweet Grass County	A9	RM 437.69	12354	0.2% - 500yr	1588.8	1151.71	1148.45	2.66	1.81	40.23	21.21	147.13	694.84	2.47	1.3	3.26	3.26
Sweet Grass County	A9	RM 437.59	11863	0.2% - 500yr	1588.8	1151.43	1148.76	2.73	1.91	45.39	24.7	151.34	750.08	2.04	1.11	3.02	3.02
Sweet Grass County	A9	RM 437.50	11362	0.2% - 500yr	1588.8	1151.19	1148.29	2.46	1.79	35.78	18.99	189.39	758.39	2.2	1.17	2.9	2.9
Sweet Grass County	A9	RM 437.41	10902	0.2% - 500yr	1588.8	1150.91	1148.26	2.69	1.92	43.64	23.75	175.96	735.44	2.06	1.12	2.65	2.65
Sweet Grass County	A9	RM 437.31	10361	0.2% - 500yr	1588.8	1150.51	1147.37	2.99	2.02	52.01	26.11	148.16	674.1	2.32	1.17	3.13	3.13
Sweet Grass County	A9	RM 437.20	9764	0.2% - 500yr	1588.8	1150.2	1147.02	2.89	1.9	42.97	20.27	110.89	699.65	2.54	1.2	3.18	3.18
Sweet Grass County	A9	RM 437.08	9128	0.2% - 500yr	1588.8	1149.77	1146.9	2.84	2.11	45.26	24.05	196.32	682.31	2.08	1.1	2.87	2.87
Sweet Grass County	A9	RM 436.95	8363	0.2% - 500yr	1588.8	1149.52	1145.32	2.62	1.67	27.97	14.34	106.12	680.36	2.8	1.4	4.2	4.2
Sweet Grass County	A9	RM 436.83	7805	0.2% - 500yr	1588.8	1149.37	1145.93	2.03	1.55	25.11	16.62	154.6	766.78	2.03	1.34	3.44	3.44
Sweet Grass County	A9	RM 436.75	6857	0.2% - 500yr	1588.8	1148.83	1145.61	3.41	1.83	65.17	25.05	67.61	865.96	2.65	1	3.22	3.22
Sweet Grass County	A9	RM 436.66	6193	0.2% - 500yr	1588.8	1148.36	1145.68	3.14	1.9	56.79	22.78	97.51	896.33	2.33	0.93	2.68	2.68
Sweet Grass County	A9	RM 436.56	5280	0.2% - 500yr	1588.8	1147.97	1144.44	3.12	1.83	43.2	19.41	68.28	797.03	2.69	1.14	3.52	3.52
Sweet Grass County	A9	RM 436.40	4576	0.2% - 500yr	1588.8	1147.77	1144.05	2.61	1.58	35.86	14.43	57.78	857.85	3.3	1.26	3.72	3.72
Sweet Grass County	A9	RM 436.29	3787	0.2% - 500yr	1588.8	1147.31	1144.44	3.04	2.14	53.02	27.48	99.03	862.34	2.43	1.25	2.88	2.88
Sweet Grass County	A9	RM 436.16	3087	0.2% - 500yr	1588.8	1146.56	1143.57	3.54	2.7	72.36	35.53	107.65	887.32	2.38	1.16	2.98	2.98
Sweet Grass County	A9	RM 436.07	2676	0.2% - 500yr	1588.8	1146.3	1143.09	3.17	2.4	53.39	29.29	102.06	981.55	2.37	1.29	3.21	3.21
Sweet Grass County	A9	RM 435.98	2200	0.2% - 500yr	1588.8	1145.99	1142.85	3.09	2.2	55.59	25.87	80.11	1020.83	2.38	1.08	3.15	3.15
Sweet Grass County	A9	RM 435.88	1580	0.2% - 500yr	1588.8	1145.64	1142.56	2.46	2.04	37.89	23.89	85.81	973.57	1.91	1.19	3.08	3.08
Sweet Grass County	A9	RM 435.73	890	0.2% - 500yr	1588.8	1145.32	1141.99	2.47	1.96	34.26	19.37	80.13	920.11	2.63	1.45	3.33	3.33
Sweet Grass County	A9	RM 435.62	104	0.2% - 500yr	1588.8	1144.99	1141.54	2.62	1.71	38.82	15.84	130.4	905.15	2.54	1.02	3.46	3.46

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	0.2% - 500yr	1588.8	1144.85	1140.73	1.66	1.3	15	7.97	151.59	970.02	2.85	1.52	4.16	4.16
Stillwater County	A9	RM 435.38	231282.1	0.2% - 500yr	1588.8	1144.64	1139.61	1.88	1.33	18.01	8.74	197.46	874.27	3.41	1.65	5.03	5.03
Stillwater County	A9	RM 435.25	230611.3	0.2% - 500yr	1588.8	1144.07	1138.48	3.37	2.14	57.89	21.41	118.64	582.25	3.48	1.27	5.59	5.59
Stillwater County	A9	RM 435.16	230122.9	0.2% - 500yr	1588.8	1143.92	1138.39	3.08	1.86	47.79	18.81	118.38	603.38	3.62	1.42	5.53	5.53
Stillwater County	A9	RM 435.07	229649	0.2% - 500yr	1588.8	1143.85	1137.85	2.73	1.63	35.7	14.9	103.72	572.57	4.14	1.72	6	6
Stillwater County	A9	RM 434.97	229153	0.2% - 500yr	1588.8	1143.47	1137.87	3.31	2.06	53.63	21.91	105.26	486.37	3.89	1.58	5.6	5.6
Stillwater County	A9	RM 434.84	228443.5	0.2% - 500yr	1588.8	1143.16	1137	3.35	2.38	54.47	19.52	103.65	468.79	4	1.43	6.16	6.16
Stillwater County	A9	RM 434.73	227855.5	0.2% - 500yr	1588.8	1142.67	1135.61	3.85	2.88	68.91	20.34	82.85	408.86	4.65	1.35	7.06	7.06
Stillwater County	A9	RM 434.63	227328.2	0.2% - 500yr	1588.8	1142.38	1135.42	3.87	3.25	71.44	22.84	91.85	361.38	4.28	1.35	6.96	6.96
Stillwater County	A9	RM 434.57	227011.2	0.2% - 500yr	1588.8	1142.22	1136.35	3.82	3.12	72.21	20.08	104.18	483.16	3.82	1.05	5.87	5.87
Stillwater County	A9	RM 434.53	226817.6	0.2% - 500yr	1588.8	1142.09	1136.73	3.81	3.11	74.91	22.04	118.94	519.78	3.36	0.98	5.36	5.36
Stillwater County	A10	RM 434.49	226573.3	0.2% - 500yr	1588.8	1141.99	1137.23	3.57	3.09	65.04	20.82	126.91	719.7	3.43	1.09	4.76	4.76
Stillwater County	A10	RM 434.42	226233.2	0.2% - 500yr	1588.8	1141.95	1137.1	3.08	2.43	48.66	21.77	138.92	752.94	3.39	1.51	4.85	4.85
Stillwater County	A10	RM 434.37	225940.2	0.2% - 500yr	1588.8	1141.63	1136.51	3.53	2.86	63.82	24.72	124.51	643.85	3.38	1.31	5.12	5.12
Stillwater County	A10	RM 434.24	225278.2	0.2% - 500yr	1588.8	1141.25	1136.56	3.54	3.01	64.37	23.56	117.53	428.26	3.38	1.23	4.69	4.69
Stillwater County	A10	RM 434.15	224819.6	0.2% - 500yr	1588.8	1141.05	1137.06	3.17	2.54	54.43	26.61	157.63	441.46	2.9	1.42	3.99	3.99
Stillwater County	A10	RM 434.07	224366.5	0.2% - 500yr	1588.8	1140.59	1136.55	3.69	3.07	75.95	40.9	116.1	362.67	2.64	1.43	4.19	4.19
Stillwater County	A10	RM 433.98	223883.5	0.2% - 500yr	1588.8	1140.5	1136.28	2.65	2.26	38.41	19.04	137.26	650.66	2.81	1.39	4.22	4.22
Stillwater County	A10	RM 433.87	223309.3	0.2% - 500yr	1588.8	1140.27	1135.82	2.81	2.11	40.83	15.94	107.67	587.56	3.3	1.28	4.45	4.45
Stillwater County	A10	RM 433.78	222850	0.2% - 500yr	1588.8	1140.13	1135.54	2.54	1.81	34.38	12.79	177.68	781.65	3.03	1.12	4.59	4.59
Stillwater County	A10	RM 433.66	222201.9	0.2% - 500yr	1588.8	1139.86	1135.16	2.73	1.85	38.12	11.88	146	812.92	3.4	1.06	4.7	4.7
Stillwater County	A10	RM 433.54	221596.6	0.2% - 500yr	1588.8	1139.24	1135.33	3.58	3.12	67.97	30.56	139.88	645.78	3.06	1.37	3.91	3.91
Stillwater County	A10	RM 433.42	220956.2	0.2% - 500yr	1588.8	1138.65	1134.88	3.84	3.05	79.68	27.23	133.69	524.28	2.92	0.99	3.77	3.77
Stillwater County	A10	RM 433.31	220362.5	0.2% - 500yr	1588.8	1138.54	1134.67	2.7	1.97	41.18	16.44	205.31	847.74	2.55	1.01	3.86	3.86
Stillwater County	A10	RM 433.20	219758.6	0.2% - 500yr	1588.8	1138.46	1134.17	2	1.29	21.76	8.96	148.63	1047.96	2.86	1.17	4.29	4.29
Stillwater County	A10	RM 433.09	219185.2	0.2% - 500yr	1588.8	1138.18	1133.45	2.41	1.72	30.29	10.52	180.45	834.55	3.21	1.11	4.73	4.73
Stillwater County	A10	RM 432.97	218599.7	0.2% - 500yr	1588.8	1137.92	1133.57	2.72	1.85	38.42	12.23	153.1	828.21	3.28	1.04	4.35	4.35
Stillwater County	A10	RM 432.84	217905.9	0.2% - 500yr	1588.8	1137.74	1132.7	2.55	1.59	32.35	9.41	136.55	927.31	3.73	1.08	5.04	5.04
Stillwater County	A10	RM 432.69	217146.9	0.2% - 500yr	1588.8	1137.05	1131.51	3.77	2.65	67.92	16.06	90.53	607.88	4.21	0.99	5.54	5.54
Stillwater County	A10	RM 432.60	216656.8	0.2% - 500yr	1588.8	1136.8	1132.1	3.66	2.62	65.75	17.4	102.29	603.65	3.96	1.03	4.7	4.7
Stillwater County	A10	RM 432.45	215889.7	0.2% - 500yr	1588.8	1136.53	1132.07	3.17	2.12	52.04	15.08	138.19	837.52	3.32	0.96	4.46	4.46
Stillwater County	A10	RM 432.35	215361.3	0.2% - 500yr	1588.8	1136.45	1132.33	2.57	1.57	34.07	12.98	159.19	893.08	3.32	1.26	4.12	4.12
Stillwater County	A10	RM 432.20	214585.3	0.2% - 500yr	1634.1	1135.61	1131.29	3.86	2.74	77.95	20.22	125.07	717.49	3.22	0.83	4.32	4.32
Stillwater County	A10	RM 432.10	214039.1	0.2% - 500yr	1634.1	1135.38	1130.7	3.48	2.21	62.69	20.46	124.1	762.58	3.31	1.08	4.68	4.68
Stillwater County	A10	RM 432.02	213606.1	0.2% - 500yr	1634.1	1135.34	1130.52	2.68	1.81	37.54	12.96	161.07	937.73	3.17	1.09	4.82	4.82
Stillwater County	A10	RM 431.87	212811.5	0.2% - 500yr	1634.1	1135.1	1129.24	2.4	1.6	31.95	12.63	210.92	972.12	2.66	1.05	5.86	5.86
Stillwater County	A10	RM 431.74	212127.4	0.2% - 500yr	1634.1	1134.98	1129.66	2.14	1.2	23.28	9.3	161.11	986.52	3.48	1.38	5.31	5.31
Stillwater County	A10	RM 431.60	211373.6	0.2% - 500yr	1634.1	1134.37	1129.96	3.32	2.36	56.61	14.81	134.23	788.02	3.38	0.88	4.41	4.41
Stillwater County	A10	RM 431.49	210820.2	0.2% - 500yr	1634.1	1134.16	1129.62	3.1	2.06	48.91	13.15	134.24	854.32	3.48	0.93	4.54	4.54
Stillwater County	A10	RM 431.41	210365.9	0.2% - 500yr	1634.1	1133.66	1129.57	3.72	2.92	72.26	20.62	130.45	616.46	3.2	0.91	4.09	4.09
Stillwater County	A10	RM 431.28	209716.5	0.2% - 500yr	1634.1	1133.37	1129.79	3.18	2.46	54.64	20.54	165.04	625.67	2.88	1.08	3.58	3.58
Stillwater County	A10	RM 431.14	208918.5	0.2% - 500yr	1634.1	1133.03	1129.82	2.69	2.39	40.67	18.66	132.66	582.56	2.56	1.17	4.28	4.28
Stillwater County	A10	RM 431.03	208358.8	0.2% - 500yr	1634.1	1132.61	1128.56	3.05	2.93	53.84	29.72	128.58	430.12	2.35	1.3	4.05	4.05
Stillwater County	A10	RM 430.93	207821.9	0.2% - 500yr	1634.1	1132.5	1128.76	2.48	2	33.89	16.33	126.38	622.01	2.72	1.32	3.74	3.74
Stillwater County	A10	RM 430.83	207325.6	0.2% - 500yr	1634.1	1132.23	1127.66	2.69	2.23	38.75	19.87	160.64	483.04	2.96	1.52	4.57	4.57
Stillwater County	A10	RM 430.70	206629.1	0.2% - 500yr	1634.1	1132.13	1126.9	2.14	1.67	23.53	10.41	150.14	603.05	3.66	1.62	5.23	5.23
Stillwater County	A10	RM 430.59	206064.9	0.2% - 500yr	1634.1	1132.02	1127.2	2.25	1.55	24.85	10.4	134.54	644.72	3.91	1.64	4.82	4.82
Stillwater County	A10	RM 430.51	205629.5	0.2% - 500yr	1634.1	1131.59	1126.28	3.33	2.23	54.82	17.18	107.05	616.34	3.82	1.19	5.3	5.3
Stillwater County	A10	RM 430.43	205204.2	0.2% - 500yr	1634.1	1131.3	1126.08	3.56	2.39	61.82	19.34	98.33	560.56	3.94	1.22	5.22	5.22
Stillwater County	A10	RM 430.34	204728.4	0.2% - 500yr	1634.1	1130.73	1126.07	4.17	3.06	89.4	26.84	103.36	526.02	3.4	1.02	4.66	4.66
Stillwater County	A11	RM 430.23	204119.7	0.2% - 500yr	1634.1	1130.75	1126.63	2.65	1.85	37.1	16.84	169.33	714.72	3.11	1.41	4.12	4.12
Stillwater County	A11	RM 430.12	203479.6	0.2% - 500yr	1634.1	1130.57	1126.96	2.71	1.78	39.19	15.83	112.27	814.38	3.02	1.21	4.04	4.04
Stillwater County	A11	RM 430.04	202968.2	0.2% - 500yr	1634.1	1130.32	1127.24	2.89	1.92	45.78	16.45	112.83	847.82	2.83	1	3.68	3.68
Stillwater County	A11	RM 429.95	202589.5	0.2% - 500yr	1634.1	1130.16	1126.33	2.6	1.77	37.7	16.08	142.06	818.99	2.66	1.13	3.83	3.83
Stillwater County	A11	RM 429.88	202224.7	0.2% - 500yr	1634.1	1130.08	1125.62	1.91	1.53	16.69	14.23	366.34	817.41	1.53	1.3	4.46	4.46
Stillwater County	A11	RM 429.78	201933.6	0.2% - 500yr	1634.1	1129.88	1123.72	2.3	1.64	24.03	16.65	212.98	674.09	2.14	1.48	6.16	6.16
Stillwater County	A11	RM 429.69	201539.9	0.2% - 500yr	1634.1	1129.11	1123.39	4.15	2.84	91.94	32.49	91.42	540.94	3.04	1.06	5.72	5.72
Stillwater County	A11	RM 429.58	200961.9	0.2% - 500yr	1634.1	1128.91	1124.69	3.1	2	52.9	26.54	116.91	595.25	2.74	1.37	4.22	4.22
Stillwater County	A11	RM 429.38	200210.8	0.2% - 500yr	1634.1	1128.5	1125.15	2.43	1.84	33.75	20.6	184.87	585.9	2.48	1.51	4.07	4.07
Stillwater County	A11	RM 429.28	199644.1	0.2% - 500yr	1634.1	1128.22	1123.59	2.63	1.92	38.33	20.41	148.58	595.99	2.69	1.43	4.63	4.63

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	0.2% - 500yr	1634.1	1128.04	1124.66	2.29	1.76	29.93	18.19	144.34	628.31	2.43	1.48	4.13	4.13
Stillwater County	A11	RM 429.10	198708.6	0.2% - 500yr	1634.1	1127.66	1124.26	2.97	2.15	50.17	26.12	87.69	582.44	2.52	1.31	4.08	4.08
Stillwater County	A11	RM 429.00	198203.8	0.2% - 500yr	1634.1	1127.46	1123.47	2.5	2.04	36.44	24.23	124.54	518.91	2.32	1.55	3.99	3.99
Stillwater County	A11	RM 428.89	197650.5	0.2% - 500yr	1634.1	1127.18	1121.26	2.81	2.11	41.4	22.07	150.77	458.36	3.17	1.69	5.92	5.92
Stillwater County	A11	RM 428.81	197194.1	0.2% - 500yr	1634.1	1126.93	1121.47	3.19	2.29	51.52	25.53	98.54	405.2	3.55	1.76	5.46	5.46
Stillwater County	A11	RM 428.66	196404.4	0.2% - 500yr	1634.1	1126.72	1122.31	2.44	1.97	33.1	19.46	204.39	664.65	2.68	1.57	4.41	4.41
Stillwater County	A11	RM 428.52	195702.6	0.2% - 500yr	1634.1	1126.39	1122.1	2.59	2.02	37.46	19.95	206.65	684.37	2.62	1.39	4.29	4.29
Stillwater County	A11	RM 428.44	195293.8	0.2% - 500yr	1634.1	1126.11	1121.18	3.01	2.15	47.73	18.8	146.38	672.87	3.14	1.23	4.93	4.93
Stillwater County	A11	RM 428.39	195075.5	0.2% - 500yr	1634.1	1125.91	1120.72	3.35	2.28	58.06	20.6	122.37	621.21	3.29	1.16	5.19	5.19
Stillwater County	A11	RM 428.33	194724.6	0.2% - 500yr	1634.1	1125.59	1121.22	3.57	2.63	67.91	21.69	135.66	701.75	3.01	0.96	4.37	4.37
Stillwater County	A11	RM 428.28	194450.8	0.2% - 500yr	1634.1	1125.46	1121.2	3.37	2.44	61.42	20.87	146.14	684.34	2.88	0.98	4.26	4.26
Stillwater County	A11	RM 428.23	194235.2	0.2% - 500yr	1634.1	1125.42	1120.74	3.05	2.12	49.34	19.18	143.06	648.42	3.07	1.19	4.68	4.68
Stillwater County	A11	RM 428.20	194033.4	0.2% - 500yr	1634.1	1125.27	1120.37	3.26	2.31	54.74	19.17	121.13	602.82	3.37	1.17	4.9	4.9
Stillwater County	A11	RM 428.15	193779.9	0.2% - 500yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A11	RM 428.09	193436.6	0.2% - 500yr	1634.1	1125.09	1119.9	2.84	2	41.85	19.34	120.2	538.2	3.32	1.52	5.19	5.19
Stillwater County	A11	RM 428.05	193246.1	0.2% - 500yr	1634.1	1125.03	1120.1	2.72	1.91	38.58	17.24	126.82	598.97	3.23	1.43	4.93	4.93
Stillwater County	A11	RM 428.00	192989.8	0.2% - 500yr	1634.1	1124.97	1120.28	2.52	1.71	32.46	14.42	127.29	637.54	3.4	1.5	4.69	4.69
Stillwater County	A11	RM 427.95	192728.8	0.2% - 500yr	1634.1	1124.93	1119.57	2.35	1.59	27.9	13.25	131.09	633.43	3.57	1.69	5.36	5.36
Stillwater County	A11	RM 427.88	192333.2	0.2% - 500yr	1634.1	1124.42	1119.27	3.59	2.51	65.08	25.86	102.47	726.43	3.57	1.41	5.15	5.15
Stillwater County	A11	RM 427.83	192088.8	0.2% - 500yr	1634.1	1124.33	1119.18	3.44	2.43	59.57	25.07	103.17	666.39	3.6	1.5	5.15	5.15
Stillwater County	A11	RM 427.76	191724.1	0.2% - 500yr	1634.1	1123.99	1119.07	3.75	2.9	71.14	23.35	101.84	486.58	3.56	1.16	4.92	4.92
Stillwater County	A11	RM 427.65	191155.9	0.2% - 500yr	1634.1	1124	1118.58	2.56	1.72	32.09	16.97	139.89	709.08	3.86	2.04	5.42	5.42
Stillwater County	A11	RM 427.53	190509.6	0.2% - 500yr	1634.1	1123.56	1117.37	3.38	2.15	54.52	22.83	96.4	576.75	4.29	1.78	6.19	6.19
Stillwater County	A11	RM 427.41	189886.1	0.2% - 500yr	1634.1	1123.24	1118.73	3.42	2.49	57.59	22.38	115.97	581.15	3.82	1.48	4.5	4.5
Stillwater County	A11	RM 427.29	189253.3	0.2% - 500yr	1634.1	1122.97	1119.12	3.1	2.47	52.49	24.51	176.94	580.86	2.79	1.3	3.85	3.85
Stillwater County	A11	RM 427.17	188639.5	0.2% - 500yr	1634.1	1122.79	1118.44	2.56	1.93	35.33	17.13	197.68	604.67	2.88	1.4	4.35	4.35
Stillwater County	A11	RM 427.09	188179.7	0.2% - 500yr	1634.1	1122.37	1118.34	3.32	2.22	56.72	23.63	127.59	525.87	3.37	1.4	4.03	4.03
Stillwater County	A11	RM 427.00	187745.4	0.2% - 500yr	1634.1	1122.29	1117.71	2.81	1.89	40.91	18.95	143.34	571.42	3.26	1.51	4.58	4.58
Stillwater County	A11	RM 426.92	187309.3	0.2% - 500yr	1634.1	1122.13	1117.32	2.59	2.07	36.76	19.66	205.73	527.2	2.8	1.5	4.81	4.81
Stillwater County	A11	RM 426.86	186960.4	0.2% - 500yr	1634.1	1122.03	1116.77	2.45	1.98	32.2	17.35	210.76	518.42	2.96	1.59	5.25	5.25
Stillwater County	A11	RM 426.75	186401.3	0.2% - 500yr	1634.1	1121.82	1116.11	2.56	1.96	34.16	17.8	182.86	499.31	3.2	1.67	5.71	5.71
Stillwater County	A11	RM 426.67	185983.5	0.2% - 500yr	1634.1	1121.6	1115.84	2.82	2.24	38.79	19.83	138.91	363.64	3.93	2.01	5.76	5.76
Stillwater County	A11	RM 426.59	185580.4	0.2% - 500yr	1634.1	1121.09	1115.47	3.76	3.34	68.77	34.72	106	242.03	4.01	2.02	5.62	5.62
Stillwater County	A11	RM 426.52	185166.5	0.2% - 500yr	1634.1	1120.85	1115.54	3.77	3.66	68.94	45.6	108.17	169.42	4	2.64	5.31	5.31
Stillwater County	A11	RM 426.43	184738.3	0.2% - 500yr	1634.1	1120.62	1115.89	3.73	3.63	69.39	57.3	117.17	147.09	3.71	3.06	4.73	4.73
Stillwater County	A11	RM 426.32	184158.4	0.2% - 500yr	1634.1	1120.3	1116.39	3.59	3.57	66.13	57.42	133.45	154.66	3.41	2.96	3.91	3.91
Stillwater County	A11	RM 426.20	183517.2	0.2% - 500yr	1634.1	1120.06	1116.07	2.97	2.93	50.04	45.25	216.15	243.83	2.52	2.29	3.99	3.99
Stillwater County	A11	RM 426.11	183030.7	0.2% - 500yr	1634.1	1119.92	1115.37	2.43	2.38	32.56	31.71	270.07	315.43	2.47	2.41	4.55	4.55
Stillwater County	A11	RM 426.00	182442.5	0.2% - 500yr	1634.1	1119.73	1115.74	2.32	2.1	29.66	25.84	243.38	479.19	2.72	2.37	3.99	3.99
Stillwater County	A11	RM 425.89	181895	0.2% - 500yr	1634.1	1119.46	1115.1	2.6	2.29	35.14	22.44	187.02	506.12	3.24	2.07	4.36	4.36
Stillwater County	A11	RM 425.72	181043.5	0.2% - 500yr	1634.1	1119.11	1113.77	2.84	2.37	40.53	24.07	151.05	462.98	3.58	2.12	5.34	5.34
Stillwater County	A11	RM 425.58	180310.5	0.2% - 500yr	1634.1	1118.51	1112.19	3.69	2.92	64.99	27.31	98.64	454.83	4.24	1.77	6.32	6.32
Stillwater County	A11	RM 425.46	179669.9	0.2% - 500yr	1634.1	1117.79	1112.78	4.41	3.54	97.35	37.97	96.07	366.97	3.67	1.42	5.01	5.01
Stillwater County	A11	RM 425.34	179022.4	0.2% - 500yr	1634.1	1117.8	1113.64	2.97	2.54	45.75	30.7	137.83	290.32	3.31	2.22	4.15	4.15
Stillwater County	A11	RM 425.24	178485.9	0.2% - 500yr	1634.1	1117.56	1114.19	2.84	2.52	44.17	35.44	126.45	383.61	2.79	2.24	3.42	3.42
Stillwater County	A11	RM 425.18	178205.8	0.2% - 500yr	1634.1	1117.26	1113.81	3.19	2.93	56.77	46.48	128.32	255.82	2.66	2.18	3.95	3.95
Stillwater County	A11	RM 425.11	177826.8	0.2% - 500yr	1634.1	1116.98	1113.29	3.19	2.97	56.35	41.84	120.72	273.76	2.7	2.01	4.69	4.69
Stillwater County	A11	RM 425.04	177454.7	0.2% - 500yr	1634.1	1116.77	1112.86	3.23	2.72	55.57	39.15	106.76	282.14	3.04	2.14	4.29	4.29
Stillwater County	A11	RM 424.97	177098.9	0.2% - 500yr	1634.1	1116.37	1113.11	3.57	3.14	70.12	44.19	106.81	305.57	2.75	1.74	3.36	3.36
Stillwater County	A11	RM 424.89	176675.9	0.2% - 500yr	1634.1	1116.26	1112.27	2.66	2.32	39.35	28.63	136.62	518.96	2.63	1.93	5.46	5.46
Stillwater County	A11	RM 424.81	176242.8	0.2% - 500yr	1634.1	1115.85	1112.25	3.09	2.79	57.44	32.49	139.22	606.79	2.11	1.2	3.85	3.85
Stillwater County	A11	RM 424.70	175789.3	0.2% - 500yr	1634.1	1115.68	1111.91	2.58	2.16	36.41	17.32	161.26	639.11	2.78	1.32	3.77	3.77
Stillwater County	A11	RM 424.58	175159.4	0.2% - 500yr	1634.1	1115.31	1111.34	3	2.44	50.69	29.54	132.39	489.12	2.59	1.5	3.97	3.97
Stillwater County	A11	RM 424.51	174723.2	0.2% - 500yr	1634.1	1115.11	1110.93	2.64	2.2	40.96	28.83	140.84	531.41	2.25	1.59	4.18	4.18
Stillwater County	A11	RM 424.38	174051	0.2% - 500yr	1634.1	1114.67	1110.98	2.92	2.29	50.36	22.76	135.76	737.83	2.24	1.01	3.69	3.69
Stillwater County	A11	RM 424.30	173607.9	0.2% - 500yr	1634.1	1114.46	1110.75	2.66	1.94	43.22	23.7	158.99	769.02	2	1.09	3.71	3.71
Stillwater County	A11	RM 424.21	173153.7	0.2% - 500yr	1634.1	1114.23	1110.74	2.36	1.67	33.3	17.43	188.24	873.53	2.15	1.12	3.49	3.49
Stillwater County	A11	RM 424.13	172713.5	0.2% - 500yr	1634.1	1114.03	1110.43	2.43	1.48	35.02	19.11	103.4	926.13	2.2	1.19	3.68	3.68
Stillwater County	A11	RM 424.05	172309.3	0.2% - 500yr	1634.1	1113.89	1110.18	1.87	1.34	20.68	13.05	155.55	884.46	2.19	1.38	3.71	3.71
Stillwater County	A11	RM 423.98	171892.1	0.2% - 500yr	1634.1	1113.82	1110.15	1.69	1.23	16	9.72	252.66	836.09	2.61	1.58	3.67	3.67

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	0.2% - 500yr	1634.1	1113.65	1109.55	2.23	1.44	26.85	13.55	156.66	784.58	2.9	1.45	4.1	4.1
Stillwater County	A11	RM 423.84	171147.5	0.2% - 500yr	1634.1	1113.57	1109.08	2.22	1.37	25.3	12.15	126.81	739.83	3.36	1.61	4.49	4.49
Stillwater County	A11	RM 423.74	170686.3	0.2% - 500yr	1634.1	1113.53	1108.91	1.78	1.15	16.13	9.4	124.33	690.03	3.54	2.05	4.62	4.62
Stillwater County	A11	RM 423.69	170436.3	0.2% - 500yr	1634.1	1113.38	1108.49	2.4	1.54	28.87	14.35	88.65	642.84	3.66	1.8	4.89	4.89
Stillwater County	A11	RM 423.57	169782.9	0.2% - 500yr	1634.1	1113.18	1108.2	2.29	1.54	26.13	10.79	159.21	702.97	3.67	1.51	4.98	4.98
Stillwater County	A11	RM 423.47	169296.5	0.2% - 500yr	1634.1	1112.61	1107.67	3.52	2.67	62.06	24.97	120.55	600.8	3.65	1.46	4.94	4.94
Stillwater County	A11	RM 423.39	168860.7	0.2% - 500yr	1634.1	1112.29	1107.7	3.77	2.73	71.16	26.35	107.8	544.92	3.67	1.35	4.59	4.59
Stillwater County	A11	RM 423.27	168178	0.2% - 500yr	1634.1	1111.62	1107.36	4.13	3.31	89.36	33.37	118.28	418.69	3.17	1.18	4.26	4.26
Stillwater County	A12	RM 423.17	167687.7	0.2% - 500yr	1634.1	1111.47	1107.46	3.31	2.58	58.76	24.22	153.74	519.13	2.97	1.22	4.01	4.01
Stillwater County	A12	RM 423.08	167239.6	0.2% - 500yr	1634.1	1111.27	1107.21	3.18	2.38	54.24	23.16	129.63	541.97	2.98	1.27	4.06	4.06
Stillwater County	A12	RM 423.01	166844.5	0.2% - 500yr	1634.1	1111.08	1106.84	2.96	2.27	49.11	23.42	144.56	577.36	2.63	1.25	4.24	4.24
Stillwater County	A12	RM 422.91	166338	0.2% - 500yr	1634.1	1110.68	1106.54	3.36	2.43	59.5	22.66	112.6	567.24	3.12	1.19	4.14	4.14
Stillwater County	A12	RM 422.80	165757.6	0.2% - 500yr	1634.1	1110.45	1106.83	2.93	2.14	46.43	20.83	148.94	588.83	2.9	1.3	3.62	3.62
Stillwater County	A12	RM 422.70	165279.2	0.2% - 500yr	1634.1	1110.36	1105.79	2.3	1.68	28.9	15.15	203.12	659.34	2.81	1.47	4.57	4.57
Stillwater County	A12	RM 422.63	164895.4	0.2% - 500yr	1634.1	1110.29	1105.43	2.09	1.49	23.82	12.06	179.41	761.71	2.85	1.44	4.86	4.86
Stillwater County	A12	RM 422.53	164348.1	0.2% - 500yr	1634.1	1110.14	1104.76	2.15	1.58	24.4	12.85	167.27	700.48	3.12	1.63	5.38	5.38
Stillwater County	A12	RM 422.39	163609.2	0.2% - 500yr	1634.1	1109.85	1104.22	2.6	1.91	33.14	15.68	132.53	555.41	3.88	1.82	5.63	5.63
Stillwater County	A12	RM 422.30	163120.4	0.2% - 500yr	1634.1	1109.29	1104.18	3.64	2.94	64.79	24.79	109.03	408.57	3.9	1.49	5.11	5.11
Stillwater County	A12	RM 422.19	162534.3	0.2% - 500yr	1634.1	1109.11	1103.72	3.24	2.75	51.26	23.85	122.19	326.23	3.93	1.82	5.39	5.39
Stillwater County	A12	RM 422.08	161934.5	0.2% - 500yr	1634.1	1108.48	1104.18	4.01	3.57	82	43.84	113.23	247.33	3.47	1.85	4.3	4.3
Stillwater County	A12	RM 421.98	161402.1	0.2% - 500yr	1634.1	1108.36	1103.86	3.22	3.06	52.67	39.61	142.02	202.07	3.51	2.64	4.5	4.5
Stillwater County	A12	RM 421.90	161037.7	0.2% - 500yr	1634.1	1108.19	1103.14	3.13	3.09	51.83	41.6	168.63	213.13	3.09	2.48	5.05	5.05
Stillwater County	A12	RM 421.86	160799.3	0.2% - 500yr	1634.1	1108.09	1102.54	3	2.91	49.26	40.17	193.24	339.52	2.79	2.28	5.55	5.55
Stillwater County	A12	RM 421.81	160535.9	0.2% - 500yr	1634.1	1107.98	1102.38	2.83	2.74	45.14	34.14	222.31	345.88	2.57	1.94	5.6	5.6
Stillwater County	A12	RM 421.77	160279.4	0.2% - 500yr	1634.1	1107.8	1102.41	3.03	2.63	50.67	31.16	182.53	373.66	2.7	1.66	5.39	5.39
Stillwater County	A12	RM 421.69	159875.5	0.2% - 500yr	1634.1	1107.65	1102.56	2.93	2.21	42.46	19.11	130.2	434.75	3.8	1.7	5.09	5.09
Stillwater County	A12	RM 421.60	159411.4	0.2% - 500yr	1634.1	1107.24	1103.26	3.55	2.69	66.65	27.74	131.13	472.92	3.09	1.29	3.98	3.98
Stillwater County	A12	RM 421.53	159038	0.2% - 500yr	1634.1	1106.79	1102.81	3.96	3.25	86.62	36.69	133.17	439.29	2.71	1.14	3.98	3.98
Stillwater County	A12	RM 421.45	158590.5	0.2% - 500yr	1634.1	1106.66	1103.26	3.08	2.59	52.47	27.64	155.02	504.07	2.7	1.42	3.4	3.4
Stillwater County	A12	RM 421.32	157930.2	0.2% - 500yr	1634.1	1106.29	1102.82	2.96	2.6	51.88	29.9	99.41	580.65	2.21	1.28	3.47	3.47
Stillwater County	A12	RM 421.24	157513	0.2% - 500yr	1634.1	1106.05	1103.05	2.73	2.34	45.61	30.95	127.11	526.87	2.01	1.37	3.57	3.57
Stillwater County	A12	RM 421.13	156951.5	0.2% - 500yr	1634.1	1105.89	1100.38	2.29	2	29.72	22.35	118.8	484.77	2.51	1.89	5.51	5.51
Stillwater County	A12	RM 421.05	156536.5	0.2% - 500yr	1634.1	1105.81	1102.11	1.96	1.78	21.89	18.08	103.99	550.89	2.49	2.05	3.7	3.7
Stillwater County	A12	RM 420.94	155960.1	0.2% - 500yr	1634.1	1105.5	1101.68	2.35	2.1	28.88	15.97	213.29	576.58	3.16	1.75	3.82	3.82
Stillwater County	A12	RM 420.85	155473.6	0.2% - 500yr	1634.1	1104.81	1100.98	3.91	2.74	84.88	42.91	135.54	501.19	2.68	1.35	3.83	3.83
Stillwater County	A12	RM 420.75	154957.2	0.2% - 500yr	1634.1	1104.74	1099.95	2.77	1.97	40.89	20.81	157.51	563.51	3.03	1.54	4.79	4.79
Stillwater County	A12	RM 420.66	154483	0.2% - 500yr	1634.1	1104.58	1099.89	2.63	1.86	35.87	21.6	165.17	801.6	3.26	1.95	4.69	4.69
Stillwater County	A12	RM 420.58	154037.5	0.2% - 500yr	1634.1	1104.18	1100.13	3.38	2.22	58.58	24.71	122.25	647.39	3.37	1.42	4.05	4.05
Stillwater County	A12	RM 420.52	153691.5	0.2% - 500yr	1634.1	1104.03	1099.7	3.21	2.07	53.59	20.38	131.23	694.33	3.24	1.23	4.33	4.33
Stillwater County	A12	RM 420.46	153398	0.2% - 500yr	1634.1	1103.75	1099.36	3.45	2.4	63.89	23.91	139.88	611.17	2.98	1.11	4.39	4.39
Stillwater County	A12	RM 420.38	152998.3	0.2% - 500yr	1634.1	1103.7	1099.19	2.68	1.85	38.99	19.39	177.26	635.34	2.86	1.42	4.51	4.51
Stillwater County	A12	RM 420.30	152566.4	0.2% - 500yr	1634.1	1103.65	1099.43	2.06	1.48	23.05	14.32	230.5	695.62	2.81	1.75	4.22	4.22
Stillwater County	A12	RM 420.21	152106.2	0.2% - 500yr	1634.1	1103.51	1098.69	2.13	1.61	25.54	17.62	238.7	667.58	2.6	1.79	4.82	4.82
Stillwater County	A12	RM 420.15	151738.6	0.2% - 500yr	1634.1	1103.4	1098.38	2.08	1.76	21.89	14.87	260.73	500.38	2.78	1.89	5.02	5.02
Stillwater County	A12	RM 420.08	151399.3	0.2% - 500yr	1634.1	1103.24	1097.97	2.36	1.99	29.03	16.83	196.82	434.38	3.28	1.9	5.27	5.27
Stillwater County	A12	RM 420.03	151123.2	0.2% - 500yr	1634.1	1103.07	1097.96	2.75	2.06	37.57	19.36	142.7	412.9	3.75	1.92	5.11	5.11
Stillwater County	A12	RM 419.96	150779.4	0.2% - 500yr	1634.1	1102.89	1098.1	3.03	2.09	45.93	22.65	128.1	436.49	3.63	1.79	4.79	4.79
Stillwater County	A12	RM 419.91	150511.3	0.2% - 500yr	1634.1	1102.52	1097.83	3.69	2.53	66.79	25.1	102.77	445.05	3.9	1.45	4.69	4.69
Stillwater County	A12	RM 419.85	150192.4	0.2% - 500yr	1634.1	1102.14	1097.85	4.1	2.81	86.38	33.52	106.79	443.45	3.4	1.31	4.29	4.29
Stillwater County	A12	RM 419.78	149807.6	0.2% - 500yr	1634.1	1102	1097.13	3.67	2.39	66.98	26.74	104.97	454.99	3.78	1.5	4.87	4.87
Stillwater County	A12	RM 419.70	149371.5	0.2% - 500yr	1634.1	1101.67	1097.73	3.7	2.8	72.88	34.26	138.38	412.97	3.01	1.41	3.94	3.94
Stillwater County	A12	RM 419.63	149047.6	0.2% - 500yr	1634.1	1101.55	1097.92	3.26	2.63	57.49	30.75	168.37	406.26	2.87	1.53	3.63	3.63
Stillwater County	A12	RM 419.53	148495.9	0.2% - 500yr	1634.1	1101.25	1097.22	3.23	2.49	58.83	35.63	136.75	425.54	2.55	1.54	4.02	4.02
Stillwater County	A12	RM 419.46	148117.9	0.2% - 500yr	1634.1	1101.07	1097.34	2.84	2.15	45.01	26.93	133.46	490.55	2.63	1.58	3.99	3.99
Stillwater County	A12	RM 419.38	147728.5	0.2% - 500yr	1634.1	1100.93	1097.36	2.36	1.98	31.78	24.75	149.23	440.99	2.48	1.94	3.57	3.57
Stillwater County	A12	RM 419.31	147342.9	0.2% - 500yr	1634.1	1100.84	1096.9	2.09	1.86	23.14	17.61	114.45	410.99	3.09	2.36	3.94	3.94
Stillwater County	A12	RM 419.19	146720.3	0.2% - 500yr	1634.1	1100.67	1096.42	1.95	2.03	20.12	16.32	106.51	445.44	3.14	2.55	6.27	6.27
Stillwater County	A12	RM 419.10	146243.9	0.2% - 500yr	1634.1	1100.51	1095.09	2.45	2.09	28.89	14.9	156.37	542.16	4.09	2.1	5.42	5.42
Stillwater County	A12	RM 419.03	145859.8	0.2% - 500yr	1634.1	1100.13	1095.88	3.24	2.86	57.33	31.07	172.66	485.34	2.82	1.52	4.25	4.25
Stillwater County	A12	RM 418.95	145435.3	0.2% - 500yr	1634.1	1099.92	1095.15	2.99	2.55	50.75	27.44	207.31	572.19	2.5	1.35	4.77	4.77

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	0.2% - 500yr	1634.1	1099.57	1094.92	2.93	2.34	50.03	25.34	222.59	695.1	2.33	1.18	4.65	4.65
Stillwater County	A12	RM 418.57	143452.8	0.2% - 500yr	1634.1	1098.53	1095.1	3.33	2.34	63.05	24.41	135.5	752.56	2.49	0.96	3.43	3.43
Stillwater County	A12	RM 418.49	143008.1	0.2% - 500yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A12	RM 418.25	141740.8	0.2% - 500yr	1634.1	1097.82	1093.71	2.32	1.66	31.32	21.01	178.18	724.1	2.33	1.56	4.11	4.11
Stillwater County	A12	RM 418.08	140894.8	0.2% - 500yr	1634.1	1097.54	1092.65	2.29	1.83	28.36	15.8	139.46	641.01	2.89	1.61	4.89	4.89
Stillwater County	A12	RM 417.89	139893.7	0.2% - 500yr	1634.1	1096.79	1092.75	3.49	2.64	64.39	26.26	128.08	622.68	3.12	1.27	4.04	4.04
Stillwater County	A12	RM 417.79	139376.4	0.2% - 500yr	1634.1	1096.64	1091.64	2.97	2.19	47.53	24.55	137.69	658.7	2.93	1.51	5	5
Stillwater County	A12	RM 417.65	138633.4	0.2% - 500yr	1634.1	1096.16	1091.57	3.45	2.56	59.7	25.97	93.48	655.43	3.66	1.59	4.59	4.59
Stillwater County	A12	RM 417.54	138089.5	0.2% - 500yr	1634.1	1095.45	1091.15	4.31	3.39	97.69	44.13	94.44	370.33	3.15	1.42	4.3	4.3
Stillwater County	A12	RM 417.40	137321.3	0.2% - 500yr	1860.7	1095.25	1091.71	2.99	2.48	48.99	32.59	128.55	607.94	2.78	1.85	3.54	3.54
Stillwater County	A12	RM 417.30	136818.2	0.2% - 500yr	1860.7	1094.92	1091.51	2.91	2.55	47.79	31.87	209.14	477.18	2.57	1.71	3.41	3.41
Stillwater County	A13	RM 417.09	135706	0.2% - 500yr	1860.7	1094.19	1090.35	3.5	2.81	68.03	34.76	189.98	512.87	2.66	1.36	3.84	3.84
Stillwater County	A13	RM 417.01	135303.6	0.2% - 500yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A13	RM 416.85	134457.6	0.2% - 500yr	1860.7	1093.44	1089.62	3.08	2.44	50.54	23.7	188.07	535.08	3.05	1.42	3.82	3.82
Stillwater County	A13	RM 416.73	133843.5	0.2% - 500yr	1860.7	1092.94	1089.6	3.39	2.75	65.78	35.22	214.87	517.85	2.44	1.31	3.34	3.34
Stillwater County	A13	RM 416.63	133286.1	0.2% - 500yr	1860.7	1092.53	1089.3	3.36	2.82	66.69	37.36	134.05	526.2	2.23	1.25	3.23	3.23
Stillwater County	A13	RM 416.52	132717.9	0.2% - 500yr	1860.7	1092.29	1089.09	2.75	2.08	44.63	27.98	104.23	637.25	2.24	1.41	3.2	3.2
Stillwater County	A13	RM 416.43	132250.3	0.2% - 500yr	1860.7	1092.01	1088.74	2.57	2	39.4	22.96	115.63	737.45	2.16	1.26	3.27	3.27
Stillwater County	A13	RM 416.33	131707.5	0.2% - 500yr	1860.7	1091.81	1088.02	2.35	1.81	32.03	17.33	132.56	810.34	2.33	1.27	3.79	3.79
Stillwater County	A13	RM 416.22	131140.9	0.2% - 500yr	1860.7	1091.43	1087.56	3.2	2.08	54.32	19.46	84.28	814.66	3.07	1.1	3.87	3.87
Stillwater County	A13	RM 416.13	130626.3	0.2% - 500yr	1860.7	1091.03	1086.65	3.21	2.26	55.68	20.07	148.11	783.23	2.91	1.05	4.37	4.37
Stillwater County	A13	RM 416.04	130164.9	0.2% - 500yr	1860.7	1090.67	1085.03	3.5	2.14	65.02	24.19	125.7	806.5	3.07	1.14	5.64	5.64
Stillwater County	A13	RM 415.96	129734.7	0.2% - 500yr	1860.7	1090.64	1085.48	2.54	1.47	33.5	12.99	133.05	993.94	3.3	1.27	5.16	5.16
Stillwater County	A13	RM 415.90	129423.4	0.2% - 500yr	1860.7	1090.56	1085.77	2.15	1.32	24.5	12.96	159.69	938.22	3.06	1.62	4.79	4.79
Stillwater County	A13	RM 415.83	129071.6	0.2% - 500yr	1860.7	1090.47	1085.89	2.07	1.31	22.08	11.57	152.97	817.08	3.31	1.74	5.14	5.14
Stillwater County	A13	RM 415.74	128639.5	0.2% - 500yr	1860.7	1090.21	1084.72	2.74	1.66	37.3	18.01	154.02	841.53	3.72	1.79	5.49	5.49
Stillwater County	A13	RM 415.72	128521.2	0.2% - 500yr	1860.7	1090.03	1084.8	3.19	1.91	50.5	22.64	132.67	812.51	3.74	1.67	5.23	5.23
Stillwater County	A13	RM 415.65	128106.2	0.2% - 500yr	1860.7	1089.88	1083.7	3.04	1.97	49.11	26.16	170.19	871.83	3.07	1.63	6.18	6.18
Stillwater County	A13	RM 415.59	127828.3	0.2% - 500yr	1860.7	1089.28	1083.61	4.06	3	86.44	36.77	136.01	694.61	3.18	1.35	5.67	5.67
Stillwater County	A13	RM 415.55	127620.5	0.2% - 500yr	1860.7	1089.31	1082.84	3.2	3.06	48.51	28.86	132.97	469.87	4.35	2.57	6.46	6.46
Stillwater County	A13	RM 415.50	127340.9	0.2% - 500yr	1860.7	1089.18	1083.14	3.25	2.92	52.78	27.86	152.45	720.1	3.7	1.95	6.04	6.04
Stillwater County	A13	RM 415.45	127087.4	0.2% - 500yr	1860.7	1088.71	1083.18	3.93	3.37	83.52	37.86	160.08	636.83	2.9	1.31	5.53	5.53
Stillwater County	A13	RM 415.34	126499.1	0.2% - 500yr	1860.7	1088.53	1084.45	3.35	2.74	58.9	30.49	129.56	764.59	3.15	1.63	4.08	4.08
Stillwater County	A13	RM 415.25	126040.7	0.2% - 500yr	1860.7	1088.34	1082.42	3.22	2.34	52.83	25.56	123.59	744.47	3.44	1.66	5.91	5.91
Stillwater County	A13	RM 415.18	125663.1	0.2% - 500yr	1860.7	1088.12	1083.81	3.22	2.62	52.99	21.67	135.23	707.31	3.43	1.4	4.31	4.31
Stillwater County	A13	RM 414.97	124585.1	0.2% - 500yr	1860.7	1087.25	1082.64	3.46	2.59	62.72	30.59	121.02	541.54	3.17	1.55	4.61	4.61
Stillwater County	A13	RM 414.88	124110.1	0.2% - 500yr	1860.7	1087.01	1083.02	3.28	2.59	56.11	29.66	124.65	505.83	3.23	1.71	3.99	3.99
Stillwater County	A13	RM 414.71	123222	0.2% - 500yr	1860.7	1086.5	1080.88	3.16	2.58	51.29	20.02	165.46	549.53	3.38	1.31	5.62	5.62
Stillwater County	A13	RM 414.57	122473.6	0.2% - 500yr	1860.7	1085.75	1081.21	3.9	3.17	79.99	31.32	146.86	585.85	3.14	1.23	4.54	4.54
Stillwater County	A13	RM 414.43	121696.6	0.2% - 500yr	1860.7	1085.26	1080.49	3.56	2.68	68.8	32.61	170.98	824.29	2.83	1.34	4.77	4.77
Stillwater County	A13	RM 414.21	120527.7	0.2% - 500yr	1860.7	1084.57	1080.81	2.99	2.32	51.95	27.54	222.52	759.24	2.32	1.23	3.76	3.76
Stillwater County	A13	RM 413.90	118914.7	0.2% - 500yr	1860.7	1083.23	1079.28	3.58	2.4	69.5	27.5	157.4	682.59	2.88	1.14	3.95	3.95
Stillwater County	A13	RM 413.65	117570.4	0.2% - 500yr	1860.7	1082.48	1078.15	3.27	1.81	56.33	25.83	143.12	722.71	3.11	1.42	4.33	4.33
Stillwater County	A14	RM 413.44	116446.3	0.2% - 500yr	1860.7	1081.7	1076.4	3.53	1.88	66.48	23.7	147.72	932.62	2.99	1.06	5.3	5.3
Stillwater County	A14	RM 413.27	115556.7	0.2% - 500yr	1860.7	1081.18	1077.8	3.22	1.81	59.38	27.47	176.76	929.65	2.44	1.13	3.38	3.38
Stillwater County	A14	RM 413.11	114697.4	0.2% - 500yr	1860.7	1080.67	1077.12	2.92	1.77	48.28	21.19	197.3	1103.54	2.54	1.11	3.55	3.55
Stillwater County	A14	RM 412.99	114113.2	0.2% - 500yr	1860.7	1080.35	1076.41	2.9	1.78	47.78	23.3	190.79	1067.08	2.51	1.22	3.94	3.94
Stillwater County	A14	RM 412.88	113533.6	0.2% - 500yr	1860.7	1079.99	1076.03	3.06	2.1	49.76	22.08	145.23	870.51	3.06	1.36	3.96	3.96
Stillwater County	A14	RM 412.73	112742.6	0.2% - 500yr	1860.7	1079.54	1074.72	3.12	2.07	53.56	30.47	174.97	780.62	2.72	1.55	4.82	4.82
Stillwater County	A14	RM 412.59	112005.5	0.2% - 500yr	1860.7	1079.15	1074.72	2.92	1.99	46.75	27.86	198.19	903.09	2.78	1.65	4.43	4.43
Stillwater County	A14	RM 412.49	111442.5	0.2% - 500yr	1860.7	1079.12	1074.54	2.1	1.52	23.02	12.4	189.08	938.24	3.23	1.74	4.58	4.58
Stillwater County	A14	RM 412.31	110522	0.2% - 500yr	1860.7	1078.77	1072.96	2.61	1.83	32.29	15.13	144.87	771.09	4.33	2.02	5.81	5.81
Stillwater County	A14	RM 412.19	109955.3	0.2% - 500yr	1860.7	1077.88	1071.57	4.41	3.22	96.85	39.25	103.6	438.6	3.76	1.5	6.31	6.31
Stillwater County	A14	RM 412.05	109175.2	0.2% - 500yr	1860.7	1077.66	1072.08	3.53	2.44	60.77	25.34	118.28	520.32	3.93	1.63	5.58	5.58
Stillwater County	A14	RM 411.92	108510.2	0.2% - 500yr	1860.7	1077.38	1072.88	3.27	2.84	53	24.41	146.42	381.03	3.75	1.72	4.5	4.5
Stillwater County	A14	RM 411.81	107950.5	0.2% - 500yr	1860.7	1076.74	1070.62	4	3.99	81.9	79.47	135.94	259.09	3.42	3.32	6.12	6.12
Stillwater County	A14	RM 411.71	107391.9	0.2% - 500yr	1860.7	1076.4	1070.83	3.9	3.85	73.91	60.57	119.39	249.7	3.99	3.27	5.57	5.57
Stillwater County	A14	RM 411.58	106721	0.2% - 500yr	1860.7	1076.13	1071.65	3.45	3.14	61.52	38.48	161.95	479.94	3.29	2.05	4.48	4.48
Stillwater County	A14	RM 411.47	106133.7	0.2% - 500yr	1860.7	1075.88	1071.87	3.25	2.52	55.25	29.11	162.55	479.19	3.18	1.67	4.01	4.01
Stillwater County	A14	RM 411.32	105338.4	0.2% - 500yr	1860.7	1075.34	1069.29	3.41	2.75	61.05	33.61	163.29	511.84	3.17	1.74	6.05	6.05

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	0.2% - 500yr	1860.7	1074.27	1067.92	4.37	2.95	97.96	38.65	115.23	472.05	3.4	1.34	6.35	6.35
Stillwater County	A14	RM 411.00	103638.4	0.2% - 500yr	1860.7	1073.73	1069.6	3.95	2.81	86	46.05	143.93	454.05	2.73	1.46	4.13	4.13
Stillwater County	A14	RM 410.85	102835.8	0.2% - 500yr	1860.7	1073.37	1069.92	2.91	2.16	49.45	28.33	83.64	1072.93	2.29	1.31	3.45	3.45
Stillwater County	A14	RM 410.74	102286.3	0.2% - 500yr	1860.7	1072.97	1068.99	3.11	2.08	54.89	29.32	75.92	1130.04	2.53	1.33	3.98	3.98
Stillwater County	A14	RM 410.63	101668.3	0.2% - 500yr	1860.7	1072.73	1068.37	2.55	1.83	34.74	21.11	83.69	1220.63	3.01	1.82	4.36	4.36
Stillwater County	A14	RM 410.52	101115.7	0.2% - 500yr	1860.7	1072.36	1067.81	2.94	2.28	45.66	26.1	123.09	1393.33	3.14	1.79	4.55	4.55
Stillwater County	A14	RM 410.42	100568.4	0.2% - 500yr	1860.7	1071.91	1066.66	3.18	2.92	57.47	38.02	149.68	928.9	2.51	1.65	5.25	5.25
Stillwater County	A14	RM 410.33	100099.2	0.2% - 500yr	1860.7	1071.68	1066.6	2.89	2.47	44.42	31.22	198.78	1126.79	3.05	2.14	5.07	5.07
Stillwater County	A14	RM 410.22	99589.26	0.2% - 500yr	1860.7	1071.14	1066.94	3.66	2.78	71.23	35.51	153.26	1139.13	3.04	1.51	4.2	4.2
Stillwater County	A14	RM 410.12	99057.4	0.2% - 500yr	1860.7	1070.69	1065.8	3.7	2.9	76.94	46.96	177.78	1176.7	2.57	1.57	4.89	4.89
Stillwater County	A14	RM 410.03	98630.66	0.2% - 500yr	1860.7	1070.39	1065.33	3.37	2.76	65.07	40.46	207.31	1188.65	2.41	1.5	5.06	5.06
Stillwater County	A14	RM 409.99	98385.41	0.2% - 500yr	1860.7	1070.17	1065.38	3.4	2.66	66.84	38.88	207.89	1183.15	2.37	1.37	4.79	4.79
Stillwater County	A14	RM 409.94	98072.09	0.2% - 500yr	1860.7	1070.06	1065.51	2.95	2.13	48.3	25.37	206.82	1399.28	2.65	1.39	4.54	4.54
Stillwater County	A14	RM 409.87	97717.24	0.2% - 500yr	1860.7	1070	1065.52	2.52	1.59	31.91	14.36	166.7	1410.86	3.6	1.62	4.48	4.48
Stillwater County	A14	RM 409.76	97130.84	0.2% - 500yr	1860.7	1069.62	1065.37	3.2	1.93	53.44	21.04	146.97	1366.07	3.23	1.27	4.25	4.25
Stillwater County	A14	RM 409.60	96278.7	0.2% - 500yr	1860.7	1068.63	1064.65	4.14	2.79	99.14	40.53	166.1	711.55	2.35	0.96	3.98	3.98
Stillwater County	A14	RM 409.43	95381.62	0.2% - 500yr	1860.7	1067.92	1063.55	3.54	2.3	68.25	32.1	135.5	884.26	2.85	1.34	4.37	4.37
Stillwater County	A14	RM 409.24	94405.29	0.2% - 500yr	1860.7	1067.25	1064.55	2.51	1.9	41.26	29.5	159.47	1010.34	1.63	1.17	3.04	3.04
Stillwater County	A14	RM 409.15	93912.54	0.2% - 500yr	1860.7	1066.85	1064.27	2.36	1.92	35.18	25.88	168.43	758.13	1.79	1.32	4.78	4.78
Stillwater County	A14	RM 408.99	93008.08	0.2% - 500yr	1860.7	1066.17	1063.94	2.7	2.35	47.04	28.34	164.74	776.65	1.68	1.02	3.63	3.63
Stillwater County	A14	RM 408.84	92229.27	0.2% - 500yr	1860.7	1065.7	1062.1	2.59	2.28	42.84	27.69	190.43	714.1	1.76	1.14	3.6	3.6
Stillwater County	A14	RM 408.63	91072.98	0.2% - 500yr	1860.7	1065.28	1061.85	2.1	1.86	25.45	21.4	211.69	511.1	2.4	2.02	3.7	3.7
Stillwater County	A14	RM 408.41	89726.16	0.2% - 500yr	1860.7	1064.85	1059.04	2.62	1.98	32.6	17.88	105.48	404.51	4.34	2.37	5.81	5.81
Stillwater County	A14	RM 408.26	88966.66	0.2% - 500yr	1860.7	1064.59	1058.13	2.77	2.15	36.13	20.64	130.93	376.32	4.44	2.53	6.46	6.46
Stillwater County	A14	RM 408.10	88091.52	0.2% - 500yr	1860.7	1063.39	1057.78	4.68	3.95	107.02	42.26	98.48	302.78	3.95	1.56	5.61	5.61
Stillwater County	A14	RM 408.02	87720.33	0.2% - 500yr	1860.7	1063.35	1058.61	3.91	3.2	76.68	39.13	127.15	351.28	3.62	1.84	4.74	4.74
Stillwater County	A14	RM 407.83	86708.48	0.2% - 500yr	1860.7	1062.81	1058.65	3.27	2.76	61.73	38.48	160.99	458.93	2.35	1.47	4.16	4.16
Stillwater County	A14	RM 407.71	86078.99	0.2% - 500yr	1860.7	1062.35	1057.9	3.57	2.69	68	31.45	121.34	500.37	2.98	1.38	4.45	4.45
Stillwater County	A14	RM 407.61	85508.29	0.2% - 500yr	1860.7	1062.12	1058.36	2.91	2.41	48.45	29.05	170.8	531.41	2.43	1.45	3.76	3.76
Stillwater County	A14	RM 407.50	84909.3	0.2% - 500yr	1860.7	1061.88	1058.55	2.69	2.23	42.06	26.13	179.43	579.78	2.31	1.44	3.82	3.82
Stillwater County	A14	RM 407.41	84433.26	0.2% - 500yr	1860.7	1061.76	1057.85	2.48	1.89	33.88	19.31	122.26	625.36	2.75	1.57	4.1	4.1
Stillwater County	A14	RM 407.36	84180.66	0.2% - 500yr	1860.7	1061.61	1057.59	2.89	1.9	44.17	21.59	101.75	651.31	3.09	1.5	4.02	4.02
Stillwater County	A14	RM 407.29	83775.88	0.2% - 500yr	1860.7	1061.31	1057.08	2.6	2.37	38.23	23.37	155.75	504.56	2.54	1.55	4.49	4.49
Stillwater County	A14	RM 407.13	82954.84	0.2% - 500yr	1860.7	1061.04	1056.27	2.28	2.11	28.26	20.53	281.86	427.56	2.84	2.06	4.77	4.77
Stillwater County	A14	RM 406.98	82156.72	0.2% - 500yr	1860.7	1060.83	1056.37	2.33	2.08	26.92	16.33	200.47	445.16	3.82	2.31	4.46	4.46
Stillwater County	A14	RM 406.86	81532.92	0.2% - 500yr	1860.7	1059.8	1055.69	4.44	4.09	100.36	64.31	115.89	228.7	3.51	2.24	4.11	4.11
Stillwater County	A14	RM 406.77	81053.3	0.2% - 500yr	1860.7	1059.51	1053.84	4.18	3.5	87.4	46.89	112.47	278.25	3.68	1.97	5.67	5.67
Stillwater County	A14	RM 406.64	80405.13	0.2% - 500yr	1860.7	1059.17	1054.89	3.72	3.34	70.85	42.88	140.34	537.99	3.39	2.05	4.28	4.28
Stillwater County	A14	RM 406.48	79524.79	0.2% - 500yr	1860.7	1058.75	1054.8	3.11	2.42	52.08	33.57	214.67	614.92	2.34	1.5	3.95	3.95
Stillwater County	A14	RM 406.25	78337.26	0.2% - 500yr	1860.7	1058.1	1054.03	3.12	2.19	50.71	21.7	146.6	758.82	3.26	1.39	4.07	4.07
Stillwater County	A14	RM 406.08	77409.13	0.2% - 500yr	1860.7	1057.85	1052.87	2.66	1.65	35.83	16.77	131.8	734.59	3.59	1.66	4.98	4.98
Stillwater County	A14	RM 405.93	76624.91	0.2% - 500yr	1860.7	1056.94	1052.64	4.03	3.18	80.79	31.92	114.34	478.89	3.75	1.48	4.3	4.3
Stillwater County	A14	RM 405.81	75994.44	0.2% - 500yr	1860.7	1056.51	1051.93	3.91	3.75	78.33	72.07	133.87	307.69	3.43	3.17	4.58	4.58
Stillwater County	A15	RM 405.77	75764.36	0.2% - 500yr	1860.7	1056.18	1052.63	4.27	3.87	99.21	66.37	142.49	261.18	2.84	1.91	3.55	3.55
Stillwater County	A15	RM 405.67	75185.26	0.2% - 500yr	1860.7	1055.88	1052.06	3.6	3.08	69.68	43.01	82.19	332.02	2.94	1.82	3.82	3.82
Stillwater County	A15	RM 405.61	74883.52	0.2% - 500yr	1860.7	1055.71	1051.81	3.72	2.82	71.21	39.15	69.55	464.81	3.33	1.84	3.9	3.9
Stillwater County	A15	RM 405.52	74415.92	0.2% - 500yr	1860.7	1055.27	1051.43	4.23	2.87	92.15	45.55	52.24	568.3	3.37	1.66	3.84	3.84
Stillwater County	A15	RM 405.45	74031.34	0.2% - 500yr	1860.7	1055.25	1051.1	3.25	2.01	52.31	25.93	57.4	840.58	3.73	1.85	4.15	4.15
Stillwater County	A15	RM 405.34	73437.72	0.2% - 500yr	1860.7	1054.79	1050.67	3.39	2.43	58.19	23.23	116.05	915.12	3.54	1.41	4.12	4.12
Stillwater County	A15	RM 405.18	72616.33	0.2% - 500yr	1860.7	1054.42	1049.45	3.46	2.49	57.69	20.21	94.83	876.04	4.11	1.43	4.97	4.97
Stillwater County	A15	RM 405.09	72171.48	0.2% - 500yr	1860.7	1054.28	1049.09	3.08	2.34	45.95	17.67	115.98	937.17	4	1.53	5.2	5.2
Stillwater County	A15	RM 405.02	71774.52	0.2% - 500yr	1860.7	1053.75	1048.59	4.15	3.05	83.68	23.22	88.03	618.38	4.01	1.1	5.16	5.16
Stillwater County	A15	RM 404.97	71526.86	0.2% - 500yr	1860.7	1053.79	1048.35	3.36	2.4	55.19	18.92	105.86	1026.29	3.95	1.35	5.44	5.44
Stillwater County	A15	RM 404.90	71150.58	0.2% - 500yr	1860.7	1053.6	1048.99	3.43	2.52	57.88	19.17	104.62	1043.65	3.87	1.28	4.61	4.61
Stillwater County	A15	RM 404.84	70801.47	0.2% - 500yr	1860.7	1053.6	1049.19	2.82	1.97	39.05	16.29	118.04	1209.63	3.89	1.61	4.41	4.41
Stillwater County	A15	RM 404.77	70415.17	0.2% - 500yr	1860.7	1053.54	1048.51	2.82	1.74	37.79	13.79	86.33	1205.03	4.33	1.55	5.03	5.03
Stillwater County	A15	RM 404.59	69477.61	0.2% - 500yr	1860.7	1052.64	1047.56	4.13	3.1	84.81	23.36	110.64	589.17	3.78	1.02	5.08	5.08
Stillwater County	A15	RM 404.54	69214.33	0.2% - 500yr	1860.7	1052.6	1047.65	3.6	2.67	66.1	23.13	133.67	580	3.48	1.2	4.94	4.94
Stillwater County	A15	RM 404.35	68254.38	0.2% - 500yr	1860.7	1052.21	1048.18	3.04	2.46	49.15	25.31	147.66	485.24	3.01	1.56	4.44	4.44
Stillwater County	A15	RM 404.10	66934.17	0.2% - 500yr	1860.7	1051.37	1047.61	3.18	2.94	52.56	39.91	123.69	516.53	3.22	2.45	3.76	3.76

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	0.2% - 500yr	1860.7	1051.11	1045.27	2.96	2.33	44.06	27.45	113.06	547.8	3.58	2.22	5.84	5.84
Stillwater County	A15	RM 403.85	65604.39	0.2% - 500yr	1860.7	1050.6	1044.79	3.88	3.19	72.81	47.99	79.41	533.79	4.11	2.69	5.81	5.81
Stillwater County	A15	RM 403.75	65058.55	0.2% - 500yr	1860.7	1049.74	1046.13	4.79	4.14	123.06	87.78	101.02	350.82	2.98	2.12	3.61	3.61
Stillwater County	A15	RM 403.69	64721.22	0.2% - 500yr	1860.7	1049.74	1046.02	3.36	3.21	62.24	56.3	135.89	495.35	2.75	2.5	3.72	3.72
Stillwater County	A15	RM 403.62	64341.29	0.2% - 500yr	1860.7	1049.51	1045.75	3.42	3.11	66.79	50.91	93.52	533.33	2.46	1.89	3.76	3.76
Stillwater County	A15	RM 403.55	63997.04	0.2% - 500yr	1860.7	1049.44	1045.95	2.8	2.32	43.5	33.07	118.23	543.14	2.65	2.02	3.49	3.49
Stillwater County	A15	RM 403.38	62985.06	0.2% - 500yr	1860.7	1049.19	1043.43	2.23	2.04	25.75	21.04	194.68	506.49	3.34	2.73	5.76	5.76
Stillwater County	A15	RM 403.24	62260	0.2% - 500yr	1860.7	1048.79	1043.43	2.87	2.59	40.62	27.41	167.56	514.89	3.81	2.56	5.36	5.36
Stillwater County	A15	RM 403.15	61770.95	0.2% - 500yr	1860.7	1048.15	1042.51	3.98	3.38	80.28	41.02	130.41	500.96	3.51	1.79	5.64	5.64
Stillwater County	A15	RM 403.05	61263.44	0.2% - 500yr	1860.7	1047.81	1043.23	3.85	3.42	76.98	45.96	146.94	395.13	3.24	1.93	4.58	4.58
Stillwater County	A15	RM 402.97	60777.65	0.2% - 500yr	1860.7	1047.57	1043.89	3.41	3.23	63.42	51.92	190.96	420.36	2.83	2.32	3.68	3.68
Stillwater County	A15	RM 402.83	60113.9	0.2% - 500yr	1860.7	1046.99	1043.49	3.45	3.41	70.84	63.38	246.5	468.2	2.18	1.95	3.5	3.5
Stillwater County	A15	RM 402.68	59309.8	0.2% - 500yr	1860.7	1046.52	1042.55	2.92	2.42	47.83	29.29	233.75	846.22	2.6	1.59	3.97	3.97
Stillwater County	A15	RM 402.53	58529.61	0.2% - 500yr	1860.7	1046.06	1040.51	3.33	1.94	53.82	17.2	121.12	966.24	4.01	1.28	5.55	5.55
Stillwater County	A15	RM 402.37	57665.93	0.2% - 500yr	1860.7	1045.54	1041.09	3.42	2.27	69.23	30.99	213.78	951.24	2.21	0.99	4.45	4.45
Stillwater County	A15	RM 402.24	56987.42	0.2% - 500yr	1860.7	1045.45	1040.75	2.16	1.47	25.7	14.22	251.22	959.74	2.76	1.53	4.7	4.7
Stillwater County	A15	RM 402.07	56034.67	0.2% - 500yr	1860.7	1044.88	1041.1	2.98	1.99	49.83	25.35	204.99	706.73	2.6	1.32	3.78	3.78
Stillwater County	A15	RM 401.87	54972.92	0.2% - 500yr	1860.7	1044.42	1040.1	2.9	1.73	43.62	20.55	150.47	694.62	3.29	1.55	4.32	4.32
Stillwater County	A15	RM 401.69	54002.29	0.2% - 500yr	1860.7	1044.32	1038.43	1.9	1.49	18.7	12.11	248.14	589.75	3.28	2.12	5.89	5.89
Stillwater County	A15	RM 401.55	53267.48	0.2% - 500yr	1860.7	1043.34	1036.56	4.38	3.09	87.23	25.13	74.7	427.25	4.96	1.41	6.78	6.78
Stillwater County	A15	RM 401.41	52506.25	0.2% - 500yr	1860.7	1043.32	1037.91	3.01	2.46	44.89	30.41	136.71	373.97	3.76	2.55	5.41	5.41
Stillwater County	A15	RM 401.31	51997.63	0.2% - 500yr	1860.7	1042.95	1038.08	3.49	2.82	60.65	35.12	119.22	377.44	3.7	2.14	4.87	4.87
Stillwater County	A15	RM 401.17	51259.17	0.2% - 500yr	1860.7	1042.42	1037.38	3.6	2.87	66.22	28.92	146.36	504.49	3.42	1.49	5.04	5.04
Stillwater County	A15	RM 401.03	50507.04	0.2% - 500yr	1860.7	1042.01	1036.56	3.6	2.57	63.46	23.62	125.18	500.91	3.9	1.45	5.45	5.45
Stillwater County	A15	RM 400.90	49826.69	0.2% - 500yr	1860.7	1041.24	1036.25	4.21	3.67	96.35	60.27	150.93	412.68	2.84	1.79	4.99	4.99
Stillwater County	A15	RM 400.74	49002.09	0.2% - 500yr	1860.7	1040.89	1037.21	3.44	2.48	61.74	35.9	111.86	423.08	3.24	1.87	3.68	3.68
Stillwater County	A15	RM 400.61	48243.95	0.2% - 500yr	1860.7	1040.69	1035.99	2.55	2.2	34.32	26.13	144.82	359.64	3.11	2.36	4.7	4.7
Stillwater County	A15	RM 400.50	47710.55	0.2% - 500yr	1860.7	1040.36	1035.67	2.93	2.56	45.26	29.74	149.16	352.08	3.15	2.07	4.69	4.69
Stillwater County	A15	RM 400.42	47243.72	0.2% - 500yr	1860.7	1039.97	1034.87	3.51	2.91	62.23	33.69	103.89	327.88	3.62	1.95	5.1	5.1
Stillwater County	A15	RM 400.34	46832.6	0.2% - 500yr	1860.7	1039.8	1034.91	3.42	2.69	57.26	28.62	95.8	356.79	3.89	1.94	4.89	4.89
Stillwater County	A15	RM 400.25	46335.82	0.2% - 500yr	1860.7	1039.66	1035.01	3.12	2.42	48.36	27.75	107.99	356.72	3.78	2.16	4.65	4.65
Stillwater County	A15	RM 400.18	45999.89	0.2% - 500yr	1860.7	1039.5	1034.98	3.16	2.5	50.33	30.59	115.05	343.87	3.58	2.16	4.52	4.52
Stillwater County	A15	RM 400.13	45714.33	0.2% - 500yr	1860.7	1039.38	1035.2	3.09	2.46	48.04	30.71	122.23	380.14	3.64	2.32	4.18	4.18
Stillwater County	A15	RM 400.11	45623.77	0.2% - 500yr	1860.7	1039.31	1035.11	3.14	2.45	50.8	29.84	129.57	696.84	3.41	1.99	4.2	4.2
Stillwater County	A15	RM 400.09	45529.19	0.2% - 500yr	1860.7	1039.19	1035.05	3.38	2.68	59.83	32.53	128.18	692.5	3.18	1.73	4.14	4.14
Stillwater County	A15	RM 400.03	45177.97	0.2% - 500yr	1860.7	1039.02	1034.82	3.2	2.84	53.67	43.6	137.4	558.79	3.2	2.6	4.2	4.2
Stillwater County	A15	RM 399.95	44761.86	0.2% - 500yr	1860.7	1038.72	1033.69	3.27	3.12	53.23	38.79	149.97	441.72	3.76	2.73	5.03	5.03
Stillwater County	A16	RM 399.85	44225.61	0.2% - 500yr	1860.7	1038.17	1033.63	3.88	3.87	78.12	75.03	144.73	289.98	3.31	3.19	4.54	4.54
Stillwater County	A16	RM 399.74	43664.16	0.2% - 500yr	1860.7	1037.97	1033.48	3.23	3.22	55.45	54.32	188.33	319.44	3.06	3.01	4.49	4.49
Stillwater County	A16	RM 399.62	43026.17	0.2% - 500yr	1860.7	1037.7	1033.67	2.92	2.78	46.33	35.52	219.02	637.43	2.88	2.2	4.03	4.03
Stillwater County	A16	RM 399.50	42404.94	0.2% - 500yr	1860.7	1037.39	1031.89	3.03	2.72	46.15	28.87	167.47	571.15	3.61	2.25	5.5	5.5
Stillwater County	A16	RM 399.39	41801.43	0.2% - 500yr	1860.7	1036.97	1031.8	3.4	3.1	58.9	36.53	156.53	403.42	3.46	2.14	5.17	5.17
Stillwater County	A16	RM 399.30	41294.57	0.2% - 500yr	1860.7	1036.63	1031.14	3.59	3.23	66.47	49.53	146.13	350.01	3.35	2.49	5.49	5.49
Stillwater County	A16	RM 399.19	40736.83	0.2% - 500yr	1860.7	1035.93	1031.46	4.23	3.56	94.58	51.85	134.81	329.89	3.11	1.7	4.47	4.47
Stillwater County	A16	RM 399.09	40202.15	0.2% - 500yr	1860.7	1035.61	1031.09	3.88	3.08	77.21	35.1	129.05	391.28	3.41	1.54	4.52	4.52
Stillwater County	A16	RM 399.00	39710.39	0.2% - 500yr	1860.7	1035.43	1031.41	3.37	2.58	60.61	38.72	144.92	373.36	3.03	1.93	4.02	4.02
Stillwater County	A16	RM 398.91	39231.58	0.2% - 500yr	1860.7	1035.15	1031.73	3.11	2.43	56.39	40.18	180.87	465.68	2.31	1.64	3.42	3.42
Stillwater County	A16	RM 398.80	38666.26	0.2% - 500yr	1860.7	1034.76	1031.55	3.02	2.29	52.55	34.38	191.32	516.67	2.4	1.57	3.21	3.21
Stillwater County	A16	RM 398.73	38275.64	0.2% - 500yr	1860.7	1034.53	1030.78	2.82	2.17	40.78	28.56	227.26	552.72	2.22	1.55	3.75	3.75
Stillwater County	A16	RM 398.62	37715.08	0.2% - 500yr	1860.7	1034.2	1030.19	2.77	2.29	39.9	30.77	211.66	506.34	2.29	1.76	4.01	4.01
Stillwater County	A16	RM 398.51	37115.9	0.2% - 500yr	1860.7	1033.88	1030.68	2.75	2.27	42.55	28.55	212.08	478.15	2.55	1.71	3.22	3.22
Stillwater County	A16	RM 398.40	36522.49	0.2% - 500yr	1860.7	1033.72	1028.27	2.34	1.94	26.22	20.23	225.87	497.08	2.51	1.93	5.44	5.44
Stillwater County	A16	RM 398.29	35952.65	0.2% - 500yr	1860.7	1033.35	1027.62	2.67	2.24	41.23	27.92	282.82	520.84	2.35	1.59	5.73	5.73
Stillwater County	A16	RM 398.17	35320.39	0.2% - 500yr	1860.7	1033.12	1028.88	2.47	2.16	31.97	18.12	233.17	481.11	3.16	1.79	4.24	4.24
Stillwater County	A16	RM 398.04	34597.07	0.2% - 500yr	1860.7	1032.83	1027.24	2.53	2.27	42.18	29.75	256.39	533.84	2.81	1.98	5.59	5.59
Stillwater County	A16	RM 397.95	34133.39	0.2% - 500yr	1860.7	1032.49	1027.15	2.87	2.62	46.1	30.65	240.56	414.11	2.65	1.76	5.34	5.34
Stillwater County	A16	RM 397.81	33366.95	0.2% - 500yr	1860.7	1032.25	1027.05	2.45	2.21	31.8	23.25	238.11	401.95	3.11	2.27	5.2	5.2
Stillwater County	A16	RM 397.68	32754.86	0.2% - 500yr	1860.7	1032.01	1026.97	2.62	2.3	34.78	23.32	195.63	412.76	3.53	2.37	5.04	5.04
Stillwater County	A16	RM 397.56	32104.4	0.2% - 500yr	1860.7	1031.2	1026.76	4.03	3.42	83.68	38.77	135	723.59	3.34	1.55	4.44	4.44
Stillwater County	A16	RM 397.40	31237.31	0.2% - 500yr	1860.7	1030.6	1026.27	3.67	3.17	73.92	52.68	176.35	762.88	2.77	1.97	4.33	4.33

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.2% - 500yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	0.2% - 500yr	1860.7	1030.02	1025.84	2.71	2.01	42.95	27.53	269.26	1189.79	2.26	1.45	4.18	4.18
Stillwater County	A16	RM 396.97	29050.44	0.2% - 500yr	1860.7	1029.64	1025.61	2.25	1.5	28.37	17.02	280.04	1262.8	2.56	1.53	4.03	4.03
Stillwater County	A16	RM 396.71	27639.86	0.2% - 500yr	1860.7	1029.09	1022.48	2.92	1.36	42.06	15.24	127.44	1170.4	3.84	1.37	6.61	6.61
Stillwater County	A16	RM 396.62	27103.31	0.2% - 500yr	1860.7	1028.55	1022.36	3.81	1.88	69.78	18.1	99.61	1096.65	4.2	1.07	6.19	6.19
Stillwater County	A16	RM 396.52	26616.35	0.2% - 500yr	1860.7	1028.32	1023.41	3.75	1.76	70.33	19.93	108.11	1012.7	3.72	1.04	4.91	4.91
Stillwater County	A16	RM 396.29	25423.1	0.2% - 500yr	1860.7	1028.06	1023.53	2.48	1.45	32.99	15.66	188.51	983.57	2.98	1.41	4.53	4.53
Stillwater County	A16	RM 396.14	24635.78	0.2% - 500yr	1860.7	1026.98	1022.46	4.31	3.24	102.14	47.78	129.98	647.75	2.76	1.29	4.51	4.51
Stillwater County	A16	RM 396.03	24026.24	0.2% - 500yr	1860.7	1026.91	1024.1	2.68	2.04	41.11	24.9	186.55	885.12	2.43	1.47	2.81	2.81
Stillwater County	A16	RM 395.89	23301.08	0.2% - 500yr	1860.7	1026.44	1022.79	2.96	2.02	51.94	27.71	152.52	966.48	2.21	1.18	3.65	3.65
Stillwater County	A16	RM 395.73	22420.29	0.2% - 500yr	1860.7	1026.07	1022.66	1.83	1.42	19.77	12.66	186.62	1100.11	2.22	1.42	3.41	3.41
Stillwater County	A16	RM 395.64	21923.33	0.2% - 500yr	1860.7	1025.82	1022.13	2.4	1.53	32.97	15.84	144.53	1259.7	2.43	1.16	4	4
Stillwater County	A16	RM 395.57	21526.11	0.2% - 500yr	1860.7	1025.39	1021.61	3.24	1.84	57.17	19.81	78.2	1387.79	2.85	0.98	3.78	3.78
Stillwater County	A16	RM 395.48	21053.74	0.2% - 500yr	1860.7	1025.04	1021.89	2.87	2.04	49.86	23.08	116.25	1237.58	2.06	0.95	3.15	3.15
Stillwater County	A16	RM 395.36	20532.68	0.2% - 500yr	1860.7	1024.77	1021.53	2.55	1.84	37.21	16.48	131.95	1231.43	2.42	1.07	3.24	3.24
Stillwater County	A16	RM 394.98	18666.37	0.2% - 500yr	1860.7	1024.17	1020.31	3.02	2.05	51.68	21.81	111.01	990.37	2.53	1.07	3.86	3.86
Stillwater County	A16	RM 394.80	17678.79	0.2% - 500yr	1860.7	1023.83	1019.23	2.81	2.17	45.74	26.36	140.79	683.62	2.38	1.37	4.6	4.6
Stillwater County	A16	RM 394.65	16921.48	0.2% - 500yr	1860.7	1023.38	1019.93	2.55	2.22	38.33	22.21	172.91	865.71	2.22	1.28	4.38	4.38
Stillwater County	A16	RM 394.59	16622.61	0.2% - 500yr	1860.7	1022.99	1019.92	2.59	2.51	43.12	32.02	183.08	826.66	1.73	1.28	3.42	3.42
Stillwater County	A16	RM 394.53	16295.21	0.2% - 500yr	1860.7	1022.75	1019.83	2.52	2.28	39.05	31.24	158.81	625.69	1.98	1.58	3.74	3.74
Stillwater County	A16	RM 394.20	14503.23	0.2% - 500yr	1860.7	1021.57	1016.38	2.96	2.33	47.53	20.46	149.53	652.49	2.85	1.23	5.19	5.19
Stillwater County	A16	RM 394.12	14088.57	0.2% - 500yr	1860.7	1021.1	1016.74	3.56	2.76	71.03	30.27	152.43	607.95	2.6	1.11	4.36	4.36
Stillwater County	A16	RM 393.99	13393.6	0.2% - 500yr	1860.7	1020.75	1017.11	2.86	2.17	47.48	25.49	126.2	691.4	2.31	1.24	3.64	3.64
Stillwater County	A16	RM 393.85	12650.05	0.2% - 500yr	1860.7	1020.27	1016.49	2.65	2.21	42.51	27.17	179.1	641.82	2.06	1.31	3.78	3.78
Stillwater County	A16	RM 393.59	11240.84	0.2% - 500yr	1860.7	1019.74	1015.45	2.07	1.54	24.41	13.16	272.87	918.87	2.43	1.31	4.29	4.29
Stillwater County	A16	RM 393.27	9813.245	0.2% - 500yr	1860.7	1018.7	1013.32	3.15	2.74	64.6	37.77	265.64	706.39	1.65	0.96	5.38	5.38
Stillwater County	A16	RM 393.10	8870.543	0.2% - 500yr	1860.7	1018.12	1013.34	2.33	2.11	33.78	26.99	340.95	577.55	1.92	1.53	4.78	4.78
Stillwater County	A16	RM 392.95	8114.595	0.2% - 500yr	1860.7	1017.34	1014.13	2.92	2.82	56.34	50.45	363.65	464.16	1.59	1.42	3.21	3.21
Stillwater County	A16	RM 392.69	6912.838	0.2% - 500yr	1860.7	1016.83	1012.43	2.18	1.79	26.79	14.68	192.3	1056.7	2.56	1.4	4.4	4.4
Stillwater County	A16	RM 392.44	5710.825	0.2% - 500yr	1860.7	1016.2	1011.68	2.88	1.94	44.36	19.42	135.35	1177.36	2.99	1.31	4.52	4.52
Stillwater County	A17	RM 392.20	4388.056	0.2% - 500yr	1860.7	1015.19	1010.8	3.44	2.33	68.51	33.83	201.47	1004.97	2.35	1.16	4.39	4.39
Stillwater County	A17	RM 392.00	3345.174	0.2% - 500yr	1860.7	1014.53	1009.53	3.2	2.28	55.41	22.03	166.87	795.27	2.86	1.13	5	5
Stillwater County	A17	RM 391.84	2491.214	0.2% - 500yr	1860.7	1014.21	1010.51	2.61	1.9	39.19	20.04	154.94	872.31	2.41	1.23	3.8	3.8
Stillwater County	A17	RM 391.68	1656.536	0.2% - 500yr	1860.7	1013.87	1010.5	2.15	1.68	28.23	17.82	255.36	886.36	1.98	1.25	3.37	3.37
Stillwater County	A17	RM 391.58	1120.168	0.2% - 500yr	1860.7	1013.62	1009.55	2.16	1.61	28.61	16.93	363.9	979.85	2	1.18	4.07	4.07
Stillwater County	A17	RM 391.46	505.9	0.2% - 500yr	1860.7	1013.38	1009.4	2.18	1.46	27.56	14.67	297.18	1039.56	2.34	1.24	3.98	3.98

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	500-yr	1860.42	1012.93	1008.74	2.68	1.63	39.9	17.79	211.2	952.63	2.68	1.2	4.19	4.19
Yellowstone County	A17	RM 391.14	149661.4	500-yr	1860.42	1012.49	1007.82	2.72	1.59	50.17	23.5	204.17	946.92	2.65	1.24	4.67	4.67
Yellowstone County	A17	RM 390.83	149168.3	500-yr	1860.42	1011.38	1007.89	2.81	2.13	50.79	27.58	270.49	858.48	1.99	1.08	3.49	3.49
Yellowstone County	A17	RM 390.51	148644.1	500-yr	1860.42	1010.67	1006	1.88	1.32	29.85	12.11	204.27	1176.98	2.95	1.19	4.67	4.67
Yellowstone County	A17	RM 390.34	148387.5	500-yr	1860.42	1010.26	1005.26	2.57	1.74	53.13	19.46	156.63	967.85	3.02	1.1	5	5
Yellowstone County	A17	RM 390.13	148054.9	500-yr	1860.42	1009.6	1005.54	2.98	2.01	63.96	21.71	147.72	915.79	2.98	1.01	4.06	4.06
Yellowstone County	A17	RM 389.96	147776.4	500-yr	1860.42	1009.26	1004.81	2.34	1.64	34.84	13.81	175.73	1040.07	2.76	1.09	4.45	4.45
Yellowstone County	A17	RM 389.76	147468.2	500-yr	1860.42	1009.01	1004.52	1.7	1.31	24.08	10.78	305.02	1088.26	2.93	1.31	4.49	4.49
Yellowstone County	A17	RM 389.55	147162.3	500-yr	1860.42	1008.54	1003.2	2.07	1.58	50.36	26.17	323.02	976.21	2.33	1.2	5.34	5.34
Yellowstone County	A17	RM 389.31	146731.1	500-yr	1860.42	1007.8	1003.49	2.35	1.78	32.98	13.59	256.17	891.72	2.85	1.17	4.31	4.31
Yellowstone County	A17	RM 389.08	146349	500-yr	1860.42	1007.31	1001.61	1.95	1.67	48.6	31.02	309.81	746.09	2.41	1.53	5.69	5.69
Yellowstone County	A17	RM 388.92	146095.5	500-yr	1860.42	1006.89	1002.49	2.19	1.66	26.89	13	267.59	1242.78	2.77	1.33	4.4	4.4
Yellowstone County	A17	RM 388.79	145883.6	500-yr	1860.42	1006.68	1002.14	2.39	1.5	31.07	13.52	163.94	1410.14	3.74	1.61	4.54	4.54
Yellowstone County	A17	RM 388.61	145594.9	500-yr	1860.42	1006.09	1000.48	3.16	2.17	76.79	38.56	147.64	1307.47	3.06	1.53	5.61	5.61
Yellowstone County	A17	RM 388.58	145547	500-yr	1860.42	1005.97	1000.28	2.89	2.09	75.98	34.96	154.88	1344.6	3.16	1.45	5.69	5.69
Yellowstone County	A17	RM 388.36	145196.7	500-yr	1860.42	1005.25	1001.21	3.03	2.11	57.83	25.71	163.26	1188.26	2.88	1.28	4.04	4.04
Yellowstone County	A17	RM 388.22	144960.1	500-yr	1860.42	1004.74	1000.23	3.12	2.05	62.34	29.4	162.16	978.65	2.25	1.06	4.51	4.51
Yellowstone County	A17	RM 388.09	144745.8	500-yr	1860.42	1004.3	999.87	2.51	1.82	40.79	24.23	237.45	1011.71	1.98	1.17	4.43	4.43
Yellowstone County	A17	RM 387.91	144452	500-yr	1860.42	1003.68	999.77	1.59	1.72	32.7	29.08	446.09	952.97	1.48	1.31	3.91	3.91
Yellowstone County	A17	RM 387.79	144255.2	500-yr	1860.42	1003.52	999.17	1.36	1.35	8.16	8.82	667.28	1059.52	1.48	1.61	4.35	4.35
Yellowstone County	A17	RM 387.59	143932.9	500-yr	1860.42	1003.19	998.1	1.29	1.29	42.49	42.49	999.8	1123.4	1.45	1.45	5.09	5.09
Yellowstone County	A17	RM 387.36	143562.1	500-yr	1860.42	1002.29	997.78	1.79	1.78	20.03	19.64	862.59	1063.23	1.2	1.18	4.5	4.5
Yellowstone County	A17	RM 387.24	143353.9	500-yr	1860.42	1001.89	997.71	2.09	2.09	20.41	20.41	640.93	662.62	1.39	1.39	4.18	4.18
Yellowstone County	A17	RM 387.04	143026.2	500-yr	1860.42	1001.41	996.49	1.9	1.84	20.81	19.54	693.01	890.85	1.32	1.24	4.92	4.92
Yellowstone County	A17	RM 386.86	142750.4	500-yr	1860.42	1000.86	997.01	1.75	1.59	52.29	40.73	492.36	845.69	1.93	1.5	3.85	3.85
Yellowstone County	A17	RM 386.74	142538.5	500-yr	1860.42	1000.39	996.31	2.05	1.78	33.1	20.75	353.35	816.39	2.36	1.48	4.08	4.08
Yellowstone County	A17	RM 386.61	142318.4	500-yr	1860.42	999.79	995.9	3.01	2.35	58.1	23.12	188.67	722.32	2.78	1.11	3.89	3.89
Yellowstone County	A17	RM 386.47	142095.8	500-yr	1860.42	999.43	995.18	2.79	2.03	47.01	21.51	175.54	816.63	2.86	1.31	4.25	4.25
Yellowstone County	A17	RM 386.33	141875.1	500-yr	1860.42	998.95	994.36	3.12	2.06	49.45	23.67	170	696.94	2.7	1.29	4.59	4.59
Yellowstone County	A17	RM 386.17	141622.7	500-yr	1860.42	998.46	993.9	2.93	2.25	54.38	24.54	207.61	714.04	2.56	1.16	4.56	4.56
Yellowstone County	A17	RM 386.08	141479.6	500-yr	1860.42	998.14	994.12	2.93	2.26	66.43	29.92	179.81	1700.88	2.92	1.31	4.02	4.02
Yellowstone County	A17	RM 386.03	141389.2	500-yr	1860.42	997.95	993.82	2.84	2.45	44.58	27.74	227.86	1512.41	2.49	1.55	4.13	4.13
Yellowstone County	A17	RM 385.96	141289.2	500-yr	1860.42	997.9	993.01	2.33	2.01	27.42	16.92	244.54	1891.29	2.97	1.84	4.89	4.89
Yellowstone County	A17	RM 385.91	141204.9	500-yr	1860.42	997.84	992.33	2.18	1.92	25.1	14.71	265.35	2066.04	2.92	1.71	5.51	5.51
Yellowstone County	A17	RM 385.84	141096	500-yr	1860.42	997.87	990.57	1.39	1.34	13.25	10.47	345.44	2131.49	3.84	3.03	7.3	7.3
Yellowstone County	A17	RM 385.79	141006	500-yr	1860.42	997.38	992.48	3.15	2.76	44.86	23.62	167.14	2262.9	3.46	1.82	4.9	4.9
Yellowstone County	A18	RM 385.69	140846.5	500-yr	1860.42	997.22	992.9	2.79	2.3	54.41	34.6	213.37	2274.62	2.87	1.82	4.32	4.32
Yellowstone County	A18	RM 385.60	140705.5	500-yr	1860.42	996.92	992.71	2.88	2.34	62.12	36.15	204.46	2149.5	2.86	1.66	4.21	4.21
Yellowstone County	A18	RM 385.50	140538.8	500-yr	1860.42	996.51	990.71	3.18	2.45	51.54	21.65	152.15	1993.89	3.62	1.51	5.8	5.8
Yellowstone County	A18	RM 385.39	140367.1	500-yr	1860.42	996.27	992.41	3.05	2.47	48.39	28.3	205.72	1999.51	2.75	1.61	3.86	3.86
Yellowstone County	A18	RM 385.30	140231.3	500-yr	1860.42	995.92	992.53	3.14	2.66	76.39	48.25	239.85	531.66	2.32	1.46	3.39	3.39
Yellowstone County	A18	RM 385.23	140108.3	500-yr	1860.42	995.73	992.01	2.52	2.21	50.27	34.58	233.43	2040.64	2.33	1.61	3.71	3.71
Yellowstone County	A18	RM 385.12	139921.2	500-yr	1860.42	994.92	991.37	3.28	3	75.48	59.95	259.49	1500.63	1.75	1.39	3.55	3.55
Yellowstone County	A18	RM 384.93	139688.7	500-yr	1860.42	994.55	991.06	2.42	2.13	32.53	23.3	248.2	1099.02	2.25	1.61	3.49	3.49
Yellowstone County	A18	RM 384.75	139352.1	500-yr	1860.42	993.39	989.77	4.08	3.18	120.47	56.42	120.21	620.05	2.38	1.11	3.62	3.62
Yellowstone County	A18	RM 384.63	139146.9	500-yr	1860.42	993.14	989.58	1.98	1.79	25.9	21.9	198.68	1080.44	1.81	1.53	3.56	3.56
Yellowstone County	A18	RM 384.48	138904.5	500-yr	1860.42	992.81	989.55	1.82	1.86	25.63	14.36	185.69	1399.08	2.22	1.24	3.46	3.46
Yellowstone County	A18	RM 384.34	138682.4	500-yr	1860.42	992.55	988.23	1.97	1.7	43.42	20.45	166.49	1717.06	2.93	1.37	4.32	4.32
Yellowstone County	A18	RM 384.26	138551.1	500-yr	1860.42	992.17	987.34	3.26	1.93	47.03	23.41	124.67	1531.82	2.53	1.25	4.83	4.83
Yellowstone County	A18	RM 384.15	138370.3	500-yr	1860.42	991.43	987.39	4.13	2.86	125.63	39.53	80.83	846.32	2.92	0.91	4.04	4.04
Yellowstone County	A18	RM 384.06	138235.3	500-yr	1860.42	991.17	987.31	3.11	2.08	57.86	29.2	87.91	988.21	2.74	1.37	3.86	3.86
Yellowstone County	A18	RM 383.96	138072.3	500-yr	1860.42	990.81	987.67	2.61	2.26	44.7	27.75	141.04	936.49	1.84	1.14	3.14	3.14
Yellowstone County	A18	RM 383.86	137914.6	500-yr	1860.42	990.61	987.24	2.11	1.81	25.53	13.78	164.73	1027.92	2.33	1.26	3.37	3.37
Yellowstone County	A18	RM 383.75	137749.9	500-yr	1860.42	990.39	986.55	1.94	1.83	26.52	16.45	225.48	1088.6	1.88	1.16	3.91	3.91
Yellowstone County	A18	RM 383.62	137544.5	500-yr	1860.42	990.17	986.32	1.84	1.55	21.03	13.92	178.05	1048.08	2.27	1.5	4.55	4.55
Yellowstone County	A18	RM 383.54	137415.7	500-yr	1860.42	990.08	984.41	1.67	1.39	15.75	10.32	392.45	872.24	2.58	1.69	5.67	5.67
Yellowstone County	B1	RM 383.39	137175.7	500-yr	2412.6	989.67	984.98	2.41	2.25	25.66	19.83	621.92	876.23	1.59	1.23	4.69	4.69
Yellowstone County	B1	RM 383.31	137040.5	500-yr	2412.6	989.51	984.86	2.08	1.8	23.97	22.18	685.56	919.06	1.58	1.46	4.65	4.65
Yellowstone County	B1	RM 383.16	136817.2	500-yr	2412.6	989.29	984.9	1.65	1.44	16.28	15.95	784.44	999.21	1.71	1.67	4.39	4.39
Yellowstone County	B1	RM 382.88	136371.1	500-yr	2412.6	988.87	983.64	1.72	1.52	19.3	15.56	629.21	978.25	2.01	1.62	5.23	5.23
Yellowstone County	B1	RM 382.61	135921.1	500-yr	2412.6	988.22	982.68	2.75	1.84	40.11	12.97	196.01	1060.63	3.82	1.23	5.54	5.54

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	500-yr	2412.6	987.9	981.56	3.11	1.78	47.92	15.88	132.77	958.52	4.29	1.42	6.34	6.34
Yellowstone County	B1	RM 382.28	135389.1	500-yr	2412.6	987.75	981.45	2.52	1.56	34.41	11.55	139.32	1003.36	4.62	1.54	6.3	6.3
Yellowstone County	B1	RM 382.11	135122	500-yr	2412.6	987.22	980.52	3.35	2.08	63.02	20.18	134.34	850.21	4.28	1.36	6.7	6.7
Yellowstone County	B1	RM 381.93	134829.3	500-yr	2412.6	986.87	981.3	2.85	2.16	70.49	27.36	182.96	739.55	3.9	1.51	5.57	5.57
Yellowstone County	B1	RM 381.79	134602.8	500-yr	2412.6	986.4	981.63	3.17	2.32	55.07	22.29	168	665.72	3.89	1.56	4.77	4.77
Yellowstone County	B1	RM 381.69	134426.2	500-yr	2412.6	986.31	981.06	2.47	1.94	37.59	17.67	207.55	642.2	4.14	1.94	5.25	5.25
Yellowstone County	B1	RM 381.58	134232.5	500-yr	2412.6	986.14	981.02	2.36	1.94	32.24	18.5	271.39	794.7	3.41	1.96	5.12	5.12
Yellowstone County	B1	RM 381.47	134047.3	500-yr	2412.6	985.96	980.95	2.02	1.76	50.53	31.67	333.31	918.89	3.12	1.95	5.01	5.01
Yellowstone County	B1	RM 381.35	133871.9	500-yr	2412.6	985.65	980.79	2.01	1.81	57.06	40.28	366.2	900.8	2.95	2.08	4.86	4.86
Yellowstone County	B1	RM 381.22	133659.2	500-yr	2412.6	985.04	979.74	2.23	2.2	78.53	68.49	432.75	508.85	2.48	2.16	5.3	5.3
Yellowstone County	B1	RM 381.11	133491.4	500-yr	2412.6	984.52	979.61	2.23	2.14	71.56	48.94	287.45	621.57	2.65	1.81	4.91	4.91
Yellowstone County	B1	RM 381.00	133302.9	500-yr	2412.6	983.77	978.23	3.48	2.7	62.35	27.13	190.07	693.85	2.98	1.29	5.54	5.54
Yellowstone County	B1	RM 380.92	133180	500-yr	2412.6	983.65	976.97	3.08	2.22	59.87	22.35	152.78	769.13	3.81	1.42	6.68	6.68
Yellowstone County	B1	RM 380.81	132986.3	500-yr	2412.6	983.17	978.55	3.36	2.34	65.46	22.77	193.61	966.42	3.08	1.07	4.62	4.62
Yellowstone County	B1	RM 380.69	132800.2	500-yr	2412.6	982.97	978.53	2.68	1.92	39.62	16.47	264.93	1099.89	2.76	1.14	4.44	4.44
Yellowstone County	B1	RM 380.57	132628.6	500-yr	2412.6	982.77	978.7	2.37	1.7	45.08	16.82	229.16	1260.39	3.02	1.12	4.07	4.07
Yellowstone County	B1	RM 380.48	132470	500-yr	2412.6	982.52	978.24	2.49	1.67	44.1	15.44	201.91	1284.59	3.23	1.13	4.28	4.28
Yellowstone County	B1	RM 380.34	132222.4	500-yr	2412.6	982.06	977.37	2.95	1.85	48.99	18.03	205.99	1275.49	2.78	1.02	4.69	4.69
Yellowstone County	B1	RM 380.22	132032.4	500-yr	2412.6	981.82	977.02	2.82	1.72	42.91	15.21	172.71	1216.74	3.25	1.15	4.8	4.8
Yellowstone County	B1	RM 380.11	131847.7	500-yr	2412.6	981.56	976.29	2.91	1.94	51.77	18.48	181.17	1153.14	3.02	1.08	5.27	5.27
Yellowstone County	B1	RM 380.01	131671.4	500-yr	2412.6	981.3	976.21	2.82	1.79	56.48	18.61	174.5	1316.65	3.12	1.02	5.09	5.09
Yellowstone County	B1	RM 379.92	131538.8	500-yr	2412.6	980.97	976.69	3.12	1.89	52.56	18.4	193.68	1356.21	2.72	0.95	4.28	4.28
Yellowstone County	B1	RM 379.84	131406.9	500-yr	2412.6	980.92	975.94	1.98	1.38	22.87	12.63	420.29	1626.44	2.34	1.29	4.98	4.98
Yellowstone County	B1	RM 379.75	131265.1	500-yr	2412.6	980.78	974.98	1.92	1.31	25.77	12.64	375.86	1682.06	2.51	1.23	5.8	5.8
Yellowstone County	B1	RM 379.65	131104.3	500-yr	2412.6	980.7	975.6	1.59	1.06	14.59	7.98	379.84	1789.12	2.56	1.4	5.1	5.1
Yellowstone County	B1	RM 379.56	130964.3	500-yr	2412.6	980.63	975.94	1.58	1.05	14.39	7.57	313.71	1661.38	2.84	1.49	4.69	4.69
Yellowstone County	B1	RM 379.46	130794	500-yr	2412.6	980.51	974.74	1.77	1.14	16.86	8.9	299.1	1440.99	2.8	1.47	5.77	5.77
Yellowstone County	B1	RM 379.36	130642.3	500-yr	2412.6	980.38	975.71	1.96	1.27	29.12	15.23	247.15	1099.06	3.62	1.89	4.67	4.67
Yellowstone County	B1	RM 379.27	130496.2	500-yr	2412.6	980.07	974.66	2.82	1.64	65.88	32.48	165.27	873.45	3.43	1.68	5.41	5.41
Yellowstone County	B1	RM 379.17	130345.7	500-yr	2412.6	979.46	973.93	3.67	2.08	84.99	33.41	154.92	864.94	3.42	1.34	5.53	5.53
Yellowstone County	B1	RM 379.04	130142	500-yr	2412.6	979.23	974.79	2.94	1.74	46.54	23.86	203.31	902.37	2.99	1.54	4.44	4.44
Yellowstone County	B1	RM 378.97	130026.7	500-yr	2412.6	978.97	974.64	3.08	1.91	53.04	26.27	231.05	921.69	2.76	1.37	4.33	4.33
Yellowstone County	B1	RM 378.86	129850.9	500-yr	2412.6	978.56	974.4	3.16	2	60.74	30.1	250.72	957.75	2.55	1.26	4.16	4.16
Yellowstone County	B1	RM 378.76	129682.3	500-yr	2412.6	978.19	974.17	3.08	2.02	54.84	26.26	272.82	994.89	2.51	1.2	4.02	4.02
Yellowstone County	B1	RM 378.67	129541.3	500-yr	2412.6	977.96	973.97	2.91	1.81	41.69	23.06	296.41	1119.44	2.23	1.23	3.99	3.99
Yellowstone County	B1	RM 378.61	129443.1	500-yr	2412.6	977.84	973.83	2.06	1.55	57.25	33.49	265.11	1353.48	2.14	1.25	4.01	4.01
Yellowstone County	B1	RM 378.52	129297.7	500-yr	2412.6	977.63	973.62	1.86	1.36	21.65	14.72	565.81	1405.2	1.89	1.28	4.01	4.01
Yellowstone County	B1	RM 378.46	129200.8	500-yr	2412.6	977.55	973.48	1.64	1.29	20.63	12.56	613.46	1437.26	2.13	1.3	4.07	4.07
Yellowstone County	B1	RM 378.40	129112.2	500-yr	2412.6	977.44	973.41	1.58	1.31	39.53	23.75	605.91	1411.83	2.18	1.31	4.03	4.03
Yellowstone County	B1	RM 378.29	128929.4	500-yr	2412.6	977.3	972.93	1.39	1.08	13.38	7.42	567.41	1457.08	2.77	1.53	4.37	4.37
Yellowstone County	B1	RM 378.13	128673.7	500-yr	2412.6	977.04	971.4	2.04	1.41	19.73	8.88	438.15	1585.68	2.4	1.08	5.64	5.64
Yellowstone County	B1	RM 378.07	128569	500-yr	2412.6	976.94	970.46	2.14	1.48	20.26	8.47	347.76	1373.75	2.86	1.19	6.48	6.48
Yellowstone County	B1	RM 377.96	128380.3	500-yr	2412.6	976.24	968.85	3.75	2.71	77.54	17.5	112.99	753.26	5.32	1.18	7.39	7.39
Yellowstone County	B1	RM 377.87	128244.4	500-yr	2412.6	976.19	970.56	3.03	2.12	65.33	23.43	223.61	1496.15	3.07	1.1	5.63	5.63
Yellowstone County	B1	RM 377.79	128118	500-yr	2412.6	976.01	970.94	2.7	1.94	38.22	18.12	345.01	1367.56	2.26	1.07	5.07	5.07
Yellowstone County	B1	RM 377.69	127964.3	500-yr	2412.6	975.84	969.86	2.28	1.67	27.62	17.74	423.76	1552.01	2.13	1.36	5.98	5.98
Yellowstone County	B1	RM 377.61	127824.8	500-yr	2412.6	975.35	970.53	3.11	2.39	38.11	23.18	430.08	1256	1.61	0.98	4.82	4.82
Yellowstone County	B1	RM 377.55	127735.1	500-yr	2412.6	975.26	970.41	2.6	2.01	29.18	17.85	474.55	1818.52	1.76	1.08	4.85	4.85
Yellowstone County	B1	RM 377.48	127618.1	500-yr	2412.6	975.08	970.26	2.51	1.92	31.26	18.91	468.58	1848.72	1.83	1.1	4.82	4.82
Yellowstone County	B1	RM 377.39	127466.6	500-yr	2412.6	974.77	969.73	2.66	1.95	33.92	19.33	420.61	1412.98	1.89	1.07	5.04	5.04
Yellowstone County	B1	RM 377.34	127391.5	500-yr	2412.6	974.61	969.95	2.38	1.93	97.06	53.13	410.55	1409.44	1.89	1.03	4.66	4.66
Yellowstone County	B1	RM 377.25	127241.9	500-yr	2412.6	974.28	970.26	2.23	1.76	27.58	15	469.05	1267.29	2.1	1.14	4.02	4.02
Yellowstone County	B1	RM 377.16	127097.7	500-yr	2412.6	974.11	969.82	2.15	1.7	28.78	14.44	410.87	1291.55	2.19	1.1	4.29	4.29
Yellowstone County	B1	RM 377.08	126969	500-yr	2412.6	974.05	969	1.73	1.32	16.9	8.49	417.58	1465.26	2.8	1.41	5.05	5.05
Yellowstone County	B1	RM 377.04	126900.8	500-yr	2412.6	973.98	968.6	1.63	1.4	44.85	28.01	570.04	1322.54	2.09	1.3	5.38	5.38
Yellowstone County	B1	RM 376.98	126797.5	500-yr	2412.6	973.76	969.02	2.01	1.58	23.46	14.12	531.66	1259.66	2.01	1.21	4.74	4.74
Yellowstone County	B1	RM 376.92	126710.1	500-yr	2412.6	973.68	969.01	1.68	1.38	38.18	22.44	497.36	1482.99	2.44	1.43	4.67	4.67
Yellowstone County	B1	RM 376.84	126584.2	500-yr	2412.6	973.57	967.73	1.52	1.26	18.99	11.47	449.39	1600.07	2.72	1.64	5.84	5.84
Yellowstone County	B1	RM 376.75	126442.1	500-yr	2412.6	973.45	967.82	1.59	1.37	26.38	14.88	406.87	1718.28	2.91	1.64	5.63	5.63
Yellowstone County	B1	RM 376.67	126309	500-yr	2412.6	973.24	967.23	1.94	1.62	43.1	21.33	333.94	1668.59	2.9	1.43	6.01	6.01
Yellowstone County	B1	RM 376.58	126174.1	500-yr	2412.6	973	966.82	2.05	1.69	45.68	23.54	344.97	1688.8	2.8	1.44	6.18	6.18

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	500-yr	2412.6	972.57	966.77	2.85	2.36	56.14	23.19	267.77	1338.01	2.89	1.18	5.8	5.8
Yellowstone County	B1	RM 376.42	125918.5	500-yr	2412.6	972.34	967.68	2.78	2.27	43.02	16.91	257.43	1455.02	3.2	1.25	4.66	4.66
Yellowstone County	B1	RM 376.35	125809.8	500-yr	2412.6	972.31	966.71	2.43	1.73	30.12	11.95	225.28	1580.29	3.69	1.46	5.6	5.6
Yellowstone County	B1	RM 376.28	125697	500-yr	2412.6	971.8	966.28	3.54	2.72	70.83	24.91	222.49	1269.53	2.75	0.96	5.52	5.52
Yellowstone County	B1	RM 376.20	125565.9	500-yr	2412.6	971.56	966.16	3.15	2.3	58.53	21.75	252.92	1499.29	2.59	0.96	5.4	5.4
Yellowstone County	B1	RM 376.10	125404.8	500-yr	2412.6	971.38	966.61	2.55	1.81	36.31	17.95	272.23	1517.58	2.45	1.21	4.77	4.77
Yellowstone County	B1	RM 376.00	125250.5	500-yr	2412.6	971.16	967.42	2.5	1.64	38.08	18.82	244.56	1448.12	2.75	1.36	3.74	3.74
Yellowstone County	B1	RM 375.88	125055.1	500-yr	2412.6	970.94	966.01	2.37	1.46	36.16	17.14	185.92	1055.7	3.31	1.57	4.93	4.93
Yellowstone County	B1	RM 375.78	124897.3	500-yr	2412.6	970.74	965.37	2.45	1.58	38.21	18	188.71	1021.37	3.17	1.49	5.37	5.37
Yellowstone County	B1	RM 375.67	124708.2	500-yr	2412.6	970.53	965.8	2.46	1.8	37.94	19.5	229.64	904.06	2.89	1.48	4.73	4.73
Yellowstone County	B1	RM 375.58	124564.2	500-yr	2412.6	970.23	966.54	2.79	2.03	47.33	21.82	226.76	909.17	2.84	1.31	3.69	3.69
Yellowstone County	B1	RM 375.23	124013.6	500-yr	2412.6	969.6	965.23	2.42	1.59	37.94	14.64	231.02	1271.92	3.09	1.19	4.37	4.37
Yellowstone County	B1	RM 375.10	123799.5	500-yr	2412.6	968.95	963.88	3.66	2.09	89.38	23.42	126.67	1202.01	3.69	0.96	5.07	5.07
Yellowstone County	B1	RM 374.97	123580.4	500-yr	2412.6	968.75	963.97	2.68	1.67	54.38	18	136.64	1258.93	3.61	1.17	4.78	4.78
Yellowstone County	B1	RM 374.83	123365.5	500-yr	2412.6	968.51	963.52	2.38	1.56	33.67	14.53	133.13	1276.79	3.4	1.46	4.99	4.99
Yellowstone County	B1	RM 374.73	123195.7	500-yr	2412.6	968.42	963.36	1.92	1.37	19.49	9.27	144.21	1349.19	3.51	1.67	5.06	5.06
Yellowstone County	B1	RM 374.61	123010.3	500-yr	2412.6	968.18	963.49	2.36	1.66	41.95	16.45	163.89	1381.68	3.45	1.35	4.69	4.69
Yellowstone County	B1	RM 374.53	122875.3	500-yr	2489.05	967.94	963.14	2.68	1.88	44.36	16.48	186.43	1068.65	3.35	1.24	4.8	4.8
Yellowstone County	B1	RM 374.44	122726.7	500-yr	2489.05	967.61	963.04	3.17	1.99	72.38	22.67	128.47	1041.79	3.85	1.2	4.57	4.57
Yellowstone County	B1	RM 374.32	122535.1	500-yr	2489.05	967.39	962.82	2.3	1.94	50.92	23.13	207.59	997.35	2.83	1.29	4.57	4.57
Yellowstone County	B1	RM 374.22	122379	500-yr	2489.05	967.13	960.92	2.73	1.69	42.25	15.62	134.27	1047.98	3.8	1.41	6.21	6.21
Yellowstone County	B1	RM 374.13	122231.1	500-yr	2489.05	966.98	960.11	2.83	1.74	41.94	17.92	137.18	983.36	3.41	1.45	6.87	6.87
Yellowstone County	B1	RM 373.97	121972.4	500-yr	2489.05	966.72	958.8	2.4	1.75	34.04	14.38	223.41	1003.83	3.38	1.42	7.92	7.92
Yellowstone County	B1	RM 373.88	121829.3	500-yr	2489.05	966.53	962.21	2.55	1.76	46.4	18.23	194.77	1087.99	3.32	1.3	4.32	4.32
Yellowstone County	B1	RM 373.79	121688.7	500-yr	2489.05	966.34	961.66	2.47	1.74	49.24	21.27	192.66	1111.51	3.24	1.4	4.68	4.68
Yellowstone County	B1	RM 373.69	121523.5	500-yr	2489.05	966.08	961.11	2.56	1.68	40.41	18.03	202.68	1331.95	3.05	1.35	4.97	4.97
Yellowstone County	B1	RM 373.56	121314.3	500-yr	2489.05	965.47	959.37	3.4	2.07	64.67	26.71	202.83	1276.24	2.77	1.14	6.1	6.1
Yellowstone County	B1	RM 373.39	121015.9	500-yr	2489.05	964.62	958.78	3.63	2.46	75.08	33.66	185.96	751.02	3.03	1.35	5.84	5.84
Yellowstone County	B1	RM 373.26	120802.3	500-yr	2489.05	964.65	960.81	1.69	1.1	18.47	14.12	355.66	1307.29	2.41	1.84	3.84	3.84
Yellowstone County	B1	RM 373.09	120539.5	500-yr	2489.05	964.29	959.94	2.32	1.51	32.79	17.84	303.76	1387.77	2.32	1.26	4.35	4.35
Yellowstone County	B1	RM 372.99	120365.2	500-yr	2489.05	963.96	959.69	2.42	1.63	52.51	26.84	328.66	1388.12	2.15	1.1	4.27	4.27
Yellowstone County	B1	RM 372.82	120107.7	500-yr	2489.05	963.6	959.03	2	1.35	23.64	15.78	466.42	1503.13	1.84	1.22	4.57	4.57
Yellowstone County	B1	RM 372.72	119922.5	500-yr	2489.05	963.41	958.92	1.79	1.35	31.39	22.48	438.95	1417.25	1.82	1.3	4.49	4.49
Yellowstone County	B1	RM 372.65	119797.7	500-yr	2489.05	963.35	957.32	1.37	0.95	12.77	10.49	396.53	1546.58	2.07	1.7	6.03	6.03
Yellowstone County	B1	RM 372.58	119676.6	500-yr	2489.05	963.3	958.2	1.26	0.96	9.92	7.74	441.28	1536.07	2.16	1.69	5.1	5.1
Yellowstone County	B1	RM 372.41	119395.9	500-yr	2489.05	963.2	958.82	1.39	0.95	10.33	7.6	485.58	1595.55	2.23	1.64	4.38	4.38
Yellowstone County	B1	RM 372.32	119268.8	500-yr	2489.05	963.13	957.24	1.13	1.11	19.94	15.03	533.69	1464.42	2.03	1.53	5.89	5.89
Yellowstone County	B1	RM 372.20	119079.1	500-yr	2489.05	962.91	956.93	1.36	1.2	32.29	24.02	512.44	1359.89	2.05	1.52	5.98	5.98
Yellowstone County	B1	RM 372.08	118886.4	500-yr	2489.05	962.61	956.2	1.5	1.33	36.24	27.68	463.64	1104.85	2.23	1.7	6.41	6.41
Yellowstone County	B1	RM 371.94	118669.8	500-yr	2489.05	962.1	957.58	1.89	1.88	45.64	33.97	446.92	800.64	2.22	1.65	4.52	4.52
Yellowstone County	B1	RM 371.83	118490.4	500-yr	2489.05	961.87	957.52	1.86	1.68	28.35	19.5	393.72	812.02	2.65	1.82	4.35	4.35
Yellowstone County	B1	RM 371.74	118350.7	500-yr	2489.05	961.65	957.48	2.19	1.74	30.35	18.28	386.04	924.1	2.56	1.54	4.17	4.17
Yellowstone County	B1	RM 371.62	118155.6	500-yr	2489.05	961.4	956.41	2.4	1.55	38.5	14.89	220.59	1149.11	3.6	1.39	4.99	4.99
Yellowstone County	B1	RM 371.53	118001.4	500-yr	2489.05	961.12	955.99	2.73	1.75	43.12	16.67	234.36	1177.68	3.13	1.21	5.13	5.13
Yellowstone County	B1	RM 371.43	117839.2	500-yr	2489.05	960.86	955.47	2.55	1.72	68.38	29.42	253.33	1177.19	2.86	1.23	5.39	5.39
Yellowstone County	B1	RM 371.37	117745.1	500-yr	2489.05	960.57	955.72	2.81	1.98	40.76	18.43	292.28	1037.29	2.68	1.21	4.85	4.85
Yellowstone County	B1	RM 371.32	117662.6	500-yr	2489.05	960.46	956.41	2.56	1.85	52.94	26.85	299.65	922.25	2.87	1.46	4.05	4.05
Yellowstone County	B1	RM 371.25	117560.3	500-yr	2489.05	960.35	955.99	2.27	1.75	30.4	19.08	377.55	877.87	2.64	1.65	4.36	4.36
Yellowstone County	B1	RM 371.21	117499	500-yr	2489.05	960.27	955.72	2.29	1.84	31.68	19.53	357.71	805.72	2.73	1.68	4.55	4.55
Yellowstone County	B1	RM 371.12	117353.9	500-yr	2489.05	960.16	955.54	2.05	1.63	25.02	15.06	387.9	1028.32	2.75	1.65	4.62	4.62
Yellowstone County	B1	RM 371.04	117225.1	500-yr	2489.05	959.21	954.84	4.12	3.51	91.76	41.48	255.94	683.26	2.31	1.04	4.37	4.37
Yellowstone County	B1	RM 370.94	117054.9	500-yr	2489.05	959.25	955.57	2.44	1.95	41.29	22.01	242.96	1244.27	2.9	1.54	3.68	3.68
Yellowstone County	B1	RM 370.85	116910.9	500-yr	2489.05	959.12	954.47	2.21	1.58	32.01	14.87	219.43	1260.67	3.09	1.43	4.65	4.65
Yellowstone County	B1	RM 370.77	116793.6	500-yr	2489.05	959.04	953.84	2.11	1.42	23.22	11.77	224.11	1251.73	3.04	1.54	5.2	5.2
Yellowstone County	B1	RM 370.72	116711.6	500-yr	2489.05	958.99	953.13	2.07	1.29	24.81	11.65	165.01	1189.3	3.64	1.7	5.86	5.86
Yellowstone County	B1	RM 370.70	116669.2	500-yr	2489.05	958.95	953.05	2.13	1.22	22.85	12.24	201.49	1196.17	3.19	1.7	5.9	5.9
Yellowstone County	B1	RM 370.63	116558.9	500-yr	2489.05	958.85	953.42	2.05	1.15	34.46	16.39	185.28	1190.76	3.83	1.82	5.43	5.43
Yellowstone County	B1	RM 370.56	116440.6	500-yr	2489.05	958.61	953.34	2.62	1.42	31.5	11.22	178.41	1194.92	4.13	1.47	5.27	5.27
Yellowstone County	B1	RM 370.44	116241.1	500-yr	2489.05	958.42	952.03	2.83	1.47	48.74	15.57	134.64	1177.23	4.55	1.44	6.39	6.39
Yellowstone County	B1	RM 370.34	116071.6	500-yr	2489.05	958.15	949.79	3.13	1.65	61.67	17.27	118.14	1093.88	5	1.38	8.36	8.36
Yellowstone County	B1	RM 370.24	115908.6	500-yr	2489.05	957.99	950.22	3	1.64	51.86	15.22	117.55	1009.18	5.17	1.5	7.77	7.77

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	500-yr	2489.05	957.67	952.12	3.12	1.93	61.9	19.88	161	1013.08	3.97	1.27	5.55	5.55
Yellowstone County	B1	RM 370.00	115535.2	500-yr	2489.05	957.35	952.2	2.74	2.25	83.9	39.61	262.59	879.15	2.68	1.26	5.15	5.15
Yellowstone County	B1	RM 369.89	115356.1	500-yr	2489.05	956.99	953.15	2.51	2.09	33.83	18.4	419.05	1021.05	2.15	1.17	3.84	3.84
Yellowstone County	B1	RM 369.77	115164.3	500-yr	2489.05	956.7	952.34	2.36	2	31.46	16.52	497.76	1237.03	2.03	1.07	4.36	4.36
Yellowstone County	B1	RM 369.64	114965.6	500-yr	2489.05	956.38	951.9	2.29	1.92	36.59	21.21	503.19	1717.88	1.99	1.15	4.48	4.48
Yellowstone County	B1	RM 369.54	114789.5	500-yr	2489.05	956.1	952.38	2.22	1.84	29.05	17.69	506.38	1776.15	2.01	1.22	3.72	3.72
Yellowstone County	B1	RM 369.45	114650.1	500-yr	2489.05	955.97	951	1.96	1.49	24.97	13.94	466.31	2316.39	2.28	1.27	4.97	4.97
Yellowstone County	B1	RM 369.32	114431.1	500-yr	2489.05	955.76	951.1	1.88	1.25	24.76	11.54	377.04	2773.64	2.84	1.32	4.66	4.66
Yellowstone County	B1	RM 369.17	114210.5	500-yr	2489.05	955.58	949.85	2.08	1.41	37.53	13.74	199.28	2735.2	3.38	1.23	5.73	5.73
Yellowstone County	B1	RM 369.06	114022.4	500-yr	2489.05	954.9	949.89	3.59	2.07	70.55	22.88	136.69	2154.11	3.83	1.24	5.01	5.01
Yellowstone County	B1	RM 368.96	113871.2	500-yr	2489.05	954.72	949.68	3.11	2.01	60.44	19.78	170.77	2238.79	3.51	1.14	5.04	5.04
Yellowstone County	B1	RM 368.88	113745.9	500-yr	2489.05	954.54	948.77	2.83	1.78	47.45	15.49	215.46	2652.71	3.08	1	5.77	5.77
Yellowstone County	B1	RM 368.82	113641	500-yr	2489.05	954.35	948.47	2.66	1.89	54.19	21.09	297.52	2572.97	2.46	0.95	5.88	5.88
Yellowstone County	B1	RM 368.72	113477.3	500-yr	2489.05	954.13	948.45	2.2	1.63	40.19	17.7	350.14	2491.18	2.58	1.13	5.68	5.68
Yellowstone County	B1	RM 368.63	113328.9	500-yr	2489.05	953.96	947.82	2.05	1.49	35.47	14.74	315.25	2617.26	2.74	1.14	6.14	6.14
Yellowstone County	B1	RM 368.54	113195.6	500-yr	2489.05	953.71	947.51	2.39	1.49	36.77	12.58	271.4	2721.39	3.12	1.06	6.2	6.2
Yellowstone County	B1	RM 368.44	113035.8	500-yr	2489.05	953.47	947.4	2.39	1.51	63.28	22.1	258.41	2746.09	2.96	1.03	6.07	6.07
Yellowstone County	B1	RM 368.35	112878.7	500-yr	2489.05	953.37	946.64	1.89	1.21	20.16	5.91	283.07	2799.87	4.16	1.21	6.73	6.73
Yellowstone County	B1	RM 368.26	112737.6	500-yr	2489.05	953.26	946.23	2	1.24	57.1	18.44	227.9	2777.75	3.69	1.18	7.03	7.03
Yellowstone County	B1	RM 368.18	112604.7	500-yr	2489.05	952.9	947.11	2.84	1.53	46.81	12.53	163.35	2439.57	4.26	1.13	5.79	5.79
Yellowstone County	B2	RM 368.09	112456.7	500-yr	2489.05	952.49	947.7	3.36	2.18	85.71	21.44	162.14	2092.85	3.93	0.97	4.79	4.79
Yellowstone County	B2	RM 368.00	112314.4	500-yr	2489.05	952.49	947.56	2.43	1.55	32.03	10.7	198.48	2635.53	4.15	1.38	4.93	4.93
Yellowstone County	B2	RM 367.86	112104.7	500-yr	2489.05	952.09	946.1	3	1.86	73.07	19.9	190.45	2489.39	3.62	0.98	5.99	5.99
Yellowstone County	B2	RM 367.79	111989.2	500-yr	2489.05	952	945.04	2.47	1.47	50.55	15.93	203.42	2377.16	3.7	1.16	6.96	6.96
Yellowstone County	B2	RM 367.72	111876.5	500-yr	2489.05	951.62	945.45	3.17	1.77	53.24	11.96	149.5	2430.5	4.36	0.97	6.17	6.17
Yellowstone County	B2	RM 367.64	111739.2	500-yr	2489.05	951.54	945.68	2.82	1.42	52.67	13.14	140.83	2547.99	4.39	1.08	5.86	5.86
Yellowstone County	B2	RM 367.50	111519.9	500-yr	2489.05	951.26	945.21	2.88	1.49	58.01	14.89	137.77	2318.31	4.44	1.12	6.05	6.05
Yellowstone County	B2	RM 367.40	111357.1	500-yr	2489.05	950.92	944.36	3.32	1.69	60.28	12.92	113.74	2017.27	4.89	1.03	6.56	6.56
Yellowstone County	B2	RM 367.31	111214.8	500-yr	2489.05	950.62	945.36	3.48	2.01	59.83	13.35	144.65	1739.96	4.14	0.92	5.26	5.26
Yellowstone County	B2	RM 367.19	110992.7	500-yr	2489.05	950.43	945.91	2.8	1.85	43.07	12.53	245.16	1920.27	3.17	0.92	4.52	4.52
Yellowstone County	B2	RM 367.11	110813.5	500-yr	2489.05	950.24	945.17	2.57	1.66	37.92	13.36	295.2	1836.03	2.84	1	5.07	5.07
Yellowstone County	B2	RM 367.03	110669.4	500-yr	2489.05	950.17	945.89	2	1.41	21.51	9.37	418.55	1796.57	2.64	1.15	4.28	4.28
Yellowstone County	B2	RM 366.95	110543	500-yr	2489.05	950.12	945.34	1.42	1.1	23.61	10.49	560.16	2237.07	2.71	1.2	4.78	4.78
Yellowstone County	B2	RM 366.84	110376	500-yr	2489.05	950	944.61	1.29	1.02	19.54	8.83	595.67	2104.09	2.89	1.3	5.39	5.39
Yellowstone County	B2	RM 366.78	110300.8	500-yr	2489.05	949.94	943.84	1.28	0.96	19.95	9.88	562.74	2298.68	2.89	1.42	6.1	6.1
Yellowstone County	B2	RM 366.73	110074.8	500-yr	2489.05	949.74	943.42	1.58	1.1	26.43	11.29	436.44	2200.51	3.01	1.28	6.32	6.32
Yellowstone County	B2	RM 366.68	109931.6	500-yr	2489.05	949.56	942.77	1.9	1.23	35.37	13.08	318.53	2071.29	3.36	1.23	6.79	6.79
Yellowstone County	B2	RM 366.53	109747.6	500-yr	2489.05	949.08	940.86	3.05	1.75	44.13	10.63	166.59	1395.05	4.3	1.02	8.22	8.22
Yellowstone County	B2	RM 366.38	109510.8	500-yr	2489.05	948.83	941.55	2.93	1.81	68.82	16.4	152.46	1212.61	4.8	1.14	7.28	7.28
Yellowstone County	B2	RM 366.27	109345.5	500-yr	2489.05	948.72	942.72	2.44	1.83	35.51	13.73	226.64	1348.19	4.2	1.62	6	6
Yellowstone County	B2	RM 366.15	109158.9	500-yr	2489.05	948.5	941.59	2.35	1.94	61.9	27.88	294.13	1200.87	3.38	1.51	6.91	6.91
Yellowstone County	B2	RM 366.04	108972.6	500-yr	2489.05	948.15	941.41	2.65	2.36	30.89	18.31	314.05	767.94	2.93	1.73	6.74	6.74
Yellowstone County	B2	RM 365.94	108818.8	500-yr	2489.05	948.04	940.93	2.36	2.12	25.65	16.36	363.92	845.58	2.84	1.8	7.11	7.11
Yellowstone County	B2	RM 365.83	108647.5	500-yr	2489.05	947.84	939.93	2.18	1.81	75.13	41.15	329.53	994.27	3.11	1.7	7.91	7.91
Yellowstone County	B2	RM 365.75	108521.3	500-yr	2489.05	947.6	941.33	2.1	1.67	56.46	29.28	262.86	976.42	3.4	1.75	6.27	6.27
Yellowstone County	B2	RM 365.71	108446.5	500-yr	2489.05	947.4	941.83	2.44	1.78	58.24	23.5	234.54	1010.13	3.79	1.52	5.57	5.57
Yellowstone County	B2	RM 365.64	108343.5	500-yr	2489.05	947.28	942.19	2.13	1.64	48.45	22.22	306.44	1021.54	3.24	1.48	5.09	5.09
Yellowstone County	B2	RM 365.57	108220.5	500-yr	2489.05	946.97	942.08	2.58	1.99	53.35	22.73	252.77	849.6	3.48	1.47	4.89	4.89
Yellowstone County	B2	RM 365.51	108118.9	500-yr	2489.05	946.83	941.87	2.47	1.9	55.79	24.83	265.35	952.14	3.43	1.52	4.96	4.96
Yellowstone County	B2	RM 365.46	108042.9	500-yr	2489.05	946.78	941.73	2.1	1.67	35.79	15.58	317.69	987.48	3.48	1.51	5.05	5.05
Yellowstone County	B2	RM 365.41	107956.5	500-yr	2489.05	946.7	941.46	2.02	1.71	33.28	14.63	326.34	920.1	3.6	1.58	5.24	5.24
Yellowstone County	B2	RM 365.37	107905.7	500-yr	2489.05	946.66	940.74	2.03	1.7	22.71	11.04	309.36	804.54	3.75	1.82	5.92	5.92
Yellowstone County	B2	RM 365.31	107792.4	500-yr	2489.05	946.51	939.27	2.36	1.95	29	12.97	257.08	738.69	3.89	1.73	7.24	7.24
Yellowstone County	B2	RM 365.27	107727.9	500-yr	2489.05	946.42	939.34	2.51	2.08	36.47	15.95	251.44	737.01	3.72	1.62	7.08	7.08
Yellowstone County	B2	RM 365.23	107674.2	500-yr	2489.05	946.28	939.52	2.77	2.31	36.99	15.32	230.94	702.29	3.72	1.53	6.76	6.76
Yellowstone County	B2	RM 365.19	107603	500-yr	2489.05	946.23	939.93	2.68	2.29	36.27	14.72	239.82	717.5	3.75	1.52	6.3	6.3
Yellowstone County	B2	RM 365.15	107534.7	500-yr	2489.05	946.18	939.68	2.61	2.2	35.12	13.8	213.74	678.49	4.27	1.67	6.5	6.5
Yellowstone County	B2	RM 365.10	107466	500-yr	2489.05	946	938.61	2.96	2.53	45.21	16.13	186.92	634.35	4.36	1.55	7.39	7.39
Yellowstone County	B2	RM 365.06	107396.2	500-yr	2489.05	945.95	939.07	2.9	2.31	46.89	15.6	170.56	682.65	4.76	1.58	6.88	6.88
Yellowstone County	B2	RM 365.01	107325.8	500-yr	2489.05	945.93	939.22	2.64	2.1	44.49	15.64	175.43	671.18	5.05	1.77	6.71	6.71
Yellowstone County	B2	RM 364.99	107287.5	500-yr	2489.05	945.87	939.27	2.76	2.16	49.56	18.49	171.73	644.61	4.82	1.79	6.6	6.6

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	500-yr	2489.05	945.62	937.97	3.05	2.44	36.22	16.84	202.37	578.13	3.83	1.77	7.65	7.65
Yellowstone County	B2	RM 364.81	106996.1	500-yr	2489.05	945.61	938.93	2.49	2.09	26.52	20.05	248.84	697.71	3.76	2.83	6.68	6.68
Yellowstone County	B2	RM 364.74	106893.3	500-yr	2489.05	945.46	938.94	2.79	2.08	39.72	20.27	164.71	689.98	4.91	2.5	6.52	6.52
Yellowstone County	B2	RM 364.64	106739.2	500-yr	2489.05	945.19	939.09	3.3	2.17	47.89	19.83	120.08	763.39	5.41	2.22	6.1	6.1
Yellowstone County	B2	RM 364.61	106686.8	500-yr	2489.05	945.19	939.21	2.98	2.2	40.48	20.17	158.49	692.75	4.8	2.38	5.98	5.98
Yellowstone County	B2	RM 364.60	106666.6	500-yr	2489.05	945.04	939.26	3.37	2.51	51.01	18.9	133.67	530.43	5.08	1.87	5.78	5.78
Yellowstone County	B2	RM 364.53	106558.4	500-yr	2489.05	944.95	939.11	3.17	2.63	45.54	16.79	166.79	723.95	4.59	1.68	5.84	5.84
Yellowstone County	B2	RM 364.49	106490.3	500-yr	2489.05	944.94	939.24	2.97	2.19	42.54	16.86	162.65	701.62	4.76	1.88	5.7	5.7
Yellowstone County	B2	RM 364.43	106394	500-yr	2489.05	944.81	939.13	3.07	2.37	45.9	17.36	161.2	664.42	4.77	1.79	5.68	5.68
Yellowstone County	B2	RM 364.37	106296.4	500-yr	2489.05	944.76	938.98	2.94	2.08	39.47	17.62	146.91	697.8	5.19	2.29	5.78	5.78
Yellowstone County	B2	RM 364.32	106215.1	500-yr	2489.05	944.68	938.52	2.94	2.28	56.52	32.16	152.95	718.09	5.01	2.83	6.16	6.16
Yellowstone County	B2	RM 364.29	106172.9	500-yr	2489.05	944.69	938.13	2.56	2.5	49.38	46.43	191	797.57	5.04	4.73	6.56	6.56
Yellowstone County	B2	RM 364.26	106126.6	500-yr	2489.05	944.38	937.7	3.4	2.91	70.19	46.75	142.23	729.33	4.9	3.25	6.68	6.68
Yellowstone County	B2	RM 364.22	106055.2	500-yr	2489.05	944.13	938.15	3.68	3.3	87.42	39.14	136.36	586.67	4.89	2.18	5.98	5.98
Yellowstone County	B2	RM 364.14	105927.3	500-yr	2489.05	943.72	938.12	4.11	3.45	103.82	63.05	126.55	320.63	4.53	2.74	5.6	5.6
Yellowstone County	B2	RM 364.06	105809.9	500-yr	2489.05	943.65	938.22	3.38	2.7	81.79	38.32	157.73	636.32	4.34	2.02	5.43	5.43
Yellowstone County	B2	RM 363.96	105648.3	500-yr	2489.05	943.59	938.28	2.49	1.99	43.13	23.77	248.57	719.86	3.71	2.04	5.31	5.31
Yellowstone County	B2	RM 363.85	105472.4	500-yr	2489.05	943.18	936.25	3.27	2.53	50.53	21.62	150.53	609.71	4.41	1.87	6.93	6.93
Yellowstone County	B2	RM 363.76	105316.8	500-yr	2489.05	943.01	937.03	3.11	2.47	65.52	26.2	148.64	601.55	4.5	1.79	5.98	5.98
Yellowstone County	B2	RM 363.63	105118.1	500-yr	2489.05	942.75	937.93	2.5	2.3	58.82	37.64	341.41	593.14	2.85	1.82	4.82	4.82
Yellowstone County	B2	RM 363.52	104943.9	500-yr	2489.05	942.42	937.54	2.29	1.96	55.93	29.51	372.43	866.84	2.78	1.46	4.88	4.88
Yellowstone County	B2	RM 363.46	104841.5	500-yr	2489.05	942.29	937.16	2.11	1.72	40.75	22.7	330.96	871.1	3.26	1.81	5.13	5.13
Yellowstone County	B2	RM 363.33	104622.9	500-yr	2489.05	941.98	936.36	2.09	1.62	52.91	33.65	303.86	959.06	3.07	1.95	5.62	5.62
Yellowstone County	B2	RM 363.20	104414.5	500-yr	2489.05	941.64	936.48	2.28	1.51	38.54	21.15	282.91	1097.99	3.16	1.73	5.16	5.16
Yellowstone County	B2	RM 363.10	104256.4	500-yr	2489.05	941.37	936.25	2.47	1.66	45.87	22.78	275.99	1003.13	3.02	1.5	5.12	5.12
Yellowstone County	B2	RM 363.03	104144.8	500-yr	2489.05	941.22	936.22	2.39	1.55	36.72	18.82	285.45	1175.43	3.06	1.56	5	5
Yellowstone County	B2	RM 362.86	103869.6	500-yr	2489.05	941.1	934.32	1.71	1.23	16.59	9.75	405.06	1116.79	3.08	1.81	6.78	6.78
Yellowstone County	B2	RM 362.74	103671.4	500-yr	2489.05	940.9	934.52	2.09	1.48	24.87	14.06	371.39	1087.41	2.75	1.55	6.38	6.38
Yellowstone County	B2	RM 362.63	103493.2	500-yr	2489.05	940.72	934.5	1.94	1.47	39.14	27.86	388.17	1089.66	2.73	1.94	6.22	6.22
Yellowstone County	B2	RM 362.52	103330.7	500-yr	2489.05	940.53	934.5	1.74	1.37	34.23	20.84	435.44	1059.58	2.82	1.71	6.03	6.03
Yellowstone County	B2	RM 362.43	103185.5	500-yr	2489.05	940.4	934.1	1.73	1.42	17.1	13.66	439.03	866.2	3.03	2.42	6.3	6.3
Yellowstone County	B2	RM 362.36	103070.8	500-yr	2489.05	940.32	932.98	1.82	1.57	17.32	13.9	405.43	646.4	3.15	2.52	7.34	7.34
Yellowstone County	B2	RM 362.27	102929.3	500-yr	2489.05	940.04	932.93	2.6	2.18	32.06	17.33	195.9	461.85	4.68	2.5	7.11	7.11
Yellowstone County	B2	RM 362.20	102813.3	500-yr	2489.05	939.18	933.37	4.49	3.68	97.92	42.2	111.29	332.32	4.79	2.04	5.81	5.81
Yellowstone County	B2	RM 362.13	102693.1	500-yr	2489.05	938.79	933.47	4.66	4.1	104.31	47.46	125.06	322.7	4.18	1.88	5.32	5.32
Yellowstone County	B3	RM 362.05	102570.9	500-yr	2489.05	938.73	933.85	3.87	3.59	75.95	42.49	181.87	356.77	3.5	1.95	4.88	4.88
Yellowstone County	B3	RM 362.00	102488.8	500-yr	2489.05	938.74	934.11	3.13	3.13	56.86	56.23	244.3	317.37	3.26	3.22	4.63	4.63
Yellowstone County	B3	RM 361.93	102368.8	500-yr	2489.05	938.66	934.31	2.52	2.52	41.43	41.12	367.9	370.78	2.68	2.66	4.35	4.35
Yellowstone County	B3	RM 361.86	102261.1	500-yr	2489.05	938.32	934.36	2.9	2.79	74.71	66.18	364.37	442.35	2.28	2.02	3.96	3.96
Yellowstone County	B3	RM 361.78	102138.9	500-yr	2489.05	938.15	933.72	2.45	2.36	34.45	29.14	406.07	505.44	2.47	2.09	4.43	4.43
Yellowstone County	B3	RM 361.68	101970.2	500-yr	2489.05	937.95	933.64	2.25	2.13	34.03	28.29	426.23	558.09	2.52	2.1	4.31	4.31
Yellowstone County	B3	RM 361.65	101918.4	500-yr	2489.05	937.91	933.71	2.07	1.91	30.06	22.74	403.7	625.85	2.88	2.18	4.2	4.2
Yellowstone County	B3	RM 361.61	101855.6	500-yr	2489.05	937.74	932.7	2.5	2.17	37.89	26.16	335.18	633.49	2.83	1.95	5.04	5.04
Yellowstone County	B3	RM 361.56	101767.4	500-yr	2489.05	937.54	930.29	2.76	2.33	41.96	24.48	267.33	827.72	3.21	1.87	7.25	7.25
Yellowstone County	B3	RM 361.48	101644.6	500-yr	2489.05	937.31	929.97	3.08	2.46	59.96	25.34	181.61	1103.85	3.79	1.59	7.34	7.34
Yellowstone County	B3	RM 361.42	101546.2	500-yr	2489.05	937.12	932.36	3.28	2.39	52.02	20.33	186.79	1342.9	3.24	1.26	4.76	4.76
Yellowstone County	B3	RM 361.37	101468.9	500-yr	2489.05	937.01	932.21	3.21	2.14	52.19	16.56	171.32	1448.71	3.68	1.16	4.8	4.8
Yellowstone County	B3	RM 361.33	101409.4	500-yr	2489.05	936.7	932.02	3.82	2.34	73.45	21.2	162.23	1273.81	3.28	0.94	4.68	4.68
Yellowstone County	B3	RM 361.29	101346	500-yr	2489.05	936.57	930.51	3.57	1.86	67.31	21.09	140.04	1328.11	3.45	1.08	6.06	6.06
Yellowstone County	B3	RM 361.25	101284.9	500-yr	2489.05	936.46	928.42	3.55	1.84	63.86	19.67	122.19	1378.57	3.58	1.09	8.04	8.04
Yellowstone County	B3	RM 361.21	101251.*	500-yr	2489.05	936.41	927.55	3.22	1.87	100.12	26.81	118.81	1475.21	4.38	1.16	8.86	8.86
Yellowstone County	B3	RM 361.21	101217.5	500-yr	2489.05	936.28	926.68	3.31	2.01	54.97	14.7	114.36	1351.28	5.08	1.34	9.6	9.6
Yellowstone County	B3	RM 361.18	101167.2	500-yr	2489.05	936.26	928.03	3.08	1.76	44.34	13.13	132.14	1388.09	4.55	1.34	8.23	8.23
Yellowstone County	B3	RM 361.16	101134.2	500-yr	2489.05	936.22	928.92	2.95	1.93	44.42	18.49	201.65	1722.7	3.45	1.43	7.3	7.3
Yellowstone County	B3	RM 361.09	101028.7	500-yr	2489.05	936.2	931.28	2.19	1.49	27.65	15.56	358.12	1861.55	2.17	1.22	4.92	4.92
Yellowstone County	B3	RM 361.01	100891.3	500-yr	2489.05	935.9	931.55	2.53	1.66	40.61	18.72	359.68	1761.75	2.01	0.92	4.35	4.35
Yellowstone County	B3	RM 360.92	100756	500-yr	2489.05	935.78	931.05	1.54	1.14	26.72	16.46	454.24	1816.41	1.95	1.2	4.73	4.73
Yellowstone County	B3	RM 360.81	100570.1	500-yr	2489.05	935.27	929.52	2.29	1.81	63.6	41.62	475.96	1634.1	1.69	1.11	5.75	5.75
Yellowstone County	B3	RM 360.69	100383.5	500-yr	2489.05	935.18	930.6	1.22	0.93	12.78	8.38	340.51	1966.95	2.64	1.73	5.29	5.29
Yellowstone County	B3	RM 360.59	100227.2	500-yr	2489.05	935.03	930.53	1.87	1.1	20.33	9.86	269.12	2016.56	2.63	1.28	4.82	4.82
Yellowstone County	B3	RM 360.50	100081	500-yr	2489.05	934.82	930.55	2.29	1.2	33.75	12.15	214.5	2057.5	3.11	1.11	4.27	4.27

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	500-yr	2489.05	934.66	929.97	2.51	1.24	37.25	12.23	194.88	1953.86	3.16	1.03	4.69	4.69
Yellowstone County	B3	RM 360.36	99862.66	500-yr	2489.05	934.53	929.68	2.44	1.27	32.15	12.09	242.5	1939.27	2.85	1.07	4.85	4.85
Yellowstone County	B3	RM 360.27	99717.18	500-yr	2489.05	934.24	929.52	3.02	1.47	50.47	15.12	149.73	1697.72	3.34	1	4.72	4.72
Yellowstone County	B3	RM 360.18	99578.06	500-yr	2489.05	933.93	929.32	3.28	1.6	68.12	18.59	135.3	1490.33	3.9	1.04	4.61	4.61
Yellowstone County	B3	RM 360.11	99458.59	500-yr	2489.05	933.83	929.38	2.91	1.54	44.81	14.79	148.51	1464.93	3.35	1.11	4.45	4.45
Yellowstone County	B3	RM 360.03	99328	500-yr	2511.7	933.73	929.58	2.37	1.34	41.76	15.45	168.97	1649.84	3.37	1.24	4.15	4.15
Yellowstone County	B3	RM 359.96	99226.54	500-yr	2511.7	933.63	929.2	2.44	1.27	36.77	14.12	163.81	1485.95	3.46	1.33	4.43	4.43
Yellowstone County	B3	RM 359.88	99098.18	500-yr	2511.7	933.45	927.78	2.75	1.34	40.94	14.09	144	1436.47	3.81	1.31	5.67	5.67
Yellowstone County	B3	RM 359.78	98940.52	500-yr	2511.7	933.36	928.1	2.5	1.27	43.03	14.97	150.12	1459.8	3.94	1.36	5.26	5.26
Yellowstone County	B3	RM 359.70	98813.18	500-yr	2511.7	933.04	928.32	3.12	1.74	81.88	24.63	145.93	1446.26	3.57	1.07	4.72	4.72
Yellowstone County	B3	RM 359.61	98663.44	500-yr	2511.7	932.8	928.8	2.54	1.81	45.14	17.61	318.49	1432.03	2.69	1.05	4	4
Yellowstone County	B3	RM 359.50	98492.66	500-yr	2511.7	932.55	928.22	2.53	1.71	36.41	15.2	321.3	1543.64	2.51	1.04	4.33	4.33
Yellowstone County	B3	RM 359.38	98291.15	500-yr	2511.7	932.32	927.09	2.01	1.52	44.01	22.05	380.94	1635.31	2.21	1.1	5.23	5.23
Yellowstone County	B3	RM 359.26	98107.42	500-yr	2511.7	931.84	927.71	2.49	1.82	40.14	19.23	421.4	1589.93	1.99	0.95	4.13	4.13
Yellowstone County	B3	RM 359.18	97966.53	500-yr	2511.7	931.62	927.28	2.46	1.61	35.93	15.26	299.78	1606.7	2.55	1.08	4.34	4.34
Yellowstone County	B3	RM 359.10	97841.82	500-yr	2511.7	931.47	926.69	2.24	1.5	30.93	15.6	374.84	1662.01	2.21	1.11	4.78	4.78
Yellowstone County	B3	RM 359.01	97692.75	500-yr	2511.7	931.33	925.91	1.87	1.21	30.59	17.42	329.94	1670.45	2.4	1.36	5.42	5.42
Yellowstone County	B3	RM 358.90	97524.59	500-yr	2511.7	930.94	926.77	2.65	1.46	47.47	19.49	227.3	1516.11	2.78	1.14	4.17	4.17
Yellowstone County	B3	RM 358.81	97374.99	500-yr	2511.7	930.69	926.37	2.72	1.44	38.32	15.46	225.13	1525.27	2.92	1.18	4.32	4.32
Yellowstone County	B3	RM 358.74	97267.71	500-yr	2511.7	930.56	925.53	2.64	1.37	52.97	21.72	167.2	1491.22	3.2	1.31	5.03	5.03
Yellowstone County	B3	RM 358.67	97155.8	500-yr	2511.7	930.47	925.59	2.19	1.38	26.42	13.48	278.31	1512.66	2.62	1.34	4.88	4.88
Yellowstone County	B3	RM 358.61	97062.24	500-yr	2511.7	930.41	925.74	1.72	1.27	22.73	13.42	389.39	1627.11	2.55	1.5	4.67	4.67
Yellowstone County	B3	RM 358.56	96985.92	500-yr	2511.7	930.35	926.2	1.61	1.24	18.21	11.73	457.52	1621.04	2.44	1.58	5.76	5.76
Yellowstone County	B3	RM 358.50	96888.4	500-yr	2511.7	930.29	925.64	1.49	1.21	13.77	10.59	550.02	1528.22	2.3	1.77	4.65	4.65
Yellowstone County	B3	RM 358.43	96788.43	500-yr	2511.7	930.25	925.27	1.25	1.15	14.55	12.29	650.58	1505.9	2.34	1.98	4.98	4.98
Yellowstone County	B3	RM 358.30	96638.82	500-yr	2511.7	930.19	924.7	1.16	1.06	10.66	9.01	686.1	1406.03	2.9	2.45	5.49	5.49
Yellowstone County	B3	RM 358.24	96561.93	500-yr	2511.7	930.14	923.57	1.29	1.18	12.24	10.24	644.55	1409.82	2.73	2.29	6.57	6.57
Yellowstone County	B3	RM 358.20	96500.79	500-yr	2511.7	930.09	922.99	1.43	1.3	13.67	11.14	619.99	1413.91	2.61	2.12	7.1	7.1
Yellowstone County	B3	RM 358.14	96404.93	500-yr	2511.7	930.03	922.57	1.5	1.26	13.1	9.51	543.4	1369.16	2.78	2.01	7.46	7.46
Yellowstone County	B3	RM 358.12	96368.05	500-yr	2511.7	930.01	922.78	1.61	1.19	15.26	9.58	349.09	1368.88	3.37	2.11	7.23	7.23
Yellowstone County	B3	RM 358.04	96244.75	500-yr	2511.7	929.88	923.22	2.21	1.42	38.65	17.19	162.23	1237.96	4.21	1.86	6.66	6.66
Yellowstone County	B3	RM 358.00	96168.44	500-yr	2511.7	929.77	923.39	2.66	1.45	45.04	18.72	101.88	1206.25	4.5	1.85	6.38	6.38
Yellowstone County	B3	RM 357.93	96065.49	500-yr	2511.7	929.63	923.1	2.91	1.54	38.69	15.87	106.83	1158.37	4.29	1.75	6.53	6.53
Yellowstone County	B3	RM 357.88	95975.44	500-yr	2511.7	929.6	923.91	2.35	1.51	32.62	16.21	153.56	1181.56	4.05	2.01	5.69	5.69
Yellowstone County	B3	RM 357.82	95884.99	500-yr	2511.7	929.56	924.01	2.09	1.45	25.32	11.8	193.1	1163.65	4.09	1.9	5.55	5.55
Yellowstone County	B3	RM 357.78	95821.69	500-yr	2511.7	929.53	924.08	1.81	1.51	24.33	13.08	257.61	1096.88	3.58	1.92	5.45	5.45
Yellowstone County	B3	RM 357.69	95683.91	500-yr	2511.7	929.37	923.81	2.09	1.64	22.29	11.93	294.18	915.47	3.55	1.89	5.56	5.56
Yellowstone County	B4	RM 357.62	95571.15	500-yr	2511.7	929.21	921.84	2.42	1.84	34.54	12.82	253.84	1060.77	3.5	1.29	7.37	7.37
Yellowstone County	B4	RM 357.56	95469.4	500-yr	2511.7	929.13	918.46	2.27	1.8	31.98	15.48	225.69	1311.17	4.33	2.08	10.67	10.67
Yellowstone County	B4	RM 357.48	95351.48	500-yr	2511.7	928.75	922.69	3.12	2.57	51.94	29.71	199.17	1275.09	3.78	2.15	6.06	6.06
Yellowstone County	B4	RM 357.44	95275.91	500-yr	2511.7	928.51	922.22	3.38	2.97	64.99	43.53	197.24	1155.66	3.66	2.45	6.29	6.29
Yellowstone County	B4	RM 357.34	95127.12	500-yr	2511.7	928.24	923.1	3.42	2.96	63.97	40.93	182.69	1190.59	3.9	2.48	5.14	5.14
Yellowstone County	B4	RM 357.23	94939.75	500-yr	2511.7	927.95	920.81	3.44	2.82	70.16	40.43	143.54	1159.69	4.64	2.65	7.14	7.14
Yellowstone County	B4	RM 357.13	94789.23	500-yr	2511.7	927.81	921.26	3.3	2.52	54.24	27.66	139.55	843.03	4.18	2.11	6.55	6.55
Yellowstone County	B4	RM 357.01	94595.53	500-yr	2511.7	927.66	921.72	2.79	1.96	37.56	19.27	185.55	889.64	4.19	2.15	5.94	5.94
Yellowstone County	B4	RM 356.90	94412.13	500-yr	2511.7	927.47	921.02	2.75	2.03	38.31	23.03	234.48	974.08	3.45	2.07	6.45	6.45
Yellowstone County	B4	RM 356.81	94272.48	500-yr	2511.7	927.32	919.95	2.71	2	40.33	26.25	233.74	846.99	3.31	2.15	7.37	7.37
Yellowstone County	B4	RM 356.73	94148.77	500-yr	2511.7	927.24	921.15	2.32	1.78	29.53	19.28	299.9	966.66	2.95	1.93	6.09	6.09
Yellowstone County	B4	RM 356.66	94030.68	500-yr	2511.7	927.15	921.75	2.2	1.61	25.45	14.7	300.18	1027.25	3.13	1.8	5.4	5.4
Yellowstone County	B4	RM 356.59	93912.76	500-yr	2511.7	927.07	921.88	2.07	1.43	27.62	13.64	252.57	1070.03	3.67	1.81	5.19	5.19
Yellowstone County	B4	RM 356.50	93782.14	500-yr	2511.7	926.92	921.75	2.46	1.5	39.53	15.9	153.48	1066.56	4.25	1.69	5.17	5.17
Yellowstone County	B4	RM 356.44	93670.16	500-yr	2511.7	926.74	921.33	2.82	1.64	37.96	14.41	135.34	1024.56	4.18	1.58	5.41	5.41
Yellowstone County	B4	RM 356.35	93525.27	500-yr	2511.7	926.59	919.71	2.87	1.72	56.19	20.21	116.01	945.13	4.62	1.64	6.88	6.88
Yellowstone County	B4	RM 356.26	93386.36	500-yr	2511.7	926.38	919.77	3.01	1.77	38.89	14.69	125.06	898.46	4.73	1.78	6.61	6.61
Yellowstone County	B4	RM 356.18	93264.31	500-yr	2511.7	926.32	919.95	2.72	1.81	43.78	18.03	128.53	716.04	4.76	1.94	6.37	6.37
Yellowstone County	B4	RM 356.11	93150.71	500-yr	2511.7	926.24	920.24	2.33	1.62	44.1	20.04	179.89	774.15	4.44	2	6	6
Yellowstone County	B4	RM 356.04	93034.25	500-yr	2511.7	926.01	920.36	2.67	1.9	63.22	27	173.68	770.16	4.05	1.72	5.65	5.65
Yellowstone County	B4	RM 355.97	92927.46	500-yr	2511.7	925.76	920.09	3.01	2.04	63.51	26.64	154.1	766.49	3.92	1.63	5.67	5.67
Yellowstone County	B4	RM 355.91	92825.82	500-yr	2511.7	925.69	919.82	2.64	1.67	33.12	15.76	153.74	935.54	4.15	1.96	5.87	5.87
Yellowstone County	B4	RM 355.82	92688.73	500-yr	2511.7	924.89	919.51	3.48	2.24	74.45	29	155.48	851.86	3.54	1.37	5.38	5.38
Yellowstone County	B4	RM 355.66	92419.94	500-yr	2511.7	924.53	919.8	3.36	2.17	54.98	18.2	139.95	951.17	3.68	1.22	4.73	4.73

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	500-yr	2511.7	924.46	919.42	3.09	1.99	50.15	17.44	148.04	994.42	3.68	1.28	5.04	5.04
Yellowstone County	B4	RM 355.49	92159.95	500-yr	2511.7	924.23	918.52	2.74	2.01	72.45	25.51	141.27	1031.34	3.61	1.27	5.71	5.71
Yellowstone County	B4	RM 355.43	92061.2	500-yr	2511.7	924.02	918.67	2.76	2	71.85	24.91	134.53	946.01	3.85	1.33	5.35	5.35
Yellowstone County	B4	RM 355.41	92020.68	500-yr	2511.7	924.01	919.02	2.2	1.8	61.05	24.07	159.91	1023.11	3.48	1.37	4.99	4.99
Yellowstone County	B4	RM 355.38	91976.12	500-yr	2511.7	923.85	919.25	2.8	1.89	61.24	19.2	125.74	1158.92	3.83	1.19	4.6	4.6
Yellowstone County	B4	RM 355.35	91933.98	500-yr	2511.7	923.78	919.21	2.94	1.83	47.69	13.83	109.82	1189.39	4.07	1.17	4.57	4.57
Yellowstone County	B4	RM 355.32	91885.87	500-yr	2511.7	923.73	919.16	2.93	1.81	47.36	13.78	107.08	1208.44	3.99	1.15	4.57	4.57
Yellowstone County	B4	RM 355.29	91828.99	500-yr	2511.7	923.64	918.93	3.02	1.81	48.73	14.08	103.66	1222.45	3.99	1.14	5.11	5.11
Yellowstone County	B4	RM 355.23	91732.97	500-yr	2511.7	923.55	918.68	2.86	1.71	50.35	14.44	101.56	1257.93	4.12	1.17	5.11	5.11
Yellowstone County	B4	RM 355.14	91596.1	500-yr	2511.7	923.44	918.52	2.55	1.44	34.62	11.98	118.49	1258.56	4.04	1.38	4.92	4.92
Yellowstone County	B4	RM 354.94	91268.08	500-yr	2511.7	922.56	917.25	3.48	2.27	114.18	33.55	168.28	1090.21	3.47	1.01	5.31	5.31
Yellowstone County	B4	RM 354.86	91153.59	500-yr	2511.7	922.49	917.03	2.77	1.62	63.45	20.71	125.07	1569.24	4.27	1.39	5.46	5.46
Yellowstone County	B4	RM 354.80	91056.05	500-yr	2511.7	922.24	915.66	3.11	1.7	78.56	23	117.98	1727.64	4.08	1.18	6.58	6.58
Yellowstone County	B4	RM 354.70	90880.27	500-yr	2511.7	921.9	915.38	2.88	1.7	76.45	24.95	152.17	1704.71	3.19	1.04	6.52	6.52
Yellowstone County	B4	RM 354.61	90744.35	500-yr	2511.7	921.65	917.13	2.77	1.54	36.38	16.54	213.82	1533.12	2.52	1.15	4.52	4.52
Yellowstone County	B4	RM 354.53	90609.24	500-yr	2511.7	921.5	916.52	2.44	1.52	34.22	15.23	239.48	1275.15	2.92	1.29	4.98	4.98
Yellowstone County	B4	RM 354.45	90486.63	500-yr	2511.7	921.36	915.87	2.49	1.49	36.96	17.33	205.1	1333.16	2.79	1.3	5.49	5.49
Yellowstone County	B4	RM 354.39	90385.43	500-yr	2511.7	921.11	915.24	3.02	1.7	52.33	21.88	164.25	1303.14	2.91	1.21	5.87	5.87
Yellowstone County	B4	RM 354.33	90291.31	500-yr	2511.7	921.04	915.37	2.59	1.37	35.41	16.5	150.94	1401.62	3.08	1.43	5.67	5.67
Yellowstone County	B4	RM 354.23	90133.96	500-yr	2511.7	920.81	915.46	2.78	1.4	48.41	16.51	118.15	1611.86	3.7	1.25	5.35	5.35
Yellowstone County	B4	RM 354.13	89983.48	500-yr	2511.7	920.67	914.94	2.4	1.23	41.39	13.2	133.55	1669.14	3.86	1.22	5.73	5.73
Yellowstone County	B4	RM 354.00	89778.46	500-yr	2511.7	920.54	916.2	2.16	1.12	31.91	11.52	158.7	1898.64	3.29	1.18	4.34	4.34
Yellowstone County	B5	RM 353.90	89604.28	500-yr	2511.7	920.43	917.06	1.9	1.1	25.98	12.3	246.37	1850.22	2.62	1.24	3.53	3.53
Yellowstone County	B5	RM 353.80	89446.75	500-yr	2664.62	920.3	916.36	1.9	1.16	30	14.51	301.86	1863.73	2.56	1.24	3.94	3.94
Yellowstone County	B5	RM 353.70	89288.94	500-yr	2664.62	920.19	915.92	1.53	1.02	24.22	13.73	391.88	1864.28	2.48	1.4	4.27	4.27
Yellowstone County	B5	RM 353.65	89204.58	500-yr	2664.62	920.08	915.49	1.43	1.01	23.9	14.47	403.78	1760.11	2.48	1.49	4.59	4.59
Yellowstone County	B5	RM 353.56	89077.56	500-yr	2664.62	919.96	914.2	1.55	1.07	25.97	14.8	364.64	1583.25	2.79	1.58	5.76	5.76
Yellowstone County	B5	RM 353.50	88982.39	500-yr	2664.62	919.88	914.58	1.58	1.06	26.23	13.29	310.27	1455.73	3.43	1.73	5.3	5.3
Yellowstone County	B5	RM 353.41	88846.15	500-yr	2664.62	919.68	914.41	1.89	1.24	33.37	15.56	231.95	1376.1	3.39	1.57	5.27	5.27
Yellowstone County	B5	RM 353.32	88709.14	500-yr	2664.62	919.44	913.6	2.47	1.46	43.8	18.93	194.16	1199.48	3.53	1.52	5.84	5.84
Yellowstone County	B5	RM 353.25	88587.13	500-yr	2664.62	919.13	912.76	3.07	1.71	58.51	22.87	160.68	1138.15	3.52	1.37	6.37	6.37
Yellowstone County	B5	RM 353.15	88438.48	500-yr	2664.62	918.82	912.71	3.23	1.99	62.85	28.73	215.51	1137.32	2.58	1.18	6.11	6.11
Yellowstone County	B5	RM 353.08	88321.13	500-yr	2664.62	918.68	912.99	2.87	1.85	48.53	20.63	197.65	1156.41	2.93	1.25	5.69	5.69
Yellowstone County	B5	RM 353.01	88210.34	500-yr	2664.62	918.55	913.13	2.47	1.78	42.58	21.93	249.61	1049.73	2.77	1.43	5.42	5.42
Yellowstone County	B5	RM 352.94	88090.6	500-yr	2664.62	918.45	912.5	2.29	1.69	35.4	15.74	175.48	1307.65	3.55	1.57	5.95	5.95
Yellowstone County	B5	RM 352.86	87957.76	500-yr	2664.62	918.3	913.38	2.47	1.81	53.12	23.06	136.66	2239.9	3.54	1.53	4.92	4.92
Yellowstone County	B5	RM 352.79	87857.09	500-yr	2664.62	918.02	913.06	3.23	1.95	48.21	17.14	114.97	2058.25	3.33	1.17	4.96	4.96
Yellowstone County	B5	RM 352.72	87748.15	500-yr	2664.62	917.93	911.97	3.08	1.7	69.43	18.74	89.99	2351.15	4.42	1.17	5.96	5.96
Yellowstone County	B5	RM 352.68	87677.1	500-yr	2664.62	917.87	912.27	2.08	1.71	60.03	35.49	334.84	2392.42	2.3	1.34	5.6	5.6
Yellowstone County	B5	RM 352.64	87605.18	500-yr	2664.62	917.52	911.68	2.89	1.87	85.88	42.7	233.61	1796.57	2.8	1.38	5.84	5.84
Yellowstone County	B5	RM 352.54	87461.4	500-yr	2664.62	917.36	912.57	2.4	1.65	35.72	16.07	267.58	2451.2	3.07	1.37	4.79	4.79
Yellowstone County	B5	RM 352.47	87340.46	500-yr	2664.62	917.25	912.2	2.24	1.47	30.36	16.55	231.7	2454.82	2.79	1.52	5.05	5.05
Yellowstone County	B5	RM 352.39	87216.99	500-yr	2664.62	916.84	912.01	3.34	2.06	64.2	29.27	188.1	2222.59	2.42	1.1	5.65	5.65
Yellowstone County	B5	RM 352.31	87079.16	500-yr	2664.62	916.57	910.66	3.11	1.98	67.58	31.66	184.54	1821.79	2.46	1.15	5.91	5.91
Yellowstone County	B5	RM 352.23	86961.03	500-yr	2664.62	916.46	911.35	2.09	1.53	28.87	18.83	262.01	1930.42	2.08	1.36	5.11	5.11
Yellowstone County	B5	RM 352.18	86873.5	500-yr	2664.62	916.31	911.21	2.39	1.8	34.19	20.22	235.6	1814.98	2.42	1.43	5.1	5.1
Yellowstone County	B5	RM 352.09	86723.6	500-yr	2664.62	916.13	912.18	2.51	1.75	40.14	19.65	175.75	1768.76	2.76	1.35	3.95	3.95
Yellowstone County	B5	RM 351.99	86568.41	500-yr	2664.62	915.73	912.6	3.35	2.08	61.82	24.2	150.06	1595.29	2.63	1.03	3.15	3.15
Yellowstone County	B5	RM 351.93	86466.74	500-yr	2664.62	915.65	911.69	2.65	1.74	41.92	23.46	177.26	1791.51	2.34	1.31	3.96	3.96
Yellowstone County	B5	RM 351.88	86386.8	500-yr	2664.62	915.57	911.38	2	1.58	32.3	24.7	192.73	1871.47	2.12	1.62	4.19	4.19
Yellowstone County	B5	RM 351.81	86277.68	500-yr	2664.62	915.47	910.99	1.8	1.41	22.58	19.71	243.94	1957.44	1.97	1.72	4.48	4.48
Yellowstone County	B5	RM 351.74	86159.62	500-yr	2664.62	915.19	911.37	1.69	1.6	20.74	20.22	349.71	1835.07	1.39	1.36	4.36	4.36
Yellowstone County	B5	RM 351.67	86034.59	500-yr	2664.62	914.94	911.31	2.06	1.59	30.86	16.73	208.84	1502.7	2.13	1.15	4.56	4.56
Yellowstone County	B5	RM 351.58	85891.33	500-yr	2664.62	914.74	911.47	1.86	1.65	25.63	16.13	240.81	1608.06	2.11	1.33	4.65	4.65
Yellowstone County	B5	RM 351.52	85811.35	500-yr	2664.62	914.59	911.37	2.19	1.79	28.01	16.99	255.39	1238.42	2.06	1.25	3.87	3.87
Yellowstone County	B5	RM 351.47	85728.2	500-yr	2664.62	914.48	911.17	2.2	1.78	26.53	13.34	207.46	1608.89	2.31	1.16	3.94	3.94
Yellowstone County	B5	RM 351.40	85601.48	500-yr	2664.62	914.34	910.26	2.24	1.71	28.37	18.65	163.14	1815.84	2.3	1.51	4.43	4.43
Yellowstone County	B5	RM 351.34	85482.66	500-yr	2664.62	914.25	909.98	1.57	1.48	30.67	17.11	146.46	1963.6	2.75	1.54	4.28	4.28
Yellowstone County	B5	RM 351.25	85342.53	500-yr	2664.62	914.14	909.91	1.61	1.33	19.28	14.29	263.86	1984.31	2.18	1.61	4.26	4.26
Yellowstone County	B5	RM 351.21	85257.19	500-yr	2664.62	914.08	909.48	1.76	1.3	21.16	14.77	214.08	1989.1	2.23	1.55	4.6	4.6
Yellowstone County	B5	RM 351.12	85127.55	500-yr	2664.62	914	909.49	1.8	1.33	21.23	13.72	178.15	1795.28	2.47	1.58	4.51	4.51

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	500-yr	2664.62	913.87	908.79	2.2	1.39	28.8	13.43	126.92	1864.47	3.25	1.49	5.08	5.08
Yellowstone County	B5	RM 350.90	84769.91	500-yr	2664.62	913.82	909.27	1.56	1.2	17.69	9.1	104.26	1930.89	3.54	1.79	4.55	4.55
Yellowstone County	B5	RM 350.75	84536.19	500-yr	2664.62	913.66	909.72	1.4	1.55	29.99	20.01	280.35	1663.25	2.38	1.59	4.28	4.28
Yellowstone County	B5	RM 350.66	84383.33	500-yr	2664.62	913.48	909.32	1.85	1.69	39.63	22.45	176.12	1336.28	2.81	1.58	4.16	4.16
Yellowstone County	B5	RM 350.57	84244.69	500-yr	2664.62	913.17	908.48	2.3	1.8	54.59	26.89	152.25	954.86	3.17	1.55	4.69	4.69
Yellowstone County	B5	RM 350.50	84128.62	500-yr	2664.62	912.9	908.49	2.49	1.95	61.86	31.8	161.33	918.16	2.91	1.49	4.41	4.41
Yellowstone County	B5	RM 350.40	83974.24	500-yr	2664.62	912.69	908.73	1.95	1.75	32.05	24.02	318.98	900.93	2.26	1.69	3.96	3.96
Yellowstone County	B5	RM 350.33	83868.06	500-yr	2664.62	912.55	908.17	1.98	1.7	26.17	20.28	326.5	920.3	2.29	1.78	4.38	4.38
Yellowstone County	B5	RM 350.23	83712.91	500-yr	2664.62	912.32	907.61	2.2	1.76	34.98	24.69	300.73	1095.8	2.28	1.61	4.71	4.71
Yellowstone County	B5	RM 350.14	83563.43	500-yr	2664.62	912.13	907.94	1.99	1.59	30.58	21.12	302.77	1249.5	2.35	1.62	4.19	4.19
Yellowstone County	B5	RM 350.06	83419.86	500-yr	2664.62	911.93	907.84	1.82	1.5	30.5	20.27	344.59	1417.17	2.29	1.52	4.09	4.09
Yellowstone County	B5	RM 349.94	83229.4	500-yr	2664.62	911.71	906.93	1.87	1.43	27.78	16.2	284.73	1594.41	2.49	1.44	4.78	4.78
Yellowstone County	B5	RM 349.83	83071.99	500-yr	2664.62	911.55	907.36	1.89	1.25	18.81	8.79	370.02	1575.21	3.17	1.48	4.19	4.19
Yellowstone County	B5	RM 349.68	82904.73	500-yr	2664.62	911.4	906.92	2.12	1.34	33.1	15.3	348.15	1593.73	2.71	1.25	4.48	4.48
Yellowstone County	B5	RM 349.54	82632.78	500-yr	2664.62	911	906.29	2.22	1.72	31.33	19.11	449.31	1343.31	2.4	1.46	4.71	4.71
Yellowstone County	B5	RM 349.33	82276.28	500-yr	2664.62	910.73	906.45	1.51	1.32	19.43	14.64	351.95	1642.63	2.51	1.89	4.28	4.28
Yellowstone County	B5	RM 349.19	82046.53	500-yr	2664.62	910.4	905.16	2.28	1.5	30.2	17.12	282.11	1838.28	2.6	1.47	5.24	5.24
Yellowstone County	B5	RM 349.04	81800.47	500-yr	2806.2	910.21	904.5	1.85	1.36	20.54	11.97	345.54	2182	2.78	1.62	5.71	5.71
Yellowstone County	B5	RM 348.89	81574.02	500-yr	2806.2	910.08	904.75	1.47	1.23	22.19	13.5	550.23	2113.89	2.99	1.82	5.33	5.33
Yellowstone County	B5	RM 348.77	81370.46	500-yr	2806.2	909.93	905.09	1.55	1.27	27.39	16.13	461.77	1966.61	3.09	1.81	4.84	4.84
Yellowstone County	B5	RM 348.64	81138.52	500-yr	2806.2	909.72	903.35	1.96	1.33	21.73	10.15	295.48	1818.93	3.71	1.72	6.37	6.37
Yellowstone County	B5	RM 348.52	80960.09	500-yr	2806.2	909.55	902.88	2.3	1.54	41.72	16.83	208.24	1666.07	4.1	1.64	6.67	6.67
Yellowstone County	B5	RM 348.38	80737.31	500-yr	2806.2	909.15	902.85	2.93	1.83	59.89	20.68	187.25	1494.05	3.99	1.37	6.3	6.3
Yellowstone County	B5	RM 348.26	80551.51	500-yr	2806.2	908.94	902.73	2.7	1.74	59.11	21.03	168.51	1343.45	4.21	1.48	6.21	6.21
Yellowstone County	B5	RM 348.09	80276.34	500-yr	2806.2	908.65	901.64	2.58	1.63	42.03	16.07	171.66	1064.59	4.27	1.62	7.01	7.01
Yellowstone County	B5	RM 347.95	80055.79	500-yr	2806.2	908.4	902.96	2.74	1.79	35.2	11.8	165.09	1216.2	4.46	1.49	5.44	5.44
Yellowstone County	B5	RM 347.82	79844.2	500-yr	2806.2	908.29	902.93	2.31	1.57	42.29	16.46	180.88	1230.92	4.17	1.62	5.36	5.36
Yellowstone County	B5	RM 347.77	79751.93	500-yr	2806.2	908.2	902.38	2.28	1.46	42.57	16.2	178.59	1197.35	4.22	1.6	5.82	5.82
Yellowstone County	B5	RM 347.70	79643.98	500-yr	2806.2	908.11	901.91	2.15	1.36	37.15	16.63	182.31	1228.92	4.17	1.86	6.2	6.2
Yellowstone County	B5	RM 347.61	79501.64	500-yr	2806.2	908.03	902.2	2.04	1.25	20.36	11.83	192.93	1461.91	4.46	2.6	5.83	5.83
Yellowstone County	B5	RM 347.51	79347.38	500-yr	2806.2	907.52	900.54	3.63	2.17	59.26	26.46	112.36	1232.19	5.08	2.25	6.98	6.98
Yellowstone County	B5	RM 347.42	79196.21	500-yr	2806.2	907.44	900.73	2.97	2.19	80.26	44.45	148.41	1360.06	4.45	2.46	6.71	6.71
Yellowstone County	B5	RM 347.35	79079.87	500-yr	2806.2	907.52	900.77	1.57	1.57	12.09	12.08	499.39	1534.59	3.58	3.58	6.75	6.75
Yellowstone County	B5	RM 347.23	78895.71	500-yr	2806.2	907.42	900.89	1.66	1.64	16.05	15.34	510.76	1693.36	3.3	3.15	6.53	6.53
Yellowstone County	B5	RM 347.13	78732.21	500-yr	2806.2	907.29	900.98	1.8	1.71	34.75	27.77	441.51	1624.25	3.43	2.74	6.31	6.31
Yellowstone County	B5	RM 346.93	78400.21	500-yr	2806.2	906.7	900.98	2.07	1.94	79.21	67.25	465.4	1651.51	2.78	2.36	5.72	5.72
Yellowstone County	B5	RM 346.80	78193.27	500-yr	2806.2	906.17	900.02	2.1	1.77	59	44.47	455.06	1484.74	2.61	1.96	6.15	6.15
Yellowstone County	B5	RM 346.64	77938.83	500-yr	2806.2	905.88	900.47	2.25	1.5	25.92	12.92	247.73	1324.07	3.87	1.92	5.41	5.41
Yellowstone County	B5	RM 346.49	77706.6	500-yr	2806.2	905.64	900.21	2.66	1.53	41.2	16.09	176.88	1209.29	4.06	1.57	5.43	5.43
Yellowstone County	B6	RM 346.35	77480.6	500-yr	2806.2	905.45	900.33	2.37	1.45	38.32	17.74	214.97	1108.8	3.96	1.82	5.12	5.12
Yellowstone County	B6	RM 346.23	77285.9	500-yr	2806.2	905.19	900.11	2.74	1.57	37.88	15.35	177.83	1049.78	4.23	1.7	5.08	5.08
Yellowstone County	B6	RM 346.11	77095.33	500-yr	2806.2	904.99	899.75	2.7	1.73	49.54	22.09	182.61	1012.8	4.21	1.87	5.24	5.24
Yellowstone County	B6	RM 346.00	76926.16	500-yr	2806.2	904.8	899.8	2.73	1.75	42.48	19.21	178.29	1047.09	4.35	1.95	5	5
Yellowstone County	B6	RM 345.90	76766.95	500-yr	2806.2	904.5	899.51	3.07	1.99	60.21	29.19	179.39	1044.5	4.11	1.98	4.99	4.99
Yellowstone County	B6	RM 345.80	76608.55	500-yr	2806.2	904.34	899.04	2.78	1.88	44.98	22.88	200.74	1130.69	4.11	2.08	5.44	5.44
Yellowstone County	B6	RM 345.73	76484.99	500-yr	2806.2	904.15	899.01	2.95	1.94	49.23	24.58	198.24	1071.1	3.79	1.89	5.25	5.25
Yellowstone County	B6	RM 345.67	76386.71	500-yr	2806.2	904.1	899.1	2.55	1.68	36.52	18.73	212.78	868.93	4.1	2.1	5.2	5.2
Yellowstone County	B6	RM 345.60	76268.76	500-yr	2806.2	903.98	899.22	2.5	1.73	39.99	21.79	235.37	847.97	3.73	2.03	5.08	5.08
Yellowstone County	B6	RM 345.50	76118.1	500-yr	2806.2	903.84	899.07	2.15	1.76	48.41	32.96	280.8	903.48	3.36	2.28	4.94	4.94
Yellowstone County	B6	RM 345.37	75909.53	500-yr	2806.2	903.36	897.51	2.61	2.1	52.92	28.61	316.61	1083.34	3.14	1.69	5.85	5.85
Yellowstone County	B6	RM 345.27	75751.01	500-yr	2806.2	903.12	898.15	2.71	1.86	43.83	20.49	252.45	1170.63	3.52	1.64	4.97	4.97
Yellowstone County	B6	RM 345.07	75427.56	500-yr	2806.2	902.9	897.07	2.27	1.57	26.82	12.43	241.2	1228.03	4.06	1.87	5.83	5.83
Yellowstone County	B6	RM 344.90	75166.64	500-yr	2806.2	902.79	897.3	1.92	1.36	20.45	9.16	294.53	1170.32	3.93	1.76	5.49	5.49
Yellowstone County	B6	RM 344.75	74927.69	500-yr	2806.2	902.6	896.02	2.2	1.56	37.31	16.83	236.18	1056.61	4.1	1.83	6.58	6.58
Yellowstone County	B6	RM 344.64	74743.45	500-yr	2806.2	902.14	895.93	3.2	2.03	53.11	18.43	158.71	953.36	4.57	1.58	6.21	6.21
Yellowstone County	B6	RM 344.53	74576.12	500-yr	2806.2	902	895.39	2.83	1.86	66.01	25.12	162.09	1046.9	4.3	1.63	6.61	6.61
Yellowstone County	B6	RM 344.43	74405.67	500-yr	2806.2	901.86	896.11	2.6	1.57	32.49	13.3	179.43	1190.77	4.12	1.68	5.75	5.75
Yellowstone County	B6	RM 344.29	74192.79	500-yr	2806.2	901.71	895.87	2.44	1.56	34.32	13.02	179.75	1099.06	4.32	1.64	5.84	5.84
Yellowstone County	B6	RM 344.13	73931.76	500-yr	2806.2	901.39	895.4	2.83	1.75	44.98	13.1	157.02	1198.97	4.62	1.34	5.99	5.99
Yellowstone County	B6	RM 343.87	73520.95	500-yr	2806.2	901.11	895.23	2.28	1.54	26.49	10.7	287.43	1255.7	3.6	1.45	5.88	5.88
Yellowstone County	B6	RM 343.80	73403.19	500-yr	2806.2	901.08	894.69	1.68	1.3	30.45	14.92	356.81	1288.84	3.44	1.68	6.39	6.39

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	500-yr	2806.2	900.82	894.63	1.72	1.45	43.29	20.68	396.06	1281.58	3.18	1.51	6.19	6.19
Yellowstone County	B6	RM 343.55	72997.33	500-yr	2806.2	900.56	894.63	1.84	1.57	44.34	23.48	370.7	1010.51	3.37	1.77	5.93	5.93
Yellowstone County	B6	RM 343.45	72840.49	500-yr	2806.2	900.31	894.78	1.97	1.69	42.03	23.13	401.91	985.66	3.07	1.69	5.53	5.53
Yellowstone County	B6	RM 343.37	72718.86	500-yr	2806.2	900.08	894.5	2.17	1.81	54.57	27.93	343.33	993.02	3.07	1.56	5.58	5.58
Yellowstone County	B6	RM 343.29	72586.22	500-yr	2806.2	899.8	894.28	2.38	1.83	53.54	23.22	280.65	1012.47	3.51	1.51	5.52	5.52
Yellowstone County	B6	RM 343.21	72458.03	500-yr	2806.2	899.6	893.99	2.13	1.72	62.86	33.19	357.3	1010.46	3.08	1.61	5.61	5.61
Yellowstone County	B6	RM 343.14	72328.78	500-yr	2806.2	899.29	893.94	2.08	1.72	68.4	41.07	433.07	1022.11	2.67	1.6	5.35	5.35
Yellowstone County	B6	RM 343.04	72174.44	500-yr	2806.2	899.09	894.12	1.91	1.51	23.63	14.78	485.75	1079.7	2.75	1.72	4.97	4.97
Yellowstone County	B6	RM 342.96	72046.7	500-yr	2806.2	898.95	894.17	1.77	1.5	45.8	31.08	507.02	1157.82	2.6	1.76	4.78	4.78
Yellowstone County	B6	RM 342.87	71890.42	500-yr	2806.2	898.64	893.92	1.74	1.51	52.47	35.92	541.62	1233.77	2.38	1.62	4.72	4.72
Yellowstone County	B6	RM 342.78	71759.64	500-yr	2806.2	898.46	893.85	1.8	1.44	18.96	13.18	525.37	1472.9	2.35	1.63	4.61	4.61
Yellowstone County	B6	RM 342.71	71649.64	500-yr	2806.2	898.38	893.88	1.68	1.36	16.77	11.61	525.68	2058.27	2.26	1.57	4.5	4.5
Yellowstone County	B6	RM 342.64	71534.72	500-yr	2806.2	898.26	893.45	1.47	1.31	33.64	23.61	689.68	2360.25	2.25	1.58	4.81	4.81
Yellowstone County	B6	RM 342.59	71441.82	500-yr	2806.2	898.09	893.13	1.54	1.4	38.54	24.99	689.96	2486.54	2.25	1.46	4.96	4.96
Yellowstone County	B6	RM 342.49	71299.94	500-yr	2806.2	897.91	892.73	1.4	1.24	26.13	15.39	666.31	2685.86	2.64	1.55	5.18	5.18
Yellowstone County	B6	RM 342.40	71182.23	500-yr	2806.2	897.82	892.4	1.27	1.1	21.06	11.32	600.2	2784.99	3.22	1.73	5.42	5.42
Yellowstone County	B6	RM 342.29	70973.95	500-yr	2806.2	897.62	891.26	1.61	1.34	29.19	14.4	481.91	2656.97	3.05	1.5	6.36	6.36
Yellowstone County	B6	RM 342.17	70788.09	500-yr	2806.2	897.3	891.21	2.11	1.71	52.66	24.36	379.96	2361.35	2.79	1.28	6.09	6.09
Yellowstone County	B6	RM 342.09	70668.79	500-yr	2806.2	897.15	892.22	1.92	1.55	39.99	18.27	378.86	2223.14	3.18	1.45	4.93	4.93
Yellowstone County	B6	RM 341.96	70472.35	500-yr	2806.2	897	891.5	1.74	1.44	18	10.68	504.22	2018.97	2.8	1.66	5.5	5.5
Yellowstone County	B6	RM 341.82	70207.79	500-yr	2806.2	896.86	890.89	1.45	1.3	19.65	13.15	582.05	1305.47	3	2.01	5.97	5.97
Yellowstone County	B6	RM 341.68	69974.03	500-yr	2806.2	896.66	890.38	1.64	1.46	27.17	17.69	481.57	1050.73	3.21	2.09	6.28	6.28
Yellowstone County	B6	RM 341.57	69788.71	500-yr	2806.2	896.38	889.58	2.21	1.95	25.73	16.07	434.69	877.25	2.77	1.72	6.8	6.8
Yellowstone County	B6	RM 341.47	69629.19	500-yr	2806.2	896.18	889.76	2.04	1.91	59.77	44.22	395.38	853.24	3.15	2.33	6.42	6.42
Yellowstone County	B6	RM 341.32	69391.37	500-yr	2806.2	895.7	890.36	2.12	1.95	58.51	44.39	401.69	822.15	3.03	2.3	5.34	5.34
Yellowstone County	B6	RM 341.24	69252.71	500-yr	2806.2	895.58	890.28	1.93	1.66	20.69	14.6	396.74	1006.95	3.25	2.3	5.3	5.3
Yellowstone County	B6	RM 341.11	69044.61	500-yr	2806.2	895.29	890	2.4	1.77	42.9	20.96	324.73	1035.69	3.15	1.53	5.29	5.29
Yellowstone County	B6	RM 340.94	68773.18	500-yr	2806.2	895	889.22	2.28	1.52	36.63	19.95	280.24	1009.35	3.47	1.89	5.78	5.78
Yellowstone County	B6	RM 340.81	68556.42	500-yr	2806.2	894.9	889.05	1.68	1.13	22.61	11.63	315.44	1317.26	3.68	1.89	5.85	5.85
Yellowstone County	B6	RM 340.65	68325.7	500-yr	2806.2	894.68	888.87	2.33	1.31	25.76	11.57	204.11	1116.52	4.27	1.91	5.81	5.81
Yellowstone County	B6	RM 340.52	68126.27	500-yr	2806.2	894.49	887.3	2.7	1.46	47	17.23	130.27	988.2	5.34	1.94	7.19	7.19
Yellowstone County	B6	RM 340.40	67936.51	500-yr	2806.2	894.36	886.73	2.36	1.46	44.29	19.7	170.6	951.96	4.85	2.14	7.63	7.63
Yellowstone County	B7	RM 340.26	67715.84	500-yr	2806.2	894.07	887.99	2.33	1.73	60.3	32.41	252.4	781.89	3.89	2.08	6.08	6.08
Yellowstone County	B7	RM 340.16	67550.99	500-yr	2806.2	893.79	888.43	2.2	1.75	68.56	40.85	313.83	796.47	3.38	2.01	5.36	5.36
Yellowstone County	B7	RM 340.06	67387.35	500-yr	2806.2	893.48	888.74	2.22	1.88	51.43	31.51	315.76	703.2	3.48	2.13	4.74	4.74
Yellowstone County	B7	RM 339.96	67234.59	500-yr	2806.2	893.21	888.85	2.44	2.19	33.29	23.38	361.23	608.68	3	2.1	4.36	4.36
Yellowstone County	B7	RM 339.88	67094.07	500-yr	2806.2	893.06	888.78	2.14	2	47.54	37.42	445.51	637.48	2.79	2.2	4.28	4.28
Yellowstone County	B7	RM 339.79	66960.51	500-yr	2806.2	892.76	888.98	2.35	2.28	39.13	30.87	512.47	673.35	2.31	1.83	3.78	3.78
Yellowstone County	B7	RM 339.72	66843.76	500-yr	2806.2	892.64	888.72	2.1	1.99	28.79	25.97	514.5	675.03	2.53	2.28	3.92	3.92
Yellowstone County	B7	RM 339.66	66753.41	500-yr	2806.2	892.59	887.9	1.85	1.74	20.9	18.44	525.64	716.35	2.79	2.46	4.69	4.69
Yellowstone County	B7	RM 339.52	66527.74	500-yr	2806.2	892.43	887.31	2.02	1.42	21.15	11.49	312.36	991.06	3.67	1.99	5.12	5.12
Yellowstone County	B7	RM 339.37	66324.85	500-yr	2806.2	892.24	887.17	2.25	1.64	46.93	27.05	232.31	1272.68	3.91	2.25	5.07	5.07
Yellowstone County	B7	RM 339.24	66108.49	500-yr	2806.2	891.73	886.45	3.07	2.18	49.23	27.78	218.09	1318.54	3.34	1.88	5.28	5.28
Yellowstone County	B7	RM 339.13	65940.41	500-yr	2806.2	891.52	885.31	3.12	2	57.88	28.71	143.34	1229.73	3.94	1.94	6.21	6.21
Yellowstone County	B7	RM 339.02	65745.93	500-yr	2806.2	891.15	886.09	3.18	2.17	52.97	25.3	187.64	1149.17	3.51	1.68	5.06	5.06
Yellowstone County	B7	RM 338.94	65621.59	500-yr	2806.2	891.1	886.36	2.59	1.76	35.25	19.79	223.57	1239.93	3.35	1.88	4.74	4.74
Yellowstone County	B7	RM 338.83	65433.26	500-yr	2806.2	890.93	886.37	2.31	1.67	37.57	21.95	225.04	1108.7	3.39	1.98	4.91	4.91
Yellowstone County	B7	RM 338.72	65256.88	500-yr	2806.2	890.68	886.18	2.43	1.95	44.91	27.95	205.92	835.29	3.62	2.26	4.88	4.88
Yellowstone County	B7	RM 338.62	65095.08	500-yr	2806.2	890.28	886.28	3.16	2.37	52.71	31.23	179.43	829.17	3.39	2.01	4.66	4.66
Yellowstone County	B7	RM 338.49	64891.36	500-yr	2806.2	890.11	885.05	2.74	2.07	39.08	23.59	174.43	942.26	3.53	2.13	5.06	5.06
Yellowstone County	B7	RM 338.40	64742.15	500-yr	2806.2	890.1	884.28	1.88	1.57	17.84	12.38	166.18	957.47	3.68	2.54	5.82	5.82
Yellowstone County	B7	RM 338.29	64577.05	500-yr	2806.2	889.98	884.18	2.26	1.59	26.16	12.92	123.01	1028	4.07	2	5.8	5.8
Yellowstone County	B7	RM 338.19	64384.71	500-yr	2806.2	889.93	885.23	1.59	1.28	14.93	11.16	393.33	1219.05	3.1	2.32	4.7	4.7
Yellowstone County	B7	RM 338.06	64164.59	500-yr	2806.2	889.85	884.64	1.63	1.12	15.76	9.81	284.25	1245.12	3.63	2.26	5.21	5.21
Yellowstone County	B7	RM 337.91	63921.69	500-yr	2806.2	889.68	884.16	2.09	1.27	21	11.54	205.66	1278.09	3.91	2.15	5.52	5.52
Yellowstone County	B7	RM 337.83	63789.53	500-yr	2806.2	889.37	882.72	2.99	1.73	50.79	22.71	178.63	935.66	3.9	1.73	6.65	6.65
Yellowstone County	B7	RM 337.75	63667.96	500-yr	2806.2	889	881.69	3.62	2.02	67.61	25.48	143.6	908.29	4.1	1.53	7.31	7.31
Yellowstone County	B7	RM 337.68	63550.4	500-yr	2806.2	888.79	882.49	3.5	2.19	72.2	25.74	161.63	873.68	4.14	1.47	6.3	6.3
Yellowstone County	B7	RM 337.58	63396.62	500-yr	2806.2	888.57	883.62	3.33	2.12	56.54	24.19	189.36	870.44	3.55	1.52	4.95	4.95
Yellowstone County	B7	RM 337.47	63212.44	500-yr	2806.2	888.43	883.31	2.79	1.79	46.09	16.99	178.55	1140.55	3.73	1.37	5.12	5.12
Yellowstone County	B7	RM 337.38	63064.58	500-yr	2806.2	888.25	883.29	2.86	1.68	41.13	14.57	177.51	1311.26	3.62	1.27	4.96	4.96

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	500-yr	2806.2	888.24	883.15	1.94	1.22	18.49	8.22	210.44	1412.35	3.68	1.63	5.09	5.09
Yellowstone County	B7	RM 337.16	62717.85	500-yr	2806.2	888.19	882.57	1.5	1.14	11.62	7.82	401.07	1817.62	3.27	2.2	5.62	5.62
Yellowstone County	B7	RM 337.04	62524.52	500-yr	2806.2	888.12	879.61	1.79	1.17	15.8	7.42	154.88	1704.17	5.15	2.41	8.51	8.51
Yellowstone County	B7	RM 336.96	62390.64	500-yr	2806.2	888.04	880.21	1.89	1.34	25.36	12.79	186.19	1701.88	4.58	2.29	7.83	7.83
Yellowstone County	B7	RM 336.87	62246.97	500-yr	2806.2	887.9	881.41	2.29	1.5	28.3	13.6	156.32	1755.76	4.73	2.26	6.49	6.49
Yellowstone County	B7	RM 336.80	62131.42	500-yr	2806.2	887.84	881.33	2.15	1.48	35.6	18.36	162.29	1664.45	4.38	2.25	6.51	6.51
Yellowstone County	B7	RM 336.72	62005.73	500-yr	2806.2	887.59	881.38	2.76	1.72	56.39	21.19	136.15	1320.23	4.58	1.71	6.21	6.21
Yellowstone County	B7	RM 336.66	61902.64	500-yr	2806.2	887.11	881.45	3.83	2.36	98.66	29.02	117.37	954.12	4.27	1.24	5.66	5.66
Yellowstone County	B7	RM 336.59	61800.43	500-yr	2806.2	887	880.66	3.26	2.08	75.36	23.94	135.93	921.95	4.62	1.46	6.34	6.34
Yellowstone County	B7	RM 336.52	61689.55	500-yr	2806.2	886.83	881.76	3.15	2	60.75	23.27	145.49	922.21	3.98	1.52	5.07	5.07
Yellowstone County	B7	RM 336.46	61580.5	500-yr	2806.2	886.72	882.13	2.83	1.9	59.84	24.82	162.48	972.07	3.68	1.52	4.59	4.59
Yellowstone County	B7	RM 336.40	61491.01	500-yr	2806.2	886.55	882.03	2.94	1.88	61.88	26.34	162.53	1039.94	3.75	1.59	4.51	4.51
Yellowstone County	B7	RM 336.34	61394.22	500-yr	2806.2	886.38	881.93	3	1.84	57.13	26.83	163.69	1002.7	3.57	1.67	4.45	4.45
Yellowstone County	B7	RM 336.27	61278.9	500-yr	2806.2	886.21	881.67	2.91	1.74	53.66	24.52	169.95	1095.22	3.53	1.61	4.54	4.54
Yellowstone County	B7	RM 336.19	61159.07	500-yr	2806.2	886.04	882.11	2.77	1.82	40.84	21.99	211.78	1080.3	2.81	1.51	3.93	3.93
Yellowstone County	B7	RM 336.09	60993.57	500-yr	2806.2	885.88	882.16	2.19	1.49	29.37	18.87	319.78	1186.51	2.68	1.72	3.72	3.72
Yellowstone County	B7	RM 335.98	60812.26	500-yr	2806.2	885.73	881.93	1.59	1.45	31.05	25.32	442.1	1381.18	2.25	1.83	4	4
Yellowstone County	B7	RM 335.89	60669.74	500-yr	2806.2	885.54	880.16	1.81	1.64	19.94	17.75	737.52	1484.07	1.89	1.68	5.38	5.38
Yellowstone County	B7	RM 335.77	60465.85	500-yr	2806.2	885.21	880.49	1.72	1.67	50.05	44.62	881.3	1649.88	1.68	1.5	4.72	4.72
Yellowstone County	B7	RM 335.68	60324.8	500-yr	2806.2	884.91	880.65	1.93	1.79	20.42	17.93	885.5	2379.76	1.56	1.37	4.26	4.26
Yellowstone County	B7	RM 335.59	60183.7	500-yr	2806.2	884.71	880.3	1.89	1.74	21.49	18.18	921.67	2453.56	1.52	1.29	4.41	4.41
Yellowstone County	B7	RM 335.51	60046.12	500-yr	2806.2	884.53	880.03	1.86	1.68	19.52	15.76	944.99	2831.5	1.51	1.22	4.5	4.5
Yellowstone County	B7	RM 335.41	59899.97	500-yr	2806.2	884.42	879.45	1.49	1.3	15.11	12.28	911.11	2840.11	1.88	1.53	4.97	4.97
Yellowstone County	B7	RM 335.36	59814.82	500-yr	2806.2	884.41	878.65	1.17	0.99	7.83	6	896.25	3115.14	2.45	1.88	5.76	5.76
Yellowstone County	B7	RM 335.12	59393.71	500-yr	2806.2	884.16	878.54	1.93	1.08	20.28	8.89	331.92	3495.62	3.01	1.32	5.62	5.62
Yellowstone County	B7	RM 335.03	59228.59	500-yr	2806.2	883.9	876.8	2.91	1.32	55.97	16.9	149.84	3034.47	3.55	1.07	7.1	7.1
Yellowstone County	B7	RM 334.91	59041.32	500-yr	2806.2	883.7	878.31	2.31	1.17	36.86	14.67	229.84	2671.56	3.01	1.2	5.39	5.39
Yellowstone County	B7	RM 334.85	58937.73	500-yr	2806.2	883.57	878.66	2.27	1.14	37.05	14.87	224.38	2718.62	3.08	1.24	4.91	4.91
Yellowstone County	B7	RM 334.73	58737.5	500-yr	2806.2	883.21	879.52	2.87	1.35	47.92	16.65	192.81	2241.55	3.15	1.09	3.83	3.83
Yellowstone County	B7	RM 334.63	58573.32	500-yr	2806.2	883.12	878.31	2.27	1.21	26.86	11.19	187.59	2481.38	3.21	1.34	4.81	4.81
Yellowstone County	B7	RM 334.54	58424.99	500-yr	2806.2	883.1	877.09	1.21	1.06	14.46	6.7	154.81	2556.2	3.44	1.59	6.01	6.01
Yellowstone County	B7	RM 334.22	57821.07	500-yr	2806.2	882.81	875.76	2.07	1.21	19.51	8.46	197.99	2148.44	4.41	1.91	7.05	7.05
Yellowstone County	B7	RM 334.09	57621.62	500-yr	2806.2	882.62	875.55	2.73	1.58	57.52	19.88	119.41	2180.06	4.3	1.48	7.07	7.07
Yellowstone County	B7	RM 333.98	57440.64	500-yr	2806.2	882.42	875.46	2.71	1.6	36.03	10.72	140.01	1792.87	5.08	1.51	6.96	6.96
Yellowstone County	B7	RM 333.83	57207.78	500-yr	2806.2	882.23	875.4	2.65	1.82	49.69	16.46	163.57	1838.94	4.22	1.38	6.83	6.83
Yellowstone County	B7	RM 333.69	56989.22	500-yr	2806.2	881.96	873.45	2.18	1.8	47.68	20.46	337.33	1669.2	3.57	1.53	8.51	8.51
Yellowstone County	B7	RM 333.54	56738.21	500-yr	2806.2	881.82	874.22	1.49	1.25	24.65	12.65	409.8	1977.19	4	2.05	7.6	7.6
Yellowstone County	B7	RM 333.42	56552.03	500-yr	2806.2	881.63	873.42	1.7	1.57	35.43	25.72	426.38	1935.52	3.42	2.47	8.21	8.21
Yellowstone County	B7	RM 333.30	56351.75	500-yr	2806.2	881.27	875.65	1.97	1.87	62.62	47.34	449.89	1265.34	2.92	2.21	5.62	5.62
Yellowstone County	B7	RM 333.19	56177.76	500-yr	2806.2	880.79	875.72	2.36	2.23	58.86	47.23	399.11	680.96	2.79	2.23	5.07	5.07
Yellowstone County	B7	RM 333.09	56027.56	500-yr	2806.2	880.61	875.59	2.15	1.86	25.81	19.53	429.38	1392.88	2.87	2.17	5.02	5.02
Yellowstone County	B7	RM 332.99	55855.76	500-yr	2806.2	880.39	873.86	2.18	1.8	58.67	39.95	385.11	2343.45	2.89	1.96	6.53	6.53
Yellowstone County	B7	RM 332.88	55687.68	500-yr	2806.2	880.24	874.43	1.84	1.56	21.9	14.24	409.1	1907.2	3.06	1.99	5.81	5.81
Yellowstone County	B7	RM 332.77	55504.73	500-yr	2806.2	880.17	875.49	1.62	1.27	14.41	8.79	376.01	2176.36	3.59	2.18	4.68	4.68
Yellowstone County	B7	RM 332.66	55333.33	500-yr	2806.2	880.07	874.96	1.75	1.28	21.09	11.08	334.72	2109.26	3.59	1.88	5.11	5.11
Yellowstone County	B7	RM 332.56	55182.74	500-yr	2806.2	879.95	874.54	1.87	1.27	23.03	9.91	312.18	2237.42	3.9	1.67	5.41	5.41
Yellowstone County	B7	RM 332.47	55059.84	500-yr	2806.2	879.91	873.95	1.71	1.17	20.57	8.64	281.38	2288.29	4.16	1.74	5.96	5.96
Yellowstone County	B7	RM 332.38	54913.1	500-yr	2806.2	879.57	873.16	2.88	1.69	54.94	14.46	159.71	2125.31	4.7	1.22	6.41	6.41
Yellowstone County	B7	RM 332.33	54822.67	500-yr	2806.2	879.55	872.5	2.34	1.46	55.75	17.47	188.76	2209.28	4.24	1.32	7.05	7.05
Yellowstone County	B7	RM 332.21	54626.48	500-yr	2806.2	879.37	873.4	2.45	1.3	33.21	8.41	173.61	2473.26	4.65	1.17	5.97	5.97
Yellowstone County	B7	RM 332.17	54575.38	500-yr	2806.2	879.31	872.76	2.44	1.23	32.08	8.08	145.13	2551.42	5.04	1.24	6.55	6.55
Yellowstone County	B7	RM 332.08	54422.01	500-yr	2806.2	879.18	873.77	2.45	1.35	38.95	10.19	155.85	2635.54	4.57	1.18	5.41	5.41
Yellowstone County	B7	RM 331.96	54224.76	500-yr	2806.2	879.05	873.18	1.97	1.22	36.39	12.01	205.19	2458.21	4	1.31	5.87	5.87
Yellowstone County	B7	RM 331.85	54057.19	500-yr	2806.2	878.85	873.16	2.04	1.36	53.25	16.84	250.28	2392.87	3.85	1.21	5.69	5.69
Yellowstone County	B7	RM 331.74	53882.8	500-yr	2806.2	878.3	872.62	3.26	1.75	67.42	15.01	150.3	2109.7	4.44	0.98	5.67	5.67
Yellowstone County	B8	RM 331.66	53744.64	500-yr	2806.2	878.19	871.68	2.6	1.6	50.04	12.79	219.63	1730.57	3.99	1.01	6.51	6.51
Yellowstone County	B8	RM 331.55	53575.67	500-yr	2806.2	878	872.61	2.56	1.69	48.16	14.71	204.4	1469.21	3.71	1.13	5.39	5.39
Yellowstone County	B8	RM 331.41	53354.89	500-yr	2806.2	877.77	872.56	2.54	1.58	43.37	14.58	218.29	1472.59	3.61	1.2	5.21	5.21
Yellowstone County	B8	RM 331.32	53209.79	500-yr	2806.2	877.6	871.92	2.23	1.4	34.48	16.49	275.52	1378.11	3.05	1.45	5.68	5.68
Yellowstone County	B8	RM 331.23	53053.99	500-yr	2806.2	877.46	871.53	1.93	1.37	26.39	15.69	376.63	1244.42	2.78	1.64	5.92	5.92
Yellowstone County	B8	RM 331.14	52919.44	500-yr	2806.2	877.36	871.72	1.75	1.36	22.36	12.46	309.55	1156.62	3.22	1.78	5.64	5.64

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	500-yr	2806.2	877.25	871.29	1.93	1.42	26.11	13.41	305.99	1091.45	3.54	1.81	5.96	5.96
Yellowstone County	B8	RM 331.01	52700.37	500-yr	2806.2	877.14	871.8	1.97	1.44	28.36	14.44	299.81	1113.91	3.49	1.77	5.34	5.34
Yellowstone County	B8	RM 330.93	52576.5	500-yr	2806.2	877.03	871.67	2	1.46	29.54	11.92	250.76	1337.02	3.96	1.59	5.36	5.36
Yellowstone County	B8	RM 330.83	52418.21	500-yr	2806.2	876.73	870.75	2.88	1.78	44.43	13.5	141.59	1201.07	4.72	1.41	5.98	5.98
Yellowstone County	B8	RM 330.77	52321.13	500-yr	2806.2	876.67	870.68	2.6	1.61	41.99	16.9	174.99	1605.25	4.07	1.63	5.99	5.99
Yellowstone County	B8	RM 330.68	52174.9	500-yr	2806.2	876.38	870.33	3.17	1.77	51.67	14.61	129.96	1790.24	4.49	1.26	6.05	6.05
Yellowstone County	B8	RM 330.58	52000.46	500-yr	2806.2	876.22	869.72	3.01	1.76	63.59	16	118.1	1700.58	4.76	1.18	6.5	6.5
Yellowstone County	B8	RM 330.48	51852.83	500-yr	2806.2	876.05	868.81	3.04	1.64	60.73	15.12	106.25	1573.82	5.11	1.24	7.24	7.24
Yellowstone County	B8	RM 330.39	51701.57	500-yr	2806.2	875.93	869.32	2.77	1.49	38.42	11.91	134.45	1392.64	4.4	1.36	6.61	6.61
Yellowstone County	B8	RM 330.32	51592.04	500-yr	2806.2	875.78	869.57	2.97	1.61	41.52	12.14	135.54	1326.52	4.52	1.31	6.21	6.21
Yellowstone County	B8	RM 330.25	51473.55	500-yr	2806.2	875.69	868.38	2.79	1.59	40.86	13.39	145.33	1290.83	4.21	1.36	7.31	7.31
Yellowstone County	B8	RM 330.17	51344.77	500-yr	2806.2	875.53	869.9	2.85	1.71	43.51	15.26	152.36	1170.85	4.03	1.4	5.63	5.63
Yellowstone County	B8	RM 330.10	51243.99	500-yr	2806.2	875.28	870.02	3.09	1.91	56.18	19.55	186.59	1184.87	3.58	1.24	5.26	5.26
Yellowstone County	B8	RM 330.05	51150.67	500-yr	2806.2	875.27	869.94	2.25	1.55	30.7	16.03	299.11	1236.83	2.97	1.54	5.33	5.33
Yellowstone County	B8	RM 329.95	50995.78	500-yr	2806.2	875.1	869.67	2.16	1.58	31.81	16.87	399.33	1198.5	2.81	1.49	5.43	5.43
Yellowstone County	B8	RM 329.86	50853.11	500-yr	2806.2	874.97	869.99	1.85	1.44	30.03	18.23	443.98	1201.87	2.68	1.62	4.98	4.98
Yellowstone County	B8	RM 329.75	50682.47	500-yr	2806.2	874.79	869.45	1.48	1.25	34.73	24.41	611.8	1622.16	2.33	1.64	5.34	5.34
Yellowstone County	B8	RM 329.66	50540.7	500-yr	2806.2	874.53	869.45	1.6	1.38	39.21	29.11	667.18	1419.54	1.94	1.43	5.08	5.08
Yellowstone County	B8	RM 329.57	50390.78	500-yr	2806.2	874.28	869.17	1.88	1.47	19.81	14.37	615.68	1359.09	2.01	1.46	5.11	5.11
Yellowstone County	B8	RM 329.49	50267.58	500-yr	2806.2	874.16	869.52	1.9	1.41	20.78	14.89	542.06	1284.3	2.16	1.55	4.64	4.64
Yellowstone County	B8	RM 329.43	50165.22	500-yr	2806.2	874.1	869.82	1.66	1.33	16.11	11.08	543.15	1094.95	2.8	1.92	4.28	4.28
Yellowstone County	B8	RM 329.37	50053.96	500-yr	2806.2	874.05	869.58	1.61	1.24	14.81	9.91	447.42	1153.56	2.95	1.97	4.47	4.47
Yellowstone County	B8	RM 329.31	49969.13	500-yr	2806.2	873.99	869.66	1.69	1.25	20.72	13.89	378.18	1162.21	2.89	1.93	4.33	4.33
Yellowstone County	B8	RM 329.26	49883.05	500-yr	2806.2	873.92	868.74	1.77	1.26	17.68	11.14	376.88	1230.17	2.88	1.81	5.18	5.18
Yellowstone County	B8	RM 329.20	49785.51	500-yr	2806.2	873.82	868.71	1.9	1.35	21.26	12.44	397.53	1410.96	2.72	1.58	5.11	5.11
Yellowstone County	B8	RM 329.15	49699.71	500-yr	3058.22	873.76	868.64	1.75	1.3	25.47	14.62	463.75	1419.78	2.89	1.66	5.12	5.12
Yellowstone County	B8	RM 329.08	49597.49	500-yr	3058.22	873.67	869.34	1.62	1.22	24.42	15.13	472	1405.61	2.88	1.78	4.33	4.33
Yellowstone County	B8	RM 328.96	49388.08	500-yr	3058.22	873.55	868.99	1.77	1.15	21.03	11.56	306.18	1508.47	3.22	1.76	4.56	4.56
Yellowstone County	B8	RM 328.85	49197.37	500-yr	3058.22	873.4	866.79	1.88	1.32	18.75	12.11	473.01	1484.37	2.42	1.56	6.61	6.61
Yellowstone County	B8	RM 328.75	49036.09	500-yr	3058.22	873.37	866.93	1.37	1.02	12.47	9.59	424.64	1457.04	2.68	2.05	6.44	6.44
Yellowstone County	B8	RM 328.68	48920.76	500-yr	3058.22	873.27	867.09	1.76	1.13	19.19	11.07	303.39	1466.41	3.2	1.84	6.18	6.18
Yellowstone County	B8	RM 328.60	48788.86	500-yr	3058.22	873.11	866.36	2.34	1.26	26.63	11.37	196.3	1448.45	4	1.67	6.75	6.75
Yellowstone County	B8	RM 328.52	48664.7	500-yr	3058.22	873.09	867.75	1.97	1.18	20.54	10.98	167.5	1420.93	3.69	1.95	5.34	5.34
Yellowstone County	B8	RM 328.44	48539.46	500-yr	3058.22	872.97	867.34	2.36	1.29	35	13.75	137.97	1288.31	4.79	1.84	5.63	5.63
Yellowstone County	B8	RM 328.36	48405.85	500-yr	3058.22	872.71	867.12	3.04	1.58	43.03	17.57	131.97	1069.21	4.52	1.81	5.59	5.59
Yellowstone County	B8	RM 328.28	48276.93	500-yr	3058.22	872.61	867.73	2.58	1.81	52.6	20.74	191.8	1060.63	4.06	1.6	5.5	5.5
Yellowstone County	B8	RM 328.16	48097.58	500-yr	3058.22	872.42	866.7	2.33	1.73	44.89	20.97	224.09	1080.92	3.52	1.64	5.72	5.72
Yellowstone County	B8	RM 328.05	47914.16	500-yr	3058.22	872.25	866.62	2.13	1.58	33.34	16.11	264.18	1137.46	3.52	1.7	5.63	5.63
Yellowstone County	B8	RM 327.93	47729.4	500-yr	3058.22	872.02	865.67	2.39	1.67	29.03	15.05	305.74	1071.59	3.29	1.71	6.35	6.35
Yellowstone County	B8	RM 327.88	47641.03	500-yr	3058.22	871.91	866	2.58	1.63	38.4	17.6	246.29	1162.2	3.53	1.62	5.91	5.91
Yellowstone County	B8	RM 327.81	47525.32	500-yr	3058.22	871.83	866.29	2.45	1.58	15.2	13.14	474.68	1191.36	1.88	1.62	5.54	5.54
Yellowstone County	B8	RM 327.75	47432.57	500-yr	3058.22	871.47	865.09	3.54	1.92	54.73	19.1	134.59	1023.65	4.78	1.66	6.38	6.38
Yellowstone County	B8	RM 327.69	47341.24	500-yr	3058.22	871.17	864.48	4.25	2.24	75.32	24.79	108.28	1023.53	4.55	1.48	6.69	6.69
Yellowstone County	B8	RM 327.62	47227.31	500-yr	3058.22	871.14	863.86	3.56	2.26	60.04	27.63	129.67	1005.05	4.32	1.97	7.28	7.28
Yellowstone County	B8	RM 327.56	47124.87	500-yr	3058.22	871.15	864.46	2.91	1.94	40.51	20.44	158.59	902.03	3.91	1.97	6.69	6.69
Yellowstone County	B8	RM 327.51	47053.82	500-yr	3058.22	871.16	865.84	2.22	1.67	26.76	19.73	311.44	892.99	2.78	2.05	5.31	5.31
Yellowstone County	B8	RM 327.44	46933.28	500-yr	3058.22	871.15	866.93	1.41	1.37	13.1	11.77	391.99	884.61	2.82	2.53	4.53	4.53
Yellowstone County	B8	RM 327.37	46817.72	500-yr	3058.22	871.02	866.26	1.98	1.53	25.52	17.24	342.21	960.08	3.08	2.08	4.76	4.76
Yellowstone County	B8	RM 327.29	46687.12	500-yr	3058.22	870.95	866.04	1.95	1.41	22.27	14.2	304.88	1049.94	3.24	2.06	4.91	4.91
Yellowstone County	B8	RM 327.23	46600.07	500-yr	3058.22	870.88	866.25	2.05	1.43	23.8	15.02	287.86	1053.32	3.22	2.03	5.03	5.03
Yellowstone County	B8	RM 327.16	46485.25	500-yr	3058.22	870.75	865.67	2.23	1.47	31.7	18.79	271.45	1119.51	3.3	1.96	5.08	5.08
Yellowstone County	B8	RM 327.08	46360.36	500-yr	3058.22	870.69	864.94	1.95	1.38	22.32	13.86	266.92	1140.05	3.71	2.31	5.75	5.75
Yellowstone County	B8	RM 327.00	46240.1	500-yr	3058.22	870.55	864.56	2.21	1.65	35.48	17.65	227.91	1013.43	4.43	2.21	5.99	5.99
Yellowstone County	B8	RM 326.94	46091.8	500-yr	3058.22	870.45	864.04	2.25	1.55	23.76	11.39	223.67	926.58	4.43	2.13	6.41	6.41
Yellowstone County	B8	RM 326.88	46003.77	500-yr	3058.22	870.36	864.08	2.5	1.72	39.14	19.41	170.66	918.05	4.22	2.09	6.28	6.28
Yellowstone County	B8	RM 326.82	45901.15	500-yr	3058.22	870.29	864.18	2.39	1.71	33.91	21.4	201.73	997.52	3.41	2.16	6.11	6.11
Yellowstone County	B8	RM 326.78	45830.7	500-yr	3058.22	870.23	864.46	2.46	1.72	30.39	19.51	163.64	1016.67	3.61	2.32	5.77	5.77
Yellowstone County	B8	RM 326.70	45707.6	500-yr	3058.22	870.17	864.66	2.14	1.62	22.24	17.59	264.73	1078.42	3.13	2.47	5.51	5.51
Yellowstone County	B8	RM 326.64	45589.72	500-yr	3058.22	870.08	864.92	1.78	1.65	49.68	41.6	431.17	1115.22	2.73	2.29	5.16	5.16
Yellowstone County	B8	RM 326.55	45430.24	500-yr	3058.22	869.85	864.83	2.2	1.79	26.28	18.6	350.63	1017.24	3.28	2.32	5.02	5.02
Yellowstone County	B8	RM 326.45	45281.78	500-yr	3058.22	869.74	864.12	2.22	1.84	28.34	20.49	340.76	962.13	3.29	2.38	5.62	5.62

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	500-yr	3058.22	869.73	864.32	1.82	1.57	18.36	13.63	432.08	1249.32	3.21	2.38	5.41	5.41
Yellowstone County	B8	RM 326.35	45106.57	500-yr	3058.22	869.69	864.43	1.62	1.32	14.28	10.1	483.02	1345.47	3.51	2.48	5.26	5.26
Yellowstone County	B8	RM 326.28	45022.31	500-yr	3058.22	869.69	864.61	1.42	1.18	10.09	6.95	548.28	1368.63	4.14	2.85	5.08	5.08
Yellowstone County	B8	RM 326.07	44588.61	500-yr	3058.22	869.47	862.39	1.75	1.53	15.76	12.61	711.65	1606.99	2.25	1.8	7.08	7.08
Yellowstone County	B8	RM 326.00	44481.07	500-yr	3058.22	869.4	861.24	1.68	1.48	14.57	11.85	749.88	1593.14	2.24	1.82	8.16	8.16
Yellowstone County	B8	RM 325.94	44379.11	500-yr	3058.22	869.34	861.85	1.36	1.28	30.43	25.73	828.83	1574.96	2.38	2	7.49	7.49
Yellowstone County	B8	RM 325.89	44304.17	500-yr	3058.22	869.25	863	1.29	1.22	28.04	24.19	845.62	1346.64	2.46	2.12	6.25	6.25
Yellowstone County	B8	RM 325.86	44262.16	500-yr	3058.22	869.21	863.76	1.39	1.23	10.94	9.4	823.87	1143.36	2.53	2.17	5.45	5.45
Yellowstone County	B8	RM 325.81	44176.46	500-yr	3058.22	869.17	863.1	1.35	1.2	10.97	9.76	846.47	1175.44	2.45	2.18	6.07	6.07
Yellowstone County	B8	RM 325.76	44089.5	500-yr	3058.22	869.13	862.66	1.22	1.11	23.94	20.27	851.45	1304.91	2.58	2.18	6.47	6.47
Yellowstone County	B8	RM 325.69	43989.97	500-yr	3058.22	869.05	862.55	1.38	1.06	10.51	7.29	625.32	1419.24	3.07	2.12	6.5	6.5
Yellowstone County	B8	RM 325.58	43809.68	500-yr	3058.22	868.97	862.61	1.35	1.06	26.63	16.83	476.8	1285.34	3.58	2.25	6.36	6.36
Yellowstone County	B8	RM 325.50	43680.96	500-yr	3058.22	868.83	862.6	1.54	1.2	31.77	18.37	434.18	1248.5	3.57	2.04	6.23	6.23
Yellowstone County	B8	RM 325.43	43556.76	500-yr	3058.22	868.72	860.89	1.55	1.22	34.25	19.4	387.24	1167.45	3.81	2.15	7.83	7.83
Yellowstone County	B8	RM 325.37	43461.41	500-yr	3058.22	868.65	861.36	1.45	1.18	29.36	16.41	345.34	1150.6	4.04	2.25	7.29	7.29
Yellowstone County	B8	RM 325.30	43343.13	500-yr	3058.22	868.53	861.56	1.79	1.29	27.67	13.54	267.31	1104.94	4.4	2.14	6.97	6.97
Yellowstone County	B8	RM 325.21	43210.67	500-yr	3058.22	868.37	861.34	2.25	1.5	30.96	12.64	205.01	1024.72	4.93	1.99	7.03	7.03
Yellowstone County	B8	RM 325.13	43078.9	500-yr	3058.22	868.21	861.36	2.62	1.64	43.5	15.82	149.6	926.23	5.6	2.01	6.85	6.85
Yellowstone County	B8	RM 325.06	42966.54	500-yr	3058.22	867.84	860.78	3.53	2.12	76.86	24.73	123.43	846.89	5.35	1.7	7.06	7.06
Yellowstone County	B8	RM 324.99	42864.51	500-yr	3058.22	867.77	861.24	3.11	1.88	63.77	24.42	135.77	851.84	5.04	1.91	6.52	6.52
Yellowstone County	B8	RM 324.91	42729.7	500-yr	3058.22	867.54	860.76	3.23	1.95	70.99	26.04	133.63	824.07	5.23	1.9	6.78	6.78
Yellowstone County	B8	RM 324.81	42573.19	500-yr	3058.22	867.26	860.39	3.33	2.17	78.39	28.46	140.39	765.03	5.09	1.84	6.87	6.87
Yellowstone County	B8	RM 324.73	42451.12	500-yr	3058.22	867.15	861.59	2.98	2.06	56.37	25.02	179.41	754.47	4.45	1.97	5.56	5.56
Yellowstone County	B8	RM 324.65	42323.44	500-yr	3058.22	867.1	861.99	2.17	1.78	48.92	32.42	300.92	721.31	3.6	2.38	5.11	5.11
Yellowstone County	B8	RM 324.56	42178.25	500-yr	3058.22	866.94	861.76	2.15	1.72	23.35	19	404.18	787.25	2.78	2.26	5.18	5.18
Yellowstone County	B8	RM 324.48	42039.74	500-yr	3058.22	866.8	861.58	1.9	1.62	49.47	37.7	477.36	892.07	2.77	2.11	5.22	5.22
Yellowstone County	B8	RM 324.42	41946.09	500-yr	3058.22	866.69	861.04	1.67	1.4	35.37	25.1	478.13	951.58	3.24	2.3	5.65	5.65
Yellowstone County	B8	RM 324.34	41812.99	500-yr	3058.22	866.48	861.07	1.93	1.48	52.99	33.82	378.78	1023.64	3.17	2.02	5.41	5.41
Yellowstone County	B8	RM 324.28	41712.42	500-yr	3058.22	866.33	859.64	1.85	1.48	49.97	31.47	364.85	1073.3	3.07	1.93	6.69	6.69
Yellowstone County	B8	RM 324.20	41597.64	500-yr	3058.22	866.25	860.59	1.22	1.14	20.8	16.22	675.53	1112.24	3.1	2.41	5.66	5.66
Yellowstone County	B8	RM 324.16	41526.97	500-yr	3058.22	866.15	861.07	1.59	1.42	15.49	12.18	664.79	1212.28	2.61	2.05	5.08	5.08
Yellowstone County	B8	RM 324.10	41434.55	500-yr	3058.22	866.1	860.81	1.4	1.3	25.48	19.55	691.48	1302.68	2.86	2.19	5.29	5.29
Yellowstone County	B8	RM 324.04	41346.42	500-yr	3058.22	866.04	860.39	1.29	1.19	17.41	12.92	637.89	1322.02	3.04	2.25	5.65	5.65
Yellowstone County	B8	RM 323.97	41219.29	500-yr	3058.22	865.98	860.64	1.21	1.13	15.21	10.84	573.41	1208.68	3.15	2.23	5.34	5.34
Yellowstone County	B8	RM 323.83	40977.08	500-yr	3058.22	865.86	860.31	1.4	1.06	13.4	8.01	454.24	1323.28	3.67	2.19	5.55	5.55
Yellowstone County	B8	RM 323.71	40786.71	500-yr	3058.22	865.67	858.49	2.2	1.32	28.61	12.03	221.5	1261.13	4.4	1.84	7.18	7.18
Yellowstone County	B8	RM 323.60	40615.85	500-yr	3058.22	865.66	858.06	1.78	1.18	18.9	7.93	122.4	1185.27	5.29	2.19	7.6	7.6
Yellowstone County	B8	RM 323.55	40536.83	500-yr	3058.22	865.28	857.58	3.42	1.72	72.38	23.25	115.47	1163.98	4.8	1.52	7.7	7.7
Yellowstone County	B8	RM 323.49	40429.96	500-yr	3058.22	865.07	858.37	3.49	1.76	70.17	22.29	119.27	1133.52	4.87	1.54	6.7	6.7
Yellowstone County	B8	RM 323.41	40309.21	500-yr	3058.22	864.95	859.41	3.13	1.75	69.29	25.23	135.74	1086.43	4.44	1.61	5.54	5.54
Yellowstone County	B8	RM 323.33	40186.15	500-yr	3058.22	864.86	859.58	2.63	1.56	37.29	17.4	175.88	1025.78	4.12	1.91	5.28	5.28
Yellowstone County	B8	RM 323.27	40082.34	500-yr	3058.22	864.73	859.66	2.7	1.6	44.38	21.41	188.89	1000.01	3.98	1.91	5.07	5.07
Yellowstone County	B8	RM 323.21	39985.33	500-yr	3058.22	864.62	859.54	2.65	1.59	44.38	23.74	211.17	989.5	3.64	1.94	5.08	5.08
Yellowstone County	B8	RM 323.16	39899.29	500-yr	3058.22	864.58	859.55	2	1.4	37.57	23.82	276.01	1021.75	3.36	2.13	5.03	5.03
Yellowstone County	B8	RM 323.06	39735.77	500-yr	3058.22	864.34	858.56	1.83	1.49	40.47	23.07	311.52	1408.11	3.08	1.75	5.78	5.78
Yellowstone County	B8	RM 322.93	39531.81	500-yr	3058.22	864.14	859.35	1.75	1.31	28.16	16.13	322.23	1540.72	3.37	1.92	4.79	4.79
Yellowstone County	B8	RM 322.79	39301.41	500-yr	3058.22	863.91	858.62	2.15	1.34	29.29	14.34	220.82	1572.66	3.94	1.93	5.29	5.29
Yellowstone County	B8	RM 322.69	39142.64	500-yr	3058.22	863.77	857.47	2.38	1.47	27.2	13.73	200.75	1451.28	4.07	2.05	6.3	6.3
Yellowstone County	B8	RM 322.58	38982.22	500-yr	3058.22	863.14	856.56	4.16	2.62	103.15	40.96	116.27	736.44	4.02	1.58	6.58	6.58
Yellowstone County	B9	RM 322.51	38859.49	500-yr	3058.22	863.05	858.28	3.26	2.23	65.07	29.96	163.65	781.68	3.82	1.75	4.77	4.77
Yellowstone County	B9	RM 322.41	38696.02	500-yr	3058.22	862.97	857.62	1.89	1.75	41.94	28.94	457.64	971.16	2.71	1.86	5.36	5.36
Yellowstone County	B9	RM 322.34	38586.33	500-yr	3058.22	862.87	857.65	1.56	1.49	27.11	20.71	590.13	1065.13	2.59	1.97	5.22	5.22
Yellowstone County	B9	RM 322.23	38396.25	500-yr	3058.22	862.72	857.13	1.22	1.22	21.81	18.39	754.54	1142.5	2.62	2.2	5.6	5.6
Yellowstone County	B9	RM 322.13	38239.27	500-yr	3058.22	862.59	857.1	1.1	1.16	23.66	21.52	880.36	1170.8	2.47	2.24	5.49	5.49
Yellowstone County	B9	RM 322.03	38090.48	500-yr	3058.22	862.33	856.15	1.29	1.39	45.26	43.98	970.71	1136.36	1.99	1.93	6.18	6.18
Yellowstone County	B9	RM 321.91	37898.13	500-yr	3058.22	862	856.85	1.79	1.79	16.74	16.73	912.69	913.13	1.87	1.87	5.15	5.15
Yellowstone County	B9	RM 321.82	37758.36	500-yr	3058.22	861.94	856.34	1.58	1.58	10.76	10.5	832.71	855.22	2.32	2.27	5.6	5.6
Yellowstone County	B9	RM 321.70	37567.01	500-yr	3058.22	861.81	855.27	1.46	1.44	31.16	29.31	809.33	882.51	2.56	2.4	6.54	6.54
Yellowstone County	B9	RM 321.60	37414.63	500-yr	3058.22	861.72	854.48	1.25	1.24	15.43	14.38	755.49	831.13	3.2	2.98	7.24	7.24
Yellowstone County	B9	RM 321.48	37188.51	500-yr	3058.22	861.45	855.03	1.82	1.71	36.33	28.65	546.18	770.66	2.96	2.33	6.43	6.43
Yellowstone County	B9	RM 321.38	37016.94	500-yr	3058.22	861.12	854.75	2.2	1.98	45.39	30.05	471.9	841.95	2.78	1.83	6.37	6.37

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	500-yr	3058.22	861.01	855.3	1.85	1.53	23.21	13.36	459.37	1043.43	3.35	1.92	5.71	5.71
Yellowstone County	B9	RM 321.13	36652.19	500-yr	3058.22	860.91	854.69	1.69	1.22	28.12	15.43	274.03	1190.44	4.16	2.25	6.22	6.22
Yellowstone County	B9	RM 321.05	36531.25	500-yr	3058.22	860.79	855.36	2.1	1.29	22.09	8.71	188.88	1268.91	4.79	1.86	5.43	5.43
Yellowstone County	B9	RM 321.00	36446.98	500-yr	3058.22	860.71	855.12	2.42	1.45	38.44	13.79	134.73	1278.85	4.71	1.65	5.59	5.59
Yellowstone County	B9	RM 320.71	36404.1*	500-yr	3058.22	860.56	855.12	2.93	1.54	38.81	13.5	140.13	1316.13	4.44	1.51	5.44	5.44
Yellowstone County	B9	RM 320.62	36361.3*	500-yr	3058.22	860.52	855.12	2.94	1.53	39.11	13.9	143.76	1527.83	4.31	1.5	5.4	5.4
Yellowstone County	B9	RM 320.92	36318.56	500-yr	3058.22	860.51	855.12	2.72	1.6	54.74	18.68	134.56	1661.19	4.49	1.5	5.39	5.39
Yellowstone County	B9	RM 320.44	36258.3*	500-yr	3058.22	860.35	855.19	3.02	1.62	40.46	13.83	154.55	1668.7	4.15	1.39	5.16	5.16
Yellowstone County	B9	RM 320.38	36198.1*	500-yr	3058.22	860.31	855.26	2.86	1.5	36.91	12.57	161.33	1700.58	4.25	1.42	5.05	5.05
Yellowstone County	B9	RM 320.80	36137.92	500-yr	3058.22	860.33	855.33	2.4	1.37	39.57	13.42	157.17	1742.07	4.5	1.5	5	5
Yellowstone County	B9	RM 320.71	35990.21	500-yr	3058.22	860.28	854.38	1.66	1.18	22.88	9.51	275.47	1735.53	4.33	1.77	5.9	5.9
Yellowstone County	B9	RM 320.54	35839.45	500-yr	3058.22	860.16	853.99	1.83	1.22	23.31	10.99	324.02	1752.54	3.75	1.75	6.17	6.17
Yellowstone County	B9	RM 320.44	35717.45	500-yr	3058.22	860.11	854.32	1.72	1.15	17.02	8.95	334.82	1797.47	3.61	1.87	5.78	5.78
Yellowstone County	B9	RM 320.62	35556.9	500-yr	3058.22	860.02	854.17	1.69	1.22	27.97	14.79	265.5	1666.4	3.81	1.99	5.85	5.85
Yellowstone County	B9	RM 320.38	35461.42	500-yr	3058.22	859.86	854.17	2.28	1.37	29.31	12.24	196.57	1603.37	4.61	1.89	5.69	5.69
Yellowstone County	B9	RM 320.32	35359.13	500-yr	3058.22	859.69	854.57	2.85	1.7	51.96	18.4	140.58	1544.77	4.82	1.66	5.12	5.12
Yellowstone County	B9	RM 320.25	35241.01	500-yr	3058.22	859.3	854.29	3.78	2.12	87.82	28.34	110.85	1556.02	4.59	1.44	5.01	5.01
Yellowstone County	B9	RM 320.20	35163.52	500-yr	3058.22	859.19	854.2	3.39	2.15	88.55	34.21	134.69	1492.25	4.06	1.53	4.99	4.99
Yellowstone County	B9	RM 320.14	35071.29	500-yr	3058.22	858.9	854.32	3.5	2.31	80.99	34.89	161.26	1430.52	3.72	1.58	4.58	4.58
Yellowstone County	B9	RM 320.01	34865.89	500-yr	3058.22	858.5	854.42	3.19	2.41	51.46	25.82	122.19	1418.23	3.08	1.53	4.15	4.15
Yellowstone County	B9	RM 319.91	34707.77	500-yr	3058.22	858.42	854.66	2.06	2.01	27.49	18.32	143.74	935.21	3.14	2.07	4.84	4.84
Yellowstone County	B9	RM 319.86	34625.68	500-yr	3058.22	858.41	854.6	1.77	1.77	25.72	17.37	153.74	1050.13	3.06	2.05	4.85	4.85
Yellowstone County	B9	RM 319.78	34508.06	500-yr	3058.22	858.3	854.51	2.54	1.84	42.84	20.56	111.07	1164.11	3.5	1.65	4.78	4.78
Yellowstone County	B9	RM 319.73	34426.63	500-yr	3058.22	858.05	854.69	3.32	1.7	56.81	33.96	156.77	989.4	3.06	1.82	4.58	4.58
Yellowstone County	B9	RM 319.66	34314.84	500-yr	3058.22	858.03	854.51	2.27	1.66	25.76	16.79	158.66	943.09	3.01	1.95	4.6	4.6
Yellowstone County	B9	RM 319.57	34163.05	500-yr	3058.22	857.87	853.93	2.34	1.87	26.28	18.7	198.21	750.39	3.07	2.18	4.53	4.53
Yellowstone County	B9	RM 319.44	33955.96	500-yr	3058.22	857.78	853.14	2.15	1.8	29.01	17.64	153.57	839.58	3.37	2.02	4.65	4.65
Yellowstone County	B9	RM 319.39	33872.4	500-yr	3058.22	857.73	852.65	2.27	1.71	25.36	15.51	137.96	884.39	3.52	2.11	5.09	5.09
Yellowstone County	B9	RM 319.34	33786.83	500-yr	3058.22	857.69	852.83	2.17	1.6	22.34	14.19	178.14	863.76	3.51	2.21	4.86	4.86
Yellowstone County	B9	RM 319.22	33580.15	500-yr	3058.22	857.65	851.79	2.21	1.4	21.08	11.23	80.63	896.15	4.72	2.43	5.86	5.86
Yellowstone County	B9	RM 319.17	33497.33	500-yr	3058.22	857.64	851.64	1.74	1.34	15.6	9.65	121.71	1049.95	3.93	2.37	6	6
Yellowstone County	B9	RM 319.09	33368.53	500-yr	3058.22	857.37	851.25	2.84	1.96	54.06	22.87	136.31	879.61	4.3	1.77	6.13	6.13
Yellowstone County	B9	RM 319.04	33287.21	500-yr	3058.22	857.15	851.49	3.37	2.04	71.02	24.73	113.42	952.93	4.68	1.58	5.67	5.67
Yellowstone County	B9	RM 318.96	33153.16	500-yr	3058.22	857.01	851.64	2.94	1.93	62.15	24.07	157.78	965.82	4.31	1.64	5.37	5.37
Yellowstone County	B9	RM 318.91	33065.54	500-yr	3058.22	856.94	851.86	2.56	1.85	58.03	24.88	189.76	970.09	4.01	1.7	5.08	5.08
Yellowstone County	B9	RM 318.82	32939.33	500-yr	3058.22	856.63	851.86	3.17	2.05	46.76	18.11	160.72	920.46	4.24	1.62	4.78	4.78
Yellowstone County	B9	RM 318.74	32833.24	500-yr	3058.22	856.61	851.86	2.5	1.88	39.79	20.07	185.42	983.3	4.16	2.07	4.76	4.76
Yellowstone County	B9	RM 318.62	32649.76	500-yr	3058.22	856.48	850.67	1.93	1.67	34.39	21.11	316.37	895.48	3.36	2.05	5.82	5.82
Yellowstone County	B9	RM 318.42	32315.28	500-yr	3058.22	856.09	850.15	2.28	1.81	28.39	12.1	347.98	1156.83	3.55	1.5	5.94	5.94
Yellowstone County	B9	RM 318.17	31866.42	500-yr	3058.22	855.75	849.17	2.42	1.43	36.05	12.28	211.8	1490.99	4.6	1.54	6.58	6.58
Yellowstone County	B9	RM 317.97	31551.39	500-yr	3058.22	855.38	848.35	2.75	1.88	33.21	12.32	238.16	1326.01	4.2	1.54	7.03	7.03
Yellowstone County	B10	RM 317.87	31388.76	500-yr	3058.22	855.22	848.78	3.03	1.8	46.88	15.4	164.26	1282.62	4.64	1.49	6.44	6.44
Yellowstone County	B10	RM 317.78	31248.07	500-yr	3058.22	855.22	848.75	2.44	1.42	29.57	9.03	143.48	1639.6	5.34	1.6	6.47	6.47
Yellowstone County	B10	RM 317.70	31120.75	500-yr	3058.22	855.22	848.56	1.92	1.41	19.36	10.04	173.11	1804.58	4.7	2.39	6.65	6.65
Yellowstone County	B10	RM 317.61	30982.56	500-yr	3058.22	855.16	848.29	1.95	1.25	18.1	8.25	195.11	1807.68	4.5	2.01	6.88	6.88
Yellowstone County	B10	RM 317.53	30849.94	500-yr	3058.22	855.12	848.5	1.67	1.24	15	8.45	345.3	1801.53	3.95	2.21	6.62	6.62
Yellowstone County	B10	RM 317.45	30723.4	500-yr	3058.22	855.07	848.47	1.7	1.28	16.99	10.96	370.19	1813.75	3.52	2.25	6.59	6.59
Yellowstone County	B10	RM 317.37	30601.88	500-yr	3058.22	855.03	848.17	1.5	1.21	16.97	12.03	371.7	1810.5	3.5	2.46	6.86	6.86
Yellowstone County	B10	RM 317.30	30483.81	500-yr	3058.22	854.94	848.41	1.76	1.27	15.64	9.48	274.1	1685.19	4.21	2.51	6.53	6.53
Yellowstone County	B10	RM 317.19	30302.33	500-yr	3058.22	854.86	848.84	2.02	1.29	19.66	9.7	162.48	1633.01	5.51	2.66	6.02	6.02
Yellowstone County	B10	RM 317.05	30079.26	500-yr	3058.22	854.54	848.38	2.8	1.84	34.34	9.73	159.02	1067.6	5.59	1.55	6.16	6.16
Yellowstone County	B10	RM 316.93	29889.26	500-yr	3058.22	854.28	847.25	3.14	2.04	53.77	18.36	150.51	821.19	5.48	1.82	7.03	7.03
Yellowstone County	B10	RM 316.79	29668.4	500-yr	3058.22	854.05	847.89	3.15	2.18	55.22	21.41	146.89	650.5	5.68	2.16	6.16	6.16
Yellowstone County	B10	RM 316.66	29466.39	500-yr	3058.22	853.76	847.86	3.24	2.43	54.77	25.7	163.35	509.46	5.34	2.47	5.9	5.9
Yellowstone County	B10	RM 316.58	29329.04	500-yr	3058.22	853.65	847.74	3.04	2.11	64.63	33.53	174.67	686.88	4.98	2.55	5.91	5.91
Yellowstone County	B10	RM 316.51	29227.18	500-yr	3058.22	853.49	847.41	3.12	2.08	59.08	29.83	183.91	748.29	4.55	2.27	6.08	6.08
Yellowstone County	B10	RM 316.43	29091.4	500-yr	3058.22	853.38	847.41	2.66	1.84	55.82	31.48	240.45	1145.39	3.88	2.16	5.97	5.97
Yellowstone County	B10	RM 316.33	28935.99	500-yr	3058.22	853.11	847.74	2.6	1.95	61.5	39.17	286.77	823.44	3.45	2.19	5.37	5.37
Yellowstone County	B10	RM 316.24	28786.65	500-yr	3058.22	852.92	847.5	2.12	1.78	50.85	31.17	356.21	848.33	3.31	2.02	5.43	5.43
Yellowstone County	B10	RM 316.14	28628.02	500-yr	3058.22	852.7	846.92	2.15	1.68	39.92	23.89	330.46	806.68	3.79	2.25	5.78	5.78
Yellowstone County	B10	RM 316.05	28475.44	500-yr	3058.22	852.43	846.73	2.46	1.88	52.92	28.08	295.19	824.74	3.73	1.97	5.69	5.69

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	500-yr	3058.22	852.28	846.43	2.49	1.94	29.44	18.69	303.88	689.86	3.61	2.29	5.85	5.85
Yellowstone County	B10	RM 315.84	28140.65	500-yr	3058.22	851.94	846.58	2.95	2.15	72.91	33.06	181.61	786.19	4.04	1.81	5.36	5.36
Yellowstone County	B10	RM 315.71	27926.69	500-yr	3058.22	851.65	846.34	2.91	1.89	37.36	17.76	208.55	1029.52	3.67	1.73	5.32	5.32
Yellowstone County	B10	RM 315.58	27720.72	500-yr	3058.22	851.63	846.16	1.96	1.49	30.91	15.89	155.88	1137.06	4.14	2.08	5.47	5.47
Yellowstone County	B10	RM 315.44	27505.06	500-yr	3058.22	851.37	846.09	2.57	1.46	36.21	13.31	152.39	1324.17	4.79	1.73	5.28	5.28
Yellowstone County	B10	RM 315.30	27283.58	500-yr	3058.22	851.31	844.45	1.66	1.1	18.06	10.16	317.48	1485.22	3.38	1.88	6.86	6.86
Yellowstone County	B10	RM 315.18	27097.16	500-yr	3058.22	851.27	844.72	1.35	1.01	9.75	6.6	454.19	1586.76	2.95	1.98	6.54	6.54
Yellowstone County	B10	RM 315.01	26818.99	500-yr	3058.22	851.14	844.66	1.59	1.14	18.46	10.57	477.22	1617.8	3.09	1.76	6.47	6.47
Yellowstone County	B10	RM 314.85	26559.67	500-yr	3058.22	850.87	844.84	2.44	1.35	38.18	11.93	167.67	1554.05	4.99	1.51	6.03	6.03
Yellowstone County	B10	RM 314.69	26324.37	500-yr	3058.22	850.63	844.24	2.7	1.49	42.52	12.96	174.06	1490.71	4.76	1.41	6.4	6.4
Yellowstone County	B10	RM 314.57	26132.54	500-yr	3058.22	850.37	844.63	3.04	1.63	55.78	14.87	147.42	1387.88	5.16	1.35	5.74	5.74
Yellowstone County	B10	RM 314.46	25963.96	500-yr	3058.22	850.29	844.48	2.48	1.48	40.82	13.88	201.8	1352.96	4.57	1.53	5.81	5.81
Yellowstone County	B10	RM 314.35	25782.69	500-yr	3058.22	850.09	844.51	2.36	1.73	55.94	20.38	269.19	1227.97	3.99	1.44	5.58	5.58
Yellowstone County	B10	RM 314.24	25607.48	500-yr	3058.22	849.9	844.14	2.43	1.75	24.48	9.95	289.52	1148.45	3.83	1.53	5.75	5.75
Yellowstone County	B10	RM 314.15	25461.23	500-yr	3058.22	849.79	844.05	2.24	1.8	54.1	24.99	306.39	1003.01	3.72	1.7	5.73	5.73
Yellowstone County	B10	RM 314.06	25326.45	500-yr	3058.22	849.74	843.63	1.73	1.37	14.91	8.85	455.22	1095.87	3.57	2.1	6.11	6.11
Yellowstone County	B10	RM 313.98	25189.4	500-yr	3058.22	849.69	843.05	1.45	1.21	22.66	16.1	559.69	1105.96	3.24	2.29	6.65	6.65
Yellowstone County	B10	RM 313.83	24942.42	500-yr	3058.22	849.54	843.2	1.51	1.27	16.46	8.43	476.74	1220.54	3.9	1.98	6.35	6.35
Yellowstone County	B10	RM 313.72	24768.08	500-yr	3058.22	849.45	842.35	1.72	1.24	17.01	8.33	330.48	1141.64	4.45	2.15	7.1	7.1
Yellowstone County	B10	RM 313.66	24671.51	500-yr	3058.22	849.37	843.14	1.93	1.32	19.3	9.35	286.85	1066.8	4.53	2.17	6.23	6.23
Yellowstone County	B10	RM 313.57	24513.04	500-yr	3058.22	849.3	842.47	1.92	1.36	19.99	10.83	303.74	954.78	4.37	2.35	6.83	6.83
Yellowstone County	B10	RM 313.47	24364.02	500-yr	3058.22	849.2	841.55	2.02	1.5	21.66	11.51	283.74	818.93	4.75	2.49	7.65	7.65
Yellowstone County	B10	RM 313.33	24143.26	500-yr	3058.22	848.9	842.65	2.71	1.86	56.85	24.5	187.53	752.49	5.14	2.18	6.25	6.25
Yellowstone County	B10	RM 313.18	23899.74	500-yr	3058.22	848.21	842.19	3.62	2.54	111.48	47.04	166.45	655.17	4.43	1.83	6.01	6.01
Yellowstone County	B10	RM 313.07	23728.15	500-yr	3058.22	847.71	842.62	3.84	2.91	78.74	29.57	164.01	617.38	4.59	1.7	5.09	5.09
Yellowstone County	B10	RM 312.98	23590.93	500-yr	3058.22	847.68	842.5	3.19	2.64	45.63	24.25	201.2	644.93	4.33	2.28	5.18	5.18
Yellowstone County	B10	RM 312.90	23455.11	500-yr	3058.22	847.64	842.38	2.67	2.16	52.62	27.61	204.15	823.95	4.49	2.34	5.26	5.26
Yellowstone County	B10	RM 312.75	23227.05	500-yr	3058.22	847.42	841.71	2.63	1.89	38.76	19.94	224.95	781.37	4.06	2.07	5.71	5.71
Yellowstone County	B10	RM 312.65	23058.61	500-yr	3058.22	847.32	841.61	2.31	1.72	31.78	15.97	273.98	974.59	3.66	1.82	5.71	5.71
Yellowstone County	B10	RM 312.53	22873.59	500-yr	3058.22	847.23	841.37	2.16	1.52	16.73	10.85	314.34	1162.6	3.82	2.46	5.86	5.86
Yellowstone County	B10	RM 312.49	22797.96	500-yr	3058.22	847.13	841.34	2.49	1.65	32.12	15.89	202	1122.26	4.68	2.29	5.79	5.79
Yellowstone County	B10	RM 312.39	22646.67	500-yr	3058.22	847	840.85	2.77	1.79	48.31	24.82	153.42	1137.57	4.36	2.2	6.15	6.15
Yellowstone County	B10	RM 312.33	22536.68	500-yr	3058.22	846.8	840.82	3.13	1.92	56.64	23.92	139.06	842.12	4.58	1.89	5.97	5.97
Yellowstone County	B10	RM 312.22	22360.55	500-yr	3058.22	846.75	840.91	2.52	1.75	40.37	17.62	128.68	818.22	4.99	2.14	5.83	5.83
Yellowstone County	B10	RM 312.13	22230.65	500-yr	3058.22	846.69	840.94	1.96	1.57	25.01	16.55	350.72	861.01	3.92	2.58	5.75	5.75
Yellowstone County	B10	RM 312.04	22082.88	500-yr	3058.22	846.54	840.82	2.13	1.68	30.87	18.44	346.94	943.2	3.66	2.18	5.72	5.72
Yellowstone County	B10	RM 311.95	21934.61	500-yr	3058.22	846.4	840.79	2.18	1.66	30.74	16.99	350.23	1040.25	3.66	2.01	5.61	5.61
Yellowstone County	B10	RM 311.89	21840.24	500-yr	3058.22	846.33	840.76	2.1	1.61	33.93	16.8	325.27	962.56	4	1.97	5.57	5.57
Yellowstone County	B10	RM 311.77	21651.91	500-yr	3058.22	846.16	840.18	2.28	1.62	33.19	12.48	226.3	997.56	5.08	1.89	5.98	5.98
Yellowstone County	B10	RM 311.69	21530.39	500-yr	3058.22	846	839.85	2.74	1.64	45.38	15.6	150.94	1363.1	5.52	1.84	6.15	6.15
Yellowstone County	B10	RM 311.58	21350.77	500-yr	3058.22	845.89	839.63	2.51	1.47	38.7	13.93	171.57	1373.89	4.93	1.74	6.26	6.26
Yellowstone County	B10	RM 311.48	21191.11	500-yr	3058.22	845.8	839.42	2.23	1.39	27.47	11.95	228.87	1304.46	4.31	1.85	6.39	6.39
Yellowstone County	B10	RM 311.37	21010.53	500-yr	3058.22	845.73	839.18	1.85	1.24	21.47	11.52	336.85	1339.51	3.75	2	6.55	6.55
Yellowstone County	B10	RM 311.27	20852.82	500-yr	3058.22	845.64	838.96	1.86	1.22	22.37	11.62	322.76	1264.52	3.86	1.98	6.68	6.68
Yellowstone County	B10	RM 311.19	20716.8	500-yr	3058.22	845.57	838.84	1.94	1.19	22.87	10.39	247.96	1209.38	4.77	2.13	6.73	6.73
Yellowstone County	B10	RM 311.09	20559.11	500-yr	3058.22	845.25	839.14	3.01	1.58	49.33	17.04	144.57	1098.11	5.19	1.76	6.11	6.11
Yellowstone County	B10	RM 310.97	20364.78	500-yr	3058.22	845.12	839.45	2.72	1.59	43.72	18.21	173.49	1055.51	4.98	2.04	5.67	5.67
Yellowstone County	B10	RM 310.87	20211.96	500-yr	3058.22	844.98	839.02	2.69	1.63	41.44	17.27	190.23	1077.74	4.8	1.97	5.96	5.96
Yellowstone County	B10	RM 310.76	20019.23	500-yr	3058.22	844.5	839.18	3.58	2.07	67.78	20.77	144.51	1015.78	4.88	1.45	5.33	5.33
Yellowstone County	B11	RM 310.67	19877.9	500-yr	3058.22	844.46	839.11	2.87	1.72	62.48	22.08	174.84	1109.21	4.59	1.6	5.35	5.35
Yellowstone County	B11	RM 310.57	19727.96	500-yr	3058.22	844.29	839.08	2.68	1.6	57.49	21.05	195.83	1188.31	4.44	1.61	5.21	5.21
Yellowstone County	B11	RM 310.48	19578.86	500-yr	3058.22	844.14	838.96	2.56	1.48	45.1	17.08	210.72	1267.44	4.35	1.63	5.17	5.17
Yellowstone County	B11	RM 310.39	19437.53	500-yr	3058.22	844.07	838.54	2.26	1.36	23.2	10.08	264.94	1292.89	4.03	1.74	5.53	5.53
Yellowstone County	B11	RM 310.31	19317.45	500-yr	3058.22	843.99	838.23	2.17	1.45	21.94	11.03	357.08	1251.65	3.35	1.68	5.76	5.76
Yellowstone County	B11	RM 310.24	19187.47	500-yr	3058.22	843.95	838.23	1.62	1.31	37.28	22.6	461.89	1210.28	3.21	1.93	5.72	5.72
Yellowstone County	B11	RM 310.16	19069.04	500-yr	3058.22	843.82	837.93	1.52	1.33	35.19	22.65	569.64	1176.83	3.04	1.95	5.89	5.89
Yellowstone County	B11	RM 310.09	18955.28	500-yr	3058.22	843.73	837.93	1.6	1.27	13.52	9.51	555.01	1154.21	2.99	2.09	5.8	5.8
Yellowstone County	B11	RM 309.97	18765.62	500-yr	3058.22	843.67	837.59	1.25	1.06	16.78	11.05	601.54	1190.13	3.69	2.42	6.08	6.08
Yellowstone County	B11	RM 309.90	18643.48	500-yr	3058.22	843.59	837.5	1.43	1.2	10.48	8.39	625.74	1244.29	3.15	2.51	6.1	6.1
Yellowstone County	B11	RM 309.82	18525.48	500-yr	3058.22	843.55	837.5	1.27	1.19	24.67	20.6	698.5	1039.38	2.97	2.47	6.05	6.05
Yellowstone County	B11	RM 309.73	18379.74	500-yr	3058.22	843.45	837.35	1.15	1.09	18.92	15.87	803.71	1073.8	3.11	2.6	6.1	6.1

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	500-yr	3058.22	843.4	837.38	1.01	0.96	13.18	10.45	876.43	1188.37	3.37	2.67	6.02	6.02
Yellowstone County	B11	RM 309.52	18029.98	500-yr	3058.22	843.27	836.68	1.18	1.15	18.69	17.7	816.46	1085.37	3.12	2.95	6.59	6.59
Yellowstone County	B11	RM 309.39	17824.11	500-yr	3058.22	843.19	836.74	1.05	1.05	11.75	11.68	768.1	1013.55	3.8	3.78	6.45	6.45
Yellowstone County	B11	RM 309.22	17557.23	500-yr	3058.22	842.99	836.07	1.78	1.54	17.94	12.51	335.52	760.27	4.84	3.35	6.92	6.92
Yellowstone County	B11	RM 309.06	17331.95	500-yr	3058.22	842.71	835.79	2.48	1.86	64.89	33.54	191.59	736.28	5.45	2.76	6.92	6.92
Yellowstone County	B11	RM 308.94	17142.36	500-yr	3058.22	841.87	835.4	4.18	2.91	106.15	44.98	121.56	508.36	5.02	2.07	6.47	6.47
Yellowstone County	B11	RM 308.83	16971.41	500-yr	3058.22	841.85	836.04	3	2.25	61.12	30.73	159.81	525.5	5.21	2.58	5.82	5.82
Yellowstone County	B11	RM 308.71	16778.65	500-yr	3058.22	841.79	835.91	2.37	1.84	25.35	15.19	251.14	624.61	4.47	2.66	5.88	5.88
Yellowstone County	B11	RM 308.62	16631.4	500-yr	3058.22	841.71	835.85	2.08	1.65	54.44	34.82	300.08	748.35	3.9	2.48	5.85	5.85
Yellowstone County	B11	RM 308.55	16518.64	500-yr	3058.22	841.55	835.85	1.97	1.61	48.64	32.02	368.88	847.93	3.41	2.23	5.7	5.7
Yellowstone County	B11	RM 308.43	16328.3	500-yr	3058.22	841.33	834.51	1.7	1.44	40.86	27.89	420.94	929.76	3.38	2.29	6.81	6.81
Yellowstone County	B11	RM 308.35	16192.95	500-yr	3058.22	841.2	834.88	1.64	1.29	26.27	16.54	402.97	1030.44	3.69	2.3	6.32	6.32
Yellowstone County	B11	RM 308.24	16015.46	500-yr	3058.22	841.1	834.63	1.61	1.15	15.93	9.56	363.15	1222.2	4.11	2.45	6.47	6.47
Yellowstone County	B11	RM 308.12	15826.82	500-yr	3058.22	841.04	834.63	1.53	1.14	13.98	8.68	382.83	1164.29	4.22	2.6	6.41	6.41
Yellowstone County	B11	RM 308.02	15675.58	500-yr	3058.22	840.95	834.76	1.75	1.26	14.34	7.68	304.29	1065.17	4.98	2.65	6.2	6.2
Yellowstone County	B11	RM 307.88	15434.86	500-yr	3058.22	840.61	834.45	3.21	1.91	61.2	25.52	113.52	908.11	5.23	2.11	6.16	6.16
Yellowstone County	B11	RM 307.77	15261.75	500-yr	3058.22	840.15	834.45	3.7	2.41	93.24	38.19	128.97	695.61	4.57	1.82	5.7	5.7
Yellowstone County	B11	RM 307.68	15125.28	500-yr	3058.22	839.97	834.85	3.17	2.19	65.58	32.05	159.13	631.49	4.59	2.21	5.12	5.12
Yellowstone County	B11	RM 307.60	14980.1	500-yr	3058.22	839.91	834.36	2.36	1.92	30.46	17.1	274.49	669.17	4.42	2.46	5.55	5.55
Yellowstone County	B11	RM 307.52	14873.7	500-yr	3058.22	839.72	834.12	2.74	2.15	44.15	24.19	254.13	747.6	3.98	2.16	5.6	5.6
Yellowstone County	B11	RM 307.46	14779.11	500-yr	3058.22	839.59	833.6	2.6	2.18	76.05	50.7	313.87	628.94	3.37	2.23	5.99	5.99
Yellowstone County	B11	RM 307.39	14664.34	500-yr	3058.22	839.43	833.63	2.55	2.1	28.02	20.37	365.52	669.15	3.01	2.18	5.8	5.8
Yellowstone County	B11	RM 307.30	14517.89	500-yr	3058.22	839.27	833.81	2.3	2.05	61.29	47.06	407.44	697.6	2.8	2.14	5.46	5.46
Yellowstone County	B11	RM 307.22	14385.45	500-yr	3058.22	839.01	833.87	2.26	2	49.09	37.51	396.39	701.88	2.96	2.25	5.14	5.14
Yellowstone County	B11	RM 307.14	14262.57	500-yr	3058.22	838.87	833.51	2.16	1.82	35.98	23.52	334.95	732.35	3.53	2.3	5.36	5.36
Yellowstone County	B11	RM 307.08	14166.72	500-yr	3058.22	838.81	833.11	2.03	1.68	22.62	14.86	348.63	755.27	3.69	2.41	5.7	5.7
Yellowstone County	B11	RM 307.01	14050.92	500-yr	3058.22	838.72	832.65	2.09	1.73	20.7	14.26	376.22	786.44	3.29	2.25	6.07	6.07
Yellowstone County	B11	RM 306.95	13949.23	500-yr	3058.22	838.61	832.35	2.28	1.75	30.11	20.94	324.62	767.9	3.29	2.27	6.26	6.26
Yellowstone County	B11	RM 306.90	13869.87	500-yr	3058.22	838.49	832.56	2.39	1.82	36.61	24.12	350.3	799.73	3.22	2.1	5.93	5.93
Yellowstone County	B11	RM 306.82	13726.64	500-yr	3058.22	838.37	832.62	2.19	1.7	30.08	19.78	361.85	821.31	3.35	2.19	5.75	5.75
Yellowstone County	B11	RM 306.72	13574.53	500-yr	3058.22	838.23	831.8	2.41	1.65	33.8	18.03	222.2	880.04	4	2.1	6.43	6.43
Yellowstone County	B11	RM 306.62	13414.11	500-yr	3058.22	838.08	832.77	2.5	1.8	46.05	23.27	215.2	871.62	3.89	1.95	5.3	5.3
Yellowstone County	B11	RM 306.52	13251.36	500-yr	3058.22	837.66	832.87	3.36	2.08	60.64	23.13	152.64	900.65	4.35	1.63	4.79	4.79
Yellowstone County	B11	RM 306.42	13099.73	500-yr	3058.22	837.32	832.74	3.75	2.37	72.19	25.19	135.81	927.62	4.09	1.39	4.58	4.58
Yellowstone County	B11	RM 306.34	12958.96	500-yr	3058.22	837.3	832.84	2.6	1.81	41.9	19.32	236.52	1090.07	3.65	1.67	4.46	4.46
Yellowstone County	B11	RM 306.25	12825.95	500-yr	3058.22	837.15	832.35	2.52	1.77	38.96	19.4	312.9	1241.39	3.04	1.5	4.8	4.8
Yellowstone County	B11	RM 306.16	12673.7	500-yr	3058.22	836.96	832.41	2.33	1.72	38.12	20.72	366.13	1221.86	2.7	1.46	4.55	4.55
Yellowstone County	B11	RM 306.11	12592.39	500-yr	3058.22	836.82	832.17	2.43	1.8	49.31	26.84	323.76	1096.81	2.87	1.55	4.66	4.66
Yellowstone County	B11	RM 306.03	12457.47	500-yr	3058.22	836.68	831.25	2.21	1.67	30.64	19.16	370.42	1053.6	2.81	1.74	5.43	5.43
Yellowstone County	B11	RM 305.93	12317.98	500-yr	3058.22	836.5	831.25	2.31	1.79	37.27	21.23	359.22	1118.8	2.71	1.53	5.25	5.25
Yellowstone County	B11	RM 305.84	12159.82	500-yr	3058.22	836.28	831.1	2.47	1.88	39.14	18.34	268.58	1096.6	3.21	1.48	5.18	5.18
Yellowstone County	B11	RM 305.74	11989.73	500-yr	3058.22	836.02	830.64	2.7	1.82	52.02	17.6	199.13	1249.42	4.04	1.34	5.38	5.38
Yellowstone County	B11	RM 305.67	11883.31	500-yr	3058.22	835.87	830.43	2.9	1.75	48.95	15.59	162.93	1331.25	4.21	1.31	5.44	5.44
Yellowstone County	B11	RM 305.60	11764.11	500-yr	3058.22	835.83	830.18	2.21	1.64	26.66	11.25	168.35	1412.52	3.46	1.43	5.65	5.65
Yellowstone County	B11	RM 305.52	11651.48	500-yr	3058.22	835.75	830.18	2.24	1.45	27.28	10.99	151.74	1444.45	3.7	1.46	5.56	5.56
Yellowstone County	B11	RM 305.44	11514.64	500-yr	3058.22	835.68	830.43	1.96	1.25	18.04	8.07	158.15	1703.33	3.84	1.69	5.25	5.25
Yellowstone County	B11	RM 305.40	11441.77	500-yr	3058.22	835.58	830.61	1.99	1.43	17.41	8.24	239	1790.04	3.16	1.48	4.97	4.97
Yellowstone County	B11	RM 305.32	11312.15	500-yr	3058.22	835.54	830.61	1.86	1.22	20.62	9.8	167.71	1720.53	3.63	1.71	4.93	4.93
Yellowstone County	B11	RM 305.24	11186.22	500-yr	3058.22	835.52	830.43	1.24	0.95	10.15	6.18	156.67	1706.12	3.61	2.16	5.1	5.1
Yellowstone County	B11	RM 305.06	10905.09	500-yr	3058.22	835.46	830.15	1.18	0.93	6.96	5.09	302.98	1738.08	3.26	2.37	5.31	5.31
Yellowstone County	B11	RM 304.71	10460.6	500-yr	3058.22	835.35	828.96	1.38	1.2	12.02	9.36	399.23	1413.64	3.44	2.67	6.38	6.38
Yellowstone County	B11	RM 304.62	10332.33	500-yr	3058.22	835.32	829.09	1.35	1.14	10.08	6.56	207.32	1391.48	4.8	3.08	6.23	6.23
Yellowstone County	B11	RM 304.50	10132.63	500-yr	3058.22	835.05	829.09	2.59	2.05	53.78	25.16	123.22	1219.24	5.22	2.37	5.96	5.96
Yellowstone County	B11	RM 304.42	10011.11	500-yr	3058.22	834.96	829.18	2.24	1.84	39.84	19.32	152.73	1167.53	4.95	2.36	5.79	5.79
Yellowstone County	B11	RM 304.34	9873.393	500-yr	3058.22	834.79	828.78	2.35	1.92	27.54	16.16	263.04	1052.72	4.58	2.67	6.01	6.01
Yellowstone County	B11	RM 304.25	9735.197	500-yr	3058.22	834.59	828.39	2.76	2.08	49.46	23.98	200.32	939.59	4.93	2.35	6.2	6.2
Yellowstone County	B11	RM 304.18	9615.178	500-yr	3058.22	834.46	828.54	2.8	2.15	35.6	19.39	216.78	1007.4	4.66	2.51	5.92	5.92
Yellowstone County	B11	RM 304.09	9478.266	500-yr	3058.22	834.26	828.6	3.04	2.31	55.47	26.19	183.25	1072.1	5.03	2.34	5.66	5.66
Yellowstone County	B11	RM 304.00	9326.206	500-yr	3058.22	834.16	828.39	2.74	1.93	48.64	21.29	190.99	1263.05	5.13	2.22	5.78	5.78
Yellowstone County	B11	RM 303.91	9177.479	500-yr	3058.22	834.12	828.14	2.28	1.53	36.85	17.89	215.99	1316.14	4.93	2.37	5.98	5.98
Yellowstone County	B11	RM 303.78	8973.508	500-yr	3058.22	833.86	827.93	2.74	1.68	46.38	16.5	164.42	1156.55	5.25	1.82	5.93	5.93

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	500-yr	3058.22	833.67	827.9	2.71	1.72	53.19	18.35	170.97	1054.8	4.99	1.69	5.77	5.77
Yellowstone County	B11	RM 303.55	8608.195	500-yr	3058.22	833.55	827.65	2.47	1.68	27.9	11.24	248.52	1130.07	4.16	1.65	5.9	5.9
Yellowstone County	B11	RM 303.43	8422.329	500-yr	3058.22	833.5	827.87	1.79	1.42	33.63	15.95	330.36	1217.32	3.75	1.76	5.64	5.64
Yellowstone County	B11	RM 303.34	8276.308	500-yr	3058.22	833.44	826.92	1.67	1.24	14.99	6.81	325.32	1243.65	4.42	1.98	6.51	6.51
Yellowstone County	B11	RM 303.26	8138.725	500-yr	3058.22	833.28	826.98	2.08	1.65	46.19	19.14	305.54	1159.35	3.95	1.62	6.3	6.3
Yellowstone County	B11	RM 303.18	8018.762	500-yr	3058.22	833.13	826.22	2.07	1.72	49.49	24.75	308.83	924.01	3.89	1.92	6.9	6.9
Yellowstone County	B11	RM 303.09	7876.674	500-yr	3058.22	832.96	825.43	1.98	1.67	43.95	23.18	338.06	938.55	3.73	1.95	7.53	7.53
Yellowstone County	B11	RM 302.99	7711.603	500-yr	3058.22	832.82	826.22	1.74	1.49	30.42	19.07	336.71	831.28	3.96	2.47	6.6	6.6
Yellowstone County	B11	RM 302.89	7556.419	500-yr	3058.22	832.61	825.73	2.1	1.79	40.82	25.12	290.36	663.71	4.24	2.58	6.88	6.88
Yellowstone County	B11	RM 302.81	7423.411	500-yr	3058.22	832.38	825.86	2.52	2.07	51.72	27.77	221.32	586.32	4.75	2.52	6.53	6.53
Yellowstone County	B11	RM 302.70	7257.14	500-yr	3058.22	832.2	826.01	2.65	2.07	37.03	18.17	184.02	545.6	5.58	2.71	6.2	6.2
Yellowstone County	B12	RM 302.56	7050.708	500-yr	3058.22	831.63	825.25	3.69	2.82	81.28	38.41	170.25	515.63	4.54	2.11	6.38	6.38
Yellowstone County	B12	RM 302.49	6918.549	500-yr	3058.22	831.43	825.92	3.54	2.72	69.5	26.67	170.36	620.63	4.77	1.81	5.51	5.51
Yellowstone County	B12	RM 302.41	6794.522	500-yr	3058.22	831.4	825.64	3.19	2.25	43.96	19.43	161.6	820.98	4.73	2.06	5.76	5.76
Yellowstone County	B12	RM 302.34	6674.634	500-yr	3058.22	831.33	825.76	2.8	1.96	54.16	23.85	214.69	923.1	4.08	1.78	5.57	5.57
Yellowstone County	B12	RM 302.22	6485.378	500-yr	3058.22	831.23	825.76	2.19	1.65	29.75	16.71	235.89	860.16	3.88	2.15	5.47	5.47
Yellowstone County	B12	RM 302.14	6360.047	500-yr	3058.22	830.99	825.76	2.84	1.94	49.32	21.73	178.16	864.54	4.18	1.82	5.23	5.23
Yellowstone County	B12	RM 302.08	6267.13	500-yr	3058.22	830.9	825.79	2.62	1.98	31.33	16.35	265.5	829.75	3.58	1.86	5.11	5.11
Yellowstone County	B12	RM 301.98	6100.949	500-yr	3058.22	830.84	825.34	2.15	1.64	30.23	15.09	257.2	889.19	4.24	2.1	5.5	5.5
Yellowstone County	B12	RM 301.88	5944.005	500-yr	3058.22	830.75	824.7	2.03	1.5	24.21	13.31	307.5	990.39	3.84	2.09	6.05	6.05
Yellowstone County	B12	RM 301.79	5801.18	500-yr	3058.22	830.68	824.36	1.9	1.49	17.16	10.72	369.92	916.64	3.61	2.24	6.32	6.32
Yellowstone County	B12	RM 301.72	5685.105	500-yr	3058.22	830.6	824.85	2.03	1.58	24.8	12.85	328.47	1005.49	3.74	1.93	5.75	5.75
Yellowstone County	B12	RM 301.65	5569.191	500-yr	3058.22	830.48	824.61	2.2	1.68	31.98	17.26	311.48	953.73	3.56	1.91	5.87	5.87
Yellowstone County	B12	RM 301.59	5465.51	500-yr	3058.22	830.37	824.42	2.23	1.74	34.92	17.84	318.53	1002.49	3.45	1.75	5.95	5.95
Yellowstone County	B12	RM 301.53	5366.723	500-yr	3058.22	830.3	824.12	1.98	1.61	36.61	19.5	364.63	1070.64	3.35	1.77	6.18	6.18
Yellowstone County	B12	RM 301.47	5270.902	500-yr	3058.22	830.19	824.12	2	1.61	34.98	17.98	353.58	1080.7	3.46	1.76	6.08	6.08
Yellowstone County	B12	RM 301.39	5140.04	500-yr	3058.22	830.14	824.36	1.64	1.35	22.41	14.28	345.85	1233.8	3.96	2.5	5.78	5.78
Yellowstone County	B12	RM 301.33	5044.575	500-yr	3058.22	830.06	824.12	1.81	1.37	20.17	11.72	329.55	1164.68	4.13	2.38	5.95	5.95
Yellowstone County	B12	RM 301.24	4906.408	500-yr	3058.22	829.96	823.87	1.99	1.51	21.83	13.03	310.78	1126.68	4.02	2.38	6.09	6.09
Yellowstone County	B12	RM 301.18	4802.631	500-yr	3058.22	829.86	823.17	2.17	1.67	27.11	16.8	312.68	1078.73	3.59	2.2	6.69	6.69
Yellowstone County	B12	RM 301.12	4698.913	500-yr	3058.22	829.71	823.81	2.37	1.87	31.71	17.96	308.25	934.2	3.77	2.12	5.9	5.9
Yellowstone County	B12	RM 301.07	4611.142	500-yr	3058.22	829.65	824	2.32	1.85	29.1	17.31	284.39	844.74	4.18	2.46	5.65	5.65
Yellowstone County	B12	RM 301.02	4531.484	500-yr	3058.22	829.55	823.81	2.49	2.01	27.51	16.71	261	721.55	4.26	2.57	5.74	5.74
Yellowstone County	B12	RM 300.97	4453.011	500-yr	3058.22	829.32	823.9	3.13	2.49	41.86	23.28	196.12	516.14	4.42	2.44	5.41	5.41
Yellowstone County	B12	RM 300.89	4332.618	500-yr	3058.22	829.15	823.66	3.21	2.69	65.18	39.87	198.89	560.67	4.14	2.53	5.48	5.48
Yellowstone County	B12	RM 300.83	4232.362	500-yr	3058.22	828.96	823.78	3.35	2.71	67.51	36.11	175.01	523.1	4.08	2.16	5.18	5.18
Yellowstone County	B12	RM 300.77	4151.049	500-yr	3058.22	828.84	823.75	3.2	2.63	70.91	36.02	176.67	552.8	4.2	2.1	5.09	5.09
Yellowstone County	B12	RM 300.69	4011.358	500-yr	3058.22	828.75	823.63	2.71	2.06	34.47	18.18	206.18	649.24	4.38	2.29	5.12	5.12
Yellowstone County	B12	RM 300.55	3793.957	500-yr	3058.22	828.63	822.93	2.25	1.78	34.63	22.24	263.47	848.64	3.79	2.41	5.7	5.7
Yellowstone County	B12	RM 300.45	3633.035	500-yr	3058.22	828.48	822.53	1.81	1.69	38.89	28.84	335.99	741.92	3.3	2.44	5.95	5.95
Yellowstone County	B12	RM 300.35	3461.833	500-yr	3058.22	828.19	822.66	2.32	1.73	25.74	18.41	389.33	837.29	2.95	2.11	5.53	5.53
Yellowstone County	B12	RM 300.24	3286.175	500-yr	3058.22	827.97	822.47	2.21	1.85	56.51	41.99	421.27	794.66	2.81	2.08	5.5	5.5
Yellowstone County	B12	RM 300.15	3141.724	500-yr	3058.22	827.68	822.47	2.11	1.87	51.83	40.39	481.67	762.51	2.75	2.14	5.21	5.21
Yellowstone County	B12	RM 300.10	3054.752	500-yr	3058.22	827.57	822.35	2.19	1.86	21.22	17.15	462.66	805.06	2.63	2.12	5.22	5.22
Yellowstone County	B12	RM 300.00	2887.728	500-yr	3058.22	827.37	821.22	2.09	1.94	54.19	40.56	467.25	1198.19	2.73	2.04	6.14	6.14
Yellowstone County	B12	RM 299.91	2736.431	500-yr	3058.22	827.2	821.5	2.09	1.8	27	16.17	350.2	1195.57	3.15	1.87	5.7	5.7
Yellowstone County	B12	RM 299.83	2614.069	500-yr	3058.22	827.05	821.41	2.07	1.93	38.86	25.42	388.69	1183.24	2.72	1.77	5.64	5.64
Yellowstone County	B12	RM 299.72	2484.158	500-yr	3058.22	826.86	820.89	2.14	1.76	38.93	20.9	425.36	1111.39	3.12	1.66	5.97	5.97
Yellowstone County	B12	RM 299.59	2312.328	500-yr	3058.22	826.59	821.13	2.7	1.8	37.9	15.77	221.2	1227.59	3.73	1.53	5.46	5.46
Yellowstone County	B12	RM 299.48	2160.343	500-yr	3058.22	826.34	821.13	3.24	1.93	46.77	16.2	138.95	1200.43	4.31	1.47	5.21	5.21
Yellowstone County	B12	RM 299.38	1995.229	500-yr	3058.22	826.27	821.13	2.47	1.64	58.78	20.17	140.99	1554.06	4.11	1.39	5.14	5.14
Yellowstone County	B12	RM 299.31	1874.433	500-yr	3058.22	825.95	821.22	3.16	1.89	44.43	16.62	150.46	1260.07	3.9	1.44	4.72	4.72
Yellowstone County	B12	RM 299.22	1738.666	500-yr	3058.22	825.81	821.16	3.07	1.72	50.75	19	129.2	1303.3	4.28	1.57	4.65	4.65
Yellowstone County	B12	RM 299.15	1613.992	500-yr	3058.22	825.78	820.95	2.42	1.29	29.45	13.3	154.73	1510.66	4.12	1.84	4.83	4.83
Yellowstone County	B12	RM 299.06	1473.748	500-yr	3058.22	825.75	820.64	2.04	1.15	26.49	10.22	116.53	1577.59	4.58	1.71	5.1	5.1
Yellowstone County	B12	RM 298.99	1360.532	500-yr	3058.22	825.69	820.46	1.97	1.22	27.51	11.8	103.4	1524.18	4.5	1.86	5.23	5.23
Yellowstone County	B12	RM 298.93	1269.876	500-yr	3058.22	825.63	820.46	1.99	1.19	27.06	11.83	109.21	1485.45	4.35	1.84	5.17	5.17
Yellowstone County	B12	RM 298.88	1195.725	500-yr	3058.22	825.57	820.43	2.11	1.19	28.08	12.82	119.22	1422.86	4.26	1.88	5.14	5.14
Yellowstone County	B12	RM 298.82	1096.849	500-yr	3058.22	825.42	820.58	2.54	1.31	32.3	15.67	156.05	1345.52	3.71	1.77	4.84	4.84
Yellowstone County	B12	RM 298.77	1018.392	500-yr	3058.22	825.37	820.4	2.28	1.26	27.59	14.31	186.04	1287.61	3.69	1.88	4.97	4.97
Yellowstone County	B12	RM 298.67	854.844	500-yr	3058.22	825.32	819.39	1.99	1.22	17.6	10.25	244.95	1389.46	3.14	1.8	5.92	5.92

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	500-yr	3058.22	825.26	819.55	1.62	1.22	17.81	10.57	276.55	1415.87	3.03	1.77	5.72	5.72
Yellowstone County	B12	RM 298.49	579.164	500-yr	3058.22	825.19	819.27	1.81	1.13	15.52	8.02	214.03	1422.77	3.74	1.9	5.91	5.91
Yellowstone County	B12	RM 298.42	469.573	500-yr	3058.22	825.13	819.27	1.86	1.12	23.13	10.64	176.57	1448.22	4.18	1.88	5.86	5.86
Yellowstone County	B12	RM 298.35	368.049	500-yr	3058.22	825.04	819.97	2.16	1.17	24.32	9.41	147.33	1451	4.74	1.8	5.06	5.06
Yellowstone County	B12	RM 298.30	290.003	500-yr	3058.22	825.02	819.82	1.9	1.08	16.59	7.97	197.73	1414.82	4.21	2	5.2	5.2
Yellowstone County	B12	RM 298.26	211.35	500-yr	3058.22	824.97	819.82	1.89	1.18	20.19	10.19	222.69	1353.56	3.84	1.91	5.15	5.15
Yellowstone County	B12	RM 298.19	83.499	500-yr	3058.22	824.88	819.49	2.08	1.35	20.21	9.76	193.33	1257.31	3.79	1.8	5.4	5.4

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	500-yr	4049.3	824.71	820.43	2.08	1.34	21.08	10.56	197.15	1832.9	4	1.98	4.28	4.28
Treasure County	C1	RM 297.89	61639	500-yr	4049.3	824.53	820.07	2.07	1.49	21.88	10.92	362.24	2283.85	3.36	1.67	4.46	4.46
Treasure County	C1	RM 297.76	61392	500-yr	4049.3	824.35	819.93	2.16	1.63	27.45	13.18	331	2156.69	3.43	1.64	4.42	4.42
Treasure County	C1	RM 297.62	61179	500-yr	4049.3	824.3	819.69	1.72	1.27	14.73	9.02	290.46	1631.46	3.68	2.24	4.61	4.61
Treasure County	C1	RM 297.5	60985	500-yr	4049.3	824.16	819.39	2.36	1.38	26.05	12.7	159.01	1356.69	4.47	2.16	4.76	4.76
Treasure County	C1	RM 297.36	60767	500-yr	4049.3	824.02	819.14	2.35	1.5	26.1	13.94	169.82	1180.42	4.34	2.29	4.88	4.88
Treasure County	C1	RM 297.22	60535	500-yr	4049.3	823.92	819	2.19	1.47	22.66	11.66	149.14	1257.11	4.42	2.24	4.92	4.92
Treasure County	C1	RM 297.08	60314	500-yr	4049.3	823.82	818.76	2.15	1.29	21.53	11.03	194.31	1393.99	4.57	2.31	5.05	5.05
Treasure County	C1	RM 296.94	60093	500-yr	4049.3	823.71	818.42	2.17	1.28	21.95	10.99	177.08	1668.7	4.6	2.28	5.3	5.3
Treasure County	C1	RM 296.79	59847	500-yr	4049.3	823.63	817.97	1.78	1.25	14.84	8.25	246.81	1595.81	4.48	2.47	5.66	5.66
Treasure County	C1	RM 296.64	59608	500-yr	4049.3	823.55	817.9	1.88	1.3	16.46	9.95	177.49	1106.62	4.7	2.81	5.65	5.65
Treasure County	C1	RM 296.51	59386	500-yr	4049.3	823.5	817.8	1.56	1.24	11.31	7.58	477.13	1071	4.57	3.05	5.69	5.69
Treasure County	C1	RM 296.33	59113	500-yr	4049.3	823.38	817.52	1.85	1.35	15.22	9.15	335.57	1059.95	5.29	3.16	5.86	5.86
Treasure County	C1	RM 296.16	58839	500-yr	4049.3	822.34	817.46	4.86	2.96	109.78	45.56	137.37	723.79	4.64	1.89	4.89	4.89
Treasure County	C1	RM 296.01	58583	500-yr	4049.3	822.15	817.45	3.09	2.34	46.53	24.64	259.72	778.16	4.22	2.22	4.7	4.7
Treasure County	C1	RM 295.83	58296	500-yr	4049.3	822.01	817.4	2.09	2.04	23.8	21.75	627.05	815.22	3.05	2.79	4.62	4.62
Treasure County	C1	RM 295.66	58032	500-yr	4049.3	821.67	817.27	2.44	2.44	32.84	32.07	561.89	576.08	2.95	2.88	4.41	4.41
Treasure County	C1	RM 295.52	57800	500-yr	4049.3	821.57	816.19	1.86	1.86	20.36	20.3	661.03	662.83	3.29	3.29	5.38	5.38
Treasure County	C1	RM 295.31	57474	500-yr	4049.3	821.42	815.61	1.76	1.64	16.28	12.15	554.61	856.47	3.87	2.88	5.8	5.8
Treasure County	C1	RM 295.13	57174	500-yr	4049.3	821.23	815.57	2.09	1.56	22.97	12.46	360.88	1177.33	4.34	2.34	5.66	5.66
Treasure County	C1	RM 294.94	56877	500-yr	4049.3	820.66	815.46	3.52	2.16	57.41	21.67	189.73	1224.03	4.58	1.7	5.21	5.21
Treasure County	C1	RM 294.76	56587	500-yr	4049.3	820.39	815.45	3.06	2.03	43.93	18.73	257.05	1142.2	4.14	1.75	4.94	4.94
Treasure County	C1	RM 294.55	56261	500-yr	4049.3	820.12	815.36	2.96	2.01	41.56	19.02	194.71	1031.21	4.31	1.95	4.76	4.76
Treasure County	C1	RM 294.38	55980	500-yr	4049.3	819.91	815.07	2.65	1.83	34.83	16.92	227.09	1214.03	3.79	1.83	4.84	4.84
Treasure County	C1	RM 294.21	55714	500-yr	4049.3	819.64	814.88	2.87	1.59	39.39	14.55	201.2	1844.18	4.26	1.56	4.76	4.76
Treasure County	C1	RM 294.02	55401	500-yr	4049.3	819.42	814.59	2.58	1.52	31.98	13.34	231.94	1769.9	3.72	1.54	4.83	4.83
Treasure County	C1	RM 293.83	55100	500-yr	4049.3	819.26	814.3	2.15	1.31	22.74	10.59	274.8	1861.35	3.6	1.66	4.96	4.96
Treasure County	C1	RM 293.63	54777	500-yr	4049.3	819.07	813.55	2.13	1.24	20.13	7.55	332.83	1970.5	4.47	1.66	5.52	5.52
Treasure County	C1	RM 293.43	54432	500-yr	4049.3	818.82	813.29	2.72	1.25	33.88	11.31	202.13	2039.93	4.84	1.59	5.53	5.53
Treasure County	C1	RM 293.26	54152	500-yr	4049.3	818.71	813.24	2.38	1.09	26.09	10.78	247.33	2279.23	3.99	1.63	5.48	5.48
Treasure County	C1	RM 293.07	53839	500-yr	4049.3	818.57	813.24	2.24	0.95	24.32	11.53	241.79	2533.99	4.05	1.9	5.34	5.34
Treasure County	C1	RM 292.83	53458	500-yr	4049.3	818.51	813.1	1.51	0.81	11.75	6.27	380.97	2709.17	4.1	2.18	5.41	5.41
Treasure County	C1	RM 292.6	53082	500-yr	4049.3	818.3	812.6	2.23	1.06	22.44	7.43	238.91	2750.1	5.04	1.66	5.7	5.7
Treasure County	C2	RM 292.32	52612	500-yr	4049.3	818.15	811.76	2.27	1.08	22.75	8.74	207.17	2344.68	5.15	1.95	6.39	6.39
Treasure County	C2	RM 292.09	52256	500-yr	4049.3	818.04	811.6	2.27	1.27	22.05	8.72	174.28	1974.39	5.4	2.1	6.44	6.44
Treasure County	C2	RM 291.9	51956	500-yr	4049.3	817.94	811.55	2.02	1.29	18.69	9.33	240.72	1897.27	4.74	2.34	6.39	6.39
Treasure County	C2	RM 291.71	51639	500-yr	4049.3	817.43	811.5	3.13	1.94	66.27	29.23	244.86	1351.99	3.9	1.7	5.93	5.93
Treasure County	C2	RM 291.52	51333	500-yr	4049.3	817.19	811.46	2.68	1.57	32.18	14.74	214.15	1103.1	5.18	2.34	5.73	5.73
Treasure County	C2	RM 291.33	51042	500-yr	4049.3	816.94	811.46	2.82	1.81	36.87	17.91	232.04	1000.46	4.66	2.24	5.48	5.48
Treasure County	C2	RM 291.15	50747	500-yr	4049.3	816.89	811.4	2.03	1.49	18.48	9.72	297.47	1023.57	5.1	2.66	5.49	5.49
Treasure County	C2	RM 290.94	50437	500-yr	4049.3	816.76	811.31	2.11	1.32	20.66	12.77	259.99	1088.58	4.59	2.81	5.45	5.45
Treasure County	C2	RM 290.78	50179	500-yr	4049.3	816.65	810.97	1.84	1.31	16.9	11.45	393.13	1782.81	4.1	2.76	5.69	5.69
Treasure County	C2	RM 290.6	49891	500-yr	4049.3	816.54	810.54	1.74	1.41	14.03	7.52	473.72	2053.14	4.63	2.47	6	6
Treasure County	C2	RM 290.43	49607	500-yr	4049.3	816.32	810.13	2.4	1.54	27.33	11.62	273.61	2007.79	4.7	1.97	6.19	6.19
Treasure County	C2	RM 290.23	49287	500-yr	4049.3	815.65	810.07	3.81	1.98	64.8	16.24	154.05	1729.29	5.27	1.29	5.58	5.58
Treasure County	C2	RM 290.04	48976	500-yr	4049.3	815.55	810.04	2.68	1.43	31.85	9.2	209.93	1863.81	5.33	1.52	5.51	5.51
Treasure County	C2	RM 289.85	48667	500-yr	4049.3	815.46	809.87	1.97	1.22	18.83	8.4	359.02	1759.81	4.27	1.89	5.58	5.58
Treasure County	C2	RM 289.67	48372	500-yr	4049.3	815.3	809.87	1.94	1.24	19.36	10.01	397.84	1521.97	4.18	2.14	5.43	5.43
Treasure County	C2	RM 289.46	48067	500-yr	4049.3	815.19	809.56	1.8	1.24	14.59	8.16	411.53	1327.03	4.43	2.46	5.62	5.62
Treasure County	C2	RM 289.27	47769	500-yr	4049.3	814.94	809.32	2.36	1.53	26.25	12.66	320.68	1270.06	4.35	2.08	5.63	5.63
Treasure County	C2	RM 289.11	47515	500-yr	4049.3	814.74	809	2.61	1.54	29.93	10.83	228.59	1362.99	5.37	1.92	5.74	5.74
Treasure County	C2	RM 288.94	47232	500-yr	4049.3	814.42	808.59	3.11	1.67	42.56	13.45	186.98	1418	5.51	1.71	5.84	5.84
Treasure County	C2	RM 288.76	46939	500-yr	4049.3	814.3	808.33	2.65	1.43	31.61	14.41	217.33	1397.19	5.14	2.31	5.97	5.97
Treasure County	C2	RM 288.55	46613	500-yr	4049.3	813.83	808.24	3.3	1.92	51.43	23.2	224.04	1082.78	4.38	1.95	5.59	5.59
Treasure County	C2	RM 288.36	46302	500-yr	4049.3	813.71	807.91	2.6	1.51	29.46	10.35	219.5	1382.33	5.63	1.95	5.8	5.8
Treasure County	C2	RM 288.18	46008	500-yr	4049.3	813.56	807.77	2.57	1.36	30.14	11.43	246.58	1773.02	4.71	1.76	5.79	5.79
Treasure County	C2	RM 287.99	45713	500-yr	4049.3	813.51	807.58	1.94	1.07	17.07	6.54	241.63	2068.1	4.82	1.83	5.93	5.93
Treasure County	C2	RM 287.81	45421	500-yr	4049.3	813.33	807.25	2.27	1.31	23.39	6.29	229.88	2624.67	4.99	1.33	6.08	6.08
Treasure County	C2	RM 287.62	45112	500-yr	4049.3	813.01	807.19	3.15	1.5	43.86	9.04	139.64	2969.25	5.38	1.08	5.82	5.82
Treasure County	C2	RM 287.42	44789	500-yr	4049.3	812.65	807.15	3.35	1.56	50.46	10.09	159.89	2619.13	5.07	0.99	5.51	5.51

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	500-yr	4049.3	812.59	806.81	2.04	1.29	20.34	6.91	420.05	2374.23	3.93	1.32	5.77	5.77
Treasure County	C2	RM 287.06	44222	500-yr	4049.3	812.5	806.77	1.67	1.14	14.58	5.71	515.12	2439.13	3.82	1.48	5.73	5.73
Treasure County	C2	RM 286.9	43958	500-yr	4049.3	812.34	806.52	2.14	1.2	20.51	6.02	277.39	2289.77	5.07	1.47	5.82	5.82
Treasure County	C2	RM 286.72	43671	500-yr	4049.3	811.76	806.4	4.06	1.73	74.12	18.54	122.22	2101.99	5.04	1.25	5.36	5.36
Treasure County	C3	RM 286.58	43448	500-yr	4049.3	811.28	806.32	3.9	1.99	69.81	16.8	169.59	1884.67	4.82	1.14	4.96	4.96
Treasure County	C3	RM 286.51	43344	500-yr	4049.3	811.31	806.32	3.22	1.69	47.51	13.56	193.91	1926.03	4.85	1.36	4.99	4.99
Treasure County	C3	RM 286.46	43257	500-yr	4049.3	811.15	806.25	3.42	1.79	54	14.16	196.96	1879.93	4.62	1.2	4.9	4.9
Treasure County	C3	RM 286.37	43117	500-yr	4049.3	811.2	806.17	2.38	1.31	27.59	12.16	295.42	2058.17	3.96	1.73	5.03	5.03
Treasure County	C3	RM 286.26	42931	500-yr	4049.3	810.97	806.17	2.71	1.49	63.81	22.3	219.45	2251.26	3.9	1.34	4.81	4.81
Treasure County	C3	RM 286.06	42624	500-yr	4049.3	810.67	806.08	2.29	1.27	25.87	10.02	354.48	2688.01	3.73	1.43	4.59	4.59
Treasure County	C3	RM 285.81	42213	500-yr	4049.3	810.42	805.78	2.14	1.07	21.74	10.07	222.42	3775.05	3.1	1.42	4.64	4.64
Treasure County	C3	RM 285.56	41812	500-yr	4049.3	810.16	805.34	2.2	1.01	22.45	6.92	237.24	3795.77	4.56	1.4	4.82	4.82
Treasure County	C3	RM 285.23	41280	500-yr	4049.3	809.91	805.17	2.31	0.97	26.44	9.11	152.4	4069.74	3.82	1.29	4.75	4.75
Treasure County	C3	RM 284.69	40395	500-yr	4049.3	809.52	804.85	2.63	1.18	35.76	10.94	159.53	3920.48	3.37	1.01	4.67	4.67
Treasure County	C3	RM 284.26	39705	500-yr	4049.3	809.09	804.6	2.3	1.31	27.36	7.64	348.37	3528.27	3.51	0.98	4.49	4.49
Treasure County	C3	RM 283.96	39199	500-yr	4049.3	808.8	804.3	2.25	1.08	25.18	7	244.91	3673.76	3.71	1.02	4.5	4.5
Treasure County	C3	RM 283.69	38766	500-yr	4049.3	808.6	803.9	2.19	0.98	22.83	6.32	191.09	3520.12	4.29	1.17	4.7	4.7
Treasure County	C3	RM 283.35	38229	500-yr	4049.3	808.41	803.42	1.87	0.97	17.51	6.02	291.01	3284.47	3.76	1.27	4.99	4.99
Treasure County	C3	RM 283.05	37749	500-yr	4049.3	808.08	803.32	2.62	1.13	33.62	9.59	194.22	3229.26	3.97	1.11	4.76	4.76
Treasure County	C3	RM 282.78	37306	500-yr	4049.3	807.83	803.11	2.19	1.01	23.11	8.32	259.85	3177.05	3.53	1.26	4.72	4.72
Treasure County	C3	RM 282.56	36942	500-yr	4049.3	807.71	802.83	1.68	0.85	14.4	5.95	282.1	3329.71	3.5	1.43	4.88	4.88
Treasure County	C3	RM 282.31	36546	500-yr	4049.3	807.55	802.74	2	0.84	19.01	6.78	187.32	3145.55	4.39	1.53	4.82	4.82
Treasure County	C3	RM 282.09	36195	500-yr	4049.3	807.42	802.56	2.19	0.93	23.72	9.6	181.69	2872.32	3.82	1.52	4.86	4.86
Treasure County	C4	RM 281.73	35619	500-yr	4049.3	807.26	801.74	1.67	0.92	13.45	5.69	426.96	3098.7	3.39	1.42	5.52	5.52
Treasure County	C4	RM 281.35	35005	500-yr	4049.3	807.1	801.53	1.68	0.83	12.67	4.29	316.27	2866.82	5.05	1.69	5.57	5.57
Treasure County	C4	RM 281.03	34521	500-yr	4049.3	806.93	801.19	2.15	0.9	21.16	7.07	228.85	2825.13	4.85	1.6	5.73	5.73
Treasure County	C4	RM 280.73	34051	500-yr	4049.3	806.84	800.82	1.34	0.85	10.6	6.31	693.36	2683.06	2.99	1.77	6.02	6.02
Treasure County	C4	RM 280.5	33687	500-yr	4049.3	806.74	800.66	1.25	0.83	10.1	5.91	756.46	2729.08	3.07	1.79	6.08	6.08
Treasure County	C4	RM 280.27	33304	500-yr	4049.3	806.64	800.31	1.19	0.79	9.28	5.29	759.73	2687.31	3.36	1.9	6.33	6.33
Treasure County	C4	RM 279.95	32800	500-yr	4049.3	806.52	800.08	1.33	0.72	10.19	4.7	503.81	2903.47	4.23	1.94	6.44	6.44
Treasure County	C4	RM 279.6	32231	500-yr	4049.3	806.19	799.98	2.33	1.15	27.15	8.61	304.47	2865.68	3.92	1.23	6.21	6.21
Treasure County	C4	RM 279.33	31805	500-yr	4049.3	805.55	799.98	3.29	1.71	52.85	12.82	244.79	2466.56	4.01	0.96	5.57	5.57
Treasure County	C4	RM 279.14	31495	500-yr	4049.3	805.4	799.96	2.57	1.26	30.05	7.97	239.81	2672.27	4.61	1.21	5.45	5.45
Treasure County	C4	RM 278.96	31209	500-yr	4049.3	805.33	799.87	1.88	1.04	17.96	5.43	367.55	3047.94	4.54	1.36	5.47	5.47
Treasure County	C4	RM 278.76	30894	500-yr	4049.3	805.21	799.6	1.84	0.99	16.34	5.64	423.69	3090.62	3.85	1.32	5.61	5.61
Treasure County	C4	RM 278.56	30571	500-yr	4049.3	805.07	799.53	1.97	0.94	18.72	6.45	336.63	3242.01	4.15	1.41	5.54	5.54
Treasure County	C4	RM 278.37	30259	500-yr	4049.3	804.96	799.26	1.78	0.95	14.42	4.85	369.33	2964.14	4.84	1.61	5.7	5.7
Treasure County	C5	RM 278.16	29915	500-yr	4049.3	804.67	798.81	2.72	1.23	34.88	9.52	207.39	2430.09	5.14	1.38	5.85	5.85
Treasure County	C5	RM 277.99	29648	500-yr	4049.3	804.35	798.77	3.14	1.44	46.38	11.8	189.71	2212.57	5.06	1.27	5.58	5.58
Treasure County	C5	RM 277.8	29336	500-yr	4049.3	804.09	798.74	3.02	1.56	40.98	10.67	212.34	1999.09	5.04	1.29	5.35	5.35
Treasure County	C5	RM 277.61	29041	500-yr	4049.3	803.9	798.72	2.86	1.5	37.03	11.25	216.71	1793.19	5.01	1.5	5.18	5.18
Treasure County	C5	RM 277.43	28747	500-yr	4049.3	803.78	798.48	2.34	1.41	25.65	10.09	306.39	1638.95	4.52	1.75	5.3	5.3
Treasure County	C5	RM 277.22	28415	500-yr	4049.3	803.57	798.47	2.22	1.61	24.99	12.84	424.41	1378.27	3.58	1.82	5.1	5.1
Treasure County	C5	RM 277.04	28123	500-yr	4049.3	803.33	798.4	2.27	1.73	24.3	14.28	459.83	1131.94	3.54	2.07	4.93	4.93
Treasure County	C5	RM 276.81	27791	500-yr	4049.3	803.23	797.8	1.89	1.38	16.28	8.64	376.57	1165.52	4.76	2.51	5.43	5.43
Treasure County	C5	RM 276.63	27499	500-yr	4049.3	802.98	797.4	2.59	1.56	30.69	12.78	234.28	1301.81	4.82	1.99	5.58	5.58
Treasure County	C5	RM 276.4	27133	500-yr	4049.3	802.79	797.1	2.45	1.48	27.52	12.6	239.33	1224.6	4.94	2.24	5.69	5.69
Treasure County	C5	RM 276.19	26801	500-yr	4049.3	802.6	796.87	2.61	1.62	30.88	12.94	189.04	1209.67	5	2.06	5.73	5.73
Treasure County	C5	RM 276.01	26502	500-yr	4049.3	802.43	796.74	2.67	1.54	31.61	12.1	159.62	1321.38	5.32	1.99	5.69	5.69
Treasure County	C5	RM 275.81	26193	500-yr	4049.3	802.36	796.61	2.15	1.24	20.64	8.44	179.56	1553.48	5.19	2.1	5.74	5.74
Treasure County	C5	RM 275.63	25896	500-yr	4049.3	802.24	796.49	2.33	1.23	23.78	9.59	134.65	1684.42	5.49	2.16	5.74	5.74
Treasure County	C5	RM 275.45	25606	500-yr	4049.3	802.18	796.37	1.85	1.23	15.46	7.37	153.92	1916.65	5.1	2.39	5.8	5.8
Treasure County	C5	RM 275.26	25299	500-yr	4049.3	801.89	796.16	2.41	1.67	25.45	11.68	251.91	2032.87	5.49	2.5	5.73	5.73
Treasure County	C5	RM 275.09	25033	500-yr	4049.3	801.47	796.13	3.31	2.37	48.94	23.5	199.32	2082.3	5.19	2.47	5.34	5.34
Treasure County	C6	RM 274.89	24716	500-yr	4049.3	801.34	796.04	2.67	1.65	32.47	16.94	229.39	2979.95	4.88	2.52	5.3	5.3
Treasure County	C6	RM 274.72	24440	500-yr	4049.3	800.26	796.04	4.55	3.05	104.79	39.83	214.5	2245.08	3.57	1.34	4.22	4.22
Treasure County	C6	RM 274.55	24165	500-yr	4049.3	800.29	795.79	2.45	1.47	32.46	15.98	294.37	3244.21	3.37	1.65	4.5	4.5
Treasure County	C6	RM 274.38	23892	500-yr	4049.3	800.07	795.55	2.46	1.28	29.93	11.81	229.3	3420.31	3.82	1.49	4.52	4.52
Treasure County	C6	RM 274.13	23491	500-yr	4049.3	799.85	795.16	2.44	1.27	30.6	11.31	224.37	3629.97	3.42	1.25	4.69	4.69
Treasure County	C6	RM 273.83	22999	500-yr	4049.3	799.65	794.46	2.14	1.06	21.58	6.88	184.4	3988.32	4.39	1.38	5.19	5.19

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	500-yr	4049.3	799.41	794.04	2.46	1.06	27.46	8.66	179.34	3868.08	4.12	1.28	5.38	5.38
Treasure County	C6	RM 273.35	22238	500-yr	4049.3	799.22	794.04	2.09	0.97	21.26	9.24	230.93	4192.94	3.42	1.47	5.19	5.19
Treasure County	C6	RM 273.15	21916	500-yr	4049.3	799.07	793.92	2.04	0.93	20.77	9.53	266.7	4328.96	3.42	1.55	5.15	5.15
Treasure County	C6	RM 272.83	21397	500-yr	4049.3	798.9	793.79	1.95	0.87	17.71	7.12	263.82	4559.42	3.82	1.52	5.1	5.1
Treasure County	C6	RM 272.5	20872	500-yr	4049.3	798.71	793.46	2.18	0.95	24.89	10.19	229.86	4451.94	3.52	1.42	5.25	5.25
Treasure County	C6	RM 272.19	20368	500-yr	4049.3	798.41	793.34	2.41	1.05	27.42	9.26	247.4	4112.44	4.07	1.36	5.07	5.07
Treasure County	C6	RM 271.91	19902	500-yr	4049.3	798.2	793.18	2.4	1.08	27.12	8.79	227.32	4099.42	4.47	1.43	5.02	5.02
Treasure County	C6	RM 271.68	19534	500-yr	4049.3	797.86	792.81	3	1.45	43.05	13.3	192.12	3515.07	4.21	1.29	5.05	5.05
Treasure County	C6	RM 271.41	19102	500-yr	4049.3	797.8	792.54	1.72	1.04	14.5	7.26	302.07	3399.11	3.94	1.96	5.26	5.26
Treasure County	C6	RM 271.06	18548	500-yr	4049.3	797.27	792.18	3.33	1.64	54.08	14.76	172.42	3542.7	4.01	1.07	5.09	5.09
Treasure County	C6	RM 270.64	17870	500-yr	4049.3	797.08	792.05	1.9	1.02	18.05	7.07	234.57	3873.38	3.74	1.45	5.02	5.02
Treasure County	C6	RM 270.05	16897	500-yr	4049.3	796.82	791.48	2.18	0.98	21.6	8.7	174.33	3468.28	4.2	1.66	5.34	5.34
Treasure County	C6	RM 269.75	16413	500-yr	4049.3	796.5	791.35	2.6	1.21	32.22	11.7	224.88	3767.84	4.24	1.52	5.15	5.15
Treasure County	C6	RM 269.47	15967	500-yr	4049.3	796.07	791.23	3.06	1.54	44.3	11.35	209.73	3484.99	4.4	1.11	4.84	4.84
Treasure County	C7	RM 269.27	15645	500-yr	4049.3	795.93	791.23	2.39	1.34	27.23	8.24	279.64	3377.66	4.11	1.23	4.7	4.7
Treasure County	C7	RM 269.06	15308	500-yr	4049.3	795.82	791.01	1.84	1.06	16.82	6.58	197.37	3110	3.82	1.47	4.81	4.81
Treasure County	C7	RM 268.83	14957	500-yr	4049.3	795.74	790.6	1.29	0.83	8.47	4.09	267.05	3135.75	3.55	1.69	5.14	5.14
Treasure County	C7	RM 268.55	14516	500-yr	4049.3	795.61	790.17	1.69	0.82	13.37	4.58	224.66	4038.33	4.49	1.52	5.44	5.44
Treasure County	C7	RM 268.2	13976	500-yr	4049.3	795.39	789.62	2.2	0.89	22.45	7.22	234.34	3897.28	4.57	1.45	5.76	5.76
Treasure County	C7	RM 267.87	13439	500-yr	4049.3	795.04	789.53	2.68	1.04	32.21	10.77	227.32	2778.78	4.29	1.41	5.51	5.51
Treasure County	C7	RM 267.53	12884	500-yr	4049.3	794.37	789.5	3.34	1.36	55.1	16.09	242.41	2913.77	3.54	1.02	4.87	4.87
Treasure County	C7	RM 267.14	12253	500-yr	4049.3	794.16	789.26	2.21	1.08	23.62	7.34	227.28	3084.15	3.97	1.22	4.9	4.9
Treasure County	C7	RM 266.8	11700	500-yr	4049.3	794.02	789.2	2.01	0.98	19.62	6.79	214.75	2997.41	4.06	1.39	4.82	4.82
Treasure County	C7	RM 266.41	11078	500-yr	4049.3	793.84	789.14	2.29	1.05	26.15	10.21	159.5	2674.99	3.76	1.44	4.7	4.7
Treasure County	C7	RM 266.11	10593	500-yr	4049.3	793.64	788.83	2.16	1.05	23.41	8.71	259.43	2841.95	3.68	1.36	4.81	4.81
Treasure County	C7	RM 265.92	10283	500-yr	4049.3	793.55	788.65	1.74	1	15.51	6.75	341.48	2960.75	3.17	1.37	4.9	4.9
Treasure County	C7	RM 265.68	9915	500-yr	4049.3	793.22	788.21	2.8	1.4	35.92	9.23	180	2375.22	4.81	1.21	5.01	5.01
Treasure County	C7	RM 265.52	9650	500-yr	4049.3	793.11	788.07	2.53	1.31	31.05	10.24	162.02	2322.78	4.1	1.33	5.04	5.04
Treasure County	C7	RM 265.34	9362	500-yr	4049.3	792.88	788.07	2.49	1.32	31.09	12.29	179.19	2224.02	3.68	1.43	4.81	4.81
Treasure County	C7	RM 265.16	9071	500-yr	4049.3	792.69	787.95	2.07	1.3	24.63	10.93	297.09	2136.68	3.31	1.45	4.74	4.74
Treasure County	C7	RM 264.98	8775	500-yr	4049.3	792.53	787.59	1.88	1.28	20.22	12.11	462.82	2201.78	2.41	1.43	4.94	4.94
Treasure County	C7	RM 264.81	8508	500-yr	4049.3	792.43	787.35	1.3	1.03	14.21	8.69	662.3	2378.39	2.73	1.66	5.08	5.08
Treasure County	C7	RM 264.64	8216	500-yr	4049.3	792.32	787.22	1.36	1.05	13.98	8.21	652.13	3199.63	2.77	1.62	5.1	5.1
Treasure County	C7	RM 264.39	7803	500-yr	4049.3	792.12	786.86	1.87	1.15	20.51	8.36	343.32	2762.24	3.51	1.42	5.26	5.26
Treasure County	C7	RM 264.15	7406	500-yr	4049.3	792.03	786.6	1.54	1.02	12.37	5.89	202.21	2505.53	3.68	1.73	5.43	5.43
Treasure County	C7	RM 263.97	7116	500-yr	4049.3	791.9	786.49	1.94	1.15	17.09	5.54	179.44	2729.6	5.02	1.6	5.41	5.41
Treasure County	C7	RM 263.79	6834	500-yr	4049.3	791.74	786.49	2.31	1.24	25.82	10.42	204.2	3135.04	4.08	1.62	5.25	5.25
Treasure County	C7	RM 263.6	6534	500-yr	4049.3	791.57	786.37	2.22	1.17	23.2	8.95	207.01	2252.26	4.43	1.68	5.2	5.2
Treasure County	C7	RM 263.39	6194	500-yr	4049.3	791.39	786.25	1.86	1.2	16.81	6.62	459.15	2915.55	3.83	1.5	5.15	5.15
Treasure County	C7	RM 263.19	5862	500-yr	4049.3	791.21	786	2.09	1.03	21.89	8.95	333.53	3046.81	3.63	1.47	5.21	5.21
Treasure County	C7	RM 262.95	5479	500-yr	4049.3	790.98	785.85	2.01	1.09	19.5	6.94	417.03	3022.7	3.49	1.23	5.13	5.13
Treasure County	C7	RM 262.78	5206	500-yr	4049.3	790.91	785.76	1.56	0.9	13.92	6.48	440.96	2880.56	3.4	1.57	5.15	5.15
Treasure County	C7	RM 262.58	4883	500-yr	4049.3	790.84	785.64	1.23	0.75	9.09	5.12	621.05	2766.58	3.49	1.95	5.2	5.2
Treasure County	C7	RM 262.42	4613	500-yr	4049.3	790.78	785.54	1.13	0.72	7.58	4.59	655.56	2587.53	3.59	2.17	5.24	5.24
Treasure County	C7	RM 262.24	4323	500-yr	4049.3	790.72	785.43	1.09	0.78	6.29	3.67	839.62	2609.11	3.74	2.18	5.3	5.3
Treasure County	C7	RM 261.95	3917	500-yr	4049.3	790.61	785.28	1.38	0.98	11.36	6.76	654.59	1819.9	3.82	2.27	5.33	5.33
Treasure County	C7	RM 261.7	3519	500-yr	4049.3	790.41	784.87	1.49	1.22	29.85	16.69	605.89	1538.73	3.87	2.15	5.54	5.54
Treasure County	C7	RM 261.53	3256	500-yr	4049.3	790.2	784.51	1.49	1.28	28.49	19.12	623.93	1328.63	3.57	2.39	5.69	5.69
Treasure County	C7	RM 261.35	2959	500-yr	4049.3	790.09	784.33	1.39	1.16	9.81	6.46	580.98	1191.88	4.47	2.93	5.76	5.76
Treasure County	C7	RM 261.2	2720	500-yr	4049.3	789.99	784.14	1.51	1.27	28.18	18.24	545.92	1170.66	4.24	2.73	5.84	5.84
Treasure County	C7	RM 261.03	2441	500-yr	4049.3	789.84	783.66	1.71	1.21	13.78	7.1	401.64	1248.2	5.27	2.69	6.18	6.18
Treasure County	C7	RM 260.84	2142	500-yr	4049.3	789.72	783.41	1.92	1.21	16.68	7.91	341.22	1342.32	5.27	2.48	6.31	6.31
Treasure County	C7	RM 260.66	1863	500-yr	4049.3	789.64	783.29	1.84	1.14	15.94	8.29	351.21	1379.74	5.01	2.58	6.35	6.35
Treasure County	C8	RM 259.9	634	500-yr	4049.3	788.53	782.46	3.74	2.08	60.93	19.86	151.91	1086.05	5.58	1.79	6.07	6.07
Treasure County	C8	RM 259.72	347	500-yr	4049.3	788.33	782.45	3.29	1.87	47.52	16.6	179.3	1145.59	5.48	1.89	5.88	5.88
Treasure County	C8	RM 259.55	68	500-yr	4049.3	788.25	782.2	2.32	2.01	27.22	12.38	399.72	1052.15	4.24	1.92	6.05	6.05

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	500-yr	4049.3	788.25	782.19	2.93	2.06	37.6	13.18	221.77	1013.7	5.6	1.94	6.06	6.06
Rosebud County	C8	RM 259.41	87598	500-yr	4049.3	787.87	781.96	3.28	2.61	51.32	14.87	209.53	957.03	5.64	1.62	5.91	5.91
Rosebud County	C8	RM 259.22	87292	500-yr	4049.3	787.73	781.55	2.84	2.13	35.83	13.91	233.09	883.29	5.6	2.16	6.18	6.18
Rosebud County	C8	RM 259.04	87004	500-yr	4049.3	787.52	781	2.92	2.19	42.82	21.5	211.95	672.17	5.59	2.75	6.52	6.52
Rosebud County	C8	RM 258.85	86696	500-yr	4049.3	787.35	780.9	2.61	1.82	31.08	15.99	288.74	949.18	4.59	2.34	6.45	6.45
Rosebud County	C8	RM 258.66	86399	500-yr	4049.3	787.06	780.78	3	1.89	38.31	14.54	183.46	952.1	6.03	2.24	6.28	6.28
Rosebud County	C8	RM 258.47	86098	500-yr	4049.3	786.89	780.65	2.88	1.72	36.72	14.5	202.57	1169.23	5.18	2.02	6.24	6.24
Rosebud County	C8	RM 258.28	85798	500-yr	4049.3	786.71	780.53	2.68	1.7	32.11	15.53	222.43	1021.32	4.86	2.33	6.18	6.18
Rosebud County	C8	RM 258.1	85498	500-yr	4049.3	786.4	780.14	3.03	1.82	39.76	13.3	180.25	1178.78	5.76	1.89	6.26	6.26
Rosebud County	C8	RM 257.91	85200	500-yr	4049.3	786.29	780.14	2.56	1.44	30.14	11.64	224.43	1559.01	4.74	1.8	6.15	6.15
Rosebud County	C8	RM 257.71	84875	500-yr	4049.3	786.1	780.14	2.53	1.41	30.22	10.98	219.86	2479.41	4.38	1.57	5.96	5.96
Rosebud County	C8	RM 257.54	84597	500-yr	4049.3	785.97	780.17	2.34	1.23	24.38	8.22	209	2783.98	4.94	1.64	5.8	5.8
Rosebud County	C8	RM 257.36	84298	500-yr	4049.3	785.85	780.05	2.27	1.18	23.51	8.45	188.65	2758.72	4.87	1.75	5.8	5.8
Rosebud County	C8	RM 257.16	83984	500-yr	4049.3	785.8	780	1.63	1	11.61	5.37	305.45	2699.4	5.55	2.57	5.8	5.8
Rosebud County	C8	RM 256.87	83608	500-yr	4049.3	785.43	779.89	2.99	1.58	39.61	16.47	181.39	2291.02	5.19	2.13	5.54	5.54
Rosebud County	C8	RM 256.65	83257	500-yr	4049.3	785.42	779.82	1.92	1.25	16.9	7.94	171.34	2493.62	5.27	2.44	5.6	5.6
Rosebud County	C8	RM 256.45	82941	500-yr	4049.3	785.16	779.67	2.47	1.41	26.91	9.88	222.18	2736.58	5.33	1.94	5.49	5.49
Rosebud County	C8	RM 256.26	82630	500-yr	4049.3	785	779.58	2.05	1.44	34.24	17.68	369.93	2458.04	4.02	2.06	5.42	5.42
Rosebud County	C8	RM 256.1	82375	500-yr	4049.3	784.86	779.42	1.77	1.45	14.93	6.31	594.72	2669.47	3.67	1.54	5.44	5.44
Rosebud County	C8	RM 255.91	82077	500-yr	4049.3	784.8	779.09	1.5	1.12	10.49	4.87	591.1	2657.41	4.19	1.94	5.71	5.71
Rosebud County	C8	RM 255.7	81747	500-yr	4049.3	784.61	778.73	2.1	1.31	19.92	7.76	306.33	2271.93	4.99	1.93	5.88	5.88
Rosebud County	C8	RM 255.51	81446	500-yr	4049.3	784.43	778.49	2.33	1.54	24.65	9.95	269.19	1323.32	4.98	1.99	5.94	5.94
Rosebud County	C8	RM 255.31	81125	500-yr	4049.3	784.28	778.36	2.25	1.47	27.84	10.73	242.95	1318.92	5.46	2.09	5.92	5.92
Rosebud County	C8	RM 255.14	80856	500-yr	4049.3	784.05	778.24	2.64	1.7	30.44	12.43	210.87	1052.04	5.59	2.26	5.81	5.81
Rosebud County	C8	RM 254.95	80554	500-yr	4049.3	783.81	778.12	2.85	1.86	35.45	16.35	205.86	866.88	5.49	2.51	5.69	5.69
Rosebud County	C8	RM 254.76	80251	500-yr	4049.3	783.65	778	2.67	1.77	31.31	15.07	218.15	875.24	5.48	2.62	5.65	5.65
Rosebud County	C8	RM 254.58	79960	500-yr	4049.3	783.47	777.88	2.67	1.75	31.33	13.69	229.98	1007.73	5.46	2.37	5.59	5.59
Rosebud County	C8	RM 254.39	79658	500-yr	4049.3	783.42	777.41	2.1	1.41	19.53	9.37	296.93	1246.73	5.34	2.55	6.01	6.01
Rosebud County	C8	RM 254.2	79359	500-yr	4049.3	783.11	777.39	2.74	1.9	34.24	16.42	269.75	929.75	4.8	2.3	5.72	5.72
Rosebud County	C8	RM 254.01	79052	500-yr	4049.3	782.84	776.82	2.93	1.86	36.88	13.72	209.61	1104.04	5.7	2.11	6.02	6.02
Rosebud County	C9	RM 253.82	78779	500-yr	4049.3	782.69	776.24	2.23	1.63	73.22	31.26	246.84	2152.01	4.82	2.03	6.45	6.45
Rosebud County	C9	RM 253.63	78478	500-yr	4049.3	782.08	776.12	2.84	1.62	75.3	25.37	180.25	1765.11	4.79	1.59	5.96	5.96
Rosebud County	C9	RM 253.45	78178	500-yr	4049.3	781.77	775.97	2.73	1.4	34.68	13.61	172.93	1609.99	4.65	1.79	5.8	5.8
Rosebud County	C9	RM 253.26	77879	500-yr	4049.3	781.6	775.72	2.34	1.24	22.62	9.5	240.93	1808.28	4.76	1.98	5.88	5.88
Rosebud County	C9	RM 253.07	77578	500-yr	4049.3	781.2	775.57	3.26	1.62	46.87	17.16	189.99	1698.3	4.31	1.55	5.63	5.63
Rosebud County	C9	RM 252.88	77278	500-yr	4049.3	781.03	775.45	2.61	1.45	32.99	10.92	221.89	2528.13	4.12	1.34	5.58	5.58
Rosebud County	C9	RM 252.69	76962	500-yr	4049.3	780.92	775.33	2	1.02	19.09	6.67	260.67	2675.19	4.29	1.48	5.59	5.59
Rosebud County	C9	RM 252.49	76646	500-yr	4049.3	780.63	775.36	2.89	1.14	37.23	10.61	161.39	3229.66	4.34	1.21	5.27	5.27
Rosebud County	C9	RM 252.24	76252	500-yr	4049.3	780.46	775.4	2.3	0.99	26.33	8.59	167.1	3386.61	4.03	1.29	5.06	5.06
Rosebud County	C9	RM 252.01	75885	500-yr	4049.3	780.33	775.39	1.81	0.87	22.98	7.92	252.1	3748.87	3.82	1.3	4.94	4.94
Rosebud County	C9	RM 251.7	75438	500-yr	4049.3	780.19	775.01	1.48	0.82	10.6	4.92	603.69	3706.83	2.87	1.33	5.18	5.18
Rosebud County	C9	RM 251.49	75098	500-yr	4049.3	780.09	775.02	1.27	0.81	11.37	7.12	716.44	3391.38	2.36	1.47	5.07	5.07
Rosebud County	C9	RM 251.23	74691	500-yr	4049.3	779.93	775.05	1.34	0.81	10.75	6.13	754.16	3638.47	2.43	1.38	4.88	4.88
Rosebud County	C9	RM 251.01	74322	500-yr	4049.3	779.77	774.84	1.52	0.8	10.96	5.75	595.57	3861.42	2.78	1.45	4.93	4.93
Rosebud County	C9	RM 250.79	73973	500-yr	4049.3	779.64	774.42	1.67	0.84	13.65	5.75	417.99	3983.98	3.49	1.46	5.22	5.22
Rosebud County	C9	RM 250.6	73678	500-yr	4049.3	779.51	774.17	1.7	0.92	23.53	10.17	376.03	4084.04	3.27	1.4	5.34	5.34
Rosebud County	C9	RM 250.37	73306	500-yr	4049.3	779.19	774.05	2.51	1.06	28.46	8.76	233.23	3941.4	4.28	1.31	5.14	5.14
Rosebud County	C9	RM 250.17	72982	500-yr	4049.3	779.03	773.93	2.55	1.04	32.02	12.17	214.36	3612.77	3.65	1.37	5.1	5.1
Rosebud County	C9	RM 249.95	72617	500-yr	4049.3	778.73	773.83	2.63	1.19	33.04	10.57	226.06	2748.8	4.18	1.33	4.9	4.9
Rosebud County	C9	RM 249.73	72253	500-yr	4049.3	778.53	773.71	2.4	1.1	28.01	10.4	273.96	2629.6	3.77	1.4	4.82	4.82
Rosebud County	C9	RM 249.53	71936	500-yr	4049.3	778.42	773.38	1.87	0.93	16.34	6.12	362.14	2872.36	4.05	1.51	5.04	5.04
Rosebud County	C9	RM 249.31	71579	500-yr	4049.3	778.17	773.14	2.25	1.17	27.77	10.16	363.92	3710.12	3.21	1.17	5.03	5.03
Rosebud County	C9	RM 249.13	71274	500-yr	4049.3	777.96	772.84	2.2	1.03	23.94	7.69	301.37	3751.32	4.08	1.3	5.12	5.12
Rosebud County	C9	RM 248.94	70978	500-yr	4049.3	777.74	772.56	2.56	1.02	31.46	9.44	201.69	3656.06	4.14	1.24	5.18	5.18
Rosebud County	C9	RM 248.76	70681	500-yr	4049.3	777.68	772.32	1.55	0.86	12.52	4.86	424.32	3075.85	3.95	1.52	5.36	5.36
Rosebud County	C9	RM 248.53	70312	500-yr	4049.3	777.61	772.17	1.54	0.71	10.68	4.2	164.13	3203.06	4.55	1.78	5.44	5.44
Rosebud County	C9	RM 248.31	69962	500-yr	4049.3	777.43	772.04	2.05	0.97	20.78	8.31	277.15	2826.14	3.86	1.53	5.39	5.39
Rosebud County	C9	RM 248.08	69603	500-yr	4049.3	777.25	771.92	2.34	0.95	23.7	7.67	211.49	3126.63	4.37	1.41	5.33	5.33
Rosebud County	C9	RM 247.88	69253	500-yr	4049.3	777.13	771.92	1.82	0.97	25.54	11.32	348.22	3204.19	3.07	1.35	5.21	5.21
Rosebud County	C9	RM 247.64	68836	500-yr	4049.3	776.89	771.95	1.97	1.04	20.57	7.82	416.51	3596.19	3.23	1.22	4.94	4.94

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	500-yr	4049.3	776.75	771.87	1.79	0.83	14.95	4.99	282.85	3524.83	4.44	1.47	4.88	4.88
Rosebud County	C9	RM 247.11	67963	500-yr	4049.3	776.52	771.45	2.64	1.11	33.73	10.91	199.91	2894.46	3.92	1.26	5.07	5.07
Rosebud County	C9	RM 246.83	67502	500-yr	4049.3	776.36	770.97	2.19	0.99	24.09	7.71	194.9	2734.72	4.8	1.52	5.39	5.39
Rosebud County	C9	RM 246.52	67019	500-yr	4049.3	776.17	770.61	2.12	1.05	20.41	6.79	225.63	2828.62	4.94	1.63	5.56	5.56
Rosebud County	C9	RM 246.22	66538	500-yr	4049.3	775.45	770.53	3.64	1.59	66.27	22.46	217.05	2798.3	3.37	1.13	4.92	4.92
Rosebud County	C9	RM 245.94	66068	500-yr	4049.3	775	770.29	2.44	1.37	30.26	9.87	297.16	2631.34	3.46	1.12	4.71	4.71
Rosebud County	C9	RM 245.66	65624	500-yr	4049.3	774.87	769.81	1.77	0.98	15.8	5.93	198.01	2721.42	4.81	1.77	5.63	5.63
Rosebud County	C9	RM 245.4	65205	500-yr	4049.3	774.66	769.59	2.09	1.24	20.46	9.7	376.4	2344.35	2.97	1.39	5.5	5.5
Rosebud County	C9	RM 245.15	64804	500-yr	4049.3	774.41	769.41	1.73	1.23	39.79	19.29	329.11	2455.14	2.79	1.34	5.25	5.25
Rosebud County	C9	RM 244.89	64387	500-yr	4049.3	773.75	769.41	3.14	1.52	47.97	13.35	189.43	2417.17	4.03	1.1	4.72	4.72
Rosebud County	C9	RM 244.7	64085	500-yr	4049.3	773.77	769.37	1.63	1.02	13.34	5.35	221.5	2583.25	3.83	1.53	4.87	4.87
Rosebud County	C9	RM 244.51	63776	500-yr	4049.3	773.7	769.35	1.42	0.92	11.18	5.17	264.21	2490.37	3.84	1.77	4.79	4.79
Rosebud County	C9	RM 244.33	63499	500-yr	4049.3	773.68	769.16	0.95	0.76	4.85	2.95	274.46	2400.49	3.65	2.21	5.25	5.25
Rosebud County	C9	RM 244.14	63224	500-yr	4049.3	773.64	768.52	1.22	0.78	6.98	3.48	208.4	2406.95	4.36	2.15	5.21	5.21
Rosebud County	C9	RM 243.96	62927	500-yr	4049.3	773.57	768.13	1.58	0.87	11.61	4.65	176.71	2549.77	4.56	1.82	5.44	5.44
Rosebud County	C9	RM 243.77	62617	500-yr	4049.3	773.53	767.57	1.12	0.74	5.54	2.17	160.76	2576.53	5.47	2.11	5.96	5.96
Rosebud County	C9	RM 243.59	62327	500-yr	4049.3	773.44	766.98	1.72	0.82	14.97	4.82	122.45	2605.61	6.06	1.89	6.46	6.46
Rosebud County	C9	RM 243.39	62012	500-yr	4049.3	773.23	766.86	2.37	0.98	24.75	7.5	156.08	2537.24	5.49	1.62	6.37	6.37
Rosebud County	C9	RM 243.21	61718	500-yr	4049.3	773.06	766.74	2.45	1.06	25.81	6.94	203.35	2497.11	5.8	1.53	6.32	6.32
Rosebud County	C10	RM 243.03	61422	500-yr	4049.3	772.85	766.73	2.91	1.18	38.57	11.24	174.23	2429.93	4.94	1.41	6.12	6.12
Rosebud County	C10	RM 242.84	61125	500-yr	4049.3	772.45	766.76	3.39	1.49	53.69	13.61	172.04	2254.71	4.84	1.2	5.69	5.69
Rosebud County	C10	RM 242.65	60825	500-yr	4049.3	772.22	766.76	3	1.43	42.39	11.9	204.7	2051.08	4.98	1.38	5.46	5.46
Rosebud County	C10	RM 242.47	60527	500-yr	4049.3	772.05	766.77	2.65	1.35	32.2	9.4	241.01	2045.99	5.02	1.46	5.28	5.28
Rosebud County	C10	RM 242.29	60239	500-yr	4049.3	771.89	766.64	2.48	1.41	29.55	8.47	282.31	2098.89	4.81	1.37	5.25	5.25
Rosebud County	C10	RM 242.1	59939	500-yr	4049.3	771.73	766.29	2.41	1.3	28.71	9.89	280	2073.54	4.41	1.51	5.44	5.44
Rosebud County	C10	RM 241.9	59618	500-yr	4049.3	771.58	765.95	2.22	1.07	21.97	7.63	249.51	2200.47	5.02	1.72	5.63	5.63
Rosebud County	C10	RM 241.72	59324	500-yr	4049.3	771.46	765.5	2.05	1.14	18.86	6.99	289.97	1902.42	5.08	1.87	5.96	5.96
Rosebud County	C10	RM 241.53	59025	500-yr	4049.3	771.22	765.17	2.77	1.27	38.15	11.06	160	1986.96	5.65	1.61	6.05	6.05
Rosebud County	C10	RM 241.34	58725	500-yr	4049.3	771.1	765.02	2.4	1.06	25.48	8.54	177.78	2099.46	5.49	1.81	6.08	6.08
Rosebud County	C10	RM 241.16	58424	500-yr	4049.3	771.03	764.97	1.96	1	17.05	6.83	171.92	2012.1	5.26	2.08	6.06	6.06
Rosebud County	C10	RM 240.97	58132	500-yr	4049.3	770.93	764.83	1.96	1.01	16.84	6.78	189.7	1823.67	5.5	2.19	6.1	6.1
Rosebud County	C10	RM 240.78	57818	500-yr	4049.3	770.9	764.56	1.6	0.84	10.87	4.46	159.68	1981.37	6.01	2.43	6.34	6.34
Rosebud County	C10	RM 240.56	57467	500-yr	4049.3	770.83	764.28	1.6	0.87	15.67	6.89	212.38	1910.94	5.65	2.45	6.55	6.55
Rosebud County	C10	RM 240.41	57228	500-yr	4049.3	770.76	763.91	1.61	0.89	13.62	6.01	216.4	1684	6.18	2.69	6.85	6.85
Rosebud County	C10	RM 240.22	56944	500-yr	4049.3	770.55	763.51	2.44	1.22	25.44	10.29	157.35	1266.57	6.72	2.62	7.04	7.04
Rosebud County	C10	RM 240.09	56741	500-yr	4049.3	770.27	763.47	3.36	1.46	37.68	14.16	120.86	1254.13	6.38	2.32	6.8	6.8
Rosebud County	C10	RM 239.97	56546	500-yr	4049.3	770.2	763.47	2.83	1.48	43.55	17.41	155.75	1126.2	6.21	2.44	6.73	6.73
Rosebud County	C10	RM 239.86	56371	500-yr	4049.3	770.13	763.25	2.51	1.48	28.67	13.01	205.85	1065.46	5.7	2.57	6.88	6.88
Rosebud County	C10	RM 239.68	56093	500-yr	4049.3	769.89	763.02	2.9	1.45	30.14	12.17	172.44	1239.71	5.72	2.25	6.87	6.87
Rosebud County	C10	RM 239.56	55888	500-yr	4049.3	769.26	763.1	4.46	1.98	69.96	23.86	119.6	1133.87	5.34	1.8	6.16	6.16
Rosebud County	C10	RM 239.41	55655	500-yr	4049.3	768.96	763.17	4.17	2.15	61.37	16.08	144.11	1417.72	5.43	1.38	5.79	5.79
Rosebud County	C10	RM 239.25	55398	500-yr	4049.3	768.87	763.17	3.37	1.65	52.93	17.16	164.41	1459.79	5.32	1.69	5.7	5.7
Rosebud County	C10	RM 239.07	55108	500-yr	4049.3	768.72	763.2	2.81	1.56	28.03	10.09	219.55	1403.6	5.2	1.85	5.52	5.52
Rosebud County	C10	RM 238.89	54826	500-yr	4049.3	768.41	763.23	3.3	1.81	39.14	13.16	191.74	1347.15	5.03	1.66	5.18	5.18
Rosebud County	C10	RM 238.73	54570	500-yr	4049.3	768.1	763.38	3.36	2.18	41.89	13	242.11	1335.56	4.53	1.39	4.72	4.72
Rosebud County	C10	RM 238.51	54223	500-yr	4049.3	768.1	762.88	1.98	1.56	21.77	11.54	435.56	1243.19	3.96	2.09	5.22	5.22
Rosebud County	C10	RM 238.33	53926	500-yr	4049.3	767.84	762.37	2.38	1.72	26.96	11.54	306.34	1169.16	4.76	2.02	5.47	5.47
Rosebud County	C10	RM 238.14	53626	500-yr	4049.3	767.58	762.25	2.84	1.68	36.32	16.56	214.01	1117.63	4.95	2.26	5.33	5.33
Rosebud County	C10	RM 237.95	53321	500-yr	4049.3	767.48	762.09	2.44	1.3	26.59	12.08	189.37	1535.76	5.14	2.33	5.39	5.39
Rosebud County	C10	RM 237.77	53027	500-yr	4049.3	767.43	761.85	1.78	0.98	14.35	6.91	294.75	1760.62	5.07	2.44	5.58	5.58
Rosebud County	C10	RM 237.56	52703	500-yr	4049.3	767.36	761.46	1.53	0.84	11.58	5.59	410.69	2255.77	4.44	2.13	5.9	5.9
Rosebud County	C10	RM 237.36	52386	500-yr	4049.3	767.3	761.22	1.36	0.75	8.81	4.4	443.16	2515.74	4.59	2.28	6.08	6.08
Rosebud County	C10	RM 237.15	52029	500-yr	4049.3	767.23	760.88	1.45	0.77	9.4	4.39	385.86	2542.43	5.05	2.34	6.36	6.36
Rosebud County	C10	RM 236.99	51756	500-yr	4049.3	767.04	760.22	2.4	0.99	19	6.11	177.1	2440.64	6.5	2.05	6.82	6.82
Rosebud County	C10	RM 236.83	51500	500-yr	4049.3	766.97	760.07	2.45	1	20.39	7.6	167.82	2561.26	6.02	2.19	6.9	6.9
Rosebud County	C10	RM 236.66	51221	500-yr	4049.3	766.89	760.07	2.28	1.14	17.33	5.75	188.48	2482.46	6.35	2.07	6.82	6.82
Rosebud County	C10	RM 236.47	50924	500-yr	4049.3	766.54	759.94	2.97	2	29.64	9.14	193.41	1609.03	6.25	1.9	6.6	6.6
Rosebud County	C11	RM 236.29	50623	500-yr	4049.3	766.43	760	2.82	1.93	26.95	10.16	211.22	2047.74	5.98	2.23	6.43	6.43
Rosebud County	C11	RM 236.1	50327	500-yr	4049.3	766.16	760	3.18	2.19	35.27	13.1	206.87	1975.78	5.47	2.01	6.16	6.16
Rosebud County	C11	RM 235.91	50024	500-yr	4049.3	765.7	760	3.8	2.61	63.59	28.73	170.49	858.72	5.4	2.41	5.7	5.7

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	500-yr	4049.3	765.62	760.15	2.79	2.4	35.68	24.33	243.8	1504.34	4.95	3.35	5.47	5.47
Rosebud County	C11	RM 235.57	49480	500-yr	4049.3	765.5	760.02	2.45	2.1	27.2	15.82	318.23	1902.3	4.92	2.85	5.48	5.48
Rosebud County	C11	RM 235.36	49133	500-yr	4049.3	765.31	759.74	2.32	1.91	24.93	13.86	428.22	1589.9	3.8	2.1	5.57	5.57
Rosebud County	C11	RM 235.17	48830	500-yr	4049.3	765.14	759.55	2.16	1.63	23.23	11.94	455.8	1640.95	3.71	1.9	5.59	5.59
Rosebud County	C11	RM 235	48571	500-yr	4049.3	764.99	759.29	2.24	1.47	22.85	8.34	320.92	2054.42	4.9	1.77	5.7	5.7
Rosebud County	C11	RM 234.82	48271	500-yr	4049.3	764.52	759.21	3.42	1.81	54.04	14.95	190.08	1877.24	4.7	1.29	5.31	5.31
Rosebud County	C11	RM 234.63	47978	500-yr	4049.3	764.37	759.21	2.68	1.51	33	9.49	238.2	2078.17	4.67	1.33	5.16	5.16
Rosebud County	C11	RM 234.45	47692	500-yr	4049.3	764.23	759.12	2.34	1.37	25.74	7.59	283.79	2223.78	4.53	1.33	5.11	5.11
Rosebud County	C11	RM 234.2	47305	500-yr	4049.3	764.15	758.6	1.68	1.2	12.73	5.95	528.71	2059.74	3.53	1.64	5.55	5.55
Rosebud County	C11	RM 234.01	47006	500-yr	4049.3	764.08	758.27	1.23	0.96	8.4	4.69	818.93	2179.64	3.48	1.94	5.81	5.81
Rosebud County	C11	RM 233.84	46737	500-yr	4049.3	763.97	758.12	1.5	1.11	12.34	5.29	583.98	2730.71	4.01	1.71	5.85	5.85
Rosebud County	C11	RM 233.61	46365	500-yr	4049.3	763.79	757.67	1.93	1.21	15.91	4.82	302.81	2531.27	5.8	1.75	6.12	6.12
Rosebud County	C11	RM 233.35	45943	500-yr	4049.3	763.57	757.03	2.47	1.22	26.99	9.43	214.65	1804.35	5.33	1.84	6.54	6.54
Rosebud County	C11	RM 233.13	45584	500-yr	4049.3	763.32	756.45	2.67	1.42	30.43	9.29	206.27	1751.19	5.96	1.79	6.87	6.87
Rosebud County	C11	RM 232.94	45281	500-yr	4049.3	763.06	756.15	3.08	1.48	40.33	10.93	169.36	1914.42	6.06	1.6	6.91	6.91
Rosebud County	C11	RM 232.75	44978	500-yr	4049.3	762.96	756.03	2.63	1.37	29.34	8.03	204.86	2292.05	6.13	1.64	6.93	6.93
Rosebud County	C11	RM 232.56	44674	500-yr	4049.3	762.82	755.79	2.56	1.39	28.87	8.64	241.61	2266.51	5.41	1.59	7.03	7.03
Rosebud County	C11	RM 232.37	44366	500-yr	4049.3	762.69	755.72	2.56	1.3	29.13	9.68	206.42	1953.63	5.3	1.73	6.97	6.97
Rosebud County	C11	RM 232.19	44074	500-yr	4049.3	762.38	755.67	2.91	1.67	37.07	10.7	204.11	1549.04	5.53	1.57	6.71	6.71
Rosebud County	C11	RM 232.01	43791	500-yr	4049.3	762.2	755.65	2.81	1.61	35.76	14.01	232.27	1303.66	5	1.93	6.55	6.55
Rosebud County	C11	RM 231.81	43473	500-yr	4049.3	761.86	755.6	3.17	1.73	45.9	20.26	201.55	1279.46	4.76	2.07	6.26	6.26
Rosebud County	C11	RM 231.62	43160	500-yr	4049.3	761.59	755.57	3.02	1.69	39.09	15.94	230.71	1634.26	4.41	1.77	6.02	6.02
Rosebud County	C11	RM 231.42	42835	500-yr	4049.3	761.51	755.45	2.32	1.27	23.4	9.26	229.33	1536.34	5.67	2.21	6.06	6.06
Rosebud County	C11	RM 231.22	42522	500-yr	4049.3	761.39	755.45	2.38	1.16	24.63	10.23	204	1663.17	5.13	2.1	5.94	5.94
Rosebud County	C11	RM 230.99	42160	500-yr	4049.3	760.96	755.45	3.31	1.53	50.12	18.25	154.03	1523.33	4.88	1.74	5.51	5.51
Rosebud County	C11	RM 230.79	41841	500-yr	4049.3	760.73	755.43	2.85	1.47	36.66	13.4	202.2	1524.39	5.02	1.81	5.3	5.3
Rosebud County	C11	RM 230.53	41415	500-yr	4049.3	760.61	755.17	2.03	1.36	20.29	8.69	299.8	1752.9	4.02	1.7	5.44	5.44
Rosebud County	C11	RM 230.29	41045	500-yr	4049.3	760.34	755.15	2.49	1.44	28.66	10.45	234.88	1782.18	4.37	1.57	5.19	5.19
Rosebud County	C11	RM 230.06	40676	500-yr	4049.3	760.06	754.81	2.48	1.53	30.42	11.59	287.47	1849.36	3.8	1.43	5.25	5.25
Rosebud County	C11	RM 229.81	40276	500-yr	4049.3	759.91	754.74	2.02	1.09	19.35	8.84	320.68	1890.75	4.34	1.97	5.17	5.17
Rosebud County	C11	RM 229.6	39937	500-yr	4049.3	759.77	754.58	1.97	1.08	18.32	10.9	412.79	1988.51	3.18	1.88	5.19	5.19
Rosebud County	C11	RM 229.4	39596	500-yr	4049.3	759.61	754.34	2.08	1.12	20.46	8.16	283.63	1980.59	4.61	1.83	5.27	5.27
Rosebud County	C11	RM 229.2	39273	500-yr	4049.3	759.3	754.15	2.93	1.44	41.28	13.72	214.46	2049.29	4.17	1.37	5.15	5.15
Rosebud County	C11	RM 229.02	38994	500-yr	4049.3	759.13	754.12	2.73	1.29	35.41	12.58	211.31	2067.02	4.31	1.52	5.01	5.01
Rosebud County	C11	RM 228.82	38676	500-yr	4049.3	758.99	753.8	2.31	1.17	25.33	9.46	271.56	2168.51	4.32	1.6	5.19	5.19
Rosebud County	C11	RM 228.64	38383	500-yr	4049.3	758.86	753.73	2.27	1.14	24.32	9.38	224.38	2116.72	4.4	1.68	5.17	5.17
Rosebud County	C11	RM 228.46	38093	500-yr	4049.3	758.79	753.53	1.81	0.96	15.36	6.87	301.72	2134.57	4.47	1.98	5.26	5.26
Rosebud County	C11	RM 228.26	37771	500-yr	4049.3	758.72	753.35	1.65	0.83	12.59	6.25	273.91	2148.6	4.62	2.27	5.37	5.37
Rosebud County	C11	RM 228.03	37408	500-yr	4049.3	758.61	753.16	1.93	0.87	17.17	8.1	233.4	2104.3	4.75	2.22	5.45	5.45
Rosebud County	C11	RM 227.74	36949	500-yr	4049.3	758.45	752.95	2.15	1.03	20.97	8.25	167.04	2030.05	5.02	1.94	5.5	5.5
Rosebud County	C11	RM 227.49	36537	500-yr	4049.3	758.35	752.83	2.04	0.95	18.84	6.84	175.55	2842.45	5.02	1.79	5.52	5.52
Rosebud County	C11	RM 227.2	36062	500-yr	4049.3	758.24	752.41	1.99	0.99	17.9	7.32	180.83	2755.54	4.97	2	5.83	5.83
Rosebud County	C11	RM 226.98	35709	500-yr	4049.3	757.91	752.31	2.78	1.36	35.88	14.36	211.99	2253.84	4.57	1.81	5.6	5.6
Rosebud County	C11	RM 226.79	35400	500-yr	4049.3	757.73	752.25	2.33	1.41	29.34	13.89	268.83	2014.43	4.67	2.19	5.48	5.48
Rosebud County	C11	RM 226.56	35065	500-yr	4049.3	757.58	751.83	2.03	1.45	23.19	11.61	338.41	1620.46	4.68	2.33	5.75	5.75
Rosebud County	C11	RM 226.36	34743	500-yr	4049.3	757.22	751.68	2.64	1.88	36.23	16.29	303.18	1152.96	4.44	1.98	5.54	5.54
Rosebud County	C11	RM 226.2	34476	500-yr	4049.3	757.15	751.25	1.98	1.45	19.83	10.88	424.72	1324.83	4.21	2.3	5.9	5.9
Rosebud County	C11	RM 226.01	34177	500-yr	4049.3	757.04	750.81	2.06	1.15	20.12	8.69	284.2	1870.46	5.21	2.22	6.23	6.23
Rosebud County	C11	RM 225.83	33884	500-yr	4049.3	756.83	750.59	2.73	1.21	32.34	11.97	159.74	1778.89	5.66	2.06	6.24	6.24
Rosebud County	C11	RM 225.64	33580	500-yr	4049.3	756.77	750.56	1.97	1.05	17.69	7.9	293.96	1972.81	4.93	2.18	6.21	6.21
Rosebud County	C11	RM 225.45	33275	500-yr	4021	756.69	750.31	1.83	1.06	14.82	6.55	332.17	1884.68	5.24	2.29	6.38	6.38
Rosebud County	C11	RM 225.26	32969	500-yr	4021	756.56	750.25	2.04	1.2	18.46	8.77	291.78	1605.47	5.31	2.5	6.31	6.31
Rosebud County	C11	RM 225.16	32805	500-yr	4021	756.37	750.19	2.61	1.56	29.71	13.12	224.54	1203.12	5.61	2.44	6.18	6.18
Rosebud County	C11	RM 225.06	32646	500-yr	4021	755.84	750.15	3.89	2.31	66.26	24.13	169.61	1140.17	5.16	1.86	5.69	5.69
Rosebud County	C12	RM 224.89	32368	500-yr	4021	755.79	750.09	2.81	2.14	34.96	16.93	249.97	1096.26	5.28	2.54	5.7	5.7
Rosebud County	C12	RM 224.71	32083	500-yr	4021	755.61	750.04	2.55	2.3	30.61	23.93	393.37	703.89	3.85	3	5.57	5.57
Rosebud County	C12	RM 224.53	31796	500-yr	4021	755.35	749.96	2.61	2.44	30.98	23.96	412.38	772.13	3.63	2.8	5.39	5.39
Rosebud County	C12	RM 224.34	31486	500-yr	4021	755.19	750.03	2.09	1.88	25.93	21.29	480.32	879.51	3.33	2.73	5.16	5.16
Rosebud County	C12	RM 224.16	31195	500-yr	4021	754.96	749.78	2.39	1.73	25.93	14.15	263.29	1632.08	4.6	2.49	5.28	5.28
Rosebud County	C12	RM 223.96	30878	500-yr	4021	754.78	749.48	2.61	1.65	31	14.13	179.51	1632.56	4.94	2.23	5.4	5.4

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	500-yr	4021	754.58	749.18	2.81	1.7	36.89	16.85	162.95	1571.5	4.49	2.02	5.4	5.4
Rosebud County	C12	RM 223.55	30235	500-yr	4021	754.41	748.87	2.48	1.44	27.39	10.22	229.9	1726.85	5.25	1.94	5.54	5.54
Rosebud County	C12	RM 223.37	29952	500-yr	4021	754.19	748.72	2.76	1.39	33.94	11.75	208.3	1934.76	5.22	1.78	5.47	5.47
Rosebud County	C12	RM 223.2	29681	500-yr	4021	754.06	748.51	2.58	1.23	29.36	9.76	209.66	2105.9	5.36	1.76	5.55	5.55
Rosebud County	C12	RM 223.02	29391	500-yr	4021	754.02	748.51	1.93	0.96	16.81	6.82	265.78	2401.51	4.97	1.99	5.51	5.51
Rosebud County	C12	RM 222.82	29071	500-yr	4021	753.93	748.5	1.87	0.92	15.82	6.01	268.13	2313.33	5.03	1.89	5.43	5.43
Rosebud County	C12	RM 222.64	28787	500-yr	4021	753.82	748.46	2.01	0.94	18.11	6.4	236.97	2380.4	5.11	1.79	5.36	5.36
Rosebud County	C12	RM 222.45	28479	500-yr	4021	753.72	748.44	1.93	0.98	17.22	7.42	281.49	2045.4	4.69	2.01	5.28	5.28
Rosebud County	C12	RM 222.22	28128	500-yr	4021	753.6	748.15	1.46	0.9	31.56	11.2	261.1	2582.16	5.16	1.82	5.45	5.45
Rosebud County	C12	RM 222.01	27784	500-yr	4021	753.47	747.57	1.47	0.75	10.38	3.96	372.22	2928.23	4.83	1.83	5.9	5.9
Rosebud County	C12	RM 221.77	27401	500-yr	4021	753.43	747.18	0.97	0.62	6.09	3.5	725.95	2820.19	3.99	2.28	6.25	6.25
Rosebud County	C12	RM 221.55	27042	500-yr	4021	753.39	747.07	0.8	0.54	4.75	3.19	807.88	2789.13	3.96	2.65	6.32	6.32
Rosebud County	C12	RM 221.34	26708	500-yr	4021	753.35	746.94	0.85	0.53	4.19	2.72	648.68	2896.72	4.26	2.75	6.41	6.41
Rosebud County	C12	RM 221.15	26406	500-yr	4021	753.28	746.7	1.43	0.67	8.6	3.62	265.14	2446.08	6.15	2.55	6.58	6.58
Rosebud County	C12	RM 220.96	26081	500-yr	4021	752.96	746.66	3.06	1.28	40.73	12.64	138.93	2096.35	5.65	1.71	6.3	6.3
Rosebud County	C12	RM 220.77	25779	500-yr	4021	752.23	746.73	4.01	2.18	72.19	15.44	163.4	1703.11	5.17	1.08	5.5	5.5
Rosebud County	C12	RM 220.6	25513	500-yr	4021	752.28	746.72	2.6	1.68	29.99	9.38	256.78	1465.54	5.28	1.63	5.56	5.56
Rosebud County	C12	RM 220.4	25183	500-yr	4021	752.21	746.88	1.99	1.32	19.3	8.88	395.04	2426.02	3.98	1.82	5.33	5.33
Rosebud County	C12	RM 220.23	24914	500-yr	4021	752.16	746.8	1.44	1.06	10.03	5.92	635.17	2586.39	3.61	2.12	5.36	5.36
Rosebud County	C12	RM 220.02	24578	500-yr	4021	752.06	746.54	1.35	1.11	10.36	7.43	792.77	1903.1	3.35	2.39	5.52	5.52
Rosebud County	C12	RM 219.83	24268	500-yr	4021	751.98	746.18	1.24	1.07	8.78	6.91	775.68	1261.62	3.78	2.97	5.8	5.8
Rosebud County	C12	RM 219.63	23947	500-yr	4021	751.82	745.79	1.64	1.36	16.08	9.37	587.54	1323.96	3.85	2.23	6.03	6.03
Rosebud County	C12	RM 219.47	23683	500-yr	4021	751.69	745.56	1.86	1.29	17.03	7.18	380.14	1594.76	4.91	2.05	6.13	6.13
Rosebud County	C12	RM 219.29	23386	500-yr	4021	751.32	745.27	2.97	1.64	39.36	13.9	208.04	1353.01	5.18	1.81	6.05	6.05
Rosebud County	C12	RM 219.11	23085	500-yr	4021	751.15	745.15	2.85	1.63	36.27	13.88	176.7	1303.9	5.2	1.96	6	6
Rosebud County	C12	RM 218.92	22783	500-yr	4021	751.04	745.15	2.34	1.41	25.4	11.87	229.91	1788.51	4.7	2.17	5.89	5.89
Rosebud County	C12	RM 218.73	22473	500-yr	4021	750.83	745.06	2.46	1.42	26.48	11.28	226.8	1677.55	5.44	2.3	5.77	5.77
Rosebud County	C12	RM 218.54	22180	500-yr	4021	750.66	744.99	2.45	1.61	27.04	10.6	274.48	1474.25	5.02	1.97	5.66	5.66
Rosebud County	C12	RM 218.38	21902	500-yr	4021	750.52	744.43	2.47	1.53	26.64	9.21	234.82	1474.7	5.56	1.91	6.09	6.09
Rosebud County	C12	RM 218.18	21580	500-yr	4021	750.18	743.9	3.14	1.69	43.68	16.02	182.74	1361.98	5.35	1.93	6.28	6.28
Rosebud County	C12	RM 217.99	21276	500-yr	4021	750.02	743.66	2.81	1.54	35.83	15.42	211.96	1246.86	4.93	2.09	6.36	6.36
Rosebud County	C12	RM 217.81	20981	500-yr	4021	749.97	743.51	2.08	1.29	18.75	7.48	293.45	1640.51	5.46	2.15	6.46	6.46
Rosebud County	C12	RM 217.64	20702	500-yr	4021	749.55	743.41	3.32	1.7	49.08	15.34	176.29	1562.26	5.26	1.61	6.14	6.14
Rosebud County	C12	RM 217.45	20392	500-yr	4021	749.37	743.29	3.03	1.43	41.5	13.01	184.69	1909.75	4.98	1.53	6.08	6.08
Rosebud County	C12	RM 217.25	20070	500-yr	4021	749.31	743.29	2.31	1.09	23.28	7.27	191.77	2140.76	5.64	1.73	6.02	6.02
Rosebud County	C12	RM 217	19662	500-yr	4021	749.08	743.25	2.59	1.2	29.78	9.27	192.47	2079.57	5.24	1.61	5.83	5.83
Rosebud County	C12	RM 216.77	19300	500-yr	4021	748.93	743.25	2.4	1.14	26.67	9.25	217.02	2197.03	4.68	1.6	5.68	5.68
Rosebud County	C12	RM 216.53	18912	500-yr	4021	748.81	743.3	2.01	1	18.66	8.64	274.18	1905.87	4.61	2.11	5.51	5.51
Rosebud County	C12	RM 216.27	18500	500-yr	4021	748.7	743.24	1.79	1.02	15.02	7.12	358.3	1900.41	4.4	2.08	5.46	5.46
Rosebud County	C12	RM 215.98	18038	500-yr	4021	748.6	743.12	1.66	0.9	12.69	6.11	273.73	1977.2	4.7	2.26	5.48	5.48
Rosebud County	C12	RM 215.68	17550	500-yr	4021	748.44	742.31	1.88	1.03	15.08	6.24	269.37	1942.83	5.84	2.41	6.13	6.13
Rosebud County	C12	RM 215.41	17101	500-yr	4021	748.27	741.82	2.22	1.21	21.52	8.87	218.66	1848.09	5.59	2.28	6.45	6.45
Rosebud County	C12	RM 215.21	16781	500-yr	4021	747.97	741.65	3.04	1.57	40.43	15.56	159.7	1705.7	5.5	2.08	6.32	6.32
Rosebud County	C12	RM 215.02	16479	500-yr	4021	747.5	741.68	3.72	2.06	60.87	22.13	146.57	1522.33	5.46	1.95	5.82	5.82
Rosebud County	C13	RM 214.86	16220	500-yr	4021	747.49	741.64	2.53	1.8	27.71	15.15	252.91	1346.45	5.64	3.05	5.85	5.85
Rosebud County	C13	RM 214.65	15883	500-yr	4021	747.31	741.6	2.33	1.88	26.33	14.72	399.8	1284.94	4.04	2.24	5.71	5.71
Rosebud County	C13	RM 214.46	15577	500-yr	4021	747.19	741.6	2.01	1.48	18.47	12.18	461	1441.73	3.69	2.41	5.59	5.59
Rosebud County	C13	RM 214.27	15282	500-yr	4021	747.09	741.59	1.75	1.34	14.46	9.42	505.93	1662.01	3.68	2.39	5.5	5.5
Rosebud County	C13	RM 214.07	14957	500-yr	4021	746.97	741.54	1.66	1.14	16.82	9.26	425.03	2229.38	4.45	2.43	5.43	5.43
Rosebud County	C13	RM 213.9	14672	500-yr	4021	746.75	741.37	2.12	1.44	21.14	8.86	363.41	2332.61	4.48	1.86	5.38	5.38
Rosebud County	C13	RM 213.7	14343	500-yr	4021	746.28	740.88	3.09	2.05	42.96	14.14	232.58	2120.43	5.04	1.64	5.4	5.4
Rosebud County	C13	RM 213.54	14083	500-yr	4021	745.94	740.59	3.49	1.94	55.44	17.32	191.86	2041.76	4.94	1.52	5.35	5.35
Rosebud County	C13	RM 213.36	13792	500-yr	4021	745.81	740.39	2.78	1.54	36.11	12.85	246.24	2190.58	4.52	1.59	5.42	5.42
Rosebud County	C13	RM 213.16	13475	500-yr	4021	745.65	740.27	2.57	1.37	30.51	11.29	214.1	2276.91	4.36	1.59	5.38	5.38
Rosebud County	C13	RM 212.99	13200	500-yr	4021	745.53	740.31	2.33	1.22	24.38	9.93	212.05	2202.46	4.23	1.7	5.22	5.22
Rosebud County	C13	RM 212.79	12880	500-yr	4021	745.32	740.19	2.54	1.18	29.27	10.3	178.07	2554.69	4.92	1.71	5.13	5.13
Rosebud County	C13	RM 212.6	12572	500-yr	4021	745.13	739.79	2.39	1.15	25.66	9	240.96	2754.4	5.02	1.74	5.34	5.34
Rosebud County	C13	RM 212.42	12284	500-yr	4021	744.94	739.58	2.64	1.17	33.67	11.76	211.31	2618.72	4.69	1.62	5.36	5.36
Rosebud County	C13	RM 212.23	11983	500-yr	4021	744.9	739.17	1.89	0.95	16.45	6.56	257.92	2560.11	4.68	1.85	5.73	5.73
Rosebud County	C13	RM 212.05	11688	500-yr	4021	744.75	738.83	2.2	1.06	21.54	6.75	227.41	2501.17	5.23	1.62	5.92	5.92

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	500-yr	4021	744.59	738.79	2.37	1.16	25.91	8.52	251.66	2305.79	4.64	1.51	5.8	5.8
Rosebud County	C13	RM 211.65	11066	500-yr	4021	744.42	738.58	2.41	1.15	26.72	8.66	248.86	2306.78	4.73	1.52	5.84	5.84
Rosebud County	C13	RM 211.44	10724	500-yr	4021	744.3	738.38	2.31	1.01	24.02	8.35	199.53	2292.52	5.04	1.73	5.92	5.92
Rosebud County	C13	RM 211.21	10353	500-yr	4021	744.2	737.87	2.13	1.04	19.51	7.56	207.36	2096.13	5.05	1.93	6.33	6.33
Rosebud County	C13	RM 210.96	9946	500-yr	4021	743.9	737.72	2.81	1.35	35.75	12.73	169.56	1685.7	5.03	1.76	6.18	6.18
Rosebud County	C13	RM 210.75	9612	500-yr	4021	743.83	737.48	2.24	1.18	22.16	8.25	191.27	1719.16	5.42	1.99	6.35	6.35
Rosebud County	C13	RM 210.57	9317	500-yr	4021	743.75	737.5	2.03	1.12	18.25	6.9	244	1785.15	5.39	2.01	6.25	6.25
Rosebud County	C13	RM 210.36	8986	500-yr	4021	743.48	737.54	2.68	1.29	32.46	11.27	194.77	1794.53	5.06	1.73	5.94	5.94
Rosebud County	C13	RM 210.16	8674	500-yr	4021	743.23	737.53	2.61	1.54	32.37	11.01	288.57	1794.16	4.31	1.45	5.7	5.7
Rosebud County	C13	RM 209.98	8382	500-yr	4021	743.22	737.25	1.78	1.05	14.04	4.64	307.03	2629.18	5.3	1.73	5.97	5.97
Rosebud County	C13	RM 209.8	8091	500-yr	4021	743.12	736.96	2.02	1	17.33	4.84	218.68	3039.71	6.02	1.66	6.16	6.16
Rosebud County	C13	RM 209.6	7774	500-yr	4021	743.02	736.72	2.18	0.9	20.33	5.91	179.37	3322.71	5.9	1.69	6.3	6.3
Rosebud County	C13	RM 209.41	7482	500-yr	4021	742.96	736.53	1.86	0.88	15.22	4.95	238.7	3231.51	5.42	1.74	6.43	6.43
Rosebud County	C13	RM 209.21	7161	500-yr	4021	742.81	736.29	2.23	1.08	21.74	6.09	197.21	2937.91	5.58	1.54	6.52	6.52
Rosebud County	C13	RM 209.03	6871	500-yr	4021	742.7	736.14	2.34	1.1	23.7	6.41	186.26	2783.82	5.69	1.51	6.56	6.56
Rosebud County	C13	RM 208.85	6571	500-yr	4021	742.63	736.03	2.04	1.03	18.01	5.46	229.12	2667.35	5.72	1.71	6.6	6.6
Rosebud County	C13	RM 208.65	6257	500-yr	4021	742.55	735.74	2.02	1.06	17.94	6.17	218.32	2513.88	5.5	1.86	6.81	6.81
Rosebud County	C13	RM 208.46	5945	500-yr	4021	742.33	735.69	2.45	1.43	28.95	11.03	204.54	1948.88	4.99	1.87	6.64	6.64
Rosebud County	C13	RM 208.29	5682	500-yr	4021	741.1	735.63	5.14	3.34	120.04	28.55	116.29	1046.41	5	1.15	5.47	5.47
Rosebud County	C14	RM 208.1	5374	500-yr	4021	740.89	735.61	3.6	2.57	58.5	20.03	201.37	1061.96	5.07	1.71	5.28	5.28
Rosebud County	C14	RM 207.91	5064	500-yr	4021	740.72	735.56	2.86	1.91	40.9	18.06	293.26	1397.49	3.96	1.73	5.16	5.16
Rosebud County	C14	RM 207.72	4766	500-yr	4021	740.5	735.52	2.43	1.61	28.51	13.83	400.5	2144.68	3.26	1.57	4.98	4.98
Rosebud County	C14	RM 207.53	4450	500-yr	4021	740.37	735.35	1.88	1.28	18.39	9.24	469.61	1763.56	3.57	1.78	5.02	5.02
Rosebud County	C14	RM 207.33	4123	500-yr	4021	740.07	735.27	2.52	1.53	30.36	12.38	282.48	1555.88	4.18	1.69	4.8	4.8
Rosebud County	C14	RM 207.15	3851	500-yr	4021	739.94	735.14	2.25	1.38	24.74	10.07	313.39	1721.07	4.18	1.69	4.8	4.8
Rosebud County	C14	RM 206.99	3599	500-yr	4021	739.84	734.95	2.07	1.21	20.96	9.25	327.09	1967.68	3.94	1.73	4.89	4.89
Rosebud County	C14	RM 206.81	3315	500-yr	4021	739.71	734.49	2.09	1.14	20.59	8.7	257.4	1919.55	4.39	1.83	5.22	5.22
Rosebud County	C14	RM 206.61	2997	500-yr	4021	739.56	733.91	2.26	1.11	23.29	9.14	197.48	2474.84	4.91	1.9	5.65	5.65
Rosebud County	C14	RM 206.43	2701	500-yr	4021	739.49	733.52	1.89	0.97	17.16	7.91	244.31	2797.46	4.14	1.89	5.97	5.97
Rosebud County	C14	RM 206.21	2350	500-yr	4021	739.34	733.38	2.06	1.1	21.16	8.33	253.17	2751.67	4.3	1.67	5.96	5.96
Rosebud County	C14	RM 205.97	1963	500-yr	4021	739.2	732.73	2.01	1	17.46	5.71	223.85	2783.89	5.69	1.83	6.47	6.47
Rosebud County	C14	RM 205.72	1563	500-yr	4021	738.88	732.73	3.12	1.29	57.35	15.72	107.48	2698.77	5.18	1.37	6.15	6.15
Rosebud County	C14	RM 205.49	1198	500-yr	4021	738.41	732.63	2.91	1.47	51.59	14.24	192.62	2590.43	4.59	1.25	5.78	5.78
Rosebud County	C14	RM 205.3	907	500-yr	4021	738.14	732.76	2.61	1.31	34.26	13.87	246.92	2517.35	3.65	1.46	5.38	5.38
Rosebud County	C14	RM 205.11	594	500-yr	4021	737.93	732.8	2.42	1.1	26.86	9.52	192	2359.97	4.74	1.65	5.13	5.13
Rosebud County	C14	RM 204.9	243	500-yr	4021	737.65	732.63	2.67	1.22	34.11	11.48	224.67	2656.13	4.19	1.39	5.02	5.02

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	500-yr	4021	737.65	732.67	2.77	1.22	36.93	11.85	192.07	2513.53	4.12	1.31	4.98	4.98
Custer County	C14	RM 204.43	73135	500-yr	4021	737.55	732.44	2.06	0.98	20.36	7.65	266.74	2656.55	4.14	1.54	5.11	5.11
Custer County	C14	RM 204.22	72808	500-yr	4021	737.41	732.3	2.1	0.99	21.56	8.09	262.16	2765.58	3.92	1.46	5.11	5.11
Custer County	C14	RM 204	72454	500-yr	4021	737.16	731.9	2.34	1.07	25.13	7.12	261.19	2776.17	4.81	1.35	5.26	5.26
Custer County	C14	RM 203.82	72156	500-yr	4021	737.03	731.14	2.34	1.01	25.37	8.66	197.43	2528.37	4.68	1.57	5.89	5.89
Custer County	C14	RM 203.65	71895	500-yr	4021	736.91	730.95	2.18	0.91	21.9	7.87	162.5	2606.42	4.79	1.69	5.96	5.96
Custer County	C14	RM 203.5	71641	500-yr	4021	736.82	730.78	1.84	0.88	15.67	6.62	195.78	2583.9	4.73	1.96	6.04	6.04
Custer County	C14	RM 203.3	71324	500-yr	4021	736.73	730.79	1.81	0.9	14.83	5.39	161.79	2471.77	5.09	1.81	5.94	5.94
Custer County	C14	RM 203.1	71035	500-yr	4021	736.56	730.79	2.32	1.07	25.03	8.81	184.4	2386.11	4.58	1.58	5.77	5.77
Custer County	C14	RM 202.9	70718	500-yr	4021	736.47	730.67	2.04	1.13	20.85	9.31	247.7	2183.68	3.69	1.63	5.8	5.8
Custer County	C14	RM 202.71	70415	500-yr	4021	736.27	730.64	2.36	1.18	26.47	9.77	232.34	2152.61	4.35	1.58	5.62	5.62
Custer County	C14	RM 202.51	70088	500-yr	4021	735.97	730.68	2.83	1.29	36.66	12.02	152.2	1998.5	4.86	1.56	5.29	5.29
Custer County	C14	RM 202.34	69815	500-yr	4021	735.84	730.63	2.1	1.15	21.07	9.87	321.87	2105	4.16	1.93	5.21	5.21
Custer County	C14	RM 202.13	69483	500-yr	4021	735.7	730.54	2.03	1.09	19.05	9.32	282.19	1956.22	4.7	2.28	5.16	5.16
Custer County	C14	RM 201.97	69219	500-yr	4021	735.46	730.01	2.42	1.46	27.31	12.98	264.21	1276.04	4.57	2.15	5.45	5.45
Custer County	C14	RM 201.75	68884	500-yr	4021	735.39	729.45	1.88	1.22	15.34	5.83	306.87	1584.15	5.56	2.09	5.94	5.94
Custer County	C14	RM 201.57	68612	500-yr	4021	735.29	729.37	1.97	1.25	19.04	9.29	362.67	1686.16	3.93	1.9	5.92	5.92
Custer County	C14	RM 201.38	68299	500-yr	4021	735.13	729.23	2.02	1.21	20.43	9.96	356.22	1897.12	3.61	1.75	5.9	5.9
Custer County	C14	RM 201.23	68055	500-yr	4021	735.02	729.13	1.91	1.11	17.92	8.65	369.58	1926.19	3.91	1.87	5.89	5.89
Custer County	C14	RM 201.06	67778	500-yr	4021	735	729.03	1.36	0.96	8.55	4.67	262.3	1902.18	4.64	2.51	5.97	5.97
Custer County	C14	RM 200.85	67439	500-yr	4021	734.59	729.05	3.45	1.83	53.08	18.95	114.21	1193.45	5.33	1.84	5.54	5.54
Custer County	C14	RM 200.64	67103	500-yr	4021	734.49	728.97	2.36	1.5	24.54	9.56	216.76	1482.7	5.36	2.06	5.52	5.52
Custer County	C14	RM 200.48	66842	500-yr	4021	734.42	728.8	1.91	1.5	16.78	8.99	307.41	1899.77	4.73	2.51	5.62	5.62
Custer County	C14	RM 200.27	66515	500-yr	4021	734.25	728.63	2.05	1.53	19.15	8.12	359.69	1748.6	4.86	2.05	5.62	5.62
Custer County	C14	RM 200.05	66162	500-yr	4021	734.05	728.3	2.21	1.79	23.63	12.24	389.57	1009.36	4.33	2.23	5.75	5.75
Custer County	C14	RM 199.9	65916	500-yr	4021	733.96	727.78	2.01	1.75	18.24	8.2	381.62	1014.82	5.08	2.27	6.18	6.18
Custer County	C14	RM 199.71	65614	500-yr	4021	733.53	727.34	3.04	2.47	41.48	23.71	260.79	612.97	4.74	2.68	6.19	6.19
Custer County	C14	RM 199.53	65326	500-yr	4021	733.42	727.34	2.57	2.09	28.61	15.11	259.62	832.78	5.69	2.98	6.08	6.08
Custer County	C14	RM 199.38	65076	500-yr	4021	733.36	727.34	2.22	1.78	24.22	14.61	364.29	1043.71	4.37	2.62	6.02	6.02
Custer County	C14	RM 199.18	64754	500-yr	4021	733.22	727.64	1.92	1.48	21.38	13.34	456.73	1383.42	3.72	2.3	5.58	5.58
Custer County	C14	RM 199.04	64535	500-yr	4021	733.12	727.64	1.75	1.23	15.84	8.44	419.11	1634.6	4.33	2.3	5.48	5.48
Custer County	C14	RM 198.77	64102	500-yr	4021	732.84	727.28	2.25	1.41	22.54	9.51	294.95	1321.53	5.15	2.16	5.56	5.56
Custer County	C14	RM 198.57	63773	500-yr	4021	732.41	726.99	3.16	1.83	44.66	13.89	204.81	1376.6	5.18	1.59	5.42	5.42
Custer County	C14	RM 198.4	63505	500-yr	4021	732.23	726.86	2.99	1.67	40.17	14.67	199.72	1308.85	5.09	1.84	5.37	5.37
Custer County	C14	RM 198.22	63215	500-yr	4021	732.03	726.57	2.9	1.47	37.91	14.6	190.38	1429.31	5.02	1.91	5.46	5.46
Custer County	C14	RM 198.04	62923	500-yr	4021	731.89	726.32	2.52	1.37	28.5	10.97	227.09	1512.4	5.09	1.94	5.57	5.57
Custer County	C14	RM 197.84	62611	500-yr	4021	731.84	726.04	1.84	1.14	15.48	6.64	351.59	1733.69	4.78	2.03	5.8	5.8
Custer County	C14	RM 197.65	62306	500-yr	4021	731.76	725.69	1.87	1.01	15.02	6.75	317.28	1937.6	4.61	2.05	6.07	6.07
Custer County	C14	RM 197.47	62013	500-yr	4021	731.74	725.29	1.52	0.8	9.74	3.84	297.6	2063.72	6.21	2.42	6.45	6.45
Custer County	C14	RM 197.27	61686	500-yr	4021	731.68	724.81	1.8	0.84	14.01	6.24	212.46	2088.66	5.6	2.47	6.87	6.87
Custer County	C14	RM 197.07	61373	500-yr	4021	731.62	724.81	1.84	0.9	14.57	5.97	204.54	1920.02	5.77	2.32	6.81	6.81
Custer County	C14	RM 196.91	61115	500-yr	4021	731.61	724.81	1.46	0.73	9.19	4.97	223.44	1785.61	5.78	3.07	6.8	6.8
Custer County	C14	RM 196.73	60815	500-yr	4021	731.56	724.76	1.52	0.78	9.85	5.4	242.23	2383.76	5.94	3.23	6.8	6.8
Custer County	C14	RM 196.54	60518	500-yr	4021	731.5	724.67	1.63	0.86	11.64	6.22	270.26	2755.91	5.46	2.88	6.83	6.83
Custer County	C14	RM 196.33	60178	500-yr	4021	731.44	724.57	1.67	0.93	11.73	5.6	247.23	2526.79	6.2	2.93	6.87	6.87
Custer County	C14	RM 196.17	59915	500-yr	4021	731.39	724.51	1.78	1.12	13.23	6.71	191.57	2105.67	6.35	3.18	6.88	6.88
Custer County	C15	RM 195.98	59615	500-yr	4021	730.32	724.52	4.79	2.88	102.88	36.73	132.07	933.37	5.16	1.81	5.79	5.79
Custer County	C15	RM 195.81	59337	500-yr	4021	729.86	724.33	4.01	2.89	71.24	24.77	169.57	761.89	5.35	1.83	5.53	5.53
Custer County	C15	RM 195.61	59020	500-yr	4021	729.8	724.24	2.94	2.29	37.94	19.68	230.07	740.09	5.41	2.78	5.56	5.56
Custer County	C15	RM 195.43	58727	500-yr	4021	729.64	724.22	2.67	2.16	33.2	21.73	305.61	942.7	4.51	2.94	5.42	5.42
Custer County	C15	RM 195.23	58415	500-yr	4021	729.52	723.93	2.13	1.76	23.4	14.72	391.57	1181.18	4.53	2.83	5.59	5.59
Custer County	C15	RM 195.04	58114	500-yr	4021	729.3	723.54	2.51	1.84	28.86	13.24	269.46	1292.77	4.81	2.2	5.76	5.76
Custer County	C15	RM 194.86	57824	500-yr	4021	729.14	722.93	2.56	1.61	28.95	12.48	209.92	1381.02	5.38	2.29	6.21	6.21
Custer County	C15	RM 194.67	57521	500-yr	4021	728.94	722.75	2.59	1.61	28.67	9.76	217.41	1354.63	5.99	2.01	6.19	6.19
Custer County	C15	RM 194.49	57231	500-yr	4021	728.84	722.53	2.41	1.52	24.72	9.74	232.49	1148.73	5.92	2.31	6.31	6.31
Custer County	C15	RM 194.32	56946	500-yr	4021	728.64	722.5	2.61	1.73	30.11	11.71	259.82	1206.51	5	1.92	6.14	6.14
Custer County	C15	RM 194.13	56643	500-yr	4021	728.33	722.5	2.89	2.08	37.65	11.69	251.77	1263.8	5	1.53	5.83	5.83
Custer County	C15	RM 193.93	56331	500-yr	4021	728.16	722.31	2.69	1.98	31.59	11.25	247.7	1047.35	5.49	1.94	5.85	5.85
Custer County	C15	RM 193.74	56024	500-yr	4021	728.02	722.23	2.61	1.78	29.66	11.9	229.42	1014.36	5.62	2.23	5.79	5.79
Custer County	C15	RM 193.55	55708	500-yr	4021	727.8	722.13	2.77	1.83	33.54	13.16	217.16	1033.05	5.5	2.13	5.67	5.67

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	500-yr	4021	727.64	722.13	2.73	1.74	32.98	13.23	219.51	1092.31	5.33	2.12	5.51	5.51
Custer County	C15	RM 193.2	55158	500-yr	4021	727.57	722.13	2.21	1.46	21.55	9.39	280.33	1243.58	5.3	2.29	5.44	5.44
Custer County	C15	RM 193	54825	500-yr	4021	727.41	721.84	2.29	1.5	23.15	9.73	281.95	1320.26	5.27	2.2	5.57	5.57
Custer County	C15	RM 192.81	54525	500-yr	4021	727.29	721.37	2.36	1.39	24	10.13	207.4	1204.66	5.75	2.4	5.92	5.92
Custer County	C15	RM 192.63	54247	500-yr	4021	727.12	721.01	2.47	1.42	26.25	10.1	217.39	1301.79	5.83	2.21	6.11	6.11
Custer County	C15	RM 192.44	53935	500-yr	4021	727.03	721.01	2.2	1.43	20.92	9.8	241	1106.67	5.68	2.64	6.02	6.02
Custer County	C16	RM 192.26	53653	500-yr	4021	726.74	721.01	2.74	1.95	32.91	14.78	229.86	860.56	5.54	2.46	5.73	5.73
Custer County	C16	RM 192.05	53309	500-yr	4021	725.74	721.11	4.47	3.43	94.05	37.77	186.81	663.35	4.44	1.77	4.63	4.63
Custer County	C16	RM 191.74	52809	500-yr	4021	725.61	721.1	2.25	2.11	24.19	20.1	560.47	735.42	3.12	2.59	4.51	4.51
Custer County	C16	RM 191.35	52181	500-yr	4021	725.21	721.02	1.83	1.76	16.27	14.79	899.85	1053.96	2.41	2.19	4.19	4.19
Custer County	C16	RM 191.12	51812	500-yr	4021	725.02	720.51	1.6	1.6	12.37	11.74	1034.85	1094.57	2.42	2.3	4.51	4.51
Custer County	C16	RM 190.87	51406	500-yr	4021	724.85	719.89	1.46	1.36	11.88	9.26	906.61	1690.66	2.98	2.32	4.96	4.96
Custer County	C16	RM 190.54	50885	500-yr	4021	724.71	719.15	1.24	1.09	9.31	6.49	789.91	1786.51	3.87	2.69	5.56	5.56
Custer County	C16	RM 190.29	50477	500-yr	4021	723.87	718.45	3.88	2.29	68.45	17.74	179.8	1728.91	4.91	1.25	5.42	5.42
Custer County	C16	RM 190.1	50176	500-yr	4021	723.62	718.43	3.28	1.94	50.34	15.98	227.26	1856.5	4.43	1.4	5.19	5.19
Custer County	C16	RM 189.85	49765	500-yr	4021	723.4	718.13	2.4	1.57	27.54	9.04	334.92	2303.23	4.19	1.36	5.27	5.27
Custer County	C16	RM 189.65	49458	500-yr	4021	723.27	718.1	2.12	1.2	20.44	8.11	340.01	2430.2	3.89	1.54	5.17	5.17
Custer County	C16	RM 189.43	49103	500-yr	4021	722.9	718.09	2.75	1.49	36.47	11.91	269.95	2041.76	4.09	1.32	4.81	4.81
Custer County	C16	RM 189.22	48763	500-yr	4021	722.87	717.93	1.65	1.08	12.63	5.18	452.46	2005.31	4.63	1.88	4.94	4.94
Custer County	C16	RM 188.91	48267	500-yr	4021	722.72	717.54	1.72	1.12	15.2	7.38	472.67	1862.99	3.98	1.92	5.18	5.18
Custer County	C16	RM 188.66	47869	500-yr	4021	722.37	716.75	2.7	1.41	32.08	12.78	195.28	1333.17	5.45	2.14	5.62	5.62
Custer County	C16	RM 188.51	47622	500-yr	4021	722.2	716.72	2.73	1.57	33.42	15.14	217.17	1132.87	5.06	2.27	5.48	5.48
Custer County	C16	RM 188.32	47314	500-yr	4021	722.1	716.79	2.24	1.64	24.13	12.87	152.46	971.05	4.85	2.53	5.31	5.31
Custer County	C16	RM 188.14	47024	500-yr	4021	721.92	716.93	1.42	1.46	13.59	12.12	474.59	1245.37	2.48	2.21	4.99	4.99
Custer County	C16	RM 187.98	46768	500-yr	4021	721.83	716.91	2.02	1.3	19.04	8.69	222.44	1491.2	4.59	2.08	4.92	4.92
Custer County	C16	RM 187.78	46440	500-yr	4021	721.74	716.69	1.71	1.17	15.38	6.81	251.06	1780.52	4.38	1.93	5.05	5.05
Custer County	C16	RM 187.55	46083	500-yr	4021	721.5	716.04	2.34	1.28	24.71	8.44	224.37	1885.98	5.04	1.71	5.46	5.46
Custer County	C16	RM 187.35	45750	500-yr	4021	721.14	715.34	3.04	1.52	41.28	14.7	182.36	1593.36	5.18	1.82	5.8	5.8
Custer County	C16	RM 187.14	45421	500-yr	4021	721.07	715.3	2.19	1.2	21.62	9.15	259.08	1750.94	5.03	2.11	5.77	5.77
Custer County	C16	RM 187.01	45211	500-yr	4021	720.98	715.3	2.05	1.25	18.69	8.54	300.38	1702.33	5.16	2.34	5.68	5.68
Custer County	C16	RM 186.84	44930	500-yr	4021	720.86	715.03	2.14	1.3	20.82	10.07	294.8	1575.67	4.92	2.36	5.83	5.83
Custer County	C16	RM 186.62	44553	500-yr	4021	720.52	714.75	2.92	1.75	37.04	13.4	188.38	1341.44	5.54	1.99	5.77	5.77
Custer County	C16	RM 186.46	44311	500-yr	4021	720.29	714.53	3.16	1.77	44.42	17.5	186.74	1290.14	5.26	2.03	5.76	5.76
Custer County	C16	RM 186.26	43996	500-yr	4021	719.8	714.27	3.49	2.47	54.69	17.96	205.3	1024.74	5.11	1.66	5.53	5.53
Custer County	C16	RM 186.1	43730	500-yr	4021	719.72	713.9	2.67	2.18	32.58	14.02	294.06	1096.64	4.86	2.07	5.82	5.82
Custer County	C16	RM 185.91	43424	500-yr	3851.1	719.56	713.84	2.38	2.07	26.83	18.01	388.65	808.69	3.97	2.66	5.72	5.72
Custer County	C16	RM 185.71	43110	500-yr	3851.1	718.99	713.84	3.24	2.74	52.1	31.74	325.31	684.52	3.4	2.06	5.15	5.15
Custer County	C16	RM 185.52	42808	500-yr	3851.1	718.95	713.71	2.15	1.76	21.42	12.27	366.12	831.68	4.62	2.64	5.24	5.24
Custer County	C16	RM 185.34	42508	500-yr	3851.1	718.75	713.28	2.2	2.07	23.17	19.68	511.74	1097.07	3.38	2.87	5.47	5.47
Custer County	C16	RM 185.16	42219	500-yr	3851.1	718.69	712.93	1.76	1.37	14.27	9.61	419.95	1726.36	4.7	3.16	5.76	5.76
Custer County	C17	RM 184.95	41881	500-yr	3851.1	718.5	712.72	2.17	1.46	22.64	11.2	289.94	1726.96	5.09	2.5	5.78	5.78
Custer County	C17	RM 184.78	41621	500-yr	3851.1	718.31	712.51	2.52	1.48	28.03	11.26	215.1	1212.49	5.4	2.14	5.8	5.8
Custer County	C17	RM 184.59	41311	500-yr	3851.1	717.91	711.96	3.13	2.07	42.82	13.36	194.94	1091.43	5.51	1.71	5.95	5.95
Custer County	C17	RM 184.4	41010	500-yr	3851.1	717.82	711.62	2.54	1.92	27.93	10.41	242.39	1026.9	5.75	2.12	6.2	6.2
Custer County	C17	RM 184.23	40728	500-yr	3851.1	717.65	711.31	2.71	1.91	32.68	12.75	238.76	1004.78	5.21	2.01	6.34	6.34
Custer County	C17	RM 184.1	40517	500-yr	3851.1	717.58	711.39	2.57	1.58	28.67	11.61	203.14	1167.86	5.62	2.28	6.19	6.19
Custer County	C17	RM 184.03	40407	500-yr	3851.1	717.44	711.49	2.72	1.84	32.22	10.78	222.9	1243.39	5.56	1.84	5.95	5.95
Custer County	C17	RM 183.83	40098	500-yr	3851.1	717.36	711.42	2.32	1.54	23.41	9.84	234.84	1066.7	5.65	2.35	5.94	5.94
Custer County	C17	RM 183.65	39806	500-yr	3851.1	717.05	711.39	2.83	2.02	34.97	10.88	224.55	1128.05	5.5	1.69	5.66	5.66
Custer County	C17	RM 183.47	39513	500-yr	3851.1	716.74	711.39	3.14	2.23	44.16	13.67	211.8	1095.06	5.18	1.58	5.34	5.34
Custer County	C17	RM 183.28	39210	500-yr	3851.1	716.71	711.31	2.28	1.53	22.98	8.85	263.55	1660.75	5.32	2.03	5.4	5.4
Custer County	C17	RM 183.09	38909	500-yr	3851.1	716.6	711.04	2.27	1.38	22.8	9.62	237.48	1257.42	5.33	2.22	5.56	5.56
Custer County	C17	RM 182.94	38660	500-yr	3851.1	716.44	710.66	2.36	1.59	24.3	8.46	244.82	1286.07	5.63	1.93	5.78	5.78
Custer County	C17	RM 182.72	38316	500-yr	3851.1	716.23	710.1	2.51	1.75	27.87	10.41	250.1	1269.54	5.37	1.99	6.13	6.13
Custer County	C17	RM 182.54	38020	500-yr	3851.1	715.54	710.12	3.9	2.76	67.9	22.53	173.67	848.27	5.18	1.69	5.42	5.42
Custer County	C17	RM 182.34	37706	500-yr	3851.1	715.38	710.27	3.05	2.36	42.77	13.2	240.92	1133.47	4.71	1.44	5.11	5.11
Custer County	C17	RM 182.15	37402	500-yr	3851.1	715.12	710.26	2.97	2.33	40.42	17.72	248.66	829.34	4.75	2.07	4.86	4.86
Custer County	C17	RM 181.97	37127	500-yr	3851.1	714.99	710.26	2.56	1.82	30.36	11.79	292.15	1203.65	4.57	1.76	4.73	4.73
Custer County	C17	RM 181.78	36815	500-yr	3851.1	714.83	710.09	2.29	1.62	23.64	11.69	407.22	1369.32	3.52	1.73	4.74	4.74
Custer County	C17	RM 181.59	36505	500-yr	3851.1	714.51	709.76	2.55	1.89	31.18	14.1	392.06	1294.2	3.5	1.57	4.75	4.75

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	500-yr	3851.1	714.24	709.37	2.64	1.86	32.42	11.98	277.32	1248.87	4.52	1.66	4.87	4.87
Custer County	C17	RM 181.23	35925	500-yr	3851.1	714	709.36	2.93	2.18	40.4	14.52	247.28	1128.82	4.39	1.57	4.63	4.63
Custer County	C17	RM 181.03	35607	500-yr	3851.1	713.85	709.02	2.31	1.94	24.87	10.84	354.1	1082.93	4.5	1.95	4.83	4.83
Custer County	C17	RM 180.83	35292	500-yr	3851.1	713.76	708.68	1.97	1.66	18.07	13.48	362.09	986.29	4.47	3.33	5.08	5.08
Custer County	C17	RM 180.66	35006	500-yr	3851.1	713.53	708.22	2.32	1.96	24.69	14.75	342.47	739.34	4.68	2.79	5.31	5.31
Custer County	C18	RM 180.46	34700	500-yr	3851.1	713.3	708.05	2.55	2.1	29.11	11.67	281.53	899.84	5.12	2.04	5.25	5.25
Custer County	C18	RM 180.29	34421	500-yr	3851.1	713.14	707.79	2.65	1.84	31.79	14.47	243.73	942.66	4.89	2.21	5.35	5.35
Custer County	C18	RM 180.08	34086	500-yr	3851.1	712.96	707.53	2.46	1.83	26.84	14.39	254.84	750.11	5.26	2.81	5.43	5.43
Custer County	C18	RM 179.9	33807	500-yr	3851.1	712.84	707.32	2.36	1.76	24.86	12.63	266.42	841.99	5.14	2.6	5.52	5.52
Custer County	C18	RM 179.73	33525	500-yr	3851.1	712.51	706.89	2.85	2.23	37.04	19.83	256.8	660.78	4.89	2.61	5.62	5.62
Custer County	C18	RM 179.54	33218	500-yr	3851.1	712.31	706.7	2.64	2.25	34.83	22.84	312.1	585.29	4.48	2.93	5.61	5.61
Custer County	C18	RM 179.35	32914	500-yr	3851.1	712.17	706.45	2.4	2.05	25.57	19.17	292.41	484.34	5.19	3.88	5.72	5.72
Custer County	C18	RM 179.16	32611	500-yr	3851.1	711.83	706.29	2.91	2.54	37.97	21.78	237.48	490.06	5.42	3.1	5.54	5.54
Custer County	C18	RM 178.99	32337	500-yr	3851.1	711.68	706.07	2.71	2.38	32.26	20.95	254.29	492.63	5.42	3.51	5.61	5.61
Custer County	C18	RM 178.79	32025	500-yr	3851.1	711.49	705.9	2.74	2.29	33.05	15.81	251.59	661.33	5.33	2.54	5.59	5.59
Custer County	C18	RM 178.61	31730	500-yr	3851.1	711.45	705.59	2.21	1.73	21.35	11.67	259.81	743.88	5.5	2.99	5.86	5.86
Custer County	C18	RM 178.43	31434	500-yr	3851.1	711.16	705.25	2.67	2.24	31.16	14.2	249.19	681.11	5.57	2.52	5.91	5.91
Custer County	C18	RM 178.23	31114	500-yr	3851.1	710.94	704.7	2.75	2.54	33.15	19.24	249.24	476.79	5.51	3.18	6.24	6.24
Custer County	C18	RM 178.06	30848	500-yr	3851.1	710.74	704.57	2.9	2.61	36.43	27.56	219.45	338.83	5.76	4.35	6.17	6.17
Custer County	C18	RM 177.88	30549	500-yr	3851.1	710.5	704.57	2.99	2.6	39.17	26.9	229.01	399.89	5.43	3.71	5.93	5.93
Custer County	C18	RM 177.66	30211	500-yr	3907.7	709.81	704.57	3.91	3.42	69.25	44.48	194.19	359.33	4.98	3.18	5.24	5.24
Custer County	C18	RM 177.49	29932	500-yr	3907.7	709.64	704.47	3.25	3.01	47.69	29.41	236.92	421.02	5.02	3.08	5.17	5.17
Custer County	C19	RM 177.3	29625	500-yr	3907.7	709.5	704.46	2.7	2.53	33.38	21.73	302.6	536.36	4.74	3.08	5.04	5.04
Custer County	C19	RM 177.11	29314	500-yr	3907.7	709.2	704.46	2.79	2.63	35.42	30.17	372.18	613.24	3.71	3.15	4.74	4.74
Custer County	C19	RM 176.93	29040	500-yr	3907.7	709.09	704.42	2.24	2.06	22.82	18.68	436.64	594.55	3.9	3.18	4.67	4.67
Custer County	C19	RM 176.74	28720	500-yr	3907.7	708.97	704.21	2.06	1.75	19.89	13.52	342.3	765.14	4.44	3.02	4.76	4.76
Custer County	C19	RM 176.53	28384	500-yr	3907.7	708.74	703.63	2.29	2.07	25.62	21.23	344.95	699.08	3.95	3.28	5.11	5.11
Custer County	C19	RM 176.36	28109	500-yr	3907.7	708.47	703.08	2.51	2.37	28.99	25.3	324.02	499.94	4.7	4.1	5.39	5.39
Custer County	C19	RM 176.18	27824	500-yr	3907.7	707.63	702.71	4.12	3.45	79.32	49.89	199.69	439.13	4.49	2.81	4.92	4.92
Custer County	C19	RM 176	27527	500-yr	3907.7	707.5	702.51	3.07	2.83	43.49	35.96	259.98	386.44	4.67	3.85	4.99	4.99
Custer County	C19	RM 175.81	27227	500-yr	3907.7	707.26	702.24	2.86	2.72	38.31	33.89	297.33	387.83	4.47	3.96	5.02	5.02
Custer County	C19	RM 175.62	26928	500-yr	3907.7	707	701.81	2.98	2.55	40.71	28.09	234.72	464.02	4.81	3.3	5.19	5.19
Custer County	C19	RM 175.43	26622	500-yr	3907.7	706.62	701.81	3.31	2.44	51.33	35.9	214.93	515.74	4.46	3.1	4.81	4.81
Custer County	C19	RM 175.25	26325	500-yr	3907.7	706.28	701.72	3.2	2.76	48.13	32.06	212.23	598.16	4.41	2.93	4.56	4.56
Custer County	C19	RM 175.08	26048	500-yr	3907.7	706.09	701.63	2.6	2.57	32.33	30.76	357.35	470.96	4.18	3.98	4.46	4.46
Custer County	C19	RM 174.9	25768	500-yr	3907.7	705.78	701.31	2.82	2.76	38.32	31.16	338.42	425.66	4.09	3.32	4.47	4.47
Custer County	C19	RM 174.69	25444	500-yr	3907.7	705.51	700.82	2.7	2.47	35.3	25.7	351.06	654.01	4.05	2.94	4.69	4.69
Custer County	C19	RM 174.49	25112	500-yr	3907.7	705.16	700.04	2.91	2.45	39.12	19.73	279.46	688.21	4.6	2.32	5.12	5.12
Custer County	C19	RM 174.32	24844	500-yr	3907.7	704.73	699.39	3.42	2.77	53.23	23.9	222.49	647.97	4.88	2.18	5.34	5.34
Custer County	C19	RM 174.13	24549	500-yr	3907.7	704.63	698.84	2.75	2.3	33.13	14.29	244.91	719.52	5.52	2.36	5.79	5.79
Custer County	C19	RM 173.94	24238	500-yr	3907.7	704.36	698.14	2.96	2.38	39.22	17.38	239.67	722.72	5.16	2.28	6.22	6.22
Custer County	C19	RM 173.75	23939	500-yr	3907.7	704.06	697.92	3.3	2.24	46.8	17.9	172.39	799.13	5.75	2.19	6.14	6.14
Custer County	C19	RM 173.57	23651	500-yr	3907.7	703.87	697.83	3.02	2.34	39.29	15.24	208.71	779.21	5.77	2.23	6.04	6.04
Custer County	C19	RM 173.39	23352	500-yr	3907.7	703.39	697.83	3.59	2.88	57.62	21.16	203.52	832.97	5.15	1.87	5.56	5.56
Custer County	C19	RM 173.2	23054	500-yr	3907.7	703.15	697.72	3.27	2.55	48.32	17.83	226.21	920.23	4.97	1.82	5.43	5.43
Custer County	C19	RM 173.02	22756	500-yr	3907.7	702.92	697.29	3.04	2.48	41.68	20.19	244.03	1042.14	5.01	2.41	5.63	5.63
Custer County	C19	RM 172.82	22437	500-yr	3907.7	702.83	696.82	2.25	2.14	24.42	20	414.44	1052.63	4.13	3.38	6.01	6.01
Custer County	C19	RM 172.67	22200	500-yr	3907.7	702.65	696.52	2.32	2.24	26.27	20.84	421.93	1030.42	3.95	3.13	6.13	6.13
Custer County	C19	RM 172.49	21903	500-yr	3907.7	702.47	696.23	2.33	2.17	25.29	15.63	365.62	954.14	4.51	2.78	6.24	6.24
Custer County	C19	RM 172.29	21585	500-yr	3907.7	702.18	695.79	2.79	2.17	33.55	15.31	226.44	907.04	5.71	2.58	6.39	6.39
Custer County	C19	RM 172.12	21325	500-yr	3907.7	701.45	695.81	4.02	3.56	75.89	39.32	216.64	514.25	4.39	2.27	5.64	5.64
Custer County	C19	RM 171.89	20942	500-yr	3907.7	701.25	695.57	3.07	2.86	41.35	32.9	228.36	316.1	5.44	4.32	5.68	5.68
Custer County	C19	RM 171.71	20638	500-yr	3907.7	700.93	695.49	3.26	3.03	47.69	39.31	231.98	309.85	5.05	4.16	5.44	5.44
Custer County	C19	RM 171.52	20341	500-yr	3907.7	700.75	695.3	2.92	2.7	37.77	24.23	249.92	432.12	5.24	3.35	5.45	5.45
Custer County	C19	RM 171.34	20043	500-yr	3907.7	700.5	695.11	3	2.66	40.1	23.78	244.86	482.23	5.14	3.04	5.39	5.39
Custer County	C19	RM 171.15	19745	500-yr	3907.7	700.28	694.86	2.94	2.75	38.35	25.13	249.21	412.99	5.25	3.43	5.42	5.42
Custer County	C19	RM 170.96	19437	500-yr	3907.7	700.09	694.67	2.79	2.57	34.54	21.66	261.96	464.19	5.24	3.28	5.42	5.42
Custer County	C19	RM 170.78	19143	500-yr	3907.7	699.85	694.2	2.89	2.7	36.9	28.97	245.9	344.53	5.35	4.2	5.65	5.65
Custer County	C19	RM 170.58	18838	500-yr	3907.7	699.56	693.91	3.05	2.89	41.72	34.62	245.35	319.46	5.1	4.23	5.65	5.65
Custer County	C19	RM 170.4	18543	500-yr	3907.7	699.42	693.9	2.71	2.67	32.33	30.27	269.24	291.97	5.34	5.01	5.52	5.52

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	500-yr	3907.7	699.26	693.7	2.63	2.56	30.49	25.92	272.95	332.53	5.39	4.58	5.56	5.56
Custer County	C19	RM 170.03	17941	500-yr	3907.7	698.93	693.31	3.03	2.99	40.18	36.5	237.46	264.97	5.43	4.93	5.62	5.62
Custer County	C19	RM 169.84	17641	500-yr	3907.7	698.62	692.78	3.21	3.17	44.78	38.92	214.88	250.63	5.65	4.91	5.84	5.84
Custer County	C19	RM 169.65	17341	500-yr	3907.7	698.29	692.47	3.4	3.34	50.54	43.52	204.95	244.19	5.58	4.79	5.82	5.82
Custer County	C19	RM 169.47	17041	500-yr	3907.7	698	692.17	3.46	3.19	52.7	41.67	199.81	285.18	5.43	4.29	5.83	5.83
Custer County	C19	RM 169.28	16732	500-yr	3907.7	697.77	692	3.2	2.93	44.73	34.35	214.83	318.14	5.47	4.19	5.77	5.77
Custer County	C19	RM 169.09	16441	500-yr	3907.7	697.5	691.96	3.22	3.01	46.05	32.8	225.9	344.82	5.29	3.77	5.54	5.54
Custer County	C19	RM 168.91	16152	500-yr	3907.7	697.21	691.93	3.28	3.13	48.09	39.64	230.07	295.74	5.12	4.22	5.28	5.28
Custer County	C19	RM 168.72	15846	500-yr	3907.7	697.07	691.82	2.73	2.69	33.43	30.7	280.43	310.1	5.09	4.68	5.25	5.25
Custer County	C19	RM 168.51	15500	500-yr	3907.7	696.86	691.6	2.64	2.56	31.57	29.2	296.39	335.65	4.91	4.55	5.26	5.26
Custer County	C19	RM 168.35	15241	500-yr	3907.7	696.58	691.48	2.95	2.72	39.94	34.63	269.3	345.71	4.79	4.16	5.1	5.1
Custer County	C19	RM 168.15	14931	500-yr	3907.7	696.25	691.2	3.13	2.79	44.77	33.34	241.98	390.71	4.83	3.58	5.05	5.05
Custer County	C19	RM 167.97	14639	500-yr	3907.7	696.02	690.59	2.98	2.82	39.43	30.01	247.71	409.17	5.21	3.96	5.43	5.43
Custer County	C19	RM 167.79	14340	500-yr	3907.7	695.84	690.5	2.81	2.46	35.21	25.64	249.29	417.17	5.24	3.81	5.34	5.34
Custer County	C19	RM 167.61	14054	500-yr	3907.7	695.42	690.42	3.28	3.15	49.18	36.59	244.91	346.13	4.83	3.59	5	5
Custer County	C19	RM 167.41	13735	500-yr	3907.7	695.27	690.14	2.79	2.41	35.23	26.49	264.94	438.31	4.91	3.7	5.13	5.13
Custer County	C19	RM 167.22	13433	500-yr	3907.7	695.08	689.79	2.64	2.32	31.12	20.76	276.96	491.48	5.13	3.42	5.29	5.29
Custer County	C19	RM 167.04	13143	500-yr	3907.7	694.9	689.14	2.68	2.31	31.38	19.14	256.62	509.42	5.46	3.33	5.76	5.76
Custer County	C19	RM 166.85	12847	500-yr	3907.7	694.56	688.98	3.1	2.73	43.49	31.49	240.01	400.84	4.94	3.58	5.58	5.58
Custer County	C19	RM 166.67	12552	500-yr	3907.7	694.36	688.84	2.88	2.52	36.82	23.16	252.35	473.82	5.22	3.27	5.52	5.52
Custer County	C19	RM 166.52	12319	500-yr	3907.7	694.28	688.64	2.52	2.32	27.78	18.37	278.87	465.81	5.48	3.62	5.64	5.64
Custer County	C19	RM 166.31	11978	500-yr	3907.7	694	688.02	2.82	2.46	34.55	24.34	249.27	418.27	5.4	3.8	5.98	5.98
Custer County	C20	RM 166.2	11806	500-yr	3936	693.84	687.4	2.97	2.56	38.43	25.88	229.93	411.71	5.57	3.74	6.44	6.44
Custer County	C20	RM 166.06	11569	500-yr	3936	693.64	687.38	3.06	2.63	41.85	26.97	239.53	454	5.14	3.3	6.26	6.26
Custer County	C20	RM 165.92	11350	500-yr	3936	693.43	687.38	3.15	2.59	44.46	26.89	230.72	497.07	5.11	3.06	6.05	6.05
Custer County	C20	RM 165.73	11039	500-yr	3936	693.26	687.26	2.75	2.47	33.41	20.69	264.5	488.37	5.29	3.27	6	6
Custer County	C20	RM 165.55	10750	500-yr	3936	693.09	687.11	2.68	2.41	31.92	20.92	274.77	478.45	5.22	3.41	5.98	5.98
Custer County	C20	RM 165.35	10440	500-yr	3936	692.92	686.75	2.59	2.38	29.79	20.18	279.36	468.82	5.21	3.52	6.17	6.17
Custer County	C20	RM 165.17	10140	500-yr	3936	692.76	686.41	2.62	2.27	29.84	21.14	247.1	435.61	5.64	3.98	6.35	6.35
Custer County	C20	RM 165.01	9883	500-yr	3936	692.59	686.16	2.65	2.45	30.83	24.62	262.27	579.61	5.48	4.37	6.43	6.43
Custer County	C20	RM 164.81	9577	500-yr	3936	692.48	686.04	2.38	1.98	25.01	16.23	284.5	607.45	5.39	3.48	6.44	6.44
Custer County	C20	RM 164.61	9252	500-yr	3936	692.4	685.8	1.97	1.67	18.31	14.48	374.23	598.71	4.98	3.93	6.6	6.6
Custer County	C20	RM 164.42	8945	500-yr	3936	692.27	685.78	2	1.96	18.56	17.18	416.56	497.18	4.71	4.36	6.48	6.48
Custer County	C20	RM 164.23	8641	500-yr	3936	692.17	685.85	1.81	1.8	18.9	18.51	452.11	486.79	4.8	4.72	6.32	6.32
Custer County	C20	RM 164.06	8372	500-yr	3936	692.02	685.64	2.08	1.83	18.23	14.84	294.56	686.69	6.16	5.01	6.38	6.38
Custer County	C20	RM 163.85	8031	500-yr	3936	691.87	685	2.25	2.1	21.41	17.27	277.99	390.78	6.07	4.88	6.87	6.87
Custer County	C20	RM 163.67	7743	500-yr	3936	691.5	684.45	3.02	2.98	37.33	32.82	191.84	221.32	6.78	5.98	7.05	7.05
Custer County	C20	RM 163.48	7449	500-yr	3936	691.05	684.13	3.67	3.59	55.53	50.27	162.29	183.65	6.58	5.97	6.92	6.92
Custer County	C20	RM 163.3	7150	500-yr	3936	691.01	684.13	2.97	2.82	36.8	31.21	204.93	258.28	6.37	5.4	6.88	6.88
Custer County	C20	RM 163.12	6859	500-yr	3936	690.98	683.91	2.36	2.17	24.71	19.67	267.05	377.8	6.02	4.79	7.07	7.07
Custer County	C20	RM 162.94	6583	500-yr	3936	690.72	683.78	2.84	2.45	33.57	23.77	204.74	356.58	6.41	4.51	6.94	6.94
Custer County	C20	RM 162.74	6254	500-yr	3936	690.3	683.77	3.46	2.9	51.36	32.12	177.33	380.95	5.93	3.66	6.53	6.53
Custer County	C20	RM 162.55	5957	500-yr	3936	690.08	683.96	3.13	2.92	48.65	31.67	231.24	389.63	5.33	3.46	6.12	6.12
Custer County	C20	RM 162.34	5620	500-yr	3936	690.03	683.92	2.32	2.15	23.68	16.91	304.55	474.27	5.42	3.86	6.11	6.11
Custer County	C20	RM 162.18	5352	500-yr	3936	689.93	683.41	2.06	1.98	30.07	23.58	354.23	480.01	5.29	4.15	6.52	6.52
Custer County	C20	RM 162.03	5111	500-yr	3936	689.82	683.26	2.06	2.04	18.77	16.13	322.26	419.37	5.91	5.08	6.56	6.56
Custer County	C20	RM 161.81	4770	500-yr	3936	689.14	682.63	3.66	3.35	56.74	35.14	174.77	315.14	6.06	3.73	6.51	6.51
Custer County	C20	RM 161.62	4470	500-yr	3936	688.86	682.53	3.68	3.1	58.48	40.14	174.2	518.72	5.77	3.94	6.33	6.33
Custer County	C20	RM 161.43	4159	500-yr	3936	688.65	682.63	3.27	2.96	46.59	33.76	206.33	327.26	5.63	4.06	6.02	6.02
Custer County	C20	RM 161.24	3859	500-yr	3936	688.35	682.51	3.39	2.96	50.38	36.2	199.39	337.99	5.5	3.93	5.84	5.84
Custer County	C20	RM 161.06	3559	500-yr	3936	688.15	682.38	3.12	2.74	42.65	31.13	218.97	356.24	5.54	4.03	5.77	5.77
Custer County	C20	RM 160.87	3258	500-yr	3936	687.71	682.24	3.54	3.27	55.73	42.2	204.8	303.88	5.25	3.96	5.47	5.47
Custer County	C20	RM 160.68	2952	500-yr	3936	687.58	682.11	2.9	2.8	37.31	30.79	252.16	320.76	5.31	4.38	5.47	5.47
Custer County	C20	RM 160.5	2662	500-yr	3936	687.42	681.85	2.65	2.57	32.07	27.58	303.97	369.46	4.83	4.15	5.57	5.57
Custer County	C20	RM 160.31	2364	500-yr	3936	687.28	681.58	2.44	2.23	27.02	18.5	321.4	530.88	4.87	3.33	5.7	5.7
Custer County	C20	RM 160.12	2063	500-yr	3936	687.09	681.02	2.54	2.26	28.42	17.4	277.19	529.47	5.39	3.29	6.07	6.07
Custer County	C20	RM 159.93	1758	500-yr	3936	686.85	680.9	2.71	2.39	33.52	21.06	292.2	549.61	4.79	3	5.95	5.95
Custer County	C20	RM 159.75	1459	500-yr	3936	686.6	680.88	2.84	2.54	35.51	23.36	251.96	440.99	5.35	3.51	5.72	5.72
Custer County	C20	RM 159.55	1151	500-yr	3936	686.42	680.74	2.73	2.5	32.74	20.6	261.92	463.53	5.41	3.4	5.68	5.68
Custer County	C20	RM 159.38	876	500-yr	3936	686.17	680.37	2.97	2.63	38.18	28.57	229.23	357.66	5.59	4.19	5.8	5.8

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	500-yr	3936	685.96	679.77	2.91	2.88	37.39	34.56	236.5	258.63	5.7	5.28	6.19	6.19
Custer County	C20	RM 158.98	229	500-yr	3936	685.65	679.44	3.12	2.96	42.19	28.79	217.29	342.33	5.71	3.89	6.21	6.21

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	500-yr	3936	685.65	679.22	3.05	2.81	39.93	28.48	214.16	335.07	5.87	4.18	6.43	6.43
Prairie County	C21	RM 158.55	61087	500-yr	3936	685.52	678.98	2.75	2.58	31.76	20.05	226.29	387.33	6.25	3.93	6.54	6.54
Prairie County	C21	RM 158.36	60787	500-yr	3936	685.4	678.83	2.6	2.35	28.8	13.75	249.45	590.84	5.97	2.83	6.57	6.57
Prairie County	C21	RM 158.17	60481	500-yr	3936	685.25	678.35	2.58	2.23	31.32	16.29	253.18	591.97	5.77	2.98	6.9	6.9
Prairie County	C21	RM 157.98	60173	500-yr	3936	684.91	678.22	3.03	2.65	40.29	22.29	231.17	499.6	5.4	2.97	6.69	6.69
Prairie County	C21	RM 157.78	59862	500-yr	3936	684.66	678.23	3.13	2.65	42.1	22.27	201.99	485.89	5.82	3.06	6.43	6.43
Prairie County	C21	RM 157.6	59561	500-yr	3936	684.54	678.14	2.71	2.49	31.23	20.94	233.85	392.45	6.01	4.02	6.4	6.4
Prairie County	C21	RM 157.38	59209	500-yr	3936	684.43	677.81	2.36	2.08	24.53	18.35	288.08	518.52	5.37	4	6.62	6.62
Prairie County	C21	RM 157.18	58885	500-yr	3936	684.3	677.42	2.38	1.89	24.03	16.72	235.66	531.2	6.05	4.19	6.88	6.88
Prairie County	C21	RM 156.99	58595	500-yr	3936	684.04	677.32	2.96	2.16	37.15	24.09	173.83	460.86	6.14	3.95	6.72	6.72
Prairie County	C21	RM 156.8	58287	500-yr	3936	683.56	677.32	3.73	2.77	60.31	41.07	149.83	367.94	5.73	3.86	6.24	6.24
Prairie County	C21	RM 156.62	57990	500-yr	3936	683.49	677.29	2.85	2.56	34.97	26.75	207.6	347.73	5.8	4.43	6.2	6.2
Prairie County	C21	RM 156.42	57683	500-yr	3936	683.37	677.21	2.47	2.29	26.47	22.69	271.12	351.32	5.71	4.88	6.16	6.16
Prairie County	C21	RM 156.24	57378	500-yr	3936	683.07	676.91	2.9	2.58	37.35	27.16	245.34	395.75	5.33	3.86	6.16	6.16
Prairie County	C21	RM 156.04	57069	500-yr	3936	682.9	676.56	2.75	2.39	32.17	22.12	226.07	397.65	6.06	4.15	6.34	6.34
Prairie County	C21	RM 155.85	56762	500-yr	3936	682.6	676.11	3.12	2.65	41.68	28.6	204.32	371.55	5.86	4	6.49	6.49
Prairie County	C21	RM 155.66	56455	500-yr	3936	682.14	675.96	3.68	3.01	59.06	39.94	177.2	347.23	5.61	3.76	6.18	6.18
Prairie County	C21	RM 155.47	56151	500-yr	3936	682.09	675.89	2.74	2.41	33.37	25.44	257.44	407.35	5.28	4.01	6.2	6.2
Prairie County	C21	RM 155.27	55835	500-yr	3936	681.91	675.92	2.54	2.46	29.51	26.64	317.77	365.9	4.84	4.37	5.99	5.99
Prairie County	C21	RM 155.08	55530	500-yr	3936	681.69	675.95	2.65	2.53	31.73	27.25	296.49	365.38	4.96	4.26	5.74	5.74
Prairie County	C21	RM 154.88	55209	500-yr	3936	681.5	675.64	2.55	2.51	29.38	26.13	300.68	345.01	5.11	4.55	5.86	5.86
Prairie County	C21	RM 154.69	54901	500-yr	3936	681.19	675.39	2.92	2.76	38.44	29.75	264.93	369.41	4.99	3.86	5.8	5.8
Prairie County	C21	RM 154.5	54588	500-yr	3936	680.94	675.02	2.92	2.86	38.13	35.19	257.32	287.09	5.18	4.79	5.92	5.92
Prairie County	C21	RM 154.3	54273	500-yr	3936	680.76	674.8	2.7	2.6	32.6	26.18	277.5	363.62	5.19	4.17	5.96	5.96
Prairie County	C21	RM 154.1	53959	500-yr	3936	680.54	674.67	2.77	2.57	34.38	24.08	269.5	426.02	5.14	3.6	5.87	5.87
Prairie County	C21	RM 153.91	53650	500-yr	3936	680.36	674.51	2.67	2.56	31.04	25.14	260.55	345.3	5.58	4.52	5.85	5.85
Prairie County	C21	RM 153.72	53338	500-yr	3936	680.16	674.06	2.8	2.47	33.8	25.05	225.99	372.6	5.79	4.29	6.1	6.1
Prairie County	C21	RM 153.52	53023	500-yr	3936	679.8	673.78	3.25	2.82	46.88	35.73	206.24	456.73	5.3	4.03	6.02	6.02
Prairie County	C21	RM 153.32	52704	500-yr	3936	679.55	673.64	2.99	2.82	39.69	28.44	249.02	498.75	5.21	3.72	5.91	5.91
Prairie County	C21	RM 153.12	52380	500-yr	3936	679.44	673.43	2.54	2.39	28.12	22.06	270.43	791.38	5.58	4.38	6.01	6.01
Prairie County	C21	RM 152.92	52065	500-yr	3936	679.32	672.88	2.39	2.06	25.02	18.88	270.87	452.8	5.7	4.3	6.44	6.44
Prairie County	C21	RM 152.73	51762	500-yr	3936	679.14	672.27	2.49	2.28	27.22	20.71	271.58	487.26	5.64	4.29	6.87	6.87
Prairie County	C21	RM 152.54	51463	500-yr	3936	678.96	671.85	2.59	2.41	29.43	25.11	251.98	326.59	5.87	5	7.11	7.11
Prairie County	C21	RM 152.35	51157	500-yr	3936	678.78	671.41	2.65	2.6	29.26	26.65	229.76	258.47	6.43	5.86	7.37	7.37
Prairie County	C21	RM 152.16	50852	500-yr	3936	678.69	671.23	2.41	2.28	24.78	20.88	268.26	343.28	5.96	5.02	7.46	7.46
Prairie County	C21	RM 151.97	50546	500-yr	3936	678.61	670.99	2.2	1.98	20.59	16.16	284.09	438.9	5.8	4.54	7.62	7.62
Prairie County	C21	RM 151.77	50227	500-yr	3936	678.52	670.87	2.22	1.87	19.86	12.92	204.89	461.56	7.08	4.57	7.65	7.65
Prairie County	C21	RM 151.59	49936	500-yr	3936	678.19	670.75	3.1	2.47	39.37	22.5	152.18	417.82	6.77	3.81	7.44	7.44
Prairie County	C21	RM 151.38	49599	500-yr	3936	678.05	670.9	2.73	2.31	30.72	21.58	199.41	387.57	6.68	4.67	7.15	7.15
Prairie County	C21	RM 151.19	49287	500-yr	3936	677.94	670.96	2.52	2.18	26.17	14.94	226.6	476.01	6.67	3.79	6.98	6.98
Prairie County	C21	RM 151.01	49012	500-yr	3936	677.88	670.91	2.22	2.07	22.77	17.18	288.76	420.8	6.01	4.52	6.97	6.97
Prairie County	C21	RM 150.81	48683	500-yr	3936	677.85	670.79	1.72	1.68	13.27	12.27	428.92	477.43	5.3	4.9	7.06	7.06
Prairie County	C21	RM 150.63	48400	500-yr	4785.5	677.73	670.45	1.93	1.76	16.14	12.33	405.47	643.34	5.84	4.45	7.28	7.28
Prairie County	C21	RM 150.44	48094	500-yr	4785.5	677.51	669.86	2.48	2.16	27.15	18.1	273.64	528.93	6.46	4.3	7.65	7.65
Prairie County	C21	RM 150.25	47780	500-yr	4785.5	676.77	669.38	4.02	3.54	77.12	50.88	166.06	306.31	6.73	4.42	7.39	7.39
Prairie County	C21	RM 150.05	47474	500-yr	4785.5	676.64	669.21	3.35	3.21	45.66	32.88	204.16	299.14	6.93	4.98	7.43	7.43
Prairie County	C21	RM 149.87	47178	500-yr	4785.5	676.57	669.02	2.85	2.67	34.64	28.32	269.57	361.79	6.08	4.95	7.55	7.55
Prairie County	C21	RM 149.66	46846	500-yr	4785.5	676.48	668.97	2.4	2.25	25.73	22.62	331.18	411.69	5.88	5.16	7.51	7.51
Prairie County	C21	RM 149.48	46551	500-yr	4785.5	676.16	668.91	2.98	2.53	38.37	27.93	261.52	994.79	5.77	4.19	7.25	7.25
Prairie County	C21	RM 149.27	46219	500-yr	4785.5	676.06	668.94	2.7	2.08	31.35	21.49	208.49	687.03	6.25	4.25	7.12	7.12
Prairie County	D1	RM 149.08	45914	500-yr	4785.5	675.83	668.95	2.74	2.3	31.33	21.55	254.75	539.8	6.28	4.3	6.88	6.88
Prairie County	D1	RM 148.89	45608	500-yr	4785.5	675.73	668.96	2.42	2.39	24.47	23.82	314.73	429.39	6.27	6.12	6.77	6.77
Prairie County	D1	RM 148.7	45301	500-yr	4785.5	675.61	668.73	2.35	2.29	25.42	23.92	347.94	417.91	5.8	5.46	6.88	6.88
Prairie County	D1	RM 148.5	44987	500-yr	4785.5	675.33	668.42	2.89	2.52	34.51	28.23	235.13	384.81	6.5	5.32	6.91	6.91
Prairie County	D1	RM 148.3	44667	500-yr	4785.5	674.92	668.01	3.48	2.98	50.11	38.77	193.35	322.67	6.54	5.05	6.91	6.91
Prairie County	D1	RM 148.11	44353	500-yr	4785.5	674.77	667.73	3.09	2.88	39.65	34.51	230.09	329.8	6.49	5.66	7.04	7.04
Prairie County	D1	RM 147.93	44062	500-yr	4785.5	674.7	667.4	2.61	2.56	28.92	27.04	306.12	335.31	5.96	5.58	7.3	7.3
Prairie County	D1	RM 147.74	43761	500-yr	4785.5	674.62	667.21	2.42	2.22	25.62	21.32	251.8	409.97	6.32	5.25	7.41	7.41
Prairie County	D1	RM 147.55	43454	500-yr	4785.5	674.45	666.79	2.7	2.23	29.76	19.25	197.43	487.91	6.85	4.39	7.66	7.66
Prairie County	D1	RM 147.34	43128	500-yr	4785.5	674.28	666.46	2.89	2.34	33.68	20.99	173.86	471.26	7.08	4.35	7.82	7.82

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	500-yr	4785.5	674.08	666.42	3.01	2.59	37.07	25.9	178.57	508.84	6.78	4.7	7.66	7.66
Prairie County	D1	RM 146.96	42505	500-yr	4785.5	673.64	666.49	3.56	3.22	51.7	36.03	187.33	311.58	6.87	4.77	7.15	7.15
Prairie County	D1	RM 146.77	42199	500-yr	4785.5	673.5	666.48	3.15	3.07	40.65	33.88	225.21	277.82	6.72	5.61	7.02	7.02
Prairie County	D1	RM 146.58	41899	500-yr	4785.5	673.48	666.59	2.5	2.46	25.98	23.66	296.32	412.31	6.45	5.88	6.89	6.89
Prairie County	D1	RM 146.32	41487	500-yr	4785.5	673.28	666.62	2.53	2.44	29.26	25.74	325.06	399.75	5.7	5.01	6.66	6.66
Prairie County	D1	RM 146	40968	500-yr	4785.5	672.93	666.48	2.78	2.65	34.14	27.18	277.27	371.55	6.1	4.86	6.45	6.45
Prairie County	D1	RM 145.65	40420	500-yr	4785.5	672.53	665.52	2.98	2.82	39.34	31.62	247.14	333.32	6.34	5.1	7.01	7.01
Prairie County	D1	RM 145.36	39958	500-yr	4785.5	672.32	664.91	2.73	2.47	33.27	23.29	264.9	436.87	6.35	4.44	7.41	7.41
Prairie County	D1	RM 145.13	39579	500-yr	4785.5	672.15	664.58	2.62	2.4	29.93	21.7	266.31	416.09	6.63	4.79	7.57	7.57
Prairie County	D1	RM 144.92	39251	500-yr	4785.5	672	664.24	2.59	2.41	30.22	23.31	272.39	392.62	6.58	5.07	7.76	7.76
Prairie County	D1	RM 144.73	38942	500-yr	4785.5	671.83	663.99	2.68	2.46	32.09	24.96	264.25	387.64	6.47	5.02	7.84	7.84
Prairie County	D1	RM 144.56	38672	500-yr	4785.5	671.62	664.1	2.88	2.69	34.97	28.5	265.15	359.92	6.06	4.94	7.52	7.52
Prairie County	D1	RM 144.33	38305	500-yr	4785.5	671.41	664.19	2.91	2.54	34.81	21.51	232.15	457.08	6.69	4.12	7.22	7.22
Prairie County	D1	RM 144.13	37987	500-yr	4785.5	671.32	664.33	2.54	2.28	26.32	15.22	271.37	539.29	6.74	3.89	6.99	6.99
Prairie County	D1	RM 143.91	37637	500-yr	4785.5	671.28	663.96	2.16	1.88	19.2	14.71	299.48	502.36	6.64	5.07	7.32	7.32
Prairie County	D1	RM 143.71	37320	500-yr	4785.5	670.88	663.43	3.18	2.63	40.91	27.28	191.55	389.77	7.03	4.66	7.45	7.45
Prairie County	D1	RM 143.45	36908	500-yr	4785.5	670.37	663.01	3.73	3.31	56.87	42.29	179.26	289.66	6.73	5	7.36	7.36
Prairie County	D1	RM 143.21	36511	500-yr	4785.5	670.24	662.92	3.05	2.87	37.78	28.09	224.58	325.92	6.89	5.12	7.32	7.32
Prairie County	D1	RM 142.97	36139	500-yr	4785.5	670.07	662.7	2.91	2.77	34.24	26.34	232.06	320.86	7.01	5.38	7.37	7.37
Prairie County	D1	RM 142.71	35717	500-yr	4785.5	669.43	662.52	3.84	3.68	61.39	50.81	192.11	244.98	6.42	5.31	6.91	6.91
Prairie County	D1	RM 142.46	35322	500-yr	4785.5	669.41	662.36	2.8	2.6	32.28	26.93	254.79	336.14	6.55	5.47	7.05	7.05
Prairie County	D1	RM 142.23	34952	500-yr	4785.5	669.18	662.21	2.91	2.57	34.88	25.26	237.35	388.39	6.64	4.8	6.97	6.97
Prairie County	D1	RM 142.02	34614	500-yr	4785.5	669.07	662.21	2.63	2.38	29.38	24.63	269.68	399.2	6.02	5.04	6.86	6.86
Prairie County	D1	RM 141.8	34258	500-yr	4785.5	669.03	662.01	1.98	1.96	16.58	16.07	393.92	410.73	6.1	5.94	7.02	7.02
Prairie County	D1	RM 141.6	33942	500-yr	4785.5	668.9	661.72	2.08	2.07	17.8	17.46	496.43	508.64	4.63	4.55	7.18	7.18
Prairie County	D1	RM 141.42	33642	500-yr	4785.5	668.86	661.32	1.74	1.69	12.84	11.46	499.33	580.47	5.46	4.87	7.54	7.54
Prairie County	D1	RM 141.22	33325	500-yr	4785.5	668.7	660.91	2.11	1.98	18.17	14.16	326.47	454.66	6.83	5.32	7.79	7.79
Prairie County	D1	RM 141.02	33011	500-yr	4785.5	668.24	660.58	3.25	2.92	42.13	30.27	194.42	311.51	7.35	5.26	7.66	7.66
Prairie County	D1	RM 140.84	32709	500-yr	4785.5	668.18	660.35	2.78	2.68	31.25	25.62	241.98	310.29	7.04	5.76	7.83	7.83
Prairie County	D1	RM 140.64	32394	500-yr	4785.5	668.08	660.07	2.63	2.56	27.59	25.48	239.5	317.88	7.55	6.99	8.01	8.01
Prairie County	D1	RM 140.44	32074	500-yr	4785.5	667.84	659.63	2.94	2.84	35.29	31.72	225.88	262.15	7.12	6.43	8.21	8.21
Prairie County	D1	RM 140.23	31738	500-yr	4785.5	667.51	659.62	3.34	3.17	46.16	37.51	207.01	270.64	6.84	5.57	7.89	7.89
Prairie County	D1	RM 140.03	31420	500-yr	4785.5	667.47	659.59	2.68	2.55	29.23	24.51	253.77	380.01	6.96	5.85	7.88	7.88
Prairie County	D1	RM 139.84	31118	500-yr	4785.5	667.43	659.19	2.28	2.13	21.46	17.93	309.19	493.57	6.63	5.54	8.24	8.24
Prairie County	D1	RM 139.64	30801	500-yr	4785.5	667.28	658.96	2.53	2.14	25.03	17.79	222.13	408.32	7.73	5.49	8.32	8.32
Prairie County	D1	RM 139.44	30466	500-yr	4785.5	667.18	658.72	2.42	2.12	23.39	15.72	250.57	459.46	7.34	4.92	8.46	8.46
Prairie County	D1	RM 139.23	30138	500-yr	4785.5	666.94	658.34	2.75	2.55	33.95	18.64	219.78	438.97	7.82	4.27	8.6	8.6
Prairie County	D1	RM 139.02	29799	500-yr	4785.5	666.5	658.14	3.48	3.18	58.41	35.91	179.74	332.44	7.42	4.53	8.36	8.36
Prairie County	D1	RM 138.81	29470	500-yr	4785.5	666.49	658.11	2.65	2.48	31.37	21.56	219.94	351.43	8.04	5.49	8.38	8.38
Prairie County	D1	RM 138.62	29157	500-yr	4785.5	666.35	657.94	2.73	2.38	29.55	17.57	216.79	435.96	7.79	4.61	8.41	8.41
Prairie County	D1	RM 138.41	28823	500-yr	4785.5	666.1	657.82	3.03	2.62	39.91	23.47	202.45	416.41	7.49	4.38	8.28	8.28
Prairie County	D1	RM 138.22	28519	500-yr	4785.5	665.88	657.8	3.15	2.99	39.96	32.28	198.68	262.31	7.52	6.1	8.08	8.08
Prairie County	D1	RM 138.02	28200	500-yr	4785.5	665.89	657.74	2.42	2.35	24.53	22	246.99	285.76	7.92	7.11	8.15	8.15
Prairie County	D1	RM 137.82	27874	500-yr	4785.5	665.79	656.95	2.42	2.24	25.01	18.93	263.32	387	7.29	5.51	8.84	8.84
Prairie County	D1	RM 137.62	27552	500-yr	4785.5	665.74	656.75	2.19	1.77	20.95	15.06	234.81	511.69	7.39	5.28	8.99	8.99
Prairie County	D1	RM 137.42	27247	500-yr	4785.5	665.38	656.66	2.97	2.65	38.2	25.04	204.7	388.79	7.46	4.87	8.72	8.72
Prairie County	D1	RM 137.24	26944	500-yr	4785.5	665.24	656.66	2.91	2.53	37.72	23.3	205.46	407.54	7.56	4.64	8.58	8.58
Prairie County	D1	RM 137.04	26627	500-yr	4813.9	664.98	656.5	3.1	2.87	42.62	29.29	208.71	334.77	7.31	5.01	8.48	8.48
Prairie County	D2	RM 136.84	26475	500-yr	4813.9	664.93	656.46	2.93	2.83	35.87	25.67	207.19	301.67	7.88	5.63	8.47	8.47
Prairie County	D2	RM 136.44	26317	500-yr	4813.9	664.93	656.37	2.61	2.5	29.38	24.64	228.7	288.11	7.97	6.68	8.56	8.56
Prairie County	D2	RM 136.23	26001	500-yr	4813.9	664.79	656.19	2.66	2.49	30.98	25.16	246.47	331.86	7.19	5.83	8.6	8.6
Prairie County	D2	RM 136.04	25673	500-yr	4813.9	664.62	656.01	2.78	2.41	30.39	19.66	211.82	400.02	7.78	5	8.61	8.61
Prairie County	D2	RM 135.85	25337	500-yr	4813.9	664.31	655.93	3.26	2.78	41.72	20.79	186.08	458.3	7.64	3.77	8.38	8.38
Prairie County	D2	RM 135.66	25033	500-yr	4813.9	664.19	655.91	3.05	2.7	36.48	21.56	202.14	399.13	7.61	4.47	8.28	8.28
Prairie County	D2	RM 135.46	24715	500-yr	4813.9	663.99	655.86	3.1	2.88	45.46	35.86	199.11	277.78	7.63	6.02	8.13	8.13
Prairie County	D2	RM 135.24	24417	500-yr	4813.9	663.93	655.68	2.64	2.56	32.2	28.81	229.44	265.49	7.9	7.08	8.25	8.25
Prairie County	D2	RM 135	24090	500-yr	4813.9	663.78	655.56	2.66	2.54	31.45	26.79	246.98	310.54	7.17	6.1	8.22	8.22
Prairie County	D2	RM 134.78	23742	500-yr	4813.9	663.63	655.36	2.69	2.45	32.17	23.3	223.84	356.22	7.66	5.53	8.27	8.27
Prairie County	D2	RM 134.58	23351	500-yr	4813.9	663.22	655.29	3.28	2.97	50.88	34.89	189.75	319.25	7.45	5.08	7.93	7.93
Prairie County	D2	RM 134.39	23000	500-yr	4813.9	663.01	655.24	3.11	2.97	45.84	40.95	216.99	271.14	7	6.26	7.77	7.77

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	500-yr	4813.9	662.95	655.11	2.61	2.36	27.99	24.24	263.97	616.95	6.65	5.76	7.84	7.84
Prairie County	D2	RM 133.99	22372	500-yr	4813.9	662.81	654.97	2.6	2.43	28.32	23.34	264.94	371.95	6.83	5.62	7.84	7.84
Prairie County	D2	RM 133.79	22053	500-yr	4813.9	662.56	655	2.95	2.64	35.43	28.07	226.1	406.82	6.89	5.45	7.56	7.56
Prairie County	D2	RM 133.59	21733	500-yr	4813.9	662.41	654.96	2.82	2.64	32.46	26.17	247	388.81	6.78	5.46	7.45	7.45
Prairie County	D2	RM 133.41	21417	500-yr	4813.9	662.31	654.78	2.63	2.41	27.99	21.95	254.87	365.28	6.97	5.46	7.53	7.53
Prairie County	D2	RM 133.21	21104	500-yr	4813.9	662.12	654.64	2.84	2.43	32.46	22.11	229.84	416.1	7	4.76	7.48	7.48
Prairie County	D2	RM 133.02	20811	500-yr	4813.9	662.01	654.53	2.7	2.34	29.52	20.67	246.2	426.84	6.9	4.82	7.48	7.48
Prairie County	D2	RM 132.83	20491	500-yr	4813.9	661.9	654.29	2.58	2.31	27.38	20.66	262.67	415.2	6.67	5.02	7.61	7.61
Prairie County	D2	RM 132.63	20184	500-yr	4813.9	661.82	654.04	2.41	2.08	23.69	16.15	254.86	504.31	6.76	4.59	7.78	7.78
Prairie County	D2	RM 132.42	19875	500-yr	4813.9	661.61	653.98	2.71	2.33	29.52	20.31	221.68	419.67	7.17	4.92	7.63	7.63
Prairie County	D2	RM 132.23	19553	500-yr	4813.9	661.54	653.88	2.37	2.12	22.48	15.34	257.21	551.79	7.27	4.95	7.66	7.66
Prairie County	D2	RM 132.02	19225	500-yr	4813.9	661.29	653.63	2.79	2.51	31.7	22.32	246.63	402.95	6.79	4.76	7.66	7.66
Prairie County	D2	RM 131.81	18910	500-yr	4813.9	661.08	653.37	2.96	2.56	35.67	24.42	226.33	399.4	6.88	4.7	7.71	7.71
Prairie County	D2	RM 131.58	18573	500-yr	4813.9	661	653.02	2.59	2.19	26.46	16.27	238.03	478.15	7.49	4.59	7.98	7.98
Prairie County	D2	RM 131.38	18237	500-yr	4813.9	660.81	652.75	2.81	2.61	31.23	26.83	212.37	325.39	7.48	6.44	8.06	8.06
Prairie County	D2	RM 131.18	17875	500-yr	4813.9	660.51	652.49	3.15	2.87	39.99	29.13	209.79	326.18	7.09	5.15	8.02	8.02
Prairie County	D2	RM 130.98	17548	500-yr	4813.9	660.3	652.34	3.22	2.73	41.38	23.43	197.09	447.24	7.28	4.09	7.96	7.96
Prairie County	D2	RM 130.78	17227	500-yr	4813.9	660.21	652.27	2.86	2.39	32.54	20.11	216.24	446.32	7.33	4.5	7.94	7.94
Prairie County	D2	RM 130.59	16914	500-yr	4813.9	660.14	652.16	2.53	2.17	25.24	15.09	239.07	491.52	7.6	4.52	7.98	7.98
Prairie County	D2	RM 130.39	16588	500-yr	4813.9	659.88	651.95	2.96	2.62	34.68	20.21	212.42	425.52	7.46	4.32	7.93	7.93
Prairie County	D2	RM 130.19	16280	500-yr	4813.9	659.68	651.81	3.06	2.91	37.89	28.89	219.93	307.78	7.06	5.38	7.87	7.87
Prairie County	D2	RM 130	15965	500-yr	4813.9	659.6	651.57	2.71	2.53	29.51	21.46	244.4	365.84	7.15	5.19	8.03	8.03
Prairie County	D2	RM 129.81	15649	500-yr	4813.9	659.47	651.47	2.68	2.51	28.41	21.12	235.14	344.6	7.5	5.57	8	8
Prairie County	D2	RM 129.62	15337	500-yr	4813.9	659.3	651.34	2.88	2.51	33.05	21.65	216.64	405.09	7.26	4.74	7.96	7.96
Prairie County	D2	RM 129.43	15031	500-yr	4813.9	659.15	651.21	2.84	2.68	31.92	20.78	227.37	376.13	7.37	4.78	7.94	7.94
Prairie County	D2	RM 129.24	14724	500-yr	4927.1	658.92	651.06	3.09	2.76	38.61	24.05	222.31	465.17	6.99	4.34	7.86	7.86
Prairie County	D2	RM 129.04	14417	500-yr	4927.1	658.68	651.06	3.27	2.87	43.16	27.12	209.54	471.29	6.97	4.36	7.62	7.62
Prairie County	D2	RM 128.82	14112	500-yr	4927.1	658.47	651.05	3.3	2.91	44.05	28.15	209.12	516.54	6.93	4.41	7.42	7.42
Prairie County	D2	RM 128.62	13798	500-yr	4927.1	658.34	651.08	3.01	2.74	36.48	25.11	228.13	541.82	7.02	4.82	7.26	7.26
Prairie County	D2	RM 128.41	13446	500-yr	4927.1	658.21	651.07	2.78	2.56	31.5	23.86	255.09	376.25	6.77	5.12	7.14	7.14
Prairie County	D2	RM 128.21	13125	500-yr	4927.1	658.06	650.98	2.79	2.49	31.8	24.22	246.55	383.87	6.79	5.16	7.08	7.08
Prairie County	D2	RM 127.98	12790	500-yr	4927.1	657.92	650.84	2.72	2.37	30.14	19.83	250.67	462.4	6.86	4.5	7.08	7.08
Prairie County	D2	RM 127.75	12473	500-yr	4927.1	657.84	650.59	2.44	2.13	24.36	15.18	287.96	557.4	6.71	4.16	7.25	7.25
Prairie County	D2	RM 127.55	12112	500-yr	4927.1	657.7	650.35	2.44	2.19	24.31	16.9	287.38	482.32	6.74	4.67	7.35	7.35
Prairie County	D2	RM 127.27	11729	500-yr	4927.1	657.53	649.95	2.51	2.29	25.54	17.88	277.2	449.32	6.86	4.8	7.58	7.58
Prairie County	D2	RM 126.97	11415	500-yr	4927.1	657.26	649.68	2.98	2.59	35.84	22.05	226.77	446.56	6.96	4.26	7.58	7.58
Prairie County	D2	RM 126.71	10962	500-yr	4927.1	656.98	649.49	3.07	2.79	37.8	26.77	218.29	349.94	7.13	5.05	7.49	7.49
Prairie County	D2	RM 126.43	10478	500-yr	4927.1	656.87	649.32	2.5	2.4	25.24	17.33	275.96	443.27	7.04	4.84	7.55	7.55
Prairie County	D2	RM 126.42	10074	500-yr	4927.1	656.59	649.05	2.87	2.7	33.84	27.78	249.83	331.95	6.68	5.49	7.54	7.54
Prairie County	D2	RM 126.41	9625	500-yr	4927.1	656.3	648.27	3.05	2.77	37.55	27.8	220.07	343.05	7.01	5.19	8.02	8.02
Prairie County	D3	RM 126.38	9533	500-yr	4927.1	656.23	648.27	3.1	2.83	38.71	29.79	220.07	324.82	6.95	5.35	7.96	7.96
Prairie County	D3	RM 126.22	9286	500-yr	4927.1	656.16	648.8	2.81	2.62	31.95	23.91	246.62	361.99	6.96	5.2	7.36	7.36
Prairie County	D3	RM 126.03	8974	500-yr	4927.1	656.06	648.71	2.59	2.38	27.41	20.18	269.32	412.45	6.84	5.02	7.35	7.35
Prairie County	D3	RM 125.82	8648	500-yr	4927.1	655.92	648.36	2.58	2.41	27.4	21.49	282.4	399.08	6.6	5.17	7.56	7.56
Prairie County	D3	RM 125.63	8335	500-yr	4927.1	655.76	648.12	2.67	2.59	28.81	26.52	259.94	293.42	7.02	6.48	7.64	7.64
Prairie County	D3	RM 125.43	8020	500-yr	4927.1	655.55	647.8	2.95	2.57	34.66	25.71	217.06	362.15	7.28	5.39	7.75	7.75
Prairie County	D3	RM 125.24	7711	500-yr	4927.1	655.45	647.26	2.75	2.41	29.95	21.45	226.37	397.81	7.58	5.4	8.19	8.19
Prairie County	D3	RM 125.05	7403	500-yr	4927.1	655.24	647.23	2.98	2.59	35.01	24.05	209.96	383.56	7.52	5.14	8.01	8.01
Prairie County	D3	RM 124.83	7059	500-yr	4927.1	655.1	647.25	2.83	2.59	32.04	23.25	237.41	389.76	7.21	5.22	7.85	7.85
Prairie County	D3	RM 124.62	6712	500-yr	4927.1	654.96	647.25	2.73	2.45	30.43	18	257.84	605.57	6.83	4.02	7.71	7.71
Prairie County	D3	RM 124.41	6375	500-yr	4927.1	654.84	647.27	2.75	1.99	30.75	16.11	221.62	1012.05	6.83	3.55	7.57	7.57
Prairie County	D3	RM 124.15	5960	500-yr	4927.1	654.57	647.27	2.91	2.05	35.17	17.71	232.47	947.14	6.48	3.23	7.3	7.3
Prairie County	D3	RM 123.94	5627	500-yr	4927.1	654.31	647.27	3.22	2.14	42.88	21.45	199.91	814.67	6.52	3.23	7.04	7.04
Prairie County	D3	RM 123.74	5312	500-yr	4927.1	654.09	647.25	3.2	2.02	42.35	17.84	206.88	1076.74	6.54	2.73	6.84	6.84
Prairie County	D3	RM 123.56	5014	500-yr	4927.1	654.14	647.24	2.11	1.44	18.12	8.23	311.23	1154.27	6.78	3.06	6.9	6.9
Prairie County	D3	RM 123.24	4500	500-yr	4927.1	654.09	647.19	1.15	1.13	13.75	12.27	934.44	1063.38	4.58	4.1	6.9	6.9
Prairie County	D3	RM 122.99	4116	500-yr	4927.1	653.94	646.67	1.56	1.41	11.01	7.89	527.26	833.89	5.84	4.18	7.27	7.27
Prairie County	D3	RM 122.76	3746	500-yr	4927.1	653.76	646.22	2.02	1.82	16.89	9.92	362.48	702.18	6.59	3.85	7.54	7.54
Prairie County	D3	RM 122.55	3414	500-yr	4927.1	653.47	645.7	2.74	2.27	30.2	14.1	242.74	659.31	7.13	3.29	7.77	7.77
Prairie County	D3	RM 122.3	3012	500-yr	4927.1	653.2	645.57	3.05	2.31	37.53	18.92	214.39	609.66	6.98	3.49	7.63	7.63

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	500-yr	4927.1	653.04	645.49	2.84	2.27	33.04	18.82	240.65	567.52	6.76	3.82	7.55	7.55
Prairie County	D3	RM 121.88	2338	500-yr	4927.1	652.9	645.42	2.77	2.28	31.46	19.58	244.44	506.38	6.9	4.27	7.48	7.48
Prairie County	D3	RM 121.66	1982	500-yr	4927.1	652.63	645.3	3.02	2.58	37.27	23.8	226.93	435.53	6.91	4.39	7.33	7.33
Prairie County	D3	RM 121.46	1651	500-yr	4927.1	652.46	645.06	2.94	2.65	35.28	22.23	243.93	441.57	6.71	4.21	7.4	7.4
Prairie County	D3	RM 121.24	1304	500-yr	4927.1	652.28	644.99	2.91	2.5	36.11	21.73	247.35	503.45	6.53	3.92	7.29	7.29
Prairie County	D3	RM 121.02	957	500-yr	4927.1	652.14	644.88	2.71	2.35	31.97	20.49	259.65	493.15	6.65	4.25	7.26	7.26
Prairie County	D3	RM 120.84	660	500-yr	4927.1	651.96	644.78	2.77	2.5	34.97	22.87	255.32	444.61	6.78	4.43	7.18	7.18
Prairie County	D3	RM 120.64	350	500-yr	4927.1	651.79	644.42	2.82	2.57	32.03	19.35	244.23	452.11	7.02	4.23	7.37	7.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	500-yr	4927.78	651.7	643.94	2.68	2.54	29.31	26.88	254.01	531.57	6.84	6.27	7.76	7.76
Dawson County	D3	RM 120.28	90838.07	500-yr	4927.78	651.66	643.78	2.65	2.34	28.23	20.07	233.12	419.07	7.07	5.02	7.87	7.87
Dawson County	D3	RM 120.18	90675.23	500-yr	4927.78	651.52	643.7	2.84	2.58	32.01	22.47	213.48	413.51	7.31	5.14	7.82	7.82
Dawson County	D3	RM 120.00	90388.96	500-yr	4927.78	651.36	643.56	2.86	2.59	32.33	24.32	226.64	340.45	7.42	5.58	7.8	7.8
Dawson County	D3	RM 119.84	90136.35	500-yr	4927.78	651.2	643.44	3.02	2.69	36.17	25.25	213.73	430.35	7.36	5.14	7.76	7.76
Dawson County	D3	RM 119.68	89873.82	500-yr	4927.78	650.93	643.31	3.38	2.91	45.44	26.93	189.21	392.75	7.31	4.31	7.62	7.62
Dawson County	D3	RM 119.53	89627.16	500-yr	4927.78	650.79	643.2	3.27	3.07	42.53	28.19	204.32	333.68	7.28	4.81	7.6	7.6
Dawson County	D3	RM 119.39	89404.11	500-yr	4927.78	650.75	643.09	2.92	2.64	34.11	24.2	231.36	367.26	7.15	5.09	7.66	7.66
Dawson County	D3	RM 119.26	89201.38	500-yr	4927.78	650.7	642.99	2.67	2.4	29.13	22.03	263.7	401.48	6.78	5.12	7.72	7.72
Dawson County	D3	RM 119.12	88969.13	500-yr	4927.78	650.46	642.87	3.19	2.4	40.85	18.75	193.4	771.35	7.22	3.28	7.58	7.58
Dawson County	D3	RM 119.00	88780.83	500-yr	4927.78	650.38	642.78	3.05	2.28	37.42	15.84	199.46	737.48	7.16	3.01	7.6	7.6
Dawson County	D3	RM 118.85	88537.07	500-yr	4927.78	650.33	642.66	2.67	2.18	29.01	13.73	241.51	697.26	6.89	3.25	7.67	7.67
Dawson County	D3	RM 118.72	88336.12	500-yr	4927.78	650.29	642.56	2.47	1.89	24.18	11.56	237.19	747.21	7.34	3.49	7.73	7.73
Dawson County	D3	RM 118.60	88130.39	500-yr	4927.78	650.11	642.46	2.81	2.18	31.67	13.94	220.72	724.27	7.14	3.13	7.65	7.65
Dawson County	D3	RM 118.47	87924.15	500-yr	4927.78	649.93	642.37	3.08	2.51	38.84	17.14	211.72	668.68	6.69	2.93	7.57	7.57
Dawson County	D3	RM 118.34	87719.85	500-yr	4927.78	649.68	642.27	3.4	2.86	49.1	23.98	214.06	586.96	6.05	2.94	7.41	7.41
Dawson County	D3	RM 118.21	87507.02	500-yr	4927.78	649.52	642.16	3.42	2.64	46.94	20.66	175.82	598.68	7.18	3.12	7.36	7.36
Dawson County	D3	RM 118.07	87276.02	500-yr	4956.1	649.51	642.05	2.66	2.36	30	18.16	297.49	571.76	6.11	3.67	7.46	7.46
Dawson County	D4	RM 117.90	87004.77	500-yr	4956.1	649.47	641.92	2.39	1.95	23.4	13.14	234.19	682.16	6.7	3.73	7.55	7.55
Dawson County	D4	RM 117.77	86795.88	500-yr	4956.1	649.43	641.81	2.24	1.78	20.62	11.95	217.15	733.66	6.64	3.81	7.62	7.62
Dawson County	D4	RM 117.62	86560.03	500-yr	4956.1	649.35	641.7	2.22	1.76	19.94	10.61	247.32	758.28	6.99	3.71	7.65	7.65
Dawson County	D4	RM 117.46	86294.2	500-yr	4956.1	649.12	641.57	2.88	2.05	33.57	16.16	183	735.4	6.96	3.31	7.55	7.55
Dawson County	D4	RM 117.33	86073.88	500-yr	4956.1	648.75	641.46	3.69	2.68	55.08	28.7	137.01	667.42	7.22	3.66	7.28	7.28
Dawson County	D4	RM 117.16	85808.16	500-yr	4956.1	648.68	641.33	3.02	2.33	36.74	17.09	182.25	693.9	7.12	3.28	7.35	7.35
Dawson County	D4	RM 117.03	85604.68	500-yr	4956.1	648.64	641.3	2.59	2.17	27.91	15.87	243.69	764.49	6.5	3.67	7.34	7.34
Dawson County	D4	RM 116.87	85336.88	500-yr	4956.1	648.6	641.29	2.23	1.71	20.5	11.31	238.63	854.29	6.65	3.66	7.32	7.32
Dawson County	D4	RM 116.69	85043.25	500-yr	4956.1	648.48	641.44	2.31	1.86	22.75	15.23	279.08	663.75	6.01	4.01	7.04	7.04
Dawson County	D4	RM 116.56	84823.15	500-yr	4956.1	648.34	641.34	2.54	1.84	27.5	15.78	234.35	783.3	6.03	3.43	7.01	7.01
Dawson County	D4	RM 116.39	84558.58	500-yr	4956.1	648.28	641.21	2.2	1.66	20.08	10.91	269.92	865.52	6.39	3.45	7.07	7.07
Dawson County	D4	RM 116.22	84287.19	500-yr	4956.1	648.14	641	2.36	1.62	22.73	10.78	259.34	960	6.74	3.19	7.14	7.14
Dawson County	D4	RM 116.05	84007.59	500-yr	4956.1	648	640.84	2.61	1.65	27.82	13.05	213.93	942.11	6.8	3.18	7.16	7.16
Dawson County	D4	RM 115.87	83722.29	500-yr	4956.1	647.88	640.8	2.63	1.64	28.61	14.07	214.27	942.53	6.54	3.2	7.08	7.08
Dawson County	D4	RM 115.73	83500.35	500-yr	4956.1	647.86	640.69	2.11	1.43	19.1	11.44	310.77	1011.41	5.75	3.44	7.17	7.17
Dawson County	D4	RM 115.61	83294.37	500-yr	4956.1	647.82	640.59	1.85	1.38	14.6	8.98	385.01	1000.29	5.93	3.64	7.22	7.22
Dawson County	D4	RM 115.45	83034.82	500-yr	4956.1	647.77	640.37	1.75	1.43	13.2	9.73	407.6	835.33	5.65	4.16	7.4	7.4
Dawson County	D4	RM 115.29	82782.88	500-yr	4956.1	647.63	640.34	2.08	1.61	18.28	10.73	319.39	849.44	6.23	3.62	7.29	7.29
Dawson County	D4	RM 115.09	82480.02	500-yr	4956.1	647.58	640.2	1.88	1.42	14.43	8.62	324	854.34	6.85	4.09	7.39	7.39
Dawson County	D4	RM 114.96	82177.99	500-yr	4956.1	647.39	640	2.39	1.88	23.19	14.38	260.73	653.58	6.89	4.25	7.39	7.39
Dawson County	D4	RM 114.74	81836.48	500-yr	4956.1	646.94	639.98	3.44	2.36	48.4	26.16	179.76	576.74	6.78	3.64	6.96	6.96
Dawson County	D4	RM 114.58	81577.9	500-yr	4956.1	646.93	639.46	2.62	2.43	27.75	22.87	195.77	385.59	7.09	5.82	7.47	7.47
Dawson County	D4	RM 114.42	81309.47	500-yr	4956.1	646.74	639.33	2.77	2.64	31.52	26.21	257.79	339.47	6.65	5.53	7.41	7.41
Dawson County	D4	RM 114.28	81078.59	500-yr	4956.1	646.44	639.21	3.3	2.94	44.37	33.42	213.07	330.34	6.77	5.1	7.23	7.23
Dawson County	D4	RM 114.11	80813.63	500-yr	4956.1	646.22	639.2	3.4	2.94	47.69	31.87	210.21	457.28	6.61	4.41	7.02	7.02
Dawson County	D4	RM 113.97	80580.15	500-yr	4956.1	646.07	639.45	3.3	2.8	45.74	33.09	225.76	444.43	6.26	4.52	6.62	6.62
Dawson County	D4	RM 113.79	80292.13	500-yr	4956.1	646.05	639.45	2.69	2.35	30.38	23.84	201.08	426.93	6.27	4.93	6.6	6.6
Dawson County	D4	RM 113.60	79987.05	500-yr	4956.1	646.05	639.2	1.94	1.76	15.38	13.33	179.84	506.57	6.7	5.77	6.85	6.85
Dawson County	D4	RM 113.43	79712.89	500-yr	4956.1	645.93	638.73	2.28	1.87	21.05	14.76	173.8	539.3	7.07	4.92	7.2	7.2
Dawson County	D4	RM 113.24	79405.49	500-yr	4956.1	645.63	638.43	3.13	2.34	39.52	20.83	130.78	575.96	7.09	3.68	7.2	7.2
Dawson County	D4	RM 113.08	79152.39	500-yr	4956.1	645.45	638.37	3.08	2.51	38.68	23.05	138.2	482.14	6.97	4.1	7.09	7.09
Dawson County	D4	RM 112.94	78925.1	500-yr	4956.1	645.44	638.26	2.33	2.13	22.17	17.82	194.62	430.34	6.79	5.42	7.18	7.18
Dawson County	D4	RM 112.74	78585.88	500-yr	4956.1	645.3	638.09	2.44	2.05	24.71	16.07	237.95	578.49	6.47	4.19	7.21	7.21
Dawson County	D4	RM 112.59	78355.25	500-yr	4956.1	645.19	637.98	2.49	1.96	26.31	16.19	271.99	677.43	6.11	3.73	7.21	7.21
Dawson County	D4	RM 112.37	78008.78	500-yr	4956.1	645.2	637.88	1.82	1.51	13.44	8.82	206.92	835.78	6.84	4.44	7.31	7.31
Dawson County	D4	RM 112.19	77721.27	500-yr	4956.1	644.99	637.59	2.39	2.02	23.29	15.83	213.8	539.56	6.87	4.65	7.4	7.4
Dawson County	D4	RM 111.89	77240.22	500-yr	4956.1	644.6	637.16	2.92	2.52	34.48	21.9	235.68	495.71	6.88	4.36	7.44	7.44
Dawson County	D4	RM 111.42	76486.24	500-yr	4956.1	644.35	636.91	2.47	2.13	24.9	16.29	287.11	532	6.69	4.37	7.44	7.44
Dawson County	D4	RM 111.26	76213.83	500-yr	4956.1	644.3	636.66	2.19	1.84	19.84	13.25	329.26	652.31	6.49	4.32	7.64	7.64
Dawson County	D4	RM 111.09	75911.9	500-yr	4956.1	643.9	636.51	3.09	2.87	39.63	30.7	240.23	394.14	6.51	5.03	7.39	7.39
Dawson County	D4	RM 110.95	75678.54	500-yr	4956.1	643.54	636.4	3.62	3.32	53.31	38.6	194.97	315.53	6.83	4.93	7.14	7.14
Dawson County	D4	RM 110.78	75415.61	500-yr	4956.1	643.15	636.27	3.98	3.67	65.49	43.73	186.03	308.69	6.58	4.37	6.87	6.87

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	500-yr	4956.1	643.06	636.09	3.13	2.85	40.52	26.49	240.69	452.83	6.45	4.22	6.97	6.97
Dawson County	D4	RM 110.39	74780.03	500-yr	4956.1	643.04	635.96	2.53	2.21	26.65	16.41	293.1	572.98	6.37	3.91	7.08	7.08
Dawson County	D4	RM 110.17	74428.56	500-yr	4956.1	642.87	635.79	2.57	2.21	28.57	17.38	321.63	653.11	5.66	3.43	7.08	7.08
Dawson County	D4	RM 109.95	74074.87	500-yr	4956.1	642.74	635.62	2.42	1.95	24.3	13.41	297.98	725.4	6.36	3.5	7.12	7.12
Dawson County	D4	RM 109.75	73741.09	500-yr	4956.1	642.57	635.46	2.57	1.99	27.46	13.65	272.8	777.56	6.45	3.19	7.11	7.11
Dawson County	D4	RM 109.54	73418.83	500-yr	4956.1	642.47	635.3	2.4	1.77	23.82	13.28	287.56	785.3	6.42	3.56	7.17	7.17
Dawson County	D4	RM 109.37	73150.54	500-yr	4956.1	642.31	635.17	2.68	1.91	29.5	15.4	224.7	745.05	6.68	3.48	7.14	7.14
Dawson County	D4	RM 109.19	72864.56	500-yr	4956.1	642.12	635.03	2.79	2.19	31.91	17.48	238.65	623.57	6.65	3.63	7.09	7.09
Dawson County	D4	RM 109.04	72628	500-yr	4956.1	641.69	634.92	3.6	2.89	53.6	26.23	194.23	540.39	6.53	3.17	6.77	6.77
Dawson County	D4	RM 108.86	72339.73	500-yr	4956.1	641.71	634.77	2.57	2.43	27.98	19.48	287.17	511.96	6.07	4.23	6.93	6.93
Dawson County	D4	RM 108.70	72072.36	500-yr	4956.1	641.63	634.65	2.39	2.18	23.91	13.73	291.61	713.54	6.24	3.57	6.98	6.98
Dawson County	D4	RM 108.55	71827.97	500-yr	4956.1	641.53	634.53	2.35	2.16	23.45	12.72	343.64	699.53	6.05	3.27	7	7
Dawson County	D4	RM 108.40	71587.18	500-yr	4956.1	641.34	634.41	2.61	2.4	29.06	15.65	363.68	794	5.13	2.75	6.93	6.93
Dawson County	D4	RM 108.25	71345.86	500-yr	4956.1	641.24	634.29	2.47	2.12	26.97	12.46	361.89	953.63	5.34	2.46	6.95	6.95
Dawson County	D4	RM 108.12	71131.88	500-yr	4956.1	641.1	634.19	2.6	2.09	28.36	11.94	289.42	907.75	6.23	2.61	6.92	6.92
Dawson County	D4	RM 107.98	70905.01	500-yr	4956.1	640.84	634.08	3.06	2.44	39.33	15.8	245.46	816.15	6.24	2.49	6.77	6.77
Dawson County	D4	RM 107.82	70651.22	500-yr	4956.1	640.63	633.95	3.21	2.35	43.48	17.45	231.93	861.48	6.12	2.44	6.68	6.68
Dawson County	D4	RM 107.68	70418.24	500-yr	4956.1	640.34	633.84	3.48	2.73	51.43	19.12	219.72	810.05	6.06	2.24	6.5	6.5
Dawson County	D4	RM 107.50	70132.11	500-yr	4956.1	640.18	633.17	3.19	2.53	43.09	18.9	239.71	743.24	5.99	2.64	7.01	7.01
Dawson County	D4	RM 107.31	69834.56	500-yr	4956.1	639.93	633.23	3.21	2.72	45.03	24	264.38	616.36	5.51	2.95	6.7	6.7
Dawson County	D4	RM 107.13	69541.52	500-yr	4956.1	639.75	633.98	2.93	2.61	38.66	26.4	322.33	553.25	5	3.43	5.77	5.77
Dawson County	D5	RM 106.98	69305.02	500-yr	4984.42	639.69	634.16	2.38	2.26	25.73	22.62	421.85	520.24	4.8	4.25	5.53	5.53
Dawson County	D5	RM 106.85	69065.27	500-yr	4984.42	639.59	633.6	2.27	2.1	23.45	17.31	412.29	668.81	4.78	3.54	5.99	5.99
Dawson County	D5	RM 106.65	68764.02	500-yr	4984.42	639.32	632.98	2.65	2.45	32.54	20.56	360.27	718.52	4.58	2.91	6.34	6.34
Dawson County	D5	RM 106.47	68475.87	500-yr	4984.42	639.15	632.51	2.59	1.91	30.15	16.49	307.26	1127.1	5.04	2.76	6.64	6.64
Dawson County	D5	RM 106.28	68173.97	500-yr	4984.42	638.63	631.71	3.59	2.48	56.03	23.28	204.05	872.36	5.53	2.3	6.92	6.92
Dawson County	D5	RM 106.10	67879.83	500-yr	4984.42	638.41	631.29	3.36	2.44	50.3	27.46	206.53	757.25	5.18	2.84	7.12	7.12
Dawson County	D5	RM 105.89	67550.49	500-yr	4984.42	638.23	631.76	2.91	2.15	37.89	16.7	226.74	1034.11	5.07	2.24	6.47	6.47
Dawson County	D5	RM 105.74	67300.35	500-yr	4984.42	638.09	632.3	2.7	1.83	32.58	17.78	203.14	1012.7	5.1	2.79	5.79	5.79
Dawson County	D5	RM 105.54	66973.54	500-yr	4984.42	637.81	632.17	2.94	2.18	39.03	21.42	147.79	952.05	4.96	2.73	5.64	5.64
Dawson County	D5	RM 105.30	66609.03	500-yr	4984.42	637.7	632.29	1.96	1.65	18.09	11.87	219.79	1129.9	4.32	2.83	5.58	5.58
Dawson County	D5	RM 105.06	66212.24	500-yr	4984.42	637.53	631.19	2.28	1.97	24.57	16.15	181.11	1296.8	4.3	2.83	6.34	6.34
Dawson County	D5	RM 104.89	65945.5	500-yr	4984.42	637.37	631.5	2.3	1.87	25.55	15.18	205.87	1487.59	4.06	2.42	5.95	5.95
Dawson County	D5	RM 104.77	65742.33	500-yr	4984.42	637.26	631.67	2.47	1.67	27.59	13.53	125.62	1547.37	4.94	2.42	6.55	6.55
Dawson County	D5	RM 104.64	65530.83	500-yr	4984.42	637.2	632.1	2.08	1.4	19.84	10.48	172.34	1642.8	4.71	2.47	6.24	6.24
Dawson County	D5	RM 104.43	65180.62	500-yr	4984.42	637.16	631.56	1.38	1.06	9.21	6.11	361.11	1793.33	3.93	2.62	6.37	6.37
Dawson County	D5	RM 104.26	64906.83	500-yr	4984.42	637.1	631.59	1.36	1	8.76	5.12	218.58	1955.56	4.37	2.56	6.46	6.46
Dawson County	D5	RM 104.10	64643.2	500-yr	4984.42	637.03	630.81	1.68	1.06	12.75	6.01	150.64	1997.58	5	2.36	6.59	6.59
Dawson County	D5	RM 103.95	64410.06	500-yr	4984.42	636.99	631.24	1.69	0.94	12.97	6.93	185.01	2068.21	4.79	2.56	7.17	7.17
Dawson County	D5	RM 103.68	63957.56	500-yr	4984.42	636.91	629.68	1.75	0.91	13.52	7.5	188.7	1895.43	5.21	2.89	7.47	7.47
Dawson County	D5	RM 103.48	63615.6	500-yr	4984.42	636.85	630.4	1.86	0.99	14.97	7.72	152.55	1743.86	5.61	2.88	7.34	7.34
Dawson County	D5	RM 103.26	63259.44	500-yr	4984.42	636.8	630.13	1.79	1.01	13.86	7.65	173.17	1582.33	5.69	3.13	7.39	7.39
Dawson County	D5	RM 102.58	62131.5	500-yr	4984.42	636.61	629.72	1.84	1.36	14.55	9.7	178.73	1079.82	5.68	3.79	6.93	6.93
Dawson County	D5	RM 102.44	61920.83	500-yr	4984.42	636.46	629.74	2.33	1.65	23.54	13.23	255.44	955.43	5.62	3.17	6.72	6.72
Dawson County	D5	RM 102.31	61720.14	500-yr	4984.42	636.33	629.03	2.69	1.79	31.28	17.22	200.53	886.39	5.69	3.14	7.3	7.3
Dawson County	D5	RM 102.15	61456.58	500-yr	4984.42	636.2	629.39	2.66	1.85	30.25	15.66	201.3	882.84	5.88	3.05	6.81	6.81
Dawson County	D5	RM 102.00	61217.89	500-yr	4984.42	636.12	629.48	2.32	1.69	23.56	13.65	267.9	943.06	5.37	3.13	6.64	6.64
Dawson County	D5	RM 101.84	60967.97	500-yr	4984.42	636.09	629.23	1.95	1.35	16.47	11.74	155.67	931.17	5.57	3.98	6.86	6.86
Dawson County	D5	RM 101.60	60582.61	500-yr	4984.42	635.94	628.87	1.89	1.51	15.53	9.36	336.08	1072.99	5.46	3.29	7.07	7.07
Dawson County	D5	RM 101.45	60336.09	500-yr	4984.42	635.69	629.16	2.64	1.78	29.55	13.86	251.39	1017.27	5.92	2.79	6.53	6.53
Dawson County	D5	RM 101.25	60019.5	500-yr	4984.42	635.45	627.81	2.94	1.83	36.42	16.01	209.15	1012.17	6.11	2.69	7.64	7.64
Dawson County	D5	RM 101.09	59759.25	500-yr	4984.42	635.35	627.99	2.75	1.68	31.92	14.19	216.65	1111.39	5.99	2.67	7.36	7.36
Dawson County	D5	RM 100.88	59426.42	500-yr	4984.42	635.24	627.86	2.55	1.57	27.23	11.79	196.58	1179.95	6.21	2.69	7.38	7.38
Dawson County	D5	RM 100.67	59075.4	500-yr	4984.42	635.09	627.1	2.77	1.52	31.29	12.31	151.88	1235.33	6.74	2.65	7.99	7.99
Dawson County	D5	RM 100.46	58743.44	500-yr	4984.42	635.04	627.92	2.06	1.31	17.67	9.27	202.94	1178.84	6.25	3.29	7.12	7.12
Dawson County	D5	RM 100.25	58401.49	500-yr	4984.42	634.78	627.57	2.68	1.67	30	14.61	196.17	984.08	6.22	3.03	7.21	7.21
Dawson County	D5	RM 100.05	58077.55	500-yr	4984.42	634.62	626.86	2.73	1.93	31.15	15.57	176.97	827.05	6.26	3.12	7.76	7.76
Dawson County	D5	RM 99.87	57778.81	500-yr	4984.42	634.33	626.4	2.82	2.32	35.02	20.35	301.61	689.79	5.36	3.11	7.93	7.93
Dawson County	D5	RM 99.68	57474.16	500-yr	4984.42	634.09	626.29	2.98	2.34	37.43	17.7	246.92	734.87	6.1	2.9	7.8	7.8
Dawson County	D5	RM 99.49	57160.47	500-yr	4984.42	633.74	626.53	3.39	2.53	48.88	24.05	218.38	684.69	5.93	2.92	7.21	7.21

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	500-yr	4984.42	633.59	627.26	2.97	2.12	38.37	17.84	267.93	906.46	5.58	2.6	6.33	6.33
Dawson County	D5	RM 99.13	56566.63	500-yr	4984.42	633.49	626.77	2.59	1.83	29.27	15.54	293.66	932.14	5.51	2.93	6.72	6.72
Dawson County	D5	RM 98.92	56243.98	500-yr	4984.42	633.31	626.63	2.49	1.9	27.59	15.21	339.1	926.43	5.12	2.84	6.68	6.68
Dawson County	D5	RM 98.71	55911.87	500-yr	4984.42	633.14	626.34	2.47	1.69	27.32	14.88	322.21	1103.08	5.03	2.74	6.8	6.8
Dawson County	D5	RM 98.57	55680.2	500-yr	4984.42	633.06	626.1	2.32	1.44	24.05	13.72	297.01	1203.65	5.15	2.94	6.95	6.95
Dawson County	D5	RM 98.35	55325.95	500-yr	4984.42	632.75	625.91	2.82	1.58	33.8	15.41	216.82	1172.52	5.9	2.69	6.84	6.84
Dawson County	D5	RM 98.19	55066.09	500-yr	4984.42	632.54	624.42	3.04	1.63	38.37	15.52	184	1185.24	6.35	2.57	8.12	8.12
Dawson County	D5	RM 97.99	54752.97	500-yr	4984.42	632.17	625.04	3.32	2.07	48.06	17.92	236.53	1183.89	5.46	2.03	7.13	7.13
Dawson County	D5	RM 97.84	54493.48	500-yr	4984.42	632	625.39	3.03	2.2	40.77	17.72	292.51	1010.79	5.16	2.24	6.61	6.61
Dawson County	D5	RM 97.68	54241.32	500-yr	4984.42	631.84	624.99	2.84	2.17	37.42	24.95	340.05	787.16	4.54	3.03	6.85	6.85
Dawson County	D5	RM 97.48	53918.21	500-yr	4984.42	631.73	624.81	2.1	1.74	20.44	15.97	387.03	1366.54	3.67	2.87	6.92	6.92
Dawson County	D5	RM 97.28	53585.68	500-yr	4984.42	631.51	625.86	2.29	1.6	24.49	14.94	328.8	1374.83	4.47	2.73	6.06	6.06
Dawson County	D5	RM 97.08	53263.89	500-yr	4984.42	631.18	625.27	2.99	1.99	40.09	16.82	209.17	1361.58	5.06	2.13	5.91	5.91
Dawson County	D5	RM 96.94	53030.11	500-yr	4984.42	630.98	623.97	3.08	1.95	42.93	19.25	199.17	1345.67	4.94	2.22	7.01	7.01
Dawson County	D5	RM 96.77	52762.2	500-yr	4984.42	630.77	623.51	3.04	1.99	41.85	17.85	202.34	1436.17	4.89	2.09	7.26	7.26
Dawson County	D5	RM 96.55	52403.59	500-yr	4984.42	630.56	624.57	2.9	1.62	37.16	16	160.42	1680.84	5.25	2.27	5.99	5.99
Dawson County	D5	RM 96.35	52079.12	500-yr	4984.42	630.55	625.39	1.47	1.32	10.44	7.02	290.07	1858.11	4	2.7	7.08	7.08
Dawson County	D5	RM 96.17	51777.74	500-yr	4984.42	630.27	624.71	2.76	1.94	35.19	12.75	130.42	1897.74	4.64	1.68	5.89	5.89
Dawson County	D5	RM 96.00	51500.38	500-yr	4984.42	630.09	624.3	2.59	1.72	30.71	11.79	122.42	1979.45	4.75	1.82	5.79	5.79
Dawson County	D5	RM 95.79	51156.87	500-yr	4984.42	629.97	624.35	1.9	1.3	17.72	8.88	284.94	1977.21	4.43	2.22	5.72	5.72
Dawson County	D5	RM 95.60	50859.75	500-yr	4984.42	629.84	622.97	1.99	1.24	18.38	9.4	251.15	1722	4.55	2.33	6.87	6.87
Dawson County	D5	RM 95.40	50547.92	500-yr	4984.42	629.71	623.13	1.88	1.27	15.98	8.72	377.96	1462.57	4.89	2.68	6.58	6.58
Dawson County	D5	RM 95.21	50245.97	500-yr	4984.42	629.56	622.21	2.33	1.24	23.5	10.87	217.6	1542.37	5.66	2.62	7.35	7.35
Dawson County	D5	RM 95.04	49971.19	500-yr	4984.42	629.44	621.68	2.61	1.31	29.93	12.45	174.46	1808.67	5.34	2.21	7.76	7.76
Dawson County	D5	RM 94.88	49717.07	500-yr	4984.42	629.36	621.44	2.39	1.16	24.8	10.99	152.89	1913.84	5.64	2.49	7.91	7.91
Dawson County	D5	RM 94.71	49446.9	500-yr	4984.42	629.32	621.69	1.61	0.98	11.42	5.72	234.28	1949.13	5.3	2.64	7.63	7.63
Dawson County	D5	RM 94.58	49286.95	500-yr	4984.42	629.29	618.6	1.27	0.84	6.51	2.94	456.42	2337.75	7.04	3.17	10.69	10.69
Dawson County	D5	RM 94.57	49255.56	500-yr	4984.42	629.23	618.63	1.66	1.01	11.2	4.24	360.59	1953.15	6.78	2.55	10.6	10.6
Dawson County	D5	RM 94.52	49157.18	500-yr	4984.42	629.19	620.89	1.97	1.06	16.7	6.89	287.23	2589.55	5.82	2.38	8.3	8.3
Dawson County	D6	RM 94.42	48998.19	500-yr	5012.74	629.09	621.76	2.35	1.1	23.55	7.38	219.93	2499.28	5.83	1.82	7.33	7.33
Dawson County	D6	RM 94.30	48806.79	500-yr	5012.74	629.04	621.22	2.08	1.05	19.43	7.41	291.47	2477.42	5.05	1.92	7.82	7.82
Dawson County	D6	RM 94.20	48653.06	500-yr	5012.74	628.99	621.41	2.06	1.02	18.7	7.09	261.89	2335.18	5.57	2.1	7.58	7.58
Dawson County	D6	RM 94.08	48445.46	500-yr	5012.74	628.95	622.37	1.81	0.98	14.06	5.77	338.75	2164.26	5.78	2.36	6.58	6.58
Dawson County	D6	RM 93.96	48246.42	500-yr	5012.74	628.88	621.88	1.93	1.04	16.24	7.2	331.74	2010.88	5.44	2.4	7	7
Dawson County	D6	RM 93.83	48030.25	500-yr	5012.74	628.81	620.28	2.14	1.04	19.18	7.85	237.8	1923.54	6.13	2.5	8.53	8.53
Dawson County	D6	RM 93.68	47782.89	500-yr	5012.74	628.42	620.19	3.2	1.88	42.76	17.56	191.53	1836.12	6.27	2.57	8.23	8.23
Dawson County	D6	RM 93.57	47606.95	500-yr	5012.74	627.76	620.08	4.33	2.74	81.21	22.75	184.03	1171.01	5.59	1.56	7.68	7.68
Dawson County	D6	RM 93.53	47552.11	500-yr	5012.74	627.64	620.21	4.37	3.06	82.38	28.13	184.33	847.5	5.67	1.94	7.42	7.42
Dawson County	D6	RM 93.47	47460.74	500-yr	5012.74	627.5	618.63	4.33	3.16	81.21	28.92	189.97	792.62	5.63	2	8.87	8.87
Dawson County	D6	RM 93.43	47382.46	500-yr	5012.74	627.41	619.44	4.23	3.15	76.66	30.73	191.32	990.5	5.8	2.31	7.97	7.97
Dawson County	D6	RM 93.36	47287.92	500-yr	5012.74	627.45	620.47	3.67	2.65	57.4	24.44	213.34	1355.26	5.92	2.51	6.98	6.98
Dawson County	D6	RM 93.25	47111.44	500-yr	5012.74	627.29	621.12	3.63	2.67	60.48	22.81	228.84	985.06	5.2	1.96	6.17	6.17
Dawson County	D6	RM 93.05	46807.77	500-yr	5012.74	627.25	621.74	2.6	1.77	30.16	14.43	283.11	1477.08	5.19	2.48	5.51	5.51
Dawson County	D6	RM 92.93	46606.31	500-yr	5012.74	627.15	621.34	2.52	1.6	28.99	13.42	305.87	1572.67	4.84	2.24	5.81	5.81
Dawson County	D6	RM 92.83	46460.06	500-yr	5012.74	627.08	621.02	2.36	1.54	25.75	12.44	357.35	1720.22	4.32	2.08	6.06	6.06
Dawson County	D6	RM 92.71	46261.84	500-yr	5012.74	627.05	620.37	1.91	1.17	16.85	8.99	359.38	1772.87	4.54	2.42	6.68	6.68
Dawson County	D6	RM 92.59	46079.79	500-yr	5012.74	626.97	620.95	1.95	1.19	17.7	8.1	321.05	1771.34	5.24	2.38	6.02	6.02
Dawson County	D6	RM 92.50	45933.81	500-yr	5012.74	626.88	620.75	2.16	1.32	21.11	8.9	325.45	1818.45	4.97	2.09	6.13	6.13
Dawson County	D6	RM 92.39	45753.94	500-yr	5012.74	626.74	620.58	2.38	1.44	25.26	8.97	299.01	1888.94	5.2	1.84	6.16	6.16
Dawson County	D6	RM 92.29	45591.17	500-yr	5012.74	626.7	620.64	2.19	1.28	21.2	7.8	295.77	2008.88	5.3	1.94	6.06	6.06
Dawson County	D6	RM 92.18	45414.13	500-yr	5012.74	626.66	620.23	2	1.3	17.74	7.45	358.66	2112.29	5.24	2.2	6.43	6.43
Dawson County	D6	RM 92.06	45238.47	500-yr	5012.74	626.56	620.12	2.13	1.47	20.32	8.77	354.46	1557.69	5.09	2.19	6.44	6.44
Dawson County	D6	RM 91.99	45117.89	500-yr	5012.74	626.54	619.81	1.83	1.43	15.37	8.6	390.42	1307.65	4.78	2.68	6.73	6.73
Dawson County	D6	RM 91.85	44886.16	500-yr	5012.74	626.49	619.7	1.76	1.36	15.42	9.98	238.98	1629.61	5.52	3.57	6.79	6.79
Dawson County	D6	RM 91.77	44752.88	500-yr	5012.74	626.41	619.28	1.97	1.45	22.44	10.36	224.91	1441.85	5.2	2.41	7.13	7.13
Dawson County	D6	RM 91.61	44507.01	500-yr	5012.74	626.28	619	2.23	1.43	20.98	8.94	148.19	1575.11	6.1	2.6	7.28	7.28
Dawson County	D6	RM 91.45	44219.47	500-yr	5012.74	626.2	618.66	2.2	1.43	21.36	8.45	189.07	1478.9	6.01	2.37	7.54	7.54
Dawson County	D6	RM 91.31	43987.79	500-yr	5012.74	625.99	618.98	2.52	1.63	27.43	11.83	271.16	1270	5.64	2.43	7.01	7.01
Dawson County	D6	RM 91.11	43666.49	500-yr	5012.74	625.66	618.54	3.04	1.88	38.68	15.23	219.42	1094.5	6.16	2.43	7.12	7.12
Dawson County	D6	RM 90.97	43442.55	500-yr	5012.74	625.53	618.3	2.98	1.79	37.81	15.55	224.14	1153.04	5.92	2.43	7.23	7.23

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	500-yr	5012.74	625.37	618.97	2.64	1.7	37.95	18.68	268.72	1629.33	5.48	2.7	6.4	6.4
Dawson County	D6	RM 90.59	42823.65	500-yr	5012.74	625.35	618.64	2.01	1.21	17.4	9.39	232.7	1502.74	5.68	3.07	6.71	6.71
Dawson County	D6	RM 90.43	42564.46	500-yr	5012.74	625.11	618.18	2.71	1.39	31.93	12.58	208.77	1631.86	5.6	2.21	6.93	6.93
Dawson County	D6	RM 90.29	42331.05	500-yr	5012.74	625.02	618.21	2.4	1.26	24.56	10.67	236.08	1576.93	5.84	2.53	6.81	6.81
Dawson County	D6	RM 90.16	42118.24	500-yr	5012.74	624.89	618.54	2.55	1.37	27.78	11.67	229.61	1583.01	5.83	2.45	6.35	6.35
Dawson County	D6	RM 89.96	41795.66	500-yr	5012.74	624.77	618.08	2.25	1.47	22.15	11.21	346.39	1380.25	5.37	2.72	6.69	6.69
Dawson County	D6	RM 89.83	41589.45	500-yr	5012.74	624.44	617.17	3.2	1.82	43.67	18.58	211.95	1106.17	5.83	2.49	7.27	7.27
Dawson County	D6	RM 89.65	41302.33	500-yr	5012.74	624.29	618.15	2.91	1.84	36.83	18.1	251.93	1002.65	5.52	2.72	6.14	6.14
Dawson County	D6	RM 89.46	41003.8	500-yr	5012.74	624.05	617.56	2.97	2.04	37.26	17.38	236.74	859.3	6.16	2.86	6.49	6.49
Dawson County	D6	RM 89.29	40732.3	500-yr	5012.74	624.05	617.42	2.23	1.92	21.1	16.87	253.25	820.31	5.96	4.76	6.63	6.63
Dawson County	D6	RM 89.13	40476.68	500-yr	5012.74	623.79	617.29	2.83	2.12	34.14	17.63	231.92	886.28	6.01	3.08	6.51	6.51
Dawson County	D6	RM 88.96	40193.97	500-yr	4984.42	623.64	617.14	2.84	2.13	33.52	14.48	186.73	1177.97	6.43	2.74	6.5	6.5
Dawson County	D7	RM 88.77	39887.75	500-yr	4984.42	623.47	616.98	2.75	1.99	32.5	13.39	260.04	1341.13	5.74	2.36	6.49	6.49
Dawson County	D7	RM 88.58	39581.56	500-yr	4984.42	623.15	616.82	3.29	2.1	45.65	15.74	185.88	1195.63	6.26	2.12	6.33	6.33
Dawson County	D7	RM 88.44	39345.29	500-yr	4984.42	622.92	616.7	3.41	2.19	49.11	14.1	181.67	1487.34	6.22	1.74	6.23	6.23
Dawson County	D7	RM 88.25	39047.22	500-yr	4984.42	622.82	616.54	2.84	1.95	34.75	12.21	221.53	1475.89	5.8	2.02	6.28	6.28
Dawson County	D7	RM 88.06	38736.32	500-yr	4984.42	622.67	616.38	2.57	1.77	28.74	11.07	305.89	1413.2	5.55	2.12	6.29	6.29
Dawson County	D7	RM 87.87	38426.68	500-yr	4984.42	622.63	616.22	1.97	1.42	17.59	9.08	429.53	1652.39	4.9	2.52	6.41	6.41
Dawson County	D7	RM 87.70	38161.81	500-yr	4984.42	622.58	616.08	1.91	1.25	15.22	6.34	181.73	1759.91	6.5	2.64	6.5	6.5
Dawson County	D7	RM 87.52	37862.82	500-yr	4984.42	622.52	615.92	1.75	1.35	13.54	8.18	308.23	1475.45	5.4	3.24	6.6	6.6
Dawson County	D7	RM 87.34	37574.69	500-yr	4984.42	622.27	615.85	2.59	1.81	29.55	16.78	253.88	896.71	5.45	3.07	6.42	6.42
Dawson County	D7	RM 87.17	37307.08	500-yr	4984.42	621.98	615.82	3.22	2.16	43.91	19.86	162.99	850.76	6.08	2.71	6.16	6.16
Dawson County	D7	RM 87.00	37023.47	500-yr	4984.42	621.85	615.79	2.73	2.13	32.94	17.89	241.45	809.73	5.37	2.9	6.06	6.06
Dawson County	D7	RM 86.82	36748.51	500-yr	4984.42	621.66	615.76	2.83	2.27	35.16	19.43	210.89	733.86	5.47	2.99	5.9	5.9
Dawson County	D7	RM 86.67	36501.76	500-yr	4984.42	621.4	615.73	3.28	2.55	47.02	26.24	151.27	635.64	5.67	3.08	5.67	5.67
Dawson County	D7	RM 86.52	36253.46	500-yr	4984.42	621.31	615.7	2.5	2.1	27.56	19.89	250.55	639.71	5.36	3.87	5.62	5.62
Dawson County	D7	RM 86.39	36046.31	500-yr	4984.42	621.22	615.59	2.45	2.01	26.51	17.7	147.45	703.05	5.37	3.53	5.63	5.63
Dawson County	D7	RM 86.24	35796.38	500-yr	4984.42	621.17	615.46	1.88	1.65	15.39	10.73	166.41	881.23	5.64	3.87	5.71	5.71
Dawson County	D7	RM 86.08	35541.56	500-yr	4984.42	620.87	615.48	3.03	2.1	41.31	19.87	160.1	1108.29	5.14	2.42	5.39	5.39
Dawson County	D7	RM 85.91	35282.1	500-yr	4984.42	620.73	615.5	2.62	1.76	30.7	16.29	191.42	1040.7	5.14	2.71	5.23	5.23
Dawson County	D7	RM 85.78	35075.01	500-yr	4984.42	620.74	614.9	1.61	1.47	11.75	10.24	288.53	1000.25	4.92	4.28	5.84	5.84
Dawson County	D7	RM 85.59	34774.5	500-yr	4984.42	620.68	614.32	1.87	1.33	14.57	7.99	184.84	1084.66	6.33	3.45	6.36	6.36
Dawson County	D7	RM 85.39	34449.3	500-yr	4984.42	620.42	614.15	2.64	1.89	29.88	13.27	219.47	1022.76	5.87	2.58	6.28	6.28
Dawson County	D7	RM 85.23	34186.4	500-yr	4984.42	620.16	614.01	3.26	2.21	44.94	20.53	157.48	815.38	6.15	2.76	6.15	6.15
Dawson County	D7	RM 85.04	33863.7	500-yr	4984.42	620.1	613.84	2.43	1.91	26.05	13.94	265.03	911.4	5.4	2.87	6.26	6.26
Dawson County	D7	RM 84.89	33626.36	500-yr	4984.42	619.98	613.92	2.25	1.96	22.49	12.32	413.04	963.93	5.19	2.84	6.07	6.07
Dawson County	D7	RM 84.72	33349.5	500-yr	4984.42	619.75	613.77	2.59	2.33	29.68	15.19	353.9	786.19	5.33	2.72	5.98	5.98
Dawson County	D7	RM 84.57	33104.21	500-yr	4984.42	619.49	613.45	2.95	2.5	37.71	17.02	294.82	789.75	5.6	2.52	6.04	6.04
Dawson County	D7	RM 84.41	32856.7	500-yr	4984.42	619.37	613.32	2.75	2.18	33.2	13.26	312.69	1117.32	5.44	2.16	6.06	6.06
Dawson County	D7	RM 84.22	32552.24	500-yr	4984.42	619.28	613.16	2.44	1.82	26.01	12.59	261.68	1220.49	5.5	2.64	6.13	6.13
Dawson County	D7	RM 84.05	32270.74	500-yr	4984.42	619.12	613.14	2.67	1.76	30.59	11.7	206.16	1295.51	5.77	2.19	5.98	5.98
Dawson County	D7	RM 83.89	32017.88	500-yr	4984.42	618.8	613.11	3.22	1.99	45.05	15.21	191.2	1327.46	5.61	1.88	5.69	5.69
Dawson County	D7	RM 83.73	31759.16	500-yr	4984.42	618.72	613.07	2.63	1.75	30.68	12.74	240.43	1320.24	5.24	2.16	5.64	5.64
Dawson County	D7	RM 83.53	31426.04	500-yr	4984.42	618.62	613.01	2.06	1.55	18.92	9.79	304.34	1221.22	5.24	2.7	5.61	5.61
Dawson County	D7	RM 83.39	31213.34	500-yr	4984.42	618.53	612.95	2.3	1.63	23.28	11.8	189.12	1144.68	5.37	2.69	5.58	5.58
Dawson County	D7	RM 83.21	30910.79	500-yr	4984.42	618.42	612.91	2.13	1.58	19.95	10.33	170.07	1164.08	5.48	2.8	5.64	5.64
Dawson County	D7	RM 83.05	30660.14	500-yr	4984.42	618.33	612.78	2.01	1.45	17.72	8.6	229.1	1316.33	5.37	2.61	5.87	5.87
Dawson County	D7	RM 82.94	30491.79	500-yr	4984.42	618.26	612.69	2.09	1.46	19.42	8.94	219.21	1401.28	5.32	2.43	5.87	5.87
Dawson County	D7	RM 82.81	30280.45	500-yr	4984.42	618.15	612.58	2.28	1.48	23.25	9.83	178.49	1560.09	5.14	2.16	5.99	5.99
Dawson County	D7	RM 82.68	30058.39	500-yr	4984.42	618.03	612.34	2.45	1.49	26.11	10.8	152.77	1448.41	5.68	2.31	5.93	5.93
Dawson County	D7	RM 82.51	29786.14	500-yr	4984.42	617.99	612.1	1.82	1.21	14.55	6.9	229.35	1582.11	5.56	2.6	6.14	6.14
Dawson County	D7	RM 82.33	29497.12	500-yr	4984.42	617.9	611.87	1.92	1.11	15.99	7.98	246.87	1612.49	5.67	2.78	6.15	6.15
Dawson County	D7	RM 82.22	29323.27	500-yr	4984.42	617.81	611.66	2.2	1.1	20.86	9.24	193.52	1992.18	5.79	2.55	6.16	6.16
Dawson County	D7	RM 82.06	29049.94	500-yr	4984.42	617.77	611.37	1.94	0.99	16.06	6.27	202.97	2171.98	6.06	2.31	6.4	6.4
Dawson County	D7	RM 81.91	28820.21	500-yr	4984.42	617.73	611.21	1.94	0.96	15.71	5.97	191.58	2167.81	6.39	2.39	6.51	6.51
Dawson County	D7	RM 81.71	28446.75	500-yr	4984.42	617.66	611.02	1.64	0.93	11.12	4.1	220.81	2366.18	6.44	2.36	6.64	6.64
Dawson County	D7	RM 81.49	28026.4	500-yr	4984.42	617.48	610.8	2.42	1.12	24.19	6.99	165.37	2375.9	6.67	1.88	6.68	6.68
Dawson County	D7	RM 81.31	27735.46	500-yr	4956.1	616.83	610.65	4.22	1.78	75.69	17.22	131.98	2488.4	6.1	1.34	6.18	6.18
Dawson County	D8	RM 81.10	27398.33	500-yr	4956.1	616.56	610.47	3.64	1.57	56.65	13.76	160.09	2662.54	5.99	1.43	6.09	6.09
Dawson County	D8	RM 80.94	27148.21	500-yr	4956.1	616.51	610.34	2.8	1.41	33.41	8.48	225.85	2727.54	5.91	1.49	6.17	6.17

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	500-yr	4956.1	616.5	610.19	2.22	1.08	20.68	5.78	181.68	3059.93	6.3	1.71	6.31	6.31
Dawson County	D8	RM 80.64	26669.58	500-yr	4956.1	616.46	610.09	2.07	0.98	18.03	4.76	209.02	3451.82	6.13	1.6	6.37	6.37
Dawson County	D8	RM 80.45	26373.01	500-yr	4956.1	616.48	609.94	1.21	0.72	6.13	2.34	122.91	3495.02	6.4	2.35	6.54	6.54
Dawson County	D8	RM 80.17	25926.88	500-yr	4956.1	616.38	609.71	1.96	0.83	15.9	4.19	146.98	3730.11	6.67	1.69	6.67	6.67
Dawson County	D8	RM 79.91	25496.94	500-yr	4956.1	616.29	609.42	1.6	0.78	10.83	3.33	362.06	3503.91	5.97	1.82	6.88	6.88
Dawson County	D8	RM 79.43	24626.85	500-yr	4956.1	616.04	609.14	2.05	0.96	17.47	4.89	289.02	2892.58	6.41	1.78	6.9	6.9
Dawson County	D8	RM 79.23	24229.4	500-yr	4956.1	615.59	608.87	3.37	1.42	47.54	10.06	173.46	2636.78	6.52	1.32	6.72	6.72
Dawson County	D8	RM 78.27	22640.58	500-yr	4956.1	614.93	608.6	2.51	1.48	27.15	11.68	226.68	1365.04	5.8	2.46	6.32	6.32
Dawson County	D8	RM 78.12	22398.86	500-yr	4956.1	614.88	608.48	2.26	1.43	21.89	9.25	222.94	1417.09	5.86	2.45	6.41	6.41
Dawson County	D8	RM 77.97	22135.34	500-yr	4956.1	614.74	608.34	2.51	1.53	26.55	10.54	214.67	1330.5	6.18	2.43	6.4	6.4
Dawson County	D8	RM 77.79	21831.85	500-yr	4956.1	614.69	608.18	2.02	1.42	18.31	9.05	332.54	1373.98	5.14	2.53	6.51	6.51
Dawson County	D8	RM 77.57	21474.71	500-yr	4956.1	614.43	608	2.58	1.73	28.09	10.5	250.08	1271.32	6.05	2.25	6.44	6.44
Dawson County	D8	RM 77.38	21170.35	500-yr	4956.1	614.17	607.84	2.98	1.88	37.62	12.7	215.18	1296.29	6.06	2.03	6.33	6.33
Dawson County	D8	RM 77.13	20780.17	500-yr	4956.1	614.18	607.63	2.05	1.42	17.73	8.07	188.55	1449.19	6.18	2.77	6.55	6.55
Dawson County	D8	RM 77.00	20442.34	500-yr	4956.1	614.08	607.46	2.36	1.39	23.17	8.39	131.83	1554.32	6.61	2.29	6.63	6.63
Dawson County	D8	RM 76.90	20124.49	500-yr	4956.1	613.99	607.29	2.29	1.46	21.82	7.56	153.24	1526.29	6.69	2.23	6.7	6.7
Dawson County	D8	RM 76.76	19785.25	500-yr	4956.1	613.92	607.12	1.95	1.36	15.79	6.66	269.03	1427.54	6.36	2.66	6.8	6.8
Dawson County	D8	RM 76.63	19501.04	500-yr	4956.1	613.83	606.97	2.08	1.47	18.52	7.48	246.86	1441.35	5.89	2.34	6.86	6.86
Dawson County	D8	RM 76.37	19137.53	500-yr	4956.1	613.53	606.78	2.58	1.73	27.93	10.77	272.76	1266	6.26	2.4	6.75	6.75
Dawson County	D8	RM 76.22	18884.28	500-yr	4956.1	613.37	606.65	2.72	1.82	30.86	13.56	253.7	982.98	6.34	2.77	6.72	6.72
Dawson County	D8	RM 76.00	18519.22	500-yr	4956.1	613.11	606.61	3	1.73	38.08	13.49	225.2	1337.43	6.11	2.14	6.5	6.5
Dawson County	D8	RM 75.75	18119.45	500-yr	4956.1	612.78	606.58	3.24	1.84	44.95	13.34	209.51	1559.69	5.9	1.73	6.19	6.19
Dawson County	D8	RM 75.56	17818.36	500-yr	4956.1	612.71	606.75	2.5	1.5	27.81	10.07	303.99	1749.56	5.23	1.89	5.96	5.96
Dawson County	D8	RM 75.31	17411.3	500-yr	4956.1	612.53	606.34	2.48	1.47	26.48	8.91	263.12	1758.86	5.73	1.92	6.2	6.2
Dawson County	D8	RM 75.13	17092.44	500-yr	4956.1	612.4	606.17	2.37	1.39	24.51	9.03	306.22	1762.05	5.53	2.03	6.23	6.23
Dawson County	D8	RM 74.90	16719.46	500-yr	4956.1	611.98	605.98	3.21	1.63	45.21	12.85	224.87	1967.06	5.49	1.54	6	6
Dawson County	D8	RM 74.65	16308.2	500-yr	4956.1	611.87	605.91	2.49	1.38	27.15	8.33	267.86	2141.3	5.48	1.67	5.96	5.96
Dawson County	D8	RM 74.37	15846.14	500-yr	4956.1	611.63	605.85	2.65	1.47	31.38	8.71	221.55	2374.79	5.15	1.42	5.78	5.78
Dawson County	D8	RM 74.13	15464.97	500-yr	4956.1	611.43	605.82	2.46	1.41	26.9	7.44	235.57	2607.27	5.23	1.43	5.61	5.61
Dawson County	D8	RM 73.91	15098.01	500-yr	4956.1	611.28	605.99	2.12	1.27	20.46	6.72	283.69	2446.05	4.86	1.59	5.29	5.29
Dawson County	D8	RM 73.71	14783.86	500-yr	4956.1	611.17	605.87	2	1.18	18.11	5.81	292.2	2718.18	4.91	1.57	5.3	5.3
Dawson County	D8	RM 73.53	14496.67	500-yr	4956.1	611.07	605.72	1.96	1.16	17.26	6.9	249.62	2783.86	5.08	2.02	5.35	5.35
Dawson County	D8	RM 73.29	14096.19	500-yr	4956.1	610.64	605.51	3.13	1.68	44.09	12.41	198.62	2198.68	5.04	1.41	5.13	5.13
Dawson County	D8	RM 73.07	13729.79	500-yr	4956.1	610.09	605.52	3.68	2.04	63.37	16.17	196.15	2121.26	4.5	1.14	4.84	4.84
Dawson County	D8	RM 72.83	13354.45	500-yr	4956.1	609.76	604.9	2.89	1.8	38.46	12.35	264.25	1861.2	4.62	1.48	4.86	4.86
Dawson County	D8	RM 72.62	13000.82	500-yr	4956.1	609.54	604.4	2.58	1.61	30.15	10.24	295.23	2024.72	4.9	1.66	5.14	5.14
Dawson County	D8	RM 72.37	12609.05	500-yr	4956.1	609.27	603.89	2.74	1.69	33.38	11.92	228.58	1677.56	5.19	1.84	5.38	5.38
Dawson County	D8	RM 72.16	12261.75	500-yr	4956.1	609.01	603.69	2.69	1.7	32.52	11.41	286.3	1723.05	5.04	1.77	5.33	5.33
Dawson County	D8	RM 71.92	11875.08	500-yr	4956.1	608.88	603.18	2.21	1.52	21.82	9.01	345.16	1584.41	5.16	2.13	5.7	5.7
Dawson County	D8	RM 71.69	11512.65	500-yr	4956.1	608.71	602.95	2.3	1.45	23.36	9.21	303.44	1621.89	5.37	2.11	5.76	5.76
Dawson County	D8	RM 71.49	11192.6	500-yr	4956.1	608.5	602.03	2.6	1.43	28.4	8.96	237.66	1802.62	6.14	1.92	6.47	6.47
Dawson County	D8	RM 71.31	10913.3	500-yr	4956.1	608.37	601.99	2.57	1.45	28.02	9.78	244.59	1640.85	6	2.08	6.39	6.39
Dawson County	D9	RM 71.10	10567.75	500-yr	4956.1	608.31	602.11	2.06	1.37	18.33	7.67	197.48	1537.64	5.68	2.35	6.2	6.2
Dawson County	D9	RM 70.91	10267.7	500-yr	4956.1	608.19	602.05	2.33	1.27	23.08	9.53	126.11	1600.92	6.07	2.46	6.14	6.14
Dawson County	D9	RM 70.72	9968.939	500-yr	4956.1	608.07	601.91	2.36	1.33	23.73	11.13	153.19	1717.03	6.15	2.79	6.16	6.16
Dawson County	D9	RM 70.50	9603.574	500-yr	4956.1	607.89	601.9	2.26	1.78	22.27	11.57	251.24	1091.59	5.59	2.89	5.98	5.98
Dawson County	D9	RM 70.27	9238.535	500-yr	4956.1	607.56	601.31	2.87	1.82	35.16	12.47	236.79	1545.77	5.94	2.1	6.25	6.25
Dawson County	D9	RM 70.08	8928.013	500-yr	4956.1	607.44	600.85	2.65	1.54	29.68	11.01	234.44	1582	6.11	2.24	6.59	6.59
Dawson County	D9	RM 69.79	8464.726	500-yr	4956.1	607.33	600.61	2.25	1.22	21.28	8.37	248.41	1977.44	6.26	2.45	6.72	6.72
Dawson County	D9	RM 69.50	7983.226	500-yr	4956.1	607.24	600.56	2.07	1.09	18.06	7.64	237.14	2678.02	6.17	2.59	6.68	6.68
Dawson County	D9	RM 69.26	7575.04	500-yr	4956.1	607.12	600.35	2.13	1.08	18.91	6.11	245.78	2740.4	6.32	2.02	6.78	6.78
Dawson County	D9	RM 69.03	7206.967	500-yr	4956.1	607.04	599.95	2.06	1.14	17.43	5.23	236.36	2564.31	6.73	2	7.08	7.08
Dawson County	D9	RM 68.82	6851.789	500-yr	4956.1	606.81	599.77	2.51	1.36	26.21	8.36	217.59	2000.49	6.49	2.04	7.05	7.05
Dawson County	D9	RM 68.60	6509.797	500-yr	4956.1	606.41	599.59	3.23	1.77	42.88	10.58	189.13	1732.17	6.7	1.62	6.82	6.82
Dawson County	D9	RM 68.39	6158.879	500-yr	4956.1	606.23	599.51	2.92	1.82	35.99	9.71	241.73	1673.2	6.1	1.63	6.72	6.72
Dawson County	D9	RM 68.11	5709.195	500-yr	4956.1	605.99	599.37	2.77	1.81	32.55	9.98	262.72	1498.96	5.98	1.82	6.62	6.62
Dawson County	D9	RM 67.86	5308.187	500-yr	4956.1	605.75	599.17	3.04	2.03	38.59	9.15	130.41	1653.28	6.41	1.47	6.58	6.58
Dawson County	D10	RM 67.57	4859.184	500-yr	4899.46	605.49	598.93	2.77	2.01	32.07	8.23	240.29	1539.44	6.21	1.59	6.56	6.56
Dawson County	D10	RM 67.37	4523.862	500-yr	4899.46	605.44	598.75	2.33	1.45	22.73	6.66	224.36	1859.57	6.27	1.82	6.69	6.69
Dawson County	D10	RM 67.15	4175.103	500-yr	4899.46	605.09	598.47	3.22	1.56	43.37	10.37	158.11	2091.49	6.4	1.5	6.62	6.62

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

500-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	500-yr	4899.46	605.01	598.2	2.48	1.35	26.32	7.83	211.57	2079.38	5.95	1.75	6.81	6.81
Dawson County	D10	RM 66.74	3505.323	500-yr	4899.46	604.79	598.12	2.73	1.45	30.84	7.96	189.78	2043.42	6.54	1.65	6.67	6.67
Dawson County	D10	RM 66.52	3142.889	500-yr	4899.46	604.55	598.26	2.76	1.52	32.36	8.16	249	2161.63	5.97	1.49	6.3	6.3
Dawson County	D10	RM 66.28	2774.58	500-yr	4899.46	603.93	598.21	3.79	2.45	62.8	12.61	206.17	1831.85	5.47	1.09	5.72	5.72
Dawson County	D10	RM 66.11	2492.331	500-yr	4899.46	603.8	597.8	3.1	2.1	42.57	10.14	269.84	1871.49	5.26	1.25	6	6
Dawson County	D10	RM 65.90	2160.839	500-yr	4899.46	603.7	597.33	2.68	1.8	31.02	7.95	227.64	1868.05	5.78	1.46	6.37	6.37
Dawson County	D10	RM 65.75	1926.044	500-yr	4899.46	603.58	597.2	2.63	1.77	30.63	8.03	203.78	2057.14	5.32	1.37	6.38	6.38
Dawson County	D10	RM 65.60	1669.095	500-yr	4899.46	603.4	597.07	2.91	1.61	35.91	9.39	140.14	2233.11	6.09	1.56	6.33	6.33
Dawson County	D10	RM 65.42	1386.836	500-yr	4899.46	603.26	596.92	2.41	1.51	24.85	5.87	247.82	2371.85	5.89	1.37	6.34	6.34
Dawson County	D10	RM 65.23	1090.639	500-yr	4899.46	603.15	596.91	2.32	1.38	24.46	7.7	263.18	2846.34	4.88	1.52	6.25	6.25
Dawson County	D10	RM 64.96	634.963	500-yr	4899.46	603.07	597.09	1.76	0.94	13.5	4.55	270.22	3213.78	5.45	1.83	5.98	5.98

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	500-yr	4898.8	602.95	596.42	1.47	0.82	9.76	4.49	398.12	2617.57	4.99	2.28	6.53	6.53
Richland/McKenzie County	D10	RM 64.32	103200	500-yr	4898.8	602.85	596.33	1.92	0.89	15.98	6.76	232.97	2312.88	5.67	2.38	6.52	6.52
Richland/McKenzie County	D10	RM 64.12	102900	500-yr	4898.8	602.8	596.18	1.68	0.94	12.5	6.02	281.09	2070.23	5.27	2.51	6.62	6.62
Richland/McKenzie County	D10	RM 63.92	102601	500-yr	4898.8	602.76	596.08	1.58	0.85	11.24	6	273.38	2133.47	5.14	2.72	6.68	6.68
Richland/McKenzie County	D10	RM 63.74	102302	500-yr	4898.8	602.7	595.94	1.71	0.88	12.73	5.98	254.65	2153.23	5.55	2.58	6.76	6.76
Richland/McKenzie County	D10	RM 63.55	101998	500-yr	4898.8	602.64	595.79	1.82	0.88	13.78	5.91	210.56	2051.18	6.38	2.71	6.85	6.85
Richland/McKenzie County	D10	RM 63.34	101671	500-yr	4898.8	602.59	595.21	1.77	0.87	13.64	6.91	241.49	1998.02	5.64	2.83	7.38	7.38
Richland/McKenzie County	D10	RM 63.08	101293	500-yr	4898.8	602.27	595.12	3.05	1.23	39.55	16.63	159.68	1610.51	5.99	2.48	7.15	7.15
Richland/McKenzie County	D10	RM 62.96	101094	500-yr	4898.8	602.1	595.12	3.21	1.39	54.51	19.88	149.74	1554.2	6.36	2.27	6.98	6.98
Richland/McKenzie County	D10	RM 62.83	100882	500-yr	4898.8	601.96	595.12	3.15	1.4	46.4	16.99	161.51	1490.55	6.52	2.34	6.84	6.84
Richland/McKenzie County	D10	RM 62.64	100582	500-yr	4898.8	601.83	595.12	2.91	1.4	35.16	13.8	189.94	1404.39	6.42	2.48	6.71	6.71
Richland/McKenzie County	D10	RM 62.46	100282	500-yr	4898.8	601.27	595.1	4.01	2.03	69.21	22.62	161.13	1292.62	5.83	1.87	6.17	6.17
Richland/McKenzie County	D10	RM 62.27	99977	500-yr	4898.8	601.34	594.91	2.37	1.54	24.25	10.52	303.35	1290.31	5.79	2.47	6.43	6.43
Richland/McKenzie County	D10	RM 62.1	99691	500-yr	4898.8	601.27	594.75	2.04	1.4	18.19	10.35	274.06	1236.33	5	2.82	6.52	6.52
Richland/McKenzie County	D10	RM 61.91	99377	500-yr	4898.8	601.11	594.51	2.25	1.38	21.69	10.86	164.84	1336.06	5.39	2.66	6.6	6.6
Richland/McKenzie County	D10	RM 61.72	99082	500-yr	4898.8	600.94	594.36	2.48	1.48	26.29	11.75	127.17	1266.03	5.96	2.61	6.58	6.58
Richland/McKenzie County	D10	RM 61.54	98782	500-yr	4898.8	600.51	594.36	3.09	1.99	40.83	15.92	230.57	1135.58	5.63	2.17	6.15	6.15
Richland/McKenzie County	D10	RM 61.35	98482	500-yr	4898.8	600.28	594.26	3.12	2.05	42.32	15.92	215	1152.4	5.59	2.08	6.02	6.02
Richland/McKenzie County	D10	RM 61.16	98182	500-yr	4898.8	600.25	594.17	2.24	1.54	22.33	9.46	248.77	1446	5.25	2.2	6.08	6.08
Richland/McKenzie County	D10	RM 60.99	97906	500-yr	4898.8	600.08	594.02	2.51	1.47	27.33	10.23	216.72	1596.6	5.64	2.09	6.06	6.06
Richland/McKenzie County	D10	RM 60.79	97582	500-yr	4898.8	599.97	593.78	2.29	1.25	23.79	10.16	224.25	1882.97	4.93	2.09	6.19	6.19
Richland/McKenzie County	D10	RM 60.64	97339	500-yr	4898.8	599.96	593.58	1.5	0.94	10.3	5.28	266.31	2328.75	4.74	2.4	6.38	6.38
Richland/McKenzie County	D10	RM 60.42	96982	500-yr	4898.8	599.81	593.38	2.07	1.03	18.43	6.44	215.62	2552.52	5.5	1.9	6.43	6.43
Richland/McKenzie County	D10	RM 60.25	96700	500-yr	4898.8	599.72	593.24	2.26	1	23.21	8.97	192.38	2628.43	4.94	1.87	6.48	6.48
Richland/McKenzie County	D10	RM 60.04	96365	500-yr	4898.8	599.58	593.14	2.06	0.98	19.95	9.38	227.05	2446.54	4.41	2.05	6.44	6.44
Richland/McKenzie County	D10	RM 59.86	96088	500-yr	4898.8	599.48	592.99	2.14	0.87	19.48	7.43	171.89	2518.12	6.02	2.25	6.49	6.49
Richland/McKenzie County	D10	RM 59.65	95769	500-yr	4898.8	599.45	592.85	1.66	0.78	12.02	5.24	207.22	2637.81	5.55	2.38	6.6	6.6
Richland/McKenzie County	D10	RM 59.5	95530	500-yr	4898.8	599.38	592.75	1.81	0.85	14.55	6.14	206.9	2641.76	5.21	2.17	6.63	6.63
Richland/McKenzie County	D10	RM 59.29	95183	500-yr	4898.8	599.3	592.55	1.72	0.89	13.14	5.63	232.08	2445.66	5.32	2.25	6.75	6.75
Richland/McKenzie County	D10	RM 59.07	94797	500-yr	4898.8	599.23	592.36	1.56	0.89	11.94	5.58	408.43	2326.28	5.11	2.37	6.87	6.87
Richland/McKenzie County	D10	RM 58.93	94582	500-yr	4898.8	599.13	592.31	1.94	0.97	16.59	7.25	328.36	2155.7	5.39	2.33	6.82	6.82
Richland/McKenzie County	D10	RM 58.75	94282	500-yr	4898.8	599.02	592.28	2.15	1.04	19.65	7.6	264.72	2016.05	6.09	2.33	6.74	6.74
Richland/McKenzie County	D10	RM 58.56	93982	500-yr	4898.8	598.68	592.22	3.29	1.37	45.63	14.69	157.23	1837.57	6.18	1.95	6.46	6.46
Richland/McKenzie County	D10	RM 58.37	93682	500-yr	4898.8	598.42	592.22	3.3	1.55	46.63	15.19	186.39	1664.36	5.93	1.9	6.2	6.2
Richland/McKenzie County	D10	RM 58.19	93382	500-yr	4898.8	598.43	592.22	2.26	1.32	21.71	8.86	254.64	1524.23	6.04	2.44	6.21	6.21
Richland/McKenzie County	D10	RM 58.01	93086	500-yr	4898.8	598.01	592.14	3.16	1.95	43.47	14.93	236.71	1316.28	5.61	1.9	5.87	5.87
Richland/McKenzie County	D10	RM 57.82	92782	500-yr	4898.8	597.98	592.11	2.23	1.55	22.55	10.41	308.1	1398.2	4.94	2.27	5.87	5.87
Richland/McKenzie County	D10	RM 57.63	92482	500-yr	4898.8	597.87	592.11	2.55	1.48	28.47	10.94	160.84	1601.94	5.46	2.07	5.76	5.76
Richland/McKenzie County	D10	RM 57.46	92205	500-yr	4898.8	597.81	591.95	1.89	1.16	15.65	7.05	192.28	1701.35	5.57	2.48	5.86	5.86
Richland/McKenzie County	D10	RM 57.26	91882	500-yr	4898.8	597.59	591.9	2.38	1.4	25.62	10.31	136.34	1762.06	5.02	1.99	5.69	5.69
Richland/McKenzie County	D10	RM 57.07	91583	500-yr	4898.8	597.54	591.73	1.92	1.12	16.17	6.8	137.42	1909.18	5.56	2.29	5.81	5.81
Richland/McKenzie County	D10	RM 56.87	91253	500-yr	4898.8	597.41	591.49	1.77	1.12	13.96	5.99	186.15	2010.96	5.11	2.18	5.98	5.98
Richland/McKenzie County	D10	RM 56.68	90943	500-yr	4898.8	597.34	591.12	1.63	1.16	12.07	5.94	299.58	1763.42	4.9	2.4	6.22	6.22
Richland/McKenzie County	D10	RM 56.54	90682	500-yr	4870.5	597.12	590.76	2.15	1.76	25.78	9.77	216.66	1664.13	4.43	1.66	6.4	6.4
Richland/McKenzie County	D10	RM 56.35	90387	500-yr	4870.5	596.93	590.46	2.31	1.74	23.88	8.05	174.85	1644.18	5.13	1.71	6.47	6.47
Richland/McKenzie County	D11	RM 56.16	90086	500-yr	4870.5	596.27	590.11	3.7	2.78	59.29	13.21	221.5	1403.92	5.71	1.25	6.16	6.16
Richland/McKenzie County	D11	RM 55.96	89768	500-yr	4870.5	596.02	589.96	3.48	2.6	52.09	16.08	222.74	1058.03	5.81	1.77	6.06	6.06
Richland/McKenzie County	D11	RM 55.78	89479	500-yr	4870.5	595.99	589.96	2.82	1.72	34.38	9.77	216.81	1760.6	5.71	1.61	6.03	6.03
Richland/McKenzie County	D11	RM 55.61	89193	500-yr	4870.5	595.84	589.98	2.73	1.49	32.48	8.8	222.22	2161.69	5.63	1.51	5.86	5.86
Richland/McKenzie County	D11	RM 55.41	88882	500-yr	4870.5	595.69	589.76	2.58	1.4	29.25	9.27	203.81	2045.25	5.4	1.7	5.93	5.93
Richland/McKenzie County	D11	RM 55.23	88582	500-yr	4870.5	595.48	589.53	2.64	1.44	30.02	8.63	238.9	2070.26	5.74	1.63	5.95	5.95
Richland/McKenzie County	D11	RM 55.04	88282	500-yr	4870.5	595.24	589.39	2.86	1.58	36.41	10.61	252.08	2049.32	5.19	1.5	5.85	5.85
Richland/McKenzie County	D11	RM 54.86	87996	500-yr	4870.5	594.85	589.33	3.43	2.03	54.7	15.49	224.17	1876.53	4.58	1.28	5.52	5.52
Richland/McKenzie County	D11	RM 54.69	87715	500-yr	4870.5	594.81	589.23	2.46	1.62	27.51	8.37	188.11	2019.74	4.94	1.48	5.58	5.58
Richland/McKenzie County	D11	RM 54.48	87382	500-yr	4870.5	594.72	589.15	1.99	1.07	17.82	6	179.29	2701.57	5.08	1.69	5.57	5.57
Richland/McKenzie County	D11	RM 54.32	87122	500-yr	4870.5	594.63	589	2.04	0.98	18.31	6.35	159.94	2682.62	5.48	1.86	5.63	5.63
Richland/McKenzie County	D11	RM 54.1	86783	500-yr	4870.5	594.5	588.83	1.88	1.06	15.52	5.32	202.24	2465.02	5.52	1.86	5.67	5.67
Richland/McKenzie County	D11	RM 53.92	86482	500-yr	4870.5	594.41	588.68	1.82	1.08	14.94	6	255.08	2461.3	5.02	1.98	5.73	5.73
Richland/McKenzie County	D11	RM 53.73	86182	500-yr	4870.5	594.3	588.51	2.09	1.07	19.05	6.91	196.75	2808.04	5.58	1.99	5.79	5.79
Richland/McKenzie County	D11	RM 53.55	85882	500-yr	4870.5	594.14	588.37	2.19	1.19	21.08	7.85	181.72	2222.35	5.42	1.99	5.77	5.77
Richland/McKenzie County	D11	RM 53.36	85582	500-yr	4870.5	594	588.01	2.32	1.2	24.43	8.69	166.55	2596.56	4.94	1.74	5.99	5.99

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	500-yr	4870.5	593.36	587.56	3.67	1.72	59.63	13.45	206.2	2582.55	5.31	1.19	5.8	5.8
Richland/McKenzie County	D11	RM 52.98	84982	500-yr	4870.5	593.19	587.56	3.01	1.28	44.35	17.11	271.44	3178.98	3.92	1.49	5.63	5.63
Richland/McKenzie County	D11	RM 52.79	84682	500-yr	4870.5	592.98	587.56	2.44	1.24	29.75	11.63	387.04	3301.9	3.7	1.43	5.42	5.42
Richland/McKenzie County	D11	RM 52.61	84390	500-yr	4870.5	592.87	587.43	1.91	1.1	17.21	6.15	450.01	3648.22	4.36	1.55	5.44	5.44
Richland/McKenzie County	D11	RM 52.42	84082	500-yr	4870.5	592.79	587.28	1.71	0.95	14.23	5.34	409.99	4029.23	3.95	1.47	5.51	5.51
Richland/McKenzie County	D11	RM 52.24	83798	500-yr	4870.5	592.74	587.28	1.54	0.73	11.04	4.55	227.41	3685.98	4.66	1.89	5.46	5.46
Richland/McKenzie County	D11	RM 52.01	83423	500-yr	4870.5	592.59	587.23	2.1	0.83	19.84	6.21	124.91	3922.12	5.15	1.56	5.36	5.36
Richland/McKenzie County	D11	RM 51.87	83182	500-yr	4870.5	592.52	587.16	1.69	0.8	14.02	6.27	156.7	3631.93	3.96	1.74	5.36	5.36
Richland/McKenzie County	D11	RM 51.69	82882	500-yr	4870.5	592.44	587.16	1.48	0.73	10.53	4.4	151.24	3707.77	4.49	1.84	5.28	5.28
Richland/McKenzie County	D11	RM 51.51	82585	500-yr	4870.5	592.39	587.16	1.69	0.78	13.61	5.6	149.84	3761.12	4.22	1.7	5.23	5.23
Richland/McKenzie County	D11	RM 51.32	82274	500-yr	4870.5	592.34	587.16	1.45	0.7	10.16	4.64	173.83	4049.03	4.17	1.87	5.18	5.18
Richland/McKenzie County	D11	RM 51.13	81982	500-yr	4870.5	592.29	587.13	1.58	0.71	11.32	4.34	164.51	4766.96	4.98	1.88	5.18	5.18
Richland/McKenzie County	D11	RM 50.95	81682	500-yr	4870.5	592.23	587.08	1.42	0.64	9.23	3.85	144.96	5531.22	4.93	2.02	5.14	5.14
Richland/McKenzie County	D11	RM 50.76	81378	500-yr	4870.5	592.17	586.89	1.34	0.59	8.26	3.97	174.41	5362.62	4.78	2.24	5.28	5.28
Richland/McKenzie County	D11	RM 50.56	81065	500-yr	4870.5	592.04	586.37	1.73	0.72	13.14	4.88	171.61	4890.92	5.55	2.02	5.67	5.67
Richland/McKenzie County	D11	RM 50.39	80787	500-yr	4870.5	591.99	585.7	1.7	0.72	12.2	4.3	196.96	4544.3	6.19	2.14	6.29	6.29
Richland/McKenzie County	D11	RM 50.21	80482	500-yr	4870.5	591.9	585.55	1.73	0.85	12.96	5.18	234.94	3614.58	5.63	2.23	6.35	6.35
Richland/McKenzie County	D11	RM 50.02	80182	500-yr	4870.5	591.75	585.55	2.09	1.07	19.13	7.28	197.51	3067.82	5.56	2.07	6.2	6.2
Richland/McKenzie County	D12	RM 49.82	79860	500-yr	4870.5	591.39	585.55	3.03	1.45	39.99	11.87	212.06	2177.05	5.6	1.64	5.84	5.84
Richland/McKenzie County	D12	RM 49.65	79582	500-yr	4870.5	591.03	585.55	3.45	1.78	52.85	13.91	213.94	2006.7	5.23	1.36	5.48	5.48
Richland/McKenzie County	D12	RM 49.5	79348	500-yr	4870.5	591.17	585.49	1.81	1.1	14.24	5.11	356	2249.57	5.58	1.99	5.72	5.72
Richland/McKenzie County	D12	RM 49.26	78981	500-yr	4870.5	591.09	585.29	2.04	1.15	18.13	6.58	137.44	2122.89	5.57	1.99	5.8	5.8
Richland/McKenzie County	D12	RM 49.08	78682	500-yr	4870.5	590.96	585.11	2.18	1.19	20.65	7.31	156.64	2106.24	5.58	1.95	5.92	5.92
Richland/McKenzie County	D12	RM 48.87	78351	500-yr	4870.5	590.86	584.96	2.1	1.13	19.1	7.15	209.35	2177.07	5.63	2.09	5.9	5.9
Richland/McKenzie County	D12	RM 48.7	78082	500-yr	4870.5	590.78	584.86	2.05	1.22	19.16	9.05	252.25	1764.61	4.88	2.27	5.92	5.92
Richland/McKenzie County	D12	RM 48.52	77782	500-yr	4870.5	590.75	584.74	1.42	0.99	9.23	5.4	473.03	1758.12	4.8	2.8	6.01	6.01
Richland/McKenzie County	D12	RM 48.33	77482	500-yr	4870.5	590.7	584.51	1.42	1	11.61	7.39	517.65	1923.34	4.19	2.65	6.19	6.19
Richland/McKenzie County	D12	RM 48.15	77182	500-yr	4870.5	590.6	584.24	1.65	0.95	13.15	7.98	497.96	2139.35	4.31	2.6	6.36	6.36
Richland/McKenzie County	D12	RM 47.97	76887	500-yr	4870.5	590.58	584.09	1.19	0.79	7.11	5.07	601.73	2459.27	3.99	2.83	6.49	6.49
Richland/McKenzie County	D12	RM 47.76	76570	500-yr	4870.5	590.53	583.86	1.21	0.82	7.59	4.96	565.5	2402.07	4.31	2.81	6.67	6.67
Richland/McKenzie County	D12	RM 47.59	76293	500-yr	4870.5	590.46	583.71	1.38	0.86	9.34	5.12	391.27	2295.95	5.03	2.74	6.75	6.75
Richland/McKenzie County	D12	RM 47.4	75982	500-yr	4870.5	590.36	583.42	1.82	0.92	14.33	6.63	196.88	2117.76	5.87	2.69	6.94	6.94
Richland/McKenzie County	D12	RM 47.12	75521	500-yr	4870.5	590.13	583.04	2.27	1.09	21.08	7.76	234.72	1824.94	6.83	2.48	7.09	7.09
Richland/McKenzie County	D12	RM 47	75323	500-yr	4870.5	589.87	583.04	3.23	1.34	43.86	15.21	162.2	1703.5	6.26	2.14	6.83	6.83
Richland/McKenzie County	D12	RM 46.85	75082	500-yr	4870.5	589.7	583.04	3.18	1.44	42.58	14.68	184.53	1608.61	6.19	2.1	6.66	6.66
Richland/McKenzie County	D12	RM 46.67	74782	500-yr	4870.5	589.33	583.04	3.54	1.82	52.91	17.41	185.83	1347.05	6.13	1.99	6.29	6.29
Richland/McKenzie County	D12	RM 46.47	74459	500-yr	4870.5	589.29	583.04	2.54	1.74	27.94	12.84	312.11	1094.66	5.61	2.56	6.25	6.25
Richland/McKenzie County	D12	RM 46.3	74186	500-yr	4870.5	589.14	583.04	2.5	1.96	28.78	18.84	421.1	994.75	4.31	2.8	6.1	6.1
Richland/McKenzie County	D12	RM 46.14	73920	500-yr	4870.5	589	583.04	2.31	1.88	24.31	16.83	454.73	870.91	4.37	3	5.96	5.96
Richland/McKenzie County	D12	RM 45.9	73546	500-yr	4870.5	588.82	582.97	2.33	1.54	24.7	12.76	339.6	1298.11	4.98	2.56	5.85	5.85
Richland/McKenzie County	D12	RM 45.75	73307	500-yr	4870.5	588.64	582.88	2.52	1.57	31.23	15.24	351.5	1570.54	4.35	2.11	5.76	5.76
Richland/McKenzie County	D12	RM 45.54	72980	500-yr	4870.5	588.51	582.55	2.12	1.31	20.33	8.6	382.5	1880.09	4.96	2.08	5.96	5.96
Richland/McKenzie County	D12	RM 45.29	72680	500-yr	4870.5	588.38	582.25	2.18	1.25	21.67	9.59	347.33	1799.88	4.91	2.16	6.13	6.13
Richland/McKenzie County	D12	RM 45.09	72380	500-yr	4870.5	588.27	582.08	2.2	1.13	20.88	7.73	267.36	2033.95	5.79	2.13	6.19	6.19
Richland/McKenzie County	D12	RM 44.91	72080	500-yr	4870.5	588.18	582.01	2.13	1.12	19.8	7.43	283.48	2104.89	5.56	2.07	6.17	6.17
Richland/McKenzie County	D12	RM 44.72	71783	500-yr	4870.5	587.94	581.97	2.71	1.22	31.93	10.13	208.81	2361.26	5.66	1.77	5.97	5.97
Richland/McKenzie County	D12	RM 44.53	71483	500-yr	4870.5	587.66	581.82	3.17	1.39	44.31	12.79	177.29	2280.6	5.39	1.53	5.84	5.84
Richland/McKenzie County	D12	RM 44.34	71183	500-yr	4870.5	587.35	581.8	3.32	1.5	50.62	14.06	199.57	2819.69	4.74	1.3	5.55	5.55
Richland/McKenzie County	D12	RM 44.17	70899	500-yr	4870.5	587.39	581.79	1.86	1.03	15.09	4.76	301.73	2897.92	5.52	1.72	5.6	5.6
Richland/McKenzie County	D12	RM 43.97	70594	500-yr	4870.5	587.35	581.73	1.52	0.88	10.54	4.69	326.68	2638.81	4.76	2.1	5.62	5.62
Richland/McKenzie County	D12	RM 43.74	70230	500-yr	4870.5	587.24	581.66	1.81	1.08	15.24	5.84	164.51	2590.69	4.61	1.75	5.58	5.58
Richland/McKenzie County	D12	RM 43.59	69983	500-yr	4870.5	587.14	581.56	1.68	0.83	13.22	5.82	143.76	2903.76	4.7	2.03	5.58	5.58
Richland/McKenzie County	D12	RM 43.4	69684	500-yr	4870.5	587.05	581.49	1.69	0.79	13.28	5.31	150.64	3201.16	4.91	1.93	5.56	5.56
Richland/McKenzie County	D12	RM 43.03	69084	500-yr	4870.5	586.96	581.37	1.49	0.67	10.28	4.58	131.62	3511.45	4.71	2.06	5.59	5.59
Richland/McKenzie County	D12	RM 42.66	68489	500-yr	4870.5	586.9	581.18	1.65	0.67	12.21	4.88	115.82	3661.71	5.08	1.98	5.72	5.72
Richland/McKenzie County	D12	RM 42.29	67889	500-yr	4870.5	586.85	580.87	1.31	0.63	7.55	2.96	281.47	3853.07	5.38	2.09	5.98	5.98
Richland/McKenzie County	D12	RM 42.08	67558	500-yr	4870.5	586.81	580.61	1.47	0.64	9.26	3.3	180.64	3709.34	5.95	2.09	6.2	6.2
Richland/McKenzie County	D12	RM 41.89	67260	500-yr	4870.5	586.73	580.31	1.63	0.74	11.38	4.19	292.42	3082.69	5.83	2.13	6.42	6.42
Richland/McKenzie County	D12	RM 41.75	67037	500-yr	4870.5	586.65	579.99	1.72	0.84	13.22	5.5	337.38	2751.69	5.16	2.12	6.66	6.66
Richland/McKenzie County	D12	RM 41.54	66695	500-yr	4870.5	586.46	579.72	2.36	0.99	23.23	7.78	196.39	2328.9	6.42	2.12	6.74	6.74
Richland/McKenzie County	D12	RM 41.34	66361	500-yr	4870.5	586.3	579.43	2.44	1.14	26.07	10.07	218.95	2037.7	5.5	2.1	6.87	6.87

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	500-yr	4870.5	586.13	579.08	2.65	1.22	29.82	10.35	195.81	1948.68	6.02	2.05	7.05	7.05
Richland/McKenzie County	D12	RM 40.99	65802	500-yr	4870.5	586.02	578.99	2.4	1.08	24.78	9.36	203.5	2063.83	5.88	2.19	7.03	7.03
Richland/McKenzie County	D12	RM 40.8	65502	500-yr	4870.5	585.82	578.97	2.48	1.23	27.25	9.11	273.63	2274.38	5.28	1.75	6.85	6.85
Richland/McKenzie County	D12	RM 40.62	65205	500-yr	4870.5	585.8	578.92	1.75	0.92	14.06	5.84	375.4	2986.17	4.83	1.99	6.88	6.88
Richland/McKenzie County	D12	RM 40.24	64602	500-yr	4870.5	585.65	578.6	1.53	0.81	11.55	5.01	507.11	3385.47	4.3	1.85	7.05	7.05
Richland/McKenzie County	D12	RM 40	64219	500-yr	4870.5	585.51	578.56	1.9	0.83	15.92	5.02	309.03	3659.33	5.35	1.66	6.95	6.95
Richland/McKenzie County	D12	RM 39.87	64002	500-yr	4870.5	585.41	578.55	2.25	0.89	21.33	5.85	222	3436.24	6.1	1.65	6.86	6.86
Richland/McKenzie County	D12	RM 39.68	63702	500-yr	4870.5	585.36	578.45	2.02	0.86	17.8	5.08	241.95	3636.73	5.56	1.56	6.91	6.91
Richland/McKenzie County	D12	RM 39.5	63402	500-yr	4870.5	585.3	578.35	1.91	0.81	15.96	5.31	226.39	3356.46	5.46	1.79	6.95	6.95
Richland/McKenzie County	D12	RM 39.31	63102	500-yr	4870.5	585.23	578.31	1.89	0.83	15.38	5.03	227.2	3173.15	5.75	1.85	6.92	6.92
Richland/McKenzie County	D12	RM 39.13	62802	500-yr	4870.5	585.16	578.2	1.83	0.82	14.75	5.42	286.13	3005.93	5.42	1.97	6.96	6.96
Richland/McKenzie County	D12	RM 38.94	62501	500-yr	4870.5	585.11	578.12	1.69	0.75	12.37	4.69	264.19	3006.1	5.78	2.16	6.99	6.99
Richland/McKenzie County	D12	RM 38.76	62201	500-yr	4870.5	585.05	578.03	1.73	0.76	12.47	4.41	245.72	2906.25	6.36	2.22	7.02	7.02
Richland/McKenzie County	D12	RM 38.57	61901	500-yr	4870.5	585	577.87	1.75	0.78	13.39	5.68	236.46	2722.89	5.51	2.31	7.13	7.13
Richland/McKenzie County	D12	RM 38.38	61601	500-yr	4870.5	584.98	577.84	1.16	0.65	6.25	3.39	268.55	2521.14	5.57	2.99	7.14	7.14
Richland/McKenzie County	D12	RM 38.2	61301	500-yr	4870.5	584.91	577.82	1.43	0.76	8.56	4.34	244.45	2365.88	6.39	3.2	7.09	7.09
Richland/McKenzie County	D12	RM 38.01	61008	500-yr	4870.5	584.87	577.81	1.5	0.93	9.99	6.12	307.49	1640.6	5.28	3.21	7.06	7.06
Richland/McKenzie County	D12	RM 37.84	60708	500-yr	4870.5	584.78	577.71	1.71	1.09	14.72	8.29	335.25	1714.02	5.29	2.96	7.07	7.07
Richland/McKenzie County	D12	RM 37.65	60408	500-yr	4870.5	584.77	577.66	1.21	0.9	6.49	4.07	565.75	2128.53	5.21	3.26	7.11	7.11
Richland/McKenzie County	D12	RM 37.5	60107	500-yr	4870.5	584.73	577.54	1.17	1.01	6.61	4.8	561.58	1724.36	4.76	3.45	7.19	7.19
Richland/McKenzie County	D12	RM 37.35	59808	500-yr	4870.5	584.63	577.37	1.4	1.06	10.9	7.69	427.63	1658.79	5.1	3.59	7.26	7.26
Richland/McKenzie County	D12	RM 37.16	59508	500-yr	4870.5	584.49	577.24	1.98	1.3	19.11	12.21	280.03	1798.49	5.25	3.33	7.25	7.25
Richland/McKenzie County	D12	RM 36.97	59208	500-yr	4870.5	584.38	576.96	2.16	1.31	21.5	11.9	222.26	1904.06	5.12	2.8	7.42	7.42
Richland/McKenzie County	D12	RM 36.78	58908	500-yr	4870.5	584.29	576.87	2.08	1.2	18.73	8.37	217.29	2128.13	5.98	2.64	7.42	7.42
Richland/McKenzie County	D12	RM 36.6	58608	500-yr	4870.5	584.2	576.66	2.14	1.15	18.75	7.31	182.19	2213.25	6.9	2.61	7.54	7.54
Richland/McKenzie County	D12	RM 36.38	58263	500-yr	4813.9	584.02	576.49	2.26	1.31	21.2	7.58	290.42	2140.94	6.45	2.27	7.53	7.53
Richland/McKenzie County	D13	RM 36.23	58011	500-yr	4813.9	583.78	576.43	2.9	1.4	34.17	9.72	199.11	2321.71	6.91	1.93	7.35	7.35
Richland/McKenzie County	D13	RM 36.04	57708	500-yr	4813.9	583.67	576.42	2.89	1.25	35.03	11.05	194.14	2429.62	6.26	1.93	7.25	7.25
Richland/McKenzie County	D13	RM 35.85	57408	500-yr	4813.9	583.64	576.41	2.27	1.08	21.75	8.33	278.61	2599.39	5.42	2.05	7.23	7.23
Richland/McKenzie County	D13	RM 35.66	57108	500-yr	4813.9	583.62	576.36	1.72	0.93	12.84	4.89	327.66	2661.32	6.09	2.3	7.26	7.26
Richland/McKenzie County	D13	RM 35.48	56810	500-yr	4813.9	583.51	576.3	2.17	1	19.48	6.64	189.87	2554.36	6.51	2.18	7.21	7.21
Richland/McKenzie County	D13	RM 35.29	56508	500-yr	4813.9	583.44	576.19	2.04	1.01	17.81	6.84	216.77	2496.1	5.83	2.2	7.25	7.25
Richland/McKenzie County	D13	RM 35.1	56208	500-yr	4813.9	583.31	576.07	2.06	1.01	17.4	5.82	244.46	2430.33	6.76	2.2	7.24	7.24
Richland/McKenzie County	D13	RM 34.92	55908	500-yr	4813.9	583.22	576.09	2.07	1.03	21.11	7.3	254.13	2346.44	6.27	2.14	7.13	7.13
Richland/McKenzie County	D13	RM 34.73	55605	500-yr	4813.9	583.14	575.89	1.79	1.18	13.59	6.19	414.63	1661.97	5.44	2.46	7.25	7.25
Richland/McKenzie County	D13	RM 34.54	55297	500-yr	4813.9	583.07	575.79	1.68	1.14	14.24	6.94	394.66	1778.16	4.92	2.38	7.28	7.28
Richland/McKenzie County	D13	RM 34.36	55008	500-yr	4813.9	583.03	575.75	1.61	0.99	10.56	4.38	323.48	1844.96	6.44	2.64	7.28	7.28
Richland/McKenzie County	D13	RM 34.17	54708	500-yr	4813.9	583	575.49	1.41	0.86	8.49	3.95	380.95	2041.34	5.95	2.74	7.51	7.51
Richland/McKenzie County	D13	RM 33.94	54408	500-yr	4813.9	582.97	575.34	1.33	0.87	7.51	3.6	374.48	1919.92	6.07	2.89	7.63	7.63
Richland/McKenzie County	D13	RM 33.76	54079	500-yr	4813.9	582.93	575.12	1.48	0.93	9.29	4.22	286.39	1860.89	6.24	2.78	7.81	7.81
Richland/McKenzie County	D13	RM 33.6	53799	500-yr	4813.9	582.89	574.88	1.42	0.94	9.31	4.9	376.74	1672.11	5.88	3.06	8.01	8.01
Richland/McKenzie County	D13	RM 33.42	53508	500-yr	4813.9	582.83	574.61	1.62	0.95	10.4	4.62	262.09	1651.13	7.04	3.07	8.22	8.22
Richland/McKenzie County	D13	RM 33.23	53208	500-yr	4813.9	582.8	574.45	1.52	0.89	9.11	3.7	209.05	1786.5	7.57	3.02	8.35	8.35
Richland/McKenzie County	D13	RM 33.04	52908	500-yr	4813.9	582.73	574.3	1.81	0.95	12.61	4.5	193.34	1782.14	8.09	2.83	8.43	8.43
Richland/McKenzie County	D13	RM 32.86	52608	500-yr	4813.9	582.61	574.18	2.11	1.01	17.52	6.29	209.27	1790.08	7.61	2.68	8.43	8.43
Richland/McKenzie County	D13	RM 32.67	52308	500-yr	4813.9	582.57	574.18	2.04	0.92	16.56	6.43	188.53	1856.1	7.42	2.83	8.38	8.38
Richland/McKenzie County	D13	RM 32.48	52008	500-yr	4813.9	582.47	574.04	2.16	0.96	18.78	6.88	196.91	1955.45	7.15	2.55	8.43	8.43
Richland/McKenzie County	D13	RM 32.29	51709	500-yr	4813.9	582.42	574.04	1.93	0.94	14.84	5.21	224.23	2018.67	7.38	2.55	8.38	8.38
Richland/McKenzie County	D13	RM 32.11	51423	500-yr	4813.9	582.36	573.94	1.91	0.99	14.33	4.68	220.08	1959.86	7.67	2.48	8.42	8.42
Richland/McKenzie County	D13	RM 31.92	51108	500-yr	4813.9	582.32	573.85	1.78	0.9	12.92	5.07	211.85	2003.16	6.93	2.67	8.47	8.47
Richland/McKenzie County	D13	RM 31.73	50809	500-yr	4813.9	582.27	573.72	1.64	0.85	11.61	4.64	261.37	1855.57	7.71	3.04	8.55	8.55
Richland/McKenzie County	D13	RM 31.51	50462	500-yr	4813.9	582.07	573.24	2.48	1.04	23.24	8.17	162.22	1738.43	7.72	2.65	8.83	8.83
Richland/McKenzie County	D13	RM 31.35	50208	500-yr	4813.9	581.9	573.24	2.81	1.27	32.23	10.89	169.04	1663.25	6.9	2.28	8.66	8.66
Richland/McKenzie County	D13	RM 31.22	50009	500-yr	4813.9	581.8	573.24	2.89	1.3	33.08	10.36	149.68	1619.08	7.49	2.28	8.56	8.56
Richland/McKenzie County	D13	RM 31.12	49859	500-yr	4813.9	581.51	573.24	3.16	2.14	55	16.32	196.27	1062.46	7.19	2.12	8.26	8.26
Richland/McKenzie County	D13	RM 30.97	49608	500-yr	4813.9	581.52	573.24	2.46	1.44	23.57	6.43	225.84	1586.64	7.86	2.11	8.28	8.28
Richland/McKenzie County	D13	RM 30.79	49308	500-yr	4813.9	581.3	573.24	2.92	1.56	34.35	9.41	199.27	1610.28	7.11	1.91	8.06	8.06
Richland/McKenzie County	D13	RM 30.6	49009	500-yr	4813.9	581.17	573.24	2.94	1.48	35.19	10.79	187.26	1569.01	6.9	2.07	7.93	7.93
Richland/McKenzie County	D13	RM 30.41	48706	500-yr	4813.9	581.07	573.15	2.68	1.42	31.09	10.11	212.3	1564.74	6.79	2.17	7.92	7.92
Richland/McKenzie County	D13	RM 30.22	48403	500-yr	4813.9	580.97	573.15	2.54	1.33	25.78	7.93	199.03	1869.97	7.36	2.22	7.82	7.82
Richland/McKenzie County	D13	RM 30.03	48102	500-yr	4813.9	580.99	573.15	1.73	1.04	12.15	4.66	315.48	1900.47	7.14	2.65	7.84	7.84

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	500-yr	4813.9	580.95	573.15	1.6	0.97	10.55	4.28	376.84	2126.19	6.6	2.63	7.8	7.8
Richland/McKenzie County	D13	RM 29.66	47508	500-yr	4813.9	580.89	573.11	1.7	0.97	12.43	6.33	393.01	2371.49	5.59	2.8	7.78	7.78
Richland/McKenzie County	D13	RM 29.48	47209	500-yr	4813.9	580.82	573.11	1.72	1	12.32	5.83	346.87	2022.1	6.44	3	7.71	7.71
Richland/McKenzie County	D13	RM 29.28	46894	500-yr	4813.9	580.76	572.98	1.6	1.11	10.79	5.43	401.07	1631.36	6.04	3.02	7.78	7.78
Richland/McKenzie County	D13	RM 29.1	46608	500-yr	4813.9	580.71	572.94	1.97	1.09	15.9	6.4	169.86	1785.92	6.8	2.69	7.77	7.77
Richland/McKenzie County	D13	RM 28.92	46308	500-yr	4813.9	580.63	572.85	2.04	1.12	16.67	5.67	146.69	1825.83	7.31	2.43	7.78	7.78
Richland/McKenzie County	D13	RM 28.73	46008	500-yr	4813.9	580.6	572.67	1.77	0.98	12.62	4.61	152.03	1940.28	7.05	2.52	7.93	7.93
Richland/McKenzie County	D13	RM 28.54	45708	500-yr	4813.9	580.56	572.67	1.61	0.91	10.36	3.92	201.29	2215.67	6.64	2.47	7.89	7.89
Richland/McKenzie County	D13	RM 28.36	45419	500-yr	4813.9	580.51	572.48	1.6	0.9	10.27	3.97	233.95	2092.9	7.04	2.69	8.03	8.03
Richland/McKenzie County	D13	RM 28.15	45071	500-yr	4813.9	580.44	572.25	1.49	0.99	9.13	3.37	429.8	2003	6.64	2.42	8.19	8.19
Richland/McKenzie County	D13	RM 27.98	44808	500-yr	4813.9	580.28	572.04	2.21	1.11	19.29	5.04	236.34	2258.41	7.47	1.92	8.24	8.24
Richland/McKenzie County	D13	RM 27.8	44508	500-yr	4813.9	580.2	571.87	2.2	1.13	18.75	4.63	226.85	2186.93	8.08	1.96	8.33	8.33
Richland/McKenzie County	D14	RM 27.61	44208	500-yr	4813.9	580.14	571.87	2.1	1.08	17.37	4.87	246.37	2148.51	7.53	2.08	8.27	8.27
Richland/McKenzie County	D14	RM 27.43	43916	500-yr	4813.9	580.11	571.87	1.87	0.93	13.56	3.83	261.74	2593.48	7.87	2.19	8.24	8.24
Richland/McKenzie County	D14	RM 27.23	43608	500-yr	4813.9	580.11	571.87	1.48	0.77	8.42	2.56	310.87	2616.7	8.12	2.43	8.24	8.24
Richland/McKenzie County	D14	RM 27.04	43305	500-yr	4813.9	580.06	571.87	1.64	0.78	10.67	3.26	277.5	2735.65	7.59	2.26	8.19	8.19
Richland/McKenzie County	D14	RM 26.86	43008	500-yr	4813.9	579.99	571.87	1.86	0.81	13.47	3.86	229.41	2695.13	7.84	2.2	8.12	8.12
Richland/McKenzie County	D14	RM 26.67	42708	500-yr	4813.9	579.96	571.87	1.75	0.79	11.88	3.48	252.42	2704.39	7.82	2.26	8.09	8.09
Richland/McKenzie County	D14	RM 26.48	42408	500-yr	4813.9	579.86	571.87	2.1	0.89	17.28	4.71	209.83	2628.38	7.68	2.05	7.99	7.99
Richland/McKenzie County	D14	RM 26.29	42108	500-yr	4813.9	579.75	571.87	2.26	0.98	20.16	5.3	205.84	2504.6	7.57	1.96	7.88	7.88
Richland/McKenzie County	D14	RM 26.11	41808	500-yr	4813.9	579.69	571.87	2.04	0.99	16.5	4.44	249.58	2430.02	7.52	1.99	7.82	7.82
Richland/McKenzie County	D14	RM 25.92	41508	500-yr	4813.9	579.66	571.87	1.76	0.94	12.28	3.52	305.76	2427.8	7.49	2.12	7.79	7.79
Richland/McKenzie County	D14	RM 25.73	41208	500-yr	4813.9	579.61	571.74	1.74	0.96	11.91	3.34	309.7	2376.67	7.65	2.12	7.87	7.87
Richland/McKenzie County	D14	RM 25.55	40918	500-yr	4813.9	579.56	571.74	1.73	0.95	12.27	3.88	346.01	2453.56	6.61	2.07	7.82	7.82
Richland/McKenzie County	D14	RM 25.37	40619	500-yr	4813.9	579.5	571.74	1.73	0.97	12.67	3.98	353.9	2478.51	6.42	2	7.76	7.76
Richland/McKenzie County	D14	RM 25.17	40310	500-yr	4813.9	579.4	571.74	1.89	1.13	16.43	5.6	361.09	2132.61	5.92	2	7.66	7.66
Richland/McKenzie County	D14	RM 24.99	40008	500-yr	4813.9	579.35	571.74	1.67	1.07	11.96	4.35	384.4	1864.43	6.65	2.4	7.61	7.61
Richland/McKenzie County	D14	RM 24.8	39703	500-yr	4813.9	579.3	571.71	1.54	1.12	10.56	3.72	401.45	1974.19	7.28	2.55	7.59	7.59
Richland/McKenzie County	D14	RM 24.62	39408	500-yr	4813.9	579.17	571.64	2.06	1.4	17.21	5.68	278.78	1780.82	6.87	2.23	7.53	7.53
Richland/McKenzie County	D14	RM 24.45	39139	500-yr	4813.9	578.93	571.64	2.63	1.84	27.97	7.41	239.98	1680.82	7.05	1.85	7.29	7.29
Richland/McKenzie County	D14	RM 24.24	38801	500-yr	4813.9	578.8	571.58	2.61	1.76	27.56	7.11	237.24	1775.45	7.02	1.79	7.22	7.22
Richland/McKenzie County	D14	RM 24.05	38506	500-yr	4813.9	578.71	571.48	2.44	1.73	24	6.03	264.93	1832.58	6.98	1.73	7.23	7.23
Richland/McKenzie County	D14	RM 23.87	38210	500-yr	4813.9	578.72	571.28	1.85	1.3	13.59	3.8	334.4	2071.36	7.24	2	7.44	7.44
Richland/McKenzie County	D14	RM 23.66	37912	500-yr	4813.9	578.71	571.21	1.5	1.1	9.13	2.95	442.5	2192.43	6.78	2.17	7.5	7.5
Richland/McKenzie County	D14	RM 23.48	37610	500-yr	4813.9	578.67	571.12	1.56	1.07	10.62	3.81	347.97	2302.99	5.96	2.12	7.55	7.55
Richland/McKenzie County	D14	RM 23.29	37312	500-yr	4813.9	578.61	570.86	1.71	1.06	13.05	4.65	313.75	2375.13	5.84	2.06	7.75	7.75
Richland/McKenzie County	D14	RM 23.1	37006	500-yr	4813.9	578.55	570.82	1.7	0.98	12.87	3.99	254.67	2424.94	6.61	2.02	7.73	7.73
Richland/McKenzie County	D14	RM 22.92	36721	500-yr	4813.9	578.5	570.8	1.72	0.9	12.57	3.71	214.08	2824.46	6.54	1.9	7.71	7.71
Richland/McKenzie County	D14	RM 22.72	36402	500-yr	4813.9	578.4	570.81	2.09	0.9	17.55	4.22	178.19	3138.44	7.2	1.7	7.59	7.59
Richland/McKenzie County	D14	RM 22.54	36108	500-yr	4813.9	578.33	570.76	1.84	0.85	14.04	3.64	276.8	3135.08	7.01	1.8	7.57	7.57
Richland/McKenzie County	D14	RM 22.35	35808	500-yr	4813.9	578.29	570.74	1.72	0.83	12.08	3.16	308.52	3278.56	6.81	1.76	7.55	7.55
Richland/McKenzie County	D14	RM 22.17	35508	500-yr	4813.9	578.24	570.68	1.66	0.81	10.96	2.74	303.06	3275.53	7.37	1.82	7.56	7.56
Richland/McKenzie County	D14	RM 22.02	35264	500-yr	4813.9	578.22	570.68	1.48	0.79	8.66	2.19	354.21	3302.94	7.43	1.85	7.54	7.54
Richland/McKenzie County	D14	RM 21.8	34901	500-yr	4813.9	578.16	570.69	1.57	0.86	10.37	2.74	401.53	3456.94	6.18	1.61	7.47	7.47
Richland/McKenzie County	D14	RM 21.61	34626	500-yr	4813.9	578.11	570.67	1.57	0.93	10.67	2.93	468.94	3378.8	5.6	1.53	7.44	7.44
Richland/McKenzie County	D14	RM 21.34	34140	500-yr	4813.9	578.09	570.67	1.36	0.77	7.54	1.91	289.68	3674.05	6.75	1.69	7.42	7.42
Richland/McKenzie County	D14	RM 21.25	33973	500-yr	4813.9	578.07	570.67	1.51	0.77	9.6	2.55	204.54	3904.63	6.25	1.63	7.4	7.4
Richland/McKenzie County	D14	RM 21.06	33672	500-yr	4813.9	578.06	570.6	1.23	0.64	6.31	1.94	267.5	3899.04	6.37	1.93	7.46	7.46
Richland/McKenzie County	D14	RM 20.9	33400	500-yr	4813.9	578.05	570.58	1.22	0.65	6.4	2.16	251.38	3798.65	5.9	1.96	7.47	7.47
Richland/McKenzie County	D14	RM 20.71	33101	500-yr	4813.9	578.01	570.53	1.43	0.66	8.74	2.72	247.47	3844.42	6.16	1.89	7.48	7.48
Richland/McKenzie County	D14	RM 20.52	32800	500-yr	4813.9	577.97	570.52	1.39	0.64	7.94	2.35	280.27	3937.54	6.57	1.92	7.45	7.45
Richland/McKenzie County	D14	RM 20.34	32500	500-yr	4813.9	577.94	570.52	1.44	0.65	8.52	2.4	256.92	3977.76	6.67	1.85	7.42	7.42
Richland/McKenzie County	D14	RM 20.15	32200	500-yr	4813.9	577.9	570.52	1.53	0.67	11.23	3.01	231.21	3967.9	6.84	1.8	7.38	7.38
Richland/McKenzie County	D14	RM 19.96	31900	500-yr	4813.9	577.78	570.52	2.12	0.75	18.2	4.28	189.46	3992.88	6.96	1.6	7.26	7.26
Richland/McKenzie County	D14	RM 19.77	31600	500-yr	4813.9	577.78	570.5	1.46	0.63	8.7	2.35	332.93	4201.15	6.75	1.81	7.28	7.28
Richland/McKenzie County	D14	RM 19.59	31297	500-yr	4813.9	577.75	570.45	1.37	0.6	7.91	2.25	334.34	4415.07	6.46	1.82	7.3	7.3
Richland/McKenzie County	D14	RM 19.4	30995	500-yr	4813.9	577.72	570.45	1.41	0.57	8.33	2.57	284.81	4376.92	6.28	1.91	7.27	7.27
Richland/McKenzie County	D14	RM 19.21	30710	500-yr	4813.9	577.71	570.38	1.11	0.51	5.01	1.62	380.6	4264.3	6.89	2.2	7.33	7.33
Richland/McKenzie County	D14	RM 19.03	30402	500-yr	4813.9	577.69	570.38	1.1	0.52	4.91	1.67	428.38	4391.65	6.26	2.1	7.31	7.31
Richland/McKenzie County	D14	RM 18.83	30086	500-yr	4813.9	577.67	570.38	1.01	0.49	4.32	1.71	505.09	4734.11	5.36	2.09	7.29	7.29
Richland/McKenzie County	D14	RM 18.66	29802	500-yr	4813.9	577.66	570.38	1	0.46	4.53	1.77	455.27	5094.76	5.37	2.06	7.28	7.28

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	500-yr	4813.9	577.62	570.36	1.23	0.49	6.5	2.11	299.05	5193.09	5.92	1.89	7.26	7.26
Richland/McKenzie County	D14	RM 18.28	29197	500-yr	4813.9	577.58	570.36	1.35	0.52	7.67	2.11	299.23	5124.71	6.66	1.81	7.22	7.22
Richland/McKenzie County	D14	RM 17.89	28624	500-yr	4813.9	577.55	570.33	1.06	0.52	4.51	1.25	468.41	4772.99	7.09	1.95	7.22	7.22
Richland/McKenzie County	D14	RM 17.56	27975	500-yr	4813.9	577.45	570.29	1.42	0.69	8.78	2.46	460.6	4354.17	5.8	1.61	7.16	7.16
Richland/McKenzie County	D14	RM 17.36	27539	500-yr	4813.9	577.23	570.31	2.26	0.95	21.05	4.01	254.84	4074.99	6.63	1.25	6.92	6.92
Richland/McKenzie County	D14	RM 17.1	27113	500-yr	4813.9	577.16	570.28	1.97	0.88	15.96	3.22	298.39	4165.39	6.65	1.33	6.88	6.88
Richland/McKenzie County	D14	RM 16.74	26537	500-yr	4813.9	577.12	570.14	1.48	0.75	8.93	2.01	406.85	4818.82	6.63	1.49	6.98	6.98
Richland/McKenzie County	D14	RM 16.35	25925	500-yr	4813.9	577.06	569.46	1.45	0.7	8.32	1.93	346.21	4728.69	7.38	1.69	7.6	7.6
Richland/McKenzie County	D14	RM 16.17	25629	500-yr	4813.9	577.03	569.2	1.37	0.67	7.76	1.81	377.41	4847.04	7.35	1.7	7.83	7.83
Richland/McKenzie County	D14	RM 15.95	25324	500-yr	4813.9	577.02	568.99	1.16	0.65	5.22	1.23	457.34	4302.24	7.83	1.83	8.03	8.03
Richland/McKenzie County	D14	RM 15.75	25032	500-yr	4813.9	576.98	568.85	1.28	0.76	6.49	1.62	462.46	3744.56	7.25	1.8	8.13	8.13
Richland/McKenzie County	D14	RM 15.56	24777	500-yr	4813.9	576.82	568.85	2.01	1.09	16	3.08	291.53	3198.51	7.34	1.39	7.97	7.97
Richland/McKenzie County	D14	RM 15.34	24438	500-yr	4813.9	576.74	568.79	2.11	1.11	17.35	3.3	261.89	3034.43	7.71	1.44	7.95	7.95
Richland/McKenzie County	D14	RM 15.16	24144	500-yr	4813.9	576.68	568.75	2.05	1.07	16.54	3.03	267.44	3718.88	7.69	1.38	7.93	7.93
Richland/McKenzie County	D14	RM 14.98	23841	500-yr	4813.9	576.62	568.76	2.08	1.04	19.01	3.62	254.68	3236.48	7.61	1.43	7.86	7.86
Richland/McKenzie County	D14	RM 14.79	23543	500-yr	4813.9	576.56	568.72	1.99	1	16.27	3.26	286.41	3497.3	7.04	1.38	7.84	7.84
Richland/McKenzie County	D14	RM 14.61	23241	500-yr	4813.9	576.5	568.7	1.91	0.95	14.45	2.8	274.36	3539.87	7.52	1.44	7.8	7.8
Richland/McKenzie County	D14	RM 14.42	22940	500-yr	4813.9	576.5	568.69	1.56	0.82	9.53	2.21	328.42	3359.29	7.6	1.74	7.81	7.81
Richland/McKenzie County	D14	RM 14.23	22647	500-yr	4813.9	576.49	568.67	1.23	0.72	5.95	1.6	444.61	3359.72	7.45	1.98	7.82	7.82
Richland/McKenzie County	D14	RM 14.05	22341	500-yr	4813.9	576.48	568.68	1.06	0.72	6.28	2.02	601.92	3156.85	6.62	2.12	7.8	7.8
Richland/McKenzie County	D14	RM 13.88	22040	500-yr	4813.9	576.43	568.67	1.16	0.87	6.9	2.34	682.22	2930.94	5.6	1.88	7.76	7.76
Richland/McKenzie County	D14	RM 13.7	21728	500-yr	4813.9	576.33	568.65	1.51	1.14	10.25	2.87	502.19	2559.26	5.94	1.65	7.68	7.68
Richland/McKenzie County	D14	RM 13.51	21429	500-yr	4813.9	576.26	568.63	1.63	1.24	10.83	2.28	409.72	2713.07	6.85	1.43	7.63	7.63
Richland/McKenzie County	D15	RM 13.31	21145	500-yr	4813.9	576.24	568.51	1.44	1.07	8.59	1.88	457.14	3232.6	6.87	1.49	7.73	7.73
Richland/McKenzie County	D15	RM 13.12	20858	500-yr	4813.9	576.16	568.39	1.73	1.15	11.76	2.08	344.8	3314.1	7.45	1.3	7.77	7.77
Richland/McKenzie County	D15	RM 12.9	20507	500-yr	4813.9	576.05	568.39	1.96	1.25	15.29	2.71	303.98	2994.88	7.34	1.29	7.66	7.66
Richland/McKenzie County	D15	RM 12.73	20241	500-yr	4813.9	575.98	568.35	2.01	1.26	15.95	2.5	297.97	3331.43	7.42	1.15	7.63	7.63
Richland/McKenzie County	D15	RM 12.56	19961	500-yr	4813.9	575.96	568.34	1.76	1.16	12.19	2.45	337.44	2810.36	7.45	1.48	7.62	7.62
Richland/McKenzie County	D15	RM 12.38	19686	500-yr	4813.9	575.95	568.23	1.47	1.09	8.59	1.94	425.75	2720.36	7.31	1.63	7.72	7.72
Richland/McKenzie County	D15	RM 12.21	19384	500-yr	4813.9	575.92	568.17	1.4	0.98	8.5	2.38	513.36	2920.06	6.07	1.68	7.75	7.75
Richland/McKenzie County	D15	RM 11.99	19084	500-yr	4813.9	575.88	568.16	1.3	0.94	7.85	2.44	592.13	2906.29	5.71	1.76	7.72	7.72
Richland/McKenzie County	D15	RM 11.53	18484	500-yr	4813.9	575.8	568.11	1.29	0.87	6.67	2.62	693.79	3045.77	4.65	1.81	7.69	7.69
Richland/McKenzie County	D15	RM 11.34	18216	500-yr	4813.9	575.76	568.06	1.14	0.89	20.35	7.99	710.89	2965.73	4.7	1.83	7.7	7.7
Richland/McKenzie County	D15	RM 11.17	17885	500-yr	4813.9	575.56	567.88	1.28	1.04	26.14	9.79	777.3	2996.17	4.16	1.55	7.68	7.68
Richland/McKenzie County	D15	RM 10.97	17584	500-yr	4813.9	575.47	567.8	1.27	0.94	6.73	2.56	780.34	3237.73	4.41	1.66	7.67	7.67
Richland/McKenzie County	D15	RM 10.75	17284	500-yr	4813.9	575.44	567.79	1.19	0.86	5.77	2.08	717.39	3155.17	5.13	1.84	7.65	7.65
Richland/McKenzie County	D15	RM 10.53	16964	500-yr	4813.9	575.39	567.73	1.3	0.88	7.05	2.5	641.5	3130.58	5	1.75	7.66	7.66
Richland/McKenzie County	D15	RM 10.35	16670	500-yr	4813.9	575.34	567.73	1.38	0.86	8.49	2.78	517.24	3134.3	5.54	1.79	7.61	7.61
Richland/McKenzie County	D15	RM 10.15	16384	500-yr	4813.9	575.3	567.73	1.49	0.78	8.84	2.3	251.85	3315.43	7.27	1.87	7.57	7.57
Richland/McKenzie County	D15	RM 9.94	16084	500-yr	4813.9	575.29	567.73	1.17	0.69	5.54	1.64	272.39	3354.65	7.08	2.08	7.56	7.56
Richland/McKenzie County	D15	RM 9.76	15797	500-yr	4813.9	575.24	567.65	1.32	0.73	6.97	2.12	352.04	3538.64	6.7	2.02	7.59	7.59
Richland/McKenzie County	D15	RM 9.57	15487	500-yr	4813.9	575.19	567.58	1.53	0.79	9.31	2.33	245.67	3646.85	7.39	1.83	7.61	7.61
Richland/McKenzie County	D15	RM 9.37	15187	500-yr	4813.9	575.11	567.58	1.79	0.91	12.81	2.9	203.96	3255.29	7.32	1.63	7.53	7.53
Richland/McKenzie County	D15	RM 9.24	14963	500-yr	4813.9	574.89	567.5	2.46	1.36	24.62	5.13	234.33	2500.21	6.91	1.42	7.39	7.39
Richland/McKenzie County	D15	RM 9.1	14741	500-yr	4813.9	574.8	567.39	2.48	1.32	25.65	5.14	231.83	2684.27	6.87	1.36	7.41	7.41
Richland/McKenzie County	D15	RM 9.03	14639	500-yr	4813.9	574.73	567.4	2.53	1.44	26.47	5.59	248.61	2449.2	6.5	1.37	7.33	7.33
Richland/McKenzie County	D15	RM 8.82	14300	500-yr	4813.9	574.78	567.41	1.55	0.99	9.7	2.79	381.12	2464.9	6.89	1.97	7.37	7.37
Richland/McKenzie County	D15	RM 8.61	13963	500-yr	4813.9	574.73	567.39	1.62	0.95	10.64	3.53	313.8	2424.45	6.82	2.24	7.34	7.34
Richland/McKenzie County	D15	RM 8.44	13687	500-yr	4813.9	574.66	567.32	1.8	0.95	12.96	4.31	258.5	2445.61	7.09	2.33	7.34	7.34
Richland/McKenzie County	D15	RM 8.24	13387	500-yr	4813.9	574.56	567.32	2.02	1.21	16.46	7.03	229.73	1337.51	7.08	2.99	7.24	7.24
Richland/McKenzie County	D15	RM 8.05	13080	500-yr	4813.9	574.48	567.05	1.95	1.2	15.26	5.23	266.23	1641.77	7.18	2.44	7.43	7.43
Richland/McKenzie County	D15	RM 7.87	12786	500-yr	4813.9	574.37	567.05	2.17	1.34	19.02	7.07	229.92	1374.12	7.08	2.61	7.32	7.32
Richland/McKenzie County	D15	RM 7.69	12506	500-yr	4813.9	574.3	567.05	2.1	1.52	17.84	5.99	266.56	1355.85	7.02	2.34	7.25	7.25
Richland/McKenzie County	D15	RM 7.48	12179	500-yr	4813.9	574.24	566.95	1.82	1.59	13.29	4.77	361.54	1187.98	7.14	2.55	7.29	7.29
Richland/McKenzie County	D16	RM 7.3	11891	500-yr	4813.9	574.14	566.76	2.02	1.74	16.5	6.29	337.01	1078.63	6.87	2.6	7.38	7.38
Richland/McKenzie County	D16	RM 7.14	11639	500-yr	4813.9	574.09	566.76	2.01	1.65	16.63	6.52	324.06	1152.76	6.5	2.53	7.32	7.32
Richland/McKenzie County	D16	RM 6.94	11319	500-yr	4813.9	574.03	566.76	1.92	1.36	14.82	5.27	297.15	1546.73	7.08	2.49	7.27	7.27
Richland/McKenzie County	D16	RM 6.77	11043	500-yr	4813.9	574.01	566.76	1.65	1.16	11.16	3.99	349.25	1964.62	6.77	2.4	7.25	7.25
Richland/McKenzie County	D16	RM 6.58	10733	500-yr	4813.9	573.97	566.59	1.54	1.03	9.62	3.4	342.3	2204.86	7.01	2.45	7.38	7.38
Richland/McKenzie County	D16	RM 6.38	10417	500-yr	4813.9	573.88	566.59	2.05	0.99	16.99	5.04	182.43	2752.01	7.06	2.06	7.29	7.29
Richland/McKenzie County	D16	RM 6.21	10138	500-yr	4813.9	573.83	566.44	1.87	0.9	14.04	3.84	217.11	3302.21	7.12	1.92	7.39	7.39

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	500-yr	4813.9	573.81	566.17	1.37	0.8	7.64	2.27	412.46	3750.96	6.85	2.02	7.64	7.64
Richland/McKenzie County	D16	RM 5.83	9551	500-yr	4813.9	573.8	565.96	1.18	0.72	5.54	1.62	480.72	4291.92	7.13	2.07	7.84	7.84
Richland/McKenzie County	D16	RM 5.67	9297	500-yr	4813.9	573.77	565.96	1.36	0.76	7.44	1.94	342.29	4672.66	7.02	1.79	7.81	7.81
Richland/McKenzie County	D16	RM 5.43	8926	500-yr	4813.9	573.7	565.96	1.61	0.8	10.76	2.58	269.78	4388.7	6.42	1.51	7.74	7.74
Richland/McKenzie County	D16	RM 5.25	8623	500-yr	4813.9	573.44	565.96	2.52	1.15	25.35	4.68	206.77	3590.06	7.21	1.31	7.48	7.48
Richland/McKenzie County	D16	RM 5.06	8331	500-yr	4813.9	573.43	565.82	1.93	1.01	14.88	2.62	289.25	4167.86	7.16	1.25	7.61	7.61
Richland/McKenzie County	D16	RM 4.87	8029	500-yr	4813.9	573.43	565.67	1.5	0.88	9.16	1.97	335.83	3749.62	6.88	1.46	7.76	7.76
Richland/McKenzie County	D16	RM 4.71	7757	500-yr	4813.9	573.35	565.54	1.79	0.99	12.71	2.77	253.72	3084.42	7.39	1.58	7.81	7.81
Richland/McKenzie County	D16	RM 4.53	7456	500-yr	4813.9	573.22	565.54	2.24	1.08	19.84	4.02	199	4581.31	7.44	1.47	7.68	7.68
Richland/McKenzie County	D16	RM 4.34	7156	500-yr	4813.9	573.18	565.54	1.97	0.98	18.64	3.92	218.73	4885.37	7.24	1.49	7.64	7.64
Richland/McKenzie County	D16	RM 4.17	6884	500-yr	4813.9	573.08	565.54	2.06	1.02	17.05	3.82	226.72	4489.21	7.26	1.59	7.54	7.54
Richland/McKenzie County	D16	RM 3.96	6550	500-yr	4813.9	573.07	565.54	1.69	0.94	11.44	3.15	216.6	3921.6	7.25	1.97	7.53	7.53
Richland/McKenzie County	D16	RM 3.78	6249	500-yr	4813.9	573.01	565.54	1.8	0.95	13.38	3.35	196.52	4454.81	6.68	1.64	7.47	7.47
Richland/McKenzie County	D16	RM 3.55	5904	500-yr	4813.9	572.93	565.54	1.82	1.01	13.21	3.05	206.04	4667.92	7.2	1.64	7.39	7.39
Richland/McKenzie County	D16	RM 3.38	5657	500-yr	4813.9	572.83	565.53	2.23	1.19	20.07	4.56	171.27	4102.46	7.04	1.56	7.3	7.3
Richland/McKenzie County	D16	RM 3.2	5363	500-yr	4813.9	572.75	565.54	2.27	1.17	21.64	4.89	168.06	4431.15	6.34	1.4	7.21	7.21
Richland/McKenzie County	D16	RM 3.01	5062	500-yr	4813.9	572.64	565.54	2.06	1.15	17.57	4.46	310	3944.12	6.47	1.61	7.1	7.1
Richland/McKenzie County	D16	RM 2.82	4763	500-yr	4813.9	572.6	565.46	1.77	1.05	13.64	3.62	423.69	4394.58	5.64	1.48	7.14	7.14

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	0.5% - 200yr	1285.8	1282.15	1278.12	3	2.41	46.15	25.53	110.15	451.15	3.47	1.9	4.03	4.03
Sweet Grass County	A1	RM 478.10	225378	0.5% - 200yr	1285.8	1281.63	1277.66	3.71	3.25	77.48	48.04	115.1	470.97	2.55	1.58	3.97	3.97
Sweet Grass County	A1	RM 478.00	224862	0.5% - 200yr	1285.8	1281.14	1277.97	3.56	3.3	74.23	60.71	137.18	412.76	2.27	1.86	3.17	3.17
Sweet Grass County	A1	RM 477.91	224362	0.5% - 200yr	1285.8	1280.55	1277.65	4.03	3.27	85.26	54.85	87.83	439.1	2.49	1.6	2.9	2.9
Sweet Grass County	A1	RM 477.81	223862	0.5% - 200yr	1285.8	1280.14	1276.96	3.5	2.97	55.67	40.93	127.43	367.08	2.1	1.54	3.18	3.18
Sweet Grass County	A1	RM 477.72	223354	0.5% - 200yr	1285.8	1279.82	1276.32	2.73	2.37	46.65	32.38	185.23	501.85	1.87	1.3	3.5	3.5
Sweet Grass County	A1	RM 477.63	222892	0.5% - 200yr	1285.8	1279.74	1275.76	1.72	1.55	17.67	11.81	265.2	750.83	2.19	1.46	3.98	3.98
Sweet Grass County	A1	RM 477.49	222220	0.5% - 200yr	1285.8	1279.56	1276.07	1.78	1.49	17.33	12.01	256.97	801.27	2.05	1.42	3.49	3.49
Sweet Grass County	A1	RM 477.40	221702	0.5% - 200yr	1285.8	1279.51	1275.47	1.41	1.04	10.97	7.25	242.4	861.47	2.79	1.84	4.04	4.04
Sweet Grass County	A1	RM 477.31	221259	0.5% - 200yr	1285.8	1279.02	1275.74	3.18	1.75	55.8	22.33	122.85	853.74	2.75	1.09	3.28	3.28
Sweet Grass County	A1	RM 477.21	220767	0.5% - 200yr	1285.8	1278.8	1275.28	2.96	1.73	46.8	17.7	126.43	874.56	2.99	1.13	3.52	3.52
Sweet Grass County	A1	RM 477.11	220252	0.5% - 200yr	1285.8	1278.5	1274.86	3.07	1.78	54.58	26.75	147.45	839.55	2.35	1.15	3.63	3.63
Sweet Grass County	A1	RM 477.04	219860	0.5% - 200yr	1285.8	1278.19	1275.13	3.2	1.8	58.45	28.47	131.95	843.25	2.47	1.2	3.05	3.05
Sweet Grass County	A1	RM 476.95	219422	0.5% - 200yr	1285.8	1277.69	1274.55	3.46	2.15	72.75	35.44	155.66	828.24	2.05	1	3.14	3.14
Sweet Grass County	A1	RM 476.84	218828	0.5% - 200yr	1285.8	1277.38	1273.95	2.86	1.99	46.98	24.15	134.66	778.41	2.44	1.24	3.43	3.43
Sweet Grass County	A1	RM 476.75	218345	0.5% - 200yr	1285.8	1277.08	1273.54	2.78	2.01	41.4	21.39	172.58	799.94	2.36	1.21	3.55	3.55
Sweet Grass County	A1	RM 476.66	217855	0.5% - 200yr	1285.8	1276.76	1273.45	2.95	1.93	46.91	23.04	160.17	888.74	2.34	1.14	3.31	3.31
Sweet Grass County	A1	RM 476.57	217396	0.5% - 200yr	1285.8	1276.38	1273.09	3.42	1.97	63.72	28.13	98.93	870.86	2.82	1.24	3.29	3.29
Sweet Grass County	A1	RM 476.47	216861	0.5% - 200yr	1285.8	1276.04	1273.04	3.17	2.08	57.03	25.8	126.17	861.17	2.48	1.12	3	3
Sweet Grass County	A1	RM 476.38	216362	0.5% - 200yr	1285.8	1275.8	1272.1	2.95	1.79	46.55	21.48	105.41	908.06	2.99	1.37	3.71	3.71
Sweet Grass County	A1	RM 476.28	215816	0.5% - 200yr	1285.8	1275.07	1271.85	3.97	3.34	88.86	41.78	100.31	630.12	2.58	1.21	3.21	3.21
Sweet Grass County	A1	RM 476.15	215126	0.5% - 200yr	1285.8	1274.59	1271.76	3.28	2.6	62.98	38.18	133.16	627.04	2.28	1.38	2.83	2.83
Sweet Grass County	A1	RM 476.01	214437	0.5% - 200yr	1285.8	1274.3	1270.96	2.59	2.36	37.54	25.28	153.37	458.23	2.61	1.75	3.34	3.34
Sweet Grass County	A1	RM 475.91	213787	0.5% - 200yr	1285.8	1273.81	1270.35	2.95	2.74	48.91	42.84	163.67	214.77	2.58	2.26	3.47	3.47
Sweet Grass County	A1	RM 475.76	213072	0.5% - 200yr	1285.8	1273.35	1270.22	3.1	2.39	54.09	34.26	146.41	329.07	2.59	1.64	3.13	3.13
Sweet Grass County	A1	RM 475.63	212347	0.5% - 200yr	1285.8	1273.13	1269.34	2.43	2.03	31.95	24.19	173.18	291.05	2.89	2.18	3.79	3.79
Sweet Grass County	A1	RM 475.47	211539	0.5% - 200yr	1285.8	1272.6	1268.97	3.02	2.89	48.34	37.9	144.1	201.24	2.94	2.3	3.63	3.63
Sweet Grass County	A1	RM 475.35	210875	0.5% - 200yr	1285.8	1271.9	1268.88	3.74	3.37	76.81	45.81	120.05	248.11	2.81	1.66	3.02	3.02
Sweet Grass County	A1	RM 475.24	210333	0.5% - 200yr	1285.8	1271.92	1267.53	2.6	2.25	33.02	22.33	118.16	327.37	3.99	2.68	4.39	4.39
Sweet Grass County	A2	RM 475.12	209673	0.5% - 200yr	1285.8	1270.87	1267.9	4.47	3.85	115.62	75.8	116.67	259.32	2.36	1.54	2.96	2.96
Sweet Grass County	A2	RM 475.00	209034	0.5% - 200yr	1285.8	1270.17	1266.93	3.44	3.44	70.25	69.94	167.97	183.78	2.22	2.21	3.24	3.24
Sweet Grass County	A2	RM 474.87	208359	0.5% - 200yr	1285.8	1269.99	1266.75	2.62	2.37	36.53	27.51	80.83	320.28	3.1	2.29	3.24	3.24
Sweet Grass County	A2	RM 474.76	207797	0.5% - 200yr	1285.8	1269.45	1266.42	3.59	2.78	70.63	36.22	77.58	383.34	2.85	1.43	3.03	3.03
Sweet Grass County	A2	RM 474.67	207305	0.5% - 200yr	1285.8	1268.98	1266.29	3.69	3.06	77.29	48.57	66.54	308.77	2.62	1.6	2.68	2.68
Sweet Grass County	A2	RM 474.54	206635	0.5% - 200yr	1285.8	1268.69	1264.92	2.76	2.34	41.1	21.65	128.46	354.03	2.96	1.55	3.77	3.77
Sweet Grass County	A2	RM 474.43	205945	0.5% - 200yr	1285.8	1268.36	1265.16	2.97	2.13	47.48	19.73	89.64	491.89	3.01	1.23	3.19	3.19
Sweet Grass County	A2	RM 474.30	205321	0.5% - 200yr	1285.8	1268.12	1264.46	2.66	1.72	37.82	17.03	133.9	613.48	3.04	1.36	3.66	3.66
Sweet Grass County	A2	RM 474.21	204877	0.5% - 200yr	1285.8	1267.65	1264.22	3.5	2.14	65.15	21.8	103.15	595.86	3.06	1.01	3.43	3.43
Sweet Grass County	A2	RM 474.12	204378	0.5% - 200yr	1285.8	1267.55	1263.24	2.67	1.63	38.49	16.88	140.42	805.55	2.91	1.26	4.3	4.3
Sweet Grass County	A2	RM 474.01	203787	0.5% - 200yr	1285.8	1266.92	1263.55	3.51	2.4	71.36	29.33	138.78	636.54	2.39	0.98	3.37	3.37
Sweet Grass County	A2	RM 473.87	203072	0.5% - 200yr	1285.8	1266.48	1263.52	3.26	2.2	57.52	20.27	100.52	834.21	2.62	0.92	2.96	2.96
Sweet Grass County	A2	RM 473.74	202395	0.5% - 200yr	1285.8	1266.15	1263.06	2.77	1.97	43	18.86	121.34	761.54	2.63	1.15	3.09	3.09
Sweet Grass County	A2	RM 473.62	201781	0.5% - 200yr	1285.8	1265.85	1262.63	2.74	1.81	43.28	19.57	150.66	796.66	2.39	1.08	3.22	3.22
Sweet Grass County	A2	RM 473.50	201110	0.5% - 200yr	1285.8	1265.54	1261.83	2.5	1.88	35.51	17.54	179.13	761.51	2.53	1.23	3.71	3.71
Sweet Grass County	A2	RM 473.36	200362	0.5% - 200yr	1285.8	1265.29	1261.08	2.5	1.89	31.77	13.95	133.21	661.53	3.47	1.51	4.21	4.21
Sweet Grass County	A2	RM 473.27	199862	0.5% - 200yr	1285.8	1265.02	1260.81	2.9	2.25	43.78	22.31	117.77	506.73	3.26	1.65	4.21	4.21
Sweet Grass County	A2	RM 473.17	199362	0.5% - 200yr	1285.8	1264.76	1260.56	3.03	2.38	45.3	16.42	102.94	389.92	3.86	1.39	4.19	4.19
Sweet Grass County	A2	RM 473.08	198879	0.5% - 200yr	1285.8	1264.25	1260.56	3.73	3.19	73.23	39.4	105	321.71	3.15	1.68	3.69	3.69
Sweet Grass County	A2	RM 472.98	198340	0.5% - 200yr	1285.8	1264.09	1260.21	3.07	2.47	48.92	21.4	120.55	423.88	3.27	1.43	3.89	3.89
Sweet Grass County	A2	RM 472.89	197862	0.5% - 200yr	1285.8	1263.48	1260.5	3.97	2.74	88.1	37.83	108.06	445.63	2.64	1.13	2.99	2.99
Sweet Grass County	A2	RM 472.79	197362	0.5% - 200yr	1285.8	1263.22	1259.98	3.24	2.35	58.72	23.68	136.27	536.99	2.61	1.05	3.23	3.23
Sweet Grass County	A2	RM 472.70	196862	0.5% - 200yr	1285.8	1262.61	1259.35	3.77	2.65	81.94	36.28	125.74	461.25	2.38	1.05	3.27	3.27
Sweet Grass County	A2	RM 472.60	196360	0.5% - 200yr	1285.8	1262.54	1259.01	2.46	1.95	35.04	21.97	181.89	448.5	2.34	1.47	3.53	3.53
Sweet Grass County	A2	RM 472.50	195816	0.5% - 200yr	1285.8	1262.24	1258.53	2.58	2.03	38.64	25.77	177.8	404.17	2.36	1.57	3.71	3.71
Sweet Grass County	A2	RM 472.41	195349	0.5% - 200yr	1285.8	1261.92	1258.52	2.7	2.24	43.22	29.1	198.55	394.42	2.22	1.49	3.4	3.4
Sweet Grass County	A2	RM 472.31	194860	0.5% - 200yr	1285.8	1261.7	1258.34	2.62	1.99	37.03	20.26	149.41	443.63	2.93	1.6	3.37	3.37
Sweet Grass County	A2	RM 472.22	194356	0.5% - 200yr	1285.8	1261.55	1257.3	2.64	1.83	33.79	15.72	115.58	450.5	3.43	1.56	4.25	4.25
Sweet Grass County	A2	RM 472.09	193660	0.5% - 200yr	1285.8	1260.79	1257.45	3.97	2.62	85.98	33.23	93.59	450.83	2.9	1.09	3.34	3.34
Sweet Grass County	A2	RM 471.95	192935	0.5% - 200yr	1285.8	1260.76	1256.05	2.56	1.65	32.09	14.95	103.53	429.85	3.96	1.81	4.71	4.71
Sweet Grass County	A2	RM 471.86	192442	0.5% - 200yr	1285.8	1260.14	1256.23	3.97	2.49	81	36.97	76.65	336.1	3.44	1.53	3.9	3.9
Sweet Grass County	A2	RM 471.75	191870	0.5% - 200yr	1285.8	1260	1256.47	2.84	1.99	43.2	22.93	134.52	494.46	2.99	1.59	3.54	3.54

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	0.5% - 200yr	1285.8	1259.24	1256.54	3.99	2.78	92.03	37.35	124.48	483.49	2.37	0.96	2.71	2.71
Sweet Grass County	A2	RM 471.52	190686	0.5% - 200yr	1285.8	1258.91	1255.75	2.91	1.89	46.45	17.73	127.76	692.13	2.79	1.06	3.17	3.17
Sweet Grass County	A2	RM 471.38	189910	0.5% - 200yr	1285.8	1258.24	1255.44	3.33	2.26	70.23	31.39	150.55	709.93	1.8	0.8	2.8	2.8
Sweet Grass County	A2	RM 471.28	189362	0.5% - 200yr	1285.8	1257.66	1254.65	2.65	2.14	46.69	29.2	228.65	626.17	1.54	0.96	3.02	3.02
Sweet Grass County	A2	RM 471.18	188875	0.5% - 200yr	1285.8	1257.3	1254.2	2.74	2.11	40.26	22.1	155.58	579.97	1.92	1.05	3.1	3.1
Sweet Grass County	A2	RM 471.06	188150	0.5% - 200yr	1285.8	1256.96	1253.95	2.39	1.6	34.5	20.67	140.6	654.18	2.05	1.23	3.01	3.01
Sweet Grass County	A2	RM 470.94	187526	0.5% - 200yr	1285.8	1256.56	1253.58	2.82	1.96	43.55	22.14	108.67	576.01	2.42	1.23	2.98	2.98
Sweet Grass County	A2	RM 470.84	186938	0.5% - 200yr	1285.8	1256.32	1252.88	2.42	1.73	34.58	20.45	157.2	643.08	2.25	1.32	3.44	3.44
Sweet Grass County	A2	RM 470.73	186362	0.5% - 200yr	1285.8	1256.17	1253.49	1.86	1.58	20.92	14.93	189.13	609.64	2.04	1.45	3.11	3.11
Sweet Grass County	A2	RM 470.65	185977	0.5% - 200yr	1285.8	1255.92	1252.18	2.3	1.78	29.88	16.21	202.91	666.46	2.53	1.37	3.74	3.74
Sweet Grass County	A2	RM 470.56	185491	0.5% - 200yr	1285.8	1255.8	1252.52	2.11	1.62	24.71	14.46	189.32	674.28	2.69	1.56	3.29	3.29
Sweet Grass County	A2	RM 470.44	184875	0.5% - 200yr	1285.8	1255.68	1251.39	1.98	1.48	19.82	11.26	158.35	434.96	3.56	2	4.29	4.29
Sweet Grass County	A2	RM 470.35	184363	0.5% - 200yr	1285.8	1254.71	1251.52	4.27	3.51	103.64	61.45	113.84	247.62	2.5	1.48	3.19	3.19
Sweet Grass County	A2	RM 470.23	183828	0.5% - 200yr	1285.8	1254.4	1251.51	2.98	2.47	52.47	35.32	180.8	346.13	2.22	1.5	2.89	2.89
Sweet Grass County	A2	RM 470.13	183304	0.5% - 200yr	1285.8	1254.16	1249.86	2.61	2.3	39.34	30.94	162.28	295.07	2.43	1.9	4.3	4.3
Sweet Grass County	A2	RM 470.05	182914	0.5% - 200yr	1285.8	1254.06	1250.59	2.19	1.98	27.28	22.02	175.23	320.24	2.51	2.03	3.47	3.47
Sweet Grass County	A2	RM 469.93	182267	0.5% - 200yr	1285.8	1253.2	1249.62	3.87	3.26	82.72	40.35	105.63	294.98	2.75	1.34	3.58	3.58
Sweet Grass County	A2	RM 469.85	181860	0.5% - 200yr	1285.8	1252.88	1249.59	3.8	2.8	78.22	35.02	96.24	368.36	2.91	1.3	3.29	3.29
Sweet Grass County	A2	RM 469.75	181348	0.5% - 200yr	1285.8	1252.85	1248.77	2.6	1.92	35.27	17.29	116.21	419.9	3.29	1.6	4.08	4.08
Sweet Grass County	A2	RM 469.68	180952	0.5% - 200yr	1285.8	1252.58	1249.31	2.9	2.02	45.81	22.29	135.73	459.56	2.86	1.39	3.27	3.27
Sweet Grass County	A2	RM 469.58	180427	0.5% - 200yr	1285.8	1252.53	1247.94	2.24	1.59	24.8	13.26	130.56	398.94	3.83	2.03	4.59	4.59
Sweet Grass County	A2	RM 469.47	179860	0.5% - 200yr	1285.8	1252.15	1247.85	3.14	2.05	47.83	22.79	93.72	365.81	3.66	1.72	4.3	4.3
Sweet Grass County	A2	RM 469.39	179400	0.5% - 200yr	1285.8	1251.8	1248.45	3.43	2.55	64.56	38.6	118.53	306.11	2.76	1.65	3.35	3.35
Sweet Grass County	A2	RM 469.30	178975	0.5% - 200yr	1285.8	1251.72	1247.55	2.78	2.03	38.74	17.83	106.16	378.37	3.72	1.68	4.18	4.18
Sweet Grass County	A2	RM 469.21	178467	0.5% - 200yr	1285.8	1251.12	1248.31	3.88	2.82	84.9	40.24	107.26	380.35	2.53	1.2	2.81	2.81
Sweet Grass County	A2	RM 469.09	177862	0.5% - 200yr	1285.8	1250.82	1247.12	2.33	1.66	30.3	16.79	118.23	532.67	2.63	1.45	3.7	3.7
Sweet Grass County	A2	RM 469.00	177350	0.5% - 200yr	1285.8	1250.18	1247.58	3.82	2.51	86.19	39.38	89.39	532.42	2.24	1.01	2.6	2.6
Sweet Grass County	A2	RM 468.90	176865	0.5% - 200yr	1285.8	1249.83	1246.48	2.55	1.95	33.62	19.07	157.69	519.97	2.35	1.33	3.36	3.36
Sweet Grass County	A2	RM 468.80	176341	0.5% - 200yr	1285.8	1249.52	1246.11	2.81	2.08	44.93	22.62	136.31	584.35	2.5	1.25	3.41	3.41
Sweet Grass County	A2	RM 468.71	175823	0.5% - 200yr	1285.8	1249.21	1246.41	2.81	2.24	47.97	28.5	147.29	545.6	2.05	1.21	2.8	2.8
Sweet Grass County	A2	RM 468.57	175192	0.5% - 200yr	1285.8	1249.04	1245.17	2.02	1.58	22.87	14.05	178.26	722.66	2.59	1.58	3.87	3.87
Sweet Grass County	A2	RM 468.42	174099	0.5% - 200yr	1285.8	1248.32	1244.97	3	2.37	52.48	31.92	168.48	532.08	2.33	1.41	3.36	3.36
Sweet Grass County	A3	RM 468.25	173324	0.5% - 200yr	1285.8	1248.13	1242.97	2.38	1.65	28.25	13.52	129.09	585.54	3.7	1.75	5.16	5.16
Sweet Grass County	A3	RM 468.16	172855	0.5% - 200yr	1285.8	1247.92	1243.58	2.77	1.89	40.35	21.25	119.05	587.23	3.14	1.64	4.34	4.34
Sweet Grass County	A3	RM 468.07	172364	0.5% - 200yr	1285.8	1247.88	1243.89	2.11	1.56	23.5	13.43	136.65	662.36	3.15	1.79	3.99	3.99
Sweet Grass County	A3	RM 467.97	171839	0.5% - 200yr	1285.8	1247.2	1244.32	3.98	2.81	91.78	50.51	92.44	548.86	2.38	1.29	2.88	2.88
Sweet Grass County	A3	RM 467.87	171312	0.5% - 200yr	1285.8	1246.95	1243.46	2.6	2.26	37.57	25.41	159.56	552.39	2.66	1.79	3.49	3.49
Sweet Grass County	A3	RM 467.78	170840	0.5% - 200yr	1285.8	1246.4	1243.74	3.65	2.87	77.66	44.36	100.58	359.62	2.3	1.31	2.67	2.67
Sweet Grass County	A3	RM 467.69	170376	0.5% - 200yr	1285.8	1246.11	1242.96	3.07	2.43	53.83	32.47	115.51	467.48	2.49	1.49	3.16	3.16
Sweet Grass County	A3	RM 467.55	169614	0.5% - 200yr	1285.8	1245.74	1242.1	2.49	2.11	36.77	25.4	133.88	553.68	2.21	1.52	3.63	3.63
Sweet Grass County	A3	RM 467.41	168870	0.5% - 200yr	1285.8	1245.54	1241.15	2.19	1.45	24.83	11.78	133.26	807.77	3.32	1.56	4.39	4.39
Sweet Grass County	A3	RM 467.30	168362	0.5% - 200yr	1285.8	1244.93	1242.15	3.86	2.17	83.36	30.48	90.65	807.24	2.63	0.95	2.78	2.78
Sweet Grass County	A3	RM 467.16	167641	0.5% - 200yr	1285.8	1244.58	1240.78	2.3	1.42	29.13	12.41	159.04	863.03	2.73	1.16	3.8	3.8
Sweet Grass County	A3	RM 467.00	166780	0.5% - 200yr	1285.8	1244.14	1240.48	2.8	1.64	44.84	19.61	141.03	855.21	2.46	1.06	3.66	3.66
Sweet Grass County	A3	RM 466.83	165902	0.5% - 200yr	1285.8	1243.69	1239.84	2.85	1.63	43.29	17.93	111.13	779.46	3.07	1.26	3.85	3.85
Sweet Grass County	A3	RM 466.73	165364	0.5% - 200yr	1285.8	1243.37	1239.81	3.02	1.84	48.75	19.6	115.43	616.81	2.99	1.19	3.56	3.56
Sweet Grass County	A3	RM 466.64	164858	0.5% - 200yr	1285.8	1242.83	1239.36	3.75	2.35	70.83	25.16	100.5	644.16	2.66	0.94	3.47	3.47
Sweet Grass County	A3	RM 466.49	164108	0.5% - 200yr	1285.8	1242.47	1239.67	2.98	1.82	49.95	25.65	107.44	660.66	2.56	1.32	2.8	2.8
Sweet Grass County	A3	RM 466.25	162845	0.5% - 200yr	1285.8	1241.22	1238.71	3.9	2.58	88.3	31.79	79.36	587.91	2.46	0.85	2.51	2.51
Sweet Grass County	A3	RM 465.79	160351	0.5% - 200yr	1285.8	1240.21	1236.48	2.29	1.17	28.44	12.48	110.96	869.87	2.98	1.27	3.73	3.73
Sweet Grass County	A3	RM 465.01	155919	0.5% - 200yr	1285.8	1237.97	1234.44	3.45	2.6	65.9	26.75	129.45	504.98	2.68	1.08	3.53	3.53
Sweet Grass County	A3	RM 464.68	154254	0.5% - 200yr	1285.8	1236.97	1233.35	2.83	2.2	46.19	24.12	171.81	585.99	2.41	1.25	3.63	3.63
Sweet Grass County	A3	RM 464.48	153160	0.5% - 200yr	1285.8	1236.43	1232.71	2.54	1.84	37.33	19.75	183.52	600.31	2.33	1.23	3.72	3.72
Sweet Grass County	A3	RM 464.33	152378	0.5% - 200yr	1285.8	1236.03	1232.61	2.55	1.8	37.64	19.93	183.37	581.15	2.38	1.26	3.42	3.42
Sweet Grass County	A3	RM 464.16	151621	0.5% - 200yr	1285.8	1235.69	1232.45	2.48	1.69	35.36	18.7	166.91	817.55	2.41	1.27	3.24	3.24
Sweet Grass County	A3	RM 464.04	150961	0.5% - 200yr	1285.8	1235.44	1231.48	2.54	1.59	32.95	16.31	118.42	800.21	3.46	1.69	3.96	3.96
Sweet Grass County	A3	RM 463.88	150174	0.5% - 200yr	1285.8	1234.77	1231.85	3.46	2.54	69.52	41.1	136.95	591.99	2.34	1.38	2.92	2.92
Sweet Grass County	A3	RM 463.78	149616	0.5% - 200yr	1285.8	1234.44	1230.54	2.98	2.33	50.02	33.77	149.53	485.73	2.59	1.74	3.9	3.9
Sweet Grass County	A3	RM 463.67	149069	0.5% - 200yr	1285.8	1234.16	1230.86	2.92	2.05	47.91	32.15	136.34	635.01	2.6	1.74	3.29	3.29
Sweet Grass County	A3	RM 463.59	148630	0.5% - 200yr	1285.8	1233.95	1230.39	2.77	1.88	40.52	26.11	139.26	1223.8	2.86	1.84	3.56	3.56
Sweet Grass County	A3	RM 463.49	148111	0.5% - 200yr	1285.8	1233.12	1229.73	4.08	2.97	95.69	48.18	121.16	1155.24	2.4	1.2	3.39	3.39

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	0.5% - 200yr	1285.8	1232.65	1229.72	2.73	1.93	44.73	26.6	179.41	1347.97	2.12	1.26	2.94	2.94
Sweet Grass County	A3	RM 463.20	146616	0.5% - 200yr	1285.8	1232.28	1228.95	2.54	1.65	39.14	22.64	124.19	1514.02	2.1	1.19	3.32	3.32
Sweet Grass County	A3	RM 463.06	145881	0.5% - 200yr	1285.8	1232.07	1228.89	1.83	1.08	19.97	12.65	147.76	1515.76	2.19	1.38	3.17	3.17
Sweet Grass County	A4	RM 462.79	144435	0.5% - 200yr	1285.8	1231.95	1228.25	1.19	0.69	7.59	4.9	133.61	1467.79	2.99	1.9	3.7	3.7
Sweet Grass County	A4	RM 462.16	141146	0.5% - 200yr	1285.8	1229.52	1226.15	3.54	2.23	71.82	29.74	106.85	858.88	2.46	1	3.37	3.37
Sweet Grass County	A4	RM 461.97	140135	0.5% - 200yr	1285.8	1229	1226.06	2.62	1.58	40.56	24.01	120.82	740.3	2.2	1.3	2.95	2.95
Sweet Grass County	A4	RM 461.71	138705	0.5% - 200yr	1285.8	1227.49	1224.75	3.9	3.09	94.54	49.28	101.47	472.84	1.93	1	2.74	2.74
Sweet Grass County	A4	RM 461.52	137683	0.5% - 200yr	1285.8	1227.07	1222.31	2.51	1.74	31.14	11.16	84.17	699.82	3.96	1.36	4.76	4.76
Sweet Grass County	A4	RM 461.33	136718	0.5% - 200yr	1285.8	1226.85	1223.38	2.15	1.61	25.84	15.93	124.34	815.29	2.65	1.63	3.47	3.47
Sweet Grass County	A4	RM 461.14	135736	0.5% - 200yr	1285.8	1226.13	1222.44	3.25	2.18	57.32	25.48	117.28	575.54	2.91	1.28	3.69	3.69
Sweet Grass County	A4	RM 460.99	134951	0.5% - 200yr	1285.8	1225.68	1221.98	3.15	2.22	53.1	23.23	121.6	470.13	2.99	1.3	3.69	3.69
Sweet Grass County	A4	RM 460.85	134214	0.5% - 200yr	1285.8	1224.69	1222.07	4	3.46	90.06	43.96	147.77	361.69	2.11	1.03	2.62	2.62
Sweet Grass County	A4	RM 460.74	133616	0.5% - 200yr	1285.8	1224.21	1220.27	3.2	2.83	53.59	25.28	122.83	302.87	3.21	1.5	3.94	3.94
Sweet Grass County	A4	RM 460.63	133067	0.5% - 200yr	1285.8	1224.2	1218.9	2.44	2.17	27.35	9.19	105.46	367.1	4.93	1.61	5.3	5.3
Sweet Grass County	A4	RM 460.50	132281	0.5% - 200yr	1285.8	1223.69	1221.12	3.4	2.68	70.31	40.99	151.99	481.79	2.04	1.19	2.57	2.57
Sweet Grass County	A4	RM 460.38	131785	0.5% - 200yr	1285.8	1223.52	1220.5	2.49	1.89	34.25	18.42	139.17	581.95	2.3	1.23	3.02	3.02
Sweet Grass County	A4	RM 460.29	131287	0.5% - 200yr	1285.8	1223.22	1219.97	2.65	2.13	40.15	20.71	135.07	486.1	2.44	1.25	3.25	3.25
Sweet Grass County	A4	RM 460.19	130793	0.5% - 200yr	1285.8	1223.03	1219.38	2.48	2.06	33.21	22.46	118.6	352.88	2.93	1.98	3.65	3.65
Sweet Grass County	A4	RM 460.08	130210	0.5% - 200yr	1285.8	1222.66	1218.23	2.84	2.41	41.86	22.48	132.3	371.45	3.3	1.76	4.43	4.43
Sweet Grass County	A4	RM 459.99	129763	0.5% - 200yr	1285.8	1222.31	1218.01	3.27	2.89	54.74	34.37	110.76	316.01	3.45	2.15	4.3	4.3
Sweet Grass County	A4	RM 459.90	129246	0.5% - 200yr	1285.8	1222.14	1217.62	3.03	2.73	45.32	32.17	106.75	254.01	3.86	2.73	4.52	4.52
Sweet Grass County	A4	RM 459.81	128792	0.5% - 200yr	1285.8	1221.19	1218.15	4.57	4.39	114.11	91.35	99.73	247.85	2.8	2.24	3.04	3.04
Sweet Grass County	A4	RM 459.72	128310	0.5% - 200yr	1401.9	1221.21	1217.31	3.21	2.62	54.23	32.15	127.21	365.11	3.18	1.88	3.9	3.9
Sweet Grass County	A4	RM 459.62	127798	0.5% - 200yr	1401.9	1221.05	1217.46	2.89	2.37	44.92	26	128.42	412.06	2.95	1.71	3.58	3.58
Sweet Grass County	A5	RM 459.53	127324	0.5% - 200yr	1401.9	1220.27	1217.26	3.85	3.73	86.58	62.49	156.91	232.43	2.31	1.66	3.01	3.01
Sweet Grass County	A5	RM 459.44	126881	0.5% - 200yr	1401.9	1220.12	1216.93	2.96	2.83	49.74	40.59	185.47	466.1	2.52	2.06	3.19	3.19
Sweet Grass County	A5	RM 459.31	126192	0.5% - 200yr	1401.9	1219.68	1215.66	3.06	2.8	50.7	37.27	153.23	523.39	2.94	2.15	4.02	4.02
Sweet Grass County	A5	RM 459.24	125848	0.5% - 200yr	1401.9	1219.35	1215.69	3.39	3.1	63.25	46.64	145.56	590.87	2.79	2.05	3.66	3.66
Sweet Grass County	A5	RM 459.16	125420	0.5% - 200yr	1401.9	1218.71	1215.82	3.95	3.92	91.84	80.49	158.87	325	2.23	1.96	2.89	2.89
Sweet Grass County	A5	RM 459.02	124624	0.5% - 200yr	1401.9	1218.48	1214.8	2.56	2.39	36.31	26.54	200.81	583.84	2.69	1.96	3.68	3.68
Sweet Grass County	A5	RM 458.79	123371	0.5% - 200yr	1401.9	1217.55	1214.02	3.35	3.08	61.79	32.01	152.03	326.95	2.72	1.4	3.53	3.53
Sweet Grass County	A5	RM 458.48	121727	0.5% - 200yr	1401.9	1216.42	1213.35	2.87	2.74	50.41	46.36	165.37	307.81	2	1.84	3.07	3.07
Sweet Grass County	A5	RM 458.36	121100	0.5% - 200yr	1401.9	1215.39	1212.73	4.11	3.66	99.14	70.92	117.71	253.14	2.12	1.51	2.66	2.66
Sweet Grass County	A5	RM 458.25	120543	0.5% - 200yr	1401.9	1215.37	1211.35	2.54	2.19	33.63	24.54	122.03	270.06	3.25	2.37	4.02	4.02
Sweet Grass County	A5	RM 458.13	119849	0.5% - 200yr	1401.9	1215.1	1211.21	2.6	2.35	35.81	29.11	131.08	237.91	3.09	2.5	3.89	3.89
Sweet Grass County	A5	RM 458.03	119256	0.5% - 200yr	1401.9	1214.93	1210.09	2.49	2.21	30.07	20.81	122.91	227.05	4.05	2.79	4.85	4.85
Sweet Grass County	A5	RM 457.87	118444	0.5% - 200yr	1401.9	1214.58	1209.57	2.89	2.75	38.91	26.77	104.9	194.19	4.59	3.14	5.01	5.01
Sweet Grass County	A5	RM 457.76	117858	0.5% - 200yr	1401.9	1214.35	1210.24	3	2.91	46.06	39.96	137.04	174.98	3.4	2.95	4.11	4.11
Sweet Grass County	A5	RM 457.66	117350	0.5% - 200yr	1401.9	1214.04	1210.03	3.21	3.08	53.48	43.72	132.62	261.62	3.27	2.67	4.01	4.01
Sweet Grass County	A5	RM 457.54	116694	0.5% - 200yr	1401.9	1213.63	1209.93	3.35	3.11	59.29	45.51	131.05	239.53	3.12	2.4	3.7	3.7
Sweet Grass County	A5	RM 457.35	115703	0.5% - 200yr	1401.9	1212.23	1209.69	4.38	4.38	116.32	116.32	156.27	156.27	2.05	2.05	2.54	2.54
Sweet Grass County	A5	RM 457.20	114921	0.5% - 200yr	1401.9	1212.08	1208.7	2.59	2.59	36.83	36.79	197.6	197.8	2.74	2.74	3.37	3.37
Sweet Grass County	A5	RM 457.02	113974	0.5% - 200yr	1401.9	1211.58	1208.04	3.13	2.35	51.6	26.08	103.04	380.66	3.12	1.57	3.53	3.53
Sweet Grass County	A5	RM 456.84	113009	0.5% - 200yr	1401.9	1211.06	1206.55	3.04	2.78	45.91	28.54	120.66	216.07	3.76	2.33	4.51	4.51
Sweet Grass County	A5	RM 456.68	112164	0.5% - 200yr	1401.9	1210.26	1206.59	3.92	3.81	81.22	65.93	113.81	144.95	3.13	2.54	3.67	3.67
Sweet Grass County	A5	RM 456.55	111455	0.5% - 200yr	1401.9	1210.03	1206.19	3.07	3.01	49.74	42.25	146.88	176.66	3.1	2.64	3.84	3.84
Sweet Grass County	A5	RM 456.43	110857	0.5% - 200yr	1401.9	1209.69	1205.33	3.25	3.02	52.11	28.72	110.87	221.2	3.85	2.1	4.36	4.36
Sweet Grass County	A6	RM 456.29	110121	0.5% - 200yr	1401.9	1209.15	1205.45	3.66	3.35	66.33	33.51	118.64	261.36	3.18	1.6	3.69	3.69
Sweet Grass County	A6	RM 456.18	109508	0.5% - 200yr	1401.9	1208.7	1205.45	3.65	3.34	73.44	32.63	139.71	348.31	2.71	1.2	3.24	3.24
Sweet Grass County	A6	RM 456.03	108721	0.5% - 200yr	1401.9	1208.26	1204.59	3.04	2.69	52.27	26.74	176.21	402.79	2.54	1.29	3.67	3.67
Sweet Grass County	A6	RM 455.84	107742	0.5% - 200yr	1401.9	1207.91	1204.05	2.53	2.18	33.01	20.62	183.51	391.13	2.92	1.82	3.87	3.87
Sweet Grass County	A6	RM 455.70	106976	0.5% - 200yr	1401.9	1207.57	1203.14	2.76	2.71	36.98	32.68	143.46	359.47	3.54	3.12	4.44	4.44
Sweet Grass County	A6	RM 455.56	106256	0.5% - 200yr	1401.9	1207.05	1203.35	3.44	3.12	59.42	34.03	119.56	390.79	3.32	1.9	3.7	3.7
Sweet Grass County	A6	RM 455.39	105360	0.5% - 200yr	1401.9	1206.84	1202.74	2.64	2.42	35.92	27.34	151.06	317.73	3.37	2.56	4.1	4.1
Sweet Grass County	A6	RM 455.26	104667	0.5% - 200yr	1401.9	1205.77	1202.83	4.38	3.73	109.27	67.36	125.73	291.68	2.44	1.5	2.94	2.94
Sweet Grass County	A6	RM 455.09	103771	0.5% - 200yr	1401.9	1205.48	1201.58	2.54	2.16	33.64	20.77	159.87	321.7	3.29	2.02	3.9	3.9
Sweet Grass County	A6	RM 454.95	103072	0.5% - 200yr	1401.9	1204.79	1201.94	3.52	3.23	75.44	58.26	179.76	273.8	2.05	1.58	2.84	2.84
Sweet Grass County	A6	RM 454.82	102364	0.5% - 200yr	1401.9	1204.47	1200.61	2.6	2.45	38.71	34.29	179.13	254.66	2.54	2.24	3.86	3.86
Sweet Grass County	A6	RM 454.72	101863	0.5% - 200yr	1401.9	1203.95	1200.47	3.19	3.19	54.43	54.04	193.59	194.82	2.27	2.26	3.48	3.48
Sweet Grass County	A6	RM 454.64	101419	0.5% - 200yr	1401.9	1203.81	1199.69	2.64	2.61	36.82	33.57	195.79	217.58	2.71	2.47	4.12	4.12
Sweet Grass County	A6	RM 454.53	100846	0.5% - 200yr	1401.9	1203.31	1199.59	3.37	3.11	57.45	35.1	120.59	222.12	3.32	2.03	3.73	3.73

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	0.5% - 200yr	1401.9	1203.03	1199	3.4	3.14	59.48	33.49	115.82	232.08	3.42	1.93	4.03	4.03
Sweet Grass County	A6	RM 454.29	99597	0.5% - 200yr	1401.9	1202.72	1198.71	3.19	2.8	51.62	34.05	114.12	214.73	3.55	2.33	4	4
Sweet Grass County	A6	RM 454.15	98861	0.5% - 200yr	1401.9	1202.34	1198.68	3.17	3.01	50.98	38.36	136.69	195.16	3.18	2.39	3.66	3.66
Sweet Grass County	A6	RM 454.00	98105	0.5% - 200yr	1401.9	1201.95	1198.53	3.01	3.01	45.61	45.03	195.3	197.8	2.38	2.36	3.42	3.42
Sweet Grass County	A6	RM 453.89	97523	0.5% - 200yr	1401.9	1201.61	1198.31	3.02	2.92	48.75	45.28	181.46	206.77	2.49	2.32	3.3	3.3
Sweet Grass County	A6	RM 453.78	96929	0.5% - 200yr	1401.9	1201.44	1197.07	2.57	2.41	33.6	20.2	153.06	276.02	3.51	2.11	4.37	4.37
Sweet Grass County	A6	RM 453.67	96361	0.5% - 200yr	1401.9	1201.12	1197.77	2.99	2.57	47.74	33.11	151.58	278.82	2.81	1.95	3.36	3.36
Sweet Grass County	A6	RM 453.58	95863	0.5% - 200yr	1401.9	1201.03	1196.37	2.44	2.42	28.87	27.8	182.6	191.3	3.68	3.55	4.66	4.66
Sweet Grass County	A6	RM 453.48	95355	0.5% - 200yr	1401.9	1200.3	1196.86	3.91	3.8	79.59	58.74	118.04	165.6	3.02	2.23	3.44	3.44
Sweet Grass County	A6	RM 453.35	94633	0.5% - 200yr	1401.9	1199.7	1196.43	3.83	3.7	77.95	65.55	133.91	216.13	2.71	2.29	3.27	3.27
Sweet Grass County	A7	RM 453.23	93994	0.5% - 200yr	1401.9	1199.34	1196.41	3.33	3.13	59.92	54.25	113	253.84	2.44	2.21	2.93	2.93
Sweet Grass County	A7	RM 453.11	93361	0.5% - 200yr	1401.9	1199.15	1195.68	2.49	2.45	25.9	25.55	275.44	293.68	1.97	1.95	3.46	3.46
Sweet Grass County	A7	RM 453.01	92863	0.5% - 200yr	1401.9	1198.7	1195.38	3.15	3.04	36.83	36.08	239.06	273.71	1.72	1.68	3.32	3.32
Sweet Grass County	A7	RM 452.91	92363	0.5% - 200yr	1401.9	1198.57	1194.85	2.79	2.26	38.78	24.26	117.27	333.51	3.02	1.89	3.73	3.73
Sweet Grass County	A7	RM 452.82	91863	0.5% - 200yr	1401.9	1198.31	1194.65	2.8	2.67	41.41	37.69	111.14	183.12	3.14	2.87	3.66	3.66
Sweet Grass County	A7	RM 452.72	91363	0.5% - 200yr	1401.9	1198.23	1193.29	2.35	2.23	26.55	21.28	144.32	191.39	4.1	3.28	4.94	4.94
Sweet Grass County	A7	RM 452.64	90932	0.5% - 200yr	1401.9	1198	1194.02	2.85	2.31	41.86	30.81	133.5	287.27	3.37	2.48	3.98	3.98
Sweet Grass County	A7	RM 452.53	90362	0.5% - 200yr	1401.9	1197.5	1193.87	3.52	3.14	62.89	45.54	116.37	197.78	3.12	2.26	3.64	3.64
Sweet Grass County	A7	RM 452.43	89864	0.5% - 200yr	1401.9	1197.16	1193.52	3.59	3.17	65.48	44.87	111.78	203.64	3.18	2.17	3.64	3.64
Sweet Grass County	A7	RM 452.33	89331	0.5% - 200yr	1401.9	1196.88	1193.16	3.34	3.04	56.12	33.74	134.45	258.34	3	1.8	3.72	3.72
Sweet Grass County	A7	RM 452.25	88863	0.5% - 200yr	1401.9	1196.58	1192.91	3.37	3.11	57.99	39.46	138.6	224.17	2.96	2.01	3.67	3.67
Sweet Grass County	A7	RM 452.16	88399	0.5% - 200yr	1401.9	1196.3	1192.68	3.44	2.66	60.5	29.29	119.78	344.87	3.16	1.53	3.63	3.63
Sweet Grass County	A7	RM 452.06	87882	0.5% - 200yr	1401.9	1196.08	1192.4	3.19	2.48	52.36	21.75	120.32	406.89	3.36	1.39	3.68	3.68
Sweet Grass County	A7	RM 451.96	87394	0.5% - 200yr	1401.9	1195.85	1191.9	3.17	2.5	52.89	30.59	125.87	308.19	3.15	1.82	3.95	3.95
Sweet Grass County	A7	RM 451.86	86835	0.5% - 200yr	1401.9	1195.66	1191.79	2.95	2.32	42.94	27.9	122.39	274.72	3.4	2.2	3.86	3.86
Sweet Grass County	A7	RM 451.75	86230	0.5% - 200yr	1401.9	1195.28	1191.43	3.12	3.12	49.14	48.83	134.08	134.94	3.35	3.33	3.85	3.85
Sweet Grass County	A7	RM 451.61	85483	0.5% - 200yr	1401.9	1195	1190.7	2.88	2.85	43.31	39.39	152.65	239.65	3.19	2.91	4.3	4.3
Sweet Grass County	A7	RM 451.49	84861	0.5% - 200yr	1401.9	1194.42	1191.07	3.61	3.33	65.95	48.19	126.46	191.61	3	2.2	3.35	3.35
Sweet Grass County	A7	RM 451.34	84113	0.5% - 200yr	1401.9	1194.39	1190.06	2.39	2.3	28.31	19.75	150.96	446.64	3.84	2.67	4.33	4.33
Sweet Grass County	A7	RM 451.20	83363	0.5% - 200yr	1401.9	1193.62	1189.8	3.82	3.59	74.36	42.76	103.86	209.45	3.49	2	3.83	3.83
Sweet Grass County	A7	RM 451.10	82863	0.5% - 200yr	1401.9	1193.5	1189.79	3.16	3.06	51.29	39.98	133.83	214.55	3.3	2.57	3.71	3.71
Sweet Grass County	A7	RM 451.00	82325	0.5% - 200yr	1401.9	1193.38	1189.55	2.77	2.52	39.54	27.74	118.3	284.89	3.33	2.34	3.84	3.84
Sweet Grass County	A7	RM 450.86	81602	0.5% - 200yr	1401.9	1193.22	1188.29	2.28	2	49.31	23.18	90.13	319.1	4.84	2.19	4.93	4.93
Sweet Grass County	A7	RM 450.73	80923	0.5% - 200yr	1401.9	1192.09	1188.46	4.35	3.86	101.84	64.96	101.7	192.51	2.98	1.89	3.63	3.63
Sweet Grass County	A7	RM 450.63	80374	0.5% - 200yr	1401.9	1191.8	1188.16	3.55	3.39	68.36	46.57	135.95	211.12	2.87	1.96	3.64	3.64
Sweet Grass County	A7	RM 450.53	79863	0.5% - 200yr	1401.9	1191.55	1187.88	3.19	3.07	52.07	39.01	151.61	212.35	2.87	2.15	3.68	3.68
Sweet Grass County	A7	RM 450.43	79300	0.5% - 200yr	1401.9	1191.31	1187.72	3.01	2.76	45.62	31.29	133.66	268.65	2.76	1.89	3.59	3.59
Sweet Grass County	A7	RM 450.34	78849	0.5% - 200yr	1478.3	1191.03	1188.05	3.12	2.84	53.13	41.79	125.83	256.27	2.59	2.03	2.98	2.98
Sweet Grass County	A7	RM 450.23	78298	0.5% - 200yr	1478.3	1190.94	1186.92	2.24	1.91	25.41	13.94	203.19	477.65	3.12	1.7	4.02	4.02
Sweet Grass County	A7	RM 450.14	77822	0.5% - 200yr	1478.3	1190.66	1186.4	2.78	2.25	40.43	20.53	152.44	459.02	3.24	1.62	4.25	4.25
Sweet Grass County	A7	RM 450.05	77362	0.5% - 200yr	1478.3	1189.98	1187.2	3.84	3.38	82.19	43.19	139.97	341.03	2.67	1.39	2.79	2.79
Sweet Grass County	A7	RM 449.96	76841	0.5% - 200yr	1478.3	1189.79	1186.28	3.22	2.48	53.6	29.44	128.49	360.63	3.33	1.81	3.51	3.51
Sweet Grass County	A7	RM 449.86	76356	0.5% - 200yr	1478.3	1189.39	1185.58	3.59	2.68	65.54	27.07	110.58	505.36	3.5	1.43	3.8	3.8
Sweet Grass County	A7	RM 449.77	75860	0.5% - 200yr	1478.3	1189.05	1185.68	3.55	2.96	63.24	35.63	168.44	381.91	2.32	1.31	3.37	3.37
Sweet Grass County	A7	RM 449.68	75373	0.5% - 200yr	1478.3	1188.76	1185.9	3	2.61	53.64	31.9	220.37	477.2	2.15	1.28	2.86	2.86
Sweet Grass County	A7	RM 449.59	74904	0.5% - 200yr	1478.3	1188.62	1184.15	2.75	2.23	37.14	17.32	112.43	428.31	4.03	1.83	4.47	4.47
Sweet Grass County	A7	RM 449.48	74351	0.5% - 200yr	1478.3	1188.11	1184.86	3.68	3.02	78.26	47.11	121.9	344.02	2.37	1.42	3.26	3.26
Sweet Grass County	A7	RM 449.37	73741	0.5% - 200yr	1478.3	1187.97	1184.73	2.35	1.92	31.86	18.4	210.35	617.7	2.41	1.39	3.23	3.23
Sweet Grass County	A7	RM 449.26	73165	0.5% - 200yr	1478.3	1187.86	1184.33	2.12	1.29	22.6	12.05	128.66	853.59	2.97	1.56	3.53	3.53
Sweet Grass County	A7	RM 449.10	72364	0.5% - 200yr	1478.3	1187.08	1183.97	3.95	1.87	84.53	32.6	87.4	847.07	2.99	1.12	3.12	3.12
Sweet Grass County	A7	RM 449.00	71858	0.5% - 200yr	1478.3	1186.44	1183.97	3.97	2.44	94.61	47.72	113.75	590.22	2.17	1.07	2.48	2.48
Sweet Grass County	A7	RM 448.88	71223	0.5% - 200yr	1478.3	1186.29	1183.11	2.1	1.83	25.69	18.11	231.85	600.86	2.29	1.61	3.18	3.18
Sweet Grass County	A7	RM 448.76	70537	0.5% - 200yr	1478.3	1186.25	1182.01	1.27	1.23	9.15	8.4	312.73	663.72	2.53	2.32	4.24	4.24
Sweet Grass County	A7	RM 448.55	69424	0.5% - 200yr	1478.3	1186.01	1181.8	1.96	1.67	19.01	13.67	154.14	675.11	3.74	2.69	4.21	4.21
Sweet Grass County	A7	RM 448.41	68815	0.5% - 200yr	1478.3	1185.06	1181.16	4.2	3.85	79.95	54.87	108.05	179.92	3.16	2.13	3.9	3.9
Sweet Grass County	A7	RM 448.32	68353	0.5% - 200yr	1478.3	1185.06	1179.91	2.49	2.48	28.92	27.25	126.03	184.43	4.7	4.43	5.15	5.15
Sweet Grass County	A7	RM 448.23	67851	0.5% - 200yr	1478.3	1184.64	1179.82	3.26	3.23	50.72	41.54	105.4	185.59	4.3	3.5	4.82	4.82
Sweet Grass County	A7	RM 448.07	67043	0.5% - 200yr	1478.3	1184.27	1180.7	3.26	2.75	56.96	33.65	149.15	421.41	2.95	1.74	3.56	3.56
Sweet Grass County	A7	RM 447.94	66348	0.5% - 200yr	1478.3	1184	1180.22	3.02	1.97	46.41	18.42	125.42	549.69	3.46	1.37	3.78	3.78
Sweet Grass County	A7	RM 447.85	65863	0.5% - 200yr	1478.3	1183.57	1180.39	3.48	2.33	66.4	27.7	136.95	570.69	2.78	1.16	3.18	3.18
Sweet Grass County	A7	RM 447.75	65363	0.5% - 200yr	1478.3	1183.46	1179.55	2.78	2	36.93	17.18	143.24	459.3	3.47	1.61	3.91	3.91

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	0.5% - 200yr	1478.3	1183.1	1179.59	3.31	2.12	56.57	21.57	121.32	552.85	3.34	1.26	3.5	3.5
Sweet Grass County	A7	RM 447.56	64365	0.5% - 200yr	1478.3	1182.53	1179.67	3.9	2.47	87.25	40.08	136.94	535.3	2.44	1.12	2.86	2.86
Sweet Grass County	A7	RM 447.49	64001	0.5% - 200yr	1478.3	1182.37	1179.82	3.01	2.24	52.02	30.05	193.72	495.92	2.3	1.33	2.55	2.55
Sweet Grass County	A7	RM 447.39	63473	0.5% - 200yr	1478.3	1181.82	1178.85	3.9	2.45	81.61	34.23	93.97	557.68	2.6	1.08	2.96	2.96
Sweet Grass County	A7	RM 447.27	62880	0.5% - 200yr	1478.3	1181.47	1178.26	3.28	2.25	61.33	28.36	108.82	571.73	2.52	1.15	3.21	3.21
Sweet Grass County	A7	RM 447.17	62358	0.5% - 200yr	1478.3	1181.15	1177.92	3.11	1.95	54.97	28.23	112.86	591.72	2.52	1.28	3.23	3.23
Sweet Grass County	A7	RM 447.08	61863	0.5% - 200yr	1478.3	1180.75	1177.91	3.2	1.96	61.7	36.01	102.86	622.13	2.09	1.21	2.83	2.83
Sweet Grass County	A7	RM 446.98	61358	0.5% - 200yr	1478.3	1180.23	1177.28	3.42	2.06	63.29	27.35	95.7	661.8	2.62	1.12	2.95	2.95
Sweet Grass County	A7	RM 446.89	60841	0.5% - 200yr	1478.3	1179.88	1176.94	3.49	2.02	68.16	30.46	80.78	725.85	2.64	1.17	2.94	2.94
Sweet Grass County	A7	RM 446.80	60396	0.5% - 200yr	1478.3	1179.69	1175.92	2.86	1.89	44.1	23.68	96.31	769.44	2.96	1.57	3.77	3.77
Sweet Grass County	A7	RM 446.70	59903	0.5% - 200yr	1478.3	1179.43	1176.22	3.28	2.11	57.62	25.02	65.99	759.02	3.16	1.31	3.22	3.22
Sweet Grass County	A7	RM 446.60	59371	0.5% - 200yr	1478.3	1179.18	1175.91	3.04	2	48.22	23.43	77.2	658.45	3	1.42	3.27	3.27
Sweet Grass County	A7	RM 446.51	58868	0.5% - 200yr	1478.3	1179.01	1175.24	2.69	2.04	38.7	21.11	117.15	570.18	3.03	1.64	3.77	3.77
Sweet Grass County	A7	RM 446.41	58363	0.5% - 200yr	1478.3	1178.83	1174.39	2.47	1.88	30.85	15.5	148.64	550.09	3.18	1.6	4.44	4.44
Sweet Grass County	A7	RM 446.30	57762	0.5% - 200yr	1478.3	1178.6	1174.85	2.65	1.93	35.41	15.85	123.97	531.26	3.21	1.44	3.75	3.75
Sweet Grass County	A7	RM 446.22	57365	0.5% - 200yr	1478.3	1177.91	1174.39	3.82	3.53	76.93	39.71	129.37	277.14	2.94	1.51	3.52	3.52
Sweet Grass County	A7	RM 446.12	56852	0.5% - 200yr	1478.3	1177.72	1174.04	3.25	2.67	53.84	22.08	140.19	438.46	3.09	1.26	3.68	3.68
Sweet Grass County	A7	RM 446.02	56303	0.5% - 200yr	1478.3	1177.64	1173.3	2.8	1.97	37.93	17.03	98.42	406.09	4.25	1.85	4.34	4.34
Sweet Grass County	A7	RM 445.94	55871	0.5% - 200yr	1478.3	1176.83	1173.6	4.42	3.51	106.04	44.26	95.05	350.69	2.93	1.2	3.23	3.23
Sweet Grass County	A7	RM 445.82	55236	0.5% - 200yr	1478.3	1176.76	1173.05	2.49	2.18	34.34	22.58	209.14	385.57	2.68	1.76	3.71	3.71
Sweet Grass County	A7	RM 445.71	54753	0.5% - 200yr	1478.3	1176.61	1172.38	2.37	2.17	27.45	18.64	210.48	346.67	2.9	1.96	4.22	4.22
Sweet Grass County	A7	RM 445.60	54202	0.5% - 200yr	1478.3	1176.39	1172.32	2.53	2.27	32.05	21.02	188.77	329.61	3.02	1.97	4.06	4.06
Sweet Grass County	A7	RM 445.46	53453	0.5% - 200yr	1478.3	1175.82	1171.04	3.37	2.93	55.81	36.35	131.45	250.39	3.11	2.02	4.78	4.78
Sweet Grass County	A7	RM 445.36	52888	0.5% - 200yr	1478.3	1175.65	1170.25	3.08	2.38	47.46	25.34	105.4	364.4	3.69	1.95	5.4	5.4
Sweet Grass County	A7	RM 445.26	52344	0.5% - 200yr	1478.3	1174.82	1171.35	4.3	3.63	99.38	48.64	105.91	281.92	2.97	1.45	3.47	3.47
Sweet Grass County	A7	RM 445.17	51873	0.5% - 200yr	1478.3	1174.31	1171.83	4.16	3.73	99.84	54.21	137.25	317.9	2.38	1.28	2.47	2.47
Sweet Grass County	A7	RM 445.07	51376	0.5% - 200yr	1478.3	1174.41	1170.28	2.39	2.04	30.36	18.56	181.57	460.59	3.09	1.88	4.13	4.13
Sweet Grass County	A7	RM 444.97	50844	0.5% - 200yr	1478.3	1173.86	1170.19	3.39	2.95	59.77	29.7	148.01	414.16	2.83	1.4	3.67	3.67
Sweet Grass County	A7	RM 444.88	50352	0.5% - 200yr	1478.3	1173.59	1170.05	3.26	2.66	55.13	26.49	144.09	388.35	2.99	1.43	3.54	3.54
Sweet Grass County	A7	RM 444.79	49860	0.5% - 200yr	1478.3	1173.17	1169.94	3.57	2.78	69.19	34.8	132.48	367.9	2.88	1.44	3.23	3.23
Sweet Grass County	A7	RM 444.69	49316	0.5% - 200yr	1478.3	1173.06	1169.55	2.35	2.27	28.43	24.55	380.46	462.23	1.63	1.41	3.5	3.5
Sweet Grass County	A7	RM 444.60	48863	0.5% - 200yr	1478.3	1172.77	1167.23	2.93	1.93	38.92	10.82	88	560.34	5.18	1.37	5.54	5.54
Sweet Grass County	A7	RM 444.50	48367	0.5% - 200yr	1478.3	1172.81	1169.73	1.01	1.59	13.4	14.42	185.74	656.1	1.42	1.53	4.14	4.14
Sweet Grass County	A7	RM 444.41	47863	0.5% - 200yr	1478.3	1172.63	1168.6	2.2	1.56	24.03	11.02	129.86	722.54	3.47	1.58	4.03	4.03
Sweet Grass County	A7	RM 444.30	47336	0.5% - 200yr	1478.3	1172.57	1168.26	1.9	1.38	17.74	9.91	167.8	725.59	3.65	2.03	4.31	4.31
Sweet Grass County	A7	RM 444.20	46789	0.5% - 200yr	1478.3	1171.94	1167.97	3.63	2.58	68.32	34.85	107.59	634.43	3.32	1.67	3.97	3.97
Sweet Grass County	A7	RM 444.12	46346	0.5% - 200yr	1478.3	1171.22	1167.62	4.33	3.49	98.12	47.72	100.73	290.15	3.27	1.56	3.59	3.59
Sweet Grass County	A7	RM 444.02	45829	0.5% - 200yr	1478.3	1171.04	1167.57	3.48	2.93	59.29	28.8	143.97	653.15	2.87	1.39	3.47	3.47
Sweet Grass County	A7	RM 443.91	45243	0.5% - 200yr	1478.3	1170.75	1167.08	3.16	2.5	54.99	23.73	153.94	804.04	2.75	1.18	3.67	3.67
Sweet Grass County	A7	RM 443.84	44853	0.5% - 200yr	1478.3	1170.26	1167.23	3.59	3.05	76.3	36.37	173.99	632.14	2.22	1.05	3.03	3.03
Sweet Grass County	A7	RM 443.75	44415	0.5% - 200yr	1478.3	1170.07	1166.67	2.92	2.55	47.45	20.96	183.8	761.37	2.68	1.18	3.4	3.4
Sweet Grass County	A7	RM 443.64	43870	0.5% - 200yr	1478.3	1170.04	1166.09	2.29	1.64	27.27	14.42	110.6	890.79	3.28	1.72	3.94	3.94
Sweet Grass County	A7	RM 443.53	43290	0.5% - 200yr	1478.3	1169.88	1165.72	2.43	1.81	29.01	14.96	87.59	836.13	3.87	1.97	4.16	4.16
Sweet Grass County	A8	RM 443.45	42860	0.5% - 200yr	1478.3	1169.37	1165.25	3.31	2.81	56.26	27.94	139.17	740.55	3.1	1.54	4.11	4.11
Sweet Grass County	A8	RM 443.35	42363	0.5% - 200yr	1478.3	1168.4	1164.95	4.67	4.19	118.36	76.74	101.62	565.19	2.91	1.87	3.45	3.45
Sweet Grass County	A8	RM 443.25	41863	0.5% - 200yr	1478.3	1168.27	1165.05	3.36	2.72	61.56	32.61	127.8	682.22	2.83	1.49	3.23	3.23
Sweet Grass County	A8	RM 443.16	41342	0.5% - 200yr	1478.3	1168.03	1165.43	2.96	2.14	51.79	29.99	152.93	874.52	2.22	1.29	2.59	2.59
Sweet Grass County	A8	RM 443.07	40863	0.5% - 200yr	1478.3	1167.65	1164.49	3.11	2	55.73	28.08	139	922.08	2.37	1.19	3.16	3.16
Sweet Grass County	A8	RM 442.97	40345	0.5% - 200yr	1478.3	1167.35	1164.28	2.75	1.89	40.85	25.72	162.32	716.36	2.28	1.43	3.08	3.08
Sweet Grass County	A8	RM 442.88	39863	0.5% - 200yr	1478.3	1167.14	1164.06	2.4	1.84	32.83	21.1	177.36	808.87	2.22	1.43	3.09	3.09
Sweet Grass County	A8	RM 442.78	39363	0.5% - 200yr	1478.3	1166.36	1164.18	3.77	3.19	92.89	58.78	146.08	614.97	1.63	1.03	2.5	2.5
Sweet Grass County	A8	RM 442.68	38840	0.5% - 200yr	1478.3	1166.1	1162.8	2.71	2.06	36.55	21.39	117.57	613.71	2.47	1.44	3.3	3.3
Sweet Grass County	A8	RM 442.60	38390	0.5% - 200yr	1478.3	1166.04	1162.57	1.93	1.57	20.78	12.74	157.4	582.8	2.65	1.62	3.46	3.46
Sweet Grass County	A8	RM 442.50	37863	0.5% - 200yr	1478.3	1165.61	1162.29	3.27	2.19	51.8	23.18	102.55	587.83	2.57	1.15	3.32	3.32
Sweet Grass County	A8	RM 442.42	37461	0.5% - 200yr	1478.3	1165.39	1162.07	3.06	2.23	44.75	23.03	121.06	554.19	2.34	1.2	3.33	3.33
Sweet Grass County	A8	RM 442.32	36914	0.5% - 200yr	1478.3	1165.15	1161.85	2.87	2.15	45.52	21.87	107.71	569.07	2.71	1.3	3.3	3.3
Sweet Grass County	A8	RM 442.24	36451	0.5% - 200yr	1478.3	1164.86	1161.75	2.97	2.28	45.44	24.24	130.05	583.95	2.32	1.23	3.11	3.11
Sweet Grass County	A8	RM 442.12	35820	0.5% - 200yr	1478.3	1164.56	1161.12	2.86	2.12	40.72	18.91	123.17	720.4	2.61	1.21	3.44	3.44
Sweet Grass County	A8	RM 442.03	35367	0.5% - 200yr	1478.3	1164.23	1161.18	3.11	2.37	55.44	29.48	123.16	645.08	2.43	1.3	3.05	3.05
Sweet Grass County	A8	RM 441.95	34945	0.5% - 200yr	1478.3	1164.18	1160.28	2.23	1.64	26.78	12.82	133.86	852.92	3.02	1.42	3.9	3.9
Sweet Grass County	A8	RM 441.84	34360	0.5% - 200yr	1478.3	1163.7	1160.33	3.01	2.13	46.68	23.55	186.27	606.55	2.27	1.15	3.38	3.38

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	0.5% - 200yr	1478.3	1163.37	1160.06	3.07	2.1	49.74	21.96	171.23	710.99	2.42	1.07	3.31	3.31
Sweet Grass County	A8	RM 441.65	33357	0.5% - 200yr	1478.3	1163.26	1159.78	2.41	1.53	30.56	14.44	173.66	951.97	2.9	1.36	3.48	3.48
Sweet Grass County	A8	RM 441.53	32732	0.5% - 200yr	1478.3	1162.78	1159.44	3.14	1.91	54.75	21.19	152.04	932.99	2.67	1.02	3.34	3.34
Sweet Grass County	A8	RM 441.47	32366	0.5% - 200yr	1478.3	1162.64	1158.95	2.92	1.72	45.37	15.97	138.98	933.37	3.05	1.07	3.68	3.68
Sweet Grass County	A8	RM 441.38	31928	0.5% - 200yr	1478.3	1162.69	1158.24	1.86	1.18	17.85	9.79	153.74	1109.66	3.37	1.84	4.45	4.45
Sweet Grass County	A8	RM 441.27	31350	0.5% - 200yr	1478.3	1162.15	1158.76	3.55	2.15	68.41	24.12	97.16	1147.49	2.86	1	3.4	3.4
Sweet Grass County	A8	RM 441.18	30882	0.5% - 200yr	1478.3	1161.92	1158.5	2.62	1.6	35.72	14.33	125.73	1067.18	2.8	1.12	3.42	3.42
Sweet Grass County	A8	RM 441.07	30295	0.5% - 200yr	1478.3	1161.77	1158.19	2.34	1.48	29.67	12.57	149.54	1038	2.88	1.21	3.59	3.59
Sweet Grass County	A8	RM 441.00	29913	0.5% - 200yr	1478.3	1161.69	1157.63	2.22	1.41	26.59	12.14	146.59	951.59	2.9	1.31	4.06	4.06
Sweet Grass County	A8	RM 440.80	28852	0.5% - 200yr	1478.3	1160.94	1157.49	3.6	2.34	66.81	22.9	103.86	664.59	3	1.02	3.45	3.45
Sweet Grass County	A8	RM 440.60	27841	0.5% - 200yr	1478.3	1160.09	1157.2	3.04	2.21	52.18	25.78	121.05	564.11	2.51	1.24	2.88	2.88
Sweet Grass County	A8	RM 440.51	27361	0.5% - 200yr	1478.3	1159.36	1156.41	3.94	2.89	89.63	45.72	109.89	476.77	2.39	1.21	2.94	2.94
Sweet Grass County	A8	RM 440.42	26862	0.5% - 200yr	1478.3	1158.96	1156.26	3.49	2.65	70.38	35.59	89.34	518.82	2.36	1.19	2.7	2.7
Sweet Grass County	A8	RM 440.30	26223	0.5% - 200yr	1478.3	1158.92	1155.63	1.82	1.49	18.56	13.21	97.18	663.68	2.65	1.87	3.3	3.3
Sweet Grass County	A8	RM 440.17	25466	0.5% - 200yr	1478.3	1158.73	1154.7	2.34	1.75	28.07	14.1	64.56	665.81	3.49	1.69	4.03	4.03
Sweet Grass County	A8	RM 440.06	24863	0.5% - 200yr	1478.3	1158.44	1153.97	2.58	2.05	33.9	15.23	131.05	630.23	3.5	1.56	4.47	4.47
Sweet Grass County	A8	RM 439.96	24366	0.5% - 200yr	1478.3	1158.15	1154.18	3.14	2.24	49.55	16.76	95.94	646.76	3.62	1.22	3.96	3.96
Sweet Grass County	A8	RM 439.87	23863	0.5% - 200yr	1478.3	1157.81	1153.59	3.31	2.13	52.41	12.3	103.39	884.81	3.84	0.89	4.22	4.22
Sweet Grass County	A8	RM 439.77	23365	0.5% - 200yr	1478.3	1157.65	1153.6	3.06	1.89	45.75	12	124.68	1080.42	3.35	0.87	4.05	4.05
Sweet Grass County	A8	RM 439.68	22863	0.5% - 200yr	1478.3	1157.22	1153.45	3.47	2.33	59.23	13.69	135.36	999.39	2.88	0.66	3.77	3.77
Sweet Grass County	A8	RM 439.58	22363	0.5% - 200yr	1478.3	1157.24	1153.39	2.4	1.37	29.06	9.58	150.28	1086.96	3.19	1.05	3.85	3.85
Sweet Grass County	A8	RM 439.49	21863	0.5% - 200yr	1478.3	1157.12	1152.86	2.42	1.33	28.51	8.53	116.13	1053.41	3.98	1.18	4.25	4.25
Sweet Grass County	A8	RM 439.39	21363	0.5% - 200yr	1478.3	1157.03	1153.06	2.3	1.34	26.54	9.85	131.98	1057.96	3.52	1.29	3.97	3.97
Sweet Grass County	A8	RM 439.30	20863	0.5% - 200yr	1478.3	1156.87	1152.92	2.52	1.4	31.35	11.48	110.38	1005.45	3.58	1.3	3.96	3.96
Sweet Grass County	A8	RM 439.20	20353	0.5% - 200yr	1478.3	1156.09	1152.64	3.97	3.01	79.95	25.91	111.19	501.8	3.05	0.99	3.45	3.45
Sweet Grass County	A8	RM 439.11	19864	0.5% - 200yr	1478.3	1155.71	1152.34	3.11	2.15	51.29	16.45	98.01	776.9	3.1	0.99	3.37	3.37
Sweet Grass County	A8	RM 439.01	19360	0.5% - 200yr	1478.3	1155.25	1152.4	3.49	2.49	65.3	24.04	129.83	738.44	2.31	0.85	2.84	2.84
Sweet Grass County	A8	RM 438.91	18848	0.5% - 200yr	1478.3	1155.04	1151.92	2.82	2.08	41.83	17.47	121.85	769.46	2.68	1.12	3.12	3.12
Sweet Grass County	A8	RM 438.82	18363	0.5% - 200yr	1478.3	1154.74	1151.23	2.93	2.14	47.14	20.08	120.42	890.96	2.77	1.18	3.51	3.51
Sweet Grass County	A8	RM 438.73	17853	0.5% - 200yr	1478.3	1154.5	1151.37	2.76	2.17	39.95	25.05	124.01	662.33	2.45	1.54	3.13	3.13
Sweet Grass County	A8	RM 438.63	17363	0.5% - 200yr	1478.3	1154.4	1150.74	2.27	1.88	26.98	19.1	100.37	464.39	3.21	2.27	3.65	3.65
Sweet Grass County	A8	RM 438.54	16863	0.5% - 200yr	1478.3	1154.25	1150.59	2.32	2.03	27.62	18.43	105.71	323.81	3.43	2.25	3.66	3.66
Sweet Grass County	A8	RM 438.43	16307	0.5% - 200yr	1478.3	1153.99	1149.52	2.54	2.39	32.93	23.21	165.05	295.98	3.46	2.43	4.47	4.47
Sweet Grass County	A9	RM 438.36	15889	0.5% - 200yr	1478.3	1153.85	1149.4	2.56	2.47	29.81	25.83	187.56	278.02	3.04	2.64	4.45	4.45
Sweet Grass County	A9	RM 438.26	15363	0.5% - 200yr	1478.3	1153.15	1149.84	3.97	3.17	82.89	35.51	115.65	377.28	2.89	1.24	3.32	3.32
Sweet Grass County	A9	RM 438.16	14863	0.5% - 200yr	1478.3	1152.91	1149.31	3.48	2.39	60.52	22.21	123.27	552.54	3.07	1.12	3.6	3.6
Sweet Grass County	A9	RM 438.07	14394	0.5% - 200yr	1478.3	1152.56	1149.19	3.61	2.37	71.89	27.69	128.94	592.71	2.75	1.05	3.36	3.36
Sweet Grass County	A9	RM 437.96	13827	0.5% - 200yr	1478.3	1152.39	1149.19	2.97	1.81	46.54	19.57	119.96	735.1	2.65	1.11	3.2	3.2
Sweet Grass County	A9	RM 437.88	13363	0.5% - 200yr	1478.3	1152.21	1148.94	2.89	1.74	42.76	19	109.09	743.49	2.64	1.16	3.27	3.27
Sweet Grass County	A9	RM 437.78	12844	0.5% - 200yr	1478.3	1151.82	1148.72	3.33	2.01	58.8	24.97	99.77	707.99	2.67	1.13	3.11	3.11
Sweet Grass County	A9	RM 437.69	12354	0.5% - 200yr	1478.3	1151.65	1148.45	2.56	1.78	37.86	19.65	147.13	688.69	2.41	1.24	3.2	3.2
Sweet Grass County	A9	RM 437.59	11863	0.5% - 200yr	1478.3	1151.37	1148.76	2.68	1.9	44.02	23.35	151.34	747.33	1.97	1.04	2.96	2.96
Sweet Grass County	A9	RM 437.50	11362	0.5% - 200yr	1478.3	1151.13	1148.29	2.39	1.77	34.24	17.73	189.39	756.59	2.13	1.11	2.84	2.84
Sweet Grass County	A9	RM 437.41	10902	0.5% - 200yr	1478.3	1150.85	1148.26	2.62	1.9	42.11	22.52	175.96	728.62	2	1.07	2.59	2.59
Sweet Grass County	A9	RM 437.31	10361	0.5% - 200yr	1478.3	1150.44	1147.37	2.93	1.99	50.51	24.79	148.16	669.63	2.26	1.11	3.07	3.07
Sweet Grass County	A9	RM 437.20	9764	0.5% - 200yr	1478.3	1150.13	1147.02	2.85	1.87	41.85	19.31	110.89	693.03	2.47	1.14	3.11	3.11
Sweet Grass County	A9	RM 437.08	9128	0.5% - 200yr	1478.3	1149.7	1146.9	2.8	2.1	44.24	22.91	196.32	678.53	2	1.04	2.8	2.8
Sweet Grass County	A9	RM 436.95	8363	0.5% - 200yr	1478.3	1149.46	1145.32	2.55	1.62	26.37	13.34	106.12	674.13	2.73	1.35	4.14	4.14
Sweet Grass County	A9	RM 436.83	7805	0.5% - 200yr	1478.3	1149.31	1145.93	1.96	1.51	23.67	15.43	154.6	766.56	1.97	1.28	3.38	3.38
Sweet Grass County	A9	RM 436.75	6857	0.5% - 200yr	1478.3	1148.77	1145.61	3.36	1.8	63.64	23.59	67.61	865.81	2.59	0.95	3.16	3.16
Sweet Grass County	A9	RM 436.66	6193	0.5% - 200yr	1478.3	1148.3	1145.68	3.1	1.89	55.8	21.84	97.51	882.92	2.27	0.89	2.62	2.62
Sweet Grass County	A9	RM 436.56	5280	0.5% - 200yr	1478.3	1147.89	1144.44	3.14	1.82	43.24	18.67	68.28	772.74	2.61	1.07	3.45	3.45
Sweet Grass County	A9	RM 436.40	4576	0.5% - 200yr	1478.3	1147.69	1144.05	2.58	1.56	35.29	13.82	57.78	838.07	3.22	1.2	3.65	3.65
Sweet Grass County	A9	RM 436.29	3787	0.5% - 200yr	1478.3	1147.24	1144.44	2.97	2.11	51.31	26.74	99.03	821.43	2.36	1.22	2.81	2.81
Sweet Grass County	A9	RM 436.16	3087	0.5% - 200yr	1478.3	1146.48	1143.57	3.49	2.69	71.17	34.47	107.65	849.45	2.3	1.11	2.91	2.91
Sweet Grass County	A9	RM 436.07	2676	0.5% - 200yr	1478.3	1146.23	1143.09	3.06	2.36	50.03	28.32	102.06	951.9	2.3	1.29	3.14	3.14
Sweet Grass County	A9	RM 435.98	2200	0.5% - 200yr	1478.3	1145.92	1142.85	3.04	2.19	54.27	24.76	79.75	993.14	2.32	1.04	3.08	3.08
Sweet Grass County	A9	RM 435.88	1580	0.5% - 200yr	1478.3	1145.58	1142.56	2.41	2.01	36.53	22.85	85.68	923.4	1.84	1.14	3.01	3.01
Sweet Grass County	A9	RM 435.73	890	0.5% - 200yr	1478.3	1145.27	1141.99	2.36	1.89	31.63	17.77	80.13	895.73	2.58	1.41	3.28	3.28
Sweet Grass County	A9	RM 435.62	104	0.5% - 200yr	1478.3	1144.86	1141.54	2.71	2.06	42.5	21.63	130.4	875.69	2.41	1.22	3.33	3.33

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	0.5% - 200yr	1478.3	1144.74	1140.73	1.63	1.31	14.56	7.7	151.59	935.44	2.74	1.45	4.05	4.05
Stillwater County	A9	RM 435.38	231282.1	0.5% - 200yr	1478.3	1144.53	1139.61	1.83	1.32	17.41	8.15	197.46	852.38	3.3	1.54	4.92	4.92
Stillwater County	A9	RM 435.25	230611.3	0.5% - 200yr	1478.3	1143.94	1138.48	3.36	2.22	58.27	20.15	118.64	580.55	3.35	1.15	5.46	5.46
Stillwater County	A9	RM 435.16	230122.9	0.5% - 200yr	1478.3	1143.77	1138.39	3.1	1.93	48.93	18.23	118.38	595.47	3.47	1.29	5.38	5.38
Stillwater County	A9	RM 435.07	229649	0.5% - 200yr	1478.3	1143.7	1137.85	2.74	1.67	36.56	14.47	103.72	564.68	3.98	1.57	5.84	5.84
Stillwater County	A9	RM 434.97	229153	0.5% - 200yr	1478.3	1143.32	1137.87	3.29	2.13	53.74	20.79	105.26	482.06	3.74	1.44	5.45	5.45
Stillwater County	A9	RM 434.84	228443.5	0.5% - 200yr	1478.3	1143.01	1137	3.28	2.42	52.95	22.72	103.65	370.23	3.86	1.65	6.01	6.01
Stillwater County	A9	RM 434.73	227855.5	0.5% - 200yr	1478.3	1142.55	1135.61	3.73	2.91	65.14	22.78	82.85	325.74	4.53	1.56	6.94	6.94
Stillwater County	A9	RM 434.63	227328.2	0.5% - 200yr	1478.3	1142.28	1135.42	3.74	3.26	67.12	23.41	91.85	314.92	4.18	1.44	6.86	6.86
Stillwater County	A9	RM 434.57	227011.2	0.5% - 200yr	1478.3	1142.1	1136.35	3.72	3.22	69.17	21.48	104.18	401.46	3.71	1.14	5.75	5.75
Stillwater County	A9	RM 434.53	226817.6	0.5% - 200yr	1478.3	1141.97	1136.73	3.74	3.28	72.98	22.92	118.94	445.85	3.24	1.01	5.24	5.24
Stillwater County	A10	RM 434.49	226573.3	0.5% - 200yr	1478.3	1141.88	1137.23	3.46	3.18	61.83	25.22	126.91	345.74	3.32	1.35	4.65	4.65
Stillwater County	A10	RM 434.42	226233.2	0.5% - 200yr	1478.3	1141.82	1137.1	3.05	2.48	48.39	21.1	138.92	720.02	3.25	1.41	4.72	4.72
Stillwater County	A10	RM 434.37	225940.2	0.5% - 200yr	1478.3	1141.52	1136.51	3.44	2.89	61.55	25.96	124.51	583.73	3.27	1.38	5.01	5.01
Stillwater County	A10	RM 434.24	225278.2	0.5% - 200yr	1478.3	1141.14	1136.56	3.44	3.05	61.42	25.15	117.53	362.93	3.27	1.34	4.58	4.58
Stillwater County	A10	RM 434.15	224819.6	0.5% - 200yr	1478.3	1140.94	1137.06	3.09	2.56	52.36	25.3	157.63	428.61	2.79	1.35	3.88	3.88
Stillwater County	A10	RM 434.07	224366.5	0.5% - 200yr	1478.3	1140.51	1136.55	3.56	3.02	71.45	41.34	116.1	329.03	2.56	1.49	4.11	4.11
Stillwater County	A10	RM 433.98	223883.5	0.5% - 200yr	1478.3	1140.4	1136.28	2.59	2.27	37.01	18.33	137.26	623.69	2.71	1.34	4.12	4.12
Stillwater County	A10	RM 433.87	223309.3	0.5% - 200yr	1478.3	1140.16	1135.82	2.77	2.15	40.12	15.51	107.67	562.08	3.2	1.22	4.34	4.34
Stillwater County	A10	RM 433.78	222850	0.5% - 200yr	1478.3	1140.01	1135.54	2.53	1.87	34.5	13.99	177.68	671.95	2.91	1.18	4.47	4.47
Stillwater County	A10	RM 433.66	222201.9	0.5% - 200yr	1478.3	1139.72	1135.16	2.73	1.96	38.82	13.27	146	679.38	3.26	1.11	4.56	4.56
Stillwater County	A10	RM 433.54	221596.6	0.5% - 200yr	1478.3	1139.14	1135.33	3.46	3.1	64.24	32.43	139.8	543.53	2.97	1.49	3.81	3.81
Stillwater County	A10	RM 433.42	220956.2	0.5% - 200yr	1478.3	1138.59	1134.88	3.7	3.04	74.44	27.52	133.14	461.95	2.86	1.05	3.7	3.7
Stillwater County	A10	RM 433.31	220362.5	0.5% - 200yr	1478.3	1138.44	1134.67	2.66	2.01	40.41	16.35	205.31	774.45	2.45	0.99	3.77	3.77
Stillwater County	A10	RM 433.20	219758.6	0.5% - 200yr	1478.3	1138.36	1134.17	1.98	1.31	21.56	8.8	148.63	1003.64	2.75	1.12	4.19	4.19
Stillwater County	A10	RM 433.09	219185.2	0.5% - 200yr	1478.3	1138.08	1133.45	2.37	1.75	29.76	10.57	180.45	768.12	3.11	1.1	4.63	4.63
Stillwater County	A10	RM 432.97	218599.7	0.5% - 200yr	1478.3	1137.8	1133.57	2.7	1.93	38.33	12.06	153.1	775.08	3.16	0.99	4.23	4.23
Stillwater County	A10	RM 432.84	217905.9	0.5% - 200yr	1478.3	1137.61	1132.7	2.56	1.67	33.05	9.41	136.55	866.02	3.6	1.02	4.91	4.91
Stillwater County	A10	RM 432.69	217146.9	0.5% - 200yr	1478.3	1136.94	1131.51	3.69	2.75	65.77	17.78	90.53	490.15	4.1	1.1	5.43	5.43
Stillwater County	A10	RM 432.60	216656.8	0.5% - 200yr	1478.3	1136.7	1132.1	3.56	2.69	62.64	16.36	102.29	568.98	3.86	0.99	4.6	4.6
Stillwater County	A10	RM 432.45	215889.7	0.5% - 200yr	1478.3	1136.42	1132.07	3.12	2.23	50.96	13.99	138.19	811.43	3.21	0.88	4.35	4.35
Stillwater County	A10	RM 432.35	215361.3	0.5% - 200yr	1478.3	1136.33	1132.33	2.55	1.61	34.15	12.38	159.19	881.01	3.19	1.15	4	4
Stillwater County	A10	RM 432.20	214585.3	0.5% - 200yr	1518	1135.53	1131.29	3.74	2.82	73.62	18.82	125.07	673.97	3.13	0.8	4.24	4.24
Stillwater County	A10	RM 432.10	214039.1	0.5% - 200yr	1518	1135.29	1130.7	3.38	2.22	59.37	18.98	124.1	741.24	3.23	1.03	4.59	4.59
Stillwater County	A10	RM 432.02	213606.1	0.5% - 200yr	1518	1135.25	1130.52	2.62	1.83	36.22	11.93	161.07	924.21	3.08	1.01	4.73	4.73
Stillwater County	A10	RM 431.87	212811.5	0.5% - 200yr	1518	1135	1129.24	2.39	1.66	32.16	12.08	210.92	957.82	2.56	0.96	5.76	5.76
Stillwater County	A10	RM 431.74	212127.4	0.5% - 200yr	1518	1134.86	1129.66	2.12	1.21	23.05	8.78	161.11	983.03	3.37	1.28	5.2	5.2
Stillwater County	A10	RM 431.60	211373.6	0.5% - 200yr	1518	1134.26	1129.96	3.27	2.49	55.68	15.56	134.23	671.04	3.26	0.91	4.3	4.3
Stillwater County	A10	RM 431.49	210820.2	0.5% - 200yr	1518	1134.03	1129.62	3.09	2.22	49.2	12.74	134.24	795.67	3.35	0.86	4.41	4.41
Stillwater County	A10	RM 431.41	210365.9	0.5% - 200yr	1518	1133.57	1129.57	3.59	2.97	68.15	20.93	130.45	537.46	3.11	0.95	4	4
Stillwater County	A10	RM 431.28	209716.5	0.5% - 200yr	1518	1133.27	1129.79	3.13	2.51	53.73	20.95	165.04	560.99	2.78	1.08	3.48	3.48
Stillwater County	A10	RM 431.14	208918.5	0.5% - 200yr	1518	1132.92	1129.82	2.62	2.45	39.22	18.49	132.66	538.16	2.45	1.15	4.16	4.16
Stillwater County	A10	RM 431.03	208358.8	0.5% - 200yr	1518	1132.5	1128.56	2.97	2.94	51.83	32.47	128.58	367.62	2.25	1.41	3.94	3.94
Stillwater County	A10	RM 430.93	207821.9	0.5% - 200yr	1518	1132.38	1128.76	2.45	2.02	33.48	17.89	126.38	537.37	2.61	1.4	3.62	3.62
Stillwater County	A10	RM 430.83	207325.6	0.5% - 200yr	1518	1132.12	1127.66	2.63	2.23	37.65	20	160.64	449.18	2.84	1.51	4.46	4.46
Stillwater County	A10	RM 430.70	206629.1	0.5% - 200yr	1518	1132.01	1126.9	2.09	1.67	22.57	9.84	150.14	586.94	3.54	1.55	5.11	5.11
Stillwater County	A10	RM 430.59	206064.9	0.5% - 200yr	1518	1131.9	1127.2	2.21	1.55	24.19	9.69	134.54	644.17	3.79	1.52	4.7	4.7
Stillwater County	A10	RM 430.51	205629.5	0.5% - 200yr	1518	1131.47	1126.28	3.26	2.29	53.19	16.05	107.05	597.46	3.71	1.11	5.19	5.19
Stillwater County	A10	RM 430.43	205204.2	0.5% - 200yr	1518	1131.16	1126.08	3.54	2.5	61.93	18.61	98.33	537.37	3.8	1.13	5.08	5.08
Stillwater County	A10	RM 430.34	204728.4	0.5% - 200yr	1518	1130.67	1126.07	3.99	3.01	82.15	24.94	103.36	499.45	3.34	1.01	4.6	4.6
Stillwater County	A11	RM 430.23	204119.7	0.5% - 200yr	1518	1130.67	1126.63	2.57	1.82	35.3	15.52	169.33	712.98	3.03	1.33	4.04	4.04
Stillwater County	A11	RM 430.12	203479.6	0.5% - 200yr	1518	1130.49	1126.96	2.66	1.78	38.18	14.84	112.27	808.48	2.93	1.13	3.96	3.96
Stillwater County	A11	RM 430.04	202968.2	0.5% - 200yr	1518	1130.22	1127.24	2.88	1.99	45.93	15.79	112.83	824.68	2.73	0.92	3.58	3.58
Stillwater County	A11	RM 429.95	202589.5	0.5% - 200yr	1518	1130.05	1126.33	2.59	1.83	37.82	15.28	142.06	813.35	2.55	1.02	3.72	3.72
Stillwater County	A11	RM 429.88	202224.7	0.5% - 200yr	1518	1129.96	1125.62	1.93	1.57	16.21	13.62	363.49	810.88	1.42	1.2	4.34	4.34
Stillwater County	A11	RM 429.78	201933.6	0.5% - 200yr	1518	1129.76	1123.72	2.3	1.66	23.29	15.68	212.39	673.3	2.02	1.36	6.04	6.04
Stillwater County	A11	RM 429.69	201539.9	0.5% - 200yr	1518	1129.03	1123.39	4	2.84	86.29	31.73	91.42	495.7	2.96	1.08	5.64	5.64
Stillwater County	A11	RM 429.58	200961.9	0.5% - 200yr	1518	1128.82	1124.69	3.03	1.99	51.01	25.28	116.91	583.08	2.65	1.31	4.13	4.13
Stillwater County	A11	RM 429.38	200210.8	0.5% - 200yr	1518	1128.41	1125.15	2.38	1.82	32.61	19.47	184.87	584.16	2.39	1.43	3.98	3.98
Stillwater County	A11	RM 429.28	199644.1	0.5% - 200yr	1518	1128.13	1123.59	2.57	1.9	36.9	19.37	148.58	586.22	2.6	1.36	4.54	4.54

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	0.5% - 200yr	1518	1127.94	1124.66	2.23	1.75	28.87	17.13	144.34	627.12	2.33	1.39	4.03	4.03
Stillwater County	A11	RM 429.10	198708.6	0.5% - 200yr	1518	1127.55	1124.26	2.93	2.17	49.22	24.87	87.69	576.17	2.41	1.22	3.97	3.97
Stillwater County	A11	RM 429.00	198203.8	0.5% - 200yr	1518	1127.35	1123.47	2.45	2.03	35.41	23.7	124.54	503.64	2.21	1.48	3.88	3.88
Stillwater County	A11	RM 428.89	197650.5	0.5% - 200yr	1518	1127.09	1121.26	2.72	2.08	39.29	20.69	150.77	451.75	3.08	1.62	5.83	5.83
Stillwater County	A11	RM 428.81	197194.1	0.5% - 200yr	1518	1126.85	1121.47	3.09	2.24	48.56	23.51	98.54	404.8	3.47	1.68	5.37	5.37
Stillwater County	A11	RM 428.66	196404.4	0.5% - 200yr	1518	1126.64	1122.31	2.37	1.92	31.43	18.08	204.39	645.72	2.6	1.49	4.33	4.33
Stillwater County	A11	RM 428.52	195702.6	0.5% - 200yr	1518	1126.31	1122.1	2.54	2	36.39	18.82	206.65	683.56	2.53	1.31	4.21	4.21
Stillwater County	A11	RM 428.44	195293.8	0.5% - 200yr	1518	1126.02	1121.18	2.96	2.15	46.46	17.56	146.38	662.85	3.05	1.15	4.84	4.84
Stillwater County	A11	RM 428.39	195075.5	0.5% - 200yr	1518	1125.82	1120.72	3.28	2.28	56.22	19.37	122.37	604.88	3.2	1.1	5.1	5.1
Stillwater County	A11	RM 428.33	194724.6	0.5% - 200yr	1518	1125.49	1121.22	3.52	2.71	66.87	22.03	135.66	633.21	2.91	0.96	4.27	4.27
Stillwater County	A11	RM 428.28	194450.8	0.5% - 200yr	1518	1125.37	1121.2	3.3	2.49	59.42	21.29	145.55	608.8	2.8	1	4.17	4.17
Stillwater County	A11	RM 428.23	194235.2	0.5% - 200yr	1518	1125.31	1120.74	3.04	2.16	49.62	18.62	143.06	633.67	2.96	1.11	4.57	4.57
Stillwater County	A11	RM 428.20	194033.4	0.5% - 200yr	1518	1125.15	1120.37	3.25	2.38	54.82	18.15	121.13	596.16	3.25	1.07	4.78	4.78
Stillwater County	A11	RM 428.15	193779.9	0.5% - 200yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A11	RM 428.09	193436.6	0.5% - 200yr	1518	1124.98	1119.9	2.82	2.01	41.72	18.5	120.2	536.76	3.21	1.41	5.07	5.07
Stillwater County	A11	RM 428.05	193246.1	0.5% - 200yr	1518	1124.9	1120.1	2.73	1.94	39.35	16.73	126.82	598.2	3.11	1.31	4.8	4.8
Stillwater County	A11	RM 428.00	192989.8	0.5% - 200yr	1518	1124.85	1120.28	2.53	1.73	33.14	14.37	127.29	621.61	3.28	1.41	4.57	4.57
Stillwater County	A11	RM 427.95	192728.8	0.5% - 200yr	1518	1124.8	1119.57	2.35	1.6	28.26	12.87	131.09	632.48	3.44	1.56	5.23	5.23
Stillwater County	A11	RM 427.88	192333.2	0.5% - 200yr	1518	1124.33	1119.27	3.47	2.5	61.45	23.96	102.47	711.53	3.47	1.35	5.06	5.06
Stillwater County	A11	RM 427.83	192088.8	0.5% - 200yr	1518	1124.22	1119.18	3.38	2.44	58.3	23.45	103.17	665.12	3.49	1.39	5.04	5.04
Stillwater County	A11	RM 427.76	191724.1	0.5% - 200yr	1518	1123.85	1119.07	3.74	3.04	71.79	25.81	101.84	410.2	3.42	1.22	4.78	4.78
Stillwater County	A11	RM 427.65	191155.9	0.5% - 200yr	1518	1123.87	1118.58	2.5	1.7	31.05	15.93	139.89	707.96	3.73	1.91	5.29	5.29
Stillwater County	A11	RM 427.53	190509.6	0.5% - 200yr	1518	1123.44	1117.37	3.3	2.15	52.45	21.07	96.4	566.93	4.17	1.66	6.07	6.07
Stillwater County	A11	RM 427.41	189886.1	0.5% - 200yr	1518	1123.13	1118.73	3.31	2.49	54.62	20.52	115.97	552.64	3.71	1.39	4.4	4.4
Stillwater County	A11	RM 427.29	189253.3	0.5% - 200yr	1518	1122.86	1119.12	3.04	2.51	51.21	24.01	176.94	533.59	2.68	1.25	3.74	3.74
Stillwater County	A11	RM 427.17	188639.5	0.5% - 200yr	1518	1122.67	1118.44	2.53	1.96	35.04	17.89	197.68	548.55	2.76	1.41	4.23	4.23
Stillwater County	A11	RM 427.09	188179.7	0.5% - 200yr	1518	1122.25	1118.34	3.26	2.26	55.6	23.5	127.59	491.79	3.24	1.36	3.91	3.91
Stillwater County	A11	RM 427.00	187745.4	0.5% - 200yr	1518	1122.15	1117.71	2.79	1.92	40.95	20.9	143.34	495.75	3.12	1.59	4.44	4.44
Stillwater County	A11	RM 426.92	187309.3	0.5% - 200yr	1518	1121.98	1117.32	2.59	2.11	37.36	22.85	205.73	442.95	2.65	1.62	4.66	4.66
Stillwater County	A11	RM 426.86	186960.4	0.5% - 200yr	1518	1121.87	1116.77	2.44	2.03	32.5	19.48	210.76	446.03	2.8	1.68	5.1	5.1
Stillwater County	A11	RM 426.75	186401.3	0.5% - 200yr	1518	1121.63	1116.11	2.57	2.04	35.31	18.93	182.86	460.66	3.02	1.62	5.52	5.52
Stillwater County	A11	RM 426.67	185983.5	0.5% - 200yr	1518	1121.42	1115.84	2.79	2.28	38.6	19.28	138.91	355.46	3.75	1.87	5.58	5.58
Stillwater County	A11	RM 426.59	185580.4	0.5% - 200yr	1518	1120.94	1115.47	3.65	3.32	65.62	37.45	106	207.27	3.86	2.21	5.47	5.47
Stillwater County	A11	RM 426.52	185166.5	0.5% - 200yr	1518	1120.72	1115.54	3.62	3.56	64.4	46.63	108.17	152.34	3.87	2.8	5.18	5.18
Stillwater County	A11	RM 426.43	184738.3	0.5% - 200yr	1518	1120.5	1115.89	3.59	3.5	64.75	54.13	117.17	144.38	3.59	3	4.61	4.61
Stillwater County	A11	RM 426.32	184158.4	0.5% - 200yr	1518	1120.2	1116.39	3.44	3.43	61.38	56.19	133.45	146.13	3.3	3.03	3.81	3.81
Stillwater County	A11	RM 426.20	183517.2	0.5% - 200yr	1518	1119.93	1116.07	2.91	2.87	48.6	44.87	216.15	237.75	2.4	2.23	3.86	3.86
Stillwater County	A11	RM 426.11	183030.7	0.5% - 200yr	1518	1119.78	1115.37	2.39	2.34	31.63	30.8	270.07	307.71	2.34	2.27	4.41	4.41
Stillwater County	A11	RM 426.00	182442.5	0.5% - 200yr	1518	1119.58	1115.74	2.28	2.08	29.29	25.48	243.38	458.45	2.57	2.24	3.84	3.84
Stillwater County	A11	RM 425.89	181895	0.5% - 200yr	1518	1119.31	1115.1	2.56	2.3	34.62	21.51	187.02	499.69	3.09	1.92	4.21	4.21
Stillwater County	A11	RM 425.72	181043.5	0.5% - 200yr	1518	1118.94	1113.77	2.81	2.39	40.47	23.22	151.05	455.57	3.41	1.95	5.17	5.17
Stillwater County	A11	RM 425.58	180310.5	0.5% - 200yr	1518	1118.32	1112.19	3.67	3.04	65.08	25.64	98.64	411.65	4.05	1.59	6.13	6.13
Stillwater County	A11	RM 425.46	179669.9	0.5% - 200yr	1518	1117.72	1112.78	4.17	3.46	87.63	34.72	96.07	351.76	3.59	1.42	4.94	4.94
Stillwater County	A11	RM 425.34	179022.4	0.5% - 200yr	1518	1117.69	1113.64	2.88	2.48	43.31	28.64	137.83	289.8	3.2	2.11	4.05	4.05
Stillwater County	A11	RM 425.24	178485.9	0.5% - 200yr	1518	1117.44	1114.19	2.79	2.47	43.1	34.24	126.45	383.11	2.67	2.13	3.3	3.3
Stillwater County	A11	RM 425.18	178205.8	0.5% - 200yr	1518	1117.16	1113.81	3.11	2.86	54.71	44.56	128.32	254.87	2.55	2.08	3.84	3.84
Stillwater County	A11	RM 425.11	177826.8	0.5% - 200yr	1518	1116.88	1113.29	3.08	2.91	53.32	39.1	120.72	273.42	2.6	1.91	4.59	4.59
Stillwater County	A11	RM 425.04	177454.7	0.5% - 200yr	1518	1116.67	1112.86	3.12	2.65	52.44	36.55	106.76	279.83	2.94	2.05	4.2	4.2
Stillwater County	A11	RM 424.97	177098.9	0.5% - 200yr	1518	1116.28	1113.11	3.45	3.06	65.99	42.19	106.81	294.18	2.66	1.71	3.27	3.27
Stillwater County	A11	RM 424.89	176675.9	0.5% - 200yr	1518	1116.18	1112.27	2.56	2.25	36.87	26.59	136.62	500.55	2.55	1.85	5.38	5.38
Stillwater County	A11	RM 424.81	176242.8	0.5% - 200yr	1518	1115.75	1112.25	3.02	2.83	55.57	33.37	139.22	561.32	2	1.21	3.75	3.75
Stillwater County	A11	RM 424.70	175789.3	0.5% - 200yr	1518	1115.59	1111.91	2.51	2.16	34.86	16.77	161.26	610.05	2.68	1.29	3.68	3.68
Stillwater County	A11	RM 424.58	175159.4	0.5% - 200yr	1518	1115.23	1111.34	2.9	2.38	47.59	28.83	132.39	455.44	2.51	1.52	3.89	3.89
Stillwater County	A11	RM 424.51	174723.2	0.5% - 200yr	1518	1115.04	1110.93	2.55	2.14	38.66	27.71	140.84	506.06	2.18	1.56	4.11	4.11
Stillwater County	A11	RM 424.38	174051	0.5% - 200yr	1518	1114.6	1110.98	2.84	2.28	48.14	21.54	135.76	708.37	2.17	0.97	3.62	3.62
Stillwater County	A11	RM 424.30	173607.9	0.5% - 200yr	1518	1114.38	1110.75	2.64	1.95	43.25	23.54	158.99	747.91	1.92	1.04	3.63	3.63
Stillwater County	A11	RM 424.21	173153.7	0.5% - 200yr	1518	1114.14	1110.74	2.33	1.69	32.94	16.76	188.24	861.58	2.06	1.04	3.4	3.4
Stillwater County	A11	RM 424.13	172713.5	0.5% - 200yr	1518	1113.93	1110.43	2.39	1.5	34.29	18.28	103.4	910.82	2.1	1.11	3.58	3.58
Stillwater County	A11	RM 424.05	172309.3	0.5% - 200yr	1518	1113.78	1110.18	1.86	1.35	20.8	12.82	155.55	877.74	2.08	1.28	3.6	3.6
Stillwater County	A11	RM 423.98	171892.1	0.5% - 200yr	1518	1113.7	1110.15	1.68	1.23	15.96	9.41	252.66	835.68	2.5	1.47	3.55	3.55

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	0.5% - 200yr	1518	1113.53	1109.55	2.23	1.46	27.34	13.19	156.66	783.86	2.78	1.33	3.98	3.98
Stillwater County	A11	RM 423.84	171147.5	0.5% - 200yr	1518	1113.44	1109.08	2.22	1.39	25.69	11.81	126.81	739.29	3.23	1.48	4.36	4.36
Stillwater County	A11	RM 423.74	170686.3	0.5% - 200yr	1518	1113.4	1108.91	1.76	1.14	15.88	9.01	124.33	689.49	3.41	1.93	4.49	4.49
Stillwater County	A11	RM 423.69	170436.3	0.5% - 200yr	1518	1113.25	1108.49	2.37	1.54	28.55	13.98	88.65	602.01	3.53	1.71	4.76	4.76
Stillwater County	A11	RM 423.57	169782.9	0.5% - 200yr	1518	1113.05	1108.2	2.26	1.57	25.9	10.26	159.21	693.08	3.54	1.4	4.85	4.85
Stillwater County	A11	RM 423.47	169296.5	0.5% - 200yr	1518	1112.51	1107.67	3.4	2.66	58.44	22.87	120.55	590.44	3.55	1.39	4.84	4.84
Stillwater County	A11	RM 423.39	168860.7	0.5% - 200yr	1518	1112.18	1107.7	3.69	2.77	68.89	24.46	107.8	535.99	3.56	1.26	4.48	4.48
Stillwater County	A11	RM 423.27	168178	0.5% - 200yr	1518	1111.53	1107.36	4.01	3.32	85.11	31.02	118.28	408.62	3.08	1.12	4.17	4.17
Stillwater County	A12	RM 423.17	167687.7	0.5% - 200yr	1518	1111.38	1107.46	3.21	2.58	55.95	23.99	153.74	478.16	2.88	1.23	3.92	3.92
Stillwater County	A12	RM 423.08	167239.6	0.5% - 200yr	1518	1111.17	1107.21	3.13	2.39	53.16	22.95	129.63	512.27	2.88	1.24	3.96	3.96
Stillwater County	A12	RM 423.01	166844.5	0.5% - 200yr	1518	1110.97	1106.84	2.92	2.3	48.28	23.18	144.56	547.37	2.52	1.21	4.13	4.13
Stillwater County	A12	RM 422.91	166338	0.5% - 200yr	1518	1110.58	1106.54	3.29	2.47	57.54	22.3	112.6	526.94	3.02	1.17	4.04	4.04
Stillwater County	A12	RM 422.80	165757.6	0.5% - 200yr	1518	1110.32	1106.83	2.91	2.19	46.42	20.31	148.94	571.49	2.78	1.21	3.49	3.49
Stillwater County	A12	RM 422.70	165279.2	0.5% - 200yr	1518	1110.24	1105.79	2.26	1.7	28.41	15.37	203.12	613.82	2.68	1.45	4.45	4.45
Stillwater County	A12	RM 422.63	164895.4	0.5% - 200yr	1518	1110.16	1105.43	2.08	1.51	23.78	12.63	179.41	694.68	2.72	1.44	4.73	4.73
Stillwater County	A12	RM 422.53	164348.1	0.5% - 200yr	1518	1109.99	1104.76	2.16	1.61	25.16	12.65	167.27	673.55	2.97	1.48	5.23	5.23
Stillwater County	A12	RM 422.39	163609.2	0.5% - 200yr	1518	1109.69	1104.22	2.59	1.95	33.43	15.28	132.53	525.93	3.72	1.69	5.47	5.47
Stillwater County	A12	RM 422.30	163120.4	0.5% - 200yr	1518	1109.15	1104.18	3.56	3.01	62.9	23.38	109.03	373.09	3.76	1.39	4.97	4.97
Stillwater County	A12	RM 422.19	162534.3	0.5% - 200yr	1518	1108.97	1103.72	3.16	2.75	49.29	24.88	122.19	289.35	3.79	1.9	5.25	5.25
Stillwater County	A12	RM 422.08	161934.5	0.5% - 200yr	1518	1108.36	1104.18	3.89	3.53	77.89	41.57	113.23	240.71	3.36	1.79	4.18	4.18
Stillwater County	A12	RM 421.98	161402.1	0.5% - 200yr	1518	1108.25	1103.86	3.1	2.96	49.16	37.32	142.02	198.21	3.4	2.58	4.39	4.39
Stillwater County	A12	RM 421.90	161037.7	0.5% - 200yr	1518	1108.09	1103.14	3.01	2.99	48.4	41.91	168.63	196.2	2.99	2.59	4.95	4.95
Stillwater County	A12	RM 421.86	160799.3	0.5% - 200yr	1518	1107.99	1102.54	2.9	2.83	46.71	37.82	193.24	309.52	2.69	2.18	5.45	5.45
Stillwater County	A12	RM 421.81	160535.9	0.5% - 200yr	1518	1107.87	1102.38	2.76	2.69	43.38	32.98	222.31	336.39	2.46	1.87	5.49	5.49
Stillwater County	A12	RM 421.77	160279.4	0.5% - 200yr	1518	1107.69	1102.41	2.95	2.62	48.99	29.43	182.53	372.3	2.59	1.56	5.28	5.28
Stillwater County	A12	RM 421.69	159875.5	0.5% - 200yr	1518	1107.54	1102.56	2.84	2.19	40.25	17.65	130.2	430.26	3.7	1.61	4.98	4.98
Stillwater County	A12	RM 421.60	159411.4	0.5% - 200yr	1518	1107.14	1103.26	3.45	2.69	63.64	26.87	131.13	446.01	2.99	1.26	3.88	3.88
Stillwater County	A12	RM 421.53	159038	0.5% - 200yr	1518	1106.71	1102.81	3.83	3.24	81.89	34.97	133.17	418.43	2.63	1.12	3.9	3.9
Stillwater County	A12	RM 421.45	158590.5	0.5% - 200yr	1518	1106.58	1103.26	2.99	2.56	49.93	26.43	155.02	485.31	2.62	1.38	3.32	3.32
Stillwater County	A12	RM 421.32	157930.2	0.5% - 200yr	1518	1106.19	1102.82	2.91	2.61	50.93	31.27	99.07	490.12	2.12	1.3	3.37	3.37
Stillwater County	A12	RM 421.24	157513	0.5% - 200yr	1518	1105.94	1103.05	2.69	2.35	44.91	32.3	126.94	470.01	1.91	1.38	3.46	3.46
Stillwater County	A12	RM 421.13	156951.5	0.5% - 200yr	1518	1105.77	1100.38	2.26	1.98	29.47	21.85	118.8	470.59	2.4	1.77	5.39	5.39
Stillwater County	A12	RM 421.05	156536.5	0.5% - 200yr	1518	1105.69	1102.11	1.93	1.76	21.5	17.59	103.99	547.78	2.37	1.93	3.58	3.58
Stillwater County	A12	RM 420.94	155960.1	0.5% - 200yr	1518	1105.4	1101.68	2.25	2.06	26.77	15.38	213.29	546.9	3.07	1.76	3.72	3.72
Stillwater County	A12	RM 420.85	155473.6	0.5% - 200yr	1518	1104.72	1100.98	3.83	2.73	82.28	41.83	135.54	451.51	2.58	1.31	3.74	3.74
Stillwater County	A12	RM 420.75	154957.2	0.5% - 200yr	1518	1104.64	1099.95	2.72	1.97	39.95	20.18	157.51	527.92	2.92	1.48	4.68	4.68
Stillwater County	A12	RM 420.66	154483	0.5% - 200yr	1518	1104.48	1099.89	2.55	1.82	34.08	20.15	165.17	672.59	3.16	1.86	4.59	4.59
Stillwater County	A12	RM 420.58	154037.5	0.5% - 200yr	1518	1104.08	1100.13	3.28	2.2	55.85	22.67	122.25	581.54	3.28	1.33	3.95	3.95
Stillwater County	A12	RM 420.52	153691.5	0.5% - 200yr	1518	1103.94	1099.7	3.14	2.08	51.94	19.74	131.23	612.01	3.14	1.19	4.24	4.24
Stillwater County	A12	RM 420.46	153398	0.5% - 200yr	1518	1103.65	1099.36	3.41	2.46	62.92	23.21	139.53	581.4	2.88	1.06	4.29	4.29
Stillwater County	A12	RM 420.38	152998.3	0.5% - 200yr	1518	1103.58	1099.19	2.67	1.88	39.34	18.72	177.26	626.65	2.74	1.3	4.39	4.39
Stillwater County	A12	RM 420.30	152566.4	0.5% - 200yr	1518	1103.53	1099.43	2.03	1.47	22.92	14.02	230.5	644.98	2.69	1.65	4.1	4.1
Stillwater County	A12	RM 420.21	152106.2	0.5% - 200yr	1518	1103.38	1098.69	2.11	1.61	25.48	17.43	238.7	567.6	2.47	1.69	4.69	4.69
Stillwater County	A12	RM 420.15	151738.6	0.5% - 200yr	1518	1103.27	1098.38	2.05	1.75	21.13	14.25	260.73	490.24	2.66	1.79	4.89	4.89
Stillwater County	A12	RM 420.08	151399.3	0.5% - 200yr	1518	1103.12	1097.97	2.31	1.97	28.12	16.14	196.82	426.14	3.16	1.81	5.15	5.15
Stillwater County	A12	RM 420.03	151123.2	0.5% - 200yr	1518	1102.95	1097.96	2.68	2.04	36	18.02	142.7	411.99	3.63	1.81	4.99	4.99
Stillwater County	A12	RM 419.96	150779.4	0.5% - 200yr	1518	1102.76	1098.1	2.97	2.09	44.83	21.33	128.1	435.96	3.5	1.67	4.66	4.66
Stillwater County	A12	RM 419.91	150511.3	0.5% - 200yr	1518	1102.41	1097.83	3.6	2.54	64.11	22.96	102.77	444.04	3.79	1.35	4.57	4.57
Stillwater County	A12	RM 419.85	150192.4	0.5% - 200yr	1518	1102.02	1097.85	4.03	2.86	84.38	31.28	106.79	437.73	3.28	1.21	4.17	4.17
Stillwater County	A12	RM 419.78	149807.6	0.5% - 200yr	1518	1101.89	1097.13	3.58	2.4	64.29	25.65	104.97	434.66	3.67	1.46	4.76	4.76
Stillwater County	A12	RM 419.70	149371.5	0.5% - 200yr	1518	1101.58	1097.73	3.58	2.78	68.9	31.64	138.38	408.15	2.92	1.34	3.85	3.85
Stillwater County	A12	RM 419.63	149047.6	0.5% - 200yr	1518	1101.46	1097.92	3.14	2.59	54.13	28.22	168.37	405.42	2.78	1.45	3.54	3.54
Stillwater County	A12	RM 419.53	148495.9	0.5% - 200yr	1518	1101.14	1097.22	3.19	2.48	58.21	34.34	136.75	424.86	2.44	1.44	3.92	3.92
Stillwater County	A12	RM 419.46	148117.9	0.5% - 200yr	1518	1100.96	1097.34	2.79	2.15	44.23	26.03	133.46	476.4	2.52	1.48	3.88	3.88
Stillwater County	A12	RM 419.38	147728.5	0.5% - 200yr	1518	1100.81	1097.36	2.33	1.96	31.47	24.2	149.23	426.37	2.36	1.82	3.45	3.45
Stillwater County	A12	RM 419.31	147342.9	0.5% - 200yr	1518	1100.72	1096.9	2.03	1.82	22.1	17.67	114.45	360.91	2.97	2.38	3.82	3.82
Stillwater County	A12	RM 419.19	146720.3	0.5% - 200yr	1518	1100.57	1096.42	1.87	1.97	18.68	15.52	106.51	388.89	3.03	2.52	6.17	6.17
Stillwater County	A12	RM 419.10	146243.9	0.5% - 200yr	1518	1100.41	1095.09	2.35	2.04	26.79	13.7	156.37	489.47	3.99	2.04	5.32	5.32
Stillwater County	A12	RM 419.03	145859.8	0.5% - 200yr	1518	1100.05	1095.88	3.13	2.8	53.9	28.89	172.66	444.73	2.74	1.46	4.17	4.17
Stillwater County	A12	RM 418.95	145435.3	0.5% - 200yr	1518	1099.84	1095.15	2.91	2.52	48.45	26.17	207.31	543.42	2.42	1.3	4.69	4.69

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	0.5% - 200yr	1518	1099.48	1094.92	2.87	2.34	48.4	24.34	222.59	637.57	2.24	1.12	4.56	4.56
Stillwater County	A12	RM 418.57	143452.8	0.5% - 200yr	1518	1098.45	1095.1	3.26	2.38	60.86	22.99	135.5	716.88	2.41	0.91	3.35	3.35
Stillwater County	A12	RM 418.49	143008.1	0.5% - 200yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A12	RM 418.25	141740.8	0.5% - 200yr	1518	1097.72	1093.71	2.28	1.65	30.52	20.31	178.18	692.04	2.23	1.48	4.01	4.01
Stillwater County	A12	RM 418.08	140894.8	0.5% - 200yr	1518	1097.44	1092.65	2.25	1.81	27.71	15.02	139.46	620.98	2.79	1.51	4.79	4.79
Stillwater County	A12	RM 417.89	139893.7	0.5% - 200yr	1518	1096.68	1092.75	3.45	2.69	63.5	25.01	128.08	602.39	3.01	1.18	3.93	3.93
Stillwater County	A12	RM 417.79	139376.4	0.5% - 200yr	1518	1096.52	1091.64	2.94	2.22	47.31	23.49	137.69	650.32	2.81	1.39	4.87	4.87
Stillwater County	A12	RM 417.65	138633.4	0.5% - 200yr	1518	1096.03	1091.57	3.41	2.59	58.95	26.25	93.48	532.98	3.52	1.56	4.45	4.45
Stillwater County	A12	RM 417.54	138089.5	0.5% - 200yr	1518	1095.36	1091.15	4.17	3.35	91.71	44.16	92.88	315.66	3.12	1.5	4.21	4.21
Stillwater County	A12	RM 417.40	137321.3	0.5% - 200yr	1733.2	1095.14	1091.71	2.93	2.45	47.79	31.89	128.55	493.91	2.67	1.78	3.43	3.43
Stillwater County	A12	RM 417.30	136818.2	0.5% - 200yr	1733.2	1094.81	1091.51	2.87	2.54	46.95	31.09	209.14	465.78	2.45	1.62	3.3	3.3
Stillwater County	A13	RM 417.09	135706	0.5% - 200yr	1733.2	1094.09	1090.35	3.41	2.81	65.23	35.23	189.98	459.26	2.56	1.39	3.74	3.74
Stillwater County	A13	RM 417.01	135303.6	0.5% - 200yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A13	RM 416.85	134457.6	0.5% - 200yr	1733.2	1093.35	1089.62	2.98	2.42	47.8	24.52	187.62	472.1	2.96	1.52	3.73	3.73
Stillwater County	A13	RM 416.73	133843.5	0.5% - 200yr	1733.2	1092.86	1089.6	3.28	2.72	62.37	34.56	214.87	487.01	2.36	1.31	3.26	3.26
Stillwater County	A13	RM 416.63	133286.1	0.5% - 200yr	1733.2	1092.46	1089.3	3.24	2.78	62.7	38.74	134.05	465.97	2.16	1.34	3.16	3.16
Stillwater County	A13	RM 416.52	132717.9	0.5% - 200yr	1733.2	1092.21	1089.09	2.71	2.05	43.78	27.47	104.23	622.64	2.15	1.36	3.12	3.12
Stillwater County	A13	RM 416.43	132250.3	0.5% - 200yr	1733.2	1091.92	1088.74	2.53	2.01	38.64	23.72	115.63	679.63	2.07	1.27	3.18	3.18
Stillwater County	A13	RM 416.33	131707.5	0.5% - 200yr	1733.2	1091.71	1088.02	2.3	1.82	31.07	18.09	132.56	728.85	2.24	1.31	3.69	3.69
Stillwater County	A13	RM 416.22	131140.9	0.5% - 200yr	1733.2	1091.32	1087.56	3.19	2.15	54.69	20.99	84.28	712.19	2.95	1.13	3.76	3.76
Stillwater County	A13	RM 416.13	130626.3	0.5% - 200yr	1733.2	1090.93	1086.65	3.12	2.3	52.98	19.89	148.11	711.06	2.82	1.06	4.28	4.28
Stillwater County	A13	RM 416.04	130164.9	0.5% - 200yr	1733.2	1090.55	1085.03	3.48	2.23	65.2	23.67	125.48	758.24	2.95	1.07	5.52	5.52
Stillwater County	A13	RM 415.96	129734.7	0.5% - 200yr	1733.2	1090.52	1085.48	2.53	1.57	33.65	14.14	133.05	927.99	3.17	1.33	5.03	5.03
Stillwater County	A13	RM 415.90	129423.4	0.5% - 200yr	1733.2	1090.43	1085.77	2.14	1.34	24.74	12.79	159.69	920.64	2.93	1.51	4.66	4.66
Stillwater County	A13	RM 415.83	129071.6	0.5% - 200yr	1733.2	1090.34	1085.89	2.04	1.32	21.8	11.71	152.97	769.29	3.18	1.71	5.01	5.01
Stillwater County	A13	RM 415.74	128639.5	0.5% - 200yr	1733.2	1090.08	1084.72	2.7	1.67	36.63	16.99	154.02	818.28	3.59	1.66	5.36	5.36
Stillwater County	A13	RM 415.72	128521.2	0.5% - 200yr	1733.2	1089.9	1084.8	3.13	1.93	49.31	21.33	132.67	803.27	3.62	1.55	5.1	5.1
Stillwater County	A13	RM 415.65	128106.2	0.5% - 200yr	1733.2	1089.74	1083.7	3.03	2.01	49.51	25.41	170.19	858.69	2.92	1.5	6.04	6.04
Stillwater County	A13	RM 415.59	127828.3	0.5% - 200yr	1733.2	1089.16	1083.61	3.97	3.06	83.79	34.6	136.01	644.11	3.07	1.26	5.55	5.55
Stillwater County	A13	RM 415.55	127620.5	0.5% - 200yr	1733.2	1089.2	1082.84	3.06	2.97	44.72	27.28	132.97	435.72	4.25	2.57	6.36	6.36
Stillwater County	A13	RM 415.50	127340.9	0.5% - 200yr	1733.2	1089.07	1083.14	3.14	2.88	49.54	25.5	152.45	656.15	3.59	1.84	5.93	5.93
Stillwater County	A13	RM 415.45	127087.4	0.5% - 200yr	1733.2	1088.61	1083.18	3.82	3.39	79.92	40.46	160.08	562.78	2.8	1.41	5.43	5.43
Stillwater County	A13	RM 415.34	126499.1	0.5% - 200yr	1733.2	1088.42	1084.45	3.28	2.75	57.16	29.33	129.56	723.82	3.03	1.56	3.97	3.97
Stillwater County	A13	RM 415.25	126040.7	0.5% - 200yr	1733.2	1088.21	1082.42	3.18	2.36	52.21	24.49	123.59	654.61	3.31	1.55	5.78	5.78
Stillwater County	A13	RM 415.18	125663.1	0.5% - 200yr	1733.2	1088	1083.81	3.15	2.66	51.27	22.66	135.23	624.91	3.31	1.46	4.19	4.19
Stillwater County	A13	RM 414.97	124585.1	0.5% - 200yr	1733.2	1087.13	1082.64	3.42	2.61	62.06	31.17	121.02	496.04	3.06	1.53	4.49	4.49
Stillwater County	A13	RM 414.88	124110.1	0.5% - 200yr	1733.2	1086.88	1083.02	3.25	2.61	55.92	29.16	124.65	472.32	3.11	1.62	3.86	3.86
Stillwater County	A13	RM 414.71	123222	0.5% - 200yr	1733.2	1086.37	1080.88	3.1	2.65	50.13	20.95	165.46	483.61	3.25	1.35	5.49	5.49
Stillwater County	A13	RM 414.57	122473.6	0.5% - 200yr	1733.2	1085.66	1081.21	3.77	3.17	75.3	31.04	146.86	507.43	3.05	1.25	4.45	4.45
Stillwater County	A13	RM 414.43	121696.6	0.5% - 200yr	1733.2	1085.17	1080.49	3.45	2.66	65.45	31.53	170.98	781.85	2.75	1.32	4.68	4.68
Stillwater County	A13	RM 414.21	120527.7	0.5% - 200yr	1733.2	1084.48	1080.81	2.92	2.33	50.08	26.01	222.32	739.12	2.24	1.16	3.67	3.67
Stillwater County	A13	RM 413.90	118914.7	0.5% - 200yr	1733.2	1083.13	1079.28	3.52	2.44	67.81	26.52	157	652.09	2.79	1.09	3.85	3.85
Stillwater County	A13	RM 413.65	117570.4	0.5% - 200yr	1733.2	1082.39	1078.15	3.17	1.79	53.58	24.64	142.89	695.55	3.03	1.39	4.24	4.24
Stillwater County	A14	RM 413.44	116446.3	0.5% - 200yr	1733.2	1081.63	1076.4	3.42	1.87	63.04	21.84	147.72	918.67	2.92	1.01	5.23	5.23
Stillwater County	A14	RM 413.27	115556.7	0.5% - 200yr	1733.2	1081.1	1077.8	3.18	1.81	58.36	26.05	176.76	920.06	2.36	1.05	3.3	3.3
Stillwater County	A14	RM 413.11	114697.4	0.5% - 200yr	1733.2	1080.58	1077.12	2.86	1.78	46.62	20.82	197.3	1026.37	2.46	1.1	3.46	3.46
Stillwater County	A14	RM 412.99	114113.2	0.5% - 200yr	1733.2	1080.26	1076.41	2.88	1.79	47.56	22.73	190.79	1024.74	2.41	1.15	3.84	3.84
Stillwater County	A14	RM 412.88	113533.6	0.5% - 200yr	1733.2	1079.89	1076.03	3.03	2.11	49.16	21.55	145.23	812.29	2.96	1.3	3.86	3.86
Stillwater County	A14	RM 412.73	112742.6	0.5% - 200yr	1733.2	1079.43	1074.72	3.07	2.07	52.78	29.86	174.97	745.13	2.61	1.48	4.71	4.71
Stillwater County	A14	RM 412.59	112005.5	0.5% - 200yr	1733.2	1079.02	1074.72	2.9	2.01	46.72	27.25	198.19	873.07	2.65	1.54	4.3	4.3
Stillwater County	A14	RM 412.49	111442.5	0.5% - 200yr	1733.2	1078.98	1074.54	2.1	1.55	23.29	12.05	189.08	937.63	3.09	1.6	4.44	4.44
Stillwater County	A14	RM 412.31	110522	0.5% - 200yr	1733.2	1078.63	1072.96	2.56	1.83	31.39	14.16	144.87	770.35	4.19	1.88	5.67	5.67
Stillwater County	A14	RM 412.19	109955.3	0.5% - 200yr	1733.2	1077.76	1071.57	4.32	3.26	93.84	37.13	103.6	390.25	3.64	1.42	6.19	6.19
Stillwater County	A14	RM 412.05	109175.2	0.5% - 200yr	1733.2	1077.48	1072.08	3.55	2.55	62.34	24.34	117.38	515.94	3.79	1.47	5.4	5.4
Stillwater County	A14	RM 411.92	108510.2	0.5% - 200yr	1733.2	1077.19	1072.88	3.26	2.96	53.75	23.79	146.42	372.86	3.56	1.57	4.31	4.31
Stillwater County	A14	RM 411.81	107950.5	0.5% - 200yr	1733.2	1076.61	1070.62	3.87	3.87	77.7	76.18	135.94	250.45	3.29	3.23	5.99	5.99
Stillwater County	A14	RM 411.71	107391.9	0.5% - 200yr	1733.2	1076.29	1070.83	3.73	3.7	68.43	59.79	119.39	223.26	3.88	3.39	5.46	5.46
Stillwater County	A14	RM 411.58	106721	0.5% - 200yr	1733.2	1076.02	1071.65	3.35	3.1	58.67	36.13	161.95	474.06	3.17	1.95	4.37	4.37
Stillwater County	A14	RM 411.47	106133.7	0.5% - 200yr	1733.2	1075.75	1071.87	3.19	2.55	54.05	28.84	161.49	450.66	3.06	1.63	3.88	3.88
Stillwater County	A14	RM 411.32	105338.4	0.5% - 200yr	1733.2	1075.22	1069.29	3.33	2.74	58.85	34.39	163.29	455.95	3.04	1.77	5.93	5.93

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	0.5% - 200yr	1733.2	1074.17	1067.92	4.24	2.96	93.19	36.52	115.23	453.82	3.31	1.29	6.25	6.25
Stillwater County	A14	RM 411.00	103638.4	0.5% - 200yr	1733.2	1073.66	1069.6	3.79	2.73	79.72	43.28	143.27	436.58	2.68	1.45	4.06	4.06
Stillwater County	A14	RM 410.85	102835.8	0.5% - 200yr	1733.2	1073.29	1069.92	2.85	2.15	48.03	27.24	83.64	1004.86	2.21	1.25	3.37	3.37
Stillwater County	A14	RM 410.74	102286.3	0.5% - 200yr	1733.2	1072.86	1068.99	3.09	2.1	54.85	28.63	75.92	1046.02	2.43	1.25	3.87	3.87
Stillwater County	A14	RM 410.63	101668.3	0.5% - 200yr	1733.2	1072.62	1068.37	2.53	1.81	34.74	20.71	83.69	1149.52	2.9	1.72	4.25	4.25
Stillwater County	A14	RM 410.52	101115.7	0.5% - 200yr	1733.2	1072.25	1067.81	2.88	2.25	44.26	26.56	123.09	1289.13	3.03	1.82	4.44	4.44
Stillwater County	A14	RM 410.42	100568.4	0.5% - 200yr	1733.2	1071.8	1066.66	3.12	2.92	56.12	37.23	149.68	832.22	2.39	1.58	5.14	5.14
Stillwater County	A14	RM 410.33	100099.2	0.5% - 200yr	1733.2	1071.57	1066.6	2.81	2.42	42.51	29.46	198.78	1074.53	2.94	2.04	4.97	4.97
Stillwater County	A14	RM 410.22	99589.26	0.5% - 200yr	1733.2	1071.03	1066.94	3.58	2.78	68.88	34.71	153.26	1085.42	2.93	1.47	4.09	4.09
Stillwater County	A14	RM 410.12	99057.4	0.5% - 200yr	1733.2	1070.61	1065.8	3.56	2.84	71.93	43.55	177.78	1137.38	2.49	1.51	4.81	4.81
Stillwater County	A14	RM 410.03	98630.66	0.5% - 200yr	1733.2	1070.31	1065.33	3.26	2.71	61.59	39.73	207.31	1052.07	2.33	1.51	4.98	4.98
Stillwater County	A14	RM 409.99	98385.41	0.5% - 200yr	1733.2	1070.08	1065.38	3.34	2.65	65.24	39.76	207.2	1051.75	2.28	1.39	4.7	4.7
Stillwater County	A14	RM 409.94	98072.09	0.5% - 200yr	1733.2	1069.96	1065.51	2.87	2.12	46.46	24.71	206.82	1371.19	2.56	1.36	4.45	4.45
Stillwater County	A14	RM 409.87	97717.24	0.5% - 200yr	1733.2	1069.9	1065.52	2.46	1.58	30.78	13.48	166.7	1404.88	3.5	1.53	4.38	4.38
Stillwater County	A14	RM 409.76	97130.84	0.5% - 200yr	1733.2	1069.5	1065.37	3.2	1.99	53.85	20.19	146.97	1252.86	3.11	1.16	4.13	4.13
Stillwater County	A14	RM 409.60	96278.7	0.5% - 200yr	1733.2	1068.55	1064.65	4	2.81	93.53	39.51	166.1	651.15	2.28	0.96	3.9	3.9
Stillwater County	A14	RM 409.43	95381.62	0.5% - 200yr	1733.2	1067.85	1063.55	3.44	2.25	64.87	29.71	135.5	878.74	2.78	1.27	4.3	4.3
Stillwater County	A14	RM 409.24	94405.29	0.5% - 200yr	1733.2	1067.18	1064.55	2.46	1.89	40.21	28.36	159.47	994.65	1.56	1.1	2.96	2.96
Stillwater County	A14	RM 409.15	93912.54	0.5% - 200yr	1733.2	1066.78	1064.27	2.27	1.89	33.02	23.93	168.43	736.53	1.72	1.25	4.71	4.71
Stillwater County	A14	RM 408.99	93008.08	0.5% - 200yr	1733.2	1066.08	1063.94	2.62	2.4	45.3	27.87	164.37	732.15	1.6	0.99	3.54	3.54
Stillwater County	A14	RM 408.84	92229.27	0.5% - 200yr	1733.2	1065.58	1062.1	2.59	2.37	43.85	29.12	189.7	666	1.64	1.1	3.48	3.48
Stillwater County	A14	RM 408.63	91072.98	0.5% - 200yr	1733.2	1065.12	1061.85	2.11	1.88	26.08	22.07	211.69	501.35	2.24	1.89	3.54	3.54
Stillwater County	A14	RM 408.41	89726.16	0.5% - 200yr	1733.2	1064.68	1059.04	2.59	1.99	32.09	17.18	105.48	392.26	4.17	2.22	5.64	5.64
Stillwater County	A14	RM 408.26	88966.66	0.5% - 200yr	1733.2	1064.41	1058.13	2.74	2.16	35.79	19.81	130.93	354	4.26	2.35	6.28	6.28
Stillwater County	A14	RM 408.10	88091.52	0.5% - 200yr	1733.2	1063.31	1057.78	4.47	3.87	98.09	38.17	98.48	297.89	3.87	1.5	5.53	5.53
Stillwater County	A14	RM 408.02	87720.33	0.5% - 200yr	1733.2	1063.27	1058.61	3.73	3.12	70.56	35.83	127.15	342.47	3.54	1.79	4.66	4.66
Stillwater County	A14	RM 407.83	86708.48	0.5% - 200yr	1733.2	1062.71	1058.65	3.2	2.75	60.07	38.11	160.99	439.53	2.25	1.43	4.06	4.06
Stillwater County	A14	RM 407.71	86078.99	0.5% - 200yr	1733.2	1062.25	1057.9	3.47	2.69	65	29.43	121.34	492.28	2.89	1.31	4.35	4.35
Stillwater County	A14	RM 407.61	85508.29	0.5% - 200yr	1733.2	1062.01	1058.36	2.85	2.41	47.23	28.7	170.8	509.47	2.32	1.41	3.65	3.65
Stillwater County	A14	RM 407.50	84909.3	0.5% - 200yr	1733.2	1061.76	1058.55	2.66	2.26	41.9	27.4	179.43	534.3	2.19	1.44	3.7	3.7
Stillwater County	A14	RM 407.41	84433.26	0.5% - 200yr	1733.2	1061.62	1057.85	2.49	1.92	34.77	20.62	122.26	579.51	2.62	1.56	3.96	3.96
Stillwater County	A14	RM 407.36	84180.66	0.5% - 200yr	1733.2	1061.48	1057.59	2.87	1.94	44.3	22.78	101.75	591.65	2.95	1.51	3.88	3.88
Stillwater County	A14	RM 407.29	83775.88	0.5% - 200yr	1733.2	1061.17	1057.08	2.56	2.42	37.78	26.95	155.75	419.02	2.4	1.71	4.35	4.35
Stillwater County	A14	RM 407.13	82954.84	0.5% - 200yr	1733.2	1060.88	1056.27	2.27	2.13	28.58	21.47	281.8	404.54	2.67	2.01	4.61	4.61
Stillwater County	A14	RM 406.98	82156.72	0.5% - 200yr	1733.2	1060.66	1056.37	2.29	2.08	26.38	16.75	200.47	415.85	3.65	2.32	4.29	4.29
Stillwater County	A14	RM 406.86	81532.92	0.5% - 200yr	1733.2	1059.68	1055.69	4.3	4	95.07	67.71	115.89	179.51	3.4	2.41	3.99	3.99
Stillwater County	A14	RM 406.77	81053.3	0.5% - 200yr	1733.2	1059.42	1053.84	3.99	3.41	80.24	44.75	112.47	254	3.59	2	5.58	5.58
Stillwater County	A14	RM 406.64	80405.13	0.5% - 200yr	1733.2	1059.09	1054.89	3.56	3.22	65.3	39.78	140	501.41	3.32	2.02	4.2	4.2
Stillwater County	A14	RM 406.48	79524.79	0.5% - 200yr	1733.2	1058.65	1054.8	3.07	2.41	51.68	32.54	211.47	599.87	2.27	1.43	3.85	3.85
Stillwater County	A14	RM 406.25	78337.26	0.5% - 200yr	1733.2	1057.98	1054.03	3.09	2.23	50.27	20.64	146.6	742.74	3.14	1.28	3.95	3.95
Stillwater County	A14	RM 406.08	77409.13	0.5% - 200yr	1733.2	1057.7	1052.87	2.69	1.69	37.13	16.52	131.8	734.02	3.44	1.51	4.83	4.83
Stillwater County	A14	RM 405.93	76624.91	0.5% - 200yr	1733.2	1056.81	1052.64	3.94	3.23	78.23	31.75	114.34	394.37	3.63	1.47	4.17	4.17
Stillwater County	A14	RM 405.81	75994.44	0.5% - 200yr	1733.2	1056.42	1051.93	3.75	3.59	72.57	66.69	133.87	269.78	3.34	3.08	4.49	4.49
Stillwater County	A15	RM 405.77	75764.36	0.5% - 200yr	1733.2	1056.1	1052.63	4.11	3.75	92.65	69.41	142.49	228.45	2.76	2.08	3.47	3.47
Stillwater County	A15	RM 405.67	75185.26	0.5% - 200yr	1733.2	1055.78	1052.06	3.51	3.02	66.86	46.01	82.19	292.1	2.84	1.96	3.72	3.72
Stillwater County	A15	RM 405.61	74883.52	0.5% - 200yr	1733.2	1055.61	1051.81	3.66	2.78	69.78	37.97	69.55	439.27	3.22	1.76	3.8	3.8
Stillwater County	A15	RM 405.52	74415.92	0.5% - 200yr	1733.2	1055.17	1051.43	4.14	2.83	88.9	46.78	52.24	481.91	3.27	1.72	3.74	3.74
Stillwater County	A15	RM 405.45	74031.34	0.5% - 200yr	1733.2	1055.14	1051.1	3.19	1.98	50.84	25.27	57.4	779.93	3.63	1.81	4.05	4.05
Stillwater County	A15	RM 405.34	73437.72	0.5% - 200yr	1733.2	1054.69	1050.67	3.33	2.43	56.51	22.69	116.05	807.01	3.44	1.38	4.01	4.01
Stillwater County	A15	RM 405.18	72616.33	0.5% - 200yr	1733.2	1054.29	1049.45	3.44	2.54	57.64	19.72	94.83	808.49	3.98	1.35	4.84	4.84
Stillwater County	A15	RM 405.09	72171.48	0.5% - 200yr	1733.2	1054.16	1049.09	3.01	2.36	44.59	17.28	115.98	867.84	3.88	1.5	5.08	5.08
Stillwater County	A15	RM 405.02	71774.52	0.5% - 200yr	1733.2	1053.64	1048.59	4.04	3.11	79.97	23.94	88.03	493.64	3.9	1.16	5.06	5.06
Stillwater County	A15	RM 404.97	71526.86	0.5% - 200yr	1733.2	1053.68	1048.35	3.28	2.42	53.05	18.41	105.86	919.66	3.85	1.33	5.33	5.33
Stillwater County	A15	RM 404.90	71150.58	0.5% - 200yr	1733.2	1053.5	1048.99	3.35	2.56	55.47	17.56	104.62	960.25	3.77	1.19	4.51	4.51
Stillwater County	A15	RM 404.84	70801.47	0.5% - 200yr	1733.2	1053.5	1049.19	2.77	1.97	37.89	15.17	118.04	1171.58	3.78	1.5	4.3	4.3
Stillwater County	A15	RM 404.77	70415.17	0.5% - 200yr	1733.2	1053.42	1048.51	2.81	1.75	37.97	13.16	86.33	1150.47	4.21	1.43	4.91	4.91
Stillwater County	A15	RM 404.59	69477.61	0.5% - 200yr	1733.2	1052.54	1047.56	4.04	3.19	81.91	22.51	110.64	548.71	3.68	0.99	4.98	4.98
Stillwater County	A15	RM 404.54	69214.33	0.5% - 200yr	1733.2	1052.48	1047.65	3.56	2.75	65.59	21.9	133.67	569.21	3.36	1.11	4.83	4.83
Stillwater County	A15	RM 404.35	68254.38	0.5% - 200yr	1733.2	1052.06	1048.18	3.05	2.55	50.6	25.14	147.66	477.84	2.86	1.42	4.29	4.29
Stillwater County	A15	RM 404.10	66934.17	0.5% - 200yr	1733.2	1051.24	1047.61	3.1	2.89	50.77	38.56	123.69	513.06	3.09	2.35	3.63	3.63

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	0.5% - 200yr	1733.2	1050.96	1045.27	2.93	2.33	43.83	26.65	113.06	546.98	3.43	2.08	5.69	5.69
Stillwater County	A15	RM 403.85	65604.39	0.5% - 200yr	1733.2	1050.47	1044.79	3.81	3.13	70.86	45.99	79.41	526.91	3.97	2.56	5.67	5.67
Stillwater County	A15	RM 403.75	65058.55	0.5% - 200yr	1733.2	1049.66	1046.13	4.62	4.02	115.84	83.7	101.02	310.61	2.89	2.09	3.53	3.53
Stillwater County	A15	RM 403.69	64721.22	0.5% - 200yr	1733.2	1049.63	1046.02	3.27	3.12	59.56	54.07	135.52	461.09	2.66	2.42	3.61	3.61
Stillwater County	A15	RM 403.62	64341.29	0.5% - 200yr	1733.2	1049.39	1045.75	3.38	3.11	66.32	50.92	93.52	502.15	2.33	1.8	3.63	3.63
Stillwater County	A15	RM 403.55	63997.04	0.5% - 200yr	1733.2	1049.3	1045.95	2.78	2.33	43.82	32.76	118.23	515.25	2.51	1.88	3.35	3.35
Stillwater County	A15	RM 403.38	62985.06	0.5% - 200yr	1733.2	1049.04	1043.43	2.21	2.01	25.62	20.73	194.68	505.52	3.19	2.58	5.61	5.61
Stillwater County	A15	RM 403.24	62260	0.5% - 200yr	1733.2	1048.65	1043.43	2.79	2.56	38.8	25.73	167.56	511.98	3.67	2.43	5.22	5.22
Stillwater County	A15	RM 403.15	61770.95	0.5% - 200yr	1733.2	1048.04	1042.51	3.84	3.34	75.56	38.53	130.41	477.1	3.4	1.73	5.53	5.53
Stillwater County	A15	RM 403.05	61263.44	0.5% - 200yr	1733.2	1047.71	1043.23	3.71	3.35	72.17	42.25	146.94	377.75	3.14	1.84	4.48	4.48
Stillwater County	A15	RM 402.97	60777.65	0.5% - 200yr	1733.2	1047.48	1043.89	3.29	3.13	59.58	48.47	190.96	367.32	2.74	2.23	3.59	3.59
Stillwater County	A15	RM 402.83	60113.9	0.5% - 200yr	1733.2	1046.91	1043.49	3.35	3.32	67.61	60.98	246.5	454.78	2.1	1.89	3.42	3.42
Stillwater County	A15	RM 402.68	59309.8	0.5% - 200yr	1733.2	1046.42	1042.55	2.85	2.4	46.23	27.73	233.75	842.62	2.5	1.5	3.87	3.87
Stillwater County	A15	RM 402.53	58529.61	0.5% - 200yr	1733.2	1045.99	1040.51	3.2	1.91	50.01	15.52	121.12	957.62	3.94	1.22	5.48	5.48
Stillwater County	A15	RM 402.37	57665.93	0.5% - 200yr	1733.2	1045.46	1041.09	3.36	2.3	67.62	30.44	213.78	896.59	2.13	0.96	4.37	4.37
Stillwater County	A15	RM 402.24	56987.42	0.5% - 200yr	1733.2	1045.36	1040.75	2.12	1.46	25.04	13.47	251.22	959.39	2.67	1.43	4.61	4.61
Stillwater County	A15	RM 402.07	56034.67	0.5% - 200yr	1733.2	1044.78	1041.1	2.95	2.01	49.42	25.2	204.99	677.17	2.5	1.27	3.68	3.68
Stillwater County	A15	RM 401.87	54972.92	0.5% - 200yr	1733.2	1044.28	1040.1	2.92	1.78	44.7	20.14	150.47	688.72	3.15	1.42	4.18	4.18
Stillwater County	A15	RM 401.69	54002.29	0.5% - 200yr	1733.2	1044.16	1038.43	1.89	1.49	18.75	11.83	248.14	589.33	3.12	1.97	5.73	5.73
Stillwater County	A15	RM 401.55	53267.48	0.5% - 200yr	1733.2	1043.21	1036.56	4.27	3.16	83.73	24.94	74.7	386.91	4.83	1.42	6.65	6.65
Stillwater County	A15	RM 401.41	52506.25	0.5% - 200yr	1733.2	1043.18	1037.91	2.95	2.42	43.73	29.17	136.71	371.44	3.62	2.41	5.27	5.27
Stillwater County	A15	RM 401.31	51997.63	0.5% - 200yr	1733.2	1042.8	1038.08	3.44	2.82	59.61	34.29	119.22	334.2	3.56	2.05	4.72	4.72
Stillwater County	A15	RM 401.17	51259.17	0.5% - 200yr	1733.2	1042.29	1037.38	3.5	2.92	63.74	28.28	146.36	474.27	3.29	1.46	4.91	4.91
Stillwater County	A15	RM 401.03	50507.04	0.5% - 200yr	1733.2	1041.88	1036.56	3.5	2.62	60.69	22.83	125.18	468.16	3.77	1.41	5.32	5.32
Stillwater County	A15	RM 400.90	49826.69	0.5% - 200yr	1733.2	1041.17	1036.25	4.04	3.56	89.62	58.03	150.93	363.45	2.77	1.8	4.92	4.92
Stillwater County	A15	RM 400.74	49002.09	0.5% - 200yr	1733.2	1040.76	1037.21	3.43	2.48	62.29	35.45	111.86	403.01	3.11	1.76	3.55	3.55
Stillwater County	A15	RM 400.61	48243.95	0.5% - 200yr	1733.2	1040.55	1035.99	2.52	2.18	34.28	25.79	144.82	358.63	2.97	2.22	4.56	4.56
Stillwater County	A15	RM 400.50	47710.55	0.5% - 200yr	1733.2	1040.22	1035.67	2.86	2.55	43.68	29.23	149.16	337.9	3.01	2.01	4.55	4.55
Stillwater County	A15	RM 400.42	47243.72	0.5% - 200yr	1733.2	1039.84	1034.87	3.42	2.9	59.64	33.5	103.89	306.46	3.49	1.95	4.97	4.97
Stillwater County	A15	RM 400.34	46832.6	0.5% - 200yr	1733.2	1039.67	1034.91	3.33	2.68	55.1	26.97	95.8	351.5	3.75	1.84	4.76	4.76
Stillwater County	A15	RM 400.25	46335.82	0.5% - 200yr	1733.2	1039.52	1035.01	3.05	2.4	46.72	26.13	107.99	355.96	3.64	2.03	4.51	4.51
Stillwater County	A15	RM 400.18	45999.89	0.5% - 200yr	1733.2	1039.37	1034.98	3.1	2.49	49.07	29.13	115.05	342.98	3.44	2.03	4.38	4.38
Stillwater County	A15	RM 400.13	45714.33	0.5% - 200yr	1733.2	1039.24	1035.2	3.04	2.43	47.04	29.45	122.23	327.53	3.5	2.18	4.04	4.04
Stillwater County	A15	RM 400.11	45623.77	0.5% - 200yr	1733.2	1039.16	1035.11	3.11	2.47	50.56	29.84	129.57	644.06	3.26	1.91	4.05	4.05
Stillwater County	A15	RM 400.09	45529.19	0.5% - 200yr	1733.2	1039.03	1035.05	3.37	2.74	60.68	35.43	128.18	594.42	3.02	1.76	3.98	3.98
Stillwater County	A15	RM 400.03	45177.97	0.5% - 200yr	1733.2	1038.85	1034.82	3.17	2.83	53.65	43.82	137.4	497.46	3.03	2.48	4.03	4.03
Stillwater County	A15	RM 399.95	44761.86	0.5% - 200yr	1733.2	1038.58	1033.69	3.18	3.07	50.97	36.8	149.97	411.79	3.61	2.6	4.89	4.89
Stillwater County	A16	RM 399.85	44225.61	0.5% - 200yr	1733.2	1038.06	1033.63	3.75	3.74	73.6	71.9	144.73	204.5	3.2	3.13	4.43	4.43
Stillwater County	A16	RM 399.74	43664.16	0.5% - 200yr	1733.2	1037.84	1033.48	3.14	3.13	53.09	52.5	188.33	281.46	2.93	2.91	4.36	4.36
Stillwater County	A16	RM 399.62	43026.17	0.5% - 200yr	1733.2	1037.55	1033.67	2.88	2.77	45.76	34.68	219.02	535.94	2.73	2.07	3.88	3.88
Stillwater County	A16	RM 399.50	42404.94	0.5% - 200yr	1733.2	1037.25	1031.89	2.94	2.69	43.94	29.02	167.47	477.84	3.47	2.29	5.36	5.36
Stillwater County	A16	RM 399.39	41801.43	0.5% - 200yr	1733.2	1036.85	1031.8	3.29	3.06	55.84	34.62	156.53	333.4	3.34	2.06	5.05	5.05
Stillwater County	A16	RM 399.30	41294.57	0.5% - 200yr	1733.2	1036.52	1031.14	3.49	3.15	63.36	46.99	146.13	277.95	3.23	2.39	5.38	5.38
Stillwater County	A16	RM 399.19	40736.83	0.5% - 200yr	1733.2	1035.84	1031.46	4.11	3.51	90.03	49.37	134.81	310.15	3.01	1.65	4.37	4.37
Stillwater County	A16	RM 399.09	40202.15	0.5% - 200yr	1733.2	1035.52	1031.09	3.74	3.04	72.48	32.94	129.05	379.45	3.33	1.5	4.43	4.43
Stillwater County	A16	RM 399.00	39710.39	0.5% - 200yr	1733.2	1035.35	1031.41	3.26	2.51	57.05	36.64	144.92	365.62	2.94	1.89	3.93	3.93
Stillwater County	A16	RM 398.91	39231.58	0.5% - 200yr	1733.2	1035.06	1031.73	3.05	2.4	54.81	38.45	180.87	465.23	2.21	1.55	3.33	3.33
Stillwater County	A16	RM 398.80	38666.26	0.5% - 200yr	1733.2	1034.67	1031.55	2.95	2.27	50.53	32.74	191.32	511	2.31	1.5	3.12	3.12
Stillwater County	A16	RM 398.73	38275.64	0.5% - 200yr	1733.2	1034.43	1030.78	2.79	2.17	39.78	27.4	227.26	550.35	2.12	1.45	3.65	3.65
Stillwater County	A16	RM 398.62	37715.08	0.5% - 200yr	1733.2	1034.1	1030.19	2.72	2.27	38.41	29.37	211.66	457.58	2.19	1.67	3.91	3.91
Stillwater County	A16	RM 398.51	37115.9	0.5% - 200yr	1733.2	1033.77	1030.68	2.7	2.26	41.82	27.93	212.08	469.98	2.44	1.63	3.11	3.11
Stillwater County	A16	RM 398.40	36522.49	0.5% - 200yr	1733.2	1033.6	1028.27	2.3	1.92	25.17	19.41	225.87	490.51	2.39	1.84	5.33	5.33
Stillwater County	A16	RM 398.29	35952.65	0.5% - 200yr	1733.2	1033.23	1027.62	2.64	2.26	41	28.14	282.82	501.03	2.23	1.53	5.61	5.61
Stillwater County	A16	RM 398.17	35320.39	0.5% - 200yr	1733.2	1033	1028.88	2.4	2.15	30.69	18.73	233.17	434.36	3.04	1.86	4.12	4.12
Stillwater County	A16	RM 398.04	34597.07	0.5% - 200yr	1733.2	1032.7	1027.24	2.48	2.26	41.13	28.73	256.39	524.01	2.68	1.87	5.46	5.46
Stillwater County	A16	RM 397.95	34133.39	0.5% - 200yr	1733.2	1032.35	1027.15	2.83	2.64	45.61	31.13	240.56	391.18	2.51	1.71	5.2	5.2
Stillwater County	A16	RM 397.81	33366.95	0.5% - 200yr	1733.2	1032.11	1027.05	2.41	2.2	31.15	22.93	238.11	390.96	2.97	2.18	5.06	5.06
Stillwater County	A16	RM 397.68	32754.86	0.5% - 200yr	1733.2	1031.87	1026.97	2.56	2.28	33.58	22.87	195.63	398.24	3.39	2.31	4.9	4.9
Stillwater County	A16	RM 397.56	32104.4	0.5% - 200yr	1733.2	1031.1	1026.76	3.89	3.4	78.72	36.79	135	700.14	3.24	1.52	4.34	4.34
Stillwater County	A16	RM 397.40	31237.31	0.5% - 200yr	1733.2	1030.52	1026.27	3.53	3.07	68.83	49.55	176.35	716.71	2.69	1.94	4.25	4.25

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

0.5% - 200yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	0.5% - 200yr	1733.2	1029.94	1025.84	2.64	1.99	41.29	25.96	269.26	1106.02	2.18	1.37	4.1	4.1
Stillwater County	A16	RM 396.97	29050.44	0.5% - 200yr	1733.2	1029.55	1025.61	2.19	1.48	27.36	16.08	280.04	1202.18	2.47	1.45	3.94	3.94
Stillwater County	A16	RM 396.71	27639.86	0.5% - 200yr	1733.2	1028.98	1022.48	2.89	1.38	41.52	14.26	127.44	1151.75	3.74	1.26	6.5	6.5
Stillwater County	A16	RM 396.62	27103.31	0.5% - 200yr	1733.2	1028.47	1022.36	3.71	1.91	66.7	16.34	99.61	1080.01	4.11	0.99	6.11	6.11
Stillwater County	A16	RM 396.52	26616.35	0.5% - 200yr	1733.2	1028.22	1023.41	3.7	1.82	69	18.59	108.11	990.87	3.62	0.96	4.81	4.81
Stillwater County	A16	RM 396.29	25423.1	0.5% - 200yr	1733.2	1027.93	1023.53	2.49	1.49	33.74	15.25	188.51	935.82	2.85	1.29	4.4	4.4
Stillwater County	A16	RM 396.14	24635.78	0.5% - 200yr	1733.2	1026.93	1022.46	4.11	3.13	93.23	43.65	129.98	624.29	2.71	1.27	4.47	4.47
Stillwater County	A16	RM 396.03	24026.24	0.5% - 200yr	1733.2	1026.84	1024.1	2.59	1.99	38.87	23.34	186.55	860.97	2.36	1.42	2.74	2.74
Stillwater County	A16	RM 395.89	23301.08	0.5% - 200yr	1733.2	1026.36	1022.79	2.91	2.01	50.76	26.84	152.52	929.38	2.13	1.13	3.57	3.57
Stillwater County	A16	RM 395.73	22420.29	0.5% - 200yr	1733.2	1026	1022.66	1.77	1.39	18.77	11.94	186.62	1082.94	2.15	1.36	3.34	3.34
Stillwater County	A16	RM 395.64	21923.33	0.5% - 200yr	1733.2	1025.75	1022.13	2.33	1.51	31.53	14.77	144.53	1240.52	2.36	1.1	3.93	3.93
Stillwater County	A16	RM 395.57	21526.11	0.5% - 200yr	1733.2	1025.32	1021.61	3.2	1.84	56.14	18.85	78.2	1359.43	2.78	0.93	3.71	3.71
Stillwater County	A16	RM 395.48	21053.74	0.5% - 200yr	1733.2	1024.97	1021.89	2.81	2.06	48.24	22.28	116.24	1185.45	1.99	0.92	3.08	3.08
Stillwater County	A16	RM 395.36	20532.68	0.5% - 200yr	1733.2	1024.7	1021.53	2.47	1.82	35.37	15.66	131.95	1182.46	2.36	1.04	3.17	3.17
Stillwater County	A16	RM 394.98	18666.37	0.5% - 200yr	1733.2	1024.1	1020.31	2.98	2.06	50.76	20.95	111.01	965.03	2.45	1.01	3.79	3.79
Stillwater County	A16	RM 394.80	17678.79	0.5% - 200yr	1733.2	1023.75	1019.23	2.77	2.15	44.68	25.76	140.79	665.96	2.3	1.32	4.52	4.52
Stillwater County	A16	RM 394.65	16921.48	0.5% - 200yr	1733.2	1023.3	1019.93	2.48	2.21	36.87	21.52	172.91	816.38	2.14	1.24	4.3	4.3
Stillwater County	A16	RM 394.59	16622.61	0.5% - 200yr	1733.2	1022.9	1019.92	2.56	2.51	42.43	32.92	178.93	726.32	1.68	1.3	3.33	3.33
Stillwater County	A16	RM 394.53	16295.21	0.5% - 200yr	1733.2	1022.65	1019.83	2.48	2.25	38.21	30.97	158.81	611.95	1.89	1.53	3.64	3.64
Stillwater County	A16	RM 394.20	14503.23	0.5% - 200yr	1733.2	1021.48	1016.38	2.89	2.34	45.87	21.58	149.53	573.06	2.76	1.3	5.1	5.1
Stillwater County	A16	RM 394.12	14088.57	0.5% - 200yr	1733.2	1021.04	1016.74	3.45	2.72	66.97	29.4	152.43	571.12	2.54	1.12	4.3	4.3
Stillwater County	A16	RM 393.99	13393.6	0.5% - 200yr	1733.2	1020.68	1017.11	2.8	2.14	46.26	25.03	126.2	667.99	2.24	1.21	3.57	3.57
Stillwater County	A16	RM 393.85	12650.05	0.5% - 200yr	1733.2	1020.19	1016.49	2.61	2.18	41.64	27.31	179.1	612.62	1.98	1.3	3.7	3.7
Stillwater County	A16	RM 393.59	11240.84	0.5% - 200yr	1733.2	1019.67	1015.45	2	1.52	23.23	12.78	272.87	877.17	2.36	1.3	4.22	4.22
Stillwater County	A16	RM 393.27	9813.245	0.5% - 200yr	1733.2	1018.63	1013.32	3.09	2.74	63.21	38.79	265.64	653.02	1.58	0.97	5.31	5.31
Stillwater County	A16	RM 393.10	8870.543	0.5% - 200yr	1733.2	1018.04	1013.34	2.27	2.06	32.41	26.64	340.95	556.2	1.84	1.51	4.7	4.7
Stillwater County	A16	RM 392.95	8114.595	0.5% - 200yr	1733.2	1017.25	1014.13	2.89	2.78	55.66	50.18	357.76	450.85	1.53	1.38	3.12	3.12
Stillwater County	A16	RM 392.69	6912.838	0.5% - 200yr	1733.2	1016.74	1012.43	2.13	1.78	25.81	14.48	192.3	1007.1	2.47	1.38	4.31	4.31
Stillwater County	A16	RM 392.44	5710.825	0.5% - 200yr	1733.2	1016.12	1011.68	2.81	1.93	42.59	18.02	135.35	1174.44	2.91	1.23	4.44	4.44
Stillwater County	A17	RM 392.20	4388.056	0.5% - 200yr	1733.2	1015.11	1010.8	3.38	2.34	66.94	32.09	201.47	970.8	2.26	1.08	4.31	4.31
Stillwater County	A17	RM 392.00	3345.174	0.5% - 200yr	1733.2	1014.45	1009.53	3.11	2.28	52.91	21.05	166.87	730.03	2.78	1.1	4.92	4.92
Stillwater County	A17	RM 391.84	2491.214	0.5% - 200yr	1733.2	1014.13	1010.51	2.54	1.89	37.42	19.15	154.94	817.7	2.33	1.19	3.72	3.72
Stillwater County	A17	RM 391.68	1656.536	0.5% - 200yr	1733.2	1013.79	1010.5	2.09	1.67	27.12	17.23	255.36	860.15	1.9	1.21	3.29	3.29
Stillwater County	A17	RM 391.58	1120.168	0.5% - 200yr	1733.2	1013.54	1009.55	2.12	1.6	27.78	17.19	363.9	912.39	1.92	1.19	3.99	3.99
Stillwater County	A17	RM 391.46	505.9	0.5% - 200yr	1733.2	1013.3	1009.4	2.14	1.46	26.79	14.47	297.18	992.99	2.25	1.22	3.9	3.9

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	200-yr	1732.99	1012.85	1008.74	2.62	1.62	38.25	16.89	211.02	926.81	2.61	1.15	4.11	4.11
Yellowstone County	A17	RM 391.14	149661.4	200-yr	1732.99	1012.41	1007.82	2.66	1.58	48.47	22.23	204.17	934.53	2.57	1.18	4.59	4.59
Yellowstone County	A17	RM 390.83	149168.3	200-yr	1732.99	1011.31	1007.89	2.75	2.12	49.1	28.07	269.43	791.27	1.92	1.1	3.42	3.42
Yellowstone County	A17	RM 390.51	148644.1	200-yr	1732.99	1010.6	1006	1.84	1.32	28.99	11.31	203.99	1176.44	2.88	1.12	4.6	4.6
Yellowstone County	A17	RM 390.34	148387.5	200-yr	1732.99	1010.19	1005.26	2.53	1.75	51.87	18.41	156.38	952.26	2.95	1.04	4.92	4.92
Yellowstone County	A17	RM 390.13	148054.9	200-yr	1732.99	1009.51	1005.54	2.95	2.05	62.33	21.55	147	844.37	2.91	1	3.97	3.97
Yellowstone County	A17	RM 389.96	147776.4	200-yr	1732.99	1009.18	1004.81	2.29	1.65	33.68	12.83	175.73	1030.24	2.67	1.02	4.37	4.37
Yellowstone County	A17	RM 389.76	147468.2	200-yr	1732.99	1008.93	1004.52	1.67	1.3	23.27	10.18	301.29	1060.96	2.89	1.26	4.4	4.4
Yellowstone County	A17	RM 389.55	147162.3	200-yr	1732.99	1008.46	1003.2	2.05	1.59	50.1	25.19	323.02	973	2.25	1.12	5.26	5.26
Yellowstone County	A17	RM 389.31	146731.1	200-yr	1732.99	1007.72	1003.49	2.3	1.79	31.7	12.76	256.17	873.74	2.77	1.11	4.23	4.23
Yellowstone County	A17	RM 389.08	146349	200-yr	1732.99	1007.21	1001.61	1.93	1.66	48.12	30.93	309.81	705.96	2.31	1.48	5.6	5.6
Yellowstone County	A17	RM 388.92	146095.5	200-yr	1732.99	1006.8	1002.49	2.14	1.66	26.06	12.49	267.42	1193.92	2.67	1.28	4.31	4.31
Yellowstone County	A17	RM 388.79	145883.6	200-yr	1732.99	1006.58	1002.14	2.33	1.49	29.94	12.57	163.94	1331.57	3.65	1.51	4.44	4.44
Yellowstone County	A17	RM 388.61	145594.9	200-yr	1732.99	1006	1000.48	3.1	2.15	73.9	36.77	147.15	1292.31	2.98	1.47	5.52	5.52
Yellowstone County	A17	RM 388.58	145547	200-yr	1732.99	1005.89	1000.28	2.82	2.06	72.88	33.35	154.88	1328.02	3.08	1.4	5.61	5.61
Yellowstone County	A17	RM 388.36	145196.7	200-yr	1732.99	1005.18	1001.21	2.95	2.07	54.77	23.84	162.58	1107	2.82	1.23	3.97	3.97
Yellowstone County	A17	RM 388.22	144960.1	200-yr	1732.99	1004.67	1000.23	3.08	2.05	61.62	28.22	162.16	969.31	2.18	1	4.44	4.44
Yellowstone County	A17	RM 388.09	144745.8	200-yr	1732.99	1004.21	999.87	2.5	1.83	41.08	24.08	235.18	957.59	1.9	1.11	4.34	4.34
Yellowstone County	A17	RM 387.91	144452	200-yr	1732.99	1003.59	999.77	1.61	1.71	30.28	26.21	423.45	910.73	1.47	1.27	3.82	3.82
Yellowstone County	A17	RM 387.79	144255.2	200-yr	1732.99	1003.45	999.17	1.33	1.32	7.75	8.32	638.66	1028.1	1.48	1.59	4.28	4.28
Yellowstone County	A17	RM 387.59	143932.9	200-yr	1732.99	1003.13	998.1	1.25	1.25	40.8	40.8	997.75	1118.78	1.39	1.39	5.03	5.03
Yellowstone County	A17	RM 387.36	143562.1	200-yr	1732.99	1002.19	997.78	1.8	1.8	19.62	19.2	848.42	995.6	1.13	1.11	4.41	4.41
Yellowstone County	A17	RM 387.24	143353.9	200-yr	1732.99	1001.8	997.71	2.07	2.07	20.52	20.52	585.93	604.1	1.43	1.43	4.09	4.09
Yellowstone County	A17	RM 387.04	143026.2	200-yr	1732.99	1001.32	996.49	1.9	1.84	20.16	19.15	670.46	848.49	1.28	1.21	4.83	4.83
Yellowstone County	A17	RM 386.86	142750.4	200-yr	1732.99	1000.77	997.01	1.73	1.58	51.77	39.78	492.1	843.68	1.84	1.41	3.76	3.76
Yellowstone County	A17	RM 386.74	142538.5	200-yr	1732.99	1000.29	996.31	2.01	1.78	32.25	19.98	353.1	769.78	2.26	1.4	3.98	3.98
Yellowstone County	A17	RM 386.61	142318.4	200-yr	1732.99	999.69	995.9	2.95	2.39	55.86	22.26	188.39	679.04	2.69	1.07	3.79	3.79
Yellowstone County	A17	RM 386.47	142095.8	200-yr	1732.99	999.34	995.18	2.71	2.03	44.86	20.52	175.02	786.75	2.77	1.27	4.16	4.16
Yellowstone County	A17	RM 386.33	141875.1	200-yr	1732.99	998.85	994.36	3.08	2.08	48.51	22.59	169.08	684.08	2.62	1.22	4.49	4.49
Yellowstone County	A17	RM 386.17	141622.7	200-yr	1732.99	998.35	993.9	2.9	2.31	53.44	24.67	207.61	662.46	2.45	1.13	4.45	4.45
Yellowstone County	A17	RM 386.08	141479.6	200-yr	1732.99	998.01	994.12	2.92	2.32	66.18	30.42	179.16	1563.08	2.8	1.29	3.89	3.89
Yellowstone County	A17	RM 386.03	141389.2	200-yr	1732.99	997.82	993.82	2.82	2.47	45.19	29.56	222.29	1413.12	2.43	1.59	4	4
Yellowstone County	A17	RM 385.96	141289.2	200-yr	1732.99	997.77	993.01	2.29	2.01	26.64	16.88	243.63	1810.37	2.86	1.81	4.76	4.76
Yellowstone County	A17	RM 385.91	141204.9	200-yr	1732.99	997.72	992.33	2.14	1.93	24.34	15.27	263.92	1921.6	2.81	1.76	5.39	5.39
Yellowstone County	A17	RM 385.84	141096	200-yr	1732.99	997.75	990.57	1.34	1.3	12.45	9.8	345.08	2027.63	3.72	2.92	7.18	7.18
Yellowstone County	A17	RM 385.79	141006	200-yr	1732.99	997.29	992.48	3.03	2.71	41.58	21.54	166.92	2241.72	3.37	1.74	4.81	4.81
Yellowstone County	A18	RM 385.69	140846.5	200-yr	1732.99	997.12	992.9	2.72	2.26	52.09	32.46	212.9	2212.09	2.78	1.73	4.22	4.22
Yellowstone County	A18	RM 385.60	140705.5	200-yr	1732.99	996.8	992.71	2.85	2.34	61.49	34.74	204.18	2104.89	2.75	1.55	4.09	4.09
Yellowstone County	A18	RM 385.50	140538.8	200-yr	1732.99	996.43	990.71	3.06	2.42	48.2	19.85	152.15	1928.82	3.53	1.45	5.72	5.72
Yellowstone County	A18	RM 385.39	140367.1	200-yr	1732.99	996.19	992.41	2.96	2.42	45.49	26.28	205.72	1884.4	2.67	1.54	3.78	3.78
Yellowstone County	A18	RM 385.30	140231.3	200-yr	1732.99	995.85	992.53	3.05	2.61	72.53	45.33	239.85	485.88	2.24	1.4	3.32	3.32
Yellowstone County	A18	RM 385.23	140108.3	200-yr	1732.99	995.65	992.01	2.45	2.16	48.13	33.3	233.37	1990.81	2.26	1.56	3.64	3.64
Yellowstone County	A18	RM 385.12	139921.2	200-yr	1732.99	994.84	991.37	3.24	2.97	75.12	59.96	256.88	1346.39	1.68	1.35	3.47	3.47
Yellowstone County	A18	RM 384.93	139688.7	200-yr	1732.99	994.47	991.06	2.36	2.09	31.07	22.71	246.01	984.06	2.19	1.6	3.41	3.41
Yellowstone County	A18	RM 384.75	139352.1	200-yr	1732.99	993.32	989.77	4	3.15	116.82	57.12	119.32	568.18	2.33	1.14	3.55	3.55
Yellowstone County	A18	RM 384.63	139146.9	200-yr	1732.99	993.06	989.58	1.94	1.75	25.12	21.49	198.15	1023.7	1.74	1.49	3.48	3.48
Yellowstone County	A18	RM 384.48	138904.5	200-yr	1732.99	992.72	989.55	1.77	1.85	24.44	15.64	185.57	1116.58	2.13	1.36	3.37	3.37
Yellowstone County	A18	RM 384.34	138682.4	200-yr	1732.99	992.47	988.23	1.92	1.69	41.66	18.99	166.49	1663.47	2.84	1.29	4.24	4.24
Yellowstone County	A18	RM 384.26	138551.1	200-yr	1732.99	992.1	987.34	3.19	1.91	45.1	22.26	122.09	1412.94	2.51	1.23	4.76	4.76
Yellowstone County	A18	RM 384.15	138370.3	200-yr	1732.99	991.33	987.39	4.12	2.97	125.16	42.43	80.26	708.51	2.84	0.95	3.94	3.94
Yellowstone County	A18	RM 384.06	138235.3	200-yr	1732.99	991.09	987.31	3.04	2.05	55.4	28.13	87.05	945.27	2.69	1.35	3.78	3.78
Yellowstone County	A18	RM 383.96	138072.3	200-yr	1732.99	990.72	987.67	2.58	2.27	44.45	29.27	140.42	832.08	1.76	1.15	3.05	3.05
Yellowstone County	A18	RM 383.86	137914.6	200-yr	1732.99	990.52	987.24	2.07	1.81	24.65	13.8	163.78	950.97	2.26	1.26	3.28	3.28
Yellowstone County	A18	RM 383.75	137749.9	200-yr	1732.99	990.29	986.55	1.9	1.85	25.65	16.32	225.48	1019.07	1.78	1.13	3.81	3.81
Yellowstone County	A18	RM 383.62	137544.5	200-yr	1732.99	990.08	986.32	1.8	1.54	20.33	13.44	178.05	1005.01	2.17	1.43	4.46	4.46
Yellowstone County	A18	RM 383.54	137415.7	200-yr	1732.99	989.99	984.41	1.63	1.37	15.17	9.75	392.45	871.06	2.49	1.6	5.58	5.58
Yellowstone County	B1	RM 383.39	137175.7	200-yr	2251.19	989.57	984.98	2.41	2.28	24.15	19.53	619.81	819.87	1.49	1.21	4.59	4.59
Yellowstone County	B1	RM 383.31	137040.5	200-yr	2251.19	989.4	984.86	2.09	1.8	22.91	21.04	676.14	908.2	1.5	1.37	4.54	4.54
Yellowstone County	B1	RM 383.16	136817.2	200-yr	2251.19	989.19	984.9	1.65	1.43	15.44	15.11	784.29	998.82	1.61	1.57	4.29	4.29
Yellowstone County	B1	RM 382.88	136371.1	200-yr	2251.19	988.76	983.64	1.7	1.51	18.4	16.34	628.95	878.07	1.91	1.7	5.12	5.12
Yellowstone County	B1	RM 382.61	135921.1	200-yr	2251.19	988.14	982.68	2.67	1.85	37.98	12.49	196.01	994.23	3.74	1.23	5.46	5.46

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	200-yr	2251.19	987.79	981.56	3.07	1.79	47.36	15.02	132.77	950.89	4.19	1.32	6.23	6.23
Yellowstone County	B1	RM 382.28	135389.1	200-yr	2251.19	987.65	981.45	2.47	1.55	33.41	11.25	139.32	957.92	4.52	1.51	6.2	6.2
Yellowstone County	B1	RM 382.11	135122	200-yr	2251.19	987.13	980.52	3.3	2.09	61.09	19.3	134.1	818.92	4.19	1.32	6.61	6.61
Yellowstone County	B1	RM 381.93	134829.3	200-yr	2251.19	986.76	981.3	2.82	2.18	69.71	26.66	182.96	716.67	3.79	1.44	5.46	5.46
Yellowstone County	B1	RM 381.79	134602.8	200-yr	2251.19	986.28	981.63	3.13	2.34	54.24	20.98	167.84	664.44	3.78	1.45	4.65	4.65
Yellowstone County	B1	RM 381.69	134426.2	200-yr	2251.19	986.21	981.06	2.39	1.9	35.61	17	207.55	615.08	4.04	1.92	5.15	5.15
Yellowstone County	B1	RM 381.58	134232.5	200-yr	2251.19	986.04	981.02	2.3	1.91	30.86	17.34	271.39	779.53	3.31	1.86	5.02	5.02
Yellowstone County	B1	RM 381.47	134047.3	200-yr	2251.19	985.86	980.95	1.98	1.73	49.01	30.11	333.31	867.17	3.02	1.85	4.91	4.91
Yellowstone County	B1	RM 381.35	133871.9	200-yr	2251.19	985.55	980.79	1.96	1.77	55.12	38.37	366.2	862.66	2.85	1.98	4.76	4.76
Yellowstone County	B1	RM 381.22	133659.2	200-yr	2251.19	984.95	979.74	2.16	2.14	74.84	67.25	432.75	491.46	2.39	2.14	5.21	5.21
Yellowstone County	B1	RM 381.11	133491.4	200-yr	2251.19	984.42	979.61	2.2	2.12	70.23	47.69	287.45	614.6	2.55	1.73	4.81	4.81
Yellowstone County	B1	RM 381.00	133302.9	200-yr	2251.19	983.68	978.23	3.4	2.71	60.14	25.88	189.61	670.54	2.89	1.24	5.45	5.45
Yellowstone County	B1	RM 380.92	133180	200-yr	2251.19	983.55	976.97	3.02	2.22	57.95	20.86	152.78	762.38	3.72	1.33	6.58	6.58
Yellowstone County	B1	RM 380.81	132986.3	200-yr	2251.19	983.1	978.55	3.25	2.34	61.62	21.7	193.61	913.46	3.01	1.05	4.55	4.55
Yellowstone County	B1	RM 380.69	132800.2	200-yr	2251.19	982.9	978.53	2.61	1.91	37.71	16.12	264.93	1031.17	2.69	1.15	4.37	4.37
Yellowstone County	B1	RM 380.57	132628.6	200-yr	2251.19	982.7	978.7	2.33	1.7	43.78	15.85	229.16	1245.25	2.95	1.06	4	4
Yellowstone County	B1	RM 380.48	132470	200-yr	2251.19	982.45	978.24	2.43	1.65	42.34	14.66	201.91	1247.96	3.16	1.09	4.21	4.21
Yellowstone County	B1	RM 380.34	132222.4	200-yr	2251.19	981.99	977.37	2.92	1.85	48.01	17.55	205.99	1225.63	2.71	0.99	4.62	4.62
Yellowstone County	B1	RM 380.22	132032.4	200-yr	2251.19	981.75	977.02	2.77	1.71	41.52	14.9	172.71	1154.51	3.18	1.14	4.73	4.73
Yellowstone County	B1	RM 380.11	131847.7	200-yr	2251.19	981.48	976.29	2.85	1.94	50.24	18.25	181.17	1086.32	2.95	1.07	5.19	5.19
Yellowstone County	B1	RM 380.01	131671.4	200-yr	2251.19	981.23	976.21	2.77	1.79	54.8	18.35	174.5	1236.04	3.04	1.02	5.02	5.02
Yellowstone County	B1	RM 379.92	131538.8	200-yr	2251.19	980.88	976.69	3.1	1.94	52.2	17.78	193.16	1293.67	2.64	0.9	4.19	4.19
Yellowstone County	B1	RM 379.84	131406.9	200-yr	2251.19	980.84	975.94	1.95	1.37	22.3	12	420.2	1562.32	2.26	1.21	4.9	4.9
Yellowstone County	B1	RM 379.75	131265.1	200-yr	2251.19	980.7	974.98	1.9	1.32	25.73	12.37	375.72	1641.67	2.42	1.16	5.72	5.72
Yellowstone County	B1	RM 379.65	131104.3	200-yr	2251.19	980.61	975.6	1.58	1.06	14.6	7.75	379.84	1783.71	2.47	1.31	5.01	5.01
Yellowstone County	B1	RM 379.56	130964.3	200-yr	2251.19	980.53	975.94	1.56	1.05	14.26	7.28	313.71	1657.98	2.75	1.4	4.59	4.59
Yellowstone County	B1	RM 379.46	130794	200-yr	2251.19	980.42	974.74	1.75	1.14	16.49	8.55	299.1	1419.57	2.7	1.4	5.67	5.67
Yellowstone County	B1	RM 379.36	130642.3	200-yr	2251.19	980.28	975.71	1.91	1.24	27.96	14.28	247.15	1093.98	3.53	1.8	4.57	4.57
Yellowstone County	B1	RM 379.27	130496.2	200-yr	2251.19	979.98	974.66	2.77	1.62	64.22	31.09	165.1	863.19	3.34	1.61	5.32	5.32
Yellowstone County	B1	RM 379.17	130345.7	200-yr	2251.19	979.38	973.93	3.58	2.07	81.87	31.01	154.92	863.36	3.34	1.26	5.45	5.45
Yellowstone County	B1	RM 379.04	130142	200-yr	2251.19	979.15	974.79	2.87	1.72	44.89	22.41	203.31	901.72	2.91	1.45	4.36	4.36
Yellowstone County	B1	RM 378.97	130026.7	200-yr	2251.19	978.89	974.64	3.01	1.9	51.05	24.54	231.05	921.21	2.68	1.29	4.25	4.25
Yellowstone County	B1	RM 378.86	129850.9	200-yr	2251.19	978.49	974.4	3.09	1.98	58.47	28.1	250.72	956.72	2.48	1.19	4.09	4.09
Yellowstone County	B1	RM 378.76	129682.3	200-yr	2251.19	978.12	974.17	3	2.01	52.57	24.49	272.82	989.71	2.43	1.13	3.95	3.95
Yellowstone County	B1	RM 378.67	129541.3	200-yr	2251.19	977.88	973.97	2.87	1.8	41.21	21.76	288.75	1107.55	2.21	1.16	3.91	3.91
Yellowstone County	B1	RM 378.61	129443.1	200-yr	2251.19	977.76	973.83	2.07	1.56	58.08	32.9	263.82	1348.15	2.06	1.17	3.93	3.93
Yellowstone County	B1	RM 378.52	129297.7	200-yr	2251.19	977.53	973.62	1.87	1.38	21.55	14.24	563.42	1401.86	1.8	1.19	3.91	3.91
Yellowstone County	B1	RM 378.46	129200.8	200-yr	2251.19	977.45	973.48	1.64	1.31	20.31	12.17	613.46	1412.82	2.03	1.22	3.97	3.97
Yellowstone County	B1	RM 378.40	129112.2	200-yr	2251.19	977.33	973.41	1.58	1.33	40.44	24.09	605.91	1375.13	2.07	1.23	3.92	3.92
Yellowstone County	B1	RM 378.29	128929.4	200-yr	2251.19	977.19	972.93	1.37	1.09	13.23	7.45	567.41	1388.02	2.66	1.49	4.26	4.26
Yellowstone County	B1	RM 378.13	128673.7	200-yr	2251.19	976.91	971.4	2.07	1.5	19.61	8.95	438.15	1455.93	2.27	1.03	5.51	5.51
Yellowstone County	B1	RM 378.07	128569	200-yr	2251.19	976.81	970.46	2.13	1.53	19.81	9.43	347.76	1137.41	2.73	1.29	6.35	6.35
Yellowstone County	B1	RM 377.96	128380.3	200-yr	2251.19	976.18	968.85	3.56	2.66	70.04	15.91	112.74	719.53	5.27	1.18	7.33	7.33
Yellowstone County	B1	RM 377.87	128244.4	200-yr	2251.19	976.11	970.56	2.97	2.13	62.99	22.16	223.61	1455.36	2.99	1.05	5.55	5.55
Yellowstone County	B1	RM 377.79	128118	200-yr	2251.19	975.92	970.94	2.67	1.96	37.01	17.19	345.01	1332.35	2.18	1.01	4.98	4.98
Yellowstone County	B1	RM 377.69	127964.3	200-yr	2251.19	975.76	969.86	2.25	1.65	26.16	16.46	423.76	1522.43	2.05	1.28	5.9	5.9
Yellowstone County	B1	RM 377.61	127824.8	200-yr	2251.19	975.26	970.53	3.12	2.45	36.42	23.46	426.28	1043.19	1.53	0.98	4.73	4.73
Yellowstone County	B1	RM 377.55	127735.1	200-yr	2251.19	975.18	970.41	2.58	2.03	27.59	17.39	471.19	1638.29	1.69	1.06	4.77	4.77
Yellowstone County	B1	RM 377.48	127618.1	200-yr	2251.19	974.99	970.26	2.48	1.93	29.59	17.87	468.58	1772.76	1.75	1.05	4.73	4.73
Yellowstone County	B1	RM 377.39	127466.6	200-yr	2251.19	974.7	969.73	2.61	1.95	31.81	17.97	420.24	1317.4	1.82	1.03	4.97	4.97
Yellowstone County	B1	RM 377.34	127391.5	200-yr	2251.19	974.53	969.95	2.4	1.95	97.89	52.61	404.46	1351.6	1.83	0.98	4.58	4.58
Yellowstone County	B1	RM 377.25	127241.9	200-yr	2251.19	974.2	970.26	2.19	1.77	27.34	14.28	451.23	1202.04	2.1	1.1	3.94	3.94
Yellowstone County	B1	RM 377.16	127097.7	200-yr	2251.19	974.03	969.82	2.12	1.71	28.16	14.24	410.87	1235.11	2.11	1.07	4.21	4.21
Yellowstone County	B1	RM 377.08	126969	200-yr	2251.19	973.97	969	1.69	1.3	16.11	7.9	417.58	1385.43	2.72	1.34	4.97	4.97
Yellowstone County	B1	RM 377.04	126900.8	200-yr	2251.19	973.9	968.6	1.62	1.4	44.9	27.68	570.04	1307.01	2	1.23	5.3	5.3
Yellowstone County	B1	RM 376.98	126797.5	200-yr	2251.19	973.67	969.02	2	1.59	22.7	13.39	531.66	1246.63	1.93	1.13	4.65	4.65
Yellowstone County	B1	RM 376.92	126710.1	200-yr	2251.19	973.59	969.01	1.66	1.38	37.88	21.91	497.22	1376.01	2.35	1.35	4.58	4.58
Yellowstone County	B1	RM 376.84	126584.2	200-yr	2251.19	973.48	967.73	1.49	1.24	18.41	10.88	449.2	1511.59	2.63	1.55	5.75	5.75
Yellowstone County	B1	RM 376.75	126442.1	200-yr	2251.19	973.36	967.82	1.56	1.36	25.55	14.17	406.87	1611.6	2.82	1.56	5.54	5.54
Yellowstone County	B1	RM 376.67	126309	200-yr	2251.19	973.15	967.23	1.9	1.62	42.13	20.23	333.94	1579.79	2.81	1.34	5.92	5.92
Yellowstone County	B1	RM 376.58	126174.1	200-yr	2251.19	972.9	966.82	2.04	1.7	46.05	22.99	344.97	1583.46	2.7	1.34	6.08	6.08

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	200-yr	2251.19	972.48	966.77	2.79	2.38	54	23.71	267.45	961.49	2.8	1.22	5.71	5.71
Yellowstone County	B1	RM 376.42	125918.5	200-yr	2251.19	972.26	967.68	2.7	2.27	41.05	15.77	257.33	1378.21	3.11	1.19	4.58	4.58
Yellowstone County	B1	RM 376.35	125809.8	200-yr	2251.19	972.22	966.71	2.38	1.72	29.15	11.12	225.28	1567.14	3.6	1.37	5.51	5.51
Yellowstone County	B1	RM 376.28	125697	200-yr	2251.19	971.73	966.28	3.44	2.73	67.48	24.12	222.13	1188.03	2.69	0.96	5.45	5.45
Yellowstone County	B1	RM 376.20	125565.9	200-yr	2251.19	971.49	966.16	3.1	2.33	57.36	21.1	252.57	1408.01	2.51	0.92	5.33	5.33
Yellowstone County	B1	RM 376.10	125404.8	200-yr	2251.19	971.29	966.61	2.53	1.82	36.18	17.74	271.84	1414.78	2.36	1.16	4.68	4.68
Yellowstone County	B1	RM 376.00	125250.5	200-yr	2251.19	971.06	967.42	2.5	1.65	38.12	18.14	243.4	1358.33	2.67	1.27	3.64	3.64
Yellowstone County	B1	RM 375.88	125055.1	200-yr	2251.19	970.85	966.01	2.34	1.45	35.5	16.4	185.92	1047.91	3.21	1.48	4.84	4.84
Yellowstone County	B1	RM 375.78	124897.3	200-yr	2251.19	970.65	965.37	2.4	1.57	36.86	17.43	188.38	982.04	3.08	1.46	5.28	5.28
Yellowstone County	B1	RM 375.67	124708.2	200-yr	2251.19	970.43	965.8	2.41	1.79	36.81	18.71	228.77	882.2	2.81	1.43	4.63	4.63
Yellowstone County	B1	RM 375.58	124564.2	200-yr	2251.19	970.15	966.54	2.7	2.02	44.86	20.62	226.58	880.76	2.76	1.27	3.61	3.61
Yellowstone County	B1	RM 375.23	124013.6	200-yr	2251.19	969.51	965.23	2.38	1.6	37.02	14.24	230.9	1216.89	3	1.15	4.28	4.28
Yellowstone County	B1	RM 375.10	123799.5	200-yr	2251.19	968.87	963.88	3.58	2.13	86.19	23.21	126.57	1096.42	3.61	0.97	4.99	4.99
Yellowstone County	B1	RM 374.97	123580.4	200-yr	2251.19	968.65	963.97	2.66	1.69	54.18	17.34	136.63	1225.2	3.51	1.1	4.68	4.68
Yellowstone County	B1	RM 374.83	123365.5	200-yr	2251.19	968.41	963.52	2.35	1.56	33.13	13.86	133	1235.15	3.3	1.37	4.89	4.89
Yellowstone County	B1	RM 374.73	123195.7	200-yr	2251.19	968.32	963.36	1.88	1.35	18.79	8.68	144.05	1318.24	3.42	1.58	4.96	4.96
Yellowstone County	B1	RM 374.61	123010.3	200-yr	2251.19	968.09	963.49	2.3	1.66	40.23	15.6	163.89	1323.5	3.36	1.3	4.6	4.6
Yellowstone County	B1	RM 374.53	122875.3	200-yr	2324.81	967.85	963.14	2.62	1.88	42.79	16.03	186.43	1014.21	3.26	1.22	4.71	4.71
Yellowstone County	B1	RM 374.44	122726.7	200-yr	2324.81	967.52	963.04	3.11	2.01	70.4	21.38	128.47	1018.91	3.76	1.14	4.48	4.48
Yellowstone County	B1	RM 374.32	122535.1	200-yr	2324.81	967.3	962.82	2.26	1.95	49.66	22.05	207.45	978.71	2.74	1.22	4.48	4.48
Yellowstone County	B1	RM 374.22	122379	200-yr	2324.81	967.04	960.92	2.69	1.69	41.16	14.78	134.27	1034.69	3.71	1.33	6.12	6.12
Yellowstone County	B1	RM 374.13	122231.1	200-yr	2324.81	966.88	960.11	2.79	1.74	41.15	17.13	137.18	971.51	3.32	1.38	6.77	6.77
Yellowstone County	B1	RM 373.97	121972.4	200-yr	2324.81	966.64	958.8	2.34	1.75	32.57	13.4	223.41	992.38	3.29	1.34	7.84	7.84
Yellowstone County	B1	RM 373.88	121829.3	200-yr	2324.81	966.44	962.21	2.5	1.77	44.76	17.3	194.77	1059.15	3.23	1.24	4.23	4.23
Yellowstone County	B1	RM 373.79	121688.7	200-yr	2324.81	966.25	961.66	2.42	1.73	47.72	20.55	192.66	1077.17	3.15	1.35	4.59	4.59
Yellowstone County	B1	RM 373.69	121523.5	200-yr	2324.81	965.99	961.11	2.52	1.68	39.41	17.05	202.68	1315.42	2.96	1.27	4.88	4.88
Yellowstone County	B1	RM 373.56	121314.3	200-yr	2324.81	965.34	959.37	3.42	2.17	66.37	27.64	202.83	1134.99	2.65	1.1	5.97	5.97
Yellowstone County	B1	RM 373.39	121015.9	200-yr	2324.81	964.56	958.78	3.47	2.4	68.84	31.91	185.63	706.61	2.97	1.38	5.78	5.78
Yellowstone County	B1	RM 373.26	120802.3	200-yr	2324.81	964.57	960.81	1.64	1.08	17.55	13.42	355.66	1272.05	2.33	1.78	3.76	3.76
Yellowstone County	B1	RM 373.09	120539.5	200-yr	2324.81	964.23	959.94	2.26	1.48	31.35	17.27	302.53	1329.47	2.26	1.24	4.29	4.29
Yellowstone County	B1	RM 372.99	120365.2	200-yr	2324.81	963.88	959.69	2.41	1.64	52.56	26.36	328.33	1361.95	2.07	1.04	4.19	4.19
Yellowstone County	B1	RM 372.82	120107.7	200-yr	2324.81	963.51	959.03	1.97	1.36	22.74	15.07	465.32	1473.98	1.76	1.16	4.48	4.48
Yellowstone County	B1	RM 372.72	119922.5	200-yr	2324.81	963.33	958.92	1.73	1.35	29.54	21.44	435.14	1361.39	1.75	1.27	4.41	4.41
Yellowstone County	B1	RM 372.65	119797.7	200-yr	2324.81	963.27	957.32	1.33	0.93	12.27	9.99	396.37	1545.55	1.99	1.62	5.95	5.95
Yellowstone County	B1	RM 372.58	119676.6	200-yr	2324.81	963.22	958.2	1.22	0.94	9.42	7.5	441.05	1490.48	2.08	1.66	5.02	5.02
Yellowstone County	B1	RM 372.41	119395.9	200-yr	2324.81	963.11	958.82	1.36	0.94	9.87	7.15	484.34	1592.63	2.15	1.56	4.29	4.29
Yellowstone County	B1	RM 372.32	119268.8	200-yr	2324.81	963.05	957.24	1.1	1.1	19.16	14.86	533.6	1404.84	1.95	1.51	5.81	5.81
Yellowstone County	B1	RM 372.20	119079.1	200-yr	2324.81	962.83	956.93	1.34	1.19	31.73	23.44	512.44	1349.54	1.96	1.45	5.9	5.9
Yellowstone County	B1	RM 372.08	118886.4	200-yr	2324.81	962.52	956.2	1.47	1.31	35.19	26.91	463.45	1088.95	2.14	1.63	6.32	6.32
Yellowstone County	B1	RM 371.94	118669.8	200-yr	2324.81	962	957.58	1.85	1.86	44.36	33.1	446.89	786.67	2.13	1.59	4.42	4.42
Yellowstone County	B1	RM 371.83	118490.4	200-yr	2324.81	961.78	957.52	1.8	1.65	26.93	18.56	393.72	798.08	2.56	1.76	4.26	4.26
Yellowstone County	B1	RM 371.74	118350.7	200-yr	2324.81	961.56	957.48	2.13	1.72	29.06	17.65	386.04	896.46	2.48	1.51	4.08	4.08
Yellowstone County	B1	RM 371.62	118155.6	200-yr	2324.81	961.31	956.41	2.36	1.55	37.42	13.98	220.59	1141.86	3.51	1.31	4.9	4.9
Yellowstone County	B1	RM 371.53	118001.4	200-yr	2324.81	961.02	955.99	2.71	1.78	42.91	15.77	234.36	1173.71	3.03	1.11	5.03	5.03
Yellowstone County	B1	RM 371.43	117839.2	200-yr	2324.81	960.74	955.47	2.58	1.78	70.91	30.65	253.33	1105.2	2.74	1.18	5.27	5.27
Yellowstone County	B1	RM 371.37	117745.1	200-yr	2324.81	960.46	955.72	2.77	2.02	39.3	17.82	292.28	985	2.57	1.17	4.74	4.74
Yellowstone County	B1	RM 371.32	117662.6	200-yr	2324.81	960.35	956.41	2.53	1.87	52.45	26.25	299.65	899.33	2.76	1.38	3.94	3.94
Yellowstone County	B1	RM 371.25	117560.3	200-yr	2324.81	960.24	955.99	2.24	1.75	30.06	18.6	377.41	863.37	2.52	1.56	4.25	4.25
Yellowstone County	B1	RM 371.21	117499	200-yr	2324.81	960.17	955.72	2.23	1.83	30.41	18.93	357.71	778.1	2.62	1.63	4.45	4.45
Yellowstone County	B1	RM 371.12	117353.9	200-yr	2324.81	960.04	955.54	2.03	1.63	24.62	14.64	387.65	1011.13	2.64	1.56	4.5	4.5
Yellowstone County	B1	RM 371.04	117225.1	200-yr	2324.81	959.1	954.84	4.08	3.65	88.69	40.44	246.09	613.42	2.29	1.04	4.26	4.26
Yellowstone County	B1	RM 370.94	117054.9	200-yr	2324.81	959.16	955.57	2.38	1.94	39.59	22.75	242.86	1129.85	2.81	1.61	3.59	3.59
Yellowstone County	B1	RM 370.85	116910.9	200-yr	2324.81	959.03	954.47	2.17	1.58	31.13	14.37	219.1	1223.71	2.99	1.38	4.56	4.56
Yellowstone County	B1	RM 370.77	116793.6	200-yr	2324.81	958.94	953.84	2.07	1.42	22.6	11.11	224.11	1247.83	2.94	1.44	5.1	5.1
Yellowstone County	B1	RM 370.72	116711.6	200-yr	2324.81	958.89	953.13	2.03	1.28	24.24	11.11	165.01	1170.32	3.55	1.62	5.76	5.76
Yellowstone County	B1	RM 370.70	116669.2	200-yr	2324.81	958.85	953.05	2.1	1.21	22.22	11.7	201.49	1182.84	3.09	1.62	5.8	5.8
Yellowstone County	B1	RM 370.63	116558.9	200-yr	2324.81	958.75	953.42	2.03	1.13	33.39	15.44	184.32	1182.39	3.75	1.73	5.33	5.33
Yellowstone County	B1	RM 370.56	116440.6	200-yr	2324.81	958.52	953.34	2.55	1.41	30.11	10.29	178.41	1194.33	4.04	1.38	5.18	5.18
Yellowstone County	B1	RM 370.44	116241.1	200-yr	2324.81	958.32	952.03	2.79	1.48	47.63	14.49	134.53	1175.46	4.45	1.34	6.29	6.29
Yellowstone County	B1	RM 370.34	116071.6	200-yr	2324.81	958.04	949.79	3.1	1.67	60.95	16.13	118.14	1091.45	4.89	1.28	8.25	8.25
Yellowstone County	B1	RM 370.24	115908.6	200-yr	2324.81	957.89	950.22	2.95	1.65	50.23	14.05	117.55	1007.84	5.07	1.4	7.67	7.67

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	200-yr	2324.81	957.58	952.12	3.04	1.93	59.26	19.42	161	947.4	3.88	1.27	5.46	5.46
Yellowstone County	B1	RM 370.00	115535.2	200-yr	2324.81	957.27	952.2	2.69	2.24	81.34	42.06	262.39	775.23	2.59	1.34	5.07	5.07
Yellowstone County	B1	RM 369.89	115356.1	200-yr	2324.81	956.9	953.15	2.47	2.09	32.1	18.66	419.05	926.06	2.07	1.2	3.75	3.75
Yellowstone County	B1	RM 369.77	115164.3	200-yr	2324.81	956.62	952.34	2.32	2.02	29.95	16.53	497.76	1129.4	1.95	1.08	4.28	4.28
Yellowstone County	B1	RM 369.64	114965.6	200-yr	2324.81	956.29	951.9	2.25	1.93	35.72	21.32	503.19	1532.5	1.9	1.14	4.39	4.39
Yellowstone County	B1	RM 369.54	114789.5	200-yr	2324.81	956.01	952.38	2.18	1.84	28.35	19.79	506.38	1569.82	1.92	1.34	3.63	3.63
Yellowstone County	B1	RM 369.45	114650.1	200-yr	2324.81	955.88	951	1.92	1.5	24.22	13.59	466.31	2246.24	2.19	1.22	4.88	4.88
Yellowstone County	B1	RM 369.32	114431.1	200-yr	2324.81	955.67	951.1	1.82	1.25	23.27	10.71	377.04	2663.92	2.76	1.27	4.57	4.57
Yellowstone County	B1	RM 369.17	114210.5	200-yr	2324.81	955.48	949.85	2.07	1.43	37.38	13.4	199.28	2682.69	3.28	1.17	5.63	5.63
Yellowstone County	B1	RM 369.06	114022.4	200-yr	2324.81	954.81	949.89	3.52	2.08	68.36	21.58	136.69	2129.25	3.74	1.18	4.92	4.92
Yellowstone County	B1	RM 368.96	113871.2	200-yr	2324.81	954.63	949.68	3.03	2.02	57.65	19.73	170.42	2136.51	3.44	1.17	4.95	4.95
Yellowstone County	B1	RM 368.88	113745.9	200-yr	2324.81	954.46	948.77	2.77	1.8	45.81	15.53	215.27	2515.67	3	1.01	5.69	5.69
Yellowstone County	B1	RM 368.82	113641	200-yr	2324.81	954.27	948.47	2.63	1.93	53.2	20.79	297.25	2490.34	2.38	0.93	5.8	5.8
Yellowstone County	B1	RM 368.72	113477.3	200-yr	2324.81	954.04	948.45	2.17	1.66	39.49	17.74	349.96	2403.39	2.49	1.12	5.59	5.59
Yellowstone County	B1	RM 368.63	113328.9	200-yr	2324.81	953.86	947.82	2.03	1.52	35.2	15.18	315.25	2493.48	2.64	1.14	6.04	6.04
Yellowstone County	B1	RM 368.54	113195.6	200-yr	2324.81	953.62	947.51	2.33	1.52	34.82	12.33	270.45	2579.86	3.04	1.07	6.11	6.11
Yellowstone County	B1	RM 368.44	113035.8	200-yr	2324.81	953.37	947.4	2.39	1.56	63.4	21.93	257.82	2654.68	2.87	0.99	5.97	5.97
Yellowstone County	B1	RM 368.35	112878.7	200-yr	2324.81	953.28	946.64	1.84	1.23	19.35	5.41	283.07	2782.02	4.07	1.13	6.64	6.64
Yellowstone County	B1	RM 368.26	112737.6	200-yr	2324.81	953.16	946.23	2	1.27	58.08	18.21	227.9	2712.37	3.59	1.12	6.93	6.93
Yellowstone County	B1	RM 368.18	112604.7	200-yr	2324.81	952.82	947.11	2.77	1.54	44.89	11.76	163.14	2376.58	4.17	1.08	5.71	5.71
Yellowstone County	B2	RM 368.09	112456.7	200-yr	2324.81	952.41	947.7	3.29	2.21	80.81	20.34	160.84	1977.14	3.88	0.97	4.71	4.71
Yellowstone County	B2	RM 368.00	112314.4	200-yr	2324.81	952.4	947.56	2.37	1.54	30.77	10.36	198.48	2578.85	4.07	1.36	4.84	4.84
Yellowstone County	B2	RM 367.86	112104.7	200-yr	2324.81	952	946.1	2.97	1.92	71.31	19.18	189.25	2398.86	3.55	0.95	5.9	5.9
Yellowstone County	B2	RM 367.79	111989.2	200-yr	2324.81	951.89	945.04	2.47	1.51	51.3	15.37	203.42	2350.47	3.6	1.07	6.85	6.85
Yellowstone County	B2	RM 367.72	111876.5	200-yr	2324.81	951.54	945.45	3.1	1.8	51.08	11.39	149.5	2339.28	4.28	0.95	6.09	6.09
Yellowstone County	B2	RM 367.64	111739.2	200-yr	2324.81	951.45	945.68	2.8	1.45	52.21	12.64	140.83	2452.82	4.3	1.03	5.77	5.77
Yellowstone County	B2	RM 367.50	111519.9	200-yr	2324.81	951.14	945.21	2.91	1.54	59.57	14.79	137.62	2129.61	4.33	1.06	5.93	5.93
Yellowstone County	B2	RM 367.40	111357.1	200-yr	2324.81	950.79	944.36	3.32	1.78	60.81	12.82	113.64	1806.53	4.77	0.99	6.43	6.43
Yellowstone County	B2	RM 367.31	111214.8	200-yr	2324.81	950.53	945.36	3.38	2.05	56.77	13.26	144.65	1503.31	4.06	0.94	5.17	5.17
Yellowstone County	B2	RM 367.19	110992.7	200-yr	2324.81	950.35	945.91	2.74	1.9	41.64	12.35	245.12	1683.8	3.09	0.91	4.44	4.44
Yellowstone County	B2	RM 367.11	110813.5	200-yr	2324.81	950.15	945.17	2.53	1.7	37.32	13.63	295.2	1636.54	2.75	1	4.98	4.98
Yellowstone County	B2	RM 367.03	110669.4	200-yr	2324.81	950.08	945.89	1.97	1.43	20.65	9.23	418.55	1616.1	2.55	1.14	4.19	4.19
Yellowstone County	B2	RM 366.95	110543	200-yr	2324.81	950.03	945.34	1.39	1.11	22.92	10.25	560.16	2080.52	2.62	1.17	4.69	4.69
Yellowstone County	B2	RM 366.84	110376	200-yr	2324.81	949.91	944.61	1.27	1.03	19.09	8.61	595.67	1951.16	2.8	1.26	5.3	5.3
Yellowstone County	B2	RM 366.78	110300.8	200-yr	2324.81	949.85	943.84	1.27	0.96	19.68	9.58	562.74	2208.93	2.79	1.35	6.01	6.01
Yellowstone County	B2	RM 366.73	110074.8	200-yr	2324.81	949.63	943.42	1.58	1.12	26.68	10.84	436.35	2041.18	2.91	1.17	6.21	6.21
Yellowstone County	B2	RM 366.68	109931.6	200-yr	2324.81	949.45	942.77	1.89	1.27	35.22	12.25	318.08	1955.99	3.26	1.12	6.68	6.68
Yellowstone County	B2	RM 366.53	109747.6	200-yr	2324.81	948.96	940.86	3.02	1.84	43.61	10.14	165.88	1313.23	4.2	0.96	8.1	8.1
Yellowstone County	B2	RM 366.38	109510.8	200-yr	2324.81	948.7	941.55	2.92	1.89	68.64	16.35	152.46	1111.91	4.68	1.1	7.15	7.15
Yellowstone County	B2	RM 366.27	109345.5	200-yr	2324.81	948.6	942.72	2.38	1.85	34.18	12.61	226.47	1112.57	4.08	1.5	5.88	5.88
Yellowstone County	B2	RM 366.15	109158.9	200-yr	2324.81	948.38	941.59	2.32	1.97	61.09	27.42	293.69	1032.3	3.26	1.45	6.79	6.79
Yellowstone County	B2	RM 366.04	108972.6	200-yr	2324.81	948.04	941.41	2.59	2.35	28.85	17.33	313.7	699.69	2.82	1.69	6.63	6.63
Yellowstone County	B2	RM 365.94	108818.8	200-yr	2324.81	947.94	940.93	2.31	2.1	23.84	15.14	363.21	754.64	2.74	1.73	7.01	7.01
Yellowstone County	B2	RM 365.83	108647.5	200-yr	2324.81	947.73	939.93	2.15	1.8	73.94	39.53	329.53	986.02	3	1.6	7.8	7.8
Yellowstone County	B2	RM 365.75	108521.3	200-yr	2324.81	947.49	941.33	2.08	1.67	56.02	28.15	262.86	898.27	3.28	1.64	6.16	6.16
Yellowstone County	B2	RM 365.71	108446.5	200-yr	2324.81	947.28	941.83	2.42	1.81	57.73	22.15	234.54	974.89	3.67	1.4	5.45	5.45
Yellowstone County	B2	RM 365.64	108343.5	200-yr	2324.81	947.15	942.19	2.13	1.68	48.94	21.95	306.44	994.04	3.11	1.39	4.96	4.96
Yellowstone County	B2	RM 365.57	108220.5	200-yr	2324.81	946.84	942.08	2.56	2.04	52.96	22.91	252.77	793.52	3.35	1.44	4.76	4.76
Yellowstone County	B2	RM 365.51	108118.9	200-yr	2324.81	946.69	941.87	2.46	1.95	56.16	25.48	265.35	884.45	3.28	1.48	4.82	4.82
Yellowstone County	B2	RM 365.46	108042.9	200-yr	2324.81	946.64	941.73	2.08	1.71	35.54	16.05	317.69	901.64	3.34	1.51	4.91	4.91
Yellowstone County	B2	RM 365.41	107956.5	200-yr	2324.81	946.55	941.46	2	1.76	32.83	14.84	326.34	849.54	3.46	1.56	5.09	5.09
Yellowstone County	B2	RM 365.37	107905.7	200-yr	2324.81	946.51	940.74	2.01	1.73	22.46	10.77	309.36	780.96	3.6	1.72	5.77	5.77
Yellowstone County	B2	RM 365.31	107792.4	200-yr	2324.81	946.36	939.27	2.32	1.98	28.3	13.06	257.08	683.06	3.74	1.72	7.09	7.09
Yellowstone County	B2	RM 365.27	107727.9	200-yr	2324.81	946.26	939.34	2.49	2.14	36.38	16.43	251.44	676.53	3.57	1.61	6.92	6.92
Yellowstone County	B2	RM 365.23	107674.2	200-yr	2324.81	946.13	939.52	2.74	2.38	36.21	15.96	230.94	623.04	3.56	1.57	6.61	6.61
Yellowstone County	B2	RM 365.19	107603	200-yr	2324.81	946.07	939.93	2.65	2.37	35.65	14.81	238.9	656.55	3.61	1.49	6.14	6.14
Yellowstone County	B2	RM 365.15	107534.7	200-yr	2324.81	946.03	939.68	2.56	2.25	34.14	14	213.53	614.51	4.12	1.68	6.35	6.35
Yellowstone County	B2	RM 365.10	107466	200-yr	2324.81	945.85	938.61	2.9	2.6	43.91	17	186.92	550.77	4.21	1.62	7.24	7.24
Yellowstone County	B2	RM 365.06	107396.2	200-yr	2324.81	945.8	939.07	2.85	2.39	45.81	15.22	170.56	639.61	4.6	1.52	6.73	6.73
Yellowstone County	B2	RM 365.01	107325.8	200-yr	2324.81	945.78	939.22	2.59	2.14	43.29	14.83	175.43	648.99	4.9	1.67	6.56	6.56
Yellowstone County	B2	RM 364.99	107287.5	200-yr	2324.81	945.71	939.27	2.73	2.21	49.05	17.97	171.73	617.96	4.65	1.7	6.44	6.44

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	200-yr	2324.81	945.44	937.97	3.03	2.51	35.32	16.77	202.1	536.17	3.66	1.72	7.47	7.47
Yellowstone County	B2	RM 364.81	106996.1	200-yr	2324.81	945.44	938.93	2.45	2.08	25.96	19.23	245.91	660.06	3.63	2.68	6.51	6.51
Yellowstone County	B2	RM 364.74	106893.3	200-yr	2324.81	945.29	938.94	2.74	2.09	38.8	19.14	164.71	681.46	4.74	2.33	6.35	6.35
Yellowstone County	B2	RM 364.64	106739.2	200-yr	2324.81	945.02	939.09	3.25	2.19	46.99	18.77	120.08	729.64	5.24	2.08	5.93	5.93
Yellowstone County	B2	RM 364.61	106686.8	200-yr	2324.81	945.02	939.21	2.93	2.21	39.67	19.22	158.49	581.26	4.63	2.23	5.81	5.81
Yellowstone County	B2	RM 364.60	106666.6	200-yr	2324.81	944.88	939.26	3.3	2.54	49.29	20.63	133.67	446.57	4.92	2.05	5.62	5.62
Yellowstone County	B2	RM 364.53	106558.4	200-yr	2324.81	944.79	939.11	3.1	2.71	44.06	15.32	166.45	637.75	4.44	1.53	5.68	5.68
Yellowstone County	B2	RM 364.49	106490.3	200-yr	2324.81	944.77	939.24	2.93	2.24	41.68	17.11	162.65	617.18	4.6	1.87	5.53	5.53
Yellowstone County	B2	RM 364.43	106394	200-yr	2324.81	944.63	939.13	3.03	2.45	45.16	16.68	161.2	615.61	4.6	1.69	5.5	5.5
Yellowstone County	B2	RM 364.37	106296.4	200-yr	2324.81	944.59	938.98	2.89	2.1	38.62	16.76	146.91	678.53	5.02	2.15	5.61	5.61
Yellowstone County	B2	RM 364.32	106215.1	200-yr	2324.81	944.51	938.52	2.88	2.26	55.02	30.45	152.95	688.06	4.84	2.66	5.99	5.99
Yellowstone County	B2	RM 364.29	106172.9	200-yr	2324.81	944.52	938.13	2.47	2.42	46.64	43.75	191	757.7	4.87	4.57	6.39	6.39
Yellowstone County	B2	RM 364.26	106126.6	200-yr	2324.81	944.23	937.7	3.29	2.84	66.55	48.3	142.23	601.26	4.75	3.44	6.53	6.53
Yellowstone County	B2	RM 364.22	106055.2	200-yr	2324.81	943.99	938.15	3.55	3.28	82.36	38.41	136.36	496.91	4.76	2.21	5.84	5.84
Yellowstone County	B2	RM 364.14	105927.3	200-yr	2324.81	943.6	938.12	3.95	3.36	96.05	58.92	126.04	290.23	4.44	2.71	5.48	5.48
Yellowstone County	B2	RM 364.06	105809.9	200-yr	2324.81	943.53	938.22	3.28	2.67	76.9	36.63	157.02	607.67	4.24	2.01	5.31	5.31
Yellowstone County	B2	RM 363.96	105648.3	200-yr	2324.81	943.46	938.28	2.43	1.98	41.68	23.04	248.44	697.49	3.59	1.98	5.18	5.18
Yellowstone County	B2	RM 363.85	105472.4	200-yr	2324.81	943.07	936.25	3.17	2.51	47.73	20.41	150.47	589.37	4.31	1.82	6.82	6.82
Yellowstone County	B2	RM 363.76	105316.8	200-yr	2324.81	942.91	937.03	3.01	2.45	61.6	24.4	148.32	583.36	4.41	1.74	5.88	5.88
Yellowstone County	B2	RM 363.63	105118.1	200-yr	2324.81	942.65	937.93	2.43	2.27	55.89	35.9	340.11	577.38	2.77	1.77	4.72	4.72
Yellowstone County	B2	RM 363.52	104943.9	200-yr	2324.81	942.32	937.54	2.24	1.97	54.45	28.47	372.43	845.8	2.68	1.4	4.78	4.78
Yellowstone County	B2	RM 363.46	104841.5	200-yr	2324.81	942.19	937.16	2.06	1.7	39.16	21.98	330.96	840.81	3.16	1.77	5.03	5.03
Yellowstone County	B2	RM 363.33	104622.9	200-yr	2324.81	941.88	936.36	2.05	1.6	51.66	32.21	303.14	938.8	2.98	1.85	5.52	5.52
Yellowstone County	B2	RM 363.20	104414.5	200-yr	2324.81	941.53	936.48	2.24	1.51	37.85	20.16	282.91	1074.4	3.05	1.62	5.05	5.05
Yellowstone County	B2	RM 363.10	104256.4	200-yr	2324.81	941.26	936.25	2.43	1.67	45.07	22.97	275.99	941.15	2.91	1.48	5.01	5.01
Yellowstone County	B2	RM 363.03	104144.8	200-yr	2324.81	941.11	936.22	2.36	1.56	36.44	18.27	285.45	1147.34	2.94	1.47	4.89	4.89
Yellowstone County	B2	RM 362.86	103869.6	200-yr	2324.81	940.98	934.32	1.69	1.23	16.25	10.28	405.06	1010.47	2.96	1.87	6.66	6.66
Yellowstone County	B2	RM 362.74	103671.4	200-yr	2324.81	940.77	934.52	2.09	1.51	25.2	14.47	371.33	1029.62	2.61	1.5	6.25	6.25
Yellowstone County	B2	RM 362.63	103493.2	200-yr	2324.81	940.57	934.5	1.95	1.49	40.43	28.1	388.17	1065.24	2.58	1.79	6.07	6.07
Yellowstone County	B2	RM 362.52	103330.7	200-yr	2324.81	940.35	934.5	1.77	1.42	36.22	24.06	435.44	932.58	2.64	1.75	5.85	5.85
Yellowstone County	B2	RM 362.43	103185.5	200-yr	2324.81	940.22	934.1	1.74	1.43	17	13.35	438.86	802.42	2.85	2.23	6.12	6.12
Yellowstone County	B2	RM 362.36	103070.8	200-yr	2324.81	940.13	932.98	1.82	1.59	17.01	13.54	405.24	634.41	2.96	2.35	7.15	7.15
Yellowstone County	B2	RM 362.27	102929.3	200-yr	2324.81	939.86	932.93	2.55	2.19	31	16.35	195.77	452.11	4.5	2.35	6.93	6.93
Yellowstone County	B2	RM 362.20	102813.3	200-yr	2324.81	939.03	933.37	4.38	3.7	94.14	38.91	111.16	331.12	4.65	1.9	5.66	5.66
Yellowstone County	B2	RM 362.13	102693.1	200-yr	2324.81	938.71	933.47	4.45	3.99	95.83	44.23	125.06	310.96	4.1	1.88	5.25	5.25
Yellowstone County	B3	RM 362.05	102570.9	200-yr	2324.81	938.64	933.85	3.72	3.5	70.31	39.33	181.8	349.87	3.41	1.9	4.79	4.79
Yellowstone County	B3	RM 362.00	102488.8	200-yr	2324.81	938.66	934.11	3	3	52.87	52.3	244.3	317.07	3.17	3.13	4.55	4.55
Yellowstone County	B3	RM 361.93	102368.8	200-yr	2324.81	938.57	934.31	2.44	2.44	39.3	39.04	367.9	370.38	2.59	2.57	4.26	4.26
Yellowstone County	B3	RM 361.86	102261.1	200-yr	2324.81	938.22	934.36	2.83	2.73	72.64	64.03	364.18	441.8	2.18	1.92	3.86	3.86
Yellowstone County	B3	RM 361.78	102138.9	200-yr	2324.81	938.05	933.72	2.39	2.31	32.6	27.6	406.07	501.26	2.37	2.01	4.33	4.33
Yellowstone County	B3	RM 361.68	101970.2	200-yr	2324.81	937.85	933.64	2.2	2.09	32.91	27.23	426	555.94	2.43	2	4.21	4.21
Yellowstone County	B3	RM 361.65	101918.4	200-yr	2324.81	937.81	933.71	2.01	1.87	28.83	21.58	403.7	623.72	2.78	2.08	4.1	4.1
Yellowstone County	B3	RM 361.61	101855.6	200-yr	2324.81	937.64	932.7	2.43	2.13	36.2	24.6	334.93	633.03	2.73	1.86	4.94	4.94
Yellowstone County	B3	RM 361.56	101767.4	200-yr	2324.81	937.46	930.29	2.66	2.28	39.28	22.49	267.33	751.65	3.13	1.78	7.17	7.17
Yellowstone County	B3	RM 361.48	101644.6	200-yr	2324.81	937.24	929.97	2.96	2.4	55.44	23.34	181.61	1042.14	3.73	1.56	7.27	7.27
Yellowstone County	B3	RM 361.42	101546.2	200-yr	2324.81	937.04	932.36	3.19	2.37	49.19	19.38	186.79	1272.53	3.17	1.25	4.68	4.68
Yellowstone County	B3	RM 361.37	101468.9	200-yr	2324.81	936.94	932.21	3.11	2.11	49.2	15.54	171.32	1389.17	3.62	1.14	4.73	4.73
Yellowstone County	B3	RM 361.33	101409.4	200-yr	2324.81	936.62	932.02	3.74	2.36	70.83	20.72	161.57	1169.76	3.23	0.94	4.6	4.6
Yellowstone County	B3	RM 361.29	101346	200-yr	2324.81	936.45	930.51	3.62	1.94	69.54	21.93	139.13	1215.46	3.36	1.05	5.94	5.94
Yellowstone County	B3	RM 361.25	101284.9	200-yr	2324.81	936.35	928.42	3.57	1.9	64.63	20.86	120.06	1191.15	3.53	1.12	7.93	7.93
Yellowstone County	B3	RM 361.21	101251.*	200-yr	2324.81	936.3	927.55	3.24	1.93	101.82	28.13	118.47	1326.78	4.28	1.17	8.75	8.75
Yellowstone County	B3	RM 361.21	101217.5	200-yr	2324.81	936.22	926.68	3.18	1.96	50.82	13.87	114.26	1286.38	5.03	1.36	9.54	9.54
Yellowstone County	B3	RM 361.18	101167.2	200-yr	2324.81	936.2	928.03	2.98	1.73	41.71	12.34	132.14	1338.78	4.49	1.32	8.17	8.17
Yellowstone County	B3	RM 361.16	101134.2	200-yr	2324.81	936.16	928.92	2.85	1.88	41.58	16.95	201.65	1675.58	3.39	1.38	7.24	7.24
Yellowstone County	B3	RM 361.09	101028.7	200-yr	2324.81	936.14	931.28	2.12	1.46	25.99	15.22	357.67	1773.58	2.11	1.24	4.86	4.86
Yellowstone County	B3	RM 361.01	100891.3	200-yr	2324.81	935.83	931.55	2.5	1.68	40.06	18.07	355.73	1713.89	1.96	0.88	4.28	4.28
Yellowstone County	B3	RM 360.92	100756	200-yr	2324.81	935.71	931.05	1.51	1.13	26.02	16.28	453.6	1747.03	1.88	1.18	4.66	4.66
Yellowstone County	B3	RM 360.81	100570.1	200-yr	2324.81	935.19	929.52	2.28	1.81	63.35	42.96	473.86	1510.67	1.62	1.1	5.67	5.67
Yellowstone County	B3	RM 360.69	100383.5	200-yr	2324.81	935.1	930.6	1.18	0.9	12.23	8.06	340.51	1872.9	2.56	1.69	5.21	5.21
Yellowstone County	B3	RM 360.59	100227.2	200-yr	2324.81	934.95	930.53	1.85	1.09	19.95	9.62	269.12	1930.85	2.55	1.23	4.74	4.74
Yellowstone County	B3	RM 360.50	100081	200-yr	2324.81	934.74	930.55	2.26	1.2	33.08	11.77	214.5	1988.1	3.04	1.07	4.19	4.19

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	200-yr	2324.81	934.57	929.97	2.48	1.25	36.53	12.17	192.31	1793.3	3.12	1.04	4.6	4.6
Yellowstone County	B3	RM 360.36	99862.66	200-yr	2324.81	934.45	929.68	2.42	1.28	31.44	11.48	242.5	1888.4	2.76	1.01	4.77	4.77
Yellowstone County	B3	RM 360.27	99717.18	200-yr	2324.81	934.16	929.52	2.98	1.49	49.33	14.97	149.73	1583.04	3.26	0.99	4.64	4.64
Yellowstone County	B3	RM 360.18	99578.06	200-yr	2324.81	933.86	929.32	3.2	1.6	65.24	17.19	135.27	1465.66	3.83	0.99	4.54	4.54
Yellowstone County	B3	RM 360.11	99458.59	200-yr	2324.81	933.76	929.38	2.86	1.53	43.58	13.86	148.51	1454.3	3.28	1.04	4.38	4.38
Yellowstone County	B3	RM 360.03	99328	200-yr	2344.64	933.66	929.58	2.33	1.33	40.67	14.54	168.97	1640.97	3.3	1.18	4.08	4.08
Yellowstone County	B3	RM 359.96	99226.54	200-yr	2344.64	933.56	929.2	2.39	1.26	35.56	13.24	163.81	1482.24	3.39	1.26	4.36	4.36
Yellowstone County	B3	RM 359.88	99098.18	200-yr	2344.64	933.39	927.78	2.67	1.31	38.93	13.15	144	1417.71	3.75	1.26	5.61	5.61
Yellowstone County	B3	RM 359.78	98940.52	200-yr	2344.64	933.3	928.1	2.43	1.24	41.03	13.85	149.99	1457.04	3.88	1.3	5.2	5.2
Yellowstone County	B3	RM 359.70	98813.18	200-yr	2344.64	932.97	928.32	3.08	1.74	80.55	23.48	145.93	1422.93	3.5	1.02	4.65	4.65
Yellowstone County	B3	RM 359.61	98663.44	200-yr	2344.64	932.74	928.8	2.47	1.8	43.09	16.43	318.49	1412.94	2.63	1	3.94	3.94
Yellowstone County	B3	RM 359.50	98492.66	200-yr	2344.64	932.5	928.22	2.47	1.69	34.89	14.11	321.3	1539.86	2.45	0.99	4.28	4.28
Yellowstone County	B3	RM 359.38	98291.15	200-yr	2344.64	932.26	927.09	1.99	1.51	43.65	21.19	380.94	1632.48	2.14	1.03	5.17	5.17
Yellowstone County	B3	RM 359.26	98107.42	200-yr	2344.64	931.77	927.71	2.45	1.83	39.11	18.45	421.4	1554.6	1.93	0.91	4.06	4.06
Yellowstone County	B3	RM 359.18	97966.53	200-yr	2344.64	931.56	927.28	2.41	1.6	34.67	14.5	299.78	1573.98	2.48	1.03	4.28	4.28
Yellowstone County	B3	RM 359.10	97841.82	200-yr	2344.64	931.4	926.69	2.2	1.49	29.92	15.13	374.84	1609.97	2.15	1.08	4.71	4.71
Yellowstone County	B3	RM 359.01	97692.75	200-yr	2344.64	931.26	925.91	1.84	1.19	29.83	16.61	329.94	1669.19	2.33	1.29	5.35	5.35
Yellowstone County	B3	RM 358.90	97524.59	200-yr	2344.64	930.86	926.77	2.64	1.47	47.5	18.8	227.3	1504.84	2.7	1.06	4.09	4.09
Yellowstone County	B3	RM 358.81	97374.99	200-yr	2344.64	930.59	926.37	2.71	1.46	38.27	14.7	225.13	1523.26	2.83	1.08	4.22	4.22
Yellowstone County	B3	RM 358.74	97267.71	200-yr	2344.64	930.46	925.53	2.68	1.39	54.84	21.43	167.2	1488.4	3.09	1.21	4.93	4.93
Yellowstone County	B3	RM 358.67	97155.8	200-yr	2344.64	930.36	925.59	2.18	1.39	26.45	13.05	278.31	1502.46	2.52	1.24	4.77	4.77
Yellowstone County	B3	RM 358.61	97062.24	200-yr	2344.64	930.3	925.74	1.7	1.27	22.59	12.94	389.39	1615.7	2.44	1.4	4.56	4.56
Yellowstone County	B3	RM 358.56	96985.92	200-yr	2344.64	930.24	926.2	1.59	1.25	17.96	11.3	457.52	1616.98	2.34	1.47	5.65	5.65
Yellowstone County	B3	RM 358.50	96888.4	200-yr	2344.64	930.18	925.64	1.47	1.21	13.58	10.36	550.02	1512.11	2.19	1.67	4.54	4.54
Yellowstone County	B3	RM 358.43	96788.43	200-yr	2344.64	930.14	925.27	1.23	1.14	14.26	12.02	650.58	1458.99	2.23	1.88	4.87	4.87
Yellowstone County	B3	RM 358.30	96638.82	200-yr	2344.64	930.08	924.7	1.14	1.04	10.29	8.64	686.1	1367.91	2.79	2.34	5.38	5.38
Yellowstone County	B3	RM 358.24	96561.93	200-yr	2344.64	930.03	923.57	1.27	1.16	11.89	9.89	644.55	1347.58	2.62	2.18	6.46	6.46
Yellowstone County	B3	RM 358.20	96500.79	200-yr	2344.64	929.98	922.99	1.4	1.28	13.35	10.77	619.99	1347.88	2.49	2.01	6.99	6.99
Yellowstone County	B3	RM 358.14	96404.93	200-yr	2344.64	929.92	922.57	1.47	1.25	12.79	9.3	543.4	1347.16	2.67	1.94	7.35	7.35
Yellowstone County	B3	RM 358.12	96368.05	200-yr	2344.64	929.9	922.78	1.58	1.18	14.82	9.12	349.09	1366.31	3.26	2	7.12	7.12
Yellowstone County	B3	RM 358.04	96244.75	200-yr	2344.64	929.76	923.22	2.19	1.42	38.51	16.5	162.23	1233.26	4.09	1.74	6.54	6.54
Yellowstone County	B3	RM 358.00	96168.44	200-yr	2344.64	929.64	923.39	2.66	1.45	45.61	18.16	101.88	1205.33	4.37	1.72	6.25	6.25
Yellowstone County	B3	RM 357.93	96065.49	200-yr	2344.64	929.49	923.1	2.92	1.56	39.04	15.29	106.83	1155.2	4.15	1.62	6.39	6.39
Yellowstone County	B3	RM 357.88	95975.44	200-yr	2344.64	929.47	923.91	2.34	1.51	32.52	15.6	153.56	1181.03	3.92	1.87	5.56	5.56
Yellowstone County	B3	RM 357.82	95884.99	200-yr	2344.64	929.43	924.01	2.07	1.46	25.01	11.21	193.1	1134.97	3.96	1.77	5.42	5.42
Yellowstone County	B3	RM 357.78	95821.69	200-yr	2344.64	929.39	924.08	1.8	1.51	24.41	12.68	257.61	975.15	3.45	1.79	5.31	5.31
Yellowstone County	B3	RM 357.69	95683.91	200-yr	2344.64	929.23	923.81	2.08	1.66	22.44	11.59	294.18	820.4	3.4	1.75	5.42	5.42
Yellowstone County	B4	RM 357.62	95571.15	200-yr	2344.64	929.04	921.84	2.47	1.94	36.43	15.23	253.84	872.76	3.33	1.38	7.2	7.2
Yellowstone County	B4	RM 357.56	95469.4	200-yr	2344.64	928.97	918.46	2.26	1.82	32.08	14.9	225.69	1250.73	4.17	1.92	10.51	10.51
Yellowstone County	B4	RM 357.48	95351.48	200-yr	2344.64	928.6	922.69	3.08	2.59	51.61	28.57	199.17	1184.34	3.62	1.99	5.91	5.91
Yellowstone County	B4	RM 357.44	95275.91	200-yr	2344.64	928.38	922.22	3.29	2.93	62.03	40.99	196.98	904.81	3.54	2.33	6.16	6.16
Yellowstone County	B4	RM 357.34	95127.12	200-yr	2344.64	928.12	923.1	3.31	2.89	60.4	39.34	182.61	1065.2	3.78	2.45	5.02	5.02
Yellowstone County	B4	RM 357.23	94939.75	200-yr	2344.64	927.84	920.81	3.32	2.74	65.52	37.08	143.44	1114.11	4.54	2.55	7.03	7.03
Yellowstone County	B4	RM 357.13	94789.23	200-yr	2344.64	927.69	921.26	3.23	2.48	52.09	25.82	139.38	819.24	4.07	2	6.43	6.43
Yellowstone County	B4	RM 357.01	94595.53	200-yr	2344.64	927.56	921.72	2.71	1.92	35.37	18.12	185.55	861.83	4.09	2.09	5.84	5.84
Yellowstone County	B4	RM 356.90	94412.13	200-yr	2344.64	927.37	921.02	2.67	1.99	36.38	21.48	234.48	941.93	3.35	1.98	6.35	6.35
Yellowstone County	B4	RM 356.81	94272.48	200-yr	2344.64	927.22	919.95	2.63	1.95	38.42	24.62	233.74	831.1	3.22	2.06	7.27	7.27
Yellowstone County	B4	RM 356.73	94148.77	200-yr	2344.64	927.14	921.15	2.27	1.75	28.61	18.32	299.9	955.4	2.85	1.82	5.99	5.99
Yellowstone County	B4	RM 356.66	94030.68	200-yr	2344.64	927.04	921.75	2.16	1.6	24.79	13.95	300.18	1021.98	3.02	1.7	5.29	5.29
Yellowstone County	B4	RM 356.59	93912.76	200-yr	2344.64	926.97	921.88	2.04	1.42	26.89	12.88	252.57	1069.22	3.56	1.7	5.09	5.09
Yellowstone County	B4	RM 356.50	93782.14	200-yr	2344.64	926.81	921.75	2.42	1.49	38.6	14.93	153.48	1062.77	4.14	1.59	5.06	5.06
Yellowstone County	B4	RM 356.44	93670.16	200-yr	2344.64	926.64	921.33	2.78	1.65	37.11	13.47	135.34	1018.44	4.07	1.47	5.31	5.31
Yellowstone County	B4	RM 356.35	93525.27	200-yr	2344.64	926.47	919.71	2.86	1.73	55.91	19.14	115.89	938.6	4.51	1.52	6.76	6.76
Yellowstone County	B4	RM 356.26	93386.36	200-yr	2344.64	926.28	919.77	2.95	1.75	37.27	13.59	125.06	891.81	4.63	1.68	6.51	6.51
Yellowstone County	B4	RM 356.18	93264.31	200-yr	2344.64	926.22	919.95	2.65	1.78	42.03	16.88	128.53	711.52	4.66	1.85	6.27	6.27
Yellowstone County	B4	RM 356.11	93150.71	200-yr	2344.64	926.14	920.24	2.27	1.59	42.34	18.89	179.8	766.13	4.34	1.92	5.9	5.9
Yellowstone County	B4	RM 356.04	93034.25	200-yr	2344.64	925.91	920.36	2.62	1.88	61.05	25.73	173.68	755.3	3.95	1.66	5.55	5.55
Yellowstone County	B4	RM 355.97	92927.46	200-yr	2344.64	925.66	920.09	2.95	2.02	61.48	25.28	154	744.74	3.82	1.56	5.57	5.57
Yellowstone County	B4	RM 355.91	92825.82	200-yr	2344.64	925.6	919.82	2.57	1.63	31.64	14.69	153.74	931.28	4.06	1.87	5.78	5.78
Yellowstone County	B4	RM 355.82	92688.73	200-yr	2344.64	924.8	919.51	3.44	2.25	73.58	27.42	155.48	832.42	3.45	1.28	5.29	5.29
Yellowstone County	B4	RM 355.66	92419.94	200-yr	2344.64	924.44	919.8	3.29	2.18	53.11	17.51	139.95	909.64	3.59	1.18	4.64	4.64

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	200-yr	2344.64	924.37	919.42	3.04	1.99	48.34	16.28	148.04	975.35	3.6	1.21	4.95	4.95
Yellowstone County	B4	RM 355.49	92159.95	200-yr	2344.64	924.14	918.52	2.7	2.02	71.12	24.25	141.27	994.77	3.52	1.2	5.62	5.62
Yellowstone County	B4	RM 355.43	92061.2	200-yr	2344.64	923.94	918.67	2.72	1.99	70.13	23.46	134.53	938.62	3.77	1.25	5.27	5.27
Yellowstone County	B4	RM 355.41	92020.68	200-yr	2344.64	923.93	919.02	2.17	1.79	59.78	23.48	159.91	987.33	3.39	1.33	4.91	4.91
Yellowstone County	B4	RM 355.38	91976.12	200-yr	2344.64	923.76	919.25	2.77	1.91	60.38	17.92	125.74	1135.58	3.74	1.1	4.51	4.51
Yellowstone County	B4	RM 355.35	91933.98	200-yr	2344.64	923.69	919.21	2.9	1.85	46.62	12.78	109.82	1188.48	3.98	1.08	4.48	4.48
Yellowstone County	B4	RM 355.32	91885.87	200-yr	2344.64	923.64	919.16	2.88	1.83	46.27	13.08	107.08	1173.91	3.9	1.09	4.48	4.48
Yellowstone County	B4	RM 355.29	91828.99	200-yr	2344.64	923.56	918.93	2.98	1.83	47.44	13.29	103.5	1188.53	3.91	1.08	5.03	5.03
Yellowstone County	B4	RM 355.23	91732.97	200-yr	2344.64	923.46	918.68	2.83	1.73	49.42	13.42	101.56	1254.5	4.03	1.08	5.02	5.02
Yellowstone County	B4	RM 355.14	91596.1	200-yr	2344.64	923.35	918.52	2.51	1.44	33.8	11.21	118.49	1256.25	3.96	1.3	4.83	4.83
Yellowstone County	B4	RM 354.94	91268.08	200-yr	2344.64	922.49	917.25	3.4	2.27	109.06	32.27	168.06	1031.69	3.41	1	5.24	5.24
Yellowstone County	B4	RM 354.86	91153.59	200-yr	2344.64	922.42	917.03	2.69	1.59	60.33	19.19	125.07	1552.43	4.21	1.33	5.39	5.39
Yellowstone County	B4	RM 354.80	91056.05	200-yr	2344.64	922.18	915.66	3.05	1.68	76.08	21.67	117.98	1707.89	4.01	1.13	6.52	6.52
Yellowstone County	B4	RM 354.70	90880.27	200-yr	2344.64	921.82	915.38	2.88	1.71	76.48	24.17	151.3	1657.78	3.14	0.99	6.44	6.44
Yellowstone County	B4	RM 354.61	90744.35	200-yr	2344.64	921.58	917.13	2.74	1.53	35.83	15.84	211.83	1504.31	2.47	1.09	4.45	4.45
Yellowstone County	B4	RM 354.53	90609.24	200-yr	2344.64	921.43	916.52	2.39	1.5	32.88	14.49	239.39	1251.4	2.85	1.25	4.91	4.91
Yellowstone County	B4	RM 354.45	90486.63	200-yr	2344.64	921.3	915.87	2.44	1.46	35.83	16.52	205.05	1318.73	2.72	1.25	5.43	5.43
Yellowstone County	B4	RM 354.39	90385.43	200-yr	2344.64	921.04	915.24	2.98	1.68	51.24	20.94	163.56	1283.8	2.86	1.16	5.8	5.8
Yellowstone County	B4	RM 354.33	90291.31	200-yr	2344.64	920.98	915.37	2.54	1.34	34.4	15.66	150.94	1396.81	3.02	1.37	5.61	5.61
Yellowstone County	B4	RM 354.23	90133.96	200-yr	2344.64	920.74	915.46	2.76	1.38	47.13	15.85	117.48	1558.01	3.65	1.22	5.28	5.28
Yellowstone County	B4	RM 354.13	89983.48	200-yr	2344.64	920.6	914.94	2.37	1.21	40.19	12.64	133.03	1623.55	3.8	1.19	5.66	5.66
Yellowstone County	B4	RM 354.00	89778.46	200-yr	2344.64	920.47	916.2	2.13	1.11	31.38	11.29	158.7	1835.93	3.23	1.15	4.27	4.27
Yellowstone County	B5	RM 353.90	89604.28	200-yr	2344.64	920.36	917.06	1.88	1.08	25.52	11.71	245.69	1846.67	2.56	1.17	3.46	3.46
Yellowstone County	B5	RM 353.80	89446.75	200-yr	2489.05	920.23	916.36	1.89	1.15	29.94	14.02	301.86	1862.82	2.49	1.16	3.87	3.87
Yellowstone County	B5	RM 353.70	89288.94	200-yr	2489.05	920.11	915.92	1.52	1.01	24.12	13.33	391.8	1862.49	2.4	1.32	4.19	4.19
Yellowstone County	B5	RM 353.65	89204.58	200-yr	2489.05	919.99	915.49	1.41	1	23.75	14.05	403.74	1759.64	2.4	1.41	4.5	4.5
Yellowstone County	B5	RM 353.56	89077.56	200-yr	2489.05	919.87	914.2	1.53	1.05	25.61	14.24	364.48	1582.39	2.71	1.5	5.67	5.67
Yellowstone County	B5	RM 353.50	88982.39	200-yr	2489.05	919.79	914.58	1.56	1.04	25.38	12.55	309.77	1452.96	3.35	1.65	5.21	5.21
Yellowstone County	B5	RM 353.41	88846.15	200-yr	2489.05	919.6	914.41	1.86	1.22	32.41	14.69	231.44	1372.96	3.31	1.49	5.19	5.19
Yellowstone County	B5	RM 353.32	88709.14	200-yr	2489.05	919.36	913.6	2.42	1.44	42.28	17.75	194.16	1198.73	3.46	1.44	5.76	5.76
Yellowstone County	B5	RM 353.25	88587.13	200-yr	2489.05	919.06	912.76	3	1.68	56.23	21.3	160.68	1136.84	3.45	1.3	6.3	6.3
Yellowstone County	B5	RM 353.15	88438.48	200-yr	2489.05	918.75	912.71	3.18	1.99	61.6	27.16	214.95	1134.12	2.51	1.1	6.04	6.04
Yellowstone County	B5	RM 353.08	88321.13	200-yr	2489.05	918.6	912.99	2.83	1.85	47.69	19.79	197.65	1140.1	2.86	1.18	5.61	5.61
Yellowstone County	B5	RM 353.01	88210.34	200-yr	2489.05	918.47	913.13	2.43	1.76	41.62	21.26	249.61	1029.83	2.7	1.37	5.34	5.34
Yellowstone County	B5	RM 352.94	88090.6	200-yr	2489.05	918.37	912.5	2.24	1.66	33.96	15.05	175.48	1152.1	3.47	1.53	5.87	5.87
Yellowstone County	B5	RM 352.86	87957.76	200-yr	2489.05	918.22	913.38	2.43	1.78	51.59	21.74	136.66	2155.87	3.46	1.45	4.84	4.84
Yellowstone County	B5	RM 352.79	87857.09	200-yr	2489.05	917.95	913.06	3.17	1.94	45.99	16.04	114.97	1941.64	3.26	1.13	4.89	4.89
Yellowstone County	B5	RM 352.72	87748.15	200-yr	2489.05	917.85	911.97	3.06	1.7	68.8	17.68	89.99	2262.59	4.34	1.1	5.88	5.88
Yellowstone County	B5	RM 352.68	87677.1	200-yr	2489.05	917.79	912.27	2.07	1.7	60.2	34.8	334.6	2353.68	2.22	1.27	5.52	5.52
Yellowstone County	B5	RM 352.64	87605.18	200-yr	2489.05	917.43	911.68	2.85	1.86	84.45	40.95	233.55	1772.88	2.71	1.3	5.75	5.75
Yellowstone County	B5	RM 352.54	87461.4	200-yr	2489.05	917.27	912.57	2.37	1.65	35.1	15.36	267.49	2424.53	2.98	1.3	4.7	4.7
Yellowstone County	B5	RM 352.47	87340.46	200-yr	2489.05	917.16	912.2	2.23	1.47	30.38	16.1	231.49	2435.34	2.7	1.43	4.96	4.96
Yellowstone County	B5	RM 352.39	87216.99	200-yr	2489.05	916.78	912.01	3.18	2.03	58.66	26.99	187.91	2071.62	2.36	1.09	5.59	5.59
Yellowstone County	B5	RM 352.31	87079.16	200-yr	2489.05	916.49	910.66	3.08	1.98	67.1	31.01	184.32	1678.17	2.38	1.1	5.83	5.83
Yellowstone County	B5	RM 352.23	86961.03	200-yr	2489.05	916.38	911.35	2.05	1.52	27.97	18.01	261.35	1832.19	2.01	1.29	5.03	5.03
Yellowstone County	B5	RM 352.18	86873.5	200-yr	2489.05	916.24	911.21	2.32	1.77	32.34	18.96	234.83	1685.37	2.36	1.38	5.03	5.03
Yellowstone County	B5	RM 352.09	86723.6	200-yr	2489.05	916.06	912.18	2.45	1.72	38.61	18.42	175.49	1701.59	2.69	1.28	3.88	3.88
Yellowstone County	B5	RM 351.99	86568.41	200-yr	2489.05	915.66	912.6	3.31	2.1	60.78	23.39	149.13	1375.04	2.57	0.99	3.08	3.08
Yellowstone County	B5	RM 351.93	86466.74	200-yr	2489.05	915.57	911.69	2.62	1.72	41.54	22.78	176.2	1703.56	2.28	1.25	3.88	3.88
Yellowstone County	B5	RM 351.88	86386.8	200-yr	2489.05	915.49	911.38	1.96	1.55	31.14	23.96	192.12	1812.89	2.05	1.58	4.11	4.11
Yellowstone County	B5	RM 351.81	86277.68	200-yr	2489.05	915.4	910.99	1.75	1.38	21.7	19.06	243.53	1904.72	1.9	1.67	4.41	4.41
Yellowstone County	B5	RM 351.74	86159.62	200-yr	2489.05	915.1	911.37	1.66	1.59	20.27	19.59	343.03	1774.12	1.34	1.29	4.27	4.27
Yellowstone County	B5	RM 351.67	86034.59	200-yr	2489.05	914.85	911.31	2.03	1.61	30.53	16.79	208.69	1426.92	2.04	1.12	4.47	4.47
Yellowstone County	B5	RM 351.58	85891.33	200-yr	2489.05	914.65	911.47	1.82	1.65	24.77	16.06	239.13	1417.48	2.03	1.32	4.56	4.56
Yellowstone County	B5	RM 351.52	85811.35	200-yr	2489.05	914.5	911.37	2.13	1.79	27.09	18.4	254.32	1074.52	1.98	1.34	3.78	3.78
Yellowstone County	B5	RM 351.47	85728.2	200-yr	2489.05	914.39	911.17	2.16	1.79	25.62	14.14	199.87	1279.73	2.3	1.27	3.85	3.85
Yellowstone County	B5	RM 351.40	85601.48	200-yr	2489.05	914.26	910.26	2.19	1.69	27.48	17.85	161.83	1733.75	2.24	1.45	4.35	4.35
Yellowstone County	B5	RM 351.34	85482.66	200-yr	2489.05	914.17	909.98	1.55	1.47	30.47	16.65	146.46	1750.21	2.66	1.46	4.19	4.19
Yellowstone County	B5	RM 351.25	85342.53	200-yr	2489.05	914.05	909.91	1.59	1.32	18.75	13.69	262.58	1773.25	2.1	1.53	4.17	4.17
Yellowstone County	B5	RM 351.21	85257.19	200-yr	2489.05	913.98	909.48	1.75	1.29	20.75	14.37	212.96	1796.38	2.15	1.48	4.5	4.5
Yellowstone County	B5	RM 351.12	85127.55	200-yr	2489.05	913.91	909.49	1.79	1.32	20.72	13.17	176.75	1627.44	2.39	1.51	4.42	4.42

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	200-yr	2489.05	913.78	908.79	2.17	1.38	28.06	12.93	126.89	1589.7	3.16	1.43	4.99	4.99
Yellowstone County	B5	RM 350.90	84769.91	200-yr	2489.05	913.73	909.27	1.52	1.18	17.12	8.67	104.17	1764.08	3.44	1.71	4.46	4.46
Yellowstone County	B5	RM 350.75	84536.19	200-yr	2489.05	913.57	909.72	1.38	1.54	29.29	19.55	274.63	1389.96	2.34	1.56	4.19	4.19
Yellowstone County	B5	RM 350.66	84383.33	200-yr	2489.05	913.38	909.32	1.81	1.67	38.53	21.58	175.98	1172.96	2.71	1.52	4.06	4.06
Yellowstone County	B5	RM 350.57	84244.69	200-yr	2489.05	913.08	908.48	2.24	1.79	52.57	25.18	152.25	951.5	3.08	1.46	4.6	4.6
Yellowstone County	B5	RM 350.50	84128.62	200-yr	2489.05	912.82	908.49	2.42	1.93	59.19	29.56	161.33	917.42	2.82	1.4	4.33	4.33
Yellowstone County	B5	RM 350.40	83974.24	200-yr	2489.05	912.6	908.73	1.89	1.72	30.52	22.6	318.77	899.37	2.18	1.61	3.87	3.87
Yellowstone County	B5	RM 350.33	83868.06	200-yr	2489.05	912.47	908.17	1.92	1.67	24.85	19.18	326.5	908.24	2.21	1.71	4.3	4.3
Yellowstone County	B5	RM 350.23	83712.91	200-yr	2489.05	912.24	907.61	2.14	1.72	33.39	23.3	300.73	1086.11	2.21	1.54	4.63	4.63
Yellowstone County	B5	RM 350.14	83563.43	200-yr	2489.05	912.06	907.94	1.93	1.56	29.04	19.77	302.77	1242.36	2.28	1.55	4.12	4.12
Yellowstone County	B5	RM 350.06	83419.86	200-yr	2489.05	911.85	907.84	1.77	1.47	29.1	19.07	344.59	1411.34	2.22	1.45	4.01	4.01
Yellowstone County	B5	RM 349.94	83229.4	200-yr	2489.05	911.64	906.93	1.82	1.41	26.56	15.21	284.73	1589.87	2.42	1.38	4.71	4.71
Yellowstone County	B5	RM 349.83	83071.99	200-yr	2489.05	911.5	907.36	1.82	1.21	17.48	8.02	370.02	1566.17	3.11	1.43	4.14	4.14
Yellowstone County	B5	RM 349.68	82904.73	200-yr	2489.05	911.3	906.92	2.17	1.46	35.18	17.42	348.15	1591.36	2.62	1.29	4.38	4.38
Yellowstone County	B5	RM 349.54	82632.78	200-yr	2489.05	910.91	906.29	2.18	1.71	30.42	18.16	449.31	1335.84	2.31	1.38	4.62	4.62
Yellowstone County	B5	RM 349.33	82276.28	200-yr	2489.05	910.64	906.45	1.46	1.29	18.43	13.78	351.95	1331.98	2.42	1.81	4.19	4.19
Yellowstone County	B5	RM 349.19	82046.53	200-yr	2489.05	910.31	905.16	2.24	1.48	29.48	16.28	282.11	1830.96	2.51	1.38	5.15	5.15
Yellowstone County	B5	RM 349.04	81800.47	200-yr	2619.31	910.13	904.5	1.8	1.34	19.76	11.41	345.54	2155.19	2.7	1.55	5.63	5.63
Yellowstone County	B5	RM 348.89	81574.02	200-yr	2619.31	910	904.75	1.43	1.2	21.25	12.75	550.23	2073.21	2.91	1.74	5.25	5.25
Yellowstone County	B5	RM 348.77	81370.46	200-yr	2619.31	909.84	905.09	1.52	1.24	26.54	15.31	461.7	1941.11	3	1.72	4.75	4.75
Yellowstone County	B5	RM 348.64	81138.52	200-yr	2619.31	909.64	903.35	1.91	1.31	20.88	9.49	295.48	1806.49	3.63	1.64	6.29	6.29
Yellowstone County	B5	RM 348.52	80960.09	200-yr	2619.31	909.47	902.88	2.26	1.52	40.52	15.81	208.15	1661.64	4.01	1.55	6.59	6.59
Yellowstone County	B5	RM 348.38	80737.31	200-yr	2619.31	909.05	902.85	2.9	1.84	59.35	19.48	187.16	1231.28	3.9	1.27	6.2	6.2
Yellowstone County	B5	RM 348.26	80551.51	200-yr	2619.31	908.83	902.73	2.71	1.76	59.77	20.19	168.37	1191.74	4.1	1.37	6.1	6.1
Yellowstone County	B5	RM 348.09	80276.34	200-yr	2619.31	908.53	901.64	2.57	1.64	42.12	15.6	171.66	1048.1	4.14	1.53	6.89	6.89
Yellowstone County	B5	RM 347.95	80055.79	200-yr	2619.31	908.28	902.96	2.71	1.82	34.77	11.13	165.09	1200.16	4.34	1.39	5.32	5.32
Yellowstone County	B5	RM 347.82	79844.2	200-yr	2619.31	908.16	902.93	2.3	1.6	42.65	15.85	180.88	1224.67	4.04	1.5	5.23	5.23
Yellowstone County	B5	RM 347.77	79751.93	200-yr	2619.31	908.06	902.38	2.29	1.49	43.36	15.95	178.59	1173.3	4.08	1.5	5.69	5.69
Yellowstone County	B5	RM 347.70	79643.98	200-yr	2619.31	907.97	901.91	2.16	1.38	37.99	16.28	182.31	1208.67	4.03	1.72	6.06	6.06
Yellowstone County	B5	RM 347.61	79501.64	200-yr	2619.31	907.89	902.2	2.01	1.24	19.76	11.23	192.93	1330.31	4.33	2.46	5.69	5.69
Yellowstone County	B5	RM 347.51	79347.38	200-yr	2619.31	907.41	900.54	3.52	2.13	56.04	25.02	112.36	1173.88	4.97	2.2	6.87	6.87
Yellowstone County	B5	RM 347.42	79196.21	200-yr	2619.31	907.33	900.73	2.89	2.14	76.4	41.51	148.41	1267.03	4.34	2.35	6.6	6.6
Yellowstone County	B5	RM 347.35	79079.87	200-yr	2619.31	907.4	900.77	1.51	1.51	11.18	11.17	499.22	1491.76	3.47	3.47	6.63	6.63
Yellowstone County	B5	RM 347.23	78895.71	200-yr	2619.31	907.31	900.89	1.6	1.59	15.15	14.45	510.41	1660.37	3.19	3.04	6.42	6.42
Yellowstone County	B5	RM 347.13	78732.21	200-yr	2619.31	907.18	900.98	1.74	1.66	32.97	26.15	441.51	1544.9	3.33	2.63	6.2	6.2
Yellowstone County	B5	RM 346.93	78400.21	200-yr	2619.31	906.6	900.98	2.02	1.89	75.83	63.96	465.4	1629.41	2.68	2.26	5.62	5.62
Yellowstone County	B5	RM 346.80	78193.27	200-yr	2619.31	906.06	900.02	2.07	1.74	57.71	43.25	454.92	1320.41	2.5	1.87	6.04	6.04
Yellowstone County	B5	RM 346.64	77938.83	200-yr	2619.31	905.77	900.47	2.19	1.48	24.84	12.04	247.6	1151.87	3.77	1.82	5.3	5.3
Yellowstone County	B5	RM 346.49	77706.6	200-yr	2619.31	905.52	900.21	2.63	1.54	40.57	15.19	176.88	1198.19	3.95	1.46	5.31	5.31
Yellowstone County	B6	RM 346.35	77480.6	200-yr	2619.31	905.33	900.33	2.34	1.45	37.63	16.82	214.9	1091.07	3.85	1.71	5	5
Yellowstone County	B6	RM 346.23	77285.9	200-yr	2619.31	905.07	900.11	2.71	1.58	37.31	15.13	177.72	1004.29	4.11	1.65	4.96	4.96
Yellowstone County	B6	RM 346.11	77095.33	200-yr	2619.31	904.87	899.75	2.67	1.73	48.94	21	182.61	992.72	4.08	1.75	5.12	5.12
Yellowstone County	B6	RM 346.00	76926.16	200-yr	2619.31	904.68	899.8	2.68	1.74	41.4	18.05	178.2	1035.64	4.23	1.83	4.88	4.88
Yellowstone County	B6	RM 345.90	76766.95	200-yr	2619.31	904.38	899.51	3.01	1.98	58.26	27.38	179.39	1019.3	3.99	1.87	4.87	4.87
Yellowstone County	B6	RM 345.80	76608.55	200-yr	2619.31	904.23	899.04	2.71	1.85	43.09	21.34	200.74	1128.19	4	1.97	5.33	5.33
Yellowstone County	B6	RM 345.73	76484.99	200-yr	2619.31	904.04	899.01	2.88	1.93	47.63	23.06	198.24	1069.11	3.68	1.78	5.14	5.14
Yellowstone County	B6	RM 345.67	76386.71	200-yr	2619.31	903.99	899.1	2.48	1.66	34.83	17.43	212.67	829	3.99	1.99	5.09	5.09
Yellowstone County	B6	RM 345.60	76268.76	200-yr	2619.31	903.88	899.22	2.43	1.7	38.23	20.73	235.37	818.58	3.63	1.96	4.98	4.98
Yellowstone County	B6	RM 345.50	76118.1	200-yr	2619.31	903.73	899.07	2.09	1.72	46.22	31.49	280.8	817.77	3.26	2.21	4.83	4.83
Yellowstone County	B6	RM 345.37	75909.53	200-yr	2619.31	903.26	897.51	2.55	2.08	50.96	26.83	316.61	1017.25	3.04	1.59	5.75	5.75
Yellowstone County	B6	RM 345.27	75751.01	200-yr	2619.31	903.02	898.15	2.66	1.85	42.41	19.18	252.45	1159.99	3.42	1.54	4.87	4.87
Yellowstone County	B6	RM 345.07	75427.56	200-yr	2619.31	902.8	897.07	2.22	1.55	25.97	11.68	241.2	1203.1	3.96	1.77	5.73	5.73
Yellowstone County	B6	RM 344.90	75166.64	200-yr	2619.31	902.69	897.3	1.88	1.35	19.7	8.65	294.53	1155.63	3.83	1.68	5.39	5.39
Yellowstone County	B6	RM 344.75	74927.69	200-yr	2619.31	902.49	896.02	2.17	1.55	36.64	15.97	236.07	1044.4	3.99	1.73	6.47	6.47
Yellowstone County	B6	RM 344.64	74743.45	200-yr	2619.31	902.05	895.93	3.13	2.02	51.11	17.03	158.71	935.19	4.47	1.48	6.12	6.12
Yellowstone County	B6	RM 344.53	74576.12	200-yr	2619.31	901.9	895.39	2.8	1.85	64.87	23.84	162.09	1018.52	4.2	1.54	6.51	6.51
Yellowstone County	B6	RM 344.43	74405.67	200-yr	2619.31	901.76	896.11	2.56	1.56	31.35	12.39	179.43	1181.97	4.02	1.59	5.65	5.65
Yellowstone County	B6	RM 344.29	74192.79	200-yr	2619.31	901.61	895.87	2.39	1.55	33.26	12.54	179.75	1066.02	4.23	1.59	5.74	5.74
Yellowstone County	B6	RM 344.13	73931.76	200-yr	2619.31	901.29	895.4	2.77	1.75	43.39	12.14	157.02	1185.89	4.53	1.26	5.89	5.89
Yellowstone County	B6	RM 343.87	73520.95	200-yr	2619.31	901.02	895.23	2.23	1.53	25.55	9.95	287.43	1253.97	3.52	1.36	5.79	5.79
Yellowstone County	B6	RM 343.80	73403.19	200-yr	2619.31	900.99	894.69	1.65	1.28	29.72	14.72	356.81	1240.62	3.35	1.65	6.3	6.3

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	200-yr	2619.31	900.72	894.63	1.7	1.44	42.68	21.24	395.93	1190.23	3.08	1.53	6.09	6.09
Yellowstone County	B6	RM 343.55	72997.33	200-yr	2619.31	900.46	894.63	1.81	1.54	43.22	22.89	370.64	984.4	3.27	1.72	5.83	5.83
Yellowstone County	B6	RM 343.45	72840.49	200-yr	2619.31	900.22	894.78	1.94	1.67	41.08	22.3	401.83	972.37	2.98	1.61	5.44	5.44
Yellowstone County	B6	RM 343.37	72718.86	200-yr	2619.31	899.98	894.5	2.16	1.81	54.68	27.7	343.26	969.12	2.96	1.49	5.48	5.48
Yellowstone County	B6	RM 343.29	72586.22	200-yr	2619.31	899.71	894.28	2.3	1.81	50.56	22.93	280.46	935.84	3.43	1.55	5.43	5.43
Yellowstone County	B6	RM 343.21	72458.03	200-yr	2619.31	899.51	893.99	2.08	1.7	60.65	32.1	357.2	981.26	2.99	1.57	5.52	5.52
Yellowstone County	B6	RM 343.14	72328.78	200-yr	2619.31	899.21	893.94	2.03	1.69	65.92	40.06	432.95	988.65	2.58	1.56	5.27	5.27
Yellowstone County	B6	RM 343.04	72174.44	200-yr	2619.31	899.01	894.12	1.85	1.48	22.47	14.01	485.75	1063.2	2.67	1.66	4.89	4.89
Yellowstone County	B6	RM 342.96	72046.7	200-yr	2619.31	898.87	894.17	1.73	1.47	44.14	29.5	506.91	1148.25	2.52	1.68	4.7	4.7
Yellowstone County	B6	RM 342.87	71890.42	200-yr	2619.31	898.56	893.92	1.72	1.48	51.47	34.64	541.52	1206.5	2.29	1.54	4.64	4.64
Yellowstone County	B6	RM 342.78	71759.64	200-yr	2619.31	898.38	893.85	1.76	1.42	18	12.33	525.29	1405.42	2.27	1.55	4.53	4.53
Yellowstone County	B6	RM 342.71	71649.64	200-yr	2619.31	898.3	893.88	1.65	1.34	15.98	10.89	525.62	1796.37	2.19	1.49	4.42	4.42
Yellowstone County	B6	RM 342.64	71534.72	200-yr	2619.31	898.18	893.45	1.45	1.29	33.01	22.81	689.62	2298.24	2.18	1.5	4.73	4.73
Yellowstone County	B6	RM 342.59	71441.82	200-yr	2619.31	898.01	893.13	1.52	1.38	38.29	24.42	689.86	2401.87	2.17	1.38	4.88	4.88
Yellowstone County	B6	RM 342.49	71299.94	200-yr	2619.31	897.82	892.73	1.38	1.22	25.62	14.74	666.31	2645.29	2.56	1.47	5.09	5.09
Yellowstone County	B6	RM 342.40	71182.23	200-yr	2619.31	897.73	892.4	1.24	1.08	20.33	10.67	600.2	2695.89	3.14	1.64	5.33	5.33
Yellowstone County	B6	RM 342.29	70973.95	200-yr	2619.31	897.53	891.26	1.57	1.32	28.01	13.63	481.91	2530.69	2.97	1.44	6.27	6.27
Yellowstone County	B6	RM 342.17	70788.09	200-yr	2619.31	897.2	891.21	2.11	1.72	53.65	23.87	379.71	2260.39	2.69	1.19	5.99	5.99
Yellowstone County	B6	RM 342.09	70668.79	200-yr	2619.31	897.04	892.22	1.91	1.56	40.14	17.83	378.68	2054.76	3.08	1.36	4.82	4.82
Yellowstone County	B6	RM 341.96	70472.35	200-yr	2619.31	896.89	891.5	1.72	1.44	17.45	10.07	503.95	1885.11	2.69	1.55	5.39	5.39
Yellowstone County	B6	RM 341.82	70207.79	200-yr	2619.31	896.75	890.89	1.42	1.28	19.16	12.58	582.05	1222.25	2.89	1.9	5.86	5.86
Yellowstone County	B6	RM 341.68	69974.03	200-yr	2619.31	896.55	890.38	1.61	1.45	26.53	16.97	481.57	1008.06	3.1	1.98	6.17	6.17
Yellowstone County	B6	RM 341.57	69788.71	200-yr	2619.31	896.27	889.58	2.17	1.95	24.36	15.37	434.55	823.74	2.66	1.67	6.69	6.69
Yellowstone County	B6	RM 341.47	69629.19	200-yr	2619.31	896.07	889.76	2	1.87	57.83	42.26	395.38	828.53	3.05	2.23	6.31	6.31
Yellowstone County	B6	RM 341.32	69391.37	200-yr	2619.31	895.59	890.36	2.07	1.91	56.51	42.38	401.56	775.72	2.93	2.2	5.23	5.23
Yellowstone County	B6	RM 341.24	69252.71	200-yr	2619.31	895.48	890.28	1.88	1.62	19.81	13.79	396.74	932.98	3.15	2.19	5.2	5.2
Yellowstone County	B6	RM 341.11	69044.61	200-yr	2619.31	895.19	890	2.35	1.77	41.6	21.42	324.7	948.07	3.05	1.56	5.19	5.19
Yellowstone County	B6	RM 340.94	68773.18	200-yr	2619.31	894.89	889.22	2.25	1.51	35.78	18.96	280.24	1007.2	3.36	1.78	5.67	5.67
Yellowstone County	B6	RM 340.81	68556.42	200-yr	2619.31	894.79	889.05	1.65	1.12	22.23	11.67	315.44	1253.21	3.56	1.86	5.74	5.74
Yellowstone County	B6	RM 340.65	68325.7	200-yr	2619.31	894.57	888.87	2.29	1.3	24.97	11.23	204.11	1078.44	4.15	1.86	5.7	5.7
Yellowstone County	B6	RM 340.52	68126.27	200-yr	2619.31	894.37	887.3	2.67	1.45	46.16	16.41	130.27	978.87	5.22	1.84	7.07	7.07
Yellowstone County	B6	RM 340.40	67936.51	200-yr	2619.31	894.24	886.73	2.32	1.44	43.13	18.81	170.6	913.4	4.73	2.05	7.51	7.51
Yellowstone County	B7	RM 340.26	67715.84	200-yr	2619.31	893.96	887.99	2.28	1.7	58.05	32.21	252.4	739.33	3.77	2.09	5.97	5.97
Yellowstone County	B7	RM 340.16	67550.99	200-yr	2619.31	893.68	888.43	2.16	1.73	66.42	40.42	313.83	762.8	3.27	1.98	5.25	5.25
Yellowstone County	B7	RM 340.06	67387.35	200-yr	2619.31	893.37	888.74	2.17	1.84	49.45	30.07	315.76	694.39	3.37	2.05	4.63	4.63
Yellowstone County	B7	RM 339.96	67234.59	200-yr	2619.31	893.11	888.85	2.38	2.15	31.99	22.18	361.01	606.82	2.9	2	4.26	4.26
Yellowstone County	B7	RM 339.88	67094.07	200-yr	2619.31	892.95	888.78	2.09	1.96	45.72	36.47	445.51	622.89	2.69	2.15	4.17	4.17
Yellowstone County	B7	RM 339.79	66960.51	200-yr	2619.31	892.66	888.98	2.3	2.25	37.47	30.37	511.88	647.45	2.22	1.79	3.68	3.68
Yellowstone County	B7	RM 339.72	66843.76	200-yr	2619.31	892.54	888.72	2.05	1.95	27.44	24.7	513.93	658.93	2.43	2.19	3.82	3.82
Yellowstone County	B7	RM 339.66	66753.41	200-yr	2619.31	892.49	887.9	1.8	1.7	19.84	17.43	525.58	714.92	2.69	2.36	4.59	4.59
Yellowstone County	B7	RM 339.52	66527.74	200-yr	2619.31	892.3	887.31	2.06	1.58	22.15	14.84	312.36	967.94	3.54	2.37	4.99	4.99
Yellowstone County	B7	RM 339.37	66324.85	200-yr	2619.31	892.12	887.17	2.21	1.61	45.45	25.65	232.31	1266.93	3.79	2.13	4.95	4.95
Yellowstone County	B7	RM 339.24	66108.49	200-yr	2619.31	891.62	886.45	3.01	2.16	47.31	26.01	218.09	1292.3	3.23	1.77	5.17	5.17
Yellowstone County	B7	RM 339.13	65940.41	200-yr	2619.31	891.4	885.31	3.06	1.99	56.09	27.18	143.34	1065.2	3.83	1.84	6.09	6.09
Yellowstone County	B7	RM 339.02	65745.93	200-yr	2619.31	891.04	886.09	3.13	2.18	51.29	23.6	187.64	1100.22	3.39	1.56	4.95	4.95
Yellowstone County	B7	RM 338.94	65621.59	200-yr	2619.31	890.99	886.36	2.55	1.76	34.16	18.77	223.57	1205.73	3.24	1.78	4.63	4.63
Yellowstone County	B7	RM 338.83	65433.26	200-yr	2619.31	890.81	886.37	2.27	1.66	36.68	20.88	225.04	1095.1	3.27	1.86	4.79	4.79
Yellowstone County	B7	RM 338.72	65256.88	200-yr	2619.31	890.56	886.18	2.37	1.92	43.16	26.56	205.92	793.54	3.51	2.16	4.76	4.76
Yellowstone County	B7	RM 338.62	65095.08	200-yr	2619.31	890.18	886.28	3.07	2.33	50.15	29.93	179.43	788.8	3.29	1.96	4.56	4.56
Yellowstone County	B7	RM 338.49	64891.36	200-yr	2619.31	890	885.05	2.67	2.03	37.53	22.73	174.43	909.61	3.42	2.07	4.95	4.95
Yellowstone County	B7	RM 338.40	64742.15	200-yr	2619.31	889.99	884.28	1.84	1.53	17.16	11.8	166.08	947.71	3.58	2.45	5.71	5.71
Yellowstone County	B7	RM 338.29	64577.05	200-yr	2619.31	889.87	884.18	2.22	1.57	25.42	12.43	123.01	1005.76	3.96	1.93	5.69	5.69
Yellowstone County	B7	RM 338.19	64384.71	200-yr	2619.31	889.82	885.23	1.55	1.25	14.39	10.62	393.33	1186.13	2.99	2.21	4.59	4.59
Yellowstone County	B7	RM 338.06	64164.59	200-yr	2619.31	889.74	884.64	1.59	1.1	15.25	9.31	284.25	1218.69	3.52	2.15	5.1	5.1
Yellowstone County	B7	RM 337.91	63921.69	200-yr	2619.31	889.57	884.16	2.05	1.25	20.29	10.9	205.66	1261.97	3.8	2.04	5.41	5.41
Yellowstone County	B7	RM 337.83	63789.53	200-yr	2619.31	889.26	882.72	2.94	1.72	49.61	21.8	178.5	917.4	3.8	1.66	6.54	6.54
Yellowstone County	B7	RM 337.75	63667.96	200-yr	2619.31	888.89	881.69	3.56	2.02	65.8	24.66	143.46	872.25	3.99	1.48	7.2	7.2
Yellowstone County	B7	RM 337.68	63550.4	200-yr	2619.31	888.69	882.49	3.42	2.18	69.27	24.17	161.63	854.59	4.04	1.41	6.2	6.2
Yellowstone County	B7	RM 337.58	63396.62	200-yr	2619.31	888.47	883.62	3.26	2.11	54.57	22.64	189.36	864.15	3.45	1.43	4.85	4.85
Yellowstone County	B7	RM 337.47	63212.44	200-yr	2619.31	888.33	883.31	2.74	1.79	44.77	18.95	178.55	953.01	3.64	1.53	5.02	5.02
Yellowstone County	B7	RM 337.38	63064.58	200-yr	2619.31	888.14	883.29	2.83	1.7	40.51	16.34	177.51	1095.92	3.51	1.41	4.85	4.85

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	200-yr	2619.31	888.13	883.15	1.91	1.21	18.02	8.41	210.44	1298.68	3.57	1.66	4.98	4.98
Yellowstone County	B7	RM 337.16	62717.85	200-yr	2619.31	888.09	882.57	1.47	1.12	11.33	7.54	398.55	1483.55	3.18	2.12	5.52	5.52
Yellowstone County	B7	RM 337.04	62524.52	200-yr	2619.31	888.01	879.61	1.74	1.14	15.08	7	154.88	1521.56	5.04	2.33	8.4	8.4
Yellowstone County	B7	RM 336.96	62390.64	200-yr	2619.31	887.94	880.21	1.85	1.31	24.51	12.11	186.18	1578.76	4.48	2.2	7.73	7.73
Yellowstone County	B7	RM 336.87	62246.97	200-yr	2619.31	887.8	881.41	2.24	1.47	27.18	12.76	156.32	1638.94	4.63	2.16	6.39	6.39
Yellowstone County	B7	RM 336.80	62131.42	200-yr	2619.31	887.74	881.33	2.1	1.45	34.33	17.32	162.29	1542.52	4.28	2.15	6.41	6.41
Yellowstone County	B7	RM 336.72	62005.73	200-yr	2619.31	887.5	881.38	2.71	1.7	54.63	19.79	136.15	1213.93	4.48	1.61	6.12	6.12
Yellowstone County	B7	RM 336.66	61902.64	200-yr	2619.31	887	881.45	3.8	2.42	98.24	29.22	117.37	885.07	4.16	1.23	5.55	5.55
Yellowstone County	B7	RM 336.59	61800.43	200-yr	2619.31	886.9	880.66	3.19	2.09	72.47	22.44	135.93	900.95	4.52	1.39	6.24	6.24
Yellowstone County	B7	RM 336.52	61689.55	200-yr	2619.31	886.74	881.76	3.08	1.99	58.41	21.9	145.49	905.74	3.88	1.46	4.98	4.98
Yellowstone County	B7	RM 336.46	61580.5	200-yr	2619.31	886.62	882.13	2.77	1.89	57.75	23.25	162.48	963.87	3.59	1.44	4.49	4.49
Yellowstone County	B7	RM 336.40	61491.01	200-yr	2619.31	886.45	882.03	2.87	1.86	59.34	24.53	162.53	1008.12	3.66	1.51	4.42	4.42
Yellowstone County	B7	RM 336.34	61394.22	200-yr	2619.31	886.3	881.93	2.92	1.81	54.52	25.03	163.69	987.57	3.48	1.59	4.37	4.37
Yellowstone County	B7	RM 336.27	61278.9	200-yr	2619.31	886.13	881.67	2.82	1.71	50.68	23.29	169.95	1043.5	3.46	1.59	4.46	4.46
Yellowstone County	B7	RM 336.19	61159.07	200-yr	2619.31	885.96	882.11	2.71	1.8	39.51	20.75	211.78	1067.54	2.73	1.43	3.85	3.85
Yellowstone County	B7	RM 336.09	60993.57	200-yr	2619.31	885.81	882.16	2.13	1.46	28.03	17.73	319.78	1152.29	2.61	1.65	3.65	3.65
Yellowstone County	B7	RM 335.98	60812.26	200-yr	2619.31	885.65	881.93	1.55	1.41	29.77	24.11	442.1	1351.79	2.18	1.76	3.92	3.92
Yellowstone County	B7	RM 335.89	60669.74	200-yr	2619.31	885.47	880.16	1.77	1.6	18.73	16.63	737.52	1470.76	1.81	1.61	5.31	5.31
Yellowstone County	B7	RM 335.77	60465.85	200-yr	2619.31	885.14	880.49	1.69	1.64	48.7	43.64	881.3	1630.7	1.61	1.44	4.65	4.65
Yellowstone County	B7	RM 335.68	60324.8	200-yr	2619.31	884.83	880.65	1.9	1.76	19.29	16.89	885.06	2286.16	1.49	1.3	4.18	4.18
Yellowstone County	B7	RM 335.59	60183.7	200-yr	2619.31	884.64	880.3	1.87	1.72	20.25	17.03	921.33	2346.02	1.45	1.22	4.34	4.34
Yellowstone County	B7	RM 335.51	60046.12	200-yr	2619.31	884.46	880.03	1.84	1.67	18.31	14.63	944.99	2764.44	1.44	1.15	4.43	4.43
Yellowstone County	B7	RM 335.41	59899.97	200-yr	2619.31	884.36	879.45	1.45	1.27	14.38	11.58	911.11	2723.66	1.82	1.46	4.91	4.91
Yellowstone County	B7	RM 335.36	59814.82	200-yr	2619.31	884.35	878.65	1.12	0.95	7.31	5.56	896.25	2959.7	2.38	1.81	5.7	5.7
Yellowstone County	B7	RM 335.12	59393.71	200-yr	2619.31	884.1	878.54	1.87	1.05	19.21	8.22	331.92	3384.77	2.96	1.26	5.56	5.56
Yellowstone County	B7	RM 335.03	59228.59	200-yr	2619.31	883.83	876.8	2.89	1.32	55.3	16.04	149.84	2862.86	3.48	1	7.03	7.03
Yellowstone County	B7	RM 334.91	59041.32	200-yr	2619.31	883.63	878.31	2.28	1.16	36.25	13.95	229.84	2426.25	2.95	1.13	5.32	5.32
Yellowstone County	B7	RM 334.85	58937.73	200-yr	2619.31	883.5	878.66	2.24	1.12	36.45	14.16	224.38	2546.25	3.01	1.17	4.84	4.84
Yellowstone County	B7	RM 334.73	58737.5	200-yr	2619.31	883.1	879.52	2.93	1.41	50.48	16.48	192.81	2094.34	3.03	0.99	3.72	3.72
Yellowstone County	B7	RM 334.63	58573.32	200-yr	2619.31	883.01	878.31	2.28	1.23	27.51	11.12	187.59	2250.06	3.1	1.25	4.7	4.7
Yellowstone County	B7	RM 334.54	58424.99	200-yr	2619.31	882.99	877.09	1.2	1.06	14.47	6.52	154.81	2348.03	3.33	1.5	5.9	5.9
Yellowstone County	B7	RM 334.22	57821.07	200-yr	2619.31	882.7	875.76	2.05	1.2	18.91	7.91	197.63	1958.13	4.3	1.79	6.94	6.94
Yellowstone County	B7	RM 334.09	57621.62	200-yr	2619.31	882.49	875.55	2.75	1.62	58.96	19.61	119.41	1802.52	4.17	1.38	6.94	6.94
Yellowstone County	B7	RM 333.98	57440.64	200-yr	2619.31	882.3	875.46	2.66	1.62	34.81	10.16	140.01	1454.14	4.97	1.44	6.84	6.84
Yellowstone County	B7	RM 333.83	57207.78	200-yr	2619.31	882.11	875.4	2.61	1.86	48.6	15.32	163.38	1545.74	4.1	1.28	6.71	6.71
Yellowstone County	B7	RM 333.69	56989.22	200-yr	2619.31	881.84	873.45	2.12	1.81	45.87	20.81	337.33	1406.9	3.46	1.56	8.39	8.39
Yellowstone County	B7	RM 333.54	56738.21	200-yr	2619.31	881.7	874.22	1.46	1.23	23.89	11.95	409.8	1820.32	3.88	1.93	7.48	7.48
Yellowstone County	B7	RM 333.42	56552.03	200-yr	2619.31	881.52	873.42	1.66	1.54	34.21	24.57	426.38	1754.38	3.31	2.37	8.1	8.1
Yellowstone County	B7	RM 333.30	56351.75	200-yr	2619.31	881.16	875.65	1.91	1.83	59.62	45.75	449.89	1181.09	2.82	2.16	5.51	5.51
Yellowstone County	B7	RM 333.19	56177.76	200-yr	2619.31	880.69	875.72	2.3	2.18	56.4	44.99	399.11	654.28	2.69	2.14	4.97	4.97
Yellowstone County	B7	RM 333.09	56027.56	200-yr	2619.31	880.52	875.59	2.08	1.82	24.39	18.26	428.87	1316.79	2.78	2.08	4.93	4.93
Yellowstone County	B7	RM 332.99	55855.76	200-yr	2619.31	880.3	873.86	2.12	1.76	56.43	37.88	385.02	2225.16	2.8	1.87	6.44	6.44
Yellowstone County	B7	RM 332.88	55687.68	200-yr	2619.31	880.15	874.43	1.79	1.52	20.83	13.33	408.96	1854.94	2.97	1.9	5.72	5.72
Yellowstone County	B7	RM 332.77	55504.73	200-yr	2619.31	880.08	875.49	1.57	1.24	13.67	8.2	376.01	2143.93	3.5	2.1	4.59	4.59
Yellowstone County	B7	RM 332.66	55333.33	200-yr	2619.31	879.98	874.96	1.7	1.25	20.14	10.35	334.72	2063.97	3.51	1.8	5.02	5.02
Yellowstone County	B7	RM 332.56	55182.74	200-yr	2619.31	879.87	874.54	1.81	1.25	21.7	9.09	312.08	2209.71	3.82	1.59	5.33	5.33
Yellowstone County	B7	RM 332.47	55059.84	200-yr	2619.31	879.83	873.95	1.66	1.14	19.59	8	281.38	2267.56	4.08	1.66	5.88	5.88
Yellowstone County	B7	RM 332.38	54913.1	200-yr	2619.31	879.49	873.16	2.81	1.68	52.65	13.28	159.71	2118.63	4.63	1.15	6.33	6.33
Yellowstone County	B7	RM 332.33	54822.67	200-yr	2619.31	879.47	872.5	2.31	1.45	54.88	16.47	188.45	2204.55	4.17	1.24	6.97	6.97
Yellowstone County	B7	RM 332.21	54626.48	200-yr	2619.31	879.29	873.4	2.41	1.3	32.15	7.94	173.61	2425.26	4.57	1.12	5.89	5.89
Yellowstone County	B7	RM 332.17	54575.38	200-yr	2619.31	879.24	872.76	2.4	1.22	31.2	7.51	145.13	2549.1	4.97	1.17	6.48	6.48
Yellowstone County	B7	RM 332.08	54422.01	200-yr	2619.31	879.1	873.77	2.42	1.34	38.18	9.53	155.85	2631.65	4.49	1.11	5.33	5.33
Yellowstone County	B7	RM 331.96	54224.76	200-yr	2619.31	878.98	873.18	1.94	1.21	35.53	11.3	205.19	2454.21	3.92	1.24	5.8	5.8
Yellowstone County	B7	RM 331.85	54057.19	200-yr	2619.31	878.78	873.16	2.01	1.35	51.63	15.87	250.21	2364.22	3.78	1.16	5.62	5.62
Yellowstone County	B7	RM 331.74	53882.8	200-yr	2619.31	878.19	872.62	3.28	1.82	68.24	14.06	150.08	2066.22	4.35	0.89	5.57	5.57
Yellowstone County	B8	RM 331.66	53744.64	200-yr	2619.31	878.11	871.68	2.57	1.63	49.09	12.45	219.63	1631.03	3.9	0.98	6.43	6.43
Yellowstone County	B8	RM 331.55	53575.67	200-yr	2619.31	877.91	872.61	2.54	1.72	47.74	14.69	204.4	1376.73	3.62	1.11	5.3	5.3
Yellowstone County	B8	RM 331.41	53354.89	200-yr	2619.31	877.67	872.56	2.52	1.61	42.97	13.86	218.29	1448.89	3.51	1.12	5.11	5.11
Yellowstone County	B8	RM 331.32	53209.79	200-yr	2619.31	877.5	871.92	2.21	1.41	34.19	16.08	275.52	1349.06	2.95	1.38	5.58	5.58
Yellowstone County	B8	RM 331.23	53053.99	200-yr	2619.31	877.35	871.53	1.9	1.37	25.98	15.23	376.53	1228.09	2.68	1.56	5.82	5.82
Yellowstone County	B8	RM 331.14	52919.44	200-yr	2619.31	877.26	871.72	1.71	1.35	21.73	11.8	309.55	1150.99	3.12	1.68	5.54	5.54

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	200-yr	2619.31	877.15	871.29	1.88	1.4	25.05	12.53	305.99	1089.33	3.44	1.71	5.86	5.86
Yellowstone County	B8	RM 331.01	52700.37	200-yr	2619.31	877.04	871.8	1.92	1.43	27.17	13.83	299.81	1082.91	3.39	1.72	5.24	5.24
Yellowstone County	B8	RM 330.93	52576.5	200-yr	2619.31	876.94	871.67	1.95	1.45	28.27	11.17	250.76	1307.28	3.86	1.52	5.27	5.27
Yellowstone County	B8	RM 330.83	52418.21	200-yr	2619.31	876.65	870.75	2.77	1.76	41.33	12.61	141.59	1145.52	4.64	1.4	5.9	5.9
Yellowstone County	B8	RM 330.77	52321.13	200-yr	2619.31	876.59	870.68	2.52	1.58	39.84	15.56	174.99	1595.06	3.99	1.55	5.91	5.91
Yellowstone County	B8	RM 330.68	52174.9	200-yr	2619.31	876.29	870.33	3.13	1.78	50.81	13.59	129.84	1784.11	4.4	1.17	5.96	5.96
Yellowstone County	B8	RM 330.58	52000.46	200-yr	2619.31	876.13	869.72	2.97	1.78	62.2	14.83	118.02	1685.43	4.67	1.1	6.41	6.41
Yellowstone County	B8	RM 330.48	51852.83	200-yr	2619.31	875.95	868.81	3.01	1.65	59.91	14	106.12	1554.21	5.02	1.15	7.14	7.14
Yellowstone County	B8	RM 330.39	51701.57	200-yr	2619.31	875.83	869.32	2.74	1.49	37.93	11.19	134.45	1389.9	4.3	1.26	6.51	6.51
Yellowstone County	B8	RM 330.32	51592.04	200-yr	2619.31	875.68	869.57	2.92	1.62	40.63	11.32	135.54	1319.48	4.42	1.22	6.11	6.11
Yellowstone County	B8	RM 330.25	51473.55	200-yr	2619.31	875.6	868.38	2.75	1.6	39.89	12.49	145.24	1285.66	4.11	1.27	7.22	7.22
Yellowstone County	B8	RM 330.17	51344.77	200-yr	2619.31	875.43	869.9	2.8	1.71	42.35	14.36	152.22	1157.65	3.94	1.33	5.53	5.53
Yellowstone County	B8	RM 330.10	51243.99	200-yr	2619.31	875.2	870.02	3.03	1.91	54.06	18.99	186.44	1122.63	3.5	1.22	5.18	5.18
Yellowstone County	B8	RM 330.05	51150.67	200-yr	2619.31	875.19	869.94	2.2	1.53	29.59	15.05	299	1232.34	2.89	1.46	5.25	5.25
Yellowstone County	B8	RM 329.95	50995.78	200-yr	2619.31	875.02	869.67	2.09	1.55	30.24	15.79	399.27	1187.32	2.73	1.42	5.35	5.35
Yellowstone County	B8	RM 329.86	50853.11	200-yr	2619.31	874.89	869.99	1.8	1.41	28.9	17.22	443.98	1201.29	2.61	1.55	4.9	4.9
Yellowstone County	B8	RM 329.75	50682.47	200-yr	2619.31	874.71	869.45	1.46	1.23	33.88	23.46	611.66	1611.05	2.26	1.56	5.26	5.26
Yellowstone County	B8	RM 329.66	50540.7	200-yr	2619.31	874.45	869.45	1.59	1.37	39.36	28.68	663.8	1415.06	1.86	1.35	5	5
Yellowstone County	B8	RM 329.57	50390.78	200-yr	2619.31	874.19	869.17	1.87	1.47	19.94	13.95	596.67	1329.49	1.98	1.38	5.02	5.02
Yellowstone County	B8	RM 329.49	50267.58	200-yr	2619.31	874.06	869.52	1.88	1.41	20.6	14.38	534.15	1274.29	2.1	1.46	4.54	4.54
Yellowstone County	B8	RM 329.43	50165.22	200-yr	2619.31	874	869.82	1.62	1.31	15.46	10.46	543.15	1094.32	2.71	1.83	4.18	4.18
Yellowstone County	B8	RM 329.37	50053.96	200-yr	2619.31	873.96	869.58	1.57	1.21	14.21	9.42	447.42	1144.04	2.85	1.89	4.38	4.38
Yellowstone County	B8	RM 329.31	49969.13	200-yr	2619.31	873.9	869.66	1.65	1.23	19.98	13.18	378.18	1160.8	2.79	1.84	4.24	4.24
Yellowstone County	B8	RM 329.26	49883.05	200-yr	2619.31	873.82	868.74	1.73	1.24	17.02	10.51	376.88	1228.97	2.79	1.72	5.08	5.08
Yellowstone County	B8	RM 329.20	49785.51	200-yr	2619.31	873.72	868.71	1.87	1.34	20.68	11.78	397.53	1395.29	2.62	1.49	5.01	5.01
Yellowstone County	B8	RM 329.15	49699.71	200-yr	2860	873.66	868.64	1.71	1.29	24.77	14.08	463.75	1397.43	2.8	1.59	5.02	5.02
Yellowstone County	B8	RM 329.08	49597.49	200-yr	2860	873.58	869.34	1.59	1.21	23.68	14.55	471.89	1386.89	2.79	1.71	4.24	4.24
Yellowstone County	B8	RM 328.96	49388.08	200-yr	2860	873.45	868.99	1.74	1.14	20.55	11.04	306.04	1501.8	3.12	1.67	4.46	4.46
Yellowstone County	B8	RM 328.85	49197.37	200-yr	2860	873.3	866.79	1.87	1.32	18.15	11.75	472.88	1444.61	2.32	1.5	6.51	6.51
Yellowstone County	B8	RM 328.75	49036.09	200-yr	2860	873.26	866.93	1.35	1.01	12	9.12	424.64	1456.25	2.58	1.95	6.33	6.33
Yellowstone County	B8	RM 328.68	48920.76	200-yr	2860	873.16	867.09	1.74	1.12	18.92	10.64	303.39	1466.07	3.09	1.73	6.07	6.07
Yellowstone County	B8	RM 328.60	48788.86	200-yr	2860	873	866.36	2.32	1.26	26.32	10.8	196.27	1447.39	3.89	1.57	6.64	6.64
Yellowstone County	B8	RM 328.52	48664.7	200-yr	2860	872.98	867.75	1.95	1.17	20.12	10.47	167.5	1420.38	3.58	1.84	5.23	5.23
Yellowstone County	B8	RM 328.44	48539.46	200-yr	2860	872.86	867.34	2.33	1.28	34.56	13.06	137.92	1287.88	4.68	1.73	5.52	5.52
Yellowstone County	B8	RM 328.36	48405.85	200-yr	2860	872.61	867.12	2.99	1.58	41.84	16.55	131.95	1062.58	4.41	1.71	5.49	5.49
Yellowstone County	B8	RM 328.28	48276.93	200-yr	2860	872.5	867.73	2.52	1.8	50.67	20.42	191.8	997.35	3.95	1.59	5.39	5.39
Yellowstone County	B8	RM 328.16	48097.58	200-yr	2860	872.31	866.7	2.29	1.73	43.75	20.82	224.09	1024.66	3.41	1.62	5.61	5.61
Yellowstone County	B8	RM 328.05	47914.16	200-yr	2860	872.14	866.62	2.08	1.57	32.3	17.36	264.18	992.63	3.41	1.83	5.52	5.52
Yellowstone County	B8	RM 327.93	47729.4	200-yr	2860	871.92	865.67	2.34	1.67	28.09	14.64	305.74	1034.23	3.19	1.66	6.25	6.25
Yellowstone County	B8	RM 327.88	47641.03	200-yr	2860	871.8	866	2.55	1.64	37.88	17.16	246.29	1131	3.42	1.55	5.8	5.8
Yellowstone County	B8	RM 327.81	47525.32	200-yr	2860	871.71	866.29	2.49	1.6	15.68	12.72	433.62	1145.55	1.92	1.56	5.42	5.42
Yellowstone County	B8	RM 327.75	47432.57	200-yr	2860	871.37	865.09	3.46	1.91	52.48	17.58	134.59	1013.98	4.67	1.56	6.28	6.28
Yellowstone County	B8	RM 327.69	47341.24	200-yr	2860	871.06	864.48	4.19	2.26	73.16	23.35	108.28	976.08	4.44	1.4	6.58	6.58
Yellowstone County	B8	RM 327.62	47227.31	200-yr	2860	871.03	863.86	3.49	2.24	58.32	26.04	129.58	837.61	4.21	1.86	7.17	7.17
Yellowstone County	B8	RM 327.56	47124.87	200-yr	2860	871.04	864.46	2.86	1.92	39.21	19.71	158.59	882.53	3.8	1.91	6.58	6.58
Yellowstone County	B8	RM 327.51	47053.82	200-yr	2860	871.04	865.84	2.18	1.65	26.14	19.32	311.44	878.32	2.67	1.97	5.2	5.2
Yellowstone County	B8	RM 327.44	46933.28	200-yr	2860	871.04	866.93	1.37	1.34	12.51	11.19	391.52	883.96	2.71	2.42	4.42	4.42
Yellowstone County	B8	RM 327.37	46817.72	200-yr	2860	870.91	866.26	1.94	1.51	24.76	16.45	342.21	958.92	2.97	1.97	4.65	4.65
Yellowstone County	B8	RM 327.29	46687.12	200-yr	2860	870.84	866.04	1.91	1.4	21.61	13.5	304.88	1049.33	3.12	1.95	4.8	4.8
Yellowstone County	B8	RM 327.23	46600.07	200-yr	2860	870.76	866.25	2.01	1.42	23.14	14.3	287.86	1052.79	3.11	1.92	4.91	4.91
Yellowstone County	B8	RM 327.16	46485.25	200-yr	2860	870.63	865.67	2.2	1.46	31.04	17.95	271.45	1119.01	3.18	1.84	4.96	4.96
Yellowstone County	B8	RM 327.08	46360.36	200-yr	2860	870.58	864.94	1.91	1.35	21.55	13.12	266.92	1139.53	3.6	2.19	5.64	5.64
Yellowstone County	B8	RM 327.00	46240.1	200-yr	2860	870.44	864.56	2.15	1.62	33.77	16.38	227.91	986.28	4.32	2.1	5.88	5.88
Yellowstone County	B8	RM 326.94	46091.8	200-yr	2860	870.35	864.04	2.19	1.53	22.62	10.74	223.67	910.94	4.33	2.05	6.31	6.31
Yellowstone County	B8	RM 326.88	46003.77	200-yr	2860	870.25	864.08	2.45	1.7	37.9	18.29	170.66	906.84	4.11	1.98	6.17	6.17
Yellowstone County	B8	RM 326.82	45901.15	200-yr	2860	870.18	864.18	2.35	1.68	33.06	20.46	201.73	976.32	3.3	2.05	6	6
Yellowstone County	B8	RM 326.78	45830.7	200-yr	2860	870.12	864.46	2.42	1.69	29.59	18.66	163.64	995.73	3.5	2.21	5.66	5.66
Yellowstone County	B8	RM 326.70	45707.6	200-yr	2860	870.06	864.66	2.09	1.59	21.35	16.71	264.61	1055.81	3.02	2.36	5.4	5.4
Yellowstone County	B8	RM 326.64	45589.72	200-yr	2860	869.97	864.92	1.74	1.62	48.57	40.34	431.09	1091.58	2.62	2.18	5.05	5.05
Yellowstone County	B8	RM 326.55	45430.24	200-yr	2860	869.74	864.83	2.15	1.76	25.19	17.58	350.63	973.48	3.17	2.21	4.91	4.91
Yellowstone County	B8	RM 326.45	45281.78	200-yr	2860	869.63	864.12	2.16	1.8	27.07	19.34	340.76	890.56	3.19	2.27	5.51	5.51

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

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Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	200-yr	2860	869.62	864.32	1.77	1.54	17.6	12.91	432.08	1128.12	3.1	2.28	5.3	5.3
Yellowstone County	B8	RM 326.35	45106.57	200-yr	2860	869.59	864.43	1.58	1.29	13.62	9.51	483.02	1304.85	3.4	2.37	5.16	5.16
Yellowstone County	B8	RM 326.28	45022.31	200-yr	2860	869.58	864.61	1.37	1.15	9.52	6.48	548.28	1365.62	4.03	2.74	4.97	4.97
Yellowstone County	B8	RM 326.07	44588.61	200-yr	2860	869.36	862.39	1.73	1.52	14.88	11.75	711.59	1605.33	2.14	1.69	6.97	6.97
Yellowstone County	B8	RM 326.00	44481.07	200-yr	2860	869.3	861.24	1.67	1.47	13.75	11.04	749.88	1592.65	2.13	1.71	8.06	8.06
Yellowstone County	B8	RM 325.94	44379.11	200-yr	2860	869.24	861.85	1.35	1.26	30.29	25.38	828.65	1574.09	2.27	1.9	7.39	7.39
Yellowstone County	B8	RM 325.89	44304.17	200-yr	2860	869.14	863	1.27	1.2	27.87	23.86	845.45	1345.61	2.35	2.01	6.14	6.14
Yellowstone County	B8	RM 325.86	44262.16	200-yr	2860	869.1	863.76	1.36	1.22	10.3	8.79	823.77	1142.51	2.42	2.06	5.34	5.34
Yellowstone County	B8	RM 325.81	44176.46	200-yr	2860	869.06	863.1	1.33	1.18	10.35	9.16	846.47	1174.93	2.34	2.07	5.96	5.96
Yellowstone County	B8	RM 325.76	44089.5	200-yr	2860	869.01	862.66	1.2	1.1	23.59	19.8	851.39	1304.4	2.47	2.07	6.35	6.35
Yellowstone County	B8	RM 325.69	43989.97	200-yr	2860	868.94	862.55	1.36	1.05	10.07	6.86	625.32	1418.85	2.96	2.01	6.39	6.39
Yellowstone County	B8	RM 325.58	43809.68	200-yr	2860	868.86	862.61	1.33	1.04	26.03	16.15	476.8	1284.82	3.47	2.14	6.25	6.25
Yellowstone County	B8	RM 325.50	43680.96	200-yr	2860	868.72	862.6	1.52	1.19	31.25	17.71	434.18	1242.22	3.46	1.94	6.12	6.12
Yellowstone County	B8	RM 325.43	43556.76	200-yr	2860	868.6	860.89	1.53	1.21	33.58	18.9	387.13	1146.85	3.7	2.07	7.71	7.71
Yellowstone County	B8	RM 325.37	43461.41	200-yr	2860	868.54	861.36	1.43	1.16	28.84	15.93	345.34	1137.21	3.92	2.16	7.18	7.18
Yellowstone County	B8	RM 325.30	43343.13	200-yr	2860	868.42	861.56	1.77	1.28	27.18	13.03	267.17	1094.62	4.29	2.04	6.86	6.86
Yellowstone County	B8	RM 325.21	43210.67	200-yr	2860	868.26	861.34	2.21	1.49	30	11.98	204.83	1009.65	4.81	1.91	6.92	6.92
Yellowstone County	B8	RM 325.13	43078.9	200-yr	2860	868.1	861.36	2.57	1.62	42.06	15.2	149.6	898.35	5.48	1.96	6.74	6.74
Yellowstone County	B8	RM 325.06	42966.54	200-yr	2860	867.72	860.78	3.48	2.13	75.29	24.03	123.29	812.53	5.24	1.65	6.94	6.94
Yellowstone County	B8	RM 324.99	42864.51	200-yr	2860	867.65	861.24	3.07	1.87	62.45	23.48	135.63	833.31	4.93	1.83	6.41	6.41
Yellowstone County	B8	RM 324.91	42729.7	200-yr	2860	867.42	860.76	3.18	1.94	68.92	24.79	133.44	806.65	5.12	1.83	6.66	6.66
Yellowstone County	B8	RM 324.81	42573.19	200-yr	2860	867.16	860.39	3.25	2.15	75.49	27.29	140.39	740.27	4.99	1.79	6.77	6.77
Yellowstone County	B8	RM 324.73	42451.12	200-yr	2860	867.05	861.59	2.91	2.03	54.11	23.98	179.41	733.84	4.35	1.92	5.46	5.46
Yellowstone County	B8	RM 324.65	42323.44	200-yr	2860	866.99	861.99	2.12	1.74	47.1	30.8	300.92	719.95	3.49	2.28	5	5
Yellowstone County	B8	RM 324.56	42178.25	200-yr	2860	866.84	861.76	2.1	1.68	22	17.76	404.18	786.83	2.68	2.17	5.08	5.08
Yellowstone County	B8	RM 324.48	42039.74	200-yr	2860	866.7	861.58	1.86	1.6	48.25	36.36	477.36	891.55	2.67	2.01	5.12	5.12
Yellowstone County	B8	RM 324.42	41946.09	200-yr	2860	866.59	861.04	1.63	1.37	34.02	23.83	478.13	951.09	3.14	2.2	5.55	5.55
Yellowstone County	B8	RM 324.34	41812.99	200-yr	2860	866.38	861.07	1.9	1.46	51.83	32.47	378.78	1023.02	3.06	1.92	5.31	5.31
Yellowstone County	B8	RM 324.28	41712.42	200-yr	2860	866.22	859.64	1.83	1.46	49.44	30.72	364.85	1064.93	2.96	1.84	6.58	6.58
Yellowstone County	B8	RM 324.20	41597.64	200-yr	2860	866.15	860.59	1.19	1.11	20.15	16.03	675.53	1079.99	2.99	2.38	5.56	5.56
Yellowstone County	B8	RM 324.16	41526.97	200-yr	2860	866.04	861.07	1.56	1.4	14.85	11.56	664.74	1182.77	2.5	1.94	4.97	4.97
Yellowstone County	B8	RM 324.10	41434.55	200-yr	2860	865.99	860.81	1.37	1.28	24.9	18.87	691.32	1280.45	2.75	2.08	5.18	5.18
Yellowstone County	B8	RM 324.04	41346.42	200-yr	2860	865.94	860.39	1.27	1.17	16.96	12.43	637.89	1297.7	2.93	2.14	5.55	5.55
Yellowstone County	B8	RM 323.97	41219.29	200-yr	2860	865.87	860.64	1.19	1.11	14.83	10.78	573.41	1167.93	3.04	2.2	5.23	5.23
Yellowstone County	B8	RM 323.83	40977.08	200-yr	2860	865.76	860.31	1.36	1.04	12.91	7.72	454.22	1295.24	3.56	2.13	5.45	5.45
Yellowstone County	B8	RM 323.71	40786.71	200-yr	2860	865.56	858.49	2.16	1.31	27.73	11.49	221.5	1235.38	4.3	1.77	7.07	7.07
Yellowstone County	B8	RM 323.60	40615.85	200-yr	2860	865.56	858.06	1.73	1.16	18.01	7.41	122.28	1171.62	5.19	2.11	7.5	7.5
Yellowstone County	B8	RM 323.55	40536.83	200-yr	2860	865.16	857.58	3.38	1.74	71.35	22.06	115.28	1144.9	4.69	1.44	7.58	7.58
Yellowstone County	B8	RM 323.49	40429.96	200-yr	2860	864.96	858.37	3.43	1.77	68.56	20.85	119.27	1125.87	4.76	1.44	6.59	6.59
Yellowstone County	B8	RM 323.41	40309.21	200-yr	2860	864.84	859.41	3.08	1.76	67.85	24.01	135.74	1068.84	4.33	1.52	5.43	5.43
Yellowstone County	B8	RM 323.33	40186.15	200-yr	2860	864.76	859.58	2.58	1.54	36.04	16.35	175.88	1022.63	4.01	1.81	5.18	5.18
Yellowstone County	B8	RM 323.27	40082.34	200-yr	2860	864.63	859.66	2.64	1.58	42.78	20.08	188.89	998.38	3.88	1.81	4.97	4.97
Yellowstone County	B8	RM 323.21	39985.33	200-yr	2860	864.52	859.54	2.59	1.57	42.88	22.41	211.17	987.76	3.53	1.84	4.98	4.98
Yellowstone County	B8	RM 323.16	39899.29	200-yr	2860	864.48	859.55	1.96	1.38	36.34	22.64	276.01	1020.79	3.26	2.03	4.92	4.92
Yellowstone County	B8	RM 323.06	39735.77	200-yr	2860	864.24	858.56	1.81	1.49	40.02	22.25	311.52	1403.44	2.98	1.65	5.67	5.67
Yellowstone County	B8	RM 322.93	39531.81	200-yr	2860	864.03	859.35	1.72	1.3	27.75	15.48	322.23	1497.09	3.26	1.81	4.68	4.68
Yellowstone County	B8	RM 322.79	39301.41	200-yr	2860	863.8	858.62	2.12	1.33	28.55	13.68	220.82	1490.66	3.82	1.83	5.18	5.18
Yellowstone County	B8	RM 322.69	39142.64	200-yr	2860	863.66	857.47	2.33	1.46	26.15	12.9	200.75	1397.47	3.96	1.95	6.19	6.19
Yellowstone County	B8	RM 322.58	38982.22	200-yr	2860	863.04	856.56	4.06	2.61	99.06	38.03	116.27	734.29	3.92	1.5	6.48	6.48
Yellowstone County	B9	RM 322.51	38859.49	200-yr	2860	862.96	858.28	3.18	2.2	62.12	27.76	163.5	781.21	3.74	1.66	4.68	4.68
Yellowstone County	B9	RM 322.41	38696.02	200-yr	2860	862.87	857.62	1.85	1.73	40.66	27.58	457.58	970.84	2.61	1.76	5.26	5.26
Yellowstone County	B9	RM 322.34	38586.33	200-yr	2860	862.77	857.65	1.52	1.46	26.23	19.8	590.01	1064.18	2.49	1.88	5.12	5.12
Yellowstone County	B9	RM 322.23	38396.25	200-yr	2860	862.62	857.13	1.19	1.19	21.1	17.66	754.46	1142.14	2.52	2.1	5.49	5.49
Yellowstone County	B9	RM 322.13	38239.27	200-yr	2860	862.48	857.1	1.08	1.14	22.88	20.73	880.36	1170.33	2.37	2.14	5.39	5.39
Yellowstone County	B9	RM 322.03	38090.48	200-yr	2860	862.22	856.15	1.28	1.38	45.07	43.74	970.71	1135.81	1.88	1.82	6.06	6.06
Yellowstone County	B9	RM 321.91	37898.13	200-yr	2860	861.89	856.85	1.78	1.78	15.5	15.5	909.37	909.37	1.76	1.76	5.04	5.04
Yellowstone County	B9	RM 321.82	37758.36	200-yr	2860	861.83	856.34	1.55	1.55	9.97	9.86	832.71	842.75	2.22	2.19	5.49	5.49
Yellowstone County	B9	RM 321.70	37567.01	200-yr	2860	861.7	855.27	1.43	1.41	30.22	28.42	809.33	880.05	2.45	2.3	6.43	6.43
Yellowstone County	B9	RM 321.60	37414.63	200-yr	2860	861.61	854.48	1.21	1.2	14.63	13.73	755.42	822.98	3.1	2.9	7.13	7.13
Yellowstone County	B9	RM 321.48	37188.51	200-yr	2860	861.36	855.03	1.76	1.66	34.63	27.92	546.18	747.21	2.86	2.3	6.33	6.33
Yellowstone County	B9	RM 321.38	37016.94	200-yr	2860	861.03	854.75	2.15	1.95	43.69	29.01	471.9	824.53	2.68	1.77	6.28	6.28

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	200-yr	2860	860.91	855.3	1.79	1.5	22.1	12.64	459.37	1026.79	3.26	1.85	5.62	5.62
Yellowstone County	B9	RM 321.13	36652.19	200-yr	2860	860.81	854.69	1.65	1.19	26.9	14.56	274.03	1183.65	4.06	2.17	6.12	6.12
Yellowstone County	B9	RM 321.05	36531.25	200-yr	2860	860.69	855.36	2.05	1.27	21.06	8.21	188.88	1245.19	4.7	1.81	5.33	5.33
Yellowstone County	B9	RM 321.00	36446.98	200-yr	2860	860.61	855.12	2.39	1.43	37.59	13.02	134.73	1275.25	4.62	1.56	5.5	5.5
Yellowstone County	B9	RM 320.71	36404.1*	200-yr	2860	860.47	855.12	2.87	1.53	37.4	12.6	140.13	1304.64	4.35	1.43	5.35	5.35
Yellowstone County	B9	RM 320.62	36361.3*	200-yr	2860	860.43	855.12	2.89	1.52	37.95	12.94	143.76	1467.86	4.21	1.41	5.31	5.31
Yellowstone County	B9	RM 320.92	36318.56	200-yr	2860	860.41	855.12	2.7	1.6	54.24	17.72	134.56	1656.83	4.4	1.4	5.3	5.3
Yellowstone County	B9	RM 320.44	36258.3*	200-yr	2860	860.26	855.19	2.98	1.62	39.3	12.85	154.55	1667.21	4.05	1.3	5.07	5.07
Yellowstone County	B9	RM 320.38	36198.1*	200-yr	2860	860.22	855.26	2.82	1.5	35.93	11.71	161.33	1697.62	4.15	1.33	4.96	4.96
Yellowstone County	B9	RM 320.80	36137.92	200-yr	2860	860.23	855.33	2.38	1.37	39.12	12.71	157.17	1740.35	4.4	1.41	4.9	4.9
Yellowstone County	B9	RM 320.71	35990.21	200-yr	2860	860.19	854.38	1.63	1.16	22.15	8.94	275.47	1732.96	4.24	1.69	5.81	5.81
Yellowstone County	B9	RM 320.54	35839.45	200-yr	2860	860.07	853.99	1.79	1.2	22.48	10.32	324.02	1750.46	3.67	1.66	6.08	6.08
Yellowstone County	B9	RM 320.44	35717.45	200-yr	2860	860.02	854.32	1.69	1.12	16.39	8.42	334.82	1788.69	3.52	1.79	5.7	5.7
Yellowstone County	B9	RM 320.62	35556.9	200-yr	2860	859.94	854.17	1.65	1.19	26.9	13.93	265.5	1663.99	3.73	1.91	5.76	5.76
Yellowstone County	B9	RM 320.38	35461.42	200-yr	2860	859.78	854.17	2.21	1.34	27.71	11.29	196.57	1602.26	4.53	1.81	5.61	5.61
Yellowstone County	B9	RM 320.32	35359.13	200-yr	2860	859.61	854.57	2.78	1.67	49.76	17.09	140.58	1544.04	4.74	1.59	5.04	5.04
Yellowstone County	B9	RM 320.25	35241.01	200-yr	2860	859.18	854.29	3.8	2.16	89.86	27.37	110.85	1503.78	4.47	1.32	4.89	4.89
Yellowstone County	B9	RM 320.20	35163.52	200-yr	2860	859.08	854.2	3.41	2.17	90.28	33.44	134.69	1389.49	3.94	1.43	4.87	4.87
Yellowstone County	B9	RM 320.14	35071.29	200-yr	2860	858.79	854.32	3.49	2.33	81	33.4	161.07	1405.98	3.61	1.47	4.47	4.47
Yellowstone County	B9	RM 320.01	34865.89	200-yr	2860	858.38	854.42	3.09	2.44	48.11	23.48	122.19	948.91	2.96	1.43	4.03	4.03
Yellowstone County	B9	RM 319.91	34707.77	200-yr	2860	858.32	854.66	1.98	1.98	25.77	16.89	143.74	911.18	3.04	1.97	4.74	4.74
Yellowstone County	B9	RM 319.86	34625.68	200-yr	2860	858.31	854.6	1.71	1.74	24.31	16.14	153.74	1023.82	2.96	1.95	4.75	4.75
Yellowstone County	B9	RM 319.78	34508.06	200-yr	2860	858.19	854.51	2.49	1.84	41.43	19.55	111.07	1118.54	3.39	1.58	4.67	4.67
Yellowstone County	B9	RM 319.73	34426.63	200-yr	2860	857.94	854.69	3.31	1.7	56.74	33.07	156.77	984.73	2.94	1.71	4.47	4.47
Yellowstone County	B9	RM 319.66	34314.84	200-yr	2860	857.92	854.51	2.24	1.65	25.3	16.16	158.66	942.44	2.9	1.84	4.49	4.49
Yellowstone County	B9	RM 319.57	34163.05	200-yr	2860	857.77	853.93	2.29	1.84	25.22	17.7	198.21	749.24	2.97	2.07	4.43	4.43
Yellowstone County	B9	RM 319.44	33955.96	200-yr	2860	857.67	853.14	2.11	1.78	28.11	17.59	153.57	798.49	3.26	2.02	4.54	4.54
Yellowstone County	B9	RM 319.39	33872.4	200-yr	2860	857.62	852.65	2.24	1.68	24.65	14.75	137.96	877.04	3.41	2	4.98	4.98
Yellowstone County	B9	RM 319.34	33786.83	200-yr	2860	857.58	852.83	2.13	1.58	21.52	13.56	178.14	854.33	3.4	2.12	4.75	4.75
Yellowstone County	B9	RM 319.22	33580.15	200-yr	2860	857.54	851.79	2.16	1.38	20.26	10.57	80.63	895.11	4.61	2.32	5.75	5.75
Yellowstone County	B9	RM 319.17	33497.33	200-yr	2860	857.53	851.64	1.7	1.32	14.96	9.09	121.71	1049.24	3.82	2.27	5.89	5.89
Yellowstone County	B9	RM 319.09	33368.53	200-yr	2860	857.27	851.25	2.78	1.95	52.01	21.21	136.04	877.98	4.2	1.67	6.02	6.02
Yellowstone County	B9	RM 319.04	33287.21	200-yr	2860	857.04	851.49	3.34	2.05	70.02	23.17	113.28	951.46	4.57	1.46	5.55	5.55
Yellowstone County	B9	RM 318.96	33153.16	200-yr	2860	856.89	851.64	2.91	1.94	61.36	22.66	157.5	964.51	4.2	1.53	5.25	5.25
Yellowstone County	B9	RM 318.91	33065.54	200-yr	2860	856.82	851.86	2.54	1.86	57.54	23.79	189.76	964.1	3.89	1.59	4.96	4.96
Yellowstone County	B9	RM 318.82	32939.33	200-yr	2860	856.51	851.86	3.11	2.06	45.34	17.3	160.72	893.07	4.13	1.55	4.66	4.66
Yellowstone County	B9	RM 318.74	32833.24	200-yr	2860	856.5	851.86	2.44	1.86	38.21	19	185.42	955.8	4.05	1.99	4.65	4.65
Yellowstone County	B9	RM 318.62	32649.76	200-yr	2860	856.37	850.67	1.9	1.65	33.48	20.27	316.37	887.64	3.25	1.95	5.7	5.7
Yellowstone County	B9	RM 318.42	32315.28	200-yr	2860	855.97	850.15	2.25	1.83	27.73	11.58	347.98	1126.12	3.44	1.42	5.82	5.82
Yellowstone County	B9	RM 318.17	31866.42	200-yr	2860	855.62	849.17	2.39	1.45	35.57	12.37	211.8	1385.71	4.47	1.53	6.45	6.45
Yellowstone County	B9	RM 317.97	31551.39	200-yr	2860	855.27	848.35	2.68	1.9	31.6	12.21	238.16	1169.12	4.08	1.56	6.92	6.92
Yellowstone County	B10	RM 317.87	31388.76	200-yr	2860	855.08	848.78	3.03	1.85	47.08	16.23	164.14	1122.71	4.5	1.52	6.3	6.3
Yellowstone County	B10	RM 317.78	31248.07	200-yr	2860	855.08	848.75	2.42	1.45	29.55	9.75	143.48	1432.57	5.2	1.68	6.33	6.33
Yellowstone County	B10	RM 317.70	31120.75	200-yr	2860	855.08	848.56	1.91	1.4	19.17	9.63	172.91	1773.28	4.56	2.25	6.51	6.51
Yellowstone County	B10	RM 317.61	30982.56	200-yr	2860	855.02	848.29	1.94	1.26	18.14	7.93	195.11	1789.22	4.36	1.87	6.73	6.73
Yellowstone County	B10	RM 317.53	30849.94	200-yr	2860	854.98	848.5	1.64	1.24	14.71	8.06	345.3	1795.16	3.81	2.07	6.48	6.48
Yellowstone County	B10	RM 317.45	30723.4	200-yr	2860	854.92	848.47	1.68	1.28	16.8	10.57	370.04	1806.63	3.38	2.11	6.45	6.45
Yellowstone County	B10	RM 317.37	30601.88	200-yr	2860	854.88	848.17	1.48	1.2	16.74	11.72	371.56	1801.08	3.35	2.33	6.71	6.71
Yellowstone County	B10	RM 317.30	30483.81	200-yr	2860	854.8	848.41	1.73	1.26	15.31	9.14	274.06	1671.96	4.06	2.39	6.39	6.39
Yellowstone County	B10	RM 317.19	30302.33	200-yr	2860	854.71	848.84	1.98	1.28	19.23	9.22	162.29	1615.66	5.37	2.52	5.88	5.88
Yellowstone County	B10	RM 317.05	30079.26	200-yr	2860	854.39	848.38	2.76	1.9	33.64	9.38	159.02	1010.79	5.44	1.49	6.01	6.01
Yellowstone County	B10	RM 316.93	29889.26	200-yr	2860	854.13	847.25	3.12	2.09	53.33	17.78	150.51	792.52	5.33	1.73	6.87	6.87
Yellowstone County	B10	RM 316.79	29668.4	200-yr	2860	853.91	847.89	3.07	2.18	53.17	20.72	146.89	620.71	5.54	2.12	6.01	6.01
Yellowstone County	B10	RM 316.66	29466.39	200-yr	2860	853.65	847.86	3.12	2.38	51.14	24.7	163.35	482.76	5.23	2.49	5.79	5.79
Yellowstone County	B10	RM 316.58	29329.04	200-yr	2860	853.54	847.74	2.94	2.07	61.05	30.98	174.67	684.37	4.86	2.44	5.8	5.8
Yellowstone County	B10	RM 316.51	29227.18	200-yr	2860	853.38	847.41	3.03	2.04	56.17	27.67	183.91	723.47	4.44	2.16	5.97	5.97
Yellowstone County	B10	RM 316.43	29091.4	200-yr	2860	853.26	847.41	2.6	1.81	54.14	29.77	240.29	1048.65	3.77	2.05	5.86	5.86
Yellowstone County	B10	RM 316.33	28935.99	200-yr	2860	853	847.74	2.54	1.92	59.49	37.99	286.77	760.42	3.34	2.12	5.26	5.26
Yellowstone County	B10	RM 316.24	28786.65	200-yr	2860	852.8	847.5	2.09	1.77	49.86	29.87	356.21	847.36	3.19	1.9	5.31	5.31
Yellowstone County	B10	RM 316.14	28628.02	200-yr	2860	852.58	846.92	2.1	1.66	38.29	22.71	330.46	797.29	3.68	2.17	5.67	5.67
Yellowstone County	B10	RM 316.05	28475.44	200-yr	2860	852.32	846.73	2.41	1.87	51.34	26.82	295.19	814.44	3.62	1.88	5.58	5.58

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	200-yr	2860	852.17	846.43	2.42	1.9	27.66	17.3	303.74	688.64	3.51	2.19	5.74	5.74
Yellowstone County	B10	RM 315.84	28140.65	200-yr	2860	851.84	846.58	2.91	2.13	70.53	31.21	180.91	776.65	3.95	1.73	5.25	5.25
Yellowstone County	B10	RM 315.71	27926.69	200-yr	2860	851.55	846.34	2.86	1.87	35.87	16.53	208.55	1028.67	3.57	1.63	5.22	5.22
Yellowstone County	B10	RM 315.58	27720.72	200-yr	2860	851.53	846.16	1.92	1.47	29.78	15.11	155.83	1125.38	4.05	2.01	5.37	5.37
Yellowstone County	B10	RM 315.44	27505.06	200-yr	2860	851.28	846.09	2.51	1.44	34.7	12.39	152.39	1315.07	4.69	1.64	5.18	5.18
Yellowstone County	B10	RM 315.30	27283.58	200-yr	2860	851.21	844.45	1.62	1.09	17.4	9.66	317.48	1466.9	3.28	1.8	6.77	6.77
Yellowstone County	B10	RM 315.18	27097.16	200-yr	2860	851.17	844.72	1.31	0.99	9.38	6.28	454.19	1567.13	2.85	1.89	6.45	6.45
Yellowstone County	B10	RM 315.01	26818.99	200-yr	2860	851.04	844.66	1.56	1.13	17.95	10.03	477.22	1615.86	3	1.66	6.38	6.38
Yellowstone County	B10	RM 314.85	26559.67	200-yr	2860	850.77	844.84	2.41	1.35	37.39	11.12	167.61	1553.72	4.89	1.41	5.93	5.93
Yellowstone County	B10	RM 314.69	26324.37	200-yr	2860	850.52	844.24	2.68	1.51	41.93	12.08	173.92	1488.76	4.66	1.31	6.29	6.29
Yellowstone County	B10	RM 314.57	26132.54	200-yr	2860	850.25	844.63	3.01	1.67	55.21	13.87	147.42	1377.91	5.05	1.24	5.62	5.62
Yellowstone County	B10	RM 314.46	25963.96	200-yr	2860	850.17	844.48	2.47	1.5	40.68	13.17	201.7	1345.26	4.45	1.42	5.69	5.69
Yellowstone County	B10	RM 314.35	25782.69	200-yr	2860	849.95	844.51	2.39	1.79	57.92	19.82	269.19	1223.57	3.85	1.3	5.44	5.44
Yellowstone County	B10	RM 314.24	25607.48	200-yr	2860	849.76	844.14	2.42	1.79	23.88	9.38	289.52	1123.87	3.69	1.42	5.62	5.62
Yellowstone County	B10	RM 314.15	25461.23	200-yr	2860	849.64	844.05	2.25	1.83	55.41	24.41	306.39	1002.16	3.58	1.56	5.59	5.59
Yellowstone County	B10	RM 314.06	25326.45	200-yr	2860	849.6	843.63	1.71	1.37	14.39	8.32	455.22	1094.4	3.43	1.97	5.98	5.98
Yellowstone County	B10	RM 313.98	25189.4	200-yr	2860	849.56	843.05	1.44	1.2	22.58	15.9	559.69	1095.57	3.1	2.17	6.51	6.51
Yellowstone County	B10	RM 313.83	24942.42	200-yr	2860	849.4	843.2	1.48	1.27	16.12	8.45	476.74	1151.88	3.76	1.95	6.21	6.21
Yellowstone County	B10	RM 313.72	24768.08	200-yr	2860	849.31	842.35	1.7	1.25	16.82	8.08	330.48	1122.56	4.3	2.04	6.96	6.96
Yellowstone County	B10	RM 313.66	24671.51	200-yr	2860	849.23	843.14	1.9	1.32	18.94	9.05	286.85	1043.96	4.39	2.07	6.09	6.09
Yellowstone County	B10	RM 313.57	24513.04	200-yr	2860	849.16	842.47	1.88	1.36	19.56	10.35	303.74	949.61	4.23	2.22	6.69	6.69
Yellowstone County	B10	RM 313.47	24364.02	200-yr	2860	849.06	841.55	1.97	1.49	20.86	10.88	283.74	811.9	4.61	2.37	7.51	7.51
Yellowstone County	B10	RM 313.33	24143.26	200-yr	2860	848.76	842.65	2.66	1.86	55.26	22.94	187.53	751.75	5	2.04	6.11	6.11
Yellowstone County	B10	RM 313.18	23899.74	200-yr	2860	848.05	842.19	3.59	2.6	110.93	45.54	166.25	638.4	4.28	1.73	5.86	5.86
Yellowstone County	B10	RM 313.07	23728.15	200-yr	2860	847.59	842.62	3.72	2.92	74.66	27.96	164.01	592.62	4.47	1.65	4.97	4.97
Yellowstone County	B10	RM 312.98	23590.93	200-yr	2860	847.56	842.5	3.08	2.6	42.83	23.67	201.2	611.34	4.21	2.31	5.07	5.07
Yellowstone County	B10	RM 312.90	23455.11	200-yr	2860	847.52	842.38	2.59	2.13	50.05	25.61	204.15	808.71	4.37	2.22	5.15	5.15
Yellowstone County	B10	RM 312.75	23227.05	200-yr	2860	847.3	841.71	2.57	1.88	37.35	18.84	224.95	773.98	3.94	1.97	5.59	5.59
Yellowstone County	B10	RM 312.65	23058.61	200-yr	2860	847.2	841.61	2.26	1.72	30.75	16.11	273.98	904.41	3.53	1.84	5.58	5.58
Yellowstone County	B10	RM 312.53	22873.59	200-yr	2860	847.11	841.37	2.1	1.5	16.53	10.19	298.7	1097.66	3.9	2.39	5.74	5.74
Yellowstone County	B10	RM 312.49	22797.96	200-yr	2860	847.02	841.34	2.42	1.63	30.59	14.75	202	1082.28	4.56	2.18	5.68	5.68
Yellowstone County	B10	RM 312.39	22646.67	200-yr	2860	846.88	840.85	2.72	1.77	46.28	23.13	152.7	1057.37	4.26	2.09	6.03	6.03
Yellowstone County	B10	RM 312.33	22536.68	200-yr	2860	846.68	840.82	3.06	1.9	54.79	23.93	139.06	785.7	4.46	1.91	5.86	5.86
Yellowstone County	B10	RM 312.22	22360.55	200-yr	2860	846.63	840.91	2.46	1.73	38.79	16.56	128.68	810.77	4.87	2.04	5.72	5.72
Yellowstone County	B10	RM 312.13	22230.65	200-yr	2860	846.58	840.94	1.9	1.54	23.76	15.49	350.72	843.59	3.81	2.47	5.63	5.63
Yellowstone County	B10	RM 312.04	22082.88	200-yr	2860	846.44	840.82	2.07	1.65	29.34	17.42	346.94	929.56	3.55	2.1	5.62	5.62
Yellowstone County	B10	RM 311.95	21934.61	200-yr	2860	846.3	840.79	2.12	1.64	29.53	15.95	350.23	1022.94	3.55	1.91	5.5	5.5
Yellowstone County	B10	RM 311.89	21840.24	200-yr	2860	846.23	840.76	2.05	1.59	32.53	15.95	325.27	945.12	3.89	1.9	5.47	5.47
Yellowstone County	B10	RM 311.77	21651.91	200-yr	2860	846.06	840.18	2.22	1.6	31.58	11.93	226.3	958.65	4.98	1.86	5.88	5.88
Yellowstone County	B10	RM 311.69	21530.39	200-yr	2860	845.89	839.85	2.69	1.63	44	14.52	150.9	1212.49	5.41	1.74	6.05	6.05
Yellowstone County	B10	RM 311.58	21350.77	200-yr	2860	845.78	839.63	2.48	1.47	38.12	13.15	171.57	1369.31	4.82	1.63	6.15	6.15
Yellowstone County	B10	RM 311.48	21191.11	200-yr	2860	845.69	839.42	2.2	1.38	26.92	11.31	228.87	1280.05	4.2	1.74	6.28	6.28
Yellowstone County	B10	RM 311.37	21010.53	200-yr	2860	845.62	839.18	1.82	1.22	21	10.97	336.85	1328.72	3.64	1.89	6.44	6.44
Yellowstone County	B10	RM 311.27	20852.82	200-yr	2860	845.53	838.96	1.83	1.21	21.7	11.1	322.76	1249	3.75	1.89	6.57	6.57
Yellowstone County	B10	RM 311.19	20716.8	200-yr	2860	845.46	838.84	1.89	1.17	22	9.76	247.96	1202.79	4.66	2.03	6.62	6.62
Yellowstone County	B10	RM 311.09	20559.11	200-yr	2860	845.14	839.14	2.97	1.62	48.47	17.24	144.57	1092.77	5.08	1.77	5.99	5.99
Yellowstone County	B10	RM 310.97	20364.78	200-yr	2860	845.01	839.45	2.66	1.57	42.04	16.96	173.49	1045.62	4.87	1.94	5.56	5.56
Yellowstone County	B10	RM 310.87	20211.96	200-yr	2860	844.87	839.02	2.62	1.61	39.72	16.02	190.23	1071.91	4.69	1.87	5.85	5.85
Yellowstone County	B10	RM 310.76	20019.23	200-yr	2860	844.4	839.18	3.52	2.09	65.93	19.39	144.46	1001.81	4.78	1.37	5.22	5.22
Yellowstone County	B11	RM 310.67	19877.9	200-yr	2860	844.34	839.11	2.85	1.74	62.12	21.05	174.84	1100.26	4.47	1.49	5.23	5.23
Yellowstone County	B11	RM 310.57	19727.96	200-yr	2860	844.17	839.08	2.67	1.62	57.51	20.22	195.83	1175.36	4.32	1.5	5.08	5.08
Yellowstone County	B11	RM 310.48	19578.86	200-yr	2860	844.01	838.96	2.54	1.5	44.86	16.4	210.72	1247.55	4.22	1.53	5.05	5.05
Yellowstone County	B11	RM 310.39	19437.53	200-yr	2860	843.94	838.54	2.23	1.37	22.54	9.66	264.94	1257.64	3.9	1.66	5.41	5.41
Yellowstone County	B11	RM 310.31	19317.45	200-yr	2860	843.87	838.23	2.14	1.47	21.15	10.97	357.08	1170.27	3.23	1.67	5.64	5.64
Yellowstone County	B11	RM 310.24	19187.47	200-yr	2860	843.82	838.23	1.61	1.31	37.28	23.05	461.89	1156.15	3.08	1.89	5.59	5.59
Yellowstone County	B11	RM 310.16	19069.04	200-yr	2860	843.68	837.93	1.51	1.34	35.27	23.16	569.26	1124.03	2.91	1.9	5.76	5.76
Yellowstone County	B11	RM 310.09	18955.28	200-yr	2860	843.59	837.93	1.58	1.26	12.96	9.48	555.01	1087.83	2.86	2.08	5.67	5.67
Yellowstone County	B11	RM 309.97	18765.62	200-yr	2860	843.53	837.59	1.22	1.05	16.38	11.05	601.54	1139.85	3.55	2.39	5.94	5.94
Yellowstone County	B11	RM 309.90	18643.48	200-yr	2860	843.46	837.5	1.41	1.19	9.97	7.88	625.59	1216.12	3.01	2.37	5.96	5.96
Yellowstone County	B11	RM 309.82	18525.48	200-yr	2860	843.41	837.5	1.26	1.18	24.54	20.47	698.21	1029.92	2.83	2.35	5.91	5.91
Yellowstone County	B11	RM 309.73	18379.74	200-yr	2860	843.31	837.35	1.14	1.08	18.69	15.88	803.28	1050.1	2.97	2.52	5.96	5.96

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	200-yr	2860	843.25	837.38	0.98	0.95	12.7	10.81	876.43	1096.16	3.23	2.74	5.88	5.88
Yellowstone County	B11	RM 309.52	18029.98	200-yr	2860	843.12	836.68	1.16	1.14	18.35	17.33	816.46	1033.44	2.97	2.81	6.44	6.44
Yellowstone County	B11	RM 309.39	17824.11	200-yr	2860	843.04	836.74	1.02	1.02	11.25	11.22	767.41	958.59	3.66	3.65	6.3	6.3
Yellowstone County	B11	RM 309.22	17557.23	200-yr	2860	842.85	836.07	1.73	1.5	16.96	11.67	335.3	734.42	4.7	3.21	6.78	6.78
Yellowstone County	B11	RM 309.06	17331.95	200-yr	2860	842.58	835.79	2.42	1.82	62.07	31.32	191.59	715.53	5.32	2.63	6.79	6.79
Yellowstone County	B11	RM 308.94	17142.36	200-yr	2860	841.75	835.4	4.1	2.89	102.84	42.3	121.56	505.31	4.9	1.96	6.35	6.35
Yellowstone County	B11	RM 308.83	16971.41	200-yr	2860	841.74	836.04	2.92	2.21	58.16	28.8	159.6	520.59	5.1	2.49	5.7	5.7
Yellowstone County	B11	RM 308.71	16778.65	200-yr	2860	841.68	835.91	2.3	1.8	23.92	14.11	251.14	623.08	4.36	2.55	5.76	5.76
Yellowstone County	B11	RM 308.62	16631.4	200-yr	2860	841.59	835.85	2.03	1.61	52.7	33.16	300.08	747.38	3.79	2.37	5.74	5.74
Yellowstone County	B11	RM 308.55	16518.64	200-yr	2860	841.43	835.85	1.94	1.59	47.86	30.94	368.88	847.16	3.29	2.12	5.58	5.58
Yellowstone County	B11	RM 308.43	16328.3	200-yr	2860	841.2	834.51	1.68	1.42	40.5	27.17	420.94	928.67	3.25	2.17	6.69	6.69
Yellowstone County	B11	RM 308.35	16192.95	200-yr	2860	841.07	834.88	1.62	1.28	25.86	16.02	402.97	1024.68	3.56	2.19	6.19	6.19
Yellowstone County	B11	RM 308.24	16015.46	200-yr	2860	840.98	834.63	1.58	1.14	15.5	9.1	363.15	1220.05	3.99	2.32	6.34	6.34
Yellowstone County	B11	RM 308.12	15826.82	200-yr	2860	840.91	834.63	1.5	1.12	13.51	8.22	382.83	1158.14	4.1	2.48	6.28	6.28
Yellowstone County	B11	RM 308.02	15675.58	200-yr	2860	840.83	834.76	1.7	1.23	13.64	7.14	304.2	1037.9	4.86	2.52	6.07	6.07
Yellowstone County	B11	RM 307.88	15434.86	200-yr	2860	840.48	834.45	3.17	1.91	60.13	24.15	113.52	867.77	5.1	1.98	6.03	6.03
Yellowstone County	B11	RM 307.77	15261.75	200-yr	2860	840.02	834.45	3.64	2.42	90.93	36.31	128.82	682.83	4.45	1.73	5.57	5.57
Yellowstone County	B11	RM 307.68	15125.28	200-yr	2860	839.85	834.85	3.09	2.17	62.94	29.88	158.99	630.94	4.47	2.09	5	5
Yellowstone County	B11	RM 307.60	14980.1	200-yr	2860	839.8	834.36	2.27	1.88	28.53	16.03	274.39	649.92	4.31	2.4	5.44	5.44
Yellowstone County	B11	RM 307.52	14873.7	200-yr	2860	839.61	834.12	2.67	2.11	42.05	22.49	254.07	717.57	3.88	2.05	5.5	5.5
Yellowstone County	B11	RM 307.46	14779.11	200-yr	2860	839.48	833.6	2.54	2.15	73.48	48.44	313.63	624.6	3.26	2.13	5.89	5.89
Yellowstone County	B11	RM 307.39	14664.34	200-yr	2860	839.33	833.63	2.49	2.06	26.24	18.92	365.52	665.57	2.91	2.09	5.7	5.7
Yellowstone County	B11	RM 307.30	14517.89	200-yr	2860	839.16	833.81	2.26	2.01	59.89	45.49	407.44	696.72	2.69	2.04	5.35	5.35
Yellowstone County	B11	RM 307.22	14385.45	200-yr	2860	838.9	833.87	2.21	1.97	47.63	36.04	396.39	699.44	2.85	2.15	5.03	5.03
Yellowstone County	B11	RM 307.14	14262.57	200-yr	2860	838.76	833.51	2.11	1.78	34.67	22.3	334.95	732	3.43	2.19	5.26	5.26
Yellowstone County	B11	RM 307.08	14166.72	200-yr	2860	838.7	833.11	1.97	1.64	21.58	13.97	348.63	754.5	3.59	2.31	5.59	5.59
Yellowstone County	B11	RM 307.01	14050.92	200-yr	2860	838.62	832.65	2.03	1.69	19.62	13.32	376.22	786.02	3.18	2.15	5.96	5.96
Yellowstone County	B11	RM 306.95	13949.23	200-yr	2860	838.51	832.35	2.22	1.71	28.73	19.9	324.62	760.12	3.19	2.2	6.16	6.16
Yellowstone County	B11	RM 306.90	13869.87	200-yr	2860	838.39	832.56	2.32	1.78	35.06	23.11	350.3	786.36	3.12	2.04	5.83	5.83
Yellowstone County	B11	RM 306.82	13726.64	200-yr	2860	838.28	832.62	2.13	1.66	28.77	18.67	361.85	818.92	3.25	2.1	5.65	5.65
Yellowstone County	B11	RM 306.72	13574.53	200-yr	2860	838.13	831.8	2.35	1.62	32.46	16.93	222.2	879.47	3.9	2	6.33	6.33
Yellowstone County	B11	RM 306.62	13414.11	200-yr	2860	837.98	832.77	2.45	1.77	44.55	21.96	215.2	870.56	3.8	1.85	5.2	5.2
Yellowstone County	B11	RM 306.52	13251.36	200-yr	2860	837.56	832.87	3.28	2.07	58.46	21.5	152.64	899.69	4.26	1.54	4.7	4.7
Yellowstone County	B11	RM 306.42	13099.73	200-yr	2860	837.22	832.74	3.69	2.39	70.51	23.82	135.74	911.48	3.99	1.32	4.48	4.48
Yellowstone County	B11	RM 306.34	12958.96	200-yr	2860	837.2	832.84	2.54	1.8	40.29	18.07	236.52	1076.95	3.56	1.58	4.37	4.37
Yellowstone County	B11	RM 306.25	12825.95	200-yr	2860	837.05	832.35	2.46	1.76	37.66	18.18	312.9	1227.39	2.94	1.41	4.7	4.7
Yellowstone County	B11	RM 306.16	12673.7	200-yr	2860	836.86	832.41	2.3	1.72	37.37	20.03	364.13	1193.26	2.62	1.39	4.45	4.45
Yellowstone County	B11	RM 306.11	12592.39	200-yr	2860	836.72	832.17	2.4	1.8	48.07	25.73	320.17	1069.75	2.8	1.48	4.56	4.56
Yellowstone County	B11	RM 306.03	12457.47	200-yr	2860	836.58	831.25	2.17	1.66	29.89	18.27	370.28	1052.96	2.71	1.64	5.33	5.33
Yellowstone County	B11	RM 305.93	12317.98	200-yr	2860	836.39	831.25	2.28	1.8	37	20.45	359.22	1115.86	2.6	1.42	5.14	5.14
Yellowstone County	B11	RM 305.84	12159.82	200-yr	2860	836.17	831.1	2.43	1.9	38.27	17.66	268.44	1066.87	3.1	1.41	5.07	5.07
Yellowstone County	B11	RM 305.74	11989.73	200-yr	2860	835.9	830.64	2.67	1.87	50.68	16.7	198.04	1198.76	3.94	1.27	5.26	5.26
Yellowstone County	B11	RM 305.67	11883.31	200-yr	2860	835.74	830.43	2.88	1.81	48.79	14.97	162.93	1290.06	4.09	1.23	5.31	5.31
Yellowstone County	B11	RM 305.60	11764.11	200-yr	2860	835.71	830.18	2.17	1.68	25.97	10.71	168.35	1373.28	3.34	1.35	5.53	5.53
Yellowstone County	B11	RM 305.52	11651.48	200-yr	2860	835.62	830.18	2.26	1.49	28.05	10.91	151.74	1412.17	3.57	1.36	5.43	5.43
Yellowstone County	B11	RM 305.44	11514.64	200-yr	2860	835.54	830.43	1.98	1.28	18.34	7.89	158.15	1572.8	3.7	1.57	5.11	5.11
Yellowstone County	B11	RM 305.40	11441.77	200-yr	2860	835.44	830.61	1.99	1.48	17.26	7.94	239	1748.1	3.02	1.38	4.83	4.83
Yellowstone County	B11	RM 305.32	11312.15	200-yr	2860	835.4	830.61	1.88	1.24	21.18	9.63	167.71	1702.96	3.49	1.57	4.78	4.78
Yellowstone County	B11	RM 305.24	11186.22	200-yr	2860	835.38	830.43	1.23	0.95	10.13	6.2	156.67	1640.99	3.46	2.08	4.95	4.95
Yellowstone County	B11	RM 305.06	10905.09	200-yr	2860	835.32	830.15	1.18	0.92	6.92	5.13	302.98	1607.61	3.12	2.3	5.16	5.16
Yellowstone County	B11	RM 304.71	10460.6	200-yr	2860	835.2	828.96	1.36	1.18	11.73	9.2	398.36	1249.39	3.31	2.58	6.24	6.24
Yellowstone County	B11	RM 304.62	10332.33	200-yr	2860	835.17	829.09	1.32	1.12	9.67	6.22	207.14	1343.68	4.66	2.95	6.09	6.09
Yellowstone County	B11	RM 304.50	10132.63	200-yr	2860	834.9	829.09	2.55	2.04	52.38	23.84	123.1	1100.02	5.08	2.25	5.82	5.82
Yellowstone County	B11	RM 304.42	10011.11	200-yr	2860	834.82	829.18	2.2	1.84	38.79	18.37	152.6	1076.74	4.81	2.24	5.64	5.64
Yellowstone County	B11	RM 304.34	9873.393	200-yr	2860	834.66	828.78	2.28	1.89	26.1	15.05	263.04	1028.81	4.45	2.55	5.88	5.88
Yellowstone County	B11	RM 304.25	9735.197	200-yr	2860	834.46	828.39	2.69	2.05	47.17	22.57	200.21	778.43	4.81	2.26	6.07	6.07
Yellowstone County	B11	RM 304.18	9615.178	200-yr	2860	834.34	828.54	2.71	2.11	33.38	17.81	216.62	977.97	4.54	2.4	5.8	5.8
Yellowstone County	B11	RM 304.09	9478.266	200-yr	2860	834.15	828.6	2.93	2.26	51.96	23.99	183.13	1043.81	4.92	2.24	5.55	5.55
Yellowstone County	B11	RM 304.00	9326.206	200-yr	2860	834.06	828.39	2.66	1.9	45.98	19.61	190.99	1115.58	5.02	2.11	5.67	5.67
Yellowstone County	B11	RM 303.91	9177.479	200-yr	2860	834.01	828.14	2.21	1.5	35.11	16.64	215.99	1311.44	4.82	2.26	5.87	5.87
Yellowstone County	B11	RM 303.78	8973.508	200-yr	2860	833.74	827.93	2.7	1.68	45.17	15.44	164.37	1102.4	5.14	1.71	5.81	5.81

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	200-yr	2860	833.56	827.9	2.67	1.72	52.03	17.9	170.85	1009.13	4.87	1.65	5.66	5.66
Yellowstone County	B11	RM 303.55	8608.195	200-yr	2860	833.44	827.65	2.42	1.69	26.83	11.12	248.46	1054.05	4.05	1.65	5.79	5.79
Yellowstone County	B11	RM 303.43	8422.329	200-yr	2860	833.38	827.87	1.77	1.43	33.47	16.05	330.22	1160.97	3.64	1.73	5.52	5.52
Yellowstone County	B11	RM 303.34	8276.308	200-yr	2860	833.32	826.92	1.64	1.23	14.52	6.7	325.32	1184.37	4.3	1.96	6.4	6.4
Yellowstone County	B11	RM 303.26	8138.725	200-yr	2860	833.15	826.98	2.08	1.67	46.6	19.29	305.35	1106.25	3.83	1.56	6.17	6.17
Yellowstone County	B11	RM 303.18	8018.762	200-yr	2860	832.99	826.22	2.07	1.72	49.87	24.4	308.83	911.53	3.76	1.82	6.77	6.77
Yellowstone County	B11	RM 303.09	7876.674	200-yr	2860	832.82	825.43	1.99	1.68	44.69	23.73	338.03	900.94	3.59	1.89	7.39	7.39
Yellowstone County	B11	RM 302.99	7711.603	200-yr	2860	832.68	826.22	1.73	1.48	30.41	18.89	336.71	820.32	3.82	2.35	6.46	6.46
Yellowstone County	B11	RM 302.89	7556.419	200-yr	2860	832.47	825.73	2.08	1.77	40.24	24.44	290.36	657.02	4.09	2.46	6.73	6.73
Yellowstone County	B11	RM 302.81	7423.411	200-yr	2860	832.24	825.86	2.48	2.06	50.71	26.76	221.32	579.68	4.6	2.4	6.38	6.38
Yellowstone County	B11	RM 302.70	7257.14	200-yr	2860	832.06	826.01	2.58	2.04	35.44	17	184.02	543.06	5.44	2.58	6.06	6.06
Yellowstone County	B12	RM 302.56	7050.708	200-yr	2860	831.51	825.25	3.58	2.78	77.19	35.72	170.25	510.83	4.42	2.01	6.26	6.26
Yellowstone County	B12	RM 302.49	6918.549	200-yr	2860	831.32	825.92	3.42	2.7	65.46	25.64	170.36	586.41	4.67	1.81	5.41	5.41
Yellowstone County	B12	RM 302.41	6794.522	200-yr	2860	831.29	825.64	3.1	2.22	41.77	17.9	161.6	788.03	4.61	1.95	5.65	5.65
Yellowstone County	B12	RM 302.34	6674.634	200-yr	2860	831.21	825.76	2.78	2.02	53.7	25.1	214.69	913.98	3.96	1.83	5.44	5.44
Yellowstone County	B12	RM 302.22	6485.378	200-yr	2860	831.11	825.76	2.15	1.63	28.81	15.86	235.89	854.72	3.76	2.05	5.35	5.35
Yellowstone County	B12	RM 302.14	6360.047	200-yr	2860	830.87	825.76	2.79	1.94	48.25	21.14	178.16	836.18	4.06	1.76	5.1	5.1
Yellowstone County	B12	RM 302.08	6267.13	200-yr	2860	830.78	825.79	2.57	1.98	30.04	15.88	265.5	793.95	3.46	1.82	4.99	4.99
Yellowstone County	B12	RM 301.98	6100.949	200-yr	2860	830.72	825.34	2.1	1.63	29.26	14.32	257.2	880.32	4.12	2	5.38	5.38
Yellowstone County	B12	RM 301.88	5944.005	200-yr	2860	830.63	824.7	2	1.49	23.58	12.69	307.5	983.33	3.72	1.98	5.93	5.93
Yellowstone County	B12	RM 301.79	5801.18	200-yr	2860	830.56	824.36	1.86	1.47	16.43	10.37	369.92	889.41	3.49	2.18	6.2	6.2
Yellowstone County	B12	RM 301.72	5685.105	200-yr	2860	830.48	824.85	1.98	1.58	24.02	12.15	328.47	997.5	3.62	1.82	5.63	5.63
Yellowstone County	B12	RM 301.65	5569.191	200-yr	2860	830.36	824.61	2.17	1.68	31.27	16.5	311.48	945.99	3.44	1.8	5.75	5.75
Yellowstone County	B12	RM 301.59	5465.51	200-yr	2860	830.24	824.42	2.21	1.76	34.5	17.13	318.53	993.43	3.33	1.64	5.82	5.82
Yellowstone County	B12	RM 301.53	5366.723	200-yr	2860	830.17	824.12	1.96	1.63	36.43	19.2	364.63	1043.61	3.22	1.68	6.05	6.05
Yellowstone County	B12	RM 301.47	5270.902	200-yr	2860	830.06	824.12	1.98	1.63	34.84	18	353.58	1034.16	3.32	1.7	5.94	5.94
Yellowstone County	B12	RM 301.39	5140.04	200-yr	2860	830.01	824.36	1.61	1.34	21.85	13.66	345.85	1128.58	3.82	2.37	5.64	5.64
Yellowstone County	B12	RM 301.33	5044.575	200-yr	2860	829.93	824.12	1.78	1.36	19.63	11.12	329.55	1131.29	4	2.24	5.81	5.81
Yellowstone County	B12	RM 301.24	4906.408	200-yr	2860	829.83	823.87	1.96	1.5	21.25	12.38	310.78	1098.05	3.88	2.25	5.95	5.95
Yellowstone County	B12	RM 301.18	4802.631	200-yr	2860	829.72	823.17	2.15	1.67	26.78	16.18	312.68	1041.64	3.45	2.07	6.55	6.55
Yellowstone County	B12	RM 301.12	4698.913	200-yr	2860	829.57	823.81	2.34	1.87	31.11	17.1	308.25	907.41	3.63	1.98	5.76	5.76
Yellowstone County	B12	RM 301.07	4611.142	200-yr	2860	829.51	824	2.27	1.84	28.09	16.32	284.39	810.9	4.04	2.33	5.52	5.52
Yellowstone County	B12	RM 301.02	4531.484	200-yr	2860	829.42	823.81	2.43	1.99	26.09	15.53	261	693.52	4.13	2.44	5.61	5.61
Yellowstone County	B12	RM 300.97	4453.011	200-yr	2860	829.2	823.9	3.03	2.45	39.6	21.55	196.12	502	4.3	2.32	5.29	5.29
Yellowstone County	B12	RM 300.89	4332.618	200-yr	2860	829.03	823.66	3.11	2.63	61.82	37.15	198.89	524.47	4.03	2.41	5.37	5.37
Yellowstone County	B12	RM 300.83	4232.362	200-yr	2860	828.85	823.78	3.26	2.67	64.76	34.86	175.01	506.5	3.96	2.11	5.06	5.06
Yellowstone County	B12	RM 300.77	4151.049	200-yr	2860	828.73	823.75	3.11	2.6	67.53	34.68	176.49	531.38	4.09	2.07	4.97	4.97
Yellowstone County	B12	RM 300.69	4011.358	200-yr	2860	828.64	823.63	2.63	2.02	32.62	17.04	206.18	640.12	4.27	2.21	5.01	5.01
Yellowstone County	B12	RM 300.55	3793.957	200-yr	2860	828.52	822.93	2.19	1.74	33.18	21.07	263.47	788.28	3.68	2.32	5.59	5.59
Yellowstone County	B12	RM 300.45	3633.035	200-yr	2860	828.37	822.53	1.76	1.65	37.25	27.36	335.99	740.25	3.19	2.34	5.84	5.84
Yellowstone County	B12	RM 300.35	3461.833	200-yr	2860	828.09	822.66	2.27	1.71	24.17	17.04	389.33	836.92	2.85	2	5.43	5.43
Yellowstone County	B12	RM 300.24	3286.175	200-yr	2860	827.87	822.47	2.16	1.82	54.88	40.27	421.27	794.06	2.71	1.98	5.4	5.4
Yellowstone County	B12	RM 300.15	3141.724	200-yr	2860	827.58	822.47	2.06	1.84	50.12	39.64	481.67	743.48	2.65	2.09	5.11	5.11
Yellowstone County	B12	RM 300.10	3054.752	200-yr	2860	827.47	822.35	2.14	1.83	19.86	16.56	462.66	751.05	2.53	2.1	5.11	5.11
Yellowstone County	B12	RM 300.00	2887.728	200-yr	2860	827.27	821.22	2.04	1.91	52.59	39.39	467.25	1113.7	2.63	1.96	6.05	6.05
Yellowstone County	B12	RM 299.91	2736.431	200-yr	2860	827.1	821.5	2.04	1.77	25.87	15.18	350.2	1181.54	3.05	1.78	5.6	5.6
Yellowstone County	B12	RM 299.83	2614.069	200-yr	2860	826.95	821.41	2.03	1.91	37.74	24.25	388.69	1160.64	2.62	1.67	5.54	5.54
Yellowstone County	B12	RM 299.72	2484.158	200-yr	2860	826.76	820.89	2.09	1.75	37.49	19.68	423.74	1094.52	3.03	1.58	5.87	5.87
Yellowstone County	B12	RM 299.59	2312.328	200-yr	2860	826.49	821.13	2.65	1.8	36.9	15.02	221.2	1171.44	3.63	1.46	5.36	5.36
Yellowstone County	B12	RM 299.48	2160.343	200-yr	2860	826.24	821.13	3.19	1.93	45.4	16.18	138.95	1104.86	4.21	1.48	5.11	5.11
Yellowstone County	B12	RM 299.38	1995.229	200-yr	2860	826.16	821.13	2.47	1.66	58.64	20.5	140.24	1452.11	4.02	1.38	5.03	5.03
Yellowstone County	B12	RM 299.31	1874.433	200-yr	2860	825.83	821.22	3.14	1.92	43.95	15.67	150.46	1239.46	3.79	1.33	4.61	4.61
Yellowstone County	B12	RM 299.22	1738.666	200-yr	2860	825.69	821.16	3.07	1.74	51.25	18.34	129.2	1278.74	4.15	1.45	4.53	4.53
Yellowstone County	B12	RM 299.15	1613.992	200-yr	2860	825.66	820.95	2.4	1.29	29.27	13.35	154.73	1400.17	4	1.8	4.71	4.71
Yellowstone County	B12	RM 299.06	1473.748	200-yr	2860	825.62	820.64	2.03	1.16	26.6	9.99	116.53	1543.87	4.45	1.62	4.98	4.98
Yellowstone County	B12	RM 298.99	1360.532	200-yr	2860	825.56	820.46	1.98	1.22	27.86	11.46	103.4	1521.39	4.37	1.73	5.1	5.1
Yellowstone County	B12	RM 298.93	1269.876	200-yr	2860	825.51	820.46	1.99	1.2	27.36	11.47	109.21	1476.93	4.22	1.71	5.04	5.04
Yellowstone County	B12	RM 298.88	1195.725	200-yr	2860	825.44	820.43	2.1	1.2	28.1	12.33	119.22	1421.68	4.13	1.75	5.01	5.01
Yellowstone County	B12	RM 298.82	1096.849	200-yr	2860	825.29	820.58	2.55	1.32	32.84	15.25	156.05	1344.54	3.57	1.63	4.7	4.7
Yellowstone County	B12	RM 298.77	1018.392	200-yr	2860	825.23	820.4	2.28	1.27	27.92	13.91	185.81	1287.33	3.55	1.74	4.83	4.83
Yellowstone County	B12	RM 298.67	854.844	200-yr	2860	825.17	819.39	1.99	1.24	17.64	10.26	244.95	1344.13	3	1.72	5.78	5.78

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	200-yr	2860	825.12	819.55	1.62	1.24	18.18	10.73	276.55	1372.91	2.88	1.67	5.57	5.57
Yellowstone County	B12	RM 298.49	579.164	200-yr	2860	825.03	819.27	1.81	1.15	15.56	8	214.03	1373.24	3.59	1.82	5.76	5.76
Yellowstone County	B12	RM 298.42	469.573	200-yr	2860	824.97	819.27	1.86	1.14	23.47	11.08	176.57	1347.94	4.03	1.86	5.7	5.7
Yellowstone County	B12	RM 298.35	368.049	200-yr	2860	824.87	819.97	2.17	1.2	24.84	10	147.33	1317.45	4.58	1.81	4.9	4.9
Yellowstone County	B12	RM 298.30	290.003	200-yr	2860	824.86	819.82	1.89	1.1	16.67	8.43	197.73	1287.44	4.04	2.02	5.04	5.04
Yellowstone County	B12	RM 298.26	211.35	200-yr	2860	824.81	819.82	1.89	1.2	20.46	10.85	222.24	1232.83	3.68	1.93	4.99	4.99
Yellowstone County	B12	RM 298.19	83.499	200-yr	2860	824.71	819.49	2.09	1.38	20.32	10.83	192.75	1084.71	3.63	1.91	5.23	5.23

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	200-yr	3681.2	824.55	820.43	2.03	1.33	20.28	9.75	197.15	1826.05	3.83	1.82	4.12	4.12
Treasure County	C1	RM 297.89	61639	200-yr	3681.2	824.36	820.07	2.01	1.5	21.08	10.11	362.24	1768.98	3.2	1.53	4.3	4.3
Treasure County	C1	RM 297.76	61392	200-yr	3681.2	824.18	819.93	2.11	1.64	26.77	12.75	331	1769.69	3.26	1.54	4.26	4.26
Treasure County	C1	RM 297.62	61179	200-yr	3681.2	824.13	819.69	1.68	1.25	14.2	8.47	290.46	1605.75	3.51	2.08	4.44	4.44
Treasure County	C1	RM 297.5	60985	200-yr	3681.2	823.98	819.39	2.32	1.37	25.68	12.09	159.01	1343.58	4.3	2	4.59	4.59
Treasure County	C1	RM 297.36	60767	200-yr	3681.2	823.85	819.14	2.3	1.47	25.46	13.38	169.82	1156.71	4.16	2.16	4.71	4.71
Treasure County	C1	RM 297.22	60535	200-yr	3681.2	823.74	819	2.15	1.45	22.1	11.11	149.14	1206.42	4.24	2.1	4.74	4.74
Treasure County	C1	RM 297.08	60314	200-yr	3681.2	823.63	818.76	2.11	1.27	21.04	10.36	194.31	1357.99	4.39	2.14	4.87	4.87
Treasure County	C1	RM 296.94	60093	200-yr	3681.2	823.53	818.42	2.15	1.27	21.68	10.39	177.08	1558.31	4.41	2.09	5.11	5.11
Treasure County	C1	RM 296.79	59847	200-yr	3681.2	823.45	817.97	1.73	1.23	14.15	7.71	246.81	1289.67	4.3	2.32	5.48	5.48
Treasure County	C1	RM 296.64	59608	200-yr	3681.2	823.37	817.9	1.82	1.27	15.58	9.17	177.49	1106.1	4.52	2.63	5.47	5.47
Treasure County	C1	RM 296.51	59386	200-yr	3681.2	823.32	817.8	1.5	1.2	10.59	6.96	477.13	1070.1	4.39	2.87	5.51	5.51
Treasure County	C1	RM 296.33	59113	200-yr	3681.2	823.21	817.52	1.77	1.3	14.05	8.26	335.57	1059.2	5.12	2.99	5.69	5.69
Treasure County	C1	RM 296.16	58839	200-yr	3681.2	822.2	817.46	4.7	2.9	103.9	41.3	137.37	721.76	4.5	1.76	4.75	4.75
Treasure County	C1	RM 296.01	58583	200-yr	3681.2	821.97	817.45	2.98	2.31	43.89	23.5	259.72	740.05	4.04	2.15	4.51	4.51
Treasure County	C1	RM 295.83	58296	200-yr	3681.2	821.82	817.4	2.04	1.99	22.31	20.27	627.05	814.11	2.86	2.6	4.43	4.43
Treasure County	C1	RM 295.66	58032	200-yr	3681.2	821.49	817.27	2.36	2.36	30.18	30	561.89	565.26	2.77	2.76	4.23	4.23
Treasure County	C1	RM 295.52	57800	200-yr	3681.2	821.39	816.19	1.78	1.78	18.38	18.35	660.98	662.01	3.12	3.12	5.21	5.21
Treasure County	C1	RM 295.31	57474	200-yr	3681.2	821.25	815.61	1.68	1.58	14.64	12.31	554.61	750.81	3.7	3.11	5.64	5.64
Treasure County	C1	RM 295.13	57174	200-yr	3681.2	821.07	815.57	2.01	1.52	21.42	11.43	360.88	1156.13	4.18	2.22	5.5	5.5
Treasure County	C1	RM 294.94	56877	200-yr	3681.2	820.51	815.46	3.43	2.16	54.91	19.87	189.73	1171.21	4.42	1.58	5.05	5.05
Treasure County	C1	RM 294.76	56587	200-yr	3681.2	820.25	815.45	2.96	2.01	41.49	17.24	257.05	1113.82	3.99	1.64	4.79	4.79
Treasure County	C1	RM 294.55	56261	200-yr	3681.2	819.98	815.36	2.85	1.96	38.88	18.1	194.71	974.94	4.17	1.92	4.62	4.62
Treasure County	C1	RM 294.38	55980	200-yr	3681.2	819.78	815.07	2.55	1.79	32.59	15.33	227.09	1206.16	3.66	1.7	4.71	4.71
Treasure County	C1	RM 294.21	55714	200-yr	3681.2	819.5	814.88	2.82	1.59	38.28	13.35	201.2	1834.22	4.12	1.42	4.62	4.62
Treasure County	C1	RM 294.02	55401	200-yr	3681.2	819.28	814.59	2.52	1.52	30.52	12.47	231.94	1699.69	3.58	1.45	4.69	4.69
Treasure County	C1	RM 293.83	55100	200-yr	3681.2	819.12	814.3	2.12	1.3	21.91	9.74	274.8	1856.22	3.46	1.53	4.82	4.82
Treasure County	C1	RM 293.63	54777	200-yr	3681.2	818.93	813.55	2.07	1.22	19.02	6.84	332.83	1945.7	4.34	1.55	5.39	5.39
Treasure County	C1	RM 293.43	54432	200-yr	3681.2	818.67	813.29	2.68	1.25	33.28	10.62	202.13	2000.94	4.69	1.47	5.38	5.38
Treasure County	C1	RM 293.26	54152	200-yr	3681.2	818.56	813.24	2.36	1.09	25.82	10.41	247.33	2204.9	3.83	1.53	5.32	5.32
Treasure County	C1	RM 293.07	53839	200-yr	3681.2	818.41	813.24	2.22	0.95	24.13	10.92	241.79	2503.11	3.89	1.74	5.18	5.18
Treasure County	C1	RM 292.83	53458	200-yr	3681.2	818.35	813.1	1.47	0.8	11.2	5.77	380.97	2682.64	3.94	2.03	5.25	5.25
Treasure County	C1	RM 292.6	53082	200-yr	3681.2	818.14	812.6	2.19	1.07	21.88	6.83	238.91	2680.84	4.87	1.52	5.54	5.54
Treasure County	C2	RM 292.32	52612	200-yr	3681.2	817.98	811.76	2.23	1.08	21.97	8.26	207.17	2143.56	4.98	1.85	6.22	6.22
Treasure County	C2	RM 292.09	52256	200-yr	3681.2	817.87	811.6	2.23	1.25	21.46	8.26	174.28	1794.96	5.23	1.98	6.27	6.27
Treasure County	C2	RM 291.9	51956	200-yr	3681.2	817.77	811.55	1.97	1.26	18.13	8.73	240.72	1749.35	4.57	2.18	6.22	6.22
Treasure County	C2	RM 291.71	51639	200-yr	3681.2	817.23	811.5	3.15	2.01	68.52	28.34	244.86	1303.45	3.69	1.51	5.73	5.73
Treasure County	C2	RM 291.52	51333	200-yr	3681.2	817	811.46	2.62	1.55	31.08	13.6	214.15	1099.8	4.98	2.15	5.53	5.53
Treasure County	C2	RM 291.33	51042	200-yr	3681.2	816.75	811.46	2.75	1.8	35.38	16.56	232.04	990.86	4.47	2.07	5.29	5.29
Treasure County	C2	RM 291.15	50747	200-yr	3681.2	816.7	811.4	1.95	1.45	17.33	8.91	297.47	1010.18	4.91	2.51	5.3	5.3
Treasure County	C2	RM 290.94	50437	200-yr	3681.2	816.58	811.31	2.04	1.29	19.61	11.83	259.99	1085.35	4.4	2.63	5.26	5.26
Treasure County	C2	RM 290.78	50179	200-yr	3681.2	816.47	810.97	1.77	1.27	15.79	11.23	393.13	1518.23	3.92	2.77	5.5	5.5
Treasure County	C2	RM 290.6	49891	200-yr	3681.2	816.36	810.54	1.66	1.38	12.96	6.72	473.72	2025.69	4.45	2.3	5.83	5.83
Treasure County	C2	RM 290.43	49607	200-yr	3681.2	816.14	810.13	2.34	1.54	25.99	10.45	273.61	1952.62	4.52	1.79	6.01	6.01
Treasure County	C2	RM 290.23	49287	200-yr	3681.2	815.46	810.07	3.75	2.09	63.41	15.87	154.05	1560.17	5.08	1.24	5.39	5.39
Treasure County	C2	RM 290.04	48976	200-yr	3681.2	815.36	810.04	2.64	1.48	31.21	8.42	209.93	1817.47	5.14	1.37	5.32	5.32
Treasure County	C2	RM 289.85	48667	200-yr	3681.2	815.27	809.87	1.93	1.23	18.38	7.76	359.02	1754.51	4.08	1.71	5.4	5.4
Treasure County	C2	RM 289.67	48372	200-yr	3681.2	815.11	809.87	1.9	1.23	18.68	9.3	397.84	1511.82	3.99	1.97	5.25	5.25
Treasure County	C2	RM 289.46	48067	200-yr	3681.2	815	809.56	1.75	1.21	13.75	8.08	411.53	1222.72	4.25	2.48	5.44	5.44
Treasure County	C2	RM 289.27	47769	200-yr	3681.2	814.77	809.32	2.29	1.51	25.09	12.32	320.68	1194.02	4.18	2.04	5.45	5.45
Treasure County	C2	RM 289.11	47515	200-yr	3681.2	814.57	809	2.52	1.54	28.25	9.84	228.59	1331.77	5.2	1.79	5.57	5.57
Treasure County	C2	RM 288.94	47232	200-yr	3681.2	814.26	808.59	3.01	1.67	40.04	12.4	186.98	1352.81	5.35	1.62	5.67	5.67
Treasure County	C2	RM 288.76	46939	200-yr	3681.2	814.15	808.33	2.56	1.4	29.68	13.08	217.33	1292.92	4.98	2.17	5.82	5.82
Treasure County	C2	RM 288.55	46613	200-yr	3681.2	813.7	808.24	3.17	1.88	47.97	20.93	224.04	1074.67	4.25	1.83	5.46	5.46
Treasure County	C2	RM 288.36	46302	200-yr	3681.2	813.59	807.91	2.48	1.46	27.02	9.23	219.5	1359.52	5.5	1.85	5.68	5.68
Treasure County	C2	RM 288.18	46008	200-yr	3681.2	813.43	807.77	2.47	1.33	28.28	10.26	246.58	1717.37	4.58	1.64	5.67	5.67
Treasure County	C2	RM 287.99	45713	200-yr	3681.2	813.38	807.58	1.88	1.04	16.07	6.01	241.63	2028.66	4.7	1.74	5.8	5.8
Treasure County	C2	RM 287.81	45421	200-yr	3681.2	813.21	807.25	2.19	1.31	21.92	5.7	229.88	2312.82	4.88	1.25	5.96	5.96
Treasure County	C2	RM 287.62	45112	200-yr	3681.2	812.88	807.19	3.08	1.53	42.36	8.15	139.38	2560.73	5.26	0.99	5.7	5.7
Treasure County	C2	RM 287.42	44789	200-yr	3681.2	812.53	807.15	3.27	1.61	48.75	9.15	159.89	2509.29	4.95	0.91	5.38	5.38

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	200-yr	3681.2	812.48	806.81	1.96	1.28	19.01	6.24	420.05	2319.73	3.82	1.24	5.66	5.66
Treasure County	C2	RM 287.06	44222	200-yr	3681.2	812.4	806.77	1.61	1.14	13.67	5.79	515.12	2381.71	3.71	1.56	5.63	5.63
Treasure County	C2	RM 286.9	43958	200-yr	3681.2	812.24	806.52	2.04	1.17	18.85	5.33	277.39	2265.28	4.97	1.39	5.72	5.72
Treasure County	C2	RM 286.72	43671	200-yr	3681.2	811.67	806.4	3.94	1.7	70.18	16.57	122.22	2070.54	4.95	1.15	5.27	5.27
Treasure County	C3	RM 286.58	43448	200-yr	3681.2	811.14	806.32	3.84	2.07	68.06	15.7	169.59	1691.52	4.67	1.06	4.82	4.82
Treasure County	C3	RM 286.51	43344	200-yr	3681.2	811.16	806.32	3.17	1.72	46.43	12.26	193.91	1788.46	4.7	1.22	4.85	4.85
Treasure County	C3	RM 286.46	43257	200-yr	3681.2	811.06	806.25	3.24	1.76	48.88	12.76	196.96	1776.86	4.53	1.17	4.81	4.81
Treasure County	C3	RM 286.37	43117	200-yr	3681.2	811.09	806.17	2.29	1.27	25.74	10.95	295.42	1929.45	3.85	1.62	4.93	4.93
Treasure County	C3	RM 286.26	42931	200-yr	3681.2	810.85	806.17	2.69	1.49	63.42	21.07	219.45	2164.39	3.77	1.24	4.68	4.68
Treasure County	C3	RM 286.06	42624	200-yr	3681.2	810.56	806.08	2.21	1.24	24.3	9.23	354.48	2563.12	3.63	1.36	4.48	4.48
Treasure County	C3	RM 285.81	42213	200-yr	3681.2	810.32	805.78	2.09	1.05	20.78	9.25	222.42	3690.78	3	1.32	4.54	4.54
Treasure County	C3	RM 285.56	41812	200-yr	3681.2	810.07	805.34	2.11	0.99	20.87	6.16	237.24	3756.86	4.47	1.31	4.73	4.73
Treasure County	C3	RM 285.23	41280	200-yr	3681.2	809.82	805.17	2.25	0.95	25.32	8.32	152.4	4044.97	3.73	1.2	4.66	4.66
Treasure County	C3	RM 284.69	40395	200-yr	3681.2	809.42	804.85	2.61	1.2	35.53	10.19	159.53	3494.13	3.26	0.92	4.57	4.57
Treasure County	C3	RM 284.26	39705	200-yr	3681.2	808.99	804.6	2.22	1.33	25.67	6.99	348.37	3322.53	3.41	0.93	4.39	4.39
Treasure County	C3	RM 283.96	39199	200-yr	3681.2	808.7	804.3	2.21	1.09	24.62	6.63	244.91	3512.11	3.61	0.96	4.4	4.4
Treasure County	C3	RM 283.69	38766	200-yr	3681.2	808.5	803.9	2.13	0.98	21.84	5.78	191.09	3442.5	4.19	1.09	4.6	4.6
Treasure County	C3	RM 283.35	38229	200-yr	3681.2	808.31	803.42	1.82	0.95	16.55	5.64	291.01	3142.46	3.65	1.23	4.89	4.89
Treasure County	C3	RM 283.05	37749	200-yr	3681.2	807.97	803.32	2.58	1.13	32.95	8.83	194.22	3195.65	3.86	1.02	4.65	4.65
Treasure County	C3	RM 282.78	37306	200-yr	3681.2	807.72	803.11	2.16	1.01	22.58	7.74	259.85	3138.43	3.42	1.16	4.61	4.61
Treasure County	C3	RM 282.56	36942	200-yr	3681.2	807.6	802.83	1.65	0.84	13.95	5.49	282.1	3327.48	3.39	1.32	4.77	4.77
Treasure County	C3	RM 282.31	36546	200-yr	3681.2	807.44	802.74	1.96	0.83	18.42	6.24	187.32	3142.5	4.27	1.41	4.7	4.7
Treasure County	C3	RM 282.09	36195	200-yr	3681.2	807.3	802.56	2.18	0.92	23.7	9.13	181.69	2861.05	3.69	1.4	4.73	4.73
Treasure County	C4	RM 281.73	35619	200-yr	3681.2	807.12	801.74	1.67	0.92	13.36	5.44	426.96	3037.51	3.25	1.31	5.38	5.38
Treasure County	C4	RM 281.35	35005	200-yr	3681.2	806.96	801.53	1.64	0.82	12.14	3.97	316.27	2808.32	4.91	1.59	5.43	5.43
Treasure County	C4	RM 281.03	34521	200-yr	3681.2	806.78	801.19	2.12	0.9	20.81	6.59	228.85	2794.35	4.71	1.47	5.59	5.59
Treasure County	C4	RM 280.73	34051	200-yr	3681.2	806.69	800.82	1.33	0.84	10.09	5.96	693.36	2610.72	2.85	1.67	5.87	5.87
Treasure County	C4	RM 280.5	33687	200-yr	3681.2	806.59	800.66	1.23	0.82	9.52	5.98	756.46	2458.18	2.92	1.83	5.93	5.93
Treasure County	C4	RM 280.27	33304	200-yr	3681.2	806.5	800.31	1.16	0.78	8.67	5.17	759.73	2483.84	3.21	1.91	6.18	6.18
Treasure County	C4	RM 279.95	32800	200-yr	3681.2	806.38	800.08	1.28	0.71	9.52	4.48	503.81	2731.52	4.09	1.91	6.3	6.3
Treasure County	C4	RM 279.6	32231	200-yr	3681.2	806.05	799.98	2.29	1.18	25.97	8.23	304.47	2639.9	3.78	1.18	6.07	6.07
Treasure County	C4	RM 279.33	31805	200-yr	3681.2	805.4	799.98	3.22	1.79	50.81	13.9	244.79	1968.76	3.87	1.04	5.42	5.42
Treasure County	C4	RM 279.14	31495	200-yr	3681.2	805.26	799.96	2.51	1.29	28.75	7.4	239.81	2518.78	4.47	1.14	5.31	5.31
Treasure County	C4	RM 278.96	31209	200-yr	3681.2	805.2	799.87	1.83	1.05	17.07	4.79	367.55	3039.22	4.4	1.23	5.33	5.33
Treasure County	C4	RM 278.76	30894	200-yr	3681.2	805.07	799.6	1.81	1.01	15.86	5.13	423.69	3066.46	3.71	1.19	5.47	5.47
Treasure County	C4	RM 278.56	30571	200-yr	3681.2	804.92	799.53	1.95	0.96	18.46	5.94	336.63	3131.13	4	1.27	5.4	5.4
Treasure County	C4	RM 278.37	30259	200-yr	3681.2	804.82	799.26	1.72	0.94	13.71	4.33	369.33	2788.24	4.7	1.47	5.56	5.56
Treasure County	C5	RM 278.16	29915	200-yr	3681.2	804.52	798.81	2.68	1.25	33.85	8.77	207.39	2317.25	4.99	1.27	5.71	5.71
Treasure County	C5	RM 277.99	29648	200-yr	3681.2	804.18	798.77	3.13	1.51	46.45	10.99	189.71	2134.02	4.89	1.14	5.41	5.41
Treasure County	C5	RM 277.8	29336	200-yr	3681.2	803.92	798.74	2.98	1.63	40.62	10.06	212.34	1893.94	4.86	1.19	5.18	5.18
Treasure County	C5	RM 277.61	29041	200-yr	3681.2	803.72	798.72	2.83	1.55	36.76	10.63	216.71	1720.72	4.83	1.38	5	5
Treasure County	C5	RM 277.43	28747	200-yr	3681.2	803.6	798.48	2.3	1.43	25.11	9.67	306.39	1566.81	4.34	1.64	5.12	5.12
Treasure County	C5	RM 277.22	28415	200-yr	3681.2	803.37	798.47	2.21	1.64	24.51	12.24	424.41	1342.96	3.39	1.68	4.91	4.91
Treasure County	C5	RM 277.04	28123	200-yr	3681.2	803.15	798.4	2.21	1.71	22.74	13.42	459.83	1086.83	3.36	1.98	4.75	4.75
Treasure County	C5	RM 276.81	27791	200-yr	3681.2	803.05	797.8	1.82	1.35	15.36	8.01	376.57	1146.1	4.58	2.38	5.25	5.25
Treasure County	C5	RM 276.63	27499	200-yr	3681.2	802.8	797.4	2.56	1.57	30.24	12.01	234.28	1288.71	4.64	1.83	5.4	5.4
Treasure County	C5	RM 276.4	27133	200-yr	3681.2	802.6	797.1	2.41	1.47	26.9	11.75	239.33	1221.48	4.75	2.05	5.5	5.5
Treasure County	C5	RM 276.19	26801	200-yr	3681.2	802.41	796.87	2.55	1.62	29.77	12.43	189.04	1149.05	4.81	1.98	5.54	5.54
Treasure County	C5	RM 276.01	26502	200-yr	3681.2	802.23	796.74	2.62	1.54	30.87	11.68	159.4	1254.96	5.14	1.9	5.5	5.5
Treasure County	C5	RM 275.81	26193	200-yr	3681.2	802.16	796.61	2.13	1.25	20.45	7.89	179.56	1549.37	5	1.9	5.54	5.54
Treasure County	C5	RM 275.63	25896	200-yr	3681.2	802.03	796.49	2.31	1.23	23.84	9.04	134.65	1611.34	5.28	1.96	5.54	5.54
Treasure County	C5	RM 275.45	25606	200-yr	3681.2	801.97	796.37	1.83	1.22	15.26	6.96	153.92	1828.01	4.89	2.19	5.6	5.6
Treasure County	C5	RM 275.26	25299	200-yr	3681.2	801.7	796.16	2.34	1.65	24.25	10.64	251.91	1911.55	5.3	2.3	5.53	5.53
Treasure County	C5	RM 275.09	25033	200-yr	3681.2	801.28	796.13	3.2	2.32	46.15	21.29	199.32	1850.21	5.01	2.29	5.15	5.15
Treasure County	C6	RM 274.89	24716	200-yr	3681.2	801.15	796.04	2.6	1.62	31.13	15.72	229.39	2841.51	4.69	2.35	5.11	5.11
Treasure County	C6	RM 274.72	24440	200-yr	3681.2	800.18	796.04	4.29	2.94	93.51	35.14	214.5	2011.32	3.49	1.3	4.15	4.15
Treasure County	C6	RM 274.55	24165	200-yr	3681.2	800.18	795.79	2.36	1.43	30.45	14.49	294.37	3160.59	3.26	1.54	4.39	4.39
Treasure County	C6	RM 274.38	23892	200-yr	3681.2	799.97	795.55	2.37	1.25	28.01	10.58	229.3	3382.57	3.72	1.39	4.42	4.42
Treasure County	C6	RM 274.13	23491	200-yr	3681.2	799.74	795.16	2.39	1.26	29.61	10.62	224.37	3556.17	3.31	1.17	4.58	4.58
Treasure County	C6	RM 273.83	22999	200-yr	3681.2	799.55	794.46	2.07	1.05	20.51	6.2	184.4	3948.21	4.28	1.27	5.08	5.08

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	200-yr	3681.2	799.3	794.04	2.43	1.06	26.88	7.96	179.34	3833.65	4.01	1.17	5.27	5.27
Treasure County	C6	RM 273.35	22238	200-yr	3681.2	799.12	794.04	2.06	0.96	20.64	8.58	230.93	4158.16	3.31	1.36	5.08	5.08
Treasure County	C6	RM 273.15	21916	200-yr	3681.2	798.96	793.92	1.99	0.9	19.74	8.71	266.7	4312.65	3.31	1.44	5.04	5.04
Treasure County	C6	RM 272.83	21397	200-yr	3681.2	798.79	793.79	1.89	0.85	16.65	6.41	263.82	4477.16	3.71	1.41	5	5
Treasure County	C6	RM 272.5	20872	200-yr	3681.2	798.59	793.46	2.15	0.94	24.28	9.5	229.86	4387.46	3.4	1.32	5.14	5.14
Treasure County	C6	RM 272.19	20368	200-yr	3681.2	798.29	793.34	2.36	1.04	26.29	8.63	247.4	4020.21	3.96	1.28	4.96	4.96
Treasure County	C6	RM 271.91	19902	200-yr	3681.2	798.08	793.18	2.34	1.07	25.95	7.94	227.32	4041.3	4.35	1.31	4.9	4.9
Treasure County	C6	RM 271.68	19534	200-yr	3681.2	797.73	792.81	2.95	1.46	42.13	12.11	192.12	3420.15	4.09	1.16	4.93	4.93
Treasure County	C6	RM 271.41	19102	200-yr	3681.2	797.68	792.54	1.64	1.01	13.35	6.63	302.07	3301.58	3.82	1.88	5.15	5.15
Treasure County	C6	RM 271.06	18548	200-yr	3681.2	797.15	792.18	3.27	1.68	52.53	13.33	172.42	3278.55	3.89	0.97	4.98	4.98
Treasure County	C6	RM 270.64	17870	200-yr	3681.2	796.96	792.05	1.84	1	17.09	6.56	234.57	3631.39	3.62	1.37	4.91	4.91
Treasure County	C6	RM 270.05	16897	200-yr	3681.2	796.7	791.48	2.13	0.96	20.54	7.99	174.33	3184.59	4.08	1.56	5.22	5.22
Treasure County	C6	RM 269.75	16413	200-yr	3681.2	796.38	791.35	2.53	1.2	30.83	10.63	224.88	3727.74	4.12	1.4	5.03	5.03
Treasure County	C6	RM 269.47	15967	200-yr	3681.2	795.95	791.23	2.99	1.58	42.65	10.02	209.73	3473.2	4.27	0.99	4.71	4.71
Treasure County	C7	RM 269.27	15645	200-yr	3681.2	795.82	791.23	2.3	1.34	25.41	7.28	279.64	3337.82	3.99	1.13	4.58	4.58
Treasure County	C7	RM 269.06	15308	200-yr	3681.2	795.71	791.01	1.78	1.05	15.9	5.91	197.37	3085.76	3.7	1.35	4.7	4.7
Treasure County	C7	RM 268.83	14957	200-yr	3681.2	795.62	790.6	1.24	0.81	7.91	3.68	267.05	3103.98	3.44	1.58	5.02	5.02
Treasure County	C7	RM 268.55	14516	200-yr	3681.2	795.5	790.17	1.63	0.8	12.51	4.2	224.66	3700.09	4.38	1.45	5.33	5.33
Treasure County	C7	RM 268.2	13976	200-yr	3681.2	795.28	789.62	2.14	0.87	21.45	6.54	234.34	3779.74	4.46	1.34	5.65	5.65
Treasure County	C7	RM 267.87	13439	200-yr	3681.2	794.94	789.53	2.59	1.02	30.27	9.9	227.32	2671.11	4.19	1.35	5.41	5.41
Treasure County	C7	RM 267.53	12884	200-yr	3681.2	794.25	789.5	3.29	1.4	53.86	15.12	242.41	2777.34	3.42	0.95	4.75	4.75
Treasure County	C7	RM 267.14	12253	200-yr	3681.2	794.04	789.26	2.14	1.08	22.26	6.86	227.28	2900.95	3.85	1.17	4.78	4.78
Treasure County	C7	RM 266.8	11700	200-yr	3681.2	793.9	789.2	1.95	0.97	18.6	6.26	214.75	2899.28	3.94	1.31	4.7	4.7
Treasure County	C7	RM 266.41	11078	200-yr	3681.2	793.71	789.14	2.25	1.05	25.62	9.54	159.5	2645.58	3.64	1.33	4.57	4.57
Treasure County	C7	RM 266.11	10593	200-yr	3681.2	793.51	788.83	2.1	1.06	22.22	8.03	259.43	2825.2	3.56	1.27	4.68	4.68
Treasure County	C7	RM 265.92	10283	200-yr	3681.2	793.42	788.65	1.72	1.01	15	6.43	341.48	2931.74	3.04	1.29	4.77	4.77
Treasure County	C7	RM 265.68	9915	200-yr	3681.2	793.09	788.21	2.72	1.42	34.35	8.65	180	2234.77	4.68	1.16	4.88	4.88
Treasure County	C7	RM 265.52	9650	200-yr	3681.2	792.98	788.07	2.49	1.32	30.29	10.2	162.02	2129.37	3.97	1.31	4.9	4.9
Treasure County	C7	RM 265.34	9362	200-yr	3681.2	792.74	788.07	2.44	1.32	30.13	11.36	179.19	2136.69	3.54	1.32	4.67	4.67
Treasure County	C7	RM 265.16	9071	200-yr	3681.2	792.55	787.95	2.01	1.31	23.54	9.97	297.09	2117.09	3.17	1.33	4.6	4.6
Treasure County	C7	RM 264.98	8775	200-yr	3681.2	792.39	787.59	1.87	1.29	19.22	11.05	462.43	2195.22	2.27	1.3	4.8	4.8
Treasure County	C7	RM 264.81	8508	200-yr	3681.2	792.29	787.35	1.28	1.02	13.53	8	662.07	2358.53	2.59	1.53	4.94	4.94
Treasure County	C7	RM 264.64	8216	200-yr	3681.2	792.18	787.22	1.34	1.05	13.29	7.54	652.13	2589.71	2.63	1.49	4.96	4.96
Treasure County	C7	RM 264.39	7803	200-yr	3681.2	791.97	786.86	1.85	1.17	20.09	7.72	343.32	2579.55	3.36	1.28	5.11	5.11
Treasure County	C7	RM 264.15	7406	200-yr	3681.2	791.88	786.6	1.51	1.01	11.99	5.45	202.21	2292.48	3.53	1.58	5.28	5.28
Treasure County	C7	RM 263.97	7116	200-yr	3681.2	791.75	786.49	1.9	1.15	16.49	5.03	179.44	2411.96	4.87	1.46	5.26	5.26
Treasure County	C7	RM 263.79	6834	200-yr	3681.2	791.59	786.49	2.27	1.25	25.12	9.59	204.2	3022.05	3.93	1.48	5.1	5.1
Treasure County	C7	RM 263.6	6534	200-yr	3681.2	791.41	786.37	2.18	1.17	22.59	8.23	207.01	2180.88	4.27	1.53	5.04	5.04
Treasure County	C7	RM 263.39	6194	200-yr	3681.2	791.24	786.25	1.81	1.21	16.01	6.35	459.15	2686.02	3.68	1.45	5	5
Treasure County	C7	RM 263.19	5862	200-yr	3681.2	791.05	786	2.08	1.05	22.02	8.84	333.53	2883.78	3.47	1.38	5.04	5.04
Treasure County	C7	RM 262.95	5479	200-yr	3681.2	790.8	785.85	2.02	1.15	19.26	6.78	417.03	2766.79	3.31	1.15	4.95	4.95
Treasure County	C7	RM 262.78	5206	200-yr	3681.2	790.73	785.76	1.57	0.92	13.98	6.64	440.96	2644.43	3.21	1.52	4.97	4.97
Treasure County	C7	RM 262.58	4883	200-yr	3681.2	790.65	785.64	1.21	0.75	9.01	5.14	621.05	2617.9	3.3	1.87	5.01	5.01
Treasure County	C7	RM 262.42	4613	200-yr	3681.2	790.59	785.54	1.12	0.72	7.36	4.37	655.56	2544.32	3.4	2.01	5.05	5.05
Treasure County	C7	RM 262.24	4323	200-yr	3681.2	790.53	785.43	1.07	0.78	6.13	3.46	839.62	2581.59	3.55	2	5.11	5.11
Treasure County	C7	RM 261.95	3917	200-yr	3681.2	790.41	785.28	1.35	0.97	10.82	6.25	654.59	1807.84	3.63	2.09	5.13	5.13
Treasure County	C7	RM 261.7	3519	200-yr	3681.2	790.21	784.87	1.48	1.22	29.78	15.97	605.89	1534.59	3.67	1.96	5.34	5.34
Treasure County	C7	RM 261.53	3256	200-yr	3681.2	789.99	784.51	1.49	1.27	28.96	18.83	623.93	1327.94	3.36	2.18	5.48	5.48
Treasure County	C7	RM 261.35	2959	200-yr	3681.2	789.88	784.33	1.35	1.14	9.28	5.96	580.98	1190.94	4.25	2.72	5.54	5.54
Treasure County	C7	RM 261.2	2720	200-yr	3681.2	789.77	784.14	1.48	1.25	27.62	17.36	545.92	1169.72	4.02	2.52	5.63	5.63
Treasure County	C7	RM 261.03	2441	200-yr	3681.2	789.63	783.66	1.65	1.19	12.89	6.42	401.64	1240.91	5.06	2.49	5.97	5.97
Treasure County	C7	RM 260.84	2142	200-yr	3681.2	789.51	783.41	1.86	1.21	15.87	7.18	341.22	1341.4	5.06	2.28	6.1	6.1
Treasure County	C7	RM 260.66	1863	200-yr	3681.2	789.43	783.29	1.79	1.12	15.15	7.59	351.21	1373.31	4.8	2.39	6.14	6.14
Treasure County	C8	RM 259.9	634	200-yr	3681.2	788.29	782.46	3.7	2.17	60.66	18.93	151.91	1031.1	5.35	1.64	5.84	5.84
Treasure County	C8	RM 259.72	347	200-yr	3681.2	788.09	782.45	3.26	1.95	47.32	15.77	179.3	1095.47	5.23	1.72	5.63	5.63
Treasure County	C8	RM 259.55	68	200-yr	3681.2	788.01	782.2	2.27	2.05	25.48	13.07	399.72	876.8	4	2.04	5.81	5.81

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	200-yr	3681.2	788.01	782.19	2.85	2.13	35.94	11.69	221.77	1002.33	5.36	1.73	5.82	5.82
Rosebud County	C8	RM 259.41	87598	200-yr	3681.2	787.66	781.96	3.13	2.66	47.42	16.67	209.53	728.65	5.44	1.9	5.7	5.7
Rosebud County	C8	RM 259.22	87292	200-yr	3681.2	787.53	781.55	2.72	2.13	33.08	12.56	233.09	851.55	5.4	2.03	5.98	5.98
Rosebud County	C8	RM 259.04	87004	200-yr	3681.2	787.33	781	2.8	2.14	39.78	19.53	211.82	661.79	5.4	2.6	6.33	6.33
Rosebud County	C8	RM 258.85	86696	200-yr	3681.2	787.15	780.9	2.53	1.81	29.17	14.6	288.74	934.13	4.4	2.18	6.25	6.25
Rosebud County	C8	RM 258.66	86399	200-yr	3681.2	786.88	780.78	2.89	1.88	35.98	13.46	183.46	915.21	5.84	2.14	6.1	6.1
Rosebud County	C8	RM 258.47	86098	200-yr	3681.2	786.7	780.65	2.81	1.72	35.35	13.43	202.57	1142.33	4.99	1.87	6.05	6.05
Rosebud County	C8	RM 258.28	85798	200-yr	3681.2	786.53	780.53	2.59	1.68	30.39	14.15	222.43	1015.45	4.68	2.16	6	6
Rosebud County	C8	RM 258.1	85498	200-yr	3681.2	786.23	780.14	2.9	1.81	36.83	14.1	180.25	1070.38	5.59	2.1	6.09	6.09
Rosebud County	C8	RM 257.91	85200	200-yr	3681.2	786.11	780.14	2.52	1.48	29.54	11.73	224.43	1525.65	4.57	1.79	5.97	5.97
Rosebud County	C8	RM 257.71	84875	200-yr	3681.2	785.91	780.14	2.51	1.46	30.31	10.56	219.86	1844.72	4.19	1.44	5.77	5.77
Rosebud County	C8	RM 257.54	84597	200-yr	3681.2	785.78	780.17	2.32	1.26	24.18	8.48	209	2350.68	4.75	1.64	5.61	5.61
Rosebud County	C8	RM 257.36	84298	200-yr	3681.2	785.66	780.05	2.24	1.2	23.1	8.39	188.65	2434.59	4.67	1.69	5.61	5.61
Rosebud County	C8	RM 257.16	83984	200-yr	3681.2	785.61	780	1.58	0.98	10.98	4.88	305.45	2474.47	5.35	2.38	5.61	5.61
Rosebud County	C8	RM 256.87	83608	200-yr	3681.2	785.23	779.89	2.93	1.58	38.57	15.19	181.39	1945.79	4.99	1.94	5.34	5.34
Rosebud County	C8	RM 256.65	83257	200-yr	3681.2	785.22	779.82	1.87	1.23	16.24	7.97	171.34	2164.3	5.07	2.46	5.4	5.4
Rosebud County	C8	RM 256.45	82941	200-yr	3681.2	784.97	779.67	2.39	1.43	25.51	10.4	222.18	2705.71	5.14	2.08	5.3	5.3
Rosebud County	C8	RM 256.26	82630	200-yr	3681.2	784.81	779.58	2	1.44	33.19	20.49	369.93	2189.7	3.82	2.35	5.23	5.23
Rosebud County	C8	RM 256.1	82375	200-yr	3681.2	784.67	779.42	1.74	1.53	14.22	7.44	594.72	2554.44	3.47	1.81	5.25	5.25
Rosebud County	C8	RM 255.91	82077	200-yr	3681.2	784.6	779.09	1.48	1.23	10.29	5.38	591.1	2634.97	3.99	2.08	5.51	5.51
Rosebud County	C8	RM 255.7	81747	200-yr	3681.2	784.41	778.73	2.08	1.33	19.63	7.13	306.33	2235.18	4.79	1.72	5.68	5.68
Rosebud County	C8	RM 255.51	81446	200-yr	3681.2	784.23	778.49	2.27	1.54	23.66	10.27	269.19	1161.41	4.78	2.05	5.74	5.74
Rosebud County	C8	RM 255.31	81125	200-yr	3681.2	784.08	778.36	2.2	1.48	26.99	10.04	242.95	1284.98	5.26	1.94	5.72	5.72
Rosebud County	C8	RM 255.14	80856	200-yr	3681.2	783.85	778.24	2.56	1.69	28.94	11.81	210.87	999.5	5.4	2.18	5.61	5.61
Rosebud County	C8	RM 254.95	80554	200-yr	3681.2	783.62	778.12	2.76	1.83	33.64	14.91	205.86	864.26	5.31	2.33	5.5	5.5
Rosebud County	C8	RM 254.76	80251	200-yr	3681.2	783.47	778	2.58	1.73	29.54	13.75	218.15	871.34	5.3	2.45	5.47	5.47
Rosebud County	C8	RM 254.58	79960	200-yr	3681.2	783.29	777.88	2.58	1.72	29.52	12.35	229.98	1000.08	5.28	2.19	5.41	5.41
Rosebud County	C8	RM 254.39	79658	200-yr	3681.2	783.24	777.41	2.03	1.38	18.32	8.47	296.93	1245.72	5.16	2.37	5.83	5.83
Rosebud County	C8	RM 254.2	79359	200-yr	3681.2	782.95	777.39	2.62	1.85	31.58	15.26	269.75	890.59	4.64	2.24	5.56	5.56
Rosebud County	C8	RM 254.01	79052	200-yr	3681.2	782.71	776.82	2.78	1.8	33.25	12.23	209.61	1006.03	5.57	2.03	5.89	5.89
Rosebud County	C9	RM 253.82	78779	200-yr	3681.2	782.56	776.24	2.17	1.58	70.04	28.86	246.84	1864.6	4.69	1.91	6.32	6.32
Rosebud County	C9	RM 253.63	78478	200-yr	3681.2	781.93	776.12	2.81	1.62	74.75	23.6	180.25	1652.63	4.64	1.44	5.81	5.81
Rosebud County	C9	RM 253.45	78178	200-yr	3681.2	781.63	775.97	2.67	1.38	33.04	12.5	172.93	1588.01	4.51	1.68	5.66	5.66
Rosebud County	C9	RM 253.26	77879	200-yr	3681.2	781.47	775.72	2.24	1.2	20.7	8.62	240.93	1607.96	4.64	1.91	5.75	5.75
Rosebud County	C9	RM 253.07	77578	200-yr	3681.2	781.09	775.57	3.12	1.58	43.2	15.22	189.99	1596.99	4.2	1.46	5.52	5.52
Rosebud County	C9	RM 252.88	77278	200-yr	3681.2	780.93	775.45	2.52	1.43	30.88	9.73	221.89	2448.63	4.02	1.25	5.48	5.48
Rosebud County	C9	RM 252.69	76962	200-yr	3681.2	780.82	775.33	1.92	0.99	17.74	5.98	260.67	2654.01	4.19	1.39	5.49	5.49
Rosebud County	C9	RM 252.49	76646	200-yr	3681.2	780.52	775.36	2.85	1.13	36.38	9.73	161.39	3222.01	4.24	1.11	5.16	5.16
Rosebud County	C9	RM 252.24	76252	200-yr	3681.2	780.35	775.4	2.26	0.98	25.77	7.96	167.1	3359.83	3.93	1.19	4.95	4.95
Rosebud County	C9	RM 252.01	75885	200-yr	3681.2	780.22	775.39	1.8	0.86	22.91	7.46	252.1	3726.93	3.71	1.19	4.83	4.83
Rosebud County	C9	RM 251.7	75438	200-yr	3681.2	780.08	775.01	1.46	0.82	10.08	4.48	603.69	3687.02	2.76	1.22	5.07	5.07
Rosebud County	C9	RM 251.49	75098	200-yr	3681.2	779.98	775.02	1.26	0.8	11.03	6.77	716.44	3357.72	2.25	1.37	4.96	4.96
Rosebud County	C9	RM 251.23	74691	200-yr	3681.2	779.81	775.05	1.33	0.8	10.29	5.69	754.16	3602.42	2.31	1.27	4.76	4.76
Rosebud County	C9	RM 251.01	74322	200-yr	3681.2	779.65	774.84	1.5	0.8	10.37	5.23	595.57	3840.36	2.66	1.34	4.81	4.81
Rosebud County	C9	RM 250.79	73973	200-yr	3681.2	779.52	774.42	1.63	0.83	12.84	5.17	417.99	3945.41	3.37	1.35	5.1	5.1
Rosebud County	C9	RM 250.6	73678	200-yr	3681.2	779.39	774.17	1.67	0.92	22.95	9.51	376.03	4028.62	3.15	1.3	5.22	5.22
Rosebud County	C9	RM 250.37	73306	200-yr	3681.2	779.07	774.05	2.44	1.06	26.93	8.06	233.23	3552.3	4.16	1.24	5.02	5.02
Rosebud County	C9	RM 250.17	72982	200-yr	3681.2	778.9	773.93	2.51	1.04	31.21	11.33	214.36	3140.38	3.53	1.26	4.97	4.97
Rosebud County	C9	RM 249.95	72617	200-yr	3681.2	778.61	773.83	2.56	1.18	31.58	9.5	226.06	2572.99	4.06	1.21	4.78	4.78
Rosebud County	C9	RM 249.73	72253	200-yr	3681.2	778.41	773.71	2.34	1.09	26.76	9.48	273.96	2607.35	3.66	1.29	4.7	4.7
Rosebud County	C9	RM 249.53	71936	200-yr	3681.2	778.31	773.38	1.79	0.91	15.2	5.53	362.14	2818.74	3.94	1.43	4.93	4.93
Rosebud County	C9	RM 249.31	71579	200-yr	3681.2	778.06	773.14	2.2	1.18	26.69	9.44	363.92	3626.82	3.1	1.09	4.92	4.92
Rosebud County	C9	RM 249.13	71274	200-yr	3681.2	777.86	772.84	2.12	1.02	22.46	6.93	301.37	3694.58	3.97	1.21	5.02	5.02
Rosebud County	C9	RM 248.94	70978	200-yr	3681.2	777.63	772.56	2.53	1.02	30.95	8.72	201.69	3638.05	4.03	1.13	5.07	5.07
Rosebud County	C9	RM 248.76	70681	200-yr	3681.2	777.57	772.32	1.5	0.84	11.68	4.34	424.32	3073.92	3.85	1.42	5.25	5.25
Rosebud County	C9	RM 248.53	70312	200-yr	3681.2	777.51	772.17	1.49	0.69	10.01	3.8	164.13	3195.83	4.45	1.68	5.34	5.34
Rosebud County	C9	RM 248.31	69962	200-yr	3681.2	777.33	772.04	1.98	0.94	19.52	7.5	277.15	2793.27	3.76	1.44	5.29	5.29
Rosebud County	C9	RM 248.08	69603	200-yr	3681.2	777.15	771.92	2.28	0.93	22.57	6.95	211.49	3114.07	4.28	1.31	5.23	5.23
Rosebud County	C9	RM 247.88	69253	200-yr	3681.2	777.03	771.92	1.79	0.95	25.02	10.72	348.22	3154.71	2.96	1.26	5.11	5.11
Rosebud County	C9	RM 247.64	68836	200-yr	3681.2	776.78	771.95	1.93	1.03	19.69	7.69	416.51	3036.2	3.12	1.21	4.83	4.83

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	200-yr	3681.2	776.64	771.87	1.74	0.81	14.07	4.49	282.85	3350.26	4.34	1.38	4.77	4.77
Rosebud County	C9	RM 247.11	67963	200-yr	3681.2	776.4	771.45	2.61	1.11	33.26	10.1	199.91	2887.12	3.81	1.15	4.95	4.95
Rosebud County	C9	RM 246.83	67502	200-yr	3681.2	776.24	770.97	2.13	0.97	22.99	6.99	194.9	2728.84	4.68	1.41	5.27	5.27
Rosebud County	C9	RM 246.52	67019	200-yr	3681.2	776.07	770.61	2.04	1.02	18.92	6.03	225.63	2827.74	4.84	1.53	5.46	5.46
Rosebud County	C9	RM 246.22	66538	200-yr	3681.2	775.33	770.53	3.62	1.62	66.15	20.77	217.05	2792.82	3.25	1.01	4.8	4.8
Rosebud County	C9	RM 245.94	66068	200-yr	3681.2	774.87	770.29	2.4	1.47	29.78	10.04	297.16	2541.49	3.33	1.11	4.58	4.58
Rosebud County	C9	RM 245.66	65624	200-yr	3681.2	774.74	769.81	1.71	0.96	14.94	5.56	198.01	2611.93	4.68	1.71	5.5	5.5
Rosebud County	C9	RM 245.4	65205	200-yr	3681.2	774.54	769.59	2.03	1.23	19.02	8.98	376.4	2243.81	2.85	1.33	5.38	5.38
Rosebud County	C9	RM 245.15	64804	200-yr	3681.2	774.29	769.41	1.7	1.23	38.79	18.45	329.11	2379.18	2.67	1.25	5.13	5.13
Rosebud County	C9	RM 244.89	64387	200-yr	3681.2	773.61	769.41	3.09	1.58	46.97	12.38	189.43	2316	3.89	1.01	4.58	4.58
Rosebud County	C9	RM 244.7	64085	200-yr	3681.2	773.64	769.37	1.58	1.02	12.54	4.8	221.5	2557.26	3.69	1.41	4.73	4.73
Rosebud County	C9	RM 244.51	63776	200-yr	3681.2	773.57	769.35	1.37	0.9	10.52	4.66	264.21	2489.47	3.7	1.63	4.66	4.66
Rosebud County	C9	RM 244.33	63499	200-yr	3681.2	773.55	769.16	0.91	0.74	4.46	2.65	274.46	2398.88	3.52	2.08	5.12	5.12
Rosebud County	C9	RM 244.14	63224	200-yr	3681.2	773.51	768.52	1.17	0.76	6.49	3.16	208.4	2384.63	4.22	2.03	5.08	5.08
Rosebud County	C9	RM 243.96	62927	200-yr	3681.2	773.44	768.13	1.52	0.86	10.88	4.52	176.71	2499.26	4.43	1.84	5.31	5.31
Rosebud County	C9	RM 243.77	62617	200-yr	3681.2	773.4	767.57	1.07	0.73	5.08	2.48	160.76	2240.67	5.35	2.58	5.83	5.83
Rosebud County	C9	RM 243.59	62327	200-yr	3681.2	773.31	766.98	1.71	0.87	14.82	5.14	122.45	2599.76	5.93	2	6.33	6.33
Rosebud County	C9	RM 243.39	62012	200-yr	3681.2	773.09	766.86	2.36	1.02	24.7	7.38	156.08	2533.45	5.35	1.56	6.23	6.23
Rosebud County	C9	RM 243.21	61718	200-yr	3681.2	772.92	766.74	2.39	1.09	24.87	6.57	203.35	2490.44	5.67	1.47	6.18	6.18
Rosebud County	C10	RM 243.03	61422	200-yr	3681.2	772.7	766.73	2.88	1.21	38.11	10.63	174.23	2410.01	4.79	1.31	5.97	5.97
Rosebud County	C10	RM 242.84	61125	200-yr	3681.2	772.28	766.76	3.37	1.56	53.61	14.63	172.04	1884.54	4.67	1.25	5.52	5.52
Rosebud County	C10	RM 242.65	60825	200-yr	3681.2	772.06	766.76	2.95	1.48	41.06	11.39	204.7	1894.91	4.82	1.32	5.3	5.3
Rosebud County	C10	RM 242.47	60527	200-yr	3681.2	771.9	766.77	2.57	1.37	30.63	8.69	241.01	1944.68	4.86	1.38	5.13	5.13
Rosebud County	C10	RM 242.29	60239	200-yr	3681.2	771.74	766.64	2.4	1.44	27.73	7.85	282.31	1958.69	4.65	1.31	5.1	5.1
Rosebud County	C10	RM 242.1	59939	200-yr	3681.2	771.57	766.29	2.37	1.32	28.1	9.12	280	2044.78	4.25	1.37	5.28	5.28
Rosebud County	C10	RM 241.9	59618	200-yr	3681.2	771.42	765.95	2.19	1.07	21.56	7.04	249.51	2190.73	4.86	1.57	5.47	5.47
Rosebud County	C10	RM 241.72	59324	200-yr	3681.2	771.31	765.5	1.98	1.13	17.85	6.62	289.97	1802.45	4.92	1.81	5.81	5.81
Rosebud County	C10	RM 241.53	59025	200-yr	3681.2	771.03	765.17	2.79	1.3	39.34	10.47	160	1979.87	5.47	1.43	5.86	5.86
Rosebud County	C10	RM 241.34	58725	200-yr	3681.2	770.91	765.02	2.42	1.08	26.14	8.14	177.78	2093.6	5.3	1.63	5.89	5.89
Rosebud County	C10	RM 241.16	58424	200-yr	3681.2	770.84	764.97	1.95	1	17.11	6.48	171.92	1991.77	5.07	1.89	5.87	5.87
Rosebud County	C10	RM 240.97	58132	200-yr	3681.2	770.74	764.83	1.94	1.01	16.64	6.37	189.7	1813.85	5.31	2.01	5.91	5.91
Rosebud County	C10	RM 240.78	57818	200-yr	3681.2	770.71	764.56	1.57	0.83	10.58	4.15	159.68	1971.66	5.81	2.24	6.15	6.15
Rosebud County	C10	RM 240.56	57467	200-yr	3681.2	770.63	764.28	1.58	0.86	15.46	6.49	212.38	1906.52	5.45	2.26	6.35	6.35
Rosebud County	C10	RM 240.41	57228	200-yr	3681.2	770.57	763.91	1.57	0.88	13.08	5.57	216.4	1672.31	5.98	2.52	6.66	6.66
Rosebud County	C10	RM 240.22	56944	200-yr	3681.2	770.36	763.51	2.37	1.19	24.18	9.52	157.35	1242.19	6.53	2.48	6.85	6.85
Rosebud County	C10	RM 240.09	56741	200-yr	3681.2	770.08	763.47	3.27	1.44	36.03	12.83	120.86	1253.75	6.2	2.14	6.61	6.61
Rosebud County	C10	RM 239.97	56546	200-yr	3681.2	770.02	763.47	2.74	1.45	41.32	16.16	155.75	1097.77	6.03	2.31	6.55	6.55
Rosebud County	C10	RM 239.86	56371	200-yr	3681.2	769.95	763.25	2.43	1.44	27.15	11.84	205.85	1064.62	5.52	2.4	6.7	6.7
Rosebud County	C10	RM 239.68	56093	200-yr	3681.2	769.72	763.02	2.78	1.42	27.82	11.64	172.44	1145.12	5.55	2.27	6.7	6.7
Rosebud County	C10	RM 239.56	55888	200-yr	3681.2	769.07	763.1	4.4	2.01	68.87	22.53	119.6	1097.24	5.15	1.67	5.97	5.97
Rosebud County	C10	RM 239.41	55655	200-yr	3681.2	768.77	763.17	4.08	2.23	59.41	16.31	144.11	1211.79	5.25	1.4	5.6	5.6
Rosebud County	C10	RM 239.25	55398	200-yr	3681.2	768.64	763.17	3.41	1.73	55.11	16.23	164.41	1454.28	5.09	1.47	5.47	5.47
Rosebud County	C10	RM 239.07	55108	200-yr	3681.2	768.54	763.2	2.67	1.57	25.62	8.75	219.55	1385.1	5.02	1.69	5.34	5.34
Rosebud County	C10	RM 238.89	54826	200-yr	3681.2	768.19	763.23	3.27	1.89	39.02	11.95	191.74	1343.14	4.81	1.45	4.96	4.96
Rosebud County	C10	RM 238.73	54570	200-yr	3681.2	767.9	763.38	3.27	2.29	40.33	12.73	242.11	1187.68	4.34	1.36	4.52	4.52
Rosebud County	C10	RM 238.51	54223	200-yr	3681.2	767.89	762.88	1.93	1.56	20.76	11.81	435.56	1108.75	3.76	2.13	5.01	5.01
Rosebud County	C10	RM 238.33	53926	200-yr	3681.2	767.65	762.37	2.29	1.72	25.16	11.81	306.34	1008.79	4.56	2.13	5.28	5.28
Rosebud County	C10	RM 238.14	53626	200-yr	3681.2	767.38	762.25	2.75	1.67	34.52	15.49	214.01	1075.24	4.76	2.13	5.13	5.13
Rosebud County	C10	RM 237.95	53321	200-yr	3681.2	767.27	762.09	2.41	1.29	26.26	11.35	189.37	1532.71	4.94	2.13	5.18	5.18
Rosebud County	C10	RM 237.77	53027	200-yr	3681.2	767.22	761.85	1.75	0.97	14.03	6.44	294.75	1759.62	4.87	2.23	5.37	5.37
Rosebud County	C10	RM 237.56	52703	200-yr	3681.2	767.14	761.46	1.52	0.85	11.58	5.31	410.69	2248.57	4.22	1.92	5.68	5.68
Rosebud County	C10	RM 237.36	52386	200-yr	3681.2	767.09	761.22	1.35	0.75	8.73	4.15	443.16	2513.71	4.37	2.06	5.87	5.87
Rosebud County	C10	RM 237.15	52029	200-yr	3681.2	767.02	760.88	1.43	0.77	9.31	4.12	385.86	2476.99	4.83	2.12	6.14	6.14
Rosebud County	C10	RM 236.99	51756	200-yr	3681.2	766.81	760.22	2.38	1.02	18.99	5.63	177.1	2280.42	6.27	1.82	6.59	6.59
Rosebud County	C10	RM 236.83	51500	200-yr	3681.2	766.73	760.07	2.47	1.02	20.99	7.26	167.82	2430.08	5.78	1.96	6.66	6.66
Rosebud County	C10	RM 236.66	51221	200-yr	3681.2	766.66	760.07	2.25	1.16	17.15	5.48	188.48	2178.94	6.12	1.92	6.59	6.59
Rosebud County	C10	RM 236.47	50924	200-yr	3681.2	766.34	759.94	2.86	2.02	27.74	9.31	193.41	1115.11	6.05	1.99	6.4	6.4
Rosebud County	C11	RM 236.29	50623	200-yr	3681.2	766.23	760	2.71	1.92	25.16	9.4	211.22	1285.9	5.78	2.13	6.23	6.23
Rosebud County	C11	RM 236.1	50327	200-yr	3681.2	765.96	760	3.08	2.22	33.52	11.85	206.87	1237.23	5.27	1.84	5.96	5.96
Rosebud County	C11	RM 235.91	50024	200-yr	3681.2	765.53	760	3.63	2.56	58.9	25.92	170.49	762.78	5.23	2.27	5.53	5.53

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	200-yr	3681.2	765.46	760.15	2.64	2.29	32.21	21.98	243.8	1107.73	4.79	3.25	5.31	5.31
Rosebud County	C11	RM 235.57	49480	200-yr	3681.2	765.35	760.02	2.32	2.02	24.74	14.06	318.23	1686.75	4.77	2.69	5.33	5.33
Rosebud County	C11	RM 235.36	49133	200-yr	3681.2	765.16	759.74	2.23	1.87	22.79	12.29	428.22	1509.23	3.65	1.96	5.42	5.42
Rosebud County	C11	RM 235.17	48830	200-yr	3681.2	765	759.55	2.08	1.61	21.5	10.67	455.8	1522.24	3.57	1.76	5.45	5.45
Rosebud County	C11	RM 235	48571	200-yr	3681.2	764.85	759.29	2.14	1.45	21.07	7.31	320.92	2006.2	4.76	1.63	5.56	5.56
Rosebud County	C11	RM 234.82	48271	200-yr	3681.2	764.34	759.21	3.43	1.91	55	13.72	190.08	1744.25	4.52	1.12	5.13	5.13
Rosebud County	C11	RM 234.63	47978	200-yr	3681.2	764.2	759.21	2.64	1.57	32.41	9.02	238.2	1903.68	4.5	1.24	4.99	4.99
Rosebud County	C11	RM 234.45	47692	200-yr	3681.2	764.05	759.12	2.34	1.44	26.05	7.19	283.79	2142.28	4.34	1.2	4.93	4.93
Rosebud County	C11	RM 234.2	47305	200-yr	3681.2	763.96	758.6	1.67	1.22	12.38	5.66	528.71	1978.59	3.35	1.52	5.36	5.36
Rosebud County	C11	RM 234.01	47006	200-yr	3681.2	763.9	758.27	1.2	0.96	7.8	4.5	818.93	2017.36	3.3	1.9	5.63	5.63
Rosebud County	C11	RM 233.84	46737	200-yr	3681.2	763.79	758.12	1.46	1.12	11.68	5.04	583.98	2576.93	3.82	1.65	5.67	5.67
Rosebud County	C11	RM 233.61	46365	200-yr	3681.2	763.62	757.67	1.86	1.22	14.99	4.48	302.81	2054.05	5.63	1.68	5.95	5.95
Rosebud County	C11	RM 233.35	45943	200-yr	3681.2	763.4	757.03	2.39	1.22	25.43	9.02	214.65	1662.65	5.17	1.81	6.37	6.37
Rosebud County	C11	RM 233.13	45584	200-yr	3681.2	763.15	756.45	2.58	1.42	28.7	8.32	206.27	1596.5	5.8	1.66	6.7	6.7
Rosebud County	C11	RM 232.94	45281	200-yr	3681.2	762.88	756.15	3.02	1.52	39.28	9.8	169.36	1897.9	5.88	1.43	6.73	6.73
Rosebud County	C11	RM 232.75	44978	200-yr	3681.2	762.78	756.03	2.56	1.4	28.06	7.08	204.86	2024.48	5.96	1.47	6.75	6.75
Rosebud County	C11	RM 232.56	44674	200-yr	3681.2	762.64	755.79	2.5	1.42	27.89	7.77	241.61	2166.55	5.23	1.43	6.85	6.85
Rosebud County	C11	RM 232.37	44366	200-yr	3681.2	762.51	755.72	2.51	1.31	28.2	9.35	206.42	1823.26	5.12	1.67	6.79	6.79
Rosebud County	C11	RM 232.19	44074	200-yr	3681.2	762.21	755.67	2.82	1.69	35.13	10.47	204.11	1392.18	5.36	1.57	6.54	6.54
Rosebud County	C11	RM 232.01	43791	200-yr	3681.2	762.03	755.65	2.73	1.6	34.03	12.68	232.27	1295.68	4.83	1.77	6.38	6.38
Rosebud County	C11	RM 231.81	43473	200-yr	3681.2	761.71	755.6	3.06	1.7	42.97	18.3	201.55	1230.94	4.6	1.93	6.11	6.11
Rosebud County	C11	RM 231.62	43160	200-yr	3681.2	761.43	755.57	2.95	1.68	37.16	14.4	230.71	1622.31	4.25	1.62	5.86	5.86
Rosebud County	C11	RM 231.42	42835	200-yr	3681.2	761.36	755.45	2.23	1.23	21.71	8.25	229.33	1524.76	5.52	2.07	5.91	5.91
Rosebud County	C11	RM 231.22	42522	200-yr	3681.2	761.24	755.45	2.31	1.13	23.3	9.34	204	1652.99	4.99	1.97	5.79	5.79
Rosebud County	C11	RM 230.99	42160	200-yr	3681.2	760.8	755.45	3.28	1.53	49.86	17.06	154.03	1522.51	4.72	1.58	5.35	5.35
Rosebud County	C11	RM 230.79	41841	200-yr	3681.2	760.58	755.43	2.76	1.45	34.84	12.21	202.2	1504.42	4.87	1.68	5.15	5.15
Rosebud County	C11	RM 230.53	41415	200-yr	3681.2	760.46	755.17	1.97	1.35	19.17	7.82	299.8	1744.13	3.87	1.56	5.29	5.29
Rosebud County	C11	RM 230.29	41045	200-yr	3681.2	760.19	755.15	2.41	1.44	27.16	9.81	234.88	1693.06	4.22	1.51	5.04	5.04
Rosebud County	C11	RM 230.06	40676	200-yr	3681.2	759.92	754.81	2.41	1.55	29.16	10.4	287.47	1848.45	3.65	1.29	5.11	5.11
Rosebud County	C11	RM 229.81	40276	200-yr	3681.2	759.77	754.74	1.95	1.07	18.21	7.99	320.68	1888.93	4.2	1.83	5.03	5.03
Rosebud County	C11	RM 229.6	39937	200-yr	3681.2	759.63	754.58	1.93	1.07	17.44	10.08	412.79	1982.73	3.04	1.74	5.05	5.05
Rosebud County	C11	RM 229.4	39596	200-yr	3681.2	759.47	754.34	2.01	1.1	19.32	7.35	283.63	1979.94	4.47	1.69	5.13	5.13
Rosebud County	C11	RM 229.2	39273	200-yr	3681.2	759.15	754.15	2.87	1.46	40.09	12.65	214.46	2001.28	4.02	1.26	5	5
Rosebud County	C11	RM 229.02	38994	200-yr	3681.2	758.97	754.12	2.7	1.31	34.9	11.56	211.31	2064.82	4.16	1.36	4.85	4.85
Rosebud County	C11	RM 228.82	38676	200-yr	3681.2	758.82	753.8	2.27	1.18	24.79	8.66	271.56	2165.25	4.16	1.44	5.02	5.02
Rosebud County	C11	RM 228.64	38383	200-yr	3681.2	758.7	753.73	2.23	1.14	23.66	8.85	224.38	2049.32	4.24	1.57	5.01	5.01
Rosebud County	C11	RM 228.46	38093	200-yr	3681.2	758.62	753.53	1.76	0.95	14.71	6.29	301.72	2126.46	4.3	1.82	5.09	5.09
Rosebud County	C11	RM 228.26	37771	200-yr	3681.2	758.56	753.35	1.6	0.81	11.98	5.74	273.91	2141.98	4.45	2.11	5.21	5.21
Rosebud County	C11	RM 228.03	37408	200-yr	3681.2	758.44	753.16	1.89	0.85	16.64	7.54	233.4	2101.64	4.59	2.06	5.28	5.28
Rosebud County	C11	RM 227.74	36949	200-yr	3681.2	758.28	752.95	2.12	1.03	20.6	7.7	167.04	2011.55	4.85	1.78	5.33	5.33
Rosebud County	C11	RM 227.49	36537	200-yr	3681.2	758.18	752.83	2.02	0.96	18.72	6.36	175.55	2832.74	4.84	1.62	5.35	5.35
Rosebud County	C11	RM 227.2	36062	200-yr	3681.2	758.07	752.41	1.96	0.99	17.54	6.78	180.83	2725.85	4.79	1.83	5.66	5.66
Rosebud County	C11	RM 226.98	35709	200-yr	3681.2	757.72	752.31	2.76	1.38	35.84	13.41	211.99	1932.07	4.38	1.62	5.41	5.41
Rosebud County	C11	RM 226.79	35400	200-yr	3681.2	757.54	752.25	2.27	1.41	28.04	12.69	268.83	1407.65	4.48	2.01	5.29	5.29
Rosebud County	C11	RM 226.56	35065	200-yr	3681.2	757.4	751.83	1.95	1.41	21.46	13.69	338.41	1036.22	4.5	2.86	5.57	5.57
Rosebud County	C11	RM 226.36	34743	200-yr	3681.2	757.06	751.68	2.54	1.85	33.82	17.69	303.18	945.87	4.28	2.22	5.38	5.38
Rosebud County	C11	RM 226.2	34476	200-yr	3681.2	756.99	751.25	1.9	1.43	18.38	11.14	424.72	1179.32	4.04	2.44	5.74	5.74
Rosebud County	C11	RM 226.01	34177	200-yr	3681.2	756.84	750.81	2.08	1.25	20.56	9.36	284.2	1712.83	5.01	2.26	6.03	6.03
Rosebud County	C11	RM 225.83	33884	200-yr	3681.2	756.65	750.59	2.68	1.2	31.62	12.03	159.74	1496.8	5.48	2.04	6.06	6.06
Rosebud County	C11	RM 225.64	33580	200-yr	3681.2	756.59	750.56	1.93	1.04	17.18	7.39	293.96	1750.9	4.74	2.02	6.03	6.03
Rosebud County	C11	RM 225.45	33275	200-yr	3681.2	756.5	750.31	1.79	1.06	14.37	6.05	332.17	1792.64	5.05	2.11	6.19	6.19
Rosebud County	C11	RM 225.26	32969	200-yr	3681.2	756.38	750.25	1.99	1.19	17.74	8.09	291.78	1603.5	5.13	2.31	6.13	6.13
Rosebud County	C11	RM 225.16	32805	200-yr	3681.2	756.19	750.19	2.53	1.54	28.27	11.94	224.54	1200.37	5.43	2.26	6	6
Rosebud County	C11	RM 225.06	32646	200-yr	3681.2	755.65	750.15	3.83	2.36	64.65	21.95	169.61	1138.63	4.97	1.67	5.5	5.5
Rosebud County	C12	RM 224.89	32368	200-yr	3681.2	755.61	750.09	2.7	2.1	32.68	15.25	249.97	1092.92	5.11	2.36	5.52	5.52
Rosebud County	C12	RM 224.71	32083	200-yr	3681.2	755.44	750.04	2.46	2.23	28.26	21.88	393.37	619.01	3.68	2.84	5.4	5.4
Rosebud County	C12	RM 224.53	31796	200-yr	3681.2	755.19	749.96	2.51	2.36	28.16	22.44	412.38	747.25	3.47	2.76	5.23	5.23
Rosebud County	C12	RM 224.34	31486	200-yr	3681.2	755.03	750.03	2.03	1.83	24.38	19.81	480.32	877.45	3.17	2.58	5	5
Rosebud County	C12	RM 224.16	31195	200-yr	3681.2	754.81	749.78	2.29	1.68	24.09	12.81	263.29	1630.03	4.45	2.35	5.13	5.13
Rosebud County	C12	RM 223.96	30878	200-yr	3681.2	754.63	749.48	2.53	1.62	29.35	12.89	179.51	1612.53	4.79	2.08	5.25	5.25

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	200-yr	3681.2	754.44	749.18	2.73	1.68	35.23	15.44	162.95	1570.3	4.34	1.88	5.26	5.26
Rosebud County	C12	RM 223.55	30235	200-yr	3681.2	754.27	748.87	2.41	1.42	26	9.24	229.9	1722.4	5.11	1.8	5.4	5.4
Rosebud County	C12	RM 223.37	29952	200-yr	3681.2	754.04	748.72	2.7	1.39	32.78	10.73	208.3	1836.99	5.07	1.64	5.32	5.32
Rosebud County	C12	RM 223.2	29681	200-yr	3681.2	753.91	748.51	2.53	1.23	28.61	8.94	209.66	2093.85	5.21	1.6	5.4	5.4
Rosebud County	C12	RM 223.02	29391	200-yr	3681.2	753.87	748.51	1.89	0.96	16.36	6.33	265.78	2383.67	4.81	1.84	5.36	5.36
Rosebud County	C12	RM 222.82	29071	200-yr	3681.2	753.77	748.5	1.84	0.92	15.48	5.59	268.13	2306.98	4.87	1.74	5.27	5.27
Rosebud County	C12	RM 222.64	28787	200-yr	3681.2	753.67	748.46	1.98	0.94	17.66	6.22	236.97	2254.53	4.96	1.73	5.21	5.21
Rosebud County	C12	RM 222.45	28479	200-yr	3681.2	753.56	748.44	1.89	0.97	16.69	6.89	281.49	2038.35	4.54	1.86	5.12	5.12
Rosebud County	C12	RM 222.22	28128	200-yr	3681.2	753.44	748.15	1.46	0.9	31.79	10.76	261.1	2535.91	5	1.68	5.29	5.29
Rosebud County	C12	RM 222.01	27784	200-yr	3681.2	753.31	747.57	1.45	0.75	10.16	3.71	372.22	2890.23	4.67	1.69	5.74	5.74
Rosebud County	C12	RM 221.77	27401	200-yr	3681.2	753.27	747.18	0.95	0.61	5.83	3.25	725.95	2819.24	3.83	2.12	6.09	6.09
Rosebud County	C12	RM 221.55	27042	200-yr	3681.2	753.23	747.07	0.78	0.53	4.52	2.98	807.88	2786.69	3.8	2.49	6.16	6.16
Rosebud County	C12	RM 221.34	26708	200-yr	3681.2	753.19	746.94	0.83	0.51	3.95	2.54	648.68	2862.24	4.11	2.62	6.25	6.25
Rosebud County	C12	RM 221.15	26406	200-yr	3681.2	753.13	746.7	1.38	0.66	8.06	3.4	265.14	2358.66	5.99	2.49	6.43	6.43
Rosebud County	C12	RM 220.96	26081	200-yr	3681.2	752.8	746.66	3.02	1.29	40.27	12.24	138.93	2002.18	5.49	1.62	6.14	6.14
Rosebud County	C12	RM 220.77	25779	200-yr	3681.2	752.03	746.73	4	2.39	72.67	16.48	163.4	1393.58	4.97	1.11	5.3	5.3
Rosebud County	C12	RM 220.6	25513	200-yr	3681.2	752.1	746.72	2.53	1.72	28.69	8.75	256.78	1389.26	5.1	1.54	5.38	5.38
Rosebud County	C12	RM 220.4	25183	200-yr	3681.2	752.02	746.88	1.97	1.35	18.89	8.18	395.04	2282.41	3.79	1.63	5.14	5.14
Rosebud County	C12	RM 220.23	24914	200-yr	3681.2	751.97	746.8	1.42	1.06	9.64	5.47	635.17	2564.2	3.42	1.94	5.17	5.17
Rosebud County	C12	RM 220.02	24578	200-yr	3681.2	751.87	746.54	1.33	1.11	9.91	6.95	792.77	1891.36	3.16	2.21	5.33	5.33
Rosebud County	C12	RM 219.83	24268	200-yr	3681.2	751.8	746.18	1.2	1.04	8.14	6.71	775.68	1188.42	3.6	2.97	5.62	5.62
Rosebud County	C12	RM 219.63	23947	200-yr	3681.2	751.64	745.79	1.59	1.35	15.05	9.1	587.54	1232.61	3.66	2.21	5.85	5.85
Rosebud County	C12	RM 219.47	23683	200-yr	3681.2	751.51	745.56	1.81	1.3	16.1	6.64	380.14	1469.32	4.73	1.93	5.95	5.95
Rosebud County	C12	RM 219.29	23386	200-yr	3681.2	751.14	745.27	2.9	1.67	38.03	12.84	208.04	1322.25	5	1.67	5.87	5.87
Rosebud County	C12	RM 219.11	23085	200-yr	3681.2	750.97	745.15	2.77	1.63	34.67	14.46	176.7	1092.08	5.02	2.07	5.82	5.82
Rosebud County	C12	RM 218.92	22783	200-yr	3681.2	750.86	745.15	2.28	1.4	24.36	11.98	229.91	1375.53	4.52	2.2	5.71	5.71
Rosebud County	C12	RM 218.73	22473	200-yr	3681.2	750.66	745.06	2.38	1.4	25.11	11.21	226.8	1248.35	5.27	2.33	5.6	5.6
Rosebud County	C12	RM 218.54	22180	200-yr	3681.2	750.49	744.99	2.36	1.61	25.28	9.58	274.48	1441.33	4.86	1.84	5.5	5.5
Rosebud County	C12	RM 218.38	21902	200-yr	3681.2	750.36	744.43	2.38	1.52	24.92	8.72	234.82	1376.74	5.4	1.87	5.93	5.93
Rosebud County	C12	RM 218.18	21580	200-yr	3681.2	750.05	743.9	3	1.66	40.12	15.97	182.74	1190.48	5.21	2.05	6.15	6.15
Rosebud County	C12	RM 217.99	21276	200-yr	3681.2	749.88	743.66	2.72	1.51	33.87	14.04	211.96	1243.76	4.79	1.96	6.22	6.22
Rosebud County	C12	RM 217.81	20981	200-yr	3681.2	749.83	743.51	2	1.26	17.38	6.67	293.45	1587.86	5.32	2.02	6.32	6.32
Rosebud County	C12	RM 217.64	20702	200-yr	3681.2	749.42	743.41	3.23	1.69	46.8	13.83	176.29	1552.99	5.13	1.49	6.01	6.01
Rosebud County	C12	RM 217.45	20392	200-yr	3681.2	749.22	743.29	2.98	1.45	40.63	12.11	184.69	1873.48	4.84	1.42	5.93	5.93
Rosebud County	C12	RM 217.25	20070	200-yr	3681.2	749.17	743.29	2.27	1.08	22.52	6.64	191.77	2134.67	5.5	1.59	5.88	5.88
Rosebud County	C12	RM 217	19662	200-yr	3681.2	748.92	743.25	2.57	1.22	29.79	8.64	192.47	2077.17	5.08	1.45	5.67	5.67
Rosebud County	C12	RM 216.77	19300	200-yr	3681.2	748.76	743.25	2.41	1.17	27.2	8.81	217.02	2185.04	4.51	1.44	5.51	5.51
Rosebud County	C12	RM 216.53	18912	200-yr	3681.2	748.64	743.3	1.98	0.99	18.44	8.16	274.18	1904.14	4.44	1.95	5.34	5.34
Rosebud County	C12	RM 216.27	18500	200-yr	3681.2	748.52	743.24	1.75	1.01	14.57	7.36	358.3	1712.04	4.23	2.12	5.28	5.28
Rosebud County	C12	RM 215.98	18038	200-yr	3681.2	748.43	743.12	1.63	0.89	12.28	5.79	273.73	1935.58	4.53	2.13	5.31	5.31
Rosebud County	C12	RM 215.68	17550	200-yr	3681.2	748.27	742.31	1.82	1.01	14.37	5.69	269.37	1890.56	5.67	2.24	5.96	5.96
Rosebud County	C12	RM 215.41	17101	200-yr	3681.2	748.09	741.82	2.18	1.2	20.87	8.2	218.66	1784.2	5.41	2.1	6.27	6.27
Rosebud County	C12	RM 215.21	16781	200-yr	3681.2	747.78	741.65	3	1.58	39.95	14.49	159.7	1692.44	5.31	1.89	6.13	6.13
Rosebud County	C12	RM 215.02	16479	200-yr	3681.2	747.32	741.68	3.64	2.08	58.86	20.21	146.57	1355.04	5.28	1.78	5.64	5.64
Rosebud County	C13	RM 214.86	16220	200-yr	3681.2	747.32	741.64	2.41	1.74	25.49	13.58	252.91	1282.13	5.47	2.89	5.68	5.68
Rosebud County	C13	RM 214.65	15883	200-yr	3681.2	747.15	741.6	2.25	1.85	24.45	13.22	399.8	1080.37	3.88	2.08	5.55	5.55
Rosebud County	C13	RM 214.46	15577	200-yr	3681.2	747.03	741.6	1.96	1.45	17.26	11.11	460.96	1207.48	3.53	2.25	5.43	5.43
Rosebud County	C13	RM 214.27	15282	200-yr	3681.2	746.93	741.59	1.71	1.32	13.71	8.74	505.93	1427.43	3.52	2.24	5.34	5.34
Rosebud County	C13	RM 214.07	14957	200-yr	3681.2	746.81	741.54	1.61	1.12	16.06	8.57	425.03	2101.58	4.29	2.27	5.27	5.27
Rosebud County	C13	RM 213.9	14672	200-yr	3681.2	746.6	741.37	2.06	1.44	20.13	8	363.41	2282.6	4.32	1.7	5.23	5.23
Rosebud County	C13	RM 213.7	14343	200-yr	3681.2	746.15	740.88	2.95	2.03	39.64	12.36	232.58	1971.72	4.92	1.52	5.27	5.27
Rosebud County	C13	RM 213.54	14083	200-yr	3681.2	745.81	740.59	3.38	1.94	52.45	15.41	191.86	2036.52	4.81	1.39	5.22	5.22
Rosebud County	C13	RM 213.36	13792	200-yr	3681.2	745.68	740.39	2.7	1.54	34.34	11.7	246.24	2117.37	4.39	1.48	5.29	5.29
Rosebud County	C13	RM 213.16	13475	200-yr	3681.2	745.52	740.27	2.51	1.36	29.35	10.28	214.1	2227.91	4.23	1.46	5.25	5.25
Rosebud County	C13	RM 212.99	13200	200-yr	3681.2	745.4	740.31	2.28	1.21	23.42	9.09	212.05	2192.68	4.1	1.57	5.09	5.09
Rosebud County	C13	RM 212.79	12880	200-yr	3681.2	745.18	740.19	2.48	1.17	28.31	9.46	178.07	2435.91	4.79	1.58	4.99	4.99
Rosebud County	C13	RM 212.6	12572	200-yr	3681.2	745	739.79	2.32	1.14	24.41	8.15	240.96	2752.65	4.89	1.62	5.21	5.21
Rosebud County	C13	RM 212.42	12284	200-yr	3681.2	744.81	739.58	2.59	1.16	32.78	10.84	211.31	2616.68	4.56	1.49	5.23	5.23
Rosebud County	C13	RM 212.23	11983	200-yr	3681.2	744.77	739.17	1.86	0.94	16.08	6.14	257.92	2553.33	4.55	1.72	5.6	5.6
Rosebud County	C13	RM 212.05	11688	200-yr	3681.2	744.61	738.83	2.17	1.06	21.09	6.33	227.41	2460.06	5.1	1.51	5.78	5.78

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	200-yr	3681.2	744.45	738.79	2.33	1.17	25.44	7.87	251.66	2292.81	4.5	1.38	5.66	5.66
Rosebud County	C13	RM 211.65	11066	200-yr	3681.2	744.27	738.58	2.38	1.16	26.21	8.04	248.86	2276.09	4.59	1.39	5.69	5.69
Rosebud County	C13	RM 211.44	10724	200-yr	3681.2	744.15	738.38	2.27	1.01	23.54	7.78	199.53	2274.14	4.89	1.6	5.77	5.77
Rosebud County	C13	RM 211.21	10353	200-yr	3681.2	744.05	737.87	2.08	1.03	18.64	6.95	207.36	1972.2	4.9	1.81	6.18	6.18
Rosebud County	C13	RM 210.96	9946	200-yr	3681.2	743.76	737.72	2.75	1.35	34.47	12.32	169.56	1591.11	4.89	1.72	6.04	6.04
Rosebud County	C13	RM 210.75	9612	200-yr	3681.2	743.69	737.48	2.17	1.16	21	7.77	191.27	1650.42	5.28	1.92	6.21	6.21
Rosebud County	C13	RM 210.57	9317	200-yr	3681.2	743.61	737.5	1.96	1.1	17.15	6.35	244	1740.77	5.25	1.92	6.11	6.11
Rosebud County	C13	RM 210.36	8986	200-yr	3681.2	743.34	737.54	2.62	1.31	31.27	11.23	194.77	1754.27	4.92	1.74	5.8	5.8
Rosebud County	C13	RM 210.16	8674	200-yr	3681.2	743.11	737.53	2.52	1.54	30.38	13.36	288.57	1551.69	4.19	1.83	5.58	5.58
Rosebud County	C13	RM 209.98	8382	200-yr	3681.2	743.09	737.25	1.72	1.1	13.26	5.5	307.03	2587.56	5.17	2.13	5.84	5.84
Rosebud County	C13	RM 209.8	8091	200-yr	3681.2	742.98	736.96	2.01	1.09	17.23	5.49	218.68	2863.58	5.88	1.85	6.02	6.02
Rosebud County	C13	RM 209.6	7774	200-yr	3681.2	742.86	736.72	2.24	1	21.73	6.87	179.37	3186.19	5.73	1.78	6.14	6.14
Rosebud County	C13	RM 209.41	7482	200-yr	3681.2	742.8	736.53	1.87	0.95	15.55	5.69	238.7	3071.63	5.26	1.9	6.27	6.27
Rosebud County	C13	RM 209.21	7161	200-yr	3681.2	742.63	736.29	2.27	1.18	22.68	7.17	197.21	2635.99	5.4	1.68	6.34	6.34
Rosebud County	C13	RM 209.03	6871	200-yr	3681.2	742.5	736.14	2.38	1.21	24.87	7.48	186.26	2486.05	5.5	1.62	6.36	6.36
Rosebud County	C13	RM 208.85	6571	200-yr	3681.2	742.43	736.03	2.04	1.1	18.18	5.91	229.12	2391.93	5.53	1.77	6.4	6.4
Rosebud County	C13	RM 208.65	6257	200-yr	3681.2	742.35	735.74	2.01	1.11	17.97	6.24	218.32	2215.84	5.31	1.81	6.61	6.61
Rosebud County	C13	RM 208.46	5945	200-yr	3681.2	742.13	735.69	2.44	1.47	28.91	10.23	204.54	1857.38	4.78	1.66	6.44	6.44
Rosebud County	C13	RM 208.29	5682	200-yr	3681.2	740.96	735.63	4.95	3.47	112.47	27.52	116.29	920.66	4.85	1.15	5.33	5.33
Rosebud County	C14	RM 208.1	5374	200-yr	3681.2	740.77	735.61	3.43	2.53	53.47	18.19	201.37	1004.96	4.95	1.66	5.16	5.16
Rosebud County	C14	RM 207.91	5064	200-yr	3681.2	740.6	735.56	2.75	1.87	38.05	16.96	293.26	1336.64	3.84	1.69	5.04	5.04
Rosebud County	C14	RM 207.72	4766	200-yr	3681.2	740.38	735.52	2.38	1.6	27.27	12.79	400.5	2005.49	3.14	1.46	4.86	4.86
Rosebud County	C14	RM 207.53	4450	200-yr	3681.2	740.25	735.35	1.82	1.26	17.52	8.52	469.61	1758.84	3.45	1.67	4.9	4.9
Rosebud County	C14	RM 207.33	4123	200-yr	3681.2	739.96	735.27	2.43	1.5	28.54	11.64	282.48	1494.26	4.07	1.65	4.69	4.69
Rosebud County	C14	RM 207.15	3851	200-yr	3681.2	739.83	735.14	2.2	1.4	23.63	10.19	313.39	1627.23	4.07	1.74	4.69	4.69
Rosebud County	C14	RM 206.99	3599	200-yr	3681.2	739.72	734.95	2.04	1.22	20.45	9.18	327.09	1903.05	3.82	1.71	4.77	4.77
Rosebud County	C14	RM 206.81	3315	200-yr	3681.2	739.6	734.49	2.03	1.11	19.55	7.96	257.4	1918.32	4.28	1.72	5.11	5.11
Rosebud County	C14	RM 206.61	2997	200-yr	3681.2	739.45	733.91	2.19	1.08	21.95	8.31	197.48	2433.86	4.8	1.79	5.54	5.54
Rosebud County	C14	RM 206.43	2701	200-yr	3681.2	739.39	733.52	1.83	0.94	16.34	7.3	244.31	2793.76	4.03	1.78	5.87	5.87
Rosebud County	C14	RM 206.21	2350	200-yr	3681.2	739.23	733.38	1.99	1.08	19.8	7.51	253.17	2747.49	4.2	1.57	5.85	5.85
Rosebud County	C14	RM 205.97	1963	200-yr	3681.2	739.11	732.73	1.92	0.96	16.06	5.09	223.85	2737.24	5.6	1.74	6.38	6.38
Rosebud County	C14	RM 205.72	1563	200-yr	3681.2	738.77	732.73	3.13	1.28	58.11	14.95	107.48	2688.14	5.07	1.25	6.04	6.04
Rosebud County	C14	RM 205.49	1198	200-yr	3681.2	738.3	732.63	2.88	1.48	50.87	13.1	192.62	2555.77	4.48	1.14	5.67	5.67
Rosebud County	C14	RM 205.3	907	200-yr	3681.2	738.02	732.76	2.59	1.31	34.05	13.08	246.92	2415.2	3.52	1.34	5.26	5.26
Rosebud County	C14	RM 205.11	594	200-yr	3681.2	737.81	732.8	2.35	1.09	25.65	8.76	192	2297.46	4.62	1.55	5.01	5.01
Rosebud County	C14	RM 204.9	243	200-yr	3681.2	737.52	732.63	2.65	1.23	33.97	10.84	224.67	2533.62	4.06	1.28	4.89	4.89

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	200-yr	3652.9	737.52	732.67	2.78	1.24	37.55	11.27	192.07	2495.98	3.99	1.18	4.85	4.85
Custer County	C14	RM 204.43	73135	200-yr	3652.9	737.42	732.44	2.02	0.97	19.89	7.25	266.74	2593.44	4.01	1.45	4.98	4.98
Custer County	C14	RM 204.22	72808	200-yr	3652.9	737.27	732.3	2.09	0.99	21.51	7.7	262.16	2723.24	3.78	1.35	4.97	4.97
Custer County	C14	RM 204	72454	200-yr	3652.9	737.02	731.9	2.29	1.08	24.23	6.4	261.19	2755.05	4.67	1.22	5.12	5.12
Custer County	C14	RM 203.82	72156	200-yr	3652.9	736.88	731.14	2.33	1.01	25.28	8.22	197.43	2490.53	4.54	1.45	5.74	5.74
Custer County	C14	RM 203.65	71895	200-yr	3652.9	736.76	730.95	2.16	0.9	21.72	7.73	162.5	2490.5	4.65	1.62	5.81	5.81
Custer County	C14	RM 203.5	71641	200-yr	3652.9	736.68	730.78	1.81	0.86	15.2	6.19	195.78	2566.05	4.59	1.84	5.9	5.9
Custer County	C14	RM 203.3	71324	200-yr	3652.9	736.59	730.79	1.77	0.88	14.18	5.63	161.79	2246.13	4.95	1.92	5.8	5.8
Custer County	C14	RM 203.1	71035	200-yr	3652.9	736.42	730.79	2.27	1.06	24.35	9.03	184.4	2140.99	4.44	1.61	5.63	5.63
Custer County	C14	RM 202.9	70718	200-yr	3652.9	736.33	730.67	2.01	1.12	20.52	9.81	247.7	1943.36	3.55	1.67	5.66	5.66
Custer County	C14	RM 202.71	70415	200-yr	3652.9	736.11	730.64	2.35	1.2	26.44	10.02	232.13	2040.72	4.2	1.57	5.47	5.47
Custer County	C14	RM 202.51	70088	200-yr	3652.9	735.79	730.68	2.86	1.32	37.82	11.64	152.2	1956.51	4.68	1.41	5.11	5.11
Custer County	C14	RM 202.34	69815	200-yr	3652.9	735.66	730.63	2.07	1.16	20.92	9.29	321.87	2010.44	3.98	1.75	5.03	5.03
Custer County	C14	RM 202.13	69483	200-yr	3652.9	735.52	730.54	1.99	1.08	18.52	8.67	282.19	1935.49	4.52	2.1	4.98	4.98
Custer County	C14	RM 201.97	69219	200-yr	3652.9	735.28	730.01	2.37	1.45	26.43	12.04	264.21	1270.37	4.39	1.98	5.27	5.27
Custer County	C14	RM 201.75	68884	200-yr	3652.9	735.21	729.45	1.81	1.21	14.48	5.24	306.87	1570.95	5.38	1.93	5.76	5.76
Custer County	C14	RM 201.57	68612	200-yr	3652.9	735.1	729.37	1.95	1.26	18.9	8.81	362.67	1672.26	3.75	1.73	5.73	5.73
Custer County	C14	RM 201.38	68299	200-yr	3652.9	734.93	729.23	2.03	1.25	21.24	10.1	356.22	1823.36	3.41	1.61	5.7	5.7
Custer County	C14	RM 201.23	68055	200-yr	3652.9	734.81	729.13	1.91	1.14	18.18	8.66	369.58	1834.34	3.7	1.75	5.68	5.68
Custer County	C14	RM 201.06	67778	200-yr	3652.9	734.79	729.03	1.34	0.95	8.39	4.4	262.3	1805.37	4.43	2.3	5.76	5.76
Custer County	C14	RM 200.85	67439	200-yr	3652.9	734.35	729.05	3.47	1.91	54.4	17.95	114.21	1177.59	5.09	1.63	5.3	5.3
Custer County	C14	RM 200.64	67103	200-yr	3652.9	734.26	728.97	2.3	1.52	23.74	9.7	216.76	1157.27	5.13	2.07	5.29	5.29
Custer County	C14	RM 200.48	66842	200-yr	3652.9	734.19	728.8	1.85	1.49	15.97	10.13	307.41	1109.09	4.5	2.83	5.39	5.39
Custer County	C14	RM 200.27	66515	200-yr	3652.9	734.03	728.63	1.97	1.52	18	11.82	359.69	791.28	4.64	3.04	5.4	5.4
Custer County	C14	RM 200.05	66162	200-yr	3652.9	733.83	728.3	2.11	1.75	21.92	16.44	389.34	676.75	4.12	3.08	5.53	5.53
Custer County	C14	RM 199.9	65916	200-yr	3652.9	733.75	727.78	1.91	1.71	16.65	10.85	381.62	676.52	4.87	3.16	5.97	5.97
Custer County	C14	RM 199.71	65614	200-yr	3652.9	733.34	727.34	2.92	2.41	37.94	21.13	260.79	603.8	4.56	2.51	6	6
Custer County	C14	RM 199.53	65326	200-yr	3652.9	733.24	727.34	2.44	2.02	25.99	13.6	259.62	728.81	5.51	2.86	5.9	5.9
Custer County	C14	RM 199.38	65076	200-yr	3652.9	733.17	727.34	2.15	1.74	22.73	13.3	364.29	1026.1	4.18	2.43	5.83	5.83
Custer County	C14	RM 199.18	64754	200-yr	3652.9	733.03	727.64	1.9	1.46	20.43	12.31	456.73	1365.51	3.52	2.11	5.38	5.38
Custer County	C14	RM 199.04	64535	200-yr	3652.9	732.93	727.64	1.71	1.22	15.14	7.79	419.11	1469.64	4.13	2.12	5.29	5.29
Custer County	C14	RM 198.77	64102	200-yr	3652.9	732.66	727.28	2.17	1.4	21.21	8.57	294.95	1310.35	4.97	1.99	5.38	5.38
Custer County	C14	RM 198.57	63773	200-yr	3652.9	732.23	726.99	3.07	1.87	42.54	12.47	204.81	1346.86	5.01	1.45	5.24	5.24
Custer County	C14	RM 198.4	63505	200-yr	3652.9	732.05	726.86	2.92	1.68	38.66	13.32	199.72	1299.67	4.91	1.67	5.19	5.19
Custer County	C14	RM 198.22	63215	200-yr	3652.9	731.85	726.57	2.85	1.48	37.14	13.46	190.38	1424.93	4.84	1.74	5.28	5.28
Custer County	C14	RM 198.04	62923	200-yr	3652.9	731.7	726.32	2.46	1.38	27.55	9.98	227.09	1510.26	4.91	1.76	5.38	5.38
Custer County	C14	RM 197.84	62611	200-yr	3652.9	731.66	726.04	1.79	1.14	14.88	6.06	351.59	1730.29	4.59	1.85	5.62	5.62
Custer County	C14	RM 197.65	62306	200-yr	3652.9	731.57	725.69	1.83	1.01	14.53	6.19	317.28	1934.79	4.42	1.86	5.88	5.88
Custer County	C14	RM 197.47	62013	200-yr	3652.9	731.55	725.29	1.47	0.79	9.19	3.45	297.36	2060.04	6.03	2.24	6.26	6.26
Custer County	C14	RM 197.27	61686	200-yr	3652.9	731.49	724.81	1.75	0.83	13.54	5.78	212.46	2080.89	5.41	2.29	6.68	6.68
Custer County	C14	RM 197.07	61373	200-yr	3652.9	731.43	724.81	1.8	0.89	14.09	5.49	204.54	1915.74	5.58	2.14	6.62	6.62
Custer County	C14	RM 196.91	61115	200-yr	3652.9	731.42	724.81	1.41	0.71	8.66	4.54	223.31	1784.36	5.6	2.89	6.61	6.61
Custer County	C14	RM 196.73	60815	200-yr	3652.9	731.37	724.76	1.46	0.75	9.19	4.91	242.2	2242.98	5.75	3.05	6.61	6.61
Custer County	C14	RM 196.54	60518	200-yr	3652.9	731.32	724.67	1.57	0.84	10.94	5.67	270.26	2744.53	5.27	2.7	6.65	6.65
Custer County	C14	RM 196.33	60178	200-yr	3652.9	731.26	724.57	1.6	0.9	10.93	5.05	247.23	2331.05	6.02	2.75	6.69	6.69
Custer County	C14	RM 196.17	59915	200-yr	3652.9	731.21	724.51	1.7	1.08	12.19	6.02	191.57	1906.06	6.17	3.01	6.7	6.7
Custer County	C15	RM 195.98	59615	200-yr	3652.9	730.15	724.52	4.67	2.89	99	33.14	132.07	930.25	4.99	1.64	5.63	5.63
Custer County	C15	RM 195.81	59337	200-yr	3652.9	729.64	724.33	3.92	2.98	69.17	22.63	169.57	743.12	5.13	1.65	5.31	5.31
Custer County	C15	RM 195.61	59020	200-yr	3652.9	729.59	724.24	2.83	2.25	35.74	17.92	230.07	657.07	5.19	2.58	5.35	5.35
Custer County	C15	RM 195.43	58727	200-yr	3652.9	729.42	724.22	2.58	2.12	31.56	20.19	305.61	727.88	4.3	2.74	5.2	5.2
Custer County	C15	RM 195.23	58415	200-yr	3652.9	729.31	723.93	2.06	1.73	21.94	13.49	391.57	1008.63	4.31	2.63	5.38	5.38
Custer County	C15	RM 195.04	58114	200-yr	3652.9	729.08	723.54	2.44	1.84	27.51	13.71	269.46	996.08	4.59	2.28	5.54	5.54
Custer County	C15	RM 194.86	57824	200-yr	3652.9	728.92	722.93	2.49	1.61	27.72	12.86	209.92	1150.51	5.16	2.36	5.99	5.99
Custer County	C15	RM 194.67	57521	200-yr	3652.9	728.73	722.75	2.5	1.62	26.83	9.61	217.41	1128.94	5.78	2.04	5.98	5.98
Custer County	C15	RM 194.49	57231	200-yr	3652.9	728.63	722.53	2.33	1.52	23.52	8.75	232.49	1145.99	5.71	2.1	6.1	6.1
Custer County	C15	RM 194.32	56946	200-yr	3652.9	728.43	722.5	2.56	1.77	29.06	10.94	259.82	1157.98	4.78	1.78	5.93	5.93
Custer County	C15	RM 194.13	56643	200-yr	3652.9	728.13	722.5	2.8	2.16	35.98	12.01	251.77	1069.52	4.79	1.58	5.63	5.63
Custer County	C15	RM 193.93	56331	200-yr	3652.9	727.96	722.31	2.59	2	29.81	10.37	247.7	1000.69	5.29	1.82	5.65	5.65
Custer County	C15	RM 193.74	56024	200-yr	3652.9	727.82	722.23	2.51	1.77	27.73	10.76	229.42	991.7	5.43	2.08	5.59	5.59
Custer County	C15	RM 193.55	55708	200-yr	3652.9	727.59	722.13	2.71	1.84	32.55	12.25	217.16	1009.73	5.29	1.96	5.47	5.47

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	200-yr	3652.9	727.43	722.13	2.68	1.76	32.31	12.54	219.51	1058.35	5.11	1.97	5.3	5.3
Custer County	C15	RM 193.2	55158	200-yr	3652.9	727.36	722.13	2.16	1.46	20.89	8.63	280.33	1221.17	5.08	2.08	5.23	5.23
Custer County	C15	RM 193	54825	200-yr	3652.9	727.2	721.84	2.22	1.5	22.12	9.24	281.95	1251.64	5.06	2.1	5.36	5.36
Custer County	C15	RM 192.81	54525	200-yr	3652.9	727.07	721.37	2.32	1.39	23.55	9.42	207.4	1202.67	5.54	2.19	5.7	5.7
Custer County	C15	RM 192.63	54247	200-yr	3652.9	726.9	721.01	2.44	1.44	25.84	9.32	217.39	1273.83	5.6	1.99	5.89	5.89
Custer County	C15	RM 192.44	53935	200-yr	3652.9	726.81	721.01	2.14	1.42	20.12	9.01	241	1063.16	5.46	2.42	5.8	5.8
Custer County	C16	RM 192.26	53653	200-yr	3652.9	726.53	721.01	2.66	1.94	31.38	13.45	229.74	835.28	5.33	2.26	5.52	5.52
Custer County	C16	RM 192.05	53309	200-yr	3652.9	725.57	721.11	4.3	3.43	87.95	35.02	186.81	631.84	4.28	1.69	4.47	4.47
Custer County	C16	RM 191.74	52809	200-yr	3652.9	725.44	721.1	2.17	2.05	22.17	20.01	560.47	670.13	2.95	2.66	4.34	4.34
Custer County	C16	RM 191.35	52181	200-yr	3652.9	725.03	721.02	1.8	1.74	15.34	14.35	887.21	1002.29	2.26	2.12	4.01	4.01
Custer County	C16	RM 191.12	51812	200-yr	3652.9	724.84	720.51	1.57	1.57	11.54	11.44	1013.65	1023.92	2.29	2.27	4.33	4.33
Custer County	C16	RM 190.87	51406	200-yr	3652.9	724.67	719.89	1.42	1.34	11	8.5	906.61	1649.69	2.81	2.16	4.78	4.78
Custer County	C16	RM 190.54	50885	200-yr	3652.9	724.54	719.15	1.19	1.06	8.61	6.01	789.91	1749.86	3.7	2.58	5.39	5.39
Custer County	C16	RM 190.29	50477	200-yr	3652.9	723.74	718.45	3.73	2.32	63.74	16.92	179.8	1445.05	4.78	1.25	5.28	5.28
Custer County	C16	RM 190.1	50176	200-yr	3652.9	723.47	718.43	3.2	1.96	48.52	14.43	227.26	1816.54	4.29	1.27	5.04	5.04
Custer County	C16	RM 189.85	49765	200-yr	3652.9	723.26	718.13	2.34	1.6	26.57	8.12	334.92	2275.17	4.05	1.23	5.13	5.13
Custer County	C16	RM 189.65	49458	200-yr	3652.9	723.12	718.1	2.11	1.21	20.3	7.56	340.01	2412.49	3.74	1.39	5.02	5.02
Custer County	C16	RM 189.43	49103	200-yr	3652.9	722.7	718.09	2.8	1.59	38.5	11.29	269.95	2035.11	3.89	1.13	4.61	4.61
Custer County	C16	RM 189.22	48763	200-yr	3652.9	722.69	717.93	1.61	1.09	12.12	4.7	452.46	1968.57	4.45	1.71	4.76	4.76
Custer County	C16	RM 188.91	48267	200-yr	3652.9	722.54	717.54	1.69	1.13	14.55	6.79	472.67	1838.6	3.8	1.76	5	5
Custer County	C16	RM 188.66	47869	200-yr	3652.9	722.19	716.75	2.65	1.41	31.17	11.75	195.28	1331.86	5.26	1.95	5.44	5.44
Custer County	C16	RM 188.51	47622	200-yr	3652.9	722.02	716.72	2.65	1.55	32.07	13.89	217.17	1131.07	4.88	2.09	5.3	5.3
Custer County	C16	RM 188.32	47314	200-yr	3652.9	721.92	716.79	2.16	1.6	22.78	11.8	152.42	965.9	4.67	2.37	5.13	5.13
Custer County	C16	RM 188.14	47024	200-yr	3652.9	721.74	716.93	1.39	1.44	12.46	11.06	474.59	1239.61	2.3	2.05	4.81	4.81
Custer County	C16	RM 187.98	46768	200-yr	3652.9	721.65	716.91	1.96	1.29	18.02	7.87	222.44	1483.54	4.42	1.91	4.74	4.74
Custer County	C16	RM 187.78	46440	200-yr	3652.9	721.57	716.69	1.66	1.17	14.56	6.16	251.06	1763.73	4.2	1.77	4.88	4.88
Custer County	C16	RM 187.55	46083	200-yr	3652.9	721.32	716.04	2.3	1.29	24.04	8.1	224.37	1747.54	4.86	1.62	5.28	5.28
Custer County	C16	RM 187.35	45750	200-yr	3652.9	720.94	715.34	3.03	1.55	41.59	13.79	182.36	1545.84	4.98	1.63	5.6	5.6
Custer County	C16	RM 187.14	45421	200-yr	3652.9	720.87	715.3	2.17	1.2	21.42	8.57	259.08	1739.24	4.84	1.91	5.57	5.57
Custer County	C16	RM 187.01	45211	200-yr	3652.9	720.79	715.3	1.99	1.24	17.95	7.83	300.38	1681.9	4.97	2.15	5.49	5.49
Custer County	C16	RM 186.84	44930	200-yr	3652.9	720.67	715.03	2.09	1.28	20.04	9.27	294.8	1563.36	4.73	2.17	5.64	5.64
Custer County	C16	RM 186.62	44553	200-yr	3652.9	720.31	714.75	2.89	1.78	36.78	12.37	188.38	1318.96	5.33	1.78	5.56	5.56
Custer County	C16	RM 186.46	44311	200-yr	3652.9	720.07	714.53	3.13	1.8	44.16	16.17	186.59	1203.68	5.05	1.81	5.53	5.53
Custer County	C16	RM 186.26	43996	200-yr	3652.9	719.62	714.27	3.35	2.51	51.07	16.98	205.3	903.89	4.93	1.62	5.35	5.35
Custer County	C16	RM 186.1	43730	200-yr	3652.9	719.54	713.9	2.56	2.17	30.32	12.81	294.06	963.19	4.68	1.96	5.64	5.64
Custer County	C16	RM 185.91	43424	200-yr	3539.6	719.38	713.84	2.32	2.04	25.39	16.72	388.65	762.28	3.79	2.49	5.53	5.53
Custer County	C16	RM 185.71	43110	200-yr	3539.6	718.81	713.84	3.19	2.75	49.54	32.44	325.31	615.57	3.21	2.09	4.97	4.97
Custer County	C16	RM 185.52	42808	200-yr	3539.6	718.77	713.71	2.08	1.73	20.23	11.67	366.12	800.86	4.44	2.55	5.06	5.06
Custer County	C16	RM 185.34	42508	200-yr	3539.6	718.58	713.28	2.14	2.03	21.72	18.58	511.74	1001.91	3.2	2.74	5.3	5.3
Custer County	C16	RM 185.16	42219	200-yr	3539.6	718.52	712.93	1.7	1.34	13.4	8.93	419.95	1595.19	4.52	3	5.59	5.59
Custer County	C17	RM 184.95	41881	200-yr	3539.6	718.32	712.72	2.12	1.45	21.84	10.39	289.94	1651.56	4.91	2.32	5.6	5.6
Custer County	C17	RM 184.78	41621	200-yr	3539.6	718.12	712.51	2.5	1.49	27.79	10.83	215.1	1182.74	5.21	2	5.61	5.61
Custer County	C17	RM 184.59	41311	200-yr	3539.6	717.73	711.96	3.05	2.11	41.08	12.84	194.94	1012.36	5.33	1.66	5.77	5.77
Custer County	C17	RM 184.4	41010	200-yr	3539.6	717.65	711.62	2.46	1.92	26.42	9.38	242.39	942.08	5.58	1.96	6.03	6.03
Custer County	C17	RM 184.23	40728	200-yr	3539.6	717.46	711.31	2.66	1.93	31.85	11.89	238.5	987.47	5.03	1.85	6.15	6.15
Custer County	C17	RM 184.1	40517	200-yr	3539.6	717.38	711.39	2.55	1.59	28.4	10.9	203.14	1163.11	5.43	2.08	5.99	5.99
Custer County	C17	RM 184.03	40407	200-yr	3539.6	717.25	711.49	2.68	1.89	31.7	9.86	222.9	1232.98	5.36	1.65	5.76	5.76
Custer County	C17	RM 183.83	40098	200-yr	3539.6	717.17	711.42	2.29	1.54	22.93	9.19	234.84	1062.9	5.45	2.16	5.75	5.75
Custer County	C17	RM 183.65	39806	200-yr	3539.6	716.86	711.39	2.77	2.09	33.96	10.51	224.55	1044.86	5.31	1.62	5.47	5.47
Custer County	C17	RM 183.47	39513	200-yr	3539.6	716.53	711.39	3.1	2.34	43.56	13.49	211.71	997.78	4.98	1.52	5.14	5.14
Custer County	C17	RM 183.28	39210	200-yr	3539.6	716.5	711.31	2.26	1.56	22.84	8.38	263.55	1322.15	5.11	1.86	5.19	5.19
Custer County	C17	RM 183.09	38909	200-yr	3539.6	716.39	711.04	2.21	1.38	21.83	10.23	237.25	1075.93	5.13	2.38	5.35	5.35
Custer County	C17	RM 182.94	38660	200-yr	3539.6	716.24	710.66	2.31	1.63	23.54	8.12	244.82	1177.97	5.42	1.85	5.58	5.58
Custer County	C17	RM 182.72	38316	200-yr	3539.6	716.03	710.1	2.44	1.78	26.71	10.78	250.1	1098.68	5.17	2.07	5.93	5.93
Custer County	C17	RM 182.54	38020	200-yr	3539.6	715.38	710.12	3.75	2.78	63.45	25.39	173.67	642.49	5.02	1.98	5.26	5.26
Custer County	C17	RM 182.34	37706	200-yr	3539.6	715.21	710.27	2.95	2.42	40.47	14.72	240.92	891.73	4.54	1.64	4.94	4.94
Custer County	C17	RM 182.15	37402	200-yr	3539.6	714.97	710.26	2.84	2.3	37.45	17.85	248.66	733.31	4.6	2.18	4.71	4.71
Custer County	C17	RM 181.97	37127	200-yr	3539.6	714.81	710.26	2.53	1.96	30.17	12.21	292.15	1201.47	4.4	1.77	4.55	4.55
Custer County	C17	RM 181.78	36815	200-yr	3539.6	714.64	710.09	2.26	1.66	23.02	11.48	407.22	1287.07	3.34	1.66	4.55	4.55
Custer County	C17	RM 181.59	36505	200-yr	3539.6	714.31	709.76	2.54	1.97	30.5	13.84	392.06	1203.09	3.31	1.49	4.55	4.55

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	200-yr	3539.6	714.04	709.37	2.58	1.91	31.45	12.68	277.32	1065.8	4.33	1.73	4.67	4.67
Custer County	C17	RM 181.23	35925	200-yr	3539.6	713.78	709.36	2.9	2.27	40.2	16.52	247.28	910.05	4.18	1.71	4.42	4.42
Custer County	C17	RM 181.03	35607	200-yr	3539.6	713.64	709.02	2.24	1.98	23.86	11.41	354.1	941.1	4.29	2.05	4.63	4.63
Custer County	C17	RM 180.83	35292	200-yr	3539.6	713.55	708.68	1.91	1.63	17.33	12.9	362.09	976.34	4.26	3.17	4.87	4.87
Custer County	C17	RM 180.66	35006	200-yr	3539.6	713.33	708.22	2.24	1.93	23.47	14.73	342.47	651.82	4.48	2.81	5.11	5.11
Custer County	C18	RM 180.46	34700	200-yr	3539.6	713.11	708.05	2.45	2.09	27.3	19.34	281.53	486.27	4.92	3.48	5.06	5.06
Custer County	C18	RM 180.29	34421	200-yr	3539.6	712.9	707.79	2.68	2.07	33.09	17.68	243.73	867.2	4.66	2.48	5.11	5.11
Custer County	C18	RM 180.08	34086	200-yr	3539.6	712.73	707.53	2.41	1.83	26.21	13.62	254.84	743.33	5.03	2.6	5.2	5.2
Custer County	C18	RM 179.9	33807	200-yr	3539.6	712.6	707.32	2.32	1.78	24.47	11.88	266.42	839.77	4.9	2.37	5.28	5.28
Custer County	C18	RM 179.73	33525	200-yr	3539.6	712.28	706.89	2.79	2.25	35.95	18.92	256.8	643.44	4.66	2.44	5.39	5.39
Custer County	C18	RM 179.54	33218	200-yr	3539.6	712.07	706.7	2.59	2.25	33.92	21.72	312.1	581.49	4.23	2.7	5.37	5.37
Custer County	C18	RM 179.35	32914	200-yr	3539.6	711.92	706.45	2.33	2.01	24.5	18.13	292.41	482.58	4.94	3.65	5.47	5.47
Custer County	C18	RM 179.16	32611	200-yr	3539.6	711.6	706.29	2.81	2.5	35.98	23.23	237.48	423.46	5.19	3.34	5.31	5.31
Custer County	C18	RM 178.99	32337	200-yr	3539.6	711.46	706.07	2.62	2.34	30.56	19.58	254.29	457.53	5.19	3.31	5.39	5.39
Custer County	C18	RM 178.79	32025	200-yr	3539.6	711.25	705.9	2.68	2.33	32.11	15.24	251.59	632.28	5.09	2.4	5.35	5.35
Custer County	C18	RM 178.61	31730	200-yr	3539.6	711.2	705.59	2.17	1.74	20.97	11.03	259.81	742.24	5.25	2.75	5.61	5.61
Custer County	C18	RM 178.43	31434	200-yr	3539.6	710.91	705.25	2.61	2.28	30.18	13.19	249.19	670.91	5.32	2.31	5.66	5.66
Custer County	C18	RM 178.23	31114	200-yr	3539.6	710.7	704.7	2.66	2.51	31.44	19.55	249.24	431.95	5.28	3.27	6	6
Custer County	C18	RM 178.06	30848	200-yr	3539.6	710.51	704.57	2.8	2.54	34.26	25.64	219.45	338.07	5.53	4.13	5.94	5.94
Custer County	C18	RM 177.88	30549	200-yr	3539.6	710.28	704.57	2.88	2.54	36.93	25.04	229.01	397.09	5.2	3.51	5.71	5.71
Custer County	C18	RM 177.66	30211	200-yr	3596.2	709.61	704.57	3.77	3.36	65.37	41.18	194.19	357.94	4.78	2.99	5.04	5.04
Custer County	C18	RM 177.49	29932	200-yr	3596.2	709.44	704.47	3.12	2.95	44.66	28.74	236.92	393.77	4.83	3.09	4.97	4.97
Custer County	C19	RM 177.3	29625	200-yr	3596.2	709.3	704.46	2.6	2.47	31.4	22.69	302.6	471.82	4.54	3.27	4.84	4.84
Custer County	C19	RM 177.11	29314	200-yr	3596.2	709	704.46	2.72	2.59	33.54	29.59	372.18	527.24	3.5	3.09	4.54	4.54
Custer County	C19	RM 176.93	29040	200-yr	3596.2	708.88	704.42	2.18	2.03	21.73	18.3	436.64	571.39	3.69	3.1	4.46	4.46
Custer County	C19	RM 176.74	28720	200-yr	3596.2	708.74	704.21	2.06	1.87	20.31	16.16	342.3	735.97	4.21	3.35	4.53	4.53
Custer County	C19	RM 176.53	28384	200-yr	3596.2	708.51	703.63	2.24	2.04	25.04	20.64	344.95	642.28	3.73	3.08	4.88	4.88
Custer County	C19	RM 176.36	28109	200-yr	3596.2	708.26	703.08	2.43	2.3	27.53	23.98	324.02	438.8	4.49	3.91	5.18	5.18
Custer County	C19	RM 176.18	27824	200-yr	3596.2	707.44	702.71	4	3.41	75.92	46.83	199.69	416.82	4.3	2.64	4.73	4.73
Custer County	C19	RM 176	27527	200-yr	3596.2	707.31	702.51	2.96	2.74	41.03	34.04	259.98	379.92	4.47	3.71	4.8	4.8
Custer County	C19	RM 175.81	27227	200-yr	3596.2	707.07	702.24	2.76	2.63	36.16	31.96	297.33	383.84	4.28	3.79	4.83	4.83
Custer County	C19	RM 175.62	26928	200-yr	3596.2	706.8	701.81	2.9	2.5	39.03	26.46	234.72	462.95	4.61	3.11	4.99	4.99
Custer County	C19	RM 175.43	26622	200-yr	3596.2	706.42	701.81	3.22	2.4	49.3	35.71	214.93	488.73	4.26	3.07	4.61	4.61
Custer County	C19	RM 175.25	26325	200-yr	3596.2	706.08	701.72	3.11	2.72	46.33	31.61	212.23	551.09	4.21	2.86	4.36	4.36
Custer County	C19	RM 175.08	26048	200-yr	3596.2	705.9	701.63	2.51	2.49	30.71	29.2	357.35	454.84	3.99	3.79	4.27	4.27
Custer County	C19	RM 174.9	25768	200-yr	3596.2	705.59	701.31	2.73	2.7	36.42	31.1	338.42	401.38	3.89	3.32	4.28	4.28
Custer County	C19	RM 174.69	25444	200-yr	3596.2	705.31	700.82	2.63	2.44	34.01	24.35	351.06	621.25	3.84	2.75	4.49	4.49
Custer County	C19	RM 174.49	25112	200-yr	3596.2	704.96	700.04	2.83	2.47	37.68	20.23	279.46	619.05	4.4	2.36	4.92	4.92
Custer County	C19	RM 174.32	24844	200-yr	3596.2	704.53	699.39	3.33	2.8	51.08	23.05	222.49	611.64	4.68	2.1	5.14	5.14
Custer County	C19	RM 174.13	24549	200-yr	3596.2	704.43	698.84	2.66	2.3	31.4	14.06	244.91	660.58	5.32	2.37	5.59	5.59
Custer County	C19	RM 173.94	24238	200-yr	3596.2	704.15	698.14	2.88	2.39	37.63	16.89	239.67	678.69	4.96	2.21	6.01	6.01
Custer County	C19	RM 173.75	23939	200-yr	3596.2	703.83	697.92	3.28	2.3	46.88	17.1	172.39	780.33	5.51	2	5.91	5.91
Custer County	C19	RM 173.57	23651	200-yr	3596.2	703.64	697.83	2.96	2.39	38.14	14.08	208.71	758.9	5.54	2.04	5.81	5.81
Custer County	C19	RM 173.39	23352	200-yr	3596.2	703.18	697.83	3.49	2.96	55.19	22.13	203.52	678.53	4.94	1.96	5.35	5.35
Custer County	C19	RM 173.2	23054	200-yr	3596.2	702.94	697.72	3.17	2.65	46.05	23.15	226.21	696.79	4.76	2.39	5.22	5.22
Custer County	C19	RM 173.02	22756	200-yr	3596.2	702.7	697.29	2.98	2.59	40.55	25.24	244.03	767.78	4.78	2.97	5.41	5.41
Custer County	C19	RM 172.82	22437	200-yr	3596.2	702.6	696.82	2.2	2.11	23.79	19.54	414.44	849.36	3.9	3.2	5.78	5.78
Custer County	C19	RM 172.67	22200	200-yr	3596.2	702.42	696.52	2.27	2.22	25.69	21.77	421.93	778.83	3.72	3.15	5.9	5.9
Custer County	C19	RM 172.49	21903	200-yr	3596.2	702.23	696.23	2.28	2.17	24.73	16.65	365.62	771.78	4.27	2.87	6	6
Custer County	C19	RM 172.29	21585	200-yr	3596.2	701.93	695.79	2.73	2.2	32.75	14.84	226.44	859.31	5.46	2.45	6.14	6.14
Custer County	C19	RM 172.12	21325	200-yr	3596.2	701.21	695.81	3.93	3.62	74.09	43.49	216.64	422.2	4.16	2.44	5.4	5.4
Custer County	C19	RM 171.89	20942	200-yr	3596.2	701.02	695.57	2.97	2.78	39.22	31.08	228.36	313.84	5.2	4.12	5.45	5.45
Custer County	C19	RM 171.71	20638	200-yr	3596.2	700.69	695.49	3.16	2.96	45.51	37.44	231.98	307.32	4.81	3.96	5.2	5.2
Custer County	C19	RM 171.52	20341	200-yr	3596.2	700.51	695.3	2.83	2.67	36.19	23.88	249.92	409.03	5	3.29	5.21	5.21
Custer County	C19	RM 171.34	20043	200-yr	3596.2	700.25	695.11	2.93	2.67	39.05	22.95	244.86	469.36	4.88	2.87	5.14	5.14
Custer County	C19	RM 171.15	19745	200-yr	3596.2	700.02	694.86	2.86	2.73	36.92	25.05	249.21	389.07	5	3.39	5.16	5.16
Custer County	C19	RM 170.96	19437	200-yr	3596.2	699.83	694.67	2.72	2.56	33.34	22.16	261.96	424.71	4.99	3.3	5.16	5.16
Custer County	C19	RM 170.78	19143	200-yr	3596.2	699.6	694.2	2.81	2.65	35.51	27.79	245.9	340.96	5.09	3.98	5.4	5.4
Custer County	C19	RM 170.58	18838	200-yr	3596.2	699.3	693.91	2.97	2.83	40.3	33.41	245.35	316.42	4.84	4.01	5.39	5.39
Custer County	C19	RM 170.4	18543	200-yr	3596.2	699.16	693.9	2.62	2.59	30.84	29.05	269.24	289.37	5.08	4.79	5.25	5.25

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	200-yr	3596.2	699	693.7	2.55	2.5	29.15	25.37	272.95	322.19	5.13	4.47	5.3	5.3
Custer County	C19	RM 170.03	17941	200-yr	3596.2	698.67	693.31	2.92	2.9	38.12	35.05	237.46	260.65	5.17	4.76	5.36	5.36
Custer County	C19	RM 169.84	17641	200-yr	3596.2	698.38	692.78	3.09	3.07	42.09	37.1	214.88	245.59	5.41	4.77	5.6	5.6
Custer County	C19	RM 169.65	17341	200-yr	3596.2	698.06	692.47	3.27	3.23	47.38	41.34	204.85	239.27	5.35	4.66	5.59	5.59
Custer County	C19	RM 169.47	17041	200-yr	3596.2	697.76	692.17	3.35	3.11	50.05	39.59	199.81	281.81	5.19	4.11	5.59	5.59
Custer County	C19	RM 169.28	16732	200-yr	3596.2	697.54	692	3.09	2.86	42.45	32.93	214.83	310.74	5.24	4.05	5.54	5.54
Custer County	C19	RM 169.09	16441	200-yr	3596.2	697.27	691.96	3.11	2.95	43.55	32.59	225.9	322.43	5.06	3.79	5.31	5.31
Custer County	C19	RM 168.91	16152	200-yr	3596.2	696.98	691.93	3.16	3.04	45.52	37.44	230.07	293.63	4.9	4.03	5.05	5.05
Custer County	C19	RM 168.72	15846	200-yr	3596.2	696.84	691.82	2.63	2.61	31.6	29.15	280.43	307.53	4.86	4.48	5.02	5.02
Custer County	C19	RM 168.51	15500	200-yr	3596.2	696.63	691.6	2.55	2.48	30.08	27.88	296.39	333.88	4.67	4.34	5.03	5.03
Custer County	C19	RM 168.35	15241	200-yr	3596.2	696.35	691.48	2.86	2.65	38.09	33.01	269.3	343.36	4.56	3.96	4.87	4.87
Custer County	C19	RM 168.15	14931	200-yr	3596.2	696.01	691.2	3.07	2.75	43.61	32.05	241.63	388.03	4.6	3.37	4.81	4.81
Custer County	C19	RM 167.97	14639	200-yr	3596.2	695.78	690.59	2.89	2.76	37.66	28.53	247.71	358.5	4.97	3.76	5.19	5.19
Custer County	C19	RM 167.79	14340	200-yr	3596.2	695.6	690.5	2.74	2.41	33.87	25.28	249.29	399.88	5	3.73	5.1	5.1
Custer County	C19	RM 167.61	14054	200-yr	3596.2	695.19	690.42	3.18	3.09	46.87	37.99	244.91	312.92	4.6	3.73	4.77	4.77
Custer County	C19	RM 167.41	13735	200-yr	3596.2	695.02	690.14	2.73	2.37	34.23	25.59	264.94	433.56	4.67	3.5	4.88	4.88
Custer County	C19	RM 167.22	13433	200-yr	3596.2	694.83	689.79	2.58	2.31	30.29	19.74	276.96	490.24	4.88	3.18	5.04	5.04
Custer County	C19	RM 167.04	13143	200-yr	3596.2	694.65	689.14	2.61	2.3	30.24	18.3	256.62	497.97	5.21	3.15	5.51	5.51
Custer County	C19	RM 166.85	12847	200-yr	3596.2	694.3	688.98	3.04	2.7	42.65	30.35	240.01	399.51	4.68	3.33	5.32	5.32
Custer County	C19	RM 166.67	12552	200-yr	3596.2	694.09	688.84	2.82	2.53	35.94	21.97	252.35	472.04	4.95	3.01	5.26	5.26
Custer County	C19	RM 166.52	12319	200-yr	3596.2	694.01	688.64	2.45	2.3	26.7	18.23	278.87	440.24	5.21	3.55	5.37	5.37
Custer County	C19	RM 166.31	11978	200-yr	3596.2	693.73	688.02	2.74	2.43	33.24	23.03	249.27	415.94	5.14	3.55	5.72	5.72
Custer County	C20	RM 166.2	11806	200-yr	3596.2	693.58	687.4	2.86	2.51	36.28	24.29	229.93	404.61	5.32	3.54	6.18	6.18
Custer County	C20	RM 166.06	11569	200-yr	3596.2	693.37	687.38	2.98	2.61	40.38	25.52	239.53	449.01	4.88	3.07	5.99	5.99
Custer County	C20	RM 165.92	11350	200-yr	3596.2	693.14	687.38	3.09	2.61	43.81	25.49	230.5	495.59	4.83	2.78	5.76	5.76
Custer County	C20	RM 165.73	11039	200-yr	3596.2	692.98	687.26	2.67	2.46	32.24	21.72	264.5	435.14	5	3.36	5.72	5.72
Custer County	C20	RM 165.55	10750	200-yr	3596.2	692.8	687.11	2.61	2.41	31.01	20.73	274.77	455.2	4.93	3.28	5.69	5.69
Custer County	C20	RM 165.35	10440	200-yr	3596.2	692.62	686.75	2.54	2.37	29.2	21.53	279.36	420.34	4.91	3.61	5.87	5.87
Custer County	C20	RM 165.17	10140	200-yr	3596.2	692.45	686.41	2.56	2.25	29.02	20.16	247.1	433.44	5.33	3.69	6.04	6.04
Custer County	C20	RM 165.01	9883	200-yr	3596.2	692.28	686.16	2.58	2.4	29.63	24.28	262.27	514.67	5.18	4.24	6.12	6.12
Custer County	C20	RM 164.81	9577	200-yr	3596.2	692.16	686.04	2.35	1.99	24.91	15.64	284.5	570.45	5.07	3.16	6.12	6.12
Custer County	C20	RM 164.61	9252	200-yr	3596.2	692.07	685.8	1.95	1.67	17.73	13.94	374.23	591.82	4.65	3.64	6.27	6.27
Custer County	C20	RM 164.42	8945	200-yr	3596.2	691.94	685.78	1.97	1.93	17.87	16.51	416.56	475.04	4.38	4.05	6.15	6.15
Custer County	C20	RM 164.23	8641	200-yr	3596.2	691.83	685.85	1.78	1.77	18.31	17.97	452.11	482.79	4.47	4.4	5.98	5.98
Custer County	C20	RM 164.06	8372	200-yr	3596.2	691.69	685.64	2.02	1.79	17.5	14.11	294.56	626.46	5.83	4.7	6.05	6.05
Custer County	C20	RM 163.85	8031	200-yr	3596.2	691.53	685	2.19	2.06	20.73	16.61	277.99	380.68	5.73	4.58	6.53	6.53
Custer County	C20	RM 163.67	7743	200-yr	3596.2	691.2	684.45	2.89	2.86	34.68	32.5	191.84	206.48	6.47	6.09	6.75	6.75
Custer County	C20	RM 163.48	7449	200-yr	3596.2	690.78	684.13	3.5	3.44	51.24	46.9	162.29	180.99	6.3	5.78	6.65	6.65
Custer County	C20	RM 163.3	7150	200-yr	3596.2	690.72	684.13	2.85	2.72	34.34	29.19	204.93	255.66	6.09	5.17	6.59	6.59
Custer County	C20	RM 163.12	6859	200-yr	3596.2	690.69	683.91	2.27	2.11	23.24	18.99	267.05	363.47	5.73	4.68	6.78	6.78
Custer County	C20	RM 162.94	6583	200-yr	3596.2	690.44	683.78	2.73	2.38	31.6	22.42	204.74	349.18	6.12	4.32	6.66	6.66
Custer County	C20	RM 162.74	6254	200-yr	3596.2	690.01	683.77	3.38	2.88	49.87	30.56	177.33	374.4	5.63	3.41	6.24	6.24
Custer County	C20	RM 162.55	5957	200-yr	3596.2	689.79	683.96	3.05	2.9	46.69	32.75	231.24	351.71	5.04	3.53	5.83	5.83
Custer County	C20	RM 162.34	5620	200-yr	3596.2	689.72	683.92	2.26	2.13	22.92	16.47	304.55	460.28	5.11	3.67	5.8	5.8
Custer County	C20	RM 162.18	5352	200-yr	3596.2	689.61	683.41	2.02	1.96	29.37	22.74	354.23	477.89	4.98	3.85	6.2	6.2
Custer County	C20	RM 162.03	5111	200-yr	3596.2	689.51	683.26	1.99	1.98	17.72	16.3	322.26	387.83	5.6	5.16	6.25	6.25
Custer County	C20	RM 161.81	4770	200-yr	3596.2	688.88	682.63	3.5	3.27	52.77	37.48	174.77	267.79	5.8	4.1	6.25	6.25
Custer County	C20	RM 161.62	4470	200-yr	3596.2	688.61	682.53	3.5	3.01	53.49	41.35	174.2	442.11	5.53	4.26	6.08	6.08
Custer County	C20	RM 161.43	4159	200-yr	3596.2	688.39	682.63	3.16	2.89	44.06	31.92	206.33	321.36	5.37	3.87	5.76	5.76
Custer County	C20	RM 161.24	3859	200-yr	3596.2	688.09	682.51	3.28	2.9	47.91	34.15	199.39	334.01	5.24	3.72	5.58	5.58
Custer County	C20	RM 161.06	3559	200-yr	3596.2	687.88	682.38	3.02	2.68	40.44	29.25	218.97	352.93	5.27	3.8	5.5	5.5
Custer County	C20	RM 160.87	3258	200-yr	3596.2	687.46	682.24	3.42	3.19	52.84	40.26	204.8	297.28	5	3.8	5.22	5.22
Custer County	C20	RM 160.68	2952	200-yr	3596.2	687.32	682.11	2.8	2.72	35.19	29.51	252.16	312.48	5.05	4.23	5.21	5.21
Custer County	C20	RM 160.5	2662	200-yr	3596.2	687.16	681.85	2.57	2.5	30.71	26.47	303.97	365.18	4.57	3.93	5.31	5.31
Custer County	C20	RM 160.31	2364	200-yr	3596.2	687.01	681.58	2.38	2.21	26.22	18.92	321.4	491.86	4.6	3.31	5.43	5.43
Custer County	C20	RM 160.12	2063	200-yr	3596.2	686.82	681.02	2.46	2.24	26.99	17.78	277.19	476.7	5.12	3.36	5.8	5.8
Custer County	C20	RM 159.93	1758	200-yr	3596.2	686.57	680.9	2.65	2.4	32.88	21.21	292.2	516.46	4.51	2.9	5.67	5.67
Custer County	C20	RM 159.75	1459	200-yr	3596.2	686.32	680.88	2.75	2.51	34	22.86	251.96	420.61	5.08	3.4	5.44	5.44
Custer County	C20	RM 159.55	1151	200-yr	3596.2	686.14	680.74	2.64	2.48	31.23	19.99	261.92	441.72	5.13	3.28	5.4	5.4
Custer County	C20	RM 159.38	876	200-yr	3596.2	685.9	680.37	2.86	2.56	36.18	27.01	229.23	352.86	5.32	3.98	5.53	5.53

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	200-yr	3596.2	685.7	679.77	2.79	2.77	34.86	33.12	236.5	250.95	5.44	5.18	5.93	5.93
Custer County	C20	RM 158.98	229	200-yr	3596.2	685.4	679.44	2.99	2.88	39.27	28.52	217.29	315.77	5.46	3.96	5.96	5.96

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	200-yr	3624.6	685.4	679.22	2.95	2.75	37.89	26.82	214.16	331.74	5.62	3.97	6.18	6.18
Prairie County	C21	RM 158.55	61087	200-yr	3624.6	685.27	678.98	2.65	2.53	29.81	20.49	226.29	347.96	6	4.12	6.29	6.29
Prairie County	C21	RM 158.36	60787	200-yr	3624.6	685.15	678.83	2.51	2.35	27.29	15.78	249.45	468.03	5.72	3.29	6.32	6.32
Prairie County	C21	RM 158.17	60481	200-yr	3624.6	684.99	678.35	2.51	2.23	30.12	17.13	253.18	520.79	5.52	3.12	6.64	6.64
Prairie County	C21	RM 157.98	60173	200-yr	3624.6	684.66	678.22	2.96	2.67	39.1	22.02	231.17	471.79	5.14	2.88	6.44	6.44
Prairie County	C21	RM 157.78	59862	200-yr	3624.6	684.41	678.23	3.04	2.63	40.19	24.86	201.99	401.7	5.58	3.43	6.18	6.18
Prairie County	C21	RM 157.6	59561	200-yr	3624.6	684.3	678.14	2.62	2.43	29.49	23.48	233.85	324.42	5.77	4.59	6.16	6.16
Prairie County	C21	RM 157.38	59209	200-yr	3624.6	684.18	677.81	2.3	2.04	23.71	17.46	288.08	512.73	5.11	3.75	6.37	6.37
Prairie County	C21	RM 157.18	58885	200-yr	3624.6	684.04	677.42	2.32	1.86	23.09	15.78	235.66	527.63	5.8	3.94	6.62	6.62
Prairie County	C21	RM 156.99	58595	200-yr	3624.6	683.78	677.32	2.89	2.13	35.8	22.73	173.83	459.59	5.89	3.7	6.46	6.46
Prairie County	C21	RM 156.8	58287	200-yr	3624.6	683.31	677.32	3.64	2.72	58.17	39.37	149.83	362.43	5.48	3.67	5.99	5.99
Prairie County	C21	RM 156.62	57990	200-yr	3624.6	683.23	677.29	2.76	2.5	33.29	25.22	207.6	346.34	5.55	4.19	5.94	5.94
Prairie County	C21	RM 156.42	57683	200-yr	3624.6	683.12	677.21	2.39	2.23	25.1	21.43	271.12	350.11	5.46	4.65	5.91	5.91
Prairie County	C21	RM 156.24	57378	200-yr	3624.6	682.82	676.91	2.83	2.54	35.97	25.79	245.34	393.98	5.08	3.62	5.91	5.91
Prairie County	C21	RM 156.04	57069	200-yr	3624.6	682.65	676.56	2.67	2.34	30.54	20.67	226.07	396.29	5.81	3.91	6.09	6.09
Prairie County	C21	RM 155.85	56762	200-yr	3624.6	682.36	676.11	3.02	2.6	39.68	26.78	204.32	370.28	5.62	3.77	6.25	6.25
Prairie County	C21	RM 155.66	56455	200-yr	3624.6	681.91	675.96	3.58	2.96	56.54	37.59	177.2	345.63	5.37	3.54	5.95	5.95
Prairie County	C21	RM 155.47	56151	200-yr	3624.6	681.84	675.89	2.67	2.37	32.2	24.22	257.44	406.36	5.02	3.77	5.95	5.95
Prairie County	C21	RM 155.27	55835	200-yr	3624.6	681.66	675.92	2.47	2.4	28.46	25.61	317.77	364.96	4.58	4.13	5.74	5.74
Prairie County	C21	RM 155.08	55530	200-yr	3624.6	681.43	675.95	2.58	2.47	30.57	26.1	296.49	364.29	4.71	4.02	5.48	5.48
Prairie County	C21	RM 154.88	55209	200-yr	3624.6	681.25	675.64	2.48	2.45	28.05	25.28	300.68	338.33	4.86	4.38	5.61	5.61
Prairie County	C21	RM 154.69	54901	200-yr	3624.6	680.93	675.39	2.85	2.72	37.32	28.58	264.93	367.5	4.73	3.62	5.54	5.54
Prairie County	C21	RM 154.5	54588	200-yr	3624.6	680.68	675.02	2.84	2.78	36.54	34	257.32	283.7	4.92	4.59	5.66	5.66
Prairie County	C21	RM 154.3	54273	200-yr	3624.6	680.5	674.8	2.64	2.55	31.51	25.31	277.5	359.03	4.92	3.96	5.7	5.7
Prairie County	C21	RM 154.1	53959	200-yr	3624.6	680.26	674.67	2.72	2.56	33.62	24.04	269.5	407.55	4.87	3.48	5.59	5.59
Prairie County	C21	RM 153.91	53650	200-yr	3624.6	680.08	674.51	2.6	2.51	29.88	24.26	260.55	335.41	5.3	4.3	5.57	5.57
Prairie County	C21	RM 153.72	53338	200-yr	3624.6	679.87	674.06	2.74	2.43	32.89	24.46	225.99	364.93	5.51	4.09	5.81	5.81
Prairie County	C21	RM 153.52	53023	200-yr	3624.6	679.5	673.78	3.2	2.8	46.32	35.36	206.24	418.77	5	3.81	5.72	5.72
Prairie County	C21	RM 153.32	52704	200-yr	3624.6	679.24	673.64	2.94	2.82	39.17	30.33	249.02	424.31	4.9	3.79	5.6	5.6
Prairie County	C21	RM 153.12	52380	200-yr	3624.6	679.12	673.43	2.5	2.37	27.71	21.79	270.43	658.43	5.26	4.14	5.69	5.69
Prairie County	C21	RM 152.92	52065	200-yr	3624.6	678.99	672.88	2.36	2.05	24.8	18.39	270.87	444.67	5.37	3.97	6.11	6.11
Prairie County	C21	RM 152.73	51762	200-yr	3624.6	678.8	672.27	2.46	2.27	26.93	20.37	271.58	473.77	5.31	4.01	6.53	6.53
Prairie County	C21	RM 152.54	51463	200-yr	3624.6	678.62	671.85	2.54	2.38	28.83	24.46	251.98	325.15	5.53	4.68	6.77	6.77
Prairie County	C21	RM 152.35	51157	200-yr	3624.6	678.44	671.41	2.58	2.54	28.19	25.88	229.76	255.19	6.1	5.6	7.03	7.03
Prairie County	C21	RM 152.16	50852	200-yr	3624.6	678.34	671.23	2.37	2.26	24.34	20.85	268.26	333.99	5.62	4.81	7.11	7.11
Prairie County	C21	RM 151.97	50546	200-yr	3624.6	678.25	670.99	2.18	1.97	20.16	16.3	284.09	418.96	5.44	4.39	7.26	7.26
Prairie County	C21	RM 151.77	50227	200-yr	3624.6	678.16	670.87	2.19	1.85	19.58	13.93	204.89	411.82	6.72	4.75	7.29	7.29
Prairie County	C21	RM 151.59	49936	200-yr	3624.6	677.83	670.75	3.05	2.51	39.04	25.09	152.18	355.81	6.41	4.07	7.08	7.08
Prairie County	C21	RM 151.38	49599	200-yr	3624.6	677.68	670.9	2.7	2.31	30.43	21.27	199.41	374.1	6.31	4.38	6.78	6.78
Prairie County	C21	RM 151.19	49287	200-yr	3624.6	677.56	670.96	2.5	2.23	26.1	14.34	226.6	472.5	6.29	3.43	6.6	6.6
Prairie County	C21	RM 151.01	49012	200-yr	3624.6	677.49	670.91	2.2	2.08	22.74	16.87	288.76	418.57	5.63	4.16	6.58	6.58
Prairie County	C21	RM 150.81	48683	200-yr	3624.6	677.45	670.79	1.71	1.68	13.25	12.24	428.92	475.02	4.91	4.53	6.66	6.66
Prairie County	C21	RM 150.63	48400	200-yr	4304.2	677.34	670.45	1.88	1.74	15.5	11.61	405.47	609.77	5.45	4.07	6.89	6.89
Prairie County	C21	RM 150.44	48094	200-yr	4304.2	677.12	669.86	2.42	2.13	26.02	16.84	273.64	523.83	6.07	3.92	7.26	7.26
Prairie County	C21	RM 150.25	47780	200-yr	4304.2	676.41	669.38	3.88	3.46	73.21	47.17	166.06	304.62	6.37	4.08	7.03	7.03
Prairie County	C21	RM 150.05	47474	200-yr	4304.2	676.3	669.21	3.18	3.1	41.87	34.42	204.16	256.88	6.58	5.41	7.09	7.09
Prairie County	C21	RM 149.87	47178	200-yr	4304.2	676.21	669.02	2.74	2.59	32.61	27.11	269.57	350.74	5.71	4.73	7.19	7.19
Prairie County	C21	RM 149.66	46846	200-yr	4304.2	676.11	668.97	2.31	2.18	23.92	20.91	331.18	410.28	5.51	4.81	7.14	7.14
Prairie County	C21	RM 149.48	46551	200-yr	4304.2	675.79	668.91	2.9	2.5	37.12	26.42	261.52	954.15	5.4	3.83	6.88	6.88
Prairie County	C21	RM 149.27	46219	200-yr	4304.2	675.67	668.94	2.65	2.05	30.67	20.49	208.49	674.48	5.86	3.89	6.73	6.73
Prairie County	D1	RM 149.08	45914	200-yr	4304.2	675.45	668.95	2.67	2.27	30.44	20.33	254.75	537.75	5.89	3.92	6.5	6.5
Prairie County	D1	RM 148.89	45608	200-yr	4304.2	675.35	668.96	2.32	2.3	22.94	22.32	314.73	428.01	5.89	5.75	6.39	6.39
Prairie County	D1	RM 148.7	45301	200-yr	4304.2	675.23	668.73	2.26	2.21	24	22.58	347.94	404.68	5.41	5.1	6.5	6.5
Prairie County	D1	RM 148.5	44987	200-yr	4304.2	674.95	668.42	2.78	2.44	32.63	26.43	235.13	379.37	6.12	4.96	6.53	6.53
Prairie County	D1	RM 148.3	44667	200-yr	4304.2	674.56	668.01	3.35	2.89	47.31	36.12	193.35	316.93	6.17	4.71	6.55	6.55
Prairie County	D1	RM 148.11	44353	200-yr	4304.2	674.41	667.73	2.96	2.76	37.01	32.12	230.09	312.18	6.12	5.32	6.68	6.68
Prairie County	D1	RM 147.93	44062	200-yr	4304.2	674.33	667.4	2.5	2.46	27.26	25.58	306.12	332.86	5.59	5.25	6.93	6.93
Prairie County	D1	RM 147.74	43761	200-yr	4304.2	674.24	667.21	2.35	2.16	24.63	20.34	251.8	407.84	5.94	4.89	7.03	7.03
Prairie County	D1	RM 147.55	43454	200-yr	4304.2	674.06	666.79	2.64	2.21	29.06	18.21	197.43	486.61	6.46	4.01	7.27	7.27
Prairie County	D1	RM 147.34	43128	200-yr	4304.2	673.88	666.46	2.83	2.31	33.1	19.92	173.86	469.97	6.68	3.96	7.42	7.42

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	200-yr	4304.2	673.69	666.42	2.93	2.53	35.82	25.57	178.57	376.66	6.39	4.52	7.27	7.27
Prairie County	D1	RM 146.96	42505	200-yr	4304.2	673.27	666.49	3.42	3.13	48.42	33.52	187.33	306.07	6.5	4.49	6.78	6.78
Prairie County	D1	RM 146.77	42199	200-yr	4304.2	673.14	666.48	3	2.95	37.61	32.41	225.21	265.97	6.35	5.48	6.66	6.66
Prairie County	D1	RM 146.58	41899	200-yr	4304.2	673.11	666.59	2.39	2.37	24.24	22.28	296.32	342.02	6.07	5.58	6.52	6.52
Prairie County	D1	RM 146.32	41487	200-yr	4304.2	672.9	666.62	2.45	2.38	27.77	24.54	325.06	386.01	5.32	4.69	6.28	6.28
Prairie County	D1	RM 146	40968	200-yr	4304.2	672.54	666.48	2.68	2.58	32.51	27.03	277.27	350.21	5.72	4.75	6.06	6.06
Prairie County	D1	RM 145.65	40420	200-yr	4304.2	672.15	665.52	2.87	2.73	37.17	30.32	247.14	323.74	5.96	4.86	6.63	6.63
Prairie County	D1	RM 145.36	39958	200-yr	4304.2	671.92	664.91	2.65	2.43	31.95	22.19	264.9	428.14	5.96	4.13	7.01	7.01
Prairie County	D1	RM 145.13	39579	200-yr	4304.2	671.75	664.58	2.54	2.35	28.52	20.39	266.31	411.85	6.23	4.44	7.17	7.17
Prairie County	D1	RM 144.92	39251	200-yr	4304.2	671.6	664.24	2.5	2.35	28.77	22.04	272.39	388	6.18	4.72	7.36	7.36
Prairie County	D1	RM 144.73	38942	200-yr	4304.2	671.42	663.99	2.59	2.4	30.68	23.87	264.25	380.53	6.07	4.71	7.43	7.43
Prairie County	D1	RM 144.56	38672	200-yr	4304.2	671.21	664.1	2.79	2.63	33.63	27.83	265.15	349.39	5.65	4.68	7.11	7.11
Prairie County	D1	RM 144.33	38305	200-yr	4304.2	671	664.19	2.8	2.53	32.87	22.1	232.15	404.34	6.29	4.21	6.81	6.81
Prairie County	D1	RM 144.13	37987	200-yr	4304.2	670.91	664.33	2.45	2.27	25	16.53	271.37	453.98	6.33	4.18	6.58	6.58
Prairie County	D1	RM 143.91	37637	200-yr	4304.2	670.86	663.96	2.1	1.84	18.58	14.13	299.48	496.01	6.22	4.72	6.9	6.9
Prairie County	D1	RM 143.71	37320	200-yr	4304.2	670.46	663.43	3.11	2.6	39.81	25.81	191.55	388.37	6.61	4.26	7.03	7.03
Prairie County	D1	RM 143.45	36908	200-yr	4304.2	669.96	663.01	3.61	3.24	54.53	40.01	179.26	287.27	6.32	4.63	6.95	6.95
Prairie County	D1	RM 143.21	36511	200-yr	4304.2	669.83	662.92	2.93	2.8	35.64	27.16	224.58	311.45	6.48	4.93	6.91	6.91
Prairie County	D1	RM 142.97	36139	200-yr	4304.2	669.66	662.7	2.79	2.69	32.17	25.54	232.06	305.43	6.59	5.23	6.96	6.96
Prairie County	D1	RM 142.71	35717	200-yr	4304.2	669.04	662.52	3.69	3.57	57.86	47.96	192.11	241.48	6.03	4.99	6.52	6.52
Prairie County	D1	RM 142.46	35322	200-yr	4304.2	668.99	662.36	2.7	2.53	30.72	25.4	254.79	334.97	6.14	5.08	6.63	6.63
Prairie County	D1	RM 142.23	34952	200-yr	4304.2	668.76	662.21	2.83	2.53	33.62	23.82	237.35	386.85	6.22	4.39	6.55	6.55
Prairie County	D1	RM 142.02	34614	200-yr	4304.2	668.63	662.21	2.58	2.34	28.86	23.94	269.68	397.65	5.58	4.63	6.42	6.42
Prairie County	D1	RM 141.8	34258	200-yr	4304.2	668.58	662.01	1.93	1.91	15.99	15.53	393.92	409.24	5.66	5.51	6.57	6.57
Prairie County	D1	RM 141.6	33942	200-yr	4304.2	668.44	661.72	2.08	2.07	17.13	16.86	496.43	506.36	4.17	4.11	6.72	6.72
Prairie County	D1	RM 141.42	33642	200-yr	4304.2	668.39	661.32	1.72	1.68	12.33	11.17	499.33	566.01	4.99	4.53	7.07	7.07
Prairie County	D1	RM 141.22	33325	200-yr	4304.2	668.24	660.91	2.05	1.95	17.5	13.44	326.47	451.98	6.37	4.89	7.33	7.33
Prairie County	D1	RM 141.02	33011	200-yr	4304.2	667.81	660.58	3.14	2.87	40.04	28.28	194.42	309.07	6.91	4.86	7.23	7.23
Prairie County	D1	RM 140.84	32709	200-yr	4304.2	667.74	660.35	2.68	2.6	29.58	26.08	241.98	285.03	6.59	5.81	7.39	7.39
Prairie County	D1	RM 140.64	32394	200-yr	4304.2	667.63	660.07	2.52	2.46	25.72	23.81	239.5	265.14	7.1	6.6	7.56	7.56
Prairie County	D1	RM 140.44	32074	200-yr	4304.2	667.4	659.63	2.83	2.74	33.17	29.85	225.88	260.39	6.68	6.03	7.77	7.77
Prairie County	D1	RM 140.23	31738	200-yr	4304.2	667.07	659.62	3.21	3.08	43.55	36.87	207.01	256.66	6.41	5.44	7.45	7.45
Prairie County	D1	RM 140.03	31420	200-yr	4304.2	667.03	659.59	2.58	2.48	27.75	23.18	253.77	318.36	6.51	5.45	7.44	7.44
Prairie County	D1	RM 139.84	31118	200-yr	4304.2	666.97	659.19	2.22	2.09	20.7	17.3	309.19	399.25	6.17	5.16	7.78	7.78
Prairie County	D1	RM 139.64	30801	200-yr	4304.2	666.82	658.96	2.46	2.09	24.11	16.82	222.13	405.75	7.27	5.06	7.86	7.86
Prairie County	D1	RM 139.44	30466	200-yr	4304.2	666.72	658.72	2.36	2.08	22.57	16.79	250.57	405.15	6.88	5.11	8	8
Prairie County	D1	RM 139.23	30138	200-yr	4304.2	666.5	658.34	2.63	2.53	31.81	22.71	219.78	323.23	7.37	5.25	8.16	8.16
Prairie County	D1	RM 139.02	29799	200-yr	4304.2	666.08	658.14	3.33	3.11	54.23	41.04	179.74	262.34	7	5.28	7.94	7.94
Prairie County	D1	RM 138.81	29470	200-yr	4304.2	666.06	658.11	2.53	2.41	29.15	22.06	219.94	311.71	7.61	5.73	7.95	7.95
Prairie County	D1	RM 138.62	29157	200-yr	4304.2	665.91	657.94	2.63	2.36	27.78	17.15	216.79	404.3	7.35	4.52	7.97	7.97
Prairie County	D1	RM 138.41	28823	200-yr	4304.2	665.67	657.82	2.93	2.61	38.02	22.54	202.45	396	7.06	4.16	7.85	7.85
Prairie County	D1	RM 138.22	28519	200-yr	4304.2	665.47	657.8	3.01	2.88	36.97	31.93	198.68	242.55	7.11	6.17	7.67	7.67
Prairie County	D1	RM 138.02	28200	200-yr	4304.2	665.47	657.74	2.31	2.25	22.62	20.54	246.99	280.6	7.5	6.82	7.73	7.73
Prairie County	D1	RM 137.82	27874	200-yr	4304.2	665.36	656.95	2.33	2.19	23.72	17.75	263.32	383.89	6.86	5.13	8.41	8.41
Prairie County	D1	RM 137.62	27552	200-yr	4304.2	665.28	656.75	2.25	1.9	22.52	17.39	234.81	505.64	6.93	5.32	8.53	8.53
Prairie County	D1	RM 137.42	27247	200-yr	4304.2	664.96	656.66	2.86	2.61	36.09	26.86	204.7	335.35	7.04	5.23	8.3	8.3
Prairie County	D1	RM 137.24	26944	200-yr	4304.2	664.78	656.66	2.89	2.74	38.04	30.01	205.46	373.08	7.1	5.59	8.12	8.12
Prairie County	D1	RM 137.04	26627	200-yr	4332.5	664.57	656.5	2.97	2.81	39.97	29.15	208.71	307.65	6.89	5.02	8.07	8.07
Prairie County	D2	RM 136.84	26475	200-yr	4332.5	664.52	656.46	2.79	2.74	33.07	26.16	207.19	267.93	7.47	5.91	8.06	8.06
Prairie County	D2	RM 136.44	26317	200-yr	4332.5	664.52	656.37	2.49	2.4	27.13	22.8	228.7	284.58	7.56	6.34	8.15	8.15
Prairie County	D2	RM 136.23	26001	200-yr	4332.5	664.37	656.19	2.55	2.41	28.82	23.76	246.47	322.39	6.78	5.58	8.18	8.18
Prairie County	D2	RM 136.04	25673	200-yr	4332.5	664.2	656.01	2.68	2.36	28.65	18.04	211.82	398.27	7.36	4.6	8.19	8.19
Prairie County	D2	RM 135.85	25337	200-yr	4332.5	663.88	655.93	3.16	2.82	39.98	19.41	186.08	443.16	7.22	3.47	7.95	7.95
Prairie County	D2	RM 135.66	25033	200-yr	4332.5	663.77	655.91	2.93	2.67	34.3	21.71	202.14	358.32	7.2	4.53	7.86	7.86
Prairie County	D2	RM 135.46	24715	200-yr	4332.5	663.59	655.86	2.96	2.78	42.25	33.12	199.11	275.6	7.22	5.66	7.73	7.73
Prairie County	D2	RM 135.24	24417	200-yr	4332.5	663.52	655.68	2.5	2.44	29.6	26.56	229.44	263.23	7.49	6.73	7.84	7.84
Prairie County	D2	RM 135	24090	200-yr	4332.5	663.37	655.56	2.55	2.45	29.46	25.13	246.98	306.86	6.76	5.76	7.81	7.81
Prairie County	D2	RM 134.78	23742	200-yr	4332.5	663.22	655.36	2.59	2.38	30.28	21.61	223.84	353.79	7.25	5.15	7.86	7.86
Prairie County	D2	RM 134.58	23351	200-yr	4332.5	662.82	655.29	3.15	2.9	47.94	32.37	189.75	315.79	7.05	4.74	7.53	7.53
Prairie County	D2	RM 134.39	23000	200-yr	4332.5	662.62	655.24	2.98	2.85	42.7	38.18	216.99	257.19	6.61	5.91	7.38	7.38

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	200-yr	4332.5	662.54	655.11	2.52	2.29	26.54	22.8	263.97	587.09	6.25	5.36	7.43	7.43
Prairie County	D2	RM 133.99	22372	200-yr	4332.5	662.4	654.97	2.5	2.36	26.51	21.77	264.94	349.27	6.42	5.27	7.43	7.43
Prairie County	D2	RM 133.79	22053	200-yr	4332.5	662.16	655	2.84	2.57	33.45	26.28	226.1	331.7	6.49	5.09	7.16	7.16
Prairie County	D2	RM 133.59	21733	200-yr	4332.5	662.02	654.96	2.71	2.56	30.55	24.61	247	329.97	6.38	5.13	7.06	7.06
Prairie County	D2	RM 133.41	21417	200-yr	4332.5	661.91	654.78	2.53	2.34	26.35	20.81	254.87	357.16	6.57	5.18	7.13	7.13
Prairie County	D2	RM 133.21	21104	200-yr	4332.5	661.71	654.64	2.74	2.39	30.97	20.61	229.84	413.67	6.6	4.38	7.07	7.07
Prairie County	D2	RM 133.02	20811	200-yr	4332.5	661.6	654.53	2.61	2.3	28.22	19.33	246.2	424.9	6.49	4.43	7.07	7.07
Prairie County	D2	RM 132.83	20491	200-yr	4332.5	661.48	654.29	2.5	2.26	26.24	19.96	262.67	403.34	6.25	4.75	7.19	7.19
Prairie County	D2	RM 132.63	20184	200-yr	4332.5	661.39	654.04	2.35	2.06	23.03	15.43	254.86	497.24	6.33	4.23	7.35	7.35
Prairie County	D2	RM 132.42	19875	200-yr	4332.5	661.19	653.98	2.64	2.3	28.55	19.2	221.68	417.37	6.75	4.52	7.21	7.21
Prairie County	D2	RM 132.23	19553	200-yr	4332.5	661.12	653.88	2.29	2.06	21.27	16.82	257.21	388.92	6.85	5.41	7.24	7.24
Prairie County	D2	RM 132.02	19225	200-yr	4332.5	660.87	653.63	2.69	2.46	30.1	23.47	246.63	355.73	6.38	4.96	7.24	7.24
Prairie County	D2	RM 131.81	18910	200-yr	4332.5	660.66	653.37	2.87	2.53	34.03	23.39	226.33	386.69	6.47	4.44	7.29	7.29
Prairie County	D2	RM 131.58	18573	200-yr	4332.5	660.58	653.02	2.5	2.23	25.26	17.96	238.03	449.51	7.06	5.02	7.56	7.56
Prairie County	D2	RM 131.38	18237	200-yr	4332.5	660.4	652.75	2.69	2.51	29.1	25.16	212.37	282.19	7.07	6.13	7.65	7.65
Prairie County	D2	RM 131.18	17875	200-yr	4332.5	660.1	652.49	3.03	2.8	37.66	27.41	209.79	319.44	6.68	4.85	7.61	7.61
Prairie County	D2	RM 130.98	17548	200-yr	4332.5	659.89	652.34	3.11	2.73	39.34	22.7	197.09	409.07	6.87	3.94	7.55	7.55
Prairie County	D2	RM 130.78	17227	200-yr	4332.5	659.79	652.27	2.76	2.37	31	19.18	216.24	429.52	6.91	4.25	7.52	7.52
Prairie County	D2	RM 130.59	16914	200-yr	4332.5	659.72	652.16	2.44	2.15	23.95	13.87	239.07	487.23	7.18	4.13	7.56	7.56
Prairie County	D2	RM 130.39	16588	200-yr	4332.5	659.47	651.95	2.85	2.6	32.84	18.51	212.42	421.58	7.05	3.95	7.52	7.52
Prairie County	D2	RM 130.19	16280	200-yr	4332.5	659.28	651.81	2.94	2.82	35.45	27.48	219.93	297.46	6.66	5.16	7.47	7.47
Prairie County	D2	RM 130	15965	200-yr	4332.5	659.19	651.57	2.6	2.47	27.68	20.42	244.4	352.83	6.75	4.97	7.62	7.62
Prairie County	D2	RM 129.81	15649	200-yr	4332.5	659.07	651.47	2.56	2.43	26.39	20.53	235.14	323.36	7.1	5.52	7.6	7.6
Prairie County	D2	RM 129.62	15337	200-yr	4332.5	658.89	651.34	2.77	2.45	31.25	23.51	216.64	353.8	6.86	5.15	7.55	7.55
Prairie County	D2	RM 129.43	15031	200-yr	4332.5	658.75	651.21	2.71	2.6	29.64	25.04	227.37	294.85	6.98	5.88	7.54	7.54
Prairie County	D2	RM 129.24	14724	200-yr	4417.4	658.52	651.06	2.96	2.71	36.11	23.11	222.31	436.37	6.6	4.21	7.46	7.46
Prairie County	D2	RM 129.04	14417	200-yr	4417.4	658.28	651.06	3.14	2.83	40.66	24.77	209.54	459.06	6.57	3.99	7.22	7.22
Prairie County	D2	RM 128.82	14112	200-yr	4417.4	658.08	651.05	3.17	2.87	41.46	25.71	209.12	506.58	6.54	4.04	7.03	7.03
Prairie County	D2	RM 128.62	13798	200-yr	4417.4	657.95	651.08	2.88	2.67	34.08	23.04	228.13	529.07	6.63	4.47	6.87	6.87
Prairie County	D2	RM 128.41	13446	200-yr	4417.4	657.82	651.07	2.66	2.48	29.53	22.18	255.09	372.22	6.38	4.78	6.75	6.75
Prairie County	D2	RM 128.21	13125	200-yr	4417.4	657.67	650.98	2.68	2.41	29.88	23.09	246.55	371.19	6.4	4.93	6.69	6.69
Prairie County	D2	RM 127.98	12790	200-yr	4417.4	657.52	650.84	2.63	2.33	28.7	18.38	250.67	459.97	6.46	4.12	6.68	6.68
Prairie County	D2	RM 127.75	12473	200-yr	4417.4	657.43	650.59	2.36	2.11	23.4	14.04	287.96	556.12	6.3	3.76	6.84	6.84
Prairie County	D2	RM 127.55	12112	200-yr	4417.4	657.29	650.35	2.35	2.15	23.12	15.8	287.38	476.88	6.33	4.31	6.94	6.94
Prairie County	D2	RM 127.27	11729	200-yr	4417.4	657.13	649.95	2.42	2.24	24.21	16.58	277.2	446.91	6.45	4.41	7.18	7.18
Prairie County	D2	RM 126.97	11415	200-yr	4417.4	656.85	649.68	2.88	2.57	34.22	20.36	226.77	444.07	6.56	3.88	7.17	7.17
Prairie County	D2	RM 126.71	10962	200-yr	4417.4	656.59	649.49	2.94	2.71	35.35	24.6	218.29	347.8	6.74	4.69	7.1	7.1
Prairie County	D2	RM 126.43	10478	200-yr	4417.4	656.47	649.32	2.39	2.32	23.39	20.47	275.96	325.92	6.65	5.84	7.15	7.15
Prairie County	D2	RM 126.42	10074	200-yr	4417.4	656.2	649.05	2.75	2.61	31.62	25.97	249.83	327.65	6.3	5.17	7.15	7.15
Prairie County	D2	RM 126.41	9625	200-yr	4417.4	655.92	648.27	2.92	2.67	35.02	26.09	220.07	334.47	6.63	4.94	7.64	7.64
Prairie County	D3	RM 126.38	9533	200-yr	4417.4	655.85	648.27	2.96	2.73	36.01	27.91	220.07	317.37	6.57	5.09	7.58	7.58
Prairie County	D3	RM 126.22	9286	200-yr	4417.4	655.78	648.8	2.68	2.53	29.69	21.99	246.62	358.72	6.58	4.86	6.98	6.98
Prairie County	D3	RM 126.03	8974	200-yr	4417.4	655.68	648.71	2.48	2.31	25.63	18.6	269.32	409.81	6.46	4.67	6.97	6.97
Prairie County	D3	RM 125.82	8648	200-yr	4417.4	655.54	648.36	2.47	2.33	25.66	19.89	282.4	394.19	6.22	4.81	7.18	7.18
Prairie County	D3	RM 125.63	8335	200-yr	4417.4	655.39	648.12	2.53	2.46	26.33	24.31	259.94	291.23	6.65	6.16	7.27	7.27
Prairie County	D3	RM 125.43	8020	200-yr	4417.4	655.19	647.8	2.81	2.47	31.93	23.35	217.06	355.06	6.92	5.04	7.39	7.39
Prairie County	D3	RM 125.24	7711	200-yr	4417.4	655.09	647.26	2.61	2.32	27.33	19.39	226.37	374	7.22	5.1	7.83	7.83
Prairie County	D3	RM 125.05	7403	200-yr	4417.4	654.9	647.23	2.82	2.49	31.92	22.23	209.96	356.78	7.17	4.97	7.67	7.67
Prairie County	D3	RM 124.83	7059	200-yr	4417.4	654.76	647.25	2.67	2.48	29.05	20.99	237.41	381.31	6.87	4.96	7.51	7.51
Prairie County	D3	RM 124.62	6712	200-yr	4417.4	654.62	647.25	2.6	2.39	28.04	16.58	257.84	500	6.49	3.82	7.37	7.37
Prairie County	D3	RM 124.41	6375	200-yr	4417.4	654.48	647.27	2.68	1.99	29.86	14.87	221.62	958.53	6.47	3.2	7.21	7.21
Prairie County	D3	RM 124.15	5960	200-yr	4417.4	654.21	647.27	2.84	2.07	34.16	16.21	232.47	836.88	6.11	2.88	6.94	6.94
Prairie County	D3	RM 123.94	5627	200-yr	4417.4	653.93	647.27	3.17	2.18	42.46	19.99	199.91	709.13	6.13	2.86	6.66	6.66
Prairie County	D3	RM 123.74	5312	200-yr	4417.4	653.69	647.25	3.17	2.12	42.34	17.56	206.88	993.95	6.14	2.52	6.44	6.44
Prairie County	D3	RM 123.56	5014	200-yr	4417.4	653.75	647.24	2.06	1.48	17.63	7.42	311.23	1136.54	6.39	2.67	6.51	6.51
Prairie County	D3	RM 123.24	4500	200-yr	4417.4	653.68	647.19	1.13	1.12	13.8	12.55	934.44	1032.71	4.18	3.8	6.49	6.49
Prairie County	D3	RM 122.99	4116	200-yr	4417.4	653.53	646.67	1.51	1.4	10.4	7.28	527.26	828.53	5.44	3.8	6.86	6.86
Prairie County	D3	RM 122.76	3746	200-yr	4417.4	653.36	646.22	1.95	1.82	16.06	9.04	362.48	699.4	6.18	3.46	7.14	7.14
Prairie County	D3	RM 122.55	3414	200-yr	4417.4	653.07	645.7	2.65	2.31	28.78	12.58	242.74	656.12	6.73	2.91	7.37	7.37
Prairie County	D3	RM 122.3	3012	200-yr	4417.4	652.79	645.57	2.97	2.34	36.31	17.5	214.39	599.2	6.57	3.14	7.22	7.22

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	200-yr	4417.4	652.63	645.49	2.77	2.28	31.84	17.41	240.65	562.23	6.34	3.45	7.14	7.14
Prairie County	D3	RM 121.88	2338	200-yr	4417.4	652.49	645.42	2.68	2.26	29.88	18.08	244.44	500.95	6.49	3.9	7.07	7.07
Prairie County	D3	RM 121.66	1982	200-yr	4417.4	652.23	645.3	2.91	2.54	35.16	21.83	226.93	432.21	6.51	4.02	6.93	6.93
Prairie County	D3	RM 121.46	1651	200-yr	4417.4	652.06	645.06	2.82	2.62	33.34	22.47	243.93	398.33	6.3	4.23	7	7
Prairie County	D3	RM 121.24	1304	200-yr	4417.4	651.87	644.99	2.83	2.5	34.59	21.3	247.35	470.69	6.12	3.75	6.88	6.88
Prairie County	D3	RM 121.02	957	200-yr	4417.4	651.72	644.88	2.62	2.33	30.34	20.78	259.65	445.85	6.23	4.26	6.84	6.84
Prairie County	D3	RM 120.84	660	200-yr	4417.4	651.55	644.78	2.67	2.47	33.22	21.51	255.32	434.39	6.36	4.11	6.77	6.77
Prairie County	D3	RM 120.64	350	200-yr	4417.4	651.38	644.42	2.71	2.55	30.19	17.64	244.23	448.6	6.61	3.86	6.96	6.96

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	200-yr	4418.01	651.33	643.94	2.55	2.42	27.04	24.79	254.01	514.23	6.47	5.93	7.38	7.38
Dawson County	D3	RM 120.28	90838.07	200-yr	4418.01	651.28	643.78	2.54	2.27	26.48	18.59	233.12	414.89	6.69	4.69	7.49	7.49
Dawson County	D3	RM 120.18	90675.23	200-yr	4418.01	651.16	643.7	2.7	2.48	29.46	22.37	213.48	354.58	6.95	5.29	7.45	7.45
Dawson County	D3	RM 120.00	90388.96	200-yr	4418.01	651.01	643.56	2.7	2.48	29.36	21.99	226.64	336.46	7.07	5.29	7.45	7.45
Dawson County	D3	RM 119.84	90136.35	200-yr	4418.01	650.85	643.44	2.86	2.58	32.95	22.81	213.73	420.52	7.02	4.86	7.41	7.41
Dawson County	D3	RM 119.68	89873.82	200-yr	4418.01	650.59	643.31	3.23	3	42.34	32.24	189.21	387.07	6.97	5.3	7.27	7.27
Dawson County	D3	RM 119.53	89627.16	200-yr	4418.01	650.47	643.2	3.08	2.94	38.37	27.22	204.32	304.53	6.96	4.93	7.27	7.27
Dawson County	D3	RM 119.39	89404.11	200-yr	4418.01	650.42	643.09	2.76	2.53	30.9	21.68	231.36	364.32	6.82	4.8	7.33	7.33
Dawson County	D3	RM 119.26	89201.38	200-yr	4418.01	650.37	642.99	2.53	2.3	26.58	20.02	263.7	396.51	6.45	4.85	7.39	7.39
Dawson County	D3	RM 119.12	88969.13	200-yr	4418.01	650.11	642.87	3.08	2.4	38.68	16.69	193.4	765.92	6.87	2.93	7.24	7.24
Dawson County	D3	RM 119.00	88780.83	200-yr	4418.01	650.04	642.78	2.93	2.29	34.97	16.1	199.46	628.65	6.83	3.12	7.26	7.26
Dawson County	D3	RM 118.85	88537.07	200-yr	4418.01	649.98	642.66	2.6	2.28	27.91	14.85	241.51	667.58	6.55	3.47	7.32	7.32
Dawson County	D3	RM 118.72	88336.12	200-yr	4418.01	649.94	642.56	2.42	2.02	23.61	13.23	237.19	745.42	6.98	3.9	7.37	7.37
Dawson County	D3	RM 118.60	88130.39	200-yr	4418.01	649.77	642.46	2.71	2.18	29.85	13.08	220.72	682.94	6.8	2.97	7.31	7.31
Dawson County	D3	RM 118.47	87924.15	200-yr	4418.01	649.6	642.37	2.96	2.53	36.58	16.48	211.72	612.68	6.35	2.85	7.23	7.23
Dawson County	D3	RM 118.34	87719.85	200-yr	4418.01	649.36	642.27	3.26	2.84	46.02	25.88	214.06	483.82	5.74	3.21	7.09	7.09
Dawson County	D3	RM 118.21	87507.02	200-yr	4418.01	649.21	642.16	3.25	2.62	43.14	18.6	175.82	576.06	6.87	2.92	7.05	7.05
Dawson County	D3	RM 118.07	87276.02	200-yr	4474.65	649.19	642.05	2.56	2.33	28.15	16.72	297.49	561.9	5.79	3.42	7.14	7.14
Dawson County	D4	RM 117.90	87004.77	200-yr	4474.65	649.15	641.92	2.31	1.99	22.33	14.47	234.19	676.93	6.37	4.1	7.23	7.23
Dawson County	D4	RM 117.77	86795.88	200-yr	4474.65	649.1	641.81	2.17	1.83	19.76	15.02	217.15	695.88	6.31	4.76	7.28	7.28
Dawson County	D4	RM 117.62	86560.03	200-yr	4474.65	649.02	641.7	2.17	1.84	19.23	13.33	247.32	724.87	6.66	4.61	7.32	7.32
Dawson County	D4	RM 117.46	86294.2	200-yr	4474.65	648.79	641.57	2.82	2.05	32.83	14.97	183	731.09	6.63	2.98	7.22	7.22
Dawson County	D4	RM 117.33	86073.88	200-yr	4474.65	648.44	641.46	3.57	2.64	52.11	26.31	137.01	637.48	6.91	3.4	6.97	6.97
Dawson County	D4	RM 117.16	85808.16	200-yr	4474.65	648.37	641.33	2.9	2.31	34.26	16.01	182.25	646.31	6.81	3.16	7.04	7.04
Dawson County	D4	RM 117.03	85604.68	200-yr	4474.65	648.33	641.3	2.49	2.14	26.16	14.32	243.69	738.06	6.19	3.37	7.03	7.03
Dawson County	D4	RM 116.87	85336.88	200-yr	4474.65	648.29	641.29	2.16	1.68	19.48	10.8	238.63	804.41	6.34	3.5	7	7
Dawson County	D4	RM 116.69	85043.25	200-yr	4474.65	648.16	641.44	2.25	1.82	21.82	14.31	279.08	658.97	5.69	3.72	6.72	6.72
Dawson County	D4	RM 116.56	84823.15	200-yr	4474.65	648.02	641.34	2.5	1.84	27.01	14.87	234.35	781.26	5.7	3.11	6.68	6.68
Dawson County	D4	RM 116.39	84558.58	200-yr	4474.65	647.95	641.21	2.15	1.65	19.6	10.19	269.92	862.87	6.06	3.13	6.74	6.74
Dawson County	D4	RM 116.22	84287.19	200-yr	4474.65	647.81	641	2.32	1.63	22.32	10	259.34	957.02	6.41	2.86	6.81	6.81
Dawson County	D4	RM 116.05	84007.59	200-yr	4474.65	647.65	640.84	2.6	1.68	27.9	12.31	213.93	940.6	6.45	2.84	6.81	6.81
Dawson County	D4	RM 115.87	83722.29	200-yr	4474.65	647.53	640.8	2.62	1.67	28.9	13.38	214.27	941.02	6.19	2.85	6.73	6.73
Dawson County	D4	RM 115.73	83500.35	200-yr	4474.65	647.5	640.69	2.09	1.44	19.24	11.03	310.77	1009.99	5.39	3.08	6.81	6.81
Dawson County	D4	RM 115.61	83294.37	200-yr	4474.65	647.46	640.59	1.82	1.38	14.39	8.61	385.01	985.72	5.57	3.33	6.86	6.86
Dawson County	D4	RM 115.45	83034.82	200-yr	4474.65	647.4	640.37	1.71	1.41	13.02	9.53	407.6	821	5.29	3.87	7.04	7.04
Dawson County	D4	RM 115.29	82782.88	200-yr	4474.65	647.27	640.34	2.05	1.62	18.05	10.22	319.39	840.4	5.86	3.29	6.92	6.92
Dawson County	D4	RM 115.09	82480.02	200-yr	4474.65	647.22	640.2	1.84	1.41	14.01	8.07	324	852.68	6.48	3.73	7.02	7.02
Dawson County	D4	RM 114.96	82177.99	200-yr	4474.65	647.03	640	2.32	1.85	22.18	14.04	260.73	619.99	6.53	4.11	7.03	7.03
Dawson County	D4	RM 114.74	81836.48	200-yr	4474.65	646.57	639.98	3.37	2.37	47.33	24.63	179.76	569.87	6.41	3.31	6.59	6.59
Dawson County	D4	RM 114.58	81577.9	200-yr	4474.65	646.57	639.46	2.51	2.33	25.94	22.69	195.77	361.35	6.73	5.87	7.12	7.12
Dawson County	D4	RM 114.42	81309.47	200-yr	4474.65	646.39	639.33	2.66	2.54	29.5	25.03	257.79	329.38	6.3	5.35	7.06	7.06
Dawson County	D4	RM 114.28	81078.59	200-yr	4474.65	646.11	639.21	3.15	2.84	41.23	31.05	213.07	325.06	6.44	4.85	6.89	6.89
Dawson County	D4	RM 114.11	80813.63	200-yr	4474.65	645.88	639.2	3.27	2.87	44.74	29.81	210.21	413.45	6.28	4.17	6.68	6.68
Dawson County	D4	RM 113.97	80580.15	200-yr	4474.65	645.73	639.45	3.19	2.73	43.34	30.75	225.76	442.75	5.92	4.19	6.28	6.28
Dawson County	D4	RM 113.79	80292.13	200-yr	4474.65	645.7	639.45	2.62	2.29	29.41	22.78	201.08	425.71	5.91	4.59	6.25	6.25
Dawson County	D4	RM 113.60	79987.05	200-yr	4474.65	645.69	639.2	1.87	1.7	14.59	12.53	179.84	505.11	6.34	5.41	6.49	6.49
Dawson County	D4	RM 113.43	79712.89	200-yr	4474.65	645.57	638.73	2.22	1.82	20.16	13.84	173.8	538.17	6.71	4.57	6.84	6.84
Dawson County	D4	RM 113.24	79405.49	200-yr	4474.65	645.26	638.43	3.06	2.34	38.47	19.72	130.78	563.08	6.72	3.39	6.83	6.83
Dawson County	D4	RM 113.08	79152.39	200-yr	4474.65	645.09	638.37	3	2.48	37.13	21.82	138.2	470.56	6.61	3.84	6.73	6.73
Dawson County	D4	RM 112.94	78925.1	200-yr	4474.65	645.08	638.26	2.24	2.05	20.93	16.66	194.62	428.64	6.43	5.08	6.82	6.82
Dawson County	D4	RM 112.74	78585.88	200-yr	4474.65	644.93	638.09	2.38	2.02	23.97	15.15	237.95	575.73	6.1	3.84	6.84	6.84
Dawson County	D4	RM 112.59	78355.25	200-yr	4474.65	644.82	637.98	2.45	1.97	25.84	15.32	271.99	674.4	5.74	3.37	6.84	6.84
Dawson County	D4	RM 112.37	78008.78	200-yr	4474.65	644.82	637.88	1.77	1.49	12.98	8.28	206.92	827.94	6.46	4.08	6.94	6.94
Dawson County	D4	RM 112.19	77721.27	200-yr	4474.65	644.62	637.59	2.31	1.98	22.19	14.75	213.8	525.21	6.49	4.3	7.03	7.03
Dawson County	D4	RM 111.89	77240.22	200-yr	4474.65	644.25	637.16	2.81	2.47	32.5	20.79	235.68	434.51	6.52	4.17	7.09	7.09
Dawson County	D4	RM 111.42	76486.24	200-yr	4474.65	643.99	636.91	2.38	2.1	23.65	15.2	287.11	525.33	6.33	4.06	7.08	7.08
Dawson County	D4	RM 111.26	76213.83	200-yr	4474.65	643.93	636.66	2.12	1.81	18.98	12.33	329.26	645.07	6.12	3.97	7.27	7.27
Dawson County	D4	RM 111.09	75911.9	200-yr	4474.65	643.56	636.51	2.96	2.77	36.91	30.16	240.23	370.76	6.18	5.03	7.05	7.05
Dawson County	D4	RM 110.95	75678.54	200-yr	4474.65	643.23	636.4	3.45	3.2	49.07	35.54	194.97	308.72	6.52	4.71	6.83	6.83
Dawson County	D4	RM 110.78	75415.61	200-yr	4474.65	642.86	636.27	3.78	3.54	59.84	39.93	186.03	302.19	6.29	4.18	6.59	6.59

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	200-yr	4474.65	642.76	636.09	2.97	2.76	37.23	25.4	240.69	423.08	6.16	4.21	6.67	6.67
Dawson County	D4	RM 110.39	74780.03	200-yr	4474.65	642.74	635.96	2.43	2.17	25.06	14.98	293.1	571.92	6.06	3.61	6.77	6.77
Dawson County	D4	RM 110.17	74428.56	200-yr	4474.65	642.56	635.79	2.48	2.19	27.19	17.08	321.63	610.25	5.35	3.35	6.77	6.77
Dawson County	D4	RM 109.95	74074.87	200-yr	4474.65	642.43	635.62	2.33	1.93	23.08	12.5	297.98	708.62	6.05	3.27	6.81	6.81
Dawson County	D4	RM 109.75	73741.09	200-yr	4474.65	642.25	635.46	2.5	2	26.32	12.53	272.8	770.5	6.13	2.91	6.8	6.8
Dawson County	D4	RM 109.54	73418.83	200-yr	4474.65	642.16	635.3	2.3	1.75	22.41	12.85	287.56	734	6.11	3.49	6.86	6.86
Dawson County	D4	RM 109.37	73150.54	200-yr	4474.65	641.99	635.17	2.62	1.9	28.56	14.27	224.7	742.78	6.36	3.17	6.82	6.82
Dawson County	D4	RM 109.19	72864.56	200-yr	4474.65	641.8	635.03	2.7	2.16	30.46	16.18	238.65	617.24	6.33	3.35	6.77	6.77
Dawson County	D4	RM 109.04	72628	200-yr	4474.65	641.4	634.92	3.46	2.85	50.15	28.01	194.23	453.27	6.24	3.47	6.48	6.48
Dawson County	D4	RM 108.86	72339.73	200-yr	4474.65	641.42	634.77	2.45	2.35	25.82	19.53	287.17	463.92	5.78	4.38	6.64	6.64
Dawson County	D4	RM 108.70	72072.36	200-yr	4474.65	641.34	634.65	2.28	2.13	22.1	14.4	291.61	583.58	5.95	3.87	6.69	6.69
Dawson County	D4	RM 108.55	71827.97	200-yr	4474.65	641.24	634.53	2.25	2.14	21.72	12.1	343.64	653.21	5.76	3.2	6.71	6.71
Dawson County	D4	RM 108.40	71587.18	200-yr	4474.65	641.05	634.41	2.52	2.41	26.92	15.03	363.68	699.72	4.85	2.69	6.65	6.65
Dawson County	D4	RM 108.25	71345.86	200-yr	4474.65	640.95	634.29	2.39	2.16	25.22	11.99	361.89	866.11	5.05	2.39	6.66	6.66
Dawson County	D4	RM 108.12	71131.88	200-yr	4474.65	640.83	634.19	2.49	2.11	26.42	11.63	289.42	814.54	5.95	2.61	6.64	6.64
Dawson County	D4	RM 107.98	70905.01	200-yr	4474.65	640.57	634.08	2.95	2.46	37.06	15.22	245.46	747.41	5.97	2.43	6.49	6.49
Dawson County	D4	RM 107.82	70651.22	200-yr	4474.65	640.34	633.95	3.13	2.41	41.95	15.9	231.93	845.09	5.83	2.2	6.39	6.39
Dawson County	D4	RM 107.68	70418.24	200-yr	4474.65	640.07	633.84	3.35	2.78	48.37	19.3	219.72	698.95	5.8	2.3	6.24	6.24
Dawson County	D4	RM 107.50	70132.11	200-yr	4474.65	639.92	633.17	3.07	2.54	40.62	16.93	239.71	736.02	5.72	2.39	6.75	6.75
Dawson County	D4	RM 107.31	69834.56	200-yr	4474.65	639.67	633.23	3.09	2.69	42.31	22.87	264.38	583.09	5.25	2.85	6.44	6.44
Dawson County	D4	RM 107.13	69541.52	200-yr	4474.65	639.49	633.98	2.82	2.55	36.33	25.14	322.33	533.19	4.74	3.3	5.51	5.51
Dawson County	D5	RM 106.98	69305.02	200-yr	4474.65	639.43	634.16	2.26	2.15	23.76	21.26	421.85	508.09	4.54	4.09	5.27	5.27
Dawson County	D5	RM 106.85	69065.27	200-yr	4474.65	639.33	633.6	2.17	2.04	21.82	15.86	412.29	665.49	4.52	3.3	5.73	5.73
Dawson County	D5	RM 106.65	68764.02	200-yr	4474.65	639.07	632.98	2.54	2.39	29.86	21.82	360.27	589.18	4.33	3.18	6.08	6.08
Dawson County	D5	RM 106.47	68475.87	200-yr	4474.65	638.9	632.51	2.49	1.87	28.31	16.69	307.26	913.02	4.78	2.82	6.39	6.39
Dawson County	D5	RM 106.28	68173.97	200-yr	4474.65	638.39	631.71	3.45	2.48	52.67	22.02	204.05	815.07	5.29	2.22	6.68	6.68
Dawson County	D5	RM 106.10	67879.83	200-yr	4474.65	638.18	631.29	3.23	2.38	47.12	25.07	206.53	710.73	4.95	2.64	6.89	6.89
Dawson County	D5	RM 105.89	67550.49	200-yr	4474.65	637.99	631.76	2.81	2.15	36.07	16.7	226.74	927.35	4.83	2.24	6.23	6.23
Dawson County	D5	RM 105.74	67300.35	200-yr	4474.65	637.85	632.3	2.62	1.79	31.08	16.6	203.14	965.21	4.86	2.6	5.55	5.55
Dawson County	D5	RM 105.54	66973.54	200-yr	4474.65	637.57	632.17	2.86	2.14	37.62	20.71	147.79	820.49	4.72	2.6	5.4	5.4
Dawson County	D5	RM 105.30	66609.03	200-yr	4474.65	637.45	632.29	1.9	1.65	17.39	12.74	219.79	1065.5	4.07	2.98	5.33	5.33
Dawson County	D5	RM 105.06	66212.24	200-yr	4474.65	637.29	631.19	2.19	1.93	23.11	15.76	181.11	1226.83	4.06	2.77	6.1	6.1
Dawson County	D5	RM 104.89	65945.5	200-yr	4474.65	637.12	631.5	2.24	1.87	24.74	14.8	205.87	1373.51	3.8	2.28	5.7	5.7
Dawson County	D5	RM 104.77	65742.33	200-yr	4474.65	637.01	631.67	2.41	1.67	26.66	12.99	125.62	1470.89	4.68	2.28	6.3	6.3
Dawson County	D5	RM 104.64	65530.83	200-yr	4474.65	636.94	632.1	2.02	1.41	19.18	9.94	172.34	1592.24	4.45	2.29	5.98	5.98
Dawson County	D5	RM 104.43	65180.62	200-yr	4474.65	636.89	631.56	1.35	1.06	9.03	5.78	361.11	1789.09	3.67	2.36	6.1	6.1
Dawson County	D5	RM 104.26	64906.83	200-yr	4474.65	636.83	631.59	1.33	1	8.54	4.77	218.58	1949.92	4.11	2.3	6.19	6.19
Dawson County	D5	RM 104.10	64643.2	200-yr	4474.65	636.76	630.81	1.65	1.07	12.51	5.7	150.64	1940	4.73	2.16	6.32	6.32
Dawson County	D5	RM 103.95	64410.06	200-yr	4474.65	636.72	631.24	1.67	0.95	12.94	6.54	185.01	2067.31	4.52	2.29	6.9	6.9
Dawson County	D5	RM 103.68	63957.56	200-yr	4474.65	636.63	629.68	1.72	0.9	13.35	7.08	188.7	1894.65	4.93	2.62	7.19	7.19
Dawson County	D5	RM 103.48	63615.6	200-yr	4474.65	636.57	630.4	1.83	0.99	14.8	7.26	152.55	1743.38	5.33	2.6	7.06	7.06
Dawson County	D5	RM 103.26	63259.44	200-yr	4474.65	636.52	630.13	1.75	0.99	13.48	7.13	173.17	1581.33	5.41	2.85	7.11	7.11
Dawson County	D5	RM 102.58	62131.5	200-yr	4474.65	636.33	629.72	1.77	1.32	13.68	8.92	178.73	961.61	5.4	3.53	6.65	6.65
Dawson County	D5	RM 102.44	61920.83	200-yr	4474.65	636.19	629.74	2.25	1.61	22.24	12.78	255.44	901	5.35	3.08	6.45	6.45
Dawson County	D5	RM 102.31	61720.14	200-yr	4474.65	636.05	629.03	2.61	1.76	29.76	15.86	200.53	878.44	5.42	2.9	7.02	7.02
Dawson County	D5	RM 102.15	61456.58	200-yr	4474.65	635.93	629.39	2.58	1.82	28.74	14.31	201.3	876.82	5.61	2.8	6.54	6.54
Dawson County	D5	RM 102.00	61217.89	200-yr	4474.65	635.85	629.48	2.23	1.66	22.2	12.6	267.9	926.78	5.1	2.91	6.37	6.37
Dawson County	D5	RM 101.84	60967.97	200-yr	4474.65	635.81	629.23	1.88	1.3	15.6	10.91	155.67	929.44	5.29	3.71	6.58	6.58
Dawson County	D5	RM 101.60	60582.61	200-yr	4474.65	635.67	628.87	1.81	1.48	14.59	8.55	336.08	1055.77	5.19	3.05	6.8	6.8
Dawson County	D5	RM 101.45	60336.09	200-yr	4474.65	635.42	629.16	2.54	1.76	27.87	12.4	251.39	1006.27	5.66	2.52	6.26	6.26
Dawson County	D5	RM 101.25	60019.5	200-yr	4474.65	635.19	627.81	2.84	1.82	34.51	14.31	209.15	1011.33	5.85	2.43	7.38	7.38
Dawson County	D5	RM 101.09	59759.25	200-yr	4474.65	635.08	627.99	2.66	1.67	30.47	12.81	216.65	1108.1	5.73	2.41	7.09	7.09
Dawson County	D5	RM 100.88	59426.42	200-yr	4474.65	634.97	627.86	2.48	1.57	26.22	10.68	196.58	1178.82	5.94	2.42	7.11	7.11
Dawson County	D5	RM 100.67	59075.4	200-yr	4474.65	634.8	627.1	2.75	1.58	31.19	12.81	151.88	1186.31	6.45	2.65	7.7	7.7
Dawson County	D5	RM 100.46	58743.44	200-yr	4474.65	634.75	627.92	2	1.29	16.98	8.54	202.94	1166.7	5.97	3.01	6.83	6.83
Dawson County	D5	RM 100.25	58401.49	200-yr	4474.65	634.5	627.57	2.6	1.66	28.73	13.32	196.17	982.34	5.94	2.75	6.93	6.93
Dawson County	D5	RM 100.05	58077.55	200-yr	4474.65	634.34	626.86	2.63	1.9	29.44	14.22	176.97	816.46	5.99	2.88	7.48	7.48
Dawson County	D5	RM 99.87	57778.81	200-yr	4474.65	634.06	626.4	2.72	2.28	33.1	18.59	301.61	686.78	5.09	2.86	7.66	7.66
Dawson County	D5	RM 99.68	57474.16	200-yr	4474.65	633.84	626.29	2.85	2.29	34.62	18.16	246.92	634.34	5.85	3.08	7.55	7.55
Dawson County	D5	RM 99.49	57160.47	200-yr	4474.65	633.5	626.53	3.25	2.48	45.39	21.71	218.38	663.14	5.69	2.72	6.97	6.97

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	200-yr	4474.65	633.35	627.26	2.85	2.09	35.86	15.84	267.93	905.33	5.34	2.36	6.09	6.09
Dawson County	D5	RM 99.13	56566.63	200-yr	4474.65	633.25	626.77	2.49	1.79	27.44	14	293.66	930.75	5.27	2.69	6.48	6.48
Dawson County	D5	RM 98.92	56243.98	200-yr	4474.65	633.08	626.63	2.39	1.86	25.94	13.83	339.1	920.65	4.89	2.62	6.45	6.45
Dawson County	D5	RM 98.71	55911.87	200-yr	4474.65	632.9	626.34	2.39	1.66	26.08	13.62	322.21	1075.29	4.79	2.5	6.56	6.56
Dawson County	D5	RM 98.57	55680.2	200-yr	4474.65	632.81	626.1	2.25	1.41	22.97	12.62	297.01	1199.56	4.91	2.7	6.71	6.71
Dawson County	D5	RM 98.35	55325.95	200-yr	4474.65	632.51	625.91	2.73	1.56	32.18	13.95	216.82	1171.85	5.66	2.45	6.6	6.6
Dawson County	D5	RM 98.19	55066.09	200-yr	4474.65	632.3	624.42	2.95	1.62	36.54	13.95	184	1184.44	6.12	2.34	7.88	7.88
Dawson County	D5	RM 97.99	54752.97	200-yr	4474.65	631.95	625.04	3.2	2.09	45.51	15.88	236.53	1172.75	5.24	1.82	6.91	6.91
Dawson County	D5	RM 97.84	54493.48	200-yr	4474.65	631.79	625.39	2.88	2.17	37.4	16.15	292.51	962.71	4.95	2.14	6.4	6.4
Dawson County	D5	RM 97.68	54241.32	200-yr	4474.65	631.64	624.99	2.7	2.09	34.47	23.02	340.05	762.33	4.33	2.9	6.65	6.65
Dawson County	D5	RM 97.48	53918.21	200-yr	4474.65	631.51	624.81	2.05	1.69	19.23	14.79	387.03	1327.33	3.46	2.66	6.7	6.7
Dawson County	D5	RM 97.28	53585.68	200-yr	4474.65	631.3	625.86	2.2	1.55	23.09	13.65	328.8	1371.28	4.26	2.52	5.85	5.85
Dawson County	D5	RM 97.08	53263.89	200-yr	4474.65	630.97	625.27	2.88	1.98	37.65	15.83	209.17	1292.49	4.86	2.05	5.7	5.7
Dawson County	D5	RM 96.94	53030.11	200-yr	4474.65	630.78	623.97	2.99	1.93	40.97	17.56	199.17	1332.47	4.73	2.03	6.81	6.81
Dawson County	D5	RM 96.77	52762.2	200-yr	4474.65	630.56	623.51	2.95	1.99	40.04	16.13	202.34	1429.18	4.68	1.89	7.05	7.05
Dawson County	D5	RM 96.55	52403.59	200-yr	4474.65	630.34	624.57	2.85	1.61	36.37	14.76	160.42	1679.19	5.03	2.05	5.77	5.77
Dawson County	D5	RM 96.35	52079.12	200-yr	4474.65	630.33	625.39	1.4	1.29	9.71	6.46	290.07	1794.66	3.79	2.53	6.86	6.86
Dawson County	D5	RM 96.17	51777.74	200-yr	4474.65	630.04	624.71	2.68	2.01	33.76	11.97	130.42	1795.46	4.42	1.57	5.66	5.66
Dawson County	D5	RM 96.00	51500.38	200-yr	4474.65	629.86	624.3	2.54	1.77	30.04	10.6	122.42	1975.28	4.52	1.59	5.56	5.56
Dawson County	D5	RM 95.79	51156.87	200-yr	4474.65	629.74	624.35	1.85	1.3	16.98	8.05	284.94	1914.52	4.2	1.99	5.49	5.49
Dawson County	D5	RM 95.60	50859.75	200-yr	4474.65	629.61	622.97	1.92	1.24	17.5	8.56	251.15	1710.81	4.33	2.11	6.64	6.64
Dawson County	D5	RM 95.40	50547.92	200-yr	4474.65	629.48	623.13	1.8	1.24	14.92	8.06	377.96	1420.23	4.67	2.53	6.35	6.35
Dawson County	D5	RM 95.21	50245.97	200-yr	4474.65	629.34	622.21	2.24	1.21	22.06	9.92	217.6	1513.37	5.44	2.44	7.13	7.13
Dawson County	D5	RM 95.04	49971.19	200-yr	4474.65	629.21	621.68	2.56	1.31	29.21	11.8	174.46	1685.31	5.11	2.06	7.53	7.53
Dawson County	D5	RM 94.88	49717.07	200-yr	4474.65	629.13	621.44	2.34	1.15	24.07	10.52	152.89	1797.01	5.41	2.35	7.68	7.68
Dawson County	D5	RM 94.71	49446.9	200-yr	4474.65	629.09	621.69	1.57	0.96	11.01	5.34	234.28	1903.38	5.07	2.45	7.4	7.4
Dawson County	D5	RM 94.58	49286.95	200-yr	4474.65	629.06	618.6	1.21	0.82	5.98	2.59	456.42	2317.64	6.81	2.95	10.46	10.46
Dawson County	D5	RM 94.57	49255.56	200-yr	4474.65	629.01	618.63	1.59	1	10.38	3.76	360.59	1905.55	6.55	2.37	10.38	10.38
Dawson County	D5	RM 94.52	49157.18	200-yr	4474.65	628.95	620.89	1.94	1.05	16.38	6.37	287.23	2559.95	5.58	2.16	8.06	8.06
Dawson County	D6	RM 94.42	48998.19	200-yr	4502.97	628.82	621.76	2.45	1.23	26.21	8.61	219.93	2460.2	5.55	1.82	7.06	7.06
Dawson County	D6	RM 94.30	48806.79	200-yr	4502.97	628.77	621.22	2.14	1.1	20.98	7.33	291.47	2451.6	4.78	1.66	7.55	7.55
Dawson County	D6	RM 94.20	48653.06	200-yr	4502.97	628.71	621.41	2.1	1.06	19.7	6.95	261.89	2292.66	5.29	1.86	7.3	7.3
Dawson County	D6	RM 94.08	48445.46	200-yr	4502.97	628.67	622.37	1.8	1	14.2	5.51	338.75	2122.66	5.5	2.13	6.3	6.3
Dawson County	D6	RM 93.96	48246.42	200-yr	4502.97	628.59	621.88	1.93	1.06	16.65	6.88	331.74	2004.79	5.16	2.12	6.71	6.71
Dawson County	D6	RM 93.83	48030.25	200-yr	4502.97	628.51	620.28	2.15	1.06	19.85	7.53	237.8	1921.93	5.83	2.21	8.23	8.23
Dawson County	D6	RM 93.68	47782.89	200-yr	4502.97	628.14	620.19	3.12	1.9	41.41	15.88	191.53	1812.92	5.98	2.29	7.95	7.95
Dawson County	D6	RM 93.57	47606.95	200-yr	4502.97	627.53	620.08	4.14	2.82	75.38	26.36	184.03	854.67	5.36	1.87	7.45	7.45
Dawson County	D6	RM 93.53	47552.11	200-yr	4502.97	627.43	620.21	4.14	3.04	75.03	28.6	184.33	711.71	5.47	2.08	7.22	7.22
Dawson County	D6	RM 93.47	47460.74	200-yr	4502.97	627.31	618.63	4.08	3.1	72.88	32.4	189.97	601.56	5.44	2.42	8.69	8.69
Dawson County	D6	RM 93.43	47382.46	200-yr	4502.97	627.24	619.44	3.97	3.07	68.34	27.71	191.32	860.36	5.62	2.27	7.8	7.8
Dawson County	D6	RM 93.36	47287.92	200-yr	4502.97	627.26	620.47	3.46	2.58	51.46	21.19	213.34	1282.54	5.73	2.35	6.79	6.79
Dawson County	D6	RM 93.25	47111.44	200-yr	4502.97	627.1	621.12	3.47	2.64	55.95	22.63	228.84	869.43	5.01	2.02	5.98	5.98
Dawson County	D6	RM 93.05	46807.77	200-yr	4502.97	627.05	621.74	2.51	1.73	28.38	13.05	283.11	1471.29	4.99	2.29	5.31	5.31
Dawson County	D6	RM 92.93	46606.31	200-yr	4502.97	626.94	621.34	2.47	1.59	28.07	12.33	305.87	1570.12	4.63	2.03	5.6	5.6
Dawson County	D6	RM 92.83	46460.06	200-yr	4502.97	626.86	621.02	2.34	1.54	25.31	11.55	357.35	1718.58	4.11	1.87	5.84	5.84
Dawson County	D6	RM 92.71	46261.84	200-yr	4502.97	626.83	620.37	1.89	1.15	16.41	8.38	359.38	1770.73	4.33	2.2	6.46	6.46
Dawson County	D6	RM 92.59	46079.79	200-yr	4502.97	626.75	620.95	1.92	1.18	17.32	7.52	321.05	1769.13	5.02	2.17	5.8	5.8
Dawson County	D6	RM 92.50	45933.81	200-yr	4502.97	626.65	620.75	2.15	1.33	21.23	8.37	325.45	1815.85	4.74	1.86	5.9	5.9
Dawson County	D6	RM 92.39	45753.94	200-yr	4502.97	626.5	620.58	2.4	1.49	26.09	8.45	299.01	1886.6	4.96	1.6	5.92	5.92
Dawson County	D6	RM 92.29	45591.17	200-yr	4502.97	626.45	620.64	2.22	1.32	22.15	7.47	295.77	2004.59	5.05	1.7	5.81	5.81
Dawson County	D6	RM 92.18	45414.13	200-yr	4502.97	626.41	620.23	2	1.32	17.93	7.01	358.66	2106.13	4.98	1.95	6.18	6.18
Dawson County	D6	RM 92.06	45238.47	200-yr	4502.97	626.32	620.12	2.09	1.48	19.97	8.36	354.46	1501.45	4.84	2.02	6.2	6.2
Dawson County	D6	RM 91.99	45117.89	200-yr	4502.97	626.3	619.81	1.78	1.41	14.73	8.26	390.42	1252.08	4.54	2.55	6.49	6.49
Dawson County	D6	RM 91.85	44886.16	200-yr	4502.97	626.25	619.7	1.68	1.31	14.34	9.1	238.98	1517.95	5.28	3.34	6.55	6.55
Dawson County	D6	RM 91.77	44752.88	200-yr	4502.97	626.17	619.28	1.9	1.43	21.12	10.79	224.91	1238.2	4.96	2.54	6.89	6.89
Dawson County	D6	RM 91.61	44507.01	200-yr	4502.97	626.03	619	2.18	1.42	20.34	8.26	148.19	1563.84	5.86	2.38	7.03	7.03
Dawson County	D6	RM 91.45	44219.47	200-yr	4502.97	625.95	618.66	2.17	1.43	21.12	7.81	189.07	1477.34	5.76	2.13	7.29	7.29
Dawson County	D6	RM 91.31	43987.79	200-yr	4502.97	625.73	618.98	2.48	1.63	27.01	10.94	271.16	1268.66	5.38	2.18	6.75	6.75
Dawson County	D6	RM 91.11	43666.49	200-yr	4502.97	625.42	618.54	2.94	1.88	36.7	13.75	219.42	1079.87	5.92	2.22	6.88	6.88
Dawson County	D6	RM 90.97	43442.55	200-yr	4502.97	625.29	618.3	2.91	1.78	36.41	14.17	224.14	1144.47	5.67	2.21	6.99	6.99

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	200-yr	4502.97	625.13	618.97	2.57	1.68	36.43	17.14	268.72	1597.85	5.24	2.46	6.16	6.16
Dawson County	D6	RM 90.59	42823.65	200-yr	4502.97	625.11	618.64	1.95	1.18	16.59	8.62	232.7	1482.4	5.44	2.83	6.47	6.47
Dawson County	D6	RM 90.43	42564.46	200-yr	4502.97	624.84	618.18	2.7	1.42	32.14	11.79	208.77	1619.96	5.34	1.96	6.66	6.66
Dawson County	D6	RM 90.29	42331.05	200-yr	4502.97	624.76	618.21	2.36	1.26	24.22	9.9	236.08	1574.13	5.57	2.27	6.55	6.55
Dawson County	D6	RM 90.16	42118.24	200-yr	4502.97	624.62	618.54	2.52	1.39	27.5	10.79	229.61	1553.25	5.56	2.18	6.08	6.08
Dawson County	D6	RM 89.96	41795.66	200-yr	4502.97	624.5	618.08	2.18	1.47	21.25	10.23	346.39	1369.4	5.11	2.46	6.42	6.42
Dawson County	D6	RM 89.83	41589.45	200-yr	4502.97	624.17	617.17	3.13	1.84	42.49	16.91	211.95	1105.25	5.56	2.22	7	7
Dawson County	D6	RM 89.65	41302.33	200-yr	4502.97	624.02	618.15	2.84	1.84	35.76	16.65	251.93	1001.12	5.24	2.45	5.87	5.87
Dawson County	D6	RM 89.46	41003.8	200-yr	4502.97	623.79	617.56	2.85	2.01	34.78	15.44	236.74	857.42	5.9	2.61	6.23	6.23
Dawson County	D6	RM 89.29	40732.3	200-yr	4502.97	623.8	617.42	2.11	1.82	19.31	15.26	253.25	722.01	5.71	4.51	6.38	6.38
Dawson County	D6	RM 89.13	40476.68	200-yr	4502.97	623.55	617.29	2.71	2.07	31.67	16.06	231.92	754.78	5.76	2.9	6.26	6.26
Dawson County	D6	RM 88.96	40193.97	200-yr	4474.65	623.4	617.14	2.71	2.1	30.98	13.6	186.73	857.12	6.19	2.69	6.26	6.26
Dawson County	D7	RM 88.77	39887.75	200-yr	4474.65	623.24	616.98	2.63	1.97	30.14	13.72	260.04	942.84	5.51	2.5	6.26	6.26
Dawson County	D7	RM 88.58	39581.56	200-yr	4474.65	622.91	616.82	3.19	2.14	43.41	16.86	185.88	1029.96	6.02	2.3	6.09	6.09
Dawson County	D7	RM 88.44	39345.29	200-yr	4474.65	622.65	616.7	3.36	2.29	48.44	15.78	181.67	1105.1	5.95	1.89	5.95	5.95
Dawson County	D7	RM 88.25	39047.22	200-yr	4474.65	622.55	616.54	2.78	2	33.82	12.22	221.53	1207.71	5.53	1.98	6.01	6.01
Dawson County	D7	RM 88.06	38736.32	200-yr	4474.65	622.39	616.38	2.52	1.83	28.23	10.4	305.89	1295.55	5.27	1.93	6.01	6.01
Dawson County	D7	RM 87.87	38426.68	200-yr	4474.65	622.34	616.22	1.94	1.43	17.42	8.49	429.53	1434.49	4.62	2.24	6.12	6.12
Dawson County	D7	RM 87.70	38161.81	200-yr	4474.65	622.29	616.08	1.88	1.26	15.01	5.88	181.73	1584.14	6.21	2.37	6.21	6.21
Dawson County	D7	RM 87.52	37862.82	200-yr	4474.65	622.24	615.92	1.69	1.33	12.87	7.49	308.23	1362.98	5.11	2.95	6.31	6.31
Dawson County	D7	RM 87.34	37574.69	200-yr	4474.65	621.99	615.85	2.51	1.79	28.1	15.33	253.88	894.68	5.17	2.8	6.14	6.14
Dawson County	D7	RM 87.17	37307.08	200-yr	4474.65	621.71	615.82	3.08	2.15	40.81	18.28	162.99	811.96	5.81	2.57	5.9	5.9
Dawson County	D7	RM 87.00	37023.47	200-yr	4474.65	621.58	615.79	2.63	2.1	30.97	16.08	241.45	809.29	5.1	2.63	5.79	5.79
Dawson County	D7	RM 86.82	36748.51	200-yr	4474.65	621.39	615.76	2.72	2.23	33.14	17.57	210.89	733.07	5.21	2.73	5.63	5.63
Dawson County	D7	RM 86.67	36501.76	200-yr	4474.65	621.14	615.73	3.18	2.5	44.84	24.02	151.27	634.9	5.4	2.82	5.41	5.41
Dawson County	D7	RM 86.52	36253.46	200-yr	4474.65	621.05	615.7	2.41	2.03	25.94	18.55	250.55	605.27	5.1	3.65	5.35	5.35
Dawson County	D7	RM 86.39	36046.31	200-yr	4474.65	620.95	615.59	2.39	1.95	25.65	17.15	147.45	683.56	5.11	3.36	5.36	5.36
Dawson County	D7	RM 86.24	35796.38	200-yr	4474.65	620.9	615.46	1.79	1.59	14.25	9.74	166.41	796.64	5.37	3.61	5.44	5.44
Dawson County	D7	RM 86.08	35541.56	200-yr	4474.65	620.59	615.48	2.96	2.13	40.05	18.3	160.1	1055.44	4.87	2.18	5.12	5.12
Dawson County	D7	RM 85.91	35282.1	200-yr	4474.65	620.46	615.5	2.55	1.76	29.59	14.92	191.42	1039.71	4.87	2.44	4.96	4.96
Dawson County	D7	RM 85.78	35075.01	200-yr	4474.65	620.47	614.9	1.54	1.41	10.96	9.5	288.53	998.28	4.65	4.02	5.57	5.57
Dawson County	D7	RM 85.59	34774.5	200-yr	4474.65	620.4	614.32	1.8	1.3	13.78	7.28	184.84	1082.82	6.06	3.18	6.09	6.09
Dawson County	D7	RM 85.39	34449.3	200-yr	4474.65	620.15	614.15	2.55	1.89	28.37	12.14	219.47	997.41	5.6	2.38	6.01	6.01
Dawson County	D7	RM 85.23	34186.4	200-yr	4474.65	619.9	614.01	3.14	2.19	42.5	20	157.48	750.99	5.89	2.72	5.89	5.89
Dawson County	D7	RM 85.04	33863.7	200-yr	4474.65	619.84	613.84	2.33	1.88	24.36	14.04	265.03	812.2	5.14	2.94	6	6
Dawson County	D7	RM 84.89	33626.36	200-yr	4474.65	619.73	613.92	2.14	1.92	20.65	12.89	413.04	756.26	4.94	3.09	5.81	5.81
Dawson County	D7	RM 84.72	33349.5	200-yr	4474.65	619.51	613.77	2.45	2.27	26.97	16.51	353.9	632.43	5.1	3.11	5.74	5.74
Dawson County	D7	RM 84.57	33104.21	200-yr	4474.65	619.28	613.45	2.77	2.44	33.76	16.48	294.82	698.81	5.39	2.62	5.83	5.83
Dawson County	D7	RM 84.41	32856.7	200-yr	4474.65	619.16	613.32	2.62	2.17	30.5	11.76	312.69	1069.01	5.22	2.01	5.84	5.84
Dawson County	D7	RM 84.22	32552.24	200-yr	4474.65	619.07	613.16	2.33	1.78	24.06	11.12	261.68	1190.63	5.29	2.42	5.91	5.91
Dawson County	D7	RM 84.05	32270.74	200-yr	4474.65	618.9	613.14	2.57	1.75	28.71	10.63	206.16	1253.45	5.55	2.04	5.76	5.76
Dawson County	D7	RM 83.89	32017.88	200-yr	4474.65	618.6	613.11	3.07	1.99	41.29	13.44	191.2	1280.97	5.42	1.75	5.5	5.5
Dawson County	D7	RM 83.73	31759.16	200-yr	4474.65	618.51	613.07	2.52	1.82	28.57	13.28	240.43	1259.77	5.03	2.32	5.44	5.44
Dawson County	D7	RM 83.53	31426.04	200-yr	4474.65	618.43	613.01	1.95	1.49	17.14	8.59	304.34	1187.81	5.05	2.52	5.42	5.42
Dawson County	D7	RM 83.39	31213.34	200-yr	4474.65	618.35	612.95	2.17	1.57	21.1	10.37	189.12	1129.28	5.19	2.52	5.39	5.39
Dawson County	D7	RM 83.21	30910.79	200-yr	4474.65	618.25	612.91	2.01	1.52	17.92	9.18	170.07	1133.87	5.3	2.68	5.47	5.47
Dawson County	D7	RM 83.05	30660.14	200-yr	4474.65	618.16	612.78	1.89	1.39	15.85	7.65	229.1	1279.12	5.2	2.51	5.7	5.7
Dawson County	D7	RM 82.94	30491.79	200-yr	4474.65	618.09	612.69	1.97	1.41	17.34	7.7	219.21	1398.76	5.15	2.27	5.71	5.71
Dawson County	D7	RM 82.81	30280.45	200-yr	4474.65	617.99	612.58	2.14	1.44	20.79	8.47	178.49	1548.51	4.98	2.01	5.84	5.84
Dawson County	D7	RM 82.68	30058.39	200-yr	4474.65	617.88	612.34	2.3	1.42	23.19	9.25	152.77	1444.34	5.54	2.18	5.78	5.78
Dawson County	D7	RM 82.51	29786.14	200-yr	4474.65	617.85	612.1	1.7	1.15	12.77	5.92	229.35	1570.99	5.42	2.48	6	6
Dawson County	D7	RM 82.33	29497.12	200-yr	4474.65	617.77	611.87	1.79	1.05	13.97	6.81	246.87	1610.47	5.54	2.65	6.02	6.02
Dawson County	D7	RM 82.22	29323.27	200-yr	4474.65	617.69	611.66	2.06	1.03	18.31	7.89	193.52	1979.65	5.67	2.42	6.03	6.03
Dawson County	D7	RM 82.06	29049.94	200-yr	4474.65	617.65	611.37	1.82	0.94	14.19	5.37	202.97	2166.1	5.94	2.2	6.28	6.28
Dawson County	D7	RM 81.91	28820.21	200-yr	4474.65	617.61	611.21	1.82	0.91	13.86	5.11	191.58	2165.99	6.28	2.28	6.4	6.4
Dawson County	D7	RM 81.71	28446.75	200-yr	4474.65	617.55	611.02	1.53	0.88	9.75	3.49	220.81	2363.97	6.33	2.25	6.53	6.53
Dawson County	D7	RM 81.49	28026.4	200-yr	4474.65	617.34	610.8	2.45	1.19	24.92	7.19	165.37	2374.67	6.53	1.84	6.54	6.54
Dawson County	D7	RM 81.31	27735.46	200-yr	4474.65	616.71	610.65	4.1	1.77	72.12	15.21	131.98	2487.27	5.98	1.22	6.06	6.06
Dawson County	D8	RM 81.10	27398.33	200-yr	4474.65	616.4	610.47	3.59	1.6	55.45	12.3	160.09	2639.9	5.83	1.27	5.92	5.92
Dawson County	D8	RM 80.94	27148.21	200-yr	4474.65	616.36	610.34	2.73	1.42	32.15	7.5	225.85	2682	5.76	1.33	6.01	6.01

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	200-yr	4474.65	616.35	610.19	2.14	1.07	19.45	5.1	181.68	3047.33	6.15	1.57	6.16	6.16
Dawson County	D8	RM 80.64	26669.58	200-yr	4474.65	616.31	610.09	2.02	0.98	17.4	4.27	209.02	3445.1	5.98	1.45	6.21	6.21
Dawson County	D8	RM 80.45	26373.01	200-yr	4474.65	616.3	609.94	1.48	0.83	9.33	3.1	122.91	3485	6.23	1.99	6.37	6.37
Dawson County	D8	RM 80.17	25926.88	200-yr	4474.65	616.2	609.71	1.94	0.84	15.7	3.82	146.98	3714.15	6.49	1.52	6.5	6.5
Dawson County	D8	RM 79.91	25496.94	200-yr	4474.65	616.12	609.42	1.56	0.78	10.45	3.01	362.06	3483.78	5.8	1.65	6.7	6.7
Dawson County	D8	RM 79.43	24626.85	200-yr	4474.65	615.87	609.14	1.99	0.96	16.53	4.29	289.02	2891.57	6.24	1.61	6.73	6.73
Dawson County	D8	RM 79.23	24229.4	200-yr	4474.65	615.37	608.87	3.37	1.53	48.04	9.07	173.46	2563	6.3	1.14	6.5	6.5
Dawson County	D8	RM 78.27	22640.58	200-yr	4474.65	614.7	608.6	2.43	1.47	25.83	10.94	226.68	1311.53	5.57	2.33	6.1	6.1
Dawson County	D8	RM 78.12	22398.86	200-yr	4474.65	614.65	608.48	2.19	1.42	20.9	8.34	222.94	1413.76	5.63	2.22	6.17	6.17
Dawson County	D8	RM 77.97	22135.34	200-yr	4474.65	614.51	608.34	2.43	1.53	25.16	9.41	214.67	1329.01	5.95	2.2	6.17	6.17
Dawson County	D8	RM 77.79	21831.85	200-yr	4474.65	614.46	608.18	1.97	1.42	17.58	8.27	332.54	1372.83	4.91	2.3	6.27	6.27
Dawson County	D8	RM 77.57	21474.71	200-yr	4474.65	614.2	608	2.49	1.74	26.65	9.44	250.08	1254.95	5.82	2.05	6.21	6.21
Dawson County	D8	RM 77.38	21170.35	200-yr	4474.65	613.95	607.84	2.87	1.9	35.34	11.26	215.18	1273.61	5.84	1.85	6.11	6.11
Dawson County	D8	RM 77.13	20780.17	200-yr	4474.65	613.96	607.63	1.98	1.4	16.69	7.25	188.55	1442.73	5.96	2.55	6.33	6.33
Dawson County	D8	RM 77.00	20442.34	200-yr	4474.65	613.86	607.46	2.3	1.39	22.29	7.6	131.83	1540.38	6.39	2.08	6.4	6.4
Dawson County	D8	RM 76.90	20124.49	200-yr	4474.65	613.77	607.29	2.22	1.46	20.73	6.76	153.24	1510.82	6.46	2.03	6.48	6.48
Dawson County	D8	RM 76.76	19785.25	200-yr	4474.65	613.7	607.12	1.86	1.34	14.66	5.88	269.03	1421.13	6.14	2.44	6.59	6.59
Dawson County	D8	RM 76.63	19501.04	200-yr	4474.65	613.61	606.97	1.99	1.46	17.28	7.24	246.86	1314.61	5.67	2.33	6.64	6.64
Dawson County	D8	RM 76.37	19137.53	200-yr	4474.65	613.33	606.78	2.45	1.7	25.46	9.52	272.76	1166.67	6.06	2.26	6.56	6.56
Dawson County	D8	RM 76.22	18884.28	200-yr	4474.65	613.19	606.65	2.57	1.75	27.82	11.8	253.7	980.84	6.16	2.6	6.55	6.55
Dawson County	D8	RM 76.00	18519.22	200-yr	4474.65	612.94	606.61	2.86	1.7	35.01	11.86	225.2	1325.1	5.93	1.99	6.33	6.33
Dawson County	D8	RM 75.75	18119.45	200-yr	4474.65	612.59	606.58	3.15	1.85	42.97	11.81	209.51	1553.87	5.72	1.55	6.01	6.01
Dawson County	D8	RM 75.56	17818.36	200-yr	4474.65	612.53	606.75	2.44	1.5	26.65	9.07	303.99	1741.86	5.05	1.71	5.78	5.78
Dawson County	D8	RM 75.31	17411.3	200-yr	4474.65	612.35	606.34	2.4	1.47	25.07	7.93	263.12	1749.15	5.55	1.74	6.02	6.02
Dawson County	D8	RM 75.13	17092.44	200-yr	4474.65	612.22	606.17	2.28	1.37	23.01	8.01	306.22	1757.69	5.35	1.85	6.05	6.05
Dawson County	D8	RM 74.90	16719.46	200-yr	4474.65	611.81	605.98	3.11	1.66	42.92	11.54	224.87	1908.09	5.32	1.41	5.83	5.83
Dawson County	D8	RM 74.65	16308.2	200-yr	4474.65	611.7	605.91	2.4	1.39	25.5	7.87	267.86	1979.09	5.3	1.63	5.78	5.78
Dawson County	D8	RM 74.37	15846.14	200-yr	4474.65	611.46	605.85	2.58	1.51	30.07	8.17	221.55	2210.36	4.98	1.34	5.61	5.61
Dawson County	D8	RM 74.13	15464.97	200-yr	4474.65	611.26	605.82	2.37	1.44	25.33	6.98	235.57	2292.77	5.06	1.38	5.44	5.44
Dawson County	D8	RM 73.91	15098.01	200-yr	4474.65	611.12	605.99	2.05	1.28	19.29	6.23	283.69	2315.38	4.7	1.51	5.13	5.13
Dawson County	D8	RM 73.71	14783.86	200-yr	4474.65	611.01	605.87	1.92	1.18	16.93	5.26	292.2	2613.99	4.75	1.47	5.14	5.14
Dawson County	D8	RM 73.53	14496.67	200-yr	4474.65	610.92	605.72	1.89	1.13	16.19	6.17	249.62	2740.72	4.92	1.86	5.2	5.2
Dawson County	D8	RM 73.29	14096.19	200-yr	4474.65	610.48	605.51	3.08	1.72	43.34	11.82	198.62	1998.63	4.87	1.32	4.96	4.96
Dawson County	D8	RM 73.07	13729.79	200-yr	4474.65	609.88	605.52	3.68	2.24	64.27	15.44	196.15	1948.87	4.3	1.03	4.63	4.63
Dawson County	D8	RM 72.83	13354.45	200-yr	4474.65	609.55	604.9	2.85	1.88	38.01	11.68	264.25	1758.52	4.41	1.36	4.65	4.65
Dawson County	D8	RM 72.62	13000.82	200-yr	4474.65	609.32	604.4	2.55	1.66	29.81	9.41	295.23	1986.87	4.69	1.48	4.92	4.92
Dawson County	D8	RM 72.37	12609.05	200-yr	4474.65	609.05	603.89	2.7	1.73	32.93	11.72	228.58	1500	4.96	1.76	5.16	5.16
Dawson County	D8	RM 72.16	12261.75	200-yr	4474.65	608.79	603.69	2.64	1.75	31.87	11.23	286.3	1576.81	4.82	1.7	5.1	5.1
Dawson County	D8	RM 71.92	11875.08	200-yr	4474.65	608.64	603.18	2.17	1.54	21.34	8.23	345.16	1578.86	4.93	1.9	5.46	5.46
Dawson County	D8	RM 71.69	11512.65	200-yr	4474.65	608.47	602.95	2.27	1.48	23.06	8.47	303.44	1615.06	5.13	1.88	5.52	5.52
Dawson County	D8	RM 71.49	11192.6	200-yr	4474.65	608.26	602.03	2.55	1.47	27.72	8.16	237.66	1759.85	5.9	1.72	6.23	6.23
Dawson County	D8	RM 71.31	10913.3	200-yr	4474.65	608.13	601.99	2.53	1.49	27.46	8.82	244.59	1639.87	5.75	1.84	6.14	6.14
Dawson County	D9	RM 71.10	10567.75	200-yr	4474.65	608.06	602.11	2.02	1.38	17.99	7.05	197.48	1536.55	5.43	2.1	5.95	5.95
Dawson County	D9	RM 70.91	10267.7	200-yr	4474.65	607.94	602.05	2.28	1.28	22.44	8.69	126.11	1596.83	5.82	2.21	5.89	5.89
Dawson County	D9	RM 70.72	9968.939	200-yr	4474.65	607.83	601.91	2.3	1.32	22.71	10.12	153.19	1535.37	5.91	2.55	5.92	5.92
Dawson County	D9	RM 70.50	9603.574	200-yr	4474.65	607.66	601.9	2.16	1.73	20.6	11.68	251.24	954.97	5.36	3.03	5.75	5.75
Dawson County	D9	RM 70.27	9238.535	200-yr	4474.65	607.34	601.31	2.78	1.83	33.29	12.55	236.79	1203.34	5.71	2.15	6.03	6.03
Dawson County	D9	RM 70.08	8928.013	200-yr	4474.65	607.21	600.85	2.57	1.55	28.26	10.54	234.44	1335.41	5.88	2.17	6.37	6.37
Dawson County	D9	RM 69.79	8464.726	200-yr	4474.65	607.1	600.61	2.19	1.21	20.3	7.62	248.41	1799.84	6.03	2.25	6.49	6.49
Dawson County	D9	RM 69.50	7983.226	200-yr	4474.65	607.01	600.56	2.01	1.08	17.3	6.94	237.14	2206.56	5.94	2.36	6.45	6.45
Dawson County	D9	RM 69.26	7575.04	200-yr	4474.65	606.89	600.35	2.07	1.09	18.12	6.59	245.78	2314.02	6.08	2.19	6.54	6.54
Dawson County	D9	RM 69.03	7206.967	200-yr	4474.65	606.8	599.95	2.02	1.16	16.82	4.63	236.36	2196.23	6.49	1.77	6.84	6.84
Dawson County	D9	RM 68.82	6851.789	200-yr	4474.65	606.58	599.77	2.44	1.38	24.98	7.94	217.59	1792.18	6.26	1.96	6.82	6.82
Dawson County	D9	RM 68.60	6509.797	200-yr	4474.65	606.18	599.59	3.15	1.86	41.37	10.15	189.13	1554.02	6.46	1.55	6.59	6.59
Dawson County	D9	RM 68.39	6158.879	200-yr	4474.65	606.01	599.51	2.83	1.88	34.27	9.44	241.73	1482.24	5.88	1.6	6.5	6.5
Dawson County	D9	RM 68.11	5709.195	200-yr	4474.65	605.77	599.37	2.68	1.86	30.87	9.18	262.72	1415.52	5.76	1.7	6.4	6.4
Dawson County	D9	RM 67.86	5308.187	200-yr	4474.65	605.54	599.17	2.9	2.1	35.66	10.05	130.41	1257.51	6.21	1.7	6.38	6.38
Dawson County	D10	RM 67.57	4859.184	200-yr	4446.33	605.3	598.93	2.65	2.05	29.71	8.06	240.29	1332.04	6.02	1.63	6.37	6.37
Dawson County	D10	RM 67.37	4523.862	200-yr	4446.33	605.24	598.75	2.27	1.48	21.81	6.06	224.36	1804.5	6.07	1.67	6.48	6.48
Dawson County	D10	RM 67.15	4175.103	200-yr	4446.33	604.87	598.47	3.2	1.66	43.32	9.32	158.11	2054.6	6.18	1.3	6.39	6.39

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

200-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	200-yr	4446.33	604.8	598.2	2.43	1.39	25.55	7.39	211.57	1949.21	5.74	1.64	6.6	6.6
Dawson County	D10	RM 66.74	3505.323	200-yr	4446.33	604.58	598.12	2.67	1.51	29.83	6.98	189.78	2029.7	6.32	1.45	6.45	6.45
Dawson County	D10	RM 66.52	3142.889	200-yr	4446.33	604.34	598.26	2.69	1.6	31.17	7.66	249	1981.7	5.76	1.4	6.08	6.08
Dawson County	D10	RM 66.28	2774.58	200-yr	4446.33	603.76	598.21	3.62	2.58	58.17	13.88	206.17	1370.25	5.3	1.26	5.55	5.55
Dawson County	D10	RM 66.11	2492.331	200-yr	4446.33	603.63	597.8	2.97	2.18	39.52	10.09	269.84	1575.84	5.09	1.29	5.84	5.84
Dawson County	D10	RM 65.90	2160.839	200-yr	4446.33	603.53	597.33	2.57	1.84	28.81	7.53	227.64	1675.1	5.6	1.44	6.2	6.2
Dawson County	D10	RM 65.75	1926.044	200-yr	4446.33	603.41	597.2	2.53	1.82	28.68	7.46	203.78	1879.25	5.15	1.32	6.21	6.21
Dawson County	D10	RM 65.60	1669.095	200-yr	4446.33	603.23	597.07	2.8	1.62	33.68	9.23	140.14	1937.68	5.93	1.59	6.17	6.17
Dawson County	D10	RM 65.42	1386.836	200-yr	4446.33	603.11	596.92	2.3	1.53	22.95	5.48	247.82	2152.79	5.73	1.35	6.19	6.19
Dawson County	D10	RM 65.23	1090.639	200-yr	4446.33	603	596.91	2.24	1.39	23.14	7.3	263.18	2499.34	4.73	1.47	6.1	6.1
Dawson County	D10	RM 64.96	634.963	200-yr	4446.33	602.86	597.09	1.95	1.1	16.84	5.82	270.22	2955.94	5.25	1.81	5.77	5.77

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	200-yr	4445.7	602.75	596.42	1.44	0.82	9.49	4.15	398.12	2614.68	4.78	2.08	6.33	6.33
Richland/McKenzie County	D10	RM 64.32	103200	200-yr	4445.7	602.65	596.33	1.89	0.88	15.61	6.27	232.97	2310.61	5.47	2.18	6.32	6.32
Richland/McKenzie County	D10	RM 64.12	102900	200-yr	4445.7	602.6	596.18	1.63	0.93	11.95	5.52	281.09	2063.95	5.06	2.32	6.42	6.42
Richland/McKenzie County	D10	RM 63.92	102601	200-yr	4445.7	602.56	596.08	1.54	0.83	10.75	5.53	273.38	2132.59	4.94	2.51	6.48	6.48
Richland/McKenzie County	D10	RM 63.74	102302	200-yr	4445.7	602.5	595.94	1.66	0.87	12.15	5.46	254.65	2152.17	5.34	2.38	6.56	6.56
Richland/McKenzie County	D10	RM 63.55	101998	200-yr	4445.7	602.44	595.79	1.76	0.86	13.09	5.37	210.56	2050.45	6.18	2.51	6.65	6.65
Richland/McKenzie County	D10	RM 63.34	101671	200-yr	4445.7	602.39	595.21	1.72	0.85	12.99	6.34	241.49	1997.09	5.44	2.63	7.18	7.18
Richland/McKenzie County	D10	RM 63.08	101293	200-yr	4445.7	602.06	595.12	2.99	1.22	38.56	15.4	159.68	1609.12	5.78	2.27	6.94	6.94
Richland/McKenzie County	D10	RM 62.96	101094	200-yr	4445.7	601.88	595.12	3.17	1.39	53.7	18.34	149.74	1553.47	6.15	2.06	6.76	6.76
Richland/McKenzie County	D10	RM 62.83	100882	200-yr	4445.7	601.74	595.12	3.09	1.4	44.98	15.48	161.51	1489.61	6.31	2.13	6.62	6.62
Richland/McKenzie County	D10	RM 62.64	100582	200-yr	4445.7	601.61	595.12	2.82	1.4	33.58	12.46	189.94	1403.57	6.21	2.27	6.49	6.49
Richland/McKenzie County	D10	RM 62.46	100282	200-yr	4445.7	601.05	595.1	3.93	2.09	67.35	20.58	161.13	1266.74	5.6	1.68	5.95	5.95
Richland/McKenzie County	D10	RM 62.27	99977	200-yr	4445.7	601.12	594.91	2.28	1.52	22.65	9.7	303.35	1242.01	5.57	2.35	6.21	6.21
Richland/McKenzie County	D10	RM 62.1	99691	200-yr	4445.7	601.05	594.75	1.97	1.38	17.14	9.43	274.06	1235.58	4.78	2.61	6.3	6.3
Richland/McKenzie County	D10	RM 61.91	99377	200-yr	4445.7	600.9	594.51	2.18	1.36	20.57	10.04	164.84	1313.01	5.18	2.49	6.39	6.39
Richland/McKenzie County	D10	RM 61.72	99082	200-yr	4445.7	600.74	594.36	2.4	1.46	24.84	10.63	127.17	1262.24	5.75	2.41	6.38	6.38
Richland/McKenzie County	D10	RM 61.54	98782	200-yr	4445.7	600.32	594.36	2.97	1.97	38.08	14.04	230.57	1135.06	5.45	1.99	5.96	5.96
Richland/McKenzie County	D10	RM 61.35	98482	200-yr	4445.7	600.11	594.26	2.99	2.02	39.41	15.22	215	1063.03	5.41	2.07	5.85	5.85
Richland/McKenzie County	D10	RM 61.16	98182	200-yr	4445.7	600.07	594.17	2.16	1.52	20.95	8.93	248.77	1367.95	5.07	2.14	5.9	5.9
Richland/McKenzie County	D10	RM 60.99	97906	200-yr	4445.7	599.9	594.02	2.42	1.45	25.7	9.21	216.72	1577.72	5.47	1.94	5.88	5.88
Richland/McKenzie County	D10	RM 60.79	97582	200-yr	4445.7	599.79	593.78	2.23	1.24	22.9	9.46	224.25	1849.29	4.76	1.94	6.01	6.01
Richland/McKenzie County	D10	RM 60.64	97339	200-yr	4445.7	599.79	593.58	1.45	0.93	9.79	4.83	266.31	2312.2	4.56	2.22	6.21	6.21
Richland/McKenzie County	D10	RM 60.42	96982	200-yr	4445.7	599.63	593.38	2.01	1.03	17.65	5.81	215.62	2533.39	5.32	1.73	6.25	6.25
Richland/McKenzie County	D10	RM 60.25	96700	200-yr	4445.7	599.53	593.24	2.24	1	23.07	8.35	192.38	2626.52	4.75	1.69	6.29	6.29
Richland/McKenzie County	D10	RM 60.04	96365	200-yr	4445.7	599.4	593.14	2.03	0.98	19.74	8.82	227.05	2445.24	4.23	1.86	6.26	6.26
Richland/McKenzie County	D10	RM 59.86	96088	200-yr	4445.7	599.3	592.99	2.09	0.86	18.89	6.82	171.89	2517.25	5.84	2.06	6.31	6.31
Richland/McKenzie County	D10	RM 59.65	95769	200-yr	4445.7	599.27	592.85	1.62	0.77	11.62	4.83	207.22	2636.96	5.37	2.19	6.42	6.42
Richland/McKenzie County	D10	RM 59.5	95530	200-yr	4445.7	599.19	592.75	1.77	0.85	14.19	5.68	206.9	2640.8	5.02	1.98	6.44	6.44
Richland/McKenzie County	D10	RM 59.29	95183	200-yr	4445.7	599.12	592.55	1.68	0.88	12.66	5.16	232.08	2445.06	5.13	2.06	6.57	6.57
Richland/McKenzie County	D10	RM 59.07	94797	200-yr	4445.7	599.05	592.36	1.52	0.87	11.4	5.15	408.43	2301.6	4.92	2.21	6.69	6.69
Richland/McKenzie County	D10	RM 58.93	94582	200-yr	4445.7	598.94	592.31	1.89	0.96	15.92	6.63	328.36	2154.49	5.2	2.15	6.63	6.63
Richland/McKenzie County	D10	RM 58.75	94282	200-yr	4445.7	598.83	592.28	2.09	1.03	18.67	6.86	264.72	2015.14	5.9	2.15	6.55	6.55
Richland/McKenzie County	D10	RM 58.56	93982	200-yr	4445.7	598.46	592.22	3.28	1.39	45.9	13.63	157.23	1836.66	5.97	1.74	6.24	6.24
Richland/McKenzie County	D10	RM 58.37	93682	200-yr	4445.7	598.19	592.22	3.3	1.6	47.17	14.04	186.39	1663.16	5.69	1.67	5.97	5.97
Richland/McKenzie County	D10	RM 58.19	93382	200-yr	4445.7	598.21	592.22	2.22	1.32	21.08	8.12	254.64	1523.24	5.82	2.22	5.99	5.99
Richland/McKenzie County	D10	RM 58.01	93086	200-yr	4445.7	597.79	592.14	3.08	2	41.85	13.31	236.71	1311.21	5.4	1.7	5.65	5.65
Richland/McKenzie County	D10	RM 57.82	92782	200-yr	4445.7	597.77	592.11	2.16	1.54	21.4	9.91	308.1	1323.86	4.72	2.17	5.66	5.66
Richland/McKenzie County	D10	RM 57.63	92482	200-yr	4445.7	597.64	592.11	2.52	1.5	28.19	10.31	160.84	1565.89	5.23	1.89	5.53	5.53
Richland/McKenzie County	D10	RM 57.46	92205	200-yr	4445.7	597.58	591.95	1.86	1.16	15.31	6.56	192.28	1696.29	5.34	2.26	5.63	5.63
Richland/McKenzie County	D10	RM 57.26	91882	200-yr	4445.7	597.35	591.9	2.37	1.44	25.87	9.63	136.34	1759.78	4.78	1.75	5.45	5.45
Richland/McKenzie County	D10	RM 57.07	91583	200-yr	4445.7	597.3	591.73	1.9	1.13	16.06	6.34	137.42	1902.88	5.32	2.06	5.57	5.57
Richland/McKenzie County	D10	RM 56.87	91253	200-yr	4445.7	597.17	591.49	1.74	1.14	13.76	5.96	186.15	1862.5	4.86	2.09	5.74	5.74
Richland/McKenzie County	D10	RM 56.68	90943	200-yr	4445.7	597.1	591.12	1.58	1.17	11.59	5.85	299.58	1628.7	4.65	2.34	5.98	5.98
Richland/McKenzie County	D10	RM 56.54	90682	200-yr	4417.4	596.88	590.76	2.09	1.86	24.41	9.49	216.66	1476.1	4.18	1.61	6.16	6.16
Richland/McKenzie County	D10	RM 56.35	90387	200-yr	4417.4	596.7	590.46	2.23	1.82	22.58	7.67	174.85	1482.12	4.89	1.64	6.24	6.24
Richland/McKenzie County	D11	RM 56.16	90086	200-yr	4417.4	596.08	590.11	3.52	2.9	54.33	14.79	221.5	1032.25	5.53	1.48	5.97	5.97
Richland/McKenzie County	D11	RM 55.96	89768	200-yr	4417.4	595.85	589.96	3.29	2.59	47.08	15.25	222.74	944.08	5.64	1.81	5.89	5.89
Richland/McKenzie County	D11	RM 55.78	89479	200-yr	4417.4	595.81	589.96	2.72	1.75	32.29	9.63	216.81	1544.9	5.53	1.63	5.85	5.85
Richland/McKenzie County	D11	RM 55.61	89193	200-yr	4417.4	595.65	589.98	2.67	1.54	31.25	8.14	222.22	2042.63	5.44	1.4	5.67	5.67
Richland/McKenzie County	D11	RM 55.41	88882	200-yr	4417.4	595.5	589.76	2.5	1.42	27.88	8.84	203.81	1894.01	5.22	1.64	5.74	5.74
Richland/McKenzie County	D11	RM 55.23	88582	200-yr	4417.4	595.31	589.53	2.52	1.46	27.75	8.05	238.9	1902.03	5.58	1.59	5.78	5.78
Richland/McKenzie County	D11	RM 55.04	88282	200-yr	4417.4	595.08	589.39	2.76	1.6	34.21	10.03	252.08	1883.76	5.03	1.46	5.69	5.69
Richland/McKenzie County	D11	RM 54.86	87996	200-yr	4417.4	594.68	589.33	3.35	2.11	52.87	15.97	223.96	1648.61	4.41	1.32	5.35	5.35
Richland/McKenzie County	D11	RM 54.69	87715	200-yr	4417.4	594.64	589.23	2.38	1.7	26.12	9.06	188.11	1781.55	4.77	1.63	5.41	5.41
Richland/McKenzie County	D11	RM 54.48	87382	200-yr	4417.4	594.54	589.15	1.96	1.11	17.51	5.73	179.29	2630.19	4.9	1.58	5.39	5.39
Richland/McKenzie County	D11	RM 54.32	87122	200-yr	4417.4	594.45	589	2	0.98	17.72	5.75	159.94	2680.63	5.3	1.68	5.45	5.45
Richland/McKenzie County	D11	RM 54.1	86783	200-yr	4417.4	594.33	588.83	1.82	1.06	14.61	4.86	202.24	2387.2	5.35	1.75	5.5	5.5
Richland/McKenzie County	D11	RM 53.92	86482	200-yr	4417.4	594.25	588.68	1.76	1.07	14.08	5.39	255.08	2447.55	4.85	1.83	5.57	5.57
Richland/McKenzie County	D11	RM 53.73	86182	200-yr	4417.4	594.14	588.51	2.02	1.05	17.98	6.26	196.75	2773.07	5.41	1.85	5.63	5.63
Richland/McKenzie County	D11	RM 53.55	85882	200-yr	4417.4	593.98	588.37	2.1	1.17	19.64	6.97	181.72	2197.55	5.26	1.85	5.61	5.61
Richland/McKenzie County	D11	RM 53.36	85582	200-yr	4417.4	593.84	588.01	2.25	1.19	23.27	7.98	166.55	2496.79	4.78	1.62	5.83	5.83

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	200-yr	4417.4	593.23	587.56	3.53	1.75	55.69	12.35	206.2	2317.93	5.18	1.14	5.67	5.67
Richland/McKenzie County	D11	RM 52.98	84982	200-yr	4417.4	593.05	587.56	2.93	1.28	42.49	16.2	271.44	2957.7	3.78	1.42	5.49	5.49
Richland/McKenzie County	D11	RM 52.79	84682	200-yr	4417.4	592.84	587.56	2.36	1.23	28.16	12.22	387.04	2821.45	3.57	1.53	5.28	5.28
Richland/McKenzie County	D11	RM 52.61	84390	200-yr	4417.4	592.69	587.43	2.02	1.24	19.44	6.87	450.01	3282.39	4.19	1.47	5.26	5.26
Richland/McKenzie County	D11	RM 52.42	84082	200-yr	4417.4	592.63	587.28	1.68	0.98	13.94	5.27	409.99	3923.06	3.79	1.42	5.35	5.35
Richland/McKenzie County	D11	RM 52.24	83798	200-yr	4417.4	592.58	587.28	1.52	0.72	10.88	4.25	227.41	3683.8	4.5	1.73	5.3	5.3
Richland/McKenzie County	D11	RM 52.01	83423	200-yr	4417.4	592.42	587.23	2.09	0.85	19.97	5.77	124.91	3917.69	4.98	1.4	5.19	5.19
Richland/McKenzie County	D11	RM 51.87	83182	200-yr	4417.4	592.35	587.16	1.67	0.8	13.86	5.91	156.7	3517.79	3.79	1.59	5.19	5.19
Richland/McKenzie County	D11	RM 51.69	82882	200-yr	4417.4	592.27	587.16	1.47	0.73	10.43	4.11	151.24	3638.61	4.31	1.67	5.11	5.11
Richland/McKenzie County	D11	RM 51.51	82585	200-yr	4417.4	592.21	587.16	1.67	0.79	13.61	5.24	149.84	3698.86	4.04	1.53	5.05	5.05
Richland/McKenzie County	D11	RM 51.32	82274	200-yr	4417.4	592.17	587.16	1.43	0.7	10.01	4.35	173.83	3849.91	4	1.7	5.01	5.01
Richland/McKenzie County	D11	RM 51.13	81982	200-yr	4417.4	592.11	587.13	1.56	0.71	11.13	4.01	164.51	4297.59	4.8	1.7	5	5
Richland/McKenzie County	D11	RM 50.95	81682	200-yr	4417.4	592.05	587.08	1.4	0.63	9.02	3.57	144.96	4902.77	4.75	1.85	4.97	4.97
Richland/McKenzie County	D11	RM 50.76	81378	200-yr	4417.4	591.99	586.89	1.31	0.58	8.02	3.68	174.41	4959.13	4.6	2.07	5.1	5.1
Richland/McKenzie County	D11	RM 50.56	81065	200-yr	4417.4	591.86	586.37	1.71	0.72	12.89	4.5	171.61	4475.5	5.36	1.84	5.49	5.49
Richland/McKenzie County	D11	RM 50.39	80787	200-yr	4417.4	591.81	585.7	1.66	0.71	11.75	3.92	196.96	4116.63	6	1.96	6.11	6.11
Richland/McKenzie County	D11	RM 50.21	80482	200-yr	4417.4	591.72	585.55	1.67	0.84	12.29	4.68	234.94	3027.09	5.45	2.06	6.17	6.17
Richland/McKenzie County	D11	RM 50.02	80182	200-yr	4417.4	591.57	585.55	2.03	1.06	18.28	6.6	197.51	2679.8	5.38	1.9	6.02	6.02
Richland/McKenzie County	D12	RM 49.82	79860	200-yr	4417.4	591.19	585.55	2.99	1.49	39.48	10.8	212.06	2064.05	5.4	1.46	5.64	5.64
Richland/McKenzie County	D12	RM 49.65	79582	200-yr	4417.4	590.82	585.55	3.41	1.9	52.48	12.93	213.94	1895.04	5.02	1.23	5.27	5.27
Richland/McKenzie County	D12	RM 49.5	79348	200-yr	4417.4	590.97	585.49	1.75	1.11	13.53	4.58	356	2203.7	5.38	1.81	5.52	5.52
Richland/McKenzie County	D12	RM 49.26	78981	200-yr	4417.4	590.88	585.29	1.99	1.16	17.53	5.96	137.44	2114.65	5.37	1.8	5.59	5.59
Richland/McKenzie County	D12	RM 49.08	78682	200-yr	4417.4	590.75	585.11	2.14	1.2	20.26	6.67	156.64	2102.56	5.38	1.75	5.71	5.71
Richland/McKenzie County	D12	RM 48.87	78351	200-yr	4417.4	590.65	584.96	2.06	1.14	18.6	6.52	209.35	2057.18	5.42	1.88	5.69	5.69
Richland/McKenzie County	D12	RM 48.7	78082	200-yr	4417.4	590.57	584.86	1.99	1.22	18.41	8.3	252.25	1754.85	4.67	2.07	5.71	5.71
Richland/McKenzie County	D12	RM 48.52	77782	200-yr	4417.4	590.55	584.74	1.37	0.97	8.64	4.91	473.03	1753.6	4.6	2.6	5.81	5.81
Richland/McKenzie County	D12	RM 48.33	77482	200-yr	4417.4	590.49	584.51	1.38	0.99	10.87	6.75	517.65	1820.11	3.98	2.46	5.98	5.98
Richland/McKenzie County	D12	RM 48.15	77182	200-yr	4417.4	590.39	584.24	1.61	0.94	12.48	7.64	497.96	1889.91	4.1	2.49	6.15	6.15
Richland/McKenzie County	D12	RM 47.97	76887	200-yr	4417.4	590.37	584.09	1.16	0.77	6.62	4.62	601.73	2344.93	3.78	2.62	6.28	6.28
Richland/McKenzie County	D12	RM 47.76	76570	200-yr	4417.4	590.32	583.86	1.17	0.8	7.05	4.49	565.5	2207.23	4.1	2.6	6.46	6.46
Richland/McKenzie County	D12	RM 47.59	76293	200-yr	4417.4	590.26	583.71	1.34	0.84	8.75	4.62	391.27	2149.36	4.83	2.54	6.55	6.55
Richland/McKenzie County	D12	RM 47.4	75982	200-yr	4417.4	590.16	583.42	1.77	0.91	13.59	6.02	196.88	2020.41	5.67	2.48	6.74	6.74
Richland/McKenzie County	D12	RM 47.12	75521	200-yr	4417.4	589.93	583.04	2.2	1.08	19.85	6.93	234.72	1795.6	6.63	2.29	6.89	6.89
Richland/McKenzie County	D12	RM 47	75323	200-yr	4417.4	589.65	583.04	3.19	1.35	43.37	14.01	162.2	1701.94	6.04	1.92	6.61	6.61
Richland/McKenzie County	D12	RM 46.85	75082	200-yr	4417.4	589.48	583.04	3.12	1.45	41.49	13.31	184.53	1608.03	5.98	1.89	6.44	6.44
Richland/McKenzie County	D12	RM 46.67	74782	200-yr	4417.4	589.13	583.04	3.44	1.84	50.45	15.42	185.83	1346.38	5.93	1.78	6.09	6.09
Richland/McKenzie County	D12	RM 46.47	74459	200-yr	4417.4	589.1	583.04	2.42	1.71	25.77	11.34	312.11	1093.91	5.42	2.36	6.06	6.06
Richland/McKenzie County	D12	RM 46.3	74186	200-yr	4417.4	588.95	583.04	2.4	1.91	26.18	16.83	421.1	975.88	4.12	2.63	5.91	5.91
Richland/McKenzie County	D12	RM 46.14	73920	200-yr	4417.4	588.82	583.04	2.21	1.81	21.97	14.95	454.73	868.01	4.19	2.83	5.78	5.78
Richland/McKenzie County	D12	RM 45.9	73546	200-yr	4417.4	588.65	582.97	2.23	1.5	22.74	11.36	339.6	1294.36	4.8	2.39	5.68	5.68
Richland/McKenzie County	D12	RM 45.75	73307	200-yr	4417.4	588.46	582.88	2.44	1.55	29.18	13.62	351.5	1566.35	4.18	1.94	5.58	5.58
Richland/McKenzie County	D12	RM 45.54	72980	200-yr	4417.4	588.34	582.55	2.04	1.29	18.99	7.64	382.5	1877.56	4.79	1.91	5.79	5.79
Richland/McKenzie County	D12	RM 45.29	72680	200-yr	4417.4	588.22	582.25	2.11	1.23	20.38	8.65	347.33	1794.93	4.74	2	5.97	5.97
Richland/McKenzie County	D12	RM 45.09	72380	200-yr	4417.4	588.11	582.08	2.13	1.11	19.6	6.91	267.36	2029.88	5.63	1.97	6.03	6.03
Richland/McKenzie County	D12	RM 44.91	72080	200-yr	4417.4	588.02	582.01	2.06	1.1	18.58	6.64	283.48	2101.55	5.4	1.91	6.01	6.01
Richland/McKenzie County	D12	RM 44.72	71783	200-yr	4417.4	587.78	581.97	2.63	1.21	30.36	9.03	208.81	2360.35	5.5	1.61	5.81	5.81
Richland/McKenzie County	D12	RM 44.53	71483	200-yr	4417.4	587.5	581.82	3.1	1.41	42.76	11.4	177.29	2277.5	5.23	1.37	5.68	5.68
Richland/McKenzie County	D12	RM 44.34	71183	200-yr	4417.4	587.16	581.8	3.31	1.6	51.27	13.03	199.57	2741.8	4.55	1.14	5.36	5.36
Richland/McKenzie County	D12	RM 44.17	70899	200-yr	4417.4	587.21	581.79	1.8	1.04	14.28	4.24	301.73	2845.84	5.34	1.57	5.42	5.42
Richland/McKenzie County	D12	RM 43.97	70594	200-yr	4417.4	587.17	581.73	1.47	0.87	10.05	4.27	326.68	2626.04	4.58	1.93	5.44	5.44
Richland/McKenzie County	D12	RM 43.74	70230	200-yr	4417.4	587.06	581.66	1.75	1.09	14.42	5.22	164.51	2564.16	4.43	1.58	5.4	5.4
Richland/McKenzie County	D12	RM 43.59	69983	200-yr	4417.4	586.96	581.56	1.64	0.82	12.73	5.32	143.76	2899.44	4.53	1.85	5.4	5.4
Richland/McKenzie County	D12	RM 43.4	69684	200-yr	4417.4	586.87	581.49	1.64	0.79	12.72	4.8	150.64	3195.85	4.74	1.76	5.38	5.38
Richland/McKenzie County	D12	RM 43.03	69084	200-yr	4417.4	586.78	581.37	1.47	0.67	10.16	4.29	131.62	3510.74	4.53	1.88	5.41	5.41
Richland/McKenzie County	D12	RM 42.66	68489	200-yr	4417.4	586.72	581.18	1.63	0.67	12.11	4.61	115.82	3625.57	4.9	1.82	5.54	5.54
Richland/McKenzie County	D12	RM 42.29	67889	200-yr	4417.4	586.66	580.87	1.28	0.63	7.33	2.72	281.47	3846.05	5.2	1.91	5.79	5.79
Richland/McKenzie County	D12	RM 42.08	67558	200-yr	4417.4	586.63	580.61	1.45	0.64	9.08	3.05	180.64	3684.48	5.76	1.91	6.02	6.02
Richland/McKenzie County	D12	RM 41.89	67260	200-yr	4417.4	586.54	580.31	1.6	0.74	11.03	3.85	292.42	3065.43	5.65	1.95	6.23	6.23
Richland/McKenzie County	D12	RM 41.75	67037	200-yr	4417.4	586.47	579.99	1.69	0.83	12.88	5.08	337.38	2744.99	4.97	1.94	6.48	6.48
Richland/McKenzie County	D12	RM 41.54	66695	200-yr	4417.4	586.27	579.72	2.3	0.98	22.18	7.1	196.39	2293.88	6.24	1.96	6.55	6.55
Richland/McKenzie County	D12	RM 41.34	66361	200-yr	4417.4	586.12	579.43	2.37	1.13	24.94	9.16	218.95	2025.7	5.33	1.93	6.69	6.69

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	200-yr	4417.4	585.96	579.08	2.56	1.2	28.08	9.33	195.81	1921.22	5.85	1.91	6.88	6.88
Richland/McKenzie County	D12	RM 40.99	65802	200-yr	4417.4	585.85	578.99	2.33	1.06	23.46	8.45	203.5	2057.61	5.71	2.02	6.86	6.86
Richland/McKenzie County	D12	RM 40.8	65502	200-yr	4417.4	585.66	578.97	2.4	1.23	25.9	8.12	273.63	2265.56	5.12	1.59	6.69	6.69
Richland/McKenzie County	D12	RM 40.62	65205	200-yr	4417.4	585.63	578.92	1.71	0.91	13.45	5.3	375.4	2984.01	4.66	1.82	6.71	6.71
Richland/McKenzie County	D12	RM 40.24	64602	200-yr	4417.4	585.47	578.6	1.51	0.81	11.21	4.67	507.11	3329.96	4.13	1.7	6.87	6.87
Richland/McKenzie County	D12	RM 40	64219	200-yr	4417.4	585.33	578.56	1.88	0.84	15.86	4.75	309.03	3549.07	5.17	1.53	6.77	6.77
Richland/McKenzie County	D12	RM 39.87	64002	200-yr	4417.4	585.22	578.55	2.25	0.91	21.59	5.5	222	3375.83	5.91	1.48	6.67	6.67
Richland/McKenzie County	D12	RM 39.68	63702	200-yr	4417.4	585.16	578.45	2.05	0.89	18.57	4.96	241.95	3517.71	5.36	1.41	6.71	6.71
Richland/McKenzie County	D12	RM 39.5	63402	200-yr	4417.4	585.09	578.35	1.95	0.83	16.97	5.19	226.39	3355.55	5.25	1.58	6.74	6.74
Richland/McKenzie County	D12	RM 39.31	63102	200-yr	4417.4	585.02	578.31	1.91	0.85	15.86	4.77	227.2	3170.92	5.54	1.64	6.71	6.71
Richland/McKenzie County	D12	RM 39.13	62802	200-yr	4417.4	584.94	578.2	1.85	0.84	15.2	5.17	286.13	3004.6	5.2	1.75	6.74	6.74
Richland/McKenzie County	D12	RM 38.94	62501	200-yr	4417.4	584.89	578.12	1.7	0.76	12.62	4.47	264.19	3005.06	5.55	1.94	6.77	6.77
Richland/McKenzie County	D12	RM 38.76	62201	200-yr	4417.4	584.82	578.03	1.72	0.76	12.56	4.14	245.72	2904.85	6.13	1.99	6.79	6.79
Richland/McKenzie County	D12	RM 38.57	61901	200-yr	4417.4	584.77	577.87	1.75	0.78	13.63	5.43	236.46	2721.38	5.28	2.08	6.9	6.9
Richland/McKenzie County	D12	RM 38.38	61601	200-yr	4417.4	584.75	577.84	1.13	0.63	6.03	3.17	268.55	2507.41	5.35	2.78	6.91	6.91
Richland/McKenzie County	D12	RM 38.2	61301	200-yr	4417.4	584.69	577.82	1.39	0.74	8.18	4	244.45	2363.18	6.17	2.98	6.87	6.87
Richland/McKenzie County	D12	RM 38.01	61008	200-yr	4417.4	584.64	577.81	1.46	0.9	9.56	5.7	307.49	1637.57	5.05	2.99	6.83	6.83
Richland/McKenzie County	D12	RM 37.84	60708	200-yr	4417.4	584.56	577.71	1.66	1.07	14.08	7.67	335.25	1611.6	5.07	2.74	6.85	6.85
Richland/McKenzie County	D12	RM 37.65	60408	200-yr	4417.4	584.55	577.66	1.16	0.87	6.09	4	565.75	1887.78	4.99	3.27	6.89	6.89
Richland/McKenzie County	D12	RM 37.5	60107	200-yr	4417.4	584.51	577.54	1.12	0.98	6.19	4.5	561.58	1593.33	4.53	3.29	6.97	6.97
Richland/McKenzie County	D12	RM 37.35	59808	200-yr	4417.4	584.41	577.37	1.34	1.03	10.04	6.96	427.63	1451.6	4.89	3.37	7.04	7.04
Richland/McKenzie County	D12	RM 37.16	59508	200-yr	4417.4	584.27	577.24	1.9	1.26	17.55	11.23	280.03	1506.09	5.04	3.2	7.03	7.03
Richland/McKenzie County	D12	RM 36.97	59208	200-yr	4417.4	584.17	576.96	2.08	1.29	19.99	10.67	222.26	1787.54	4.91	2.59	7.21	7.21
Richland/McKenzie County	D12	RM 36.78	58908	200-yr	4417.4	584.08	576.87	2.01	1.18	17.46	7.44	217.29	2125.35	5.77	2.43	7.21	7.21
Richland/McKenzie County	D12	RM 36.6	58608	200-yr	4417.4	583.99	576.66	2.06	1.13	17.57	6.51	182.19	2207.86	6.69	2.4	7.33	7.33
Richland/McKenzie County	D12	RM 36.38	58263	200-yr	4389.1	583.82	576.49	2.17	1.31	19.85	6.68	290.42	2133.4	6.26	2.08	7.33	7.33
Richland/McKenzie County	D13	RM 36.23	58011	200-yr	4389.1	583.58	576.43	2.82	1.42	32.65	8.57	199.11	2265.75	6.7	1.73	7.15	7.15
Richland/McKenzie County	D13	RM 36.04	57708	200-yr	4389.1	583.45	576.42	2.86	1.29	34.77	10.11	194.14	2392.33	6.04	1.72	7.03	7.03
Richland/McKenzie County	D13	RM 35.85	57408	200-yr	4389.1	583.41	576.41	2.27	1.11	21.84	7.78	278.61	2552.92	5.19	1.82	7	7
Richland/McKenzie County	D13	RM 35.66	57108	200-yr	4389.1	583.39	576.36	1.69	0.94	12.5	4.47	327.66	2604.06	5.87	2.08	7.03	7.03
Richland/McKenzie County	D13	RM 35.48	56810	200-yr	4389.1	583.27	576.3	2.17	1.02	19.71	6.24	189.87	2524.76	6.27	1.95	6.97	6.97
Richland/McKenzie County	D13	RM 35.29	56508	200-yr	4389.1	583.2	576.19	2.04	1.03	18.14	6.48	216.77	2480.13	5.59	1.96	7.01	7.01
Richland/McKenzie County	D13	RM 35.1	56208	200-yr	4389.1	583.07	576.07	2.04	1.04	17.33	5.4	244.46	2409.63	6.52	1.98	7	7
Richland/McKenzie County	D13	RM 34.92	55908	200-yr	4389.1	582.97	576.09	2.07	1.06	21.34	6.81	254.13	2341.87	6.02	1.9	6.88	6.88
Richland/McKenzie County	D13	RM 34.73	55605	200-yr	4389.1	582.9	575.89	1.75	1.19	13.15	5.74	414.63	1636.79	5.2	2.26	7.01	7.01
Richland/McKenzie County	D13	RM 34.54	55297	200-yr	4389.1	582.83	575.79	1.66	1.16	13.92	6.51	394.66	1749.26	4.67	2.17	7.03	7.03
Richland/McKenzie County	D13	RM 34.36	55008	200-yr	4389.1	582.78	575.75	1.57	0.99	10.14	4.06	323.48	1801.66	6.19	2.46	7.03	7.03
Richland/McKenzie County	D13	RM 34.17	54708	200-yr	4389.1	582.76	575.49	1.38	0.86	8.19	3.72	380.95	1985.58	5.7	2.57	7.27	7.27
Richland/McKenzie County	D13	RM 33.94	54408	200-yr	4389.1	582.73	575.34	1.3	0.86	7.15	3.37	374.48	1866.58	5.82	2.73	7.39	7.39
Richland/McKenzie County	D13	RM 33.76	54079	200-yr	4389.1	582.68	575.12	1.45	0.93	8.93	3.85	286.39	1858.03	5.99	2.54	7.56	7.56
Richland/McKenzie County	D13	RM 33.6	53799	200-yr	4389.1	582.65	574.88	1.38	0.93	8.9	4.51	376.74	1670.23	5.63	2.81	7.77	7.77
Richland/McKenzie County	D13	RM 33.42	53508	200-yr	4389.1	582.58	574.61	1.57	0.94	9.83	4.17	262.09	1648.82	6.8	2.83	7.97	7.97
Richland/McKenzie County	D13	RM 33.23	53208	200-yr	4389.1	582.56	574.45	1.48	0.88	8.73	3.37	209.05	1783.3	7.32	2.78	8.11	8.11
Richland/McKenzie County	D13	RM 33.04	52908	200-yr	4389.1	582.48	574.3	1.76	0.95	12.15	4.09	193.34	1778.96	7.84	2.59	8.18	8.18
Richland/McKenzie County	D13	RM 32.86	52608	200-yr	4389.1	582.37	574.18	2.06	1.01	16.95	6.05	209.27	1691.12	7.36	2.58	8.19	8.19
Richland/McKenzie County	D13	RM 32.67	52308	200-yr	4389.1	582.32	574.18	2	0.91	16.1	6.03	188.53	1818.49	7.18	2.64	8.14	8.14
Richland/McKenzie County	D13	RM 32.48	52008	200-yr	4389.1	582.22	574.04	2.12	0.97	18.36	6.47	196.91	1903.71	6.9	2.37	8.18	8.18
Richland/McKenzie County	D13	RM 32.29	51709	200-yr	4389.1	582.17	574.04	1.88	0.94	14.26	4.82	224.23	1962.11	7.13	2.37	8.13	8.13
Richland/McKenzie County	D13	RM 32.11	51423	200-yr	4389.1	582.11	573.94	1.86	1	13.7	4.32	220.08	1891.83	7.43	2.32	8.17	8.17
Richland/McKenzie County	D13	RM 31.92	51108	200-yr	4389.1	582.07	573.85	1.78	0.99	13.06	6.43	211.85	1913.92	6.67	3.24	8.22	8.22
Richland/McKenzie County	D13	RM 31.73	50809	200-yr	4389.1	582.02	573.72	1.59	0.85	11	4.33	261.37	1790.64	7.47	2.9	8.3	8.3
Richland/McKenzie County	D13	RM 31.51	50462	200-yr	4389.1	581.82	573.24	2.44	1.05	22.69	7.47	162.22	1735.77	7.47	2.4	8.58	8.58
Richland/McKenzie County	D13	RM 31.35	50208	200-yr	4389.1	581.65	573.24	2.77	1.3	31.78	9.92	169.04	1661.22	6.65	2.03	8.41	8.41
Richland/McKenzie County	D13	RM 31.22	50009	200-yr	4389.1	581.54	573.24	2.86	1.34	32.76	9.43	149.68	1616.73	7.23	2.03	8.3	8.3
Richland/McKenzie County	D13	RM 31.12	49859	200-yr	4389.1	581.28	573.24	3.04	2.18	51.5	14.16	196.27	1058.09	6.96	1.9	8.04	8.04
Richland/McKenzie County	D13	RM 30.97	49608	200-yr	4389.1	581.29	573.24	2.37	1.47	22.06	5.53	225.84	1584.8	7.63	1.88	8.05	8.05
Richland/McKenzie County	D13	RM 30.79	49308	200-yr	4389.1	581.08	573.24	2.82	1.62	32.48	8.49	199.27	1537.62	6.88	1.77	7.84	7.84
Richland/McKenzie County	D13	RM 30.6	49009	200-yr	4389.1	580.94	573.24	2.86	1.51	33.72	9.59	187.26	1557.56	6.67	1.86	7.7	7.7
Richland/McKenzie County	D13	RM 30.41	48706	200-yr	4389.1	580.84	573.15	2.6	1.44	29.48	8.93	212.3	1555.41	6.57	1.96	7.69	7.69
Richland/McKenzie County	D13	RM 30.22	48403	200-yr	4389.1	580.75	573.15	2.46	1.34	24.4	7.49	199.03	1757.25	7.13	2.15	7.6	7.6
Richland/McKenzie County	D13	RM 30.03	48102	200-yr	4389.1	580.77	573.15	1.67	1.03	11.41	4.35	315.48	1783.69	6.91	2.56	7.62	7.62

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	200-yr	4389.1	580.73	573.15	1.54	0.96	9.87	4.37	376.84	1815.37	6.38	2.77	7.58	7.58
Richland/McKenzie County	D13	RM 29.66	47508	200-yr	4389.1	580.66	573.11	1.66	0.96	11.75	5.73	393.01	2281.62	5.36	2.57	7.55	7.55
Richland/McKenzie County	D13	RM 29.48	47209	200-yr	4389.1	580.59	573.11	1.66	0.99	11.5	5.24	346.87	1975.52	6.22	2.79	7.48	7.48
Richland/McKenzie County	D13	RM 29.28	46894	200-yr	4389.1	580.54	572.98	1.53	1.09	10.06	4.87	401.07	1535.97	5.82	2.81	7.56	7.56
Richland/McKenzie County	D13	RM 29.1	46608	200-yr	4389.1	580.49	572.94	1.9	1.08	14.93	5.78	169.86	1691.26	6.58	2.5	7.55	7.55
Richland/McKenzie County	D13	RM 28.92	46308	200-yr	4389.1	580.41	572.85	1.98	1.12	15.85	5.21	146.69	1740.5	7.09	2.28	7.56	7.56
Richland/McKenzie County	D13	RM 28.73	46008	200-yr	4389.1	580.38	572.67	1.71	0.98	11.96	4.28	152.03	1867.45	6.83	2.4	7.71	7.71
Richland/McKenzie County	D13	RM 28.54	45708	200-yr	4389.1	580.34	572.67	1.56	0.91	9.87	3.62	201.29	2080.19	6.42	2.32	7.67	7.67
Richland/McKenzie County	D13	RM 28.36	45419	200-yr	4389.1	580.3	572.48	1.54	0.89	9.65	3.59	233.95	1970.67	6.83	2.51	7.82	7.82
Richland/McKenzie County	D13	RM 28.15	45071	200-yr	4389.1	580.23	572.25	1.44	0.99	8.53	3.02	429.8	1972.64	6.43	2.25	7.97	7.97
Richland/McKenzie County	D13	RM 27.98	44808	200-yr	4389.1	580.06	572.04	2.15	1.14	18.54	4.54	236.34	2208.23	7.26	1.75	8.02	8.02
Richland/McKenzie County	D13	RM 27.8	44508	200-yr	4389.1	579.99	571.87	2.14	1.15	17.82	4.05	226.85	2176.53	7.86	1.76	8.12	8.12
Richland/McKenzie County	D14	RM 27.61	44208	200-yr	4389.1	579.93	571.87	2.04	1.09	16.62	4.32	246.37	2146.65	7.32	1.87	8.06	8.06
Richland/McKenzie County	D14	RM 27.43	43916	200-yr	4389.1	579.9	571.87	1.81	0.94	12.9	3.39	261.74	2577.29	7.66	1.98	8.03	8.03
Richland/McKenzie County	D14	RM 27.23	43608	200-yr	4389.1	579.9	571.87	1.43	0.76	7.98	2.28	310.87	2580.07	7.91	2.23	8.03	8.03
Richland/McKenzie County	D14	RM 27.04	43305	200-yr	4389.1	579.85	571.87	1.61	0.78	10.3	3.01	277.5	2670.81	7.38	2.1	7.98	7.98
Richland/McKenzie County	D14	RM 26.86	43008	200-yr	4389.1	579.78	571.87	1.83	0.82	13.14	3.52	229.41	2680.39	7.63	2	7.91	7.91
Richland/McKenzie County	D14	RM 26.67	42708	200-yr	4389.1	579.74	571.87	1.71	0.79	11.51	3.14	252.42	2697.55	7.61	2.05	7.87	7.87
Richland/McKenzie County	D14	RM 26.48	42408	200-yr	4389.1	579.64	571.87	2.07	0.91	16.97	4.32	209.83	2594.23	7.46	1.86	7.77	7.77
Richland/McKenzie County	D14	RM 26.29	42108	200-yr	4389.1	579.53	571.87	2.23	1.01	19.84	4.78	205.84	2499.27	7.35	1.74	7.66	7.66
Richland/McKenzie County	D14	RM 26.11	41808	200-yr	4389.1	579.47	571.87	2	1.02	15.95	3.95	249.58	2421.37	7.3	1.78	7.6	7.6
Richland/McKenzie County	D14	RM 25.92	41508	200-yr	4389.1	579.44	571.87	1.71	0.95	11.69	3.11	305.76	2418.96	7.28	1.91	7.57	7.57
Richland/McKenzie County	D14	RM 25.73	41208	200-yr	4389.1	579.4	571.74	1.69	0.97	11.26	2.92	309.7	2375.3	7.43	1.91	7.66	7.66
Richland/McKenzie County	D14	RM 25.55	40918	200-yr	4389.1	579.35	571.74	1.69	0.96	11.82	3.53	346.01	2412.35	6.39	1.89	7.61	7.61
Richland/McKenzie County	D14	RM 25.37	40619	200-yr	4389.1	579.29	571.74	1.69	0.99	12.2	3.7	353.9	2381.59	6.2	1.86	7.55	7.55
Richland/McKenzie County	D14	RM 25.17	40310	200-yr	4389.1	579.19	571.74	1.84	1.15	15.57	5.21	361.09	2019.18	5.71	1.9	7.45	7.45
Richland/McKenzie County	D14	RM 24.99	40008	200-yr	4389.1	579.14	571.74	1.61	1.07	11.05	3.99	384.4	1775.58	6.44	2.31	7.4	7.4
Richland/McKenzie County	D14	RM 24.8	39703	200-yr	4389.1	579.1	571.71	1.47	1.11	9.63	3.34	401.45	1739.56	7.08	2.44	7.39	7.39
Richland/McKenzie County	D14	RM 24.62	39408	200-yr	4389.1	578.97	571.64	1.97	1.39	16.03	5.08	278.78	1683.88	6.67	2.08	7.33	7.33
Richland/McKenzie County	D14	RM 24.45	39139	200-yr	4389.1	578.74	571.64	2.52	1.85	25.75	6.79	239.98	1578.89	6.87	1.79	7.1	7.1
Richland/McKenzie County	D14	RM 24.24	38801	200-yr	4389.1	578.62	571.58	2.5	1.78	25.39	6.58	237.24	1653.27	6.84	1.75	7.04	7.04
Richland/McKenzie County	D14	RM 24.05	38506	200-yr	4389.1	578.54	571.48	2.32	1.74	21.89	5.65	264.93	1677.07	6.81	1.74	7.06	7.06
Richland/McKenzie County	D14	RM 23.87	38210	200-yr	4389.1	578.55	571.28	1.76	1.3	12.45	3.28	334.4	2056.89	7.07	1.84	7.27	7.27
Richland/McKenzie County	D14	RM 23.66	37912	200-yr	4389.1	578.54	571.21	1.42	1.09	8.35	2.6	442.5	2151.37	6.61	2.04	7.33	7.33
Richland/McKenzie County	D14	RM 23.48	37610	200-yr	4389.1	578.51	571.12	1.49	1.06	9.73	3.32	347.97	2296.99	5.79	1.96	7.39	7.39
Richland/McKenzie County	D14	RM 23.29	37312	200-yr	4389.1	578.44	570.86	1.63	1.05	11.99	4.1	313.75	2270.54	5.67	1.92	7.58	7.58
Richland/McKenzie County	D14	RM 23.1	37006	200-yr	4389.1	578.39	570.82	1.63	0.97	11.82	3.53	254.67	2374.81	6.45	1.9	7.57	7.57
Richland/McKenzie County	D14	RM 22.92	36721	200-yr	4389.1	578.34	570.8	1.67	0.9	11.81	3.32	214.08	2784.54	6.38	1.76	7.54	7.54
Richland/McKenzie County	D14	RM 22.72	36402	200-yr	4389.1	578.24	570.81	2.03	0.91	16.64	3.77	178.19	3087.49	7.04	1.56	7.43	7.43
Richland/McKenzie County	D14	RM 22.54	36108	200-yr	4389.1	578.18	570.76	1.78	0.85	13.27	3.24	276.8	3105.47	6.85	1.66	7.42	7.42
Richland/McKenzie County	D14	RM 22.35	35808	200-yr	4389.1	578.13	570.74	1.67	0.84	11.46	2.8	308.52	3274.38	6.65	1.6	7.39	7.39
Richland/McKenzie County	D14	RM 22.17	35508	200-yr	4389.1	578.09	570.68	1.61	0.81	10.33	2.43	303.06	3249.15	7.21	1.68	7.41	7.41
Richland/McKenzie County	D14	RM 22.02	35264	200-yr	4389.1	578.07	570.68	1.42	0.78	8.09	1.92	354.21	3288.02	7.28	1.7	7.39	7.39
Richland/McKenzie County	D14	RM 21.8	34901	200-yr	4389.1	578.01	570.69	1.52	0.87	9.81	2.5	401.53	3339.78	6.03	1.51	7.32	7.32
Richland/McKenzie County	D14	RM 21.61	34626	200-yr	4389.1	577.96	570.67	1.52	0.95	10.11	2.63	468.94	3306.18	5.45	1.4	7.29	7.29
Richland/McKenzie County	D14	RM 21.34	34140	200-yr	4389.1	577.94	570.67	1.31	0.78	7.09	1.71	289.68	3612.83	6.6	1.57	7.27	7.27
Richland/McKenzie County	D14	RM 21.25	33973	200-yr	4389.1	577.92	570.67	1.48	0.78	9.27	2.33	204.54	3814.59	6.1	1.5	7.25	7.25
Richland/McKenzie County	D14	RM 21.06	33672	200-yr	4389.1	577.91	570.6	1.19	0.63	5.93	1.74	267.5	3839.48	6.22	1.81	7.31	7.31
Richland/McKenzie County	D14	RM 20.9	33400	200-yr	4389.1	577.89	570.58	1.2	0.64	6.18	1.98	251.38	3797.13	5.74	1.81	7.31	7.31
Richland/McKenzie County	D14	RM 20.71	33101	200-yr	4389.1	577.85	570.53	1.4	0.66	8.42	2.54	247.47	3746.43	6.01	1.79	7.32	7.32
Richland/McKenzie County	D14	RM 20.52	32800	200-yr	4389.1	577.82	570.52	1.35	0.63	7.58	2.14	280.27	3882.13	6.42	1.79	7.3	7.3
Richland/McKenzie County	D14	RM 20.34	32500	200-yr	4389.1	577.79	570.52	1.4	0.65	8.16	2.15	256.92	3976.65	6.52	1.7	7.27	7.27
Richland/McKenzie County	D14	RM 20.15	32200	200-yr	4389.1	577.75	570.52	1.5	0.67	10.87	2.72	231.21	3967.27	6.68	1.65	7.23	7.23
Richland/McKenzie County	D14	RM 19.96	31900	200-yr	4389.1	577.61	570.52	2.12	0.77	18.47	3.99	189.46	3991.76	6.79	1.43	7.09	7.09
Richland/McKenzie County	D14	RM 19.77	31600	200-yr	4389.1	577.61	570.5	1.43	0.64	8.41	2.13	332.93	4189.25	6.58	1.65	7.11	7.11
Richland/McKenzie County	D14	RM 19.59	31297	200-yr	4389.1	577.59	570.45	1.34	0.6	7.68	2.04	334.34	4412.73	6.3	1.66	7.14	7.14
Richland/McKenzie County	D14	RM 19.4	30995	200-yr	4389.1	577.56	570.45	1.39	0.57	8.19	2.37	284.81	4374.5	6.12	1.75	7.11	7.11
Richland/McKenzie County	D14	RM 19.21	30710	200-yr	4389.1	577.54	570.38	1.08	0.5	4.78	1.46	380.6	4263.01	6.73	2.04	7.16	7.16
Richland/McKenzie County	D14	RM 19.03	30402	200-yr	4389.1	577.52	570.38	1.07	0.51	4.71	1.52	428.38	4390.24	6.09	1.94	7.14	7.14
Richland/McKenzie County	D14	RM 18.83	30086	200-yr	4389.1	577.51	570.38	0.99	0.48	4.17	1.57	505.09	4732.82	5.19	1.93	7.13	7.13
Richland/McKenzie County	D14	RM 18.66	29802	200-yr	4389.1	577.49	570.38	0.99	0.45	4.42	1.64	455.27	5093.46	5.21	1.9	7.11	7.11

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	200-yr	4389.1	577.46	570.36	1.23	0.49	6.51	1.99	299.05	5191.12	5.76	1.72	7.1	7.1
Richland/McKenzie County	D14	RM 18.28	29197	200-yr	4389.1	577.41	570.36	1.34	0.52	7.66	1.96	299.23	5118.11	6.49	1.65	7.05	7.05
Richland/McKenzie County	D14	RM 17.89	28624	200-yr	4389.1	577.38	570.33	1.03	0.51	4.26	1.11	468.41	4771.75	6.92	1.79	7.05	7.05
Richland/McKenzie County	D14	RM 17.56	27975	200-yr	4389.1	577.28	570.29	1.39	0.7	8.38	2.17	460.6	4350.06	5.63	1.45	6.99	6.99
Richland/McKenzie County	D14	RM 17.36	27539	200-yr	4389.1	577.05	570.31	2.23	1.01	20.7	3.52	254.84	4024.63	6.45	1.08	6.74	6.74
Richland/McKenzie County	D14	RM 17.1	27113	200-yr	4389.1	576.98	570.28	1.94	0.93	15.55	2.79	298.39	4161.38	6.47	1.15	6.7	6.7
Richland/McKenzie County	D14	RM 16.74	26537	200-yr	4389.1	576.94	570.14	1.44	0.77	8.5	1.85	406.85	4378.1	6.45	1.4	6.8	6.8
Richland/McKenzie County	D14	RM 16.35	25925	200-yr	4389.1	576.88	569.46	1.4	0.72	7.83	1.78	346.21	3900.63	7.2	1.62	7.42	7.42
Richland/McKenzie County	D14	RM 16.17	25629	200-yr	4389.1	576.85	569.2	1.33	0.7	7.35	1.76	377.41	4238.09	7.18	1.7	7.65	7.65
Richland/McKenzie County	D14	RM 15.95	25324	200-yr	4389.1	576.84	568.99	1.11	0.67	4.82	1.26	457.34	4056.86	7.65	1.98	7.85	7.85
Richland/McKenzie County	D14	RM 15.75	25032	200-yr	4389.1	576.81	568.85	1.22	0.78	5.97	1.59	462.46	3491.92	7.08	1.87	7.96	7.96
Richland/McKenzie County	D14	RM 15.56	24777	200-yr	4389.1	576.66	568.85	1.93	1.13	14.85	2.97	291.53	3086.56	7.18	1.41	7.81	7.81
Richland/McKenzie County	D14	RM 15.34	24438	200-yr	4389.1	576.58	568.79	2.01	1.14	15.99	3.18	261.89	2613.61	7.54	1.48	7.79	7.79
Richland/McKenzie County	D14	RM 15.16	24144	200-yr	4389.1	576.52	568.75	1.99	1.16	15.62	3.09	267.44	3120.65	7.52	1.46	7.77	7.77
Richland/McKenzie County	D14	RM 14.98	23841	200-yr	4389.1	576.44	568.76	2.07	1.2	18.93	4.05	254.68	3123.86	7.43	1.57	7.68	7.68
Richland/McKenzie County	D14	RM 14.79	23543	200-yr	4389.1	576.37	568.72	2.01	1.21	16.69	4.28	286.41	3218.51	6.85	1.73	7.65	7.65
Richland/McKenzie County	D14	RM 14.61	23241	200-yr	4389.1	576.29	568.7	2.03	1.32	16.37	3.5	274.36	3410.95	7.31	1.54	7.59	7.59
Richland/McKenzie County	D14	RM 14.42	22940	200-yr	4389.1	576.28	568.69	1.69	1.17	11.33	2.91	328.42	3233.84	7.38	1.88	7.59	7.59
Richland/McKenzie County	D14	RM 14.23	22647	200-yr	4389.1	576.28	568.67	1.28	0.95	6.55	2.09	444.61	3207.7	7.24	2.29	7.61	7.61
Richland/McKenzie County	D14	RM 14.05	22341	200-yr	4389.1	576.27	568.68	1.09	0.89	6.72	2.9	601.92	2983.18	6.41	2.75	7.59	7.59
Richland/McKenzie County	D14	RM 13.88	22040	200-yr	4389.1	576.22	568.67	1.15	0.99	6.74	3.24	682.22	2866.58	5.4	2.58	7.55	7.55
Richland/McKenzie County	D14	RM 13.7	21728	200-yr	4389.1	576.13	568.65	1.47	1.26	9.63	4.03	502.19	2203.71	5.74	2.39	7.48	7.48
Richland/McKenzie County	D14	RM 13.51	21429	200-yr	4389.1	576.07	568.63	1.56	1.31	9.95	3.5	409.72	1827.77	6.65	2.33	7.44	7.44
Richland/McKenzie County	D15	RM 13.31	21145	200-yr	4389.1	576.05	568.51	1.4	1.19	8.11	2.87	457.14	2577.1	6.67	2.35	7.54	7.54
Richland/McKenzie County	D15	RM 13.12	20858	200-yr	4389.1	575.95	568.39	1.72	1.44	11.74	3.07	344.8	2807.34	7.24	1.88	7.56	7.56
Richland/McKenzie County	D15	RM 12.9	20507	200-yr	4389.1	575.83	568.39	1.97	1.61	15.53	3.92	303.98	2627.24	7.12	1.78	7.44	7.44
Richland/McKenzie County	D15	RM 12.73	20241	200-yr	4389.1	575.77	568.35	2	1.62	15.94	3.46	297.97	2810.73	7.2	1.54	7.42	7.42
Richland/McKenzie County	D15	RM 12.56	19961	200-yr	4389.1	575.74	568.34	1.75	1.4	12.17	3.03	337.44	2400.49	7.24	1.78	7.4	7.4
Richland/McKenzie County	D15	RM 12.38	19686	200-yr	4389.1	575.74	568.23	1.4	1.12	7.89	2.21	425.75	2085.57	7.1	1.96	7.51	7.51
Richland/McKenzie County	D15	RM 12.21	19384	200-yr	4389.1	575.71	568.17	1.35	1.02	7.95	2.54	513.36	2554.81	5.86	1.85	7.54	7.54
Richland/McKenzie County	D15	RM 11.99	19084	200-yr	4389.1	575.68	568.16	1.27	0.98	7.38	2.53	592.13	2546.46	5.5	1.87	7.52	7.52
Richland/McKenzie County	D15	RM 11.53	18484	200-yr	4389.1	575.59	568.11	1.27	0.9	6.27	2.34	693.79	2968.81	4.44	1.65	7.48	7.48
Richland/McKenzie County	D15	RM 11.34	18216	200-yr	4389.1	575.54	568.06	1.13	0.91	20.58	7.92	710.89	2814.19	4.49	1.71	7.48	7.48
Richland/McKenzie County	D15	RM 11.17	17885	200-yr	4389.1	575.33	567.88	1.29	1.1	27.39	10.37	777.3	2693.68	3.93	1.48	7.45	7.45
Richland/McKenzie County	D15	RM 10.97	17584	200-yr	4389.1	575.24	567.8	1.26	0.99	6.44	2.41	780.34	2872.36	4.18	1.55	7.44	7.44
Richland/McKenzie County	D15	RM 10.75	17284	200-yr	4389.1	575.21	567.79	1.16	0.89	5.47	2.02	717.39	2782.24	4.9	1.8	7.42	7.42
Richland/McKenzie County	D15	RM 10.53	16964	200-yr	4389.1	575.16	567.73	1.29	0.92	6.84	2.43	641.5	2861.34	4.77	1.68	7.43	7.43
Richland/McKenzie County	D15	RM 10.35	16670	200-yr	4389.1	575.11	567.73	1.36	0.89	8.27	2.81	517.24	2764.11	5.31	1.78	7.38	7.38
Richland/McKenzie County	D15	RM 10.15	16384	200-yr	4389.1	575.07	567.73	1.46	0.8	8.57	2.27	251.85	2969.33	7.04	1.84	7.34	7.34
Richland/McKenzie County	D15	RM 9.94	16084	200-yr	4389.1	575.06	567.73	1.16	0.71	5.45	1.54	272.39	3233.41	6.85	1.92	7.33	7.33
Richland/McKenzie County	D15	RM 9.76	15797	200-yr	4389.1	575.01	567.65	1.3	0.74	6.81	2.04	352.04	3125.25	6.47	1.92	7.36	7.36
Richland/McKenzie County	D15	RM 9.57	15487	200-yr	4389.1	574.95	567.58	1.52	0.82	9.23	2.14	245.67	3566.18	7.16	1.64	7.37	7.37
Richland/McKenzie County	D15	RM 9.37	15187	200-yr	4389.1	574.87	567.58	1.78	0.97	12.78	2.69	203.96	3099.06	7.08	1.47	7.29	7.29
Richland/McKenzie County	D15	RM 9.24	14963	200-yr	4389.1	574.63	567.5	2.47	1.5	25.09	4.98	234.33	2255.68	6.66	1.3	7.13	7.13
Richland/McKenzie County	D15	RM 9.1	14741	200-yr	4389.1	574.54	567.39	2.47	1.46	25.68	5.32	231.83	2222.84	6.61	1.35	7.15	7.15
Richland/McKenzie County	D15	RM 9.03	14639	200-yr	4389.1	574.47	567.4	2.53	1.59	26.84	5.74	248.61	2070.52	6.24	1.33	7.07	7.07
Richland/McKenzie County	D15	RM 8.82	14300	200-yr	4389.1	574.52	567.41	1.52	1.03	9.44	2.76	381.12	2213.05	6.64	1.93	7.11	7.11
Richland/McKenzie County	D15	RM 8.61	13963	200-yr	4389.1	574.47	567.39	1.61	0.98	10.55	3.39	313.8	2320.11	6.57	2.09	7.08	7.08
Richland/McKenzie County	D15	RM 8.44	13687	200-yr	4389.1	574.41	567.32	1.77	0.98	12.8	4.01	258.5	2404.4	6.83	2.12	7.09	7.09
Richland/McKenzie County	D15	RM 8.24	13387	200-yr	4389.1	574.31	567.32	1.96	1.19	15.6	6.94	229.73	1226.68	6.83	3	6.99	6.99
Richland/McKenzie County	D15	RM 8.05	13080	200-yr	4389.1	574.24	567.05	1.87	1.2	14.23	5.47	266.23	1375.56	6.94	2.65	7.19	7.19
Richland/McKenzie County	D15	RM 7.87	12786	200-yr	4389.1	574.13	567.05	2.1	1.34	17.87	7.37	229.92	1173.5	6.84	2.8	7.08	7.08
Richland/McKenzie County	D15	RM 7.69	12506	200-yr	4389.1	574.06	567.05	2.01	1.52	16.5	7.37	266.56	954.78	6.79	3.02	7.01	7.01
Richland/McKenzie County	D15	RM 7.48	12179	200-yr	4389.1	574.01	566.95	1.73	1.58	12.18	4.53	361.54	1082.65	6.91	2.56	7.06	7.06
Richland/McKenzie County	D16	RM 7.3	11891	200-yr	4389.1	573.92	566.76	1.93	1.73	15.15	5.83	337.01	999.02	6.65	2.54	7.16	7.16
Richland/McKenzie County	D16	RM 7.14	11639	200-yr	4389.1	573.86	566.76	1.93	1.65	15.54	6.03	324.06	1100.34	6.28	2.42	7.1	7.1
Richland/McKenzie County	D16	RM 6.94	11319	200-yr	4389.1	573.8	566.76	1.85	1.36	13.89	4.86	297.15	1359.4	6.85	2.38	7.04	7.04
Richland/McKenzie County	D16	RM 6.77	11043	200-yr	4389.1	573.78	566.76	1.59	1.16	10.45	3.9	349.25	1595.03	6.55	2.43	7.02	7.02
Richland/McKenzie County	D16	RM 6.58	10733	200-yr	4389.1	573.75	566.59	1.49	1.03	9.07	3.24	342.3	1859.78	6.78	2.4	7.16	7.16
Richland/McKenzie County	D16	RM 6.38	10417	200-yr	4389.1	573.64	566.59	2.05	1.02	17.08	4.77	182.43	2458.83	6.82	1.87	7.05	7.05
Richland/McKenzie County	D16	RM 6.21	10138	200-yr	4389.1	573.59	566.44	1.84	0.92	13.75	3.91	217.11	2639.04	6.89	1.93	7.15	7.15

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	200-yr	4389.1	573.58	566.17	1.33	0.82	7.28	2.27	412.46	2861.08	6.61	2.05	7.41	7.41
Richland/McKenzie County	D16	RM 5.83	9551	200-yr	4389.1	573.57	565.96	1.13	0.74	5.2	1.62	480.72	3218.54	6.9	2.14	7.61	7.61
Richland/McKenzie County	D16	RM 5.67	9297	200-yr	4389.1	573.54	565.96	1.31	0.79	7.05	2.12	342.29	3494.05	6.79	2.01	7.58	7.58
Richland/McKenzie County	D16	RM 5.43	8926	200-yr	4389.1	573.47	565.96	1.59	0.88	10.72	2.74	269.78	3673.43	6.18	1.56	7.51	7.51
Richland/McKenzie County	D16	RM 5.25	8623	200-yr	4389.1	573.19	565.96	2.5	1.3	25.28	5.16	206.77	2838.17	6.96	1.4	7.23	7.23
Richland/McKenzie County	D16	RM 5.06	8331	200-yr	4389.1	573.19	565.82	1.89	1.12	14.41	3.1	289.25	3025.27	6.92	1.47	7.37	7.37
Richland/McKenzie County	D16	RM 4.87	8029	200-yr	4389.1	573.18	565.67	1.48	0.95	8.98	2.07	335.83	3187.53	6.63	1.51	7.51	7.51
Richland/McKenzie County	D16	RM 4.71	7757	200-yr	4389.1	573.12	565.54	1.73	1.04	12.07	2.76	253.72	2645.47	7.15	1.61	7.58	7.58
Richland/McKenzie County	D16	RM 4.53	7456	200-yr	4389.1	572.98	565.54	2.19	1.16	19.26	3.94	199	4143.5	7.2	1.44	7.44	7.44
Richland/McKenzie County	D16	RM 4.34	7156	200-yr	4389.1	572.93	565.54	1.94	1.05	18.21	3.69	218.3	4434.59	7.01	1.39	7.39	7.39
Richland/McKenzie County	D16	RM 4.17	6884	200-yr	4389.1	572.84	565.54	2.02	1.08	16.48	3.83	226.72	4016.27	7.02	1.6	7.3	7.3
Richland/McKenzie County	D16	RM 3.96	6550	200-yr	4389.1	572.83	565.54	1.64	0.96	10.81	3.05	216.6	3625.78	7.02	1.95	7.29	7.29
Richland/McKenzie County	D16	RM 3.78	6249	200-yr	4389.1	572.77	565.54	1.75	1	12.75	3.82	196.52	3399.42	6.44	1.9	7.23	7.23
Richland/McKenzie County	D16	RM 3.55	5904	200-yr	4389.1	572.7	565.54	1.74	1.06	12.23	2.89	206.04	3791.43	6.97	1.63	7.16	7.16
Richland/McKenzie County	D16	RM 3.38	5657	200-yr	4389.1	572.6	565.53	2.15	1.24	18.93	5.29	171.27	3122.57	6.81	1.86	7.07	7.07
Richland/McKenzie County	D16	RM 3.2	5363	200-yr	4389.1	572.52	565.54	2.22	1.25	20.87	5.7	168.06	3553.44	6.11	1.63	6.98	6.98
Richland/McKenzie County	D16	RM 3.01	5062	200-yr	4389.1	572.42	565.54	1.99	1.2	16.62	4.71	310	3275.36	6.25	1.74	6.88	6.88
Richland/McKenzie County	D16	RM 2.82	4763	200-yr	4389.1	572.37	565.46	1.72	1.1	13.06	4.03	423.69	3481.65	5.41	1.65	6.91	6.91

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	1% - 100yr	1209.3	1282.06	1278.12	2.93	2.37	44.33	24.02	110.15	446.63	3.39	1.81	3.94	3.94
Sweet Grass County	A1	RM 478.10	225378	1% - 100yr	1209.3	1281.55	1277.66	3.63	3.21	75	48.05	115.1	450.95	2.48	1.59	3.89	3.89
Sweet Grass County	A1	RM 478.00	224862	1% - 100yr	1209.3	1281.05	1277.97	3.5	3.25	72.91	59.87	137.18	402.78	2.18	1.79	3.09	3.09
Sweet Grass County	A1	RM 477.91	224362	1% - 100yr	1209.3	1280.48	1277.65	3.91	3.21	81.1	54.31	87.4	406.04	2.43	1.62	2.83	2.83
Sweet Grass County	A1	RM 477.81	223862	1% - 100yr	1209.3	1280.09	1276.96	3.4	2.9	52.31	39.53	127.31	343.41	2.05	1.54	3.13	3.13
Sweet Grass County	A1	RM 477.72	223354	1% - 100yr	1209.3	1279.75	1276.32	2.71	2.35	46.61	32.41	185.03	477.52	1.8	1.25	3.43	3.43
Sweet Grass County	A1	RM 477.63	222892	1% - 100yr	1209.3	1279.67	1275.76	1.68	1.54	17.06	11.66	265.16	723.56	2.12	1.44	3.91	3.91
Sweet Grass County	A1	RM 477.49	222220	1% - 100yr	1209.3	1279.49	1276.07	1.76	1.48	16.95	11.62	256.97	797.53	1.98	1.35	3.42	3.42
Sweet Grass County	A1	RM 477.40	221702	1% - 100yr	1209.3	1279.44	1275.47	1.38	1.02	10.52	6.85	242.4	860.79	2.72	1.76	3.97	3.97
Sweet Grass County	A1	RM 477.31	221259	1% - 100yr	1209.3	1278.96	1275.74	3.13	1.76	54.38	20.96	122.71	845.5	2.69	1.03	3.21	3.21
Sweet Grass County	A1	RM 477.21	220767	1% - 100yr	1209.3	1278.74	1275.28	2.88	1.72	44.54	16.43	126.43	853.97	2.93	1.08	3.46	3.46
Sweet Grass County	A1	RM 477.11	220252	1% - 100yr	1209.3	1278.43	1274.86	3.01	1.78	53.19	25.41	147.45	815.94	2.28	1.09	3.57	3.57
Sweet Grass County	A1	RM 477.04	219860	1% - 100yr	1209.3	1278.13	1275.13	3.12	1.77	55.91	26.62	131.95	834.27	2.41	1.15	3	3
Sweet Grass County	A1	RM 476.95	219422	1% - 100yr	1209.3	1277.62	1274.55	3.42	2.17	71.77	34.4	155.66	787.37	1.98	0.95	3.07	3.07
Sweet Grass County	A1	RM 476.84	218828	1% - 100yr	1209.3	1277.31	1273.95	2.82	1.99	45.97	23.02	134.66	761.37	2.37	1.18	3.36	3.36
Sweet Grass County	A1	RM 476.75	218345	1% - 100yr	1209.3	1277.02	1273.54	2.72	2	39.62	20.22	172.58	781.16	2.3	1.17	3.48	3.48
Sweet Grass County	A1	RM 476.66	217855	1% - 100yr	1209.3	1276.69	1273.45	2.9	1.93	45.51	21.84	160.17	883.7	2.27	1.09	3.24	3.24
Sweet Grass County	A1	RM 476.57	217396	1% - 100yr	1209.3	1276.31	1273.09	3.36	1.96	62.25	27.05	98.93	862.15	2.75	1.19	3.22	3.22
Sweet Grass County	A1	RM 476.47	216861	1% - 100yr	1209.3	1275.95	1273.04	3.15	2.11	57.06	24.98	126.17	836.78	2.4	1.05	2.92	2.92
Sweet Grass County	A1	RM 476.38	216362	1% - 100yr	1209.3	1275.71	1272.1	2.93	1.81	46.55	20.71	105.41	907.15	2.9	1.28	3.62	3.62
Sweet Grass County	A1	RM 476.28	215816	1% - 100yr	1209.3	1275	1271.85	3.88	3.32	85.58	43.58	100.31	476.58	2.51	1.27	3.14	3.14
Sweet Grass County	A1	RM 476.15	215126	1% - 100yr	1209.3	1274.5	1271.76	3.24	2.61	62.22	36.99	133.16	577.01	2.19	1.3	2.74	2.74
Sweet Grass County	A1	RM 476.01	214437	1% - 100yr	1209.3	1274.2	1270.96	2.55	2.34	36.93	25.91	153.37	417.79	2.51	1.75	3.24	3.24
Sweet Grass County	A1	RM 475.91	213787	1% - 100yr	1209.3	1273.73	1270.35	2.87	2.67	46.85	40.99	163.38	210.21	2.5	2.19	3.38	3.38
Sweet Grass County	A1	RM 475.76	213072	1% - 100yr	1209.3	1273.24	1270.22	3.08	2.4	53.89	33.76	146.41	324.5	2.48	1.55	3.02	3.02
Sweet Grass County	A1	RM 475.63	212347	1% - 100yr	1209.3	1273.02	1269.34	2.39	2.01	31.41	23.6	173.18	289.27	2.77	2.08	3.67	3.67
Sweet Grass County	A1	RM 475.47	211539	1% - 100yr	1209.3	1272.5	1268.97	2.94	2.84	46.36	38.84	144.1	179.61	2.83	2.37	3.52	3.52
Sweet Grass County	A1	RM 475.35	210875	1% - 100yr	1209.3	1271.79	1268.88	3.68	3.39	75.36	46.8	120.05	224.25	2.7	1.67	2.91	2.91
Sweet Grass County	A1	RM 475.24	210333	1% - 100yr	1209.3	1271.81	1267.53	2.53	2.21	31.51	21.01	118.16	324.85	3.88	2.57	4.28	4.28
Sweet Grass County	A2	RM 475.12	209673	1% - 100yr	1209.3	1270.8	1267.9	4.33	3.76	109.75	72.71	116.67	253.09	2.3	1.52	2.9	2.9
Sweet Grass County	A2	RM 475.00	209034	1% - 100yr	1209.3	1270.09	1266.93	3.35	3.35	67.08	66.87	166.79	170.71	2.16	2.16	3.16	3.16
Sweet Grass County	A2	RM 474.87	208359	1% - 100yr	1209.3	1269.92	1266.75	2.54	2.3	34.71	26	80.83	298.88	3.03	2.22	3.17	3.17
Sweet Grass County	A2	RM 474.76	207797	1% - 100yr	1209.3	1269.37	1266.42	3.53	2.76	68.79	34.67	77.58	363.63	2.77	1.37	2.96	2.96
Sweet Grass County	A2	RM 474.67	207305	1% - 100yr	1209.3	1268.9	1266.29	3.64	3.02	75.58	47.24	66.54	291.3	2.55	1.55	2.61	2.61
Sweet Grass County	A2	RM 474.54	206635	1% - 100yr	1209.3	1268.62	1264.92	2.7	2.31	39.41	21.49	128.46	334.54	2.88	1.57	3.7	3.7
Sweet Grass County	A2	RM 474.43	205945	1% - 100yr	1209.3	1268.28	1265.16	2.92	2.13	46.12	18.74	89.64	484.96	2.94	1.17	3.12	3.12
Sweet Grass County	A2	RM 474.30	205321	1% - 100yr	1209.3	1268.05	1264.46	2.61	1.71	36.45	16.47	133.71	575.07	2.97	1.33	3.59	3.59
Sweet Grass County	A2	RM 474.21	204877	1% - 100yr	1209.3	1267.57	1264.22	3.45	2.18	63.89	21.36	103.15	561.87	2.98	0.99	3.35	3.35
Sweet Grass County	A2	RM 474.12	204378	1% - 100yr	1209.3	1267.47	1263.24	2.63	1.64	37.71	15.94	140.42	800.31	2.83	1.18	4.22	4.22
Sweet Grass County	A2	RM 474.01	203787	1% - 100yr	1209.3	1266.86	1263.55	3.41	2.37	67.66	29.43	138.78	560.03	2.34	1.01	3.32	3.32
Sweet Grass County	A2	RM 473.87	203072	1% - 100yr	1209.3	1266.42	1263.52	3.21	2.21	56.17	19.17	100.52	821.54	2.56	0.87	2.9	2.9
Sweet Grass County	A2	RM 473.74	202395	1% - 100yr	1209.3	1266.1	1263.06	2.71	1.94	41.31	17.67	121.34	749.38	2.58	1.1	3.04	3.04
Sweet Grass County	A2	RM 473.62	201781	1% - 100yr	1209.3	1265.76	1262.63	2.77	1.85	44.7	19.62	150.66	748.29	2.31	1.01	3.13	3.13
Sweet Grass County	A2	RM 473.50	201110	1% - 100yr	1209.3	1265.44	1261.83	2.48	1.91	35.51	17.89	179.13	702.92	2.43	1.21	3.61	3.61
Sweet Grass County	A2	RM 473.36	200362	1% - 100yr	1209.3	1265.18	1261.08	2.47	1.91	31.51	13.41	133.21	653.48	3.37	1.42	4.1	4.1
Sweet Grass County	A2	RM 473.27	199862	1% - 100yr	1209.3	1264.9	1260.81	2.89	2.28	44.16	21.7	117.77	505.95	3.15	1.54	4.1	4.1
Sweet Grass County	A2	RM 473.17	199362	1% - 100yr	1209.3	1264.65	1260.56	2.98	2.43	44.18	15.82	102.94	374.41	3.75	1.33	4.09	4.09
Sweet Grass County	A2	RM 473.08	198879	1% - 100yr	1209.3	1264.17	1260.56	3.62	3.14	69.46	37.66	105	277.52	3.07	1.66	3.61	3.61
Sweet Grass County	A2	RM 472.98	198340	1% - 100yr	1209.3	1264.02	1260.21	2.98	2.46	46.57	20.11	120.55	397.11	3.19	1.37	3.81	3.81
Sweet Grass County	A2	RM 472.89	197862	1% - 100yr	1209.3	1263.41	1260.5	3.89	2.76	85.48	36.07	108.06	427.08	2.56	1.08	2.91	2.91
Sweet Grass County	A2	RM 472.79	197362	1% - 100yr	1209.3	1263.14	1259.98	3.18	2.39	57.28	22.7	136.27	507.72	2.53	1	3.15	3.15
Sweet Grass County	A2	RM 472.70	196862	1% - 100yr	1209.3	1262.56	1259.35	3.67	2.63	78.29	36.11	125.74	429.42	2.32	1.07	3.21	3.21
Sweet Grass County	A2	RM 472.60	196360	1% - 100yr	1209.3	1262.46	1259.01	2.42	1.94	34.24	21.08	181.89	447.94	2.26	1.39	3.45	3.45
Sweet Grass County	A2	RM 472.50	195816	1% - 100yr	1209.3	1262.17	1258.53	2.52	2	37.34	24.53	177.8	403.82	2.29	1.5	3.64	3.64
Sweet Grass County	A2	RM 472.41	195349	1% - 100yr	1209.3	1261.86	1258.52	2.63	2.2	41.27	27.59	198.55	382.37	2.16	1.44	3.34	3.34
Sweet Grass County	A2	RM 472.31	194860	1% - 100yr	1209.3	1261.66	1258.34	2.5	1.92	33.92	18.43	149.41	440.71	2.89	1.57	3.33	3.33
Sweet Grass County	A2	RM 472.22	194356	1% - 100yr	1209.3	1261.52	1257.3	2.53	1.75	30.93	14.25	115.58	449.8	3.4	1.53	4.22	4.22
Sweet Grass County	A2	RM 472.09	193660	1% - 100yr	1209.3	1260.66	1257.45	4.08	2.8	92.46	33.38	93.59	444.75	2.77	0.97	3.2	3.2
Sweet Grass County	A2	RM 471.95	192935	1% - 100yr	1209.3	1260.66	1256.05	2.51	1.64	31.26	14.17	103.53	428.72	3.86	1.72	4.61	4.61
Sweet Grass County	A2	RM 471.86	192442	1% - 100yr	1209.3	1260.06	1256.23	3.88	2.47	78.05	34.62	76.65	335.66	3.36	1.46	3.82	3.82
Sweet Grass County	A2	RM 471.75	191870	1% - 100yr	1209.3	1259.93	1256.47	2.77	1.96	41.26	21.45	134.52	490.58	2.92	1.52	3.46	3.46

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	1% - 100yr	1209.3	1259.17	1256.54	3.92	2.83	89.77	36.49	124.48	460.93	2.29	0.93	2.63	2.63
Sweet Grass County	A2	RM 471.52	190686	1% - 100yr	1209.3	1258.87	1255.75	2.81	1.84	43.41	16.25	127.76	681.64	2.75	1.02	3.13	3.13
Sweet Grass County	A2	RM 471.38	189910	1% - 100yr	1209.3	1258.17	1255.44	3.34	2.31	71.6	32.32	150.55	670.59	1.73	0.78	2.73	2.73
Sweet Grass County	A2	RM 471.28	189362	1% - 100yr	1209.3	1257.61	1254.65	2.6	2.12	45.71	28.43	228.65	616.41	1.48	0.92	2.96	2.96
Sweet Grass County	A2	RM 471.18	188875	1% - 100yr	1209.3	1257.24	1254.2	2.7	2.1	39.16	21.89	155.58	555.49	1.86	1.04	3.04	3.04
Sweet Grass County	A2	RM 471.06	188150	1% - 100yr	1209.3	1256.9	1253.95	2.36	1.59	34.02	19.96	140.6	653.89	1.99	1.17	2.95	2.95
Sweet Grass County	A2	RM 470.94	187526	1% - 100yr	1209.3	1256.49	1253.58	2.79	1.95	42.99	21.24	108.67	573.72	2.35	1.16	2.91	2.91
Sweet Grass County	A2	RM 470.84	186938	1% - 100yr	1209.3	1256.23	1252.88	2.42	1.74	34.92	20.34	157.2	634.85	2.16	1.25	3.35	3.35
Sweet Grass County	A2	RM 470.73	186362	1% - 100yr	1209.3	1256.08	1253.49	1.83	1.59	20.59	14.66	189.13	600.34	1.95	1.39	3.02	3.02
Sweet Grass County	A2	RM 470.65	185977	1% - 100yr	1209.3	1255.83	1252.18	2.27	1.8	29.62	15.92	202.91	653.99	2.44	1.3	3.65	3.65
Sweet Grass County	A2	RM 470.56	185491	1% - 100yr	1209.3	1255.7	1252.52	2.1	1.63	24.88	14.15	189.32	674.02	2.59	1.46	3.18	3.18
Sweet Grass County	A2	RM 470.44	184875	1% - 100yr	1209.3	1255.58	1251.39	1.94	1.46	19.24	10.81	158.35	429.96	3.46	1.92	4.19	4.19
Sweet Grass County	A2	RM 470.35	184363	1% - 100yr	1209.3	1254.61	1251.52	4.24	3.55	103.34	59.62	113.84	247.1	2.4	1.38	3.08	3.08
Sweet Grass County	A2	RM 470.23	183828	1% - 100yr	1209.3	1254.32	1251.51	2.93	2.46	51.34	33.99	180.8	345.69	2.14	1.42	2.81	2.81
Sweet Grass County	A2	RM 470.13	183304	1% - 100yr	1209.3	1254.07	1249.86	2.57	2.26	38.54	30.22	162.28	292.96	2.34	1.82	4.22	4.22
Sweet Grass County	A2	RM 470.05	182914	1% - 100yr	1209.3	1253.97	1250.59	2.16	1.95	26.9	21.6	175.23	319.09	2.42	1.94	3.37	3.37
Sweet Grass County	A2	RM 469.93	182267	1% - 100yr	1209.3	1253.13	1249.62	3.78	3.24	79.25	38.83	105.63	285.79	2.69	1.31	3.51	3.51
Sweet Grass County	A2	RM 469.85	181860	1% - 100yr	1209.3	1252.79	1249.59	3.77	2.84	77.67	33.4	96.24	366.16	2.82	1.21	3.2	3.2
Sweet Grass County	A2	RM 469.75	181348	1% - 100yr	1209.3	1252.76	1248.77	2.55	1.91	34.16	16.28	116.21	419.4	3.2	1.51	3.99	3.99
Sweet Grass County	A2	RM 469.68	180952	1% - 100yr	1209.3	1252.48	1249.31	2.88	2.04	45.62	21.39	135.73	458.98	2.76	1.29	3.17	3.17
Sweet Grass County	A2	RM 469.58	180427	1% - 100yr	1209.3	1252.44	1247.94	2.18	1.56	23.73	12.5	130.56	396.26	3.74	1.95	4.5	4.5
Sweet Grass County	A2	RM 469.47	179860	1% - 100yr	1209.3	1252.07	1247.85	3.06	2.02	45.71	21.25	93.72	365.36	3.57	1.64	4.22	4.22
Sweet Grass County	A2	RM 469.39	179400	1% - 100yr	1209.3	1251.72	1248.45	3.35	2.51	62.22	36.55	118.53	305.8	2.69	1.57	3.27	3.27
Sweet Grass County	A2	RM 469.30	178975	1% - 100yr	1209.3	1251.67	1247.55	2.66	1.97	35.68	17.25	106.16	353.39	3.66	1.74	4.12	4.12
Sweet Grass County	A2	RM 469.21	178467	1% - 100yr	1209.3	1251.05	1248.31	3.81	2.8	82.79	38.82	107.26	373.46	2.47	1.15	2.74	2.74
Sweet Grass County	A2	RM 469.09	177862	1% - 100yr	1209.3	1250.76	1247.12	2.28	1.63	29.26	16.03	118.23	528.72	2.57	1.4	3.64	3.64
Sweet Grass County	A2	RM 469.00	177350	1% - 100yr	1209.3	1250.11	1247.58	3.79	2.53	85.62	38.09	89.39	515.95	2.17	0.96	2.53	2.53
Sweet Grass County	A2	RM 468.90	176865	1% - 100yr	1209.3	1249.76	1246.48	2.52	1.93	32.67	18.14	157.69	496.92	2.28	1.26	3.29	3.29
Sweet Grass County	A2	RM 468.80	176341	1% - 100yr	1209.3	1249.45	1246.11	2.76	2.07	43.72	21.66	136.31	572.13	2.43	1.19	3.34	3.34
Sweet Grass County	A2	RM 468.71	175823	1% - 100yr	1209.3	1249.13	1246.41	2.79	2.25	47.76	27.85	147.29	538.27	1.97	1.15	2.72	2.72
Sweet Grass County	A2	RM 468.57	175192	1% - 100yr	1209.3	1248.96	1245.17	1.98	1.57	22.23	13.37	178.26	721.65	2.51	1.5	3.79	3.79
Sweet Grass County	A2	RM 468.42	174099	1% - 100yr	1209.3	1248.24	1244.97	2.95	2.36	51.3	30.86	168.48	527.25	2.25	1.35	3.28	3.28
Sweet Grass County	A3	RM 468.25	173324	1% - 100yr	1209.3	1248.06	1242.97	2.3	1.62	26.75	12.52	129.09	578.68	3.63	1.68	5.09	5.09
Sweet Grass County	A3	RM 468.16	172855	1% - 100yr	1209.3	1247.86	1243.58	2.69	1.86	38.57	19.93	119.05	583.78	3.07	1.57	4.27	4.27
Sweet Grass County	A3	RM 468.07	172364	1% - 100yr	1209.3	1247.81	1243.89	2.06	1.53	22.63	12.7	136.65	661	3.07	1.72	3.92	3.92
Sweet Grass County	A3	RM 467.97	171839	1% - 100yr	1209.3	1247.15	1244.32	3.87	2.74	87.57	47.5	92.44	545.9	2.34	1.25	2.84	2.84
Sweet Grass County	A3	RM 467.87	171312	1% - 100yr	1209.3	1246.89	1243.46	2.5	2.2	35.12	23.52	159.56	541.86	2.6	1.74	3.43	3.43
Sweet Grass County	A3	RM 467.78	170840	1% - 100yr	1209.3	1246.34	1243.74	3.59	2.84	75.92	42.7	100.58	340.87	2.24	1.26	2.6	2.6
Sweet Grass County	A3	RM 467.69	170376	1% - 100yr	1209.3	1246.05	1242.96	3.03	2.4	52.74	31.23	115.51	449.89	2.43	1.42	3.09	3.09
Sweet Grass County	A3	RM 467.55	169614	1% - 100yr	1209.3	1245.67	1242.1	2.44	2.08	35.7	24.57	133.88	486.93	2.15	1.47	3.57	3.57
Sweet Grass County	A3	RM 467.41	168870	1% - 100yr	1209.3	1245.48	1241.15	2.13	1.42	23.57	10.97	133.26	733.57	3.25	1.5	4.33	4.33
Sweet Grass County	A3	RM 467.30	168362	1% - 100yr	1209.3	1244.87	1242.15	3.81	2.19	81.74	28.85	90.65	742.12	2.57	0.9	2.72	2.72
Sweet Grass County	A3	RM 467.16	167641	1% - 100yr	1209.3	1244.52	1240.78	2.25	1.41	28.09	11.62	159.04	853.41	2.67	1.1	3.74	3.74
Sweet Grass County	A3	RM 467.00	166780	1% - 100yr	1209.3	1244.06	1240.48	2.78	1.66	44.81	18.78	141.03	848.79	2.38	0.99	3.58	3.58
Sweet Grass County	A3	RM 466.83	165902	1% - 100yr	1209.3	1243.61	1239.84	2.82	1.63	42.51	17.15	111.13	752.46	2.99	1.19	3.77	3.77
Sweet Grass County	A3	RM 466.73	165364	1% - 100yr	1209.3	1243.3	1239.81	2.94	1.83	46.72	18.22	115.43	612.05	2.93	1.13	3.49	3.49
Sweet Grass County	A3	RM 466.64	164858	1% - 100yr	1209.3	1242.77	1239.36	3.69	2.37	68.7	23.54	100.5	637.2	2.6	0.88	3.41	3.41
Sweet Grass County	A3	RM 466.49	164108	1% - 100yr	1209.3	1242.41	1239.67	2.91	1.79	48.07	24.18	107.44	656.93	2.51	1.26	2.75	2.75
Sweet Grass County	A3	RM 466.25	162845	1% - 100yr	1209.3	1241.15	1238.71	3.87	2.64	87.39	31.34	79.36	557.75	2.39	0.82	2.44	2.44
Sweet Grass County	A3	RM 465.79	160351	1% - 100yr	1209.3	1240.13	1236.48	2.27	1.17	28.11	11.92	110.96	867.05	2.9	1.19	3.65	3.65
Sweet Grass County	A3	RM 465.01	155919	1% - 100yr	1209.3	1237.9	1234.44	3.37	2.62	63.45	25.44	129.45	489.07	2.61	1.04	3.46	3.46
Sweet Grass County	A3	RM 464.68	154254	1% - 100yr	1209.3	1236.91	1233.35	2.77	2.18	44.5	23.15	171.81	545.75	2.35	1.22	3.56	3.56
Sweet Grass County	A3	RM 464.48	153160	1% - 100yr	1209.3	1236.36	1232.71	2.49	1.83	36.47	18.97	183.52	594.05	2.27	1.18	3.65	3.65
Sweet Grass County	A3	RM 464.33	152378	1% - 100yr	1209.3	1235.96	1232.61	2.51	1.79	36.7	19.07	183.37	569.33	2.31	1.2	3.35	3.35
Sweet Grass County	A3	RM 464.16	151621	1% - 100yr	1209.3	1235.6	1232.45	2.49	1.71	35.94	18.36	166.91	738.79	2.32	1.18	3.15	3.15
Sweet Grass County	A3	RM 464.04	150961	1% - 100yr	1209.3	1235.36	1231.48	2.48	1.57	31.68	15.33	118.42	736.53	3.38	1.62	3.88	3.88
Sweet Grass County	A3	RM 463.88	150174	1% - 100yr	1209.3	1234.69	1231.85	3.42	2.53	68.58	39.57	136.95	484.6	2.26	1.3	2.84	2.84
Sweet Grass County	A3	RM 463.78	149616	1% - 100yr	1209.3	1234.36	1230.54	2.92	2.3	48.36	32.26	149.53	464.38	2.51	1.67	3.82	3.82
Sweet Grass County	A3	RM 463.67	149069	1% - 100yr	1209.3	1234.07	1230.86	2.88	2.03	47.02	31.03	136.34	529.4	2.51	1.65	3.21	3.21
Sweet Grass County	A3	RM 463.59	148630	1% - 100yr	1209.3	1233.87	1230.39	2.71	1.86	39.08	24.76	139.26	1100.28	2.78	1.76	3.48	3.48
Sweet Grass County	A3	RM 463.49	148111	1% - 100yr	1209.3	1233.05	1229.73	3.98	2.95	92.08	45.33	121.16	1060.11	2.34	1.14	3.32	3.32

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	1% - 100yr	1209.3	1232.6	1229.72	2.66	1.9	42.9	25.16	179.41	1290.89	2.07	1.21	2.89	2.89
Sweet Grass County	A3	RM 463.20	146616	1% - 100yr	1209.3	1232.2	1228.95	2.56	1.66	39.99	22.48	123.68	1505.8	2.04	1.12	3.25	3.25
Sweet Grass County	A3	RM 463.06	145881	1% - 100yr	1209.3	1231.98	1228.89	1.85	1.08	20.56	12.69	147.76	1514.59	2.1	1.29	3.08	3.08
Sweet Grass County	A4	RM 462.79	144435	1% - 100yr	1209.3	1231.86	1228.25	1.18	0.68	7.58	4.93	133.61	1440.39	2.89	1.85	3.6	3.6
Sweet Grass County	A4	RM 462.16	141146	1% - 100yr	1209.3	1229.46	1226.15	3.47	2.22	69.44	27.92	106.85	814.64	2.4	0.95	3.31	3.31
Sweet Grass County	A4	RM 461.97	140135	1% - 100yr	1209.3	1228.96	1226.06	2.55	1.54	38.68	22.62	120.82	738.53	2.15	1.26	2.9	2.9
Sweet Grass County	A4	RM 461.71	138705	1% - 100yr	1209.3	1227.4	1224.75	3.92	3.19	96.89	53.97	101.16	426.97	1.84	1.02	2.65	2.65
Sweet Grass County	A4	RM 461.52	137683	1% - 100yr	1209.3	1227	1222.31	2.46	1.74	30.15	10.4	84.17	687.64	3.88	1.28	4.69	4.69
Sweet Grass County	A4	RM 461.33	136718	1% - 100yr	1209.3	1226.77	1223.38	2.12	1.59	25.34	15.33	124.34	777.87	2.57	1.55	3.4	3.4
Sweet Grass County	A4	RM 461.14	135736	1% - 100yr	1209.3	1226.06	1222.44	3.19	2.18	55.62	23.91	117.21	533.78	2.84	1.21	3.61	3.61
Sweet Grass County	A4	RM 460.99	134951	1% - 100yr	1209.3	1225.63	1221.98	3.04	2.17	49.81	21.33	121.6	453.66	2.94	1.25	3.64	3.64
Sweet Grass County	A4	RM 460.85	134214	1% - 100yr	1209.3	1224.49	1222.07	4.2	3.85	102.71	66.83	140.08	238.39	2.03	1.32	2.42	2.42
Sweet Grass County	A4	RM 460.74	133616	1% - 100yr	1209.3	1224.15	1220.27	3.08	2.78	49.92	24.58	122.59	283.38	3.15	1.54	3.88	3.88
Sweet Grass County	A4	RM 460.63	133067	1% - 100yr	1209.3	1224.14	1218.9	2.33	2.12	25.03	8.45	105.35	356.42	4.88	1.6	5.24	5.24
Sweet Grass County	A4	RM 460.50	132281	1% - 100yr	1209.3	1223.62	1221.12	3.38	2.68	70.03	40.16	151.99	469.92	1.97	1.13	2.5	2.5
Sweet Grass County	A4	RM 460.38	131785	1% - 100yr	1209.3	1223.42	1220.5	2.5	1.93	35.11	18.42	139.17	550.51	2.2	1.15	2.92	2.92
Sweet Grass County	A4	RM 460.29	131287	1% - 100yr	1209.3	1223.1	1219.97	2.68	2.22	42	21.1	135.07	471.48	2.32	1.16	3.13	3.13
Sweet Grass County	A4	RM 460.19	130793	1% - 100yr	1209.3	1222.9	1219.38	2.48	2.07	33.55	22.34	118.6	349.74	2.8	1.86	3.52	3.52
Sweet Grass County	A4	RM 460.08	130210	1% - 100yr	1209.3	1222.52	1218.23	2.82	2.45	41.73	21.57	132.3	348.84	3.17	1.63	4.29	4.29
Sweet Grass County	A4	RM 459.99	129763	1% - 100yr	1209.3	1222.18	1218.01	3.22	2.89	53.73	32.99	110.76	280.35	3.32	2.03	4.17	4.17
Sweet Grass County	A4	RM 459.90	129246	1% - 100yr	1209.3	1222.01	1217.62	2.97	2.7	43.83	30.77	106.75	252.08	3.73	2.61	4.39	4.39
Sweet Grass County	A4	RM 459.81	128792	1% - 100yr	1209.3	1221.14	1218.15	4.39	4.24	106.05	84.91	99.73	230.9	2.75	2.2	2.99	2.99
Sweet Grass County	A4	RM 459.72	128310	1% - 100yr	1319.7	1221.12	1217.31	3.14	2.59	52.29	31.06	127.21	345.2	3.09	1.83	3.81	3.81
Sweet Grass County	A4	RM 459.62	127798	1% - 100yr	1319.7	1220.93	1217.46	2.89	2.39	45.56	25.86	128.42	370.35	2.84	1.61	3.47	3.47
Sweet Grass County	A5	RM 459.53	127324	1% - 100yr	1319.7	1220.19	1217.26	3.77	3.69	83.82	68.17	156.91	202.43	2.22	1.81	2.93	2.93
Sweet Grass County	A5	RM 459.44	126881	1% - 100yr	1319.7	1220.02	1216.93	2.91	2.8	48.6	40.74	185.47	421.62	2.42	2.03	3.09	3.09
Sweet Grass County	A5	RM 459.31	126192	1% - 100yr	1319.7	1219.59	1215.66	2.99	2.76	48.93	35.83	153.23	478.41	2.84	2.07	3.92	3.92
Sweet Grass County	A5	RM 459.24	125848	1% - 100yr	1319.7	1219.26	1215.69	3.32	3.06	61.06	44.53	145.56	559.08	2.7	1.96	3.57	3.57
Sweet Grass County	A5	RM 459.16	125420	1% - 100yr	1319.7	1218.63	1215.82	3.85	3.83	88.15	79.78	158.87	291.88	2.16	1.95	2.81	2.81
Sweet Grass County	A5	RM 459.02	124624	1% - 100yr	1319.7	1218.39	1214.8	2.51	2.36	35.25	25.68	200.81	572.64	2.59	1.89	3.59	3.59
Sweet Grass County	A5	RM 458.79	123371	1% - 100yr	1319.7	1217.48	1214.02	3.25	3.06	58.88	31.27	151.68	307.32	2.65	1.4	3.46	3.46
Sweet Grass County	A5	RM 458.48	121727	1% - 100yr	1319.7	1216.35	1213.35	2.81	2.68	48.87	44.86	165.37	305.5	1.93	1.77	3.01	3.01
Sweet Grass County	A5	RM 458.36	121100	1% - 100yr	1319.7	1215.32	1212.73	4.06	3.62	97.79	71.53	117.71	244.1	2.04	1.49	2.59	2.59
Sweet Grass County	A5	RM 458.25	120543	1% - 100yr	1319.7	1215.25	1211.35	2.53	2.17	33.72	24.27	122.03	269.91	3.13	2.25	3.9	3.9
Sweet Grass County	A5	RM 458.13	119849	1% - 100yr	1319.7	1214.97	1211.21	2.59	2.34	36.03	29.09	131.08	237.14	2.96	2.38	3.76	3.76
Sweet Grass County	A5	RM 458.03	119256	1% - 100yr	1319.7	1214.8	1210.09	2.45	2.19	29.57	20.35	122.91	224.84	3.92	2.68	4.71	4.71
Sweet Grass County	A5	RM 457.87	118444	1% - 100yr	1319.7	1214.47	1209.57	2.79	2.68	36.62	25.27	104.9	173.05	4.48	3.08	4.9	4.9
Sweet Grass County	A5	RM 457.76	117858	1% - 100yr	1319.7	1214.24	1210.24	2.92	2.85	44.15	38.29	137.04	168.38	3.29	2.85	4	4
Sweet Grass County	A5	RM 457.66	117350	1% - 100yr	1319.7	1213.94	1210.03	3.12	3.01	51.13	41.94	132.62	234.97	3.17	2.6	3.91	3.91
Sweet Grass County	A5	RM 457.54	116694	1% - 100yr	1319.7	1213.54	1209.93	3.27	3.05	56.93	43.5	131.05	230.96	3.02	2.31	3.6	3.6
Sweet Grass County	A5	RM 457.35	115703	1% - 100yr	1319.7	1212.15	1209.69	4.28	4.28	112.84	112.84	155.93	155.93	1.98	1.98	2.46	2.46
Sweet Grass County	A5	RM 457.20	114921	1% - 100yr	1319.7	1211.98	1208.7	2.52	2.52	35.36	35.36	197.32	197.32	2.65	2.65	3.28	3.28
Sweet Grass County	A5	RM 457.02	113974	1% - 100yr	1319.7	1211.43	1208.04	3.16	2.44	53.56	26.02	103.04	377	2.97	1.44	3.39	3.39
Sweet Grass County	A5	RM 456.84	113009	1% - 100yr	1319.7	1210.94	1206.55	2.98	2.77	44.46	27.45	120.66	213.01	3.64	2.24	4.39	4.39
Sweet Grass County	A5	RM 456.68	112164	1% - 100yr	1319.7	1210.16	1206.59	3.82	3.73	77.77	62.97	113.81	144.25	3.03	2.45	3.57	3.57
Sweet Grass County	A5	RM 456.55	111455	1% - 100yr	1319.7	1209.91	1206.19	3	2.95	48.01	42.17	146.88	169.84	2.99	2.63	3.73	3.73
Sweet Grass County	A5	RM 456.43	110857	1% - 100yr	1319.7	1209.59	1205.33	3.15	2.97	49.34	28.69	110.87	205.22	3.75	2.16	4.26	4.26
Sweet Grass County	A6	RM 456.29	110121	1% - 100yr	1319.7	1209.07	1205.45	3.54	3.3	62.49	32.93	118.64	244.88	3.11	1.63	3.62	3.62
Sweet Grass County	A6	RM 456.18	109508	1% - 100yr	1319.7	1208.62	1205.45	3.56	3.36	70.65	32.15	139.71	327.99	2.64	1.2	3.16	3.16
Sweet Grass County	A6	RM 456.03	108721	1% - 100yr	1319.7	1208.15	1204.59	3.02	2.76	52.43	26.28	176.21	393.74	2.43	1.21	3.56	3.56
Sweet Grass County	A6	RM 455.84	107742	1% - 100yr	1319.7	1207.79	1204.05	2.49	2.2	32.44	19.91	183.51	386.85	2.8	1.72	3.75	3.75
Sweet Grass County	A6	RM 455.70	106976	1% - 100yr	1319.7	1207.47	1203.14	2.68	2.64	35.13	30.96	143.46	358.23	3.43	3.02	4.33	4.33
Sweet Grass County	A6	RM 455.56	106256	1% - 100yr	1319.7	1206.95	1203.35	3.36	3.1	57.02	32.9	119.56	383.58	3.22	1.85	3.6	3.6
Sweet Grass County	A6	RM 455.39	105360	1% - 100yr	1319.7	1206.74	1202.74	2.58	2.37	34.48	26.02	151.06	316.73	3.27	2.47	4	4
Sweet Grass County	A6	RM 455.26	104667	1% - 100yr	1319.7	1205.69	1202.83	4.29	3.71	106.25	64.82	125.73	288.77	2.35	1.43	2.86	2.86
Sweet Grass County	A6	RM 455.09	103771	1% - 100yr	1319.7	1205.36	1201.58	2.5	2.16	32.97	19.97	159.87	320.01	3.17	1.91	3.78	3.78
Sweet Grass County	A6	RM 454.95	103072	1% - 100yr	1319.7	1204.71	1201.94	3.38	3.2	70.09	53.66	179.76	273.13	1.97	1.51	2.77	2.77
Sweet Grass County	A6	RM 454.82	102364	1% - 100yr	1319.7	1204.36	1200.61	2.57	2.43	38.48	33.9	179.02	254.39	2.43	2.14	3.75	3.75
Sweet Grass County	A6	RM 454.72	101863	1% - 100yr	1319.7	1203.84	1200.47	3.15	3.15	53.7	53.44	189.31	190.08	2.21	2.2	3.37	3.37
Sweet Grass County	A6	RM 454.64	101419	1% - 100yr	1319.7	1203.7	1199.69	2.6	2.58	35.99	33.12	195.79	214.75	2.59	2.39	4.01	4.01
Sweet Grass County	A6	RM 454.53	100846	1% - 100yr	1319.7	1203.21	1199.59	3.3	3.08	55.61	35.7	120.59	207.24	3.21	2.06	3.62	3.62

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	1% - 100yr	1319.7	1202.92	1199	3.32	3.11	57.45	36.97	115.82	198.39	3.32	2.14	3.93	3.93
Sweet Grass County	A6	RM 454.29	99597	1% - 100yr	1319.7	1202.61	1198.71	3.13	2.77	50.07	32.85	114.12	212.44	3.44	2.25	3.89	3.89
Sweet Grass County	A6	RM 454.15	98861	1% - 100yr	1319.7	1202.24	1198.68	3.09	2.95	48.61	37.41	136.69	189.01	3.08	2.37	3.57	3.57
Sweet Grass County	A6	RM 454.00	98105	1% - 100yr	1319.7	1201.85	1198.53	2.96	2.96	44.09	43.66	195.3	197.18	2.28	2.26	3.32	3.32
Sweet Grass County	A6	RM 453.89	97523	1% - 100yr	1319.7	1201.5	1198.31	2.97	2.88	47.68	44.35	181.46	205.85	2.39	2.22	3.19	3.19
Sweet Grass County	A6	RM 453.78	96929	1% - 100yr	1319.7	1201.34	1197.07	2.51	2.39	32.31	19.79	153.06	265.59	3.4	2.08	4.27	4.27
Sweet Grass County	A6	RM 453.67	96361	1% - 100yr	1319.7	1200.99	1197.77	3	2.6	48.63	33.17	151.58	277.29	2.68	1.83	3.22	3.22
Sweet Grass County	A6	RM 453.58	95863	1% - 100yr	1319.7	1200.91	1196.37	2.38	2.36	27.63	26.68	182.6	190.7	3.56	3.44	4.54	4.54
Sweet Grass County	A6	RM 453.48	95355	1% - 100yr	1319.7	1200.21	1196.86	3.8	3.72	75.74	57.79	118.04	158.64	2.93	2.24	3.35	3.35
Sweet Grass County	A6	RM 453.35	94633	1% - 100yr	1319.7	1199.63	1196.43	3.72	3.6	73.71	61.85	133.91	212.13	2.64	2.22	3.2	3.2
Sweet Grass County	A7	RM 453.23	93994	1% - 100yr	1319.7	1199.26	1196.41	3.26	3.06	57.99	52.44	113	240.01	2.36	2.13	2.84	2.84
Sweet Grass County	A7	RM 453.11	93361	1% - 100yr	1319.7	1199.05	1195.68	2.46	2.43	24.92	24.59	275.4	293.36	1.87	1.85	3.37	3.37
Sweet Grass County	A7	RM 453.01	92863	1% - 100yr	1319.7	1198.58	1195.38	3.18	3.06	43.51	41.5	197.1	231.44	1.95	1.86	3.2	3.2
Sweet Grass County	A7	RM 452.91	92363	1% - 100yr	1319.7	1198.46	1194.85	2.74	2.26	37.66	23.12	117.27	331.4	2.91	1.78	3.61	3.61
Sweet Grass County	A7	RM 452.82	91863	1% - 100yr	1319.7	1198.2	1194.65	2.74	2.61	40.05	36.42	111.14	182.75	3.04	2.77	3.55	3.55
Sweet Grass County	A7	RM 452.72	91363	1% - 100yr	1319.7	1198.13	1193.29	2.27	2.17	25.02	20	144.32	190.65	4	3.19	4.84	4.84
Sweet Grass County	A7	RM 452.64	90932	1% - 100yr	1319.7	1197.9	1194.02	2.79	2.27	40.25	29.34	133.5	285.74	3.27	2.38	3.88	3.88
Sweet Grass County	A7	RM 452.53	90362	1% - 100yr	1319.7	1197.41	1193.87	3.45	3.09	60.97	43.75	116.37	197.21	3.02	2.17	3.54	3.54
Sweet Grass County	A7	RM 452.43	89864	1% - 100yr	1319.7	1197.06	1193.52	3.53	3.12	63.71	43.13	111.78	203.12	3.08	2.08	3.54	3.54
Sweet Grass County	A7	RM 452.33	89331	1% - 100yr	1319.7	1196.78	1193.16	3.28	3.03	54.56	34	134.45	241.43	2.9	1.8	3.61	3.61
Sweet Grass County	A7	RM 452.25	88863	1% - 100yr	1319.7	1196.49	1192.91	3.28	3.05	55.17	39	138.6	213	2.87	2.03	3.58	3.58
Sweet Grass County	A7	RM 452.16	88399	1% - 100yr	1319.7	1196.2	1192.68	3.4	2.69	59.51	28.31	119.78	338.11	3.05	1.45	3.52	3.52
Sweet Grass County	A7	RM 452.06	87882	1% - 100yr	1319.7	1195.97	1192.4	3.15	2.54	51.67	22.52	120.32	369.89	3.25	1.41	3.57	3.57
Sweet Grass County	A7	RM 451.96	87394	1% - 100yr	1319.7	1195.73	1191.9	3.15	2.52	52.98	30.35	125.87	302.03	3.03	1.73	3.83	3.83
Sweet Grass County	A7	RM 451.86	86835	1% - 100yr	1319.7	1195.52	1191.79	2.93	2.32	42.7	27.72	122.39	268.98	3.27	2.12	3.73	3.73
Sweet Grass County	A7	RM 451.75	86230	1% - 100yr	1319.7	1195.17	1191.43	3.04	3.04	47.15	46.96	133.82	134.33	3.24	3.23	3.73	3.73
Sweet Grass County	A7	RM 451.61	85483	1% - 100yr	1319.7	1194.88	1190.7	2.81	2.8	41.95	38.58	152.65	192.22	3.07	2.83	4.18	4.18
Sweet Grass County	A7	RM 451.49	84861	1% - 100yr	1319.7	1194.31	1191.07	3.54	3.3	63.9	48.18	126.46	183.16	2.89	2.18	3.24	3.24
Sweet Grass County	A7	RM 451.34	84113	1% - 100yr	1319.7	1194.27	1190.06	2.33	2.26	27.13	21.5	150.96	337.06	3.72	2.94	4.21	4.21
Sweet Grass County	A7	RM 451.20	83363	1% - 100yr	1319.7	1193.52	1189.8	3.74	3.68	71.95	57.22	103.86	187.74	3.39	2.69	3.72	3.72
Sweet Grass County	A7	RM 451.10	82863	1% - 100yr	1319.7	1193.4	1189.79	3.07	2.99	49.13	39.2	133.83	173	3.19	2.55	3.61	3.61
Sweet Grass County	A7	RM 451.00	82325	1% - 100yr	1319.7	1193.27	1189.55	2.73	2.5	38.77	26.81	118.3	258.79	3.22	2.22	3.72	3.72
Sweet Grass County	A7	RM 450.86	81602	1% - 100yr	1319.7	1193.1	1188.29	2.27	2	49.14	23.5	90.13	303.78	4.71	2.17	4.8	4.8
Sweet Grass County	A7	RM 450.73	80923	1% - 100yr	1319.7	1192.01	1188.46	4.22	3.78	96.71	63.36	101.7	184.69	2.91	1.89	3.55	3.55
Sweet Grass County	A7	RM 450.63	80374	1% - 100yr	1319.7	1191.71	1188.16	3.46	3.34	65.6	48.07	135.95	193.81	2.79	2.04	3.55	3.55
Sweet Grass County	A7	RM 450.53	79863	1% - 100yr	1319.7	1191.47	1187.88	3.11	3.01	49.7	37.46	151.51	208.73	2.79	2.1	3.59	3.59
Sweet Grass County	A7	RM 450.43	79300	1% - 100yr	1319.7	1191.22	1187.72	2.95	2.73	44.09	30.74	133.66	260.23	2.67	1.86	3.5	3.5
Sweet Grass County	A7	RM 450.34	78849	1% - 100yr	1390.5	1190.93	1188.05	3.06	2.8	51.68	40.49	125.83	254.67	2.49	1.95	2.88	2.88
Sweet Grass County	A7	RM 450.23	78298	1% - 100yr	1390.5	1190.84	1186.92	2.2	1.91	24.71	13.37	203.19	459.64	3.01	1.63	3.91	3.91
Sweet Grass County	A7	RM 450.14	77822	1% - 100yr	1390.5	1190.55	1186.4	2.74	2.26	39.78	19.86	152.44	440.15	3.13	1.54	4.15	4.15
Sweet Grass County	A7	RM 450.05	77362	1% - 100yr	1390.5	1189.89	1187.2	3.78	3.4	80.37	44.26	139.89	314.54	2.57	1.41	2.69	2.69
Sweet Grass County	A7	RM 449.96	76841	1% - 100yr	1390.5	1189.69	1186.28	3.15	2.47	52	27.89	128.32	357.25	3.23	1.72	3.41	3.41
Sweet Grass County	A7	RM 449.86	76356	1% - 100yr	1390.5	1189.31	1185.58	3.49	2.67	62.3	26.62	110.23	470.95	3.43	1.45	3.72	3.72
Sweet Grass County	A7	RM 449.77	75860	1% - 100yr	1390.5	1188.97	1185.68	3.46	2.95	60.12	35.33	168.44	357.42	2.25	1.32	3.29	3.29
Sweet Grass County	A7	RM 449.68	75373	1% - 100yr	1390.5	1188.66	1185.9	2.99	2.67	54.32	31.61	220.37	464.25	2.05	1.19	2.76	2.76
Sweet Grass County	A7	RM 449.59	74904	1% - 100yr	1390.5	1188.52	1184.15	2.71	2.22	36.23	16.45	112.31	407.37	3.93	1.74	4.37	4.37
Sweet Grass County	A7	RM 449.48	74351	1% - 100yr	1390.5	1188.06	1184.86	3.49	2.94	71.18	43.26	121.9	335.89	2.32	1.41	3.21	3.21
Sweet Grass County	A7	RM 449.37	73741	1% - 100yr	1390.5	1187.9	1184.73	2.3	1.9	30.78	17.49	210.35	614.77	2.34	1.33	3.17	3.17
Sweet Grass County	A7	RM 449.26	73165	1% - 100yr	1390.5	1187.79	1184.33	2.08	1.27	21.83	11.4	128.66	853.17	2.9	1.49	3.46	3.46
Sweet Grass County	A7	RM 449.10	72364	1% - 100yr	1390.5	1187.03	1183.97	3.86	1.84	80.98	30.47	87.4	843.48	2.94	1.07	3.07	3.07
Sweet Grass County	A7	RM 449.00	71858	1% - 100yr	1390.5	1186.38	1183.97	3.92	2.44	92.82	46.26	113.75	557.28	2.11	1.03	2.41	2.41
Sweet Grass County	A7	RM 448.88	71223	1% - 100yr	1390.5	1186.16	1183.11	2.13	1.87	27.06	18.9	231.61	555.03	2.16	1.51	3.05	3.05
Sweet Grass County	A7	RM 448.76	70537	1% - 100yr	1390.5	1186.12	1182.01	1.27	1.23	9.28	8.48	312.73	556.27	2.39	2.18	4.1	4.1
Sweet Grass County	A7	RM 448.55	69424	1% - 100yr	1390.5	1185.88	1181.8	1.92	1.65	18.61	13.23	154.14	604.55	3.61	2.56	4.08	4.08
Sweet Grass County	A7	RM 448.41	68815	1% - 100yr	1390.5	1184.94	1181.16	4.13	3.83	77.3	52.23	108.05	179.24	3.04	2.02	3.78	3.78
Sweet Grass County	A7	RM 448.32	68353	1% - 100yr	1390.5	1184.95	1179.91	2.4	2.39	27.13	25.54	126.03	183.12	4.59	4.32	5.04	5.04
Sweet Grass County	A7	RM 448.23	67851	1% - 100yr	1390.5	1184.55	1179.82	3.13	3.1	46.93	40.93	105.4	171.16	4.22	3.67	4.73	4.73
Sweet Grass County	A7	RM 448.07	67043	1% - 100yr	1390.5	1184.19	1180.7	3.16	2.7	53.96	31.9	149.15	415.56	2.88	1.7	3.49	3.49
Sweet Grass County	A7	RM 447.94	66348	1% - 100yr	1390.5	1183.92	1180.22	2.94	1.96	44.39	17.16	125.42	545.22	3.39	1.3	3.7	3.7
Sweet Grass County	A7	RM 447.85	65863	1% - 100yr	1390.5	1183.48	1180.39	3.46	2.38	66.27	26.7	136.67	551.78	2.69	1.08	3.09	3.09
Sweet Grass County	A7	RM 447.75	65363	1% - 100yr	1390.5	1183.39	1179.55	2.69	1.97	34.84	16	143.24	453.4	3.39	1.55	3.84	3.84

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	1% - 100yr	1390.5	1183.05	1179.59	3.19	2.07	52.78	19.7	121.32	550.39	3.29	1.22	3.45	3.45
Sweet Grass County	A7	RM 447.56	64365	1% - 100yr	1390.5	1182.43	1179.67	3.9	2.54	88.33	38.92	136.94	531.23	2.34	1.03	2.76	2.76
Sweet Grass County	A7	RM 447.49	64001	1% - 100yr	1390.5	1182.32	1179.82	2.91	2.19	48.89	28.53	193.72	483.09	2.25	1.32	2.5	2.5
Sweet Grass County	A7	RM 447.39	63473	1% - 100yr	1390.5	1181.75	1178.85	3.85	2.44	79.77	33.08	93.46	540.5	2.56	1.05	2.9	2.9
Sweet Grass County	A7	RM 447.27	62880	1% - 100yr	1390.5	1181.4	1178.26	3.23	2.23	59.76	27.59	108.82	555.71	2.46	1.12	3.15	3.15
Sweet Grass County	A7	RM 447.17	62358	1% - 100yr	1390.5	1181.09	1177.92	3.06	1.92	53.46	27.22	112.86	582.83	2.46	1.24	3.17	3.17
Sweet Grass County	A7	RM 447.08	61863	1% - 100yr	1390.5	1180.68	1177.91	3.15	1.94	60.29	35.15	102.62	607.91	2.04	1.18	2.77	2.77
Sweet Grass County	A7	RM 446.98	61358	1% - 100yr	1390.5	1180.17	1177.28	3.37	2.05	61.8	26.12	95.6	633.02	2.56	1.07	2.89	2.89
Sweet Grass County	A7	RM 446.89	60841	1% - 100yr	1390.5	1179.81	1176.94	3.48	2.04	68.41	29.55	80.34	698.28	2.58	1.11	2.86	2.86
Sweet Grass County	A7	RM 446.80	60396	1% - 100yr	1390.5	1179.62	1175.92	2.8	1.86	42.64	22.46	96.31	757.6	2.89	1.5	3.7	3.7
Sweet Grass County	A7	RM 446.70	59903	1% - 100yr	1390.5	1179.35	1176.22	3.25	2.11	57.12	24.67	65.99	725.45	3.08	1.27	3.13	3.13
Sweet Grass County	A7	RM 446.60	59371	1% - 100yr	1390.5	1179.08	1175.91	3.07	2.02	49.41	23.12	77.2	631.22	2.91	1.33	3.18	3.18
Sweet Grass County	A7	RM 446.51	58868	1% - 100yr	1390.5	1178.91	1175.24	2.68	2.04	38.84	20.67	117.15	556.72	2.93	1.55	3.67	3.67
Sweet Grass County	A7	RM 446.41	58363	1% - 100yr	1390.5	1178.73	1174.39	2.44	1.89	30.24	14.7	148.64	537.68	3.07	1.49	4.33	4.33
Sweet Grass County	A7	RM 446.30	57762	1% - 100yr	1390.5	1178.47	1174.85	2.68	2	36.64	15.58	123.97	530.12	3.08	1.31	3.62	3.62
Sweet Grass County	A7	RM 446.22	57365	1% - 100yr	1390.5	1177.83	1174.39	3.71	3.49	73.05	41.16	129.29	247.8	2.87	1.61	3.44	3.44
Sweet Grass County	A7	RM 446.12	56852	1% - 100yr	1390.5	1177.63	1174.04	3.2	2.72	52.74	21.1	140.19	428.58	2.99	1.19	3.59	3.59
Sweet Grass County	A7	RM 446.02	56303	1% - 100yr	1390.5	1177.54	1173.3	2.76	1.96	36.97	16.08	98.37	405.79	4.15	1.75	4.24	4.24
Sweet Grass County	A7	RM 445.94	55871	1% - 100yr	1390.5	1176.73	1173.6	4.38	3.61	105.51	46.23	94.95	316.66	2.82	1.22	3.13	3.13
Sweet Grass County	A7	RM 445.82	55236	1% - 100yr	1390.5	1176.65	1173.05	2.46	2.19	34.15	22.27	209.02	379.8	2.57	1.67	3.6	3.6
Sweet Grass County	A7	RM 445.71	54753	1% - 100yr	1390.5	1176.49	1172.38	2.33	2.16	26.7	18.33	210.48	336.64	2.78	1.91	4.11	4.11
Sweet Grass County	A7	RM 445.60	54202	1% - 100yr	1390.5	1176.28	1172.32	2.48	2.26	30.99	20.91	188.77	314.28	2.92	1.96	3.95	3.95
Sweet Grass County	A7	RM 445.46	53453	1% - 100yr	1390.5	1175.71	1171.04	3.31	2.9	54.18	35.24	131.45	246.07	3.01	1.95	4.67	4.67
Sweet Grass County	A7	RM 445.36	52888	1% - 100yr	1390.5	1175.54	1170.25	3.03	2.37	46.33	24.96	105.4	349.09	3.58	1.91	5.29	5.29
Sweet Grass County	A7	RM 445.26	52344	1% - 100yr	1390.5	1174.75	1171.35	4.17	3.57	94.02	48.5	105.83	261.04	2.91	1.49	3.4	3.4
Sweet Grass County	A7	RM 445.17	51873	1% - 100yr	1390.5	1174.21	1171.83	4.13	3.78	100.18	67.52	137.07	240.71	2.27	1.53	2.37	2.37
Sweet Grass County	A7	RM 445.07	51376	1% - 100yr	1390.5	1174.31	1170.28	2.35	2.02	29.67	18.06	181.57	444.52	2.99	1.81	4.03	4.03
Sweet Grass County	A7	RM 444.97	50844	1% - 100yr	1390.5	1173.77	1170.19	3.32	2.95	57.57	29.07	148.01	396.39	2.75	1.38	3.58	3.58
Sweet Grass County	A7	RM 444.88	50352	1% - 100yr	1390.5	1173.5	1170.05	3.21	2.68	53.9	25.39	144.09	381.9	2.9	1.36	3.45	3.45
Sweet Grass County	A7	RM 444.79	49860	1% - 100yr	1390.5	1173.08	1169.94	3.51	2.79	67.38	34.54	132.48	349.78	2.79	1.43	3.14	3.14
Sweet Grass County	A7	RM 444.69	49316	1% - 100yr	1390.5	1172.93	1169.55	2.4	2.34	28.27	24.27	372.4	449.55	1.54	1.32	3.38	3.38
Sweet Grass County	A7	RM 444.60	48863	1% - 100yr	1390.5	1172.67	1167.23	2.86	1.95	37.35	9.97	88	552.58	5.08	1.29	5.44	5.44
Sweet Grass County	A7	RM 444.50	48367	1% - 100yr	1390.5	1172.7	1169.73	1	1.61	13.24	14.23	183.78	652.27	1.33	1.43	4.03	4.03
Sweet Grass County	A7	RM 444.41	47863	1% - 100yr	1390.5	1172.51	1168.6	2.22	1.58	24.59	10.86	129.86	716.79	3.35	1.47	3.91	3.91
Sweet Grass County	A7	RM 444.30	47336	1% - 100yr	1390.5	1172.45	1168.26	1.89	1.38	17.72	9.63	167.8	713.21	3.53	1.91	4.19	4.19
Sweet Grass County	A7	RM 444.20	46789	1% - 100yr	1390.5	1171.77	1167.97	3.69	2.7	72.05	34.83	107.59	598.55	3.15	1.5	3.8	3.8
Sweet Grass County	A7	RM 444.12	46346	1% - 100yr	1390.5	1171.16	1167.62	4.15	3.41	90.73	43.7	100.55	268.16	3.22	1.52	3.54	3.54
Sweet Grass County	A7	RM 444.02	45829	1% - 100yr	1390.5	1170.98	1167.57	3.36	2.88	55.46	26.68	143.97	589.6	2.81	1.35	3.41	3.41
Sweet Grass County	A7	RM 443.91	45243	1% - 100yr	1390.5	1170.69	1167.08	3.08	2.47	52.56	22.26	153.71	767.39	2.69	1.13	3.61	3.61
Sweet Grass County	A7	RM 443.84	44853	1% - 100yr	1390.5	1170.17	1167.23	3.6	3.14	77.74	38.12	173.99	557.29	2.12	1.04	2.93	2.93
Sweet Grass County	A7	RM 443.75	44415	1% - 100yr	1390.5	1169.97	1166.67	2.9	2.64	47.38	20.06	183.8	751.83	2.57	1.08	3.3	3.3
Sweet Grass County	A7	RM 443.64	43870	1% - 100yr	1390.5	1169.91	1166.09	2.32	1.66	28.22	14.41	110.6	889.75	3.15	1.6	3.82	3.82
Sweet Grass County	A7	RM 443.53	43290	1% - 100yr	1390.5	1169.76	1165.72	2.41	1.82	29	14.55	87.59	833.5	3.75	1.85	4.04	4.04
Sweet Grass County	A8	RM 443.45	42860	1% - 100yr	1390.5	1169.25	1165.25	3.25	2.84	54.98	28.43	139.17	712.07	2.99	1.54	4	4
Sweet Grass County	A8	RM 443.35	42363	1% - 100yr	1390.5	1168.31	1164.95	4.58	4.14	114.83	75.59	101.62	549.18	2.81	1.84	3.36	3.36
Sweet Grass County	A8	RM 443.25	41863	1% - 100yr	1390.5	1168.22	1165.05	3.26	2.66	58.39	30.44	127.8	616.54	2.77	1.44	3.17	3.17
Sweet Grass County	A8	RM 443.16	41342	1% - 100yr	1390.5	1167.97	1165.43	2.89	2.11	49.77	28.48	152.93	853.42	2.16	1.24	2.53	2.53
Sweet Grass County	A8	RM 443.07	40863	1% - 100yr	1390.5	1167.58	1164.49	3.07	2	54.83	27	139	872.19	2.3	1.13	3.09	3.09
Sweet Grass County	A8	RM 442.97	40345	1% - 100yr	1390.5	1167.28	1164.28	2.7	1.86	39.5	24.73	162.09	685.72	2.22	1.39	3.01	3.01
Sweet Grass County	A8	RM 442.88	39863	1% - 100yr	1390.5	1167.08	1164.06	2.34	1.82	31.59	20.46	177.36	783.08	2.15	1.39	3.03	3.03
Sweet Grass County	A8	RM 442.78	39363	1% - 100yr	1390.5	1166.31	1164.18	3.68	3.14	89.14	57.31	145.24	583.63	1.59	1.02	2.45	2.45
Sweet Grass County	A8	RM 442.68	38840	1% - 100yr	1390.5	1166.03	1162.8	2.67	2.04	35.64	20.68	117.57	592.71	2.4	1.39	3.23	3.23
Sweet Grass County	A8	RM 442.60	38390	1% - 100yr	1390.5	1165.96	1162.57	1.89	1.54	20.14	12.31	157.4	574.21	2.58	1.57	3.39	3.39
Sweet Grass County	A8	RM 442.50	37863	1% - 100yr	1390.5	1165.53	1162.29	3.22	2.19	50.35	22.17	102.55	576.79	2.5	1.1	3.25	3.25
Sweet Grass County	A8	RM 442.42	37461	1% - 100yr	1390.5	1165.3	1162.07	3.11	2.27	46.02	24.01	121.06	526.05	2.25	1.17	3.23	3.23
Sweet Grass County	A8	RM 442.32	36914	1% - 100yr	1390.5	1165.04	1161.85	2.88	2.2	46.55	23.01	107.71	527.15	2.61	1.28	3.19	3.19
Sweet Grass County	A8	RM 442.24	36451	1% - 100yr	1390.5	1164.79	1161.75	2.8	2.27	40.43	21.41	130.05	572.44	2.25	1.19	3.05	3.05
Sweet Grass County	A8	RM 442.12	35820	1% - 100yr	1390.5	1164.48	1161.12	2.85	2.13	40.39	19.12	123.17	668.33	2.54	1.19	3.36	3.36
Sweet Grass County	A8	RM 442.03	35367	1% - 100yr	1390.5	1164.15	1161.18	3.07	2.36	54.61	29.42	123.16	590.37	2.36	1.27	2.98	2.98
Sweet Grass County	A8	RM 441.95	34945	1% - 100yr	1390.5	1164.11	1160.28	2.19	1.63	25.96	12.19	133.86	822.22	2.94	1.36	3.82	3.82
Sweet Grass County	A8	RM 441.84	34360	1% - 100yr	1390.5	1163.63	1160.33	2.96	2.14	45.47	23.49	186.27	573.18	2.2	1.13	3.3	3.3

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	1% - 100yr	1390.5	1163.3	1160.06	3.01	2.11	47.94	21.29	171.23	652.27	2.35	1.05	3.24	3.24
Sweet Grass County	A8	RM 441.65	33357	1% - 100yr	1390.5	1163.19	1159.78	2.36	1.52	29.54	13.57	173.66	920.59	2.83	1.29	3.41	3.41
Sweet Grass County	A8	RM 441.53	32732	1% - 100yr	1390.5	1162.72	1159.44	3.06	1.91	52.62	20.05	152.04	872.18	2.61	0.99	3.28	3.28
Sweet Grass County	A8	RM 441.47	32366	1% - 100yr	1390.5	1162.58	1158.95	2.83	1.7	42.76	15.16	138.98	898.27	2.99	1.06	3.63	3.63
Sweet Grass County	A8	RM 441.38	31928	1% - 100yr	1390.5	1162.63	1158.24	1.81	1.15	16.87	9.12	153.74	1082.69	3.31	1.79	4.39	4.39
Sweet Grass County	A8	RM 441.27	31350	1% - 100yr	1390.5	1162.11	1158.76	3.46	2.11	65.47	22.51	97.16	1109.91	2.82	0.96	3.36	3.36
Sweet Grass County	A8	RM 441.18	30882	1% - 100yr	1390.5	1161.87	1158.5	2.59	1.58	35.07	13.64	125.73	1053.2	2.74	1.06	3.36	3.36
Sweet Grass County	A8	RM 441.07	30295	1% - 100yr	1390.5	1161.72	1158.19	2.3	1.46	28.95	11.93	149.54	1036.18	2.83	1.16	3.53	3.53
Sweet Grass County	A8	RM 441.00	29913	1% - 100yr	1390.5	1161.63	1157.63	2.18	1.38	25.83	11.52	146.59	949.94	2.85	1.26	4	4
Sweet Grass County	A8	RM 440.80	28852	1% - 100yr	1390.5	1160.88	1157.49	3.56	2.35	65.75	21.87	103.86	611.42	2.93	0.97	3.39	3.39
Sweet Grass County	A8	RM 440.60	27841	1% - 100yr	1390.5	1159.99	1157.2	3.07	2.26	53.93	26.3	121.05	523.62	2.41	1.18	2.78	2.78
Sweet Grass County	A8	RM 440.51	27361	1% - 100yr	1390.5	1159.31	1156.41	3.79	2.83	83.41	42.51	109.89	445.5	2.34	1.18	2.9	2.9
Sweet Grass County	A8	RM 440.42	26862	1% - 100yr	1390.5	1158.87	1156.26	3.5	2.68	71.94	37.65	89.25	437.15	2.28	1.19	2.61	2.61
Sweet Grass County	A8	RM 440.30	26223	1% - 100yr	1390.5	1158.84	1155.63	1.81	1.47	18.53	13.01	97.18	607.94	2.56	1.79	3.21	3.21
Sweet Grass County	A8	RM 440.17	25466	1% - 100yr	1390.5	1158.64	1154.7	2.32	1.73	27.98	16.47	64.56	554.82	3.39	1.93	3.94	3.94
Sweet Grass County	A8	RM 440.06	24863	1% - 100yr	1390.5	1158.36	1153.97	2.51	2.03	32.46	16.57	131.01	548.28	3.42	1.73	4.39	4.39
Sweet Grass County	A8	RM 439.96	24366	1% - 100yr	1390.5	1158.07	1154.18	3.05	2.23	47.21	16.94	95.94	583.51	3.55	1.26	3.89	3.89
Sweet Grass County	A8	RM 439.87	23863	1% - 100yr	1390.5	1157.76	1153.59	3.2	2.12	48.93	11.37	103.39	847.9	3.79	0.87	4.17	4.17
Sweet Grass County	A8	RM 439.77	23365	1% - 100yr	1390.5	1157.6	1153.6	2.98	1.9	43.7	11.08	124.68	1066.83	3.3	0.83	4	4
Sweet Grass County	A8	RM 439.68	22863	1% - 100yr	1390.5	1157.14	1153.45	3.46	2.49	59.2	12.45	135.29	987.97	2.8	0.58	3.7	3.7
Sweet Grass County	A8	RM 439.58	22363	1% - 100yr	1390.5	1157.16	1153.39	2.39	1.39	29.03	9.1	150.28	1059.21	3.11	0.97	3.77	3.77
Sweet Grass County	A8	RM 439.49	21863	1% - 100yr	1390.5	1157.04	1152.86	2.39	1.34	28.06	8.03	116.13	1012.33	3.9	1.11	4.18	4.18
Sweet Grass County	A8	RM 439.39	21363	1% - 100yr	1390.5	1156.95	1153.06	2.28	1.34	26.26	9.37	131.98	1017.61	3.45	1.21	3.89	3.89
Sweet Grass County	A8	RM 439.30	20863	1% - 100yr	1390.5	1156.79	1152.92	2.51	1.41	31.56	11.07	110.38	966.18	3.5	1.22	3.87	3.87
Sweet Grass County	A8	RM 439.20	20353	1% - 100yr	1390.5	1155.93	1152.64	4.08	3.32	85.49	31.9	111.19	389.97	2.89	1.07	3.29	3.29
Sweet Grass County	A8	RM 439.11	19864	1% - 100yr	1390.5	1155.66	1152.34	3.03	2.13	48.88	15.51	98.01	757.21	3.04	0.96	3.32	3.32
Sweet Grass County	A8	RM 439.01	19360	1% - 100yr	1390.5	1155.21	1152.4	3.39	2.46	61.85	22.21	129.45	728.61	2.28	0.81	2.8	2.8
Sweet Grass County	A8	RM 438.91	18848	1% - 100yr	1390.5	1154.94	1151.92	2.82	2.12	42.21	18.56	121.85	627.03	2.58	1.14	3.02	3.02
Sweet Grass County	A8	RM 438.82	18363	1% - 100yr	1390.5	1154.66	1151.23	2.88	2.17	46	19.31	120.36	812.01	2.69	1.12	3.43	3.43
Sweet Grass County	A8	RM 438.73	17853	1% - 100yr	1390.5	1154.4	1151.37	2.8	2.2	41.24	25.46	124.01	457.83	2.35	1.45	3.02	3.02
Sweet Grass County	A8	RM 438.63	17363	1% - 100yr	1390.5	1154.29	1150.74	2.26	1.86	26.93	18.83	100.37	387.38	3.1	2.17	3.54	3.54
Sweet Grass County	A8	RM 438.54	16863	1% - 100yr	1390.5	1154.14	1150.59	2.28	1.99	27	20.75	105.57	276.66	3.33	2.52	3.55	3.55
Sweet Grass County	A8	RM 438.43	16307	1% - 100yr	1390.5	1153.89	1149.52	2.46	2.34	31.32	22.28	165.05	290.08	3.36	2.39	4.37	4.37
Sweet Grass County	A9	RM 438.36	15889	1% - 100yr	1390.5	1153.76	1149.4	2.48	2.41	28.14	24.71	187.56	251.37	2.95	2.59	4.36	4.36
Sweet Grass County	A9	RM 438.26	15363	1% - 100yr	1390.5	1153.09	1149.84	3.85	3.13	78.47	36.14	115.65	341.63	2.83	1.3	3.25	3.25
Sweet Grass County	A9	RM 438.16	14863	1% - 100yr	1390.5	1152.85	1149.31	3.38	2.37	57.55	21.13	123.27	532.97	3.01	1.1	3.54	3.54
Sweet Grass County	A9	RM 438.07	14394	1% - 100yr	1390.5	1152.5	1149.19	3.51	2.35	68.45	26.2	128.87	577.59	2.7	1.03	3.31	3.31
Sweet Grass County	A9	RM 437.96	13827	1% - 100yr	1390.5	1152.32	1149.19	2.93	1.81	45.73	18.7	119.96	729.37	2.59	1.05	3.13	3.13
Sweet Grass County	A9	RM 437.88	13363	1% - 100yr	1390.5	1152.13	1148.94	2.88	1.75	42.47	18.22	109.09	742.24	2.57	1.09	3.2	3.2
Sweet Grass County	A9	RM 437.78	12844	1% - 100yr	1390.5	1151.76	1148.72	3.26	2	56.53	23.49	99.77	698.25	2.61	1.08	3.05	3.05
Sweet Grass County	A9	RM 437.69	12354	1% - 100yr	1390.5	1151.59	1148.45	2.49	1.75	35.98	18.54	147.13	678.64	2.35	1.21	3.14	3.14
Sweet Grass County	A9	RM 437.59	11863	1% - 100yr	1390.5	1151.31	1148.76	2.63	1.88	42.85	22.32	151.34	741.5	1.92	1	2.9	2.9
Sweet Grass County	A9	RM 437.50	11362	1% - 100yr	1390.5	1151.08	1148.29	2.34	1.75	32.95	16.95	189.39	743.66	2.08	1.07	2.78	2.78
Sweet Grass County	A9	RM 437.41	10902	1% - 100yr	1390.5	1150.79	1148.26	2.58	1.88	40.94	21.55	175.96	722.8	1.94	1.02	2.54	2.54
Sweet Grass County	A9	RM 437.31	10361	1% - 100yr	1390.5	1150.39	1147.37	2.88	1.97	49.22	23.68	148.16	665.85	2.2	1.06	3.01	3.01
Sweet Grass County	A9	RM 437.20	9764	1% - 100yr	1390.5	1150.07	1147.02	2.81	1.86	41.05	18.61	110.89	685.76	2.42	1.09	3.05	3.05
Sweet Grass County	A9	RM 437.08	9128	1% - 100yr	1390.5	1149.64	1146.9	2.76	2.09	43.41	22.11	196.32	670.52	1.95	0.99	2.74	2.74
Sweet Grass County	A9	RM 436.95	8363	1% - 100yr	1390.5	1149.41	1145.32	2.49	1.59	25.08	12.54	106.12	668.04	2.68	1.31	4.09	4.09
Sweet Grass County	A9	RM 436.83	7805	1% - 100yr	1390.5	1149.27	1145.93	1.9	1.47	22.49	14.47	154.6	766.07	1.92	1.23	3.33	3.33
Sweet Grass County	A9	RM 436.75	6857	1% - 100yr	1390.5	1148.73	1145.61	3.32	1.78	62.4	22.4	67.61	865.69	2.55	0.9	3.12	3.12
Sweet Grass County	A9	RM 436.66	6193	1% - 100yr	1390.5	1148.25	1145.68	3.06	1.88	54.9	20.96	97.51	874.26	2.22	0.85	2.57	2.57
Sweet Grass County	A9	RM 436.56	5280	1% - 100yr	1390.5	1147.83	1144.44	3.14	1.82	43.08	18.03	68.28	762.96	2.55	1.01	3.38	3.38
Sweet Grass County	A9	RM 436.40	4576	1% - 100yr	1390.5	1147.63	1144.05	2.56	1.55	35.04	13.39	57.78	815.32	3.16	1.15	3.58	3.58
Sweet Grass County	A9	RM 436.29	3787	1% - 100yr	1390.5	1147.18	1144.44	2.92	2.09	49.88	26.98	99.03	766.32	2.3	1.24	2.75	2.75
Sweet Grass County	A9	RM 436.16	3087	1% - 100yr	1390.5	1146.42	1143.57	3.45	2.68	70.17	33.56	107.65	793.83	2.24	1.07	2.84	2.84
Sweet Grass County	A9	RM 436.07	2676	1% - 100yr	1390.5	1146.18	1143.09	2.98	2.32	47.75	27.39	102.06	925.11	2.25	1.28	3.08	3.08
Sweet Grass County	A9	RM 435.98	2200	1% - 100yr	1390.5	1145.86	1142.85	3	2.18	53.23	23.97	79.42	974.41	2.27	1	3.02	3.02
Sweet Grass County	A9	RM 435.88	1580	1% - 100yr	1390.5	1145.5	1142.56	2.39	2.02	36.56	22.57	85.53	870.4	1.77	1.08	2.94	2.94
Sweet Grass County	A9	RM 435.73	890	1% - 100yr	1390.5	1145.2	1141.99	2.32	1.87	30.91	17.5	80.13	831.9	2.51	1.38	3.2	3.2
Sweet Grass County	A9	RM 435.62	104	1% - 100yr	1390.5	1144.77	1141.54	2.72	2.1	43.12	21.73	130.03	821.17	2.32	1.16	3.23	3.23

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	1% - 100yr	1390.5	1144.64	1140.73	1.6	1.31	14.21	7.6	151.59	877.87	2.64	1.42	3.95	3.95
Stillwater County	A9	RM 435.38	231282.1	1% - 100yr	1390.5	1144.44	1139.61	1.8	1.32	16.92	7.67	197.46	793.15	3.21	1.45	4.83	4.83
Stillwater County	A9	RM 435.25	230611.3	1% - 100yr	1390.5	1143.83	1138.48	3.35	2.3	58.41	18.97	118.64	579.16	3.24	1.04	5.35	5.35
Stillwater County	A9	RM 435.16	230122.9	1% - 100yr	1390.5	1143.64	1138.39	3.11	2.01	49.98	17.65	118.38	588.87	3.35	1.18	5.25	5.25
Stillwater County	A9	RM 435.07	229649	1% - 100yr	1390.5	1143.56	1137.85	2.76	1.72	37.52	14.09	103.72	563.55	3.85	1.44	5.71	5.71
Stillwater County	A9	RM 434.97	229153	1% - 100yr	1390.5	1143.18	1137.87	3.27	2.21	53.85	19.69	105.26	480.41	3.6	1.31	5.31	5.31
Stillwater County	A9	RM 434.84	228443.5	1% - 100yr	1390.5	1142.87	1137	3.24	2.48	52.34	22.04	103.65	359.4	3.72	1.56	5.87	5.87
Stillwater County	A9	RM 434.73	227855.5	1% - 100yr	1390.5	1142.46	1135.61	3.61	2.9	61.36	25.13	82.85	267.62	4.44	1.79	6.85	6.85
Stillwater County	A9	RM 434.63	227328.2	1% - 100yr	1390.5	1142.19	1135.42	3.62	3.24	63.21	24.98	91.85	267.87	4.09	1.6	6.77	6.77
Stillwater County	A9	RM 434.57	227011.2	1% - 100yr	1390.5	1142.01	1136.35	3.63	3.28	66.15	22.37	104.18	349.25	3.62	1.22	5.66	5.66
Stillwater County	A9	RM 434.53	226817.6	1% - 100yr	1390.5	1141.87	1136.73	3.67	3.38	71.14	29.86	118.94	313.97	3.14	1.31	5.14	5.14
Stillwater County	A10	RM 434.49	226573.3	1% - 100yr	1390.5	1141.79	1137.23	3.35	3.15	58.53	35.07	126.91	228.74	3.23	1.93	4.56	4.56
Stillwater County	A10	RM 434.42	226233.2	1% - 100yr	1390.5	1141.7	1137.1	3.02	2.53	48.09	21.34	138.92	645.23	3.14	1.39	4.6	4.6
Stillwater County	A10	RM 434.37	225940.2	1% - 100yr	1390.5	1141.42	1136.51	3.38	2.92	59.96	28.39	124.51	507.72	3.17	1.5	4.91	4.91
Stillwater County	A10	RM 434.24	225278.2	1% - 100yr	1390.5	1141.06	1136.56	3.32	3.02	57.65	31.75	117.53	261.67	3.19	1.76	4.5	4.5
Stillwater County	A10	RM 434.15	224819.6	1% - 100yr	1390.5	1140.86	1137.06	3.01	2.56	49.96	25.36	157.63	395.7	2.71	1.38	3.8	3.8
Stillwater County	A10	RM 434.07	224366.5	1% - 100yr	1390.5	1140.43	1136.55	3.48	2.98	68.99	44.56	116.1	288.96	2.48	1.61	4.03	4.03
Stillwater County	A10	RM 433.98	223883.5	1% - 100yr	1390.5	1140.32	1136.28	2.53	2.27	35.87	18.61	137.26	569.21	2.62	1.36	4.04	4.04
Stillwater County	A10	RM 433.87	223309.3	1% - 100yr	1390.5	1140.07	1135.82	2.73	2.18	39.49	15.34	107.67	533.42	3.1	1.19	4.25	4.25
Stillwater County	A10	RM 433.78	222850	1% - 100yr	1390.5	1139.91	1135.54	2.52	1.92	34.69	14.55	177.68	617.29	2.81	1.17	4.37	4.37
Stillwater County	A10	RM 433.66	222201.9	1% - 100yr	1390.5	1139.6	1135.16	2.73	2.04	39.2	14.33	146	594.06	3.14	1.15	4.44	4.44
Stillwater County	A10	RM 433.54	221596.6	1% - 100yr	1390.5	1139.06	1135.33	3.37	3.08	61.27	33.07	139.46	458.32	2.89	1.56	3.73	3.73
Stillwater County	A10	RM 433.42	220956.2	1% - 100yr	1390.5	1138.52	1134.88	3.6	3.03	70.53	27.82	132.15	413.84	2.82	1.11	3.64	3.64
Stillwater County	A10	RM 433.31	220362.5	1% - 100yr	1390.5	1138.36	1134.67	2.63	2.06	40.08	17.69	205.11	653.12	2.37	1.04	3.69	3.69
Stillwater County	A10	RM 433.20	219758.6	1% - 100yr	1390.5	1138.27	1134.17	1.97	1.34	21.62	9.27	148.63	909.25	2.66	1.14	4.1	4.1
Stillwater County	A10	RM 433.09	219185.2	1% - 100yr	1390.5	1137.98	1133.45	2.35	1.8	29.58	10.64	180.41	715.4	3.01	1.08	4.53	4.53
Stillwater County	A10	RM 432.97	218599.7	1% - 100yr	1390.5	1137.7	1133.57	2.67	2	37.82	12.24	153.1	702.85	3.07	0.99	4.13	4.13
Stillwater County	A10	RM 432.84	217905.9	1% - 100yr	1390.5	1137.49	1132.7	2.57	1.76	33.48	10.15	136.55	749.83	3.48	1.05	4.79	4.79
Stillwater County	A10	RM 432.69	217146.9	1% - 100yr	1390.5	1136.84	1131.51	3.61	2.82	63.5	17.34	90.53	456.02	4.01	1.08	5.33	5.33
Stillwater County	A10	RM 432.60	216656.8	1% - 100yr	1390.5	1136.63	1132.1	3.46	2.75	59.49	16.05	102.29	519.51	3.78	1	4.52	4.52
Stillwater County	A10	RM 432.45	215889.7	1% - 100yr	1390.5	1136.33	1132.07	3.08	2.33	49.9	14.73	138.19	707.45	3.12	0.92	4.26	4.26
Stillwater County	A10	RM 432.35	215361.3	1% - 100yr	1390.5	1136.22	1132.33	2.55	1.67	34.33	11.86	159.19	870.41	3.09	1.06	3.89	3.89
Stillwater County	A10	RM 432.20	214585.3	1% - 100yr	1430.2	1135.46	1131.29	3.63	2.89	69.99	19.23	125.07	589.28	3.06	0.84	4.17	4.17
Stillwater County	A10	RM 432.10	214039.1	1% - 100yr	1430.2	1135.23	1130.7	3.29	2.24	56.82	18.07	124.1	714.93	3.16	1.01	4.53	4.53
Stillwater County	A10	RM 432.02	213606.1	1% - 100yr	1430.2	1135.17	1130.52	2.57	1.86	35.22	11.23	161.07	907.79	3.01	0.96	4.65	4.65
Stillwater County	A10	RM 431.87	212811.5	1% - 100yr	1430.2	1134.91	1129.24	2.38	1.72	32.35	11.81	210.92	926.72	2.47	0.9	5.67	5.67
Stillwater County	A10	RM 431.74	212127.4	1% - 100yr	1430.2	1134.77	1129.66	2.1	1.23	22.89	8.52	161.11	958.85	3.27	1.21	5.11	5.11
Stillwater County	A10	RM 431.60	211373.6	1% - 100yr	1430.2	1134.17	1129.96	3.22	2.59	54.52	15.97	134.23	596.99	3.17	0.93	4.21	4.21
Stillwater County	A10	RM 431.49	210820.2	1% - 100yr	1430.2	1133.93	1129.62	3.05	2.33	48.59	14.24	134.24	649.64	3.25	0.95	4.31	4.31
Stillwater County	A10	RM 431.41	210365.9	1% - 100yr	1430.2	1133.5	1129.57	3.5	3.01	65.25	21.79	130.45	469.78	3.04	1.01	3.93	3.93
Stillwater County	A10	RM 431.28	209716.5	1% - 100yr	1430.2	1133.19	1129.79	3.08	2.56	52.45	20.12	165.04	543.41	2.7	1.03	3.4	3.4
Stillwater County	A10	RM 431.14	208918.5	1% - 100yr	1430.2	1132.82	1129.82	2.57	2.49	38.25	19.4	132.53	480.11	2.36	1.2	4.07	4.07
Stillwater County	A10	RM 431.03	208358.8	1% - 100yr	1430.2	1132.42	1128.56	2.9	2.93	50.13	34.83	128.58	324.76	2.17	1.5	3.86	3.86
Stillwater County	A10	RM 430.93	207821.9	1% - 100yr	1430.2	1132.29	1128.76	2.42	2.03	33.04	19.36	126.38	476.39	2.52	1.48	3.53	3.53
Stillwater County	A10	RM 430.83	207325.6	1% - 100yr	1430.2	1132.03	1127.66	2.59	2.24	36.77	20.3	160.64	420.18	2.75	1.52	4.37	4.37
Stillwater County	A10	RM 430.70	206629.1	1% - 100yr	1430.2	1131.92	1126.9	2.05	1.67	21.82	9.48	150.14	569.08	3.45	1.5	5.02	5.02
Stillwater County	A10	RM 430.59	206064.9	1% - 100yr	1430.2	1131.8	1127.2	2.18	1.56	23.71	9.13	134.54	643.73	3.7	1.42	4.6	4.6
Stillwater County	A10	RM 430.51	205629.5	1% - 100yr	1430.2	1131.37	1126.28	3.23	2.37	52.68	15.48	107.05	574.23	3.61	1.05	5.09	5.09
Stillwater County	A10	RM 430.43	205204.2	1% - 100yr	1430.2	1131.06	1126.08	3.5	2.58	61.2	17.86	98.33	518.16	3.69	1.07	4.98	4.98
Stillwater County	A10	RM 430.34	204728.4	1% - 100yr	1430.2	1130.62	1126.07	3.85	2.97	76.79	24.15	103.36	466.57	3.3	1.03	4.55	4.55
Stillwater County	A11	RM 430.23	204119.7	1% - 100yr	1430.2	1130.61	1126.63	2.52	1.8	33.93	14.51	169.31	711.24	2.97	1.26	3.98	3.98
Stillwater County	A11	RM 430.12	203479.6	1% - 100yr	1430.2	1130.42	1126.96	2.63	1.78	37.43	14.09	112.27	802.75	2.86	1.07	3.89	3.89
Stillwater County	A11	RM 430.04	202968.2	1% - 100yr	1430.2	1130.13	1127.24	2.86	2.06	45.73	15.41	112.83	791.05	2.64	0.88	3.49	3.49
Stillwater County	A11	RM 429.95	202589.5	1% - 100yr	1430.2	1129.96	1126.33	2.57	1.88	37.72	14.66	142.04	801.54	2.46	0.95	3.63	3.63
Stillwater County	A11	RM 429.88	202224.7	1% - 100yr	1430.2	1129.87	1125.62	1.96	1.6	15.89	13.14	357.53	800.35	1.35	1.12	4.25	4.25
Stillwater County	A11	RM 429.78	201933.6	1% - 100yr	1430.2	1129.67	1123.72	2.3	1.68	22.82	14.91	210.65	671.4	1.94	1.27	5.94	5.94
Stillwater County	A11	RM 429.69	201539.9	1% - 100yr	1430.2	1128.97	1123.39	3.89	2.83	82.14	31.45	91.42	459.03	2.9	1.1	5.58	5.58
Stillwater County	A11	RM 429.58	200961.9	1% - 100yr	1430.2	1128.75	1124.69	2.98	1.98	49.65	24.26	116.91	575.12	2.58	1.26	4.06	4.06
Stillwater County	A11	RM 429.38	200210.8	1% - 100yr	1430.2	1128.34	1125.15	2.34	1.81	31.81	18.81	184.78	576.71	2.31	1.37	3.91	3.91
Stillwater County	A11	RM 429.28	199644.1	1% - 100yr	1430.2	1128.05	1123.59	2.53	1.9	36.21	18.6	148.58	582.3	2.52	1.29	4.46	4.46

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	1% - 100yr	1430.2	1127.86	1124.66	2.2	1.76	28.48	16.58	144.34	622.43	2.25	1.31	3.94	3.94
Stillwater County	A11	RM 429.10	198708.6	1% - 100yr	1430.2	1127.48	1124.26	2.85	2.18	47.25	23.31	87.69	571.15	2.33	1.15	3.9	3.9
Stillwater County	A11	RM 429.00	198203.8	1% - 100yr	1430.2	1127.27	1123.47	2.4	2.03	34.6	23.5	124.54	487.34	2.13	1.45	3.8	3.8
Stillwater County	A11	RM 428.89	197650.5	1% - 100yr	1430.2	1127.02	1121.26	2.66	2.05	37.72	19.62	150.77	447.44	3.01	1.56	5.76	5.76
Stillwater County	A11	RM 428.81	197194.1	1% - 100yr	1430.2	1126.78	1121.47	3.01	2.19	46.35	21.99	98.54	404.48	3.41	1.61	5.31	5.31
Stillwater County	A11	RM 428.66	196404.4	1% - 100yr	1430.2	1126.57	1122.31	2.31	1.9	30.19	17.05	204.39	627.09	2.54	1.43	4.26	4.26
Stillwater County	A11	RM 428.52	195702.6	1% - 100yr	1430.2	1126.24	1122.1	2.51	1.99	35.81	18.02	206.65	682.88	2.46	1.23	4.13	4.13
Stillwater County	A11	RM 428.44	195293.8	1% - 100yr	1430.2	1125.95	1121.18	2.91	2.16	45.23	16.62	146.38	650.66	2.98	1.09	4.77	4.77
Stillwater County	A11	RM 428.39	195075.5	1% - 100yr	1430.2	1125.73	1120.72	3.29	2.36	57.17	19.21	122.37	583.61	3.1	1.04	5.01	5.01
Stillwater County	A11	RM 428.33	194724.6	1% - 100yr	1430.2	1125.41	1121.22	3.47	2.77	65.35	21.79	135.66	588.09	2.84	0.94	4.19	4.19
Stillwater County	A11	RM 428.28	194450.8	1% - 100yr	1430.2	1125.27	1121.2	3.31	2.6	60.51	21.7	144.91	566.35	2.71	0.97	4.07	4.07
Stillwater County	A11	RM 428.23	194235.2	1% - 100yr	1430.2	1125.18	1120.74	3.12	2.31	53.17	18.72	143.06	624.49	2.83	0.99	4.44	4.44
Stillwater County	A11	RM 428.20	194033.4	1% - 100yr	1430.2	1125.06	1120.37	3.2	2.44	53.73	18.26	121	548.03	3.17	1.07	4.69	4.69
Stillwater County	A11	RM 428.15	193779.9	1% - 100yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A11	RM 428.09	193436.6	1% - 100yr	1430.2	1124.89	1119.9	2.8	2.02	41.55	17.79	120.19	535.66	3.12	1.32	4.99	4.99
Stillwater County	A11	RM 428.05	193246.1	1% - 100yr	1430.2	1124.81	1120.1	2.73	1.97	39.93	16.32	126.82	595.01	3.02	1.22	4.71	4.71
Stillwater County	A11	RM 428.00	192989.8	1% - 100yr	1430.2	1124.75	1120.28	2.54	1.76	33.82	14.28	127.29	611.76	3.17	1.33	4.46	4.46
Stillwater County	A11	RM 427.95	192728.8	1% - 100yr	1430.2	1124.7	1119.57	2.36	1.62	28.63	12.57	131.09	631.72	3.33	1.46	5.12	5.12
Stillwater County	A11	RM 427.88	192333.2	1% - 100yr	1430.2	1124.24	1119.27	3.42	2.52	60.03	23.17	102.47	689.19	3.38	1.3	4.97	4.97
Stillwater County	A11	RM 427.83	192088.8	1% - 100yr	1430.2	1124.12	1119.18	3.37	2.48	58.31	22.51	103.17	661.47	3.38	1.3	4.94	4.94
Stillwater County	A11	RM 427.76	191724.1	1% - 100yr	1430.2	1123.74	1119.07	3.73	3.14	72.06	27.93	101.84	359.44	3.3	1.27	4.67	4.67
Stillwater County	A11	RM 427.65	191155.9	1% - 100yr	1430.2	1123.76	1118.58	2.47	1.71	30.54	15.23	139.89	705.35	3.62	1.8	5.18	5.18
Stillwater County	A11	RM 427.53	190509.6	1% - 100yr	1430.2	1123.32	1117.37	3.27	2.18	51.95	19.95	96.4	557.26	4.05	1.54	5.95	5.95
Stillwater County	A11	RM 427.41	189886.1	1% - 100yr	1430.2	1123.05	1118.73	3.2	2.48	51.26	19.17	115.97	502.04	3.63	1.35	4.32	4.32
Stillwater County	A11	RM 427.29	189253.3	1% - 100yr	1430.2	1122.77	1119.12	2.98	2.53	49.85	26.14	176.94	435.16	2.59	1.36	3.65	3.65
Stillwater County	A11	RM 427.17	188639.5	1% - 100yr	1430.2	1122.57	1118.44	2.5	1.98	34.68	19.74	197.68	476.86	2.66	1.52	4.13	4.13
Stillwater County	A11	RM 427.09	188179.7	1% - 100yr	1430.2	1122.14	1118.34	3.24	2.32	55.52	23.03	127.59	477.27	3.13	1.29	3.8	3.8
Stillwater County	A11	RM 427.00	187745.4	1% - 100yr	1430.2	1122.03	1117.71	2.79	1.96	41.76	20.54	143.34	493.82	2.99	1.47	4.32	4.32
Stillwater County	A11	RM 426.92	187309.3	1% - 100yr	1430.2	1121.85	1117.32	2.57	2.16	37.34	23.61	205.73	415.44	2.52	1.6	4.53	4.53
Stillwater County	A11	RM 426.86	186960.4	1% - 100yr	1430.2	1121.72	1116.77	2.45	2.09	33.42	19.88	210.76	433.53	2.66	1.58	4.95	4.95
Stillwater County	A11	RM 426.75	186401.3	1% - 100yr	1430.2	1121.51	1116.11	2.5	2.07	33.81	19.04	182.86	423.29	2.89	1.63	5.4	5.4
Stillwater County	A11	RM 426.67	185983.5	1% - 100yr	1430.2	1121.28	1115.84	2.77	2.33	38.52	18.69	138.91	351.22	3.61	1.75	5.44	5.44
Stillwater County	A11	RM 426.59	185580.4	1% - 100yr	1430.2	1120.83	1115.47	3.54	3.28	62.24	37.78	106	191	3.76	2.28	5.36	5.36
Stillwater County	A11	RM 426.52	185166.5	1% - 100yr	1430.2	1120.62	1115.54	3.5	3.47	60.82	48.69	108.17	136.57	3.77	3.02	5.08	5.08
Stillwater County	A11	RM 426.43	184738.3	1% - 100yr	1430.2	1120.41	1115.89	3.47	3.4	61.15	52.47	116.99	139.73	3.5	3.01	4.52	4.52
Stillwater County	A11	RM 426.32	184158.4	1% - 100yr	1430.2	1120.12	1116.39	3.33	3.32	57.74	54.96	133.45	140.28	3.22	3.07	3.73	3.73
Stillwater County	A11	RM 426.20	183517.2	1% - 100yr	1430.2	1119.84	1116.07	2.85	2.82	47.38	44.68	216.15	232.17	2.31	2.18	3.77	3.77
Stillwater County	A11	RM 426.11	183030.7	1% - 100yr	1430.2	1119.68	1115.37	2.35	2.31	30.87	30.04	270.07	303.76	2.23	2.17	4.31	4.31
Stillwater County	A11	RM 426.00	182442.5	1% - 100yr	1430.2	1119.47	1115.74	2.25	2.06	28.99	25.16	243.38	429.03	2.46	2.14	3.73	3.73
Stillwater County	A11	RM 425.89	181895	1% - 100yr	1430.2	1119.2	1115.1	2.52	2.3	34.03	20.87	187.02	477.35	2.97	1.82	4.1	4.1
Stillwater County	A11	RM 425.72	181043.5	1% - 100yr	1430.2	1118.81	1113.77	2.78	2.41	40.19	22.41	151.05	446.25	3.28	1.82	5.04	5.04
Stillwater County	A11	RM 425.58	180310.5	1% - 100yr	1430.2	1118.2	1112.19	3.59	3.09	63.14	24.12	98.64	383.82	3.93	1.49	6.01	6.01
Stillwater County	A11	RM 425.46	179669.9	1% - 100yr	1430.2	1117.65	1112.78	4.03	3.42	82.4	35.94	96.07	314.81	3.52	1.53	4.87	4.87
Stillwater County	A11	RM 425.34	179022.4	1% - 100yr	1430.2	1117.6	1113.64	2.8	2.44	41.37	27.12	137.83	288.28	3.11	2.04	3.96	3.96
Stillwater County	A11	RM 425.24	178485.9	1% - 100yr	1430.2	1117.35	1114.19	2.75	2.43	42.3	33.32	126.45	382.63	2.58	2.04	3.21	3.21
Stillwater County	A11	RM 425.18	178205.8	1% - 100yr	1430.2	1117.07	1113.81	3.05	2.81	53.14	43.55	128.32	251.46	2.47	2.03	3.76	3.76
Stillwater County	A11	RM 425.11	177826.8	1% - 100yr	1430.2	1116.8	1113.29	3	2.87	51.05	37.03	120.72	273.14	2.51	1.83	4.51	4.51
Stillwater County	A11	RM 425.04	177454.7	1% - 100yr	1430.2	1116.59	1112.86	3.04	2.59	50.11	34.6	106.76	279.18	2.87	1.98	4.12	4.12
Stillwater County	A11	RM 424.97	177098.9	1% - 100yr	1430.2	1116.22	1113.11	3.35	3	62.72	41.2	106.81	281.17	2.6	1.71	3.21	3.21
Stillwater County	A11	RM 424.89	176675.9	1% - 100yr	1430.2	1116.11	1112.27	2.48	2.2	35.01	25.05	136.62	484.34	2.49	1.79	5.31	5.31
Stillwater County	A11	RM 424.81	176242.8	1% - 100yr	1430.2	1115.67	1112.25	2.96	2.85	54.16	37.1	139.22	451.78	1.92	1.32	3.67	3.67
Stillwater County	A11	RM 424.70	175789.3	1% - 100yr	1430.2	1115.52	1111.91	2.45	2.15	33.52	17.3	161.26	557.59	2.61	1.35	3.61	3.61
Stillwater County	A11	RM 424.58	175159.4	1% - 100yr	1430.2	1115.17	1111.34	2.82	2.33	45.31	29.05	132.39	390.6	2.45	1.57	3.83	3.83
Stillwater County	A11	RM 424.51	174723.2	1% - 100yr	1430.2	1114.98	1110.93	2.48	2.1	36.96	26.55	140.84	488.27	2.12	1.53	4.05	4.05
Stillwater County	A11	RM 424.38	174051	1% - 100yr	1430.2	1114.55	1110.98	2.77	2.27	46.2	21.41	135.76	657.12	2.12	0.98	3.57	3.57
Stillwater County	A11	RM 424.30	173607.9	1% - 100yr	1430.2	1114.32	1110.75	2.62	1.95	43.1	23.63	158.99	722.8	1.86	1.02	3.57	3.57
Stillwater County	A11	RM 424.21	173153.7	1% - 100yr	1430.2	1114.07	1110.74	2.29	1.7	32.2	16.08	188.24	849.2	1.99	0.99	3.33	3.33
Stillwater County	A11	RM 424.13	172713.5	1% - 100yr	1430.2	1113.85	1110.43	2.38	1.51	34.51	18.2	103.4	890.1	2.02	1.06	3.5	3.5
Stillwater County	A11	RM 424.05	172309.3	1% - 100yr	1430.2	1113.7	1110.18	1.85	1.36	20.92	12.7	155.55	867.57	1.99	1.21	3.52	3.52
Stillwater County	A11	RM 423.98	171892.1	1% - 100yr	1430.2	1113.61	1110.15	1.67	1.24	15.95	9.17	252.66	835.36	2.41	1.38	3.46	3.46

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	1% - 100yr	1430.2	1113.43	1109.55	2.24	1.48	27.85	12.91	156.66	783.05	2.68	1.23	3.88	3.88
Stillwater County	A11	RM 423.84	171147.5	1% - 100yr	1430.2	1113.34	1109.08	2.23	1.4	26.14	11.56	126.81	738.86	3.13	1.38	4.26	4.26
Stillwater County	A11	RM 423.74	170686.3	1% - 100yr	1430.2	1113.3	1108.91	1.74	1.14	15.74	8.73	124.33	689.14	3.31	1.83	4.39	4.39
Stillwater County	A11	RM 423.69	170436.3	1% - 100yr	1430.2	1113.14	1108.49	2.35	1.55	28.4	13.99	88.65	554.13	3.43	1.67	4.65	4.65
Stillwater County	A11	RM 423.57	169782.9	1% - 100yr	1430.2	1112.94	1108.2	2.25	1.6	25.81	10.04	159.21	672.41	3.43	1.33	4.74	4.74
Stillwater County	A11	RM 423.47	169296.5	1% - 100yr	1430.2	1112.43	1107.67	3.31	2.66	55.94	21.38	120.55	573.82	3.46	1.32	4.76	4.76
Stillwater County	A11	RM 423.39	168860.7	1% - 100yr	1430.2	1112.08	1107.7	3.63	2.83	67.24	23.11	107.8	525.27	3.46	1.18	4.38	4.38
Stillwater County	A11	RM 423.27	168178	1% - 100yr	1430.2	1111.46	1107.36	3.9	3.32	81.06	28.76	118.28	404.27	3.02	1.06	4.1	4.1
Stillwater County	A12	RM 423.17	167687.7	1% - 100yr	1430.2	1111.31	1107.46	3.14	2.58	53.98	23.27	153.74	459.94	2.81	1.21	3.85	3.85
Stillwater County	A12	RM 423.08	167239.6	1% - 100yr	1430.2	1111.08	1107.21	3.1	2.41	52.7	22.41	129.63	499.94	2.79	1.19	3.87	3.87
Stillwater County	A12	RM 423.01	166844.5	1% - 100yr	1430.2	1110.87	1106.84	2.91	2.35	48.55	24.31	144.56	503.86	2.42	1.21	4.03	4.03
Stillwater County	A12	RM 422.91	166338	1% - 100yr	1430.2	1110.49	1106.54	3.22	2.5	55.85	24.25	112.6	450.59	2.93	1.27	3.95	3.95
Stillwater County	A12	RM 422.80	165757.6	1% - 100yr	1430.2	1110.23	1106.83	2.88	2.23	45.75	20.31	147.7	534.39	2.71	1.2	3.4	3.4
Stillwater County	A12	RM 422.70	165279.2	1% - 100yr	1430.2	1110.14	1105.79	2.23	1.71	27.92	15.32	203.12	587.18	2.58	1.42	4.35	4.35
Stillwater County	A12	RM 422.63	164895.4	1% - 100yr	1430.2	1110.05	1105.43	2.07	1.53	24.01	13.25	179.41	646.99	2.61	1.44	4.62	4.62
Stillwater County	A12	RM 422.53	164348.1	1% - 100yr	1430.2	1109.87	1104.76	2.18	1.65	25.82	12.54	167.27	654.08	2.85	1.38	5.11	5.11
Stillwater County	A12	RM 422.39	163609.2	1% - 100yr	1430.2	1109.56	1104.22	2.6	1.99	34.11	15.19	132.53	497.14	3.58	1.59	5.34	5.34
Stillwater County	A12	RM 422.30	163120.4	1% - 100yr	1430.2	1109.04	1104.18	3.49	3.07	60.94	23.63	109.03	333.88	3.65	1.41	4.86	4.86
Stillwater County	A12	RM 422.19	162534.3	1% - 100yr	1430.2	1108.86	1103.72	3.09	2.75	47.74	24.6	122.19	275.46	3.68	1.89	5.14	5.14
Stillwater County	A12	RM 422.08	161934.5	1% - 100yr	1430.2	1108.27	1104.18	3.79	3.5	74.59	41.28	113.23	226.81	3.27	1.8	4.09	4.09
Stillwater County	A12	RM 421.98	161402.1	1% - 100yr	1430.2	1108.16	1103.86	3	2.89	46.54	35.62	142.02	195.02	3.32	2.54	4.3	4.3
Stillwater County	A12	RM 421.90	161037.7	1% - 100yr	1430.2	1108.01	1103.14	2.91	2.91	45.82	41.39	168.62	187.32	2.91	2.63	4.87	4.87
Stillwater County	A12	RM 421.86	160799.3	1% - 100yr	1430.2	1107.91	1102.54	2.83	2.77	44.83	36.06	193.24	284.89	2.61	2.09	5.37	5.37
Stillwater County	A12	RM 421.81	160535.9	1% - 100yr	1430.2	1107.79	1102.38	2.7	2.65	42.04	32.75	222.13	321.71	2.38	1.85	5.41	5.41
Stillwater County	A12	RM 421.77	160279.4	1% - 100yr	1430.2	1107.6	1102.41	2.9	2.62	47.86	28.18	182.53	370.59	2.5	1.47	5.19	5.19
Stillwater County	A12	RM 421.69	159875.5	1% - 100yr	1430.2	1107.45	1102.56	2.77	2.18	38.67	16.57	130.2	426.4	3.61	1.54	4.89	4.89
Stillwater County	A12	RM 421.60	159411.4	1% - 100yr	1430.2	1107.07	1103.26	3.36	2.7	60.9	26.21	131.13	422.46	2.91	1.26	3.81	3.81
Stillwater County	A12	RM 421.53	159038	1% - 100yr	1430.2	1106.65	1102.81	3.73	3.23	78.23	35.62	133.17	380.37	2.56	1.17	3.84	3.84
Stillwater County	A12	RM 421.45	158590.5	1% - 100yr	1430.2	1106.51	1103.26	2.92	2.53	48	26.56	155.02	452.26	2.55	1.41	3.25	3.25
Stillwater County	A12	RM 421.32	157930.2	1% - 100yr	1430.2	1106.12	1102.82	2.87	2.6	49.8	34.25	98.67	394.67	2.05	1.42	3.3	3.3
Stillwater County	A12	RM 421.24	157513	1% - 100yr	1430.2	1105.86	1103.05	2.65	2.34	44.12	34.53	126.81	425.02	1.83	1.44	3.38	3.38
Stillwater County	A12	RM 421.13	156951.5	1% - 100yr	1430.2	1105.69	1100.38	2.24	1.96	29.24	21.42	118.8	448.13	2.31	1.69	5.31	5.31
Stillwater County	A12	RM 421.05	156536.5	1% - 100yr	1430.2	1105.6	1102.11	1.9	1.74	21.16	17.18	103.99	545.57	2.28	1.85	3.49	3.49
Stillwater County	A12	RM 420.94	155960.1	1% - 100yr	1430.2	1105.32	1101.68	2.18	2.03	25.41	16.53	213.29	489.44	2.99	1.94	3.64	3.64
Stillwater County	A12	RM 420.85	155473.6	1% - 100yr	1430.2	1104.64	1100.98	3.77	2.73	80.52	40.31	135.54	441.66	2.51	1.25	3.66	3.66
Stillwater County	A12	RM 420.75	154957.2	1% - 100yr	1430.2	1104.55	1099.95	2.69	1.97	39.43	19.82	157.51	511.67	2.83	1.42	4.6	4.6
Stillwater County	A12	RM 420.66	154483	1% - 100yr	1430.2	1104.39	1099.89	2.49	1.79	32.9	19.12	165.17	592.45	3.07	1.78	4.5	4.5
Stillwater County	A12	RM 420.58	154037.5	1% - 100yr	1430.2	1104.01	1100.13	3.21	2.2	53.69	22.2	122.25	528.7	3.21	1.32	3.88	3.88
Stillwater County	A12	RM 420.52	153691.5	1% - 100yr	1430.2	1103.85	1099.7	3.1	2.11	50.95	19.35	131.23	585.58	3.06	1.16	4.15	4.15
Stillwater County	A12	RM 420.46	153398	1% - 100yr	1430.2	1103.57	1099.36	3.36	2.51	61.53	23.53	138.66	531.27	2.81	1.07	4.21	4.21
Stillwater County	A12	RM 420.38	152998.3	1% - 100yr	1430.2	1103.49	1099.19	2.66	1.91	39.4	18.24	177.26	617.65	2.64	1.22	4.3	4.3
Stillwater County	A12	RM 420.30	152566.4	1% - 100yr	1430.2	1103.43	1099.43	2.02	1.47	22.79	13.75	230.5	627.77	2.59	1.57	4	4
Stillwater County	A12	RM 420.21	152106.2	1% - 100yr	1430.2	1103.28	1098.69	2.1	1.61	25.53	17.27	238.7	557.3	2.37	1.6	4.59	4.59
Stillwater County	A12	RM 420.15	151738.6	1% - 100yr	1430.2	1103.17	1098.38	2.02	1.75	20.48	13.96	260.73	474.29	2.56	1.74	4.79	4.79
Stillwater County	A12	RM 420.08	151399.3	1% - 100yr	1430.2	1103.02	1097.97	2.27	1.96	27.41	15.42	196.82	424.66	3.06	1.71	5.05	5.05
Stillwater County	A12	RM 420.03	151123.2	1% - 100yr	1430.2	1102.86	1097.96	2.62	2.02	34.79	16.98	142.7	411.36	3.54	1.72	4.9	4.9
Stillwater County	A12	RM 419.96	150779.4	1% - 100yr	1430.2	1102.66	1098.1	2.93	2.09	44.03	20.29	128.1	435.52	3.4	1.57	4.56	4.56
Stillwater County	A12	RM 419.91	150511.3	1% - 100yr	1430.2	1102.32	1097.83	3.51	2.55	61.63	21.41	102.77	439.32	3.71	1.28	4.49	4.49
Stillwater County	A12	RM 419.85	150192.4	1% - 100yr	1430.2	1101.93	1097.85	3.97	2.92	82.79	29.46	106.79	433.31	3.18	1.13	4.08	4.08
Stillwater County	A12	RM 419.78	149807.6	1% - 100yr	1430.2	1101.8	1097.13	3.5	2.4	61.71	24.42	104.97	422.91	3.59	1.41	4.67	4.67
Stillwater County	A12	RM 419.70	149371.5	1% - 100yr	1430.2	1101.51	1097.73	3.48	2.76	65.79	30	138.38	399.18	2.85	1.3	3.78	3.78
Stillwater County	A12	RM 419.63	149047.6	1% - 100yr	1430.2	1101.39	1097.92	3.05	2.56	51.54	26.29	168.37	404.69	2.71	1.38	3.47	3.47
Stillwater County	A12	RM 419.53	148495.9	1% - 100yr	1430.2	1101.06	1097.22	3.17	2.48	58.02	33.42	136.75	424.3	2.36	1.36	3.84	3.84
Stillwater County	A12	RM 419.46	148117.9	1% - 100yr	1430.2	1100.87	1097.34	2.75	2.15	43.33	25.34	133.46	467.57	2.43	1.42	3.79	3.79
Stillwater County	A12	RM 419.38	147728.5	1% - 100yr	1430.2	1100.71	1097.36	2.31	1.95	31.4	23.88	149.23	425.8	2.27	1.73	3.35	3.35
Stillwater County	A12	RM 419.31	147342.9	1% - 100yr	1430.2	1100.62	1096.9	1.99	1.78	21.36	16.97	114.45	349.82	2.88	2.29	3.72	3.72
Stillwater County	A12	RM 419.19	146720.3	1% - 100yr	1430.2	1100.48	1096.42	1.81	1.92	17.62	14.67	106.51	365.49	2.94	2.45	6.08	6.08
Stillwater County	A12	RM 419.10	146243.9	1% - 100yr	1430.2	1100.34	1095.09	2.26	1.99	25.01	12.68	156.37	481.58	3.91	1.98	5.25	5.25
Stillwater County	A12	RM 419.03	145859.8	1% - 100yr	1430.2	1099.99	1095.88	3.04	2.76	51.18	27.73	172.66	404.56	2.67	1.44	4.11	4.11
Stillwater County	A12	RM 418.95	145435.3	1% - 100yr	1430.2	1099.77	1095.15	2.83	2.5	46.49	25.26	207.31	518.05	2.35	1.28	4.62	4.62

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	1% - 100yr	1430.2	1099.42	1094.92	2.8	2.34	46.72	23.65	222.59	590.12	2.18	1.1	4.5	4.5
Stillwater County	A12	RM 418.57	143452.8	1% - 100yr	1430.2	1098.39	1095.1	3.18	2.4	58.76	22.77	135.5	661.44	2.34	0.91	3.28	3.28
Stillwater County	A12	RM 418.49	143008.1	1% - 100yr	1430.2	1098.32	1094.94	2.21	1.53	27.44	13.67	169.36	848.22	2.56	1.28	3.38	3.38
Stillwater County	A12	RM 418.25	141740.8	1% - 100yr	1430.2	1097.65	1093.71	2.24	1.64	29.99	19.66	178.18	686.97	2.15	1.41	3.94	3.94
Stillwater County	A12	RM 418.08	140894.8	1% - 100yr	1430.2	1097.36	1092.65	2.22	1.81	27.36	14.46	139.46	587.61	2.7	1.43	4.7	4.7
Stillwater County	A12	RM 417.89	139893.7	1% - 100yr	1430.2	1096.6	1092.75	3.4	2.73	62.3	24.58	128.08	568.24	2.92	1.15	3.84	3.84
Stillwater County	A12	RM 417.79	139376.4	1% - 100yr	1430.2	1096.42	1091.64	2.92	2.25	47.25	23.13	137.69	610.72	2.71	1.32	4.77	4.77
Stillwater County	A12	RM 417.65	138633.4	1% - 100yr	1430.2	1095.93	1091.57	3.36	2.6	57.64	27.2	93.48	416.84	3.43	1.61	4.36	4.36
Stillwater County	A12	RM 417.54	138089.5	1% - 100yr	1430.2	1095.27	1091.15	4.12	3.35	88.98	44.89	88.67	271.07	3.17	1.59	4.12	4.12
Stillwater County	A12	RM 417.40	137321.3	1% - 100yr	1631.3	1095.05	1091.71	2.89	2.42	46.79	31.55	128.55	447.72	2.59	1.74	3.34	3.34
Stillwater County	A12	RM 417.30	136818.2	1% - 100yr	1631.3	1094.72	1091.51	2.83	2.54	46.32	31	209.14	450.35	2.36	1.58	3.21	3.21
Stillwater County	A13	RM 417.09	135706	1% - 100yr	1631.3	1094	1090.35	3.34	2.82	63.57	37.33	189.98	406.81	2.47	1.46	3.65	3.65
Stillwater County	A13	RM 417.01	135303.6	1% - 100yr	1631.3	1093.91	1090	2.57	2.31	37.82	25.54	254.72	491.43	2.43	1.64	3.91	3.91
Stillwater County	A13	RM 416.85	134457.6	1% - 100yr	1631.3	1093.27	1089.62	2.9	2.4	45.55	24.5	187.24	438.83	2.89	1.55	3.65	3.65
Stillwater County	A13	RM 416.73	133843.5	1% - 100yr	1631.3	1092.79	1089.6	3.2	2.69	59.62	33.72	214.87	466.75	2.29	1.3	3.19	3.19
Stillwater County	A13	RM 416.63	133286.1	1% - 100yr	1631.3	1092.4	1089.3	3.15	2.73	59.6	39.53	134.05	427.26	2.1	1.4	3.1	3.1
Stillwater County	A13	RM 416.52	132717.9	1% - 100yr	1631.3	1092.14	1089.09	2.67	2.04	42.88	27.08	104.23	606.81	2.08	1.32	3.05	3.05
Stillwater County	A13	RM 416.43	132250.3	1% - 100yr	1631.3	1091.84	1088.74	2.49	2.01	38.04	24.68	115.63	628.79	1.99	1.29	3.1	3.1
Stillwater County	A13	RM 416.33	131707.5	1% - 100yr	1631.3	1091.63	1088.02	2.26	1.83	30.37	18.11	132.56	693.35	2.16	1.29	3.61	3.61
Stillwater County	A13	RM 416.22	131140.9	1% - 100yr	1631.3	1091.22	1087.56	3.18	2.21	55.1	21.95	84.28	649.94	2.85	1.13	3.66	3.66
Stillwater County	A13	RM 416.13	130626.3	1% - 100yr	1631.3	1090.84	1086.65	3.06	2.34	51.67	22.83	148.11	576.18	2.73	1.21	4.19	4.19
Stillwater County	A13	RM 416.04	130164.9	1% - 100yr	1631.3	1090.46	1085.03	3.42	2.28	63.63	25.4	125.27	644.15	2.86	1.14	5.43	5.43
Stillwater County	A13	RM 415.96	129734.7	1% - 100yr	1631.3	1090.41	1085.48	2.53	1.6	34.09	14.94	133.05	838.07	3.07	1.34	4.93	4.93
Stillwater County	A13	RM 415.90	129423.4	1% - 100yr	1631.3	1090.32	1085.77	2.14	1.35	24.98	12.65	159.69	906.52	2.82	1.43	4.55	4.55
Stillwater County	A13	RM 415.83	129071.6	1% - 100yr	1631.3	1090.23	1085.89	2.02	1.32	21.65	11.66	152.97	744.51	3.07	1.65	4.9	4.9
Stillwater County	A13	RM 415.74	128639.5	1% - 100yr	1631.3	1089.97	1084.72	2.66	1.68	35.92	16.08	154.02	810.8	3.48	1.55	5.25	5.25
Stillwater County	A13	RM 415.72	128521.2	1% - 100yr	1631.3	1089.79	1084.8	3.09	1.95	48.46	20.57	131.95	783.48	3.53	1.49	4.99	4.99
Stillwater County	A13	RM 415.65	128106.2	1% - 100yr	1631.3	1089.61	1083.7	3.03	2.06	50.21	25.27	170.19	837.55	2.8	1.41	5.91	5.91
Stillwater County	A13	RM 415.59	127828.3	1% - 100yr	1631.3	1089.06	1083.61	3.9	3.13	81.88	33.88	136.01	578.11	2.96	1.22	5.45	5.45
Stillwater County	A13	RM 415.55	127620.5	1% - 100yr	1631.3	1089.11	1082.84	2.95	2.9	41.84	25.77	132.97	394.53	4.15	2.54	6.27	6.27
Stillwater County	A13	RM 415.50	127340.9	1% - 100yr	1631.3	1088.97	1083.14	3.04	2.86	47.08	25.09	152.45	526.18	3.5	1.86	5.83	5.83
Stillwater County	A13	RM 415.45	127087.4	1% - 100yr	1631.3	1088.52	1083.18	3.72	3.4	76.76	39.6	160.08	456.11	2.71	1.39	5.34	5.34
Stillwater County	A13	RM 415.34	126499.1	1% - 100yr	1631.3	1088.31	1084.45	3.22	2.76	55.7	30.17	129.56	637.17	2.93	1.59	3.86	3.86
Stillwater County	A13	RM 415.25	126040.7	1% - 100yr	1631.3	1088.09	1082.42	3.16	2.4	52.13	23.56	123.59	599.99	3.2	1.44	5.67	5.67
Stillwater County	A13	RM 415.18	125663.1	1% - 100yr	1631.3	1087.9	1083.81	3.08	2.68	49.47	23.98	135.23	525.3	3.21	1.55	4.09	4.09
Stillwater County	A13	RM 414.97	124585.1	1% - 100yr	1631.3	1087.03	1082.64	3.37	2.62	61.06	29.98	121.02	487.37	2.96	1.45	4.39	4.39
Stillwater County	A13	RM 414.88	124110.1	1% - 100yr	1631.3	1086.77	1083.02	3.23	2.63	55.97	29.07	124.65	448.64	3	1.55	3.75	3.75
Stillwater County	A13	RM 414.71	123222	1% - 100yr	1631.3	1086.26	1080.88	3.05	2.69	49.06	21.84	165.46	434.58	3.15	1.39	5.38	5.38
Stillwater County	A13	RM 414.57	122473.6	1% - 100yr	1631.3	1085.59	1081.21	3.65	3.16	71.47	30.93	146.86	439.89	2.98	1.29	4.38	4.38
Stillwater County	A13	RM 414.43	121696.6	1% - 100yr	1631.3	1085.1	1080.49	3.36	2.64	62.61	30.43	170.98	750.95	2.68	1.3	4.61	4.61
Stillwater County	A13	RM 414.21	120527.7	1% - 100yr	1631.3	1084.41	1080.81	2.86	2.34	48.63	25.19	221.84	717.81	2.17	1.13	3.6	3.6
Stillwater County	A13	RM 413.90	118914.7	1% - 100yr	1631.3	1083.05	1079.28	3.46	2.47	66.27	26.4	156.68	610.97	2.71	1.08	3.77	3.77
Stillwater County	A13	RM 413.65	117570.4	1% - 100yr	1631.3	1082.32	1078.15	3.1	1.78	51.5	24.03	142.47	664.77	2.96	1.38	4.17	4.17
Stillwater County	A14	RM 413.44	116446.3	1% - 100yr	1631.3	1081.57	1076.4	3.34	1.87	60.7	20.37	147.72	909.87	2.86	0.96	5.17	5.17
Stillwater County	A14	RM 413.27	115556.7	1% - 100yr	1631.3	1081.04	1077.8	3.13	1.82	57.08	25.16	176.76	894.85	2.29	1.01	3.24	3.24
Stillwater County	A14	RM 413.11	114697.4	1% - 100yr	1631.3	1080.52	1077.12	2.81	1.78	45.39	20	197.3	966.62	2.39	1.05	3.4	3.4
Stillwater County	A14	RM 412.99	114113.2	1% - 100yr	1631.3	1080.18	1076.41	2.85	1.81	47.12	22.61	190.79	963.18	2.33	1.12	3.77	3.77
Stillwater County	A14	RM 412.88	113533.6	1% - 100yr	1631.3	1079.81	1076.03	3	2.12	48.59	21.41	145.1	761.88	2.88	1.27	3.78	3.78
Stillwater County	A14	RM 412.73	112742.6	1% - 100yr	1631.3	1079.33	1074.72	3.05	2.09	52.77	29.69	174.42	708.16	2.52	1.42	4.61	4.61
Stillwater County	A14	RM 412.59	112005.5	1% - 100yr	1631.3	1078.92	1074.72	2.84	2.02	45.4	26.32	198.19	847.84	2.55	1.48	4.2	4.2
Stillwater County	A14	RM 412.49	111442.5	1% - 100yr	1631.3	1078.86	1074.54	2.1	1.57	23.54	11.74	189.08	937.09	2.97	1.48	4.32	4.32
Stillwater County	A14	RM 412.31	110522	1% - 100yr	1631.3	1078.52	1072.96	2.52	1.83	30.6	13.33	144.87	769.74	4.08	1.76	5.56	5.56
Stillwater County	A14	RM 412.19	109955.3	1% - 100yr	1631.3	1077.65	1071.57	4.25	3.32	91.97	34.97	103.6	370.92	3.53	1.33	6.08	6.08
Stillwater County	A14	RM 412.05	109175.2	1% - 100yr	1631.3	1077.34	1072.08	3.55	2.65	62.93	23.55	116.36	502.79	3.68	1.37	5.26	5.26
Stillwater County	A14	RM 411.92	108510.2	1% - 100yr	1631.3	1077.05	1072.88	3.23	3.05	53.34	25.17	146.42	332.57	3.42	1.61	4.17	4.17
Stillwater County	A14	RM 411.81	107950.5	1% - 100yr	1631.3	1076.5	1070.62	3.77	3.77	74.4	73.62	135.94	207.79	3.18	3.15	5.88	5.88
Stillwater County	A14	RM 411.71	107391.9	1% - 100yr	1631.3	1076.2	1070.83	3.6	3.58	64.17	60.42	119.39	191.14	3.79	3.57	5.37	5.37
Stillwater County	A14	RM 411.58	106721	1% - 100yr	1631.3	1075.92	1071.65	3.26	3.08	56.43	34.34	161.95	442.85	3.07	1.86	4.27	4.27
Stillwater County	A14	RM 411.47	106133.7	1% - 100yr	1631.3	1075.64	1071.87	3.14	2.57	52.88	30.79	160.6	397.14	2.97	1.73	3.76	3.76
Stillwater County	A14	RM 411.32	105338.4	1% - 100yr	1631.3	1075.12	1069.29	3.25	2.74	56.9	34.39	163.29	420.41	2.94	1.77	5.83	5.83

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	1% - 100yr	1631.3	1074.09	1067.92	4.13	2.96	88.98	35.12	115.23	434.16	3.23	1.27	6.17	6.17
Stillwater County	A14	RM 411.00	103638.4	1% - 100yr	1631.3	1073.6	1069.6	3.67	2.68	75.31	40.97	142.68	425.74	2.63	1.43	4	4
Stillwater County	A14	RM 410.85	102835.8	1% - 100yr	1631.3	1073.21	1069.92	2.8	2.16	47.04	26.88	83.64	916.83	2.13	1.22	3.29	3.29
Stillwater County	A14	RM 410.74	102286.3	1% - 100yr	1631.3	1072.78	1068.99	3.05	2.13	54.39	28.41	75.92	944.16	2.34	1.21	3.78	3.78
Stillwater County	A14	RM 410.63	101668.3	1% - 100yr	1631.3	1072.52	1068.37	2.54	1.81	35.34	20.59	83.69	1044.41	2.8	1.62	4.15	4.15
Stillwater County	A14	RM 410.52	101115.7	1% - 100yr	1631.3	1072.17	1067.81	2.79	2.22	41.93	27.01	123.09	1080.89	2.95	1.89	4.36	4.36
Stillwater County	A14	RM 410.42	100568.4	1% - 100yr	1631.3	1071.69	1066.66	3.08	2.93	55.4	38.02	149.68	673.1	2.29	1.57	5.03	5.03
Stillwater County	A14	RM 410.33	100099.2	1% - 100yr	1631.3	1071.47	1066.6	2.76	2.39	41.4	28.29	198.78	1034.46	2.84	1.94	4.87	4.87
Stillwater County	A14	RM 410.22	99589.26	1% - 100yr	1631.3	1070.95	1066.94	3.49	2.78	66.33	32.77	153.26	1017.97	2.85	1.4	4.01	4.01
Stillwater County	A14	RM 410.12	99057.4	1% - 100yr	1631.3	1070.55	1065.8	3.43	2.79	67.37	41.55	177.35	1076.48	2.43	1.5	4.75	4.75
Stillwater County	A14	RM 410.03	98630.66	1% - 100yr	1631.3	1070.25	1065.33	3.17	2.66	58.97	39.07	207.29	946.37	2.27	1.5	4.92	4.92
Stillwater County	A14	RM 409.99	98385.41	1% - 100yr	1631.3	1070.01	1065.38	3.27	2.63	63.27	38.65	206.66	964.54	2.22	1.35	4.62	4.62
Stillwater County	A14	RM 409.94	98072.09	1% - 100yr	1631.3	1069.88	1065.51	2.82	2.11	45.3	24.76	206.82	1282.21	2.48	1.36	4.37	4.37
Stillwater County	A14	RM 409.87	97717.24	1% - 100yr	1631.3	1069.84	1065.52	2.37	1.55	28.65	12.38	166.7	1395.88	3.43	1.48	4.32	4.32
Stillwater County	A14	RM 409.76	97130.84	1% - 100yr	1631.3	1069.42	1065.37	3.15	2.01	52.93	19.41	146.97	1173.73	3.03	1.11	4.05	4.05
Stillwater County	A14	RM 409.60	96278.7	1% - 100yr	1631.3	1068.48	1064.65	3.94	2.86	91.8	42.23	166.1	572.03	2.2	1.01	3.82	3.82
Stillwater County	A14	RM 409.43	95381.62	1% - 100yr	1631.3	1067.79	1063.55	3.34	2.23	61.47	27.95	135.5	864.5	2.72	1.23	4.24	4.24
Stillwater County	A14	RM 409.24	94405.29	1% - 100yr	1631.3	1067.11	1064.55	2.4	1.89	38.95	27.39	159.47	982.21	1.49	1.05	2.9	2.9
Stillwater County	A14	RM 409.15	93912.54	1% - 100yr	1631.3	1066.72	1064.27	2.19	1.86	31.11	22.39	168.43	730.61	1.66	1.2	4.65	4.65
Stillwater County	A14	RM 408.99	93008.08	1% - 100yr	1631.3	1066.01	1063.94	2.56	2.43	43.91	27.84	163.92	689.25	1.53	0.97	3.47	3.47
Stillwater County	A14	RM 408.84	92229.27	1% - 100yr	1631.3	1065.49	1062.1	2.58	2.43	44.31	31.46	188.44	602.3	1.56	1.11	3.39	3.39
Stillwater County	A14	RM 408.63	91072.98	1% - 100yr	1631.3	1064.99	1061.85	2.11	1.9	26.74	22.61	211.69	496.21	2.1	1.78	3.41	3.41
Stillwater County	A14	RM 408.41	89726.16	1% - 100yr	1631.3	1064.53	1059.04	2.55	2	31.64	16.81	105.48	382.99	4.03	2.13	5.49	5.49
Stillwater County	A14	RM 408.26	88966.66	1% - 100yr	1631.3	1064.26	1058.13	2.72	2.17	35.61	19.14	130.93	345.7	4.11	2.2	6.12	6.12
Stillwater County	A14	RM 408.10	88091.52	1% - 100yr	1631.3	1063.25	1057.78	4.28	3.79	90.35	36.02	98.48	283.74	3.81	1.52	5.47	5.47
Stillwater County	A14	RM 408.02	87720.33	1% - 100yr	1631.3	1063.2	1058.61	3.6	3.06	66.18	33.62	127.15	335.12	3.47	1.76	4.59	4.59
Stillwater County	A14	RM 407.83	86708.48	1% - 100yr	1631.3	1062.62	1058.65	3.15	2.75	58.83	37.31	159.25	425.51	2.19	1.39	3.97	3.97
Stillwater County	A14	RM 407.71	86078.99	1% - 100yr	1631.3	1062.18	1057.9	3.39	2.69	62.7	28.08	121.11	480.53	2.82	1.26	4.28	4.28
Stillwater County	A14	RM 407.61	85508.29	1% - 100yr	1631.3	1061.93	1058.36	2.79	2.4	45.72	28.58	170.8	484.41	2.24	1.4	3.57	3.57
Stillwater County	A14	RM 407.50	84909.3	1% - 100yr	1631.3	1061.67	1058.55	2.62	2.26	41.33	29.22	179.43	484.81	2.1	1.49	3.61	3.61
Stillwater County	A14	RM 407.41	84433.26	1% - 100yr	1631.3	1061.53	1057.85	2.48	1.93	34.94	21.31	122.26	549.49	2.52	1.54	3.87	3.87
Stillwater County	A14	RM 407.36	84180.66	1% - 100yr	1631.3	1061.36	1057.59	2.88	1.96	45.28	23.75	101.75	559.66	2.84	1.48	3.77	3.77
Stillwater County	A14	RM 407.29	83775.88	1% - 100yr	1631.3	1061.05	1057.08	2.53	2.44	37.54	26.83	155.75	409.71	2.28	1.63	4.23	4.23
Stillwater County	A14	RM 407.13	82954.84	1% - 100yr	1631.3	1060.74	1056.27	2.26	2.15	28.91	21.6	281.09	398.69	2.54	1.9	4.47	4.47
Stillwater County	A14	RM 406.98	82156.72	1% - 100yr	1631.3	1060.52	1056.37	2.26	2.08	25.9	17.42	200.47	384.84	3.51	2.36	4.15	4.15
Stillwater County	A14	RM 406.86	81532.92	1% - 100yr	1631.3	1059.6	1055.69	4.15	3.89	89.22	64.45	115.89	175.31	3.32	2.39	3.91	3.91
Stillwater County	A14	RM 406.77	81053.3	1% - 100yr	1631.3	1059.33	1053.84	3.87	3.35	76.21	44.35	112.47	239.06	3.51	2.04	5.49	5.49
Stillwater County	A14	RM 406.64	80405.13	1% - 100yr	1631.3	1059.03	1054.89	3.43	3.13	60.96	39.43	139.7	453.18	3.26	2.11	4.14	4.14
Stillwater County	A14	RM 406.48	79524.79	1% - 100yr	1631.3	1058.57	1054.8	3.05	2.41	51.13	31.63	210.03	586.98	2.21	1.36	3.77	3.77
Stillwater County	A14	RM 406.25	78337.26	1% - 100yr	1631.3	1057.88	1054.03	3.06	2.28	50.04	20.21	146.6	670.35	3.04	1.22	3.84	3.84
Stillwater County	A14	RM 406.08	77409.13	1% - 100yr	1631.3	1057.56	1052.87	2.73	1.75	38.68	16.45	131.8	721.31	3.3	1.39	4.69	4.69
Stillwater County	A14	RM 405.93	76624.91	1% - 100yr	1631.3	1056.71	1052.64	3.84	3.25	74.93	31.84	114.34	341.42	3.53	1.49	4.07	4.07
Stillwater County	A14	RM 405.81	75994.44	1% - 100yr	1631.3	1056.34	1051.93	3.62	3.47	68.22	62.62	133.87	247.75	3.26	3	4.41	4.41
Stillwater County	A15	RM 405.77	75764.36	1% - 100yr	1631.3	1056.03	1052.63	3.97	3.65	87.47	67.11	142.49	218.69	2.69	2.07	3.4	3.4
Stillwater County	A15	RM 405.67	75185.26	1% - 100yr	1631.3	1055.71	1052.06	3.42	2.95	64.32	48.36	82.19	264.56	2.77	2.09	3.64	3.64
Stillwater County	A15	RM 405.61	74883.52	1% - 100yr	1631.3	1055.52	1051.81	3.62	2.76	68.78	36.95	69.55	403.27	3.14	1.69	3.71	3.71
Stillwater County	A15	RM 405.52	74415.92	1% - 100yr	1631.3	1055.08	1051.43	4.07	2.8	86.78	47.13	52.24	436.87	3.19	1.72	3.66	3.66
Stillwater County	A15	RM 405.45	74031.34	1% - 100yr	1631.3	1055.05	1051.1	3.14	1.97	49.94	24.59	57.4	733.16	3.53	1.74	3.96	3.96
Stillwater County	A15	RM 405.34	73437.72	1% - 100yr	1631.3	1054.6	1050.67	3.26	2.44	54.79	22.73	116.05	707.97	3.35	1.39	3.93	3.93
Stillwater County	A15	RM 405.18	72616.33	1% - 100yr	1631.3	1054.17	1049.45	3.43	2.61	57.87	19.76	94.83	681.16	3.87	1.31	4.72	4.72
Stillwater County	A15	RM 405.09	72171.48	1% - 100yr	1631.3	1054.05	1049.09	2.96	2.38	43.5	17.81	115.98	779.62	3.77	1.54	4.97	4.97
Stillwater County	A15	RM 405.02	71774.52	1% - 100yr	1631.3	1053.55	1048.59	3.94	3.16	76.89	25.44	88.03	412.63	3.81	1.25	4.96	4.96
Stillwater County	A15	RM 404.97	71526.86	1% - 100yr	1631.3	1053.58	1048.35	3.23	2.46	51.75	17.77	105.86	831.71	3.75	1.28	5.24	5.24
Stillwater County	A15	RM 404.90	71150.58	1% - 100yr	1631.3	1053.41	1048.99	3.27	2.6	53.53	19.31	104.62	828.09	3.68	1.32	4.41	4.41
Stillwater County	A15	RM 404.84	70801.47	1% - 100yr	1631.3	1053.39	1049.19	2.73	1.98	37.32	14.32	118.04	1093.84	3.68	1.4	4.2	4.2
Stillwater County	A15	RM 404.77	70415.17	1% - 100yr	1631.3	1053.3	1048.51	2.83	1.79	38.88	12.74	86.33	1109.92	4.1	1.32	4.79	4.79
Stillwater County	A15	RM 404.59	69477.61	1% - 100yr	1631.3	1052.45	1047.56	3.96	3.29	79.64	23.08	110.64	486.41	3.58	1.02	4.88	4.88
Stillwater County	A15	RM 404.54	69214.33	1% - 100yr	1631.3	1052.39	1047.65	3.5	2.82	63.78	21.07	132.36	537.46	3.3	1.08	4.74	4.74
Stillwater County	A15	RM 404.35	68254.38	1% - 100yr	1631.3	1051.93	1048.18	3.06	2.62	51.41	25.06	147.66	465.14	2.73	1.34	4.16	4.16
Stillwater County	A15	RM 404.10	66934.17	1% - 100yr	1631.3	1051.13	1047.61	3.04	2.85	49.26	37.26	123.69	505.95	2.98	2.26	3.52	3.52

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	1% - 100yr	1631.3	1050.83	1045.27	2.91	2.33	43.77	26.01	113.06	546.29	3.31	1.96	5.56	5.56
Stillwater County	A15	RM 403.85	65604.39	1% - 100yr	1631.3	1050.35	1044.79	3.74	3.09	69.03	44.44	79.41	515.95	3.86	2.46	5.56	5.56
Stillwater County	A15	RM 403.75	65058.55	1% - 100yr	1631.3	1049.59	1046.13	4.47	3.9	109.23	78.9	101.02	283.18	2.83	2.04	3.46	3.46
Stillwater County	A15	RM 403.69	64721.22	1% - 100yr	1631.3	1049.56	1046.02	3.18	3.03	56.8	51.57	135.25	437.85	2.59	2.35	3.54	3.54
Stillwater County	A15	RM 403.62	64341.29	1% - 100yr	1631.3	1049.28	1045.75	3.34	3.1	65.92	51.26	93.4	460.95	2.23	1.75	3.53	3.53
Stillwater County	A15	RM 403.55	63997.04	1% - 100yr	1631.3	1049.18	1045.95	2.77	2.33	44.1	32.66	118.04	504.15	2.4	1.78	3.23	3.23
Stillwater County	A15	RM 403.38	62985.06	1% - 100yr	1631.3	1048.91	1043.43	2.19	1.99	25.59	20.7	194.68	481.5	3.06	2.47	5.48	5.48
Stillwater County	A15	RM 403.24	62260	1% - 100yr	1631.3	1048.53	1043.43	2.72	2.53	37.29	24.63	167.56	493.86	3.55	2.34	5.1	5.1
Stillwater County	A15	RM 403.15	61770.95	1% - 100yr	1631.3	1047.95	1042.51	3.72	3.31	71.64	36.52	130.41	435.64	3.31	1.68	5.44	5.44
Stillwater County	A15	RM 403.05	61263.44	1% - 100yr	1631.3	1047.64	1043.23	3.59	3.29	68.22	39.56	146.94	363.6	3.07	1.78	4.41	4.41
Stillwater County	A15	RM 402.97	60777.65	1% - 100yr	1631.3	1047.4	1043.89	3.19	3.05	56.5	45.76	190.96	347.36	2.66	2.16	3.51	3.51
Stillwater County	A15	RM 402.83	60113.9	1% - 100yr	1631.3	1046.84	1043.49	3.27	3.25	65.06	60.18	246.5	443.63	2.02	1.87	3.34	3.34
Stillwater County	A15	RM 402.68	59309.8	1% - 100yr	1631.3	1046.34	1042.55	2.8	2.39	44.95	26.64	233.75	836.27	2.41	1.43	3.79	3.79
Stillwater County	A15	RM 402.53	58529.61	1% - 100yr	1631.3	1045.93	1040.51	3.1	1.9	46.99	14.34	121.12	942.97	3.88	1.18	5.42	5.42
Stillwater County	A15	RM 402.37	57665.93	1% - 100yr	1631.3	1045.38	1041.09	3.32	2.35	66.72	31.78	213.78	814.29	2.05	0.98	4.29	4.29
Stillwater County	A15	RM 402.24	56987.42	1% - 100yr	1631.3	1045.27	1040.75	2.11	1.47	24.93	13	251.22	959.04	2.57	1.34	4.52	4.52
Stillwater County	A15	RM 402.07	56034.67	1% - 100yr	1631.3	1044.7	1041.1	2.88	2.02	47.61	24.81	204.99	642.39	2.41	1.26	3.59	3.59
Stillwater County	A15	RM 401.87	54972.92	1% - 100yr	1631.3	1044.15	1040.1	2.95	1.84	46.29	20.01	150.47	681.23	3.02	1.3	4.05	4.05
Stillwater County	A15	RM 401.69	54002.29	1% - 100yr	1631.3	1044.03	1038.43	1.88	1.51	18.98	11.67	248.14	588.97	2.99	1.84	5.6	5.6
Stillwater County	A15	RM 401.55	53267.48	1% - 100yr	1631.3	1043.11	1036.56	4.16	3.19	79.95	24.36	74.7	359.38	4.73	1.42	6.55	6.55
Stillwater County	A15	RM 401.41	52506.25	1% - 100yr	1631.3	1043.06	1037.91	2.91	2.4	42.88	28.17	136.71	370.62	3.5	2.3	5.15	5.15
Stillwater County	A15	RM 401.31	51997.63	1% - 100yr	1631.3	1042.68	1038.08	3.38	2.82	58.53	33.65	119.22	313.57	3.44	1.98	4.6	4.6
Stillwater County	A15	RM 401.17	51259.17	1% - 100yr	1631.3	1042.18	1037.38	3.44	2.97	62.02	29.7	146.36	420.91	3.17	1.52	4.8	4.8
Stillwater County	A15	RM 401.03	50507.04	1% - 100yr	1631.3	1041.76	1036.56	3.44	2.68	59.19	23.35	125.18	423.19	3.65	1.44	5.2	5.2
Stillwater County	A15	RM 400.90	49826.69	1% - 100yr	1631.3	1041.11	1036.25	3.88	3.46	83.31	57.23	150.65	316.23	2.71	1.87	4.86	4.86
Stillwater County	A15	RM 400.74	49002.09	1% - 100yr	1631.3	1040.65	1037.21	3.43	2.48	62.85	35.17	111.86	393.56	3.01	1.67	3.44	3.44
Stillwater County	A15	RM 400.61	48243.95	1% - 100yr	1631.3	1040.43	1035.99	2.51	2.16	34.32	25.53	144.82	357.8	2.85	2.11	4.44	4.44
Stillwater County	A15	RM 400.50	47710.55	1% - 100yr	1631.3	1040.1	1035.67	2.8	2.54	42.42	29.45	149.16	319.53	2.9	2.01	4.43	4.43
Stillwater County	A15	RM 400.42	47243.72	1% - 100yr	1631.3	1039.73	1034.87	3.34	2.89	57.49	33.56	103.89	287.79	3.38	1.96	4.86	4.86
Stillwater County	A15	RM 400.34	46832.6	1% - 100yr	1631.3	1039.56	1034.91	3.26	2.69	53.26	25.55	95.8	347.59	3.64	1.75	4.65	4.65
Stillwater County	A15	RM 400.25	46335.82	1% - 100yr	1631.3	1039.41	1035.01	2.99	2.39	45.35	24.78	107.99	355.34	3.53	1.92	4.4	4.4
Stillwater County	A15	RM 400.18	45999.89	1% - 100yr	1631.3	1039.25	1034.98	3.05	2.48	48.04	27.9	115.05	342.24	3.33	1.92	4.27	4.27
Stillwater County	A15	RM 400.13	45714.33	1% - 100yr	1631.3	1039.13	1035.2	3	2.42	46.26	28.41	122.23	325.27	3.39	2.07	3.93	3.93
Stillwater County	A15	RM 400.11	45623.77	1% - 100yr	1631.3	1039.04	1035.11	3.08	2.47	50.15	32.94	129.57	480.24	3.14	2.05	3.93	3.93
Stillwater County	A15	RM 400.09	45529.19	1% - 100yr	1631.3	1038.9	1035.05	3.36	2.76	61.2	41.11	128.18	454.46	2.89	1.94	3.85	3.85
Stillwater County	A15	RM 400.03	45177.97	1% - 100yr	1631.3	1038.72	1034.82	3.15	2.81	53.76	43.58	137.4	441.6	2.9	2.35	3.9	3.9
Stillwater County	A15	RM 399.95	44761.86	1% - 100yr	1631.3	1038.46	1033.69	3.1	3.03	48.99	36.06	149.97	382.74	3.5	2.57	4.77	4.77
Stillwater County	A16	RM 399.85	44225.61	1% - 100yr	1631.3	1037.96	1033.63	3.63	3.63	69.97	68.68	144.73	163.12	3.1	3.05	4.33	4.33
Stillwater County	A16	RM 399.74	43664.16	1% - 100yr	1631.3	1037.74	1033.48	3.06	3.06	51.18	50.69	188.33	249.99	2.83	2.81	4.26	4.26
Stillwater County	A16	RM 399.62	43026.17	1% - 100yr	1631.3	1037.43	1033.67	2.84	2.77	45.3	33.95	219.02	426.34	2.61	1.95	3.76	3.76
Stillwater County	A16	RM 399.50	42404.94	1% - 100yr	1631.3	1037.14	1031.89	2.87	2.66	42.29	29.1	167.47	360.19	3.36	2.31	5.25	5.25
Stillwater County	A16	RM 399.39	41801.43	1% - 100yr	1631.3	1036.76	1031.8	3.19	3.02	53.21	35.12	156.53	287.46	3.24	2.13	4.96	4.96
Stillwater County	A16	RM 399.30	41294.57	1% - 100yr	1631.3	1036.42	1031.14	3.4	3.09	60.96	45	146.13	238.96	3.13	2.31	5.28	5.28
Stillwater County	A16	RM 399.19	40736.83	1% - 100yr	1631.3	1035.75	1031.46	4	3.47	86.22	48.43	134.81	292.59	2.93	1.64	4.29	4.29
Stillwater County	A16	RM 399.09	40202.15	1% - 100yr	1631.3	1035.45	1031.09	3.62	2.99	68.29	31.42	129.05	365.51	3.26	1.49	4.36	4.36
Stillwater County	A16	RM 399.00	39710.39	1% - 100yr	1631.3	1035.28	1031.41	3.16	2.45	54.15	34.64	144.92	362.28	2.88	1.84	3.87	3.87
Stillwater County	A16	RM 398.91	39231.58	1% - 100yr	1631.3	1034.99	1031.73	2.99	2.37	53.27	36.87	180.87	464.88	2.14	1.48	3.26	3.26
Stillwater County	A16	RM 398.80	38666.26	1% - 100yr	1631.3	1034.59	1031.55	2.9	2.25	49.45	32.77	191.09	490.28	2.23	1.48	3.04	3.04
Stillwater County	A16	RM 398.73	38275.64	1% - 100yr	1631.3	1034.34	1030.78	2.77	2.17	38.96	26.42	227.26	548.37	2.03	1.37	3.56	3.56
Stillwater County	A16	RM 398.62	37715.08	1% - 100yr	1631.3	1034.02	1030.19	2.68	2.25	37.15	28.68	210.82	446.01	2.11	1.63	3.82	3.82
Stillwater County	A16	RM 398.51	37115.9	1% - 100yr	1631.3	1033.68	1030.68	2.67	2.25	41.21	27.4	212.08	463.24	2.35	1.56	3.01	3.01
Stillwater County	A16	RM 398.40	36522.49	1% - 100yr	1631.3	1033.5	1028.27	2.27	1.9	24.26	18.72	225.87	484.35	2.3	1.77	5.23	5.23
Stillwater County	A16	RM 398.29	35952.65	1% - 100yr	1631.3	1033.13	1027.62	2.61	2.27	40.98	29.24	282.82	472.44	2.13	1.52	5.51	5.51
Stillwater County	A16	RM 398.17	35320.39	1% - 100yr	1631.3	1032.9	1028.88	2.35	2.14	29.62	19.04	233.17	404.22	2.94	1.89	4.02	4.02
Stillwater County	A16	RM 398.04	34597.07	1% - 100yr	1631.3	1032.59	1027.24	2.44	2.25	40.25	28.28	256.39	501.3	2.58	1.81	5.35	5.35
Stillwater County	A16	RM 397.95	34133.39	1% - 100yr	1631.3	1032.24	1027.15	2.8	2.65	45.14	32.96	240.56	358.05	2.4	1.75	5.09	5.09
Stillwater County	A16	RM 397.81	33366.95	1% - 100yr	1631.3	1031.98	1027.05	2.37	2.19	30.62	23.2	238.11	373.6	2.84	2.15	4.93	4.93
Stillwater County	A16	RM 397.68	32754.86	1% - 100yr	1631.3	1031.75	1026.97	2.51	2.27	32.65	22.49	195.63	388.72	3.26	2.25	4.78	4.78
Stillwater County	A16	RM 397.56	32104.4	1% - 100yr	1631.3	1031.02	1026.76	3.76	3.37	74.24	36.77	135	652.53	3.16	1.57	4.26	4.26
Stillwater County	A16	RM 397.40	31237.31	1% - 100yr	1631.3	1030.46	1026.27	3.41	2.99	64.68	46.75	176.35	691.25	2.63	1.9	4.19	4.19

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

1% - 100yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	1% - 100yr	1631.3	1029.87	1025.84	2.58	1.97	40.07	25.11	269.26	1040.51	2.11	1.32	4.03	4.03
Stillwater County	A16	RM 396.97	29050.44	1% - 100yr	1631.3	1029.48	1025.61	2.15	1.47	26.54	15.3	280.04	1148.55	2.4	1.38	3.87	3.87
Stillwater County	A16	RM 396.71	27639.86	1% - 100yr	1631.3	1028.89	1022.48	2.86	1.4	41.11	13.43	127.44	1132.14	3.64	1.17	6.41	6.41
Stillwater County	A16	RM 396.62	27103.31	1% - 100yr	1631.3	1028.39	1022.36	3.64	1.95	64.58	14.95	99.61	1047.2	4.03	0.92	6.03	6.03
Stillwater County	A16	RM 396.52	26616.35	1% - 100yr	1631.3	1028.15	1023.41	3.63	1.85	66.67	17.29	108.11	971.03	3.54	0.91	4.74	4.74
Stillwater County	A16	RM 396.29	25423.1	1% - 100yr	1631.3	1027.83	1023.53	2.49	1.52	34.1	14.8	188.51	919.55	2.75	1.19	4.29	4.29
Stillwater County	A16	RM 396.14	24635.78	1% - 100yr	1631.3	1026.88	1022.46	3.96	3.06	87.07	41.8	129.91	589.04	2.67	1.28	4.42	4.42
Stillwater County	A16	RM 396.03	24026.24	1% - 100yr	1631.3	1026.78	1024.1	2.52	1.95	37.05	21.97	186.55	812.74	2.31	1.37	2.68	2.68
Stillwater County	A16	RM 395.89	23301.08	1% - 100yr	1631.3	1026.3	1022.79	2.88	2.01	50.03	26.05	152.52	901.46	2.06	1.08	3.51	3.51
Stillwater County	A16	RM 395.73	22420.29	1% - 100yr	1631.3	1025.93	1022.66	1.72	1.38	17.94	11.37	186.62	1064.82	2.08	1.32	3.27	3.27
Stillwater County	A16	RM 395.64	21923.33	1% - 100yr	1631.3	1025.68	1022.13	2.29	1.51	30.53	14.03	144.53	1217.04	2.29	1.05	3.86	3.86
Stillwater County	A16	RM 395.57	21526.11	1% - 100yr	1631.3	1025.26	1021.61	3.14	1.85	54.48	18.08	78.2	1322.75	2.72	0.9	3.65	3.65
Stillwater County	A16	RM 395.48	21053.74	1% - 100yr	1631.3	1024.9	1021.89	2.78	2.08	47.7	22.55	115.77	1114.55	1.93	0.91	3.01	3.01
Stillwater County	A16	RM 395.36	20532.68	1% - 100yr	1631.3	1024.65	1021.53	2.4	1.82	33.57	14.92	131.95	1138.42	2.3	1.02	3.12	3.12
Stillwater County	A16	RM 394.98	18666.37	1% - 100yr	1631.3	1024.03	1020.31	2.95	2.07	50.02	20.38	111.01	937.17	2.39	0.97	3.72	3.72
Stillwater County	A16	RM 394.80	17678.79	1% - 100yr	1631.3	1023.68	1019.23	2.73	2.14	43.92	25.16	140.79	654.64	2.22	1.27	4.45	4.45
Stillwater County	A16	RM 394.65	16921.48	1% - 100yr	1631.3	1023.23	1019.93	2.43	2.2	35.74	21.65	172.91	756.34	2.06	1.25	4.23	4.23
Stillwater County	A16	RM 394.59	16622.61	1% - 100yr	1631.3	1022.83	1019.92	2.54	2.5	41.99	33.17	173.81	680.5	1.65	1.3	3.26	3.26
Stillwater County	A16	RM 394.53	16295.21	1% - 100yr	1631.3	1022.58	1019.83	2.44	2.23	37.61	30.39	158.81	601.46	1.81	1.46	3.57	3.57
Stillwater County	A16	RM 394.20	14503.23	1% - 100yr	1631.3	1021.41	1016.38	2.83	2.32	44.45	22.59	149.53	515.08	2.69	1.37	5.03	5.03
Stillwater County	A16	RM 394.12	14088.57	1% - 100yr	1631.3	1020.98	1016.74	3.35	2.68	63.68	29.09	152.43	534.46	2.49	1.14	4.24	4.24
Stillwater County	A16	RM 393.99	13393.6	1% - 100yr	1631.3	1020.62	1017.11	2.76	2.11	45.23	24.97	126.2	640.54	2.18	1.21	3.51	3.51
Stillwater County	A16	RM 393.85	12650.05	1% - 100yr	1631.3	1020.13	1016.49	2.57	2.16	40.97	27.35	179.1	591.84	1.91	1.28	3.64	3.64
Stillwater County	A16	RM 393.59	11240.84	1% - 100yr	1631.3	1019.6	1015.45	1.95	1.5	22.25	12.37	272.87	850.15	2.3	1.28	4.15	4.15
Stillwater County	A16	RM 393.27	9813.245	1% - 100yr	1631.3	1018.57	1013.32	3.05	2.75	62.16	40.32	265.55	603.53	1.52	0.98	5.25	5.25
Stillwater County	A16	RM 393.10	8870.543	1% - 100yr	1631.3	1017.97	1013.34	2.22	2.03	31.29	26	340.95	546.05	1.77	1.47	4.63	4.63
Stillwater County	A16	RM 392.95	8114.595	1% - 100yr	1631.3	1017.18	1014.13	2.87	2.77	55.27	49.78	346.55	434.86	1.51	1.36	3.05	3.05
Stillwater County	A16	RM 392.69	6912.838	1% - 100yr	1631.3	1016.67	1012.43	2.08	1.77	25.01	14.46	192.3	956.36	2.39	1.38	4.23	4.23
Stillwater County	A16	RM 392.44	5710.825	1% - 100yr	1631.3	1016.05	1011.68	2.75	1.92	41.27	16.98	135.35	1161.38	2.84	1.17	4.37	4.37
Stillwater County	A17	RM 392.20	4388.056	1% - 100yr	1631.3	1015.03	1010.8	3.33	2.36	65.77	32.05	201.47	848.33	2.19	1.07	4.23	4.23
Stillwater County	A17	RM 392.00	3345.174	1% - 100yr	1631.3	1014.38	1009.53	3.02	2.28	50.46	20.54	166.87	679.86	2.71	1.1	4.85	4.85
Stillwater County	A17	RM 391.84	2491.214	1% - 100yr	1631.3	1014.06	1010.51	2.48	1.88	35.93	18.33	154.94	771.48	2.26	1.15	3.65	3.65
Stillwater County	A17	RM 391.68	1656.536	1% - 100yr	1631.3	1013.73	1010.5	2.04	1.66	26.13	17.23	255.36	813.22	1.84	1.21	3.23	3.23
Stillwater County	A17	RM 391.58	1120.168	1% - 100yr	1631.3	1013.47	1009.55	2.08	1.6	27.17	16.97	363.9	884.15	1.85	1.15	3.92	3.92
Stillwater County	A17	RM 391.46	505.9	1% - 100yr	1631.3	1013.22	1009.4	2.1	1.46	26.28	14.42	297.18	949.85	2.18	1.19	3.82	3.82

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	100-yr	1631.05	1012.79	1008.74	2.56	1.62	36.87	15.99	210.55	910.19	2.54	1.1	4.05	4.05
Yellowstone County	A17	RM 391.14	149661.4	100-yr	1631.05	1012.35	1007.82	2.59	1.56	46.45	21.16	204.17	914.19	2.51	1.14	4.53	4.53
Yellowstone County	A17	RM 390.83	149168.3	100-yr	1631.05	1011.25	1007.89	2.71	2.12	48.41	27.96	264.44	752.02	1.89	1.09	3.36	3.36
Yellowstone County	A17	RM 390.51	148644.1	100-yr	1631.05	1010.53	1006	1.82	1.32	28.39	10.66	203.75	1175.96	2.82	1.05	4.53	4.53
Yellowstone County	A17	RM 390.34	148387.5	100-yr	1631.05	1010.12	1005.26	2.5	1.75	50.57	17.44	156.16	938.75	2.88	0.99	4.86	4.86
Yellowstone County	A17	RM 390.13	148054.9	100-yr	1631.05	1009.44	1005.54	2.92	2.06	60.52	20.53	146.44	818.77	2.85	0.97	3.9	3.9
Yellowstone County	A17	RM 389.96	147776.4	100-yr	1631.05	1009.11	1004.81	2.26	1.67	32.89	12.11	175.73	1020.96	2.6	0.96	4.3	4.3
Yellowstone County	A17	RM 389.76	147468.2	100-yr	1631.05	1008.86	1004.52	1.64	1.29	22.54	9.67	300.75	1048.3	2.83	1.21	4.34	4.34
Yellowstone County	A17	RM 389.55	147162.3	100-yr	1631.05	1008.39	1003.2	2.04	1.59	49.85	24.57	323.02	960.04	2.18	1.07	5.19	5.19
Yellowstone County	A17	RM 389.31	146731.1	100-yr	1631.05	1007.65	1003.49	2.25	1.8	30.58	11.85	256.17	871.73	2.7	1.04	4.16	4.16
Yellowstone County	A17	RM 389.08	146349	100-yr	1631.05	1007.13	1001.61	1.91	1.65	47.8	31.46	309.81	676.26	2.23	1.46	5.52	5.52
Yellowstone County	A17	RM 388.92	146095.5	100-yr	1631.05	1006.72	1002.49	2.1	1.67	25.29	12.22	267.27	1131.42	2.59	1.25	4.23	4.23
Yellowstone County	A17	RM 388.79	145883.6	100-yr	1631.05	1006.5	1002.14	2.29	1.48	28.94	11.78	163.94	1291.26	3.57	1.43	4.36	4.36
Yellowstone County	A17	RM 388.61	145594.9	100-yr	1631.05	1005.94	1000.48	3.03	2.12	70.7	34.88	146.79	1281.66	2.93	1.43	5.46	5.46
Yellowstone County	A17	RM 388.58	145547	100-yr	1631.05	1005.82	1000.28	2.76	2.04	70.4	31.58	154.88	1322.8	3.01	1.34	5.54	5.54
Yellowstone County	A17	RM 388.36	145196.7	100-yr	1631.05	1005.13	1001.21	2.87	2.04	52.1	22.4	162.02	1024.66	2.78	1.19	3.92	3.92
Yellowstone County	A17	RM 388.22	144960.1	100-yr	1631.05	1004.62	1000.23	3.05	2.04	60.63	27.18	162.16	955.97	2.12	0.95	4.39	4.39
Yellowstone County	A17	RM 388.09	144745.8	100-yr	1631.05	1004.13	999.87	2.51	1.86	42.11	24.41	232.99	884.65	1.84	1.07	4.26	4.26
Yellowstone County	A17	RM 387.91	144452	100-yr	1631.05	1003.52	999.77	1.62	1.7	28.35	23.95	406.17	872.32	1.46	1.23	3.75	3.75
Yellowstone County	A17	RM 387.79	144255.2	100-yr	1631.05	1003.39	999.17	1.3	1.29	7.61	8.08	599.2	987.36	1.51	1.61	4.22	4.22
Yellowstone County	A17	RM 387.59	143932.9	100-yr	1631.05	1003.08	998.1	1.22	1.22	39.58	39.58	996.18	1114.72	1.34	1.34	4.98	4.98
Yellowstone County	A17	RM 387.36	143562.1	100-yr	1631.05	1002.11	997.78	1.83	1.82	19.23	18.85	825.17	935.83	1.08	1.06	4.33	4.33
Yellowstone County	A17	RM 387.24	143353.9	100-yr	1631.05	1001.73	997.71	2.05	2.05	20.72	20.72	542.09	555.4	1.47	1.47	4.02	4.02
Yellowstone County	A17	RM 387.04	143026.2	100-yr	1631.05	1001.25	996.49	1.9	1.84	19.59	18.54	652.43	825.84	1.24	1.18	4.76	4.76
Yellowstone County	A17	RM 386.86	142750.4	100-yr	1631.05	1000.69	997.01	1.72	1.57	51.6	39.43	491.87	836.11	1.76	1.34	3.68	3.68
Yellowstone County	A17	RM 386.74	142538.5	100-yr	1631.05	1000.2	996.31	1.98	1.78	31.64	19.73	352.47	743.35	2.18	1.35	3.89	3.89
Yellowstone County	A17	RM 386.61	142318.4	100-yr	1631.05	999.6	995.9	2.9	2.45	54.34	22.72	188.13	612.39	2.6	1.09	3.7	3.7
Yellowstone County	A17	RM 386.47	142095.8	100-yr	1631.05	999.25	995.18	2.67	2.06	43.64	20.87	172.89	723.83	2.72	1.3	4.07	4.07
Yellowstone County	A17	RM 386.33	141875.1	100-yr	1631.05	998.77	994.36	3.02	2.09	47.24	22.01	167.51	652.86	2.56	1.19	4.41	4.41
Yellowstone County	A17	RM 386.17	141622.7	100-yr	1631.05	998.25	993.9	2.87	2.36	52.49	25.69	207.44	597.57	2.36	1.16	4.35	4.35
Yellowstone County	A17	RM 386.08	141479.6	100-yr	1631.05	997.91	994.12	2.9	2.36	65.69	32.78	178.61	1433.43	2.71	1.35	3.79	3.79
Yellowstone County	A17	RM 386.03	141389.2	100-yr	1631.05	997.71	993.82	2.81	2.5	45.49	30.63	220.7	1350.93	2.33	1.57	3.89	3.89
Yellowstone County	A17	RM 385.96	141289.2	100-yr	1631.05	997.67	993.01	2.25	2.01	25.91	16.71	242.42	1749.38	2.76	1.78	4.66	4.66
Yellowstone County	A17	RM 385.91	141204.9	100-yr	1631.05	997.61	992.33	2.11	1.93	23.82	15	262.66	1838.95	2.72	1.71	5.28	5.28
Yellowstone County	A17	RM 385.84	141096	100-yr	1631.05	997.64	990.57	1.3	1.27	11.84	9.52	344.77	1975.08	3.61	2.9	7.07	7.07
Yellowstone County	A17	RM 385.79	141006	100-yr	1631.05	997.2	992.48	2.95	2.68	39.41	20	165.65	2130.8	3.3	1.67	4.72	4.72
Yellowstone County	A18	RM 385.69	140846.5	100-yr	1631.05	997.03	992.9	2.68	2.25	50.76	31.16	212.15	2127.98	2.69	1.65	4.13	4.13
Yellowstone County	A18	RM 385.60	140705.5	100-yr	1631.05	996.71	992.71	2.8	2.35	60.04	33.05	203.95	2085.65	2.66	1.46	4	4
Yellowstone County	A18	RM 385.50	140538.8	100-yr	1631.05	996.35	990.71	2.97	2.4	45.41	18.54	152.15	1891.97	3.46	1.4	5.64	5.64
Yellowstone County	A18	RM 385.39	140367.1	100-yr	1631.05	996.12	992.41	2.89	2.39	43.38	24.75	205.72	1784.58	2.59	1.48	3.71	3.71
Yellowstone County	A18	RM 385.30	140231.3	100-yr	1631.05	995.78	992.53	2.99	2.58	70.45	43.54	239.85	470.5	2.17	1.34	3.25	3.25
Yellowstone County	A18	RM 385.23	140108.3	100-yr	1631.05	995.56	992.01	2.43	2.16	47.96	33.43	233.29	1905.2	2.17	1.51	3.55	3.55
Yellowstone County	A18	RM 385.12	139921.2	100-yr	1631.05	994.77	991.37	3.11	2.95	70.27	56.58	255.38	1219.21	1.62	1.31	3.4	3.4
Yellowstone County	A18	RM 384.93	139688.7	100-yr	1631.05	994.41	991.06	2.3	2.05	29.67	21.83	244.34	865.88	2.14	1.57	3.35	3.35
Yellowstone County	A18	RM 384.75	139352.1	100-yr	1631.05	993.25	989.77	3.97	3.16	115.99	59.03	118.44	527.95	2.27	1.16	3.48	3.48
Yellowstone County	A18	RM 384.63	139146.9	100-yr	1631.05	992.98	989.58	1.91	1.74	24.88	21.66	197.65	968.37	1.67	1.45	3.4	3.4
Yellowstone County	A18	RM 384.48	138904.5	100-yr	1631.05	992.64	989.55	1.74	1.85	23.77	17.93	185.46	826.95	2.05	1.54	3.29	3.29
Yellowstone County	A18	RM 384.34	138682.4	100-yr	1631.05	992.37	988.23	1.9	1.71	41.17	18.03	166.49	1529.01	2.75	1.2	4.14	4.14
Yellowstone County	A18	RM 384.26	138551.1	100-yr	1631.05	992.01	987.34	3.15	1.93	44.09	22.07	119.05	1254.34	2.48	1.24	4.67	4.67
Yellowstone County	A18	RM 384.15	138370.3	100-yr	1631.05	991.18	987.39	4.13	3.24	126.79	50.27	79.43	544.47	2.72	1.07	3.79	3.79
Yellowstone County	A18	RM 384.06	138235.3	100-yr	1631.05	991.03	987.31	3	2.03	53.85	27.58	86.33	894.05	2.64	1.34	3.72	3.72
Yellowstone County	A18	RM 383.96	138072.3	100-yr	1631.05	990.65	987.67	2.56	2.27	44.25	31.44	139.91	755.54	1.69	1.2	2.98	2.98
Yellowstone County	A18	RM 383.86	137914.6	100-yr	1631.05	990.45	987.24	2.02	1.81	23.89	13.9	162.24	887.09	2.2	1.28	3.21	3.21
Yellowstone County	A18	RM 383.75	137749.9	100-yr	1631.05	990.22	986.55	1.86	1.87	24.86	16.89	225.48	942.97	1.7	1.15	3.74	3.74
Yellowstone County	A18	RM 383.62	137544.5	100-yr	1631.05	990	986.32	1.77	1.53	19.76	13.14	177.69	967.97	2.1	1.39	4.38	4.38
Yellowstone County	A18	RM 383.54	137415.7	100-yr	1631.05	989.91	984.41	1.6	1.35	14.68	9.27	392.45	870.1	2.41	1.52	5.5	5.5
Yellowstone County	B1	RM 383.39	137175.7	100-yr	2123.76	989.48	984.98	2.42	2.31	23.01	19.13	613.82	779.64	1.42	1.18	4.5	4.5
Yellowstone County	B1	RM 383.31	137040.5	100-yr	2123.76	989.32	984.86	2.1	1.81	22.19	20.21	663.1	893.64	1.44	1.31	4.46	4.46
Yellowstone County	B1	RM 383.16	136817.2	100-yr	2123.76	989.1	984.9	1.65	1.43	14.76	14.43	784.17	998.5	1.52	1.49	4.2	4.2
Yellowstone County	B1	RM 382.88	136371.1	100-yr	2123.76	988.68	983.64	1.69	1.5	17.7	16.01	628.74	857.17	1.82	1.65	5.04	5.04
Yellowstone County	B1	RM 382.61	135921.1	100-yr	2123.76	988.06	982.68	2.6	1.85	36.22	12.93	196.01	881.77	3.67	1.31	5.38	5.38

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	100-yr	2123.76	987.71	981.56	3.05	1.81	46.86	14.32	132.77	941.44	4.1	1.25	6.15	6.15
Yellowstone County	B1	RM 382.28	135389.1	100-yr	2123.76	987.57	981.45	2.43	1.55	32.55	10.93	139.32	925.52	4.44	1.48	6.12	6.12
Yellowstone County	B1	RM 382.11	135122	100-yr	2123.76	987.05	980.52	3.24	2.1	59.39	18.64	133.91	788.59	4.12	1.28	6.53	6.53
Yellowstone County	B1	RM 381.93	134829.3	100-yr	2123.76	986.66	981.3	2.8	2.19	69.05	25.51	182.96	712.13	3.7	1.36	5.36	5.36
Yellowstone County	B1	RM 381.79	134602.8	100-yr	2123.76	986.19	981.63	3.1	2.35	53.25	19.8	167.72	663.43	3.69	1.36	4.56	4.56
Yellowstone County	B1	RM 381.69	134426.2	100-yr	2123.76	986.13	981.06	2.33	1.88	34.16	16.03	207.55	611.16	3.96	1.85	5.07	5.07
Yellowstone County	B1	RM 381.58	134232.5	100-yr	2123.76	985.96	981.02	2.24	1.88	29.71	16.75	271.39	725.69	3.23	1.82	4.94	4.94
Yellowstone County	B1	RM 381.47	134047.3	100-yr	2123.76	985.78	980.95	1.95	1.71	47.76	28.83	333.31	830.84	2.94	1.77	4.83	4.83
Yellowstone County	B1	RM 381.35	133871.9	100-yr	2123.76	985.46	980.79	1.92	1.74	53.57	36.86	366.2	826.7	2.77	1.9	4.67	4.67
Yellowstone County	B1	RM 381.22	133659.2	100-yr	2123.76	984.88	979.74	2.11	2.09	71.93	65.85	432.5	480.53	2.31	2.12	5.14	5.14
Yellowstone County	B1	RM 381.11	133491.4	100-yr	2123.76	984.34	979.61	2.17	2.1	69.37	47.07	287.45	605.25	2.46	1.67	4.73	4.73
Yellowstone County	B1	RM 381.00	133302.9	100-yr	2123.76	983.6	978.23	3.34	2.73	58.42	25.31	188.91	638.87	2.82	1.22	5.37	5.37
Yellowstone County	B1	RM 380.92	133180	100-yr	2123.76	983.46	976.97	2.97	2.24	56.51	19.86	152.78	748.73	3.63	1.27	6.49	6.49
Yellowstone County	B1	RM 380.81	132986.3	100-yr	2123.76	983.04	978.55	3.15	2.33	58.28	21.23	193.61	852.04	2.95	1.07	4.49	4.49
Yellowstone County	B1	RM 380.69	132800.2	100-yr	2123.76	982.84	978.53	2.55	1.89	35.94	15.99	264.93	962.7	2.63	1.17	4.31	4.31
Yellowstone County	B1	RM 380.57	132628.6	100-yr	2123.76	982.64	978.7	2.29	1.7	42.65	15.07	229.16	1229.58	2.89	1.02	3.94	3.94
Yellowstone County	B1	RM 380.48	132470	100-yr	2123.76	982.4	978.24	2.39	1.65	41.07	14.05	201.68	1218.38	3.11	1.06	4.16	4.16
Yellowstone County	B1	RM 380.34	132222.4	100-yr	2123.76	981.93	977.37	2.89	1.86	47.15	16.96	205.99	1196.96	2.65	0.95	4.56	4.56
Yellowstone County	B1	RM 380.22	132032.4	100-yr	2123.76	981.69	977.02	2.73	1.7	40.51	14.46	172.68	1121.25	3.12	1.11	4.67	4.67
Yellowstone County	B1	RM 380.11	131847.7	100-yr	2123.76	981.42	976.29	2.81	1.94	49.15	17.95	181.17	1041.37	2.88	1.05	5.13	5.13
Yellowstone County	B1	RM 380.01	131671.4	100-yr	2123.76	981.17	976.21	2.72	1.8	53.4	17.93	174.48	1183.38	2.98	1	4.96	4.96
Yellowstone County	B1	RM 379.92	131538.8	100-yr	2123.76	980.81	976.69	3.07	1.97	51.74	17.8	192.74	1214.82	2.58	0.89	4.12	4.12
Yellowstone County	B1	RM 379.84	131406.9	100-yr	2123.76	980.77	975.94	1.92	1.37	21.9	11.5	418.71	1525.4	2.2	1.15	4.83	4.83
Yellowstone County	B1	RM 379.75	131265.1	100-yr	2123.76	980.62	974.98	1.89	1.33	25.62	12.09	375.62	1619.24	2.35	1.11	5.64	5.64
Yellowstone County	B1	RM 379.65	131104.3	100-yr	2123.76	980.53	975.6	1.58	1.06	14.62	7.68	379.78	1753.19	2.4	1.26	4.93	4.93
Yellowstone County	B1	RM 379.56	130964.3	100-yr	2123.76	980.46	975.94	1.55	1.05	14.17	7.03	313.71	1654.91	2.67	1.32	4.52	4.52
Yellowstone County	B1	RM 379.46	130794	100-yr	2123.76	980.34	974.74	1.73	1.14	16.21	8.71	299.1	1389.92	2.62	1.41	5.6	5.6
Yellowstone County	B1	RM 379.36	130642.3	100-yr	2123.76	980.21	975.71	1.88	1.22	27.03	13.51	247.15	1080.09	3.46	1.72	4.5	4.5
Yellowstone County	B1	RM 379.27	130496.2	100-yr	2123.76	979.9	974.66	2.74	1.61	62.93	30.15	164.97	849.57	3.26	1.56	5.24	5.24
Yellowstone County	B1	RM 379.17	130345.7	100-yr	2123.76	979.31	973.93	3.52	2.06	79.37	29.08	154.92	861.79	3.27	1.2	5.38	5.38
Yellowstone County	B1	RM 379.04	130142	100-yr	2123.76	979.08	974.79	2.83	1.7	43.7	21.29	203.31	901.18	2.84	1.38	4.29	4.29
Yellowstone County	B1	RM 378.97	130026.7	100-yr	2123.76	978.82	974.64	2.95	1.88	49.38	23.13	231.05	920.24	2.61	1.23	4.18	4.18
Yellowstone County	B1	RM 378.86	129850.9	100-yr	2123.76	978.42	974.4	3.03	1.97	56.76	26.52	250.72	955.85	2.41	1.13	4.02	4.02
Yellowstone County	B1	RM 378.76	129682.3	100-yr	2123.76	978.05	974.17	2.94	2	51.01	23.28	272.78	979.45	2.37	1.08	3.88	3.88
Yellowstone County	B1	RM 378.67	129541.3	100-yr	2123.76	977.81	973.97	2.84	1.81	40.49	21.02	285.69	1083.24	2.16	1.12	3.84	3.84
Yellowstone County	B1	RM 378.61	129443.1	100-yr	2123.76	977.68	973.83	2.14	1.57	58.38	31.37	255.01	1332.71	2.06	1.1	3.85	3.85
Yellowstone County	B1	RM 378.52	129297.7	100-yr	2123.76	977.45	973.62	1.87	1.4	21.46	13.96	560.7	1383.13	1.73	1.12	3.83	3.83
Yellowstone County	B1	RM 378.46	129200.8	100-yr	2123.76	977.36	973.48	1.63	1.32	19.94	11.97	613.46	1372.51	1.95	1.17	3.88	3.88
Yellowstone County	B1	RM 378.40	129112.2	100-yr	2123.76	977.24	973.41	1.59	1.35	41.19	24.94	605.91	1314.36	1.98	1.2	3.83	3.83
Yellowstone County	B1	RM 378.29	128929.4	100-yr	2123.76	977.1	972.93	1.36	1.09	13.1	7.28	567.41	1369	2.56	1.42	4.17	4.17
Yellowstone County	B1	RM 378.13	128673.7	100-yr	2123.76	976.8	971.4	2.09	1.57	19.46	9.4	438.15	1299.91	2.16	1.04	5.4	5.4
Yellowstone County	B1	RM 378.07	128569	100-yr	2123.76	976.71	970.46	2.13	1.57	19.34	9.82	347.69	1021.87	2.62	1.33	6.25	6.25
Yellowstone County	B1	RM 377.96	128380.3	100-yr	2123.76	976.13	968.85	3.42	2.62	64.43	14.73	112.51	689.85	5.23	1.18	7.28	7.28
Yellowstone County	B1	RM 377.87	128244.4	100-yr	2123.76	976.04	970.56	2.91	2.15	61.29	21.48	223.61	1399.04	2.92	1.02	5.48	5.48
Yellowstone County	B1	RM 377.79	128118	100-yr	2123.76	975.85	970.94	2.66	2	36.09	16.27	344.81	1311.66	2.1	0.95	4.91	4.91
Yellowstone County	B1	RM 377.69	127964.3	100-yr	2123.76	975.68	969.86	2.24	1.66	25.16	15.49	423.76	1497.97	1.97	1.21	5.82	5.82
Yellowstone County	B1	RM 377.61	127824.8	100-yr	2123.76	975.18	970.53	3.12	2.5	37.33	23.47	394.4	944.81	1.57	0.99	4.65	4.65
Yellowstone County	B1	RM 377.55	127735.1	100-yr	2123.76	975.11	970.41	2.56	2.05	26.98	16.78	456.2	1480.65	1.67	1.04	4.7	4.7
Yellowstone County	B1	RM 377.48	127618.1	100-yr	2123.76	974.93	970.26	2.45	1.94	28.23	17.17	468.58	1662.58	1.68	1.02	4.67	4.67
Yellowstone County	B1	RM 377.39	127466.6	100-yr	2123.76	974.64	969.73	2.57	1.95	30.55	17.24	415.37	1229.88	1.78	1	4.91	4.91
Yellowstone County	B1	RM 377.34	127391.5	100-yr	2123.76	974.46	969.95	2.41	1.98	98.46	52.19	398.76	1269.19	1.79	0.95	4.51	4.51
Yellowstone County	B1	RM 377.25	127241.9	100-yr	2123.76	974.14	970.26	2.16	1.77	26.92	13.81	440.64	1148.6	2.08	1.07	3.88	3.88
Yellowstone County	B1	RM 377.16	127097.7	100-yr	2123.76	973.97	969.82	2.09	1.72	27.59	14.2	410.87	1176.45	2.04	1.05	4.15	4.15
Yellowstone County	B1	RM 377.08	126969	100-yr	2123.76	973.91	969	1.65	1.29	15.46	7.41	417.58	1365.16	2.66	1.27	4.91	4.91
Yellowstone County	B1	RM 377.04	126900.8	100-yr	2123.76	973.83	968.6	1.61	1.39	45.06	27.47	570.04	1293.49	1.94	1.18	5.23	5.23
Yellowstone County	B1	RM 376.98	126797.5	100-yr	2123.76	973.6	969.02	1.98	1.61	22.03	12.72	531.66	1239.4	1.85	1.07	4.58	4.58
Yellowstone County	B1	RM 376.92	126710.1	100-yr	2123.76	973.51	969.01	1.65	1.38	37.77	21.39	497.1	1277.99	2.27	1.28	4.5	4.5
Yellowstone County	B1	RM 376.84	126584.2	100-yr	2123.76	973.41	967.73	1.46	1.23	17.97	10.43	449.04	1398.24	2.56	1.48	5.68	5.68
Yellowstone County	B1	RM 376.75	126442.1	100-yr	2123.76	973.28	967.82	1.53	1.34	24.97	13.62	406.87	1441.29	2.74	1.49	5.46	5.46
Yellowstone County	B1	RM 376.67	126309	100-yr	2123.76	973.07	967.23	1.89	1.62	41.71	19.83	333.94	1396.36	2.73	1.29	5.84	5.84
Yellowstone County	B1	RM 376.58	126174.1	100-yr	2123.76	972.81	966.82	2.03	1.71	46.22	23.08	344.97	1217.32	2.61	1.3	5.99	5.99

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	100-yr	2123.76	972.4	966.77	2.73	2.39	52.32	25.31	266.7	730.56	2.73	1.31	5.63	5.63
Yellowstone County	B1	RM 376.42	125918.5	100-yr	2123.76	972.18	967.68	2.64	2.29	39.49	15.01	257.08	1173.27	3.04	1.15	4.5	4.5
Yellowstone County	B1	RM 376.35	125809.8	100-yr	2123.76	972.14	966.71	2.35	1.73	28.57	10.51	225.28	1545.1	3.52	1.29	5.43	5.43
Yellowstone County	B1	RM 376.28	125697	100-yr	2123.76	971.66	966.28	3.37	2.76	65.2	23.77	221.78	1026.61	2.63	0.95	5.38	5.38
Yellowstone County	B1	RM 376.20	125565.9	100-yr	2123.76	971.43	966.16	3.02	2.33	54.51	22.5	252.32	1196.25	2.46	1.01	5.27	5.27
Yellowstone County	B1	RM 376.10	125404.8	100-yr	2123.76	971.22	966.61	2.52	1.82	36.1	17.42	271.07	1347.83	2.3	1.11	4.61	4.61
Yellowstone County	B1	RM 376.00	125250.5	100-yr	2123.76	970.98	967.42	2.49	1.66	38.2	17.57	242.73	1255.73	2.6	1.19	3.56	3.56
Yellowstone County	B1	RM 375.88	125055.1	100-yr	2123.76	970.77	966.01	2.31	1.44	35.01	15.74	185.92	1044.73	3.13	1.41	4.76	4.76
Yellowstone County	B1	RM 375.78	124897.3	100-yr	2123.76	970.57	965.37	2.36	1.57	35.67	16.79	188.11	958.15	3.01	1.42	5.2	5.2
Yellowstone County	B1	RM 375.67	124708.2	100-yr	2123.76	970.35	965.8	2.38	1.79	35.82	17.73	227.32	875.76	2.75	1.36	4.55	4.55
Yellowstone County	B1	RM 375.58	124564.2	100-yr	2123.76	970.08	966.54	2.64	2.01	43.05	20.22	226.22	836.07	2.69	1.26	3.54	3.54
Yellowstone County	B1	RM 375.23	124013.6	100-yr	2123.76	969.43	965.23	2.35	1.62	36.47	14.25	230.79	1148.96	2.93	1.14	4.2	4.2
Yellowstone County	B1	RM 375.10	123799.5	100-yr	2123.76	968.79	963.88	3.53	2.16	83.96	23.99	126.49	976.38	3.54	1	4.91	4.91
Yellowstone County	B1	RM 374.97	123580.4	100-yr	2123.76	968.57	963.97	2.63	1.71	53.23	17.33	136.63	1145.09	3.43	1.1	4.6	4.6
Yellowstone County	B1	RM 374.83	123365.5	100-yr	2123.76	968.33	963.52	2.33	1.57	32.89	13.41	132.89	1196.43	3.22	1.31	4.81	4.81
Yellowstone County	B1	RM 374.73	123195.7	100-yr	2123.76	968.24	963.36	1.85	1.35	18.31	8.35	143.92	1271.36	3.34	1.52	4.88	4.88
Yellowstone County	B1	RM 374.61	123010.3	100-yr	2123.76	968.01	963.49	2.27	1.67	39.38	15.27	163.63	1261.08	3.28	1.27	4.52	4.52
Yellowstone County	B1	RM 374.53	122875.3	100-yr	2194.56	967.77	963.14	2.58	1.9	41.94	15.71	186.43	971.63	3.18	1.19	4.63	4.63
Yellowstone County	B1	RM 374.44	122726.7	100-yr	2194.56	967.42	963.04	3.11	2.08	70.88	20.84	128.39	986.44	3.66	1.07	4.38	4.38
Yellowstone County	B1	RM 374.32	122535.1	100-yr	2194.56	967.19	962.82	2.35	2.01	47.59	20.34	197.39	921.24	2.78	1.19	4.37	4.37
Yellowstone County	B1	RM 374.22	122379	100-yr	2194.56	966.96	960.92	2.65	1.69	40.34	14.16	134.27	1019.01	3.63	1.28	6.04	6.04
Yellowstone County	B1	RM 374.13	122231.1	100-yr	2194.56	966.8	960.11	2.77	1.74	40.74	16.96	137.18	938.27	3.24	1.34	6.69	6.69
Yellowstone County	B1	RM 373.97	121972.4	100-yr	2194.56	966.56	958.8	2.29	1.75	31.45	12.9	223.41	961.39	3.21	1.31	7.76	7.76
Yellowstone County	B1	RM 373.88	121829.3	100-yr	2194.56	966.36	962.21	2.47	1.79	44.22	17.08	194.77	1015.88	3.15	1.21	4.15	4.15
Yellowstone County	B1	RM 373.79	121688.7	100-yr	2194.56	966.16	961.66	2.41	1.75	46.85	20.3	190.05	1021.55	3.11	1.34	4.5	4.5
Yellowstone County	B1	RM 373.69	121523.5	100-yr	2194.56	965.9	961.11	2.5	1.72	39.47	16.49	202.68	1271.15	2.86	1.19	4.79	4.79
Yellowstone County	B1	RM 373.56	121314.3	100-yr	2194.56	965.26	959.37	3.35	2.21	64.52	27.43	202.16	1023.84	2.57	1.09	5.89	5.89
Yellowstone County	B1	RM 373.39	121015.9	100-yr	2194.56	964.5	958.78	3.38	2.38	65.95	30.63	185.13	683.37	2.91	1.35	5.72	5.72
Yellowstone County	B1	RM 373.26	120802.3	100-yr	2194.56	964.49	960.81	1.61	1.06	17.01	13.16	355.66	1238.97	2.25	1.75	3.68	3.68
Yellowstone County	B1	RM 373.09	120539.5	100-yr	2194.56	964.14	959.94	2.26	1.51	31.68	17.38	301.18	1278.63	2.18	1.19	4.2	4.2
Yellowstone County	B1	RM 372.99	120365.2	100-yr	2194.56	963.81	959.69	2.3	1.66	48.49	24.24	328.03	1319.42	2.01	1	4.12	4.12
Yellowstone County	B1	RM 372.82	120107.7	100-yr	2194.56	963.44	959.03	1.93	1.36	21.88	14.61	461.77	1423.39	1.7	1.14	4.41	4.41
Yellowstone County	B1	RM 372.72	119922.5	100-yr	2194.56	963.26	958.92	1.71	1.34	28.87	20.86	431.92	1336.41	1.69	1.22	4.34	4.34
Yellowstone County	B1	RM 372.65	119797.7	100-yr	2194.56	963.2	957.32	1.31	0.92	11.86	9.59	396.23	1543.2	1.92	1.55	5.88	5.88
Yellowstone County	B1	RM 372.58	119676.6	100-yr	2194.56	963.15	958.2	1.2	0.93	9.06	7.22	440.17	1473.63	2.02	1.61	4.95	4.95
Yellowstone County	B1	RM 372.41	119395.9	100-yr	2194.56	963.04	958.82	1.34	0.92	9.54	6.94	480.99	1556.21	2.1	1.53	4.22	4.22
Yellowstone County	B1	RM 372.32	119268.8	100-yr	2194.56	962.98	957.24	1.07	1.08	18.48	14.53	531.91	1365.99	1.89	1.48	5.74	5.74
Yellowstone County	B1	RM 372.20	119079.1	100-yr	2194.56	962.75	956.93	1.32	1.18	31.34	23	512.44	1340.07	1.89	1.38	5.82	5.82
Yellowstone County	B1	RM 372.08	118886.4	100-yr	2194.56	962.45	956.2	1.44	1.29	34.02	26.59	463.3	1053.9	2.07	1.61	6.25	6.25
Yellowstone County	B1	RM 371.94	118669.8	100-yr	2194.56	961.93	957.58	1.82	1.85	43.33	32.14	446.8	781.2	2.05	1.52	4.35	4.35
Yellowstone County	B1	RM 371.83	118490.4	100-yr	2194.56	961.71	957.52	1.76	1.63	25.86	18.08	393.72	776.33	2.49	1.74	4.19	4.19
Yellowstone County	B1	RM 371.74	118350.7	100-yr	2194.56	961.49	957.48	2.09	1.71	28.07	17.05	386.04	879.33	2.41	1.46	4.01	4.01
Yellowstone County	B1	RM 371.62	118155.6	100-yr	2194.56	961.23	956.41	2.32	1.55	36.5	13.28	220.59	1130.34	3.44	1.25	4.82	4.82
Yellowstone County	B1	RM 371.53	118001.4	100-yr	2194.56	960.94	955.99	2.68	1.81	42.52	15.1	234.36	1158.8	2.95	1.05	4.95	4.95
Yellowstone County	B1	RM 371.43	117839.2	100-yr	2194.56	960.64	955.47	2.6	1.83	73	32.01	253.33	1038.29	2.64	1.15	5.17	5.17
Yellowstone County	B1	RM 371.37	117745.1	100-yr	2194.56	960.37	955.72	2.73	2.05	38	17.83	292.28	914.27	2.49	1.17	4.65	4.65
Yellowstone County	B1	RM 371.32	117662.6	100-yr	2194.56	960.26	956.41	2.5	1.89	51.67	26.33	299.65	855.09	2.67	1.36	3.85	3.85
Yellowstone County	B1	RM 371.25	117560.3	100-yr	2194.56	960.14	955.99	2.22	1.76	30.03	18.47	374.18	839.71	2.45	1.5	4.15	4.15
Yellowstone County	B1	RM 371.21	117499	100-yr	2194.56	960.07	955.72	2.2	1.83	29.91	20.01	357.39	708.47	2.53	1.69	4.35	4.35
Yellowstone County	B1	RM 371.12	117353.9	100-yr	2194.56	959.94	955.54	2.01	1.65	24.43	15.27	387.43	943.04	2.54	1.58	4.4	4.4
Yellowstone County	B1	RM 371.04	117225.1	100-yr	2194.56	959.04	954.84	3.98	3.67	84.56	41.21	245.17	553.35	2.23	1.08	4.2	4.2
Yellowstone County	B1	RM 370.94	117054.9	100-yr	2194.56	959.08	955.57	2.32	1.92	37.75	23.52	242.38	1007.93	2.73	1.7	3.51	3.51
Yellowstone County	B1	RM 370.85	116910.9	100-yr	2194.56	958.94	954.47	2.14	1.58	30.39	14.06	218.81	1185.53	2.92	1.35	4.47	4.47
Yellowstone County	B1	RM 370.77	116793.6	100-yr	2194.56	958.86	953.84	2.04	1.42	22.13	10.64	224.11	1236.68	2.86	1.37	5.02	5.02
Yellowstone County	B1	RM 370.72	116711.6	100-yr	2194.56	958.81	953.13	2.01	1.27	23.8	10.68	165.01	1158.3	3.46	1.55	5.68	5.68
Yellowstone County	B1	RM 370.70	116669.2	100-yr	2194.56	958.76	953.05	2.07	1.2	21.76	11.23	201.49	1177.12	3	1.55	5.71	5.71
Yellowstone County	B1	RM 370.63	116558.9	100-yr	2194.56	958.67	953.42	2.01	1.13	32.57	14.72	183.5	1173.19	3.68	1.66	5.25	5.25
Yellowstone County	B1	RM 370.56	116440.6	100-yr	2194.56	958.44	953.34	2.5	1.41	28.97	9.54	178.41	1192.9	3.97	1.3	5.1	5.1
Yellowstone County	B1	RM 370.44	116241.1	100-yr	2194.56	958.24	952.03	2.76	1.48	46.7	13.66	134.44	1168.27	4.37	1.27	6.21	6.21
Yellowstone County	B1	RM 370.34	116071.6	100-yr	2194.56	957.95	949.79	3.08	1.69	60.39	15.17	118.14	1088.26	4.8	1.19	8.16	8.16
Yellowstone County	B1	RM 370.24	115908.6	100-yr	2194.56	957.81	950.22	2.9	1.65	48.87	13.17	117.55	999.75	4.99	1.33	7.58	7.58

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	100-yr	2194.56	957.51	952.12	2.97	1.93	56.98	19.27	161	883.66	3.81	1.29	5.39	5.39
Yellowstone County	B1	RM 370.00	115535.2	100-yr	2194.56	957.2	952.2	2.64	2.23	79.07	43.09	262.22	717.2	2.53	1.37	5	5
Yellowstone County	B1	RM 369.89	115356.1	100-yr	2194.56	956.83	953.15	2.43	2.09	30.71	18.28	418.74	881.66	2	1.19	3.68	3.68
Yellowstone County	B1	RM 369.77	115164.3	100-yr	2194.56	956.55	952.34	2.28	2.02	28.65	16.65	497.18	1039.56	1.89	1.1	4.21	4.21
Yellowstone County	B1	RM 369.64	114965.6	100-yr	2194.56	956.23	951.9	2.21	1.93	34.85	22.61	503.19	1334.68	1.84	1.19	4.33	4.33
Yellowstone County	B1	RM 369.54	114789.5	100-yr	2194.56	955.94	952.38	2.15	1.83	27.68	19.82	506.38	1466.05	1.85	1.32	3.56	3.56
Yellowstone County	B1	RM 369.45	114650.1	100-yr	2194.56	955.8	951	1.89	1.5	23.77	13.43	466.23	2191.11	2.11	1.19	4.8	4.8
Yellowstone County	B1	RM 369.32	114431.1	100-yr	2194.56	955.6	951.1	1.79	1.25	22.82	10.51	377.04	2593.72	2.68	1.23	4.5	4.5
Yellowstone County	B1	RM 369.17	114210.5	100-yr	2194.56	955.39	949.85	2.05	1.45	37.12	13.5	199.28	2596.33	3.19	1.16	5.54	5.54
Yellowstone County	B1	RM 369.06	114022.4	100-yr	2194.56	954.73	949.89	3.47	2.1	66.78	20.7	136.69	2096.63	3.66	1.13	4.84	4.84
Yellowstone County	B1	RM 368.96	113871.2	100-yr	2194.56	954.56	949.68	2.95	2.02	54.97	19.5	170.13	2061.6	3.37	1.19	4.88	4.88
Yellowstone County	B1	RM 368.88	113745.9	100-yr	2194.56	954.39	948.77	2.71	1.82	44.14	15.31	215.11	2423.18	2.93	1.01	5.62	5.62
Yellowstone County	B1	RM 368.82	113641	100-yr	2194.56	954.2	948.47	2.59	1.97	52.33	22.18	297.02	2334.42	2.31	0.97	5.73	5.73
Yellowstone County	B1	RM 368.72	113477.3	100-yr	2194.56	953.97	948.45	2.13	1.67	38.4	18.13	349.82	2300.04	2.42	1.14	5.52	5.52
Yellowstone County	B1	RM 368.63	113328.9	100-yr	2194.56	953.78	947.82	2	1.54	34.6	15.8	315.25	2371.41	2.56	1.17	5.96	5.96
Yellowstone County	B1	RM 368.54	113195.6	100-yr	2194.56	953.54	947.51	2.3	1.54	33.97	12.04	270.08	2508.86	2.97	1.05	6.03	6.03
Yellowstone County	B1	RM 368.44	113035.8	100-yr	2194.56	953.28	947.4	2.4	1.62	64.83	23.22	257.26	2507.76	2.78	0.99	5.88	5.88
Yellowstone County	B1	RM 368.35	112878.7	100-yr	2194.56	953.19	946.64	1.81	1.25	18.74	5.07	283.07	2738.06	3.98	1.07	6.55	6.55
Yellowstone County	B1	RM 368.26	112737.6	100-yr	2194.56	953.05	946.23	2.06	1.32	61.99	18.93	227.9	2628.65	3.48	1.05	6.82	6.82
Yellowstone County	B1	RM 368.18	112604.7	100-yr	2194.56	952.67	947.11	2.83	1.67	47.23	12.16	162.82	2240.56	4.04	1.03	5.56	5.56
Yellowstone County	B2	RM 368.09	112456.7	100-yr	2194.56	952.34	947.7	3.15	2.24	73.14	19.14	159.76	1853.23	3.84	0.99	4.64	4.64
Yellowstone County	B2	RM 368.00	112314.4	100-yr	2194.56	952.32	947.56	2.33	1.54	29.83	9.81	198.48	2554.69	3.99	1.31	4.76	4.76
Yellowstone County	B2	RM 367.86	112104.7	100-yr	2194.56	951.91	946.1	2.97	1.99	68.1	18.42	185.76	2284.58	3.53	0.95	5.81	5.81
Yellowstone County	B2	RM 367.79	111989.2	100-yr	2194.56	951.81	945.04	2.48	1.55	52	15.32	203.42	2270.53	3.51	1.03	6.77	6.77
Yellowstone County	B2	RM 367.72	111876.5	100-yr	2194.56	951.47	945.45	3.03	1.82	49.04	11.02	149.5	2249.72	4.22	0.94	6.02	6.02
Yellowstone County	B2	RM 367.64	111739.2	100-yr	2194.56	951.38	945.68	2.78	1.47	51.69	12.14	140.83	2391.43	4.22	0.98	5.7	5.7
Yellowstone County	B2	RM 367.50	111519.9	100-yr	2194.56	951.04	945.21	2.93	1.6	60.63	14.84	137.51	1965.41	4.24	1.02	5.83	5.83
Yellowstone County	B2	RM 367.40	111357.1	100-yr	2194.56	950.67	944.36	3.37	1.92	62.99	12.23	113.54	1691.38	4.65	0.89	6.31	6.31
Yellowstone County	B2	RM 367.31	111214.8	100-yr	2194.56	950.46	945.36	3.3	2.08	54.3	13.27	144.65	1321.08	3.99	0.97	5.1	5.1
Yellowstone County	B2	RM 367.19	110992.7	100-yr	2194.56	950.27	945.91	2.69	1.94	40.44	12.64	245.08	1470.84	3.02	0.94	4.36	4.36
Yellowstone County	B2	RM 367.11	110813.5	100-yr	2194.56	950.07	945.17	2.49	1.73	36.41	13.65	295.2	1465.14	2.68	1	4.9	4.9
Yellowstone County	B2	RM 367.03	110669.4	100-yr	2194.56	950	945.89	1.94	1.44	19.96	9.24	418.55	1494.14	2.47	1.14	4.11	4.11
Yellowstone County	B2	RM 366.95	110543	100-yr	2194.56	949.95	945.34	1.38	1.12	22.71	10.37	560.16	1897.61	2.54	1.16	4.61	4.61
Yellowstone County	B2	RM 366.84	110376	100-yr	2194.56	949.83	944.61	1.25	1.04	18.84	8.6	595.67	1803.74	2.71	1.23	5.22	5.22
Yellowstone County	B2	RM 366.78	110300.8	100-yr	2194.56	949.77	943.84	1.26	0.97	19.63	9.3	562.74	2145.46	2.71	1.28	5.93	5.93
Yellowstone County	B2	RM 366.73	110074.8	100-yr	2194.56	949.54	943.42	1.59	1.15	27.29	10.52	436.27	1966.96	2.81	1.07	6.12	6.12
Yellowstone County	B2	RM 366.68	109931.6	100-yr	2194.56	949.34	942.77	1.89	1.31	35	12.03	312.13	1740	3.21	1.1	6.57	6.57
Yellowstone County	B2	RM 366.53	109747.6	100-yr	2194.56	948.86	940.86	2.98	1.94	42.91	9.67	165.28	1242.33	4.11	0.91	8	8
Yellowstone County	B2	RM 366.38	109510.8	100-yr	2194.56	948.59	941.55	2.89	1.97	67.93	15.51	152.46	1074.68	4.57	1.03	7.04	7.04
Yellowstone County	B2	RM 366.27	109345.5	100-yr	2194.56	948.5	942.72	2.34	1.87	33.07	11.73	226.33	1020.98	3.99	1.41	5.78	5.78
Yellowstone County	B2	RM 366.15	109158.9	100-yr	2194.56	948.27	941.59	2.29	2	60.31	26.94	293.32	967.66	3.16	1.4	6.68	6.68
Yellowstone County	B2	RM 366.04	108972.6	100-yr	2194.56	947.94	941.41	2.54	2.35	27.19	16.34	313.41	671.98	2.73	1.63	6.53	6.53
Yellowstone County	B2	RM 365.94	108818.8	100-yr	2194.56	947.85	940.93	2.26	2.09	22.39	14.69	362.62	696.48	2.65	1.73	6.92	6.92
Yellowstone County	B2	RM 365.83	108647.5	100-yr	2194.56	947.64	939.93	2.13	1.81	73.08	38.25	329.53	968.79	2.91	1.52	7.71	7.71
Yellowstone County	B2	RM 365.75	108521.3	100-yr	2194.56	947.39	941.33	2.07	1.68	55.93	27.3	262.86	866.67	3.18	1.54	6.06	6.06
Yellowstone County	B2	RM 365.71	108446.5	100-yr	2194.56	947.17	941.83	2.4	1.84	57.39	21.06	234.54	963.3	3.57	1.3	5.34	5.34
Yellowstone County	B2	RM 365.64	108343.5	100-yr	2194.56	947.04	942.19	2.13	1.72	49.73	22.2	306.44	953.52	3	1.34	4.85	4.85
Yellowstone County	B2	RM 365.57	108220.5	100-yr	2194.56	946.72	942.08	2.53	2.08	52.53	23.62	252.77	729.59	3.24	1.45	4.64	4.64
Yellowstone County	B2	RM 365.51	108118.9	100-yr	2194.56	946.56	941.87	2.46	2.01	56.77	25.37	265.35	833.06	3.16	1.41	4.69	4.69
Yellowstone County	B2	RM 365.46	108042.9	100-yr	2194.56	946.51	941.73	2.06	1.76	35.51	16.77	317.69	824.29	3.21	1.51	4.78	4.78
Yellowstone County	B2	RM 365.41	107956.5	100-yr	2194.56	946.43	941.46	1.98	1.8	32.58	15.66	326.34	765.05	3.33	1.6	4.97	4.97
Yellowstone County	B2	RM 365.37	107905.7	100-yr	2194.56	946.38	940.74	1.99	1.76	22.3	10.77	309.36	744.97	3.47	1.67	5.64	5.64
Yellowstone County	B2	RM 365.31	107792.4	100-yr	2194.56	946.23	939.27	2.3	2.02	28.08	13.38	257.08	634.79	3.61	1.71	6.96	6.96
Yellowstone County	B2	RM 365.27	107727.9	100-yr	2194.56	946.12	939.34	2.47	2.2	36.42	17.21	251.44	617.55	3.43	1.62	6.78	6.78
Yellowstone County	B2	RM 365.23	107674.2	100-yr	2194.56	945.99	939.52	2.72	2.46	35.74	16.02	230.94	582.86	3.43	1.53	6.47	6.47
Yellowstone County	B2	RM 365.19	107603	100-yr	2194.56	945.94	939.93	2.62	2.44	35.1	16.71	238.08	543.88	3.48	1.65	6.01	6.01
Yellowstone County	B2	RM 365.15	107534.7	100-yr	2194.56	945.89	939.68	2.52	2.3	33.5	14.47	213.35	555.97	3.99	1.72	6.21	6.21
Yellowstone County	B2	RM 365.10	107466	100-yr	2194.56	945.72	938.61	2.85	2.66	42.91	17.95	186.92	485.42	4.08	1.7	7.11	7.11
Yellowstone County	B2	RM 365.06	107396.2	100-yr	2194.56	945.66	939.07	2.81	2.47	44.85	15.07	170.56	595.27	4.47	1.49	6.59	6.59
Yellowstone County	B2	RM 365.01	107325.8	100-yr	2194.56	945.64	939.22	2.55	2.2	42.52	14.88	175.43	601.45	4.76	1.66	6.42	6.42
Yellowstone County	B2	RM 364.99	107287.5	100-yr	2194.56	945.56	939.27	2.71	2.28	48.76	17.7	171.73	590.66	4.51	1.63	6.29	6.29

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	100-yr	2194.56	945.3	937.97	3.02	2.59	34.53	16.63	201.87	503.91	3.51	1.68	7.33	7.33
Yellowstone County	B2	RM 364.81	106996.1	100-yr	2194.56	945.29	938.93	2.43	2.07	25.61	18.66	243.35	624.41	3.52	2.56	6.36	6.36
Yellowstone County	B2	RM 364.74	106893.3	100-yr	2194.56	945.14	938.94	2.71	2.11	38.37	18.3	164.71	651.17	4.59	2.18	6.2	6.2
Yellowstone County	B2	RM 364.64	106739.2	100-yr	2194.56	944.87	939.09	3.21	2.23	46.32	18.51	120.08	649.22	5.09	2.02	5.78	5.78
Yellowstone County	B2	RM 364.61	106686.8	100-yr	2194.56	944.87	939.21	2.9	2.24	39.35	18.54	158.49	529.09	4.48	2.1	5.66	5.66
Yellowstone County	B2	RM 364.60	106666.6	100-yr	2194.56	944.74	939.26	3.23	2.57	47.88	20.89	133.67	411.69	4.78	2.07	5.48	5.48
Yellowstone County	B2	RM 364.53	106558.4	100-yr	2194.56	944.65	939.11	3.04	2.81	42.83	15.98	166.16	540.99	4.31	1.6	5.54	5.54
Yellowstone County	B2	RM 364.49	106490.3	100-yr	2194.56	944.62	939.24	2.9	2.29	41.35	16.59	162.65	569.38	4.45	1.77	5.38	5.38
Yellowstone County	B2	RM 364.43	106394	100-yr	2194.56	944.49	939.13	2.99	2.52	44.33	16.02	161.2	586.13	4.45	1.6	5.36	5.36
Yellowstone County	B2	RM 364.37	106296.4	100-yr	2194.56	944.45	938.98	2.84	2.12	37.52	16.69	146.91	632.48	4.88	2.15	5.47	5.47
Yellowstone County	B2	RM 364.32	106215.1	100-yr	2194.56	944.37	938.52	2.83	2.26	53.72	29.41	152.95	598.64	4.7	2.56	5.85	5.85
Yellowstone County	B2	RM 364.29	106172.9	100-yr	2194.56	944.39	938.13	2.41	2.36	44.49	41.65	191	680.69	4.74	4.43	6.26	6.26
Yellowstone County	B2	RM 364.26	106126.6	100-yr	2194.56	944.1	937.7	3.2	2.79	63.67	45.86	142.23	551.9	4.62	3.32	6.4	6.4
Yellowstone County	B2	RM 364.22	106055.2	100-yr	2194.56	943.88	938.15	3.45	3.26	78.11	42.82	136.36	330.89	4.64	2.54	5.73	5.73
Yellowstone County	B2	RM 364.14	105927.3	100-yr	2194.56	943.51	938.12	3.83	3.29	89.99	55.7	125.6	255.65	4.36	2.68	5.39	5.39
Yellowstone County	B2	RM 364.06	105809.9	100-yr	2194.56	943.43	938.22	3.2	2.65	72.9	35.83	156.43	577.45	4.15	2.03	5.21	5.21
Yellowstone County	B2	RM 363.96	105648.3	100-yr	2194.56	943.36	938.28	2.38	1.97	40.4	22.49	248.33	674.06	3.48	1.93	5.08	5.08
Yellowstone County	B2	RM 363.85	105472.4	100-yr	2194.56	942.98	936.25	3.08	2.48	45.37	20.03	150.42	557.36	4.22	1.84	6.73	6.73
Yellowstone County	B2	RM 363.76	105316.8	100-yr	2194.56	942.83	937.03	2.92	2.43	58.34	23.63	148.05	553.08	4.33	1.75	5.8	5.8
Yellowstone County	B2	RM 363.63	105118.1	100-yr	2194.56	942.57	937.93	2.37	2.24	53.58	35.73	339.7	546.71	2.69	1.79	4.64	4.64
Yellowstone County	B2	RM 363.52	104943.9	100-yr	2194.56	942.24	937.54	2.2	1.97	53.07	28.47	372.43	801.19	2.59	1.39	4.7	4.7
Yellowstone County	B2	RM 363.46	104841.5	100-yr	2194.56	942.11	937.16	2.02	1.68	37.81	21.23	330.96	814.73	3.08	1.72	4.95	4.95
Yellowstone County	B2	RM 363.33	104622.9	100-yr	2194.56	941.8	936.36	2.03	1.58	50.55	31.06	302.26	927.32	2.9	1.78	5.44	5.44
Yellowstone County	B2	RM 363.20	104414.5	100-yr	2194.56	941.44	936.48	2.21	1.51	37.27	19.33	282.91	1048.98	2.96	1.53	4.96	4.96
Yellowstone County	B2	RM 363.10	104256.4	100-yr	2194.56	941.17	936.25	2.4	1.68	44.41	22.65	275.99	912.02	2.82	1.43	4.92	4.92
Yellowstone County	B2	RM 363.03	104144.8	100-yr	2194.56	941.01	936.22	2.34	1.58	35.94	17.67	285.35	1121.76	2.85	1.4	4.79	4.79
Yellowstone County	B2	RM 362.86	103869.6	100-yr	2194.56	940.88	934.32	1.66	1.22	15.94	9.99	405.06	1000.33	2.86	1.79	6.56	6.56
Yellowstone County	B2	RM 362.74	103671.4	100-yr	2194.56	940.66	934.52	2.08	1.53	25.31	15.85	371.25	917.76	2.51	1.57	6.14	6.14
Yellowstone County	B2	RM 362.63	103493.2	100-yr	2194.56	940.45	934.5	1.96	1.51	41.61	28.38	388.17	983.2	2.46	1.67	5.95	5.95
Yellowstone County	B2	RM 362.52	103330.7	100-yr	2194.56	940.2	934.5	1.8	1.46	38.07	26.91	435.44	854.29	2.5	1.76	5.7	5.7
Yellowstone County	B2	RM 362.43	103185.5	100-yr	2194.56	940.06	934.1	1.75	1.46	16.98	13.13	438.72	783.71	2.69	2.08	5.96	5.96
Yellowstone County	B2	RM 362.36	103070.8	100-yr	2194.56	939.97	932.98	1.83	1.61	16.81	13.27	405.08	618.18	2.81	2.21	6.99	6.99
Yellowstone County	B2	RM 362.27	102929.3	100-yr	2194.56	939.71	932.93	2.52	2.21	30.17	15.59	195.66	446.62	4.35	2.23	6.78	6.78
Yellowstone County	B2	RM 362.20	102813.3	100-yr	2194.56	938.92	933.37	4.28	3.73	90.71	36.13	111.06	330.15	4.53	1.78	5.55	5.55
Yellowstone County	B2	RM 362.13	102693.1	100-yr	2194.56	938.65	933.47	4.28	3.9	89.16	42.4	125.06	296.17	4.04	1.9	5.18	5.18
Yellowstone County	B3	RM 362.05	102570.9	100-yr	2194.56	938.57	933.85	3.59	3.42	65.83	36.9	181.74	343.34	3.35	1.87	4.72	4.72
Yellowstone County	B3	RM 362.00	102488.8	100-yr	2194.56	938.58	934.11	2.9	2.9	49.74	49.21	244.3	316.81	3.1	3.06	4.47	4.47
Yellowstone County	B3	RM 361.93	102368.8	100-yr	2194.56	938.49	934.31	2.38	2.38	37.62	37.41	367.9	370.05	2.51	2.5	4.18	4.18
Yellowstone County	B3	RM 361.86	102261.1	100-yr	2194.56	938.14	934.36	2.79	2.7	71.16	62.43	364.02	441.34	2.1	1.84	3.78	3.78
Yellowstone County	B3	RM 361.78	102138.9	100-yr	2194.56	937.97	933.72	2.34	2.27	31.15	26.66	406.07	492.75	2.29	1.96	4.25	4.25
Yellowstone County	B3	RM 361.68	101970.2	100-yr	2194.56	937.76	933.64	2.16	2.06	32.14	26.45	425.81	554.23	2.34	1.93	4.12	4.12
Yellowstone County	B3	RM 361.65	101918.4	100-yr	2194.56	937.73	933.71	1.96	1.84	27.9	20.74	403.7	620.06	2.7	2	4.02	4.02
Yellowstone County	B3	RM 361.61	101855.6	100-yr	2194.56	937.56	932.7	2.37	2.1	34.87	23.64	334.73	625.27	2.65	1.8	4.86	4.86
Yellowstone County	B3	RM 361.56	101767.4	100-yr	2194.56	937.39	930.29	2.58	2.24	37.28	20.97	267.33	688.73	3.05	1.71	7.1	7.1
Yellowstone County	B3	RM 361.48	101644.6	100-yr	2194.56	937.18	929.97	2.85	2.35	51.99	22.21	181.61	989.1	3.67	1.56	7.21	7.21
Yellowstone County	B3	RM 361.42	101546.2	100-yr	2194.56	936.98	932.36	3.11	2.35	46.93	19.18	186.71	1205.2	3.11	1.27	4.62	4.62
Yellowstone County	B3	RM 361.37	101468.9	100-yr	2194.56	936.88	932.21	3.03	2.11	47.17	15.16	171.32	1306.15	3.56	1.14	4.67	4.67
Yellowstone County	B3	RM 361.33	101409.4	100-yr	2194.56	936.48	932.02	3.86	2.59	76.22	23.83	158.41	953.21	3.14	0.98	4.46	4.46
Yellowstone County	B3	RM 361.29	101346	100-yr	2194.56	936.37	930.51	3.61	1.99	69.41	22	138.47	1135.48	3.29	1.04	5.86	5.86
Yellowstone County	B3	RM 361.25	101284.9	100-yr	2194.56	936.25	928.42	3.61	1.96	66.23	20.84	116.43	1095.08	3.54	1.1	7.83	7.83
Yellowstone County	B3	RM 361.21	101251.*	100-yr	2194.56	936.22	927.55	3.22	1.95	101.41	28.59	118.22	1230.29	4.21	1.17	8.67	8.67
Yellowstone County	B3	RM 361.21	101217.5	100-yr	2194.56	936.17	926.68	3.07	1.92	47.49	13.09	114.15	1243.13	4.98	1.36	9.49	9.49
Yellowstone County	B3	RM 361.18	101167.2	100-yr	2194.56	936.15	928.03	2.89	1.69	39.35	11.78	131.7	1284.37	4.45	1.32	8.12	8.12
Yellowstone County	B3	RM 361.16	101134.2	100-yr	2194.56	936.11	928.92	2.76	1.84	39.15	15.72	201.65	1650.87	3.34	1.34	7.19	7.19
Yellowstone County	B3	RM 361.09	101028.7	100-yr	2194.56	936.09	931.28	2.07	1.44	25	14.9	357.07	1723.2	2.07	1.23	4.81	4.81
Yellowstone County	B3	RM 361.01	100891.3	100-yr	2194.56	935.78	931.55	2.48	1.68	39.56	17.66	352.55	1654.63	1.92	0.86	4.23	4.23
Yellowstone County	B3	RM 360.92	100756	100-yr	2194.56	935.65	931.05	1.49	1.12	25.55	16.02	453.06	1709.2	1.83	1.15	4.6	4.6
Yellowstone County	B3	RM 360.81	100570.1	100-yr	2194.56	935.12	929.52	2.28	1.82	63.72	43.82	463.94	1405.17	1.59	1.09	5.6	5.6
Yellowstone County	B3	RM 360.69	100383.5	100-yr	2194.56	935.04	930.6	1.16	0.89	11.8	7.82	340.51	1810.93	2.5	1.65	5.15	5.15
Yellowstone County	B3	RM 360.59	100227.2	100-yr	2194.56	934.88	930.53	1.83	1.09	19.73	9.5	269.12	1868.62	2.49	1.2	4.67	4.67
Yellowstone County	B3	RM 360.50	100081	100-yr	2194.56	934.67	930.55	2.24	1.22	32.89	11.65	214.5	1908.24	2.96	1.04	4.12	4.12

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	100-yr	2194.56	934.5	929.97	2.47	1.27	36.37	12.29	190.45	1667.08	3.07	1.04	4.53	4.53
Yellowstone County	B3	RM 360.36	99862.66	100-yr	2194.56	934.38	929.68	2.38	1.29	30.6	11.1	242.5	1810.84	2.7	0.98	4.7	4.7
Yellowstone County	B3	RM 360.27	99717.18	100-yr	2194.56	934.1	929.52	2.91	1.49	47.56	15.05	149.73	1458.37	3.21	1.01	4.58	4.58
Yellowstone County	B3	RM 360.18	99578.06	100-yr	2194.56	933.8	929.32	3.14	1.6	63.09	16.3	135.23	1429.37	3.77	0.96	4.48	4.48
Yellowstone County	B3	RM 360.11	99458.59	100-yr	2194.56	933.7	929.38	2.81	1.53	42.53	13.13	148.51	1441.75	3.22	0.99	4.32	4.32
Yellowstone County	B3	RM 360.03	99328	100-yr	2214.38	933.6	929.58	2.3	1.32	39.82	13.81	168.97	1623.67	3.24	1.12	4.02	4.02
Yellowstone County	B3	RM 359.96	99226.54	100-yr	2214.38	933.5	929.2	2.35	1.24	34.57	12.53	163.81	1478.96	3.34	1.21	4.3	4.3
Yellowstone County	B3	RM 359.88	99098.18	100-yr	2214.38	933.34	927.78	2.61	1.29	37.34	12.31	144	1412.79	3.7	1.22	5.56	5.56
Yellowstone County	B3	RM 359.78	98940.52	100-yr	2214.38	933.25	928.1	2.38	1.22	39.47	12.98	149.89	1454.02	3.83	1.25	5.15	5.15
Yellowstone County	B3	RM 359.70	98813.18	100-yr	2214.38	932.91	928.32	3.05	1.74	79.35	22.38	145.93	1411.61	3.44	0.97	4.59	4.59
Yellowstone County	B3	RM 359.61	98663.44	100-yr	2214.38	932.69	928.8	2.41	1.78	41.38	15.45	318.49	1398.98	2.58	0.96	3.89	3.89
Yellowstone County	B3	RM 359.50	98492.66	100-yr	2214.38	932.45	928.22	2.42	1.67	33.78	13.33	321.3	1532.68	2.4	0.94	4.23	4.23
Yellowstone County	B3	RM 359.38	98291.15	100-yr	2214.38	932.2	927.09	1.98	1.51	43.52	20.52	380.94	1630.7	2.08	0.98	5.11	5.11
Yellowstone County	B3	RM 359.26	98107.42	100-yr	2214.38	931.71	927.71	2.43	1.85	38.41	18	415.2	1493.24	1.89	0.89	4	4
Yellowstone County	B3	RM 359.18	97966.53	100-yr	2214.38	931.5	927.28	2.36	1.59	33.63	14.26	299.78	1506.53	2.43	1.03	4.22	4.22
Yellowstone County	B3	RM 359.10	97841.82	100-yr	2214.38	931.35	926.69	2.16	1.48	29.17	14.61	374.84	1584.21	2.09	1.04	4.66	4.66
Yellowstone County	B3	RM 359.01	97692.75	100-yr	2214.38	931.2	925.91	1.82	1.17	29.36	16.01	329.94	1668.13	2.27	1.24	5.29	5.29
Yellowstone County	B3	RM 358.90	97524.59	100-yr	2214.38	930.8	926.77	2.61	1.47	46.89	18.06	227.3	1489.8	2.63	1.01	4.03	4.03
Yellowstone County	B3	RM 358.81	97374.99	100-yr	2214.38	930.52	926.37	2.7	1.48	38.03	14	225.13	1517.29	2.76	1.01	4.15	4.15
Yellowstone County	B3	RM 358.74	97267.71	100-yr	2214.38	930.38	925.53	2.7	1.41	56.35	21.1	167.2	1483.92	3.01	1.12	4.85	4.85
Yellowstone County	B3	RM 358.67	97155.8	100-yr	2214.38	930.28	925.59	2.16	1.41	26.34	12.61	278.31	1495.68	2.44	1.16	4.69	4.69
Yellowstone County	B3	RM 358.61	97062.24	100-yr	2214.38	930.22	925.74	1.69	1.28	22.44	12.51	389.39	1608.81	2.36	1.31	4.48	4.48
Yellowstone County	B3	RM 358.56	96985.92	100-yr	2214.38	930.16	926.2	1.57	1.25	17.73	10.94	457.52	1607.84	2.25	1.39	5.57	5.57
Yellowstone County	B3	RM 358.50	96888.4	100-yr	2214.38	930.09	925.64	1.45	1.2	13.41	10.15	550.02	1492.5	2.1	1.59	4.45	4.45
Yellowstone County	B3	RM 358.43	96788.43	100-yr	2214.38	930.05	925.27	1.21	1.13	14.06	11.75	650.58	1446.93	2.14	1.79	4.78	4.78
Yellowstone County	B3	RM 358.30	96638.82	100-yr	2214.38	929.99	924.7	1.11	1.02	9.99	8.33	686.1	1311.06	2.7	2.25	5.29	5.29
Yellowstone County	B3	RM 358.24	96561.93	100-yr	2214.38	929.94	923.57	1.24	1.14	11.6	9.6	644.55	1313.64	2.53	2.09	6.37	6.37
Yellowstone County	B3	RM 358.20	96500.79	100-yr	2214.38	929.89	922.99	1.38	1.27	13.08	10.47	619.99	1214.69	2.4	1.92	6.9	6.9
Yellowstone County	B3	RM 358.14	96404.93	100-yr	2214.38	929.83	922.57	1.45	1.24	12.52	9.16	543.4	1322.99	2.58	1.88	7.26	7.26
Yellowstone County	B3	RM 358.12	96368.05	100-yr	2214.38	929.81	922.78	1.55	1.17	14.44	8.74	349.09	1356.41	3.17	1.91	7.03	7.03
Yellowstone County	B3	RM 358.04	96244.75	100-yr	2214.38	929.67	923.22	2.18	1.41	38.23	15.91	162.23	1228.88	3.99	1.65	6.45	6.45
Yellowstone County	B3	RM 358.00	96168.44	100-yr	2214.38	929.54	923.39	2.66	1.46	45.94	17.66	101.88	1202.97	4.27	1.62	6.15	6.15
Yellowstone County	B3	RM 357.93	96065.49	100-yr	2214.38	929.38	923.1	2.93	1.58	39.37	14.82	106.83	1151.96	4.04	1.51	6.28	6.28
Yellowstone County	B3	RM 357.88	95975.44	100-yr	2214.38	929.36	923.91	2.32	1.51	32.42	15.08	153.56	1178.85	3.82	1.77	5.45	5.45
Yellowstone County	B3	RM 357.82	95884.99	100-yr	2214.38	929.32	924.01	2.04	1.47	24.54	10.89	193.1	1111	3.85	1.7	5.31	5.31
Yellowstone County	B3	RM 357.78	95821.69	100-yr	2214.38	929.28	924.08	1.79	1.52	24.39	12.32	257.61	886.12	3.34	1.68	5.2	5.2
Yellowstone County	B3	RM 357.69	95683.91	100-yr	2214.38	929.11	923.81	2.07	1.67	22.52	11.32	294.18	805.27	3.29	1.65	5.3	5.3
Yellowstone County	B4	RM 357.62	95571.15	100-yr	2214.38	928.91	921.84	2.49	2.02	37.74	16.35	253.84	797.74	3.2	1.38	7.07	7.07
Yellowstone County	B4	RM 357.56	95469.4	100-yr	2214.38	928.84	918.46	2.25	1.84	32.05	14.35	225.69	1160.48	4.05	1.8	10.38	10.38
Yellowstone County	B4	RM 357.48	95351.48	100-yr	2214.38	928.47	922.69	3.05	2.6	51.12	27.49	199.17	1057.3	3.5	1.87	5.78	5.78
Yellowstone County	B4	RM 357.44	95275.91	100-yr	2214.38	928.28	922.22	3.21	2.89	59.65	39.13	196.77	785.56	3.44	2.25	6.06	6.06
Yellowstone County	B4	RM 357.34	95127.12	100-yr	2214.38	928.03	923.1	3.21	2.84	57.42	37.64	182.49	894.37	3.69	2.41	4.93	4.93
Yellowstone County	B4	RM 357.23	94939.75	100-yr	2214.38	927.76	920.81	3.22	2.68	61.93	34.51	143.36	1058.22	4.45	2.46	6.95	6.95
Yellowstone County	B4	RM 357.13	94789.23	100-yr	2214.38	927.6	921.26	3.17	2.46	50.42	24.37	139.24	763.45	3.98	1.91	6.34	6.34
Yellowstone County	B4	RM 357.01	94595.53	100-yr	2214.38	927.47	921.72	2.63	1.89	33.62	17.31	185.55	842.65	4	2.06	5.75	5.75
Yellowstone County	B4	RM 356.90	94412.13	100-yr	2214.38	927.29	921.02	2.61	1.96	34.88	20.4	234.48	921.42	3.27	1.91	6.27	6.27
Yellowstone County	B4	RM 356.81	94272.48	100-yr	2214.38	927.14	919.95	2.57	1.92	36.97	23.36	233.74	825.49	3.14	1.98	7.19	7.19
Yellowstone County	B4	RM 356.73	94148.77	100-yr	2214.38	927.05	921.15	2.23	1.74	27.9	17.57	299.9	946.44	2.76	1.74	5.9	5.9
Yellowstone County	B4	RM 356.66	94030.68	100-yr	2214.38	926.96	921.75	2.13	1.59	24.28	13.36	300.18	1016.08	2.94	1.61	5.21	5.21
Yellowstone County	B4	RM 356.59	93912.76	100-yr	2214.38	926.88	921.88	2.01	1.41	26.32	12.27	252.57	1068.55	3.47	1.62	5	5
Yellowstone County	B4	RM 356.50	93782.14	100-yr	2214.38	926.73	921.75	2.39	1.49	37.88	14.14	153.48	1059.67	4.06	1.5	4.98	4.98
Yellowstone County	B4	RM 356.44	93670.16	100-yr	2214.38	926.55	921.33	2.74	1.65	36.45	12.72	135.34	1009.2	3.98	1.38	5.22	5.22
Yellowstone County	B4	RM 356.35	93525.27	100-yr	2214.38	926.38	919.71	2.84	1.74	55.79	18.25	115.79	932.56	4.41	1.42	6.67	6.67
Yellowstone County	B4	RM 356.26	93386.36	100-yr	2214.38	926.19	919.77	2.89	1.74	35.97	12.72	125.06	886.55	4.55	1.6	6.42	6.42
Yellowstone County	B4	RM 356.18	93264.31	100-yr	2214.38	926.13	919.95	2.6	1.76	40.67	15.97	128.53	708.03	4.57	1.78	6.18	6.18
Yellowstone County	B4	RM 356.11	93150.71	100-yr	2214.38	926.06	920.24	2.23	1.57	40.99	17.99	179.73	759.51	4.26	1.86	5.82	5.82
Yellowstone County	B4	RM 356.04	93034.25	100-yr	2214.38	925.83	920.36	2.57	1.86	59.39	24.72	173.62	742.94	3.87	1.6	5.47	5.47
Yellowstone County	B4	RM 355.97	92927.46	100-yr	2214.38	925.58	920.09	2.91	2.01	60.04	24.25	153.92	734.76	3.75	1.5	5.49	5.49
Yellowstone County	B4	RM 355.91	92825.82	100-yr	2214.38	925.53	919.82	2.52	1.61	30.58	13.88	153.74	915.28	3.99	1.8	5.71	5.71
Yellowstone County	B4	RM 355.82	92688.73	100-yr	2214.38	924.72	919.51	3.41	2.26	72.65	26.42	155.48	805.86	3.37	1.22	5.21	5.21
Yellowstone County	B4	RM 355.66	92419.94	100-yr	2214.38	924.37	919.8	3.24	2.18	51.6	17.24	139.95	862.51	3.52	1.18	4.57	4.57

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	100-yr	2214.38	924.3	919.42	2.99	1.99	46.92	15.58	148.04	950.38	3.52	1.17	4.88	4.88
Yellowstone County	B4	RM 355.49	92159.95	100-yr	2214.38	924.07	918.52	2.68	2.03	70.21	23.3	141.27	969.96	3.45	1.14	5.55	5.55
Yellowstone County	B4	RM 355.43	92061.2	100-yr	2214.38	923.86	918.67	2.68	2	68.61	22.44	134.53	922.29	3.69	1.2	5.19	5.19
Yellowstone County	B4	RM 355.41	92020.68	100-yr	2214.38	923.85	919.02	2.14	1.78	58.44	24.81	159.91	884.45	3.32	1.41	4.83	4.83
Yellowstone County	B4	RM 355.38	91976.12	100-yr	2214.38	923.68	919.25	2.75	1.94	60.01	18.14	125.74	1034.94	3.66	1.1	4.43	4.43
Yellowstone County	B4	RM 355.35	91933.98	100-yr	2214.38	923.62	919.21	2.85	1.87	45.27	12.01	109.82	1151.04	3.91	1.03	4.41	4.41
Yellowstone County	B4	RM 355.32	91885.87	100-yr	2214.38	923.57	919.16	2.85	1.85	45.33	12.68	107.08	1129.54	3.83	1.06	4.41	4.41
Yellowstone County	B4	RM 355.29	91828.99	100-yr	2214.38	923.48	918.93	2.94	1.85	46.34	12.58	103.37	1164.36	3.84	1.03	4.95	4.95
Yellowstone County	B4	RM 355.23	91732.97	100-yr	2214.38	923.39	918.68	2.79	1.75	48.58	12.68	101.56	1239.14	3.96	1.02	4.95	4.95
Yellowstone County	B4	RM 355.14	91596.1	100-yr	2214.38	923.28	918.52	2.47	1.44	33.12	10.59	118.49	1254.36	3.89	1.23	4.76	4.76
Yellowstone County	B4	RM 354.94	91268.08	100-yr	2214.38	922.44	917.25	3.33	2.27	105.28	31.5	167.86	978.78	3.36	1	5.19	5.19
Yellowstone County	B4	RM 354.86	91153.59	100-yr	2214.38	922.37	917.03	2.62	1.56	57.59	18.04	125.07	1536.63	4.16	1.3	5.34	5.34
Yellowstone County	B4	RM 354.80	91056.05	100-yr	2214.38	922.12	915.66	3.01	1.66	74.42	20.73	117.98	1686.59	3.95	1.09	6.46	6.46
Yellowstone County	B4	RM 354.70	90880.27	100-yr	2214.38	921.76	915.38	2.88	1.73	76.71	23.63	150.54	1614.48	3.09	0.95	6.38	6.38
Yellowstone County	B4	RM 354.61	90744.35	100-yr	2214.38	921.51	917.13	2.73	1.54	35.55	15.55	210.07	1454.36	2.43	1.06	4.38	4.38
Yellowstone County	B4	RM 354.53	90609.24	100-yr	2214.38	921.37	916.52	2.35	1.48	32.04	14.02	239.31	1226.22	2.79	1.22	4.85	4.85
Yellowstone County	B4	RM 354.45	90486.63	100-yr	2214.38	921.24	915.87	2.41	1.45	35.32	16.33	205	1280.11	2.66	1.22	5.37	5.37
Yellowstone County	B4	RM 354.39	90385.43	100-yr	2214.38	920.99	915.24	2.91	1.66	49.37	19.77	163.03	1270.79	2.81	1.12	5.75	5.75
Yellowstone County	B4	RM 354.33	90291.31	100-yr	2214.38	920.92	915.37	2.5	1.32	33.62	15	150.94	1392.01	2.96	1.31	5.55	5.55
Yellowstone County	B4	RM 354.23	90133.96	100-yr	2214.38	920.68	915.46	2.75	1.37	46.13	15.14	116.93	1523.35	3.61	1.18	5.22	5.22
Yellowstone County	B4	RM 354.13	89983.48	100-yr	2214.38	920.55	914.94	2.34	1.2	39.14	12.13	132.61	1590.45	3.76	1.16	5.61	5.61
Yellowstone County	B4	RM 354.00	89778.46	100-yr	2214.38	920.42	916.2	2.11	1.1	30.94	11.23	158.7	1765.05	3.17	1.14	4.22	4.22
Yellowstone County	B5	RM 353.90	89604.28	100-yr	2214.38	920.3	917.06	1.86	1.08	25.13	11.31	245.14	1827.59	2.51	1.13	3.4	3.4
Yellowstone County	B5	RM 353.80	89446.75	100-yr	2350.3	920.17	916.36	1.88	1.15	29.92	13.62	301.86	1861.32	2.43	1.1	3.81	3.81
Yellowstone County	B5	RM 353.70	89288.94	100-yr	2350.3	920.05	915.92	1.51	1	24.09	13.02	391.73	1861	2.34	1.26	4.13	4.13
Yellowstone County	B5	RM 353.65	89204.58	100-yr	2350.3	919.93	915.49	1.41	0.99	23.7	13.74	403.71	1759.26	2.33	1.34	4.44	4.44
Yellowstone County	B5	RM 353.56	89077.56	100-yr	2350.3	919.8	914.2	1.52	1.04	25.39	13.82	364.35	1581.68	2.64	1.43	5.6	5.6
Yellowstone County	B5	RM 353.50	88982.39	100-yr	2350.3	919.72	914.58	1.54	1.02	24.67	11.91	308.42	1449.31	3.29	1.58	5.14	5.14
Yellowstone County	B5	RM 353.41	88846.15	100-yr	2350.3	919.54	914.41	1.83	1.21	31.69	14.01	231.26	1370.69	3.25	1.43	5.13	5.13
Yellowstone County	B5	RM 353.32	88709.14	100-yr	2350.3	919.3	913.6	2.38	1.42	41.17	16.82	194.16	1198.43	3.39	1.38	5.7	5.7
Yellowstone County	B5	RM 353.25	88587.13	100-yr	2350.3	919	912.76	2.95	1.67	54.74	20.13	160.68	1135.79	3.39	1.24	6.24	6.24
Yellowstone County	B5	RM 353.15	88438.48	100-yr	2350.3	918.69	912.71	3.13	1.99	59.98	25.74	214.4	1125.19	2.45	1.05	5.98	5.98
Yellowstone County	B5	RM 353.08	88321.13	100-yr	2350.3	918.54	912.99	2.8	1.84	47.04	19.22	197.65	1120.27	2.79	1.14	5.55	5.55
Yellowstone County	B5	RM 353.01	88210.34	100-yr	2350.3	918.41	913.13	2.4	1.75	40.98	20.75	249.61	1013.94	2.63	1.33	5.28	5.28
Yellowstone County	B5	RM 352.94	88090.6	100-yr	2350.3	918.31	912.5	2.19	1.64	32.84	14.56	175.48	1057.85	3.4	1.5	5.81	5.81
Yellowstone County	B5	RM 352.86	87957.76	100-yr	2350.3	918.16	913.38	2.4	1.76	50.59	20.74	136.66	2106.15	3.39	1.38	4.78	4.78
Yellowstone County	B5	RM 352.79	87857.09	100-yr	2350.3	917.88	913.06	3.13	1.95	45.09	15.36	114.04	1779.57	3.22	1.09	4.82	4.82
Yellowstone County	B5	RM 352.72	87748.15	100-yr	2350.3	917.79	911.97	2.96	1.7	64.98	16.26	89.99	2205.87	4.28	1.05	5.82	5.82
Yellowstone County	B5	RM 352.68	87677.1	100-yr	2350.3	917.73	912.27	2.05	1.68	59.67	33.91	334.42	2264.11	2.16	1.22	5.46	5.46
Yellowstone County	B5	RM 352.64	87605.18	100-yr	2350.3	917.37	911.68	2.83	1.84	82.06	38.47	230.51	1753.24	2.69	1.25	5.69	5.69
Yellowstone County	B5	RM 352.54	87461.4	100-yr	2350.3	917.21	912.57	2.32	1.63	34.01	14.59	267.33	2391.78	2.92	1.24	4.64	4.64
Yellowstone County	B5	RM 352.47	87340.46	100-yr	2350.3	917.1	912.2	2.19	1.45	29.6	15.38	231.29	2416.56	2.64	1.37	4.9	4.9
Yellowstone County	B5	RM 352.39	87216.99	100-yr	2350.3	916.73	912.01	3.13	2.02	57.14	26.65	187.29	1860	2.31	1.08	5.54	5.54
Yellowstone County	B5	RM 352.31	87079.16	100-yr	2350.3	916.43	910.66	3.04	1.98	66.08	30.68	184.15	1467.44	2.33	1.08	5.77	5.77
Yellowstone County	B5	RM 352.23	86961.03	100-yr	2350.3	916.32	911.35	2.03	1.51	27.46	17.47	260.81	1744.85	1.95	1.24	4.97	4.97
Yellowstone County	B5	RM 352.18	86873.5	100-yr	2350.3	916.18	911.21	2.27	1.74	31.89	18.12	226.76	1603.71	2.39	1.35	4.97	4.97
Yellowstone County	B5	RM 352.09	86723.6	100-yr	2350.3	916.01	912.18	2.41	1.7	37.39	17.45	175.27	1658.93	2.64	1.23	3.83	3.83
Yellowstone County	B5	RM 351.99	86568.41	100-yr	2350.3	915.59	912.6	3.28	2.12	60.13	22.91	148.32	1270.47	2.52	0.96	3.01	3.01
Yellowstone County	B5	RM 351.93	86466.74	100-yr	2350.3	915.51	911.69	2.59	1.71	40.76	21.84	175.33	1584.35	2.22	1.19	3.82	3.82
Yellowstone County	B5	RM 351.88	86386.8	100-yr	2350.3	915.43	911.38	1.93	1.52	30.27	23.25	191.62	1772.45	1.99	1.53	4.05	4.05
Yellowstone County	B5	RM 351.81	86277.68	100-yr	2350.3	915.33	910.99	1.72	1.36	21.04	18.46	243.18	1864.79	1.84	1.62	4.34	4.34
Yellowstone County	B5	RM 351.74	86159.62	100-yr	2350.3	915.03	911.37	1.64	1.59	20.12	19.35	337.11	1705.73	1.29	1.24	4.2	4.2
Yellowstone County	B5	RM 351.67	86034.59	100-yr	2350.3	914.77	911.31	1.99	1.62	29.64	17.14	208.56	1315.27	1.97	1.14	4.39	4.39
Yellowstone County	B5	RM 351.58	85891.33	100-yr	2350.3	914.57	911.47	1.77	1.65	24.02	16.37	238.34	1221.91	1.96	1.34	4.48	4.48
Yellowstone County	B5	RM 351.52	85811.35	100-yr	2350.3	914.43	911.37	2.09	1.79	26.36	18.69	253.41	1005.61	1.91	1.35	3.71	3.71
Yellowstone County	B5	RM 351.47	85728.2	100-yr	2350.3	914.32	911.17	2.09	1.78	24.08	15.04	198.21	1092.01	2.25	1.41	3.78	3.78
Yellowstone County	B5	RM 351.40	85601.48	100-yr	2350.3	914.19	910.26	2.16	1.67	26.97	17.31	160.74	1489.57	2.18	1.4	4.28	4.28
Yellowstone County	B5	RM 351.34	85482.66	100-yr	2350.3	914.09	909.98	1.52	1.46	29.69	16.01	146.46	1617.81	2.59	1.4	4.12	4.12
Yellowstone County	B5	RM 351.25	85342.53	100-yr	2350.3	913.98	909.91	1.57	1.31	18.32	13.22	261.54	1616.95	2.03	1.46	4.1	4.1
Yellowstone County	B5	RM 351.21	85257.19	100-yr	2350.3	913.91	909.48	1.73	1.28	20.49	14.03	212.63	1610.39	2.07	1.41	4.43	4.43
Yellowstone County	B5	RM 351.12	85127.55	100-yr	2350.3	913.83	909.49	1.78	1.31	20.28	12.63	175.61	1529.57	2.33	1.44	4.34	4.34

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	100-yr	2350.3	913.7	908.79	2.14	1.38	27.57	12.5	126.64	1395.9	3.08	1.38	4.91	4.91
Yellowstone County	B5	RM 350.90	84769.91	100-yr	2350.3	913.65	909.27	1.5	1.17	16.66	8.27	104.1	1588.11	3.37	1.64	4.38	4.38
Yellowstone County	B5	RM 350.75	84536.19	100-yr	2350.3	913.49	909.72	1.36	1.53	28.58	19.66	270.87	1152.99	2.29	1.58	4.11	4.11
Yellowstone County	B5	RM 350.66	84383.33	100-yr	2350.3	913.31	909.32	1.78	1.66	37.61	20.7	175.86	1021.93	2.64	1.45	3.99	3.99
Yellowstone County	B5	RM 350.57	84244.69	100-yr	2350.3	913.01	908.48	2.2	1.78	50.98	23.86	152.25	947.17	3	1.4	4.53	4.53
Yellowstone County	B5	RM 350.50	84128.62	100-yr	2350.3	912.74	908.49	2.37	1.93	57.29	28.02	161.33	912.12	2.75	1.34	4.25	4.25
Yellowstone County	B5	RM 350.40	83974.24	100-yr	2350.3	912.53	908.73	1.84	1.69	29.36	21.49	318.6	898.79	2.11	1.54	3.8	3.8
Yellowstone County	B5	RM 350.33	83868.06	100-yr	2350.3	912.4	908.17	1.87	1.64	23.87	18.32	326.5	895.57	2.14	1.64	4.23	4.23
Yellowstone County	B5	RM 350.23	83712.91	100-yr	2350.3	912.17	907.61	2.09	1.7	32.28	22.31	300.73	1057	2.14	1.48	4.56	4.56
Yellowstone County	B5	RM 350.14	83563.43	100-yr	2350.3	911.99	907.94	1.88	1.54	28.02	18.81	302.77	1231.52	2.21	1.48	4.05	4.05
Yellowstone County	B5	RM 350.06	83419.86	100-yr	2350.3	911.79	907.84	1.74	1.45	28.32	18.35	344.59	1401.93	2.15	1.39	3.95	3.95
Yellowstone County	B5	RM 349.94	83229.4	100-yr	2350.3	911.57	906.93	1.8	1.4	26.12	14.64	284.73	1585.15	2.35	1.31	4.64	4.64
Yellowstone County	B5	RM 349.83	83071.99	100-yr	2350.3	911.43	907.36	1.78	1.2	16.85	7.56	370.02	1544.66	3.05	1.36	4.07	4.07
Yellowstone County	B5	RM 349.68	82904.73	100-yr	2350.3	911.23	906.92	2.14	1.46	34.71	16.7	348.15	1589.54	2.55	1.22	4.31	4.31
Yellowstone County	B5	RM 349.54	82632.78	100-yr	2350.3	910.84	906.29	2.14	1.7	29.68	17.35	449.31	1298.62	2.24	1.31	4.55	4.55
Yellowstone County	B5	RM 349.33	82276.28	100-yr	2350.3	910.57	906.45	1.42	1.27	17.63	13.11	351.95	1213.96	2.35	1.75	4.12	4.12
Yellowstone County	B5	RM 349.19	82046.53	100-yr	2350.3	910.24	905.16	2.19	1.47	28.61	15.56	282.11	1815.93	2.44	1.33	5.08	5.08
Yellowstone County	B5	RM 349.04	81800.47	100-yr	2477.72	910.06	904.5	1.77	1.33	19.18	10.96	345.54	2136.85	2.63	1.5	5.56	5.56
Yellowstone County	B5	RM 348.89	81574.02	100-yr	2477.72	909.93	904.75	1.4	1.18	20.53	12.16	550.23	2051.13	2.84	1.68	5.18	5.18
Yellowstone County	B5	RM 348.77	81370.46	100-yr	2477.72	909.77	905.09	1.5	1.23	25.92	14.69	461.64	1932.43	2.93	1.66	4.68	4.68
Yellowstone County	B5	RM 348.64	81138.52	100-yr	2477.72	909.57	903.35	1.88	1.29	20.25	8.99	295.48	1794.78	3.56	1.57	6.22	6.22
Yellowstone County	B5	RM 348.52	80960.09	100-yr	2477.72	909.4	902.88	2.23	1.5	39.71	15.05	208.08	1641.9	3.95	1.48	6.52	6.52
Yellowstone County	B5	RM 348.38	80737.31	100-yr	2477.72	908.97	902.85	2.87	1.86	58.56	18.46	187.09	1134.88	3.82	1.19	6.12	6.12
Yellowstone County	B5	RM 348.26	80551.51	100-yr	2477.72	908.74	902.73	2.71	1.78	60.34	19.48	168.26	1116.75	4.02	1.28	6.01	6.01
Yellowstone County	B5	RM 348.09	80276.34	100-yr	2477.72	908.44	901.64	2.57	1.65	42.34	15.1	171.66	1043.51	4.05	1.44	6.8	6.8
Yellowstone County	B5	RM 347.95	80055.79	100-yr	2477.72	908.19	902.96	2.68	1.85	34.27	10.76	165.09	1167.23	4.24	1.33	5.23	5.23
Yellowstone County	B5	RM 347.82	79844.2	100-yr	2477.72	908.05	902.93	2.3	1.62	42.83	15.3	180.88	1219.36	3.94	1.4	5.12	5.12
Yellowstone County	B5	RM 347.77	79751.93	100-yr	2477.72	907.96	902.38	2.29	1.51	43.53	15.6	178.59	1150.98	3.98	1.42	5.58	5.58
Yellowstone County	B5	RM 347.70	79643.98	100-yr	2477.72	907.86	901.91	2.17	1.39	38.7	15.96	182.31	1203.96	3.92	1.61	5.95	5.95
Yellowstone County	B5	RM 347.61	79501.64	100-yr	2477.72	907.78	902.2	1.98	1.22	19.29	10.76	192.93	1255.03	4.22	2.35	5.58	5.58
Yellowstone County	B5	RM 347.51	79347.38	100-yr	2477.72	907.32	900.54	3.43	2.09	53.55	23.44	112.36	1099.42	4.88	2.12	6.78	6.78
Yellowstone County	B5	RM 347.42	79196.21	100-yr	2477.72	907.24	900.73	2.82	2.1	73.4	39.24	148.41	1194.79	4.25	2.27	6.51	6.51
Yellowstone County	B5	RM 347.35	79079.87	100-yr	2477.72	907.31	900.77	1.47	1.47	10.48	10.47	499.08	1434.85	3.38	3.38	6.54	6.54
Yellowstone County	B5	RM 347.23	78895.71	100-yr	2477.72	907.22	900.89	1.56	1.54	14.46	13.77	510.14	1643.83	3.1	2.96	6.33	6.33
Yellowstone County	B5	RM 347.13	78732.21	100-yr	2477.72	907.09	900.98	1.7	1.62	31.59	24.89	441.51	1539.75	3.24	2.55	6.11	6.11
Yellowstone County	B5	RM 346.93	78400.21	100-yr	2477.72	906.52	900.98	1.97	1.85	73.1	61.4	465.4	1548.86	2.61	2.18	5.54	5.54
Yellowstone County	B5	RM 346.80	78193.27	100-yr	2477.72	905.97	900.02	2.04	1.73	56.81	42.54	454.82	1173.77	2.42	1.81	5.95	5.95
Yellowstone County	B5	RM 346.64	77938.83	100-yr	2477.72	905.69	900.47	2.15	1.47	24.02	11.4	247.49	1044.11	3.69	1.74	5.22	5.22
Yellowstone County	B5	RM 346.49	77706.6	100-yr	2477.72	905.43	900.21	2.6	1.55	39.98	14.73	176.87	1164.73	3.86	1.41	5.22	5.22
Yellowstone County	B6	RM 346.35	77480.6	100-yr	2477.72	905.24	900.33	2.32	1.45	37.09	16.08	214.84	1085.86	3.76	1.62	4.91	4.91
Yellowstone County	B6	RM 346.23	77285.9	100-yr	2477.72	904.97	900.11	2.68	1.58	36.9	14.52	177.63	997.79	4.02	1.57	4.86	4.86
Yellowstone County	B6	RM 346.11	77095.33	100-yr	2477.72	904.77	899.75	2.65	1.73	48.46	20.11	182.61	986.56	3.98	1.65	5.02	5.02
Yellowstone County	B6	RM 346.00	76926.16	100-yr	2477.72	904.58	899.8	2.64	1.74	40.54	17.13	178.14	1031.65	4.14	1.73	4.78	4.78
Yellowstone County	B6	RM 345.90	76766.95	100-yr	2477.72	904.29	899.51	2.96	1.97	56.85	26	179.39	960.43	3.9	1.78	4.78	4.78
Yellowstone County	B6	RM 345.80	76608.55	100-yr	2477.72	904.14	899.04	2.66	1.83	41.64	20.15	200.74	1122.35	3.91	1.89	5.24	5.24
Yellowstone County	B6	RM 345.73	76484.99	100-yr	2477.72	903.95	899.01	2.83	1.92	46.41	21.89	198.24	1067.23	3.59	1.69	5.05	5.05
Yellowstone County	B6	RM 345.67	76386.71	100-yr	2477.72	903.9	899.1	2.43	1.64	33.59	16.53	212.58	789.15	3.9	1.92	5	5
Yellowstone County	B6	RM 345.60	76268.76	100-yr	2477.72	903.79	899.22	2.38	1.68	36.84	20.11	235.37	789.91	3.54	1.93	4.89	4.89
Yellowstone County	B6	RM 345.50	76118.1	100-yr	2477.72	903.65	899.07	2.04	1.69	44.54	30.07	280.8	750.84	3.17	2.14	4.75	4.75
Yellowstone County	B6	RM 345.37	75909.53	100-yr	2477.72	903.18	897.51	2.5	2.07	49.44	25.49	316.61	980.76	2.96	1.52	5.67	5.67
Yellowstone County	B6	RM 345.27	75751.01	100-yr	2477.72	902.94	898.15	2.61	1.85	41.24	18.26	252.45	1126.07	3.34	1.47	4.79	4.79
Yellowstone County	B6	RM 345.07	75427.56	100-yr	2477.72	902.72	897.07	2.18	1.54	25.31	11.1	241.2	1188.17	3.88	1.69	5.65	5.65
Yellowstone County	B6	RM 344.90	75166.64	100-yr	2477.72	902.61	897.3	1.85	1.34	19.18	8.65	294.53	1096.63	3.75	1.69	5.31	5.31
Yellowstone County	B6	RM 344.75	74927.69	100-yr	2477.72	902.41	896.02	2.15	1.54	36.17	15.31	235.99	1041.17	3.91	1.64	6.39	6.39
Yellowstone County	B6	RM 344.64	74743.45	100-yr	2477.72	901.97	895.93	3.07	2.01	49.54	15.95	158.71	918.03	4.4	1.41	6.04	6.04
Yellowstone County	B6	RM 344.53	74576.12	100-yr	2477.72	901.82	895.39	2.77	1.85	64.16	22.82	162.09	1004.22	4.12	1.46	6.43	6.43
Yellowstone County	B6	RM 344.43	74405.67	100-yr	2477.72	901.68	896.11	2.53	1.55	30.52	11.7	179.43	1177.42	3.94	1.51	5.57	5.57
Yellowstone County	B6	RM 344.29	74192.79	100-yr	2477.72	901.54	895.87	2.35	1.54	32.41	12.1	179.75	1043.28	4.15	1.55	5.67	5.67
Yellowstone County	B6	RM 344.13	73931.76	100-yr	2477.72	901.22	895.4	2.73	1.76	42.25	11.57	157.02	1159.35	4.45	1.21	5.82	5.82
Yellowstone County	B6	RM 343.87	73520.95	100-yr	2477.72	900.95	895.23	2.18	1.52	24.46	9.33	287.43	1240.03	3.45	1.31	5.72	5.72
Yellowstone County	B6	RM 343.80	73403.19	100-yr	2477.72	900.92	894.69	1.63	1.26	29.12	14.47	356.81	1209.92	3.28	1.62	6.23	6.23

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	100-yr	2477.72	900.65	894.63	1.68	1.43	42.09	20.87	395.84	1165.6	3.01	1.49	6.02	6.02
Yellowstone County	B6	RM 343.55	72997.33	100-yr	2477.72	900.39	894.63	1.78	1.52	42.23	22.37	370.57	964.25	3.2	1.69	5.76	5.76
Yellowstone County	B6	RM 343.45	72840.49	100-yr	2477.72	900.14	894.78	1.91	1.65	40.21	21.6	401.78	961.72	2.91	1.56	5.36	5.36
Yellowstone County	B6	RM 343.37	72718.86	100-yr	2477.72	899.9	894.5	2.15	1.81	54.51	27.19	343.21	957.95	2.89	1.43	5.4	5.4
Yellowstone County	B6	RM 343.29	72586.22	100-yr	2477.72	899.64	894.28	2.26	1.79	49.1	23.12	280.31	878.5	3.36	1.57	5.36	5.36
Yellowstone County	B6	RM 343.21	72458.03	100-yr	2477.72	899.44	893.99	2.04	1.68	58.88	32.11	357.12	932.64	2.92	1.58	5.45	5.45
Yellowstone County	B6	RM 343.14	72328.78	100-yr	2477.72	899.14	893.94	1.99	1.67	63.96	40.72	432.86	928.73	2.52	1.6	5.2	5.2
Yellowstone County	B6	RM 343.04	72174.44	100-yr	2477.72	898.95	894.12	1.8	1.46	21.57	13.43	485.75	1049.67	2.61	1.62	4.83	4.83
Yellowstone County	B6	RM 342.96	72046.7	100-yr	2477.72	898.81	894.17	1.7	1.44	42.9	28.3	506.82	1140.6	2.46	1.62	4.64	4.64
Yellowstone County	B6	RM 342.87	71890.42	100-yr	2477.72	898.49	893.92	1.7	1.46	50.9	33.74	541.44	1181.65	2.23	1.47	4.57	4.57
Yellowstone County	B6	RM 342.78	71759.64	100-yr	2477.72	898.31	893.85	1.73	1.4	17.32	11.71	525.23	1311.87	2.21	1.49	4.46	4.46
Yellowstone County	B6	RM 342.71	71649.64	100-yr	2477.72	898.23	893.88	1.63	1.32	15.44	10.36	525.56	1677.88	2.12	1.42	4.35	4.35
Yellowstone County	B6	RM 342.64	71534.72	100-yr	2477.72	898.12	893.45	1.44	1.27	32.78	22.33	689.57	2173.76	2.11	1.43	4.67	4.67
Yellowstone County	B6	RM 342.59	71441.82	100-yr	2477.72	897.94	893.13	1.49	1.37	37.05	23.35	689.79	2350.76	2.1	1.32	4.81	4.81
Yellowstone County	B6	RM 342.49	71299.94	100-yr	2477.72	897.75	892.73	1.36	1.21	25.12	14.23	666.31	2596.48	2.49	1.41	5.02	5.02
Yellowstone County	B6	RM 342.40	71182.23	100-yr	2477.72	897.67	892.4	1.21	1.07	19.57	10.09	600.2	2654.19	3.07	1.58	5.27	5.27
Yellowstone County	B6	RM 342.29	70973.95	100-yr	2477.72	897.47	891.26	1.55	1.31	27.28	13.13	481.91	2462.8	2.9	1.39	6.21	6.21
Yellowstone County	B6	RM 342.17	70788.09	100-yr	2477.72	897.12	891.21	2.12	1.75	54.4	23.54	379.52	2143.85	2.62	1.13	5.91	5.91
Yellowstone County	B6	RM 342.09	70668.79	100-yr	2477.72	896.96	892.22	1.91	1.57	40.48	17.59	378.53	1935.4	2.99	1.29	4.74	4.74
Yellowstone County	B6	RM 341.96	70472.35	100-yr	2477.72	896.81	891.5	1.7	1.44	16.82	9.97	503.86	1704.37	2.61	1.54	5.3	5.3
Yellowstone County	B6	RM 341.82	70207.79	100-yr	2477.72	896.66	890.89	1.4	1.27	18.8	12.19	582.05	1169.45	2.81	1.81	5.77	5.77
Yellowstone County	B6	RM 341.68	69974.03	100-yr	2477.72	896.46	890.38	1.59	1.43	25.84	16.58	481.57	944.92	3.01	1.93	6.08	6.08
Yellowstone County	B6	RM 341.57	69788.71	100-yr	2477.72	896.18	889.58	2.15	1.94	23.32	14.45	434.43	819.09	2.57	1.59	6.6	6.6
Yellowstone County	B6	RM 341.47	69629.19	100-yr	2477.72	895.99	889.76	1.96	1.84	56.32	40.74	395.38	802.54	2.96	2.14	6.23	6.23
Yellowstone County	B6	RM 341.32	69391.37	100-yr	2477.72	895.51	890.36	2.03	1.88	55.01	40.86	401.46	735.66	2.84	2.11	5.15	5.15
Yellowstone County	B6	RM 341.24	69252.71	100-yr	2477.72	895.39	890.28	1.84	1.6	19.15	13.17	396.74	903.15	3.06	2.11	5.11	5.11
Yellowstone County	B6	RM 341.11	69044.61	100-yr	2477.72	895.1	890	2.31	1.77	40.51	22.02	324.67	875.37	2.96	1.6	5.1	5.1
Yellowstone County	B6	RM 340.94	68773.18	100-yr	2477.72	894.8	889.22	2.22	1.5	35.16	18.2	280.24	1005.5	3.27	1.7	5.58	5.58
Yellowstone County	B6	RM 340.81	68556.42	100-yr	2477.72	894.7	889.05	1.64	1.11	21.95	11.58	315.44	1218.42	3.47	1.83	5.65	5.65
Yellowstone County	B6	RM 340.65	68325.7	100-yr	2477.72	894.48	888.87	2.26	1.3	24.39	10.68	204.11	1076.24	4.06	1.77	5.61	5.61
Yellowstone County	B6	RM 340.52	68126.27	100-yr	2477.72	894.28	887.3	2.64	1.45	45.63	15.69	130.27	976.72	5.13	1.75	6.98	6.98
Yellowstone County	B6	RM 340.40	67936.51	100-yr	2477.72	894.15	886.73	2.29	1.43	42.28	18.35	170.6	877.46	4.64	2	7.42	7.42
Yellowstone County	B7	RM 340.26	67715.84	100-yr	2477.72	893.87	887.99	2.24	1.68	56.49	31.4	252.4	723.39	3.68	2.04	5.88	5.88
Yellowstone County	B7	RM 340.16	67550.99	100-yr	2477.72	893.58	888.43	2.12	1.72	64.9	41.29	313.83	716.51	3.18	2.01	5.15	5.15
Yellowstone County	B7	RM 340.06	67387.35	100-yr	2477.72	893.29	888.74	2.11	1.82	47.37	29.76	315.76	661.28	3.28	2.06	4.55	4.55
Yellowstone County	B7	RM 339.96	67234.59	100-yr	2477.72	893.02	888.85	2.34	2.13	31.13	21.34	360.83	605.27	2.81	1.92	4.17	4.17
Yellowstone County	B7	RM 339.88	67094.07	100-yr	2477.72	892.87	888.78	2.05	1.93	44.61	35.73	445.51	615.23	2.6	2.09	4.09	4.09
Yellowstone County	B7	RM 339.79	66960.51	100-yr	2477.72	892.57	888.98	2.28	2.25	36.56	29.93	511.35	634.1	2.13	1.74	3.59	3.59
Yellowstone County	B7	RM 339.72	66843.76	100-yr	2477.72	892.44	888.72	2.02	1.93	26.75	24.02	513.4	653.16	2.34	2.1	3.72	3.72
Yellowstone County	B7	RM 339.66	66753.41	100-yr	2477.72	892.39	887.9	1.77	1.67	19.29	16.86	525.29	713.91	2.6	2.27	4.49	4.49
Yellowstone County	B7	RM 339.52	66527.74	100-yr	2477.72	892.21	887.31	2.01	1.56	21.33	14.11	312.36	964.88	3.45	2.28	4.9	4.9
Yellowstone County	B7	RM 339.37	66324.85	100-yr	2477.72	892.03	887.17	2.17	1.6	44.35	24.6	232.31	1258.98	3.69	2.04	4.86	4.86
Yellowstone County	B7	RM 339.24	66108.49	100-yr	2477.72	891.53	886.45	2.95	2.15	45.79	24.85	218.09	1240.73	3.14	1.7	5.08	5.08
Yellowstone County	B7	RM 339.13	65940.41	100-yr	2477.72	891.31	885.31	3.01	1.97	54.7	26.01	143.34	1038.5	3.74	1.76	6	6
Yellowstone County	B7	RM 339.02	65745.93	100-yr	2477.72	890.95	886.09	3.08	2.19	49.89	22.42	187.64	1025.14	3.3	1.48	4.86	4.86
Yellowstone County	B7	RM 338.94	65621.59	100-yr	2477.72	890.89	886.36	2.51	1.75	33.27	18.02	223.57	1182.72	3.15	1.7	4.53	4.53
Yellowstone County	B7	RM 338.83	65433.26	100-yr	2477.72	890.72	886.37	2.24	1.65	36.01	20.04	225.04	1075.63	3.18	1.77	4.7	4.7
Yellowstone County	B7	RM 338.72	65256.88	100-yr	2477.72	890.47	886.18	2.32	1.89	41.79	25.51	205.92	774.74	3.42	2.09	4.67	4.67
Yellowstone County	B7	RM 338.62	65095.08	100-yr	2477.72	890.1	886.28	3	2.29	48.16	29.16	179.43	711.42	3.21	1.94	4.48	4.48
Yellowstone County	B7	RM 338.49	64891.36	100-yr	2477.72	889.92	885.05	2.61	2	36.33	21.68	174.43	895.09	3.34	1.99	4.87	4.87
Yellowstone County	B7	RM 338.40	64742.15	100-yr	2477.72	889.91	884.28	1.8	1.5	16.63	11.36	166	942	3.5	2.38	5.63	5.63
Yellowstone County	B7	RM 338.29	64577.05	100-yr	2477.72	889.79	884.18	2.19	1.55	24.84	12.02	123.01	987.89	3.88	1.87	5.61	5.61
Yellowstone County	B7	RM 338.19	64384.71	100-yr	2477.72	889.74	885.23	1.52	1.23	13.97	10.21	393.33	1080.74	2.91	2.12	4.51	4.51
Yellowstone County	B7	RM 338.06	64164.59	100-yr	2477.72	889.65	884.64	1.57	1.09	14.85	8.93	284.25	1206.46	3.43	2.06	5.01	5.01
Yellowstone County	B7	RM 337.91	63921.69	100-yr	2477.72	889.49	884.16	2.01	1.23	19.75	10.4	205.66	1253.77	3.72	1.96	5.33	5.33
Yellowstone County	B7	RM 337.83	63789.53	100-yr	2477.72	889.17	882.72	2.91	1.72	48.72	20.83	178.4	914.37	3.71	1.58	6.45	6.45
Yellowstone County	B7	RM 337.75	63667.96	100-yr	2477.72	888.81	881.69	3.51	2.02	64.17	23.75	143.36	851.69	3.92	1.44	7.12	7.12
Yellowstone County	B7	RM 337.68	63550.4	100-yr	2477.72	888.61	882.49	3.35	2.18	66.95	22.81	161.63	843.99	3.96	1.35	6.12	6.12
Yellowstone County	B7	RM 337.58	63396.62	100-yr	2477.72	888.4	883.62	3.21	2.11	53.04	21.45	189.36	858.42	3.38	1.37	4.78	4.78
Yellowstone County	B7	RM 337.47	63212.44	100-yr	2477.72	888.26	883.31	2.69	1.78	43.74	18.99	178.55	902.45	3.56	1.54	4.95	4.95
Yellowstone County	B7	RM 337.38	63064.58	100-yr	2477.72	888.06	883.29	2.81	1.71	39.91	17.21	177.51	989.51	3.42	1.47	4.77	4.77

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	100-yr	2477.72	888.05	883.15	1.89	1.2	17.64	8.64	210.44	1206.09	3.49	1.71	4.9	4.9
Yellowstone County	B7	RM 337.16	62717.85	100-yr	2477.72	888	882.57	1.45	1.1	11.08	7.28	397.9	1339.61	3.11	2.04	5.43	5.43
Yellowstone County	B7	RM 337.04	62524.52	100-yr	2477.72	887.93	879.61	1.7	1.12	14.53	6.62	154.76	1376.84	4.96	2.25	8.32	8.32
Yellowstone County	B7	RM 336.96	62390.64	100-yr	2477.72	887.86	880.21	1.82	1.29	23.87	11.6	186.07	1392.44	4.4	2.12	7.65	7.65
Yellowstone County	B7	RM 336.87	62246.97	100-yr	2477.72	887.72	881.41	2.2	1.44	26.35	12.12	156.32	1552.75	4.55	2.08	6.31	6.31
Yellowstone County	B7	RM 336.80	62131.42	100-yr	2477.72	887.66	881.33	2.07	1.42	33.41	16.54	162.29	1445.41	4.2	2.07	6.33	6.33
Yellowstone County	B7	RM 336.72	62005.73	100-yr	2477.72	887.42	881.38	2.67	1.69	53.37	18.73	136.15	1145	4.41	1.53	6.04	6.04
Yellowstone County	B7	RM 336.66	61902.64	100-yr	2477.72	886.91	881.45	3.78	2.46	97.52	28.38	117.37	858.33	4.07	1.17	5.46	5.46
Yellowstone County	B7	RM 336.59	61800.43	100-yr	2477.72	886.82	880.66	3.12	2.09	70.01	20.97	135.93	894.96	4.45	1.32	6.16	6.16
Yellowstone County	B7	RM 336.52	61689.55	100-yr	2477.72	886.67	881.76	3.02	1.98	56.45	20.8	145.49	891.93	3.81	1.4	4.91	4.91
Yellowstone County	B7	RM 336.46	61580.5	100-yr	2477.72	886.55	882.13	2.72	1.88	55.97	22.1	162.48	952.38	3.51	1.38	4.42	4.42
Yellowstone County	B7	RM 336.40	61491.01	100-yr	2477.72	886.38	882.03	2.81	1.85	57.29	23.13	162.53	994.8	3.59	1.44	4.35	4.35
Yellowstone County	B7	RM 336.34	61394.22	100-yr	2477.72	886.23	881.93	2.86	1.78	52.43	23.79	163.69	972.78	3.41	1.55	4.3	4.3
Yellowstone County	B7	RM 336.27	61278.9	100-yr	2477.72	886.07	881.67	2.75	1.68	48.56	22.29	169.95	1018.12	3.39	1.55	4.4	4.4
Yellowstone County	B7	RM 336.19	61159.07	100-yr	2477.72	885.9	882.11	2.67	1.78	38.45	19.78	211.78	1060.56	2.67	1.37	3.79	3.79
Yellowstone County	B7	RM 336.09	60993.57	100-yr	2477.72	885.75	882.16	2.08	1.43	27	16.85	319.78	1140.76	2.55	1.59	3.59	3.59
Yellowstone County	B7	RM 335.98	60812.26	100-yr	2477.72	885.59	881.93	1.52	1.38	28.79	23.18	442.1	1332.42	2.12	1.7	3.86	3.86
Yellowstone County	B7	RM 335.89	60669.74	100-yr	2477.72	885.41	880.16	1.73	1.57	17.8	15.77	737.52	1456.25	1.76	1.55	5.25	5.25
Yellowstone County	B7	RM 335.77	60465.85	100-yr	2477.72	885.08	880.49	1.66	1.61	47.74	42.73	881.3	1620.09	1.55	1.39	4.59	4.59
Yellowstone County	B7	RM 335.68	60324.8	100-yr	2477.72	884.77	880.65	1.87	1.74	18.44	16.07	883.17	2209.92	1.43	1.25	4.12	4.12
Yellowstone County	B7	RM 335.59	60183.7	100-yr	2477.72	884.58	880.3	1.85	1.7	19.33	16.16	919.44	2264.45	1.4	1.17	4.28	4.28
Yellowstone County	B7	RM 335.51	60046.12	100-yr	2477.72	884.41	880.03	1.82	1.66	17.37	13.75	944.99	2692.86	1.39	1.1	4.37	4.37
Yellowstone County	B7	RM 335.41	59899.97	100-yr	2477.72	884.31	879.45	1.42	1.24	13.82	11.06	911.11	2633.19	1.77	1.41	4.86	4.86
Yellowstone County	B7	RM 335.36	59814.82	100-yr	2477.72	884.29	878.65	1.09	0.93	6.92	5.23	896.25	2913.39	2.33	1.76	5.64	5.64
Yellowstone County	B7	RM 335.12	59393.71	100-yr	2477.72	884.06	878.54	1.82	1.03	18.37	7.72	331.92	3294.56	2.91	1.22	5.52	5.52
Yellowstone County	B7	RM 335.03	59228.59	100-yr	2477.72	883.78	876.8	2.86	1.32	54.59	15.33	149.84	2732.81	3.43	0.96	6.98	6.98
Yellowstone County	B7	RM 334.91	59041.32	100-yr	2477.72	883.58	878.31	2.26	1.15	35.67	13.35	229.84	2354.31	2.89	1.08	5.27	5.27
Yellowstone County	B7	RM 334.85	58937.73	100-yr	2477.72	883.45	878.66	2.21	1.11	35.82	13.55	224.38	2394.45	2.96	1.12	4.79	4.79
Yellowstone County	B7	RM 334.73	58737.5	100-yr	2477.72	883.01	879.52	2.98	1.46	52.73	16.4	192.81	1996.66	2.95	0.91	3.63	3.63
Yellowstone County	B7	RM 334.63	58573.32	100-yr	2477.72	882.92	878.31	2.31	1.26	28.37	11.22	187.59	2078.12	3	1.19	4.61	4.61
Yellowstone County	B7	RM 334.54	58424.99	100-yr	2477.72	882.9	877.09	1.2	1.07	14.44	6.56	154.81	2119.46	3.24	1.47	5.81	5.81
Yellowstone County	B7	RM 334.22	57821.07	100-yr	2477.72	882.6	875.76	2.03	1.2	18.51	7.5	197.33	1883.55	4.22	1.7	6.84	6.84
Yellowstone County	B7	RM 334.09	57621.62	100-yr	2477.72	882.39	875.55	2.75	1.65	59.73	19.41	119.41	1603.19	4.07	1.32	6.84	6.84
Yellowstone County	B7	RM 333.98	57440.64	100-yr	2477.72	882.21	875.46	2.6	1.63	33.53	10.14	140.01	1288.22	4.88	1.47	6.75	6.75
Yellowstone County	B7	RM 333.83	57207.78	100-yr	2477.72	882.02	875.4	2.58	1.89	47.44	15.86	163.24	1246.94	4.02	1.33	6.62	6.62
Yellowstone County	B7	RM 333.69	56989.22	100-yr	2477.72	881.76	873.45	2.08	1.81	44.19	20.95	337.33	1275.49	3.37	1.59	8.31	8.31
Yellowstone County	B7	RM 333.54	56738.21	100-yr	2477.72	881.62	874.22	1.44	1.22	23.21	11.54	409.8	1653.89	3.8	1.88	7.4	7.4
Yellowstone County	B7	RM 333.42	56552.03	100-yr	2477.72	881.43	873.42	1.63	1.51	33.17	23.62	426.38	1619.82	3.23	2.29	8.01	8.01
Yellowstone County	B7	RM 333.30	56351.75	100-yr	2477.72	881.08	875.65	1.87	1.79	58.03	45.32	449.89	1118.91	2.74	2.14	5.43	5.43
Yellowstone County	B7	RM 333.19	56177.76	100-yr	2477.72	880.62	875.72	2.25	2.13	54.55	43.38	399.03	648.12	2.62	2.08	4.9	4.9
Yellowstone County	B7	RM 333.09	56027.56	100-yr	2477.72	880.45	875.59	2.03	1.78	23.34	17.3	428.45	1284.22	2.71	2	4.86	4.86
Yellowstone County	B7	RM 332.99	55855.76	100-yr	2477.72	880.23	873.86	2.08	1.74	54.85	36.35	384.95	2012.06	2.72	1.8	6.37	6.37
Yellowstone County	B7	RM 332.88	55687.68	100-yr	2477.72	880.08	874.43	1.76	1.5	20.06	12.65	408.85	1830.5	2.9	1.83	5.65	5.65
Yellowstone County	B7	RM 332.77	55504.73	100-yr	2477.72	880.01	875.49	1.53	1.21	13.14	7.78	376.01	2109.13	3.43	2.03	4.52	4.52
Yellowstone County	B7	RM 332.66	55333.33	100-yr	2477.72	879.91	874.96	1.66	1.23	19.36	9.78	334.72	2014.39	3.44	1.73	4.95	4.95
Yellowstone County	B7	RM 332.56	55182.74	100-yr	2477.72	879.8	874.54	1.76	1.23	20.64	8.53	312	2157.16	3.76	1.54	5.26	5.26
Yellowstone County	B7	RM 332.47	55059.84	100-yr	2477.72	879.76	873.95	1.62	1.13	18.73	7.52	281.38	2233.15	4.02	1.6	5.81	5.81
Yellowstone County	B7	RM 332.38	54913.1	100-yr	2477.72	879.43	873.16	2.77	1.68	51.35	12.44	159.71	2114	4.57	1.09	6.27	6.27
Yellowstone County	B7	RM 332.33	54822.67	100-yr	2477.72	879.4	872.5	2.31	1.46	54.79	15.78	188.18	2202.25	4.1	1.18	6.9	6.9
Yellowstone County	B7	RM 332.21	54626.48	100-yr	2477.72	879.22	873.4	2.37	1.3	31.46	7.51	173.61	2397.44	4.5	1.07	5.82	5.82
Yellowstone County	B7	RM 332.17	54575.38	100-yr	2477.72	879.17	872.76	2.38	1.23	30.87	7.11	145.13	2546.39	4.9	1.11	6.41	6.41
Yellowstone County	B7	RM 332.08	54422.01	100-yr	2477.72	879.03	873.77	2.42	1.36	38.33	9.11	155.85	2627.97	4.42	1.04	5.26	5.26
Yellowstone County	B7	RM 331.96	54224.76	100-yr	2477.72	878.9	873.18	1.94	1.22	35.83	10.93	205.19	2450.1	3.85	1.16	5.72	5.72
Yellowstone County	B7	RM 331.85	54057.19	100-yr	2477.72	878.69	873.16	2.03	1.38	53.31	16.03	250.12	2303.19	3.69	1.11	5.53	5.53
Yellowstone County	B7	RM 331.74	53882.8	100-yr	2477.72	878.13	872.62	3.2	1.86	65.49	12.96	149.93	2011.06	4.29	0.84	5.51	5.51
Yellowstone County	B8	RM 331.66	53744.64	100-yr	2477.72	878.03	871.68	2.55	1.67	48.71	11.97	219.63	1589.88	3.83	0.94	6.35	6.35
Yellowstone County	B8	RM 331.55	53575.67	100-yr	2477.72	877.84	872.61	2.53	1.74	47.1	14.21	203.39	1331.23	3.56	1.07	5.23	5.23
Yellowstone County	B8	RM 331.41	53354.89	100-yr	2477.72	877.59	872.56	2.5	1.63	42.48	13.95	218.29	1356.73	3.43	1.12	5.03	5.03
Yellowstone County	B8	RM 331.32	53209.79	100-yr	2477.72	877.42	871.92	2.19	1.41	33.84	15.82	275.52	1315.48	2.87	1.33	5.5	5.5
Yellowstone County	B8	RM 331.23	53053.99	100-yr	2477.72	877.27	871.53	1.88	1.36	25.71	14.92	376.45	1213.51	2.6	1.5	5.74	5.74
Yellowstone County	B8	RM 331.14	52919.44	100-yr	2477.72	877.18	871.72	1.69	1.34	21.22	11.27	309.55	1149.88	3.03	1.6	5.46	5.46

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	100-yr	2477.72	877.07	871.29	1.85	1.39	24.2	11.84	305.99	1087.67	3.36	1.64	5.78	5.78
Yellowstone County	B8	RM 331.01	52700.37	100-yr	2477.72	876.97	871.8	1.88	1.41	26.05	13.15	299.81	1068.14	3.32	1.66	5.17	5.17
Yellowstone County	B8	RM 330.93	52576.5	100-yr	2477.72	876.86	871.67	1.91	1.45	27.2	10.57	250.76	1286.56	3.78	1.46	5.19	5.19
Yellowstone County	B8	RM 330.83	52418.21	100-yr	2477.72	876.59	870.75	2.7	1.74	39.39	11.95	141.59	1112.49	4.57	1.37	5.84	5.84
Yellowstone County	B8	RM 330.77	52321.13	100-yr	2477.72	876.53	870.68	2.46	1.56	38.24	14.56	174.99	1576.06	3.93	1.49	5.85	5.85
Yellowstone County	B8	RM 330.68	52174.9	100-yr	2477.72	876.22	870.33	3.11	1.8	50.36	12.8	129.74	1777.28	4.33	1.09	5.89	5.89
Yellowstone County	B8	RM 330.58	52000.46	100-yr	2477.72	876.05	869.72	2.94	1.81	61.32	13.96	117.95	1669.57	4.6	1.03	6.33	6.33
Yellowstone County	B8	RM 330.48	51852.83	100-yr	2477.72	875.88	868.81	2.97	1.67	58.56	13.02	106.02	1540.33	4.95	1.07	7.07	7.07
Yellowstone County	B8	RM 330.39	51701.57	100-yr	2477.72	875.76	869.32	2.71	1.5	37.49	10.63	134.45	1385.05	4.23	1.19	6.44	6.44
Yellowstone County	B8	RM 330.32	51592.04	100-yr	2477.72	875.61	869.57	2.89	1.63	39.84	10.68	135.54	1311.43	4.35	1.16	6.04	6.04
Yellowstone County	B8	RM 330.25	51473.55	100-yr	2477.72	875.52	868.38	2.72	1.6	39.1	11.87	145.16	1272.3	4.04	1.21	7.14	7.14
Yellowstone County	B8	RM 330.17	51344.77	100-yr	2477.72	875.36	869.9	2.76	1.7	41.25	13.54	152.12	1152.52	3.88	1.26	5.46	5.46
Yellowstone County	B8	RM 330.10	51243.99	100-yr	2477.72	875.13	870.02	2.97	1.9	52.49	18.15	186.33	1100.61	3.43	1.18	5.11	5.11
Yellowstone County	B8	RM 330.05	51150.67	100-yr	2477.72	875.13	869.94	2.16	1.51	28.73	14.3	298.91	1224.78	2.82	1.4	5.19	5.19
Yellowstone County	B8	RM 329.95	50995.78	100-yr	2477.72	874.96	869.67	2.05	1.53	29.16	15.04	399.22	1176.01	2.67	1.38	5.29	5.29
Yellowstone County	B8	RM 329.86	50853.11	100-yr	2477.72	874.83	869.99	1.77	1.39	28.08	16.48	443.98	1199.83	2.54	1.49	4.84	4.84
Yellowstone County	B8	RM 329.75	50682.47	100-yr	2477.72	874.65	869.45	1.44	1.21	33.34	22.78	611.56	1563.68	2.19	1.49	5.2	5.2
Yellowstone County	B8	RM 329.66	50540.7	100-yr	2477.72	874.37	869.45	1.59	1.37	39.36	28.02	652.89	1403.02	1.82	1.29	4.92	4.92
Yellowstone County	B8	RM 329.57	50390.78	100-yr	2477.72	874.11	869.17	1.85	1.46	20.11	13.67	577.83	1294.26	1.97	1.33	4.94	4.94
Yellowstone County	B8	RM 329.49	50267.58	100-yr	2477.72	873.99	869.52	1.87	1.41	20.39	13.96	530.46	1268.92	2.03	1.39	4.47	4.47
Yellowstone County	B8	RM 329.43	50165.22	100-yr	2477.72	873.93	869.82	1.59	1.29	14.96	9.99	543.15	1093.82	2.63	1.75	4.11	4.11
Yellowstone County	B8	RM 329.37	50053.96	100-yr	2477.72	873.88	869.58	1.53	1.19	13.69	9.04	447.42	1133.79	2.78	1.83	4.3	4.3
Yellowstone County	B8	RM 329.31	49969.13	100-yr	2477.72	873.82	869.66	1.62	1.21	19.42	12.64	378.18	1159.68	2.72	1.77	4.16	4.16
Yellowstone County	B8	RM 329.26	49883.05	100-yr	2477.72	873.75	868.74	1.69	1.23	16.52	10.04	376.88	1228.02	2.72	1.65	5.01	5.01
Yellowstone County	B8	RM 329.20	49785.51	100-yr	2477.72	873.65	868.71	1.84	1.33	20.24	11.28	397.53	1389.76	2.54	1.41	4.94	4.94
Yellowstone County	B8	RM 329.15	49699.71	100-yr	2709.92	873.58	868.64	1.69	1.28	24.24	13.6	463.75	1386.48	2.72	1.53	4.94	4.94
Yellowstone County	B8	RM 329.08	49597.49	100-yr	2709.92	873.5	869.34	1.56	1.2	23.16	14.09	471.81	1375.79	2.71	1.65	4.16	4.16
Yellowstone County	B8	RM 328.96	49388.08	100-yr	2709.92	873.37	868.99	1.72	1.13	20.24	10.7	305.93	1490.9	3.05	1.6	4.38	4.38
Yellowstone County	B8	RM 328.85	49197.37	100-yr	2709.92	873.21	866.79	1.87	1.33	17.64	11.29	472.78	1431.89	2.24	1.43	6.42	6.42
Yellowstone County	B8	RM 328.75	49036.09	100-yr	2709.92	873.18	866.93	1.34	1	11.62	8.77	424.64	1451.8	2.5	1.87	6.25	6.25
Yellowstone County	B8	RM 328.68	48920.76	100-yr	2709.92	873.08	867.09	1.73	1.12	18.79	10.34	303.39	1465.79	3.01	1.65	5.99	5.99
Yellowstone County	B8	RM 328.60	48788.86	100-yr	2709.92	872.91	866.36	2.31	1.27	26.16	10.4	196.25	1441.83	3.8	1.48	6.55	6.55
Yellowstone County	B8	RM 328.52	48664.7	100-yr	2709.92	872.9	867.75	1.93	1.16	19.89	10.11	167.5	1419.86	3.49	1.75	5.15	5.15
Yellowstone County	B8	RM 328.44	48539.46	100-yr	2709.92	872.76	867.34	2.32	1.28	34.43	12.56	137.88	1287.53	4.58	1.64	5.42	5.42
Yellowstone County	B8	RM 328.36	48405.85	100-yr	2709.92	872.52	867.12	2.96	1.58	41.09	15.84	131.93	1054.32	4.32	1.63	5.4	5.4
Yellowstone County	B8	RM 328.28	48276.93	100-yr	2709.92	872.42	867.73	2.48	1.8	49.18	20.59	191.8	929.84	3.87	1.62	5.31	5.31
Yellowstone County	B8	RM 328.16	48097.58	100-yr	2709.92	872.22	866.7	2.25	1.72	42.54	22.57	224.09	894.25	3.32	1.76	5.52	5.52
Yellowstone County	B8	RM 328.05	47914.16	100-yr	2709.92	872.05	866.62	2.05	1.56	31.56	17.36	264.18	949.26	3.32	1.83	5.43	5.43
Yellowstone County	B8	RM 327.93	47729.4	100-yr	2709.92	871.83	865.67	2.31	1.67	27.49	14.3	305.74	1009.99	3.1	1.61	6.16	6.16
Yellowstone County	B8	RM 327.88	47641.03	100-yr	2709.92	871.71	866	2.52	1.65	37.59	16.99	246.29	1096.17	3.32	1.5	5.71	5.71
Yellowstone County	B8	RM 327.81	47525.32	100-yr	2709.92	871.61	866.29	2.52	1.62	16.49	12.52	394.14	1097.8	2.01	1.53	5.32	5.32
Yellowstone County	B8	RM 327.75	47432.57	100-yr	2709.92	871.29	865.09	3.4	1.91	50.83	16.43	134.59	1013.42	4.59	1.48	6.2	6.2
Yellowstone County	B8	RM 327.69	47341.24	100-yr	2709.92	870.97	864.48	4.14	2.28	71.52	22.31	108.28	892.25	4.35	1.34	6.49	6.49
Yellowstone County	B8	RM 327.62	47227.31	100-yr	2709.92	870.95	863.86	3.44	2.22	57	24.77	129.39	819.13	4.14	1.78	7.09	7.09
Yellowstone County	B8	RM 327.56	47124.87	100-yr	2709.92	870.95	864.46	2.81	1.91	38.17	19.06	158.59	870.34	3.72	1.85	6.49	6.49
Yellowstone County	B8	RM 327.51	47053.82	100-yr	2709.92	870.96	865.84	2.15	1.64	25.67	18.81	311.44	875.33	2.58	1.89	5.12	5.12
Yellowstone County	B8	RM 327.44	46933.28	100-yr	2709.92	870.95	866.93	1.34	1.32	12.07	10.74	391.16	883.44	2.62	2.33	4.33	4.33
Yellowstone County	B8	RM 327.37	46817.72	100-yr	2709.92	870.82	866.26	1.91	1.5	24.19	15.84	342.21	958.1	2.89	1.89	4.56	4.56
Yellowstone County	B8	RM 327.29	46687.12	100-yr	2709.92	870.75	866.04	1.88	1.39	21.11	12.96	304.88	1048.89	3.03	1.86	4.71	4.71
Yellowstone County	B8	RM 327.23	46600.07	100-yr	2709.92	870.68	866.25	1.98	1.41	22.64	13.74	287.86	1052.37	3.02	1.83	4.83	4.83
Yellowstone County	B8	RM 327.16	46485.25	100-yr	2709.92	870.54	865.67	2.17	1.46	30.55	17.29	271.45	1118.62	3.09	1.75	4.87	4.87
Yellowstone County	B8	RM 327.08	46360.36	100-yr	2709.92	870.49	864.94	1.87	1.34	20.97	12.56	266.92	1139.12	3.51	2.1	5.55	5.55
Yellowstone County	B8	RM 327.00	46240.1	100-yr	2709.92	870.35	864.56	2.09	1.6	32.15	15.33	227.91	974.34	4.23	2.02	5.79	5.79
Yellowstone County	B8	RM 326.94	46091.8	100-yr	2709.92	870.26	864.04	2.14	1.51	21.72	10.13	223.67	906.93	4.24	1.98	6.22	6.22
Yellowstone County	B8	RM 326.88	46003.77	100-yr	2709.92	870.17	864.08	2.41	1.68	36.9	17.41	170.66	892.73	4.02	1.9	6.09	6.09
Yellowstone County	B8	RM 326.82	45901.15	100-yr	2709.92	870.09	864.18	2.31	1.67	32.38	19.72	201.73	958.04	3.22	1.96	5.91	5.91
Yellowstone County	B8	RM 326.78	45830.7	100-yr	2709.92	870.03	864.46	2.38	1.66	28.96	18.01	163.64	968.48	3.41	2.13	5.57	5.57
Yellowstone County	B8	RM 326.70	45707.6	100-yr	2709.92	869.97	864.66	2.06	1.56	20.66	16.03	264.52	1038.54	2.94	2.27	5.31	5.31
Yellowstone County	B8	RM 326.64	45589.72	100-yr	2709.92	869.88	864.92	1.72	1.6	47.75	39.37	430.99	1065.84	2.53	2.09	4.96	4.96
Yellowstone County	B8	RM 326.55	45430.24	100-yr	2709.92	869.65	864.83	2.1	1.73	24.35	16.8	350.63	916.96	3.09	2.13	4.82	4.82
Yellowstone County	B8	RM 326.45	45281.78	100-yr	2709.92	869.55	864.12	2.11	1.77	26.09	18.46	340.76	791.89	3.11	2.19	5.43	5.43

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	100-yr	2709.92	869.54	864.32	1.74	1.51	17.02	12.35	432.08	1042.15	3.02	2.19	5.22	5.22
Yellowstone County	B8	RM 326.35	45106.57	100-yr	2709.92	869.5	864.43	1.54	1.27	13.12	9.06	483.02	1294.46	3.32	2.29	5.07	5.07
Yellowstone County	B8	RM 326.28	45022.31	100-yr	2709.92	869.5	864.61	1.33	1.12	9.09	6.12	548.28	1355.55	3.95	2.66	4.89	4.89
Yellowstone County	B8	RM 326.07	44588.61	100-yr	2709.92	869.28	862.39	1.73	1.52	14.18	11.08	711.54	1604.02	2.06	1.6	6.89	6.89
Yellowstone County	B8	RM 326.00	44481.07	100-yr	2709.92	869.21	861.24	1.66	1.47	13.09	10.41	749.88	1592.28	2.04	1.62	7.97	7.97
Yellowstone County	B8	RM 325.94	44379.11	100-yr	2709.92	869.15	861.85	1.34	1.25	30.24	25.14	828.51	1573.4	2.18	1.81	7.3	7.3
Yellowstone County	B8	RM 325.89	44304.17	100-yr	2709.92	869.05	863	1.26	1.19	27.81	23.64	845.31	1341.47	2.26	1.92	6.05	6.05
Yellowstone County	B8	RM 325.86	44262.16	100-yr	2709.92	869.01	863.76	1.35	1.2	9.81	8.32	823.69	1141.85	2.33	1.97	5.25	5.25
Yellowstone County	B8	RM 325.81	44176.46	100-yr	2709.92	868.97	863.1	1.32	1.17	9.88	8.7	846.47	1174.52	2.25	1.98	5.87	5.87
Yellowstone County	B8	RM 325.76	44089.5	100-yr	2709.92	868.93	862.66	1.19	1.09	23.36	19.47	851.35	1304	2.38	1.98	6.27	6.27
Yellowstone County	B8	RM 325.69	43989.97	100-yr	2709.92	868.85	862.55	1.34	1.04	9.73	6.54	625.32	1418.54	2.87	1.92	6.3	6.3
Yellowstone County	B8	RM 325.58	43809.68	100-yr	2709.92	868.77	862.61	1.31	1.03	25.61	15.63	476.8	1284.4	3.38	2.05	6.16	6.16
Yellowstone County	B8	RM 325.50	43680.96	100-yr	2709.92	868.63	862.6	1.5	1.18	30.73	17.47	434.18	1212.92	3.37	1.89	6.03	6.03
Yellowstone County	B8	RM 325.43	43556.76	100-yr	2709.92	868.51	860.89	1.51	1.19	33.09	18.3	387.05	1143.3	3.61	1.98	7.62	7.62
Yellowstone County	B8	RM 325.37	43461.41	100-yr	2709.92	868.45	861.36	1.42	1.15	28.49	15.58	345.34	1126.43	3.83	2.09	7.09	7.09
Yellowstone County	B8	RM 325.30	43343.13	100-yr	2709.92	868.32	861.56	1.75	1.27	26.84	12.64	267.05	1086.99	4.19	1.96	6.76	6.76
Yellowstone County	B8	RM 325.21	43210.67	100-yr	2709.92	868.16	861.34	2.17	1.48	29.25	11.69	204.69	978.51	4.73	1.87	6.82	6.82
Yellowstone County	B8	RM 325.13	43078.9	100-yr	2709.92	868.01	861.36	2.53	1.61	40.93	14.65	149.6	880.76	5.39	1.91	6.65	6.65
Yellowstone County	B8	RM 325.06	42966.54	100-yr	2709.92	867.62	860.78	3.45	2.14	74.02	23.35	123.19	789.05	5.15	1.61	6.84	6.84
Yellowstone County	B8	RM 324.99	42864.51	100-yr	2709.92	867.55	861.24	3.04	1.87	61.48	22.75	135.52	818.47	4.84	1.77	6.31	6.31
Yellowstone County	B8	RM 324.91	42729.7	100-yr	2709.92	867.33	860.76	3.13	1.93	67.26	23.8	133.3	792.88	5.04	1.77	6.57	6.57
Yellowstone County	B8	RM 324.81	42573.19	100-yr	2709.92	867.08	860.39	3.19	2.14	73.07	26.6	140.39	714.11	4.91	1.78	6.69	6.69
Yellowstone County	B8	RM 324.73	42451.12	100-yr	2709.92	866.97	861.59	2.86	2.01	52.3	23.18	179.41	716.93	4.27	1.88	5.38	5.38
Yellowstone County	B8	RM 324.65	42323.44	100-yr	2709.92	866.91	861.99	2.08	1.71	45.71	29.55	300.92	719.17	3.41	2.2	4.92	4.92
Yellowstone County	B8	RM 324.56	42178.25	100-yr	2709.92	866.77	861.76	2.07	1.65	20.96	16.82	404.18	786.55	2.6	2.09	5	5
Yellowstone County	B8	RM 324.48	42039.74	100-yr	2709.92	866.62	861.58	1.83	1.57	47.35	35.34	477.36	891.14	2.59	1.93	5.04	5.04
Yellowstone County	B8	RM 324.42	41946.09	100-yr	2709.92	866.51	861.04	1.6	1.35	32.99	22.87	478.13	950.71	3.06	2.12	5.47	5.47
Yellowstone County	B8	RM 324.34	41812.99	100-yr	2709.92	866.3	861.07	1.88	1.44	51.01	31.45	378.78	1022.54	2.98	1.84	5.23	5.23
Yellowstone County	B8	RM 324.28	41712.42	100-yr	2709.92	866.13	859.64	1.82	1.45	49.35	30.21	364.85	1061.29	2.88	1.76	6.49	6.49
Yellowstone County	B8	RM 324.20	41597.64	100-yr	2709.92	866.06	860.59	1.17	1.1	19.71	15.7	675.53	1070.39	2.9	2.31	5.47	5.47
Yellowstone County	B8	RM 324.16	41526.97	100-yr	2709.92	865.96	861.07	1.55	1.38	14.4	11.16	664.7	1163.63	2.41	1.87	4.89	4.89
Yellowstone County	B8	RM 324.10	41434.55	100-yr	2709.92	865.9	860.81	1.36	1.27	24.52	18.39	691.19	1251.85	2.67	1.99	5.09	5.09
Yellowstone County	B8	RM 324.04	41346.42	100-yr	2709.92	865.85	860.39	1.25	1.16	16.69	12.09	637.89	1257.17	2.84	2.05	5.46	5.46
Yellowstone County	B8	RM 323.97	41219.29	100-yr	2709.92	865.78	860.64	1.18	1.1	14.61	10.54	573.41	1163.77	2.95	2.12	5.14	5.14
Yellowstone County	B8	RM 323.83	40977.08	100-yr	2709.92	865.67	860.31	1.34	1.03	12.57	7.55	454.1	1267.76	3.48	2.08	5.36	5.36
Yellowstone County	B8	RM 323.71	40786.71	100-yr	2709.92	865.47	858.49	2.13	1.31	27.17	10.98	221.5	1227.68	4.21	1.69	6.98	6.98
Yellowstone County	B8	RM 323.60	40615.85	100-yr	2709.92	865.47	858.06	1.7	1.15	17.4	7.04	122.17	1160.76	5.1	2.04	7.41	7.41
Yellowstone County	B8	RM 323.55	40536.83	100-yr	2709.92	865.06	857.58	3.37	1.77	71.21	21.61	115.1	1108.1	4.6	1.38	7.48	7.48
Yellowstone County	B8	RM 323.49	40429.96	100-yr	2709.92	864.88	858.37	3.38	1.78	66.98	19.68	119.27	1117.37	4.68	1.36	6.51	6.51
Yellowstone County	B8	RM 323.41	40309.21	100-yr	2709.92	864.76	859.41	3.05	1.76	66.69	22.89	135.74	1061.74	4.24	1.45	5.35	5.35
Yellowstone County	B8	RM 323.33	40186.15	100-yr	2709.92	864.68	859.58	2.53	1.53	35.07	15.52	175.88	1021.76	3.93	1.73	5.1	5.1
Yellowstone County	B8	RM 323.27	40082.34	100-yr	2709.92	864.55	859.66	2.59	1.57	41.51	19.06	188.89	996.27	3.8	1.74	4.89	4.89
Yellowstone County	B8	RM 323.21	39985.33	100-yr	2709.92	864.44	859.54	2.55	1.56	41.69	21.41	211.17	983.84	3.46	1.77	4.9	4.9
Yellowstone County	B8	RM 323.16	39899.29	100-yr	2709.92	864.39	859.55	1.92	1.36	35.41	21.78	276.01	1018.41	3.18	1.96	4.84	4.84
Yellowstone County	B8	RM 323.06	39735.77	100-yr	2709.92	864.15	858.56	1.79	1.48	39.74	21.66	311.52	1398.38	2.89	1.57	5.59	5.59
Yellowstone County	B8	RM 322.93	39531.81	100-yr	2709.92	863.94	859.35	1.71	1.3	27.44	14.97	322.23	1462.27	3.17	1.72	4.59	4.59
Yellowstone County	B8	RM 322.79	39301.41	100-yr	2709.92	863.71	858.62	2.09	1.33	27.96	13.1	220.82	1382.93	3.74	1.75	5.09	5.09
Yellowstone County	B8	RM 322.69	39142.64	100-yr	2709.92	863.58	857.47	2.28	1.44	25.35	12.3	200.75	1323.19	3.87	1.88	6.11	6.11
Yellowstone County	B8	RM 322.58	38982.22	100-yr	2709.92	862.97	856.56	3.98	2.59	95.79	35.72	116.27	732.96	3.85	1.43	6.41	6.41
Yellowstone County	B9	RM 322.51	38859.49	100-yr	2709.92	862.89	858.28	3.11	2.18	59.82	26.08	163.38	780.84	3.67	1.59	4.61	4.61
Yellowstone County	B9	RM 322.41	38696.02	100-yr	2709.92	862.8	857.62	1.82	1.71	39.62	26.49	457.54	970.59	2.54	1.69	5.18	5.18
Yellowstone County	B9	RM 322.34	38586.33	100-yr	2709.92	862.69	857.65	1.5	1.45	25.53	19.07	589.91	1063.21	2.42	1.8	5.05	5.05
Yellowstone County	B9	RM 322.23	38396.25	100-yr	2709.92	862.54	857.13	1.17	1.17	20.54	17.08	754.39	1141.87	2.44	2.02	5.41	5.41
Yellowstone County	B9	RM 322.13	38239.27	100-yr	2709.92	862.4	857.1	1.06	1.12	22.26	20.1	880.36	1169.97	2.29	2.06	5.31	5.31
Yellowstone County	B9	RM 322.03	38090.48	100-yr	2709.92	862.13	856.15	1.26	1.37	45.02	43.64	970.71	1135.38	1.79	1.74	5.98	5.98
Yellowstone County	B9	RM 321.91	37898.13	100-yr	2709.92	861.8	856.85	1.78	1.78	14.52	14.52	908.39	908.39	1.68	1.68	4.95	4.95
Yellowstone County	B9	RM 321.82	37758.36	100-yr	2709.92	861.74	856.34	1.53	1.53	9.37	9.31	832.71	838.33	2.13	2.12	5.41	5.41
Yellowstone County	B9	RM 321.70	37567.01	100-yr	2709.92	861.62	855.27	1.4	1.39	29.5	27.73	809.33	878.79	2.37	2.22	6.35	6.35
Yellowstone County	B9	RM 321.60	37414.63	100-yr	2709.92	861.53	854.48	1.18	1.17	14.01	13.15	755.36	821.82	3.01	2.82	7.05	7.05
Yellowstone County	B9	RM 321.48	37188.51	100-yr	2709.92	861.28	855.03	1.72	1.63	33.36	27.3	546.18	731.25	2.78	2.27	6.25	6.25
Yellowstone County	B9	RM 321.38	37016.94	100-yr	2709.92	860.96	854.75	2.1	1.93	42.29	29.42	471.9	775.99	2.61	1.81	6.21	6.21

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	100-yr	2709.92	860.84	855.3	1.75	1.48	21.23	12.15	459.37	1008.8	3.19	1.81	5.54	5.54
Yellowstone County	B9	RM 321.13	36652.19	100-yr	2709.92	860.74	854.69	1.62	1.16	25.94	13.82	274.03	1182.93	3.99	2.1	6.05	6.05
Yellowstone County	B9	RM 321.05	36531.25	100-yr	2709.92	860.62	855.36	2	1.25	20.24	7.7	188.88	1244.12	4.63	1.74	5.26	5.26
Yellowstone County	B9	RM 321.00	36446.98	100-yr	2709.92	860.54	855.12	2.36	1.43	36.89	12.44	134.73	1268.9	4.55	1.5	5.42	5.42
Yellowstone County	B9	RM 320.71	36404.1*	100-yr	2709.92	860.4	855.12	2.83	1.52	36.24	11.85	140.13	1299.75	4.28	1.37	5.28	5.28
Yellowstone County	B9	RM 320.62	36361.3*	100-yr	2709.92	860.36	855.12	2.86	1.52	36.97	12.18	143.76	1427.23	4.14	1.34	5.24	5.24
Yellowstone County	B9	RM 320.92	36318.56	100-yr	2709.92	860.34	855.12	2.68	1.6	53.76	16.94	134.56	1654.25	4.32	1.33	5.22	5.22
Yellowstone County	B9	RM 320.44	36258.3*	100-yr	2709.92	860.19	855.19	2.94	1.62	38.27	12.07	154.55	1659.62	3.99	1.24	5	5
Yellowstone County	B9	RM 320.38	36198.1*	100-yr	2709.92	860.15	855.26	2.78	1.5	35.05	11.01	161.33	1695.37	4.09	1.26	4.89	4.89
Yellowstone County	B9	RM 320.80	36137.92	100-yr	2709.92	860.16	855.33	2.36	1.36	38.66	12.13	157.17	1739.04	4.33	1.34	4.83	4.83
Yellowstone County	B9	RM 320.71	35990.21	100-yr	2709.92	860.12	854.38	1.6	1.15	21.56	8.49	275.47	1730.96	4.17	1.62	5.74	5.74
Yellowstone County	B9	RM 320.54	35839.45	100-yr	2709.92	860.01	853.99	1.76	1.19	21.8	9.8	324.02	1748.87	3.6	1.6	6.02	6.02
Yellowstone County	B9	RM 320.44	35717.45	100-yr	2709.92	859.95	854.32	1.65	1.1	15.87	8.01	334.82	1781.85	3.46	1.72	5.63	5.63
Yellowstone County	B9	RM 320.62	35556.9	100-yr	2709.92	859.87	854.17	1.62	1.17	26.03	13.26	265.5	1662.14	3.66	1.84	5.7	5.7
Yellowstone County	B9	RM 320.38	35461.42	100-yr	2709.92	859.73	854.17	2.15	1.31	26.42	10.55	196.57	1601.57	4.48	1.76	5.55	5.55
Yellowstone County	B9	RM 320.32	35359.13	100-yr	2709.92	859.55	854.57	2.73	1.64	47.86	16.04	140.58	1543.57	4.68	1.53	4.99	4.99
Yellowstone County	B9	RM 320.25	35241.01	100-yr	2709.92	859.09	854.29	3.83	2.2	91.75	26.67	110.85	1216.96	4.38	1.24	4.8	4.8
Yellowstone County	B9	RM 320.20	35163.52	100-yr	2709.92	858.98	854.2	3.44	2.21	92.62	32.92	134.69	1305	3.84	1.33	4.78	4.78
Yellowstone County	B9	RM 320.14	35071.29	100-yr	2709.92	858.71	854.32	3.46	2.34	80.12	32.02	160.94	1363.28	3.54	1.39	4.39	4.39
Yellowstone County	B9	RM 320.01	34865.89	100-yr	2709.92	858.3	854.42	3.05	2.46	46.9	22.57	122.19	840.55	2.87	1.37	3.94	3.94
Yellowstone County	B9	RM 319.91	34707.77	100-yr	2709.92	858.24	854.66	1.92	1.95	24.44	15.79	143.74	892.17	2.96	1.89	4.66	4.66
Yellowstone County	B9	RM 319.86	34625.68	100-yr	2709.92	858.23	854.6	1.66	1.72	23.2	15.19	153.74	1005.81	2.88	1.87	4.67	4.67
Yellowstone County	B9	RM 319.78	34508.06	100-yr	2709.92	858.11	854.51	2.44	1.83	40.28	18.69	111.07	1085.78	3.31	1.51	4.59	4.59
Yellowstone County	B9	RM 319.73	34426.63	100-yr	2709.92	857.85	854.69	3.3	1.7	56.82	32.4	156.77	983.86	2.86	1.62	4.38	4.38
Yellowstone County	B9	RM 319.66	34314.84	100-yr	2709.92	857.83	854.51	2.22	1.64	24.97	15.68	158.66	941.85	2.81	1.76	4.4	4.4
Yellowstone County	B9	RM 319.57	34163.05	100-yr	2709.92	857.68	853.93	2.25	1.82	24.4	16.94	198.21	748.07	2.88	1.99	4.34	4.34
Yellowstone County	B9	RM 319.44	33955.96	100-yr	2709.92	857.59	853.14	2.07	1.76	27.46	17.26	153.57	782.38	3.18	1.97	4.45	4.45
Yellowstone County	B9	RM 319.39	33872.4	100-yr	2709.92	857.54	852.65	2.21	1.67	24.11	14.17	137.96	875.19	3.32	1.92	4.89	4.89
Yellowstone County	B9	RM 319.34	33786.83	100-yr	2709.92	857.5	852.83	2.09	1.56	20.87	13.22	178.14	837.64	3.31	2.08	4.67	4.67
Yellowstone County	B9	RM 319.22	33580.15	100-yr	2709.92	857.45	851.79	2.12	1.35	19.64	10.06	80.63	894.45	4.53	2.24	5.66	5.66
Yellowstone County	B9	RM 319.17	33497.33	100-yr	2709.92	857.44	851.64	1.67	1.3	14.48	8.66	121.71	1048.65	3.73	2.18	5.8	5.8
Yellowstone County	B9	RM 319.09	33368.53	100-yr	2709.92	857.18	851.25	2.73	1.95	50.43	19.93	135.83	876.68	4.12	1.59	5.94	5.94
Yellowstone County	B9	RM 319.04	33287.21	100-yr	2709.92	856.95	851.49	3.31	2.08	69.28	21.92	113.17	950.29	4.48	1.37	5.46	5.46
Yellowstone County	B9	RM 318.96	33153.16	100-yr	2709.92	856.8	851.64	2.89	1.96	60.58	21.55	157.28	960.15	4.11	1.44	5.16	5.16
Yellowstone County	B9	RM 318.91	33065.54	100-yr	2709.92	856.72	851.86	2.52	1.88	57.31	22.86	189.76	962.81	3.8	1.5	4.87	4.87
Yellowstone County	B9	RM 318.82	32939.33	100-yr	2709.92	856.42	851.86	3.07	2.07	44.27	16.63	160.72	873.03	4.04	1.5	4.57	4.57
Yellowstone County	B9	RM 318.74	32833.24	100-yr	2709.92	856.41	851.86	2.39	1.84	37.02	18.1	185.42	942.84	3.96	1.91	4.56	4.56
Yellowstone County	B9	RM 318.62	32649.76	100-yr	2709.92	856.28	850.67	1.87	1.64	32.82	19.91	316.37	869.01	3.15	1.9	5.61	5.61
Yellowstone County	B9	RM 318.42	32315.28	100-yr	2709.92	855.87	850.15	2.21	1.86	27.19	11.34	347.98	1084.06	3.34	1.38	5.73	5.73
Yellowstone County	B9	RM 318.17	31866.42	100-yr	2709.92	855.52	849.17	2.36	1.47	35.04	12.26	211.8	1313.29	4.37	1.5	6.35	6.35
Yellowstone County	B9	RM 317.97	31551.39	100-yr	2709.92	855.17	848.35	2.63	1.91	30.28	12.37	238.16	1011.57	3.99	1.61	6.83	6.83
Yellowstone County	B10	RM 317.87	31388.76	100-yr	2709.92	854.97	848.78	3.02	1.89	47.15	16.35	164.04	1038.53	4.4	1.49	6.19	6.19
Yellowstone County	B10	RM 317.78	31248.07	100-yr	2709.92	854.97	848.75	2.41	1.46	29.5	10.01	143.48	1326.5	5.09	1.69	6.22	6.22
Yellowstone County	B10	RM 317.70	31120.75	100-yr	2709.92	854.97	848.56	1.89	1.4	18.98	9.29	172.75	1673.18	4.46	2.14	6.41	6.41
Yellowstone County	B10	RM 317.61	30982.56	100-yr	2709.92	854.91	848.29	1.94	1.27	18.15	7.67	195.11	1726.13	4.25	1.76	6.62	6.62
Yellowstone County	B10	RM 317.53	30849.94	100-yr	2709.92	854.87	848.5	1.62	1.24	14.5	7.78	345.3	1759.14	3.7	1.97	6.37	6.37
Yellowstone County	B10	RM 317.45	30723.4	100-yr	2709.92	854.81	848.47	1.66	1.28	16.68	10.28	369.92	1800.4	3.26	2	6.34	6.34
Yellowstone County	B10	RM 317.37	30601.88	100-yr	2709.92	854.77	848.17	1.46	1.2	16.61	11.52	371.44	1791.16	3.24	2.23	6.6	6.6
Yellowstone County	B10	RM 317.30	30483.81	100-yr	2709.92	854.68	848.41	1.71	1.25	15.08	8.86	273.97	1661.05	3.95	2.29	6.27	6.27
Yellowstone County	B10	RM 317.19	30302.33	100-yr	2709.92	854.6	848.84	1.96	1.27	18.92	8.84	162.13	1596.95	5.26	2.41	5.76	5.76
Yellowstone County	B10	RM 317.05	30079.26	100-yr	2709.92	854.28	848.38	2.72	1.94	32.84	9.25	159.02	947.58	5.33	1.47	5.9	5.9
Yellowstone County	B10	RM 316.93	29889.26	100-yr	2709.92	854.01	847.25	3.08	2.12	52.51	17.36	150.51	762.78	5.21	1.68	6.76	6.76
Yellowstone County	B10	RM 316.79	29668.4	100-yr	2709.92	853.8	847.89	3.01	2.17	51.4	20.08	146.89	599.34	5.43	2.08	5.9	5.9
Yellowstone County	B10	RM 316.66	29466.39	100-yr	2709.92	853.56	847.86	3.02	2.34	48.36	23.55	163.35	470.11	5.14	2.47	5.7	5.7
Yellowstone County	B10	RM 316.58	29329.04	100-yr	2709.92	853.45	847.74	2.87	2.03	58.27	29.31	174.67	673.28	4.78	2.38	5.71	5.71
Yellowstone County	B10	RM 316.51	29227.18	100-yr	2709.92	853.29	847.41	2.96	2.01	53.9	26.01	183.91	686.11	4.35	2.07	5.88	5.88
Yellowstone County	B10	RM 316.43	29091.4	100-yr	2709.92	853.17	847.41	2.56	1.8	52.81	28.43	240.17	916.82	3.68	1.96	5.77	5.77
Yellowstone County	B10	RM 316.33	28935.99	100-yr	2709.92	852.91	847.74	2.5	1.9	58.01	36.8	286.77	742.35	3.25	2.05	5.17	5.17
Yellowstone County	B10	RM 316.24	28786.65	100-yr	2709.92	852.71	847.5	2.06	1.76	49.04	28.91	356.21	843.71	3.1	1.82	5.22	5.22
Yellowstone County	B10	RM 316.14	28628.02	100-yr	2709.92	852.49	846.92	2.06	1.64	37.12	21.72	330.46	793.88	3.59	2.08	5.58	5.58
Yellowstone County	B10	RM 316.05	28475.44	100-yr	2709.92	852.23	846.73	2.37	1.86	50.08	25.67	295.19	810.98	3.53	1.8	5.49	5.49

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	100-yr	2709.92	852.09	846.43	2.36	1.87	26.34	16.24	303.54	687.95	3.44	2.11	5.66	5.66
Yellowstone County	B10	RM 315.84	28140.65	100-yr	2709.92	851.75	846.58	2.87	2.12	68.54	29.81	179.99	764.48	3.89	1.67	5.17	5.17
Yellowstone County	B10	RM 315.71	27926.69	100-yr	2709.92	851.48	846.34	2.82	1.86	34.72	15.58	208.55	1027.71	3.5	1.55	5.14	5.14
Yellowstone County	B10	RM 315.58	27720.72	100-yr	2709.92	851.45	846.16	1.88	1.44	28.9	14.58	155.79	1110.86	3.97	1.96	5.29	5.29
Yellowstone County	B10	RM 315.44	27505.06	100-yr	2709.92	851.2	846.09	2.46	1.43	33.57	11.73	152.39	1304.53	4.62	1.58	5.11	5.11
Yellowstone County	B10	RM 315.30	27283.58	100-yr	2709.92	851.14	844.45	1.6	1.07	16.95	9.26	317.48	1457.96	3.21	1.73	6.69	6.69
Yellowstone County	B10	RM 315.18	27097.16	100-yr	2709.92	851.1	844.72	1.29	0.98	9.11	6.09	454.19	1537.55	2.78	1.84	6.37	6.37
Yellowstone County	B10	RM 315.01	26818.99	100-yr	2709.92	850.96	844.66	1.54	1.12	17.58	9.64	477.22	1613.12	2.92	1.59	6.3	6.3
Yellowstone County	B10	RM 314.85	26559.67	100-yr	2709.92	850.69	844.84	2.39	1.36	36.84	10.49	167.56	1553.45	4.81	1.33	5.84	5.84
Yellowstone County	B10	RM 314.69	26324.37	100-yr	2709.92	850.43	844.24	2.66	1.53	41.64	11.45	173.81	1473.72	4.57	1.23	6.2	6.2
Yellowstone County	B10	RM 314.57	26132.54	100-yr	2709.92	850.16	844.63	2.99	1.71	54.64	13.18	147.42	1354.69	4.95	1.17	5.53	5.53
Yellowstone County	B10	RM 314.46	25963.96	100-yr	2709.92	850.08	844.48	2.46	1.52	40.64	12.62	201.63	1336.07	4.36	1.33	5.6	5.6
Yellowstone County	B10	RM 314.35	25782.69	100-yr	2709.92	849.84	844.51	2.41	1.86	59.51	19.35	269.19	1211.87	3.74	1.2	5.33	5.33
Yellowstone County	B10	RM 314.24	25607.48	100-yr	2709.92	849.66	844.14	2.4	1.83	23.29	9.11	289.52	1077.49	3.59	1.38	5.51	5.51
Yellowstone County	B10	RM 314.15	25461.23	100-yr	2709.92	849.53	844.05	2.26	1.87	56.3	24.12	306.39	987.35	3.47	1.47	5.48	5.48
Yellowstone County	B10	RM 314.06	25326.45	100-yr	2709.92	849.49	843.63	1.69	1.37	14.01	7.9	455.22	1093.22	3.32	1.86	5.87	5.87
Yellowstone County	B10	RM 313.98	25189.4	100-yr	2709.92	849.45	843.05	1.43	1.2	22.59	15.76	559.69	1087.94	2.99	2.07	6.4	6.4
Yellowstone County	B10	RM 313.83	24942.42	100-yr	2709.92	849.29	843.2	1.46	1.27	15.74	8.72	476.74	1060.18	3.65	2.01	6.09	6.09
Yellowstone County	B10	RM 313.72	24768.08	100-yr	2709.92	849.19	842.35	1.68	1.25	16.7	7.84	330.48	1113.98	4.19	1.95	6.85	6.85
Yellowstone County	B10	RM 313.66	24671.51	100-yr	2709.92	849.12	843.14	1.88	1.33	18.68	8.88	286.85	1017.71	4.27	2.01	5.98	5.98
Yellowstone County	B10	RM 313.57	24513.04	100-yr	2709.92	849.04	842.47	1.86	1.36	19.25	10.26	303.74	919.64	4.11	2.17	6.58	6.58
Yellowstone County	B10	RM 313.47	24364.02	100-yr	2709.92	848.95	841.55	1.93	1.48	20.27	10.38	283.74	807.8	4.5	2.27	7.4	7.4
Yellowstone County	B10	RM 313.33	24143.26	100-yr	2709.92	848.65	842.65	2.62	1.87	54.05	22.04	187.53	740.14	4.88	1.96	6	6
Yellowstone County	B10	RM 313.18	23899.74	100-yr	2709.92	847.92	842.19	3.58	2.66	111.39	44.7	166.07	622.02	4.16	1.64	5.73	5.73
Yellowstone County	B10	RM 313.07	23728.15	100-yr	2709.92	847.5	842.62	3.63	2.92	71.36	26.93	164.01	567.87	4.38	1.63	4.88	4.88
Yellowstone County	B10	RM 312.98	23590.93	100-yr	2709.92	847.47	842.5	3	2.56	40.79	23.85	200.55	569.81	4.13	2.4	4.97	4.97
Yellowstone County	B10	RM 312.90	23455.11	100-yr	2709.92	847.43	842.38	2.53	2.11	48.09	24.19	204.15	796.1	4.27	2.13	5.05	5.05
Yellowstone County	B10	RM 312.75	23227.05	100-yr	2709.92	847.2	841.71	2.52	1.87	36.28	17.96	224.95	769.32	3.85	1.89	5.5	5.5
Yellowstone County	B10	RM 312.65	23058.61	100-yr	2709.92	847.1	841.61	2.22	1.72	29.97	17.37	273.98	798.6	3.44	1.98	5.49	5.49
Yellowstone County	B10	RM 312.53	22873.59	100-yr	2709.92	847.02	841.37	2.06	1.47	16.57	9.72	283.53	1040.23	4.01	2.33	5.65	5.65
Yellowstone County	B10	RM 312.49	22797.96	100-yr	2709.92	846.93	841.34	2.37	1.61	29.44	13.88	202	1072.13	4.47	2.09	5.59	5.59
Yellowstone County	B10	RM 312.39	22646.67	100-yr	2709.92	846.79	840.85	2.68	1.76	44.71	22.23	152.13	974.89	4.18	2.05	5.94	5.94
Yellowstone County	B10	RM 312.33	22536.68	100-yr	2709.92	846.59	840.82	3.01	1.89	53.31	23.57	139.06	755.46	4.37	1.9	5.77	5.77
Yellowstone County	B10	RM 312.22	22360.55	100-yr	2709.92	846.54	840.91	2.41	1.71	37.56	15.78	128.68	802.36	4.78	1.97	5.63	5.63
Yellowstone County	B10	RM 312.13	22230.65	100-yr	2709.92	846.49	840.94	1.85	1.51	22.81	14.76	350.72	814.83	3.72	2.4	5.55	5.55
Yellowstone County	B10	RM 312.04	22082.88	100-yr	2709.92	846.35	840.82	2.02	1.63	28.29	17.21	346.94	890.29	3.47	2.1	5.53	5.53
Yellowstone County	B10	RM 311.95	21934.61	100-yr	2709.92	846.21	840.79	2.08	1.63	28.58	15.24	350.23	1001.69	3.46	1.84	5.42	5.42
Yellowstone County	B10	RM 311.89	21840.24	100-yr	2709.92	846.14	840.76	2	1.58	31.42	15.29	325.27	929.66	3.81	1.84	5.38	5.38
Yellowstone County	B10	RM 311.77	21651.91	100-yr	2709.92	845.97	840.18	2.17	1.59	30.33	11.5	226.3	929.64	4.9	1.84	5.79	5.79
Yellowstone County	B10	RM 311.69	21530.39	100-yr	2709.92	845.81	839.85	2.65	1.63	42.96	13.69	150.87	1097.48	5.33	1.65	5.96	5.96
Yellowstone County	B10	RM 311.58	21350.77	100-yr	2709.92	845.69	839.63	2.46	1.48	37.75	12.55	171.57	1365.15	4.73	1.54	6.06	6.06
Yellowstone County	B10	RM 311.48	21191.11	100-yr	2709.92	845.61	839.42	2.18	1.38	26.58	10.82	228.87	1267.08	4.11	1.65	6.19	6.19
Yellowstone County	B10	RM 311.37	21010.53	100-yr	2709.92	845.53	839.18	1.8	1.22	20.72	10.57	336.85	1319.61	3.55	1.8	6.35	6.35
Yellowstone County	B10	RM 311.27	20852.82	100-yr	2709.92	845.44	838.96	1.81	1.2	21.36	10.8	322.66	1232.84	3.66	1.83	6.48	6.48
Yellowstone County	B10	RM 311.19	20716.8	100-yr	2709.92	845.37	838.84	1.86	1.16	21.44	9.3	247.96	1199.16	4.57	1.95	6.53	6.53
Yellowstone County	B10	RM 311.09	20559.11	100-yr	2709.92	845.05	839.14	2.93	1.61	47.46	16.31	144.57	1079.26	4.99	1.68	5.9	5.9
Yellowstone County	B10	RM 310.97	20364.78	100-yr	2709.92	844.92	839.45	2.61	1.56	40.81	15.99	173.38	1034.99	4.79	1.85	5.47	5.47
Yellowstone County	B10	RM 310.87	20211.96	100-yr	2709.92	844.79	839.02	2.57	1.6	38.5	15.09	190.23	1064.7	4.61	1.78	5.77	5.77
Yellowstone County	B10	RM 310.76	20019.23	100-yr	2709.92	844.31	839.18	3.46	2.11	64.22	18.44	144.42	979.83	4.7	1.31	5.14	5.14
Yellowstone County	B11	RM 310.67	19877.9	100-yr	2709.92	844.25	839.11	2.83	1.76	61.66	20.21	174.84	1089.78	4.38	1.42	5.14	5.14
Yellowstone County	B11	RM 310.57	19727.96	100-yr	2709.92	844.07	839.08	2.66	1.64	57.44	19.72	195.83	1152.88	4.22	1.43	4.99	4.99
Yellowstone County	B11	RM 310.48	19578.86	100-yr	2709.92	843.91	838.96	2.52	1.52	44.54	15.8	210.72	1231.25	4.12	1.45	4.95	4.95
Yellowstone County	B11	RM 310.39	19437.53	100-yr	2709.92	843.84	838.54	2.2	1.38	21.98	9.3	264.94	1229.25	3.8	1.6	5.31	5.31
Yellowstone County	B11	RM 310.31	19317.45	100-yr	2709.92	843.77	838.23	2.1	1.47	20.37	10.85	357.08	1108.93	3.13	1.66	5.54	5.54
Yellowstone County	B11	RM 310.24	19187.47	100-yr	2709.92	843.72	838.23	1.6	1.31	37.24	22.76	461.89	1145.02	2.98	1.81	5.49	5.49
Yellowstone County	B11	RM 310.16	19069.04	100-yr	2709.92	843.58	837.93	1.5	1.34	35.24	23.33	568.97	1092.77	2.81	1.85	5.65	5.65
Yellowstone County	B11	RM 310.09	18955.28	100-yr	2709.92	843.49	837.93	1.57	1.26	12.5	9.31	554.94	1053.51	2.75	2.04	5.56	5.56
Yellowstone County	B11	RM 309.97	18765.62	100-yr	2709.92	843.43	837.59	1.21	1.04	16.03	10.97	601.54	1107.23	3.45	2.35	5.84	5.84
Yellowstone County	B11	RM 309.90	18643.48	100-yr	2709.92	843.35	837.5	1.39	1.18	9.56	7.48	625.47	1183.97	2.9	2.27	5.85	5.85
Yellowstone County	B11	RM 309.82	18525.48	100-yr	2709.92	843.3	837.5	1.25	1.17	24.47	20.33	697.99	1025.42	2.72	2.26	5.8	5.8
Yellowstone County	B11	RM 309.73	18379.74	100-yr	2709.92	843.19	837.35	1.13	1.07	18.55	15.69	802.94	1046.7	2.86	2.41	5.85	5.85

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	100-yr	2709.92	843.14	837.38	0.97	0.94	12.45	11.02	876.43	1048.23	3.12	2.76	5.76	5.76
Yellowstone County	B11	RM 309.52	18029.98	100-yr	2709.92	843.01	836.68	1.14	1.12	18.11	17.08	816.46	976.82	2.86	2.69	6.33	6.33
Yellowstone County	B11	RM 309.39	17824.11	100-yr	2709.92	842.93	836.74	1	1	10.87	10.86	766.68	886.41	3.55	3.54	6.19	6.19
Yellowstone County	B11	RM 309.22	17557.23	100-yr	2709.92	842.74	836.07	1.68	1.47	16.21	11.03	335.13	707.22	4.6	3.11	6.67	6.67
Yellowstone County	B11	RM 309.06	17331.95	100-yr	2709.92	842.48	835.79	2.37	1.8	59.89	29.61	191.59	703.9	5.22	2.53	6.69	6.69
Yellowstone County	B11	RM 308.94	17142.36	100-yr	2709.92	841.65	835.4	4.03	2.88	99.93	40.09	121.56	503.21	4.8	1.87	6.26	6.26
Yellowstone County	B11	RM 308.83	16971.41	100-yr	2709.92	841.65	836.04	2.86	2.17	55.97	27.22	159.44	519.46	5.01	2.4	5.61	5.61
Yellowstone County	B11	RM 308.71	16778.65	100-yr	2709.92	841.59	835.91	2.25	1.77	22.8	13.28	251.14	622.08	4.27	2.47	5.67	5.67
Yellowstone County	B11	RM 308.62	16631.4	100-yr	2709.92	841.5	835.85	2	1.59	51.32	31.86	300.08	746.59	3.7	2.28	5.65	5.65
Yellowstone County	B11	RM 308.55	16518.64	100-yr	2709.92	841.34	835.85	1.92	1.58	47.26	30.08	368.88	846.56	3.2	2.03	5.49	5.49
Yellowstone County	B11	RM 308.43	16328.3	100-yr	2709.92	841.1	834.51	1.67	1.41	40.28	26.62	420.94	927.81	3.16	2.07	6.59	6.59
Yellowstone County	B11	RM 308.35	16192.95	100-yr	2709.92	840.97	834.88	1.6	1.27	25.56	15.62	402.97	1020.15	3.46	2.1	6.09	6.09
Yellowstone County	B11	RM 308.24	16015.46	100-yr	2709.92	840.87	834.63	1.56	1.13	15.18	8.75	363.15	1214.98	3.88	2.22	6.24	6.24
Yellowstone County	B11	RM 308.12	15826.82	100-yr	2709.92	840.81	834.63	1.47	1.11	13.16	7.88	382.83	1145.33	3.99	2.38	6.18	6.18
Yellowstone County	B11	RM 308.02	15675.58	100-yr	2709.92	840.73	834.76	1.66	1.21	13.1	6.73	304.14	1029.41	4.76	2.42	5.97	5.97
Yellowstone County	B11	RM 307.88	15434.86	100-yr	2709.92	840.38	834.45	3.14	1.9	59.31	23.08	113.52	820.47	5	1.88	5.92	5.92
Yellowstone County	B11	RM 307.77	15261.75	100-yr	2709.92	839.92	834.45	3.59	2.43	89.18	34.58	128.71	677.32	4.36	1.64	5.47	5.47
Yellowstone County	B11	RM 307.68	15125.28	100-yr	2709.92	839.76	834.85	3.03	2.15	60.9	28.22	158.88	630.51	4.38	2	4.91	4.91
Yellowstone County	B11	RM 307.60	14980.1	100-yr	2709.92	839.71	834.36	2.21	1.85	27.24	15.19	274.31	641.15	4.22	2.34	5.35	5.35
Yellowstone County	B11	RM 307.52	14873.7	100-yr	2709.92	839.53	834.12	2.61	2.09	40.43	21.23	254.01	688	3.79	1.97	5.41	5.41
Yellowstone County	B11	RM 307.46	14779.11	100-yr	2709.92	839.4	833.6	2.49	2.12	71.34	46.7	313.44	619.73	3.18	2.06	5.8	5.8
Yellowstone County	B11	RM 307.39	14664.34	100-yr	2709.92	839.24	833.63	2.44	2.03	24.87	17.79	365.52	663.31	2.83	2.01	5.62	5.62
Yellowstone County	B11	RM 307.30	14517.89	100-yr	2709.92	839.08	833.81	2.23	1.99	58.89	44.31	407.44	696.02	2.61	1.96	5.27	5.27
Yellowstone County	B11	RM 307.22	14385.45	100-yr	2709.92	838.82	833.87	2.18	1.94	46.61	34.95	396.39	698.02	2.77	2.07	4.95	4.95
Yellowstone County	B11	RM 307.14	14262.57	100-yr	2709.92	838.68	833.51	2.07	1.76	33.74	21.39	334.95	731.71	3.34	2.11	5.17	5.17
Yellowstone County	B11	RM 307.08	14166.72	100-yr	2709.92	838.62	833.11	1.93	1.62	20.82	13.31	348.63	753.88	3.5	2.23	5.51	5.51
Yellowstone County	B11	RM 307.01	14050.92	100-yr	2709.92	838.53	832.65	1.99	1.67	18.8	12.68	376.22	781.22	3.1	2.08	5.88	5.88
Yellowstone County	B11	RM 306.95	13949.23	100-yr	2709.92	838.43	832.35	2.17	1.69	27.78	19.05	324.62	759.01	3.11	2.12	6.08	6.08
Yellowstone County	B11	RM 306.90	13869.87	100-yr	2709.92	838.31	832.56	2.27	1.76	33.83	22.38	350.3	772.83	3.04	2	5.75	5.75
Yellowstone County	B11	RM 306.82	13726.64	100-yr	2709.92	838.2	832.62	2.08	1.64	27.76	17.93	361.85	811.63	3.17	2.04	5.57	5.57
Yellowstone County	B11	RM 306.72	13574.53	100-yr	2709.92	838.05	831.8	2.31	1.6	31.54	16.13	222.2	879	3.82	1.93	6.25	6.25
Yellowstone County	B11	RM 306.62	13414.11	100-yr	2709.92	837.89	832.77	2.41	1.76	43.62	21.03	215.2	869.44	3.71	1.77	5.12	5.12
Yellowstone County	B11	RM 306.52	13251.36	100-yr	2709.92	837.49	832.87	3.23	2.06	56.75	20.22	152.64	898.6	4.18	1.46	4.62	4.62
Yellowstone County	B11	RM 306.42	13099.73	100-yr	2709.92	837.14	832.74	3.65	2.41	69.13	23.09	135.69	883.12	3.91	1.28	4.4	4.4
Yellowstone County	B11	RM 306.34	12958.96	100-yr	2709.92	837.12	832.84	2.49	1.79	39.07	17.16	236.52	1063.55	3.48	1.52	4.29	4.29
Yellowstone County	B11	RM 306.25	12825.95	100-yr	2709.92	836.97	832.35	2.43	1.77	36.85	17.56	312.74	1190.37	2.86	1.35	4.62	4.62
Yellowstone County	B11	RM 306.16	12673.7	100-yr	2709.92	836.78	832.41	2.29	1.73	36.78	19.23	359.05	1171.8	2.57	1.33	4.37	4.37
Yellowstone County	B11	RM 306.11	12592.39	100-yr	2709.92	836.64	832.17	2.37	1.81	47.4	25.14	318.25	1044.82	2.73	1.44	4.47	4.47
Yellowstone County	B11	RM 306.03	12457.47	100-yr	2709.92	836.49	831.25	2.15	1.65	29.45	17.72	370.16	1046.85	2.63	1.57	5.24	5.24
Yellowstone County	B11	RM 305.93	12317.98	100-yr	2709.92	836.3	831.25	2.26	1.82	36.54	19.97	359.22	1095.97	2.51	1.36	5.05	5.05
Yellowstone County	B11	RM 305.84	12159.82	100-yr	2709.92	836.07	831.1	2.4	1.92	37.59	17.84	268.13	998.94	3.01	1.41	4.98	4.98
Yellowstone County	B11	RM 305.74	11989.73	100-yr	2709.92	835.8	830.64	2.64	1.91	49.64	16.66	197.47	1114.47	3.86	1.27	5.16	5.16
Yellowstone County	B11	RM 305.67	11883.31	100-yr	2709.92	835.64	830.43	2.86	1.86	48.36	14.66	162.93	1232.68	3.99	1.18	5.21	5.21
Yellowstone County	B11	RM 305.60	11764.11	100-yr	2709.92	835.61	830.18	2.13	1.72	25.43	10.54	168.35	1310.97	3.24	1.32	5.43	5.43
Yellowstone County	B11	RM 305.52	11651.48	100-yr	2709.92	835.51	830.18	2.28	1.53	28.82	11.09	151.74	1356.48	3.46	1.3	5.32	5.32
Yellowstone County	B11	RM 305.44	11514.64	100-yr	2709.92	835.44	830.43	1.9	1.29	16.97	7.15	158.15	1486.86	3.6	1.49	5.02	5.02
Yellowstone County	B11	RM 305.40	11441.77	100-yr	2709.92	835.33	830.61	1.98	1.52	17.11	7.69	239	1715.73	2.91	1.3	4.72	4.72
Yellowstone County	B11	RM 305.32	11312.15	100-yr	2709.92	835.28	830.61	1.89	1.27	21.72	9.48	167.71	1696.14	3.38	1.45	4.67	4.67
Yellowstone County	B11	RM 305.24	11186.22	100-yr	2709.92	835.27	830.43	1.23	0.95	10.14	6.11	156.67	1614.74	3.35	1.99	4.84	4.84
Yellowstone County	B11	RM 305.06	10905.09	100-yr	2709.92	835.2	830.15	1.18	0.92	6.9	5.18	302.98	1467.56	3	2.24	5.05	5.05
Yellowstone County	B11	RM 304.71	10460.6	100-yr	2709.92	835.09	828.96	1.34	1.17	11.51	9.04	397.68	1159.69	3.2	2.49	6.12	6.12
Yellowstone County	B11	RM 304.62	10332.33	100-yr	2709.92	835.06	829.09	1.29	1.11	9.35	6.1	207	1212.63	4.55	2.93	5.97	5.97
Yellowstone County	B11	RM 304.50	10132.63	100-yr	2709.92	834.79	829.09	2.51	2.03	51.35	23.51	123	1037.79	4.97	2.21	5.7	5.7
Yellowstone County	B11	RM 304.42	10011.11	100-yr	2709.92	834.71	829.18	2.17	1.83	37.92	17.76	152.46	1014.93	4.7	2.16	5.53	5.53
Yellowstone County	B11	RM 304.34	9873.393	100-yr	2709.92	834.55	828.78	2.23	1.87	25	14.19	263.04	1009.92	4.34	2.45	5.77	5.77
Yellowstone County	B11	RM 304.25	9735.197	100-yr	2709.92	834.36	828.39	2.63	2.04	45.39	22.26	200.13	631.8	4.71	2.27	5.97	5.97
Yellowstone County	B11	RM 304.18	9615.178	100-yr	2709.92	834.24	828.54	2.64	2.08	31.66	16.63	216.5	887.49	4.45	2.31	5.71	5.71
Yellowstone County	B11	RM 304.09	9478.266	100-yr	2709.92	834.07	828.6	2.85	2.23	49.32	22.31	183.04	1017.01	4.84	2.16	5.47	5.47
Yellowstone County	B11	RM 304.00	9326.206	100-yr	2709.92	833.97	828.39	2.59	1.87	43.93	18.34	190.99	1074.96	4.93	2.03	5.58	5.58
Yellowstone County	B11	RM 303.91	9177.479	100-yr	2709.92	833.93	828.14	2.17	1.48	33.79	15.71	215.99	1288.87	4.73	2.18	5.78	5.78
Yellowstone County	B11	RM 303.78	8973.508	100-yr	2709.92	833.65	827.93	2.66	1.68	44.22	14.59	164.33	1038.73	5.05	1.62	5.72	5.72

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	100-yr	2709.92	833.47	827.9	2.64	1.72	51.04	17.53	170.75	973.75	4.79	1.61	5.57	5.57
Yellowstone County	B11	RM 303.55	8608.195	100-yr	2709.92	833.35	827.65	2.38	1.68	25.94	11.23	248.41	978.52	3.96	1.69	5.7	5.7
Yellowstone County	B11	RM 303.43	8422.329	100-yr	2709.92	833.29	827.87	1.77	1.43	33.52	16.17	330.1	1120.89	3.54	1.69	5.42	5.42
Yellowstone County	B11	RM 303.34	8276.308	100-yr	2709.92	833.23	826.92	1.61	1.22	14.15	6.66	325.32	1132.14	4.21	1.96	6.31	6.31
Yellowstone County	B11	RM 303.26	8138.725	100-yr	2709.92	833.06	826.98	2.06	1.68	46.07	19.46	305.14	1043.94	3.73	1.56	6.08	6.08
Yellowstone County	B11	RM 303.18	8018.762	100-yr	2709.92	832.89	826.22	2.07	1.73	50.19	23.96	308.83	906.82	3.66	1.73	6.67	6.67
Yellowstone County	B11	RM 303.09	7876.674	100-yr	2709.92	832.7	825.43	1.99	1.7	45.35	23.54	337.83	894.62	3.48	1.79	7.28	7.28
Yellowstone County	B11	RM 302.99	7711.603	100-yr	2709.92	832.56	826.22	1.73	1.48	30.56	18.68	336.71	817.59	3.7	2.25	6.34	6.34
Yellowstone County	B11	RM 302.89	7556.419	100-yr	2709.92	832.35	825.73	2.06	1.76	39.87	24.06	290.36	648.39	3.98	2.37	6.62	6.62
Yellowstone County	B11	RM 302.81	7423.411	100-yr	2709.92	832.12	825.86	2.45	2.05	50	26.11	221.32	571.64	4.48	2.31	6.26	6.26
Yellowstone County	B11	RM 302.70	7257.14	100-yr	2709.92	831.95	826.01	2.53	2.02	34.28	16.11	184.02	540.97	5.32	2.48	5.94	5.94
Yellowstone County	B12	RM 302.56	7050.708	100-yr	2709.92	831.42	825.25	3.49	2.77	73.99	33.54	170.25	508.11	4.33	1.93	6.17	6.17
Yellowstone County	B12	RM 302.49	6918.549	100-yr	2709.92	831.24	825.92	3.33	2.68	62.23	24.56	170.36	565.42	4.58	1.79	5.32	5.32
Yellowstone County	B12	RM 302.41	6794.522	100-yr	2709.92	831.2	825.64	3.03	2.21	40.15	16.74	161.6	748.22	4.52	1.86	5.56	5.56
Yellowstone County	B12	RM 302.34	6674.634	100-yr	2709.92	831.11	825.76	2.74	2.02	52.56	23.87	214.69	909.54	3.87	1.74	5.35	5.35
Yellowstone County	B12	RM 302.22	6485.378	100-yr	2709.92	831.02	825.76	2.11	1.62	28.09	15.19	235.89	851.29	3.66	1.96	5.25	5.25
Yellowstone County	B12	RM 302.14	6360.047	100-yr	2709.92	830.77	825.76	2.76	1.95	47.47	20.91	178.16	805.49	3.96	1.73	5.01	5.01
Yellowstone County	B12	RM 302.08	6267.13	100-yr	2709.92	830.69	825.79	2.52	1.98	29.02	15.22	265.5	780.46	3.37	1.76	4.89	4.89
Yellowstone County	B12	RM 301.98	6100.949	100-yr	2709.92	830.62	825.34	2.07	1.62	28.51	13.63	257.2	878.53	4.02	1.9	5.29	5.29
Yellowstone County	B12	RM 301.88	5944.005	100-yr	2709.92	830.53	824.7	1.97	1.48	23.11	12.2	307.5	976.92	3.62	1.89	5.83	5.83
Yellowstone County	B12	RM 301.79	5801.18	100-yr	2709.92	830.47	824.36	1.82	1.46	15.88	9.91	369.92	884.38	3.39	2.1	6.1	6.1
Yellowstone County	B12	RM 301.72	5685.105	100-yr	2709.92	830.38	824.85	1.95	1.57	23.33	11.83	328.47	968.92	3.52	1.78	5.53	5.53
Yellowstone County	B12	RM 301.65	5569.191	100-yr	2709.92	830.26	824.61	2.14	1.68	30.71	15.83	311.48	942.37	3.34	1.71	5.65	5.65
Yellowstone County	B12	RM 301.59	5465.51	100-yr	2709.92	830.14	824.42	2.18	1.77	34.07	16.61	318.53	979.56	3.23	1.56	5.72	5.72
Yellowstone County	B12	RM 301.53	5366.723	100-yr	2709.92	830.06	824.12	1.94	1.64	36.29	18.79	364.63	1030.31	3.11	1.6	5.94	5.94
Yellowstone County	B12	RM 301.47	5270.902	100-yr	2709.92	829.95	824.12	1.97	1.64	34.66	17.86	353.58	1004.97	3.22	1.64	5.83	5.83
Yellowstone County	B12	RM 301.39	5140.04	100-yr	2709.92	829.9	824.36	1.59	1.33	21.43	13.18	345.85	1029.56	3.71	2.27	5.54	5.54
Yellowstone County	B12	RM 301.33	5044.575	100-yr	2709.92	829.82	824.12	1.75	1.36	19.22	10.66	329.55	1050.37	3.89	2.14	5.7	5.7
Yellowstone County	B12	RM 301.24	4906.408	100-yr	2709.92	829.72	823.87	1.93	1.49	20.82	11.89	310.78	1068.09	3.77	2.14	5.84	5.84
Yellowstone County	B12	RM 301.18	4802.631	100-yr	2709.92	829.61	823.17	2.13	1.67	26.58	15.7	312.68	1009.31	3.34	1.95	6.44	6.44
Yellowstone County	B12	RM 301.12	4698.913	100-yr	2709.92	829.46	823.81	2.31	1.87	30.61	16.45	308.25	872.79	3.53	1.88	5.65	5.65
Yellowstone County	B12	RM 301.07	4611.142	100-yr	2709.92	829.41	824	2.23	1.82	27.31	15.56	284.39	782.14	3.94	2.22	5.41	5.41
Yellowstone County	B12	RM 301.02	4531.484	100-yr	2709.92	829.32	823.81	2.38	1.97	25	14.62	261	661.43	4.03	2.34	5.5	5.5
Yellowstone County	B12	RM 300.97	4453.011	100-yr	2709.92	829.1	823.9	2.96	2.43	37.86	20.32	196.12	499.32	4.2	2.24	5.2	5.2
Yellowstone County	B12	RM 300.89	4332.618	100-yr	2709.92	828.94	823.66	3.04	2.59	59.29	35.13	198.89	500.94	3.94	2.33	5.28	5.28
Yellowstone County	B12	RM 300.83	4232.362	100-yr	2709.92	828.76	823.78	3.19	2.65	62.57	34.04	175.01	491.1	3.87	2.09	4.97	4.97
Yellowstone County	B12	RM 300.77	4151.049	100-yr	2709.92	828.64	823.75	3.04	2.57	64.85	34.36	176.35	503.82	4.01	2.1	4.89	4.89
Yellowstone County	B12	RM 300.69	4011.358	100-yr	2709.92	828.55	823.63	2.57	2	31.2	16.21	206.18	631.33	4.19	2.15	4.92	4.92
Yellowstone County	B12	RM 300.55	3793.957	100-yr	2709.92	828.43	822.93	2.14	1.71	32.06	20.27	263.47	760.68	3.59	2.25	5.5	5.5
Yellowstone County	B12	RM 300.45	3633.035	100-yr	2709.92	828.29	822.53	1.73	1.63	36.03	26.2	335.99	739.82	3.11	2.25	5.75	5.75
Yellowstone County	B12	RM 300.35	3461.833	100-yr	2709.92	828	822.66	2.23	1.69	22.96	15.99	389.33	836.62	2.77	1.92	5.35	5.35
Yellowstone County	B12	RM 300.24	3286.175	100-yr	2709.92	827.79	822.47	2.13	1.79	53.66	38.96	421.27	793.59	2.63	1.9	5.32	5.32
Yellowstone County	B12	RM 300.15	3141.724	100-yr	2709.92	827.5	822.47	2.02	1.81	48.8	38.61	481.67	737.18	2.57	2.03	5.03	5.03
Yellowstone County	B12	RM 300.10	3054.752	100-yr	2709.92	827.38	822.35	2.11	1.8	18.83	15.73	462.66	740.08	2.45	2.04	5.03	5.03
Yellowstone County	B12	RM 300.00	2887.728	100-yr	2709.92	827.19	821.22	2.01	1.88	51.39	38.33	467.25	1004.51	2.55	1.9	5.97	5.97
Yellowstone County	B12	RM 299.91	2736.431	100-yr	2709.92	827.02	821.5	1.99	1.76	24.98	14.44	350.2	1156.46	2.97	1.7	5.52	5.52
Yellowstone County	B12	RM 299.83	2614.069	100-yr	2709.92	826.87	821.41	1.99	1.9	36.89	23.31	388.69	1133.46	2.54	1.6	5.46	5.46
Yellowstone County	B12	RM 299.72	2484.158	100-yr	2709.92	826.68	820.89	2.06	1.75	36.33	18.71	422.47	1075.57	2.96	1.51	5.79	5.79
Yellowstone County	B12	RM 299.59	2312.328	100-yr	2709.92	826.41	821.13	2.62	1.81	36.08	14.33	221.2	1140.8	3.55	1.39	5.28	5.28
Yellowstone County	B12	RM 299.48	2160.343	100-yr	2709.92	826.16	821.13	3.14	1.93	44.26	15.63	138.95	1064.26	4.13	1.43	5.03	5.03
Yellowstone County	B12	RM 299.38	1995.229	100-yr	2709.92	826.08	821.13	2.47	1.67	58.21	22.29	139.6	1293.49	3.96	1.49	4.95	4.95
Yellowstone County	B12	RM 299.31	1874.433	100-yr	2709.92	825.74	821.22	3.13	1.94	43.44	14.89	150.46	1226.48	3.7	1.25	4.52	4.52
Yellowstone County	B12	RM 299.22	1738.666	100-yr	2709.92	825.59	821.16	3.07	1.76	51.62	17.68	129.2	1252.27	4.06	1.36	4.43	4.43
Yellowstone County	B12	RM 299.15	1613.992	100-yr	2709.92	825.56	820.95	2.38	1.29	29.12	12.91	154.73	1375.54	3.91	1.71	4.61	4.61
Yellowstone County	B12	RM 299.06	1473.748	100-yr	2709.92	825.53	820.64	2.02	1.16	26.57	11.01	116.53	1353.22	4.36	1.75	4.88	4.88
Yellowstone County	B12	RM 298.99	1360.532	100-yr	2709.92	825.46	820.46	1.98	1.23	28.14	11.21	103.4	1514.35	4.27	1.64	5	5
Yellowstone County	B12	RM 298.93	1269.876	100-yr	2709.92	825.41	820.46	1.99	1.21	27.6	11.17	109.21	1475.57	4.12	1.61	4.95	4.95
Yellowstone County	B12	RM 298.88	1195.725	100-yr	2709.92	825.34	820.43	2.1	1.2	28.12	11.92	119.22	1420.77	4.03	1.65	4.91	4.91
Yellowstone County	B12	RM 298.82	1096.849	100-yr	2709.92	825.18	820.58	2.55	1.34	33.33	14.91	156.05	1343.88	3.47	1.52	4.6	4.6
Yellowstone County	B12	RM 298.77	1018.392	100-yr	2709.92	825.12	820.4	2.29	1.29	28.23	13.59	185.63	1287.11	3.45	1.63	4.72	4.72
Yellowstone County	B12	RM 298.67	854.844	100-yr	2709.92	825.06	819.39	2	1.26	17.69	10.26	244.95	1309.25	2.88	1.65	5.66	5.66

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	100-yr	2709.92	825	819.55	1.63	1.27	18.49	11.14	276.06	1302.76	2.77	1.64	5.45	5.45
Yellowstone County	B12	RM 298.49	579.164	100-yr	2709.92	824.91	819.27	1.81	1.16	15.58	8.15	214.03	1306.48	3.47	1.78	5.64	5.64
Yellowstone County	B12	RM 298.42	469.573	100-yr	2709.92	824.85	819.27	1.86	1.15	23.82	11.34	176.57	1289.91	3.9	1.82	5.58	5.58
Yellowstone County	B12	RM 298.35	368.049	100-yr	2709.92	824.75	819.97	2.18	1.22	25.29	10.25	147.33	1254.36	4.45	1.77	4.77	4.77
Yellowstone County	B12	RM 298.30	290.003	100-yr	2709.92	824.73	819.82	1.89	1.11	16.74	8.66	197.73	1218.82	3.92	2.01	4.91	4.91
Yellowstone County	B12	RM 298.26	211.35	100-yr	2709.92	824.68	819.82	1.9	1.22	20.69	11.25	221.89	1161.86	3.56	1.91	4.86	4.86
Yellowstone County	B12	RM 298.19	83.499	100-yr	2709.92	824.58	819.49	2.09	1.4	20.39	11.97	192.22	951.95	3.51	2.04	5.09	5.09

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	100-yr	3400.9	824.42	820.43	1.98	1.32	19.67	9.15	197.15	1815.15	3.7	1.7	3.99	3.99
Treasure County	C1	RM 297.89	61639	100-yr	3400.9	824.23	820.07	1.97	1.51	20.36	10.35	362.24	1523.82	3.07	1.55	4.17	4.17
Treasure County	C1	RM 297.76	61392	100-yr	3400.9	824.05	819.93	2.07	1.65	25.96	12.99	331	1588.54	3.13	1.56	4.12	4.12
Treasure County	C1	RM 297.62	61179	100-yr	3400.9	824	819.69	1.65	1.23	13.75	8.01	290.46	1580.25	3.37	1.95	4.31	4.31
Treasure County	C1	RM 297.5	60985	100-yr	3400.9	823.84	819.39	2.3	1.36	25.38	11.54	159.01	1339.34	4.16	1.87	4.45	4.45
Treasure County	C1	RM 297.36	60767	100-yr	3400.9	823.71	819.14	2.27	1.45	24.95	12.76	169.82	1150.83	4.02	2.04	4.57	4.57
Treasure County	C1	RM 297.22	60535	100-yr	3400.9	823.6	819	2.12	1.44	21.63	10.69	149.14	1183.5	4.1	2	4.6	4.6
Treasure County	C1	RM 297.08	60314	100-yr	3400.9	823.49	818.76	2.08	1.26	20.63	9.81	194.31	1355.76	4.25	1.99	4.73	4.73
Treasure County	C1	RM 296.94	60093	100-yr	3400.9	823.38	818.42	2.12	1.26	21.5	9.9	177.08	1557.23	4.26	1.94	4.96	4.96
Treasure County	C1	RM 296.79	59847	100-yr	3400.9	823.3	817.97	1.68	1.21	13.64	7.21	246.81	1289.12	4.15	2.18	5.33	5.33
Treasure County	C1	RM 296.64	59608	100-yr	3400.9	823.23	817.9	1.77	1.24	14.88	8.56	177.49	1105.67	4.38	2.48	5.33	5.33
Treasure County	C1	RM 296.51	59386	100-yr	3400.9	823.18	817.8	1.45	1.16	10.02	6.47	477.13	1069.38	4.25	2.73	5.37	5.37
Treasure County	C1	RM 296.33	59113	100-yr	3400.9	823.07	817.52	1.7	1.25	13.14	7.57	335.57	1058.61	4.99	2.85	5.55	5.55
Treasure County	C1	RM 296.16	58839	100-yr	3400.9	822.08	817.46	4.6	2.89	100.38	38.37	137.37	717.31	4.38	1.64	4.62	4.62
Treasure County	C1	RM 296.01	58583	100-yr	3400.9	821.82	817.45	2.92	2.29	42.44	22.73	259.72	715.41	3.89	2.07	4.36	4.36
Treasure County	C1	RM 295.83	58296	100-yr	3400.9	821.67	817.4	1.99	1.96	21.15	19.12	627.05	808.77	2.71	2.45	4.28	4.28
Treasure County	C1	RM 295.66	58032	100-yr	3400.9	821.35	817.27	2.3	2.3	28.16	28.04	561.89	564.23	2.63	2.62	4.08	4.08
Treasure County	C1	RM 295.52	57800	100-yr	3400.9	821.25	816.19	1.73	1.73	16.89	16.88	660.84	661.37	2.98	2.98	5.06	5.06
Treasure County	C1	RM 295.31	57474	100-yr	3400.9	821.11	815.61	1.62	1.52	13.38	11.75	554.61	714.47	3.56	3.13	5.5	5.5
Treasure County	C1	RM 295.13	57174	100-yr	3400.9	820.94	815.57	1.95	1.49	20.21	11.57	360.88	1051.99	4.05	2.3	5.37	5.37
Treasure County	C1	RM 294.94	56877	100-yr	3400.9	820.38	815.46	3.35	2.16	52.87	18.26	189.73	1141.12	4.29	1.46	4.93	4.93
Treasure County	C1	RM 294.76	56587	100-yr	3400.9	820.13	815.45	2.88	2	39.51	15.98	257.05	1095.05	3.87	1.55	4.67	4.67
Treasure County	C1	RM 294.55	56261	100-yr	3400.9	819.87	815.36	2.76	1.93	36.8	16.61	194.71	973.17	4.06	1.81	4.51	4.51
Treasure County	C1	RM 294.38	55980	100-yr	3400.9	819.67	815.07	2.47	1.76	30.86	14.08	227.09	1200.65	3.55	1.61	4.6	4.6
Treasure County	C1	RM 294.21	55714	100-yr	3400.9	819.39	814.88	2.77	1.59	37.24	12.36	201.2	1776.35	4	1.31	4.51	4.51
Treasure County	C1	RM 294.02	55401	100-yr	3400.9	819.17	814.59	2.48	1.52	29.49	11.63	231.94	1667.29	3.47	1.35	4.58	4.58
Treasure County	C1	RM 293.83	55100	100-yr	3400.9	819.01	814.3	2.09	1.3	21.25	9.06	274.8	1852.77	3.34	1.41	4.7	4.7
Treasure County	C1	RM 293.63	54777	100-yr	3400.9	818.83	813.55	2.01	1.22	18.09	6.25	332.83	1934.06	4.23	1.45	5.28	5.28
Treasure County	C1	RM 293.43	54432	100-yr	3400.9	818.55	813.29	2.65	1.25	32.72	9.91	202.13	1990.2	4.57	1.36	5.27	5.27
Treasure County	C1	RM 293.26	54152	100-yr	3400.9	818.44	813.24	2.34	1.1	25.58	10.26	247.33	2107.36	3.71	1.47	5.2	5.2
Treasure County	C1	RM 293.07	53839	100-yr	3400.9	818.28	813.24	2.2	0.94	24.09	10.44	241.79	2461.37	3.76	1.61	5.05	5.05
Treasure County	C1	RM 292.83	53458	100-yr	3400.9	818.22	813.1	1.44	0.79	10.79	5.38	380.97	2659.23	3.81	1.9	5.12	5.12
Treasure County	C1	RM 292.6	53082	100-yr	3400.9	818.01	812.6	2.16	1.08	21.38	6.32	238.91	2642.36	4.74	1.4	5.41	5.41
Treasure County	C2	RM 292.32	52612	100-yr	3400.9	817.84	811.76	2.19	1.07	21.36	7.65	207.17	2071.62	4.85	1.71	6.08	6.08
Treasure County	C2	RM 292.09	52256	100-yr	3400.9	817.73	811.6	2.2	1.25	21.03	7.77	174.28	1680.43	5.09	1.85	6.13	6.13
Treasure County	C2	RM 291.9	51956	100-yr	3400.9	817.63	811.55	1.94	1.25	17.75	8.26	240.72	1587.51	4.43	2.04	6.08	6.08
Treasure County	C2	RM 291.71	51639	100-yr	3400.9	817.06	811.5	3.16	2.08	70.01	28.08	244.86	1186.16	3.52	1.4	5.56	5.56
Treasure County	C2	RM 291.52	51333	100-yr	3400.9	816.84	811.46	2.57	1.55	30.29	12.7	214.15	1097.06	4.82	2	5.37	5.37
Treasure County	C2	RM 291.33	51042	100-yr	3400.9	816.59	811.46	2.69	1.8	34.33	15.68	232.04	972.39	4.31	1.95	5.13	5.13
Treasure County	C2	RM 291.15	50747	100-yr	3400.9	816.54	811.4	1.89	1.43	16.49	8.29	297.47	1001.14	4.76	2.37	5.14	5.14
Treasure County	C2	RM 290.94	50437	100-yr	3400.9	816.42	811.31	1.99	1.27	18.89	11.14	259.99	1082.84	4.24	2.48	5.11	5.11
Treasure County	C2	RM 290.78	50179	100-yr	3400.9	816.31	810.97	1.72	1.24	15.01	10.69	393.13	1351.41	3.76	2.67	5.34	5.34
Treasure County	C2	RM 290.6	49891	100-yr	3400.9	816.21	810.54	1.6	1.37	12.15	6.37	473.72	1970.87	4.3	2.25	5.68	5.68
Treasure County	C2	RM 290.43	49607	100-yr	3400.9	815.99	810.13	2.28	1.55	24.95	9.59	273.61	1841.06	4.36	1.66	5.86	5.86
Treasure County	C2	RM 290.23	49287	100-yr	3400.9	815.3	810.07	3.69	2.2	62.15	15.23	154.05	1454.82	4.93	1.18	5.24	5.24
Treasure County	C2	RM 290.04	48976	100-yr	3400.9	815.21	810.04	2.6	1.54	30.55	7.83	209.93	1751.7	4.99	1.26	5.16	5.16
Treasure County	C2	RM 289.85	48667	100-yr	3400.9	815.11	809.87	1.91	1.25	18.12	7.23	359.02	1752.62	3.93	1.56	5.24	5.24
Treasure County	C2	RM 289.67	48372	100-yr	3400.9	814.96	809.87	1.88	1.24	18.27	8.72	397.84	1509.79	3.83	1.82	5.09	5.09
Treasure County	C2	RM 289.46	48067	100-yr	3400.9	814.85	809.56	1.7	1.2	13.17	7.56	411.53	1217.85	4.1	2.33	5.28	5.28
Treasure County	C2	RM 289.27	47769	100-yr	3400.9	814.61	809.32	2.24	1.51	24.39	12.38	320.68	1112.53	4.02	2.03	5.3	5.3
Treasure County	C2	RM 289.11	47515	100-yr	3400.9	814.42	809	2.45	1.54	26.97	11.36	228.59	1049.19	5.05	2.11	5.42	5.42
Treasure County	C2	RM 288.94	47232	100-yr	3400.9	814.13	808.59	2.89	1.67	37.43	14.4	186.98	1034.15	5.22	1.97	5.54	5.54
Treasure County	C2	RM 288.76	46939	100-yr	3400.9	814.01	808.33	2.49	1.37	28.32	12.09	217.33	1240.51	4.85	2.04	5.68	5.68
Treasure County	C2	RM 288.55	46613	100-yr	3400.9	813.58	808.24	3.08	1.86	45.77	19.32	224.04	1067.77	4.13	1.72	5.33	5.33
Treasure County	C2	RM 288.36	46302	100-yr	3400.9	813.47	807.91	2.4	1.44	25.5	8.36	219.5	1355.67	5.39	1.74	5.56	5.56
Treasure County	C2	RM 288.18	46008	100-yr	3400.9	813.31	807.77	2.41	1.32	27.13	9.52	246.58	1664.61	4.47	1.54	5.55	5.55
Treasure County	C2	RM 287.99	45713	100-yr	3400.9	813.26	807.58	1.85	1.04	15.58	5.79	241.63	1949.91	4.58	1.68	5.68	5.68
Treasure County	C2	RM 287.81	45421	100-yr	3400.9	813.11	807.25	2.07	1.31	19.63	5.41	229.88	2002.19	4.78	1.3	5.86	5.86
Treasure County	C2	RM 287.62	45112	100-yr	3400.9	812.78	807.19	3.02	1.58	41.07	7.85	139.15	2248.6	5.16	0.96	5.59	5.59
Treasure County	C2	RM 287.42	44789	100-yr	3400.9	812.43	807.15	3.19	1.66	46.61	8.73	159.89	2303.51	4.85	0.89	5.29	5.29

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	100-yr	3400.9	812.39	806.81	1.9	1.27	17.92	5.71	420.05	2270.33	3.73	1.18	5.57	5.57
Treasure County	C2	RM 287.06	44222	100-yr	3400.9	812.31	806.77	1.55	1.12	12.79	5.25	515.12	2326.7	3.62	1.47	5.54	5.54
Treasure County	C2	RM 286.9	43958	100-yr	3400.9	812.16	806.52	1.97	1.17	17.69	5.5	277.39	2238.18	4.89	1.5	5.64	5.64
Treasure County	C2	RM 286.72	43671	100-yr	3400.9	811.6	806.4	3.83	1.67	66.69	15	122.22	1978.35	4.88	1.08	5.2	5.2
Treasure County	C3	RM 286.58	43448	100-yr	3400.9	811.05	806.32	3.72	2.09	64.41	14.26	169.59	1631.29	4.58	1	4.73	4.73
Treasure County	C3	RM 286.51	43344	100-yr	3400.9	811.07	806.32	3.08	1.72	44.08	11.37	193.91	1692.94	4.61	1.17	4.75	4.75
Treasure County	C3	RM 286.46	43257	100-yr	3400.9	810.97	806.25	3.15	1.75	46.4	12.42	196.96	1643.08	4.44	1.18	4.72	4.72
Treasure County	C3	RM 286.37	43117	100-yr	3400.9	811.01	806.17	2.21	1.24	24.3	10.01	295.42	1887.02	3.76	1.54	4.84	4.84
Treasure County	C3	RM 286.26	42931	100-yr	3400.9	810.75	806.17	2.67	1.49	63.12	20.11	219.45	2028.96	3.68	1.16	4.58	4.58
Treasure County	C3	RM 286.06	42624	100-yr	3400.9	810.47	806.08	2.15	1.23	23.05	8.54	354.48	2496.63	3.54	1.3	4.39	4.39
Treasure County	C3	RM 285.81	42213	100-yr	3400.9	810.24	805.78	2.06	1.04	20.02	8.62	222.41	3608.42	2.91	1.24	4.45	4.45
Treasure County	C3	RM 285.56	41812	100-yr	3400.9	810	805.34	2.04	0.97	19.6	5.58	237.24	3718.63	4.4	1.24	4.66	4.66
Treasure County	C3	RM 285.23	41280	100-yr	3400.9	809.75	805.17	2.2	0.93	24.36	7.68	152.4	4020.54	3.66	1.13	4.59	4.59
Treasure County	C3	RM 284.69	40395	100-yr	3400.9	809.33	804.85	2.6	1.23	35.56	9.63	159.53	3267.8	3.18	0.84	4.48	4.48
Treasure County	C3	RM 284.26	39705	100-yr	3400.9	808.91	804.6	2.14	1.33	24.05	6.58	348.37	2918.7	3.34	0.91	4.31	4.31
Treasure County	C3	RM 283.96	39199	100-yr	3400.9	808.63	804.3	2.15	1.09	23.53	6.17	244.91	3410.8	3.54	0.91	4.33	4.33
Treasure County	C3	RM 283.69	38766	100-yr	3400.9	808.44	803.9	2.05	0.96	20.36	5.24	191.09	3391.22	4.13	1.04	4.54	4.54
Treasure County	C3	RM 283.35	38229	100-yr	3400.9	808.24	803.42	1.82	1	16.77	5.91	291.01	2961.2	3.58	1.24	4.82	4.82
Treasure County	C3	RM 283.05	37749	100-yr	3400.9	807.91	803.32	2.5	1.11	30.93	8	194.22	3165.53	3.8	0.97	4.59	4.59
Treasure County	C3	RM 282.78	37306	100-yr	3400.9	807.64	803.11	2.19	1.07	23.16	7.71	259.85	3124.49	3.34	1.1	4.53	4.53
Treasure County	C3	RM 282.56	36942	100-yr	3400.9	807.52	802.83	1.65	0.86	13.97	5.35	282.1	3323.81	3.31	1.25	4.68	4.68
Treasure County	C3	RM 282.31	36546	100-yr	3400.9	807.35	802.74	1.93	0.83	17.89	5.99	187.32	3113.25	4.19	1.37	4.62	4.62
Treasure County	C3	RM 282.09	36195	100-yr	3400.9	807.2	802.56	2.21	0.94	24.65	9.19	181.69	2858.18	3.59	1.32	4.63	4.63
Treasure County	C4	RM 281.73	35619	100-yr	3400.9	807.01	801.74	1.67	0.93	13.31	5.27	426.96	2961.44	3.14	1.23	5.27	5.27
Treasure County	C4	RM 281.35	35005	100-yr	3400.9	806.85	801.53	1.6	0.82	11.74	3.71	316.27	2762.83	4.8	1.5	5.32	5.32
Treasure County	C4	RM 281.03	34521	100-yr	3400.9	806.66	801.19	2.11	0.9	20.62	6.22	228.85	2766.4	4.59	1.37	5.47	5.47
Treasure County	C4	RM 280.73	34051	100-yr	3400.9	806.57	800.82	1.32	0.84	9.73	5.87	693.36	2476.69	2.72	1.64	5.75	5.75
Treasure County	C4	RM 280.5	33687	100-yr	3400.9	806.47	800.66	1.22	0.81	9.1	5.61	756.46	2440.96	2.8	1.72	5.8	5.8
Treasure County	C4	RM 280.27	33304	100-yr	3400.9	806.37	800.31	1.14	0.77	8.21	5.22	759.73	2274.28	3.09	1.95	6.06	6.06
Treasure County	C4	RM 279.95	32800	100-yr	3400.9	806.26	800.08	1.25	0.7	9.05	4.29	503.81	2622.6	3.96	1.86	6.17	6.17
Treasure County	C4	RM 279.6	32231	100-yr	3400.9	805.92	799.98	2.27	1.21	25.09	8.02	304.47	2426.48	3.65	1.15	5.94	5.94
Treasure County	C4	RM 279.33	31805	100-yr	3400.9	805.29	799.98	3.15	1.86	48.91	15.35	244.79	1656.24	3.75	1.16	5.31	5.31
Treasure County	C4	RM 279.14	31495	100-yr	3400.9	805.15	799.96	2.45	1.33	27.66	7.3	239.81	2396.98	4.35	1.13	5.19	5.19
Treasure County	C4	RM 278.96	31209	100-yr	3400.9	805.08	799.87	1.79	1.08	16.28	4.72	367.55	2972.4	4.28	1.23	5.21	5.21
Treasure County	C4	RM 278.76	30894	100-yr	3400.9	804.95	799.6	1.79	1.05	15.66	5.06	423.69	3043.32	3.59	1.15	5.35	5.35
Treasure County	C4	RM 278.56	30571	100-yr	3400.9	804.8	799.53	1.94	0.98	18.55	5.59	336.63	3027.48	3.88	1.16	5.27	5.27
Treasure County	C4	RM 278.37	30259	100-yr	3400.9	804.7	799.26	1.69	0.95	13.26	3.94	369.33	2674.07	4.57	1.34	5.44	5.44
Treasure County	C5	RM 278.16	29915	100-yr	3400.9	804.39	798.81	2.63	1.28	32.89	8.2	207.39	2222.84	4.86	1.2	5.58	5.58
Treasure County	C5	RM 277.99	29648	100-yr	3400.9	804.04	798.77	3.09	1.58	45.36	9.95	189.71	2091.63	4.76	1.03	5.27	5.27
Treasure County	C5	RM 277.8	29336	100-yr	3400.9	803.78	798.74	2.95	1.7	39.95	9.95	212.34	1720.96	4.72	1.16	5.04	5.04
Treasure County	C5	RM 277.61	29041	100-yr	3400.9	803.57	798.72	2.8	1.6	36.3	10.51	216.71	1593.02	4.68	1.34	4.86	4.86
Treasure County	C5	RM 277.43	28747	100-yr	3400.9	803.45	798.48	2.26	1.45	24.61	9.09	306.39	1542.82	4.19	1.52	4.97	4.97
Treasure County	C5	RM 277.22	28415	100-yr	3400.9	803.22	798.47	2.21	1.66	24.08	11.59	424.41	1326.93	3.23	1.54	4.76	4.76
Treasure County	C5	RM 277.04	28123	100-yr	3400.9	803.01	798.4	2.15	1.71	21.46	12.46	459.83	1070.99	3.22	1.86	4.61	4.61
Treasure County	C5	RM 276.81	27791	100-yr	3400.9	802.91	797.8	1.77	1.32	14.61	7.49	376.57	1132.9	4.44	2.27	5.11	5.11
Treasure County	C5	RM 276.63	27499	100-yr	3400.9	802.65	797.4	2.52	1.57	29.81	11.38	234.28	1272.27	4.49	1.7	5.25	5.25
Treasure County	C5	RM 276.4	27133	100-yr	3400.9	802.45	797.1	2.37	1.46	26.33	11.03	239.33	1219.01	4.6	1.91	5.35	5.35
Treasure County	C5	RM 276.19	26801	100-yr	3400.9	802.26	796.87	2.49	1.62	28.77	11.97	189.04	1101.95	4.66	1.91	5.39	5.39
Treasure County	C5	RM 276.01	26502	100-yr	3400.9	802.08	796.74	2.58	1.55	30.22	10.96	159.21	1239.42	4.99	1.77	5.34	5.34
Treasure County	C5	RM 275.81	26193	100-yr	3400.9	802	796.61	2.11	1.26	20.28	7.43	179.56	1545.91	4.84	1.75	5.39	5.39
Treasure County	C5	RM 275.63	25896	100-yr	3400.9	801.87	796.49	2.3	1.24	23.78	8.59	134.65	1515.14	5.12	1.81	5.38	5.38
Treasure County	C5	RM 275.45	25606	100-yr	3400.9	801.81	796.37	1.81	1.22	15.1	6.63	153.92	1687.53	4.73	2.04	5.43	5.43
Treasure County	C5	RM 275.26	25299	100-yr	3400.9	801.54	796.16	2.28	1.63	23.17	9.98	251.91	1772.37	5.14	2.19	5.38	5.38
Treasure County	C5	RM 275.09	25033	100-yr	3400.9	801.15	796.13	3.1	2.29	43.73	19.49	199.32	1485.06	4.87	2.15	5.02	5.02
Treasure County	C6	RM 274.89	24716	100-yr	3400.9	801.01	796.04	2.53	1.59	29.93	14.68	229.39	2773.27	4.55	2.21	4.97	4.97
Treasure County	C6	RM 274.72	24440	100-yr	3400.9	800.11	796.04	4.09	2.87	85.81	32.35	214.5	1854.04	3.42	1.28	4.08	4.08
Treasure County	C6	RM 274.55	24165	100-yr	3400.9	800.09	795.79	2.29	1.41	29	13.39	294.37	3019.92	3.17	1.45	4.3	4.3
Treasure County	C6	RM 274.38	23892	100-yr	3400.9	799.88	795.55	2.3	1.24	26.68	9.67	229.3	3320.32	3.63	1.3	4.33	4.33
Treasure County	C6	RM 274.13	23491	100-yr	3400.9	799.66	795.16	2.32	1.26	28.19	9.86	224.37	3479.56	3.22	1.11	4.5	4.5
Treasure County	C6	RM 273.83	22999	100-yr	3400.9	799.46	794.46	2.02	1.04	19.61	5.66	184.4	3937.69	4.2	1.19	5	5

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	100-yr	3400.9	799.21	794.04	2.41	1.06	26.4	7.39	179.34	3799.98	3.92	1.08	5.18	5.18
Treasure County	C6	RM 273.35	22238	100-yr	3400.9	799.03	794.04	2.04	0.94	20.16	8.06	230.93	4138.25	3.23	1.27	4.99	4.99
Treasure County	C6	RM 273.15	21916	100-yr	3400.9	798.87	793.92	1.94	0.89	18.94	8.07	266.7	4243.51	3.23	1.36	4.96	4.96
Treasure County	C6	RM 272.83	21397	100-yr	3400.9	798.71	793.79	1.84	0.83	15.8	5.86	263.82	4412.72	3.63	1.33	4.91	4.91
Treasure County	C6	RM 272.5	20872	100-yr	3400.9	798.5	793.46	2.12	0.93	23.78	8.94	229.86	4363.11	3.31	1.23	5.05	5.05
Treasure County	C6	RM 272.19	20368	100-yr	3400.9	798.2	793.34	2.32	1.04	25.55	8.15	247.4	3936.84	3.86	1.22	4.86	4.86
Treasure County	C6	RM 271.91	19902	100-yr	3400.9	797.98	793.18	2.3	1.07	25.2	7.29	227.32	4005.34	4.25	1.21	4.8	4.8
Treasure County	C6	RM 271.68	19534	100-yr	3400.9	797.61	792.81	2.95	1.51	42.43	11.33	192.12	3374.19	3.97	1.05	4.8	4.8
Treasure County	C6	RM 271.41	19102	100-yr	3400.9	797.57	792.54	1.6	0.99	12.7	6.14	302.07	3239.98	3.71	1.78	5.03	5.03
Treasure County	C6	RM 271.06	18548	100-yr	3400.9	797.06	792.18	3.15	1.71	49.15	11.99	172.42	3101.21	3.8	0.91	4.88	4.88
Treasure County	C6	RM 270.64	17870	100-yr	3400.9	796.86	792.05	1.79	0.99	16.23	6.06	234.57	3516.65	3.53	1.3	4.81	4.81
Treasure County	C6	RM 270.05	16897	100-yr	3400.9	796.6	791.48	2.08	0.95	19.68	7.38	174.33	3052.35	3.99	1.47	5.13	5.13
Treasure County	C6	RM 269.75	16413	100-yr	3400.9	796.29	791.35	2.47	1.18	29.53	9.74	224.88	3650.73	4.02	1.31	4.94	4.94
Treasure County	C6	RM 269.47	15967	100-yr	3400.9	795.88	791.23	2.87	1.57	39.48	8.84	209.73	3454.32	4.2	0.93	4.65	4.65
Treasure County	C7	RM 269.27	15645	100-yr	3400.9	795.76	791.23	2.19	1.31	23.16	6.54	279.64	3282.4	3.94	1.1	4.53	4.53
Treasure County	C7	RM 269.06	15308	100-yr	3400.9	795.66	791.01	1.69	1	14.36	5.21	197.37	3079.15	3.66	1.3	4.65	4.65
Treasure County	C7	RM 268.83	14957	100-yr	3400.9	795.58	790.6	1.17	0.77	7.05	3.24	267.05	3080.47	3.4	1.54	4.98	4.98
Treasure County	C7	RM 268.55	14516	100-yr	3400.9	795.46	790.17	1.59	0.81	12.01	4.15	224.66	3616.35	4.35	1.48	5.29	5.29
Treasure County	C7	RM 268.2	13976	100-yr	3400.9	795.22	789.62	2.15	0.92	21.89	6.78	234.34	3736	4.4	1.34	5.6	5.6
Treasure County	C7	RM 267.87	13439	100-yr	3400.9	794.86	789.53	2.59	1.07	30.32	10.23	227.32	2663.37	4.11	1.37	5.33	5.33
Treasure County	C7	RM 267.53	12884	100-yr	3400.9	794.15	789.5	3.26	1.45	53.19	15.81	242.41	2633.42	3.32	0.98	4.65	4.65
Treasure County	C7	RM 267.14	12253	100-yr	3400.9	793.94	789.26	2.09	1.09	21.2	6.85	227.28	2705.68	3.75	1.2	4.68	4.68
Treasure County	C7	RM 266.8	11700	100-yr	3400.9	793.8	789.2	1.89	0.97	17.64	6.03	214.75	2767.83	3.85	1.3	4.6	4.6
Treasure County	C7	RM 266.41	11078	100-yr	3400.9	793.6	789.14	2.23	1.05	25.34	8.99	159.5	2634.25	3.53	1.23	4.47	4.47
Treasure County	C7	RM 266.11	10593	100-yr	3400.9	793.4	788.83	2.07	1.08	21.89	7.56	259.43	2771.71	3.44	1.18	4.57	4.57
Treasure County	C7	RM 265.92	10283	100-yr	3400.9	793.3	788.65	1.72	1.03	14.74	6.05	341.48	2859.9	2.92	1.19	4.65	4.65
Treasure County	C7	RM 265.68	9915	100-yr	3400.9	792.99	788.21	2.62	1.44	31.87	7.58	180	2207.31	4.58	1.07	4.78	4.78
Treasure County	C7	RM 265.52	9650	100-yr	3400.9	792.87	788.07	2.45	1.32	29.57	9.49	162.02	2106.18	3.86	1.22	4.8	4.8
Treasure County	C7	RM 265.34	9362	100-yr	3400.9	792.64	788.07	2.39	1.33	29.37	10.65	179.19	2092.27	3.44	1.23	4.57	4.57
Treasure County	C7	RM 265.16	9071	100-yr	3400.9	792.44	787.95	1.97	1.31	22.67	9.22	297.09	2098.8	3.06	1.23	4.5	4.5
Treasure County	C7	RM 264.98	8775	100-yr	3400.9	792.27	787.59	1.87	1.31	18.42	10.29	462.12	2169.37	2.16	1.2	4.69	4.69
Treasure County	C7	RM 264.81	8508	100-yr	3400.9	792.18	787.35	1.26	1.02	13	7.44	661.89	2356.8	2.48	1.41	4.83	4.83
Treasure County	C7	RM 264.64	8216	100-yr	3400.9	792.06	787.22	1.32	1.05	12.73	7.22	652.13	2322.58	2.51	1.42	4.84	4.84
Treasure County	C7	RM 264.39	7803	100-yr	3400.9	791.85	786.86	1.83	1.2	19.75	7.26	343.32	2463.93	3.24	1.18	4.99	4.99
Treasure County	C7	RM 264.15	7406	100-yr	3400.9	791.75	786.6	1.49	1.02	11.71	5.13	202.21	2268.4	3.41	1.47	5.15	5.15
Treasure County	C7	RM 263.97	7116	100-yr	3400.9	791.63	786.49	1.86	1.16	15.97	4.71	179.44	2207.61	4.75	1.37	5.14	5.14
Treasure County	C7	RM 263.79	6834	100-yr	3400.9	791.46	786.49	2.25	1.26	24.54	9.01	204.2	2889.26	3.8	1.38	4.97	4.97
Treasure County	C7	RM 263.6	6534	100-yr	3400.9	791.29	786.37	2.14	1.18	22.07	7.68	207.01	2132.81	4.14	1.42	4.92	4.92
Treasure County	C7	RM 263.39	6194	100-yr	3400.9	791.12	786.25	1.76	1.22	15.31	6.06	459.15	2502.01	3.56	1.4	4.87	4.87
Treasure County	C7	RM 263.19	5862	100-yr	3400.9	790.92	786	2.06	1.07	21.87	8.67	333.53	2660.54	3.34	1.31	4.91	4.91
Treasure County	C7	RM 262.95	5479	100-yr	3400.9	790.66	785.85	2.02	1.2	18.91	7.36	417.03	2319.21	3.16	1.22	4.81	4.81
Treasure County	C7	RM 262.78	5206	100-yr	3400.9	790.58	785.76	1.57	0.94	13.9	6.71	440.96	2470.7	3.07	1.47	4.82	4.82
Treasure County	C7	RM 262.58	4883	100-yr	3400.9	790.5	785.64	1.2	0.75	8.93	5.1	621.05	2519.63	3.15	1.79	4.86	4.86
Treasure County	C7	RM 262.42	4613	100-yr	3400.9	790.44	785.54	1.11	0.72	7.18	4.18	655.56	2512.55	3.25	1.88	4.9	4.9
Treasure County	C7	RM 262.24	4323	100-yr	3400.9	790.38	785.43	1.05	0.78	6	3.28	839.62	2568.74	3.4	1.85	4.95	4.95
Treasure County	C7	RM 261.95	3917	100-yr	3400.9	790.26	785.28	1.33	0.97	10.39	5.81	654.59	1806.41	3.48	1.94	4.98	4.98
Treasure County	C7	RM 261.7	3519	100-yr	3400.9	790.05	784.87	1.47	1.23	29.77	15.37	605.89	1530.46	3.5	1.8	5.18	5.18
Treasure County	C7	RM 261.53	3256	100-yr	3400.9	789.81	784.51	1.49	1.28	29.6	18.67	623.93	1327.37	3.18	2	5.3	5.3
Treasure County	C7	RM 261.35	2959	100-yr	3400.9	789.7	784.33	1.33	1.12	8.89	5.57	580.98	1190.15	4.08	2.55	5.37	5.37
Treasure County	C7	RM 261.2	2720	100-yr	3400.9	789.59	784.14	1.46	1.24	27.34	16.72	545.92	1168.92	3.84	2.34	5.45	5.45
Treasure County	C7	RM 261.03	2441	100-yr	3400.9	789.45	783.66	1.6	1.18	12.24	5.89	401.64	1237.62	4.88	2.32	5.79	5.79
Treasure County	C7	RM 260.84	2142	100-yr	3400.9	789.34	783.41	1.81	1.21	15.3	6.62	341.22	1340.58	4.89	2.1	5.92	5.92
Treasure County	C7	RM 260.66	1863	100-yr	3400.9	789.26	783.29	1.75	1.12	14.59	7.07	351.21	1367.01	4.62	2.22	5.97	5.97
Treasure County	C8	RM 259.9	634	100-yr	3400.9	788.11	782.46	3.65	2.25	59.66	19.35	151.91	918.87	5.16	1.65	5.65	5.65
Treasure County	C8	RM 259.72	347	100-yr	3400.9	787.89	782.45	3.22	2.03	46.67	15.98	179.3	985.75	5.04	1.7	5.44	5.44
Treasure County	C8	RM 259.55	68	100-yr	3400.9	787.82	782.2	2.22	2.09	24.01	12.16	399.72	847.02	3.81	1.92	5.62	5.62

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	100-yr	3398	787.82	782.19	2.78	2.21	34.34	10.97	221.77	940.75	5.17	1.64	5.63	5.63
Rosebud County	C8	RM 259.41	87598	100-yr	3398	787.5	781.96	3.01	2.66	44.17	18.07	209.53	595.5	5.27	2.15	5.54	5.54
Rosebud County	C8	RM 259.22	87292	100-yr	3398	787.37	781.55	2.61	2.13	30.79	11.7	233.09	808.2	5.24	1.97	5.82	5.82
Rosebud County	C8	RM 259.04	87004	100-yr	3398	787.17	781	2.7	2.1	37.44	17.89	211.72	657	5.24	2.46	6.17	6.17
Rosebud County	C8	RM 258.85	86696	100-yr	3398	786.99	780.9	2.47	1.8	27.69	13.46	288.74	924.12	4.23	2.04	6.09	6.09
Rosebud County	C8	RM 258.66	86399	100-yr	3398	786.72	780.78	2.8	1.86	34.13	12.35	183.46	902.31	5.69	2.02	5.94	5.94
Rosebud County	C8	RM 258.47	86098	100-yr	3398	786.54	780.65	2.76	1.74	34.29	12.33	202.57	1140.97	4.83	1.71	5.89	5.89
Rosebud County	C8	RM 258.28	85798	100-yr	3398	786.37	780.53	2.53	1.67	29.09	13.08	222.43	1010.2	4.52	2.02	5.84	5.84
Rosebud County	C8	RM 258.1	85498	100-yr	3398	786.1	780.14	2.8	1.78	34.43	13.01	180.25	941.21	5.46	2.02	5.96	5.96
Rosebud County	C8	RM 257.91	85200	100-yr	3398	785.97	780.14	2.47	1.49	28.75	10.88	224.43	1514.69	4.42	1.65	5.83	5.83
Rosebud County	C8	RM 257.71	84875	100-yr	3398	785.76	780.14	2.5	1.5	30.32	10.68	219.86	1664.96	4.03	1.4	5.62	5.62
Rosebud County	C8	RM 257.54	84597	100-yr	3398	785.62	780.17	2.3	1.28	23.99	8.61	209	1897.23	4.59	1.62	5.45	5.45
Rosebud County	C8	RM 257.36	84298	100-yr	3398	785.49	780.05	2.21	1.22	22.71	8.4	188.65	2008.37	4.51	1.67	5.44	5.44
Rosebud County	C8	RM 257.16	83984	100-yr	3398	785.45	780	1.54	0.97	10.49	4.49	305.45	2309.78	5.19	2.22	5.45	5.45
Rosebud County	C8	RM 256.87	83608	100-yr	3398	785.07	779.89	2.89	1.59	37.76	14.19	181.39	1636.06	4.83	1.79	5.18	5.18
Rosebud County	C8	RM 256.65	83257	100-yr	3398	785.06	779.82	1.84	1.21	15.74	7.47	171.34	2075.67	4.91	2.3	5.24	5.24
Rosebud County	C8	RM 256.45	82941	100-yr	3398	784.82	779.67	2.32	1.43	24.41	9.54	222.18	2243.53	4.99	1.93	5.15	5.15
Rosebud County	C8	RM 256.26	82630	100-yr	3398	784.65	779.58	1.96	1.42	32.35	19.48	369.93	1980.96	3.66	2.19	5.07	5.07
Rosebud County	C8	RM 256.1	82375	100-yr	3398	784.51	779.42	1.69	1.54	13.46	8.05	594.72	1846.59	3.31	1.98	5.09	5.09
Rosebud County	C8	RM 255.91	82077	100-yr	3398	784.44	779.09	1.44	1.24	9.71	5.48	591.1	2631.74	3.83	2.16	5.35	5.35
Rosebud County	C8	RM 255.7	81747	100-yr	3398	784.23	778.73	2.08	1.44	19.89	7.44	306.33	2215.1	4.61	1.71	5.5	5.5
Rosebud County	C8	RM 255.51	81446	100-yr	3398	784.07	778.49	2.22	1.54	22.82	10.4	269.19	1059.69	4.62	2.08	5.58	5.58
Rosebud County	C8	RM 255.31	81125	100-yr	3398	783.92	778.36	2.15	1.48	26.2	9.7	242.95	1224.49	5.1	1.87	5.56	5.56
Rosebud County	C8	RM 255.14	80856	100-yr	3398	783.7	778.24	2.49	1.67	27.61	11.53	210.87	937.16	5.25	2.17	5.46	5.46
Rosebud County	C8	RM 254.95	80554	100-yr	3398	783.47	778.12	2.68	1.81	32.17	13.75	205.86	862.59	5.15	2.18	5.35	5.35
Rosebud County	C8	RM 254.76	80251	100-yr	3398	783.32	778	2.51	1.7	28.11	12.69	218.15	868.52	5.15	2.31	5.32	5.32
Rosebud County	C8	RM 254.58	79960	100-yr	3398	783.15	777.88	2.5	1.7	28.04	11.28	229.98	996	5.14	2.05	5.27	5.27
Rosebud County	C8	RM 254.39	79658	100-yr	3398	783.1	777.41	1.96	1.36	17.35	7.75	296.93	1244.91	5.01	2.23	5.69	5.69
Rosebud County	C8	RM 254.2	79359	100-yr	3398	782.82	777.39	2.51	1.81	29.42	14.05	269.75	874.5	4.52	2.15	5.43	5.43
Rosebud County	C8	RM 254.01	79052	100-yr	3398	782.6	776.82	2.65	1.75	30.51	11	209.61	991.29	5.46	1.96	5.78	5.78
Rosebud County	C9	RM 253.82	78779	100-yr	3398	782.45	776.24	2.12	1.55	67.5	26.88	246.84	1529.42	4.58	1.8	6.21	6.21
Rosebud County	C9	RM 253.63	78478	100-yr	3398	781.81	776.12	2.79	1.64	74.35	22.11	180.25	1612.12	4.52	1.32	5.69	5.69
Rosebud County	C9	RM 253.45	78178	100-yr	3398	781.51	775.97	2.61	1.37	31.69	11.61	172.93	1569.53	4.4	1.58	5.54	5.54
Rosebud County	C9	RM 253.26	77879	100-yr	3398	781.37	775.72	2.16	1.17	19.19	7.82	240.93	1588.28	4.53	1.83	5.65	5.65
Rosebud County	C9	RM 253.07	77578	100-yr	3398	781.01	775.57	3.02	1.55	40.38	13.86	189.99	1575.46	4.12	1.39	5.44	5.44
Rosebud County	C9	RM 252.88	77278	100-yr	3398	780.84	775.45	2.44	1.41	29.11	8.91	221.89	2339.5	3.94	1.19	5.39	5.39
Rosebud County	C9	RM 252.69	76962	100-yr	3398	780.75	775.33	1.86	0.97	16.63	5.43	260.67	2637.57	4.12	1.33	5.42	5.42
Rosebud County	C9	RM 252.49	76646	100-yr	3398	780.44	775.36	2.82	1.13	35.57	8.99	161.39	3210.63	4.15	1.03	5.08	5.08
Rosebud County	C9	RM 252.24	76252	100-yr	3398	780.27	775.4	2.23	0.97	25.28	7.43	167.1	3352.3	3.84	1.11	4.87	4.87
Rosebud County	C9	RM 252.01	75885	100-yr	3398	780.13	775.39	1.79	0.86	22.84	7.07	252.1	3710.47	3.62	1.11	4.74	4.74
Rosebud County	C9	RM 251.7	75438	100-yr	3398	779.99	775.01	1.44	0.81	9.62	4.12	603.69	3670.96	2.67	1.14	4.98	4.98
Rosebud County	C9	RM 251.49	75098	100-yr	3398	779.89	775.02	1.25	0.79	10.7	6.44	716.44	3333.37	2.16	1.29	4.87	4.87
Rosebud County	C9	RM 251.23	74691	100-yr	3398	779.71	775.05	1.33	0.8	10.01	5.36	754.16	3587.81	2.21	1.18	4.66	4.66
Rosebud County	C9	RM 251.01	74322	100-yr	3398	779.55	774.84	1.48	0.79	9.88	4.81	595.57	3823.98	2.57	1.24	4.71	4.71
Rosebud County	C9	RM 250.79	73973	100-yr	3398	779.43	774.42	1.59	0.83	12.18	4.79	417.99	3787.69	3.27	1.28	5.01	5.01
Rosebud County	C9	RM 250.6	73678	100-yr	3398	779.3	774.17	1.65	0.91	22.45	8.94	376.03	3986.24	3.05	1.21	5.13	5.13
Rosebud County	C9	RM 250.37	73306	100-yr	3398	778.98	774.05	2.38	1.06	25.63	7.56	233.23	3043.04	4.07	1.19	4.93	4.93
Rosebud County	C9	RM 250.17	72982	100-yr	3398	778.8	773.93	2.52	1.07	31.58	11.62	214.36	2632.89	3.42	1.24	4.87	4.87
Rosebud County	C9	RM 249.95	72617	100-yr	3398	778.52	773.83	2.5	1.19	30.31	8.68	226.06	2546.34	3.97	1.13	4.69	4.69
Rosebud County	C9	RM 249.73	72253	100-yr	3398	778.31	773.71	2.29	1.09	25.83	8.77	273.96	2587.27	3.56	1.21	4.6	4.6
Rosebud County	C9	RM 249.53	71936	100-yr	3398	778.22	773.38	1.74	0.9	14.3	5.07	362.14	2769.2	3.85	1.36	4.84	4.84
Rosebud County	C9	RM 249.31	71579	100-yr	3398	777.97	773.14	2.15	1.18	25.78	8.87	363.92	3548.2	3.01	1.03	4.83	4.83
Rosebud County	C9	RM 249.13	71274	100-yr	3398	777.78	772.84	2.06	1.01	21.22	6.39	301.37	3605.02	3.89	1.16	4.94	4.94
Rosebud County	C9	RM 248.94	70978	100-yr	3398	777.54	772.56	2.51	1.03	30.39	8.14	201.69	3606.61	3.94	1.05	4.98	4.98
Rosebud County	C9	RM 248.76	70681	100-yr	3398	777.49	772.32	1.45	0.83	10.97	3.93	424.32	3072.17	3.77	1.34	5.17	5.17
Rosebud County	C9	RM 248.53	70312	100-yr	3398	777.43	772.17	1.45	0.67	9.43	3.48	164.13	3192.17	4.37	1.6	5.26	5.26
Rosebud County	C9	RM 248.31	69962	100-yr	3398	777.26	772.04	1.92	0.92	18.4	6.84	277.15	2779.68	3.69	1.36	5.22	5.22
Rosebud County	C9	RM 248.08	69603	100-yr	3398	777.08	771.92	2.22	0.9	21.38	6.34	211.49	3108.42	4.2	1.24	5.16	5.16
Rosebud County	C9	RM 247.88	69253	100-yr	3398	776.96	771.92	1.75	0.93	24.19	10.07	348.22	3122.8	2.89	1.19	5.04	5.04
Rosebud County	C9	RM 247.64	68836	100-yr	3398	776.72	771.95	1.86	1	18.31	7.19	416.51	2850.56	3.06	1.19	4.77	4.77

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	100-yr	3398	776.58	771.87	1.7	0.82	13.52	4.23	282.85	3295.58	4.27	1.33	4.71	4.71
Rosebud County	C9	RM 247.11	67963	100-yr	3398	776.31	771.45	2.64	1.16	34.29	9.87	199.91	2878.92	3.72	1.06	4.86	4.86
Rosebud County	C9	RM 246.83	67502	100-yr	3398	776.16	770.97	2.1	0.98	22.58	6.61	194.9	2726.02	4.6	1.33	5.19	5.19
Rosebud County	C9	RM 246.52	67019	100-yr	3398	775.99	770.61	1.96	0.99	17.69	5.44	225.63	2827.14	4.77	1.45	5.38	5.38
Rosebud County	C9	RM 246.22	66538	100-yr	3398	775.23	770.53	3.62	1.66	66.57	19.39	217.05	2770.25	3.15	0.9	4.7	4.7
Rosebud County	C9	RM 245.94	66068	100-yr	3398	774.76	770.29	2.35	1.5	28.83	9.2	297.16	2373.78	3.22	1.02	4.47	4.47
Rosebud County	C9	RM 245.66	65624	100-yr	3398	774.64	769.81	1.67	0.94	14.29	5.21	198.01	2400.67	4.58	1.64	5.4	5.4
Rosebud County	C9	RM 245.4	65205	100-yr	3398	774.44	769.59	1.97	1.23	17.82	8.68	376.4	2088.46	2.75	1.33	5.28	5.28
Rosebud County	C9	RM 245.15	64804	100-yr	3398	774.18	769.41	1.68	1.24	38.26	17.8	329.11	2323.37	2.56	1.18	5.02	5.02
Rosebud County	C9	RM 244.89	64387	100-yr	3398	773.49	769.41	3.05	1.65	46.1	11.63	189.43	2205.79	3.77	0.94	4.46	4.46
Rosebud County	C9	RM 244.7	64085	100-yr	3398	773.52	769.37	1.54	1.03	11.97	4.36	221.5	2544.92	3.57	1.3	4.61	4.61
Rosebud County	C9	RM 244.51	63776	100-yr	3398	773.45	769.35	1.33	0.9	10.07	4.27	264.21	2488.68	3.59	1.52	4.54	4.54
Rosebud County	C9	RM 244.33	63499	100-yr	3398	773.43	769.16	0.87	0.72	4.17	2.43	274.46	2393.52	3.4	1.97	5	5
Rosebud County	C9	RM 244.14	63224	100-yr	3398	773.4	768.52	1.13	0.74	6.13	2.94	208.4	2348.48	4.11	1.95	4.97	4.97
Rosebud County	C9	RM 243.96	62927	100-yr	3398	773.32	768.13	1.48	0.84	10.34	4.19	176.71	2445.67	4.32	1.75	5.19	5.19
Rosebud County	C9	RM 243.77	62617	100-yr	3398	773.29	767.57	1.03	0.7	4.71	2.35	160.76	2130.48	5.24	2.58	5.72	5.72
Rosebud County	C9	RM 243.59	62327	100-yr	3398	773.2	766.98	1.65	0.85	13.95	4.67	122.45	2594.92	5.82	1.89	6.22	6.22
Rosebud County	C9	RM 243.39	62012	100-yr	3398	772.98	766.86	2.33	1.04	24.24	7.02	156.08	2531.65	5.24	1.48	6.12	6.12
Rosebud County	C9	RM 243.21	61718	100-yr	3398	772.81	766.74	2.35	1.12	24.05	6.48	203.35	2484.95	5.56	1.47	6.07	6.07
Rosebud County	C10	RM 243.03	61422	100-yr	3398	772.58	766.73	2.86	1.25	37.8	11.61	174.23	2361.51	4.67	1.4	5.85	5.85
Rosebud County	C10	RM 242.84	61125	100-yr	3398	772.15	766.76	3.35	1.61	53.23	15.15	172.04	1715.1	4.53	1.27	5.39	5.39
Rosebud County	C10	RM 242.65	60825	100-yr	3398	771.93	766.76	2.89	1.5	39.67	11.93	204.7	1637.29	4.69	1.39	5.17	5.17
Rosebud County	C10	RM 242.47	60527	100-yr	3398	771.77	766.77	2.51	1.4	29.28	9	241.01	1826.91	4.74	1.45	5	5
Rosebud County	C10	RM 242.29	60239	100-yr	3398	771.62	766.64	2.31	1.44	25.97	8.58	282.31	1583.02	4.54	1.49	4.98	4.98
Rosebud County	C10	RM 242.1	59939	100-yr	3398	771.45	766.29	2.33	1.33	27.28	9.44	280	1800.07	4.13	1.42	5.16	5.16
Rosebud County	C10	RM 241.9	59618	100-yr	3398	771.29	765.95	2.2	1.12	21.8	7.27	249.51	2186.26	4.72	1.56	5.34	5.34
Rosebud County	C10	RM 241.72	59324	100-yr	3398	771.19	765.5	1.93	1.12	16.97	6.52	289.97	1714.59	4.8	1.83	5.69	5.69
Rosebud County	C10	RM 241.53	59025	100-yr	3398	770.88	765.17	2.82	1.34	40.32	10.01	160	1953.85	5.32	1.3	5.71	5.71
Rosebud County	C10	RM 241.34	58725	100-yr	3398	770.75	765.02	2.44	1.1	26.76	7.79	177.78	2088.31	5.15	1.47	5.73	5.73
Rosebud County	C10	RM 241.16	58424	100-yr	3398	770.68	764.97	1.95	1.01	17.19	6.23	171.92	1935.84	4.92	1.76	5.71	5.71
Rosebud County	C10	RM 240.97	58132	100-yr	3398	770.58	764.83	1.92	1.01	16.43	6.02	189.7	1799.89	5.15	1.86	5.75	5.75
Rosebud County	C10	RM 240.78	57818	100-yr	3398	770.55	764.56	1.54	0.83	10.36	3.9	159.68	1960.93	5.66	2.1	5.99	5.99
Rosebud County	C10	RM 240.56	57467	100-yr	3398	770.47	764.28	1.56	0.85	15.32	6.16	212.38	1903.84	5.29	2.1	6.19	6.19
Rosebud County	C10	RM 240.41	57228	100-yr	3398	770.41	763.91	1.54	0.86	12.66	5.22	216.4	1662.48	5.82	2.37	6.5	6.5
Rosebud County	C10	RM 240.22	56944	100-yr	3398	770.21	763.51	2.31	1.17	23.17	8.89	157.35	1225.59	6.38	2.36	6.7	6.7
Rosebud County	C10	RM 240.09	56741	100-yr	3398	769.93	763.47	3.19	1.44	34.7	11.77	120.86	1253.44	6.04	1.99	6.46	6.46
Rosebud County	C10	RM 239.97	56546	100-yr	3398	769.87	763.47	2.67	1.43	39.48	15.3	155.75	1063.32	5.88	2.24	6.4	6.4
Rosebud County	C10	RM 239.86	56371	100-yr	3398	769.8	763.25	2.36	1.42	25.95	10.92	205.85	1063.93	5.37	2.25	6.55	6.55
Rosebud County	C10	RM 239.68	56093	100-yr	3398	769.58	763.02	2.69	1.39	26.2	10.76	172.44	1124.62	5.42	2.17	6.56	6.56
Rosebud County	C10	RM 239.56	55888	100-yr	3398	768.92	763.1	4.33	2.04	67.46	21.31	119.6	1066.79	5	1.56	5.82	5.82
Rosebud County	C10	RM 239.41	55655	100-yr	3398	768.65	763.17	3.96	2.25	56.2	18.1	144.11	1035.96	5.12	1.61	5.48	5.48
Rosebud County	C10	RM 239.25	55398	100-yr	3398	768.5	763.17	3.38	1.86	54.57	17.81	164.41	1450.66	4.95	1.58	5.33	5.33
Rosebud County	C10	RM 239.07	55108	100-yr	3398	768.41	763.2	2.61	1.66	24.65	9.78	219.55	1329.34	4.88	1.91	5.21	5.21
Rosebud County	C10	RM 238.89	54826	100-yr	3398	768.05	763.23	3.22	2.04	38.16	12.84	191.74	1336.15	4.67	1.55	4.82	4.82
Rosebud County	C10	RM 238.73	54570	100-yr	3398	767.81	763.38	3.13	2.31	37.17	12.77	242.11	1136.87	4.24	1.44	4.43	4.43
Rosebud County	C10	RM 238.51	54223	100-yr	3398	767.79	762.88	1.84	1.51	18.95	10.9	435.56	1074.42	3.66	2.1	4.91	4.91
Rosebud County	C10	RM 238.33	53926	100-yr	3398	767.57	762.37	2.16	1.64	22.51	11.32	306.34	925.03	4.49	2.24	5.2	5.2
Rosebud County	C10	RM 238.14	53626	100-yr	3398	767.34	762.25	2.57	1.57	30.22	13.54	214.01	1064.75	4.72	2.11	5.09	5.09
Rosebud County	C10	RM 237.95	53321	100-yr	3398	767.24	762.09	2.25	1.21	22.91	9.84	189.37	1532.22	4.91	2.1	5.15	5.15
Rosebud County	C10	RM 237.77	53027	100-yr	3398	767.2	761.85	1.63	0.9	12.15	5.55	294.75	1759.53	4.85	2.21	5.35	5.35
Rosebud County	C10	RM 237.56	52703	100-yr	3398	767.12	761.46	1.52	0.92	11.55	5.91	410.69	2247.7	4.2	2.13	5.66	5.66
Rosebud County	C10	RM 237.36	52386	100-yr	3398	767.06	761.22	1.36	0.85	8.87	5.12	443.16	2513.43	4.35	2.49	5.84	5.84
Rosebud County	C10	RM 237.15	52029	100-yr	3398	766.98	760.88	1.43	0.9	9.39	5.34	385.86	2473.62	4.8	2.71	6.1	6.1
Rosebud County	C10	RM 236.99	51756	100-yr	3398	766.73	760.22	2.49	1.33	20.83	8.47	177.1	2279.72	6.19	2.47	6.51	6.51
Rosebud County	C10	RM 236.83	51500	100-yr	3398	766.41	760.07	3.17	1.82	35.24	15.7	167.82	2178.12	5.46	2.39	6.34	6.34
Rosebud County	C10	RM 236.66	51221	100-yr	3398	766.32	760.07	2.77	2.04	26.39	13.07	188.48	1645.11	5.78	2.82	6.25	6.25
Rosebud County	C10	RM 236.47	50924	100-yr	3398	766.16	759.94	2.78	2.09	26.36	12.17	193.41	723.37	5.87	2.67	6.22	6.22
Rosebud County	C11	RM 236.29	50623	100-yr	3398	766.06	760	2.62	1.91	23.74	10.26	211.22	756.58	5.61	2.4	6.06	6.06
Rosebud County	C11	RM 236.1	50327	100-yr	3398	765.79	760	2.99	2.28	31.95	12.81	206.87	978.72	5.1	2.02	5.79	5.79
Rosebud County	C11	RM 235.91	50024	100-yr	3398	765.39	760	3.5	2.52	55.26	23.75	170.49	630.88	5.09	2.16	5.39	5.39

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	100-yr	3398	765.33	760.15	2.52	2.21	29.62	20.06	243.8	681.61	4.65	3.13	5.18	5.18
Rosebud County	C11	RM 235.57	49480	100-yr	3398	765.21	760.02	2.22	1.96	22.9	12.74	318.23	1189.8	4.64	2.56	5.19	5.19
Rosebud County	C11	RM 235.36	49133	100-yr	3398	765.03	759.74	2.16	1.85	21.17	11.12	428.22	1352.48	3.52	1.84	5.29	5.29
Rosebud County	C11	RM 235.17	48830	100-yr	3398	764.87	759.55	2.03	1.6	20.22	9.68	455.8	1468.33	3.44	1.64	5.32	5.32
Rosebud County	C11	RM 235	48571	100-yr	3398	764.74	759.29	2.07	1.44	19.75	6.54	320.92	1955.61	4.64	1.52	5.45	5.45
Rosebud County	C11	RM 234.82	48271	100-yr	3398	764.19	759.21	3.42	2.03	55.33	13	190.08	1652.16	4.38	1.02	4.98	4.98
Rosebud County	C11	RM 234.63	47978	100-yr	3398	764.06	759.21	2.61	1.63	31.83	8.97	238.2	1724.33	4.35	1.22	4.85	4.85
Rosebud County	C11	RM 234.45	47692	100-yr	3398	763.9	759.12	2.33	1.52	26.03	6.88	283.79	2062.13	4.19	1.11	4.78	4.78
Rosebud County	C11	RM 234.2	47305	100-yr	3398	763.8	758.6	1.66	1.27	12.08	5.64	528.71	1922.46	3.19	1.48	5.2	5.2
Rosebud County	C11	RM 234.01	47006	100-yr	3398	763.75	758.27	1.18	0.98	7.37	5.48	818.93	1897.69	3.15	2.34	5.48	5.48
Rosebud County	C11	RM 233.84	46737	100-yr	3398	763.64	758.12	1.43	1.17	11.17	6.97	583.98	2300.17	3.67	2.29	5.52	5.52
Rosebud County	C11	RM 233.61	46365	100-yr	3398	763.48	757.67	1.8	1.22	14.15	4.77	302.81	1648.28	5.48	1.85	5.81	5.81
Rosebud County	C11	RM 233.35	45943	100-yr	3398	763.26	757.03	2.32	1.22	24.28	8.59	214.65	1583.07	5.03	1.76	6.23	6.23
Rosebud County	C11	RM 233.13	45584	100-yr	3398	763.02	756.45	2.51	1.43	27.26	7.55	206.27	1542.48	5.66	1.54	6.57	6.57
Rosebud County	C11	RM 232.94	45281	100-yr	3398	762.74	756.15	2.97	1.55	38.14	8.84	169.36	1871.23	5.73	1.3	6.59	6.59
Rosebud County	C11	RM 232.75	44978	100-yr	3398	762.64	756.03	2.49	1.42	26.75	6.28	204.86	1899.26	5.82	1.34	6.61	6.61
Rosebud County	C11	RM 232.56	44674	100-yr	3398	762.49	755.79	2.48	1.52	27.71	7.39	241.61	1957.39	5.08	1.33	6.7	6.7
Rosebud County	C11	RM 232.37	44366	100-yr	3398	762.36	755.72	2.46	1.33	27.4	10.28	206.42	1679.64	4.97	1.83	6.64	6.64
Rosebud County	C11	RM 232.19	44074	100-yr	3398	762.08	755.67	2.73	1.69	33.23	11.36	204.11	1176.77	5.23	1.76	6.41	6.41
Rosebud County	C11	RM 232.01	43791	100-yr	3398	761.89	755.65	2.7	1.71	33.81	13.48	232.27	1285	4.68	1.84	6.24	6.24
Rosebud County	C11	RM 231.81	43473	100-yr	3398	761.58	755.6	2.96	1.67	40.63	17.4	201.55	1143.83	4.48	1.89	5.98	5.98
Rosebud County	C11	RM 231.62	43160	100-yr	3398	761.31	755.57	2.89	1.68	35.49	13.13	230.71	1615.9	4.13	1.5	5.74	5.74
Rosebud County	C11	RM 231.42	42835	100-yr	3398	761.25	755.45	2.15	1.21	20.37	7.46	229.33	1520.83	5.41	1.95	5.8	5.8
Rosebud County	C11	RM 231.22	42522	100-yr	3398	761.13	755.45	2.25	1.11	22.24	8.6	204	1651.02	4.87	1.85	5.68	5.68
Rosebud County	C11	RM 230.99	42160	100-yr	3398	760.66	755.45	3.27	1.54	50	16.12	154.03	1521.82	4.58	1.45	5.21	5.21
Rosebud County	C11	RM 230.79	41841	100-yr	3398	760.46	755.43	2.69	1.45	33.32	11.36	202.2	1471.86	4.75	1.6	5.03	5.03
Rosebud County	C11	RM 230.53	41415	100-yr	3398	760.34	755.17	1.92	1.35	18.25	7.62	299.8	1679.28	3.75	1.55	5.17	5.17
Rosebud County	C11	RM 230.29	41045	100-yr	3398	760.07	755.15	2.36	1.45	26.01	9.77	234.88	1639.6	4.1	1.53	4.92	4.92
Rosebud County	C11	RM 230.06	40676	100-yr	3398	759.8	754.81	2.35	1.57	28.09	9.41	287.47	1847.72	3.54	1.17	4.99	4.99
Rosebud County	C11	RM 229.81	40276	100-yr	3398	759.65	754.74	1.89	1.05	17.31	7.33	320.68	1887.45	4.09	1.71	4.91	4.91
Rosebud County	C11	RM 229.6	39937	100-yr	3398	759.51	754.58	1.9	1.05	16.79	9.41	412.79	1981.99	2.92	1.63	4.93	4.93
Rosebud County	C11	RM 229.4	39596	100-yr	3398	759.36	754.34	1.96	1.09	18.43	6.71	283.63	1979.4	4.36	1.58	5.02	5.02
Rosebud County	C11	RM 229.2	39273	100-yr	3398	759.04	754.15	2.82	1.49	38.99	12.03	214.46	1916.37	3.91	1.19	4.89	4.89
Rosebud County	C11	RM 229.02	38994	100-yr	3398	758.85	754.12	2.66	1.33	34.47	10.7	211.31	2061.68	4.03	1.24	4.73	4.73
Rosebud County	C11	RM 228.82	38676	100-yr	3398	758.69	753.8	2.24	1.2	24.33	8	271.56	2160.94	4.02	1.31	4.89	4.89
Rosebud County	C11	RM 228.64	38383	100-yr	3398	758.56	753.73	2.19	1.15	23.13	8.23	224.38	2036.44	4.1	1.45	4.87	4.87
Rosebud County	C11	RM 228.46	38093	100-yr	3398	758.49	753.53	1.72	0.95	14.19	5.82	301.72	2120.48	4.17	1.69	4.96	4.96
Rosebud County	C11	RM 228.26	37771	100-yr	3398	758.43	753.35	1.56	0.8	11.5	5.34	273.91	2133.77	4.32	1.98	5.08	5.08
Rosebud County	C11	RM 228.03	37408	100-yr	3398	758.3	753.16	1.86	0.84	16.28	7.1	233.4	2099.07	4.45	1.92	5.14	5.14
Rosebud County	C11	RM 227.74	36949	100-yr	3398	758.14	752.95	2.1	1.03	20.41	7.23	167.04	2010.05	4.71	1.64	5.19	5.19
Rosebud County	C11	RM 227.49	36537	100-yr	3398	758.03	752.83	2.01	0.97	18.7	5.97	175.55	2823.4	4.69	1.48	5.2	5.2
Rosebud County	C11	RM 227.2	36062	100-yr	3398	757.92	752.41	1.94	1	17.36	6.36	180.83	2694.42	4.64	1.67	5.51	5.51
Rosebud County	C11	RM 226.98	35709	100-yr	3398	757.55	752.31	2.75	1.42	36.01	12.71	211.99	1899.55	4.22	1.47	5.24	5.24
Rosebud County	C11	RM 226.79	35400	100-yr	3398	757.38	752.25	2.23	1.41	27.15	12.39	268.83	1231.51	4.32	1.96	5.13	5.13
Rosebud County	C11	RM 226.56	35065	100-yr	3398	757.24	751.83	1.89	1.38	20.25	13.01	338.41	885.87	4.34	2.78	5.41	5.41
Rosebud County	C11	RM 226.36	34743	100-yr	3398	756.9	751.68	2.47	1.84	32.24	16.35	303.18	893.15	4.12	2.07	5.22	5.22
Rosebud County	C11	RM 226.2	34476	100-yr	3398	756.83	751.25	1.85	1.41	17.41	10.29	424.72	1102.69	3.89	2.29	5.58	5.58
Rosebud County	C11	RM 226.01	34177	100-yr	3398	756.69	750.81	2.03	1.24	19.61	8.59	284.2	1549.91	4.86	2.1	5.88	5.88
Rosebud County	C11	RM 225.83	33884	100-yr	3398	756.48	750.59	2.67	1.21	31.55	11.38	159.74	1495.87	5.31	1.88	5.89	5.89
Rosebud County	C11	RM 225.64	33580	100-yr	3398	756.42	750.56	1.91	1.04	16.89	7.32	293.96	1656.42	4.58	1.96	5.86	5.86
Rosebud County	C11	RM 225.45	33275	100-yr	3395.2	756.33	750.31	1.75	1.06	13.98	5.6	332.17	1667.36	4.88	1.94	6.02	6.02
Rosebud County	C11	RM 225.26	32969	100-yr	3395.2	756.21	750.25	1.95	1.18	17.15	7.5	291.78	1601.72	4.96	2.14	5.96	5.96
Rosebud County	C11	RM 225.16	32805	100-yr	3395.2	756.03	750.19	2.46	1.53	27.04	10.93	224.54	1197.95	5.27	2.1	5.84	5.84
Rosebud County	C11	RM 225.06	32646	100-yr	3395.2	755.48	750.15	3.77	2.42	63.04	19.92	169.61	1137.26	4.8	1.5	5.33	5.33
Rosebud County	C12	RM 224.89	32368	100-yr	3395.2	755.46	750.09	2.6	2.07	30.68	13.82	249.97	1082.69	4.95	2.21	5.37	5.37
Rosebud County	C12	RM 224.71	32083	100-yr	3395.2	755.29	750.04	2.38	2.17	26.26	20.13	393.37	591.82	3.53	2.7	5.25	5.25
Rosebud County	C12	RM 224.53	31796	100-yr	3395.2	755.05	749.96	2.42	2.29	25.78	20.36	412.38	745.81	3.34	2.63	5.09	5.09
Rosebud County	C12	RM 224.34	31486	100-yr	3395.2	754.89	750.03	1.98	1.78	23.06	18.57	480.32	875.95	3.03	2.44	4.86	4.86
Rosebud County	C12	RM 224.16	31195	100-yr	3395.2	754.68	749.78	2.21	1.64	22.52	11.67	263.29	1628.19	4.32	2.22	5	5
Rosebud County	C12	RM 223.96	30878	100-yr	3395.2	754.5	749.48	2.46	1.59	27.93	11.82	179.51	1583.4	4.66	1.95	5.12	5.12

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	100-yr	3395.2	754.31	749.18	2.66	1.67	33.83	14.22	162.95	1552.68	4.21	1.75	5.13	5.13
Rosebud County	C12	RM 223.55	30235	100-yr	3395.2	754.14	748.87	2.34	1.41	24.8	8.41	229.9	1720.04	4.98	1.67	5.27	5.27
Rosebud County	C12	RM 223.37	29952	100-yr	3395.2	753.91	748.72	2.64	1.39	31.63	9.83	208.3	1776.63	4.94	1.52	5.19	5.19
Rosebud County	C12	RM 223.2	29681	100-yr	3395.2	753.77	748.51	2.49	1.24	27.93	8.21	209.66	2090.3	5.07	1.47	5.26	5.26
Rosebud County	C12	RM 223.02	29391	100-yr	3395.2	753.73	748.51	1.86	0.95	15.97	5.9	265.78	2368.41	4.68	1.71	5.22	5.22
Rosebud County	C12	RM 222.82	29071	100-yr	3395.2	753.64	748.5	1.82	0.92	15.19	5.21	268.13	2304.65	4.74	1.61	5.14	5.14
Rosebud County	C12	RM 222.64	28787	100-yr	3395.2	753.53	748.46	1.94	0.94	17.27	5.91	236.97	2200.64	4.82	1.64	5.07	5.07
Rosebud County	C12	RM 222.45	28479	100-yr	3395.2	753.43	748.44	1.86	0.97	16.23	6.45	281.49	2023.73	4.4	1.74	4.99	4.99
Rosebud County	C12	RM 222.22	28128	100-yr	3395.2	753.3	748.15	1.46	0.91	32	10.32	261.1	2495.36	4.86	1.55	5.15	5.15
Rosebud County	C12	RM 222.01	27784	100-yr	3395.2	753.17	747.57	1.43	0.76	9.96	3.45	372.22	2878.3	4.53	1.55	5.6	5.6
Rosebud County	C12	RM 221.77	27401	100-yr	3395.2	753.12	747.18	0.93	0.61	5.61	3.03	725.95	2816.76	3.69	1.98	5.94	5.94
Rosebud County	C12	RM 221.55	27042	100-yr	3395.2	753.09	747.07	0.77	0.52	4.33	2.79	807.88	2784.5	3.66	2.35	6.01	6.01
Rosebud County	C12	RM 221.34	26708	100-yr	3395.2	753.05	746.94	0.81	0.5	3.73	2.4	648.68	2803.03	3.96	2.53	6.11	6.11
Rosebud County	C12	RM 221.15	26406	100-yr	3395.2	752.99	746.7	1.34	0.64	7.7	3.15	265.14	2355.94	5.85	2.35	6.29	6.29
Rosebud County	C12	RM 220.96	26081	100-yr	3395.2	752.63	746.66	3.04	1.33	40.99	11.68	138.93	1974.74	5.33	1.48	5.97	5.97
Rosebud County	C12	RM 220.77	25779	100-yr	3395.2	751.85	746.73	3.98	2.6	72.69	15.92	163.4	1266.22	4.79	1.03	5.12	5.12
Rosebud County	C12	RM 220.6	25513	100-yr	3395.2	751.94	746.72	2.46	1.77	27.43	8.52	256.78	1267.41	4.94	1.52	5.22	5.22
Rosebud County	C12	RM 220.4	25183	100-yr	3395.2	751.85	746.88	1.95	1.4	18.48	8.9	395.04	1903.4	3.62	1.73	4.97	4.97
Rosebud County	C12	RM 220.23	24914	100-yr	3395.2	751.8	746.8	1.4	1.08	9.29	5.63	635.17	2428.8	3.25	1.96	5	5
Rosebud County	C12	RM 220.02	24578	100-yr	3395.2	751.7	746.54	1.31	1.11	9.56	6.54	792.77	1857.53	2.98	2.03	5.16	5.16
Rosebud County	C12	RM 219.83	24268	100-yr	3395.2	751.63	746.18	1.16	1.02	7.45	6.47	775.68	1119.11	3.43	2.97	5.45	5.45
Rosebud County	C12	RM 219.63	23947	100-yr	3395.2	751.47	745.79	1.56	1.35	14.17	8.97	587.54	1143.47	3.5	2.2	5.68	5.68
Rosebud County	C12	RM 219.47	23683	100-yr	3395.2	751.34	745.56	1.76	1.31	15.31	6.12	380.14	1437.46	4.57	1.81	5.78	5.78
Rosebud County	C12	RM 219.29	23386	100-yr	3395.2	750.98	745.27	2.83	1.7	36.53	11.98	208.04	1273.19	4.84	1.57	5.71	5.71
Rosebud County	C12	RM 219.11	23085	100-yr	3395.2	750.81	745.15	2.7	1.63	33.32	14.1	176.7	1028.64	4.86	2.03	5.66	5.66
Rosebud County	C12	RM 218.92	22783	100-yr	3395.2	750.7	745.15	2.23	1.4	23.58	11.55	229.91	1150.51	4.35	2.11	5.55	5.55
Rosebud County	C12	RM 218.73	22473	100-yr	3395.2	750.5	745.06	2.31	1.38	23.96	10.55	226.8	1100	5.11	2.23	5.44	5.44
Rosebud County	C12	RM 218.54	22180	100-yr	3395.2	750.34	744.99	2.27	1.58	23.65	14.23	274.48	887.83	4.71	2.84	5.35	5.35
Rosebud County	C12	RM 218.38	21902	100-yr	3395.2	750.22	744.43	2.29	1.52	23.37	10.87	234.82	1159.33	5.25	2.43	5.79	5.79
Rosebud County	C12	RM 218.18	21580	100-yr	3395.2	749.93	743.9	2.87	1.62	36.94	16.14	182.74	1038.6	5.09	2.19	6.03	6.03
Rosebud County	C12	RM 217.99	21276	100-yr	3395.2	749.76	743.66	2.64	1.5	32.24	13.02	211.96	1240.95	4.67	1.86	6.1	6.1
Rosebud County	C12	RM 217.81	20981	100-yr	3395.2	749.71	743.51	1.93	1.24	16.21	5.99	293.45	1544.39	5.2	1.9	6.2	6.2
Rosebud County	C12	RM 217.64	20702	100-yr	3395.2	749.3	743.41	3.14	1.69	44.69	12.52	176.29	1541.84	5.01	1.38	5.89	5.89
Rosebud County	C12	RM 217.45	20392	100-yr	3395.2	749.1	743.29	2.93	1.46	39.78	11.25	184.69	1844.9	4.71	1.31	5.81	5.81
Rosebud County	C12	RM 217.25	20070	100-yr	3395.2	749.04	743.29	2.22	1.08	21.82	6.09	191.77	2127.29	5.37	1.47	5.75	5.75
Rosebud County	C12	RM 217	19662	100-yr	3395.2	748.78	743.25	2.56	1.25	29.73	8.07	192.47	2064.17	4.94	1.32	5.53	5.53
Rosebud County	C12	RM 216.77	19300	100-yr	3395.2	748.61	743.25	2.41	1.2	27.43	8.68	217.02	2080.12	4.36	1.36	5.36	5.36
Rosebud County	C12	RM 216.53	18912	100-yr	3395.2	748.48	743.3	1.96	0.99	18.22	7.72	274.18	1897.48	4.29	1.8	5.18	5.18
Rosebud County	C12	RM 216.27	18500	100-yr	3395.2	748.37	743.24	1.71	1	14.19	7.18	358.3	1647.16	4.08	2.05	5.13	5.13
Rosebud County	C12	RM 215.98	18038	100-yr	3395.2	748.27	743.12	1.59	0.89	11.94	5.48	273.73	1907.62	4.37	2.01	5.15	5.15
Rosebud County	C12	RM 215.68	17550	100-yr	3395.2	748.11	742.31	1.78	1	13.75	5.21	269.37	1830.52	5.51	2.09	5.8	5.8
Rosebud County	C12	RM 215.41	17101	100-yr	3395.2	747.94	741.82	2.14	1.2	20.31	7.6	218.66	1736.24	5.25	1.94	6.12	6.12
Rosebud County	C12	RM 215.21	16781	100-yr	3395.2	747.61	741.65	2.97	1.6	39.66	13.54	159.7	1654.18	5.15	1.73	5.96	5.96
Rosebud County	C12	RM 215.02	16479	100-yr	3395.2	747.16	741.68	3.56	2.1	56.92	19	146.57	1167.12	5.12	1.68	5.48	5.48
Rosebud County	C13	RM 214.86	16220	100-yr	3395.2	747.17	741.64	2.31	1.69	23.62	12.28	252.91	1185.7	5.32	2.74	5.53	5.53
Rosebud County	C13	RM 214.65	15883	100-yr	3395.2	747.01	741.6	2.18	1.84	22.83	11.93	399.8	1056.89	3.73	1.94	5.41	5.41
Rosebud County	C13	RM 214.46	15577	100-yr	3395.2	746.88	741.6	1.91	1.43	16.23	10.18	460.8	1206.05	3.38	2.1	5.28	5.28
Rosebud County	C13	RM 214.27	15282	100-yr	3395.2	746.78	741.59	1.68	1.3	13.07	8.15	505.93	1256.96	3.37	2.1	5.19	5.19
Rosebud County	C13	RM 214.07	14957	100-yr	3395.2	746.66	741.54	1.57	1.1	15.45	7.99	425.03	1669.65	4.14	2.13	5.12	5.12
Rosebud County	C13	RM 213.9	14672	100-yr	3395.2	746.46	741.37	2	1.44	19.24	7.26	363.41	2061.49	4.18	1.56	5.09	5.09
Rosebud County	C13	RM 213.7	14343	100-yr	3395.2	746.04	740.88	2.83	2.02	36.77	10.87	232.58	1889.48	4.81	1.41	5.16	5.16
Rosebud County	C13	RM 213.54	14083	100-yr	3395.2	745.7	740.59	3.28	1.95	49.76	13.75	191.86	2033.6	4.69	1.28	5.11	5.11
Rosebud County	C13	RM 213.36	13792	100-yr	3395.2	745.57	740.39	2.62	1.53	32.79	10.83	246.24	2075.42	4.28	1.4	5.18	5.18
Rosebud County	C13	RM 213.16	13475	100-yr	3395.2	745.41	740.27	2.45	1.37	28.34	9.39	214.1	2222.2	4.11	1.34	5.14	5.14
Rosebud County	C13	RM 212.99	13200	100-yr	3395.2	745.28	740.31	2.24	1.21	22.61	8.36	212.05	2187.08	3.98	1.46	4.97	4.97
Rosebud County	C13	RM 212.79	12880	100-yr	3395.2	745.07	740.19	2.44	1.17	27.53	8.72	178.07	2422.32	4.67	1.46	4.88	4.88
Rosebud County	C13	RM 212.6	12572	100-yr	3395.2	744.89	739.79	2.25	1.12	23.26	7.45	240.96	2740.95	4.78	1.52	5.1	5.1
Rosebud County	C13	RM 212.42	12284	100-yr	3395.2	744.69	739.58	2.55	1.17	32.11	10.04	211.31	2614.83	4.44	1.37	5.11	5.11
Rosebud County	C13	RM 212.23	11983	100-yr	3395.2	744.65	739.17	1.83	0.93	15.83	5.79	257.92	2546.67	4.43	1.6	5.48	5.48
Rosebud County	C13	RM 212.05	11688	100-yr	3395.2	744.48	738.83	2.14	1.07	20.84	6.01	227.41	2407.65	4.97	1.41	5.65	5.65

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	100-yr	3395.2	744.32	738.79	2.31	1.18	25.13	7.81	251.66	2132.15	4.37	1.34	5.53	5.53
Rosebud County	C13	RM 211.65	11066	100-yr	3395.2	744.13	738.58	2.36	1.19	25.92	7.74	248.86	2177.16	4.45	1.31	5.55	5.55
Rosebud County	C13	RM 211.44	10724	100-yr	3395.2	744.01	738.38	2.26	1.03	23.42	7.7	199.53	2256.18	4.75	1.54	5.63	5.63
Rosebud County	C13	RM 211.21	10353	100-yr	3395.2	743.91	737.87	2.04	1.03	17.95	6.74	207.36	1859.92	4.76	1.77	6.04	6.04
Rosebud County	C13	RM 210.96	9946	100-yr	3395.2	743.61	737.72	2.72	1.36	34.01	11.71	169.56	1558.15	4.74	1.6	5.89	5.89
Rosebud County	C13	RM 210.75	9612	100-yr	3395.2	743.54	737.48	2.13	1.16	20.35	7.29	191.27	1621.5	5.13	1.81	6.06	6.06
Rosebud County	C13	RM 210.57	9317	100-yr	3395.2	743.46	737.5	1.92	1.1	16.52	5.83	244	1733.41	5.1	1.78	5.96	5.96
Rosebud County	C13	RM 210.36	8986	100-yr	3395.2	743.19	737.54	2.59	1.32	30.81	10.41	194.77	1714.32	4.77	1.59	5.65	5.65
Rosebud County	C13	RM 210.16	8674	100-yr	3395.2	742.95	737.53	2.47	1.55	29.61	12.4	288.57	1305.84	4.04	1.68	5.42	5.42
Rosebud County	C13	RM 209.98	8382	100-yr	3395.2	742.94	737.25	1.68	1.09	12.65	5.03	307.03	2156.52	5.02	1.98	5.69	5.69
Rosebud County	C13	RM 209.8	8091	100-yr	3395.2	742.83	736.96	1.95	1.1	16.46	4.95	218.68	2608.46	5.73	1.7	5.87	5.87
Rosebud County	C13	RM 209.6	7774	100-yr	3395.2	742.7	736.72	2.23	1.01	21.62	6.42	179.37	2855.09	5.58	1.63	5.98	5.98
Rosebud County	C13	RM 209.41	7482	100-yr	3395.2	742.64	736.53	1.86	0.95	15.47	5.34	238.7	2753.6	5.09	1.74	6.11	6.11
Rosebud County	C13	RM 209.21	7161	100-yr	3395.2	742.46	736.29	2.27	1.21	22.91	6.79	197.21	2120.69	5.23	1.53	6.17	6.17
Rosebud County	C13	RM 209.03	6871	100-yr	3395.2	742.32	736.14	2.38	1.25	25.12	7.46	186.26	2004.61	5.32	1.55	6.18	6.18
Rosebud County	C13	RM 208.85	6571	100-yr	3395.2	742.25	736.03	2.02	1.13	18.08	5.49	229.12	2162.08	5.35	1.6	6.22	6.22
Rosebud County	C13	RM 208.65	6257	100-yr	3395.2	742.17	735.74	1.99	1.14	17.72	6.48	218.32	1981.55	5.12	1.84	6.43	6.43
Rosebud County	C13	RM 208.46	5945	100-yr	3395.2	741.93	735.69	2.43	1.56	28.87	11.02	204.54	1663.49	4.59	1.72	6.24	6.24
Rosebud County	C13	RM 208.29	5682	100-yr	3395.2	740.84	735.63	4.73	3.5	103.83	32.34	116.29	675.78	4.74	1.43	5.21	5.21
Rosebud County	C14	RM 208.1	5374	100-yr	3395.2	740.67	735.61	3.27	2.48	48.95	16.22	201.37	981.43	4.85	1.58	5.06	5.06
Rosebud County	C14	RM 207.91	5064	100-yr	3395.2	740.49	735.56	2.66	1.84	35.63	15.69	293.26	1307.9	3.74	1.63	4.93	4.93
Rosebud County	C14	RM 207.72	4766	100-yr	3395.2	740.27	735.52	2.33	1.59	25.96	11.8	400.5	1805.84	3.04	1.37	4.75	4.75
Rosebud County	C14	RM 207.53	4450	100-yr	3395.2	740.15	735.35	1.76	1.23	16.58	7.83	469.61	1751.1	3.35	1.57	4.8	4.8
Rosebud County	C14	RM 207.33	4123	100-yr	3395.2	739.88	735.27	2.33	1.45	26.34	10.94	282.48	1422.88	3.98	1.64	4.61	4.61
Rosebud County	C14	RM 207.15	3851	100-yr	3395.2	739.75	735.14	2.1	1.34	21.65	9.3	313.39	1595.4	3.99	1.7	4.61	4.61
Rosebud County	C14	RM 206.99	3599	100-yr	3395.2	739.65	734.95	1.95	1.17	18.8	8.24	327.09	1876.25	3.75	1.64	4.7	4.7
Rosebud County	C14	RM 206.81	3315	100-yr	3395.2	739.54	734.49	1.93	1.06	17.8	7.1	257.4	1917.67	4.22	1.66	5.05	5.05
Rosebud County	C14	RM 206.61	2997	100-yr	3395.2	739.41	733.91	2.07	1.02	19.62	7.31	197.48	2410.53	4.76	1.75	5.5	5.5
Rosebud County	C14	RM 206.43	2701	100-yr	3395.2	739.33	733.52	1.89	1.04	17.4	8.33	244.31	2791.6	3.97	1.88	5.81	5.81
Rosebud County	C14	RM 206.21	2350	100-yr	3395.2	739.19	733.38	1.92	1.13	18.43	8.08	253.17	2741.38	4.16	1.8	5.81	5.81
Rosebud County	C14	RM 205.97	1963	100-yr	3395.2	739.06	732.73	1.88	1.02	15.51	5.65	223.85	2711.99	5.55	1.99	6.33	6.33
Rosebud County	C14	RM 205.72	1563	100-yr	3395.2	738.66	732.73	3.29	1.42	64.77	17.82	107.48	2674.99	4.95	1.31	5.93	5.93
Rosebud County	C14	RM 205.49	1198	100-yr	3395.2	738.2	732.63	2.83	1.51	49.45	14.69	192.62	2500.86	4.38	1.28	5.57	5.57
Rosebud County	C14	RM 205.3	907	100-yr	3395.2	737.92	732.76	2.58	1.35	34.1	13.68	246.92	2286.64	3.42	1.35	5.16	5.16
Rosebud County	C14	RM 205.11	594	100-yr	3395.2	737.72	732.8	2.28	1.07	24.37	8.18	192	2233.27	4.53	1.5	4.92	4.92
Rosebud County	C14	RM 204.9	243	100-yr	3395.2	737.42	732.63	2.6	1.23	33.11	10.32	224.67	2438.29	3.96	1.22	4.79	4.79

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	100-yr	3392.4	737.42	732.67	2.79	1.25	38.12	10.81	192.07	2482.78	3.89	1.09	4.75	4.75
Custer County	C14	RM 204.43	73135	100-yr	3392.4	737.32	732.44	2	0.97	19.52	7.01	266.74	2523.17	3.92	1.39	4.88	4.88
Custer County	C14	RM 204.22	72808	100-yr	3392.4	737.17	732.3	2.08	1	21.5	7.43	262.16	2679.54	3.68	1.27	4.87	4.87
Custer County	C14	RM 204	72454	100-yr	3392.4	736.92	731.9	2.24	1.09	23.4	5.85	261.19	2734.58	4.57	1.13	5.02	5.02
Custer County	C14	RM 203.82	72156	100-yr	3392.4	736.78	731.14	2.31	1.01	25.22	7.8	197.43	2486.7	4.43	1.35	5.64	5.64
Custer County	C14	RM 203.65	71895	100-yr	3392.4	736.66	730.95	2.15	0.9	21.56	7.47	162.5	2452.51	4.54	1.54	5.71	5.71
Custer County	C14	RM 203.5	71641	100-yr	3392.4	736.57	730.78	1.78	0.84	14.88	5.86	195.78	2563.98	4.49	1.74	5.79	5.79
Custer County	C14	RM 203.3	71324	100-yr	3392.4	736.49	730.79	1.73	0.87	13.65	5.25	161.79	2148.12	4.85	1.82	5.7	5.7
Custer County	C14	RM 203.1	71035	100-yr	3392.4	736.32	730.79	2.24	1.05	23.79	8.52	184.4	2126.32	4.34	1.52	5.53	5.53
Custer County	C14	RM 202.9	70718	100-yr	3392.4	736.22	730.67	1.99	1.11	20.23	9.35	247.7	1940.52	3.44	1.57	5.55	5.55
Custer County	C14	RM 202.71	70415	100-yr	3392.4	735.99	730.64	2.33	1.2	26.29	9.48	231.97	2022.26	4.09	1.45	5.35	5.35
Custer County	C14	RM 202.51	70088	100-yr	3392.4	735.65	730.68	2.88	1.35	38.65	11.27	152.2	1925.77	4.55	1.3	4.97	4.97
Custer County	C14	RM 202.34	69815	100-yr	3392.4	735.53	730.63	2.05	1.16	20.76	8.82	321.87	1971.43	3.85	1.62	4.9	4.9
Custer County	C14	RM 202.13	69483	100-yr	3392.4	735.38	730.54	1.96	1.07	18.08	8.17	282.19	1920.45	4.39	1.96	4.84	4.84
Custer County	C14	RM 201.97	69219	100-yr	3392.4	735.15	730.01	2.32	1.44	25.65	11.3	264.21	1266.31	4.26	1.86	5.14	5.14
Custer County	C14	RM 201.75	68884	100-yr	3392.4	735.09	729.45	1.76	1.2	13.74	4.88	306.87	1534.56	5.26	1.85	5.64	5.64
Custer County	C14	RM 201.57	68612	100-yr	3392.4	734.97	729.37	1.93	1.27	18.68	8.39	362.67	1662.41	3.62	1.61	5.6	5.6
Custer County	C14	RM 201.38	68299	100-yr	3392.4	734.78	729.23	2.05	1.28	21.94	10.01	356.22	1804.3	3.26	1.47	5.55	5.55
Custer County	C14	RM 201.23	68055	100-yr	3392.4	734.65	729.13	1.91	1.16	18.44	8.81	369.58	1742.53	3.54	1.68	5.52	5.52
Custer County	C14	RM 201.06	67778	100-yr	3392.4	734.63	729.03	1.32	0.95	8.27	4.21	262.3	1656.02	4.27	2.15	5.6	5.6
Custer County	C14	RM 200.85	67439	100-yr	3392.4	734.17	729.05	3.47	1.99	55.24	17	114.21	1166.36	4.91	1.46	5.12	5.12
Custer County	C14	RM 200.64	67103	100-yr	3392.4	734.09	728.97	2.25	1.52	23.04	10.99	216.76	952.02	4.96	2.34	5.12	5.12
Custer County	C14	RM 200.48	66842	100-yr	3392.4	734.02	728.8	1.8	1.47	15.35	10.03	307.41	829.13	4.33	2.81	5.22	5.22
Custer County	C14	RM 200.27	66515	100-yr	3392.4	733.86	728.63	1.92	1.49	17.19	11.13	359.69	786.9	4.48	2.89	5.23	5.23
Custer County	C14	RM 200.05	66162	100-yr	3392.4	733.67	728.3	2.06	1.72	20.9	15.68	389.17	667.24	3.96	2.96	5.37	5.37
Custer County	C14	RM 199.9	65916	100-yr	3392.4	733.59	727.78	1.84	1.67	15.65	10.52	381.62	644.91	4.72	3.15	5.81	5.81
Custer County	C14	RM 199.71	65614	100-yr	3392.4	733.2	727.34	2.82	2.38	35.4	19.3	260.79	600.73	4.41	2.38	5.86	5.86
Custer County	C14	RM 199.53	65326	100-yr	3392.4	733.11	727.34	2.34	1.96	24.12	12.47	259.62	626.55	5.38	2.76	5.77	5.77
Custer County	C14	RM 199.38	65076	100-yr	3392.4	733.03	727.34	2.1	1.72	21.65	12.35	364.29	1015.63	4.04	2.29	5.69	5.69
Custer County	C14	RM 199.18	64754	100-yr	3392.4	732.88	727.64	1.88	1.46	19.75	11.56	456.73	1361.21	3.38	1.96	5.24	5.24
Custer County	C14	RM 199.04	64535	100-yr	3392.4	732.79	727.64	1.68	1.21	14.63	7.3	419.11	1449.51	3.99	1.98	5.14	5.14
Custer County	C14	RM 198.77	64102	100-yr	3392.4	732.52	727.28	2.1	1.39	20.22	7.91	294.95	1297.8	4.83	1.88	5.24	5.24
Custer County	C14	RM 198.57	63773	100-yr	3392.4	732.1	726.99	3	1.91	41.05	11.58	204.81	1309.32	4.88	1.36	5.11	5.11
Custer County	C14	RM 198.4	63505	100-yr	3392.4	731.92	726.86	2.86	1.69	37.48	12.39	199.72	1281.37	4.78	1.56	5.06	5.06
Custer County	C14	RM 198.22	63215	100-yr	3392.4	731.71	726.57	2.82	1.49	36.6	12.61	190.38	1420.91	4.7	1.6	5.14	5.14
Custer County	C14	RM 198.04	62923	100-yr	3392.4	731.57	726.32	2.42	1.39	26.84	9.24	227.09	1507.67	4.77	1.62	5.25	5.25
Custer County	C14	RM 197.84	62611	100-yr	3392.4	731.52	726.04	1.75	1.14	14.45	5.62	351.59	1726.8	4.45	1.72	5.48	5.48
Custer County	C14	RM 197.65	62306	100-yr	3392.4	731.43	725.69	1.81	1.02	14.19	5.78	317.28	1932.26	4.28	1.72	5.74	5.74
Custer County	C14	RM 197.47	62013	100-yr	3392.4	731.41	725.29	1.43	0.78	8.79	3.17	297.18	2054.4	5.9	2.1	6.12	6.12
Custer County	C14	RM 197.27	61686	100-yr	3392.4	731.35	724.81	1.72	0.82	13.18	5.5	212.46	2048.79	5.27	2.18	6.54	6.54
Custer County	C14	RM 197.07	61373	100-yr	3392.4	731.29	724.81	1.77	0.89	13.75	5.14	204.54	1911.88	5.44	2	6.48	6.48
Custer County	C14	RM 196.91	61115	100-yr	3392.4	731.28	724.81	1.37	0.69	8.29	4.24	223.21	1783.41	5.46	2.75	6.47	6.47
Custer County	C14	RM 196.73	60815	100-yr	3392.4	731.23	724.76	1.42	0.73	8.72	4.56	242.08	1945.62	5.61	2.91	6.47	6.47
Custer County	C14	RM 196.54	60518	100-yr	3392.4	731.18	724.67	1.53	0.82	10.44	5.29	270.26	2713.25	5.13	2.57	6.51	6.51
Custer County	C14	RM 196.33	60178	100-yr	3392.4	731.12	724.57	1.56	0.88	10.37	4.66	247.23	2187.72	5.88	2.61	6.55	6.55
Custer County	C14	RM 196.17	59915	100-yr	3392.4	731.07	724.51	1.64	1.05	11.45	5.53	191.57	1710.3	6.04	2.88	6.56	6.56
Custer County	C15	RM 195.98	59615	100-yr	3392.4	730	724.52	4.62	2.95	97.72	30.9	132.07	921.07	4.85	1.5	5.48	5.48
Custer County	C15	RM 195.81	59337	100-yr	3392.4	729.49	724.33	3.83	3.04	66.51	21.78	169.57	695.77	4.98	1.6	5.16	5.16
Custer County	C15	RM 195.61	59020	100-yr	3392.4	729.43	724.24	2.75	2.23	34.03	16.58	230.07	626.58	5.04	2.43	5.19	5.19
Custer County	C15	RM 195.43	58727	100-yr	3392.4	729.27	724.22	2.51	2.09	30.3	19.06	305.61	664.68	4.14	2.59	5.05	5.05
Custer County	C15	RM 195.23	58415	100-yr	3392.4	729.15	723.93	2	1.71	20.82	12.53	391.57	877.49	4.15	2.48	5.22	5.22
Custer County	C15	RM 195.04	58114	100-yr	3392.4	728.92	723.54	2.37	1.83	26.38	13.34	269.46	885.75	4.44	2.23	5.38	5.38
Custer County	C15	RM 194.86	57824	100-yr	3392.4	728.76	722.93	2.43	1.59	26.62	12.72	209.92	997.27	5	2.36	5.83	5.83
Custer County	C15	RM 194.67	57521	100-yr	3392.4	728.58	722.75	2.43	1.65	25.68	11.26	217.41	984.5	5.63	2.44	5.83	5.83
Custer County	C15	RM 194.49	57231	100-yr	3392.4	728.47	722.53	2.28	1.59	22.76	11.75	232.49	1134.16	5.56	2.84	5.94	5.94
Custer County	C15	RM 194.32	56946	100-yr	3392.4	728.27	722.5	2.52	1.89	28.36	17.38	259.82	1053.95	4.62	2.81	5.77	5.77
Custer County	C15	RM 194.13	56643	100-yr	3392.4	727.98	722.5	2.74	2.32	34.75	24.1	251.77	855.1	4.65	3.2	5.48	5.48
Custer County	C15	RM 193.93	56331	100-yr	3392.4	727.81	722.31	2.54	2.22	28.77	18.57	247.7	938.2	5.14	3.3	5.5	5.5
Custer County	C15	RM 193.74	56024	100-yr	3392.4	727.64	722.23	2.56	2.04	29.16	14.49	229.42	941.15	5.24	2.58	5.41	5.41
Custer County	C15	RM 193.55	55708	100-yr	3392.4	727.44	722.13	2.65	1.9	31.47	12.7	217.06	986.06	5.14	2.04	5.31	5.31

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	100-yr	3392.4	727.26	722.13	2.67	1.84	32.38	13.61	219.51	1026.71	4.95	2.06	5.13	5.13
Custer County	C15	RM 193.2	55158	100-yr	3392.4	727.2	722.13	2.12	1.47	20.3	8.17	280.33	1181.81	4.92	1.96	5.07	5.07
Custer County	C15	RM 193	54825	100-yr	3392.4	727.04	721.84	2.17	1.51	21.38	8.83	281.95	1193.7	4.9	2.01	5.2	5.2
Custer County	C15	RM 192.81	54525	100-yr	3392.4	726.91	721.37	2.3	1.39	23.31	8.89	207.4	1201.14	5.37	2.03	5.54	5.54
Custer County	C15	RM 192.63	54247	100-yr	3392.4	726.73	721.01	2.41	1.46	25.63	8.73	217.39	1272.27	5.43	1.83	5.72	5.72
Custer County	C15	RM 192.44	53935	100-yr	3392.4	726.64	721.01	2.1	1.42	19.6	8.44	241	1061.44	5.29	2.26	5.63	5.63
Custer County	C16	RM 192.26	53653	100-yr	3392.4	726.37	721.01	2.6	1.94	30.34	12.47	229.45	832.43	5.17	2.1	5.36	5.36
Custer County	C16	RM 192.05	53309	100-yr	3392.4	725.46	721.11	4.15	3.42	82.94	33.96	186.81	588.42	4.16	1.69	4.35	4.35
Custer County	C16	RM 191.74	52809	100-yr	3392.4	725.3	721.1	2.12	2	20.76	18.89	560.47	661.71	2.81	2.56	4.21	4.21
Custer County	C16	RM 191.35	52181	100-yr	3392.4	724.9	721.02	1.78	1.72	14.75	13.88	874.71	977.21	2.16	2.03	3.88	3.88
Custer County	C16	RM 191.12	51812	100-yr	3392.4	724.7	720.51	1.55	1.55	11.1	11.06	984.62	988.67	2.22	2.22	4.19	4.19
Custer County	C16	RM 190.87	51406	100-yr	3392.4	724.54	719.89	1.39	1.33	10.4	8.25	906.61	1588.07	2.67	2.11	4.65	4.65
Custer County	C16	RM 190.54	50885	100-yr	3392.4	724.4	719.15	1.16	1.04	8.15	5.64	789.91	1729.68	3.57	2.46	5.25	5.25
Custer County	C16	RM 190.29	50477	100-yr	3392.4	723.63	718.45	3.6	2.33	60.08	16.97	179.8	1248.58	4.68	1.3	5.18	5.18
Custer County	C16	RM 190.1	50176	100-yr	3392.4	723.37	718.43	3.13	1.98	46.78	13.48	227.26	1726.36	4.18	1.2	4.94	4.94
Custer County	C16	RM 189.85	49765	100-yr	3392.4	723.15	718.13	2.3	1.62	25.74	7.56	334.92	2227.05	3.94	1.15	5.02	5.02
Custer County	C16	RM 189.65	49458	100-yr	3392.4	723.01	718.1	2.09	1.22	20	7.11	340.01	2384.53	3.63	1.28	4.91	4.91
Custer County	C16	RM 189.43	49103	100-yr	3392.4	722.56	718.09	2.83	1.69	39.93	10.73	269.95	2010.21	3.74	1	4.47	4.47
Custer County	C16	RM 189.22	48763	100-yr	3392.4	722.56	717.93	1.57	1.09	11.72	4.33	452.46	1963.24	4.31	1.58	4.63	4.63
Custer County	C16	RM 188.91	48267	100-yr	3392.4	722.4	717.54	1.67	1.13	14.1	6.66	472.67	1739.53	3.66	1.72	4.86	4.86
Custer County	C16	RM 188.66	47869	100-yr	3392.4	722.05	716.75	2.61	1.41	30.53	10.98	195.28	1330.88	5.12	1.81	5.3	5.3
Custer County	C16	RM 188.51	47622	100-yr	3392.4	721.89	716.72	2.6	1.54	31.11	12.97	217.17	1129.72	4.74	1.96	5.17	5.17
Custer County	C16	RM 188.32	47314	100-yr	3392.4	721.79	716.79	2.11	1.57	21.82	10.97	152.31	965.04	4.54	2.23	5	5
Custer County	C16	RM 188.14	47024	100-yr	3392.4	721.61	716.93	1.37	1.43	11.63	10.27	474.59	1237.44	2.17	1.92	4.68	4.68
Custer County	C16	RM 187.98	46768	100-yr	3392.4	721.52	716.91	1.91	1.29	17.26	7.27	222.44	1475.58	4.28	1.79	4.61	4.61
Custer County	C16	RM 187.78	46440	100-yr	3392.4	721.44	716.69	1.62	1.17	13.89	5.78	251.06	1715.26	4.07	1.68	4.75	4.75
Custer County	C16	RM 187.55	46083	100-yr	3392.4	721.19	716.04	2.26	1.3	23.42	7.94	224.37	1640.74	4.73	1.59	5.15	5.15
Custer County	C16	RM 187.35	45750	100-yr	3392.4	720.79	715.34	3.03	1.59	41.9	13.03	182.36	1506.88	4.83	1.48	5.45	5.45
Custer County	C16	RM 187.14	45421	100-yr	3392.4	720.72	715.3	2.15	1.21	21.33	8.12	259.08	1727.97	4.69	1.77	5.42	5.42
Custer County	C16	RM 187.01	45211	100-yr	3392.4	720.64	715.3	1.95	1.23	17.42	7.31	300.38	1646.95	4.82	2.01	5.34	5.34
Custer County	C16	RM 186.84	44930	100-yr	3392.4	720.52	715.03	2.05	1.28	19.49	8.68	294.8	1537.01	4.58	2.02	5.49	5.49
Custer County	C16	RM 186.62	44553	100-yr	3392.4	720.15	714.75	2.87	1.82	36.64	11.57	188.38	1261.69	5.16	1.62	5.4	5.4
Custer County	C16	RM 186.46	44311	100-yr	3392.4	719.89	714.53	3.11	1.85	44.16	15.3	186.48	1133.33	4.87	1.66	5.36	5.36
Custer County	C16	RM 186.26	43996	100-yr	3392.4	719.48	714.27	3.25	2.55	48.59	17.44	205.3	783.49	4.79	1.7	5.21	5.21
Custer County	C16	RM 186.1	43730	100-yr	3392.4	719.4	713.9	2.47	2.16	28.41	13.44	294.06	794.01	4.54	2.13	5.5	5.5
Custer County	C16	RM 185.91	43424	100-yr	3315.9	719.23	713.84	2.27	2.03	24.36	15.78	388.65	715.91	3.65	2.35	5.39	5.39
Custer County	C16	RM 185.71	43110	100-yr	3315.9	718.67	713.84	3.16	2.76	47.67	33.35	325.31	563.35	3.07	2.14	4.83	4.83
Custer County	C16	RM 185.52	42808	100-yr	3315.9	718.63	713.71	2.02	1.71	19.38	11.47	366.12	762.88	4.3	2.54	4.92	4.92
Custer County	C16	RM 185.34	42508	100-yr	3315.9	718.43	713.28	2.1	2.01	20.77	17.74	511.74	870.35	3.06	2.61	5.15	5.15
Custer County	C16	RM 185.16	42219	100-yr	3315.9	718.37	712.93	1.65	1.31	12.78	8.72	419.95	1540.13	4.38	2.98	5.44	5.44
Custer County	C17	RM 184.95	41881	100-yr	3315.9	718.18	712.72	2.07	1.45	21.05	9.7	289.94	1589.16	4.77	2.18	5.46	5.46
Custer County	C17	RM 184.78	41621	100-yr	3315.9	717.97	712.51	2.48	1.51	27.82	10.4	215.1	1173.48	5.06	1.87	5.46	5.46
Custer County	C17	RM 184.59	41311	100-yr	3315.9	717.59	711.96	2.99	2.16	39.8	12.57	194.94	943.87	5.19	1.63	5.63	5.63
Custer County	C17	RM 184.4	41010	100-yr	3315.9	717.51	711.62	2.4	1.93	25.25	8.95	242.39	900.37	5.44	1.91	5.89	5.89
Custer County	C17	RM 184.23	40728	100-yr	3315.9	717.31	711.31	2.62	1.97	31.29	11.16	238.29	978.93	4.89	1.72	6	6
Custer County	C17	RM 184.1	40517	100-yr	3315.9	717.22	711.39	2.54	1.61	28.52	10.42	203.14	1150.01	5.27	1.93	5.83	5.83
Custer County	C17	RM 184.03	40407	100-yr	3315.9	717.1	711.49	2.64	1.94	31.11	9.38	222.9	1187.66	5.21	1.55	5.61	5.61
Custer County	C17	RM 183.83	40098	100-yr	3315.9	717.01	711.42	2.26	1.56	22.74	8.72	234.84	1061.28	5.29	2.01	5.59	5.59
Custer County	C17	RM 183.65	39806	100-yr	3315.9	716.72	711.39	2.69	2.13	32.34	10.45	224.55	944	5.17	1.65	5.33	5.33
Custer County	C17	RM 183.47	39513	100-yr	3315.9	716.38	711.39	3.06	2.42	42.87	14.17	211.59	872.29	4.84	1.57	4.99	4.99
Custer County	C17	RM 183.28	39210	100-yr	3315.9	716.34	711.31	2.24	1.6	22.71	8.18	263.55	1186.72	4.95	1.77	5.03	5.03
Custer County	C17	RM 183.09	38909	100-yr	3315.9	716.23	711.04	2.18	1.39	21.6	10.43	237.07	1005.01	4.98	2.38	5.19	5.19
Custer County	C17	RM 182.94	38660	100-yr	3315.9	716.08	710.66	2.27	1.68	22.96	10.72	244.82	1033.99	5.26	2.43	5.42	5.42
Custer County	C17	RM 182.72	38316	100-yr	3315.9	715.87	710.1	2.41	1.87	26.27	14.96	250.1	964.98	5	2.83	5.77	5.77
Custer County	C17	RM 182.54	38020	100-yr	3315.9	715.24	710.12	3.64	2.78	60.38	34.13	173.67	482.39	4.88	2.73	5.12	5.12
Custer County	C17	RM 182.34	37706	100-yr	3315.9	715.08	710.27	2.87	2.43	38.69	24.51	240.92	541	4.41	2.78	4.81	4.81
Custer County	C17	RM 182.15	37402	100-yr	3315.9	714.84	710.26	2.74	2.28	35.12	17.99	248.66	663.89	4.48	2.28	4.58	4.58
Custer County	C17	RM 181.97	37127	100-yr	3315.9	714.68	710.26	2.48	1.98	29.34	11.34	292.15	1198.01	4.26	1.64	4.42	4.42
Custer County	C17	RM 181.78	36815	100-yr	3315.9	714.5	710.09	2.26	1.7	22.81	11.32	407.22	1235.36	3.2	1.58	4.41	4.41
Custer County	C17	RM 181.59	36505	100-yr	3315.9	714.16	709.76	2.53	2.05	29.95	14.35	392.06	1077.09	3.15	1.5	4.4	4.4

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	100-yr	3315.9	713.88	709.37	2.54	1.96	30.95	14.37	277.32	879.08	4.17	1.93	4.51	4.51
Custer County	C17	RM 181.23	35925	100-yr	3315.9	713.62	709.36	2.86	2.34	39.57	18.2	247.28	771.33	4.01	1.84	4.26	4.26
Custer County	C17	RM 181.03	35607	100-yr	3315.9	713.48	709.02	2.2	2	23.16	13.22	354.1	772.62	4.13	2.35	4.46	4.46
Custer County	C17	RM 180.83	35292	100-yr	3315.9	713.38	708.68	1.87	1.61	16.93	12.52	362.09	971.23	4.09	3.02	4.7	4.7
Custer County	C17	RM 180.66	35006	100-yr	3315.9	713.16	708.22	2.19	1.93	22.79	14.11	342.47	645.18	4.31	2.67	4.94	4.94
Custer County	C18	RM 180.46	34700	100-yr	3315.9	712.95	708.05	2.37	2.05	25.8	18.69	281.53	469.25	4.77	3.45	4.9	4.9
Custer County	C18	RM 180.29	34421	100-yr	3315.9	712.73	707.79	2.64	2.08	32.61	17.44	243.73	821.42	4.49	2.39	4.94	4.94
Custer County	C18	RM 180.08	34086	100-yr	3315.9	712.56	707.53	2.38	1.84	25.76	12.97	254.84	741.65	4.86	2.43	5.03	5.03
Custer County	C18	RM 179.9	33807	100-yr	3315.9	712.42	707.32	2.29	1.8	24.17	11.42	266.42	827.74	4.72	2.22	5.1	5.1
Custer County	C18	RM 179.73	33525	100-yr	3315.9	712.1	706.89	2.74	2.27	35.23	18.75	256.8	615.13	4.48	2.38	5.21	5.21
Custer County	C18	RM 179.54	33218	100-yr	3315.9	711.88	706.7	2.56	2.26	33.31	21.04	312.1	574.38	4.05	2.55	5.18	5.18
Custer County	C18	RM 179.35	32914	100-yr	3315.9	711.74	706.45	2.28	1.98	23.81	17.43	292.41	481.21	4.76	3.48	5.29	5.29
Custer County	C18	RM 179.16	32611	100-yr	3315.9	711.42	706.29	2.74	2.48	34.62	22.72	237.48	408.64	5.01	3.28	5.13	5.13
Custer County	C18	RM 178.99	32337	100-yr	3315.9	711.28	706.07	2.55	2.32	29.41	18.75	254.29	449.63	5.01	3.18	5.2	5.2
Custer County	C18	RM 178.79	32025	100-yr	3315.9	711.06	705.9	2.63	2.36	31.3	15.83	251.59	569.44	4.9	2.47	5.16	5.16
Custer County	C18	RM 178.61	31730	100-yr	3315.9	711.01	705.59	2.14	1.75	20.69	10.81	259.81	721.5	5.05	2.63	5.42	5.42
Custer County	C18	RM 178.43	31434	100-yr	3315.9	710.73	705.25	2.56	2.32	29.31	13.21	249.19	620.87	5.13	2.3	5.48	5.48
Custer County	C18	RM 178.23	31114	100-yr	3315.9	710.52	704.7	2.59	2.48	30.21	19.48	249.24	407.87	5.09	3.27	5.82	5.82
Custer County	C18	RM 178.06	30848	100-yr	3315.9	710.33	704.57	2.72	2.48	32.81	24.33	219.45	337.46	5.35	3.96	5.76	5.76
Custer County	C18	RM 177.88	30549	100-yr	3315.9	710.1	704.57	2.8	2.5	35.46	23.96	229.01	391.88	5.03	3.38	5.53	5.53
Custer County	C18	RM 177.66	30211	100-yr	3361.2	709.46	704.57	3.66	3.31	62.36	38.7	194.19	356.09	4.63	2.85	4.89	4.89
Custer County	C18	RM 177.49	29932	100-yr	3361.2	709.29	704.47	3.02	2.9	42.26	28.91	236.92	363.92	4.67	3.18	4.82	4.82
Custer County	C19	RM 177.3	29625	100-yr	3361.2	709.14	704.46	2.52	2.43	29.9	22.41	302.6	433.25	4.39	3.28	4.68	4.68
Custer County	C19	RM 177.11	29314	100-yr	3361.2	708.84	704.46	2.67	2.55	32.17	28.64	372.18	479.33	3.34	2.97	4.38	4.38
Custer County	C19	RM 176.93	29040	100-yr	3361.2	708.72	704.42	2.14	2.01	20.91	18.02	436.64	553.89	3.52	3.03	4.3	4.3
Custer County	C19	RM 176.74	28720	100-yr	3361.2	708.57	704.21	2.02	1.84	19.74	15.58	342.3	708.53	4.04	3.19	4.36	4.36
Custer County	C19	RM 176.53	28384	100-yr	3361.2	708.34	703.63	2.2	2.02	24.47	20.95	344.95	546.51	3.55	3.05	4.71	4.71
Custer County	C19	RM 176.36	28109	100-yr	3361.2	708.09	703.08	2.36	2.24	26.39	22.94	324.02	410.27	4.32	3.76	5.01	5.01
Custer County	C19	RM 176.18	27824	100-yr	3361.2	707.3	702.71	3.89	3.37	72.72	44.26	199.69	409.66	4.16	2.52	4.59	4.59
Custer County	C19	RM 176	27527	100-yr	3361.2	707.16	702.51	2.87	2.67	38.89	32.39	259.98	374.57	4.33	3.6	4.65	4.65
Custer County	C19	RM 175.81	27227	100-yr	3361.2	706.93	702.24	2.67	2.56	34.27	30.25	297.33	381.43	4.14	3.66	4.69	4.69
Custer County	C19	RM 175.62	26928	100-yr	3361.2	706.64	701.81	2.87	2.54	38.6	29.43	234.72	454.3	4.45	3.38	4.83	4.83
Custer County	C19	RM 175.43	26622	100-yr	3361.2	706.26	701.81	3.16	2.39	48.21	38.75	214.93	469.67	4.11	3.29	4.45	4.45
Custer County	C19	RM 175.25	26325	100-yr	3361.2	705.92	701.72	3.05	2.69	44.95	32.05	212.23	506.15	4.05	2.88	4.2	4.2
Custer County	C19	RM 175.08	26048	100-yr	3361.2	705.74	701.63	2.45	2.43	29.57	28.38	357.35	428.42	3.83	3.67	4.11	4.11
Custer County	C19	RM 174.9	25768	100-yr	3361.2	705.43	701.31	2.66	2.64	35.12	31.17	338.41	383.63	3.73	3.31	4.12	4.12
Custer County	C19	RM 174.69	25444	100-yr	3361.2	705.14	700.82	2.58	2.43	33.18	24.29	351.06	571.9	3.68	2.69	4.32	4.32
Custer County	C19	RM 174.49	25112	100-yr	3361.2	704.78	700.04	2.78	2.48	36.82	20.24	279.46	584.58	4.22	2.32	4.74	4.74
Custer County	C19	RM 174.32	24844	100-yr	3361.2	704.36	699.39	3.26	2.83	49.54	24.23	222.49	540.53	4.51	2.2	4.97	4.97
Custer County	C19	RM 174.13	24549	100-yr	3361.2	704.25	698.84	2.6	2.32	30.22	14.2	244.91	604.42	5.15	2.4	5.41	5.41
Custer County	C19	RM 173.94	24238	100-yr	3361.2	703.98	698.14	2.82	2.42	36.54	17.63	239.67	605.37	4.79	2.3	5.84	5.84
Custer County	C19	RM 173.75	23939	100-yr	3361.2	703.64	697.92	3.22	2.36	45.89	16.52	172.39	744.98	5.33	1.91	5.72	5.72
Custer County	C19	RM 173.57	23651	100-yr	3361.2	703.46	697.83	2.9	2.45	36.95	14.45	208.71	665.73	5.36	2.09	5.63	5.63
Custer County	C19	RM 173.39	23352	100-yr	3361.2	703.01	697.83	3.39	2.99	52.9	24.99	203.52	553.97	4.78	2.24	5.18	5.18
Custer County	C19	RM 173.2	23054	100-yr	3361.2	702.77	697.72	3.09	2.66	44.41	23.84	226.21	562.2	4.6	2.46	5.05	5.05
Custer County	C19	RM 173.02	22756	100-yr	3361.2	702.53	697.29	2.9	2.57	39	23.96	244.03	679.22	4.62	2.83	5.24	5.24
Custer County	C19	RM 172.82	22437	100-yr	3361.2	702.42	696.82	2.16	2.09	23.3	19.47	414.44	669.47	3.72	3.1	5.6	5.6
Custer County	C19	RM 172.67	22200	100-yr	3361.2	702.24	696.52	2.24	2.2	25.37	21.77	421.93	618.6	3.54	3.03	5.72	5.72
Custer County	C19	RM 172.49	21903	100-yr	3361.2	702.04	696.23	2.24	2.17	24.23	17.68	365.62	616.4	4.08	2.97	5.81	5.81
Custer County	C19	RM 172.29	21585	100-yr	3361.2	701.73	695.79	2.69	2.24	32.17	14.77	226.44	810.88	5.26	2.4	5.94	5.94
Custer County	C19	RM 172.12	21325	100-yr	3361.2	701.03	695.81	3.86	3.64	72.59	46.36	216.64	375.33	3.97	2.53	5.22	5.22
Custer County	C19	RM 171.89	20942	100-yr	3361.2	700.83	695.57	2.89	2.73	37.61	29.66	228.36	312.24	5.01	3.95	5.26	5.26
Custer County	C19	RM 171.71	20638	100-yr	3361.2	700.5	695.49	3.08	2.9	43.86	36.14	231.98	304.28	4.63	3.81	5.01	5.01
Custer County	C19	RM 171.52	20341	100-yr	3361.2	700.32	695.3	2.76	2.64	34.79	27.03	249.92	341.19	4.81	3.73	5.02	5.02
Custer County	C19	RM 171.34	20043	100-yr	3361.2	700.05	695.11	2.88	2.68	38.17	23.27	244.86	440.15	4.68	2.85	4.94	4.94
Custer County	C19	RM 171.15	19745	100-yr	3361.2	699.82	694.86	2.79	2.71	35.73	25.48	249.21	363.29	4.8	3.42	4.96	4.96
Custer County	C19	RM 170.96	19437	100-yr	3361.2	699.62	694.67	2.66	2.55	32.44	22.75	261.96	394.65	4.78	3.34	4.95	4.95
Custer County	C19	RM 170.78	19143	100-yr	3361.2	699.39	694.2	2.75	2.61	34.4	26.95	245.9	336.79	4.88	3.82	5.19	5.19
Custer County	C19	RM 170.58	18838	100-yr	3361.2	699.1	693.91	2.9	2.79	38.9	33.23	245.35	304.54	4.64	3.96	5.19	5.19
Custer County	C19	RM 170.4	18543	100-yr	3361.2	698.95	693.9	2.56	2.53	29.7	28.2	269.24	286.51	4.87	4.63	5.05	5.05

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	100-yr	3361.2	698.79	693.7	2.49	2.45	28.07	25.55	272.95	306.48	4.92	4.48	5.09	5.09
Custer County	C19	RM 170.03	17941	100-yr	3361.2	698.47	693.31	2.84	2.83	36.52	34.41	237.46	253.61	4.97	4.69	5.16	5.16
Custer County	C19	RM 169.84	17641	100-yr	3361.2	698.19	692.78	3	2.99	40.01	36.56	214.88	235.82	5.22	4.77	5.41	5.41
Custer County	C19	RM 169.65	17341	100-yr	3361.2	697.88	692.47	3.17	3.14	44.94	39.5	204.67	236.07	5.17	4.54	5.41	5.41
Custer County	C19	RM 169.47	17041	100-yr	3361.2	697.57	692.17	3.26	3.04	48.04	37.84	199.81	280.32	5.01	3.94	5.41	5.41
Custer County	C19	RM 169.28	16732	100-yr	3361.2	697.35	692	3.01	2.8	40.67	31.77	214.83	305.42	5.05	3.93	5.35	5.35
Custer County	C19	RM 169.09	16441	100-yr	3361.2	697.09	691.96	3.02	2.89	41.48	31.52	225.9	313.86	4.88	3.71	5.13	5.13
Custer County	C19	RM 168.91	16152	100-yr	3361.2	696.8	691.93	3.07	2.97	43.51	35.69	230.07	292.11	4.72	3.87	4.87	4.87
Custer County	C19	RM 168.72	15846	100-yr	3361.2	696.66	691.82	2.56	2.54	30.17	27.96	280.43	305.2	4.68	4.34	4.84	4.84
Custer County	C19	RM 168.51	15500	100-yr	3361.2	696.45	691.6	2.49	2.42	28.89	26.81	296.39	332.5	4.49	4.17	4.85	4.85
Custer County	C19	RM 168.35	15241	100-yr	3361.2	696.17	691.48	2.79	2.59	36.62	31.71	269.3	341.54	4.39	3.8	4.69	4.69
Custer County	C19	RM 168.15	14931	100-yr	3361.2	695.82	691.2	3.01	2.72	42.6	31.02	241.36	385.25	4.42	3.2	4.62	4.62
Custer County	C19	RM 167.97	14639	100-yr	3361.2	695.6	690.59	2.81	2.71	36.17	27.29	247.71	349.13	4.79	3.6	5.01	5.01
Custer County	C19	RM 167.79	14340	100-yr	3361.2	695.41	690.5	2.67	2.37	32.72	24.17	249.29	398.74	4.81	3.55	4.91	4.91
Custer County	C19	RM 167.61	14054	100-yr	3361.2	695.02	690.42	3.09	3.02	44.88	38.19	244.91	295.64	4.43	3.77	4.6	4.6
Custer County	C19	RM 167.41	13735	100-yr	3361.2	694.84	690.14	2.67	2.34	33.3	24.94	264.94	426.92	4.48	3.37	4.7	4.7
Custer County	C19	RM 167.22	13433	100-yr	3361.2	694.64	689.79	2.53	2.29	29.44	18.82	276.96	489.32	4.69	3	4.85	4.85
Custer County	C19	RM 167.04	13143	100-yr	3361.2	694.46	689.14	2.54	2.28	29.12	17.79	256.62	481.95	5.02	3.06	5.32	5.32
Custer County	C19	RM 166.85	12847	100-yr	3361.2	694.12	688.98	2.97	2.67	41.27	30.14	240.01	383.02	4.5	3.28	5.14	5.14
Custer County	C19	RM 166.67	12552	100-yr	3361.2	693.91	688.84	2.75	2.52	34.73	20.78	252.35	470.4	4.77	2.84	5.07	5.07
Custer County	C19	RM 166.52	12319	100-yr	3361.2	693.83	688.64	2.38	2.27	25.52	17.7	278.87	426.3	5.03	3.48	5.19	5.19
Custer County	C19	RM 166.31	11978	100-yr	3361.2	693.56	688.02	2.67	2.39	31.71	21.7	249.27	414.38	4.96	3.39	5.54	5.54
Custer County	C20	RM 166.2	11806	100-yr	3369.7	693.41	687.4	2.79	2.47	34.78	23.17	229.93	399.71	5.14	3.41	6.01	6.01
Custer County	C20	RM 166.06	11569	100-yr	3369.7	693.19	687.38	2.92	2.6	39.2	25.16	239.53	432.5	4.69	3	5.81	5.81
Custer County	C20	RM 165.92	11350	100-yr	3369.7	692.95	687.38	3.05	2.63	43.25	24.42	230.35	494.58	4.64	2.59	5.57	5.57
Custer County	C20	RM 165.73	11039	100-yr	3369.7	692.78	687.26	2.62	2.44	31.32	21.88	264.5	412	4.81	3.35	5.52	5.52
Custer County	C20	RM 165.55	10750	100-yr	3369.7	692.6	687.11	2.57	2.4	30.28	20.77	274.77	434.9	4.73	3.23	5.49	5.49
Custer County	C20	RM 165.35	10440	100-yr	3369.7	692.41	686.75	2.5	2.35	28.72	21.37	279.36	410.15	4.7	3.49	5.66	5.66
Custer County	C20	RM 165.17	10140	100-yr	3369.7	692.24	686.41	2.52	2.24	28.38	19.44	247.1	431.88	5.12	3.49	5.83	5.83
Custer County	C20	RM 165.01	9883	100-yr	3369.7	692.07	686.16	2.53	2.37	28.85	23.55	262.27	452.42	4.97	4.05	5.91	5.91
Custer County	C20	RM 164.81	9577	100-yr	3369.7	691.94	686.04	2.33	2.01	24.81	15.17	284.5	569.7	4.85	2.95	5.9	5.9
Custer County	C20	RM 164.61	9252	100-yr	3369.7	691.85	685.8	1.93	1.67	17.32	13.46	374.23	590.1	4.43	3.43	6.05	6.05
Custer County	C20	RM 164.42	8945	100-yr	3369.7	691.71	685.78	1.94	1.92	17.38	16.04	416.56	471.39	4.15	3.83	5.93	5.93
Custer County	C20	RM 164.23	8641	100-yr	3369.7	691.6	685.85	1.76	1.75	17.9	17.6	452.11	479.96	4.24	4.18	5.75	5.75
Custer County	C20	RM 164.06	8372	100-yr	3369.7	691.46	685.64	1.98	1.76	16.99	13.6	294.56	601.4	5.6	4.48	5.82	5.82
Custer County	C20	RM 163.85	8031	100-yr	3369.7	691.3	685	2.15	2.03	20.24	16.16	277.99	378.05	5.5	4.38	6.3	6.3
Custer County	C20	RM 163.67	7743	100-yr	3369.7	690.99	684.45	2.8	2.77	32.89	31.45	191.84	202.04	6.27	6.01	6.54	6.54
Custer County	C20	RM 163.48	7449	100-yr	3369.7	690.59	684.13	3.38	3.33	48.35	44.44	162.29	179.79	6.12	5.63	6.46	6.46
Custer County	C20	RM 163.3	7150	100-yr	3369.7	690.53	684.13	2.76	2.65	32.66	27.76	204.93	254.22	5.89	5	6.4	6.4
Custer County	C20	RM 163.12	6859	100-yr	3369.7	690.49	683.91	2.21	2.07	22.22	18.41	267.05	355.7	5.53	4.58	6.57	6.57
Custer County	C20	RM 162.94	6583	100-yr	3369.7	690.24	683.78	2.66	2.34	30.27	21.35	204.74	346.5	5.93	4.16	6.46	6.46
Custer County	C20	RM 162.74	6254	100-yr	3369.7	689.81	683.77	3.32	2.87	48.7	29.38	177.33	369.71	5.43	3.24	6.04	6.04
Custer County	C20	RM 162.55	5957	100-yr	3369.7	689.59	683.96	2.99	2.89	45.18	34.95	231.24	337.09	4.84	3.74	5.63	5.63
Custer County	C20	RM 162.34	5620	100-yr	3369.7	689.51	683.92	2.22	2.11	22.29	17.92	304.55	405.59	4.91	3.94	5.59	5.59
Custer County	C20	RM 162.18	5352	100-yr	3369.7	689.4	683.41	1.98	1.94	28.72	23.01	354.23	455.76	4.76	3.82	5.99	5.99
Custer County	C20	RM 162.03	5111	100-yr	3369.7	689.3	683.26	1.94	1.93	16.97	16.55	322.26	361.97	5.39	5.27	6.04	6.04
Custer County	C20	RM 161.81	4770	100-yr	3369.7	688.7	682.63	3.39	3.2	50.1	37.8	174.77	249.03	5.62	4.22	6.07	6.07
Custer County	C20	RM 161.62	4470	100-yr	3369.7	688.43	682.53	3.4	2.94	51.14	39.73	174.2	402.02	5.35	4.14	5.9	5.9
Custer County	C20	RM 161.43	4159	100-yr	3369.7	688.2	682.63	3.08	2.84	42.38	30.53	206.33	318.88	5.18	3.72	5.57	5.57
Custer County	C20	RM 161.24	3859	100-yr	3369.7	687.9	682.51	3.21	2.85	46.28	32.77	199.39	331.36	5.05	3.56	5.39	5.39
Custer County	C20	RM 161.06	3559	100-yr	3369.7	687.7	682.38	2.95	2.64	38.98	28.02	218.97	350.21	5.09	3.64	5.32	5.32
Custer County	C20	RM 160.87	3258	100-yr	3369.7	687.28	682.24	3.34	3.13	51.02	38.92	204.8	293.46	4.82	3.66	5.04	5.04
Custer County	C20	RM 160.68	2952	100-yr	3369.7	687.14	682.11	2.73	2.66	33.83	29.15	252.16	302.07	4.87	4.19	5.03	5.03
Custer County	C20	RM 160.5	2662	100-yr	3369.7	686.97	681.85	2.52	2.46	29.9	26.16	303.81	357.19	4.38	3.83	5.12	5.12
Custer County	C20	RM 160.31	2364	100-yr	3369.7	686.81	681.58	2.34	2.2	25.69	19.01	321.4	471.75	4.4	3.25	5.23	5.23
Custer County	C20	RM 160.12	2063	100-yr	3369.7	686.62	681.02	2.4	2.23	26.19	18.3	277.19	441.16	4.92	3.43	5.6	5.6
Custer County	C20	RM 159.93	1758	100-yr	3369.7	686.36	680.9	2.62	2.42	32.69	21.88	292.2	485.66	4.3	2.87	5.46	5.46
Custer County	C20	RM 159.75	1459	100-yr	3369.7	686.12	680.88	2.7	2.51	33.25	21.98	251.96	418.97	4.87	3.21	5.24	5.24
Custer County	C20	RM 159.55	1151	100-yr	3369.7	685.93	680.74	2.59	2.48	30.4	21.89	261.92	384.68	4.92	3.54	5.19	5.19
Custer County	C20	RM 159.38	876	100-yr	3369.7	685.69	680.37	2.81	2.54	35.25	26.26	229.23	348.78	5.11	3.81	5.32	5.32

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	100-yr	3369.7	685.49	679.77	2.72	2.7	33.59	32.12	236.5	248.87	5.23	5.01	5.72	5.72
Custer County	C20	RM 158.98	229	100-yr	3369.7	685.19	679.44	2.92	2.84	37.93	30.27	217.29	283.45	5.25	4.19	5.75	5.75

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	100-yr	3378.2	685.19	679.22	2.87	2.7	36.16	26.56	214.16	314.79	5.42	3.97	5.97	5.97
Prairie County	C21	RM 158.55	61087	100-yr	3378.2	685.07	678.98	2.56	2.47	28.17	21.35	226.29	310.96	5.8	4.39	6.09	6.09
Prairie County	C21	RM 158.36	60787	100-yr	3378.2	684.94	678.83	2.44	2.33	26.03	16.88	249.45	407.96	5.51	3.56	6.11	6.11
Prairie County	C21	RM 158.17	60481	100-yr	3378.2	684.78	678.35	2.46	2.22	29.13	17.15	253.18	488.64	5.31	3.11	6.43	6.43
Prairie County	C21	RM 157.98	60173	100-yr	3378.2	684.45	678.22	2.89	2.67	37.91	23.2	231.17	421.57	4.94	3.01	6.23	6.23
Prairie County	C21	RM 157.78	59862	100-yr	3378.2	684.2	678.23	2.96	2.6	38.72	24.8	201.99	379.2	5.37	3.42	5.97	5.97
Prairie County	C21	RM 157.6	59561	100-yr	3378.2	684.09	678.14	2.54	2.37	28.04	22.65	233.85	317.05	5.56	4.49	5.95	5.95
Prairie County	C21	RM 157.38	59209	100-yr	3378.2	683.97	677.81	2.25	2.02	22.95	17.08	288.08	494.97	4.9	3.64	6.16	6.16
Prairie County	C21	RM 157.18	58885	100-yr	3378.2	683.83	677.42	2.26	1.83	22.32	15	235.66	524.75	5.59	3.73	6.41	6.41
Prairie County	C21	RM 156.99	58595	100-yr	3378.2	683.57	677.32	2.83	2.11	34.69	21.6	173.83	458.35	5.68	3.5	6.25	6.25
Prairie County	C21	RM 156.8	58287	100-yr	3378.2	683.11	677.32	3.56	2.69	56.41	37.56	149.83	361.53	5.28	3.48	5.79	5.79
Prairie County	C21	RM 156.62	57990	100-yr	3378.2	683.03	677.29	2.69	2.45	31.91	23.95	207.6	345.21	5.34	4	5.74	5.74
Prairie County	C21	RM 156.42	57683	100-yr	3378.2	682.91	677.21	2.32	2.17	23.98	20.39	271.12	349.13	5.26	4.46	5.7	5.7
Prairie County	C21	RM 156.24	57378	100-yr	3378.2	682.61	676.91	2.76	2.51	34.8	24.62	245.34	392.54	4.87	3.43	5.7	5.7
Prairie County	C21	RM 156.04	57069	100-yr	3378.2	682.45	676.56	2.59	2.3	29.18	19.46	226.07	395.12	5.6	3.72	5.89	5.89
Prairie County	C21	RM 155.85	56762	100-yr	3378.2	682.16	676.11	2.94	2.55	38	25.26	204.32	369.25	5.42	3.58	6.05	6.05
Prairie County	C21	RM 155.66	56455	100-yr	3378.2	681.71	675.96	3.49	2.92	54.35	35.59	177.2	344.34	5.18	3.36	5.75	5.75
Prairie County	C21	RM 155.47	56151	100-yr	3378.2	681.64	675.89	2.61	2.33	31.18	23.19	257.44	405.52	4.82	3.58	5.75	5.75
Prairie County	C21	RM 155.27	55835	100-yr	3378.2	681.46	675.92	2.42	2.36	27.55	24.73	317.77	364.21	4.38	3.93	5.54	5.54
Prairie County	C21	RM 155.08	55530	100-yr	3378.2	681.23	675.95	2.52	2.43	29.57	25.13	296.49	363.19	4.5	3.83	5.28	5.28
Prairie County	C21	RM 154.88	55209	100-yr	3378.2	681.04	675.64	2.41	2.39	26.91	24.55	300.68	332.74	4.65	4.25	5.4	5.4
Prairie County	C21	RM 154.69	54901	100-yr	3378.2	680.72	675.39	2.79	2.69	36.22	29.09	264.93	345.68	4.53	3.63	5.33	5.33
Prairie County	C21	RM 154.5	54588	100-yr	3378.2	680.48	675.02	2.76	2.72	35.17	32.89	257.32	281.45	4.72	4.42	5.46	5.46
Prairie County	C21	RM 154.3	54273	100-yr	3378.2	680.29	674.8	2.57	2.51	30.49	24.58	277.5	353.84	4.71	3.8	5.49	5.49
Prairie County	C21	RM 154.1	53959	100-yr	3378.2	680.04	674.67	2.66	2.54	32.82	24.31	269.5	386.64	4.65	3.44	5.37	5.37
Prairie County	C21	RM 153.91	53650	100-yr	3378.2	679.87	674.51	2.53	2.46	28.71	24.19	260.55	320.21	5.09	4.28	5.36	5.36
Prairie County	C21	RM 153.72	53338	100-yr	3378.2	679.65	674.06	2.69	2.4	32.01	23.55	225.99	363.47	5.28	3.88	5.59	5.59
Prairie County	C21	RM 153.52	53023	100-yr	3378.2	679.27	673.78	3.16	2.77	45.65	34.62	206.24	370.5	4.77	3.61	5.49	5.49
Prairie County	C21	RM 153.32	52704	100-yr	3378.2	679.01	673.64	2.89	2.79	38.43	32.2	249.02	378.13	4.67	3.9	5.37	5.37
Prairie County	C21	RM 153.12	52380	100-yr	3378.2	678.87	673.43	2.46	2.35	27.17	21.56	270.43	509.04	5.02	3.98	5.44	5.44
Prairie County	C21	RM 152.92	52065	100-yr	3378.2	678.73	672.88	2.33	2.04	24.45	17.85	270.87	443.92	5.11	3.72	5.85	5.85
Prairie County	C21	RM 152.73	51762	100-yr	3378.2	678.54	672.27	2.42	2.26	26.49	19.81	271.58	450.23	5.05	3.77	6.27	6.27
Prairie County	C21	RM 152.54	51463	100-yr	3378.2	678.36	671.85	2.49	2.35	28.13	23.76	251.98	323.71	5.27	4.44	6.51	6.51
Prairie County	C21	RM 152.35	51157	100-yr	3378.2	678.19	671.41	2.51	2.48	27.12	25.03	229.76	252.97	5.84	5.39	6.78	6.78
Prairie County	C21	RM 152.16	50852	100-yr	3378.2	678.08	671.23	2.32	2.22	23.76	20.6	268.26	327.6	5.36	4.64	6.85	6.85
Prairie County	C21	RM 151.97	50546	100-yr	3378.2	677.98	670.99	2.15	1.95	19.6	16.2	284.09	405.28	5.18	4.27	6.99	6.99
Prairie County	C21	RM 151.77	50227	100-yr	3378.2	677.89	670.87	2.15	1.83	19.25	13.53	204.89	409.72	6.45	4.5	7.02	7.02
Prairie County	C21	RM 151.59	49936	100-yr	3378.2	677.55	670.75	3.02	2.5	38.65	24.86	152.18	346.92	6.14	3.89	6.8	6.8
Prairie County	C21	RM 151.38	49599	100-yr	3378.2	677.4	670.9	2.65	2.3	29.91	20.6	199.41	367.25	6.03	4.13	6.5	6.5
Prairie County	C21	RM 151.19	49287	100-yr	3378.2	677.28	670.96	2.45	2.26	25.42	14.69	226.6	432.42	6.01	3.46	6.32	6.32
Prairie County	C21	RM 151.01	49012	100-yr	3378.2	677.21	670.91	2.17	2.08	22.39	17.61	288.76	387.57	5.34	4.19	6.3	6.3
Prairie County	C21	RM 150.81	48683	100-yr	3378.2	677.15	670.79	1.7	1.68	13.09	12.07	428.92	473.07	4.61	4.25	6.36	6.36
Prairie County	C21	RM 150.63	48400	100-yr	3958.7	677.05	670.45	1.85	1.73	15	11.05	405.47	606.83	5.15	3.78	6.6	6.6
Prairie County	C21	RM 150.44	48094	100-yr	3958.7	676.82	669.86	2.37	2.12	25.1	15.84	273.64	515.23	5.78	3.64	6.96	6.96
Prairie County	C21	RM 150.25	47780	100-yr	3958.7	676.14	669.38	3.77	3.41	70.01	44.22	166.06	303.37	6.1	3.83	6.76	6.76
Prairie County	C21	RM 150.05	47474	100-yr	3958.7	676.04	669.21	3.05	2.98	38.93	34.87	204.16	233.98	6.32	5.67	6.83	6.83
Prairie County	C21	RM 149.87	47178	100-yr	3958.7	675.94	669.02	2.65	2.52	31.02	26.85	269.57	333.79	5.45	4.7	6.92	6.92
Prairie County	C21	RM 149.66	46846	100-yr	3958.7	675.84	668.97	2.24	2.13	22.51	19.59	331.18	409.23	5.24	4.55	6.87	6.87
Prairie County	C21	RM 149.48	46551	100-yr	3958.7	675.52	668.91	2.84	2.47	36.07	25.25	261.52	849.3	5.13	3.58	6.61	6.61
Prairie County	C21	RM 149.27	46219	100-yr	3958.7	675.38	668.94	2.61	2.04	30.1	19.69	208.49	666.86	5.58	3.62	6.44	6.44
Prairie County	D1	RM 149.08	45914	100-yr	3958.7	675.16	668.95	2.61	2.25	29.65	19.32	254.75	535.75	5.61	3.64	6.21	6.21
Prairie County	D1	RM 148.89	45608	100-yr	3964.4	675.07	668.96	2.24	2.22	21.82	21.23	314.73	426.76	5.61	5.47	6.11	6.11
Prairie County	D1	RM 148.7	45301	100-yr	3964.4	674.95	668.73	2.2	2.16	22.96	21.6	347.94	397.95	5.13	4.83	6.22	6.22
Prairie County	D1	RM 148.5	44987	100-yr	3964.4	674.67	668.42	2.7	2.38	31.24	25.1	235.13	372.97	5.85	4.7	6.25	6.25
Prairie County	D1	RM 148.3	44667	100-yr	3964.4	674.29	668.01	3.25	2.82	45.22	34.13	193.35	316.15	5.91	4.45	6.28	6.28
Prairie County	D1	RM 148.11	44353	100-yr	3964.4	674.14	667.73	2.86	2.68	35.07	30.34	230.09	310.25	5.86	5.07	6.41	6.41
Prairie County	D1	RM 147.93	44062	100-yr	3964.4	674.05	667.4	2.43	2.39	26.03	24.49	306.12	331.06	5.32	5.01	6.65	6.65
Prairie County	D1	RM 147.74	43761	100-yr	3964.4	673.96	667.21	2.29	2.11	23.89	19.61	251.8	406.29	5.66	4.63	6.75	6.75
Prairie County	D1	RM 147.55	43454	100-yr	3964.4	673.77	666.79	2.6	2.19	28.51	17.4	197.43	485.59	6.17	3.73	6.98	6.98
Prairie County	D1	RM 147.34	43128	100-yr	3964.4	673.59	666.46	2.79	2.3	32.64	19.06	173.86	469.06	6.38	3.67	7.13	7.13

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	100-yr	3964.4	673.39	666.42	2.87	2.49	34.93	24.91	178.57	368.87	6.09	4.31	6.97	6.97
Prairie County	D1	RM 146.96	42505	100-yr	3964.4	673	666.49	3.3	3.07	45.89	31.78	187.33	300.32	6.23	4.3	6.51	6.51
Prairie County	D1	RM 146.77	42199	100-yr	3964.4	672.87	666.48	2.89	2.85	35.36	31.68	225.21	254.37	6.08	5.46	6.39	6.39
Prairie County	D1	RM 146.58	41899	100-yr	3964.4	672.83	666.59	2.31	2.29	22.96	21.25	296.32	322.44	5.79	5.37	6.24	6.24
Prairie County	D1	RM 146.32	41487	100-yr	3964.4	672.61	666.62	2.4	2.33	26.65	23.5	325.06	383.96	5.03	4.44	5.99	5.99
Prairie County	D1	RM 146	40968	100-yr	3964.4	672.26	666.48	2.61	2.53	31.25	26.24	277.27	343.4	5.44	4.57	5.78	5.78
Prairie County	D1	RM 145.65	40420	100-yr	3964.4	671.87	665.52	2.78	2.67	35.54	28.97	247.14	320.44	5.68	4.63	6.35	6.35
Prairie County	D1	RM 145.36	39958	100-yr	3964.4	671.64	664.91	2.58	2.41	30.89	21.35	264.9	420.86	5.67	3.91	6.73	6.73
Prairie County	D1	RM 145.13	39579	100-yr	3964.4	671.46	664.58	2.47	2.32	27.4	19.38	266.31	408.31	5.94	4.19	6.88	6.88
Prairie County	D1	RM 144.92	39251	100-yr	3964.4	671.31	664.24	2.43	2.3	27.64	21.1	272.39	383.47	5.89	4.49	7.07	7.07
Prairie County	D1	RM 144.73	38942	100-yr	3964.4	671.13	663.99	2.52	2.36	29.57	23.1	264.25	373.66	5.77	4.5	7.14	7.14
Prairie County	D1	RM 144.56	38672	100-yr	3964.4	670.92	664.1	2.72	2.58	32.6	27.29	265.15	341.73	5.36	4.49	6.82	6.82
Prairie County	D1	RM 144.33	38305	100-yr	3964.4	670.71	664.19	2.73	2.49	31.72	23.8	232.15	355.82	5.99	4.48	6.52	6.52
Prairie County	D1	RM 144.13	37987	100-yr	3964.4	670.61	664.33	2.38	2.23	23.94	18.66	271.37	377.45	6.04	4.71	6.28	6.28
Prairie County	D1	RM 143.91	37637	100-yr	3964.4	670.55	663.96	2.06	1.81	18.13	13.68	299.48	492.08	5.92	4.44	6.59	6.59
Prairie County	D1	RM 143.71	37320	100-yr	3964.4	670.15	663.43	3.05	2.58	38.97	24.66	191.55	387.34	6.3	3.96	6.72	6.72
Prairie County	D1	RM 143.45	36908	100-yr	3964.4	669.66	663.01	3.52	3.19	52.79	38.28	179.26	285.5	6.02	4.35	6.65	6.65
Prairie County	D1	RM 143.21	36511	100-yr	3964.4	669.53	662.92	2.84	2.74	33.87	28.49	224.58	278.29	6.18	5.19	6.61	6.61
Prairie County	D1	RM 142.97	36139	100-yr	3964.4	669.35	662.7	2.7	2.63	30.44	26.97	232.06	270.7	6.29	5.58	6.65	6.65
Prairie County	D1	RM 142.71	35717	100-yr	3964.4	668.76	662.52	3.58	3.49	55.19	45.68	192.11	239.43	5.75	4.75	6.24	6.24
Prairie County	D1	RM 142.46	35322	100-yr	3964.4	668.69	662.36	2.62	2.48	29.55	24.24	254.79	334.11	5.84	4.79	6.33	6.33
Prairie County	D1	RM 142.23	34952	100-yr	3964.4	668.45	662.21	2.76	2.51	32.62	22.68	237.35	385.73	5.91	4.1	6.24	6.24
Prairie County	D1	RM 142.02	34614	100-yr	3964.4	668.31	662.21	2.53	2.32	28.5	23.44	269.68	396.39	5.26	4.32	6.1	6.1
Prairie County	D1	RM 141.8	34258	100-yr	3964.4	668.26	662.01	1.88	1.87	15.57	15.15	393.92	408.12	5.33	5.2	6.25	6.25
Prairie County	D1	RM 141.6	33942	100-yr	3964.4	668.1	661.72	2.08	2.08	16.61	16.37	496.43	505.09	3.83	3.78	6.38	6.38
Prairie County	D1	RM 141.42	33642	100-yr	3964.4	668.05	661.32	1.7	1.67	11.95	10.84	499.33	560.92	4.65	4.22	6.73	6.73
Prairie County	D1	RM 141.22	33325	100-yr	3964.4	667.9	660.91	2	1.93	16.99	12.94	326.47	448.26	6.03	4.59	6.99	6.99
Prairie County	D1	RM 141.02	33011	100-yr	3964.4	667.48	660.58	3.05	2.83	38.45	26.79	194.42	306.93	6.58	4.57	6.9	6.9
Prairie County	D1	RM 140.84	32709	100-yr	3964.4	667.41	660.35	2.6	2.54	28.37	25.15	241.98	281.55	6.27	5.55	7.06	7.06
Prairie County	D1	RM 140.64	32394	100-yr	3964.4	667.31	660.07	2.43	2.39	24.36	22.59	239.5	264	6.77	6.3	7.24	7.24
Prairie County	D1	RM 140.44	32074	100-yr	3964.4	667.08	659.63	2.74	2.67	31.64	28.48	225.88	259.09	6.36	5.74	7.45	7.45
Prairie County	D1	RM 140.23	31738	100-yr	3964.4	666.75	659.62	3.12	3.02	41.76	35.25	207.01	255.2	6.09	5.15	7.13	7.13
Prairie County	D1	RM 140.03	31420	100-yr	3964.4	666.7	659.59	2.51	2.43	26.69	22.23	253.77	316.11	6.18	5.16	7.11	7.11
Prairie County	D1	RM 139.84	31118	100-yr	3964.4	666.63	659.19	2.17	2.06	20.18	16.86	309.19	395.07	5.84	4.88	7.44	7.44
Prairie County	D1	RM 139.64	30801	100-yr	3964.4	666.48	658.96	2.41	2.07	23.45	16.1	222.13	403.7	6.93	4.75	7.52	7.52
Prairie County	D1	RM 139.44	30466	100-yr	3964.4	666.37	658.72	2.31	2.05	22.01	16.14	250.57	403.58	6.53	4.78	7.65	7.65
Prairie County	D1	RM 139.23	30138	100-yr	3964.4	666.17	658.34	2.55	2.48	30.26	24.22	219.78	283.92	7.04	5.63	7.83	7.83
Prairie County	D1	RM 139.02	29799	100-yr	3964.4	665.75	658.14	3.23	3.05	52.16	39.35	179.74	259.1	6.68	5.02	7.61	7.61
Prairie County	D1	RM 138.81	29470	100-yr	3964.4	665.73	658.11	2.45	2.35	27.61	22.38	219.94	287	7.28	5.88	7.62	7.62
Prairie County	D1	RM 138.62	29157	100-yr	3964.4	665.58	657.94	2.55	2.34	26.52	17.19	216.79	374.63	7.02	4.53	7.64	7.64
Prairie County	D1	RM 138.41	28823	100-yr	3964.4	665.34	657.82	2.85	2.61	36.67	22.5	202.45	370.14	6.72	4.1	7.52	7.52
Prairie County	D1	RM 138.22	28519	100-yr	3964.4	665.15	657.8	2.91	2.79	35.01	30.65	198.68	237.74	6.79	5.97	7.35	7.35
Prairie County	D1	RM 138.02	28200	100-yr	3964.4	665.14	657.74	2.22	2.18	21.35	19.56	246.99	276.92	7.17	6.58	7.4	7.4
Prairie County	D1	RM 137.82	27874	100-yr	3964.4	665.03	656.95	2.26	2.15	22.72	18.34	263.32	350.33	6.53	5.27	8.08	8.08
Prairie County	D1	RM 137.62	27552	100-yr	3964.4	664.94	656.75	2.21	1.87	22.07	16.8	234.81	501.77	6.59	4.99	8.19	8.19
Prairie County	D1	RM 137.42	27247	100-yr	3964.4	664.63	656.66	2.78	2.56	34.63	26.2	204.7	305.59	6.72	5.07	7.97	7.97
Prairie County	D1	RM 137.24	26944	100-yr	3964.4	664.45	656.66	2.8	2.67	36.36	28.74	205.46	361.6	6.78	5.34	7.79	7.79
Prairie County	D1	RM 137.04	26627	100-yr	3981.3	664.25	656.5	2.88	2.75	37.96	29.2	208.71	286.94	6.57	5.05	7.75	7.75
Prairie County	D2	RM 136.84	26475	100-yr	3981.3	664.2	656.46	2.68	2.65	30.97	26.89	207.19	241.77	7.16	6.21	7.74	7.74
Prairie County	D2	RM 136.44	26317	100-yr	3981.3	664.19	656.37	2.39	2.32	25.47	21.51	228.7	281	7.23	6.1	7.82	7.82
Prairie County	D2	RM 136.23	26001	100-yr	3981.3	664.05	656.19	2.47	2.35	27.22	22.49	246.47	318.53	6.45	5.32	7.86	7.86
Prairie County	D2	RM 136.04	25673	100-yr	3981.3	663.88	656.01	2.6	2.34	27.32	16.8	211.82	396.66	7.04	4.29	7.87	7.87
Prairie County	D2	RM 135.85	25337	100-yr	3981.3	663.57	655.93	3.06	2.84	38.2	19.95	186.08	392.72	6.9	3.57	7.64	7.64
Prairie County	D2	RM 135.66	25033	100-yr	3981.3	663.46	655.91	2.83	2.63	32.5	21.57	202.14	333.49	6.88	4.55	7.55	7.55
Prairie County	D2	RM 135.46	24715	100-yr	3981.3	663.28	655.86	2.85	2.7	39.83	31.08	199.11	273.65	6.91	5.39	7.42	7.42
Prairie County	D2	RM 135.24	24417	100-yr	3981.3	663.21	655.68	2.4	2.35	27.67	24.89	229.44	261.4	7.18	6.47	7.53	7.53
Prairie County	D2	RM 135	24090	100-yr	3981.3	663.06	655.56	2.47	2.38	27.96	23.87	246.98	304.22	6.45	5.5	7.5	7.5
Prairie County	D2	RM 134.78	23742	100-yr	3981.3	662.9	655.36	2.5	2.33	28.81	20.32	223.84	351.52	6.93	4.87	7.54	7.54
Prairie County	D2	RM 134.58	23351	100-yr	3981.3	662.52	655.29	3.05	2.84	45.6	30.38	189.75	313.26	6.75	4.47	7.23	7.23
Prairie County	D2	RM 134.39	23000	100-yr	3981.3	662.32	655.24	2.87	2.76	40.35	36.08	216.99	255.9	6.31	5.64	7.08	7.08

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	100-yr	3981.3	662.23	655.11	2.44	2.23	25.45	21.71	263.97	586.23	5.94	5.06	7.12	7.12
Prairie County	D2	RM 133.99	22372	100-yr	3981.3	662.1	654.97	2.42	2.3	25.07	20.76	264.94	342.56	6.12	5.06	7.13	7.13
Prairie County	D2	RM 133.79	22053	100-yr	3981.3	661.86	655	2.75	2.51	31.92	24.97	226.1	328.77	6.19	4.83	6.86	6.86
Prairie County	D2	RM 133.59	21733	100-yr	3981.3	661.71	654.96	2.62	2.5	29.08	23.44	247	325.91	6.08	4.89	6.75	6.75
Prairie County	D2	RM 133.41	21417	100-yr	3981.3	661.6	654.78	2.45	2.29	25.09	19.69	254.87	354.88	6.26	4.91	6.82	6.82
Prairie County	D2	RM 133.21	21104	100-yr	3981.3	661.41	654.64	2.67	2.36	29.78	19.41	229.84	412.03	6.29	4.09	6.77	6.77
Prairie County	D2	RM 133.02	20811	100-yr	3981.3	661.29	654.53	2.54	2.27	27.19	18.27	246.2	423.3	6.18	4.14	6.76	6.76
Prairie County	D2	RM 132.83	20491	100-yr	3981.3	661.17	654.29	2.44	2.22	25.34	19.37	262.67	395.13	5.94	4.53	6.88	6.88
Prairie County	D2	RM 132.63	20184	100-yr	3981.3	661.07	654.04	2.3	2.04	22.46	16.2	254.86	450.88	6.01	4.32	7.03	7.03
Prairie County	D2	RM 132.42	19875	100-yr	3981.3	660.87	653.98	2.59	2.27	27.78	18.29	221.68	415.97	6.43	4.22	6.89	6.89
Prairie County	D2	RM 132.23	19553	100-yr	3981.3	660.8	653.88	2.22	2.01	20.39	16.04	257.21	385.9	6.53	5.13	6.92	6.92
Prairie County	D2	RM 132.02	19225	100-yr	3981.3	660.56	653.63	2.61	2.41	28.85	22.52	246.63	350.2	6.06	4.72	6.93	6.93
Prairie County	D2	RM 131.81	18910	100-yr	3981.3	660.35	653.37	2.79	2.5	32.76	22.27	226.33	382.07	6.15	4.17	6.98	6.98
Prairie County	D2	RM 131.58	18573	100-yr	3981.3	660.26	653.02	2.42	2.19	24.04	16.97	238.03	438.79	6.74	4.76	7.24	7.24
Prairie County	D2	RM 131.38	18237	100-yr	3981.3	660.09	652.75	2.59	2.42	27.49	23.82	212.37	279.7	6.76	5.87	7.34	7.34
Prairie County	D2	RM 131.18	17875	100-yr	3981.3	659.8	652.49	2.93	2.74	35.84	26.09	209.79	313.73	6.38	4.63	7.31	7.31
Prairie County	D2	RM 130.98	17548	100-yr	3981.3	659.58	652.34	3.02	2.71	37.55	22.25	197.09	380.19	6.56	3.86	7.24	7.24
Prairie County	D2	RM 130.78	17227	100-yr	3981.3	659.48	652.27	2.68	2.35	29.69	18.68	216.24	410.38	6.6	4.13	7.21	7.21
Prairie County	D2	RM 130.59	16914	100-yr	3981.3	659.41	652.16	2.37	2.14	22.85	12.85	239.07	485.13	6.87	3.84	7.25	7.25
Prairie County	D2	RM 130.39	16588	100-yr	3981.3	659.16	651.95	2.76	2.59	31.2	17.26	212.42	414.54	6.74	3.7	7.21	7.21
Prairie County	D2	RM 130.19	16280	100-yr	3981.3	658.98	651.81	2.83	2.75	33.48	26.28	219.93	290	6.36	4.99	7.17	7.17
Prairie County	D2	RM 130	15965	100-yr	3981.3	658.89	651.57	2.51	2.41	26.15	20.19	244.4	331.84	6.45	4.97	7.32	7.32
Prairie County	D2	RM 129.81	15649	100-yr	3981.3	658.77	651.47	2.46	2.35	24.76	20.08	235.14	306.71	6.8	5.51	7.3	7.3
Prairie County	D2	RM 129.62	15337	100-yr	3981.3	658.59	651.34	2.68	2.39	29.71	22.12	216.64	342.76	6.56	4.87	7.25	7.25
Prairie County	D2	RM 129.43	15031	100-yr	3981.3	658.46	651.21	2.6	2.52	27.77	23.68	227.37	286.53	6.68	5.69	7.25	7.25
Prairie County	D2	RM 129.24	14724	100-yr	4057.8	658.23	651.06	2.86	2.68	34.35	21.48	222.31	432.16	6.31	3.93	7.17	7.17
Prairie County	D2	RM 129.04	14417	100-yr	4057.8	657.99	651.06	3.04	2.8	38.76	23	209.54	455.56	6.28	3.71	6.93	6.93
Prairie County	D2	RM 128.82	14112	100-yr	4057.8	657.79	651.05	3.07	2.84	39.49	23.87	209.12	481.24	6.25	3.76	6.74	6.74
Prairie County	D2	RM 128.62	13798	100-yr	4057.8	657.66	651.08	2.78	2.62	32.22	21.96	228.13	475.13	6.34	4.31	6.58	6.58
Prairie County	D2	RM 128.41	13446	100-yr	4057.8	657.52	651.07	2.58	2.43	28.08	20.93	255.09	369.22	6.08	4.53	6.45	6.45
Prairie County	D2	RM 128.21	13125	100-yr	4057.8	657.37	650.98	2.6	2.35	28.47	21.97	246.55	366.8	6.1	4.7	6.39	6.39
Prairie County	D2	RM 127.98	12790	100-yr	4057.8	657.22	650.84	2.56	2.31	27.61	17.28	250.67	457.68	6.16	3.84	6.38	6.38
Prairie County	D2	RM 127.75	12473	100-yr	4057.8	657.13	650.59	2.3	2.11	22.62	13.14	287.96	555.17	6	3.46	6.54	6.54
Prairie County	D2	RM 127.55	12112	100-yr	4057.8	656.99	650.35	2.29	2.12	22.21	15.14	287.38	467.15	6.03	4.09	6.64	6.64
Prairie County	D2	RM 127.27	11729	100-yr	4057.8	656.82	649.95	2.35	2.21	23.21	15.6	277.2	445.2	6.15	4.13	6.87	6.87
Prairie County	D2	RM 126.97	11415	100-yr	4057.8	656.55	649.68	2.8	2.55	32.95	19.04	226.77	442.23	6.26	3.59	6.87	6.87
Prairie County	D2	RM 126.71	10962	100-yr	4057.8	656.29	649.49	2.84	2.65	33.53	22.98	218.29	346.45	6.44	4.41	6.8	6.8
Prairie County	D2	RM 126.43	10478	100-yr	4057.8	656.18	649.32	2.3	2.24	22.02	19.36	275.96	322.56	6.36	5.61	6.86	6.86
Prairie County	D2	RM 126.42	10074	100-yr	4057.8	655.91	649.05	2.66	2.53	30.01	24.68	249.83	323.95	6.01	4.94	6.86	6.86
Prairie County	D2	RM 126.41	9625	100-yr	4057.8	655.63	648.27	2.82	2.6	33.09	24.8	220.07	327.57	6.35	4.76	7.36	7.36
Prairie County	D3	RM 126.38	9533	100-yr	4057.8	655.57	648.27	2.85	2.65	33.98	26.4	220.07	312.82	6.29	4.89	7.3	7.3
Prairie County	D3	RM 126.22	9286	100-yr	4057.8	655.49	648.8	2.59	2.47	28.01	20.66	246.62	354.73	6.3	4.63	6.69	6.69
Prairie County	D3	RM 126.03	8974	100-yr	4057.8	655.39	648.71	2.4	2.26	24.32	17.43	269.32	407.76	6.17	4.41	6.68	6.68
Prairie County	D3	RM 125.82	8648	100-yr	4057.8	655.26	648.36	2.39	2.27	24.38	18.75	282.4	391.93	5.94	4.56	6.9	6.9
Prairie County	D3	RM 125.63	8335	100-yr	4057.8	655.12	648.12	2.43	2.37	24.56	22.73	259.94	289.71	6.38	5.92	7	7
Prairie County	D3	RM 125.43	8020	100-yr	4057.8	654.92	647.8	2.7	2.39	29.96	21.65	217.06	353.97	6.65	4.79	7.12	7.12
Prairie County	D3	RM 125.24	7711	100-yr	4057.8	654.82	647.26	2.5	2.25	25.43	17.92	226.37	370.85	6.95	4.87	7.56	7.56
Prairie County	D3	RM 125.05	7403	100-yr	4057.8	654.64	647.23	2.7	2.41	29.7	20.49	209.96	354.26	6.92	4.75	7.41	7.41
Prairie County	D3	RM 124.83	7059	100-yr	4057.8	654.51	647.25	2.56	2.4	26.9	19.49	237.41	373.4	6.62	4.79	7.26	7.26
Prairie County	D3	RM 124.62	6712	100-yr	4057.8	654.37	647.25	2.5	2.35	26.21	15.44	257.84	472.05	6.24	3.66	7.12	7.12
Prairie County	D3	RM 124.41	6375	100-yr	4057.8	654.22	647.27	2.64	1.99	29.18	13.92	221.62	954.88	6.21	2.94	6.95	6.95
Prairie County	D3	RM 124.15	5960	100-yr	4057.8	653.94	647.27	2.79	2.1	33.39	15.05	232.47	834.64	5.84	2.61	6.67	6.67
Prairie County	D3	RM 123.94	5627	100-yr	4057.8	653.64	647.27	3.14	2.22	42.28	18.85	199.91	706.83	5.85	2.58	6.37	6.37
Prairie County	D3	RM 123.74	5312	100-yr	4057.8	653.39	647.25	3.13	2.2	42.08	16.58	206.88	809.5	5.84	2.28	6.14	6.14
Prairie County	D3	RM 123.56	5014	100-yr	4057.8	653.45	647.24	2.02	1.52	17.21	8.2	311.23	926.08	6.09	2.88	6.21	6.21
Prairie County	D3	RM 123.24	4500	100-yr	4057.8	653.37	647.19	1.12	1.12	13.93	13.84	934.44	941.94	3.87	3.85	6.18	6.18
Prairie County	D3	RM 122.99	4116	100-yr	4057.8	653.22	646.67	1.47	1.4	10.01	7.58	527.26	747.83	5.13	3.88	6.55	6.55
Prairie County	D3	RM 122.76	3746	100-yr	4057.8	653.06	646.22	1.89	1.83	15.33	9.75	362.48	596.31	5.88	3.73	6.84	6.84
Prairie County	D3	RM 122.55	3414	100-yr	4057.8	652.78	645.7	2.57	2.36	27.44	13.04	242.74	568.35	6.43	3.03	7.08	7.08
Prairie County	D3	RM 122.3	3012	100-yr	4057.8	652.48	645.57	2.91	2.38	35.35	16.36	214.39	591.16	6.27	2.88	6.91	6.91

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	100-yr	4057.8	652.32	645.49	2.71	2.3	30.97	16.28	240.65	559.69	6.03	3.15	6.83	6.83
Prairie County	D3	RM 121.88	2338	100-yr	4057.8	652.18	645.42	2.61	2.25	28.76	16.95	244.44	497.56	6.18	3.62	6.76	6.76
Prairie County	D3	RM 121.66	1982	100-yr	4057.8	651.93	645.3	2.83	2.53	33.63	20.57	226.93	425.54	6.2	3.78	6.63	6.63
Prairie County	D3	RM 121.46	1651	100-yr	4057.8	651.76	645.06	2.74	2.58	31.9	22.85	243.93	366.32	6	4.29	6.7	6.7
Prairie County	D3	RM 121.24	1304	100-yr	4057.8	651.56	644.99	2.76	2.49	33.4	22.34	247.35	419.77	5.81	3.88	6.57	6.57
Prairie County	D3	RM 121.02	957	100-yr	4057.8	651.41	644.88	2.55	2.3	29.14	21.06	259.65	413.17	5.92	4.27	6.53	6.53
Prairie County	D3	RM 120.84	660	100-yr	4057.8	651.23	644.78	2.6	2.46	31.94	20.9	255.32	417.94	6.05	3.95	6.45	6.45
Prairie County	D3	RM 120.64	350	100-yr	4057.8	651.07	644.42	2.63	2.55	28.79	17.78	244.23	410.37	6.3	3.89	6.65	6.65

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	100-yr	4058.34	651.03	643.94	2.47	2.34	25.63	23.47	254.01	475.47	6.17	5.65	7.09	7.09
Dawson County	D3	RM 120.28	90838.07	100-yr	4058.34	650.98	643.78	2.47	2.23	25.42	17.76	233.12	408.4	6.39	4.46	7.19	7.19
Dawson County	D3	RM 120.18	90675.23	100-yr	4058.34	650.86	643.7	2.61	2.41	27.9	21.12	213.48	333.12	6.65	5.05	7.16	7.16
Dawson County	D3	RM 120.00	90388.96	100-yr	4058.34	650.73	643.56	2.59	2.41	27.44	20.87	226.64	326.82	6.78	5.16	7.16	7.16
Dawson County	D3	RM 119.84	90136.35	100-yr	4058.34	650.57	643.44	2.75	2.52	30.98	21.15	213.73	405.8	6.73	4.6	7.13	7.13
Dawson County	D3	RM 119.68	89873.82	100-yr	4058.34	650.32	643.31	3.11	2.9	39.58	29.83	189.21	381.7	6.7	5.04	7	7
Dawson County	D3	RM 119.53	89627.16	100-yr	4058.34	650.2	643.2	2.95	2.86	35.65	25.77	204.32	294.23	6.69	4.83	7.01	7.01
Dawson County	D3	RM 119.39	89404.11	100-yr	4058.34	650.15	643.09	2.66	2.58	29.09	26.57	231.36	361.9	6.55	6.02	7.06	7.06
Dawson County	D3	RM 119.26	89201.38	100-yr	4058.34	650.1	642.99	2.44	2.23	25	18.73	263.7	393.11	6.17	4.62	7.11	7.11
Dawson County	D3	RM 119.12	88969.13	100-yr	4058.34	649.84	642.87	2.99	2.43	36.9	16.62	193.4	700.34	6.6	2.94	6.97	6.97
Dawson County	D3	RM 119.00	88780.83	100-yr	4058.34	649.77	642.78	2.86	2.34	33.75	16.53	199.46	602.48	6.55	3.19	6.99	6.99
Dawson County	D3	RM 118.85	88537.07	100-yr	4058.34	649.71	642.66	2.51	2.26	26.42	15.23	241.51	599.07	6.27	3.6	7.05	7.05
Dawson County	D3	RM 118.72	88336.12	100-yr	4058.34	649.66	642.56	2.34	2	22.43	12.19	237.19	744.27	6.71	3.64	7.1	7.1
Dawson County	D3	RM 118.60	88130.39	100-yr	4058.34	649.5	642.46	2.64	2.26	28.78	15.88	220.72	573.44	6.52	3.59	7.03	7.03
Dawson County	D3	RM 118.47	87924.15	100-yr	4058.34	649.33	642.37	2.88	2.54	35.04	18.92	211.72	486.41	6.08	3.28	6.97	6.97
Dawson County	D3	RM 118.34	87719.85	100-yr	4058.34	649.09	642.27	3.18	2.84	44.45	25.73	214.06	453.24	5.47	3.16	6.82	6.82
Dawson County	D3	RM 118.21	87507.02	100-yr	4058.34	648.94	642.16	3.16	2.65	41.21	17.93	175.82	541.07	6.6	2.83	6.78	6.78
Dawson County	D3	RM 118.07	87276.02	100-yr	4092.33	648.92	642.05	2.46	2.31	26.56	15.67	297.49	547.07	5.52	3.24	6.87	6.87
Dawson County	D4	RM 117.90	87004.77	100-yr	4092.33	648.87	641.92	2.23	1.94	21.11	13.65	234.19	630.97	6.1	3.92	6.96	6.96
Dawson County	D4	RM 117.77	86795.88	100-yr	4092.33	648.83	641.81	2.1	1.77	18.8	14.15	217.15	619.09	6.04	4.51	7.01	7.01
Dawson County	D4	RM 117.62	86560.03	100-yr	4092.33	648.75	641.7	2.09	1.79	18.24	12.45	247.32	682.39	6.39	4.35	7.05	7.05
Dawson County	D4	RM 117.46	86294.2	100-yr	4092.33	648.51	641.57	2.77	2.07	32.06	13.9	183	727.6	6.35	2.71	6.94	6.94
Dawson County	D4	RM 117.33	86073.88	100-yr	4092.33	648.18	641.46	3.46	2.62	49.6	24.16	137.01	619.79	6.65	3.15	6.72	6.72
Dawson County	D4	RM 117.16	85808.16	100-yr	4092.33	648.12	641.33	2.79	2.29	32.09	15.75	182.25	581.25	6.56	3.19	6.78	6.78
Dawson County	D4	RM 117.03	85604.68	100-yr	4092.33	648.07	641.3	2.4	2.12	24.61	13.1	243.69	694.59	5.93	3.14	6.77	6.77
Dawson County	D4	RM 116.87	85336.88	100-yr	4092.33	648.03	641.29	2.1	1.66	18.59	10.42	238.63	759.43	6.07	3.4	6.74	6.74
Dawson County	D4	RM 116.69	85043.25	100-yr	4092.33	647.9	641.44	2.19	1.79	21.04	13.55	279.08	654.26	5.43	3.49	6.46	6.46
Dawson County	D4	RM 116.56	84823.15	100-yr	4092.33	647.75	641.34	2.46	1.84	26.57	14.06	234.35	779.47	5.43	2.85	6.41	6.41
Dawson County	D4	RM 116.39	84558.58	100-yr	4092.33	647.68	641.21	2.11	1.66	19.14	9.54	269.92	861.01	5.78	2.87	6.47	6.47
Dawson County	D4	RM 116.22	84287.19	100-yr	4092.33	647.53	641	2.28	1.65	21.9	9.29	259.34	955.28	6.13	2.59	6.53	6.53
Dawson County	D4	RM 116.05	84007.59	100-yr	4092.33	647.37	640.84	2.58	1.7	27.92	11.6	213.93	939.28	6.17	2.56	6.53	6.53
Dawson County	D4	RM 115.87	83722.29	100-yr	4092.33	647.23	640.8	2.61	1.7	29.16	12.73	214.27	939.65	5.89	2.55	6.43	6.43
Dawson County	D4	RM 115.73	83500.35	100-yr	4092.33	647.2	640.69	2.08	1.46	19.43	10.66	310.77	1008.8	5.09	2.79	6.51	6.51
Dawson County	D4	RM 115.61	83294.37	100-yr	4092.33	647.16	640.59	1.79	1.38	14.23	8.25	385.01	977.93	5.27	3.05	6.57	6.57
Dawson County	D4	RM 115.45	83034.82	100-yr	4092.33	647.1	640.37	1.69	1.4	12.91	9.26	407.6	819.12	4.99	3.57	6.74	6.74
Dawson County	D4	RM 115.29	82782.88	100-yr	4092.33	646.96	640.34	2.02	1.63	17.84	10.03	319.39	811.8	5.56	3.1	6.62	6.62
Dawson County	D4	RM 115.09	82480.02	100-yr	4092.33	646.91	640.2	1.8	1.4	13.66	7.6	324	850.31	6.17	3.43	6.71	6.71
Dawson County	D4	RM 114.96	82177.99	100-yr	4092.33	646.73	640	2.25	1.83	21.36	13.24	260.73	613.71	6.22	3.84	6.73	6.73
Dawson County	D4	RM 114.74	81836.48	100-yr	4092.33	646.27	639.98	3.32	2.39	46.5	23.17	179.76	567.09	6.1	3.02	6.29	6.29
Dawson County	D4	RM 114.58	81577.9	100-yr	4092.33	646.27	639.46	2.43	2.25	24.51	21.37	195.77	359.48	6.43	5.59	6.82	6.82
Dawson County	D4	RM 114.42	81309.47	100-yr	4092.33	646.1	639.33	2.56	2.46	27.89	23.6	257.79	327.48	6	5.08	6.77	6.77
Dawson County	D4	RM 114.28	81078.59	100-yr	4092.33	645.83	639.21	3.03	2.75	38.69	28.87	213.07	323.39	6.16	4.59	6.61	6.61
Dawson County	D4	RM 114.11	80813.63	100-yr	4092.33	645.6	639.2	3.15	2.81	42.26	28.99	210.21	363.36	6	4.1	6.4	6.4
Dawson County	D4	RM 113.97	80580.15	100-yr	4092.33	645.45	639.45	3.09	2.68	41.39	28.84	225.76	441.04	5.63	3.92	6	6
Dawson County	D4	RM 113.79	80292.13	100-yr	4092.33	645.4	639.45	2.57	2.24	28.68	21.95	201.08	424.55	5.62	4.3	5.95	5.95
Dawson County	D4	RM 113.60	79987.05	100-yr	4092.33	645.39	639.2	1.81	1.64	13.97	11.89	179.84	503.89	6.04	5.11	6.19	6.19
Dawson County	D4	RM 113.43	79712.89	100-yr	4092.33	645.27	638.73	2.16	1.78	19.47	13.1	173.8	537.22	6.41	4.28	6.54	6.54
Dawson County	D4	RM 113.24	79405.49	100-yr	4092.33	644.96	638.43	3	2.35	37.66	19.61	130.78	529.47	6.42	3.29	6.52	6.52
Dawson County	D4	RM 113.08	79152.39	100-yr	4092.33	644.79	638.37	2.92	2.46	35.82	21.11	138.2	453.71	6.31	3.67	6.42	6.42
Dawson County	D4	RM 112.94	78925.1	100-yr	4092.33	644.78	638.26	2.17	2	19.95	15.72	194.62	427.44	6.13	4.79	6.52	6.52
Dawson County	D4	RM 112.74	78585.88	100-yr	4092.33	644.62	638.09	2.33	2.01	23.4	14.37	237.95	574.15	5.79	3.54	6.53	6.53
Dawson County	D4	RM 112.59	78355.25	100-yr	4092.33	644.5	637.98	2.41	1.98	25.51	14.57	271.99	671.62	5.42	3.07	6.52	6.52
Dawson County	D4	RM 112.37	78008.78	100-yr	4092.33	644.5	637.88	1.73	1.48	12.6	7.85	206.92	820.21	6.14	3.78	6.62	6.62
Dawson County	D4	RM 112.19	77721.27	100-yr	4092.33	644.31	637.59	2.25	1.96	21.32	13.86	213.8	522.95	6.18	4	6.71	6.71
Dawson County	D4	RM 111.89	77240.22	100-yr	4092.33	643.94	637.16	2.71	2.44	30.9	19.68	235.68	424.75	6.22	3.95	6.78	6.78
Dawson County	D4	RM 111.42	76486.24	100-yr	4092.33	643.68	636.91	2.3	2.07	22.52	14.24	287.11	519.06	6.02	3.8	6.77	6.77
Dawson County	D4	RM 111.26	76213.83	100-yr	4092.33	643.62	636.66	2.07	1.8	18.33	11.58	329.26	639.4	5.81	3.66	6.96	6.96
Dawson County	D4	RM 111.09	75911.9	100-yr	4092.33	643.27	636.51	2.85	2.69	34.83	28.3	240.23	367.95	5.88	4.77	6.76	6.76
Dawson County	D4	RM 110.95	75678.54	100-yr	4092.33	642.96	636.4	3.3	3.11	45.8	33.03	194.97	304.13	6.25	4.5	6.56	6.56
Dawson County	D4	RM 110.78	75415.61	100-yr	4092.33	642.62	636.27	3.61	3.43	55.19	39.19	186.03	278.54	6.05	4.28	6.34	6.34

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	100-yr	4092.33	642.51	636.09	2.84	2.68	34.57	24.69	240.69	395.06	5.91	4.22	6.42	6.42
Dawson County	D4	RM 110.39	74780.03	100-yr	4092.33	642.47	635.96	2.35	2.14	23.8	13.81	293.1	571	5.8	3.35	6.51	6.51
Dawson County	D4	RM 110.17	74428.56	100-yr	4092.33	642.3	635.79	2.41	2.17	26.07	16.7	321.63	580.65	5.09	3.25	6.51	6.51
Dawson County	D4	RM 109.95	74074.87	100-yr	4092.33	642.16	635.62	2.27	1.93	22.13	11.57	297.98	705.54	5.78	3.01	6.54	6.54
Dawson County	D4	RM 109.75	73741.09	100-yr	4092.33	641.98	635.46	2.44	2.01	25.42	11.54	272.8	766.31	5.86	2.65	6.52	6.52
Dawson County	D4	RM 109.54	73418.83	100-yr	4092.33	641.88	635.3	2.24	1.73	21.43	12.51	287.56	697.25	5.84	3.4	6.58	6.58
Dawson County	D4	RM 109.37	73150.54	100-yr	4092.33	641.71	635.17	2.56	1.91	27.68	13.26	224.7	739.1	6.08	2.91	6.54	6.54
Dawson County	D4	RM 109.19	72864.56	100-yr	4092.33	641.53	635.03	2.63	2.15	29.34	15.07	238.65	613.11	6.06	3.1	6.5	6.5
Dawson County	D4	RM 109.04	72628	100-yr	4092.33	641.15	634.92	3.34	2.8	47.47	25.98	194.23	447.34	5.99	3.26	6.23	6.23
Dawson County	D4	RM 108.86	72339.73	100-yr	4092.33	641.16	634.77	2.36	2.28	24.19	19.08	287.17	438.97	5.53	4.36	6.39	6.39
Dawson County	D4	RM 108.70	72072.36	100-yr	4092.33	641.08	634.65	2.19	2.08	20.69	14.87	291.61	490.56	5.69	4.09	6.44	6.44
Dawson County	D4	RM 108.55	71827.97	100-yr	4092.33	640.99	634.53	2.16	2.11	20.31	13.37	343.64	535.79	5.51	3.63	6.46	6.46
Dawson County	D4	RM 108.40	71587.18	100-yr	4092.33	640.81	634.41	2.44	2.39	24.9	19.9	363.68	471.84	4.6	3.67	6.4	6.4
Dawson County	D4	RM 108.25	71345.86	100-yr	4092.33	640.7	634.29	2.31	2.17	23.68	14.45	361.89	645.19	4.81	2.92	6.41	6.41
Dawson County	D4	RM 108.12	71131.88	100-yr	4092.33	640.58	634.19	2.4	2.12	24.94	11.52	289.42	736.9	5.7	2.62	6.39	6.39
Dawson County	D4	RM 107.98	70905.01	100-yr	4092.33	640.33	634.08	2.84	2.49	34.89	14.78	245.46	683.7	5.73	2.41	6.26	6.26
Dawson County	D4	RM 107.82	70651.22	100-yr	4092.33	640.11	633.95	3.02	2.45	39.69	15.27	231.93	777.76	5.6	2.14	6.16	6.16
Dawson County	D4	RM 107.68	70418.24	100-yr	4092.33	639.87	633.84	3.2	2.77	44.58	19.79	219.72	596.59	5.59	2.48	6.03	6.03
Dawson County	D4	RM 107.50	70132.11	100-yr	4092.33	639.71	633.17	2.94	2.53	37.65	17.21	239.71	639.39	5.52	2.53	6.54	6.54
Dawson County	D4	RM 107.31	69834.56	100-yr	4092.33	639.47	633.23	2.97	2.64	39.6	21.78	264.38	554.62	5.05	2.79	6.24	6.24
Dawson County	D4	RM 107.13	69541.52	100-yr	4092.33	639.29	633.98	2.7	2.47	33.96	24.03	322.33	512.28	4.55	3.23	5.31	5.31
Dawson County	D5	RM 106.98	69305.02	100-yr	4106.49	639.23	634.16	2.18	2.08	22.39	19.99	421.85	506.7	4.34	3.9	5.07	5.07
Dawson County	D5	RM 106.85	69065.27	100-yr	4106.49	639.13	633.6	2.09	1.99	20.61	15	412.29	653.57	4.32	3.15	5.53	5.53
Dawson County	D5	RM 106.65	68764.02	100-yr	4106.49	638.86	632.98	2.46	2.37	28.1	24.6	360.27	562.91	4.13	3.64	5.88	5.88
Dawson County	D5	RM 106.47	68475.87	100-yr	4106.49	638.7	632.51	2.42	1.85	27.18	15.8	307.26	852.66	4.58	2.66	6.19	6.19
Dawson County	D5	RM 106.28	68173.97	100-yr	4106.49	638.21	631.71	3.34	2.47	49.84	21.96	204.05	738.04	5.11	2.25	6.5	6.5
Dawson County	D5	RM 106.10	67879.83	100-yr	4106.49	638	631.29	3.1	2.34	44.05	24.08	206.53	670.34	4.77	2.62	6.71	6.71
Dawson County	D5	RM 105.89	67550.49	100-yr	4106.49	637.81	631.76	2.73	2.14	34.37	17.03	226.74	831.42	4.65	2.31	6.05	6.05
Dawson County	D5	RM 105.74	67300.35	100-yr	4106.49	637.66	632.3	2.55	1.77	29.84	15.95	203.14	927.05	4.68	2.5	5.36	5.36
Dawson County	D5	RM 105.54	66973.54	100-yr	4106.49	637.39	632.17	2.8	2.11	36.54	20.74	147.79	756.8	4.53	2.58	5.22	5.22
Dawson County	D5	RM 105.30	66609.03	100-yr	4106.49	637.26	632.29	1.85	1.62	16.71	12.4	219.79	995.46	3.88	2.88	5.14	5.14
Dawson County	D5	RM 105.06	66212.24	100-yr	4106.49	637.1	631.19	2.12	1.9	22.07	15.36	181.11	1187.24	3.87	2.7	5.91	5.91
Dawson County	D5	RM 104.89	65945.5	100-yr	4106.49	636.93	631.5	2.2	1.86	24.19	15.15	205.87	1263.1	3.61	2.27	5.51	5.51
Dawson County	D5	RM 104.77	65742.33	100-yr	4106.49	636.81	631.67	2.36	1.68	25.98	12.73	125.62	1307.9	4.48	2.2	6.1	6.1
Dawson County	D5	RM 104.64	65530.83	100-yr	4106.49	636.74	632.1	1.98	1.41	18.72	9.56	172.34	1551.47	4.25	2.15	5.78	5.78
Dawson County	D5	RM 104.43	65180.62	100-yr	4106.49	636.69	631.56	1.32	1.06	8.86	5.84	361.11	1685.96	3.46	2.29	5.9	5.9
Dawson County	D5	RM 104.26	64906.83	100-yr	4106.49	636.62	631.59	1.3	1.01	8.32	4.64	218.58	1874.25	3.9	2.18	5.98	5.98
Dawson County	D5	RM 104.10	64643.2	100-yr	4106.49	636.55	630.81	1.63	1.09	12.34	5.38	150.64	1916.85	4.52	1.97	6.11	6.11
Dawson County	D5	RM 103.95	64410.06	100-yr	4106.49	636.5	631.24	1.66	0.96	12.99	6.26	185.01	2066.61	4.3	2.07	6.68	6.68
Dawson County	D5	RM 103.68	63957.56	100-yr	4106.49	636.42	629.68	1.7	0.9	13.32	6.78	188.7	1894.04	4.71	2.4	6.98	6.98
Dawson County	D5	RM 103.48	63615.6	100-yr	4106.49	636.35	630.4	1.82	0.99	14.79	6.93	152.55	1742.99	5.11	2.38	6.84	6.84
Dawson County	D5	RM 103.26	63259.44	100-yr	4106.49	636.3	630.13	1.73	0.99	13.29	6.76	173.17	1580.55	5.19	2.63	6.89	6.89
Dawson County	D5	RM 102.58	62131.5	100-yr	4106.49	636.12	629.72	1.71	1.29	13	8.37	178.73	952.57	5.18	3.34	6.44	6.44
Dawson County	D5	RM 102.44	61920.83	100-yr	4106.49	635.97	629.74	2.19	1.59	21.37	11.96	255.44	896.04	5.13	2.88	6.23	6.23
Dawson County	D5	RM 102.31	61720.14	100-yr	4106.49	635.84	629.03	2.54	1.74	28.68	15.13	200.53	855.48	5.2	2.75	6.81	6.81
Dawson County	D5	RM 102.15	61456.58	100-yr	4106.49	635.72	629.39	2.48	1.81	26.92	13.13	201.3	860.27	5.4	2.64	6.32	6.32
Dawson County	D5	RM 102.00	61217.89	100-yr	4106.49	635.63	629.48	2.16	1.64	21.22	11.97	267.9	902.53	4.88	2.77	6.16	6.16
Dawson County	D5	RM 101.84	60967.97	100-yr	4106.49	635.6	629.23	1.83	1.27	15.02	10.33	155.67	928.07	5.08	3.5	6.37	6.37
Dawson County	D5	RM 101.60	60582.61	100-yr	4106.49	635.45	628.87	1.76	1.46	13.93	7.94	336.08	1041.47	4.97	2.84	6.58	6.58
Dawson County	D5	RM 101.45	60336.09	100-yr	4106.49	635.21	629.16	2.47	1.76	26.7	11.31	251.39	1005.72	5.45	2.31	6.05	6.05
Dawson County	D5	RM 101.25	60019.5	100-yr	4106.49	634.98	627.81	2.77	1.83	33.21	13.06	209.15	1010.67	5.64	2.22	7.17	7.17
Dawson County	D5	RM 101.09	59759.25	100-yr	4106.49	634.87	627.99	2.6	1.69	29.51	11.75	216.65	1107.22	5.51	2.2	6.88	6.88
Dawson County	D5	RM 100.88	59426.42	100-yr	4106.49	634.75	627.86	2.44	1.58	25.6	9.87	196.58	1177.64	5.72	2.21	6.89	6.89
Dawson County	D5	RM 100.67	59075.4	100-yr	4106.49	634.58	627.1	2.69	1.58	30.3	12.27	151.88	1143.51	6.23	2.52	7.48	7.48
Dawson County	D5	RM 100.46	58743.44	100-yr	4106.49	634.53	627.92	1.96	1.27	16.47	8.04	202.94	1148.25	5.75	2.81	6.61	6.61
Dawson County	D5	RM 100.25	58401.49	100-yr	4106.49	634.28	627.57	2.54	1.65	27.8	12.34	196.17	980.98	5.72	2.54	6.71	6.71
Dawson County	D5	RM 100.05	58077.55	100-yr	4106.49	634.13	626.86	2.56	1.88	28.09	13.31	176.97	799.35	5.77	2.73	7.27	7.27
Dawson County	D5	RM 99.87	57778.81	100-yr	4106.49	633.86	626.4	2.64	2.25	31.69	17.27	301.61	684.58	4.88	2.66	7.46	7.46
Dawson County	D5	RM 99.68	57474.16	100-yr	4106.49	633.64	626.29	2.75	2.24	32.54	16.64	246.92	630.72	5.65	2.9	7.35	7.35
Dawson County	D5	RM 99.49	57160.47	100-yr	4106.49	633.32	626.53	3.13	2.44	42.8	19.78	218.38	661.1	5.5	2.55	6.79	6.79

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	100-yr	4106.49	633.16	627.26	2.77	2.17	34.28	18.65	267.93	883.91	5.15	2.81	5.9	5.9
Dawson County	D5	RM 99.13	56566.63	100-yr	4106.49	633.05	626.77	2.42	1.76	26.17	12.9	293.66	929.05	5.08	2.51	6.28	6.28
Dawson County	D5	RM 98.92	56243.98	100-yr	4106.49	632.89	626.63	2.32	1.83	24.73	13.05	339.1	898.32	4.7	2.49	6.26	6.26
Dawson County	D5	RM 98.71	55911.87	100-yr	4106.49	632.71	626.34	2.34	1.65	25.31	12.73	322.21	1073.49	4.6	2.31	6.37	6.37
Dawson County	D5	RM 98.57	55680.2	100-yr	4106.49	632.62	626.1	2.2	1.39	22.31	11.89	297.01	1188.6	4.72	2.51	6.52	6.52
Dawson County	D5	RM 98.35	55325.95	100-yr	4106.49	632.32	625.91	2.67	1.56	31.28	12.92	216.82	1171.28	5.47	2.25	6.41	6.41
Dawson County	D5	RM 98.19	55066.09	100-yr	4106.49	632.11	624.42	2.89	1.62	35.59	12.86	184	1183.79	5.92	2.14	7.69	7.69
Dawson County	D5	RM 97.99	54752.97	100-yr	4106.49	631.78	625.04	3.09	2.17	42.76	16.74	236.53	1151.41	5.07	1.98	6.74	6.74
Dawson County	D5	RM 97.84	54493.48	100-yr	4106.49	631.63	625.39	2.74	2.17	34.36	17.25	292.51	894.27	4.79	2.41	6.24	6.24
Dawson County	D5	RM 97.68	54241.32	100-yr	4106.49	631.48	624.99	2.6	2.03	32.37	21.29	340.05	757.37	4.17	2.75	6.49	6.49
Dawson County	D5	RM 97.48	53918.21	100-yr	4106.49	631.35	624.81	2.01	1.65	18.38	13.93	387.03	1247.27	3.29	2.49	6.54	6.54
Dawson County	D5	RM 97.28	53585.68	100-yr	4106.49	631.13	625.86	2.14	1.53	22.11	12.7	328.8	1369.24	4.09	2.35	5.68	5.68
Dawson County	D5	RM 97.08	53263.89	100-yr	4106.49	630.81	625.27	2.79	1.96	35.82	14.65	209.17	1269.68	4.7	1.92	5.54	5.54
Dawson County	D5	RM 96.94	53030.11	100-yr	4106.49	630.61	623.97	2.92	1.92	39.55	16.19	199.17	1328.06	4.57	1.87	6.64	6.64
Dawson County	D5	RM 96.77	52762.2	100-yr	4106.49	630.39	623.51	2.88	2	38.62	15.04	202.34	1404.19	4.51	1.76	6.88	6.88
Dawson County	D5	RM 96.55	52403.59	100-yr	4106.49	630.17	624.57	2.82	1.61	36.01	13.85	160.42	1677.96	4.86	1.87	5.6	5.6
Dawson County	D5	RM 96.35	52079.12	100-yr	4106.49	630.15	625.39	1.35	1.27	9.19	6.24	290.07	1712.98	3.61	2.46	6.68	6.68
Dawson County	D5	RM 96.17	51777.74	100-yr	4106.49	629.87	624.71	2.61	2.06	32.42	12.45	130.42	1590.06	4.24	1.63	5.49	5.49
Dawson County	D5	RM 96.00	51500.38	100-yr	4106.49	629.67	624.3	2.5	1.83	29.42	10.2	122.42	1876.9	4.34	1.5	5.37	5.37
Dawson County	D5	RM 95.79	51156.87	100-yr	4106.49	629.56	624.35	1.81	1.32	16.44	7.42	284.94	1894.94	4.02	1.81	5.31	5.31
Dawson County	D5	RM 95.60	50859.75	100-yr	4106.49	629.43	622.97	1.88	1.24	16.9	8.04	251.15	1680.06	4.15	1.97	6.46	6.46
Dawson County	D5	RM 95.40	50547.92	100-yr	4106.49	629.31	623.13	1.74	1.23	14.14	7.66	377.96	1372.57	4.49	2.44	6.18	6.18
Dawson County	D5	RM 95.21	50245.97	100-yr	4106.49	629.17	622.21	2.18	1.2	21.05	9.17	217.6	1498.9	5.26	2.29	6.96	6.96
Dawson County	D5	RM 95.04	49971.19	100-yr	4106.49	629.03	621.68	2.52	1.31	28.74	11.13	174.46	1642.39	4.93	1.9	7.35	7.35
Dawson County	D5	RM 94.88	49717.07	100-yr	4106.49	628.94	621.44	2.31	1.14	23.65	10.02	152.89	1770.76	5.22	2.21	7.5	7.5
Dawson County	D5	RM 94.71	49446.9	100-yr	4106.49	628.9	621.69	1.54	0.95	10.77	5.18	234.28	1843.27	4.88	2.34	7.22	7.22
Dawson County	D5	RM 94.58	49286.95	100-yr	4106.49	628.88	618.6	1.16	0.8	5.6	2.34	456.42	2299.98	6.63	2.77	10.28	10.28
Dawson County	D5	RM 94.57	49255.56	100-yr	4106.49	628.83	618.63	1.54	0.99	9.81	3.44	360.59	1858.78	6.37	2.23	10.2	10.2
Dawson County	D5	RM 94.52	49157.18	100-yr	4106.49	628.77	620.89	1.93	1.06	16.31	6	287.23	2539.58	5.39	1.97	7.87	7.87
Dawson County	D6	RM 94.42	48998.19	100-yr	4129.14	628.61	621.76	2.49	1.27	27.42	8.29	219.93	2335.73	5.34	1.61	6.85	6.85
Dawson County	D6	RM 94.30	48806.79	100-yr	4129.14	628.55	621.22	2.2	1.16	22.52	7.42	291.47	2368.6	4.56	1.5	7.33	7.33
Dawson County	D6	RM 94.20	48653.06	100-yr	4129.14	628.49	621.41	2.13	1.1	20.7	6.94	261.89	2222.15	5.07	1.69	7.08	7.08
Dawson County	D6	RM 94.08	48445.46	100-yr	4129.14	628.45	622.37	1.8	1.02	14.27	5.23	338.75	2099.97	5.28	1.93	6.08	6.08
Dawson County	D6	RM 93.96	48246.42	100-yr	4129.14	628.36	621.88	1.95	1.09	17.17	6.63	331.74	2002.42	4.93	1.9	6.48	6.48
Dawson County	D6	RM 93.83	48030.25	100-yr	4129.14	628.27	620.28	2.17	1.16	20.48	8.47	237.8	1919.91	5.59	2.31	7.99	7.99
Dawson County	D6	RM 93.68	47782.89	100-yr	4129.14	627.89	620.19	3.1	1.95	41.38	14.89	191.53	1523.46	5.74	2.06	7.7	7.7
Dawson County	D6	RM 93.57	47606.95	100-yr	4129.14	627.35	620.08	3.98	2.84	70.52	27.45	184.03	723.29	5.17	2.01	7.27	7.27
Dawson County	D6	RM 93.53	47552.11	100-yr	4129.14	627.27	620.21	3.95	2.99	69	29.83	184.33	601.11	5.31	2.29	7.06	7.06
Dawson County	D6	RM 93.47	47460.74	100-yr	4129.14	627.17	618.63	3.88	3.01	66.67	31.44	189.97	549.12	5.3	2.49	8.54	8.54
Dawson County	D6	RM 93.43	47382.46	100-yr	4129.14	627.09	619.44	3.77	2.99	62.19	24.88	191.32	780.97	5.48	2.18	7.65	7.65
Dawson County	D6	RM 93.36	47287.92	100-yr	4129.14	627.12	620.47	3.29	2.52	47.01	18.79	213.34	1257.55	5.58	2.22	6.65	6.65
Dawson County	D6	RM 93.25	47111.44	100-yr	4129.14	626.95	621.12	3.33	2.61	52.21	20.87	228.84	841.44	4.86	1.94	5.83	5.83
Dawson County	D6	RM 93.05	46807.77	100-yr	4129.14	626.89	621.74	2.43	1.7	26.98	12	283.11	1465.59	4.83	2.14	5.15	5.15
Dawson County	D6	RM 92.93	46606.31	100-yr	4129.14	626.78	621.34	2.42	1.58	27.31	11.47	305.87	1566.99	4.47	1.87	5.44	5.44
Dawson County	D6	RM 92.83	46460.06	100-yr	4129.14	626.69	621.02	2.32	1.55	24.95	10.81	357.35	1717.23	3.94	1.7	5.67	5.67
Dawson County	D6	RM 92.71	46261.84	100-yr	4129.14	626.66	620.37	1.87	1.15	16.07	7.9	359.38	1768.27	4.16	2.04	6.29	6.29
Dawson County	D6	RM 92.59	46079.79	100-yr	4129.14	626.59	620.95	1.89	1.17	17	7.07	321.05	1763.56	4.85	2	5.64	5.64
Dawson County	D6	RM 92.50	45933.81	100-yr	4129.14	626.47	620.75	2.15	1.35	21.36	7.93	325.45	1813.71	4.56	1.69	5.72	5.72
Dawson County	D6	RM 92.39	45753.94	100-yr	4129.14	626.3	620.58	2.42	1.55	26.77	7.95	299.01	1884.78	4.77	1.41	5.72	5.72
Dawson County	D6	RM 92.29	45591.17	100-yr	4129.14	626.25	620.64	2.25	1.37	23.04	7.21	295.77	1986.13	4.85	1.51	5.61	5.61
Dawson County	D6	RM 92.18	45414.13	100-yr	4129.14	626.21	620.23	1.99	1.35	18.13	6.64	358.66	2091.08	4.79	1.75	5.98	5.98
Dawson County	D6	RM 92.06	45238.47	100-yr	4129.14	626.12	620.12	2.06	1.5	19.64	8.03	354.46	1452.15	4.65	1.9	6	6
Dawson County	D6	RM 91.99	45117.89	100-yr	4129.14	626.11	619.81	1.74	1.4	14.25	8.14	390.42	1189.68	4.35	2.49	6.3	6.3
Dawson County	D6	RM 91.85	44886.16	100-yr	4129.14	626.06	619.7	1.63	1.27	13.55	8.44	238.98	1428.53	5.09	3.17	6.36	6.36
Dawson County	D6	RM 91.77	44752.88	100-yr	4129.14	625.98	619.28	1.84	1.41	20.04	10.82	224.91	1132.03	4.78	2.58	6.7	6.7
Dawson County	D6	RM 91.61	44507.01	100-yr	4129.14	625.84	619	2.14	1.41	19.83	7.71	148.19	1555.06	5.67	2.2	6.84	6.84
Dawson County	D6	RM 91.45	44219.47	100-yr	4129.14	625.76	618.66	2.15	1.45	20.97	7.34	189.07	1468.29	5.56	1.94	7.1	7.1
Dawson County	D6	RM 91.31	43987.79	100-yr	4129.14	625.53	618.98	2.45	1.65	26.75	10.22	271.16	1267.56	5.18	1.98	6.55	6.55
Dawson County	D6	RM 91.11	43666.49	100-yr	4129.14	625.23	618.54	2.86	1.88	35.24	12.62	219.42	1068.5	5.73	2.06	6.69	6.69
Dawson County	D6	RM 90.97	43442.55	100-yr	4129.14	625.1	618.3	2.85	1.79	35.42	13.17	224.14	1132.59	5.48	2.04	6.8	6.8

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	100-yr	4129.14	624.93	618.97	2.52	1.67	35.45	16.2	268.72	1521.9	5.05	2.3	5.96	5.96
Dawson County	D6	RM 90.59	42823.65	100-yr	4129.14	624.91	618.64	1.91	1.16	16.09	8.07	232.7	1461.79	5.24	2.63	6.27	6.27
Dawson County	D6	RM 90.43	42564.46	100-yr	4129.14	624.63	618.18	2.71	1.46	32.69	11.25	208.77	1603.03	5.12	1.76	6.45	6.45
Dawson County	D6	RM 90.29	42331.05	100-yr	4129.14	624.54	618.21	2.35	1.28	24.23	9.33	236.08	1571.89	5.36	2.06	6.33	6.33
Dawson County	D6	RM 90.16	42118.24	100-yr	4129.14	624.41	618.54	2.48	1.41	26.98	10.11	229.61	1516.12	5.35	2	5.87	5.87
Dawson County	D6	RM 89.96	41795.66	100-yr	4129.14	624.29	618.08	2.13	1.47	20.55	9.53	346.39	1349.62	4.89	2.27	6.21	6.21
Dawson County	D6	RM 89.83	41589.45	100-yr	4129.14	623.96	617.17	3.07	1.86	41.38	15.63	211.95	1094.03	5.35	2.03	6.79	6.79
Dawson County	D6	RM 89.65	41302.33	100-yr	4129.14	623.79	618.15	2.8	1.85	35.22	15.58	251.93	1000.12	5.02	2.23	5.64	5.64
Dawson County	D6	RM 89.46	41003.8	100-yr	4129.14	623.58	617.56	2.77	2	33.04	14.11	236.74	850.61	5.69	2.42	6.02	6.02
Dawson County	D6	RM 89.29	40732.3	100-yr	4129.14	623.59	617.42	2.03	1.75	18.1	14.16	253.25	695.48	5.5	4.3	6.17	6.17
Dawson County	D6	RM 89.13	40476.68	100-yr	4129.14	623.34	617.29	2.63	2.04	30.06	14.74	231.92	750.89	5.56	2.71	6.05	6.05
Dawson County	D6	RM 88.96	40193.97	100-yr	4117.81	623.19	617.14	2.63	2.08	29.49	13.57	186.73	760.74	5.99	2.72	6.05	6.05
Dawson County	D7	RM 88.77	39887.75	100-yr	4117.81	623.03	616.98	2.56	1.97	29.03	14.03	260.04	843.99	5.3	2.56	6.05	6.05
Dawson County	D7	RM 88.58	39581.56	100-yr	4117.81	622.72	616.82	3.08	2.14	40.98	16.35	185.88	913.79	5.83	2.29	5.9	5.9
Dawson County	D7	RM 88.44	39345.29	100-yr	4117.81	622.46	616.7	3.3	2.33	47.07	16.2	181.67	978.59	5.75	1.94	5.76	5.76
Dawson County	D7	RM 88.25	39047.22	100-yr	4117.81	622.35	616.54	2.74	2.05	33.13	12.03	221.53	1093.97	5.33	1.92	5.81	5.81
Dawson County	D7	RM 88.06	38736.32	100-yr	4117.81	622.19	616.38	2.47	1.88	27.43	9.91	305.89	1221.01	5.06	1.82	5.81	5.81
Dawson County	D7	RM 87.87	38426.68	100-yr	4117.81	622.13	616.22	1.91	1.45	17.1	8.04	429.53	1387.87	4.41	2.06	5.91	5.91
Dawson County	D7	RM 87.70	38161.81	100-yr	4117.81	622.08	616.08	1.86	1.28	14.8	5.66	181.73	1503.41	5.99	2.23	6	6
Dawson County	D7	RM 87.52	37862.82	100-yr	4117.81	622.03	615.92	1.65	1.32	12.38	6.98	308.23	1269.56	4.9	2.74	6.1	6.1
Dawson County	D7	RM 87.34	37574.69	100-yr	4117.81	621.78	615.85	2.44	1.77	27.05	14.26	253.88	893.72	4.97	2.6	5.93	5.93
Dawson County	D7	RM 87.17	37307.08	100-yr	4117.81	621.52	615.82	2.98	2.14	38.76	17.47	162.99	771.93	5.61	2.5	5.7	5.7
Dawson County	D7	RM 87.00	37023.47	100-yr	4117.81	621.38	615.79	2.55	2.09	29.52	14.79	241.45	807.16	4.9	2.44	5.59	5.59
Dawson County	D7	RM 86.82	36748.51	100-yr	4117.81	621.19	615.76	2.64	2.22	31.6	16.49	210.89	718.28	5.01	2.59	5.43	5.43
Dawson County	D7	RM 86.67	36501.76	100-yr	4117.81	620.94	615.73	3.1	2.48	43.3	22.43	151.27	633.74	5.2	2.63	5.21	5.21
Dawson County	D7	RM 86.52	36253.46	100-yr	4117.81	620.85	615.7	2.34	1.97	24.85	17.52	250.55	604.43	4.9	3.46	5.16	5.16
Dawson County	D7	RM 86.39	36046.31	100-yr	4117.81	620.75	615.59	2.35	1.9	25.15	16.78	147.45	671.03	4.91	3.22	5.16	5.16
Dawson County	D7	RM 86.24	35796.38	100-yr	4117.81	620.7	615.46	1.73	1.55	13.46	9.04	166.41	779.06	5.17	3.41	5.24	5.24
Dawson County	D7	RM 86.08	35541.56	100-yr	4117.81	620.39	615.48	2.91	2.16	39.22	17.49	160.1	992.56	4.66	2.04	4.91	4.91
Dawson County	D7	RM 85.91	35282.1	100-yr	4117.81	620.25	615.5	2.5	1.77	28.92	13.94	191.42	1038.96	4.66	2.23	4.75	4.75
Dawson County	D7	RM 85.78	35075.01	100-yr	4117.81	620.26	614.9	1.49	1.37	10.44	9	288.53	997.24	4.44	3.82	5.36	5.36
Dawson County	D7	RM 85.59	34774.5	100-yr	4117.81	620.19	614.32	1.76	1.28	13.26	6.8	184.84	1079.36	5.85	2.98	5.88	5.88
Dawson County	D7	RM 85.39	34449.3	100-yr	4117.81	619.95	614.15	2.48	1.89	27.03	12.88	219.47	853.39	5.4	2.55	5.8	5.8
Dawson County	D7	RM 85.23	34186.4	100-yr	4117.81	619.7	614.01	3.07	2.17	40.99	18.85	157.48	736.81	5.68	2.57	5.69	5.69
Dawson County	D7	RM 85.04	33863.7	100-yr	4117.81	619.64	613.84	2.26	1.85	23.14	15.46	265.03	681.31	4.93	3.28	5.79	5.79
Dawson County	D7	RM 84.89	33626.36	100-yr	4117.81	619.53	613.92	2.05	1.88	19.36	12.9	413.04	691.87	4.74	3.16	5.62	5.62
Dawson County	D7	RM 84.72	33349.5	100-yr	4117.81	619.33	613.77	2.35	2.22	25.14	15.48	353.9	613.74	4.91	3.02	5.55	5.55
Dawson County	D7	RM 84.57	33104.21	100-yr	4117.81	619.11	613.45	2.64	2.39	31.03	15.89	294.82	645.22	5.22	2.67	5.66	5.66
Dawson County	D7	RM 84.41	32856.7	100-yr	4117.81	618.99	613.32	2.52	2.17	28.63	11.28	312.69	983.56	5.05	1.98	5.67	5.67
Dawson County	D7	RM 84.22	32552.24	100-yr	4117.81	618.89	613.16	2.26	1.76	22.81	10.19	261.68	1167.38	5.12	2.26	5.74	5.74
Dawson County	D7	RM 84.05	32270.74	100-yr	4117.81	618.72	613.14	2.49	1.76	27.34	10	206.16	1200.13	5.37	1.95	5.59	5.59
Dawson County	D7	RM 83.89	32017.88	100-yr	4117.81	618.45	613.11	2.95	2.01	38.59	12.4	191.2	1218.09	5.26	1.68	5.34	5.34
Dawson County	D7	RM 83.73	31759.16	100-yr	4117.81	618.36	613.07	2.42	1.79	26.65	12.75	240.43	1182.46	4.88	2.32	5.28	5.28
Dawson County	D7	RM 83.53	31426.04	100-yr	4117.81	618.28	613.01	1.88	1.46	15.97	7.86	304.34	1172.91	4.9	2.4	5.27	5.27
Dawson County	D7	RM 83.39	31213.34	100-yr	4117.81	618.2	612.95	2.09	1.54	19.71	9.45	189.12	1121.12	5.04	2.39	5.24	5.24
Dawson County	D7	RM 83.21	30910.79	100-yr	4117.81	618.1	612.91	1.93	1.48	16.62	8.5	170.07	1100.4	5.16	2.6	5.32	5.32
Dawson County	D7	RM 83.05	30660.14	100-yr	4117.81	618.02	612.78	1.81	1.36	14.67	6.92	229.1	1270.47	5.06	2.39	5.56	5.56
Dawson County	D7	RM 82.94	30491.79	100-yr	4117.81	617.96	612.69	1.88	1.38	16	6.96	219.21	1377.45	5.01	2.16	5.57	5.57
Dawson County	D7	RM 82.81	30280.45	100-yr	4117.81	617.85	612.58	2.06	1.41	19.29	7.71	178.49	1512.98	4.85	1.92	5.7	5.7
Dawson County	D7	RM 82.68	30058.39	100-yr	4117.81	617.75	612.34	2.2	1.39	21.41	8.37	152.77	1421.22	5.41	2.08	5.65	5.65
Dawson County	D7	RM 82.51	29786.14	100-yr	4117.81	617.72	612.1	1.62	1.11	11.69	5.31	229.35	1558.7	5.29	2.37	5.87	5.87
Dawson County	D7	RM 82.33	29497.12	100-yr	4117.81	617.65	611.87	1.7	1.01	12.76	6.08	246.87	1608.63	5.42	2.53	5.9	5.9
Dawson County	D7	RM 82.22	29323.27	100-yr	4117.81	617.58	611.66	1.97	1	16.83	7.06	193.52	1967.86	5.55	2.31	5.92	5.92
Dawson County	D7	RM 82.06	29049.94	100-yr	4117.81	617.54	611.37	1.74	0.91	13.12	4.83	202.97	2154.51	5.83	2.1	6.17	6.17
Dawson County	D7	RM 81.91	28820.21	100-yr	4117.81	617.5	611.21	1.74	0.88	12.83	4.58	191.58	2164.22	6.17	2.17	6.29	6.29
Dawson County	D7	RM 81.71	28446.75	100-yr	4117.81	617.45	611.02	1.47	0.85	9	3.12	220.81	2361.75	6.23	2.14	6.42	6.42
Dawson County	D7	RM 81.49	28026.4	100-yr	4117.81	617.24	610.8	2.37	1.16	23.41	6.48	165.37	2373.75	6.43	1.74	6.44	6.44
Dawson County	D7	RM 81.31	27735.46	100-yr	4109.32	616.62	610.65	3.98	1.75	68.11	13.53	131.98	2486.46	5.89	1.13	5.97	5.97
Dawson County	D8	RM 81.10	27398.33	100-yr	4109.32	616.25	610.47	3.57	1.66	55.35	11.18	160.09	2595.38	5.67	1.13	5.77	5.77
Dawson County	D8	RM 80.94	27148.21	100-yr	4109.32	616.21	610.34	2.7	1.46	31.7	6.79	225.85	2565.6	5.61	1.19	5.87	5.87

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	100-yr	4109.32	616.21	610.19	2.1	1.08	18.76	4.61	181.68	3027.64	6.01	1.44	6.02	6.02
Dawson County	D8	RM 80.64	26669.58	100-yr	4109.32	616.16	610.09	2.01	1	17.31	3.92	209.02	3438.66	5.83	1.3	6.07	6.07
Dawson County	D8	RM 80.45	26373.01	100-yr	4109.32	616.16	609.94	1.44	0.82	8.92	2.82	122.91	3480.24	6.08	1.85	6.22	6.22
Dawson County	D8	RM 80.17	25926.88	100-yr	4109.32	616.06	609.71	1.92	0.86	15.6	3.54	146.98	3683.56	6.34	1.39	6.35	6.35
Dawson County	D8	RM 79.91	25496.94	100-yr	4109.32	615.97	609.42	1.53	0.78	10.19	2.76	362.06	3465.5	5.65	1.51	6.55	6.55
Dawson County	D8	RM 79.43	24626.85	100-yr	4109.32	615.72	609.14	1.94	0.97	15.84	3.83	289.02	2888.22	6.09	1.46	6.58	6.58
Dawson County	D8	RM 79.23	24229.4	100-yr	4109.32	615.2	608.87	3.35	1.65	47.95	8.32	173.46	2438.93	6.13	1.02	6.33	6.33
Dawson County	D8	RM 78.27	22640.58	100-yr	4109.32	614.51	608.6	2.37	1.46	24.81	10.13	226.68	1296	5.39	2.17	5.91	5.91
Dawson County	D8	RM 78.12	22398.86	100-yr	4109.32	614.46	608.48	2.14	1.43	20.16	7.67	222.94	1405.15	5.44	2.05	5.98	5.98
Dawson County	D8	RM 77.97	22135.34	100-yr	4109.32	614.32	608.34	2.36	1.53	24.06	8.66	214.67	1305.01	5.76	2.05	5.98	5.98
Dawson County	D8	RM 77.79	21831.85	100-yr	4109.32	614.27	608.18	1.93	1.42	17.03	7.66	332.54	1371.89	4.72	2.11	6.08	6.08
Dawson County	D8	RM 77.57	21474.71	100-yr	4109.32	614.02	608	2.43	1.76	25.5	8.6	250.08	1237.61	5.64	1.89	6.02	6.02
Dawson County	D8	RM 77.38	21170.35	100-yr	4109.32	613.77	607.84	2.78	1.93	33.57	10.39	215.18	1223.55	5.67	1.74	5.93	5.93
Dawson County	D8	RM 77.13	20780.17	100-yr	4109.32	613.78	607.63	1.92	1.38	15.88	6.61	188.55	1413.51	5.77	2.37	6.15	6.15
Dawson County	D8	RM 77.00	20442.34	100-yr	4109.32	613.67	607.46	2.25	1.41	21.6	6.98	131.83	1526.61	6.2	1.91	6.21	6.21
Dawson County	D8	RM 76.90	20124.49	100-yr	4109.32	613.58	607.29	2.17	1.48	19.86	6.1	153.24	1499.51	6.28	1.86	6.29	6.29
Dawson County	D8	RM 76.76	19785.25	100-yr	4109.32	613.52	607.12	1.8	1.32	13.79	5.29	269.03	1407.98	5.96	2.27	6.4	6.4
Dawson County	D8	RM 76.63	19501.04	100-yr	4109.32	613.43	606.97	1.93	1.44	16.31	7.17	246.86	1197.58	5.49	2.38	6.46	6.46
Dawson County	D8	RM 76.37	19137.53	100-yr	4109.32	613.17	606.78	2.35	1.68	23.56	8.83	272.76	1112.76	5.9	2.2	6.4	6.4
Dawson County	D8	RM 76.22	18884.28	100-yr	4109.32	613.04	606.65	2.46	1.71	25.6	10.5	253.7	979.79	6.01	2.45	6.4	6.4
Dawson County	D8	RM 76.00	18519.22	100-yr	4109.32	612.79	606.61	2.76	1.68	32.85	10.58	225.2	1323.46	5.79	1.84	6.18	6.18
Dawson County	D8	RM 75.75	18119.45	100-yr	4109.32	612.44	606.58	3.08	1.89	41.49	10.57	209.51	1550.51	5.56	1.4	5.85	5.85
Dawson County	D8	RM 75.56	17818.36	100-yr	4109.32	612.37	606.75	2.38	1.52	25.65	8.33	303.99	1713.11	4.9	1.58	5.62	5.62
Dawson County	D8	RM 75.31	17411.3	100-yr	4109.32	612.2	606.34	2.33	1.48	23.85	7.25	263.12	1707.06	5.39	1.63	5.86	5.86
Dawson County	D8	RM 75.13	17092.44	100-yr	4109.32	612.07	606.17	2.22	1.37	21.92	7.28	306.22	1739.5	5.2	1.72	5.9	5.9
Dawson County	D8	RM 74.90	16719.46	100-yr	4109.32	611.66	605.98	3.03	1.69	40.87	10.68	224.87	1817.1	5.18	1.34	5.69	5.69
Dawson County	D8	RM 74.65	16308.2	100-yr	4109.32	611.55	605.91	2.33	1.4	24.21	7.53	267.86	1846.74	5.16	1.59	5.64	5.64
Dawson County	D8	RM 74.37	15846.14	100-yr	4109.32	611.31	605.85	2.53	1.55	29.13	8.32	221.55	1940.34	4.83	1.37	5.46	5.46
Dawson County	D8	RM 74.13	15464.97	100-yr	4109.32	611.12	605.82	2.31	1.47	24.14	6.62	235.57	2118.26	4.92	1.34	5.3	5.3
Dawson County	D8	RM 73.91	15098.01	100-yr	4109.32	610.98	605.99	1.98	1.29	18.3	6.05	283.69	2124.56	4.56	1.5	4.99	4.99
Dawson County	D8	RM 73.71	14783.86	100-yr	4109.32	610.87	605.87	1.87	1.2	16.27	4.91	292.2	2511.44	4.61	1.38	5	5
Dawson County	D8	RM 73.53	14496.67	100-yr	4109.32	610.78	605.72	1.84	1.12	15.54	5.64	249.62	2684.49	4.78	1.73	5.06	5.06
Dawson County	D8	RM 73.29	14096.19	100-yr	4109.32	610.31	605.51	3.09	1.8	44.04	11.15	198.62	1934.04	4.7	1.18	4.8	4.8
Dawson County	D8	RM 73.07	13729.79	100-yr	4109.32	609.71	605.52	3.63	2.43	63.22	15.37	196.15	1694.32	4.13	1	4.46	4.46
Dawson County	D8	RM 72.83	13354.45	100-yr	4109.32	609.38	604.9	2.8	1.97	37.28	11.47	264.25	1602.82	4.24	1.3	4.48	4.48
Dawson County	D8	RM 72.62	13000.82	100-yr	4109.32	609.14	604.4	2.51	1.74	29.4	8.89	295.23	1907.09	4.51	1.36	4.74	4.74
Dawson County	D8	RM 72.37	12609.05	100-yr	4109.32	608.86	603.89	2.66	1.77	32.36	11.78	228.58	1345.55	4.78	1.73	4.97	4.97
Dawson County	D8	RM 72.16	12261.75	100-yr	4109.32	608.6	603.69	2.6	1.8	31.26	11.1	286.3	1451.94	4.63	1.64	4.91	4.91
Dawson County	D8	RM 71.92	11875.08	100-yr	4109.32	608.45	603.18	2.14	1.58	21.05	7.69	345.16	1553.47	4.73	1.73	5.27	5.27
Dawson County	D8	RM 71.69	11512.65	100-yr	4109.32	608.27	602.95	2.25	1.52	22.84	8.01	303.44	1573.39	4.93	1.72	5.32	5.32
Dawson County	D8	RM 71.49	11192.6	100-yr	4109.32	608.06	602.03	2.5	1.53	27.08	7.84	237.66	1642.05	5.7	1.64	6.03	6.03
Dawson County	D8	RM 71.31	10913.3	100-yr	4109.32	607.92	601.99	2.49	1.54	27	8.02	244.59	1633.79	5.55	1.64	5.93	5.93
Dawson County	D9	RM 71.10	10567.75	100-yr	4103.65	607.85	602.11	2	1.41	17.76	6.52	197.48	1535.81	5.23	1.9	5.74	5.74
Dawson County	D9	RM 70.91	10267.7	100-yr	4103.65	607.73	602.05	2.25	1.29	22.06	8.07	126.11	1586.64	5.61	2.01	5.68	5.68
Dawson County	D9	RM 70.72	9968.939	100-yr	4103.65	607.62	601.91	2.25	1.32	22.04	9.35	153.19	1522.96	5.7	2.34	5.71	5.71
Dawson County	D9	RM 70.50	9603.574	100-yr	4103.65	607.46	601.9	2.08	1.69	19.36	11.71	251.24	856.85	5.17	3.12	5.56	5.56
Dawson County	D9	RM 70.27	9238.535	100-yr	4103.65	607.14	601.31	2.71	1.85	31.97	11.56	236.79	1117.59	5.51	1.99	5.83	5.83
Dawson County	D9	RM 70.08	8928.013	100-yr	4103.65	607.02	600.85	2.51	1.56	27.25	9.65	234.44	1322.23	5.68	1.99	6.17	6.17
Dawson County	D9	RM 69.79	8464.726	100-yr	4103.65	606.89	600.61	2.14	1.22	19.71	6.99	248.41	1632.71	5.82	2.05	6.29	6.29
Dawson County	D9	RM 69.50	7983.226	100-yr	4103.65	606.8	600.56	1.98	1.08	16.89	6.42	237.14	1759.49	5.73	2.16	6.24	6.24
Dawson County	D9	RM 69.26	7575.04	100-yr	4103.65	606.68	600.35	2.03	1.1	17.56	6.81	245.78	1648.52	5.87	2.26	6.33	6.33
Dawson County	D9	RM 69.03	7206.967	100-yr	4103.65	606.59	599.95	1.96	1.2	16.1	5.02	236.36	1762.58	6.28	1.94	6.64	6.64
Dawson County	D9	RM 68.82	6851.789	100-yr	4103.65	606.38	599.77	2.39	1.41	24.23	7.48	217.59	1647.57	6.05	1.84	6.61	6.61
Dawson County	D9	RM 68.60	6509.797	100-yr	4103.65	605.97	599.59	3.09	1.95	40.19	9.81	189.13	1407.93	6.25	1.49	6.38	6.38
Dawson County	D9	RM 68.39	6158.879	100-yr	4103.65	605.8	599.51	2.77	1.98	33.17	8.53	241.73	1435.32	5.67	1.44	6.29	6.29
Dawson County	D9	RM 68.11	5709.195	100-yr	4103.65	605.58	599.37	2.57	1.9	28.77	9.27	262.72	1209.39	5.57	1.78	6.21	6.21
Dawson County	D9	RM 67.86	5308.187	100-yr	4103.65	605.36	599.17	2.8	2.12	33.58	11.55	130.41	960.49	6.02	2.01	6.19	6.19
Dawson County	D10	RM 67.57	4859.184	100-yr	4086.66	605.12	598.93	2.55	2.1	27.81	8.61	240.29	1081.27	5.84	1.8	6.19	6.19
Dawson County	D10	RM 67.37	4523.862	100-yr	4086.66	605.04	598.75	2.27	1.62	22	6.5	224.36	1683.36	5.87	1.72	6.28	6.28
Dawson County	D10	RM 67.15	4175.103	100-yr	4086.66	604.66	598.47	3.18	1.8	43.28	9.04	158.11	1857.56	5.97	1.22	6.18	6.18

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

100-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	100-yr	4086.66	604.6	598.2	2.38	1.44	24.71	8.47	211.57	1517.08	5.53	1.88	6.4	6.4
Dawson County	D10	RM 66.74	3505.323	100-yr	4086.66	604.38	598.12	2.61	1.6	28.87	6.66	189.78	1841.71	6.12	1.38	6.25	6.25
Dawson County	D10	RM 66.52	3142.889	100-yr	4086.66	604.14	598.26	2.63	1.7	30.17	7.42	249	1774.2	5.56	1.36	5.88	5.88
Dawson County	D10	RM 66.28	2774.58	100-yr	4086.66	603.59	598.21	3.49	2.67	54.42	16.78	206.17	971.58	5.13	1.58	5.38	5.38
Dawson County	D10	RM 66.11	2492.331	100-yr	4086.66	603.47	597.8	2.85	2.26	36.92	11.57	269.84	1176.35	4.93	1.54	5.67	5.67
Dawson County	D10	RM 65.90	2160.839	100-yr	4086.66	603.36	597.33	2.48	1.87	27.13	9.69	227.64	1137.63	5.44	1.92	6.03	6.03
Dawson County	D10	RM 65.75	1926.044	100-yr	4086.66	603.24	597.2	2.45	1.9	27.28	8.41	203.78	1445.04	4.98	1.51	6.04	6.04
Dawson County	D10	RM 65.60	1669.095	100-yr	4086.66	603.06	597.07	2.74	1.66	32.57	8.84	140.14	1739.13	5.76	1.53	6	6
Dawson County	D10	RM 65.42	1386.836	100-yr	4086.66	602.95	596.92	2.23	1.59	21.72	5.57	247.82	1828.82	5.57	1.41	6.03	6.03
Dawson County	D10	RM 65.23	1090.639	100-yr	4086.66	602.83	596.91	2.21	1.43	22.7	7.15	263.18	2187.43	4.56	1.42	5.93	5.93
Dawson County	D10	RM 64.96	634.963	100-yr	4086.66	602.7	597.09	1.91	1.11	16.32	5.51	270.22	2738.81	5.08	1.71	5.61	5.61

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	100-yr	4086.1	602.58	596.42	1.41	0.82	9.27	3.86	398.12	2612.25	4.62	1.91	6.16	6.16
Richland/McKenzie County	D10	RM 64.32	103200	100-yr	4086.1	602.48	596.33	1.86	0.88	15.33	5.86	232.97	2308.69	5.3	2.01	6.15	6.15
Richland/McKenzie County	D10	RM 64.12	102900	100-yr	4086.1	602.43	596.18	1.59	0.92	11.52	5.12	281.09	2059.41	4.89	2.15	6.25	6.25
Richland/McKenzie County	D10	RM 63.92	102601	100-yr	4086.1	602.39	596.08	1.5	0.82	10.36	5.14	273.38	2131.85	4.77	2.34	6.31	6.31
Richland/McKenzie County	D10	RM 63.74	102302	100-yr	4086.1	602.33	595.94	1.62	0.86	11.68	5.03	254.65	2151.28	5.17	2.21	6.39	6.39
Richland/McKenzie County	D10	RM 63.55	101998	100-yr	4086.1	602.27	595.79	1.72	0.85	12.53	4.93	210.56	2049.83	6.01	2.34	6.48	6.48
Richland/McKenzie County	D10	RM 63.34	101671	100-yr	4086.1	602.22	595.21	1.68	0.83	12.47	5.88	241.49	1996.3	5.26	2.46	7.01	7.01
Richland/McKenzie County	D10	RM 63.08	101293	100-yr	4086.1	601.88	595.12	2.95	1.21	37.92	14.41	159.68	1607.68	5.6	2.09	6.76	6.76
Richland/McKenzie County	D10	RM 62.96	101094	100-yr	4086.1	601.7	595.12	3.13	1.41	52.87	17.02	149.74	1547.3	5.96	1.88	6.58	6.58
Richland/McKenzie County	D10	RM 62.83	100882	100-yr	4086.1	601.56	595.12	3.04	1.41	43.89	14.21	161.51	1488.8	6.12	1.94	6.44	6.44
Richland/McKenzie County	D10	RM 62.64	100582	100-yr	4086.1	601.43	595.12	2.76	1.4	32.33	11.37	189.94	1402.82	6.03	2.09	6.31	6.31
Richland/McKenzie County	D10	RM 62.46	100282	100-yr	4086.1	600.87	595.1	3.85	2.15	65.3	19.83	161.13	1176.11	5.42	1.61	5.77	5.77
Richland/McKenzie County	D10	RM 62.27	99977	100-yr	4086.1	600.95	594.91	2.2	1.51	21.33	8.87	303.35	1221.85	5.4	2.21	6.04	6.04
Richland/McKenzie County	D10	RM 62.1	99691	100-yr	4086.1	600.87	594.75	1.91	1.36	16.29	8.68	274.06	1234.82	4.6	2.44	6.12	6.12
Richland/McKenzie County	D10	RM 61.91	99377	100-yr	4086.1	600.72	594.51	2.12	1.34	19.64	10.04	164.84	1211.33	5	2.52	6.21	6.21
Richland/McKenzie County	D10	RM 61.72	99082	100-yr	4086.1	600.56	594.36	2.33	1.45	23.67	9.71	127.17	1259.01	5.57	2.24	6.2	6.2
Richland/McKenzie County	D10	RM 61.54	98782	100-yr	4086.1	600.17	594.36	2.87	1.97	35.78	12.52	230.57	1134.68	5.29	1.83	5.81	5.81
Richland/McKenzie County	D10	RM 61.35	98482	100-yr	4086.1	599.96	594.26	2.89	2.01	37.01	13.69	215	1059.62	5.26	1.92	5.7	5.7
Richland/McKenzie County	D10	RM 61.16	98182	100-yr	4086.1	599.92	594.17	2.09	1.5	19.79	8.38	248.77	1319.99	4.92	2.07	5.75	5.75
Richland/McKenzie County	D10	RM 60.99	97906	100-yr	4086.1	599.76	594.02	2.34	1.44	24.13	8.85	216.72	1469.98	5.32	1.93	5.74	5.74
Richland/McKenzie County	D10	RM 60.79	97582	100-yr	4086.1	599.64	593.78	2.19	1.23	22.16	8.78	224.25	1839.25	4.61	1.81	5.86	5.86
Richland/McKenzie County	D10	RM 60.64	97339	100-yr	4086.1	599.64	593.58	1.41	0.91	9.35	4.45	266.31	2296.42	4.41	2.08	6.06	6.06
Richland/McKenzie County	D10	RM 60.42	96982	100-yr	4086.1	599.49	593.38	1.96	1.04	16.94	5.28	215.62	2517.72	5.17	1.59	6.11	6.11
Richland/McKenzie County	D10	RM 60.25	96700	100-yr	4086.1	599.38	593.24	2.22	1.01	22.93	7.81	192.38	2622.78	4.6	1.54	6.14	6.14
Richland/McKenzie County	D10	RM 60.04	96365	100-yr	4086.1	599.25	593.14	2.01	0.98	19.57	8.33	227.05	2444.16	4.08	1.71	6.11	6.11
Richland/McKenzie County	D10	RM 59.86	96088	100-yr	4086.1	599.15	592.99	2.06	0.85	18.36	6.31	171.89	2516.54	5.68	1.91	6.16	6.16
Richland/McKenzie County	D10	RM 59.65	95769	100-yr	4086.1	599.12	592.85	1.59	0.76	11.27	4.49	207.22	2636.09	5.22	2.04	6.27	6.27
Richland/McKenzie County	D10	RM 59.5	95530	100-yr	4086.1	599.04	592.75	1.74	0.85	13.86	5.28	206.9	2640.01	4.87	1.83	6.29	6.29
Richland/McKenzie County	D10	RM 59.29	95183	100-yr	4086.1	598.96	592.55	1.64	0.88	12.24	4.76	232.08	2444.56	4.97	1.91	6.41	6.41
Richland/McKenzie County	D10	RM 59.07	94797	100-yr	4086.1	598.89	592.36	1.48	0.86	10.94	4.75	408.43	2298.85	4.77	2.06	6.53	6.53
Richland/McKenzie County	D10	RM 58.93	94582	100-yr	4086.1	598.79	592.31	1.85	0.95	15.33	6.11	328.36	2153.84	5.05	1.99	6.48	6.48
Richland/McKenzie County	D10	RM 58.75	94282	100-yr	4086.1	598.68	592.28	2.04	1.02	17.8	6.24	264.72	2014.39	5.75	1.99	6.4	6.4
Richland/McKenzie County	D10	RM 58.56	93982	100-yr	4086.1	598.29	592.22	3.27	1.43	46.09	12.67	157.23	1835.9	5.79	1.56	6.07	6.07
Richland/McKenzie County	D10	RM 58.37	93682	100-yr	4086.1	598	592.22	3.29	1.67	47.43	12.93	186.39	1662.16	5.5	1.48	5.78	5.78
Richland/McKenzie County	D10	RM 58.19	93382	100-yr	4086.1	598.03	592.22	2.17	1.32	20.48	7.48	254.64	1522.2	5.64	2.04	5.81	5.81
Richland/McKenzie County	D10	RM 58.01	93086	100-yr	4086.1	597.63	592.14	2.99	2.04	39.86	12.02	236.71	1287.45	5.23	1.56	5.49	5.49
Richland/McKenzie County	D10	RM 57.82	92782	100-yr	4086.1	597.6	592.11	2.09	1.54	20.36	9.04	308.1	1320.54	4.55	2.01	5.49	5.49
Richland/McKenzie County	D10	RM 57.63	92482	100-yr	4086.1	597.47	592.11	2.47	1.51	27.51	10.58	160.84	1405.5	5.06	1.92	5.36	5.36
Richland/McKenzie County	D10	RM 57.46	92205	100-yr	4086.1	597.4	591.95	1.82	1.16	14.87	6.5	192.28	1692.36	5.17	2.23	5.45	5.45
Richland/McKenzie County	D10	RM 57.26	91882	100-yr	4086.1	597.17	591.9	2.34	1.48	25.55	8.99	136.34	1735.02	4.6	1.59	5.27	5.27
Richland/McKenzie County	D10	RM 57.07	91583	100-yr	4086.1	597.11	591.73	1.9	1.19	16.17	6.47	137.42	1898	5.13	2.02	5.38	5.38
Richland/McKenzie County	D10	RM 56.87	91253	100-yr	4086.1	596.97	591.49	1.75	1.29	14.19	6.88	186.15	1815.66	4.67	2.25	5.54	5.54
Richland/McKenzie County	D10	RM 56.68	90943	100-yr	4086.1	596.9	591.12	1.57	1.3	11.58	7.62	299.58	1597.05	4.46	2.92	5.78	5.78
Richland/McKenzie County	D10	RM 56.54	90682	100-yr	4077.6	596.69	590.76	2.03	2.02	23.31	16.43	216.66	1091.53	3.99	2.8	5.97	5.97
Richland/McKenzie County	D10	RM 56.35	90387	100-yr	4077.6	596.5	590.46	2.18	2.07	21.91	15.58	174.85	1194.5	4.7	3.31	6.04	6.04
Richland/McKenzie County	D11	RM 56.16	90086	100-yr	4077.6	595.93	590.11	3.38	3.05	50.59	29.02	221.5	853.5	5.38	3.05	5.82	5.82
Richland/McKenzie County	D11	RM 55.96	89768	100-yr	4077.6	595.71	589.96	3.15	2.61	43.33	20.45	222.74	808.09	5.5	2.58	5.75	5.75
Richland/McKenzie County	D11	RM 55.78	89479	100-yr	4077.6	595.65	589.96	2.64	1.79	30.66	11.32	216.81	1373.33	5.38	1.97	5.69	5.69
Richland/McKenzie County	D11	RM 55.61	89193	100-yr	4077.6	595.49	589.98	2.61	1.62	30.31	9.02	222.22	1827.75	5.29	1.56	5.51	5.51
Richland/McKenzie County	D11	RM 55.41	88882	100-yr	4077.6	595.35	589.76	2.45	1.45	27.07	8.37	203.81	1815.92	5.06	1.55	5.59	5.59
Richland/McKenzie County	D11	RM 55.23	88582	100-yr	4077.6	595.17	589.53	2.45	1.47	26.41	7.86	238.9	1736.02	5.43	1.59	5.64	5.64
Richland/McKenzie County	D11	RM 55.04	88282	100-yr	4077.6	594.94	589.39	2.67	1.63	32.4	9.25	252.08	1803.77	4.89	1.38	5.55	5.55
Richland/McKenzie County	D11	RM 54.86	87996	100-yr	4077.6	594.54	589.33	3.28	2.17	51.16	15.56	223.77	1484.25	4.28	1.29	5.21	5.21
Richland/McKenzie County	D11	RM 54.69	87715	100-yr	4077.6	594.5	589.23	2.31	1.71	24.69	9.04	188.11	1597.79	4.63	1.68	5.27	5.27
Richland/McKenzie County	D11	RM 54.48	87382	100-yr	4077.6	594.4	589.15	1.93	1.12	17.03	5.34	179.29	2582.37	4.76	1.47	5.25	5.25
Richland/McKenzie County	D11	RM 54.32	87122	100-yr	4077.6	594.31	589	1.96	0.99	17.27	5.3	159.94	2669.07	5.16	1.55	5.31	5.31
Richland/McKenzie County	D11	RM 54.1	86783	100-yr	4077.6	594.19	588.83	1.76	1.06	13.9	4.63	202.24	2256.17	5.21	1.71	5.36	5.36
Richland/McKenzie County	D11	RM 53.92	86482	100-yr	4077.6	594.11	588.68	1.71	1.07	13.44	5.01	255.08	2399.15	4.72	1.73	5.43	5.43
Richland/McKenzie County	D11	RM 53.73	86182	100-yr	4077.6	594	588.51	1.97	1.05	17.19	5.74	196.75	2748.56	5.28	1.73	5.49	5.49
Richland/McKenzie County	D11	RM 53.55	85882	100-yr	4077.6	593.85	588.37	2.04	1.16	18.59	6.35	181.72	2169.38	5.14	1.73	5.48	5.48
Richland/McKenzie County	D11	RM 53.36	85582	100-yr	4077.6	593.7	588.01	2.2	1.2	22.4	7.3	166.55	2465.31	4.64	1.49	5.69	5.69

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	100-yr	4077.6	593.12	587.56	3.43	1.78	52.76	11.34	206.08	2178.66	5.07	1.08	5.56	5.56
Richland/McKenzie County	D11	RM 52.98	84982	100-yr	4077.6	592.93	587.56	2.9	1.29	42.19	15.29	271.44	2912.66	3.65	1.31	5.37	5.37
Richland/McKenzie County	D11	RM 52.79	84682	100-yr	4077.6	592.72	587.56	2.31	1.23	27.33	11.88	387.04	2621.88	3.44	1.48	5.16	5.16
Richland/McKenzie County	D11	RM 52.61	84390	100-yr	4077.6	592.57	587.43	1.95	1.24	18.47	6.36	450.01	3120.46	4.07	1.39	5.14	5.14
Richland/McKenzie County	D11	RM 52.42	84082	100-yr	4077.6	592.51	587.28	1.65	0.99	13.56	5.14	409.99	3600.14	3.67	1.38	5.23	5.23
Richland/McKenzie County	D11	RM 52.24	83798	100-yr	4077.6	592.45	587.28	1.51	0.72	10.78	4.02	227.41	3682.06	4.37	1.61	5.17	5.17
Richland/McKenzie County	D11	RM 52.01	83423	100-yr	4077.6	592.28	587.23	2.09	0.87	20.1	5.4	124.91	3913.14	4.84	1.26	5.05	5.05
Richland/McKenzie County	D11	RM 51.87	83182	100-yr	4077.6	592.21	587.16	1.66	0.81	13.83	5.62	156.7	3482.86	3.65	1.46	5.05	5.05
Richland/McKenzie County	D11	RM 51.69	82882	100-yr	4077.6	592.13	587.16	1.46	0.74	10.4	3.9	151.24	3616.16	4.17	1.53	4.97	4.97
Richland/McKenzie County	D11	RM 51.51	82585	100-yr	4077.6	592.07	587.16	1.67	0.8	13.69	4.95	149.84	3667.85	3.9	1.38	4.91	4.91
Richland/McKenzie County	D11	RM 51.32	82274	100-yr	4077.6	592.02	587.16	1.42	0.71	9.93	4.17	173.83	3638.99	3.85	1.59	4.86	4.86
Richland/McKenzie County	D11	RM 51.13	81982	100-yr	4077.6	591.97	587.13	1.54	0.72	11.03	3.75	164.51	3929.02	4.66	1.56	4.86	4.86
Richland/McKenzie County	D11	RM 50.95	81682	100-yr	4077.6	591.9	587.08	1.38	0.63	8.9	3.35	144.96	4406.99	4.6	1.7	4.82	4.82
Richland/McKenzie County	D11	RM 50.76	81378	100-yr	4077.6	591.85	586.89	1.29	0.57	7.87	3.47	174.41	4559.21	4.46	1.92	4.96	4.96
Richland/McKenzie County	D11	RM 50.56	81065	100-yr	4077.6	591.71	586.37	1.69	0.73	12.79	4.22	171.61	3802.23	5.21	1.69	5.34	5.34
Richland/McKenzie County	D11	RM 50.39	80787	100-yr	4077.6	591.66	585.7	1.63	0.71	11.46	3.63	196.96	3741.76	5.85	1.82	5.96	5.96
Richland/McKenzie County	D11	RM 50.21	80482	100-yr	4077.6	591.57	585.55	1.64	0.84	11.83	4.3	234.94	2712.92	5.3	1.91	6.02	6.02
Richland/McKenzie County	D11	RM 50.02	80182	100-yr	4069.1	591.42	585.55	1.99	1.06	17.63	6.06	197.51	2396.79	5.23	1.76	5.87	5.87
Richland/McKenzie County	D12	RM 49.82	79860	100-yr	4069.1	591.03	585.55	2.96	1.55	39.1	9.91	212.06	2009.94	5.24	1.31	5.48	5.48
Richland/McKenzie County	D12	RM 49.65	79582	100-yr	4069.1	590.65	585.55	3.37	2.01	51.9	12.97	213.94	1684.51	4.85	1.2	5.1	5.1
Richland/McKenzie County	D12	RM 49.5	79348	100-yr	4069.1	590.8	585.49	1.7	1.12	12.83	4.27	356	2106.28	5.22	1.73	5.35	5.35
Richland/McKenzie County	D12	RM 49.26	78981	100-yr	4069.1	590.72	585.29	1.95	1.18	16.93	5.61	137.44	2038.43	5.21	1.69	5.43	5.43
Richland/McKenzie County	D12	RM 49.08	78682	100-yr	4069.1	590.58	585.11	2.1	1.23	19.74	6.15	156.64	2075.04	5.21	1.6	5.54	5.54
Richland/McKenzie County	D12	RM 48.87	78351	100-yr	4069.1	590.48	584.96	2.02	1.15	18.17	6	209.35	2051.34	5.25	1.72	5.52	5.52
Richland/McKenzie County	D12	RM 48.7	78082	100-yr	4069.1	590.4	584.86	1.95	1.22	17.76	7.72	252.25	1734.67	4.5	1.93	5.54	5.54
Richland/McKenzie County	D12	RM 48.52	77782	100-yr	4069.1	590.38	584.74	1.32	0.95	8.17	4.51	473.03	1749.66	4.43	2.44	5.64	5.64
Richland/McKenzie County	D12	RM 48.33	77482	100-yr	4069.1	590.33	584.51	1.35	0.98	10.28	6.21	517.65	1818.89	3.81	2.29	5.81	5.81
Richland/McKenzie County	D12	RM 48.15	77182	100-yr	4069.1	590.22	584.24	1.58	0.93	11.94	7.26	497.96	1851.24	3.93	2.38	5.98	5.98
Richland/McKenzie County	D12	RM 47.97	76887	100-yr	4069.1	590.2	584.09	1.15	0.77	6.37	4.38	601.73	2215.87	3.6	2.47	6.11	6.11
Richland/McKenzie County	D12	RM 47.76	76570	100-yr	4069.1	590.15	583.86	1.14	0.8	6.66	4.19	565.5	2150.38	3.93	2.46	6.29	6.29
Richland/McKenzie County	D12	RM 47.59	76293	100-yr	4069.1	590.09	583.71	1.31	0.83	8.28	4.24	391.27	2070.03	4.66	2.37	6.38	6.38
Richland/McKenzie County	D12	RM 47.4	75982	100-yr	4069.1	589.99	583.42	1.72	0.89	13.02	5.54	196.88	1965.08	5.5	2.31	6.57	6.57
Richland/McKenzie County	D12	RM 47.12	75521	100-yr	4069.1	589.77	583.04	2.13	1.07	18.87	6.28	234.72	1793.99	6.47	2.12	6.73	6.73
Richland/McKenzie County	D12	RM 47	75323	100-yr	4069.1	589.47	583.04	3.17	1.37	43.17	13.03	162.2	1700.64	5.86	1.74	6.43	6.43
Richland/McKenzie County	D12	RM 46.85	75082	100-yr	4069.1	589.3	583.04	3.08	1.48	40.74	12.2	184.53	1607.52	5.8	1.71	6.26	6.26
Richland/McKenzie County	D12	RM 46.67	74782	100-yr	4069.1	588.96	583.04	3.35	1.87	48.54	13.82	185.83	1345.81	5.76	1.62	5.92	5.92
Richland/McKenzie County	D12	RM 46.47	74459	100-yr	4069.1	588.94	583.04	2.33	1.69	24.11	10.2	312.11	1093.24	5.25	2.2	5.9	5.9
Richland/McKenzie County	D12	RM 46.3	74186	100-yr	4069.1	588.79	583.04	2.32	1.87	24.25	15.31	421.1	961.28	3.97	2.49	5.75	5.75
Richland/McKenzie County	D12	RM 46.14	73920	100-yr	4069.1	588.67	583.04	2.12	1.76	20.24	13.55	454.73	865.48	4.04	2.69	5.63	5.63
Richland/McKenzie County	D12	RM 45.9	73546	100-yr	4069.1	588.5	582.97	2.15	1.47	21.32	10.31	339.6	1291.12	4.66	2.24	5.53	5.53
Richland/McKenzie County	D12	RM 45.75	73307	100-yr	4069.1	588.31	582.88	2.39	1.55	27.75	12.39	351.5	1562.68	4.03	1.79	5.43	5.43
Richland/McKenzie County	D12	RM 45.54	72980	100-yr	4069.1	588.19	582.55	1.98	1.29	18.08	6.93	382.5	1875.17	4.64	1.76	5.64	5.64
Richland/McKenzie County	D12	RM 45.29	72680	100-yr	4069.1	588.07	582.25	2.06	1.23	19.6	7.95	347.33	1793.68	4.6	1.85	5.82	5.82
Richland/McKenzie County	D12	RM 45.09	72380	100-yr	4069.1	587.96	582.08	2.07	1.1	18.78	6.33	267.36	2016.33	5.48	1.83	5.88	5.88
Richland/McKenzie County	D12	RM 44.91	72080	100-yr	4069.1	587.87	582.01	2.01	1.1	17.87	6.07	283.48	2098.46	5.26	1.77	5.86	5.86
Richland/McKenzie County	D12	RM 44.72	71783	100-yr	4069.1	587.64	581.97	2.57	1.23	29.12	8.17	208.81	2340.53	5.36	1.48	5.67	5.67
Richland/McKenzie County	D12	RM 44.53	71483	100-yr	4069.1	587.38	581.82	2.96	1.42	39.39	10.06	177.29	2224.23	5.11	1.29	5.56	5.56
Richland/McKenzie County	D12	RM 44.34	71183	100-yr	4069.1	587	581.8	3.31	1.7	51.63	12.34	199.48	2621.38	4.39	1.03	5.2	5.2
Richland/McKenzie County	D12	RM 44.17	70899	100-yr	4069.1	587.07	581.79	1.75	1.05	13.59	4.27	301.73	2529.29	5.2	1.62	5.28	5.28
Richland/McKenzie County	D12	RM 43.97	70594	100-yr	4069.1	587.02	581.73	1.43	0.87	9.66	3.94	326.68	2616.76	4.43	1.79	5.29	5.29
Richland/McKenzie County	D12	RM 43.74	70230	100-yr	4069.1	586.92	581.66	1.69	1.1	13.6	4.72	164.51	2512.57	4.28	1.47	5.26	5.26
Richland/McKenzie County	D12	RM 43.59	69983	100-yr	4069.1	586.81	581.56	1.61	0.82	12.29	4.92	143.76	2884.9	4.38	1.72	5.25	5.25
Richland/McKenzie County	D12	RM 43.4	69684	100-yr	4069.1	586.73	581.49	1.61	0.79	12.28	4.41	150.64	3181.61	4.59	1.62	5.24	5.24
Richland/McKenzie County	D12	RM 43.03	69084	100-yr	4069.1	586.64	581.37	1.46	0.67	10.08	4.06	131.62	3509.51	4.38	1.73	5.27	5.27
Richland/McKenzie County	D12	RM 42.66	68489	100-yr	4069.1	586.57	581.18	1.62	0.67	12.05	4.35	115.82	3621.99	4.75	1.67	5.39	5.39
Richland/McKenzie County	D12	RM 42.29	67889	100-yr	4069.1	586.51	580.87	1.26	0.63	7.15	2.52	281.47	3839.97	5.05	1.76	5.64	5.64
Richland/McKenzie County	D12	RM 42.08	67558	100-yr	4069.1	586.48	580.61	1.43	0.64	8.9	2.87	180.64	3602.55	5.61	1.78	5.87	5.87
Richland/McKenzie County	D12	RM 41.89	67260	100-yr	4069.1	586.39	580.31	1.57	0.74	10.73	3.59	292.42	3029.84	5.49	1.83	6.08	6.08
Richland/McKenzie County	D12	RM 41.75	67037	100-yr	4069.1	586.32	579.99	1.66	0.83	12.61	4.74	337.38	2737.03	4.82	1.79	6.33	6.33
Richland/McKenzie County	D12	RM 41.54	66695	100-yr	4069.1	586.13	579.72	2.24	0.98	21.31	6.67	196.39	2220.63	6.09	1.88	6.41	6.41
Richland/McKenzie County	D12	RM 41.34	66361	100-yr	4069.1	585.97	579.43	2.32	1.13	24.03	8.43	218.95	2015.54	5.18	1.79	6.54	6.54

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	100-yr	4069.1	585.82	579.08	2.48	1.2	26.67	8.53	195.81	1896.49	5.71	1.79	6.74	6.74
Richland/McKenzie County	D12	RM 40.99	65802	100-yr	4069.1	585.71	578.99	2.27	1.05	22.4	7.73	203.5	2050.89	5.58	1.89	6.72	6.72
Richland/McKenzie County	D12	RM 40.8	65502	100-yr	4069.1	585.52	578.97	2.33	1.23	24.53	7.34	273.63	2235.45	4.99	1.48	6.55	6.55
Richland/McKenzie County	D12	RM 40.62	65205	100-yr	4069.1	585.5	578.92	1.66	0.9	12.92	4.85	375.4	2982.03	4.53	1.68	6.58	6.58
Richland/McKenzie County	D12	RM 40.24	64602	100-yr	4069.1	585.34	578.6	1.49	0.81	10.88	4.37	507.11	3287.31	3.99	1.59	6.74	6.74
Richland/McKenzie County	D12	RM 40	64219	100-yr	4069.1	585.19	578.56	1.87	0.85	15.69	4.5	309.03	3454.05	5.03	1.42	6.63	6.63
Richland/McKenzie County	D12	RM 39.87	64002	100-yr	4069.1	585.07	578.55	2.24	0.93	21.64	5.15	222	3331.32	5.76	1.35	6.52	6.52
Richland/McKenzie County	D12	RM 39.68	63702	100-yr	4069.1	585	578.45	2.07	0.93	19.18	4.87	241.95	3394.96	5.2	1.3	6.55	6.55
Richland/McKenzie County	D12	RM 39.5	63402	100-yr	4069.1	584.92	578.35	2	0.86	17.92	5.06	226.39	3354.82	5.08	1.41	6.57	6.57
Richland/McKenzie County	D12	RM 39.31	63102	100-yr	4069.1	584.84	578.31	1.92	0.87	16.28	4.53	227.2	3167.87	5.37	1.47	6.53	6.53
Richland/McKenzie County	D12	RM 39.13	62802	100-yr	4069.1	584.76	578.2	1.86	0.86	15.65	4.95	286.13	3003.5	5.02	1.57	6.56	6.56
Richland/McKenzie County	D12	RM 38.94	62501	100-yr	4069.1	584.71	578.12	1.71	0.77	12.89	4.27	264.19	3004.2	5.37	1.76	6.59	6.59
Richland/McKenzie County	D12	RM 38.76	62201	100-yr	4069.1	584.64	578.03	1.72	0.78	12.68	3.91	245.72	2903.69	5.95	1.81	6.61	6.61
Richland/McKenzie County	D12	RM 38.57	61901	100-yr	4069.1	584.58	577.87	1.76	0.79	13.91	5.24	236.46	2715.43	5.09	1.89	6.71	6.71
Richland/McKenzie County	D12	RM 38.38	61601	100-yr	4069.1	584.56	577.84	1.11	0.63	5.87	3	268.55	2488.9	5.16	2.61	6.72	6.72
Richland/McKenzie County	D12	RM 38.2	61301	100-yr	4069.1	584.5	577.82	1.36	0.73	7.9	3.73	244.45	2360.95	5.98	2.8	6.68	6.68
Richland/McKenzie County	D12	RM 38.01	61008	100-yr	4069.1	584.46	577.81	1.43	0.89	9.25	5.38	307.49	1634.66	4.87	2.81	6.65	6.65
Richland/McKenzie County	D12	RM 37.84	60708	100-yr	4069.1	584.37	577.71	1.63	1.06	13.6	7.19	335.25	1567.83	4.88	2.56	6.66	6.66
Richland/McKenzie County	D12	RM 37.65	60408	100-yr	4069.1	584.36	577.66	1.13	0.85	5.79	3.74	565.75	1679.1	4.8	3.09	6.7	6.7
Richland/McKenzie County	D12	RM 37.5	60107	100-yr	4069.1	584.32	577.54	1.09	0.95	5.87	4.2	561.58	1496.54	4.34	3.11	6.78	6.78
Richland/McKenzie County	D12	RM 37.35	59808	100-yr	4069.1	584.23	577.37	1.29	1	9.39	6.4	427.63	1393.72	4.7	3.19	6.86	6.86
Richland/McKenzie County	D12	RM 37.16	59508	100-yr	4069.1	584.1	577.24	1.84	1.23	16.38	10.43	280.03	1163.12	4.86	3.08	6.86	6.86
Richland/McKenzie County	D12	RM 36.97	59208	100-yr	4069.1	584	576.96	2.02	1.27	18.83	9.72	222.26	1700.95	4.74	2.41	7.04	7.04
Richland/McKenzie County	D12	RM 36.78	58908	100-yr	4069.1	583.91	576.87	1.95	1.17	16.48	6.73	217.29	2123.45	5.59	2.26	7.04	7.04
Richland/McKenzie County	D12	RM 36.6	58608	100-yr	4069.1	583.82	576.66	2	1.12	16.67	5.89	182.19	2205.38	6.52	2.23	7.16	7.16
Richland/McKenzie County	D12	RM 36.38	58263	100-yr	4055	583.65	576.49	2.1	1.32	18.75	5.97	290.42	2131.27	6.09	1.91	7.16	7.16
Richland/McKenzie County	D13	RM 36.23	58011	100-yr	4055	583.41	576.43	2.75	1.45	31.32	7.61	199.11	2227.07	6.54	1.56	6.98	6.98
Richland/McKenzie County	D13	RM 36.04	57708	100-yr	4055	583.27	576.42	2.83	1.33	34.46	9.42	194.14	2329.61	5.86	1.57	6.85	6.85
Richland/McKenzie County	D13	RM 35.85	57408	100-yr	4055	583.22	576.41	2.27	1.14	21.91	7.27	278.61	2452.29	5.01	1.64	6.81	6.81
Richland/McKenzie County	D13	RM 35.66	57108	100-yr	4055	583.21	576.36	1.67	0.95	12.19	4.1	327.66	2547.99	5.68	1.9	6.85	6.85
Richland/McKenzie County	D13	RM 35.48	56810	100-yr	4055	583.08	576.3	2.17	1.05	19.88	5.89	189.87	2491.1	6.08	1.77	6.78	6.78
Richland/McKenzie County	D13	RM 35.29	56508	100-yr	4055	583	576.19	2.05	1.06	18.5	6.16	216.77	2463.43	5.39	1.77	6.81	6.81
Richland/McKenzie County	D13	RM 35.1	56208	100-yr	4055	582.87	576.07	2.03	1.06	17.24	5.08	244.46	2359.22	6.32	1.82	6.8	6.8
Richland/McKenzie County	D13	RM 34.92	55908	100-yr	4055	582.77	576.09	2.07	1.1	21.58	6.36	254.13	2338.02	5.82	1.69	6.68	6.68
Richland/McKenzie County	D13	RM 34.73	55605	100-yr	4055	582.7	575.89	1.72	1.21	12.79	5.36	414.63	1618.19	4.99	2.08	6.81	6.81
Richland/McKenzie County	D13	RM 34.54	55297	100-yr	4055	582.62	575.79	1.65	1.18	13.6	6.18	394.66	1707.66	4.47	2.02	6.83	6.83
Richland/McKenzie County	D13	RM 34.36	55008	100-yr	4055	582.58	575.75	1.54	1	9.78	3.81	323.48	1757.81	5.99	2.31	6.83	6.83
Richland/McKenzie County	D13	RM 34.17	54708	100-yr	4055	582.55	575.49	1.35	0.86	7.95	3.51	380.95	1950.05	5.49	2.41	7.06	7.06
Richland/McKenzie County	D13	RM 33.94	54408	100-yr	4055	582.52	575.34	1.26	0.86	6.86	3.21	374.48	1802.66	5.62	2.61	7.18	7.18
Richland/McKenzie County	D13	RM 33.76	54079	100-yr	4055	582.47	575.12	1.41	0.93	8.6	3.61	286.39	1817.61	5.79	2.39	7.35	7.35
Richland/McKenzie County	D13	RM 33.6	53799	100-yr	4055	582.44	574.88	1.35	0.93	8.58	4.2	376.74	1662.25	5.42	2.62	7.56	7.56
Richland/McKenzie County	D13	RM 33.42	53508	100-yr	4055	582.38	574.61	1.52	0.94	9.38	3.82	262.09	1642.15	6.59	2.64	7.77	7.77
Richland/McKenzie County	D13	RM 33.23	53208	100-yr	4055	582.35	574.45	1.45	0.88	8.42	3.1	209.05	1780.57	7.12	2.58	7.9	7.9
Richland/McKenzie County	D13	RM 33.04	52908	100-yr	4055	582.28	574.3	1.73	0.96	11.77	3.75	193.34	1776.65	7.64	2.39	7.98	7.98
Richland/McKenzie County	D13	RM 32.86	52608	100-yr	4055	582.16	574.18	2.03	1.01	16.53	5.7	209.27	1660.56	7.16	2.42	7.98	7.98
Richland/McKenzie County	D13	RM 32.67	52308	100-yr	4055	582.11	574.18	1.97	0.91	15.74	6.28	188.53	1634.66	6.97	2.73	7.93	7.93
Richland/McKenzie County	D13	RM 32.48	52008	100-yr	4055	582.01	574.04	2.08	0.99	17.89	7.54	196.91	1689.08	6.69	2.76	7.97	7.97
Richland/McKenzie County	D13	RM 32.29	51709	100-yr	4055	581.96	574.04	1.85	0.99	13.87	6.49	224.23	1906.66	6.92	3.19	7.92	7.92
Richland/McKenzie County	D13	RM 32.11	51423	100-yr	4055	581.9	573.94	1.83	1.07	13.41	5.39	220.08	1805.29	7.22	2.87	7.96	7.96
Richland/McKenzie County	D13	RM 31.92	51108	100-yr	4055	581.86	573.85	1.75	0.98	12.65	6.02	211.85	1894.37	6.46	3.03	8.01	8.01
Richland/McKenzie County	D13	RM 31.73	50809	100-yr	4055	581.81	573.72	1.57	0.9	10.79	4.82	261.37	1779.91	7.25	3.2	8.09	8.09
Richland/McKenzie County	D13	RM 31.51	50462	100-yr	4055	581.6	573.24	2.45	1.12	23.03	7.39	162.22	1732.53	7.25	2.27	8.36	8.36
Richland/McKenzie County	D13	RM 31.35	50208	100-yr	4055	581.43	573.24	2.75	1.35	31.5	9.08	169.04	1659.56	6.43	1.81	8.19	8.19
Richland/McKenzie County	D13	RM 31.22	50009	100-yr	4055	581.31	573.24	2.83	1.39	32.6	8.63	149.68	1615.46	7.01	1.8	8.07	8.07
Richland/McKenzie County	D13	RM 31.12	49859	100-yr	4055	581.09	573.24	2.94	2.25	48.58	12.37	196.27	1056.04	6.77	1.71	7.85	7.85
Richland/McKenzie County	D13	RM 30.97	49608	100-yr	4055	581.1	573.24	2.27	1.52	20.48	4.79	225.84	1563.95	7.44	1.71	7.86	7.86
Richland/McKenzie County	D13	RM 30.79	49308	100-yr	4055	580.89	573.24	2.74	1.67	30.94	8.02	199.27	1423.85	6.69	1.7	7.65	7.65
Richland/McKenzie County	D13	RM 30.6	49009	100-yr	4055	580.75	573.24	2.79	1.56	32.42	8.81	187.26	1504.9	6.48	1.73	7.51	7.51
Richland/McKenzie County	D13	RM 30.41	48706	100-yr	4055	580.65	573.15	2.53	1.47	28	8.86	212.3	1390.18	6.37	1.99	7.5	7.5
Richland/McKenzie County	D13	RM 30.22	48403	100-yr	4055	580.56	573.15	2.4	1.36	23.33	7.26	199.03	1640.92	6.94	2.12	7.41	7.41
Richland/McKenzie County	D13	RM 30.03	48102	100-yr	4055	580.57	573.15	1.62	1.03	10.82	4.05	315.48	1720.36	6.72	2.44	7.42	7.42

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	100-yr	4055	580.54	573.15	1.48	0.95	9.3	4.38	376.84	1549.94	6.19	2.87	7.39	7.39
Richland/McKenzie County	D13	RM 29.66	47508	100-yr	4055	580.47	573.11	1.63	0.96	11.23	5.27	393.01	2175.15	5.17	2.38	7.36	7.36
Richland/McKenzie County	D13	RM 29.48	47209	100-yr	4055	580.4	573.11	1.61	0.98	10.85	4.8	346.87	1917.37	6.03	2.63	7.29	7.29
Richland/McKenzie County	D13	RM 29.28	46894	100-yr	4055	580.36	572.98	1.48	1.08	9.47	4.67	401.07	1378.74	5.63	2.76	7.38	7.38
Richland/McKenzie County	D13	RM 29.1	46608	100-yr	4055	580.3	572.94	1.84	1.08	14.2	5.62	169.86	1507	6.39	2.49	7.36	7.36
Richland/McKenzie County	D13	RM 28.92	46308	100-yr	4055	580.22	572.85	1.93	1.13	15.23	5.32	146.69	1625.83	6.9	2.36	7.37	7.37
Richland/McKenzie County	D13	RM 28.73	46008	100-yr	4055	580.19	572.67	1.67	0.98	11.44	4.93	152.03	1695.3	6.64	2.81	7.52	7.52
Richland/McKenzie County	D13	RM 28.54	45708	100-yr	4055	580.15	572.67	1.53	0.93	9.52	4.39	201.29	1923.26	6.23	2.83	7.48	7.48
Richland/McKenzie County	D13	RM 28.36	45419	100-yr	4055	580.11	572.48	1.49	0.89	9.16	3.56	233.95	1863.62	6.64	2.55	7.63	7.63
Richland/McKenzie County	D13	RM 28.15	45071	100-yr	4055	580.04	572.25	1.39	1	8.06	2.72	429.8	1958.34	6.25	2.08	7.79	7.79
Richland/McKenzie County	D13	RM 27.98	44808	100-yr	4055	579.88	572.04	2.1	1.17	17.83	4.15	236.34	2130.38	7.07	1.62	7.84	7.84
Richland/McKenzie County	D13	RM 27.8	44508	100-yr	4055	579.8	571.87	2.08	1.18	17.03	3.59	226.85	2155.62	7.68	1.59	7.93	7.93
Richland/McKenzie County	D14	RM 27.61	44208	100-yr	4055	579.75	571.87	2	1.12	16.01	3.86	246.37	2139.65	7.14	1.7	7.88	7.88
Richland/McKenzie County	D14	RM 27.43	43916	100-yr	4055	579.72	571.87	1.77	0.95	12.39	3.04	261.74	2560.34	7.48	1.8	7.85	7.85
Richland/McKenzie County	D14	RM 27.23	43608	100-yr	4055	579.72	571.87	1.4	0.77	7.64	2.06	310.87	2574.08	7.73	2.05	7.85	7.85
Richland/McKenzie County	D14	RM 27.04	43305	100-yr	4055	579.67	571.87	1.58	0.79	10.05	2.77	277.5	2656.66	7.19	1.93	7.8	7.8
Richland/McKenzie County	D14	RM 26.86	43008	100-yr	4055	579.59	571.87	1.8	0.83	12.93	3.23	229.41	2667.48	7.44	1.82	7.72	7.72
Richland/McKenzie County	D14	RM 26.67	42708	100-yr	4055	579.56	571.87	1.69	0.81	11.25	2.87	252.42	2693.79	7.42	1.86	7.69	7.69
Richland/McKenzie County	D14	RM 26.48	42408	100-yr	4055	579.45	571.87	2.05	0.94	16.73	3.99	209.83	2547.23	7.27	1.7	7.58	7.58
Richland/McKenzie County	D14	RM 26.29	42108	100-yr	4055	579.33	571.87	2.21	1.05	19.52	4.37	205.84	2459.7	7.16	1.58	7.46	7.46
Richland/McKenzie County	D14	RM 26.11	41808	100-yr	4055	579.28	571.87	1.96	1.05	15.39	3.56	249.58	2380.3	7.11	1.62	7.41	7.41
Richland/McKenzie County	D14	RM 25.92	41508	100-yr	4055	579.25	571.87	1.66	0.97	11.15	2.79	305.76	2382.66	7.09	1.75	7.38	7.38
Richland/McKenzie County	D14	RM 25.73	41208	100-yr	4055	579.21	571.74	1.64	0.99	10.74	2.58	309.7	2374.32	7.25	1.72	7.47	7.47
Richland/McKenzie County	D14	RM 25.55	40918	100-yr	4055	579.16	571.74	1.65	0.99	11.5	3.28	346.01	2348.93	6.21	1.75	7.42	7.42
Richland/McKenzie County	D14	RM 25.37	40619	100-yr	4055	579.1	571.74	1.66	1.01	11.84	3.59	353.9	2216.68	6.02	1.81	7.36	7.36
Richland/McKenzie County	D14	RM 25.17	40310	100-yr	4055	579	571.74	1.8	1.17	14.91	4.99	361.09	1891.38	5.53	1.83	7.26	7.26
Richland/McKenzie County	D14	RM 24.99	40008	100-yr	4055	578.96	571.74	1.55	1.07	10.38	3.57	384.4	1767.73	6.26	2.14	7.22	7.22
Richland/McKenzie County	D14	RM 24.8	39703	100-yr	4055	578.92	571.71	1.4	1.11	8.91	3.01	401.45	1642.64	6.9	2.32	7.21	7.21
Richland/McKenzie County	D14	RM 24.62	39408	100-yr	4055	578.8	571.64	1.9	1.4	15.05	4.84	278.78	1482.17	6.5	2.06	7.16	7.16
Richland/McKenzie County	D14	RM 24.45	39139	100-yr	4055	578.58	571.64	2.42	1.87	23.93	6.47	239.98	1451.96	6.71	1.79	6.94	6.94
Richland/McKenzie County	D14	RM 24.24	38801	100-yr	4055	578.47	571.58	2.4	1.79	23.55	6.44	237.24	1484.95	6.69	1.81	6.89	6.89
Richland/McKenzie County	D14	RM 24.05	38506	100-yr	4055	578.39	571.48	2.22	1.75	20.23	5.52	264.93	1506.58	6.66	1.8	6.91	6.91
Richland/McKenzie County	D14	RM 23.87	38210	100-yr	4055	578.4	571.28	1.69	1.3	11.53	2.96	334.4	1984.06	6.92	1.76	7.12	7.12
Richland/McKenzie County	D14	RM 23.66	37912	100-yr	4055	578.39	571.21	1.37	1.09	7.75	2.32	442.5	2121.71	6.46	1.91	7.18	7.18
Richland/McKenzie County	D14	RM 23.48	37610	100-yr	4055	578.35	571.12	1.43	1.06	9.06	2.94	347.97	2288.13	5.64	1.81	7.23	7.23
Richland/McKenzie County	D14	RM 23.29	37312	100-yr	4055	578.29	570.86	1.58	1.06	11.19	3.67	313.75	2141.19	5.52	1.79	7.43	7.43
Richland/McKenzie County	D14	RM 23.1	37006	100-yr	4055	578.24	570.82	1.57	0.97	11.04	3.24	254.67	2286.5	6.3	1.82	7.42	7.42
Richland/McKenzie County	D14	RM 22.92	36721	100-yr	4055	578.2	570.8	1.62	0.9	11.23	3.04	214.08	2715.59	6.23	1.66	7.4	7.4
Richland/McKenzie County	D14	RM 22.72	36402	100-yr	4055	578.09	570.81	1.98	0.93	15.91	3.41	178.19	3017.78	6.9	1.45	7.28	7.28
Richland/McKenzie County	D14	RM 22.54	36108	100-yr	4055	578.03	570.76	1.74	0.86	12.74	2.92	276.8	3089.79	6.71	1.52	7.27	7.27
Richland/McKenzie County	D14	RM 22.35	35808	100-yr	4055	577.99	570.74	1.63	0.85	10.95	2.49	308.52	3268.08	6.51	1.46	7.25	7.25
Richland/McKenzie County	D14	RM 22.17	35508	100-yr	4055	577.94	570.68	1.57	0.81	9.9	2.19	303.06	3234.75	7.07	1.54	7.26	7.26
Richland/McKenzie County	D14	RM 22.02	35264	100-yr	4055	577.93	570.68	1.38	0.79	7.67	1.72	354.21	3257.59	7.13	1.58	7.25	7.25
Richland/McKenzie County	D14	RM 21.8	34901	100-yr	4055	577.87	570.69	1.48	0.88	9.41	2.33	401.53	3193.74	5.89	1.44	7.18	7.18
Richland/McKenzie County	D14	RM 21.61	34626	100-yr	4055	577.82	570.67	1.48	0.97	9.68	2.39	468.94	3218.05	5.31	1.3	7.15	7.15
Richland/McKenzie County	D14	RM 21.34	34140	100-yr	4055	577.79	570.67	1.28	0.79	6.79	1.55	289.68	3538.42	6.45	1.45	7.12	7.12
Richland/McKenzie County	D14	RM 21.25	33973	100-yr	4055	577.78	570.67	1.45	0.79	9.04	2.19	204.54	3626.09	5.96	1.41	7.11	7.11
Richland/McKenzie County	D14	RM 21.06	33672	100-yr	4055	577.77	570.6	1.16	0.63	5.74	1.62	267.5	3764.43	6.08	1.7	7.17	7.17
Richland/McKenzie County	D14	RM 20.9	33400	100-yr	4055	577.75	570.58	1.18	0.64	6.06	1.87	251.38	3717.84	5.6	1.7	7.17	7.17
Richland/McKenzie County	D14	RM 20.71	33101	100-yr	4055	577.71	570.53	1.39	0.66	8.31	2.38	247.47	3719.45	5.86	1.65	7.18	7.18
Richland/McKenzie County	D14	RM 20.52	32800	100-yr	4055	577.68	570.52	1.33	0.63	7.39	1.97	280.27	3867.82	6.27	1.66	7.16	7.16
Richland/McKenzie County	D14	RM 20.34	32500	100-yr	4055	577.64	570.52	1.38	0.66	7.97	1.98	256.92	3951	6.37	1.56	7.12	7.12
Richland/McKenzie County	D14	RM 20.15	32200	100-yr	4055	577.6	570.52	1.49	0.68	10.76	2.51	231.21	3966.67	6.54	1.5	7.08	7.08
Richland/McKenzie County	D14	RM 19.96	31900	100-yr	4055	577.44	570.52	2.17	0.8	19.35	3.78	189.46	3990.64	6.62	1.27	6.92	6.92
Richland/McKenzie County	D14	RM 19.77	31600	100-yr	4055	577.45	570.5	1.42	0.65	8.39	1.96	332.93	4182.5	6.42	1.49	6.95	6.95
Richland/McKenzie County	D14	RM 19.59	31297	100-yr	4055	577.43	570.45	1.34	0.61	7.66	1.9	334.34	4390.35	6.14	1.5	6.98	6.98
Richland/McKenzie County	D14	RM 19.4	30995	100-yr	4055	577.39	570.45	1.4	0.58	8.31	2.24	284.81	4371.91	5.95	1.59	6.94	6.94
Richland/McKenzie County	D14	RM 19.21	30710	100-yr	4055	577.38	570.38	1.07	0.51	4.69	1.35	380.6	4261.71	6.57	1.88	7	7
Richland/McKenzie County	D14	RM 19.03	30402	100-yr	4055	577.36	570.38	1.06	0.52	4.66	1.41	428.38	4388.82	5.93	1.78	6.98	6.98
Richland/McKenzie County	D14	RM 18.83	30086	100-yr	4055	577.34	570.38	0.99	0.49	4.17	1.48	505.09	4731.5	5.03	1.77	6.96	6.96
Richland/McKenzie County	D14	RM 18.66	29802	100-yr	4055	577.32	570.38	0.99	0.46	4.47	1.56	455.27	5092.14	5.04	1.73	6.94	6.94

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	100-yr	4055	577.29	570.36	1.25	0.5	6.79	1.92	299.05	5189.44	5.59	1.55	6.93	6.93
Richland/McKenzie County	D14	RM 18.28	29197	100-yr	4055	577.24	570.36	1.37	0.54	7.99	1.88	299.23	5110.3	6.31	1.47	6.88	6.88
Richland/McKenzie County	D14	RM 17.89	28624	100-yr	4055	577.21	570.33	1.01	0.53	4.16	1.01	468.41	4759.92	6.75	1.62	6.88	6.88
Richland/McKenzie County	D14	RM 17.56	27975	100-yr	4055	577.1	570.29	1.38	0.74	8.29	1.95	460.6	4345.66	5.46	1.27	6.81	6.81
Richland/McKenzie County	D14	RM 17.36	27539	100-yr	4055	576.86	570.31	2.25	1.13	21.2	3.18	254.84	3862.58	6.25	0.93	6.55	6.55
Richland/McKenzie County	D14	RM 17.1	27113	100-yr	4055	576.78	570.28	1.94	1.03	15.69	2.57	298.39	3893.86	6.27	1.02	6.5	6.5
Richland/McKenzie County	D14	RM 16.74	26537	100-yr	4055	576.73	570.14	1.43	0.84	8.45	1.64	406.85	4039.6	6.25	1.2	6.59	6.59
Richland/McKenzie County	D14	RM 16.35	25925	100-yr	4055	576.67	569.46	1.38	0.76	7.73	1.58	346.21	3773.13	6.99	1.42	7.21	7.21
Richland/McKenzie County	D14	RM 16.17	25629	100-yr	4055	576.65	569.2	1.31	0.74	7.19	1.6	377.41	3911.48	6.97	1.54	7.45	7.45
Richland/McKenzie County	D14	RM 15.95	25324	100-yr	4055	576.64	568.99	1.08	0.7	4.6	1.11	457.34	3438.69	7.45	1.78	7.65	7.65
Richland/McKenzie County	D14	RM 15.75	25032	100-yr	4055	576.6	568.85	1.19	0.81	5.7	1.43	462.46	2952.22	6.87	1.7	7.75	7.75
Richland/McKenzie County	D14	RM 15.56	24777	100-yr	4055	576.45	568.85	1.89	1.23	14.43	2.59	291.53	2680.89	6.97	1.23	7.6	7.6
Richland/McKenzie County	D14	RM 15.34	24438	100-yr	4055	576.37	568.79	1.98	1.22	15.56	2.76	261.89	2590.77	7.33	1.28	7.58	7.58
Richland/McKenzie County	D14	RM 15.16	24144	100-yr	4055	576.31	568.75	1.95	1.24	15.11	2.77	267.44	2922.9	7.31	1.32	7.56	7.56
Richland/McKenzie County	D14	RM 14.98	23841	100-yr	4055	576.23	568.76	2.03	1.29	18.41	3.53	254.68	3040.97	7.22	1.36	7.47	7.47
Richland/McKenzie County	D14	RM 14.79	23543	100-yr	4055	576.16	568.72	1.97	1.27	16.12	3.76	286.41	3173.56	6.64	1.52	7.44	7.44
Richland/McKenzie County	D14	RM 14.61	23241	100-yr	4055	576.09	568.7	1.96	1.39	15.46	3.62	274.36	3032.17	7.11	1.64	7.39	7.39
Richland/McKenzie County	D14	RM 14.42	22940	100-yr	4055	576.07	568.69	1.63	1.21	10.57	2.89	328.42	2969.25	7.18	1.94	7.38	7.38
Richland/McKenzie County	D14	RM 14.23	22647	100-yr	4055	576.08	568.67	1.23	0.96	6.13	2.08	444.61	2980.75	7.04	2.36	7.41	7.41
Richland/McKenzie County	D14	RM 14.05	22341	100-yr	4055	576.06	568.68	1.05	0.89	6.32	2.89	601.92	2789.16	6.21	2.82	7.38	7.38
Richland/McKenzie County	D14	RM 13.88	22040	100-yr	4055	576.02	568.67	1.11	0.99	6.31	3.49	682.22	2350.42	5.19	2.86	7.35	7.35
Richland/McKenzie County	D14	RM 13.7	21728	100-yr	4055	575.93	568.65	1.42	1.26	9	4	502.19	1862.37	5.54	2.45	7.28	7.28
Richland/McKenzie County	D14	RM 13.51	21429	100-yr	4055	575.87	568.63	1.5	1.32	9.29	3.5	409.72	1410.71	6.46	2.42	7.24	7.24
Richland/McKenzie County	D15	RM 13.31	21145	100-yr	4055	575.85	568.51	1.35	1.2	7.58	2.79	457.14	2132.05	6.48	2.38	7.34	7.34
Richland/McKenzie County	D15	RM 13.12	20858	100-yr	4055	575.76	568.39	1.64	1.45	10.85	3.35	344.8	2293.48	7.05	2.16	7.37	7.37
Richland/McKenzie County	D15	RM 12.9	20507	100-yr	4055	575.65	568.39	1.88	1.63	14.36	4.56	303.98	2036.79	6.94	2.19	7.26	7.26
Richland/McKenzie County	D15	RM 12.73	20241	100-yr	4055	575.59	568.35	1.91	1.68	14.77	3.75	297.97	2311.78	7.02	1.76	7.24	7.24
Richland/McKenzie County	D15	RM 12.56	19961	100-yr	4055	575.56	568.34	1.67	1.42	11.24	3.17	337.44	2026.6	7.06	1.97	7.22	7.22
Richland/McKenzie County	D15	RM 12.38	19686	100-yr	4055	575.56	568.23	1.34	1.13	7.34	2.19	425.75	1792.17	6.92	2.04	7.33	7.33
Richland/McKenzie County	D15	RM 12.21	19384	100-yr	4055	575.53	568.17	1.31	1.04	7.43	2.57	513.36	2211.45	5.68	1.95	7.36	7.36
Richland/McKenzie County	D15	RM 11.99	19084	100-yr	4055	575.5	568.16	1.23	0.99	6.88	2.6	592.13	2166.08	5.32	1.99	7.34	7.34
Richland/McKenzie County	D15	RM 11.53	18484	100-yr	4055	575.42	568.11	1.25	0.93	5.89	2.3	693.79	2656.14	4.26	1.65	7.31	7.31
Richland/McKenzie County	D15	RM 11.34	18216	100-yr	4055	575.36	568.06	1.12	0.94	20.55	8.16	710.89	2550.42	4.31	1.7	7.3	7.3
Richland/McKenzie County	D15	RM 11.17	17885	100-yr	4055	575.14	567.88	1.29	1.16	27.83	11.97	777.3	2191.89	3.74	1.6	7.26	7.26
Richland/McKenzie County	D15	RM 10.97	17584	100-yr	4055	575.05	567.8	1.24	1.03	6.05	2.71	780.34	2219.32	3.99	1.78	7.25	7.25
Richland/McKenzie County	D15	RM 10.75	17284	100-yr	4055	575.02	567.79	1.14	0.91	5.16	2.04	717.39	2391.41	4.71	1.85	7.23	7.23
Richland/McKenzie County	D15	RM 10.53	16964	100-yr	4055	574.96	567.73	1.28	0.95	6.61	2.31	641.5	2697.22	4.57	1.58	7.23	7.23
Richland/McKenzie County	D15	RM 10.35	16670	100-yr	4055	574.91	567.73	1.35	0.92	8.1	2.73	517.24	2594.26	5.11	1.7	7.18	7.18
Richland/McKenzie County	D15	RM 10.15	16384	100-yr	4055	574.88	567.73	1.44	0.82	8.41	2.2	251.85	2771.41	6.85	1.77	7.15	7.15
Richland/McKenzie County	D15	RM 9.94	16084	100-yr	4055	574.86	567.73	1.14	0.72	5.32	1.47	272.39	3069.06	6.66	1.82	7.13	7.13
Richland/McKenzie County	D15	RM 9.76	15797	100-yr	4055	574.82	567.65	1.28	0.76	6.65	2	352.04	2892.56	6.27	1.87	7.17	7.17
Richland/McKenzie County	D15	RM 9.57	15487	100-yr	4055	574.76	567.58	1.5	0.85	9.06	2.3	245.67	2795.34	6.97	1.75	7.18	7.18
Richland/McKenzie County	D15	RM 9.37	15187	100-yr	4055	574.68	567.58	1.76	1.01	12.61	3	203.96	2488.99	6.89	1.61	7.1	7.1
Richland/McKenzie County	D15	RM 9.24	14963	100-yr	4055	574.45	567.5	2.38	1.59	23.48	4.61	234.33	2040.5	6.48	1.25	6.95	6.95
Richland/McKenzie County	D15	RM 9.1	14741	100-yr	4055	574.36	567.39	2.41	1.55	24.71	5.21	231.83	1958.9	6.43	1.34	6.97	6.97
Richland/McKenzie County	D15	RM 9.03	14639	100-yr	4055	574.29	567.4	2.49	1.69	26.15	5.92	248.61	1756.27	6.05	1.37	6.88	6.88
Richland/McKenzie County	D15	RM 8.82	14300	100-yr	4055	574.34	567.41	1.48	1.05	9.09	2.67	381.12	2053.48	6.45	1.89	6.93	6.93
Richland/McKenzie County	D15	RM 8.61	13963	100-yr	4055	574.29	567.39	1.58	0.99	10.26	3.21	313.8	2236.59	6.38	1.98	6.9	6.9
Richland/McKenzie County	D15	RM 8.44	13687	100-yr	4055	574.22	567.32	1.74	0.99	12.38	3.77	258.5	2327.71	6.65	2.01	6.9	6.9
Richland/McKenzie County	D15	RM 8.24	13387	100-yr	4055	574.13	567.32	1.89	1.17	14.68	6.63	229.73	1168.17	6.66	2.97	6.81	6.81
Richland/McKenzie County	D15	RM 8.05	13080	100-yr	4055	574.07	567.05	1.81	1.19	13.32	5.2	266.23	1303.06	6.77	2.62	7.02	7.02
Richland/McKenzie County	D15	RM 7.87	12786	100-yr	4055	573.97	567.05	2.01	1.31	16.65	6.95	229.92	1119.02	6.67	2.76	6.92	6.92
Richland/McKenzie County	D15	RM 7.69	12506	100-yr	4055	573.9	567.05	1.92	1.48	15.14	7.13	266.56	881.13	6.63	3.1	6.85	6.85
Richland/McKenzie County	D15	RM 7.48	12179	100-yr	4055	573.86	566.95	1.65	1.56	11.09	4.29	361.54	1002.26	6.76	2.6	6.91	6.91
Richland/McKenzie County	D16	RM 7.3	11891	100-yr	4055	573.77	566.76	1.83	1.69	13.77	5.69	337.01	898.25	6.5	2.67	7.01	7.01
Richland/McKenzie County	D16	RM 7.14	11639	100-yr	4055	573.71	566.76	1.84	1.61	14.28	5.74	324.06	1023.98	6.13	2.45	6.95	6.95
Richland/McKenzie County	D16	RM 6.94	11319	100-yr	4055	573.66	566.76	1.77	1.34	12.78	4.43	297.15	1316.53	6.71	2.31	6.9	6.9
Richland/McKenzie County	D16	RM 6.77	11043	100-yr	4055	573.64	566.76	1.52	1.14	9.64	3.65	349.25	1480.94	6.41	2.41	6.88	6.88
Richland/McKenzie County	D16	RM 6.58	10733	100-yr	4055	573.61	566.59	1.43	1.01	8.38	3.12	342.3	1643.42	6.64	2.44	7.02	7.02
Richland/McKenzie County	D16	RM 6.38	10417	100-yr	4055	573.5	566.59	2	1.04	16.51	5.04	182.43	2263.79	6.68	2	6.91	6.91
Richland/McKenzie County	D16	RM 6.21	10138	100-yr	4055	573.45	566.44	1.78	0.93	13	4.09	217.11	2377.64	6.74	2.09	7.01	7.01

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	100-yr	4055	573.44	566.17	1.27	0.82	6.72	2.5	412.46	2419.45	6.47	2.39	7.27	7.27
Richland/McKenzie County	D16	RM 5.83	9551	100-yr	4055	573.43	565.96	1.08	0.75	4.79	1.98	480.72	2722.14	6.76	2.78	7.47	7.47
Richland/McKenzie County	D16	RM 5.67	9297	100-yr	4055	573.4	565.96	1.26	0.8	6.52	3.1	342.29	2633.52	6.65	3.11	7.44	7.44
Richland/McKenzie County	D16	RM 5.43	8926	100-yr	4055	573.33	565.96	1.55	0.98	10.25	4.87	269.78	3055.57	6.04	2.84	7.37	7.37
Richland/McKenzie County	D16	RM 5.25	8623	100-yr	4055	573.07	565.96	2.4	1.39	23.51	7.65	206.77	2323.98	6.84	2.2	7.11	7.11
Richland/McKenzie County	D16	RM 5.06	8331	100-yr	4055	573.07	565.82	1.81	1.2	13.34	4.65	289.25	2381.62	6.8	2.35	7.25	7.25
Richland/McKenzie County	D16	RM 4.87	8029	100-yr	4055	573.06	565.67	1.44	1.08	8.57	3.37	335.83	2680.13	6.51	2.53	7.39	7.39
Richland/McKenzie County	D16	RM 4.71	7757	100-yr	4055	573	565.54	1.67	1.18	11.33	3.98	253.72	2451.84	7.03	2.44	7.46	7.46
Richland/McKenzie County	D16	RM 4.53	7456	100-yr	4055	572.86	565.54	2.14	1.41	18.48	6.97	199	3782.68	7.08	2.62	7.32	7.32
Richland/McKenzie County	D16	RM 4.34	7156	100-yr	4055	572.81	565.54	1.95	1.42	18.37	8.94	218.07	3768.17	6.89	3.3	7.27	7.27
Richland/McKenzie County	D16	RM 4.17	6884	100-yr	4055	572.72	565.54	2	1.37	16.35	6.93	226.72	3809.75	6.89	2.87	7.18	7.18
Richland/McKenzie County	D16	RM 3.96	6550	100-yr	4055	572.7	565.54	1.61	1.19	10.55	6.62	216.6	3471.91	6.89	4.3	7.16	7.16
Richland/McKenzie County	D16	RM 3.78	6249	100-yr	4055	572.65	565.54	1.72	1.18	12.38	7.43	196.52	3157.98	6.32	3.76	7.11	7.11
Richland/McKenzie County	D16	RM 3.55	5904	100-yr	4055	572.58	565.54	1.7	1.24	11.81	6.16	206.04	3183.91	6.85	3.54	7.04	7.04
Richland/McKenzie County	D16	RM 3.38	5657	100-yr	4055	572.47	565.53	2.1	1.46	18.22	8.9	171.27	2781.7	6.69	3.22	6.94	6.94
Richland/McKenzie County	D16	RM 3.2	5363	100-yr	4055	572.38	565.54	2.2	1.59	20.73	9.86	168.06	3025.44	5.96	2.79	6.84	6.84
Richland/McKenzie County	D16	RM 3.01	5062	100-yr	4055	572.3	565.54	1.94	1.44	15.96	8.61	310	2983.06	6.14	3.26	6.76	6.76
Richland/McKenzie County	D16	RM 2.82	4763	100-yr	4055	572.25	565.46	1.7	1.37	12.81	7.51	423.69	3150.64	5.29	3.08	6.79	6.79

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	2% - 50yr	1127.2	1281.97	1278.12	2.83	2.33	41.76	22.24	110.15	440.1	3.29	1.73	3.85	3.85
Sweet Grass County	A1	RM 478.10	225378	2% - 50yr	1127.2	1281.47	1277.66	3.53	3.15	71.91	49.14	114.88	384.95	2.4	1.64	3.81	3.81
Sweet Grass County	A1	RM 478.00	224862	2% - 50yr	1127.2	1280.97	1277.97	3.4	3.17	69.64	57.42	137.18	385.46	2.11	1.74	3.01	3.01
Sweet Grass County	A1	RM 477.91	224362	2% - 50yr	1127.2	1280.41	1277.65	3.82	3.14	78.1	52.04	86.79	368.13	2.37	1.58	2.75	2.75
Sweet Grass County	A1	RM 477.81	223862	2% - 50yr	1127.2	1280.02	1276.96	3.31	2.81	49.12	37.33	127.18	326.65	1.98	1.5	3.06	3.06
Sweet Grass County	A1	RM 477.72	223354	2% - 50yr	1127.2	1279.67	1276.32	2.71	2.35	47.23	33.41	184.6	442.78	1.72	1.21	3.35	3.35
Sweet Grass County	A1	RM 477.63	222892	2% - 50yr	1127.2	1279.59	1275.76	1.65	1.52	16.43	11.78	260.07	673.94	2.08	1.48	3.83	3.83
Sweet Grass County	A1	RM 477.49	222220	2% - 50yr	1127.2	1279.4	1276.07	1.74	1.47	16.61	11.25	256.97	791.99	1.89	1.28	3.33	3.33
Sweet Grass County	A1	RM 477.40	221702	2% - 50yr	1127.2	1279.35	1275.47	1.34	0.99	10.07	6.44	242.4	860.01	2.63	1.68	3.88	3.88
Sweet Grass County	A1	RM 477.31	221259	2% - 50yr	1127.2	1278.88	1275.74	3.05	1.77	52.21	19.41	122.54	834.94	2.62	0.97	3.14	3.14
Sweet Grass County	A1	RM 477.21	220767	2% - 50yr	1127.2	1278.68	1275.28	2.78	1.7	41.81	14.99	126.43	837.35	2.87	1.02	3.39	3.39
Sweet Grass County	A1	RM 477.11	220252	2% - 50yr	1127.2	1278.36	1274.86	2.95	1.77	51.63	23.9	147.45	805.36	2.21	1.02	3.49	3.49
Sweet Grass County	A1	RM 477.04	219860	2% - 50yr	1127.2	1278.07	1275.13	3.03	1.75	53.25	24.64	131.95	812.04	2.35	1.09	2.94	2.94
Sweet Grass County	A1	RM 476.95	219422	2% - 50yr	1127.2	1277.55	1274.55	3.38	2.19	70.77	33.06	154.89	756.64	1.92	0.89	2.99	2.99
Sweet Grass County	A1	RM 476.84	218828	2% - 50yr	1127.2	1277.23	1273.95	2.76	1.98	44.58	21.84	134.66	693.76	2.29	1.11	3.28	3.28
Sweet Grass County	A1	RM 476.75	218345	2% - 50yr	1127.2	1276.94	1273.54	2.65	1.99	38.03	19.22	172.58	762.29	2.22	1.12	3.41	3.41
Sweet Grass County	A1	RM 476.66	217855	2% - 50yr	1127.2	1276.61	1273.45	2.86	1.95	44.67	20.75	160.17	876.78	2.19	1.01	3.15	3.15
Sweet Grass County	A1	RM 476.57	217396	2% - 50yr	1127.2	1276.24	1273.09	3.28	1.95	59.75	25.48	98.93	852.63	2.68	1.14	3.15	3.15
Sweet Grass County	A1	RM 476.47	216861	2% - 50yr	1127.2	1275.86	1273.04	3.13	2.15	56.92	24.09	126.17	793.86	2.31	0.98	2.83	2.83
Sweet Grass County	A1	RM 476.38	216362	2% - 50yr	1127.2	1275.61	1272.1	2.92	1.83	46.77	19.85	105.41	906.12	2.79	1.18	3.51	3.51
Sweet Grass County	A1	RM 476.28	215816	2% - 50yr	1127.2	1274.92	1271.85	3.78	3.28	81.84	45.91	100.31	397.73	2.43	1.36	3.07	3.07
Sweet Grass County	A1	RM 476.15	215126	2% - 50yr	1127.2	1274.41	1271.76	3.19	2.62	61.2	38.84	133.16	477.06	2.09	1.33	2.65	2.65
Sweet Grass County	A1	RM 476.01	214437	2% - 50yr	1127.2	1274.09	1270.96	2.5	2.32	36.18	26.12	153.08	375.01	2.4	1.73	3.14	3.14
Sweet Grass County	A1	RM 475.91	213787	2% - 50yr	1127.2	1273.64	1270.35	2.79	2.6	44.57	38.83	162.76	207.85	2.42	2.11	3.29	3.29
Sweet Grass County	A1	RM 475.76	213072	2% - 50yr	1127.2	1273.12	1270.22	3.05	2.42	53.69	33.31	146.41	318.11	2.36	1.46	2.9	2.9
Sweet Grass County	A1	RM 475.63	212347	2% - 50yr	1127.2	1272.89	1269.34	2.35	2	30.85	22.95	173.18	287.46	2.64	1.96	3.54	3.54
Sweet Grass County	A1	RM 475.47	211539	2% - 50yr	1127.2	1272.38	1268.97	2.87	2.78	44.23	38.33	144.1	172.39	2.72	2.35	3.41	3.41
Sweet Grass County	A1	RM 475.35	210875	2% - 50yr	1127.2	1271.68	1268.88	3.6	3.38	72.95	45.09	120.05	209.56	2.59	1.59	2.8	2.8
Sweet Grass County	A1	RM 475.24	210333	2% - 50yr	1127.2	1271.7	1267.53	2.44	2.15	29.64	19.46	118.16	317.94	3.77	2.46	4.17	4.17
Sweet Grass County	A2	RM 475.12	209673	2% - 50yr	1127.2	1270.69	1267.9	4.29	3.79	109.43	75.72	116.51	237.01	2.18	1.51	2.78	2.78
Sweet Grass County	A2	RM 475.00	209034	2% - 50yr	1127.2	1270.01	1266.93	3.25	3.25	63.91	63.78	164.92	165.24	2.1	2.1	3.07	3.07
Sweet Grass County	A2	RM 474.87	208359	2% - 50yr	1127.2	1269.83	1266.75	2.46	2.23	32.93	24.89	80.83	281.3	2.94	2.18	3.08	3.08
Sweet Grass County	A2	RM 474.76	207797	2% - 50yr	1127.2	1269.27	1266.42	3.5	2.79	68.63	35.29	77.58	326.66	2.66	1.34	2.85	2.85
Sweet Grass County	A2	RM 474.67	207305	2% - 50yr	1127.2	1268.82	1266.29	3.51	2.96	71.36	46.91	66.54	267.79	2.47	1.58	2.53	2.53
Sweet Grass County	A2	RM 474.54	206635	2% - 50yr	1127.2	1268.53	1264.92	2.63	2.27	37.79	21.24	128.46	316.66	2.8	1.57	3.61	3.61
Sweet Grass County	A2	RM 474.43	205945	2% - 50yr	1127.2	1268.2	1265.16	2.86	2.14	44.6	17.82	89.64	471.08	2.85	1.12	3.03	3.03
Sweet Grass County	A2	RM 474.30	205321	2% - 50yr	1127.2	1267.96	1264.46	2.55	1.71	35.38	15.63	133.47	533.66	2.89	1.26	3.49	3.49
Sweet Grass County	A2	RM 474.21	204877	2% - 50yr	1127.2	1267.48	1264.22	3.38	2.22	62.01	21.12	103.15	520.69	2.89	0.98	3.26	3.26
Sweet Grass County	A2	RM 474.12	204378	2% - 50yr	1127.2	1267.38	1263.24	2.58	1.66	36.84	14.93	140.42	751.52	2.73	1.1	4.13	4.13
Sweet Grass County	A2	RM 474.01	203787	2% - 50yr	1127.2	1266.81	1263.55	3.29	2.34	63.58	29.2	138.78	472.39	2.28	1.04	3.26	3.26
Sweet Grass County	A2	RM 473.87	203072	2% - 50yr	1127.2	1266.35	1263.52	3.14	2.23	54.38	18.33	100.52	790.17	2.49	0.83	2.83	2.83
Sweet Grass County	A2	RM 473.74	202395	2% - 50yr	1127.2	1266.05	1263.06	2.63	1.9	39.09	16.36	121.3	738.31	2.53	1.05	2.99	2.99
Sweet Grass County	A2	RM 473.62	201781	2% - 50yr	1127.2	1265.67	1262.63	2.79	1.9	46.07	19.35	150.66	708.2	2.21	0.93	3.04	3.04
Sweet Grass County	A2	RM 473.50	201110	2% - 50yr	1127.2	1265.33	1261.83	2.49	1.96	36.2	18.14	179.13	578.72	2.32	1.15	3.5	3.5
Sweet Grass County	A2	RM 473.36	200362	2% - 50yr	1127.2	1265.06	1261.08	2.44	1.94	31.07	12.82	133.21	624.01	3.25	1.33	3.98	3.98
Sweet Grass County	A2	RM 473.27	199862	2% - 50yr	1127.2	1264.76	1260.81	2.91	2.34	45.21	21.38	117.77	493.53	3	1.41	3.95	3.95
Sweet Grass County	A2	RM 473.17	199362	2% - 50yr	1127.2	1264.52	1260.56	2.92	2.5	43.03	15.67	102.94	344.84	3.62	1.31	3.96	3.96
Sweet Grass County	A2	RM 473.08	198879	2% - 50yr	1127.2	1264.05	1260.56	3.55	3.16	67.81	37.28	104.85	220.8	2.95	1.61	3.49	3.49
Sweet Grass County	A2	RM 472.98	198340	2% - 50yr	1127.2	1263.87	1260.21	2.97	2.55	46.76	21.54	120.55	327.72	3.05	1.4	3.66	3.66
Sweet Grass County	A2	RM 472.89	197862	2% - 50yr	1127.2	1263.35	1260.5	3.69	2.73	77.43	33.4	108.06	389.75	2.5	1.07	2.85	2.85
Sweet Grass County	A2	RM 472.79	197362	2% - 50yr	1127.2	1263.06	1259.98	3.1	2.41	54.79	22.71	136.27	460.38	2.45	1.02	3.07	3.07
Sweet Grass County	A2	RM 472.70	196862	2% - 50yr	1127.2	1262.47	1259.35	3.6	2.65	76.26	37.04	125.74	391.21	2.24	1.09	3.13	3.13
Sweet Grass County	A2	RM 472.60	196360	2% - 50yr	1127.2	1262.37	1259.01	2.37	1.93	33.41	20.21	181.89	443.96	2.17	1.31	3.36	3.36
Sweet Grass County	A2	RM 472.50	195816	2% - 50yr	1127.2	1262.07	1258.53	2.49	2	37.05	23.82	177.8	402.47	2.19	1.4	3.54	3.54
Sweet Grass County	A2	RM 472.41	195349	2% - 50yr	1127.2	1261.75	1258.52	2.6	2.21	41.08	28.13	198.55	363.41	2.05	1.4	3.23	3.23
Sweet Grass County	A2	RM 472.31	194860	2% - 50yr	1127.2	1261.54	1258.34	2.48	1.93	33.67	19.35	149.41	395.08	2.77	1.59	3.2	3.2
Sweet Grass County	A2	RM 472.22	194356	2% - 50yr	1127.2	1261.38	1257.3	2.53	1.8	31.29	13.85	115.58	444.29	3.26	1.41	4.08	4.08
Sweet Grass County	A2	RM 472.09	193660	2% - 50yr	1127.2	1260.57	1257.45	3.93	2.86	86.75	30.6	93.59	429.03	2.69	0.92	3.12	3.12
Sweet Grass County	A2	RM 471.95	192935	2% - 50yr	1127.2	1260.55	1256.05	2.46	1.63	30.33	13.28	103.53	427.52	3.75	1.61	4.5	4.5
Sweet Grass County	A2	RM 471.86	192442	2% - 50yr	1127.2	1259.97	1256.23	3.76	2.44	73.89	31.84	76.65	334.43	3.28	1.38	3.74	3.74
Sweet Grass County	A2	RM 471.75	191870	2% - 50yr	1127.2	1259.86	1256.47	2.67	1.92	38.62	20.04	134.52	470.43	2.84	1.48	3.39	3.39

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	2% - 50yr	1127.2	1259.04	1256.54	3.95	3.02	93	42.32	124.48	379.68	2.16	0.98	2.5	2.5
Sweet Grass County	A2	RM 471.52	190686	2% - 50yr	1127.2	1258.84	1255.75	2.68	1.78	39.66	14.55	127.76	671.06	2.72	0.99	3.09	3.09
Sweet Grass County	A2	RM 471.38	189910	2% - 50yr	1127.2	1258.09	1255.44	3.38	2.39	74.6	32.98	150.38	644.96	1.65	0.73	2.65	2.65
Sweet Grass County	A2	RM 471.28	189362	2% - 50yr	1127.2	1257.55	1254.65	2.56	2.11	44.68	27.63	228.65	605.07	1.43	0.88	2.9	2.9
Sweet Grass County	A2	RM 471.18	188875	2% - 50yr	1127.2	1257.18	1254.2	2.65	2.07	37.86	22.76	155.58	503.6	1.8	1.08	2.98	2.98
Sweet Grass County	A2	RM 471.06	188150	2% - 50yr	1127.2	1256.83	1253.95	2.32	1.57	33.47	19.15	140.6	653.58	1.92	1.1	2.88	2.88
Sweet Grass County	A2	RM 470.94	187526	2% - 50yr	1127.2	1256.41	1253.58	2.76	1.95	42.3	20.25	108.67	569.17	2.27	1.08	2.83	2.83
Sweet Grass County	A2	RM 470.84	186938	2% - 50yr	1127.2	1256.14	1252.88	2.42	1.76	35.47	20.38	157.2	620.34	2.07	1.18	3.26	3.26
Sweet Grass County	A2	RM 470.73	186362	2% - 50yr	1127.2	1255.98	1253.49	1.8	1.6	20.31	14.62	189.13	582.14	1.85	1.33	2.91	2.91
Sweet Grass County	A2	RM 470.65	185977	2% - 50yr	1127.2	1255.72	1252.18	2.24	1.82	29.27	15.66	202.91	635.84	2.33	1.24	3.54	3.54
Sweet Grass County	A2	RM 470.56	185491	2% - 50yr	1127.2	1255.58	1252.52	2.09	1.65	24.98	13.96	189.32	664.59	2.47	1.37	3.07	3.07
Sweet Grass County	A2	RM 470.44	184875	2% - 50yr	1127.2	1255.46	1251.39	1.9	1.45	18.61	10.37	158.35	422.16	3.35	1.84	4.08	4.08
Sweet Grass County	A2	RM 470.35	184363	2% - 50yr	1127.2	1254.5	1251.52	4.18	3.58	102.25	57.18	113.84	246.11	2.29	1.28	2.98	2.98
Sweet Grass County	A2	RM 470.23	183828	2% - 50yr	1127.2	1254.23	1251.51	2.87	2.44	50.06	32.48	180.8	345.21	2.05	1.34	2.72	2.72
Sweet Grass County	A2	RM 470.13	183304	2% - 50yr	1127.2	1253.98	1249.86	2.53	2.23	37.73	29.51	162.28	290.16	2.25	1.74	4.12	4.12
Sweet Grass County	A2	RM 470.05	182914	2% - 50yr	1127.2	1253.87	1250.59	2.14	1.92	26.59	21.23	175.23	317.55	2.31	1.85	3.27	3.27
Sweet Grass County	A2	RM 469.93	182267	2% - 50yr	1127.2	1253.05	1249.62	3.67	3.21	75.56	39.18	105.63	261.73	2.6	1.34	3.43	3.43
Sweet Grass County	A2	RM 469.85	181860	2% - 50yr	1127.2	1252.69	1249.59	3.72	2.88	76.6	32.17	96.24	351.3	2.72	1.14	3.1	3.1
Sweet Grass County	A2	RM 469.75	181348	2% - 50yr	1127.2	1252.66	1248.77	2.49	1.9	32.85	15.14	116.21	418.82	3.11	1.42	3.9	3.9
Sweet Grass County	A2	RM 469.68	180952	2% - 50yr	1127.2	1252.38	1249.31	2.86	2.08	45.43	20.33	135.73	458.34	2.65	1.18	3.06	3.06
Sweet Grass County	A2	RM 469.58	180427	2% - 50yr	1127.2	1252.34	1247.94	2.12	1.54	22.56	11.63	130.56	394.72	3.64	1.86	4.39	4.39
Sweet Grass County	A2	RM 469.47	179860	2% - 50yr	1127.2	1251.98	1247.85	2.97	1.99	43.31	19.56	93.72	364.71	3.49	1.55	4.13	4.13
Sweet Grass County	A2	RM 469.39	179400	2% - 50yr	1127.2	1251.64	1248.45	3.26	2.47	59.47	34.22	118.53	305.44	2.61	1.5	3.19	3.19
Sweet Grass County	A2	RM 469.30	178975	2% - 50yr	1127.2	1251.59	1247.55	2.55	1.91	33.12	17.06	106.16	324.73	3.59	1.81	4.05	4.05
Sweet Grass County	A2	RM 469.21	178467	2% - 50yr	1127.2	1250.98	1248.31	3.73	2.78	80.2	36.65	107.26	370.48	2.4	1.09	2.67	2.67
Sweet Grass County	A2	RM 469.09	177862	2% - 50yr	1127.2	1250.69	1247.12	2.23	1.6	28.19	15.23	118.23	524.21	2.5	1.34	3.57	3.57
Sweet Grass County	A2	RM 469.00	177350	2% - 50yr	1127.2	1250.06	1247.58	3.67	2.48	81.01	35.78	89.39	494.91	2.12	0.93	2.48	2.48
Sweet Grass County	A2	RM 468.90	176865	2% - 50yr	1127.2	1249.68	1246.48	2.47	1.93	31.64	17.08	157.69	495.84	2.2	1.18	3.21	3.21
Sweet Grass County	A2	RM 468.80	176341	2% - 50yr	1127.2	1249.38	1246.11	2.69	2.05	42.08	20.63	136.31	530.49	2.36	1.15	3.26	3.26
Sweet Grass County	A2	RM 468.71	175823	2% - 50yr	1127.2	1249.04	1246.41	2.75	2.28	47.42	27.28	147.29	525.74	1.88	1.08	2.63	2.63
Sweet Grass County	A2	RM 468.57	175192	2% - 50yr	1127.2	1248.87	1245.17	1.93	1.56	21.5	12.62	178.26	720.53	2.42	1.41	3.7	3.7
Sweet Grass County	A2	RM 468.42	174099	2% - 50yr	1127.2	1248.16	1244.97	2.89	2.35	49.91	30.22	168.48	514.42	2.16	1.31	3.19	3.19
Sweet Grass County	A3	RM 468.25	173324	2% - 50yr	1127.2	1247.98	1242.97	2.22	1.58	25.06	11.43	129.09	574.68	3.55	1.6	5.01	5.01
Sweet Grass County	A3	RM 468.16	172855	2% - 50yr	1127.2	1247.78	1243.58	2.61	1.81	36.46	18.43	119.05	580.46	3	1.5	4.2	4.2
Sweet Grass County	A3	RM 468.07	172364	2% - 50yr	1127.2	1247.74	1243.89	2.01	1.49	21.54	11.86	136.65	659.58	3	1.64	3.85	3.85
Sweet Grass County	A3	RM 467.97	171839	2% - 50yr	1127.2	1247.09	1244.32	3.81	2.7	85.42	45.28	92.44	532.92	2.27	1.18	2.77	2.77
Sweet Grass County	A3	RM 467.87	171312	2% - 50yr	1127.2	1246.82	1243.46	2.43	2.15	33.46	22.15	159.56	522.58	2.52	1.67	3.35	3.35
Sweet Grass County	A3	RM 467.78	170840	2% - 50yr	1127.2	1246.28	1243.74	3.5	2.78	72.89	41.91	100.58	324.19	2.18	1.25	2.54	2.54
Sweet Grass County	A3	RM 467.69	170376	2% - 50yr	1127.2	1245.97	1242.96	2.98	2.35	51.54	29.85	115.51	429.23	2.35	1.35	3.02	3.02
Sweet Grass County	A3	RM 467.55	169614	2% - 50yr	1127.2	1245.6	1242.1	2.39	2.04	34.48	23.62	133.88	446.51	2.07	1.41	3.49	3.49
Sweet Grass County	A3	RM 467.41	168870	2% - 50yr	1127.2	1245.41	1241.15	2.05	1.38	22.15	10.08	133.26	692.47	3.19	1.44	4.26	4.26
Sweet Grass County	A3	RM 467.30	168362	2% - 50yr	1127.2	1244.78	1242.15	3.8	2.27	82.4	27.68	90.65	673.87	2.48	0.82	2.62	2.62
Sweet Grass County	A3	RM 467.16	167641	2% - 50yr	1127.2	1244.45	1240.78	2.19	1.41	26.9	10.74	159.04	845.66	2.6	1.03	3.67	3.67
Sweet Grass County	A3	RM 467.00	166780	2% - 50yr	1127.2	1243.98	1240.48	2.76	1.69	44.59	17.76	141.03	841	2.3	0.9	3.5	3.5
Sweet Grass County	A3	RM 466.83	165902	2% - 50yr	1127.2	1243.52	1239.84	2.77	1.64	41.56	16.13	111.13	717.6	2.9	1.11	3.68	3.68
Sweet Grass County	A3	RM 466.73	165364	2% - 50yr	1127.2	1243.23	1239.81	2.86	1.82	44.5	16.72	115.43	605.92	2.85	1.07	3.42	3.42
Sweet Grass County	A3	RM 466.64	164858	2% - 50yr	1127.2	1242.7	1239.36	3.61	2.4	66.27	22.3	100.5	614.77	2.53	0.85	3.33	3.33
Sweet Grass County	A3	RM 466.49	164108	2% - 50yr	1127.2	1242.35	1239.67	2.84	1.75	45.95	22.56	107.44	650.95	2.45	1.2	2.69	2.69
Sweet Grass County	A3	RM 466.25	162845	2% - 50yr	1127.2	1241.07	1238.71	3.85	2.72	86.99	30.7	78.03	521.82	2.34	0.8	2.36	2.36
Sweet Grass County	A3	RM 465.79	160351	2% - 50yr	1127.2	1240.04	1236.48	2.25	1.18	27.86	11.37	110.96	859.69	2.81	1.11	3.56	3.56
Sweet Grass County	A3	RM 465.01	155919	2% - 50yr	1127.2	1237.82	1234.44	3.27	2.63	60.3	24.75	129.45	456.25	2.54	1.04	3.38	3.38
Sweet Grass County	A3	RM 464.68	154254	2% - 50yr	1127.2	1236.83	1233.35	2.71	2.17	43.02	21.8	171.81	494.27	2.27	1.15	3.49	3.49
Sweet Grass County	A3	RM 464.48	153160	2% - 50yr	1127.2	1236.29	1232.71	2.43	1.82	35.08	17.99	183.52	583.74	2.19	1.12	3.58	3.58
Sweet Grass County	A3	RM 464.33	152378	2% - 50yr	1127.2	1235.88	1232.61	2.45	1.79	35.48	18.08	183.37	556.34	2.24	1.13	3.27	3.27
Sweet Grass County	A3	RM 464.16	151621	2% - 50yr	1127.2	1235.5	1232.45	2.48	1.74	36.42	17.85	166.91	646.81	2.22	1.09	3.05	3.05
Sweet Grass County	A3	RM 464.04	150961	2% - 50yr	1127.2	1235.27	1231.48	2.41	1.55	30.26	14.22	118.42	628.09	3.29	1.53	3.79	3.79
Sweet Grass County	A3	RM 463.88	150174	2% - 50yr	1127.2	1234.6	1231.85	3.36	2.53	67.33	37.73	136.95	450.58	2.17	1.21	2.75	2.75
Sweet Grass County	A3	RM 463.78	149616	2% - 50yr	1127.2	1234.28	1230.54	2.84	2.25	46.22	30.44	149.53	445.99	2.43	1.59	3.74	3.74
Sweet Grass County	A3	RM 463.67	149069	2% - 50yr	1127.2	1233.98	1230.86	2.81	1.99	45.42	29.44	136.34	502.42	2.42	1.57	3.12	3.12
Sweet Grass County	A3	RM 463.59	148630	2% - 50yr	1127.2	1233.79	1230.39	2.62	1.81	36.83	22.95	139.26	1020.88	2.7	1.68	3.4	3.4
Sweet Grass County	A3	RM 463.49	148111	2% - 50yr	1127.2	1232.91	1229.73	4.04	3.14	96.53	45.74	120.48	885.59	2.2	1.04	3.18	3.18

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	2% - 50yr	1127.2	1232.53	1229.72	2.61	1.88	41.7	24	179.41	1231.4	2	1.15	2.81	2.81
Sweet Grass County	A3	RM 463.20	146616	2% - 50yr	1127.2	1232.13	1228.95	2.49	1.65	38.49	21.02	123.17	1498.15	1.97	1.06	3.18	3.18
Sweet Grass County	A3	RM 463.06	145881	2% - 50yr	1127.2	1231.88	1228.89	1.86	1.09	21.24	12.72	147.76	1513.31	2.01	1.2	2.99	2.99
Sweet Grass County	A4	RM 462.79	144435	2% - 50yr	1127.2	1231.75	1228.25	1.17	0.67	7.56	4.86	133.61	1428.6	2.79	1.77	3.5	3.5
Sweet Grass County	A4	RM 462.16	141146	2% - 50yr	1127.2	1229.4	1226.15	3.39	2.21	67.19	26.29	106.85	735.86	2.34	0.9	3.25	3.25
Sweet Grass County	A4	RM 461.97	140135	2% - 50yr	1127.2	1228.89	1226.06	2.52	1.53	38.19	21.87	120.82	735.63	2.08	1.19	2.83	2.83
Sweet Grass County	A4	RM 461.71	138705	2% - 50yr	1127.2	1227.35	1224.75	3.8	3.14	92.01	54.17	100.95	395.16	1.79	1.05	2.59	2.59
Sweet Grass County	A4	RM 461.52	137683	2% - 50yr	1127.2	1226.91	1222.31	2.4	1.73	28.98	9.57	84.17	646.22	3.8	1.2	4.6	4.6
Sweet Grass County	A4	RM 461.33	136718	2% - 50yr	1127.2	1226.69	1223.38	2.09	1.57	24.83	14.69	124.34	738.95	2.48	1.47	3.31	3.31
Sweet Grass County	A4	RM 461.14	135736	2% - 50yr	1127.2	1225.96	1222.44	3.15	2.2	54.72	22.41	117.12	504.08	2.75	1.11	3.52	3.52
Sweet Grass County	A4	RM 460.99	134951	2% - 50yr	1127.2	1225.53	1221.98	2.99	2.19	48.76	20.28	121.6	440.41	2.84	1.17	3.54	3.54
Sweet Grass County	A4	RM 460.85	134214	2% - 50yr	1127.2	1224.37	1222.07	4.18	3.92	104.09	76.8	137.4	200.75	1.94	1.43	2.3	2.3
Sweet Grass County	A4	RM 460.74	133616	2% - 50yr	1127.2	1224.08	1220.27	2.94	2.7	45.9	25.08	122.19	249.13	3.1	1.68	3.81	3.81
Sweet Grass County	A4	RM 460.63	133067	2% - 50yr	1127.2	1224.08	1218.9	2.21	2.05	22.55	8.42	105.23	312.87	4.82	1.75	5.18	5.18
Sweet Grass County	A4	RM 460.50	132281	2% - 50yr	1127.2	1223.54	1221.12	3.34	2.67	69.24	39.24	151.86	439.43	1.9	1.08	2.42	2.42
Sweet Grass County	A4	RM 460.38	131785	2% - 50yr	1127.2	1223.32	1220.5	2.53	1.97	36.07	18.46	139.17	534.38	2.1	1.07	2.82	2.82
Sweet Grass County	A4	RM 460.29	131287	2% - 50yr	1127.2	1222.97	1219.97	2.71	2.32	43.67	22.66	135.07	431.13	2.19	1.13	3	3
Sweet Grass County	A4	RM 460.19	130793	2% - 50yr	1127.2	1222.76	1219.38	2.47	2.09	34.01	22.35	118.6	344.2	2.66	1.75	3.38	3.38
Sweet Grass County	A4	RM 460.08	130210	2% - 50yr	1127.2	1222.37	1218.23	2.78	2.51	41.28	20.77	132.3	325.78	3.02	1.51	4.15	4.15
Sweet Grass County	A4	RM 459.99	129763	2% - 50yr	1127.2	1222.04	1218.01	3.16	2.9	52.36	31.32	110.76	240.06	3.18	1.89	4.03	4.03
Sweet Grass County	A4	RM 459.90	129246	2% - 50yr	1127.2	1221.87	1217.62	2.89	2.65	42.01	29.13	106.75	250.01	3.59	2.48	4.25	4.25
Sweet Grass County	A4	RM 459.81	128792	2% - 50yr	1127.2	1221.07	1218.15	4.19	4.07	97.69	78.14	99.73	213.49	2.68	2.14	2.92	2.92
Sweet Grass County	A4	RM 459.72	128310	2% - 50yr	1231.9	1221.02	1217.31	3.06	2.56	50.06	29.74	127.21	328.11	2.99	1.77	3.71	3.71
Sweet Grass County	A4	RM 459.62	127798	2% - 50yr	1231.9	1220.81	1217.46	2.89	2.4	46.05	26.55	128.42	326.82	2.72	1.57	3.35	3.35
Sweet Grass County	A5	RM 459.53	127324	2% - 50yr	1231.9	1220.1	1217.26	3.68	3.62	80.88	69.18	156.82	188.75	2.13	1.82	2.84	2.84
Sweet Grass County	A5	RM 459.44	126881	2% - 50yr	1231.9	1219.91	1216.93	2.86	2.77	47.59	40.05	185.47	274.69	2.31	1.94	2.98	2.98
Sweet Grass County	A5	RM 459.31	126192	2% - 50yr	1231.9	1219.48	1215.66	2.91	2.72	46.83	35.6	153.23	446.29	2.73	2.07	3.82	3.82
Sweet Grass County	A5	RM 459.24	125848	2% - 50yr	1231.9	1219.16	1215.69	3.22	3	58.15	43.72	145.56	497.4	2.6	1.95	3.47	3.47
Sweet Grass County	A5	RM 459.16	125420	2% - 50yr	1231.9	1218.55	1215.82	3.74	3.73	84.41	80.76	158.87	239.57	2.07	1.98	2.73	2.73
Sweet Grass County	A5	RM 459.02	124624	2% - 50yr	1231.9	1218.28	1214.8	2.45	2.34	34.2	25.34	200.81	526.87	2.48	1.84	3.48	3.48
Sweet Grass County	A5	RM 458.79	123371	2% - 50yr	1231.9	1217.38	1214.02	3.16	3.05	56.31	34.36	151.08	258.73	2.56	1.56	3.36	3.36
Sweet Grass County	A5	RM 458.48	121727	2% - 50yr	1231.9	1216.29	1213.35	2.69	2.6	45.36	41.75	165.37	300.08	1.86	1.71	2.94	2.94
Sweet Grass County	A5	RM 458.36	121100	2% - 50yr	1231.9	1215.21	1212.73	4.06	3.63	99.1	72.05	117.71	240.97	1.94	1.41	2.48	2.48
Sweet Grass County	A5	RM 458.25	120543	2% - 50yr	1231.9	1215.12	1211.35	2.51	2.15	33.78	23.93	122.03	269.74	3	2.12	3.77	3.77
Sweet Grass County	A5	RM 458.13	119849	2% - 50yr	1231.9	1214.82	1211.21	2.58	2.32	36.35	29.1	131.08	236.32	2.82	2.24	3.61	3.61
Sweet Grass County	A5	RM 458.03	119256	2% - 50yr	1231.9	1214.65	1210.09	2.41	2.16	28.99	19.72	122.91	223.49	3.77	2.55	4.56	4.56
Sweet Grass County	A5	RM 457.87	118444	2% - 50yr	1231.9	1214.35	1209.57	2.68	2.6	34.08	25	104.9	154.76	4.36	3.19	4.79	4.79
Sweet Grass County	A5	RM 457.76	117858	2% - 50yr	1231.9	1214.12	1210.24	2.83	2.77	42.01	36.4	137.04	161.92	3.17	2.75	3.88	3.88
Sweet Grass County	A5	RM 457.66	117350	2% - 50yr	1231.9	1213.83	1210.03	3.02	2.93	48.59	39.93	132.62	191.01	3.06	2.51	3.8	3.8
Sweet Grass County	A5	RM 457.54	116694	2% - 50yr	1231.9	1213.43	1209.93	3.18	2.98	54.38	41.31	131.05	212.38	2.92	2.22	3.5	3.5
Sweet Grass County	A5	RM 457.35	115703	2% - 50yr	1231.9	1212.06	1209.69	4.18	4.18	109.2	109.2	155.55	155.55	1.89	1.89	2.37	2.37
Sweet Grass County	A5	RM 457.20	114921	2% - 50yr	1231.9	1211.88	1208.7	2.45	2.45	33.76	33.76	196.92	196.92	2.56	2.56	3.18	3.18
Sweet Grass County	A5	RM 457.02	113974	2% - 50yr	1231.9	1211.27	1208.04	3.19	2.56	55.76	26.94	103.04	356.7	2.81	1.35	3.22	3.22
Sweet Grass County	A5	RM 456.84	113009	2% - 50yr	1231.9	1210.8	1206.55	2.9	2.75	42.7	27.19	120.66	201.75	3.5	2.22	4.25	4.25
Sweet Grass County	A5	RM 456.68	112164	2% - 50yr	1231.9	1210.05	1206.59	3.71	3.65	74.29	64.34	113.81	133.86	2.91	2.52	3.46	3.46
Sweet Grass County	A5	RM 456.55	111455	2% - 50yr	1231.9	1209.79	1206.19	2.92	2.9	46.42	42.83	146.88	160.93	2.86	2.64	3.6	3.6
Sweet Grass County	A5	RM 456.43	110857	2% - 50yr	1231.9	1209.48	1205.33	3.04	2.91	46.46	32.35	110.87	168.27	3.64	2.52	4.14	4.14
Sweet Grass County	A6	RM 456.29	110121	2% - 50yr	1231.9	1208.98	1205.45	3.42	3.25	58.45	37.6	118.64	195.74	3.02	1.94	3.53	3.53
Sweet Grass County	A6	RM 456.18	109508	2% - 50yr	1231.9	1208.53	1205.45	3.45	3.37	67.26	34.68	139.71	278.57	2.55	1.31	3.08	3.08
Sweet Grass County	A6	RM 456.03	108721	2% - 50yr	1231.9	1208.04	1204.59	2.98	2.83	51.87	30.28	176.21	323.21	2.32	1.35	3.45	3.45
Sweet Grass County	A6	RM 455.84	107742	2% - 50yr	1231.9	1207.65	1204.05	2.47	2.23	32.15	19.75	183.51	374.35	2.66	1.63	3.61	3.61
Sweet Grass County	A6	RM 455.70	106976	2% - 50yr	1231.9	1207.35	1203.14	2.59	2.56	33.17	29.13	143.46	356.96	3.31	2.9	4.21	4.21
Sweet Grass County	A6	RM 455.56	106256	2% - 50yr	1231.9	1206.85	1203.35	3.26	3.06	54.16	31.6	119.56	367.94	3.12	1.81	3.5	3.5
Sweet Grass County	A6	RM 455.39	105360	2% - 50yr	1231.9	1206.63	1202.74	2.5	2.32	32.84	24.55	151.06	315.56	3.17	2.36	3.89	3.89
Sweet Grass County	A6	RM 455.26	104667	2% - 50yr	1231.9	1205.59	1202.83	4.22	3.71	103.97	63.05	125.69	282.8	2.26	1.37	2.76	2.76
Sweet Grass County	A6	RM 455.09	103771	2% - 50yr	1231.9	1205.27	1201.58	2.41	2.12	30.98	18.64	159.86	316.09	3.08	1.84	3.69	3.69
Sweet Grass County	A6	RM 454.95	103072	2% - 50yr	1231.9	1204.62	1201.94	3.32	3.17	68.77	55.89	179.76	253.92	1.88	1.53	2.68	2.68
Sweet Grass County	A6	RM 454.82	102364	2% - 50yr	1231.9	1204.24	1200.61	2.54	2.4	38.21	33.44	178.9	254.1	2.32	2.02	3.64	3.64
Sweet Grass County	A6	RM 454.72	101863	2% - 50yr	1231.9	1203.72	1200.47	3.11	3.11	52.82	52.72	187.28	187.53	2.11	2.11	3.25	3.25
Sweet Grass County	A6	RM 454.64	101419	2% - 50yr	1231.9	1203.57	1199.69	2.55	2.54	35.2	33.05	195.79	209.67	2.46	2.31	3.88	3.88
Sweet Grass County	A6	RM 454.53	100846	2% - 50yr	1231.9	1203.08	1199.59	3.22	3.05	53.69	37.15	120.59	188.6	3.09	2.14	3.5	3.5

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	2% - 50yr	1231.9	1202.81	1199	3.22	3.06	54.69	37.44	115.82	183.37	3.21	2.2	3.81	3.81
Sweet Grass County	A6	RM 454.29	99597	2% - 50yr	1231.9	1202.49	1198.71	3.05	2.72	48.09	32.02	114.12	205.69	3.32	2.2	3.78	3.78
Sweet Grass County	A6	RM 454.15	98861	2% - 50yr	1231.9	1202.14	1198.68	2.99	2.88	46.12	35.41	136.69	187.54	2.98	2.28	3.46	3.46
Sweet Grass County	A6	RM 454.00	98105	2% - 50yr	1231.9	1201.75	1198.53	2.9	2.9	42.41	42.13	195.3	196.5	2.18	2.16	3.21	3.21
Sweet Grass County	A6	RM 453.89	97523	2% - 50yr	1231.9	1201.38	1198.31	2.92	2.84	46.57	43.52	180.95	203.63	2.28	2.13	3.08	3.08
Sweet Grass County	A6	RM 453.78	96929	2% - 50yr	1231.9	1201.22	1197.07	2.43	2.35	30.69	20.54	153.06	238.34	3.29	2.2	4.15	4.15
Sweet Grass County	A6	RM 453.67	96361	2% - 50yr	1231.9	1200.84	1197.77	3.01	2.64	49.92	33.34	151.58	275.56	2.53	1.69	3.07	3.07
Sweet Grass County	A6	RM 453.58	95863	2% - 50yr	1231.9	1200.77	1196.37	2.31	2.3	26.32	25.5	182.6	190.02	3.43	3.32	4.4	4.4
Sweet Grass County	A6	RM 453.48	95355	2% - 50yr	1231.9	1200.11	1196.86	3.67	3.62	71.49	61.81	118.04	138.76	2.84	2.45	3.25	3.25
Sweet Grass County	A6	RM 453.35	94633	2% - 50yr	1231.9	1199.55	1196.43	3.59	3.5	69.22	58.21	133.91	206.59	2.55	2.15	3.11	3.11
Sweet Grass County	A7	RM 453.23	93994	2% - 50yr	1231.9	1199.16	1196.41	3.2	3	56.33	50.83	113	209.21	2.26	2.04	2.74	2.74
Sweet Grass County	A7	RM 453.11	93361	2% - 50yr	1231.9	1198.93	1195.68	2.46	2.42	24.81	24.42	265.43	283.18	1.82	1.8	3.25	3.25
Sweet Grass County	A7	RM 453.01	92863	2% - 50yr	1231.9	1198.44	1195.38	3.2	3.08	46.68	43.91	181.8	215.77	1.97	1.85	3.06	3.06
Sweet Grass County	A7	RM 452.91	92363	2% - 50yr	1231.9	1198.34	1194.85	2.63	2.27	34.79	21.55	117.27	319.03	2.78	1.72	3.49	3.49
Sweet Grass County	A7	RM 452.82	91863	2% - 50yr	1231.9	1198.08	1194.65	2.68	2.55	38.88	35.31	111.14	182.28	2.91	2.65	3.43	3.43
Sweet Grass County	A7	RM 452.72	91363	2% - 50yr	1231.9	1198.01	1193.29	2.19	2.1	23.48	18.82	144.32	188.71	3.88	3.1	4.72	4.72
Sweet Grass County	A7	RM 452.64	90932	2% - 50yr	1231.9	1197.78	1194.02	2.72	2.23	38.87	27.97	133.5	283.43	3.15	2.26	3.76	3.76
Sweet Grass County	A7	RM 452.53	90362	2% - 50yr	1231.9	1197.31	1193.87	3.33	3.01	57.19	41.8	116.37	191.28	2.93	2.14	3.45	3.45
Sweet Grass County	A7	RM 452.43	89864	2% - 50yr	1231.9	1196.95	1193.52	3.45	3.07	61.71	41.14	111.68	202.53	2.98	1.98	3.43	3.43
Sweet Grass County	A7	RM 452.33	89331	2% - 50yr	1231.9	1196.67	1193.16	3.2	3	52.48	33.55	134.45	230.19	2.79	1.78	3.51	3.51
Sweet Grass County	A7	RM 452.25	88863	2% - 50yr	1231.9	1196.4	1192.91	3.17	2.98	52	37.01	138.6	208.69	2.78	1.98	3.49	3.49
Sweet Grass County	A7	RM 452.16	88399	2% - 50yr	1231.9	1196.08	1192.68	3.34	2.72	58.03	29.19	119.78	306.79	2.93	1.48	3.41	3.41
Sweet Grass County	A7	RM 452.06	87882	2% - 50yr	1231.9	1195.85	1192.4	3.09	2.57	50.4	24.05	120.32	322.56	3.13	1.48	3.45	3.45
Sweet Grass County	A7	RM 451.96	87394	2% - 50yr	1231.9	1195.59	1191.9	3.13	2.56	53.18	29.91	125.87	296.67	2.89	1.62	3.69	3.69
Sweet Grass County	A7	RM 451.86	86835	2% - 50yr	1231.9	1195.37	1191.79	2.89	2.32	42.17	28.05	122.39	256.17	3.12	2.07	3.58	3.58
Sweet Grass County	A7	RM 451.75	86230	2% - 50yr	1231.9	1195.04	1191.43	2.96	2.96	45.12	45.05	133.48	133.67	3.12	3.11	3.6	3.6
Sweet Grass County	A7	RM 451.61	85483	2% - 50yr	1231.9	1194.75	1190.7	2.75	2.74	40.68	39.04	152.65	162.68	2.94	2.82	4.05	4.05
Sweet Grass County	A7	RM 451.49	84861	2% - 50yr	1231.9	1194.17	1191.07	3.47	3.28	62.25	52.16	126.46	162.69	2.75	2.31	3.1	3.1
Sweet Grass County	A7	RM 451.34	84113	2% - 50yr	1231.9	1194.12	1190.06	2.27	2.22	26.11	21.91	150.96	267.43	3.57	2.99	4.06	4.06
Sweet Grass County	A7	RM 451.20	83363	2% - 50yr	1231.9	1193.41	1189.8	3.61	3.57	67.61	58.33	103.86	170.98	3.28	2.83	3.62	3.62
Sweet Grass County	A7	RM 451.10	82863	2% - 50yr	1231.9	1193.28	1189.79	2.98	2.93	46.86	37.46	133.83	171.07	3.08	2.46	3.49	3.49
Sweet Grass County	A7	RM 451.00	82325	2% - 50yr	1231.9	1193.14	1189.55	2.68	2.47	37.92	27.14	118.3	225.85	3.09	2.21	3.59	3.59
Sweet Grass County	A7	RM 450.86	81602	2% - 50yr	1231.9	1192.96	1188.29	2.25	1.99	48.89	24.97	90.13	274.35	4.57	2.26	4.66	4.66
Sweet Grass County	A7	RM 450.73	80923	2% - 50yr	1231.9	1191.91	1188.46	4.1	3.72	92.31	63.79	101.7	172.07	2.81	1.93	3.46	3.46
Sweet Grass County	A7	RM 450.63	80374	2% - 50yr	1231.9	1191.61	1188.16	3.35	3.27	62.34	48.08	135.87	181.88	2.69	2.07	3.46	3.46
Sweet Grass County	A7	RM 450.53	79863	2% - 50yr	1231.9	1191.37	1187.88	3.01	2.95	47.02	35.69	151.13	204.47	2.7	2.04	3.49	3.49
Sweet Grass County	A7	RM 450.43	79300	2% - 50yr	1231.9	1191.12	1187.72	2.88	2.68	42.18	33.51	133.66	225.19	2.57	2.04	3.4	3.4
Sweet Grass County	A7	RM 450.34	78849	2% - 50yr	1299.9	1190.82	1188.05	3.01	2.77	50.64	41.38	125.79	241.11	2.38	1.94	2.77	2.77
Sweet Grass County	A7	RM 450.23	78298	2% - 50yr	1299.9	1190.72	1186.92	2.16	1.92	23.97	13.02	203.19	433.58	2.9	1.57	3.8	3.8
Sweet Grass County	A7	RM 450.14	77822	2% - 50yr	1299.9	1190.43	1186.4	2.7	2.29	39.26	19.42	152.44	418.23	3.01	1.47	4.03	4.03
Sweet Grass County	A7	RM 450.05	77362	2% - 50yr	1299.9	1189.79	1187.2	3.69	3.41	77.9	46.5	139.72	274.63	2.47	1.47	2.59	2.59
Sweet Grass County	A7	RM 449.96	76841	2% - 50yr	1299.9	1189.58	1186.28	3.08	2.46	50.26	26.27	128.01	352.94	3.13	1.62	3.3	3.3
Sweet Grass County	A7	RM 449.86	76356	2% - 50yr	1299.9	1189.22	1185.58	3.38	2.65	58.77	24.78	108.84	424.97	3.39	1.42	3.64	3.64
Sweet Grass County	A7	RM 449.77	75860	2% - 50yr	1299.9	1188.9	1185.68	3.36	2.92	56.79	36.4	168.44	320.3	2.17	1.39	3.22	3.22
Sweet Grass County	A7	RM 449.68	75373	2% - 50yr	1299.9	1188.57	1185.9	2.94	2.68	53.26	35.35	220.37	394.42	1.96	1.3	2.67	2.67
Sweet Grass County	A7	RM 449.59	74904	2% - 50yr	1299.9	1188.44	1184.15	2.61	2.17	33.82	15.75	112.21	365.13	3.86	1.76	4.29	4.29
Sweet Grass County	A7	RM 449.48	74351	2% - 50yr	1299.9	1187.98	1184.86	3.43	2.91	69.35	43.58	121.9	318.07	2.24	1.41	3.13	3.13
Sweet Grass County	A7	RM 449.37	73741	2% - 50yr	1299.9	1187.83	1184.73	2.22	1.87	28.89	16.35	210.35	603.61	2.27	1.28	3.09	3.09
Sweet Grass County	A7	RM 449.26	73165	2% - 50yr	1299.9	1187.71	1184.33	2.04	1.24	21.03	10.72	128.66	852.08	2.82	1.42	3.38	3.38
Sweet Grass County	A7	RM 449.10	72364	2% - 50yr	1299.9	1186.98	1183.97	3.76	1.82	77.19	28.23	87.4	839.63	2.88	1.02	3.01	3.01
Sweet Grass County	A7	RM 449.00	71858	2% - 50yr	1299.9	1186.31	1183.97	3.87	2.45	91.68	45.17	113.75	538.07	2.03	0.98	2.34	2.34
Sweet Grass County	A7	RM 448.88	71223	2% - 50yr	1299.9	1186.02	1183.11	2.18	1.93	28.89	20.23	231.34	528.99	2.02	1.42	2.91	2.91
Sweet Grass County	A7	RM 448.76	70537	2% - 50yr	1299.9	1185.97	1182.01	1.27	1.23	9.5	8.65	312.73	518.08	2.24	2.04	3.96	3.96
Sweet Grass County	A7	RM 448.55	69424	2% - 50yr	1299.9	1185.73	1181.8	1.89	1.64	18.31	12.82	154.14	507.62	3.46	2.42	3.93	3.93
Sweet Grass County	A7	RM 448.41	68815	2% - 50yr	1299.9	1184.82	1181.16	4.04	3.81	73.63	52.12	108.05	167.45	2.92	2.04	3.66	3.66
Sweet Grass County	A7	RM 448.32	68353	2% - 50yr	1299.9	1184.83	1179.91	2.31	2.3	25.22	23.74	126.03	182.2	4.47	4.2	4.92	4.92
Sweet Grass County	A7	RM 448.23	67851	2% - 50yr	1299.9	1184.47	1179.82	2.98	2.97	43.01	38.26	105.4	159.55	4.13	3.67	4.65	4.65
Sweet Grass County	A7	RM 448.07	67043	2% - 50yr	1299.9	1184.11	1180.7	3.05	2.66	51.04	29.58	149.15	414.84	2.79	1.62	3.4	3.4
Sweet Grass County	A7	RM 447.94	66348	2% - 50yr	1299.9	1183.84	1180.22	2.86	1.96	42.37	16.03	125.42	534.92	3.31	1.24	3.62	3.62
Sweet Grass County	A7	RM 447.85	65863	2% - 50yr	1299.9	1183.36	1180.39	3.45	2.49	66.7	25.6	134.22	520.43	2.62	1	2.97	2.97
Sweet Grass County	A7	RM 447.75	65363	2% - 50yr	1299.9	1183.29	1179.55	2.61	1.96	33.03	14.81	143.24	448.81	3.3	1.48	3.75	3.75

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	2% - 50yr	1299.9	1182.95	1179.59	3.12	2.11	51.18	18.27	121.32	545.66	3.19	1.13	3.36	3.36
Sweet Grass County	A7	RM 447.56	64365	2% - 50yr	1299.9	1182.37	1179.67	3.77	2.53	83.39	36.1	136.94	522.2	2.28	0.98	2.7	2.7
Sweet Grass County	A7	RM 447.49	64001	2% - 50yr	1299.9	1182.27	1179.82	2.81	2.14	45.84	27.24	193.72	466.05	2.2	1.31	2.44	2.44
Sweet Grass County	A7	RM 447.39	63473	2% - 50yr	1299.9	1181.69	1178.85	3.78	2.44	77.56	31.28	92.91	531.91	2.51	1	2.84	2.84
Sweet Grass County	A7	RM 447.27	62880	2% - 50yr	1299.9	1181.34	1178.26	3.17	2.22	58.17	26.64	108.62	540.77	2.4	1.08	3.08	3.08
Sweet Grass County	A7	RM 447.17	62358	2% - 50yr	1299.9	1181.02	1177.92	3	1.9	51.95	26.2	112.86	572.55	2.39	1.2	3.1	3.1
Sweet Grass County	A7	RM 447.08	61863	2% - 50yr	1299.9	1180.61	1177.91	3.12	1.93	59.98	34.93	102.15	589.12	1.97	1.14	2.69	2.69
Sweet Grass County	A7	RM 446.98	61358	2% - 50yr	1299.9	1180.1	1177.28	3.3	2.05	59.51	24.86	95.49	614.15	2.49	1.03	2.82	2.82
Sweet Grass County	A7	RM 446.89	60841	2% - 50yr	1299.9	1179.73	1176.94	3.45	2.05	67.76	28.21	79.88	660.32	2.51	1.04	2.78	2.78
Sweet Grass County	A7	RM 446.80	60396	2% - 50yr	1299.9	1179.55	1175.92	2.73	1.83	40.92	21.31	96.31	741.15	2.82	1.45	3.63	3.63
Sweet Grass County	A7	RM 446.70	59903	2% - 50yr	1299.9	1179.27	1176.22	3.22	2.11	56.4	24.16	65.99	672.35	3	1.22	3.05	3.05
Sweet Grass County	A7	RM 446.60	59371	2% - 50yr	1299.9	1178.98	1175.91	3.1	2.05	50.93	22.75	77.2	604.18	2.8	1.22	3.07	3.07
Sweet Grass County	A7	RM 446.51	58868	2% - 50yr	1299.9	1178.8	1175.24	2.67	2.06	39.13	20.2	117.15	508.9	2.82	1.44	3.55	3.55
Sweet Grass County	A7	RM 446.41	58363	2% - 50yr	1299.9	1178.62	1174.39	2.4	1.91	29.53	14.31	148.64	508.28	2.96	1.43	4.22	4.22
Sweet Grass County	A7	RM 446.30	57762	2% - 50yr	1299.9	1178.32	1174.85	2.71	2.1	38.15	15.39	123.97	522.05	2.94	1.19	3.48	3.48
Sweet Grass County	A7	RM 446.22	57365	2% - 50yr	1299.9	1177.74	1174.39	3.59	3.44	69.17	42.35	129.21	222.74	2.78	1.7	3.35	3.35
Sweet Grass County	A7	RM 446.12	56852	2% - 50yr	1299.9	1177.52	1174.04	3.14	2.78	51.18	20.93	140.19	397.55	2.89	1.18	3.48	3.48
Sweet Grass County	A7	RM 446.02	56303	2% - 50yr	1299.9	1177.43	1173.3	2.71	1.95	36.07	15.1	98.3	405.46	4.04	1.64	4.13	4.13
Sweet Grass County	A7	RM 445.94	55871	2% - 50yr	1299.9	1176.57	1173.6	4.41	3.82	108.31	50.86	94.47	273.84	2.69	1.24	2.98	2.98
Sweet Grass County	A7	RM 445.82	55236	2% - 50yr	1299.9	1176.53	1173.05	2.44	2.21	34.03	22.02	208.88	372.7	2.45	1.58	3.48	3.48
Sweet Grass County	A7	RM 445.71	54753	2% - 50yr	1299.9	1176.37	1172.38	2.28	2.16	25.82	18.45	210.48	317.15	2.66	1.9	3.99	3.99
Sweet Grass County	A7	RM 445.60	54202	2% - 50yr	1299.9	1176.16	1172.32	2.43	2.24	29.92	20.91	188.77	297.5	2.8	1.95	3.83	3.83
Sweet Grass County	A7	RM 445.46	53453	2% - 50yr	1299.9	1175.6	1171.04	3.25	2.88	52.42	34.01	131.45	241.35	2.89	1.87	4.55	4.55
Sweet Grass County	A7	RM 445.36	52888	2% - 50yr	1299.9	1175.41	1170.25	2.98	2.37	45.44	24.35	105.4	338.83	3.45	1.83	5.16	5.16
Sweet Grass County	A7	RM 445.26	52344	2% - 50yr	1299.9	1174.67	1171.35	4.02	3.5	88.12	48.71	105.75	237.8	2.83	1.56	3.33	3.33
Sweet Grass County	A7	RM 445.17	51873	2% - 50yr	1299.9	1174.12	1171.83	4.04	3.74	97.21	69.9	136.93	221.4	2.19	1.57	2.28	2.28
Sweet Grass County	A7	RM 445.07	51376	2% - 50yr	1299.9	1174.2	1170.28	2.31	2.01	29.04	17.39	181.57	422.96	2.88	1.72	3.92	3.92
Sweet Grass County	A7	RM 444.97	50844	2% - 50yr	1299.9	1173.67	1170.19	3.24	2.96	55.4	29.99	148.01	360.44	2.65	1.43	3.49	3.49
Sweet Grass County	A7	RM 444.88	50352	2% - 50yr	1299.9	1173.39	1170.05	3.14	2.71	52.36	23.87	144.09	378.51	2.8	1.27	3.35	3.35
Sweet Grass County	A7	RM 444.79	49860	2% - 50yr	1299.9	1172.98	1169.94	3.44	2.79	65.44	34.41	132.35	329.58	2.69	1.41	3.04	3.04
Sweet Grass County	A7	RM 444.69	49316	2% - 50yr	1299.9	1172.8	1169.55	2.47	2.43	28.49	24.63	356	420.24	1.48	1.27	3.24	3.24
Sweet Grass County	A7	RM 444.60	48863	2% - 50yr	1299.9	1172.58	1167.23	2.77	1.97	35.18	9.21	88	532.49	4.99	1.24	5.34	5.34
Sweet Grass County	A7	RM 444.50	48367	2% - 50yr	1299.9	1172.58	1169.73	0.98	1.63	12.94	13.9	182.03	647.31	1.23	1.32	3.92	3.92
Sweet Grass County	A7	RM 444.41	47863	2% - 50yr	1299.9	1172.39	1168.6	2.23	1.61	24.99	10.53	129.86	713.02	3.23	1.35	3.79	3.79
Sweet Grass County	A7	RM 444.30	47336	2% - 50yr	1299.9	1172.33	1168.26	1.88	1.37	17.54	9.26	167.8	708.43	3.41	1.79	4.07	4.07
Sweet Grass County	A7	RM 444.20	46789	2% - 50yr	1299.9	1171.6	1167.97	3.74	2.84	75.46	34.26	107.59	529.93	2.98	1.34	3.64	3.64
Sweet Grass County	A7	RM 444.12	46346	2% - 50yr	1299.9	1171.09	1167.62	3.98	3.33	84.04	40.55	100.36	260.57	3.16	1.5	3.47	3.47
Sweet Grass County	A7	RM 444.02	45829	2% - 50yr	1299.9	1170.91	1167.57	3.23	2.83	51.37	25.23	143.97	475.78	2.74	1.34	3.35	3.35
Sweet Grass County	A7	RM 443.91	45243	2% - 50yr	1299.9	1170.63	1167.08	2.99	2.45	49.9	20.56	153.42	728.49	2.63	1.08	3.55	3.55
Sweet Grass County	A7	RM 443.84	44853	2% - 50yr	1299.9	1170.06	1167.23	3.61	3.26	79.45	41.82	173.99	474.19	2.01	1.06	2.83	2.83
Sweet Grass County	A7	RM 443.75	44415	2% - 50yr	1299.9	1169.86	1166.67	2.85	2.72	46.52	22.36	183.8	660.22	2.46	1.18	3.19	3.19
Sweet Grass County	A7	RM 443.64	43870	2% - 50yr	1299.9	1169.77	1166.09	2.36	1.7	29.77	14.51	110.6	884.53	3.01	1.46	3.68	3.68
Sweet Grass County	A7	RM 443.53	43290	2% - 50yr	1299.9	1169.62	1165.72	2.39	1.83	28.83	14.07	87.59	819.5	3.61	1.74	3.9	3.9
Sweet Grass County	A8	RM 443.45	42860	2% - 50yr	1299.9	1169.13	1165.25	3.2	2.88	54	29.53	139.17	675.95	2.86	1.56	3.88	3.88
Sweet Grass County	A8	RM 443.35	42363	2% - 50yr	1299.9	1168.24	1164.95	4.42	4.03	107.85	70.99	101.62	522.28	2.74	1.79	3.29	3.29
Sweet Grass County	A8	RM 443.25	41863	2% - 50yr	1299.9	1168.15	1165.05	3.16	2.62	55.41	28.55	127.8	580.35	2.7	1.39	3.1	3.1
Sweet Grass County	A8	RM 443.16	41342	2% - 50yr	1299.9	1167.9	1165.43	2.8	2.08	47.13	26.92	152.93	819.56	2.1	1.2	2.47	2.47
Sweet Grass County	A8	RM 443.07	40863	2% - 50yr	1299.9	1167.5	1164.49	3.02	2	53.72	25.8	139	801.58	2.23	1.07	3.01	3.01
Sweet Grass County	A8	RM 442.97	40345	2% - 50yr	1299.9	1167.21	1164.28	2.64	1.84	38.12	23.6	161.83	655.7	2.15	1.33	2.93	2.93
Sweet Grass County	A8	RM 442.88	39863	2% - 50yr	1299.9	1167	1164.06	2.28	1.79	30.28	19.82	177.36	744.91	2.08	1.36	2.95	2.95
Sweet Grass County	A8	RM 442.78	39363	2% - 50yr	1299.9	1166.25	1164.18	3.59	3.09	85.34	55.57	141.8	546.99	1.57	1.03	2.4	2.4
Sweet Grass County	A8	RM 442.68	38840	2% - 50yr	1299.9	1165.94	1162.8	2.66	2.04	35.45	20.22	117.57	561.42	2.31	1.31	3.14	3.14
Sweet Grass County	A8	RM 442.60	38390	2% - 50yr	1299.9	1165.87	1162.57	1.87	1.53	19.87	12.09	157.4	563.41	2.48	1.51	3.3	3.3
Sweet Grass County	A8	RM 442.50	37863	2% - 50yr	1299.9	1165.47	1162.29	3.09	2.18	46.34	20.69	102.55	549.79	2.44	1.08	3.18	3.18
Sweet Grass County	A8	RM 442.42	37461	2% - 50yr	1299.9	1165.23	1162.07	3.05	2.26	44.11	23.18	121.06	506.84	2.18	1.14	3.16	3.16
Sweet Grass County	A8	RM 442.32	36914	2% - 50yr	1299.9	1164.97	1161.85	2.83	2.18	45.28	22.9	107.71	499.47	2.53	1.28	3.12	3.12
Sweet Grass County	A8	RM 442.24	36451	2% - 50yr	1299.9	1164.71	1161.75	2.76	2.27	39.45	21.45	130.05	538.89	2.17	1.18	2.96	2.96
Sweet Grass County	A8	RM 442.12	35820	2% - 50yr	1299.9	1164.35	1161.12	2.93	2.23	42.93	21.18	123.17	580.15	2.4	1.18	3.23	3.23
Sweet Grass County	A8	RM 442.03	35367	2% - 50yr	1299.9	1164.09	1161.18	2.83	2.33	46.74	25.35	123.16	551.72	2.29	1.25	2.91	2.91
Sweet Grass County	A8	RM 441.95	34945	2% - 50yr	1299.9	1164.03	1160.28	2.14	1.61	25.01	11.85	133.86	775.18	2.86	1.33	3.74	3.74
Sweet Grass County	A8	RM 441.84	34360	2% - 50yr	1299.9	1163.55	1160.33	2.92	2.15	44.34	22.91	186.27	553.44	2.12	1.09	3.22	3.22

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	2% - 50yr	1299.9	1163.22	1160.06	2.95	2.12	46.29	21.64	171.23	588.99	2.28	1.07	3.17	3.17
Sweet Grass County	A8	RM 441.65	33357	2% - 50yr	1299.9	1163.11	1159.78	2.31	1.51	28.56	12.68	173.66	894	2.75	1.21	3.33	3.33
Sweet Grass County	A8	RM 441.53	32732	2% - 50yr	1299.9	1162.66	1159.44	2.98	1.91	50.22	18.78	152.04	794.88	2.54	0.94	3.22	3.22
Sweet Grass County	A8	RM 441.47	32366	2% - 50yr	1299.9	1162.53	1158.95	2.72	1.67	39.75	14.61	138.98	844.08	2.94	1.08	3.58	3.58
Sweet Grass County	A8	RM 441.38	31928	2% - 50yr	1299.9	1162.57	1158.24	1.75	1.11	15.86	8.44	153.74	1056.91	3.26	1.73	4.33	4.33
Sweet Grass County	A8	RM 441.27	31350	2% - 50yr	1299.9	1162.06	1158.76	3.38	2.07	62.8	20.92	97.16	1058.74	2.77	0.91	3.31	3.31
Sweet Grass County	A8	RM 441.18	30882	2% - 50yr	1299.9	1161.8	1158.5	2.57	1.57	34.58	12.95	125.73	1032.45	2.68	1	3.3	3.3
Sweet Grass County	A8	RM 441.07	30295	2% - 50yr	1299.9	1161.65	1158.19	2.27	1.45	28.21	11.25	149.54	1033.12	2.76	1.09	3.47	3.47
Sweet Grass County	A8	RM 441.00	29913	2% - 50yr	1299.9	1161.57	1157.63	2.14	1.36	25.24	10.92	146.59	947.75	2.78	1.19	3.94	3.94
Sweet Grass County	A8	RM 440.80	28852	2% - 50yr	1299.9	1160.82	1157.49	3.5	2.34	63.56	20.38	103.86	605.66	2.87	0.92	3.33	3.33
Sweet Grass County	A8	RM 440.60	27841	2% - 50yr	1299.9	1159.86	1157.2	3.09	2.35	55.89	27.77	121.05	486.31	2.29	1.14	2.66	2.66
Sweet Grass County	A8	RM 440.51	27361	2% - 50yr	1299.9	1159.25	1156.41	3.59	2.77	75.35	39.85	109.89	394.63	2.29	1.2	2.84	2.84
Sweet Grass County	A8	RM 440.42	26862	2% - 50yr	1299.9	1158.78	1156.26	3.52	2.72	73.49	38.17	89.13	422.97	2.18	1.13	2.51	2.51
Sweet Grass County	A8	RM 440.30	26223	2% - 50yr	1299.9	1158.74	1155.63	1.81	1.46	18.66	12.88	97.18	593.58	2.46	1.69	3.11	3.11
Sweet Grass County	A8	RM 440.17	25466	2% - 50yr	1299.9	1158.54	1154.7	2.31	1.71	28.1	16.5	64.56	414.84	3.29	1.87	3.83	3.83
Sweet Grass County	A8	RM 440.06	24863	2% - 50yr	1299.9	1158.26	1153.97	2.45	1.99	31.09	19.45	130.9	424.68	3.33	2.07	4.29	4.29
Sweet Grass County	A8	RM 439.96	24366	2% - 50yr	1299.9	1157.98	1154.18	2.97	2.23	45.06	17.7	95.94	511.45	3.46	1.35	3.8	3.8
Sweet Grass County	A8	RM 439.87	23863	2% - 50yr	1299.9	1157.69	1153.59	3.08	2.13	45.61	12.15	103.39	688.12	3.72	0.98	4.1	4.1
Sweet Grass County	A8	RM 439.77	23365	2% - 50yr	1299.9	1157.52	1153.6	2.94	1.96	42.63	10.33	124.68	1035.44	3.22	0.78	3.92	3.92
Sweet Grass County	A8	RM 439.68	22863	2% - 50yr	1299.9	1157.07	1153.45	3.41	2.67	57.46	11.17	135.2	935.41	2.73	0.53	3.62	3.62
Sweet Grass County	A8	RM 439.58	22363	2% - 50yr	1299.9	1157.08	1153.39	2.37	1.42	28.87	8.55	150.28	1036.63	3.03	0.89	3.69	3.69
Sweet Grass County	A8	RM 439.49	21863	2% - 50yr	1299.9	1156.96	1152.86	2.35	1.35	27.36	7.45	116.13	999.04	3.82	1.03	4.1	4.1
Sweet Grass County	A8	RM 439.39	21363	2% - 50yr	1299.9	1156.87	1153.06	2.25	1.34	25.84	8.82	131.98	1006.79	3.37	1.13	3.81	3.81
Sweet Grass County	A8	RM 439.30	20863	2% - 50yr	1299.9	1156.7	1152.92	2.51	1.42	31.66	10.56	110.38	923.2	3.41	1.13	3.78	3.78
Sweet Grass County	A8	RM 439.20	20353	2% - 50yr	1299.9	1155.69	1152.64	4.31	3.85	97.41	44.37	111.19	280.47	2.65	1.2	3.05	3.05
Sweet Grass County	A8	RM 439.11	19864	2% - 50yr	1299.9	1155.61	1152.34	2.91	2.1	45.19	14.38	98.01	728.32	2.99	0.95	3.27	3.27
Sweet Grass County	A8	RM 439.01	19360	2% - 50yr	1299.9	1155.14	1152.4	3.34	2.5	60.31	20.8	128.83	705.44	2.22	0.76	2.74	2.74
Sweet Grass County	A8	RM 438.91	18848	2% - 50yr	1299.9	1154.85	1151.92	2.79	2.15	41.51	18.56	121.85	558.85	2.49	1.12	2.94	2.94
Sweet Grass County	A8	RM 438.82	18363	2% - 50yr	1299.9	1154.57	1151.23	2.84	2.21	45.31	19.55	120	750.9	2.6	1.12	3.34	3.34
Sweet Grass County	A8	RM 438.73	17853	2% - 50yr	1299.9	1154.28	1151.37	2.85	2.24	43.21	25.93	124.01	434.04	2.23	1.34	2.9	2.9
Sweet Grass County	A8	RM 438.63	17363	2% - 50yr	1299.9	1154.17	1150.74	2.25	1.84	27.04	18.61	100.37	364.25	2.98	2.05	3.42	3.42
Sweet Grass County	A8	RM 438.54	16863	2% - 50yr	1299.9	1154.03	1150.59	2.24	1.95	26.43	20.6	105.3	269.02	3.22	2.48	3.44	3.44
Sweet Grass County	A8	RM 438.43	16307	2% - 50yr	1299.9	1153.79	1149.52	2.39	2.28	29.7	21.66	165.05	274.83	3.26	2.37	4.27	4.27
Sweet Grass County	A9	RM 438.36	15889	2% - 50yr	1299.9	1153.66	1149.4	2.41	2.34	26.47	23.84	187.56	234.55	2.84	2.57	4.26	4.26
Sweet Grass County	A9	RM 438.26	15363	2% - 50yr	1299.9	1153.02	1149.84	3.73	3.09	73.81	33.96	115.65	331.93	2.76	1.27	3.18	3.18
Sweet Grass County	A9	RM 438.16	14863	2% - 50yr	1299.9	1152.78	1149.31	3.28	2.35	54.22	21	123.27	487.15	2.94	1.13	3.47	3.47
Sweet Grass County	A9	RM 438.07	14394	2% - 50yr	1299.9	1152.45	1149.19	3.41	2.32	64.76	24.25	128.79	569.69	2.64	0.98	3.25	3.25
Sweet Grass County	A9	RM 437.96	13827	2% - 50yr	1299.9	1152.25	1149.19	2.9	1.81	44.84	17.74	119.96	723.13	2.52	0.99	3.06	3.06
Sweet Grass County	A9	RM 437.88	13363	2% - 50yr	1299.9	1152.06	1148.94	2.86	1.76	42.05	17.43	109.09	735.66	2.49	1.02	3.12	3.12
Sweet Grass County	A9	RM 437.78	12844	2% - 50yr	1299.9	1151.7	1148.72	3.18	1.98	54.11	22.44	99.77	673.24	2.55	1.05	2.98	2.98
Sweet Grass County	A9	RM 437.69	12354	2% - 50yr	1299.9	1151.54	1148.45	2.41	1.71	33.99	17.52	147.13	662.46	2.29	1.18	3.08	3.08
Sweet Grass County	A9	RM 437.59	11863	2% - 50yr	1299.9	1151.25	1148.76	2.58	1.87	41.68	21.26	151.34	734.36	1.86	0.94	2.84	2.84
Sweet Grass County	A9	RM 437.50	11362	2% - 50yr	1299.9	1151.02	1148.29	2.28	1.72	31.56	16.87	189.39	697.18	2.02	1.08	2.73	2.73
Sweet Grass County	A9	RM 437.41	10902	2% - 50yr	1299.9	1150.73	1148.26	2.53	1.86	39.75	20.71	175.96	710.04	1.89	0.98	2.48	2.48
Sweet Grass County	A9	RM 437.31	10361	2% - 50yr	1299.9	1150.33	1147.37	2.83	1.94	47.67	22.46	148.16	660.66	2.15	1.01	2.95	2.95
Sweet Grass County	A9	RM 437.20	9764	2% - 50yr	1299.9	1150.01	1147.02	2.78	1.84	40.24	17.97	110.89	674.21	2.35	1.05	2.99	2.99
Sweet Grass County	A9	RM 437.08	9128	2% - 50yr	1299.9	1149.57	1146.9	2.73	2.09	42.7	21.75	194.65	643.52	1.9	0.97	2.67	2.67
Sweet Grass County	A9	RM 436.95	8363	2% - 50yr	1299.9	1149.35	1145.32	2.43	1.55	23.71	11.72	106.12	660.7	2.62	1.27	4.03	4.03
Sweet Grass County	A9	RM 436.83	7805	2% - 50yr	1299.9	1149.21	1145.93	1.84	1.44	21.27	13.5	154.6	765.03	1.87	1.18	3.28	3.28
Sweet Grass County	A9	RM 436.75	6857	2% - 50yr	1299.9	1148.68	1145.61	3.27	1.76	60.95	21.1	67.61	865.43	2.5	0.85	3.07	3.07
Sweet Grass County	A9	RM 436.66	6193	2% - 50yr	1299.9	1148.2	1145.68	3.02	1.87	53.78	19.95	97.51	865.58	2.17	0.8	2.52	2.52
Sweet Grass County	A9	RM 436.56	5280	2% - 50yr	1299.9	1147.76	1144.44	3.16	1.83	43.18	17.54	68.28	745.22	2.48	0.95	3.31	3.31
Sweet Grass County	A9	RM 436.40	4576	2% - 50yr	1299.9	1147.56	1144.05	2.54	1.54	34.58	12.98	57.78	771.88	3.09	1.1	3.51	3.51
Sweet Grass County	A9	RM 436.29	3787	2% - 50yr	1299.9	1147.12	1144.44	2.87	2.06	48.59	25.62	99.03	694.11	2.24	1.17	2.68	2.68
Sweet Grass County	A9	RM 436.16	3087	2% - 50yr	1299.9	1146.35	1143.57	3.39	2.66	68.4	32.57	107.65	718.81	2.17	1.03	2.78	2.78
Sweet Grass County	A9	RM 436.07	2676	2% - 50yr	1299.9	1146.12	1143.09	2.91	2.27	45.56	26.44	102.06	907.16	2.19	1.26	3.03	3.03
Sweet Grass County	A9	RM 435.98	2200	2% - 50yr	1299.9	1145.8	1142.85	2.97	2.18	52.53	23.69	78.62	931.7	2.23	0.98	2.95	2.95
Sweet Grass County	A9	RM 435.88	1580	2% - 50yr	1299.9	1145.43	1142.56	2.38	2.03	36.65	22.29	85.37	840.84	1.7	1.02	2.86	2.86
Sweet Grass County	A9	RM 435.73	890	2% - 50yr	1299.9	1145.12	1141.99	2.28	1.86	30.1	17.75	80.13	747.67	2.43	1.39	3.12	3.12
Sweet Grass County	A9	RM 435.62	104	2% - 50yr	1299.9	1144.67	1141.54	2.7	2.13	43.26	24.46	129.57	692.13	2.24	1.25	3.13	3.13

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	2% - 50yr	1299.9	1144.54	1140.73	1.57	1.32	13.89	7.58	151.59	808.96	2.54	1.39	3.85	3.85
Stillwater County	A9	RM 435.38	231282.1	2% - 50yr	1299.9	1144.33	1139.61	1.77	1.33	16.49	7.17	197.46	760.34	3.1	1.34	4.72	4.72
Stillwater County	A9	RM 435.25	230611.3	2% - 50yr	1299.9	1143.72	1138.48	3.32	2.41	58.05	17.56	118.64	574.62	3.12	0.94	5.24	5.24
Stillwater County	A9	RM 435.16	230122.9	2% - 50yr	1299.9	1143.51	1138.39	3.12	2.11	50.9	16.99	118.38	576.14	3.21	1.07	5.12	5.12
Stillwater County	A9	RM 435.07	229649	2% - 50yr	1299.9	1143.41	1137.85	2.79	1.79	38.85	13.98	103.72	548.64	3.7	1.32	5.56	5.56
Stillwater County	A9	RM 434.97	229153	2% - 50yr	1299.9	1143.04	1137.87	3.24	2.31	53.65	18.5	105.26	473.49	3.46	1.19	5.17	5.17
Stillwater County	A9	RM 434.84	228443.5	2% - 50yr	1299.9	1142.73	1137	3.19	2.55	51.31	22.08	103.65	333.35	3.58	1.53	5.73	5.73
Stillwater County	A9	RM 434.73	227855.5	2% - 50yr	1299.9	1142.34	1135.61	3.5	2.88	58.19	26.5	82.75	231.84	4.32	1.94	6.73	6.73
Stillwater County	A9	RM 434.63	227328.2	2% - 50yr	1299.9	1142.1	1135.42	3.47	3.2	58.77	27.17	91.85	221.47	4	1.83	6.68	6.68
Stillwater County	A9	RM 434.57	227011.2	2% - 50yr	1299.9	1141.91	1136.35	3.51	3.3	62.65	27.13	104.18	260.39	3.52	1.51	5.56	5.56
Stillwater County	A9	RM 434.53	226817.6	2% - 50yr	1299.9	1141.77	1136.73	3.57	3.39	67.87	35.35	118.83	243.02	3.04	1.58	5.04	5.04
Stillwater County	A10	RM 434.49	226573.3	2% - 50yr	1299.9	1141.7	1137.23	3.23	3.09	55.03	37.63	126.91	196.91	3.13	2.14	4.47	4.47
Stillwater County	A10	RM 434.42	226233.2	2% - 50yr	1299.9	1141.59	1137.1	2.98	2.57	47.32	21.59	138.92	556.16	3.02	1.38	4.49	4.49
Stillwater County	A10	RM 434.37	225940.2	2% - 50yr	1299.9	1141.31	1136.51	3.31	2.94	58.33	27.48	124.51	461.71	3.06	1.44	4.8	4.8
Stillwater County	A10	RM 434.24	225278.2	2% - 50yr	1299.9	1140.98	1136.56	3.19	2.96	53.75	34.61	117.46	219.43	3.11	2	4.42	4.42
Stillwater County	A10	RM 434.15	224819.6	2% - 50yr	1299.9	1140.77	1137.06	2.93	2.55	47.84	27.29	157.63	341.41	2.62	1.49	3.71	3.71
Stillwater County	A10	RM 434.07	224366.5	2% - 50yr	1299.9	1140.35	1136.55	3.4	2.93	66.66	47.37	116.1	258.31	2.4	1.72	3.95	3.95
Stillwater County	A10	RM 433.98	223883.5	2% - 50yr	1299.9	1140.22	1136.28	2.48	2.27	34.73	20.36	137.26	460.39	2.53	1.48	3.94	3.94
Stillwater County	A10	RM 433.87	223309.3	2% - 50yr	1299.9	1139.97	1135.82	2.69	2.23	38.72	14.88	107.67	510.49	3	1.14	4.15	4.15
Stillwater County	A10	RM 433.78	222850	2% - 50yr	1299.9	1139.79	1135.54	2.51	1.99	35	14.63	177.68	584.35	2.69	1.12	4.25	4.25
Stillwater County	A10	RM 433.66	222201.9	2% - 50yr	1299.9	1139.48	1135.16	2.72	2.13	39.42	16.17	145.8	495.05	3.02	1.23	4.32	4.32
Stillwater County	A10	RM 433.54	221596.6	2% - 50yr	1299.9	1138.97	1135.33	3.27	3.05	58.14	33.75	137.86	380.9	2.83	1.64	3.64	3.64
Stillwater County	A10	RM 433.42	220956.2	2% - 50yr	1299.9	1138.45	1134.88	3.48	3.02	66.4	27.85	131.56	373.39	2.76	1.15	3.57	3.57
Stillwater County	A10	RM 433.31	220362.5	2% - 50yr	1299.9	1138.27	1134.67	2.6	2.1	39.61	18.95	204.69	568.06	2.28	1.09	3.59	3.59
Stillwater County	A10	RM 433.20	219758.6	2% - 50yr	1299.9	1138.17	1134.17	1.96	1.37	21.61	9.73	148.63	823.05	2.56	1.15	3.99	3.99
Stillwater County	A10	RM 433.09	219185.2	2% - 50yr	1299.9	1137.87	1133.45	2.34	1.87	29.55	11.01	180.21	646.92	2.91	1.08	4.42	4.42
Stillwater County	A10	RM 432.97	218599.7	2% - 50yr	1299.9	1137.58	1133.57	2.66	2.1	38.13	14.55	153.1	552.81	2.94	1.12	4.01	4.01
Stillwater County	A10	RM 432.84	217905.9	2% - 50yr	1299.9	1137.34	1132.7	2.61	1.9	35.1	10.87	136.55	666.15	3.33	1.03	4.64	4.64
Stillwater County	A10	RM 432.69	217146.9	2% - 50yr	1299.9	1136.74	1131.51	3.49	2.87	59.78	18.93	90.53	368.86	3.91	1.23	5.23	5.23
Stillwater County	A10	RM 432.60	216656.8	2% - 50yr	1299.9	1136.53	1132.1	3.34	2.8	56.03	18.26	102.26	406.33	3.69	1.18	4.43	4.43
Stillwater County	A10	RM 432.45	215889.7	2% - 50yr	1299.9	1136.23	1132.07	3.02	2.42	48.5	15.71	138.19	606.81	3.02	0.97	4.16	4.16
Stillwater County	A10	RM 432.35	215361.3	2% - 50yr	1299.9	1136.1	1132.33	2.55	1.76	34.83	11.39	159.11	846.41	2.97	0.97	3.77	3.77
Stillwater County	A10	RM 432.20	214585.3	2% - 50yr	1336.7	1135.38	1131.29	3.51	2.94	65.93	21.01	125.07	477.6	2.99	0.95	4.09	4.09
Stillwater County	A10	RM 432.10	214039.1	2% - 50yr	1336.7	1135.15	1130.7	3.2	2.27	54.08	17.27	124.1	678.48	3.08	0.98	4.45	4.45
Stillwater County	A10	RM 432.02	213606.1	2% - 50yr	1336.7	1135.08	1130.52	2.53	1.92	34.42	10.86	161.07	862.65	2.92	0.92	4.56	4.56
Stillwater County	A10	RM 431.87	212811.5	2% - 50yr	1336.7	1134.8	1129.24	2.37	1.81	32.53	12.26	210.92	832.71	2.36	0.89	5.56	5.56
Stillwater County	A10	RM 431.74	212127.4	2% - 50yr	1336.7	1134.66	1129.66	2.09	1.26	22.9	8.8	161.11	875.57	3.16	1.21	4.99	4.99
Stillwater County	A10	RM 431.60	211373.6	2% - 50yr	1336.7	1134.06	1129.96	3.15	2.7	52.76	16.77	134.23	509.8	3.07	0.97	4.1	4.1
Stillwater County	A10	RM 431.49	210820.2	2% - 50yr	1336.7	1133.81	1129.62	3.04	2.48	48.79	14.83	134.19	571.76	3.13	0.94	4.19	4.19
Stillwater County	A10	RM 431.41	210365.9	2% - 50yr	1336.7	1133.42	1129.57	3.39	3.03	61.6	24.44	130.41	376.77	2.96	1.17	3.85	3.85
Stillwater County	A10	RM 431.28	209716.5	2% - 50yr	1336.7	1133.1	1129.79	3.02	2.62	51.16	20.1	164.9	501.01	2.61	1.02	3.31	3.31
Stillwater County	A10	RM 431.14	208918.5	2% - 50yr	1336.7	1132.73	1129.82	2.5	2.51	36.8	22.14	132.18	389.29	2.27	1.37	3.98	3.98
Stillwater County	A10	RM 431.03	208358.8	2% - 50yr	1336.7	1132.33	1128.56	2.82	2.9	48.17	42.31	128.55	253.19	2.07	1.82	3.77	3.77
Stillwater County	A10	RM 430.93	207821.9	2% - 50yr	1336.7	1132.19	1128.76	2.38	2.03	32.58	20.54	126.38	431.17	2.41	1.53	3.43	3.43
Stillwater County	A10	RM 430.83	207325.6	2% - 50yr	1336.7	1131.92	1127.66	2.54	2.24	35.88	20.24	160.64	398.64	2.65	1.49	4.26	4.26
Stillwater County	A10	RM 430.70	206629.1	2% - 50yr	1336.7	1131.82	1126.9	2	1.68	21.01	9.05	150.14	551.13	3.34	1.44	4.91	4.91
Stillwater County	A10	RM 430.59	206064.9	2% - 50yr	1336.7	1131.69	1127.2	2.15	1.58	23.26	8.53	134.54	642.44	3.59	1.32	4.49	4.49
Stillwater County	A10	RM 430.51	205629.5	2% - 50yr	1336.7	1131.26	1126.28	3.18	2.46	51.52	15.3	107.05	527.74	3.5	1.03	4.98	4.98
Stillwater County	A10	RM 430.43	205204.2	2% - 50yr	1336.7	1130.96	1126.08	3.44	2.67	59.72	16.96	98.33	494.57	3.59	1.01	4.88	4.88
Stillwater County	A10	RM 430.34	204728.4	2% - 50yr	1336.7	1130.57	1126.07	3.7	2.94	71.41	24.07	103.36	419.21	3.24	1.09	4.49	4.49
Stillwater County	A11	RM 430.23	204119.7	2% - 50yr	1336.7	1130.53	1126.63	2.45	1.79	32.54	13.45	169.15	708.6	2.9	1.19	3.9	3.9
Stillwater County	A11	RM 430.12	203479.6	2% - 50yr	1336.7	1130.34	1126.96	2.6	1.8	36.92	13.3	112.27	794.09	2.78	1	3.81	3.81
Stillwater County	A11	RM 430.04	202968.2	2% - 50yr	1336.7	1130.04	1127.24	2.82	2.15	45.23	15.16	112.77	738.33	2.55	0.84	3.4	3.4
Stillwater County	A11	RM 429.95	202589.5	2% - 50yr	1336.7	1129.86	1126.33	2.54	1.95	37.27	13.99	141.96	776.17	2.36	0.88	3.53	3.53
Stillwater County	A11	RM 429.88	202224.7	2% - 50yr	1336.7	1129.77	1125.62	1.99	1.65	15.75	12.6	346.17	786.64	1.29	1.03	4.15	4.15
Stillwater County	A11	RM 429.78	201933.6	2% - 50yr	1336.7	1129.56	1123.72	2.31	1.72	22.28	14.05	209.44	670.02	1.85	1.16	5.84	5.84
Stillwater County	A11	RM 429.69	201539.9	2% - 50yr	1336.7	1128.9	1123.39	3.76	2.82	77.39	30.82	91.42	424.67	2.83	1.12	5.51	5.51
Stillwater County	A11	RM 429.58	200961.9	2% - 50yr	1336.7	1128.67	1124.69	2.92	1.97	48.18	22.96	116.91	570.19	2.5	1.19	3.98	3.98
Stillwater County	A11	RM 429.38	200210.8	2% - 50yr	1336.7	1128.25	1125.15	2.29	1.8	30.84	18.08	184.67	566.63	2.23	1.31	3.82	3.82
Stillwater County	A11	RM 429.28	199644.1	2% - 50yr	1336.7	1127.96	1123.59	2.48	1.9	35.21	18.13	148.57	561.9	2.44	1.25	4.37	4.37

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	2% - 50yr	1336.7	1127.77	1124.66	2.16	1.76	27.79	15.9	144.34	614.37	2.16	1.23	3.85	3.85
Stillwater County	A11	RM 429.10	198708.6	2% - 50yr	1336.7	1127.39	1124.26	2.78	2.21	45.58	21.96	87.69	561.56	2.24	1.08	3.81	3.81
Stillwater County	A11	RM 429.00	198203.8	2% - 50yr	1336.7	1127.18	1123.47	2.35	2.02	33.62	23.41	124.54	465.67	2.03	1.42	3.71	3.71
Stillwater County	A11	RM 428.89	197650.5	2% - 50yr	1336.7	1126.94	1121.26	2.58	2.02	36.03	18.39	150.77	444.27	2.92	1.49	5.67	5.67
Stillwater County	A11	RM 428.81	197194.1	2% - 50yr	1336.7	1126.71	1121.47	2.92	2.15	43.96	20.42	98.54	403.07	3.33	1.54	5.24	5.24
Stillwater County	A11	RM 428.66	196404.4	2% - 50yr	1336.7	1126.5	1122.31	2.25	1.87	28.85	15.93	204.39	610.5	2.46	1.36	4.19	4.19
Stillwater County	A11	RM 428.52	195702.6	2% - 50yr	1336.7	1126.16	1122.1	2.47	1.99	35.2	17.12	206.65	682.13	2.38	1.15	4.05	4.05
Stillwater County	A11	RM 428.44	195293.8	2% - 50yr	1336.7	1125.87	1121.18	2.85	2.17	43.86	15.72	146.38	634.51	2.91	1.04	4.69	4.69
Stillwater County	A11	RM 428.39	195075.5	2% - 50yr	1336.7	1125.63	1120.72	3.28	2.43	57.38	18.6	122.37	565.73	3	0.97	4.91	4.91
Stillwater County	A11	RM 428.33	194724.6	2% - 50yr	1336.7	1125.34	1121.22	3.39	2.81	63.18	21.95	135.66	536.43	2.76	0.96	4.12	4.12
Stillwater County	A11	RM 428.28	194450.8	2% - 50yr	1336.7	1125.19	1121.2	3.25	2.65	59	22.66	144.43	499.48	2.64	1.01	3.98	3.98
Stillwater County	A11	RM 428.23	194235.2	2% - 50yr	1336.7	1125.08	1120.74	3.11	2.39	53.38	18.2	142.98	601.88	2.73	0.93	4.34	4.34
Stillwater County	A11	RM 428.20	194033.4	2% - 50yr	1336.7	1124.98	1120.37	3.13	2.45	52.01	19.82	120.81	465.19	3.09	1.17	4.61	4.61
Stillwater County	A11	RM 428.15	193779.9	2% - 50yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A11	RM 428.09	193436.6	2% - 50yr	1336.7	1124.79	1119.9	2.78	2.04	41.35	17.04	120	530.72	3.02	1.23	4.89	4.89
Stillwater County	A11	RM 428.05	193246.1	2% - 50yr	1336.7	1124.7	1120.1	2.74	2.02	40.55	16.24	126.56	574.02	2.91	1.15	4.6	4.6
Stillwater County	A11	RM 428.00	192989.8	2% - 50yr	1336.7	1124.63	1120.28	2.56	1.8	34.9	14.15	127.29	604.27	3.06	1.23	4.35	4.35
Stillwater County	A11	RM 427.95	192728.8	2% - 50yr	1336.7	1124.58	1119.57	2.36	1.64	29.18	12.26	131.09	628.89	3.22	1.34	5.01	5.01
Stillwater County	A11	RM 427.88	192333.2	2% - 50yr	1336.7	1124.13	1119.27	3.36	2.56	58.62	22.39	102.47	661.03	3.27	1.24	4.86	4.86
Stillwater County	A11	RM 427.83	192088.8	2% - 50yr	1336.7	1124	1119.18	3.36	2.56	58.7	21.87	103.17	629.71	3.26	1.21	4.82	4.82
Stillwater County	A11	RM 427.76	191724.1	2% - 50yr	1336.7	1123.62	1119.07	3.68	3.21	71.06	29.43	101.84	318.45	3.19	1.31	4.55	4.55
Stillwater County	A11	RM 427.65	191155.9	2% - 50yr	1336.7	1123.64	1118.58	2.43	1.71	29.85	14.39	139.89	697.56	3.5	1.69	5.06	5.06
Stillwater County	A11	RM 427.53	190509.6	2% - 50yr	1336.7	1123.21	1117.37	3.2	2.19	50.12	18.69	96.4	529.02	3.94	1.45	5.84	5.84
Stillwater County	A11	RM 427.41	189886.1	2% - 50yr	1336.7	1122.96	1118.73	3.09	2.49	48.43	18.39	115.97	431.33	3.54	1.34	4.23	4.23
Stillwater County	A11	RM 427.29	189253.3	2% - 50yr	1336.7	1122.67	1119.12	2.92	2.53	48.36	28.04	176.82	368.1	2.49	1.45	3.55	3.55
Stillwater County	A11	RM 427.17	188639.5	2% - 50yr	1336.7	1122.45	1118.44	2.47	1.99	34.38	20.73	197.68	436.51	2.55	1.54	4.01	4.01
Stillwater County	A11	RM 427.09	188179.7	2% - 50yr	1336.7	1122.03	1118.34	3.18	2.36	54.12	22.58	127.59	450.73	3.02	1.26	3.69	3.69
Stillwater County	A11	RM 427.00	187745.4	2% - 50yr	1336.7	1121.91	1117.71	2.75	1.99	40.94	19.64	143.34	485.25	2.88	1.38	4.2	4.2
Stillwater County	A11	RM 426.92	187309.3	2% - 50yr	1336.7	1121.72	1117.32	2.57	2.19	37.94	25.66	205.73	377.56	2.39	1.62	4.4	4.4
Stillwater County	A11	RM 426.86	186960.4	2% - 50yr	1336.7	1121.58	1116.77	2.42	2.12	33.33	22	210.76	377.89	2.52	1.66	4.81	4.81
Stillwater County	A11	RM 426.75	186401.3	2% - 50yr	1336.7	1121.35	1116.11	2.5	2.13	34.35	21.9	182.86	359.33	2.73	1.75	5.24	5.24
Stillwater County	A11	RM 426.67	185983.5	2% - 50yr	1336.7	1121.13	1115.84	2.7	2.37	37.16	18.43	138.91	329.43	3.46	1.71	5.29	5.29
Stillwater County	A11	RM 426.59	185580.4	2% - 50yr	1336.7	1120.71	1115.47	3.43	3.22	59.04	39.9	106	168.31	3.64	2.46	5.24	5.24
Stillwater County	A11	RM 426.52	185166.5	2% - 50yr	1336.7	1120.51	1115.54	3.37	3.36	56.99	49.71	108.17	124.56	3.66	3.19	4.97	4.97
Stillwater County	A11	RM 426.43	184738.3	2% - 50yr	1336.7	1120.31	1115.89	3.34	3.29	57.23	50.43	116.4	134.79	3.42	3.02	4.42	4.42
Stillwater County	A11	RM 426.32	184158.4	2% - 50yr	1336.7	1120.03	1116.39	3.2	3.2	53.88	52.87	133.45	135.98	3.13	3.08	3.64	3.64
Stillwater County	A11	RM 426.20	183517.2	2% - 50yr	1336.7	1119.74	1116.07	2.79	2.77	46.1	44.1	216.15	228.34	2.21	2.12	3.67	3.67
Stillwater County	A11	RM 426.11	183030.7	2% - 50yr	1336.7	1119.56	1115.37	2.32	2.28	30.08	29.26	270.07	303.3	2.12	2.06	4.19	4.19
Stillwater County	A11	RM 426.00	182442.5	2% - 50yr	1336.7	1119.35	1115.74	2.23	2.04	28.81	24.99	243.38	382.54	2.33	2.03	3.6	3.6
Stillwater County	A11	RM 425.89	181895	2% - 50yr	1336.7	1119.07	1115.1	2.48	2.31	33.33	20.81	186.7	425.34	2.85	1.78	3.97	3.97
Stillwater County	A11	RM 425.72	181043.5	2% - 50yr	1336.7	1118.67	1113.77	2.76	2.45	40.03	21.51	151.04	427.81	3.14	1.68	4.9	4.9
Stillwater County	A11	RM 425.58	180310.5	2% - 50yr	1336.7	1118.08	1112.19	3.49	3.12	60.33	26.84	98.64	288.32	3.81	1.69	5.89	5.89
Stillwater County	A11	RM 425.46	179669.9	2% - 50yr	1336.7	1117.57	1112.78	3.88	3.37	76.92	36.47	96.05	285.28	3.44	1.62	4.79	4.79
Stillwater County	A11	RM 425.34	179022.4	2% - 50yr	1336.7	1117.51	1113.64	2.71	2.38	39.01	26.14	137.67	277.33	3.02	2.02	3.87	3.87
Stillwater County	A11	RM 425.24	178485.9	2% - 50yr	1336.7	1117.26	1114.19	2.7	2.38	41.51	32.37	126.45	382.05	2.49	1.94	3.11	3.11
Stillwater County	A11	RM 425.18	178205.8	2% - 50yr	1336.7	1116.98	1113.81	2.99	2.75	51.56	42.27	128.32	249.36	2.37	1.95	3.67	3.67
Stillwater County	A11	RM 425.11	177826.8	2% - 50yr	1336.7	1116.7	1113.29	2.91	2.83	48.64	35.7	120.72	266.1	2.42	1.78	4.41	4.41
Stillwater County	A11	RM 425.04	177454.7	2% - 50yr	1336.7	1116.5	1112.86	2.94	2.53	47.33	32.7	106.76	275.24	2.78	1.92	4.03	4.03
Stillwater County	A11	RM 424.97	177098.9	2% - 50yr	1336.7	1116.14	1113.11	3.24	2.93	59.54	40.99	106.81	261.87	2.52	1.74	3.13	3.13
Stillwater County	A11	RM 424.89	176675.9	2% - 50yr	1336.7	1116.03	1112.27	2.41	2.15	33.27	23.57	136.62	456.72	2.41	1.71	5.23	5.23
Stillwater County	A11	RM 424.81	176242.8	2% - 50yr	1336.7	1115.58	1112.25	2.88	2.82	52.23	44.6	139.22	357.14	1.84	1.57	3.58	3.58
Stillwater County	A11	RM 424.70	175789.3	2% - 50yr	1336.7	1115.44	1111.91	2.38	2.12	32.01	18.85	161.26	484.44	2.53	1.49	3.53	3.53
Stillwater County	A11	RM 424.58	175159.4	2% - 50yr	1336.7	1115.11	1111.34	2.73	2.27	42.95	29.16	132.23	363.19	2.39	1.62	3.77	3.77
Stillwater County	A11	RM 424.51	174723.2	2% - 50yr	1336.7	1114.91	1110.93	2.41	2.05	35.19	25.22	140.84	453.78	2.05	1.47	3.98	3.98
Stillwater County	A11	RM 424.38	174051	2% - 50yr	1336.7	1114.49	1110.98	2.69	2.25	43.89	20.9	135.76	613.54	2.06	0.98	3.51	3.51
Stillwater County	A11	RM 424.30	173607.9	2% - 50yr	1336.7	1114.25	1110.75	2.6	1.95	42.94	23.8	158.99	693.52	1.79	0.99	3.5	3.5
Stillwater County	A11	RM 424.21	173153.7	2% - 50yr	1336.7	1114	1110.74	2.25	1.71	31.35	15.55	188.24	823.13	1.92	0.95	3.26	3.26
Stillwater County	A11	RM 424.13	172713.5	2% - 50yr	1336.7	1113.77	1110.43	2.37	1.54	34.77	18.31	103.2	855.92	1.94	1.02	3.42	3.42
Stillwater County	A11	RM 424.05	172309.3	2% - 50yr	1336.7	1113.6	1110.18	1.84	1.38	21.15	12.63	155.55	853.39	1.89	1.13	3.42	3.42
Stillwater County	A11	RM 423.98	171892.1	2% - 50yr	1336.7	1113.51	1110.15	1.66	1.25	16.02	8.92	252.66	835	2.31	1.29	3.36	3.36

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	2% - 50yr	1336.7	1113.32	1109.55	2.25	1.52	28.5	12.64	156.66	776.74	2.57	1.13	3.76	3.76
Stillwater County	A11	RM 423.84	171147.5	2% - 50yr	1336.7	1113.22	1109.08	2.24	1.44	26.92	11.31	126.81	738.36	3.01	1.26	4.14	4.14
Stillwater County	A11	RM 423.74	170686.3	2% - 50yr	1336.7	1113.18	1108.91	1.73	1.14	15.71	8.46	124.33	688.74	3.19	1.71	4.27	4.27
Stillwater County	A11	RM 423.69	170436.3	2% - 50yr	1336.7	1113.02	1108.49	2.34	1.56	28.51	13.74	88.65	544.48	3.3	1.57	4.53	4.53
Stillwater County	A11	RM 423.57	169782.9	2% - 50yr	1336.7	1112.81	1108.2	2.22	1.65	25.62	9.86	159.21	639.64	3.3	1.27	4.61	4.61
Stillwater County	A11	RM 423.47	169296.5	2% - 50yr	1336.7	1112.33	1107.67	3.21	2.68	53.06	20.75	120.55	540.75	3.37	1.31	4.66	4.66
Stillwater County	A11	RM 423.39	168860.7	2% - 50yr	1336.7	1111.97	1107.7	3.56	2.9	65.2	22.57	107.8	492.63	3.36	1.15	4.27	4.27
Stillwater County	A11	RM 423.27	168178	2% - 50yr	1336.7	1111.39	1107.36	3.77	3.33	76.58	26.83	118.28	391	2.94	1.03	4.03	4.03
Stillwater County	A12	RM 423.17	167687.7	2% - 50yr	1336.7	1111.22	1107.46	3.08	2.6	52.27	22.09	153.74	449.64	2.72	1.14	3.76	3.76
Stillwater County	A12	RM 423.08	167239.6	2% - 50yr	1336.7	1110.99	1107.21	3.04	2.43	51.24	22.2	129.63	469.73	2.7	1.17	3.78	3.78
Stillwater County	A12	RM 423.01	166844.5	2% - 50yr	1336.7	1110.77	1106.84	2.88	2.38	48.19	26.39	144.56	442.24	2.32	1.27	3.93	3.93
Stillwater County	A12	RM 422.91	166338	2% - 50yr	1336.7	1110.39	1106.54	3.15	2.51	53.92	25.54	112.6	396.8	2.83	1.34	3.85	3.85
Stillwater County	A12	RM 422.80	165757.6	2% - 50yr	1336.7	1110.13	1106.83	2.83	2.27	44.9	21.28	147.14	476.28	2.61	1.24	3.3	3.3
Stillwater County	A12	RM 422.70	165279.2	2% - 50yr	1336.7	1110.03	1105.79	2.2	1.73	27.45	15.82	203.12	540.74	2.48	1.43	4.24	4.24
Stillwater County	A12	RM 422.63	164895.4	2% - 50yr	1336.7	1109.94	1105.43	2.07	1.55	24.3	13.44	179.41	622.02	2.5	1.38	4.51	4.51
Stillwater County	A12	RM 422.53	164348.1	2% - 50yr	1336.7	1109.74	1104.76	2.18	1.7	26.26	12.54	167.27	616.73	2.72	1.29	4.98	4.98
Stillwater County	A12	RM 422.39	163609.2	2% - 50yr	1336.7	1109.4	1104.22	2.62	2.06	35.21	15	132.53	465.47	3.43	1.45	5.18	5.18
Stillwater County	A12	RM 422.30	163120.4	2% - 50yr	1336.7	1108.92	1104.18	3.39	3.1	58.28	27.5	109.03	296.81	3.54	1.66	4.74	4.74
Stillwater County	A12	RM 422.19	162534.3	2% - 50yr	1336.7	1108.74	1103.72	3.02	2.75	46.05	23.46	122.19	269.65	3.56	1.8	5.02	5.02
Stillwater County	A12	RM 422.08	161934.5	2% - 50yr	1336.7	1108.18	1104.18	3.67	3.45	70.87	41.17	113.23	211.11	3.17	1.84	4	4
Stillwater County	A12	RM 421.98	161402.1	2% - 50yr	1336.7	1108.07	1103.86	2.9	2.8	43.76	33.67	142.02	192.32	3.22	2.48	4.21	4.21
Stillwater County	A12	RM 421.90	161037.7	2% - 50yr	1336.7	1107.92	1103.14	2.81	2.81	43.1	42.13	168.38	172.32	2.82	2.76	4.78	4.78
Stillwater County	A12	RM 421.86	160799.3	2% - 50yr	1336.7	1107.81	1102.54	2.75	2.71	42.82	34.18	193.24	252.8	2.51	2	5.27	5.27
Stillwater County	A12	RM 421.81	160535.9	2% - 50yr	1336.7	1107.69	1102.38	2.63	2.61	40.56	33.01	221.71	292.88	2.29	1.86	5.31	5.31
Stillwater County	A12	RM 421.77	160279.4	2% - 50yr	1336.7	1107.5	1102.41	2.84	2.63	46.48	27.14	182.53	362.87	2.4	1.4	5.09	5.09
Stillwater County	A12	RM 421.69	159875.5	2% - 50yr	1336.7	1107.35	1102.56	2.69	2.18	36.91	15.35	130.2	422.99	3.51	1.45	4.79	4.79
Stillwater County	A12	RM 421.60	159411.4	2% - 50yr	1336.7	1106.98	1103.26	3.27	2.7	58.09	25.92	131.13	391.95	2.83	1.26	3.72	3.72
Stillwater County	A12	RM 421.53	159038	2% - 50yr	1336.7	1106.58	1102.81	3.62	3.2	74.28	37.42	133.17	333.17	2.49	1.25	3.77	3.77
Stillwater County	A12	RM 421.45	158590.5	2% - 50yr	1336.7	1106.43	1103.26	2.83	2.49	45.82	28.08	154.95	398.33	2.47	1.51	3.17	3.17
Stillwater County	A12	RM 421.32	157930.2	2% - 50yr	1336.7	1106.03	1102.82	2.81	2.57	48.55	35.02	98.22	363.06	1.98	1.43	3.21	3.21
Stillwater County	A12	RM 421.24	157513	2% - 50yr	1336.7	1105.77	1103.05	2.59	2.33	43.11	35.03	126.66	403.87	1.74	1.42	3.29	3.29
Stillwater County	A12	RM 421.13	156951.5	2% - 50yr	1336.7	1105.59	1100.38	2.22	1.94	29.09	21.02	118.8	433.33	2.21	1.59	5.21	5.21
Stillwater County	A12	RM 421.05	156536.5	2% - 50yr	1336.7	1105.5	1102.11	1.87	1.72	20.89	16.79	103.99	542.72	2.18	1.74	3.39	3.39
Stillwater County	A12	RM 420.94	155960.1	2% - 50yr	1336.7	1105.23	1101.68	2.11	1.98	23.97	17.58	213.29	421.88	2.9	2.13	3.55	3.55
Stillwater County	A12	RM 420.85	155473.6	2% - 50yr	1336.7	1104.55	1100.98	3.7	2.74	78.58	38.89	135.54	429.47	2.42	1.2	3.57	3.57
Stillwater County	A12	RM 420.75	154957.2	2% - 50yr	1336.7	1104.44	1099.95	2.67	1.99	39.15	19.28	157.51	501.16	2.73	1.34	4.49	4.49
Stillwater County	A12	RM 420.66	154483	2% - 50yr	1336.7	1104.29	1099.89	2.44	1.78	31.89	18.13	165.17	567.4	2.97	1.68	4.4	4.4
Stillwater County	A12	RM 420.58	154037.5	2% - 50yr	1336.7	1103.91	1100.13	3.14	2.22	52.21	21.93	122.25	464.67	3.11	1.3	3.78	3.78
Stillwater County	A12	RM 420.52	153691.5	2% - 50yr	1336.7	1103.74	1099.7	3.09	2.18	51.18	19.58	131.23	545.86	2.94	1.12	4.04	4.04
Stillwater County	A12	RM 420.46	153398	2% - 50yr	1336.7	1103.49	1099.36	3.26	2.52	58.25	23.49	137.82	478.12	2.75	1.11	4.13	4.13
Stillwater County	A12	RM 420.38	152998.3	2% - 50yr	1336.7	1103.39	1099.19	2.64	1.94	39.35	17.99	176.9	595.49	2.55	1.16	4.2	4.2
Stillwater County	A12	RM 420.30	152566.4	2% - 50yr	1336.7	1103.33	1099.43	2	1.48	22.81	13.39	230.5	624.85	2.49	1.46	3.9	3.9
Stillwater County	A12	RM 420.21	152106.2	2% - 50yr	1336.7	1103.16	1098.69	2.1	1.62	25.82	17.2	238.7	551.02	2.25	1.5	4.47	4.47
Stillwater County	A12	RM 420.15	151738.6	2% - 50yr	1336.7	1103.05	1098.38	2.01	1.75	19.96	13.43	260.73	468.14	2.44	1.64	4.67	4.67
Stillwater County	A12	RM 420.08	151399.3	2% - 50yr	1336.7	1102.91	1097.97	2.23	1.97	26.72	14.79	196.82	418.71	2.94	1.62	4.94	4.94
Stillwater County	A12	RM 420.03	151123.2	2% - 50yr	1336.7	1102.75	1097.96	2.57	2.02	33.69	15.91	142.7	410.6	3.43	1.61	4.79	4.79
Stillwater County	A12	RM 419.96	150779.4	2% - 50yr	1336.7	1102.54	1098.1	2.89	2.12	43.37	19.36	128.1	430.76	3.29	1.47	4.44	4.44
Stillwater County	A12	RM 419.91	150511.3	2% - 50yr	1336.7	1102.22	1097.83	3.42	2.58	59.01	20.11	102.77	424.91	3.61	1.22	4.39	4.39
Stillwater County	A12	RM 419.85	150192.4	2% - 50yr	1336.7	1101.82	1097.85	3.9	3.01	80.65	27.57	106.79	423.67	3.08	1.05	3.97	3.97
Stillwater County	A12	RM 419.78	149807.6	2% - 50yr	1336.7	1101.7	1097.13	3.41	2.41	59.29	22.81	104.97	415.86	3.49	1.33	4.57	4.57
Stillwater County	A12	RM 419.70	149371.5	2% - 50yr	1336.7	1101.44	1097.73	3.36	2.74	61.9	27.98	138.38	389.59	2.77	1.25	3.71	3.71
Stillwater County	A12	RM 419.63	149047.6	2% - 50yr	1336.7	1101.32	1097.92	2.94	2.53	48.35	24.47	168.37	397.07	2.64	1.33	3.4	3.4
Stillwater County	A12	RM 419.53	148495.9	2% - 50yr	1336.7	1100.97	1097.22	3.13	2.48	57.47	32.59	136.73	418.72	2.27	1.29	3.75	3.75
Stillwater County	A12	RM 419.46	148117.9	2% - 50yr	1336.7	1100.78	1097.34	2.71	2.16	42.75	24.53	133.46	462.64	2.34	1.34	3.7	3.7
Stillwater County	A12	RM 419.38	147728.5	2% - 50yr	1336.7	1100.61	1097.36	2.3	1.94	31.42	23.59	149.23	424.59	2.16	1.62	3.25	3.25
Stillwater County	A12	RM 419.31	147342.9	2% - 50yr	1336.7	1100.52	1096.9	1.94	1.75	20.57	16.23	114.45	348.81	2.77	2.19	3.62	3.62
Stillwater County	A12	RM 419.19	146720.3	2% - 50yr	1336.7	1100.38	1096.42	1.74	1.87	16.48	14.16	106.51	330.6	2.84	2.44	5.98	5.98
Stillwater County	A12	RM 419.10	146243.9	2% - 50yr	1336.7	1100.25	1095.09	2.18	1.95	23.31	11.92	156.37	451.99	3.82	1.95	5.16	5.16
Stillwater County	A12	RM 419.03	145859.8	2% - 50yr	1336.7	1099.91	1095.88	2.94	2.72	48.4	26.47	172.36	376.25	2.6	1.42	4.03	4.03
Stillwater County	A12	RM 418.95	145435.3	2% - 50yr	1336.7	1099.7	1095.15	2.75	2.48	44.37	24.85	207.31	475	2.28	1.27	4.55	4.55

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	2% - 50yr	1336.7	1099.34	1094.92	2.74	2.34	45.07	24.63	222.59	515.96	2.1	1.15	4.42	4.42
Stillwater County	A12	RM 418.57	143452.8	2% - 50yr	1336.7	1098.31	1095.1	3.1	2.42	56.32	22.72	135.5	606.24	2.27	0.92	3.21	3.21
Stillwater County	A12	RM 418.49	143008.1	2% - 50yr	1336.7	1098.24	1094.94	2.17	1.52	26.68	12.91	169.36	846.17	2.49	1.2	3.3	3.3
Stillwater County	A12	RM 418.25	141740.8	2% - 50yr	1336.7	1097.56	1093.71	2.2	1.63	29.33	19.37	178.18	667.72	2.06	1.36	3.85	3.85
Stillwater County	A12	RM 418.08	140894.8	2% - 50yr	1336.7	1097.26	1092.65	2.2	1.81	27.12	13.89	139.46	560.37	2.61	1.33	4.61	4.61
Stillwater County	A12	RM 417.89	139893.7	2% - 50yr	1336.7	1096.5	1092.75	3.33	2.76	60.33	26.05	128.08	503.74	2.83	1.22	3.75	3.75
Stillwater County	A12	RM 417.79	139376.4	2% - 50yr	1336.7	1096.31	1091.64	2.9	2.28	47.01	23.12	137.69	568.06	2.6	1.28	4.67	4.67
Stillwater County	A12	RM 417.65	138633.4	2% - 50yr	1336.7	1095.81	1091.57	3.32	2.61	57	28.03	93.48	347.62	3.31	1.62	4.24	4.24
Stillwater County	A12	RM 417.54	138089.5	2% - 50yr	1336.7	1095.2	1091.15	3.98	3.27	83.6	42.11	87.96	260.4	3.12	1.57	4.05	4.05
Stillwater County	A12	RM 417.40	137321.3	2% - 50yr	1529.3	1094.96	1091.71	2.84	2.4	45.79	31.11	128.55	416.56	2.5	1.69	3.25	3.25
Stillwater County	A12	RM 417.30	136818.2	2% - 50yr	1529.3	1094.62	1091.51	2.79	2.53	45.63	30.76	208.94	430.71	2.26	1.52	3.11	3.11
Stillwater County	A13	RM 417.09	135706	2% - 50yr	1529.3	1093.91	1090.35	3.27	2.81	61.53	38.12	189.98	370.92	2.39	1.48	3.56	3.56
Stillwater County	A13	RM 417.01	135303.6	2% - 50yr	1529.3	1093.81	1090	2.51	2.29	36.5	25.6	253.33	464.51	2.35	1.65	3.81	3.81
Stillwater County	A13	RM 416.85	134457.6	2% - 50yr	1529.3	1093.19	1089.62	2.81	2.37	43.18	24.04	186.85	413.22	2.81	1.56	3.57	3.57
Stillwater County	A13	RM 416.73	133843.5	2% - 50yr	1529.3	1092.73	1089.6	3.11	2.66	56.84	32.67	214.87	449.04	2.22	1.28	3.13	3.13
Stillwater County	A13	RM 416.63	133286.1	2% - 50yr	1529.3	1092.33	1089.3	3.05	2.68	56.41	38.74	134.05	406.79	2.04	1.4	3.03	3.03
Stillwater County	A13	RM 416.52	132717.9	2% - 50yr	1529.3	1092.07	1089.09	2.63	2.02	42.06	27.24	104.23	580.14	2.01	1.31	2.98	2.98
Stillwater County	A13	RM 416.43	132250.3	2% - 50yr	1529.3	1091.76	1088.74	2.46	2	37.5	25.18	115.19	592.56	1.92	1.29	3.02	3.02
Stillwater County	A13	RM 416.33	131707.5	2% - 50yr	1529.3	1091.54	1088.02	2.22	1.83	29.75	18.64	132.56	642.9	2.07	1.3	3.52	3.52
Stillwater County	A13	RM 416.22	131140.9	2% - 50yr	1529.3	1091.11	1087.56	3.17	2.26	55.33	25.39	84.28	536.23	2.75	1.26	3.55	3.55
Stillwater County	A13	RM 416.13	130626.3	2% - 50yr	1529.3	1090.75	1086.65	3	2.35	50.01	25.15	148.11	487.85	2.64	1.33	4.1	4.1
Stillwater County	A13	RM 416.04	130164.9	2% - 50yr	1529.3	1090.36	1085.03	3.37	2.32	62.41	26.61	124.55	560.65	2.78	1.18	5.33	5.33
Stillwater County	A13	RM 415.96	129734.7	2% - 50yr	1529.3	1090.3	1085.48	2.52	1.63	34.19	14.84	133.05	792.61	2.96	1.28	4.82	4.82
Stillwater County	A13	RM 415.90	129423.4	2% - 50yr	1529.3	1090.2	1085.77	2.14	1.38	25.33	12.43	159.69	897.33	2.7	1.32	4.43	4.43
Stillwater County	A13	RM 415.83	129071.6	2% - 50yr	1529.3	1090.11	1085.89	2	1.33	21.5	11.39	152.97	731.24	2.95	1.57	4.78	4.78
Stillwater County	A13	RM 415.74	128639.5	2% - 50yr	1529.3	1089.86	1084.72	2.6	1.7	34.84	15.2	154.02	792.85	3.37	1.46	5.14	5.14
Stillwater County	A13	RM 415.72	128521.2	2% - 50yr	1529.3	1089.68	1084.8	3.05	1.98	47.49	19.57	130.87	763.57	3.44	1.41	4.88	4.88
Stillwater County	A13	RM 415.65	128106.2	2% - 50yr	1529.3	1089.49	1083.7	3.02	2.11	50.55	25.78	170.19	796.91	2.67	1.36	5.79	5.79
Stillwater County	A13	RM 415.59	127828.3	2% - 50yr	1529.3	1088.95	1083.61	3.83	3.21	79.89	34.78	136.01	483.03	2.85	1.24	5.34	5.34
Stillwater County	A13	RM 415.55	127620.5	2% - 50yr	1529.3	1089.01	1082.84	2.83	2.81	38.95	32.29	132.97	277.26	4.06	3.36	6.17	6.17
Stillwater County	A13	RM 415.50	127340.9	2% - 50yr	1529.3	1088.87	1083.14	2.95	2.83	44.53	24.58	152.19	393.16	3.4	1.87	5.73	5.73
Stillwater County	A13	RM 415.45	127087.4	2% - 50yr	1529.3	1088.43	1083.18	3.63	3.39	73.67	42.03	160.08	363.41	2.62	1.49	5.25	5.25
Stillwater County	A13	RM 415.34	126499.1	2% - 50yr	1529.3	1088.21	1084.45	3.16	2.77	54.21	31.82	129.56	534.61	2.82	1.66	3.76	3.76
Stillwater County	A13	RM 415.25	126040.7	2% - 50yr	1529.3	1087.97	1082.42	3.12	2.45	51.56	22.97	123.59	537.85	3.08	1.37	5.55	5.55
Stillwater County	A13	RM 415.18	125663.1	2% - 50yr	1529.3	1087.79	1083.81	3	2.69	47.64	25.45	135.23	434.06	3.1	1.66	3.98	3.98
Stillwater County	A13	RM 414.97	124585.1	2% - 50yr	1529.3	1086.93	1082.64	3.32	2.63	59.86	29.28	121.02	456.69	2.86	1.4	4.29	4.29
Stillwater County	A13	RM 414.88	124110.1	2% - 50yr	1529.3	1086.65	1083.02	3.22	2.65	56.08	30.05	124.62	402.01	2.88	1.54	3.63	3.63
Stillwater County	A13	RM 414.71	123222	2% - 50yr	1529.3	1086.15	1080.88	2.99	2.73	47.74	22.79	165.46	388.31	3.04	1.44	5.27	5.27
Stillwater County	A13	RM 414.57	122473.6	2% - 50yr	1529.3	1085.51	1081.21	3.54	3.15	67.5	30.84	146.86	400.77	2.9	1.32	4.3	4.3
Stillwater County	A13	RM 414.43	121696.6	2% - 50yr	1529.3	1085.03	1080.49	3.27	2.62	59.74	29.32	170.98	708.15	2.6	1.28	4.54	4.54
Stillwater County	A13	RM 414.21	120527.7	2% - 50yr	1529.3	1084.33	1080.81	2.8	2.35	47.06	25.07	221.35	674.67	2.1	1.12	3.52	3.52
Stillwater County	A13	RM 413.90	118914.7	2% - 50yr	1529.3	1082.97	1079.28	3.41	2.51	64.68	26.38	156.35	568.42	2.64	1.07	3.69	3.69
Stillwater County	A13	RM 413.65	117570.4	2% - 50yr	1529.3	1082.24	1078.15	3.03	1.76	49.58	22.92	142.02	648.62	2.89	1.34	4.09	4.09
Stillwater County	A14	RM 413.44	116446.3	2% - 50yr	1529.3	1081.51	1076.4	3.25	1.88	57.91	19.18	147.72	882.85	2.8	0.92	5.11	5.11
Stillwater County	A14	RM 413.27	115556.7	2% - 50yr	1529.3	1080.97	1077.8	3.08	1.83	55.95	24.43	176.76	867.06	2.22	0.97	3.17	3.17
Stillwater County	A14	RM 413.11	114697.4	2% - 50yr	1529.3	1080.45	1077.12	2.75	1.78	43.84	19.02	197.3	883.22	2.32	1.01	3.33	3.33
Stillwater County	A14	RM 412.99	114113.2	2% - 50yr	1529.3	1080.09	1076.41	2.83	1.83	47.04	22.27	188.83	887.32	2.27	1.07	3.68	3.68
Stillwater County	A14	RM 412.88	113533.6	2% - 50yr	1529.3	1079.72	1076.03	2.96	2.13	48.03	21.26	144.64	717.01	2.8	1.24	3.69	3.69
Stillwater County	A14	RM 412.73	112742.6	2% - 50yr	1529.3	1079.23	1074.72	3.03	2.1	52.49	29.36	173.37	664.78	2.44	1.36	4.51	4.51
Stillwater County	A14	RM 412.59	112005.5	2% - 50yr	1529.3	1078.8	1074.72	2.81	2.04	45.24	27.26	198.19	778.68	2.43	1.47	4.08	4.08
Stillwater County	A14	RM 412.49	111442.5	2% - 50yr	1529.3	1078.73	1074.54	2.1	1.62	24.06	11.47	189.08	934.65	2.84	1.35	4.19	4.19
Stillwater County	A14	RM 412.31	110522	2% - 50yr	1529.3	1078.38	1072.96	2.48	1.86	30.06	12.75	144.87	760.29	3.94	1.66	5.42	5.42
Stillwater County	A14	RM 412.19	109955.3	2% - 50yr	1529.3	1077.53	1071.57	4.18	3.42	90.08	33.54	103.6	356.79	3.41	1.25	5.96	5.96
Stillwater County	A14	RM 412.05	109175.2	2% - 50yr	1529.3	1077.2	1072.08	3.52	2.76	62.4	23.44	115.29	458.92	3.57	1.33	5.12	5.12
Stillwater County	A14	RM 411.92	108510.2	2% - 50yr	1529.3	1076.91	1072.88	3.18	3.1	52.22	31.97	145.84	245.23	3.29	2.01	4.03	4.03
Stillwater County	A14	RM 411.81	107950.5	2% - 50yr	1529.3	1076.39	1070.62	3.66	3.66	71	70.8	134.53	140.47	3.1	3.09	5.77	5.77
Stillwater County	A14	RM 411.71	107391.9	2% - 50yr	1529.3	1076.1	1070.83	3.47	3.45	59.97	57.13	119.39	174.25	3.69	3.52	5.27	5.27
Stillwater County	A14	RM 411.58	106721	2% - 50yr	1529.3	1075.81	1071.65	3.17	3.05	54.03	33.23	161.95	403.84	2.96	1.82	4.16	4.16
Stillwater County	A14	RM 411.47	106133.7	2% - 50yr	1529.3	1075.51	1071.87	3.11	2.58	52.37	31.43	159.63	368.6	2.87	1.72	3.64	3.64
Stillwater County	A14	RM 411.32	105338.4	2% - 50yr	1529.3	1074.99	1069.29	3.21	2.76	56.25	34.81	163.26	371.59	2.81	1.74	5.7	5.7

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	2% - 50yr	1529.3	1074.02	1067.92	3.98	2.95	83.15	33.94	115.23	404.76	3.15	1.28	6.1	6.1
Stillwater County	A14	RM 411.00	103638.4	2% - 50yr	1529.3	1073.54	1069.6	3.54	2.62	70.44	38.85	142.29	410.72	2.58	1.42	3.94	3.94
Stillwater County	A14	RM 410.85	102835.8	2% - 50yr	1529.3	1073.14	1069.92	2.75	2.15	45.62	26.6	83.64	841.72	2.06	1.2	3.22	3.22
Stillwater County	A14	RM 410.74	102286.3	2% - 50yr	1529.3	1072.69	1068.99	3.04	2.14	54.34	29.91	75.38	822.03	2.27	1.23	3.7	3.7
Stillwater County	A14	RM 410.63	101668.3	2% - 50yr	1529.3	1072.42	1068.37	2.54	1.81	35.7	20.3	83.69	958.7	2.7	1.53	4.05	4.05
Stillwater County	A14	RM 410.52	101115.7	2% - 50yr	1529.3	1072.08	1067.81	2.73	2.18	40.58	25.85	123.09	918.31	2.86	1.82	4.27	4.27
Stillwater County	A14	RM 410.42	100568.4	2% - 50yr	1529.3	1071.59	1066.66	3.02	2.94	54.27	38.34	149.68	482.14	2.19	1.54	4.93	4.93
Stillwater County	A14	RM 410.33	100099.2	2% - 50yr	1529.3	1071.37	1066.6	2.7	2.36	40.02	27.04	198.78	956.68	2.74	1.85	4.77	4.77
Stillwater County	A14	RM 410.22	99589.26	2% - 50yr	1529.3	1070.86	1066.94	3.4	2.77	63.62	32.91	152.92	949.17	2.77	1.43	3.92	3.92
Stillwater County	A14	RM 410.12	99057.4	2% - 50yr	1529.3	1070.46	1065.8	3.37	2.78	65.71	41.2	176.34	973	2.36	1.48	4.66	4.66
Stillwater County	A14	RM 410.03	98630.66	2% - 50yr	1529.3	1070.14	1065.33	3.15	2.68	58.93	42.49	206.84	779.02	2.16	1.56	4.81	4.81
Stillwater County	A14	RM 409.99	98385.41	2% - 50yr	1529.3	1069.94	1065.38	3.13	2.59	58.56	35.82	206.16	897.32	2.16	1.32	4.56	4.56
Stillwater County	A14	RM 409.94	98072.09	2% - 50yr	1529.3	1069.8	1065.51	2.77	2.11	44.03	24.09	206.82	1149.43	2.4	1.31	4.29	4.29
Stillwater County	A14	RM 409.87	97717.24	2% - 50yr	1529.3	1069.75	1065.52	2.3	1.54	27.14	11.68	166.7	1371.5	3.35	1.44	4.23	4.23
Stillwater County	A14	RM 409.76	97130.84	2% - 50yr	1529.3	1069.33	1065.37	3.1	2.04	51.61	18.48	146.97	1084.18	2.94	1.05	3.96	3.96
Stillwater County	A14	RM 409.60	96278.7	2% - 50yr	1529.3	1068.41	1064.65	3.85	2.87	88.46	43.65	166.1	515.19	2.13	1.05	3.75	3.75
Stillwater County	A14	RM 409.43	95381.62	2% - 50yr	1529.3	1067.73	1063.55	3.26	2.2	58.98	26.96	135.15	840.65	2.66	1.21	4.18	4.18
Stillwater County	A14	RM 409.24	94405.29	2% - 50yr	1529.3	1067.05	1064.55	2.35	1.89	37.61	26.68	159.47	958.86	1.43	1.01	2.83	2.83
Stillwater County	A14	RM 409.15	93912.54	2% - 50yr	1529.3	1066.66	1064.27	2.11	1.84	29.37	21.04	168.33	722.92	1.6	1.15	4.59	4.59
Stillwater County	A14	RM 408.99	93008.08	2% - 50yr	1529.3	1065.93	1063.94	2.5	2.47	42.36	27.82	163.43	644.2	1.46	0.96	3.39	3.39
Stillwater County	A14	RM 408.84	92229.27	2% - 50yr	1529.3	1065.4	1062.1	2.58	2.48	44.62	32	183.55	567.36	1.51	1.09	3.3	3.3
Stillwater County	A14	RM 408.63	91072.98	2% - 50yr	1529.3	1064.85	1061.85	2.11	1.92	27.44	23.23	211.69	489.87	1.97	1.67	3.27	3.27
Stillwater County	A14	RM 408.41	89726.16	2% - 50yr	1529.3	1064.39	1059.04	2.52	2.01	31.11	16.19	105.48	378.14	3.88	2.01	5.35	5.35
Stillwater County	A14	RM 408.26	88966.66	2% - 50yr	1529.3	1064.1	1058.13	2.69	2.19	35.28	18.35	130.93	341.16	3.96	2.05	5.97	5.97
Stillwater County	A14	RM 408.10	88091.52	2% - 50yr	1529.3	1063.18	1057.78	4.09	3.72	83.29	36.75	98.48	249.63	3.74	1.65	5.4	5.4
Stillwater County	A14	RM 408.02	87720.33	2% - 50yr	1529.3	1063.12	1058.61	3.47	3	61.88	30.99	126.98	331.02	3.39	1.7	4.51	4.51
Stillwater County	A14	RM 407.83	86708.48	2% - 50yr	1529.3	1062.54	1058.65	3.08	2.75	57.08	36.25	158.81	414.27	2.11	1.34	3.89	3.89
Stillwater County	A14	RM 407.71	86078.99	2% - 50yr	1529.3	1062.1	1057.9	3.31	2.69	60.19	27.2	119.85	455.03	2.77	1.25	4.19	4.19
Stillwater County	A14	RM 407.61	85508.29	2% - 50yr	1529.3	1061.85	1058.36	2.73	2.39	44.33	29.04	170.76	452.26	2.16	1.42	3.49	3.49
Stillwater County	A14	RM 407.50	84909.3	2% - 50yr	1529.3	1061.58	1058.55	2.58	2.25	40.67	29.95	179.43	457.54	2.01	1.49	3.52	3.52
Stillwater County	A14	RM 407.41	84433.26	2% - 50yr	1529.3	1061.42	1057.85	2.48	1.93	35.17	22.16	122.26	518.45	2.42	1.53	3.76	3.76
Stillwater County	A14	RM 407.36	84180.66	2% - 50yr	1529.3	1061.25	1057.59	2.87	1.99	45.43	23.81	101.75	539.9	2.73	1.43	3.66	3.66
Stillwater County	A14	RM 407.29	83775.88	2% - 50yr	1529.3	1060.93	1057.08	2.5	2.46	37.12	29.79	155.39	357.69	2.16	1.74	4.1	4.1
Stillwater County	A14	RM 407.13	82954.84	2% - 50yr	1529.3	1060.6	1056.27	2.25	2.17	29	23.02	280.39	368.22	2.41	1.92	4.33	4.33
Stillwater County	A14	RM 406.98	82156.72	2% - 50yr	1529.3	1060.38	1056.37	2.22	2.07	25.29	17.88	200.47	353.19	3.37	2.38	4.01	4.01
Stillwater County	A14	RM 406.86	81532.92	2% - 50yr	1529.3	1059.51	1055.69	4.01	3.78	83.92	63.15	115.86	166.6	3.23	2.43	3.82	3.82
Stillwater County	A14	RM 406.77	81053.3	2% - 50yr	1529.3	1059.25	1053.84	3.75	3.27	72.01	45.54	112.47	216.3	3.42	2.16	5.41	5.41
Stillwater County	A14	RM 406.64	80405.13	2% - 50yr	1529.3	1058.96	1054.89	3.29	3.03	56.56	39.44	139.39	393.05	3.2	2.23	4.07	4.07
Stillwater County	A14	RM 406.48	79524.79	2% - 50yr	1529.3	1058.48	1054.8	3.02	2.41	50.76	30.97	208.62	552.06	2.13	1.3	3.68	3.68
Stillwater County	A14	RM 406.25	78337.26	2% - 50yr	1529.3	1057.78	1054.03	3.03	2.32	49.24	20.21	145.57	574.76	2.96	1.2	3.74	3.74
Stillwater County	A14	RM 406.08	77409.13	2% - 50yr	1529.3	1057.42	1052.87	2.77	1.82	40.43	16.44	131.8	704.76	3.16	1.27	4.55	4.55
Stillwater County	A14	RM 405.93	76624.91	2% - 50yr	1529.3	1056.61	1052.64	3.75	3.27	72.13	31.79	114.34	310.88	3.42	1.5	3.97	3.97
Stillwater County	A14	RM 405.81	75994.44	2% - 50yr	1529.3	1056.26	1051.93	3.49	3.34	63.81	58.51	133.87	223.38	3.17	2.92	4.33	4.33
Stillwater County	A15	RM 405.77	75764.36	2% - 50yr	1529.3	1055.96	1052.63	3.84	3.54	82.4	67.29	142.49	201.13	2.62	2.15	3.33	3.33
Stillwater County	A15	RM 405.67	75185.26	2% - 50yr	1529.3	1055.63	1052.06	3.34	2.87	61.66	46.51	82.19	261.32	2.69	2.04	3.57	3.57
Stillwater County	A15	RM 405.61	74883.52	2% - 50yr	1529.3	1055.43	1051.81	3.57	2.73	67.77	36.13	69.55	387.91	3.05	1.63	3.62	3.62
Stillwater County	A15	RM 405.52	74415.92	2% - 50yr	1529.3	1054.99	1051.43	4	2.77	84.92	45.61	52.24	417.67	3.1	1.66	3.57	3.57
Stillwater County	A15	RM 405.45	74031.34	2% - 50yr	1529.3	1054.95	1051.1	3.1	1.95	49.05	23.92	57.4	655.62	3.44	1.68	3.86	3.86
Stillwater County	A15	RM 405.34	73437.72	2% - 50yr	1529.3	1054.5	1050.67	3.21	2.45	53.65	22.75	116.05	611.58	3.25	1.38	3.83	3.83
Stillwater County	A15	RM 405.18	72616.33	2% - 50yr	1529.3	1054.05	1049.45	3.42	2.68	57.97	22.87	94.83	519.66	3.74	1.47	4.6	4.6
Stillwater County	A15	RM 405.09	72171.48	2% - 50yr	1529.3	1053.93	1049.09	2.92	2.41	42.62	18.86	115.98	649.64	3.65	1.61	4.85	4.85
Stillwater County	A15	RM 405.02	71774.52	2% - 50yr	1529.3	1053.46	1048.59	3.84	3.18	73.45	30.18	88.03	317.01	3.72	1.52	4.87	4.87
Stillwater County	A15	RM 404.97	71526.86	2% - 50yr	1529.3	1053.47	1048.35	3.17	2.51	50.49	17.64	105.86	714.54	3.64	1.27	5.13	5.13
Stillwater County	A15	RM 404.90	71150.58	2% - 50yr	1529.3	1053.3	1048.99	3.2	2.62	51.71	21.13	104.62	716.67	3.57	1.45	4.31	4.31
Stillwater County	A15	RM 404.84	70801.47	2% - 50yr	1529.3	1053.28	1049.19	2.71	2.02	37	13.52	118.04	1050.91	3.57	1.29	4.09	4.09
Stillwater County	A15	RM 404.77	70415.17	2% - 50yr	1529.3	1053.18	1048.51	2.85	1.86	39.89	12.34	86.33	1060.15	3.97	1.2	4.67	4.67
Stillwater County	A15	RM 404.59	69477.61	2% - 50yr	1529.3	1052.36	1047.56	3.85	3.36	75.9	25.14	110.64	400.62	3.49	1.14	4.8	4.8
Stillwater County	A15	RM 404.54	69214.33	2% - 50yr	1529.3	1052.29	1047.65	3.44	2.9	62.08	22.37	130.94	458.59	3.24	1.15	4.64	4.64
Stillwater County	A15	RM 404.35	68254.38	2% - 50yr	1529.3	1051.81	1048.18	3.05	2.7	51.93	28.24	147.06	396.71	2.62	1.43	4.04	4.04
Stillwater County	A15	RM 404.10	66934.17	2% - 50yr	1529.3	1051.02	1047.61	2.97	2.81	47.58	38.06	123.69	472.8	2.87	2.3	3.41	3.41

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	2% - 50yr	1529.3	1050.71	1045.27	2.88	2.33	43.49	25.33	113.06	542.18	3.18	1.85	5.44	5.44
Stillwater County	A15	RM 403.85	65604.39	2% - 50yr	1529.3	1050.24	1044.79	3.67	3.03	67.21	44.32	79.41	465.77	3.75	2.45	5.45	5.45
Stillwater County	A15	RM 403.75	65058.55	2% - 50yr	1529.3	1049.52	1046.13	4.32	3.78	102.6	74.07	101.02	257.2	2.76	1.99	3.39	3.39
Stillwater County	A15	RM 403.69	64721.22	2% - 50yr	1529.3	1049.48	1046.02	3.08	2.94	53.91	49.28	134.97	395.78	2.51	2.3	3.46	3.46
Stillwater County	A15	RM 403.62	64341.29	2% - 50yr	1529.3	1049.18	1045.75	3.3	3.08	65.08	51.49	92.96	417.7	2.14	1.71	3.43	3.43
Stillwater County	A15	RM 403.55	63997.04	2% - 50yr	1529.3	1049.06	1045.95	2.76	2.34	44.42	32.64	117.76	489.32	2.28	1.68	3.11	3.11
Stillwater County	A15	RM 403.38	62985.06	2% - 50yr	1529.3	1048.77	1043.43	2.18	1.97	25.57	20.52	194.68	454.26	2.92	2.34	5.34	5.34
Stillwater County	A15	RM 403.24	62260	2% - 50yr	1529.3	1048.41	1043.43	2.64	2.5	35.73	23.58	167.56	461.48	3.43	2.26	4.98	4.98
Stillwater County	A15	RM 403.15	61770.95	2% - 50yr	1529.3	1047.86	1042.51	3.6	3.28	67.74	35.47	130.41	375.86	3.22	1.68	5.35	5.35
Stillwater County	A15	RM 403.05	61263.44	2% - 50yr	1529.3	1047.56	1043.23	3.46	3.23	64.19	37.25	146.94	337.63	2.98	1.73	4.32	4.32
Stillwater County	A15	RM 402.97	60777.65	2% - 50yr	1529.3	1047.32	1043.89	3.09	2.97	53.4	43.16	190.96	329.39	2.58	2.09	3.43	3.43
Stillwater County	A15	RM 402.83	60113.9	2% - 50yr	1529.3	1046.76	1043.49	3.19	3.17	62.56	59.14	246.5	431.38	1.95	1.84	3.27	3.27
Stillwater County	A15	RM 402.68	59309.8	2% - 50yr	1529.3	1046.26	1042.55	2.73	2.37	43.12	25.65	233.75	822.71	2.33	1.39	3.71	3.71
Stillwater County	A15	RM 402.53	58529.61	2% - 50yr	1529.3	1045.87	1040.51	2.98	1.87	43.88	13.18	121.12	927.62	3.82	1.14	5.36	5.36
Stillwater County	A15	RM 402.37	57665.93	2% - 50yr	1529.3	1045.3	1041.09	3.3	2.4	66.73	32.31	213.36	768.45	1.97	0.95	4.21	4.21
Stillwater County	A15	RM 402.24	56987.42	2% - 50yr	1529.3	1045.17	1040.75	2.09	1.49	24.82	12.51	251.22	957.2	2.48	1.25	4.42	4.42
Stillwater County	A15	RM 402.07	56034.67	2% - 50yr	1529.3	1044.6	1041.1	2.83	2.05	46.63	25.69	204.72	585.17	2.32	1.28	3.5	3.5
Stillwater County	A15	RM 401.87	54972.92	2% - 50yr	1529.3	1044.03	1040.1	2.92	1.89	45.98	19.95	150.47	643.35	2.9	1.26	3.93	3.93
Stillwater County	A15	RM 401.69	54002.29	2% - 50yr	1529.3	1043.89	1038.43	1.89	1.53	19.31	11.51	248.14	588.58	2.85	1.7	5.46	5.46
Stillwater County	A15	RM 401.55	53267.48	2% - 50yr	1529.3	1043	1036.56	4.04	3.22	75.98	24.99	74.7	316.44	4.62	1.5	6.44	6.44
Stillwater County	A15	RM 401.41	52506.25	2% - 50yr	1529.3	1042.94	1037.91	2.85	2.37	41.76	26.99	136.71	367.47	3.38	2.18	5.03	5.03
Stillwater County	A15	RM 401.31	51997.63	2% - 50yr	1529.3	1042.56	1038.08	3.34	2.81	57.57	34.47	119.22	274.19	3.31	1.98	4.47	4.47
Stillwater County	A15	RM 401.17	51259.17	2% - 50yr	1529.3	1042.06	1037.38	3.36	2.99	59.81	32.59	146.23	335.14	3.06	1.67	4.68	4.68
Stillwater County	A15	RM 401.03	50507.04	2% - 50yr	1529.3	1041.65	1036.56	3.35	2.72	57.02	23.84	125.18	381.12	3.53	1.48	5.09	5.09
Stillwater County	A15	RM 400.90	49826.69	2% - 50yr	1529.3	1041.04	1036.25	3.75	3.37	77.85	54.23	148.86	286.61	2.68	1.87	4.79	4.79
Stillwater County	A15	RM 400.74	49002.09	2% - 50yr	1529.3	1040.55	1037.21	3.42	2.49	63.33	35.1	111.86	385.87	2.9	1.59	3.33	3.33
Stillwater County	A15	RM 400.61	48243.95	2% - 50yr	1529.3	1040.31	1035.99	2.5	2.15	34.43	25.28	144.82	356.94	2.73	2	4.32	4.32
Stillwater County	A15	RM 400.50	47710.55	2% - 50yr	1529.3	1039.98	1035.67	2.74	2.53	41.32	29.4	149.16	306.18	2.78	1.97	4.31	4.31
Stillwater County	A15	RM 400.42	47243.72	2% - 50yr	1529.3	1039.62	1034.87	3.25	2.87	55.17	32.69	103.89	276.83	3.27	1.93	4.75	4.75
Stillwater County	A15	RM 400.34	46832.6	2% - 50yr	1529.3	1039.45	1034.91	3.18	2.69	51.2	24.72	95.8	333.68	3.53	1.7	4.54	4.54
Stillwater County	A15	RM 400.25	46335.82	2% - 50yr	1529.3	1039.3	1035.01	2.92	2.38	43.85	23.35	107.99	354.7	3.42	1.81	4.29	4.29
Stillwater County	A15	RM 400.18	45999.89	2% - 50yr	1529.3	1039.13	1034.98	2.99	2.48	46.89	26.57	115.05	341.48	3.21	1.81	4.15	4.15
Stillwater County	A15	RM 400.13	45714.33	2% - 50yr	1529.3	1039.01	1035.2	2.95	2.41	45.39	27.29	122.23	324.69	3.27	1.96	3.81	3.81
Stillwater County	A15	RM 400.11	45623.77	2% - 50yr	1529.3	1038.92	1035.11	3.05	2.46	49.72	32.01	129.57	328.78	3.02	1.93	3.81	3.81
Stillwater County	A15	RM 400.09	45529.19	2% - 50yr	1529.3	1038.77	1035.05	3.35	2.78	61.76	40.6	128.18	347.86	2.76	1.81	3.72	3.72
Stillwater County	A15	RM 400.03	45177.97	2% - 50yr	1529.3	1038.58	1034.82	3.13	2.8	53.78	43.23	137.4	400.69	2.76	2.22	3.76	3.76
Stillwater County	A15	RM 399.95	44761.86	2% - 50yr	1529.3	1038.34	1033.69	3.02	2.97	46.87	35.58	149.97	331.59	3.37	2.56	4.65	4.65
Stillwater County	A16	RM 399.85	44225.61	2% - 50yr	1529.3	1037.86	1033.63	3.52	3.52	66.3	65.41	144.73	146.74	3	2.96	4.23	4.23
Stillwater County	A16	RM 399.74	43664.16	2% - 50yr	1529.3	1037.63	1033.48	2.98	2.98	49.22	48.82	188.33	216.27	2.72	2.71	4.15	4.15
Stillwater County	A16	RM 399.62	43026.17	2% - 50yr	1529.3	1037.31	1033.67	2.8	2.77	44.63	36.58	218.81	363.2	2.49	2.04	3.64	3.64
Stillwater County	A16	RM 399.50	42404.94	2% - 50yr	1529.3	1037.02	1031.89	2.79	2.62	40.57	29.08	167.47	261.58	3.24	2.32	5.13	5.13
Stillwater County	A16	RM 399.39	41801.43	2% - 50yr	1529.3	1036.65	1031.8	3.1	2.97	50.65	36.85	156.53	254.5	3.14	2.28	4.85	4.85
Stillwater County	A16	RM 399.30	41294.57	2% - 50yr	1529.3	1036.31	1031.14	3.32	3.04	58.67	43.08	146.13	226.69	3.03	2.22	5.17	5.17
Stillwater County	A16	RM 399.19	40736.83	2% - 50yr	1529.3	1035.67	1031.46	3.89	3.43	82.35	47.41	134.81	275.13	2.84	1.63	4.21	4.21
Stillwater County	A16	RM 399.09	40202.15	2% - 50yr	1529.3	1035.38	1031.09	3.49	2.94	63.7	30.25	129.05	345.32	3.19	1.51	4.29	4.29
Stillwater County	A16	RM 399.00	39710.39	2% - 50yr	1529.3	1035.21	1031.41	3.06	2.39	51.23	32.81	144.92	356.77	2.8	1.8	3.8	3.8
Stillwater County	A16	RM 398.91	39231.58	2% - 50yr	1529.3	1034.92	1031.73	2.93	2.33	51.67	35.21	180.83	464.51	2.07	1.41	3.19	3.19
Stillwater County	A16	RM 398.80	38666.26	2% - 50yr	1529.3	1034.51	1031.55	2.85	2.23	48.31	31.89	190.6	481.83	2.16	1.43	2.96	2.96
Stillwater County	A16	RM 398.73	38275.64	2% - 50yr	1529.3	1034.25	1030.78	2.75	2.17	38.19	25.46	226.75	544.82	1.95	1.29	3.47	3.47
Stillwater County	A16	RM 398.62	37715.08	2% - 50yr	1529.3	1033.93	1030.19	2.63	2.23	36.1	27.62	208.48	439.37	2.05	1.56	3.74	3.74
Stillwater County	A16	RM 398.51	37115.9	2% - 50yr	1529.3	1033.58	1030.68	2.63	2.24	40.55	26.88	212.08	455.18	2.26	1.5	2.92	2.92
Stillwater County	A16	RM 398.40	36522.49	2% - 50yr	1529.3	1033.41	1028.27	2.23	1.89	23.3	18.02	225.87	477.13	2.2	1.7	5.14	5.14
Stillwater County	A16	RM 398.29	35952.65	2% - 50yr	1529.3	1033.02	1027.62	2.59	2.28	40.91	29.88	282.82	452.81	2.03	1.48	5.4	5.4
Stillwater County	A16	RM 398.17	35320.39	2% - 50yr	1529.3	1032.8	1028.88	2.29	2.12	28.46	18.51	233.17	391.66	2.84	1.85	3.92	3.92
Stillwater County	A16	RM 398.04	34597.07	2% - 50yr	1529.3	1032.49	1027.24	2.39	2.24	39.17	28.47	256.38	458.56	2.47	1.79	5.25	5.25
Stillwater County	A16	RM 397.95	34133.39	2% - 50yr	1529.3	1032.13	1027.15	2.76	2.65	44.62	35.68	240.56	321.85	2.29	1.83	4.98	4.98
Stillwater County	A16	RM 397.81	33366.95	2% - 50yr	1529.3	1031.86	1027.05	2.33	2.18	30.09	23.19	238.11	359.53	2.72	2.09	4.81	4.81
Stillwater County	A16	RM 397.68	32754.86	2% - 50yr	1529.3	1031.62	1026.97	2.45	2.25	31.63	22.1	195.63	378.21	3.14	2.2	4.65	4.65
Stillwater County	A16	RM 397.56	32104.4	2% - 50yr	1529.3	1030.93	1026.76	3.63	3.33	69.85	37.45	135	596.14	3.08	1.65	4.17	4.17
Stillwater County	A16	RM 397.40	31237.31	2% - 50yr	1529.3	1030.39	1026.27	3.28	2.9	60.54	44.23	176.15	670.16	2.57	1.88	4.12	4.12

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

2% - 50yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	2% - 50yr	1529.3	1029.8	1025.84	2.53	1.95	38.89	24.38	269.06	1002.49	2.04	1.28	3.96	3.96
Stillwater County	A16	RM 396.97	29050.44	2% - 50yr	1529.3	1029.4	1025.61	2.1	1.45	25.72	14.5	280.04	1106.58	2.32	1.31	3.79	3.79
Stillwater County	A16	RM 396.71	27639.86	2% - 50yr	1529.3	1028.78	1022.48	2.87	1.46	41.75	12.7	127.44	1122.39	3.53	1.06	6.3	6.3
Stillwater County	A16	RM 396.62	27103.31	2% - 50yr	1529.3	1028.3	1022.36	3.55	2.01	61.75	13.56	99.61	1010.05	3.95	0.85	5.94	5.94
Stillwater County	A16	RM 396.52	26616.35	2% - 50yr	1529.3	1028.07	1023.41	3.54	1.9	63.86	16.08	108.11	934.88	3.46	0.86	4.66	4.66
Stillwater County	A16	RM 396.29	25423.1	2% - 50yr	1529.3	1027.72	1023.53	2.47	1.56	34.1	14.24	188.51	904.23	2.64	1.1	4.19	4.19
Stillwater County	A16	RM 396.14	24635.78	2% - 50yr	1529.3	1026.83	1022.46	3.81	2.98	81.28	40.1	129.73	555	2.62	1.29	4.37	4.37
Stillwater County	A16	RM 396.03	24026.24	2% - 50yr	1529.3	1026.72	1024.1	2.44	1.91	35.08	20.56	186.55	771.43	2.25	1.32	2.62	2.62
Stillwater County	A16	RM 395.89	23301.08	2% - 50yr	1529.3	1026.23	1022.79	2.84	2.01	49.32	25.39	152.52	863.84	2	1.03	3.44	3.44
Stillwater County	A16	RM 395.73	22420.29	2% - 50yr	1529.3	1025.87	1022.66	1.68	1.36	17.15	10.85	186.62	1042.91	2.02	1.27	3.21	3.21
Stillwater County	A16	RM 395.64	21923.33	2% - 50yr	1529.3	1025.62	1022.13	2.24	1.51	29.59	13.62	144.53	1167.16	2.23	1.02	3.79	3.79
Stillwater County	A16	RM 395.57	21526.11	2% - 50yr	1529.3	1025.19	1021.61	3.08	1.87	52.77	17.73	78.2	1258.42	2.65	0.88	3.58	3.58
Stillwater County	A16	RM 395.48	21053.74	2% - 50yr	1529.3	1024.84	1021.89	2.72	2.09	46.23	23.39	115.05	1013.17	1.88	0.95	2.95	2.95
Stillwater County	A16	RM 395.36	20532.68	2% - 50yr	1529.3	1024.59	1021.53	2.33	1.8	32.01	14.63	131.95	1072.26	2.24	1.02	3.06	3.06
Stillwater County	A16	RM 394.98	18666.37	2% - 50yr	1529.3	1023.97	1020.31	2.91	2.07	49.18	21.16	110.98	855.37	2.32	1	3.66	3.66
Stillwater County	A16	RM 394.80	17678.79	2% - 50yr	1529.3	1023.6	1019.23	2.7	2.13	43.52	24.8	140.79	638.58	2.15	1.22	4.37	4.37
Stillwater County	A16	RM 394.65	16921.48	2% - 50yr	1529.3	1023.15	1019.93	2.4	2.21	35.08	21.42	169.74	701.06	2.02	1.23	4.14	4.14
Stillwater County	A16	RM 394.59	16622.61	2% - 50yr	1529.3	1022.75	1019.92	2.53	2.49	41.72	33.7	165.76	628.82	1.65	1.33	3.18	3.18
Stillwater County	A16	RM 394.53	16295.21	2% - 50yr	1529.3	1022.5	1019.83	2.39	2.21	36.78	30.96	158.81	533.18	1.73	1.45	3.49	3.49
Stillwater County	A16	RM 394.20	14503.23	2% - 50yr	1529.3	1021.33	1016.38	2.77	2.3	43.03	22.47	149.53	487.24	2.61	1.36	4.95	4.95
Stillwater County	A16	RM 394.12	14088.57	2% - 50yr	1529.3	1020.93	1016.74	3.25	2.65	60.48	29.18	152.43	492.61	2.43	1.17	4.18	4.18
Stillwater County	A16	RM 393.99	13393.6	2% - 50yr	1529.3	1020.55	1017.11	2.73	2.09	44.52	26.05	125.9	588.81	2.12	1.24	3.44	3.44
Stillwater County	A16	RM 393.85	12650.05	2% - 50yr	1529.3	1020.06	1016.49	2.52	2.14	39.79	27.52	179.01	560.75	1.84	1.28	3.57	3.57
Stillwater County	A16	RM 393.59	11240.84	2% - 50yr	1529.3	1019.54	1015.45	1.9	1.49	21.29	11.9	272.87	825.59	2.23	1.24	4.09	4.09
Stillwater County	A16	RM 393.27	9813.245	2% - 50yr	1529.3	1018.51	1013.32	2.99	2.74	60.74	41.6	263.46	555.34	1.47	1	5.19	5.19
Stillwater County	A16	RM 393.10	8870.543	2% - 50yr	1529.3	1017.9	1013.34	2.17	2	30.47	25.52	340.81	537.17	1.7	1.43	4.56	4.56
Stillwater County	A16	RM 392.95	8114.595	2% - 50yr	1529.3	1017.1	1014.13	2.85	2.75	54.73	49.48	332.01	412.67	1.49	1.35	2.97	2.97
Stillwater County	A16	RM 392.69	6912.838	2% - 50yr	1529.3	1016.58	1012.43	2.05	1.77	24.43	14.9	192.1	895.26	2.31	1.41	4.15	4.15
Stillwater County	A16	RM 392.44	5710.825	2% - 50yr	1529.3	1015.98	1011.68	2.68	1.91	39.26	15.87	135.35	1134.8	2.77	1.12	4.3	4.3
Stillwater County	A17	RM 392.20	4388.056	2% - 50yr	1529.3	1014.95	1010.8	3.29	2.4	65.18	31.51	201.25	746.93	2.1	1.02	4.15	4.15
Stillwater County	A17	RM 392.00	3345.174	2% - 50yr	1529.3	1014.31	1009.53	2.92	2.27	47.6	21.09	166.75	597.29	2.65	1.17	4.78	4.78
Stillwater County	A17	RM 391.84	2491.214	2% - 50yr	1529.3	1013.99	1010.51	2.41	1.87	34.4	17.71	154.92	736.94	2.19	1.13	3.58	3.58
Stillwater County	A17	RM 391.68	1656.536	2% - 50yr	1529.3	1013.66	1010.5	1.99	1.64	25.17	17.26	255.36	767.55	1.77	1.21	3.16	3.16
Stillwater County	A17	RM 391.58	1120.168	2% - 50yr	1529.3	1013.4	1009.55	2.04	1.6	26.57	16.73	363.9	856.45	1.78	1.12	3.85	3.85
Stillwater County	A17	RM 391.46	505.9	2% - 50yr	1529.3	1013.15	1009.4	2.06	1.46	25.47	13.92	297.18	926.2	2.11	1.15	3.75	3.75

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	50-yr	1529.11	1012.72	1008.74	2.5	1.62	35.46	15.33	210.09	878.75	2.48	1.07	3.98	3.98
Yellowstone County	A17	RM 391.14	149661.4	50-yr	1529.11	1012.29	1007.82	2.53	1.55	44.8	20.55	204.17	879.4	2.45	1.12	4.47	4.47
Yellowstone County	A17	RM 390.83	149168.3	50-yr	1529.11	1011.18	1007.89	2.67	2.11	47.45	28	261.8	712.21	1.85	1.09	3.29	3.29
Yellowstone County	A17	RM 390.51	148644.1	50-yr	1529.11	1010.46	1006	1.8	1.33	27.87	10.02	203.47	1171.5	2.75	0.98	4.46	4.46
Yellowstone County	A17	RM 390.34	148387.5	50-yr	1529.11	1010.05	1005.26	2.45	1.77	48.94	17.36	155.92	868.78	2.82	1	4.79	4.79
Yellowstone County	A17	RM 390.13	148054.9	50-yr	1529.11	1009.37	1005.54	2.88	2.09	58.51	19.46	145.83	790.29	2.79	0.93	3.83	3.83
Yellowstone County	A17	RM 389.96	147776.4	50-yr	1529.11	1009.04	1004.81	2.23	1.69	31.97	11.77	175.73	972.27	2.53	0.93	4.22	4.22
Yellowstone County	A17	RM 389.76	147468.2	50-yr	1529.11	1008.79	1004.52	1.6	1.28	21.76	9.62	300.37	982.04	2.76	1.22	4.27	4.27
Yellowstone County	A17	RM 389.55	147162.3	50-yr	1529.11	1008.31	1003.2	2.02	1.61	49.88	24.13	323.02	940.2	2.1	1.01	5.11	5.11
Yellowstone County	A17	RM 389.31	146731.1	50-yr	1529.11	1007.56	1003.49	2.2	1.83	29.58	11.25	256.17	843.91	2.61	0.99	4.07	4.07
Yellowstone County	A17	RM 389.08	146349	50-yr	1529.11	1007.04	1001.61	1.88	1.64	46.71	30.71	309.69	662.13	2.14	1.4	5.43	5.43
Yellowstone County	A17	RM 388.92	146095.5	50-yr	1529.11	1006.62	1002.49	2.07	1.69	25.01	13.29	267.08	953.25	2.5	1.32	4.13	4.13
Yellowstone County	A17	RM 388.79	145883.6	50-yr	1529.11	1006.39	1002.14	2.27	1.5	28.75	11.54	163.94	1211.96	3.46	1.37	4.25	4.25
Yellowstone County	A17	RM 388.61	145594.9	50-yr	1529.11	1005.86	1000.48	2.92	2.09	64.87	32.4	145.23	1238.48	2.88	1.43	5.38	5.38
Yellowstone County	A17	RM 388.58	145547	50-yr	1529.11	1005.75	1000.28	2.7	2.02	67.79	30.6	154.88	1294.93	2.94	1.32	5.47	5.47
Yellowstone County	A17	RM 388.36	145196.7	50-yr	1529.11	1005.07	1001.21	2.8	2.01	49.72	21.05	161.37	940.44	2.73	1.15	3.86	3.86
Yellowstone County	A17	RM 388.22	144960.1	50-yr	1529.11	1004.56	1000.23	2.98	2.03	58.68	25.73	162.16	909.97	2.07	0.91	4.33	4.33
Yellowstone County	A17	RM 388.09	144745.8	50-yr	1529.11	1004.04	999.87	2.52	1.89	43.2	25.01	231.62	827.33	1.77	1.02	4.17	4.17
Yellowstone County	A17	RM 387.91	144452	50-yr	1529.11	1003.45	999.77	1.64	1.7	26.3	21.59	388.35	838.07	1.45	1.19	3.68	3.68
Yellowstone County	A17	RM 387.79	144255.2	50-yr	1529.11	1003.32	999.17	1.27	1.25	7.32	7.7	573.51	960.31	1.51	1.6	4.15	4.15
Yellowstone County	A17	RM 387.59	143932.9	50-yr	1529.11	1003.02	998.1	1.19	1.19	38.29	38.29	993.99	1109.98	1.29	1.29	4.92	4.92
Yellowstone County	A17	RM 387.36	143562.1	50-yr	1529.11	1002.03	997.78	1.85	1.85	18.73	18.4	806.38	895.23	1.02	1	4.25	4.25
Yellowstone County	A17	RM 387.24	143353.9	50-yr	1529.11	1001.66	997.71	2.01	2.01	20.64	20.64	508.97	518.36	1.49	1.49	3.95	3.95
Yellowstone County	A17	RM 387.04	143026.2	50-yr	1529.11	1001.18	996.49	1.9	1.83	18.87	17.78	638.15	807.03	1.2	1.13	4.69	4.69
Yellowstone County	A17	RM 386.86	142750.4	50-yr	1529.11	1000.61	997.01	1.7	1.57	51.53	38.94	491.24	830.99	1.68	1.27	3.6	3.6
Yellowstone County	A17	RM 386.74	142538.5	50-yr	1529.11	1000.11	996.31	1.95	1.79	31.02	19.78	351.76	704.82	2.09	1.33	3.8	3.8
Yellowstone County	A17	RM 386.61	142318.4	50-yr	1529.11	999.51	995.9	2.84	2.49	52.67	24.82	187.86	518.3	2.52	1.19	3.61	3.61
Yellowstone County	A17	RM 386.47	142095.8	50-yr	1529.11	999.15	995.18	2.63	2.07	42.19	21.18	170.58	663.99	2.66	1.33	3.97	3.97
Yellowstone County	A17	RM 386.33	141875.1	50-yr	1529.11	998.68	994.36	2.97	2.11	46.32	22.59	165.84	594.11	2.49	1.22	4.32	4.32
Yellowstone County	A17	RM 386.17	141622.7	50-yr	1529.11	998.16	993.9	2.84	2.4	51.72	27.61	204.36	519.48	2.3	1.23	4.26	4.26
Yellowstone County	A17	RM 386.08	141479.6	50-yr	1529.11	997.8	994.12	2.88	2.39	64.78	33.76	178.05	1368.78	2.61	1.36	3.68	3.68
Yellowstone County	A17	RM 386.03	141389.2	50-yr	1529.11	997.6	993.82	2.8	2.51	45.75	33.05	219.07	1286.73	2.24	1.62	3.78	3.78
Yellowstone County	A17	RM 385.96	141289.2	50-yr	1529.11	997.55	993.01	2.22	2.01	25.85	16.48	236.6	1681.96	2.72	1.73	4.54	4.54
Yellowstone County	A17	RM 385.91	141204.9	50-yr	1529.11	997.49	992.33	2.08	1.94	23.25	15.33	261.36	1756.44	2.61	1.72	5.16	5.16
Yellowstone County	A17	RM 385.84	141096	50-yr	1529.11	997.52	990.57	1.26	1.24	11.19	9.47	344.12	1744.76	3.5	2.96	6.95	6.95
Yellowstone County	A17	RM 385.79	141006	50-yr	1529.11	997.11	992.48	2.85	2.65	37.25	19.14	163.57	1955.2	3.26	1.67	4.63	4.63
Yellowstone County	A18	RM 385.69	140846.5	50-yr	1529.11	996.93	992.9	2.63	2.24	49.14	29.74	211.26	2037.03	2.61	1.58	4.03	4.03
Yellowstone County	A18	RM 385.60	140705.5	50-yr	1529.11	996.61	992.71	2.75	2.36	58.67	32.74	203.66	1992.84	2.56	1.43	3.9	3.9
Yellowstone County	A18	RM 385.50	140538.8	50-yr	1529.11	996.28	990.71	2.87	2.37	42.57	18.34	152.15	1820.16	3.38	1.45	5.57	5.57
Yellowstone County	A18	RM 385.39	140367.1	50-yr	1529.11	996.04	992.41	2.81	2.36	41.12	23.27	205.22	1730.96	2.53	1.43	3.63	3.63
Yellowstone County	A18	RM 385.30	140231.3	50-yr	1529.11	995.71	992.53	2.91	2.55	67.45	41.73	239.85	461.2	2.11	1.3	3.18	3.18
Yellowstone County	A18	RM 385.23	140108.3	50-yr	1529.11	995.49	992.01	2.39	2.12	46.76	32.8	233.23	1822.33	2.1	1.47	3.48	3.48
Yellowstone County	A18	RM 385.12	139921.2	50-yr	1529.11	994.7	991.37	3.03	2.93	67.7	55.4	254.67	1018.59	1.56	1.27	3.33	3.33
Yellowstone County	A18	RM 384.93	139688.7	50-yr	1529.11	994.34	991.06	2.24	2.01	28.33	20.87	242.55	764.01	2.08	1.54	3.28	3.28
Yellowstone County	A18	RM 384.75	139352.1	50-yr	1529.11	993.17	989.77	3.94	3.16	115.13	60.73	117.48	492.9	2.21	1.17	3.4	3.4
Yellowstone County	A18	RM 384.63	139146.9	50-yr	1529.11	992.9	989.58	1.88	1.73	24.44	21.58	197.08	901.25	1.59	1.4	3.32	3.32
Yellowstone County	A18	RM 384.48	138904.5	50-yr	1529.11	992.54	989.55	1.72	1.84	23.25	19.82	183.8	662.07	1.97	1.68	3.19	3.19
Yellowstone County	A18	RM 384.34	138682.4	50-yr	1529.11	992.26	988.23	1.89	1.77	41.39	17.65	166.34	1356.81	2.64	1.12	4.03	4.03
Yellowstone County	A18	RM 384.26	138551.1	50-yr	1529.11	991.92	987.34	3.06	1.94	41.5	20.8	116.28	1103.93	2.46	1.23	4.58	4.58
Yellowstone County	A18	RM 384.15	138370.3	50-yr	1529.11	991.12	987.39	4.03	3.22	120.83	49.88	79.07	505.14	2.67	1.09	3.73	3.73
Yellowstone County	A18	RM 384.06	138235.3	50-yr	1529.11	990.96	987.31	2.95	2	52.18	27.05	85.74	829.59	2.59	1.34	3.65	3.65
Yellowstone County	A18	RM 383.96	138072.3	50-yr	1529.11	990.57	987.67	2.54	2.27	44.24	33.7	139.35	691.33	1.62	1.23	2.9	2.9
Yellowstone County	A18	RM 383.86	137914.6	50-yr	1529.11	990.37	987.24	1.98	1.8	23.06	14.77	160.58	784.39	2.15	1.37	3.13	3.13
Yellowstone County	A18	RM 383.75	137749.9	50-yr	1529.11	990.13	986.55	1.82	1.88	24.75	17.88	219.18	856.8	1.67	1.2	3.65	3.65
Yellowstone County	A18	RM 383.62	137544.5	50-yr	1529.11	989.92	986.32	1.73	1.52	18.85	12.44	177.19	940.66	2.02	1.33	4.3	4.3
Yellowstone County	A18	RM 383.54	137415.7	50-yr	1529.11	989.83	984.41	1.56	1.34	14.18	8.78	392.45	868.76	2.33	1.44	5.42	5.42
Yellowstone County	B1	RM 383.39	137175.7	50-yr	1993.51	989.39	984.98	2.43	2.34	22.1	18.98	597.91	726.7	1.37	1.17	4.41	4.41
Yellowstone County	B1	RM 383.31	137040.5	50-yr	1993.51	989.23	984.86	2.11	1.83	21.5	19.36	646.28	874.6	1.39	1.25	4.37	4.37
Yellowstone County	B1	RM 383.16	136817.2	50-yr	1993.51	989.01	984.9	1.65	1.43	14.06	13.73	784.03	998.15	1.43	1.39	4.11	4.11
Yellowstone County	B1	RM 382.88	136371.1	50-yr	1993.51	988.58	983.64	1.69	1.5	17.03	15.41	628.29	851.98	1.72	1.56	4.94	4.94
Yellowstone County	B1	RM 382.61	135921.1	50-yr	1993.51	987.98	982.68	2.53	1.84	34.53	13.2	196.01	791.24	3.58	1.37	5.3	5.3

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	50-yr	1993.51	987.61	981.56	3	1.83	45.89	13.72	132.77	912.17	4.01	1.19	6.05	6.05
Yellowstone County	B1	RM 382.28	135389.1	50-yr	1993.51	987.47	981.45	2.39	1.55	31.75	10.73	139.32	882	4.34	1.46	6.02	6.02
Yellowstone County	B1	RM 382.11	135122	50-yr	1993.51	986.96	980.52	3.18	2.1	57.45	18.75	133.69	723.22	4.04	1.31	6.44	6.44
Yellowstone County	B1	RM 381.93	134829.3	50-yr	1993.51	986.56	981.3	2.77	2.22	68.26	24.39	182.96	701.67	3.6	1.28	5.26	5.26
Yellowstone County	B1	RM 381.79	134602.8	50-yr	1993.51	986.09	981.63	3.06	2.38	52.23	18.52	167.59	662.33	3.59	1.27	4.46	4.46
Yellowstone County	B1	RM 381.69	134426.2	50-yr	1993.51	986.04	981.06	2.28	1.85	32.73	15.11	207.55	604.63	3.86	1.78	4.98	4.98
Yellowstone County	B1	RM 381.58	134232.5	50-yr	1993.51	985.88	981.02	2.17	1.85	28.08	16.46	271.39	640.45	3.15	1.84	4.86	4.86
Yellowstone County	B1	RM 381.47	134047.3	50-yr	1993.51	985.69	980.95	1.91	1.69	46.4	27.45	333.31	766.48	2.85	1.68	4.74	4.74
Yellowstone County	B1	RM 381.35	133871.9	50-yr	1993.51	985.37	980.79	1.88	1.72	51.93	35.26	366.2	786.04	2.68	1.82	4.58	4.58
Yellowstone County	B1	RM 381.22	133659.2	50-yr	1993.51	984.8	979.74	2.06	2.04	68.97	63.96	432.17	472.51	2.23	2.07	5.06	5.06
Yellowstone County	B1	RM 381.11	133491.4	50-yr	1993.51	984.24	979.61	2.15	2.09	68.67	46.25	287.45	598.67	2.37	1.59	4.63	4.63
Yellowstone County	B1	RM 381.00	133302.9	50-yr	1993.51	983.51	978.23	3.27	2.74	56.42	25.7	187.85	581.79	2.75	1.25	5.28	5.28
Yellowstone County	B1	RM 380.92	133180	50-yr	1993.51	983.38	976.97	2.91	2.25	54.63	19.45	152.78	706.74	3.55	1.26	6.41	6.41
Yellowstone County	B1	RM 380.81	132986.3	50-yr	1993.51	982.97	978.55	3.06	2.33	55.48	21.76	193.52	759.3	2.88	1.12	4.42	4.42
Yellowstone County	B1	RM 380.69	132800.2	50-yr	1993.51	982.78	978.53	2.47	1.87	33.93	16.14	264.93	874.26	2.57	1.22	4.25	4.25
Yellowstone County	B1	RM 380.57	132628.6	50-yr	1993.51	982.57	978.7	2.25	1.7	41.55	14.53	229.16	1188.96	2.82	0.98	3.87	3.87
Yellowstone County	B1	RM 380.48	132470	50-yr	1993.51	982.33	978.24	2.34	1.64	39.5	13.21	201.42	1195.84	3.05	1.02	4.09	4.09
Yellowstone County	B1	RM 380.34	132222.4	50-yr	1993.51	981.86	977.37	2.85	1.88	46.26	16.27	205.99	1168.39	2.58	0.91	4.49	4.49
Yellowstone County	B1	RM 380.22	132032.4	50-yr	1993.51	981.63	977.02	2.68	1.7	39.37	13.97	172.56	1084.1	3.06	1.08	4.61	4.61
Yellowstone County	B1	RM 380.11	131847.7	50-yr	1993.51	981.36	976.29	2.77	1.94	48.15	17.31	181.17	1014.6	2.82	1.01	5.07	5.07
Yellowstone County	B1	RM 380.01	131671.4	50-yr	1993.51	981.1	976.21	2.67	1.8	51.8	17.95	174.27	1094.35	2.92	1.01	4.89	4.89
Yellowstone County	B1	RM 379.92	131538.8	50-yr	1993.51	980.74	976.69	3.03	2.01	50.72	17.79	192.31	1128.69	2.51	0.88	4.05	4.05
Yellowstone County	B1	RM 379.84	131406.9	50-yr	1993.51	980.7	975.94	1.89	1.37	21.43	10.96	417.13	1475.38	2.13	1.09	4.76	4.76
Yellowstone County	B1	RM 379.75	131265.1	50-yr	1993.51	980.55	974.98	1.88	1.34	25.5	11.86	375.5	1584.28	2.27	1.05	5.57	5.57
Yellowstone County	B1	RM 379.65	131104.3	50-yr	1993.51	980.45	975.6	1.57	1.06	14.66	7.62	379.71	1717.19	2.32	1.2	4.85	4.85
Yellowstone County	B1	RM 379.56	130964.3	50-yr	1993.51	980.37	975.94	1.54	1.05	14.1	6.77	313.71	1651.17	2.59	1.24	4.43	4.43
Yellowstone County	B1	RM 379.46	130794	50-yr	1993.51	980.25	974.74	1.7	1.14	15.83	8.3	299.1	1353.4	2.54	1.33	5.51	5.51
Yellowstone County	B1	RM 379.36	130642.3	50-yr	1993.51	980.13	975.71	1.83	1.21	26.06	12.72	247.15	1074.61	3.37	1.64	4.42	4.42
Yellowstone County	B1	RM 379.27	130496.2	50-yr	1993.51	979.82	974.66	2.7	1.59	61.74	28.85	164.83	845.46	3.18	1.48	5.16	5.16
Yellowstone County	B1	RM 379.17	130345.7	50-yr	1993.51	979.24	973.93	3.44	2.06	76.48	27.09	154.92	857.24	3.2	1.13	5.31	5.31
Yellowstone County	B1	RM 379.04	130142	50-yr	1993.51	979	974.79	2.77	1.69	42.36	20.07	203.31	900.62	2.76	1.31	4.21	4.21
Yellowstone County	B1	RM 378.97	130026.7	50-yr	1993.51	978.75	974.64	2.9	1.88	47.79	21.71	231.05	918.73	2.54	1.16	4.11	4.11
Yellowstone County	B1	RM 378.86	129850.9	50-yr	1993.51	978.35	974.4	2.97	1.97	54.82	24.96	250.72	949.09	2.34	1.07	3.95	3.95
Yellowstone County	B1	RM 378.76	129682.3	50-yr	1993.51	977.99	974.17	2.88	2	49.12	21.92	272.24	966.83	2.31	1.03	3.82	3.82
Yellowstone County	B1	RM 378.67	129541.3	50-yr	1993.51	977.74	973.97	2.8	1.81	39.56	20.08	282.66	1062.68	2.11	1.07	3.77	3.77
Yellowstone County	B1	RM 378.61	129443.1	50-yr	1993.51	977.6	973.83	2.17	1.59	58.78	30.56	250.17	1307.06	2.02	1.05	3.77	3.77
Yellowstone County	B1	RM 378.52	129297.7	50-yr	1993.51	977.37	973.62	1.88	1.41	21.3	13.73	557.83	1351.53	1.65	1.06	3.75	3.75
Yellowstone County	B1	RM 378.46	129200.8	50-yr	1993.51	977.28	973.48	1.62	1.34	19.49	11.9	613.46	1309.72	1.86	1.14	3.8	3.8
Yellowstone County	B1	RM 378.40	129112.2	50-yr	1993.51	977.15	973.41	1.59	1.37	42.12	26.07	605.91	1246.48	1.89	1.17	3.74	3.74
Yellowstone County	B1	RM 378.29	128929.4	50-yr	1993.51	977	972.93	1.34	1.1	12.97	7.16	567.41	1333.98	2.46	1.36	4.07	4.07
Yellowstone County	B1	RM 378.13	128673.7	50-yr	1993.51	976.68	971.4	2.1	1.64	19.14	9.71	438.15	1171.22	2.05	1.04	5.28	5.28
Yellowstone County	B1	RM 378.07	128569	50-yr	1993.51	976.59	970.46	2.12	1.6	18.75	9.73	347.36	958.27	2.52	1.3	6.13	6.13
Yellowstone County	B1	RM 377.96	128380.3	50-yr	1993.51	976.07	968.85	3.28	2.58	59.04	13.63	112.24	655.62	5.19	1.18	7.22	7.22
Yellowstone County	B1	RM 377.87	128244.4	50-yr	1993.51	975.97	970.56	2.86	2.17	59.38	20.87	223.61	1313.25	2.85	1	5.41	5.41
Yellowstone County	B1	RM 377.79	128118	50-yr	1993.51	975.77	970.94	2.64	2.05	35.09	15.72	342.87	1224.61	2.03	0.91	4.83	4.83
Yellowstone County	B1	RM 377.69	127964.3	50-yr	1993.51	975.6	969.86	2.22	1.67	24.14	14.49	423.76	1453.06	1.89	1.13	5.74	5.74
Yellowstone County	B1	RM 377.61	127824.8	50-yr	1993.51	975.1	970.53	3.11	2.55	40.43	24.05	344.38	839.06	1.72	1.02	4.57	4.57
Yellowstone County	B1	RM 377.55	127735.1	50-yr	1993.51	975.03	970.41	2.54	2.07	26.61	16.47	435.45	1350.06	1.68	1.04	4.62	4.62
Yellowstone County	B1	RM 377.48	127618.1	50-yr	1993.51	974.85	970.26	2.43	1.96	27.08	16.74	462.78	1502.52	1.63	1	4.59	4.59
Yellowstone County	B1	RM 377.39	127466.6	50-yr	1993.51	974.57	969.73	2.53	1.96	29.17	16.75	412	1123.88	1.73	0.99	4.84	4.84
Yellowstone County	B1	RM 377.34	127391.5	50-yr	1993.51	974.38	969.95	2.44	2.02	98.71	51.8	387.88	1168.13	1.76	0.92	4.43	4.43
Yellowstone County	B1	RM 377.25	127241.9	50-yr	1993.51	974.07	970.26	2.12	1.77	26.44	13.58	429.39	1071.1	2.07	1.06	3.81	3.81
Yellowstone County	B1	RM 377.16	127097.7	50-yr	1993.51	973.9	969.82	2.05	1.72	27	14.41	410.79	1098.4	1.97	1.05	4.08	4.08
Yellowstone County	B1	RM 377.08	126969	50-yr	1993.51	973.84	969	1.62	1.28	14.77	6.93	417.58	1333.25	2.59	1.21	4.84	4.84
Yellowstone County	B1	RM 377.04	126900.8	50-yr	1993.51	973.76	968.6	1.61	1.39	45.37	27.21	569.99	1282.28	1.86	1.12	5.16	5.16
Yellowstone County	B1	RM 376.98	126797.5	50-yr	1993.51	973.52	969.02	1.98	1.63	21.36	12.1	531.66	1222.1	1.77	1	4.5	4.5
Yellowstone County	B1	RM 376.92	126710.1	50-yr	1993.51	973.43	969.01	1.64	1.38	37.81	20.84	496.97	1199.87	2.19	1.2	4.42	4.42
Yellowstone County	B1	RM 376.84	126584.2	50-yr	1993.51	973.32	967.73	1.44	1.22	17.52	10	448.87	1304.72	2.48	1.41	5.59	5.59
Yellowstone County	B1	RM 376.75	126442.1	50-yr	1993.51	973.2	967.82	1.51	1.34	24.42	13.12	406.87	1275.56	2.66	1.42	5.38	5.38
Yellowstone County	B1	RM 376.67	126309	50-yr	1993.51	972.99	967.23	1.86	1.63	40.79	19.79	333.94	1062.2	2.64	1.28	5.76	5.76
Yellowstone County	B1	RM 376.58	126174.1	50-yr	1993.51	972.71	966.82	2.03	1.74	46.71	23.25	344.97	956.06	2.51	1.25	5.89	5.89

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	50-yr	1993.51	972.31	966.77	2.68	2.39	50.57	25.19	265.88	648.68	2.65	1.31	5.54	5.54
Yellowstone County	B1	RM 376.42	125918.5	50-yr	1993.51	972.1	967.68	2.57	2.3	37.78	14.43	256.81	962.1	2.96	1.13	4.42	4.42
Yellowstone County	B1	RM 376.35	125809.8	50-yr	1993.51	972.05	966.71	2.32	1.74	28	9.89	225.28	1506.59	3.43	1.21	5.34	5.34
Yellowstone County	B1	RM 376.28	125697	50-yr	1993.51	971.6	966.28	3.29	2.78	62.4	23.54	221.43	846.92	2.56	0.96	5.32	5.32
Yellowstone County	B1	RM 376.20	125565.9	50-yr	1993.51	971.37	966.16	2.93	2.33	52.02	21.78	252.04	1066.14	2.4	1	5.21	5.21
Yellowstone County	B1	RM 376.10	125404.8	50-yr	1993.51	971.15	966.61	2.5	1.83	35.98	17.21	270.25	1257.07	2.23	1.07	4.54	4.54
Yellowstone County	B1	RM 376.00	125250.5	50-yr	1993.51	970.9	967.42	2.48	1.67	38.12	16.99	242.48	1118.38	2.52	1.12	3.48	3.48
Yellowstone County	B1	RM 375.88	125055.1	50-yr	1993.51	970.68	966.01	2.29	1.44	34.47	15.07	185.92	1038.26	3.05	1.33	4.67	4.67
Yellowstone County	B1	RM 375.78	124897.3	50-yr	1993.51	970.49	965.37	2.31	1.56	34.54	16.04	187.83	940.23	2.93	1.36	5.12	5.12
Yellowstone County	B1	RM 375.67	124708.2	50-yr	1993.51	970.27	965.8	2.33	1.78	34.57	16.7	225.82	863.8	2.69	1.3	4.47	4.47
Yellowstone County	B1	RM 375.58	124564.2	50-yr	1993.51	970.01	966.54	2.58	2	41.3	19.54	225.83	803.85	2.63	1.24	3.47	3.47
Yellowstone County	B1	RM 375.23	124013.6	50-yr	1993.51	969.35	965.23	2.32	1.63	35.8	13.88	230.67	1107.81	2.85	1.1	4.12	4.12
Yellowstone County	B1	RM 375.10	123799.5	50-yr	1993.51	968.71	963.88	3.47	2.2	81.5	24.05	126.4	893.29	3.46	1.02	4.83	4.83
Yellowstone County	B1	RM 374.97	123580.4	50-yr	1993.51	968.48	963.97	2.61	1.75	52.83	17.6	136.62	1059.61	3.35	1.1	4.51	4.51
Yellowstone County	B1	RM 374.83	123365.5	50-yr	1993.51	968.24	963.52	2.32	1.58	32.65	13.03	132.77	1139.29	3.13	1.24	4.72	4.72
Yellowstone County	B1	RM 374.73	123195.7	50-yr	1993.51	968.15	963.36	1.82	1.34	17.89	8.24	143.76	1205.36	3.26	1.5	4.79	4.79
Yellowstone County	B1	RM 374.61	123010.3	50-yr	1993.51	967.91	963.49	2.25	1.69	38.79	15.2	162.99	1175.67	3.2	1.25	4.42	4.42
Yellowstone County	B1	RM 374.53	122875.3	50-yr	2058.64	967.68	963.14	2.53	1.93	40.76	15.22	186.43	927.98	3.09	1.15	4.54	4.54
Yellowstone County	B1	RM 374.44	122726.7	50-yr	2058.64	967.32	963.04	3.09	2.15	69.01	20	127.33	926.45	3.59	1.04	4.28	4.28
Yellowstone County	B1	RM 374.32	122535.1	50-yr	2058.64	967.1	962.82	2.36	2.04	45.17	20.69	191.99	798.96	2.76	1.26	4.28	4.28
Yellowstone County	B1	RM 374.22	122379	50-yr	2058.64	966.88	960.92	2.61	1.69	39.39	13.98	134.27	965.97	3.55	1.26	5.96	5.96
Yellowstone County	B1	RM 374.13	122231.1	50-yr	2058.64	966.72	960.11	2.74	1.74	40.23	17.17	137.18	880.83	3.15	1.34	6.61	6.61
Yellowstone County	B1	RM 373.97	121972.4	50-yr	2058.64	966.48	958.8	2.22	1.74	29.94	12.77	223.41	891.08	3.13	1.33	7.68	7.68
Yellowstone County	B1	RM 373.88	121829.3	50-yr	2058.64	966.27	962.21	2.43	1.8	43.27	16.75	194.77	969.1	3.06	1.18	4.06	4.06
Yellowstone County	B1	RM 373.79	121688.7	50-yr	2058.64	966.08	961.66	2.38	1.75	45.58	19.84	188.97	977.39	3.04	1.32	4.42	4.42
Yellowstone County	B1	RM 373.69	121523.5	50-yr	2058.64	965.81	961.11	2.47	1.74	38.86	15.96	202.68	1225.51	2.77	1.13	4.7	4.7
Yellowstone County	B1	RM 373.56	121314.3	50-yr	2058.64	965.16	959.37	3.32	2.26	64.1	31.61	200.27	784.22	2.5	1.23	5.79	5.79
Yellowstone County	B1	RM 373.39	121015.9	50-yr	2058.64	964.42	958.78	3.3	2.36	63.11	29.7	184.56	651.9	2.85	1.34	5.64	5.64
Yellowstone County	B1	RM 373.26	120802.3	50-yr	2058.64	964.41	960.81	1.56	1.04	15.89	12.64	355.66	1191.23	2.17	1.73	3.6	3.6
Yellowstone County	B1	RM 373.09	120539.5	50-yr	2058.64	964.05	959.94	2.24	1.52	31.29	18.42	300.82	1151.51	2.1	1.23	4.11	4.11
Yellowstone County	B1	RM 372.99	120365.2	50-yr	2058.64	963.73	959.69	2.23	1.68	45.86	24.2	327.55	1202.01	1.93	1.02	4.04	4.04
Yellowstone County	B1	RM 372.82	120107.7	50-yr	2058.64	963.37	959.03	1.89	1.36	21.25	14.38	452.69	1346.51	1.66	1.12	4.34	4.34
Yellowstone County	B1	RM 372.72	119922.5	50-yr	2058.64	963.19	958.92	1.69	1.34	28.23	20.57	416.78	1256.92	1.68	1.22	4.27	4.27
Yellowstone County	B1	RM 372.65	119797.7	50-yr	2058.64	963.12	957.32	1.28	0.91	11.44	9.28	396.08	1522.14	1.85	1.49	5.8	5.8
Yellowstone County	B1	RM 372.58	119676.6	50-yr	2058.64	963.07	958.2	1.17	0.91	8.68	6.97	439.21	1444.22	1.94	1.56	4.87	4.87
Yellowstone County	B1	RM 372.41	119395.9	50-yr	2058.64	962.97	958.82	1.31	0.91	9.19	6.73	477.81	1515.17	2.03	1.49	4.15	4.15
Yellowstone County	B1	RM 372.32	119268.8	50-yr	2058.64	962.9	957.24	1.06	1.07	17.93	14.43	514.81	1278.42	1.87	1.51	5.66	5.66
Yellowstone County	B1	RM 372.20	119079.1	50-yr	2058.64	962.68	956.93	1.3	1.17	30.8	22.87	512.44	1305.09	1.82	1.34	5.75	5.75
Yellowstone County	B1	RM 372.08	118886.4	50-yr	2058.64	962.37	956.2	1.41	1.28	33.17	26.21	461.5	1027.06	1.99	1.57	6.17	6.17
Yellowstone County	B1	RM 371.94	118669.8	50-yr	2058.64	961.84	957.58	1.78	1.84	41.99	31.22	446.69	767.33	1.97	1.46	4.26	4.26
Yellowstone County	B1	RM 371.83	118490.4	50-yr	2058.64	961.63	957.52	1.71	1.6	24.78	17.63	393.72	751.96	2.4	1.71	4.11	4.11
Yellowstone County	B1	RM 371.74	118350.7	50-yr	2058.64	961.41	957.48	2.03	1.69	27.03	16.57	386.04	852.85	2.33	1.43	3.93	3.93
Yellowstone County	B1	RM 371.62	118155.6	50-yr	2058.64	961.15	956.41	2.27	1.55	35.27	12.63	220.59	1100.62	3.36	1.2	4.74	4.74
Yellowstone County	B1	RM 371.53	118001.4	50-yr	2058.64	960.86	955.99	2.65	1.84	41.72	14.76	234.36	1103.71	2.87	1.01	4.87	4.87
Yellowstone County	B1	RM 371.43	117839.2	50-yr	2058.64	960.53	955.47	2.63	1.89	75.74	32.09	253.33	1017.13	2.53	1.07	5.06	5.06
Yellowstone County	B1	RM 371.37	117745.1	50-yr	2058.64	960.28	955.72	2.71	2.1	36.9	17.8	292.28	850.55	2.39	1.15	4.56	4.56
Yellowstone County	B1	RM 371.32	117662.6	50-yr	2058.64	960.16	956.41	2.47	1.9	50.93	25.92	299.65	826.06	2.57	1.31	3.75	3.75
Yellowstone County	B1	RM 371.25	117560.3	50-yr	2058.64	960.04	955.99	2.2	1.78	29.87	18.32	373.54	816.72	2.35	1.44	4.05	4.05
Yellowstone County	B1	RM 371.21	117499	50-yr	2058.64	959.97	955.72	2.17	1.83	29.48	20.2	356.82	677.2	2.43	1.67	4.25	4.25
Yellowstone County	B1	RM 371.12	117353.9	50-yr	2058.64	959.83	955.54	2	1.66	24.34	15.38	387.18	909.93	2.42	1.53	4.29	4.29
Yellowstone County	B1	RM 371.04	117225.1	50-yr	2058.64	958.96	954.84	3.88	3.68	80.53	45.32	243.75	460.62	2.17	1.21	4.12	4.12
Yellowstone County	B1	RM 370.94	117054.9	50-yr	2058.64	958.99	955.57	2.26	1.89	36.08	24.45	241.77	923.21	2.65	1.8	3.42	3.42
Yellowstone County	B1	RM 370.85	116910.9	50-yr	2058.64	958.85	954.47	2.1	1.59	29.61	14.01	218.51	1125.82	2.83	1.34	4.38	4.38
Yellowstone County	B1	RM 370.77	116793.6	50-yr	2058.64	958.77	953.84	2.01	1.42	21.65	10.36	224.01	1198.78	2.77	1.32	4.93	4.93
Yellowstone County	B1	RM 370.72	116711.6	50-yr	2058.64	958.72	953.13	1.98	1.27	23.34	10.42	165.01	1123.45	3.37	1.5	5.58	5.58
Yellowstone County	B1	RM 370.70	116669.2	50-yr	2058.64	958.67	953.05	2.05	1.2	21.31	10.83	201.16	1158.49	2.92	1.48	5.62	5.62
Yellowstone County	B1	RM 370.63	116558.9	50-yr	2058.64	958.58	953.42	1.99	1.12	31.76	13.94	182.6	1163.65	3.61	1.58	5.16	5.16
Yellowstone County	B1	RM 370.56	116440.6	50-yr	2058.64	958.35	953.34	2.45	1.42	27.74	8.79	178.41	1185.2	3.88	1.22	5.01	5.01
Yellowstone County	B1	RM 370.44	116241.1	50-yr	2058.64	958.15	952.03	2.72	1.5	45.76	12.87	134.34	1150.74	4.28	1.19	6.12	6.12
Yellowstone County	B1	RM 370.34	116071.6	50-yr	2058.64	957.85	949.79	3.05	1.73	59.76	14.21	118.14	1075.51	4.7	1.1	8.06	8.06
Yellowstone County	B1	RM 370.24	115908.6	50-yr	2058.64	957.71	950.22	2.84	1.66	47.35	12.96	117.55	933.73	4.89	1.32	7.49	7.49

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	50-yr	2058.64	957.43	952.12	2.9	1.93	54.49	18.82	161	830.49	3.73	1.29	5.31	5.31
Yellowstone County	B1	RM 370.00	115535.2	50-yr	2058.64	957.12	952.2	2.58	2.21	76.62	43.98	262.04	663.63	2.45	1.4	4.92	4.92
Yellowstone County	B1	RM 369.89	115356.1	50-yr	2058.64	956.76	953.15	2.39	2.1	29.29	17.83	417.22	837.34	1.93	1.17	3.61	3.61
Yellowstone County	B1	RM 369.77	115164.3	50-yr	2058.64	956.48	952.34	2.23	2.02	27.21	16.88	496.34	930.45	1.82	1.13	4.14	4.14
Yellowstone County	B1	RM 369.64	114965.6	50-yr	2058.64	956.15	951.9	2.18	1.93	33.99	23.17	502.84	1155.35	1.77	1.2	4.25	4.25
Yellowstone County	B1	RM 369.54	114789.5	50-yr	2058.64	955.86	952.38	2.12	1.83	27.28	20.08	503.84	1316.66	1.77	1.31	3.48	3.48
Yellowstone County	B1	RM 369.45	114650.1	50-yr	2058.64	955.72	951	1.86	1.52	23.34	14.05	465.8	2072.8	2.03	1.22	4.72	4.72
Yellowstone County	B1	RM 369.32	114431.1	50-yr	2058.64	955.5	951.1	1.77	1.27	22.61	11.03	376.67	2446.27	2.59	1.26	4.4	4.4
Yellowstone County	B1	RM 369.17	114210.5	50-yr	2058.64	955.29	949.85	2.05	1.5	37.67	13.86	199.28	2503.6	3.09	1.13	5.44	5.44
Yellowstone County	B1	RM 369.06	114022.4	50-yr	2058.64	954.66	949.89	3.36	2.12	63.08	19.01	136.69	2074.48	3.59	1.08	4.77	4.77
Yellowstone County	B1	RM 368.96	113871.2	50-yr	2058.64	954.48	949.68	2.88	2.03	52.62	19.05	169.89	2002.49	3.3	1.19	4.8	4.8
Yellowstone County	B1	RM 368.88	113745.9	50-yr	2058.64	954.31	948.77	2.65	1.84	42.69	15.51	214.93	2298.28	2.86	1.03	5.54	5.54
Yellowstone County	B1	RM 368.82	113641	50-yr	2058.64	954.12	948.47	2.56	2	51.45	23.84	296.76	2188.46	2.23	1.03	5.65	5.65
Yellowstone County	B1	RM 368.72	113477.3	50-yr	2058.64	953.89	948.45	2.07	1.67	36.62	18.26	349.67	2198.21	2.34	1.16	5.44	5.44
Yellowstone County	B1	RM 368.63	113328.9	50-yr	2058.64	953.7	947.82	1.97	1.55	33.82	16.57	314.9	2245.38	2.48	1.21	5.88	5.88
Yellowstone County	B1	RM 368.54	113195.6	50-yr	2058.64	953.46	947.51	2.26	1.57	33.01	11.67	269.89	2442.8	2.89	1.02	5.95	5.95
Yellowstone County	B1	RM 368.44	113035.8	50-yr	2058.64	953.18	947.4	2.39	1.67	64.69	23.74	256.71	2390.69	2.69	0.98	5.78	5.78
Yellowstone County	B1	RM 368.35	112878.7	50-yr	2058.64	953.11	946.64	1.76	1.27	17.83	4.92	283.07	2616.68	3.89	1.07	6.47	6.47
Yellowstone County	B1	RM 368.26	112737.6	50-yr	2058.64	952.95	946.23	2.1	1.38	65.4	19.15	227.9	2567.32	3.37	0.98	6.72	6.72
Yellowstone County	B1	RM 368.18	112604.7	50-yr	2058.64	952.56	947.11	2.82	1.75	47.4	12.07	162.55	2132.69	3.93	0.99	5.45	5.45
Yellowstone County	B2	RM 368.09	112456.7	50-yr	2058.64	952.24	947.7	3.09	2.31	68.99	18.51	158.24	1715.2	3.78	1	4.54	4.54
Yellowstone County	B2	RM 368.00	112314.4	50-yr	2058.64	952.23	947.56	2.29	1.56	29.27	9.32	198.48	2526.69	3.89	1.24	4.67	4.67
Yellowstone County	B2	RM 367.86	112104.7	50-yr	2058.64	951.8	946.1	2.95	2.08	63.62	17.78	181.42	2088.95	3.51	0.97	5.7	5.7
Yellowstone County	B2	RM 367.79	111989.2	50-yr	2058.64	951.7	945.04	2.51	1.62	53.66	15.66	203.42	2131.57	3.4	0.99	6.66	6.66
Yellowstone County	B2	RM 367.72	111876.5	50-yr	2058.64	951.41	945.45	2.91	1.83	45.65	10.71	149.5	2122.4	4.15	0.97	5.96	5.96
Yellowstone County	B2	RM 367.64	111739.2	50-yr	2058.64	951.3	945.68	2.75	1.5	50.98	11.64	140.78	2277.4	4.15	0.94	5.62	5.62
Yellowstone County	B2	RM 367.50	111519.9	50-yr	2058.64	950.94	945.21	2.95	1.67	61.62	14.25	137	1869.58	4.15	0.95	5.73	5.73
Yellowstone County	B2	RM 367.40	111357.1	50-yr	2058.64	950.58	944.36	3.33	2.01	61.89	11.23	113.46	1613.98	4.56	0.81	6.22	6.22
Yellowstone County	B2	RM 367.31	111214.8	50-yr	2058.64	950.39	945.36	3.22	2.12	51.78	13.07	144.65	1186.24	3.91	0.98	5.02	5.02
Yellowstone County	B2	RM 367.19	110992.7	50-yr	2058.64	950.19	945.91	2.63	1.97	38.81	13.45	245.04	1251.05	2.94	1.01	4.29	4.29
Yellowstone County	B2	RM 367.11	110813.5	50-yr	2058.64	949.99	945.17	2.44	1.76	35.45	13.64	295.2	1276.62	2.6	0.99	4.82	4.82
Yellowstone County	B2	RM 367.03	110669.4	50-yr	2058.64	949.92	945.89	1.91	1.45	19.21	9.71	418.55	1311.16	2.39	1.2	4.03	4.03
Yellowstone County	B2	RM 366.95	110543	50-yr	2058.64	949.86	945.34	1.36	1.13	22.28	10.26	560.16	1768.87	2.46	1.13	4.52	4.52
Yellowstone County	B2	RM 366.84	110376	50-yr	2058.64	949.74	944.61	1.23	1.05	18.54	8.5	595.67	1707.96	2.63	1.2	5.13	5.13
Yellowstone County	B2	RM 366.78	110300.8	50-yr	2058.64	949.68	943.84	1.25	0.98	19.51	8.94	562.74	2044.83	2.62	1.19	5.84	5.84
Yellowstone County	B2	RM 366.73	110074.8	50-yr	2058.64	949.43	943.42	1.59	1.2	27.82	10.14	436.18	1928.7	2.7	0.98	6.01	6.01
Yellowstone County	B2	RM 366.68	109931.6	50-yr	2058.64	949.23	942.77	1.9	1.37	35.6	12.25	311.63	1568.68	3.1	1.06	6.46	6.46
Yellowstone County	B2	RM 366.53	109747.6	50-yr	2058.64	948.75	940.86	2.93	2.04	41.63	10.24	164.64	1035.9	4.02	0.98	7.89	7.89
Yellowstone County	B2	RM 366.38	109510.8	50-yr	2058.64	948.48	941.55	2.85	2.07	66.65	14.78	152.46	1013.26	4.46	0.98	6.93	6.93
Yellowstone County	B2	RM 366.27	109345.5	50-yr	2058.64	948.39	942.72	2.29	1.9	31.85	10.8	226.17	964.82	3.88	1.31	5.67	5.67
Yellowstone County	B2	RM 366.15	109158.9	50-yr	2058.64	948.16	941.59	2.26	2.04	59.13	26.77	292.91	852.08	3.05	1.37	6.57	6.57
Yellowstone County	B2	RM 366.04	108972.6	50-yr	2058.64	947.84	941.41	2.49	2.35	25.41	15.83	313.09	626.26	2.63	1.63	6.43	6.43
Yellowstone County	B2	RM 365.94	108818.8	50-yr	2058.64	947.75	940.93	2.21	2.08	20.86	14	361.96	641.04	2.55	1.71	6.82	6.82
Yellowstone County	B2	RM 365.83	108647.5	50-yr	2058.64	947.54	939.93	2.1	1.82	72.07	37.18	329.53	944.99	2.81	1.44	7.61	7.61
Yellowstone County	B2	RM 365.75	108521.3	50-yr	2058.64	947.27	941.33	2.06	1.7	56.13	26.51	262.86	858.26	3.07	1.44	5.94	5.94
Yellowstone County	B2	RM 365.71	108446.5	50-yr	2058.64	947.06	941.83	2.38	1.89	56.75	20.1	234.41	940.27	3.45	1.21	5.23	5.23
Yellowstone County	B2	RM 365.64	108343.5	50-yr	2058.64	946.92	942.19	2.14	1.77	50.54	23.08	306.44	885.3	2.88	1.31	4.73	4.73
Yellowstone County	B2	RM 365.57	108220.5	50-yr	2058.64	946.6	942.08	2.51	2.13	52.05	24.8	252.54	656.26	3.11	1.47	4.52	4.52
Yellowstone County	B2	RM 365.51	108118.9	50-yr	2058.64	946.42	941.87	2.46	2.09	57.51	25.13	265.35	763.56	3.02	1.31	4.55	4.55
Yellowstone County	B2	RM 365.46	108042.9	50-yr	2058.64	946.37	941.73	2.05	1.81	35.53	18.32	317.69	720.62	3.07	1.58	4.64	4.64
Yellowstone County	B2	RM 365.41	107956.5	50-yr	2058.64	946.28	941.46	1.95	1.83	32.17	21.92	326.34	519.34	3.19	2.17	4.82	4.82
Yellowstone County	B2	RM 365.37	107905.7	50-yr	2058.64	946.24	940.74	1.97	1.81	22.18	10.71	309.36	711.49	3.33	1.6	5.5	5.5
Yellowstone County	B2	RM 365.31	107792.4	50-yr	2058.64	946.08	939.27	2.26	2.06	27.7	13.64	257.08	586.81	3.46	1.7	6.81	6.81
Yellowstone County	B2	RM 365.27	107727.9	50-yr	2058.64	945.97	939.34	2.46	2.27	36.48	17.63	251.44	573.66	3.28	1.58	6.63	6.63
Yellowstone County	B2	RM 365.23	107674.2	50-yr	2058.64	945.84	939.52	2.69	2.54	35.1	17.59	230.94	495.13	3.28	1.64	6.32	6.32
Yellowstone County	B2	RM 365.19	107603	50-yr	2058.64	945.79	939.93	2.58	2.49	34.4	20.44	237.19	417.57	3.35	1.98	5.86	5.86
Yellowstone County	B2	RM 365.15	107534.7	50-yr	2058.64	945.74	939.68	2.48	2.34	32.61	17.74	213.15	423.03	3.84	2.08	6.06	6.06
Yellowstone County	B2	RM 365.10	107466	50-yr	2058.64	945.58	938.61	2.78	2.69	41.33	24.17	186.92	333.55	3.93	2.3	6.97	6.97
Yellowstone County	B2	RM 365.06	107396.2	50-yr	2058.64	945.52	939.07	2.74	2.51	43.28	20.4	170.56	404.02	4.32	2.03	6.45	6.45
Yellowstone County	B2	RM 365.01	107325.8	50-yr	2058.64	945.49	939.22	2.5	2.26	41.28	14.98	175.25	547.04	4.62	1.67	6.27	6.27
Yellowstone County	B2	RM 364.99	107287.5	50-yr	2058.64	945.41	939.27	2.68	2.34	48.08	18.54	171.73	525.34	4.36	1.67	6.14	6.14

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	50-yr	2058.64	945.14	937.97	2.98	2.66	36.8	17.53	183.03	440.88	3.71	1.75	7.17	7.17
Yellowstone County	B2	RM 364.81	106996.1	50-yr	2058.64	945.14	938.93	2.4	2.07	25.18	18.32	240.62	585.47	3.4	2.47	6.21	6.21
Yellowstone County	B2	RM 364.74	106893.3	50-yr	2058.64	944.98	938.94	2.68	2.13	37.77	17.32	164.71	596.36	4.43	2.03	6.04	6.04
Yellowstone County	B2	RM 364.64	106739.2	50-yr	2058.64	944.71	939.09	3.17	2.27	45.45	17.83	120.08	614.86	4.93	1.92	5.62	5.62
Yellowstone County	B2	RM 364.61	106686.8	50-yr	2058.64	944.71	939.21	2.86	2.27	38.84	17.7	158.49	513.38	4.31	1.95	5.5	5.5
Yellowstone County	B2	RM 364.60	106666.6	50-yr	2058.64	944.58	939.26	3.17	2.6	46.6	20.51	133.67	391.37	4.63	2.03	5.32	5.32
Yellowstone County	B2	RM 364.53	106558.4	50-yr	2058.64	944.5	939.11	2.97	2.85	41.04	20.57	165.86	354.15	4.17	2.08	5.39	5.39
Yellowstone County	B2	RM 364.49	106490.3	50-yr	2058.64	944.47	939.24	2.86	2.35	40.7	16.1	162.65	520.8	4.29	1.69	5.23	5.23
Yellowstone County	B2	RM 364.43	106394	50-yr	2058.64	944.34	939.13	2.93	2.59	43.03	16.45	161.18	508.47	4.31	1.64	5.21	5.21
Yellowstone County	B2	RM 364.37	106296.4	50-yr	2058.64	944.29	938.98	2.79	2.14	36.56	16.27	146.91	567.12	4.72	2.08	5.31	5.31
Yellowstone County	B2	RM 364.32	106215.1	50-yr	2058.64	944.22	938.52	2.78	2.25	52.37	28.13	152.95	534.43	4.54	2.43	5.7	5.7
Yellowstone County	B2	RM 364.29	106172.9	50-yr	2058.64	944.24	938.13	2.33	2.29	42.26	39.48	191	629.9	4.59	4.28	6.11	6.11
Yellowstone County	B2	RM 364.26	106126.6	50-yr	2058.64	943.96	937.7	3.11	2.73	60.71	43.31	142.23	473.36	4.49	3.19	6.26	6.26
Yellowstone County	B2	RM 364.22	106055.2	50-yr	2058.64	943.76	938.15	3.33	3.2	73.49	43.27	136.36	295.73	4.52	2.66	5.61	5.61
Yellowstone County	B2	RM 364.14	105927.3	50-yr	2058.64	943.4	938.12	3.7	3.21	83.62	53.07	125.12	238.09	4.27	2.7	5.28	5.28
Yellowstone County	B2	RM 364.06	105809.9	50-yr	2058.64	943.32	938.22	3.11	2.62	68.63	35.18	155.79	545.66	4.06	2.07	5.1	5.1
Yellowstone County	B2	RM 363.96	105648.3	50-yr	2058.64	943.24	938.28	2.33	1.97	39.15	21.89	248.2	649.2	3.37	1.88	4.96	4.96
Yellowstone County	B2	RM 363.85	105472.4	50-yr	2058.64	942.88	936.25	2.98	2.45	42.87	19.93	150.37	515.91	4.12	1.9	6.63	6.63
Yellowstone County	B2	RM 363.76	105316.8	50-yr	2058.64	942.73	937.03	2.83	2.4	54.79	22.91	147.76	510.19	4.25	1.77	5.7	5.7
Yellowstone County	B2	RM 363.63	105118.1	50-yr	2058.64	942.48	937.93	2.31	2.21	51.17	34.78	339.25	527	2.6	1.77	4.55	4.55
Yellowstone County	B2	RM 363.52	104943.9	50-yr	2058.64	942.15	937.54	2.16	1.97	51.38	28.82	372.43	744.41	2.5	1.4	4.61	4.61
Yellowstone County	B2	RM 363.46	104841.5	50-yr	2058.64	942.02	937.16	1.97	1.66	36.32	20.13	330.96	798.67	2.99	1.65	4.86	4.86
Yellowstone County	B2	RM 363.33	104622.9	50-yr	2058.64	941.71	936.36	2	1.57	49.27	29.67	301.33	914.86	2.82	1.69	5.35	5.35
Yellowstone County	B2	RM 363.20	104414.5	50-yr	2058.64	941.35	936.48	2.18	1.5	36.51	18.36	282.91	1044.99	2.87	1.44	4.87	4.87
Yellowstone County	B2	RM 363.10	104256.4	50-yr	2058.64	941.07	936.25	2.36	1.68	43.43	22.1	275.81	884.18	2.73	1.38	4.82	4.82
Yellowstone County	B2	RM 363.03	104144.8	50-yr	2058.64	940.92	936.22	2.3	1.59	35.25	17.05	285.16	1041.07	2.76	1.33	4.7	4.7
Yellowstone County	B2	RM 362.86	103869.6	50-yr	2058.64	940.78	934.32	1.63	1.22	15.5	9.6	405.06	991.09	2.76	1.71	6.46	6.46
Yellowstone County	B2	RM 362.74	103671.4	50-yr	2058.64	940.56	934.52	2.06	1.53	25.23	15.84	371.17	891.8	2.4	1.51	6.04	6.04
Yellowstone County	B2	RM 362.63	103493.2	50-yr	2058.64	940.33	934.5	1.97	1.53	42.6	28.45	388.17	902.26	2.34	1.56	5.83	5.83
Yellowstone County	B2	RM 362.52	103330.7	50-yr	2058.64	940.05	934.5	1.83	1.5	40.11	27.68	435.44	851.79	2.34	1.61	5.55	5.55
Yellowstone County	B2	RM 362.43	103185.5	50-yr	2058.64	939.9	934.1	1.76	1.48	16.9	12.81	438.56	780.23	2.53	1.92	5.8	5.8
Yellowstone County	B2	RM 362.36	103070.8	50-yr	2058.64	939.81	932.98	1.83	1.63	16.51	12.89	404.91	614.1	2.65	2.06	6.83	6.83
Yellowstone County	B2	RM 362.27	102929.3	50-yr	2058.64	939.56	932.93	2.47	2.22	29.02	14.66	195.55	441.09	4.2	2.1	6.63	6.63
Yellowstone County	B2	RM 362.20	102813.3	50-yr	2058.64	938.82	933.37	4.12	3.69	84.86	32.74	110.98	329.39	4.44	1.69	5.45	5.45
Yellowstone County	B2	RM 362.13	102693.1	50-yr	2058.64	938.58	933.47	4.1	3.79	82.3	41.73	125.04	272.38	3.97	1.99	5.11	5.11
Yellowstone County	B3	RM 362.05	102570.9	50-yr	2058.64	938.5	933.85	3.45	3.34	61.06	35.59	181.67	324.34	3.27	1.9	4.65	4.65
Yellowstone County	B3	RM 362.00	102488.8	50-yr	2058.64	938.5	934.11	2.79	2.79	46.47	46.15	244.24	315.02	3.02	3	4.39	4.39
Yellowstone County	B3	RM 361.93	102368.8	50-yr	2058.64	938.41	934.31	2.31	2.31	35.86	35.68	367.9	369.69	2.42	2.41	4.1	4.1
Yellowstone County	B3	RM 361.86	102261.1	50-yr	2058.64	938.05	934.36	2.74	2.66	69.64	60.76	363.85	440.84	2.02	1.76	3.69	3.69
Yellowstone County	B3	RM 361.78	102138.9	50-yr	2058.64	937.88	933.72	2.29	2.24	29.61	26.02	406.07	476.74	2.2	1.93	4.16	4.16
Yellowstone County	B3	RM 361.68	101970.2	50-yr	2058.64	937.67	933.64	2.11	2.02	31.18	25.74	425.61	547.49	2.25	1.86	4.03	4.03
Yellowstone County	B3	RM 361.65	101918.4	50-yr	2058.64	937.63	933.71	1.91	1.81	26.89	20.03	403.7	610.83	2.6	1.94	3.92	3.92
Yellowstone County	B3	RM 361.61	101855.6	50-yr	2058.64	937.47	932.7	2.31	2.07	33.33	22.67	334.27	613.48	2.57	1.75	4.77	4.77
Yellowstone County	B3	RM 361.56	101767.4	50-yr	2058.64	937.31	930.29	2.49	2.2	34.95	19.68	267.33	603.51	2.98	1.67	7.02	7.02
Yellowstone County	B3	RM 361.48	101644.6	50-yr	2058.64	937.12	929.97	2.74	2.3	48.14	21.37	181.41	925.45	3.61	1.59	7.15	7.15
Yellowstone County	B3	RM 361.42	101546.2	50-yr	2058.64	936.92	932.36	3.02	2.31	44.3	18.42	186.43	1152.58	3.05	1.27	4.56	4.56
Yellowstone County	B3	RM 361.37	101468.9	50-yr	2058.64	936.83	932.21	2.93	2.07	44.33	14.47	171.32	1238.09	3.5	1.14	4.62	4.62
Yellowstone County	B3	RM 361.33	101409.4	50-yr	2058.64	936.3	932.02	4.01	2.91	83.76	26.64	155.66	794.55	3.02	0.96	4.28	4.28
Yellowstone County	B3	RM 361.29	101346	50-yr	2058.64	936.29	930.51	3.56	2.01	68.05	21.72	137.87	1062.04	3.23	1.02	5.78	5.78
Yellowstone County	B3	RM 361.25	101284.9	50-yr	2058.64	936.18	928.42	3.56	1.97	64.46	19.94	113.44	1034.15	3.55	1.08	7.76	7.76
Yellowstone County	B3	RM 361.21	101251.*	50-yr	2058.64	936.15	927.55	3.14	1.94	97.02	27.93	118.02	1149.53	4.15	1.18	8.6	8.6
Yellowstone County	B3	RM 361.21	101217.5	50-yr	2058.64	936.11	926.68	2.95	1.87	43.95	12.22	114.03	1201.72	4.94	1.36	9.43	9.43
Yellowstone County	B3	RM 361.18	101167.2	50-yr	2058.64	936.09	928.03	2.8	1.66	36.94	10.87	131.12	1255.42	4.41	1.29	8.06	8.06
Yellowstone County	B3	RM 361.16	101134.2	50-yr	2058.64	936.06	928.92	2.64	1.79	36.12	14.38	201.65	1611.14	3.29	1.31	7.14	7.14
Yellowstone County	B3	RM 361.09	101028.7	50-yr	2058.64	936.03	931.28	2.03	1.41	24.13	14.41	354.17	1682.19	2.03	1.21	4.75	4.75
Yellowstone County	B3	RM 361.01	100891.3	50-yr	2058.64	935.72	931.55	2.44	1.69	38.96	17.34	349.1	1581.13	1.88	0.84	4.17	4.17
Yellowstone County	B3	RM 360.92	100756	50-yr	2058.64	935.59	931.05	1.47	1.11	25.01	15.81	452.49	1660.5	1.77	1.12	4.54	4.54
Yellowstone County	B3	RM 360.81	100570.1	50-yr	2058.64	935.05	929.52	2.28	1.83	64	45.39	457.71	1291.62	1.54	1.09	5.53	5.53
Yellowstone County	B3	RM 360.69	100383.5	50-yr	2058.64	934.97	930.6	1.13	0.87	11.37	7.6	340.51	1736.66	2.43	1.62	5.08	5.08
Yellowstone County	B3	RM 360.59	100227.2	50-yr	2058.64	934.81	930.53	1.82	1.09	19.53	9.41	269.01	1796.22	2.41	1.16	4.6	4.6
Yellowstone County	B3	RM 360.50	100081	50-yr	2058.64	934.6	930.55	2.22	1.23	32.22	11.11	211.47	1833.46	2.93	1	4.05	4.05

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	50-yr	2058.64	934.43	929.97	2.45	1.28	35.74	12.26	189.4	1556.9	3.02	1.03	4.46	4.46
Yellowstone County	B3	RM 360.36	99862.66	50-yr	2058.64	934.31	929.68	2.34	1.3	29.4	10.95	242.16	1659.79	2.63	0.98	4.63	4.63
Yellowstone County	B3	RM 360.27	99717.18	50-yr	2058.64	934.03	929.52	2.87	1.5	46.34	14.97	149.73	1362.41	3.14	1.01	4.51	4.51
Yellowstone County	B3	RM 360.18	99578.06	50-yr	2058.64	933.74	929.32	3.08	1.61	60.76	15.7	135.12	1354.57	3.71	0.94	4.42	4.42
Yellowstone County	B3	RM 360.11	99458.59	50-yr	2058.64	933.64	929.38	2.74	1.53	40.63	12.26	148.51	1413.85	3.16	0.95	4.26	4.26
Yellowstone County	B3	RM 360.03	99328	50-yr	2078.46	933.54	929.58	2.27	1.31	38.86	13.01	168.97	1608.39	3.18	1.06	3.96	3.96
Yellowstone County	B3	RM 359.96	99226.54	50-yr	2078.46	933.44	929.2	2.31	1.23	33.52	11.78	163.81	1474.92	3.27	1.15	4.24	4.24
Yellowstone County	B3	RM 359.88	99098.18	50-yr	2078.46	933.28	927.78	2.54	1.27	35.6	11.4	144	1410.27	3.65	1.16	5.5	5.5
Yellowstone County	B3	RM 359.78	98940.52	50-yr	2078.46	933.19	928.1	2.32	1.19	37.69	12.05	149.79	1450.57	3.78	1.2	5.09	5.09
Yellowstone County	B3	RM 359.70	98813.18	50-yr	2078.46	932.85	928.32	3.04	1.75	77.97	21.02	145.05	1393.66	3.4	0.91	4.53	4.53
Yellowstone County	B3	RM 359.61	98663.44	50-yr	2078.46	932.64	928.8	2.35	1.77	39.5	14.44	318.49	1378.23	2.53	0.92	3.84	3.84
Yellowstone County	B3	RM 359.50	98492.66	50-yr	2078.46	932.4	928.22	2.37	1.66	32.59	12.49	321.3	1524.63	2.35	0.9	4.18	4.18
Yellowstone County	B3	RM 359.38	98291.15	50-yr	2078.46	932.14	927.09	1.97	1.51	43.55	19.83	380.94	1629.12	2.02	0.92	5.05	5.05
Yellowstone County	B3	RM 359.26	98107.42	50-yr	2078.46	931.65	927.71	2.39	1.86	37.32	18.17	412.73	1382.22	1.84	0.9	3.94	3.94
Yellowstone County	B3	RM 359.18	97966.53	50-yr	2078.46	931.44	927.28	2.31	1.59	32.51	13.98	299.78	1438.75	2.37	1.02	4.16	4.16
Yellowstone County	B3	RM 359.10	97841.82	50-yr	2078.46	931.29	926.69	2.11	1.47	28.13	14.1	374.84	1540.82	2.03	1.02	4.6	4.6
Yellowstone County	B3	RM 359.01	97692.75	50-yr	2078.46	931.14	925.91	1.79	1.16	28.71	15.31	329.94	1666.53	2.21	1.18	5.23	5.23
Yellowstone County	B3	RM 358.90	97524.59	50-yr	2078.46	930.73	926.77	2.59	1.48	46.53	17.37	227.3	1471.7	2.56	0.95	3.96	3.96
Yellowstone County	B3	RM 358.81	97374.99	50-yr	2078.46	930.44	926.37	2.69	1.5	37.71	13.23	225.13	1512.43	2.68	0.94	4.07	4.07
Yellowstone County	B3	RM 358.74	97267.71	50-yr	2078.46	930.29	925.53	2.72	1.43	57.71	20.7	167.2	1462.85	2.92	1.05	4.76	4.76
Yellowstone County	B3	RM 358.67	97155.8	50-yr	2078.46	930.19	925.59	2.14	1.43	26.12	12.16	278.31	1472.98	2.35	1.09	4.6	4.6
Yellowstone County	B3	RM 358.61	97062.24	50-yr	2078.46	930.13	925.74	1.67	1.29	22.2	11.99	389.39	1589.06	2.27	1.22	4.39	4.39
Yellowstone County	B3	RM 358.56	96985.92	50-yr	2078.46	930.07	926.2	1.54	1.25	17.38	10.51	457.52	1589.5	2.16	1.31	5.48	5.48
Yellowstone County	B3	RM 358.50	96888.4	50-yr	2078.46	930	925.64	1.43	1.2	13.19	9.93	550.02	1466.83	2.01	1.51	4.36	4.36
Yellowstone County	B3	RM 358.43	96788.43	50-yr	2078.46	929.95	925.27	1.19	1.12	13.83	11.46	650.58	1429	2.05	1.7	4.68	4.68
Yellowstone County	B3	RM 358.30	96638.82	50-yr	2078.46	929.89	924.7	1.09	1	9.66	8	686.1	1283.92	2.61	2.16	5.19	5.19
Yellowstone County	B3	RM 358.24	96561.93	50-yr	2078.46	929.85	923.57	1.22	1.12	11.29	9.29	644.55	1281.04	2.44	2	6.28	6.28
Yellowstone County	B3	RM 358.20	96500.79	50-yr	2078.46	929.79	922.99	1.35	1.25	12.77	10.14	619.99	1080.17	2.31	1.83	6.81	6.81
Yellowstone County	B3	RM 358.14	96404.93	50-yr	2078.46	929.73	922.57	1.42	1.22	12.22	8.82	543.4	1308.44	2.48	1.79	7.16	7.16
Yellowstone County	B3	RM 358.12	96368.05	50-yr	2078.46	929.71	922.78	1.52	1.15	14.02	8.32	349.09	1322.27	3.07	1.82	6.93	6.93
Yellowstone County	B3	RM 358.04	96244.75	50-yr	2078.46	929.57	923.22	2.16	1.41	37.9	15.23	162.23	1201.6	3.89	1.56	6.35	6.35
Yellowstone County	B3	RM 358.00	96168.44	50-yr	2078.46	929.44	923.39	2.66	1.47	46.36	17.11	101.88	1200.14	4.16	1.52	6.05	6.05
Yellowstone County	B3	RM 357.93	96065.49	50-yr	2078.46	929.26	923.1	2.94	1.61	39.76	14.28	106.83	1146.98	3.93	1.4	6.16	6.16
Yellowstone County	B3	RM 357.88	95975.44	50-yr	2078.46	929.25	923.91	2.31	1.52	32.35	14.51	153.56	1175.85	3.7	1.65	5.34	5.34
Yellowstone County	B3	RM 357.82	95884.99	50-yr	2078.46	929.21	924.01	2.01	1.47	24.07	10.38	193.1	1096.9	3.74	1.61	5.2	5.2
Yellowstone County	B3	RM 357.78	95821.69	50-yr	2078.46	929.17	924.08	1.78	1.53	24.37	11.92	257.61	863.19	3.22	1.57	5.09	5.09
Yellowstone County	B3	RM 357.69	95683.91	50-yr	2078.46	928.99	923.81	2.06	1.7	22.6	10.98	294	799.39	3.17	1.54	5.18	5.18
Yellowstone County	B4	RM 357.62	95571.15	50-yr	2078.46	928.77	921.84	2.52	2.1	39.12	16.62	253.62	765.6	3.06	1.29	6.93	6.93
Yellowstone County	B4	RM 357.56	95469.4	50-yr	2078.46	928.71	918.46	2.23	1.87	31.95	13.68	225.69	985.61	3.91	1.66	10.25	10.25
Yellowstone County	B4	RM 357.48	95351.48	50-yr	2078.46	928.34	922.69	3.01	2.63	50.35	26.16	199.04	916.79	3.37	1.74	5.65	5.65
Yellowstone County	B4	RM 357.44	95275.91	50-yr	2078.46	928.17	922.22	3.13	2.85	57.08	37.83	196.54	693.96	3.33	2.2	5.95	5.95
Yellowstone County	B4	RM 357.34	95127.12	50-yr	2078.46	927.93	923.1	3.11	2.79	54.47	36.07	182.35	714.4	3.59	2.37	4.83	4.83
Yellowstone County	B4	RM 357.23	94939.75	50-yr	2078.46	927.66	920.81	3.11	2.62	58.2	31.85	143.26	1024.22	4.36	2.37	6.85	6.85
Yellowstone County	B4	RM 357.13	94789.23	50-yr	2078.46	927.5	921.26	3.1	2.43	48.61	22.83	139.09	717.49	3.89	1.81	6.24	6.24
Yellowstone County	B4	RM 357.01	94595.53	50-yr	2078.46	927.38	921.72	2.55	1.85	31.69	16.79	185.55	790.37	3.91	2.07	5.66	5.66
Yellowstone County	B4	RM 356.90	94412.13	50-yr	2078.46	927.2	921.02	2.54	1.93	33.3	19.19	234.48	906.6	3.18	1.83	6.18	6.18
Yellowstone County	B4	RM 356.81	94272.48	50-yr	2078.46	927.06	919.95	2.5	1.88	35.45	22.03	233.74	821.88	3.05	1.89	7.11	7.11
Yellowstone County	B4	RM 356.73	94148.77	50-yr	2078.46	926.96	921.15	2.19	1.72	27.16	16.77	299.9	936.67	2.67	1.65	5.81	5.81
Yellowstone County	B4	RM 356.66	94030.68	50-yr	2078.46	926.86	921.75	2.1	1.58	23.74	12.71	300.18	1009.41	2.85	1.52	5.11	5.11
Yellowstone County	B4	RM 356.59	93912.76	50-yr	2078.46	926.79	921.88	1.97	1.4	25.72	11.6	252.57	1065.8	3.38	1.52	4.91	4.91
Yellowstone County	B4	RM 356.50	93782.14	50-yr	2078.46	926.63	921.75	2.35	1.5	37.1	13.28	153.48	1055.72	3.96	1.4	4.88	4.88
Yellowstone County	B4	RM 356.44	93670.16	50-yr	2078.46	926.45	921.33	2.71	1.67	35.73	11.88	135.34	1004.08	3.89	1.29	5.12	5.12
Yellowstone County	B4	RM 356.35	93525.27	50-yr	2078.46	926.27	919.71	2.83	1.77	55.76	17.27	115.67	928.73	4.31	1.32	6.56	6.56
Yellowstone County	B4	RM 356.26	93386.36	50-yr	2078.46	926.1	919.77	2.83	1.74	34.49	11.8	125.06	878.12	4.45	1.52	6.33	6.33
Yellowstone County	B4	RM 356.18	93264.31	50-yr	2078.46	926.04	919.95	2.54	1.74	39.1	15.11	128.53	697.18	4.48	1.72	6.09	6.09
Yellowstone County	B4	RM 356.11	93150.71	50-yr	2078.46	925.97	920.24	2.18	1.55	39.53	17.03	179.65	752.31	4.18	1.78	5.73	5.73
Yellowstone County	B4	RM 356.04	93034.25	50-yr	2078.46	925.75	920.36	2.52	1.84	57.55	23.6	173.5	729.57	3.79	1.55	5.39	5.39
Yellowstone County	B4	RM 355.97	92927.46	50-yr	2078.46	925.5	920.09	2.86	2	58.38	23.09	153.84	724.07	3.66	1.44	5.41	5.41
Yellowstone County	B4	RM 355.91	92825.82	50-yr	2078.46	925.45	919.82	2.47	1.58	29.41	13.02	153.74	884.09	3.9	1.72	5.63	5.63
Yellowstone County	B4	RM 355.82	92688.73	50-yr	2078.46	924.62	919.51	3.4	2.3	71.74	25.49	154.73	779.96	3.29	1.16	5.11	5.11
Yellowstone County	B4	RM 355.66	92419.94	50-yr	2078.46	924.29	919.8	3.19	2.2	50	16.06	139.95	855.71	3.44	1.1	4.49	4.49

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach		YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	50-yr	2078.46	924.22	919.42	2.93	2	44.8	14.68	148.04	920.31	3.45	1.13	4.8	4.8
Yellowstone County	B4	RM 355.49	92159.95	50-yr	2078.46	923.99	918.52	2.64	2.04	68.81	22.68	141.27	918.98	3.37	1.11	5.47	5.47
Yellowstone County	B4	RM 355.43	92061.2	50-yr	2078.46	923.78	918.67	2.64	2.01	66.93	21.33	134.53	904.22	3.61	1.15	5.11	5.11
Yellowstone County	B4	RM 355.41	92020.68	50-yr	2078.46	923.77	919.02	2.11	1.77	57.24	23.98	159.91	867.01	3.24	1.35	4.76	4.76
Yellowstone County	B4	RM 355.38	91976.12	50-yr	2078.46	923.6	919.25	2.72	1.96	59.14	19.19	125.74	917	3.58	1.16	4.35	4.35
Yellowstone County	B4	RM 355.35	91933.98	50-yr	2078.46	923.54	919.21	2.8	1.89	44.05	14.1	109.82	905.66	3.83	1.21	4.33	4.33
Yellowstone County	B4	RM 355.32	91885.87	50-yr	2078.46	923.49	919.16	2.8	1.87	44.09	12.95	107.08	1017.67	3.75	1.09	4.33	4.33
Yellowstone County	B4	RM 355.29	91828.99	50-yr	2078.46	923.4	918.93	2.89	1.88	45.17	11.97	103.23	1121.72	3.77	0.98	4.87	4.87
Yellowstone County	B4	RM 355.23	91732.97	50-yr	2078.46	923.3	918.68	2.76	1.79	47.79	12.35	101.56	1176.19	3.88	0.99	4.86	4.86
Yellowstone County	B4	RM 355.14	91596.1	50-yr	2078.46	923.2	918.52	2.44	1.45	32.45	9.97	118.49	1244.59	3.8	1.15	4.68	4.68
Yellowstone County	B4	RM 354.94	91268.08	50-yr	2078.46	922.37	917.25	3.25	2.27	100.98	30.65	167.65	921.06	3.3	0.99	5.12	5.12
Yellowstone County	B4	RM 354.86	91153.59	50-yr	2078.46	922.31	917.03	2.56	1.53	55.15	17.04	125.07	1484.94	4.09	1.26	5.28	5.28
Yellowstone County	B4	RM 354.80	91056.05	50-yr	2078.46	922.04	915.66	3.02	1.69	74.99	20.06	117.98	1662.5	3.87	1.03	6.38	6.38
Yellowstone County	B4	RM 354.70	90880.27	50-yr	2078.46	921.7	915.38	2.78	1.72	71.31	21.7	149.88	1548.14	3.04	0.92	6.32	6.32
Yellowstone County	B4	RM 354.61	90744.35	50-yr	2078.46	921.45	917.13	2.71	1.53	35.8	15.09	203.95	1410.43	2.43	1.03	4.32	4.32
Yellowstone County	B4	RM 354.53	90609.24	50-yr	2078.46	921.31	916.52	2.3	1.46	30.88	13.3	239.23	1211.42	2.74	1.17	4.79	4.79
Yellowstone County	B4	RM 354.45	90486.63	50-yr	2078.46	921.18	915.87	2.37	1.43	34.36	15.69	204.95	1262.65	2.61	1.18	5.31	5.31
Yellowstone County	B4	RM 354.39	90385.43	50-yr	2078.46	920.93	915.24	2.88	1.65	48.32	18.93	162.59	1253.04	2.76	1.07	5.69	5.69
Yellowstone County	B4	RM 354.33	90291.31	50-yr	2078.46	920.87	915.37	2.46	1.3	32.83	14.31	150.94	1379.79	2.9	1.26	5.5	5.5
Yellowstone County	B4	RM 354.23	90133.96	50-yr	2078.46	920.62	915.46	2.73	1.36	45.01	14.32	116.33	1486.79	3.56	1.13	5.16	5.16
Yellowstone County	B4	RM 354.13	89983.48	50-yr	2078.46	920.49	914.94	2.32	1.18	37.96	11.5	132.16	1566.86	3.72	1.12	5.55	5.55
Yellowstone County	B4	RM 354.00	89778.46	50-yr	2078.46	920.36	916.2	2.09	1.08	30.41	10.8	158.7	1745.37	3.11	1.1	4.16	4.16
Yellowstone County	B5	RM 353.90	89604.28	50-yr	2078.46	920.24	917.06	1.84	1.07	24.66	10.87	244.57	1807.48	2.45	1.08	3.34	3.34
Yellowstone County	B5	RM 353.80	89446.75	50-yr	2205.88	920.1	916.36	1.87	1.15	29.87	13.17	301.86	1856.9	2.36	1.04	3.74	3.74
Yellowstone County	B5	RM 353.70	89288.94	50-yr	2205.88	919.98	915.92	1.5	1	24.08	12.67	391.65	1859.42	2.27	1.19	4.06	4.06
Yellowstone County	B5	RM 353.65	89204.58	50-yr	2205.88	919.85	915.49	1.4	0.99	23.61	13.37	403.68	1758.48	2.26	1.27	4.36	4.36
Yellowstone County	B5	RM 353.56	89077.56	50-yr	2205.88	919.73	914.2	1.5	1.03	25.18	13.36	364.2	1580.91	2.56	1.35	5.53	5.53
Yellowstone County	B5	RM 353.50	88982.39	50-yr	2205.88	919.65	914.58	1.51	1.01	23.94	11.26	307.62	1446.39	3.23	1.51	5.07	5.07
Yellowstone County	B5	RM 353.41	88846.15	50-yr	2205.88	919.46	914.41	1.81	1.19	30.93	13.31	231.08	1365.63	3.18	1.36	5.05	5.05
Yellowstone County	B5	RM 353.32	88709.14	50-yr	2205.88	919.23	913.6	2.34	1.41	39.98	15.84	194.16	1198.09	3.32	1.31	5.63	5.63
Yellowstone County	B5	RM 353.25	88587.13	50-yr	2205.88	918.94	912.76	2.89	1.65	52.62	18.77	160.68	1132.76	3.32	1.18	6.18	6.18
Yellowstone County	B5	RM 353.15	88438.48	50-yr	2205.88	918.62	912.71	3.09	1.99	58.49	24.3	213.82	1117.25	2.4	0.99	5.91	5.91
Yellowstone County	B5	RM 353.08	88321.13	50-yr	2205.88	918.47	912.99	2.77	1.84	46.15	18.55	197.65	1097.09	2.72	1.09	5.48	5.48
Yellowstone County	B5	RM 353.01	88210.34	50-yr	2205.88	918.34	913.13	2.36	1.73	40.12	20.34	249.61	986.97	2.56	1.29	5.21	5.21
Yellowstone County	B5	RM 352.94	88090.6	50-yr	2205.88	918.24	912.5	2.14	1.61	31.49	14	175.48	958.07	3.34	1.48	5.74	5.74
Yellowstone County	B5	RM 352.86	87957.76	50-yr	2205.88	918.09	913.38	2.35	1.73	49.13	19.59	136.66	2015.4	3.33	1.32	4.71	4.71
Yellowstone County	B5	RM 352.79	87857.09	50-yr	2205.88	917.82	913.06	3.05	1.93	42.97	14.41	113.15	1616.96	3.19	1.06	4.76	4.76
Yellowstone County	B5	RM 352.72	87748.15	50-yr	2205.88	917.73	911.97	2.91	1.69	62.97	15.59	89.99	2122.2	4.22	1.03	5.76	5.76
Yellowstone County	B5	RM 352.68	87677.1	50-yr	2205.88	917.66	912.27	2.04	1.67	59.57	33.18	334.22	2188.22	2.1	1.16	5.39	5.39
Yellowstone County	B5	RM 352.64	87605.18	50-yr	2205.88	917.29	911.68	2.84	1.85	81.21	36.46	226.48	1707.98	2.65	1.18	5.61	5.61
Yellowstone County	B5	RM 352.54	87461.4	50-yr	2205.88	917.13	912.57	2.3	1.64	33.66	14.03	266.94	2298.42	2.84	1.18	4.56	4.56
Yellowstone County	B5	RM 352.47	87340.46	50-yr	2205.88	917.01	912.2	2.18	1.45	29.62	15.08	231.01	2364.68	2.56	1.3	4.81	4.81
Yellowstone County	B5	RM 352.39	87216.99	50-yr	2205.88	916.67	912.01	2.99	2	52.5	24.85	186.38	1693.82	2.27	1.07	5.48	5.48
Yellowstone County	B5	RM 352.31	87079.16	50-yr	2205.88	916.37	910.66	3.01	1.97	65.41	30.81	183.96	1251.89	2.26	1.06	5.71	5.71
Yellowstone County	B5	RM 352.23	86961.03	50-yr	2205.88	916.25	911.35	2.01	1.5	27.07	17.12	258.68	1639.11	1.9	1.2	4.9	4.9
Yellowstone County	B5	RM 352.18	86873.5	50-yr	2205.88	916.12	911.21	2.21	1.72	30.48	17.06	225.18	1531.15	2.34	1.31	4.91	4.91
Yellowstone County	B5	RM 352.09	86723.6	50-yr	2205.88	915.94	912.18	2.36	1.69	36.14	16.57	175.02	1572.55	2.58	1.18	3.76	3.76
Yellowstone County	B5	RM 351.99	86568.41	50-yr	2205.88	915.53	912.6	3.24	2.13	58.92	22.18	147.49	1211.58	2.46	0.93	2.95	2.95
Yellowstone County	B5	RM 351.93	86466.74	50-yr	2205.88	915.44	911.69	2.56	1.71	40.12	20.94	174.39	1438.23	2.17	1.13	3.75	3.75
Yellowstone County	B5	RM 351.88	86386.8	50-yr	2205.88	915.36	911.38	1.9	1.49	29.22	22.37	191.08	1704.34	1.93	1.48	3.98	3.98
Yellowstone County	B5	RM 351.81	86277.68	50-yr	2205.88	915.26	910.99	1.68	1.33	20.32	17.74	242.81	1805.62	1.77	1.55	4.27	4.27
Yellowstone County	B5	RM 351.74	86159.62	50-yr	2205.88	914.96	911.37	1.62	1.58	20.45	19.27	320.76	1598.42	1.28	1.2	4.13	4.13
Yellowstone County	B5	RM 351.67	86034.59	50-yr	2205.88	914.69	911.31	1.97	1.63	29.27	18.14	205.22	1177.33	1.92	1.19	4.31	4.31
Yellowstone County	B5	RM 351.58	85891.33	50-yr	2205.88	914.49	911.47	1.72	1.64	22.93	16.7	237.55	1063.61	1.89	1.38	4.4	4.4
Yellowstone County	B5	RM 351.52	85811.35	50-yr	2205.88	914.35	911.37	2.04	1.78	25.4	18.37	252.5	963.27	1.84	1.33	3.63	3.63
Yellowstone County	B5	RM 351.47	85728.2	50-yr	2205.88	914.25	911.17	2.03	1.76	23.13	15.78	196.51	951.96	2.2	1.5	3.71	3.71
Yellowstone County	B5	RM 351.40	85601.48	50-yr	2205.88	914.11	910.26	2.11	1.66	26.28	16.7	159.6	1428.65	2.12	1.35	4.2	4.2
Yellowstone County	B5	RM 351.34	85482.66	50-yr	2205.88	914.02	909.98	1.5	1.45	29.39	15.69	146.28	1543.67	2.52	1.34	4.05	4.05
Yellowstone County	B5	RM 351.25	85342.53	50-yr	2205.88	913.9	909.91	1.54	1.3	17.88	12.77	261.31	1532.65	1.96	1.39	4.02	4.02
Yellowstone County	B5	RM 351.21	85257.19	50-yr	2205.88	913.83	909.48	1.71	1.27	20.22	13.59	212.27	1385.18	2	1.34	4.35	4.35
Yellowstone County	B5	RM 351.12	85127.55	50-yr	2205.88	913.75	909.49	1.77	1.3	19.7	12.01	174.39	1357.6	2.26	1.37	4.26	4.26

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	50-yr	2205.88	913.62	908.79	2.12	1.38	27	12	126.36	1272.95	3.01	1.32	4.83	4.83
Yellowstone County	B5	RM 350.90	84769.91	50-yr	2205.88	913.57	909.27	1.47	1.15	16.09	7.9	104.02	1420.63	3.29	1.59	4.3	4.3
Yellowstone County	B5	RM 350.75	84536.19	50-yr	2205.88	913.41	909.72	1.34	1.51	27.68	19.55	270.12	963.08	2.22	1.56	4.03	4.03
Yellowstone County	B5	RM 350.66	84383.33	50-yr	2205.88	913.22	909.32	1.75	1.66	36.63	19.81	175.73	965.22	2.56	1.38	3.9	3.9
Yellowstone County	B5	RM 350.57	84244.69	50-yr	2205.88	912.92	908.48	2.15	1.77	49.26	22.46	152.24	941.58	2.92	1.32	4.45	4.45
Yellowstone County	B5	RM 350.50	84128.62	50-yr	2205.88	912.67	908.49	2.32	1.92	55.27	26.41	161.33	905.02	2.67	1.27	4.18	4.18
Yellowstone County	B5	RM 350.40	83974.24	50-yr	2205.88	912.46	908.73	1.79	1.67	28.13	20.31	318.41	898.17	2.04	1.47	3.73	3.73
Yellowstone County	B5	RM 350.33	83868.06	50-yr	2205.88	912.33	908.17	1.82	1.61	22.85	17.36	326.5	883.41	2.07	1.57	4.16	4.16
Yellowstone County	B5	RM 350.23	83712.91	50-yr	2205.88	912.1	907.61	2.04	1.68	31.13	21.25	300.73	1035.14	2.07	1.41	4.49	4.49
Yellowstone County	B5	RM 350.14	83563.43	50-yr	2205.88	911.92	907.94	1.84	1.52	26.9	17.75	302.42	1213.6	2.14	1.41	3.98	3.98
Yellowstone County	B5	RM 350.06	83419.86	50-yr	2205.88	911.71	907.84	1.7	1.44	27.49	17.52	344.54	1393.58	2.08	1.32	3.87	3.87
Yellowstone County	B5	RM 349.94	83229.4	50-yr	2205.88	911.49	906.93	1.77	1.4	25.67	14.02	284.03	1579.07	2.28	1.24	4.56	4.56
Yellowstone County	B5	RM 349.83	83071.99	50-yr	2205.88	911.35	907.36	1.74	1.19	16.17	7.14	370.02	1501.69	2.97	1.31	3.99	3.99
Yellowstone County	B5	RM 349.68	82904.73	50-yr	2205.88	911.16	906.92	2.12	1.46	34.18	15.91	348.05	1584.9	2.47	1.15	4.24	4.24
Yellowstone County	B5	RM 349.54	82632.78	50-yr	2205.88	910.76	906.29	2.1	1.7	28.85	16.48	449.31	1241.04	2.16	1.23	4.47	4.47
Yellowstone County	B5	RM 349.33	82276.28	50-yr	2205.88	910.49	906.45	1.38	1.25	16.76	12.4	351.95	1171.15	2.27	1.68	4.04	4.04
Yellowstone County	B5	RM 349.19	82046.53	50-yr	2205.88	910.17	905.16	2.15	1.47	27.91	14.98	282.11	1771.61	2.37	1.27	5.01	5.01
Yellowstone County	B5	RM 349.04	81800.47	50-yr	2327.65	909.98	904.5	1.73	1.31	18.53	10.55	345.54	2041.99	2.55	1.45	5.48	5.48
Yellowstone County	B5	RM 348.89	81574.02	50-yr	2327.65	909.86	904.75	1.36	1.16	19.75	11.55	550.23	2037.09	2.76	1.61	5.11	5.11
Yellowstone County	B5	RM 348.77	81370.46	50-yr	2327.65	909.69	905.09	1.47	1.21	25.26	14.02	461.58	1921.76	2.86	1.58	4.6	4.6
Yellowstone County	B5	RM 348.64	81138.52	50-yr	2327.65	909.49	903.35	1.84	1.27	19.57	8.44	295.46	1769.74	3.48	1.49	6.14	6.14
Yellowstone County	B5	RM 348.52	80960.09	50-yr	2327.65	909.32	902.88	2.19	1.49	38.65	14.15	208.01	1591.51	3.87	1.4	6.44	6.44
Yellowstone County	B5	RM 348.38	80737.31	50-yr	2327.65	908.89	902.85	2.84	1.88	57.73	17.61	187.01	1103.13	3.74	1.13	6.04	6.04
Yellowstone County	B5	RM 348.26	80551.51	50-yr	2327.65	908.64	902.73	2.72	1.8	60.97	18.63	168.14	1110.59	3.92	1.19	5.91	5.91
Yellowstone County	B5	RM 348.09	80276.34	50-yr	2327.65	908.33	901.64	2.56	1.68	42.65	14.6	171.66	1033.21	3.94	1.34	6.69	6.69
Yellowstone County	B5	RM 347.95	80055.79	50-yr	2327.65	908.09	902.96	2.64	1.87	33.5	10.71	165.09	1092.18	4.14	1.32	5.13	5.13
Yellowstone County	B5	RM 347.82	79844.2	50-yr	2327.65	907.95	902.93	2.28	1.65	42.62	14.64	180.88	1204.88	3.83	1.31	5.02	5.02
Yellowstone County	B5	RM 347.77	79751.93	50-yr	2327.65	907.85	902.38	2.29	1.54	43.89	15.31	178.59	1121	3.86	1.35	5.47	5.47
Yellowstone County	B5	RM 347.70	79643.98	50-yr	2327.65	907.74	901.91	2.19	1.41	39.5	15.56	182.31	1198.44	3.8	1.49	5.83	5.83
Yellowstone County	B5	RM 347.61	79501.64	50-yr	2327.65	907.67	902.2	1.94	1.21	18.78	10.24	192.93	1152.33	4.1	2.24	5.47	5.47
Yellowstone County	B5	RM 347.51	79347.38	50-yr	2327.65	907.23	900.54	3.33	2.06	50.8	21.75	112.36	980.42	4.79	2.04	6.69	6.69
Yellowstone County	B5	RM 347.42	79196.21	50-yr	2327.65	907.15	900.73	2.75	2.06	70.11	36.8	148.12	1059.18	4.16	2.18	6.42	6.42
Yellowstone County	B5	RM 347.35	79079.87	50-yr	2327.65	907.21	900.77	1.42	1.42	9.75	9.74	498.93	1359.93	3.28	3.28	6.44	6.44
Yellowstone County	B5	RM 347.23	78895.71	50-yr	2327.65	907.13	900.89	1.51	1.5	13.71	13.04	509.85	1623.6	3.01	2.86	6.24	6.24
Yellowstone County	B5	RM 347.13	78732.21	50-yr	2327.65	907	900.98	1.65	1.58	30.08	23.52	441.51	1522.88	3.15	2.46	6.02	6.02
Yellowstone County	B5	RM 346.93	78400.21	50-yr	2327.65	906.44	900.98	1.92	1.8	70.12	58.75	465.4	1360.44	2.52	2.11	5.46	5.46
Yellowstone County	B5	RM 346.80	78193.27	50-yr	2327.65	905.88	900.02	2.01	1.71	55.94	41.49	454.7	1054.54	2.33	1.72	5.86	5.86
Yellowstone County	B5	RM 346.64	77938.83	50-yr	2327.65	905.6	900.47	2.1	1.45	23.11	10.74	247.37	982.38	3.59	1.66	5.13	5.13
Yellowstone County	B5	RM 346.49	77706.6	50-yr	2327.65	905.34	900.21	2.57	1.56	39.27	14.44	176.79	1107.58	3.77	1.37	5.13	5.13
Yellowstone County	B6	RM 346.35	77480.6	50-yr	2327.65	905.14	900.33	2.29	1.45	36.53	15.26	214.77	1081.28	3.66	1.52	4.81	4.81
Yellowstone County	B6	RM 346.23	77285.9	50-yr	2327.65	904.86	900.11	2.66	1.6	36.48	13.77	177.53	995.6	3.91	1.46	4.75	4.75
Yellowstone County	B6	RM 346.11	77095.33	50-yr	2327.65	904.67	899.75	2.62	1.74	47.8	19.12	182.61	981.66	3.88	1.55	4.92	4.92
Yellowstone County	B6	RM 346.00	76926.16	50-yr	2327.65	904.48	899.8	2.6	1.74	39.57	16.1	178.07	1020.92	4.03	1.63	4.68	4.68
Yellowstone County	B6	RM 345.90	76766.95	50-yr	2327.65	904.19	899.51	2.9	1.96	55.26	24.47	179.39	908.52	3.8	1.67	4.68	4.68
Yellowstone County	B6	RM 345.80	76608.55	50-yr	2327.65	904.04	899.04	2.6	1.82	39.99	18.78	200.23	1112.77	3.82	1.79	5.14	5.14
Yellowstone County	B6	RM 345.73	76484.99	50-yr	2327.65	903.85	899.01	2.78	1.91	45.14	20.62	198.24	1065.73	3.49	1.59	4.95	4.95
Yellowstone County	B6	RM 345.67	76386.71	50-yr	2327.65	903.8	899.1	2.37	1.62	32.27	15.48	212.48	785.91	3.81	1.83	4.9	4.9
Yellowstone County	B6	RM 345.60	76268.76	50-yr	2327.65	903.7	899.22	2.32	1.66	35.4	19.33	235.37	749.03	3.45	1.88	4.8	4.8
Yellowstone County	B6	RM 345.50	76118.1	50-yr	2327.65	903.55	899.07	1.99	1.66	42.81	28.61	280.8	702.53	3.08	2.05	4.65	4.65
Yellowstone County	B6	RM 345.37	75909.53	50-yr	2327.65	903.09	897.51	2.44	2.06	47.59	24.93	316.61	900.39	2.87	1.5	5.58	5.58
Yellowstone County	B6	RM 345.27	75751.01	50-yr	2327.65	902.85	898.15	2.56	1.85	39.95	17.25	252.45	1083.87	3.25	1.39	4.7	4.7
Yellowstone County	B6	RM 345.07	75427.56	50-yr	2327.65	902.63	897.07	2.14	1.53	24.61	10.46	241.2	1184.25	3.79	1.6	5.56	5.56
Yellowstone County	B6	RM 344.90	75166.64	50-yr	2327.65	902.52	897.3	1.82	1.33	18.63	8.41	294.53	1062.98	3.66	1.65	5.22	5.22
Yellowstone County	B6	RM 344.75	74927.69	50-yr	2327.65	902.31	896.02	2.13	1.54	35.74	14.59	235.89	1024.71	3.82	1.55	6.29	6.29
Yellowstone County	B6	RM 344.64	74743.45	50-yr	2327.65	901.88	895.93	3.01	2.02	48	14.79	158.71	900.55	4.31	1.32	5.95	5.95
Yellowstone County	B6	RM 344.53	74576.12	50-yr	2327.65	901.73	895.39	2.76	1.86	63.93	21.79	162.09	987.09	4.02	1.36	6.34	6.34
Yellowstone County	B6	RM 344.43	74405.67	50-yr	2327.65	901.58	896.11	2.5	1.56	29.9	11.01	179.43	1157.77	3.84	1.41	5.47	5.47
Yellowstone County	B6	RM 344.29	74192.79	50-yr	2327.65	901.44	895.87	2.34	1.54	32.18	11.62	179.75	1034.61	4.05	1.46	5.57	5.57
Yellowstone County	B6	RM 344.13	73931.76	50-yr	2327.65	901.14	895.4	2.64	1.77	39.83	11.01	157.02	1093.94	4.37	1.2	5.74	5.74
Yellowstone County	B6	RM 343.87	73520.95	50-yr	2327.65	900.87	895.23	2.12	1.52	23.45	9.01	287.43	1187.3	3.37	1.29	5.64	5.64
Yellowstone County	B6	RM 343.80	73403.19	50-yr	2327.65	900.84	894.69	1.61	1.24	28.48	13.9	356.81	1201.06	3.2	1.56	6.15	6.15

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	50-yr	2327.65	900.57	894.63	1.66	1.42	41.42	20.72	395.73	1122.5	2.93	1.46	5.94	5.94
Yellowstone County	B6	RM 343.55	72997.33	50-yr	2327.65	900.31	894.63	1.75	1.5	41.19	21.48	370.49	956.58	3.12	1.62	5.68	5.68
Yellowstone County	B6	RM 343.45	72840.49	50-yr	2327.65	900.06	894.78	1.88	1.64	39.31	20.74	401.72	954.81	2.82	1.49	5.28	5.28
Yellowstone County	B6	RM 343.37	72718.86	50-yr	2327.65	899.81	894.5	2.14	1.81	54.63	26.5	343.16	952.37	2.8	1.35	5.31	5.31
Yellowstone County	B6	RM 343.29	72586.22	50-yr	2327.65	899.56	894.28	2.2	1.77	46.78	22.16	280.15	850.16	3.28	1.55	5.28	5.28
Yellowstone County	B6	RM 343.21	72458.03	50-yr	2327.65	899.36	893.99	2	1.66	56.83	31.67	357.03	892.18	2.85	1.58	5.37	5.37
Yellowstone County	B6	RM 343.14	72328.78	50-yr	2327.65	899.07	893.94	1.95	1.64	61.73	39.79	432.77	901.73	2.45	1.57	5.13	5.13
Yellowstone County	B6	RM 343.04	72174.44	50-yr	2327.65	898.88	894.12	1.75	1.43	20.56	12.69	485.75	1041.4	2.54	1.56	4.76	4.76
Yellowstone County	B6	RM 342.96	72046.7	50-yr	2327.65	898.74	894.17	1.66	1.42	41.46	26.93	506.72	1128.11	2.39	1.55	4.57	4.57
Yellowstone County	B6	RM 342.87	71890.42	50-yr	2327.65	898.42	893.92	1.68	1.45	50.12	32.65	541.35	1174.46	2.16	1.4	4.5	4.5
Yellowstone County	B6	RM 342.78	71759.64	50-yr	2327.65	898.24	893.85	1.69	1.38	16.53	11	525.16	1277.98	2.14	1.42	4.39	4.39
Yellowstone County	B6	RM 342.71	71649.64	50-yr	2327.65	898.17	893.88	1.61	1.31	14.78	9.76	525.51	1571.21	2.05	1.35	4.29	4.29
Yellowstone County	B6	RM 342.64	71534.72	50-yr	2327.65	898.05	893.45	1.42	1.26	32.35	21.7	689.52	1932.63	2.04	1.37	4.6	4.6
Yellowstone County	B6	RM 342.59	71441.82	50-yr	2327.65	897.87	893.13	1.47	1.36	36.59	22.76	689.71	2303.81	2.03	1.26	4.74	4.74
Yellowstone County	B6	RM 342.49	71299.94	50-yr	2327.65	897.68	892.73	1.34	1.2	24.63	13.66	666.31	2500.07	2.42	1.34	4.95	4.95
Yellowstone County	B6	RM 342.40	71182.23	50-yr	2327.65	897.6	892.4	1.18	1.05	18.82	9.57	600.2	2599.4	3	1.52	5.2	5.2
Yellowstone County	B6	RM 342.29	70973.95	50-yr	2327.65	897.4	891.26	1.52	1.3	26.57	12.54	481.91	2372.39	2.83	1.33	6.14	6.14
Yellowstone County	B6	RM 342.17	70788.09	50-yr	2327.65	897.03	891.21	2.13	1.78	55.45	23.52	379.29	1917.78	2.53	1.07	5.82	5.82
Yellowstone County	B6	RM 342.09	70668.79	50-yr	2327.65	896.86	892.22	1.89	1.59	40.04	18.4	378.37	1694.8	2.9	1.33	4.64	4.64
Yellowstone County	B6	RM 341.96	70472.35	50-yr	2327.65	896.71	891.5	1.69	1.44	16.28	9.72	503.75	1612.82	2.51	1.5	5.21	5.21
Yellowstone County	B6	RM 341.82	70207.79	50-yr	2327.65	896.56	890.89	1.38	1.26	18.42	12.16	582.05	1095.69	2.71	1.78	5.67	5.67
Yellowstone County	B6	RM 341.68	69974.03	50-yr	2327.65	896.36	890.38	1.55	1.42	25.11	16.46	481.57	882.36	2.91	1.9	5.98	5.98
Yellowstone County	B6	RM 341.57	69788.71	50-yr	2327.65	896.08	889.58	2.11	1.94	22.04	14.22	433.77	765.66	2.48	1.6	6.5	6.5
Yellowstone County	B6	RM 341.47	69629.19	50-yr	2327.65	895.9	889.76	1.92	1.81	54.67	39.07	395.38	717.2	2.87	2.05	6.14	6.14
Yellowstone County	B6	RM 341.32	69391.37	50-yr	2327.65	895.41	890.36	1.99	1.85	53.37	39.19	401.34	687.79	2.75	2.02	5.05	5.05
Yellowstone County	B6	RM 341.24	69252.71	50-yr	2327.65	895.3	890.28	1.79	1.57	18.43	12.5	396.74	851.66	2.97	2.02	5.02	5.02
Yellowstone County	B6	RM 341.11	69044.61	50-yr	2327.65	895.01	890	2.26	1.75	39.26	21.69	324.64	839.69	2.87	1.58	5.01	5.01
Yellowstone County	B6	RM 340.94	68773.18	50-yr	2327.65	894.71	889.22	2.18	1.5	34.47	17.36	280.24	1003.64	3.18	1.6	5.49	5.49
Yellowstone County	B6	RM 340.81	68556.42	50-yr	2327.65	894.6	889.05	1.62	1.11	21.63	11.43	315.44	1184.48	3.37	1.78	5.55	5.55
Yellowstone County	B6	RM 340.65	68325.7	50-yr	2327.65	894.38	888.87	2.22	1.29	23.73	10.08	204.11	1073.83	3.96	1.68	5.51	5.51
Yellowstone County	B6	RM 340.52	68126.27	50-yr	2327.65	894.17	887.3	2.62	1.45	44.99	14.88	130.27	974.38	5.02	1.65	6.87	6.87
Yellowstone County	B6	RM 340.40	67936.51	50-yr	2327.65	894.04	886.73	2.25	1.41	41.28	17.58	170.6	862.65	4.53	1.92	7.31	7.31
Yellowstone County	B7	RM 340.26	67715.84	50-yr	2327.65	893.77	887.99	2.19	1.66	54.7	30.13	252.39	714.16	3.58	1.97	5.78	5.78
Yellowstone County	B7	RM 340.16	67550.99	50-yr	2327.65	893.48	888.43	2.08	1.69	63.21	41.6	313.83	680.8	3.08	2.02	5.05	5.05
Yellowstone County	B7	RM 340.06	67387.35	50-yr	2327.65	893.19	888.74	2.06	1.79	45.41	30.96	315.76	599.65	3.19	2.17	4.45	4.45
Yellowstone County	B7	RM 339.96	67234.59	50-yr	2327.65	892.93	888.85	2.29	2.1	30.18	20.41	360.64	603.57	2.72	1.84	4.08	4.08
Yellowstone County	B7	RM 339.88	67094.07	50-yr	2327.65	892.77	888.78	2.01	1.9	43.42	34.84	445.51	608.43	2.51	2.01	3.99	3.99
Yellowstone County	B7	RM 339.79	66960.51	50-yr	2327.65	892.47	888.98	2.25	2.23	35.56	31.15	509.29	584.85	2.03	1.78	3.49	3.49
Yellowstone County	B7	RM 339.72	66843.76	50-yr	2327.65	892.34	888.72	1.99	1.9	26.02	23.3	512.82	639.71	2.24	2.01	3.62	3.62
Yellowstone County	B7	RM 339.66	66753.41	50-yr	2327.65	892.29	887.9	1.74	1.65	18.71	16.25	524.97	712.81	2.49	2.16	4.39	4.39
Yellowstone County	B7	RM 339.52	66527.74	50-yr	2327.65	892.11	887.31	1.96	1.53	20.48	13.34	312.36	963.08	3.35	2.18	4.8	4.8
Yellowstone County	B7	RM 339.37	66324.85	50-yr	2327.65	891.92	887.17	2.13	1.58	43.2	23.49	232.31	1236.57	3.59	1.95	4.75	4.75
Yellowstone County	B7	RM 339.24	66108.49	50-yr	2327.65	891.44	886.45	2.9	2.14	44.15	23.72	218.09	1089.9	3.04	1.63	4.99	4.99
Yellowstone County	B7	RM 339.13	65940.41	50-yr	2327.65	891.21	885.31	2.95	1.96	53.08	25.68	143.34	964.92	3.64	1.75	5.9	5.9
Yellowstone County	B7	RM 339.02	65745.93	50-yr	2327.65	890.85	886.09	3.03	2.2	48.19	22.4	187.64	861.96	3.2	1.49	4.76	4.76
Yellowstone County	B7	RM 338.94	65621.59	50-yr	2327.65	890.79	886.36	2.47	1.75	32.29	17.22	223.57	1128.44	3.04	1.62	4.43	4.43
Yellowstone County	B7	RM 338.83	65433.26	50-yr	2327.65	890.61	886.37	2.2	1.65	35.27	19.13	225.04	1028.7	3.08	1.67	4.59	4.59
Yellowstone County	B7	RM 338.72	65256.88	50-yr	2327.65	890.37	886.18	2.27	1.87	40.28	24.4	205.92	752.78	3.32	2.01	4.57	4.57
Yellowstone County	B7	RM 338.62	65095.08	50-yr	2327.65	890.01	886.28	2.91	2.26	46.02	27.54	179.43	659.1	3.12	1.87	4.39	4.39
Yellowstone County	B7	RM 338.49	64891.36	50-yr	2327.65	889.83	885.05	2.56	1.96	35.03	20.86	174.43	837.16	3.25	1.93	4.78	4.78
Yellowstone County	B7	RM 338.40	64742.15	50-yr	2327.65	889.82	884.28	1.77	1.47	16.08	10.9	165.92	937.56	3.41	2.3	5.54	5.54
Yellowstone County	B7	RM 338.29	64577.05	50-yr	2327.65	889.7	884.18	2.15	1.53	24.22	11.58	123.01	971.33	3.78	1.8	5.52	5.52
Yellowstone County	B7	RM 338.19	64384.71	50-yr	2327.65	889.64	885.23	1.49	1.21	13.54	9.83	393.33	1016.89	2.81	2.04	4.41	4.41
Yellowstone County	B7	RM 338.06	64164.59	50-yr	2327.65	889.56	884.64	1.54	1.07	14.44	8.52	284.25	1191.07	3.34	1.97	4.92	4.92
Yellowstone County	B7	RM 337.91	63921.69	50-yr	2327.65	889.39	884.16	1.98	1.22	19.19	9.87	205.66	1237.43	3.62	1.86	5.23	5.23
Yellowstone County	B7	RM 337.83	63789.53	50-yr	2327.65	889.08	882.72	2.87	1.72	47.88	19.88	178.29	906.82	3.62	1.49	6.36	6.36
Yellowstone County	B7	RM 337.75	63667.96	50-yr	2327.65	888.72	881.69	3.45	2.03	62.55	22.65	143.25	833.76	3.82	1.37	7.03	7.03
Yellowstone County	B7	RM 337.68	63550.4	50-yr	2327.65	888.53	882.49	3.26	2.18	63.83	21.71	161.63	811.39	3.88	1.32	6.04	6.04
Yellowstone County	B7	RM 337.58	63396.62	50-yr	2327.65	888.31	883.62	3.15	2.12	51.33	20.23	189.36	847.72	3.29	1.3	4.69	4.69
Yellowstone County	B7	RM 337.47	63212.44	50-yr	2327.65	888.17	883.31	2.65	1.77	42.63	18.27	178.55	884.87	3.47	1.48	4.86	4.86
Yellowstone County	B7	RM 337.38	63064.58	50-yr	2327.65	887.96	883.29	2.78	1.71	39.33	17.04	177.51	947.96	3.33	1.43	4.67	4.67

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	50-yr	2327.65	887.96	883.15	1.86	1.2	17.22	8.78	210.44	1127.17	3.39	1.73	4.81	4.81
Yellowstone County	B7	RM 337.16	62717.85	50-yr	2327.65	887.91	882.57	1.42	1.08	10.84	7	397.52	1282.62	3.01	1.94	5.34	5.34
Yellowstone County	B7	RM 337.04	62524.52	50-yr	2327.65	887.84	879.61	1.67	1.09	13.97	6.21	154.53	1196.3	4.88	2.16	8.23	8.23
Yellowstone County	B7	RM 336.96	62390.64	50-yr	2327.65	887.77	880.21	1.79	1.27	23.23	11.07	185.95	1211.87	4.31	2.04	7.56	7.56
Yellowstone County	B7	RM 336.87	62246.97	50-yr	2327.65	887.63	881.41	2.16	1.41	25.54	11.47	156.32	1381.93	4.46	1.99	6.22	6.22
Yellowstone County	B7	RM 336.80	62131.42	50-yr	2327.65	887.57	881.33	2.03	1.4	32.48	15.8	162.29	1247.75	4.11	1.99	6.24	6.24
Yellowstone County	B7	RM 336.72	62005.73	50-yr	2327.65	887.33	881.38	2.63	1.69	52.18	17.82	136.15	1066.21	4.31	1.46	5.95	5.95
Yellowstone County	B7	RM 336.66	61902.64	50-yr	2327.65	886.82	881.45	3.73	2.51	96.2	28.09	117.37	806.37	3.97	1.15	5.37	5.37
Yellowstone County	B7	RM 336.59	61800.43	50-yr	2327.65	886.74	880.66	3.05	2.1	67.14	19.77	135.93	869.31	4.36	1.28	6.08	6.08
Yellowstone County	B7	RM 336.52	61689.55	50-yr	2327.65	886.58	881.76	2.95	1.97	54.23	19.54	145.49	878.65	3.73	1.34	4.82	4.82
Yellowstone County	B7	RM 336.46	61580.5	50-yr	2327.65	886.47	882.13	2.66	1.88	53.98	20.84	162.48	938.8	3.43	1.32	4.34	4.34
Yellowstone County	B7	RM 336.40	61491.01	50-yr	2327.65	886.31	882.03	2.74	1.83	55.04	21.56	162.53	962.92	3.51	1.37	4.28	4.28
Yellowstone County	B7	RM 336.34	61394.22	50-yr	2327.65	886.16	881.93	2.78	1.76	50.22	22.51	163.69	951.31	3.34	1.49	4.23	4.23
Yellowstone County	B7	RM 336.27	61278.9	50-yr	2327.65	886	881.67	2.68	1.65	46.28	20.76	169.95	1009.29	3.33	1.49	4.33	4.33
Yellowstone County	B7	RM 336.19	61159.07	50-yr	2327.65	885.83	882.11	2.62	1.76	37.27	18.7	211.78	1057.63	2.6	1.3	3.72	3.72
Yellowstone County	B7	RM 336.09	60993.57	50-yr	2327.65	885.68	882.16	2.03	1.4	25.88	15.91	319.78	1132.69	2.48	1.52	3.52	3.52
Yellowstone County	B7	RM 335.98	60812.26	50-yr	2327.65	885.53	881.93	1.48	1.35	27.75	22.18	442.1	1290.23	2.05	1.64	3.8	3.8
Yellowstone County	B7	RM 335.89	60669.74	50-yr	2327.65	885.35	880.16	1.7	1.54	16.81	14.97	737.1	1431.07	1.69	1.51	5.19	5.19
Yellowstone County	B7	RM 335.77	60465.85	50-yr	2327.65	885.02	880.49	1.63	1.59	46.76	41.8	881.3	1607.76	1.49	1.33	4.53	4.53
Yellowstone County	B7	RM 335.68	60324.8	50-yr	2327.65	884.71	880.65	1.85	1.73	17.58	15.22	877.36	2053.87	1.38	1.19	4.06	4.06
Yellowstone County	B7	RM 335.59	60183.7	50-yr	2327.65	884.52	880.3	1.83	1.69	18.35	15.21	916.78	2120.33	1.34	1.11	4.22	4.22
Yellowstone County	B7	RM 335.51	60046.12	50-yr	2327.65	884.34	880.03	1.8	1.65	16.41	12.85	940.64	2594.6	1.33	1.04	4.31	4.31
Yellowstone County	B7	RM 335.41	59899.97	50-yr	2327.65	884.25	879.45	1.39	1.22	13.23	10.5	911.11	2538.96	1.71	1.35	4.8	4.8
Yellowstone County	B7	RM 335.36	59814.82	50-yr	2327.65	884.24	878.65	1.06	0.9	6.51	4.87	896.25	2854.46	2.28	1.7	5.59	5.59
Yellowstone County	B7	RM 335.12	59393.71	50-yr	2327.65	884.01	878.54	1.77	1.01	17.44	7.22	331.92	3166.82	2.86	1.18	5.47	5.47
Yellowstone County	B7	RM 335.03	59228.59	50-yr	2327.65	883.72	876.8	2.84	1.32	54.19	14.64	149.84	2634.82	3.36	0.9	6.92	6.92
Yellowstone County	B7	RM 334.91	59041.32	50-yr	2327.65	883.52	878.31	2.24	1.15	35.46	12.8	229.84	2301.49	2.83	1.02	5.21	5.21
Yellowstone County	B7	RM 334.85	58937.73	50-yr	2327.65	883.39	878.66	2.2	1.11	35.64	13.01	224.38	2323.11	2.89	1.06	4.73	4.73
Yellowstone County	B7	RM 334.73	58737.5	50-yr	2327.65	882.91	879.52	3	1.53	54.07	16.34	192.81	1851.48	2.85	0.86	3.53	3.53
Yellowstone County	B7	RM 334.63	58573.32	50-yr	2327.65	882.81	878.31	2.33	1.29	29.33	11.59	187.59	1909.69	2.9	1.15	4.5	4.5
Yellowstone County	B7	RM 334.54	58424.99	50-yr	2327.65	882.8	877.09	1.19	1.07	14.44	6.7	154.81	1939.22	3.14	1.45	5.71	5.71
Yellowstone County	B7	RM 334.22	57821.07	50-yr	2327.65	882.5	875.76	2	1.2	18.05	7.04	197	1678.22	4.12	1.6	6.74	6.74
Yellowstone County	B7	RM 334.09	57621.62	50-yr	2327.65	882.28	875.55	2.75	1.69	60.11	20.48	119.41	1268.26	3.95	1.34	6.73	6.73
Yellowstone County	B7	RM 333.98	57440.64	50-yr	2327.65	882.11	875.46	2.54	1.64	32.24	10.04	140.01	1104.97	4.78	1.48	6.65	6.65
Yellowstone County	B7	RM 333.83	57207.78	50-yr	2327.65	881.92	875.4	2.53	1.91	45.99	17.08	163.08	1000.4	3.92	1.44	6.52	6.52
Yellowstone County	B7	RM 333.69	56989.22	50-yr	2327.65	881.66	873.45	2.02	1.8	42.35	21.99	337.33	1093.38	3.28	1.7	8.21	8.21
Yellowstone County	B7	RM 333.54	56738.21	50-yr	2327.65	881.52	874.22	1.4	1.21	22.26	11.3	409.8	1481.48	3.7	1.87	7.3	7.3
Yellowstone County	B7	RM 333.42	56552.03	50-yr	2327.65	881.34	873.42	1.59	1.47	32.02	22.63	426.38	1521.14	3.14	2.21	7.92	7.92
Yellowstone County	B7	RM 333.30	56351.75	50-yr	2327.65	880.99	875.65	1.84	1.76	56.32	44.54	449.89	1018.67	2.65	2.09	5.34	5.34
Yellowstone County	B7	RM 333.19	56177.76	50-yr	2327.65	880.53	875.72	2.2	2.09	52.59	41.55	398.9	637.6	2.53	2	4.81	4.81
Yellowstone County	B7	RM 333.09	56027.56	50-yr	2327.65	880.37	875.59	1.98	1.75	22.22	16.28	428	1249.06	2.63	1.92	4.78	4.78
Yellowstone County	B7	RM 332.99	55855.76	50-yr	2327.65	880.14	873.86	2.04	1.71	53.23	34.74	384.8	1795.24	2.64	1.72	6.28	6.28
Yellowstone County	B7	RM 332.88	55687.68	50-yr	2327.65	880	874.43	1.72	1.47	19.27	11.94	408.73	1785.25	2.82	1.75	5.57	5.57
Yellowstone County	B7	RM 332.77	55504.73	50-yr	2327.65	879.93	875.49	1.49	1.18	12.6	7.33	376.01	2064.56	3.35	1.95	4.44	4.44
Yellowstone County	B7	RM 332.66	55333.33	50-yr	2327.65	879.83	874.96	1.62	1.21	18.66	9.25	334.72	1968.04	3.36	1.66	4.87	4.87
Yellowstone County	B7	RM 332.56	55182.74	50-yr	2327.65	879.73	874.54	1.71	1.21	19.62	8.05	311.92	2095.71	3.68	1.5	5.19	5.19
Yellowstone County	B7	RM 332.47	55059.84	50-yr	2327.65	879.69	873.95	1.58	1.11	17.92	7.05	281.38	2206.96	3.94	1.54	5.74	5.74
Yellowstone County	B7	RM 332.38	54913.1	50-yr	2327.65	879.36	873.16	2.7	1.69	49.31	11.56	159.71	2090.2	4.5	1.04	6.2	6.2
Yellowstone County	B7	RM 332.33	54822.67	50-yr	2327.65	879.32	872.5	2.3	1.46	54.69	14.99	187.88	2195.62	4.03	1.1	6.82	6.82
Yellowstone County	B7	RM 332.21	54626.48	50-yr	2327.65	879.15	873.4	2.33	1.31	30.46	7.01	173.61	2368.7	4.43	1.01	5.75	5.75
Yellowstone County	B7	RM 332.17	54575.38	50-yr	2327.65	879.1	872.76	2.35	1.23	30.29	6.64	145.13	2540.66	4.83	1.04	6.34	6.34
Yellowstone County	B7	RM 332.08	54422.01	50-yr	2327.65	878.96	873.77	2.41	1.37	38.09	8.56	155.71	2623.6	4.35	0.97	5.19	5.19
Yellowstone County	B7	RM 331.96	54224.76	50-yr	2327.65	878.83	873.18	1.93	1.22	35.75	10.42	205.19	2445.97	3.77	1.09	5.65	5.65
Yellowstone County	B7	RM 331.85	54057.19	50-yr	2327.65	878.61	873.16	2.03	1.4	53.85	15.79	250.03	2253.13	3.61	1.05	5.45	5.45
Yellowstone County	B7	RM 331.74	53882.8	50-yr	2327.65	878.05	872.62	3.16	1.93	63.96	12.6	149.76	1836.28	4.21	0.82	5.43	5.43
Yellowstone County	B8	RM 331.66	53744.64	50-yr	2327.65	877.95	871.68	2.51	1.71	47.63	11.39	219.63	1527.03	3.75	0.89	6.27	6.27
Yellowstone County	B8	RM 331.55	53575.67	50-yr	2327.65	877.75	872.61	2.51	1.77	46.16	13.85	201.4	1253.23	3.51	1.05	5.14	5.14
Yellowstone County	B8	RM 331.41	53354.89	50-yr	2327.65	877.51	872.56	2.47	1.66	41.76	14.37	218.29	1230.27	3.34	1.14	4.95	4.95
Yellowstone County	B8	RM 331.32	53209.79	50-yr	2327.65	877.33	871.92	2.17	1.42	33.54	15.57	275.52	1278.63	2.78	1.29	5.41	5.41
Yellowstone County	B8	RM 331.23	53053.99	50-yr	2327.65	877.18	871.53	1.87	1.36	25.47	14.57	375.99	1197.15	2.51	1.43	5.65	5.65
Yellowstone County	B8	RM 331.14	52919.44	50-yr	2327.65	877.09	871.72	1.66	1.34	20.66	10.77	309.55	1139.57	2.94	1.53	5.37	5.37

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	50-yr	2327.65	876.98	871.29	1.8	1.38	23.3	11.1	305.99	1085.83	3.28	1.55	5.69	5.69
Yellowstone County	B8	RM 331.01	52700.37	50-yr	2327.65	876.88	871.8	1.82	1.39	24.83	12.84	299.81	1015.88	3.23	1.66	5.08	5.08
Yellowstone County	B8	RM 330.93	52576.5	50-yr	2327.65	876.78	871.67	1.86	1.44	26.03	9.91	250.76	1264.52	3.7	1.4	5.11	5.11
Yellowstone County	B8	RM 330.83	52418.21	50-yr	2327.65	876.52	870.75	2.61	1.72	37.07	11.06	141.59	1090.52	4.51	1.33	5.77	5.77
Yellowstone County	B8	RM 330.77	52321.13	50-yr	2327.65	876.46	870.68	2.4	1.54	36.42	13.46	174.99	1547.11	3.86	1.42	5.78	5.78
Yellowstone County	B8	RM 330.68	52174.9	50-yr	2327.65	876.13	870.33	3.09	1.83	49.81	11.91	129.64	1759.28	4.25	1.01	5.8	5.8
Yellowstone County	B8	RM 330.58	52000.46	50-yr	2327.65	875.97	869.72	2.9	1.84	60.02	13	117.87	1645.29	4.52	0.97	6.25	6.25
Yellowstone County	B8	RM 330.48	51852.83	50-yr	2327.65	875.79	868.81	2.94	1.7	57.47	12.08	105.91	1512.37	4.87	1	6.98	6.98
Yellowstone County	B8	RM 330.39	51701.57	50-yr	2327.65	875.67	869.32	2.69	1.52	37.12	10.01	134.45	1379.09	4.14	1.11	6.35	6.35
Yellowstone County	B8	RM 330.32	51592.04	50-yr	2327.65	875.52	869.57	2.85	1.65	39.08	9.99	135.54	1301.54	4.26	1.08	5.95	5.95
Yellowstone County	B8	RM 330.25	51473.55	50-yr	2327.65	875.44	868.38	2.68	1.61	38.09	11.04	145.06	1267.71	3.97	1.14	7.06	7.06
Yellowstone County	B8	RM 330.17	51344.77	50-yr	2327.65	875.28	869.9	2.72	1.71	40.34	12.76	152	1141.6	3.8	1.19	5.38	5.38
Yellowstone County	B8	RM 330.10	51243.99	50-yr	2327.65	875.06	870.02	2.91	1.9	50.4	16.93	186.21	1088.14	3.37	1.13	5.04	5.04
Yellowstone County	B8	RM 330.05	51150.67	50-yr	2327.65	875.06	869.94	2.11	1.49	27.76	13.47	298.81	1220.11	2.75	1.33	5.11	5.11
Yellowstone County	B8	RM 329.95	50995.78	50-yr	2327.65	874.89	869.67	2	1.51	27.89	14.2	399.17	1163.38	2.61	1.32	5.22	5.22
Yellowstone County	B8	RM 329.86	50853.11	50-yr	2327.65	874.77	869.99	1.73	1.36	27.1	15.64	443.98	1197.11	2.48	1.42	4.78	4.78
Yellowstone County	B8	RM 329.75	50682.47	50-yr	2327.65	874.58	869.45	1.42	1.19	32.62	21.98	611.44	1536.14	2.13	1.43	5.13	5.13
Yellowstone County	B8	RM 329.66	50540.7	50-yr	2327.65	874.3	869.45	1.59	1.37	39.55	27.6	647.25	1392.98	1.75	1.22	4.85	4.85
Yellowstone County	B8	RM 329.57	50390.78	50-yr	2327.65	874.03	869.17	1.84	1.46	20.23	13.38	562.53	1261.49	1.94	1.28	4.86	4.86
Yellowstone County	B8	RM 329.49	50267.58	50-yr	2327.65	873.9	869.52	1.86	1.41	20.2	13.48	524.58	1261.08	1.97	1.31	4.38	4.38
Yellowstone County	B8	RM 329.43	50165.22	50-yr	2327.65	873.85	869.82	1.56	1.27	14.43	9.48	543.15	1093.27	2.55	1.67	4.03	4.03
Yellowstone County	B8	RM 329.37	50053.96	50-yr	2327.65	873.8	869.58	1.49	1.17	13.17	8.68	447.42	1117.8	2.7	1.77	4.22	4.22
Yellowstone County	B8	RM 329.31	49969.13	50-yr	2327.65	873.74	869.66	1.59	1.19	18.84	12.06	378.18	1158.4	2.64	1.68	4.08	4.08
Yellowstone County	B8	RM 329.26	49883.05	50-yr	2327.65	873.67	868.74	1.66	1.21	15.96	9.53	376.88	1224.86	2.63	1.57	4.93	4.93
Yellowstone County	B8	RM 329.20	49785.51	50-yr	2327.65	873.57	868.71	1.81	1.33	19.78	10.72	397.53	1387.74	2.46	1.33	4.86	4.86
Yellowstone County	B8	RM 329.15	49699.71	50-yr	2548.52	873.5	868.64	1.66	1.27	23.63	12.99	463.75	1380.57	2.64	1.45	4.86	4.86
Yellowstone County	B8	RM 329.08	49597.49	50-yr	2548.52	873.42	869.34	1.53	1.19	22.58	13.51	471.71	1369.9	2.63	1.57	4.08	4.08
Yellowstone County	B8	RM 328.96	49388.08	50-yr	2548.52	873.28	868.99	1.7	1.13	19.88	10.28	305.81	1482.81	2.96	1.52	4.29	4.29
Yellowstone County	B8	RM 328.85	49197.37	50-yr	2548.52	873.12	866.79	1.86	1.33	17.03	10.82	472.66	1407.92	2.15	1.36	6.33	6.33
Yellowstone County	B8	RM 328.75	49036.09	50-yr	2548.52	873.09	866.93	1.33	0.98	11.21	8.39	424.64	1445.56	2.41	1.79	6.16	6.16
Yellowstone County	B8	RM 328.68	48920.76	50-yr	2548.52	872.99	867.09	1.71	1.12	18.63	9.99	303.39	1465.49	2.92	1.56	5.9	5.9
Yellowstone County	B8	RM 328.60	48788.86	50-yr	2548.52	872.81	866.36	2.3	1.28	25.95	9.9	196.23	1439.92	3.7	1.39	6.45	6.45
Yellowstone County	B8	RM 328.52	48664.7	50-yr	2548.52	872.8	867.75	1.91	1.16	19.61	9.69	167.5	1419.24	3.39	1.66	5.05	5.05
Yellowstone County	B8	RM 328.44	48539.46	50-yr	2548.52	872.66	867.34	2.31	1.28	34.22	11.99	137.85	1285.5	4.48	1.54	5.32	5.32
Yellowstone County	B8	RM 328.36	48405.85	50-yr	2548.52	872.42	867.12	2.92	1.58	40.22	14.9	131.91	1053.64	4.22	1.53	5.3	5.3
Yellowstone County	B8	RM 328.28	48276.93	50-yr	2548.52	872.32	867.73	2.42	1.8	47.39	20.47	191.8	871.78	3.77	1.63	5.21	5.21
Yellowstone County	B8	RM 328.16	48097.58	50-yr	2548.52	872.13	866.7	2.21	1.71	41.41	21.68	224.09	883.12	3.23	1.68	5.43	5.43
Yellowstone County	B8	RM 328.05	47914.16	50-yr	2548.52	871.96	866.62	2.02	1.55	30.76	16.68	264.18	939.62	3.23	1.75	5.34	5.34
Yellowstone County	B8	RM 327.93	47729.4	50-yr	2548.52	871.73	865.67	2.27	1.67	26.83	13.86	305.74	986.86	3	1.55	6.06	6.06
Yellowstone County	B8	RM 327.88	47641.03	50-yr	2548.52	871.6	866	2.5	1.66	37.21	17.41	246.29	1020.81	3.22	1.51	5.6	5.6
Yellowstone County	B8	RM 327.81	47525.32	50-yr	2548.52	871.5	866.29	2.53	1.63	19.36	12.57	320.36	1021.38	2.35	1.53	5.21	5.21
Yellowstone County	B8	RM 327.75	47432.57	50-yr	2548.52	871.19	865.09	3.33	1.92	49.13	15.18	134.59	992.47	4.5	1.38	6.1	6.1
Yellowstone County	B8	RM 327.69	47341.24	50-yr	2548.52	870.88	864.48	4.07	2.31	69.26	22.04	108.28	827.5	4.26	1.34	6.4	6.4
Yellowstone County	B8	RM 327.62	47227.31	50-yr	2548.52	870.85	863.86	3.38	2.2	55.48	23.35	129.18	818.5	4.05	1.69	6.99	6.99
Yellowstone County	B8	RM 327.56	47124.87	50-yr	2548.52	870.86	864.46	2.76	1.89	37	18.03	158.59	868.86	3.62	1.76	6.4	6.4
Yellowstone County	B8	RM 327.51	47053.82	50-yr	2548.52	870.86	865.84	2.12	1.62	25.16	18.3	311.44	869.43	2.48	1.81	5.02	5.02
Yellowstone County	B8	RM 327.44	46933.28	50-yr	2548.52	870.85	866.93	1.3	1.29	11.58	10.25	390.76	882.88	2.53	2.23	4.23	4.23
Yellowstone County	B8	RM 327.37	46817.72	50-yr	2548.52	870.73	866.26	1.87	1.49	23.56	15.16	342.21	957.1	2.79	1.79	4.47	4.47
Yellowstone County	B8	RM 327.29	46687.12	50-yr	2548.52	870.65	866.04	1.85	1.38	20.55	12.36	304.88	1048.42	2.94	1.76	4.61	4.61
Yellowstone County	B8	RM 327.23	46600.07	50-yr	2548.52	870.58	866.25	1.95	1.4	22.08	13.11	287.86	1051.91	2.92	1.73	4.73	4.73
Yellowstone County	B8	RM 327.16	46485.25	50-yr	2548.52	870.44	865.67	2.14	1.45	30	16.55	271.45	1118.18	2.99	1.65	4.77	4.77
Yellowstone County	B8	RM 327.08	46360.36	50-yr	2548.52	870.39	864.94	1.84	1.32	20.32	11.93	266.92	1138.67	3.41	2	5.45	5.45
Yellowstone County	B8	RM 327.00	46240.1	50-yr	2548.52	870.26	864.56	2.03	1.58	30.55	14.74	227.91	942.72	4.14	2	5.7	5.7
Yellowstone County	B8	RM 326.94	46091.8	50-yr	2548.52	870.17	864.04	2.08	1.49	20.63	9.91	223.67	859.16	4.15	2	6.13	6.13
Yellowstone County	B8	RM 326.88	46003.77	50-yr	2548.52	870.07	864.08	2.36	1.66	35.76	16.43	170.66	868.94	3.93	1.81	5.99	5.99
Yellowstone County	B8	RM 326.82	45901.15	50-yr	2548.52	870	864.18	2.28	1.65	31.63	18.89	201.73	940.67	3.12	1.87	5.82	5.82
Yellowstone County	B8	RM 326.78	45830.7	50-yr	2548.52	869.94	864.46	2.34	1.64	28.28	17.29	163.64	944.04	3.32	2.03	5.48	5.48
Yellowstone County	B8	RM 326.70	45707.6	50-yr	2548.52	869.88	864.66	2.03	1.53	19.91	15.29	264.42	1004.39	2.84	2.18	5.22	5.22
Yellowstone County	B8	RM 326.64	45589.72	50-yr	2548.52	869.78	864.92	1.69	1.57	46.88	38.32	430.86	1041.84	2.44	1.99	4.86	4.86
Yellowstone County	B8	RM 326.55	45430.24	50-yr	2548.52	869.56	864.83	2.05	1.7	23.43	15.94	350.63	835.7	2.99	2.04	4.73	4.73
Yellowstone County	B8	RM 326.45	45281.78	50-yr	2548.52	869.46	864.12	2.06	1.74	25.03	17.51	340.76	720.9	3.02	2.11	5.34	5.34

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	50-yr	2548.52	869.44	864.32	1.69	1.49	16.38	11.75	432.08	943.08	2.93	2.1	5.12	5.12
Yellowstone County	B8	RM 326.35	45106.57	50-yr	2548.52	869.41	864.43	1.5	1.25	12.57	8.57	483.02	1271.23	3.23	2.2	4.98	4.98
Yellowstone County	B8	RM 326.28	45022.31	50-yr	2548.52	869.41	864.61	1.29	1.09	8.61	5.74	548.28	1337.87	3.86	2.57	4.8	4.8
Yellowstone County	B8	RM 326.07	44588.61	50-yr	2548.52	869.18	862.39	1.72	1.52	13.4	10.38	711.49	1596.85	1.96	1.52	6.79	6.79
Yellowstone County	B8	RM 326.00	44481.07	50-yr	2548.52	869.12	861.24	1.65	1.47	12.34	9.7	749.88	1589.5	1.95	1.53	7.88	7.88
Yellowstone County	B8	RM 325.94	44379.11	50-yr	2548.52	869.06	861.85	1.33	1.24	30.23	24.9	828.35	1572.64	2.09	1.72	7.2	7.2
Yellowstone County	B8	RM 325.89	44304.17	50-yr	2548.52	868.95	863	1.25	1.18	27.81	23.45	845.17	1339.61	2.16	1.82	5.95	5.95
Yellowstone County	B8	RM 325.86	44262.16	50-yr	2548.52	868.91	863.76	1.33	1.19	9.28	7.81	823.6	1141.11	2.23	1.88	5.15	5.15
Yellowstone County	B8	RM 325.81	44176.46	50-yr	2548.52	868.88	863.1	1.3	1.15	9.36	8.19	846.47	1174.07	2.15	1.88	5.78	5.78
Yellowstone County	B8	RM 325.76	44089.5	50-yr	2548.52	868.83	862.66	1.17	1.08	23.17	19.14	851.29	1303.56	2.28	1.88	6.17	6.17
Yellowstone County	B8	RM 325.69	43989.97	50-yr	2548.52	868.75	862.55	1.32	1.03	9.36	6.18	625.32	1418.2	2.78	1.83	6.2	6.2
Yellowstone County	B8	RM 325.58	43809.68	50-yr	2548.52	868.67	862.61	1.29	1.02	25.17	15.07	476.8	1283.94	3.28	1.95	6.06	6.06
Yellowstone County	B8	RM 325.50	43680.96	50-yr	2548.52	868.53	862.6	1.48	1.17	30.32	16.99	434.18	1201.4	3.27	1.81	5.93	5.93
Yellowstone County	B8	RM 325.43	43556.76	50-yr	2548.52	868.41	860.89	1.49	1.18	32.58	17.78	386.96	1131	3.51	1.9	7.52	7.52
Yellowstone County	B8	RM 325.37	43461.41	50-yr	2548.52	868.34	861.36	1.4	1.14	28.14	15.17	345.22	1116.38	3.73	2	6.98	6.98
Yellowstone County	B8	RM 325.30	43343.13	50-yr	2548.52	868.22	861.56	1.73	1.26	26.51	12.22	266.93	1076.84	4.09	1.87	6.66	6.66
Yellowstone County	B8	RM 325.21	43210.67	50-yr	2548.52	868.06	861.34	2.13	1.47	28.4	11.52	204.53	932.26	4.63	1.86	6.72	6.72
Yellowstone County	B8	RM 325.13	43078.9	50-yr	2548.52	867.91	861.36	2.48	1.6	39.7	13.96	149.53	864.52	5.3	1.84	6.55	6.55
Yellowstone County	B8	RM 325.06	42966.54	50-yr	2548.52	867.52	860.78	3.4	2.15	72.52	22.35	123.07	770.27	5.05	1.54	6.74	6.74
Yellowstone County	B8	RM 324.99	42864.51	50-yr	2548.52	867.45	861.24	3	1.87	60.39	21.91	135.39	801.83	4.74	1.7	6.21	6.21
Yellowstone County	B8	RM 324.91	42729.7	50-yr	2548.52	867.23	860.76	3.08	1.93	65.36	22.62	133.13	779.62	4.94	1.7	6.47	6.47
Yellowstone County	B8	RM 324.81	42573.19	50-yr	2548.52	866.99	860.39	3.12	2.12	70.29	25.35	140.39	697.13	4.82	1.73	6.6	6.6
Yellowstone County	B8	RM 324.73	42451.12	50-yr	2548.52	866.88	861.59	2.79	1.98	50.23	22.38	179.41	694.6	4.19	1.86	5.29	5.29
Yellowstone County	B8	RM 324.65	42323.44	50-yr	2548.52	866.83	861.99	2.03	1.67	44.16	28.17	300.92	718.32	3.32	2.12	4.84	4.84
Yellowstone County	B8	RM 324.56	42178.25	50-yr	2548.52	866.68	861.76	2.03	1.62	19.83	15.78	404.18	786.25	2.52	2	4.92	4.92
Yellowstone County	B8	RM 324.48	42039.74	50-yr	2548.52	866.54	861.58	1.8	1.55	46.35	34.2	477.36	890.69	2.51	1.85	4.96	4.96
Yellowstone County	B8	RM 324.42	41946.09	50-yr	2548.52	866.43	861.04	1.56	1.32	31.83	21.79	478.13	950.29	2.97	2.03	5.39	5.39
Yellowstone County	B8	RM 324.34	41812.99	50-yr	2548.52	866.21	861.07	1.85	1.42	50.05	30.29	378.78	1022	2.89	1.75	5.14	5.14
Yellowstone County	B8	RM 324.28	41712.42	50-yr	2548.52	866.04	859.64	1.8	1.44	49.15	29.61	364.85	1055.63	2.78	1.67	6.4	6.4
Yellowstone County	B8	RM 324.20	41597.64	50-yr	2548.52	865.96	860.59	1.15	1.07	19.2	15.25	675.53	1064.52	2.81	2.23	5.37	5.37
Yellowstone County	B8	RM 324.16	41526.97	50-yr	2548.52	865.86	861.07	1.53	1.37	13.87	10.68	664.66	1132.47	2.32	1.78	4.79	4.79
Yellowstone County	B8	RM 324.10	41434.55	50-yr	2548.52	865.81	860.81	1.33	1.25	24.07	18.04	691.05	1203.11	2.57	1.92	5	5
Yellowstone County	B8	RM 324.04	41346.42	50-yr	2548.52	865.75	860.39	1.23	1.14	16.35	11.7	637.89	1241.4	2.74	1.96	5.36	5.36
Yellowstone County	B8	RM 323.97	41219.29	50-yr	2548.52	865.68	860.64	1.16	1.08	14.34	10.38	573.41	1144.5	2.85	2.06	5.04	5.04
Yellowstone County	B8	RM 323.83	40977.08	50-yr	2548.52	865.57	860.31	1.31	1.01	12.16	7.43	453.97	1223.4	3.38	2.06	5.26	5.26
Yellowstone County	B8	RM 323.71	40786.71	50-yr	2548.52	865.38	858.49	2.09	1.3	26.46	10.63	221.5	1193.71	4.11	1.64	6.89	6.89
Yellowstone County	B8	RM 323.60	40615.85	50-yr	2548.52	865.37	858.06	1.66	1.13	16.68	6.67	122.05	1139.28	5.01	1.98	7.31	7.31
Yellowstone County	B8	RM 323.55	40536.83	50-yr	2548.52	864.97	857.58	3.33	1.79	69.59	20.35	114.94	1091.12	4.51	1.31	7.39	7.39
Yellowstone County	B8	RM 323.49	40429.96	50-yr	2548.52	864.79	858.37	3.33	1.79	65.3	18.6	119.27	1096.41	4.59	1.3	6.42	6.42
Yellowstone County	B8	RM 323.41	40309.21	50-yr	2548.52	864.66	859.41	3.01	1.77	65.34	21.78	135.74	1045.77	4.15	1.38	5.25	5.25
Yellowstone County	B8	RM 323.33	40186.15	50-yr	2548.52	864.58	859.58	2.49	1.52	33.99	14.61	175.88	1020.79	3.84	1.64	5	5
Yellowstone County	B8	RM 323.27	40082.34	50-yr	2548.52	864.46	859.66	2.54	1.55	40.09	17.95	188.89	992.55	3.71	1.65	4.8	4.8
Yellowstone County	B8	RM 323.21	39985.33	50-yr	2548.52	864.35	859.54	2.5	1.54	40.38	20.29	211.17	980.41	3.37	1.69	4.81	4.81
Yellowstone County	B8	RM 323.16	39899.29	50-yr	2548.52	864.31	859.55	1.89	1.34	34.4	20.82	276.01	1016.37	3.09	1.87	4.76	4.76
Yellowstone County	B8	RM 323.06	39735.77	50-yr	2548.52	864.06	858.56	1.78	1.48	39.43	20.96	311.52	1393.18	2.8	1.48	5.5	5.5
Yellowstone County	B8	RM 322.93	39531.81	50-yr	2548.52	863.84	859.35	1.69	1.29	27.12	14.39	322.23	1422.09	3.07	1.62	4.49	4.49
Yellowstone County	B8	RM 322.79	39301.41	50-yr	2548.52	863.61	858.62	2.05	1.32	27.29	12.51	220.82	1328.73	3.64	1.67	4.99	4.99
Yellowstone County	B8	RM 322.69	39142.64	50-yr	2548.52	863.48	857.47	2.23	1.43	24.45	11.63	200.75	1243.94	3.78	1.8	6.01	6.01
Yellowstone County	B8	RM 322.58	38982.22	50-yr	2548.52	862.89	856.56	3.88	2.58	92.05	33.23	116.27	729.91	3.77	1.35	6.33	6.33
Yellowstone County	B9	RM 322.51	38859.49	50-yr	2548.52	862.81	858.28	3.04	2.16	57.25	24.23	163.25	780.43	3.59	1.51	4.53	4.53
Yellowstone County	B9	RM 322.41	38696.02	50-yr	2548.52	862.71	857.62	1.78	1.69	38.46	25.27	457.49	970.31	2.45	1.6	5.1	5.1
Yellowstone County	B9	RM 322.34	38586.33	50-yr	2548.52	862.61	857.65	1.46	1.43	24.75	18.27	589.8	1062.16	2.33	1.72	4.96	4.96
Yellowstone County	B9	RM 322.23	38396.25	50-yr	2548.52	862.46	857.13	1.14	1.15	19.91	16.44	754.32	1141.57	2.35	1.94	5.33	5.33
Yellowstone County	B9	RM 322.13	38239.27	50-yr	2548.52	862.32	857.1	1.03	1.1	21.58	19.41	880.36	1169.57	2.2	1.98	5.22	5.22
Yellowstone County	B9	RM 322.03	38090.48	50-yr	2548.52	862.03	856.15	1.25	1.37	45.13	43.68	970.54	1134.86	1.69	1.64	5.88	5.88
Yellowstone County	B9	RM 321.91	37898.13	50-yr	2548.52	861.7	856.85	1.78	1.78	13.45	13.45	907.93	907.93	1.58	1.58	4.85	4.85
Yellowstone County	B9	RM 321.82	37758.36	50-yr	2548.52	861.65	856.34	1.5	1.5	8.72	8.68	832.71	836.72	2.04	2.03	5.31	5.31
Yellowstone County	B9	RM 321.70	37567.01	50-yr	2548.52	861.53	855.27	1.38	1.36	28.77	27.01	809.33	877.37	2.27	2.13	6.26	6.26
Yellowstone County	B9	RM 321.60	37414.63	50-yr	2548.52	861.43	854.48	1.15	1.14	13.36	12.53	755.29	820.52	2.92	2.74	6.96	6.96
Yellowstone County	B9	RM 321.48	37188.51	50-yr	2548.52	861.19	855.03	1.68	1.59	32	26.06	546.18	729.7	2.7	2.19	6.17	6.17
Yellowstone County	B9	RM 321.38	37016.94	50-yr	2548.52	860.87	854.75	2.05	1.9	40.76	30.14	471.9	720.23	2.53	1.86	6.12	6.12

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	50-yr	2548.52	860.76	855.3	1.7	1.46	20.29	11.53	459.37	995.76	3.1	1.75	5.46	5.46
Yellowstone County	B9	RM 321.13	36652.19	50-yr	2548.52	860.66	854.69	1.58	1.14	24.92	13.02	274.03	1182.25	3.91	2.01	5.97	5.97
Yellowstone County	B9	RM 321.05	36531.25	50-yr	2548.52	860.54	855.36	1.96	1.23	19.36	7.16	188.88	1242.9	4.55	1.66	5.18	5.18
Yellowstone County	B9	RM 321.00	36446.98	50-yr	2548.52	860.46	855.12	2.33	1.42	36.17	11.75	134.73	1266.9	4.46	1.42	5.34	5.34
Yellowstone County	B9	RM 320.71	36404.1*	50-yr	2548.52	860.32	855.12	2.77	1.52	34.98	11.06	140.13	1290.9	4.2	1.3	5.2	5.2
Yellowstone County	B9	RM 320.62	36361.3*	50-yr	2548.52	860.28	855.12	2.81	1.52	35.89	11.4	143.76	1349.48	4.06	1.26	5.16	5.16
Yellowstone County	B9	RM 320.92	36318.56	50-yr	2548.52	860.26	855.12	2.66	1.6	53.26	16.11	134.56	1646.15	4.24	1.25	5.14	5.14
Yellowstone County	B9	RM 320.44	36258.3*	50-yr	2548.52	860.11	855.19	2.89	1.63	37.11	11.21	154.55	1651.32	3.91	1.16	4.93	4.93
Yellowstone County	B9	RM 320.38	36198.1*	50-yr	2548.52	860.08	855.26	2.74	1.5	34.07	10.24	161.33	1692.68	4.01	1.19	4.82	4.82
Yellowstone County	B9	RM 320.80	36137.92	50-yr	2548.52	860.08	855.33	2.34	1.36	38.16	11.47	157.17	1735.61	4.25	1.26	4.75	4.75
Yellowstone County	B9	RM 320.71	35990.21	50-yr	2548.52	860.05	854.38	1.57	1.13	20.9	8.01	275.47	1726.53	4.09	1.55	5.66	5.66
Yellowstone County	B9	RM 320.54	35839.45	50-yr	2548.52	859.93	853.99	1.72	1.17	21.05	9.22	324.02	1746.89	3.53	1.52	5.94	5.94
Yellowstone County	B9	RM 320.44	35717.45	50-yr	2548.52	859.88	854.32	1.62	1.09	15.32	7.56	334.82	1773.58	3.38	1.65	5.56	5.56
Yellowstone County	B9	RM 320.62	35556.9	50-yr	2548.52	859.8	854.17	1.59	1.15	25.09	12.53	265.5	1658.67	3.59	1.77	5.63	5.63
Yellowstone County	B9	RM 320.38	35461.42	50-yr	2548.52	859.66	854.17	2.09	1.28	25.04	9.77	196.57	1598.91	4.41	1.69	5.49	5.49
Yellowstone County	B9	RM 320.32	35359.13	50-yr	2548.52	859.49	854.57	2.66	1.61	45.84	14.93	140.58	1541.95	4.62	1.47	4.92	4.92
Yellowstone County	B9	RM 320.25	35241.01	50-yr	2548.52	858.99	854.29	3.85	2.25	93.36	25.63	110.85	1017.12	4.28	1.14	4.7	4.7
Yellowstone County	B9	RM 320.20	35163.52	50-yr	2548.52	858.88	854.2	3.46	2.25	94.48	32.07	134.52	1233.27	3.75	1.24	4.67	4.67
Yellowstone County	B9	RM 320.14	35071.29	50-yr	2548.52	858.62	854.32	3.44	2.36	79.61	30.72	160.79	1328.8	3.45	1.31	4.29	4.29
Yellowstone County	B9	RM 320.01	34865.89	50-yr	2548.52	858.2	854.42	3	2.48	45.33	21.57	122.19	815.88	2.78	1.31	3.85	3.85
Yellowstone County	B9	RM 319.91	34707.77	50-yr	2548.52	858.16	854.66	1.85	1.92	22.98	14.61	143.74	872.38	2.88	1.81	4.58	4.58
Yellowstone County	B9	RM 319.86	34625.68	50-yr	2548.52	858.14	854.6	1.61	1.7	21.98	14.16	153.74	985.42	2.79	1.78	4.58	4.58
Yellowstone County	B9	RM 319.78	34508.06	50-yr	2548.52	858.03	854.51	2.38	1.83	38.66	17.51	111.07	1050.41	3.23	1.44	4.51	4.51
Yellowstone County	B9	RM 319.73	34426.63	50-yr	2548.52	857.76	854.69	3.29	1.7	56.96	31.63	156.77	982.84	2.76	1.53	4.29	4.29
Yellowstone County	B9	RM 319.66	34314.84	50-yr	2548.52	857.73	854.51	2.2	1.63	24.65	15.15	158.66	941.2	2.71	1.66	4.3	4.3
Yellowstone County	B9	RM 319.57	34163.05	50-yr	2548.52	857.59	853.93	2.21	1.79	23.53	16.11	198.21	747.1	2.79	1.9	4.25	4.25
Yellowstone County	B9	RM 319.44	33955.96	50-yr	2548.52	857.49	853.14	2.04	1.74	26.76	16.9	153.57	764.31	3.08	1.92	4.36	4.36
Yellowstone County	B9	RM 319.39	33872.4	50-yr	2548.52	857.44	852.65	2.18	1.65	23.55	13.53	137.96	873.11	3.23	1.82	4.79	4.79
Yellowstone County	B9	RM 319.34	33786.83	50-yr	2548.52	857.4	852.83	2.05	1.53	20.21	12.69	178.14	830.09	3.22	2	4.57	4.57
Yellowstone County	B9	RM 319.22	33580.15	50-yr	2548.52	857.36	851.79	2.08	1.33	18.99	9.51	80.63	893.7	4.43	2.14	5.56	5.56
Yellowstone County	B9	RM 319.17	33497.33	50-yr	2548.52	857.35	851.64	1.63	1.28	13.97	8.2	121.71	1047.98	3.64	2.09	5.7	5.7
Yellowstone County	B9	RM 319.09	33368.53	50-yr	2548.52	857.09	851.25	2.68	1.95	48.72	18.53	135.6	875.21	4.03	1.5	5.84	5.84
Yellowstone County	B9	RM 319.04	33287.21	50-yr	2548.52	856.84	851.49	3.28	2.11	68.44	20.56	113.05	946.21	4.38	1.27	5.35	5.35
Yellowstone County	B9	RM 318.96	33153.16	50-yr	2548.52	856.69	851.64	2.87	1.99	60.03	20.36	157.02	955.98	4.01	1.34	5.05	5.05
Yellowstone County	B9	RM 318.91	33065.54	50-yr	2548.52	856.61	851.86	2.51	1.91	57.28	21.86	189.76	960.26	3.68	1.39	4.76	4.76
Yellowstone County	B9	RM 318.82	32939.33	50-yr	2548.52	856.32	851.86	3.03	2.1	43.1	15.59	160.72	865.44	3.93	1.4	4.46	4.46
Yellowstone County	B9	RM 318.74	32833.24	50-yr	2548.52	856.31	851.86	2.33	1.83	35.51	17.16	185.15	923.8	3.86	1.85	4.45	4.45
Yellowstone County	B9	RM 318.62	32649.76	50-yr	2548.52	856.17	850.67	1.84	1.63	32.2	19.64	316.37	845.02	3.05	1.85	5.5	5.5
Yellowstone County	B9	RM 318.42	32315.28	50-yr	2548.52	855.77	850.15	2.17	1.88	26.5	11.54	347.98	995	3.24	1.4	5.62	5.62
Yellowstone County	B9	RM 318.17	31866.42	50-yr	2548.52	855.41	849.17	2.33	1.5	34.43	12.04	211.8	1237.56	4.25	1.46	6.24	6.24
Yellowstone County	B9	RM 317.97	31551.39	50-yr	2548.52	855.07	848.35	2.56	1.91	28.76	12.13	238.16	902.15	3.89	1.62	6.72	6.72
Yellowstone County	B10	RM 317.87	31388.76	50-yr	2548.52	854.84	848.78	3.01	1.93	47.13	16.6	163.93	926.09	4.28	1.47	6.07	6.07
Yellowstone County	B10	RM 317.78	31248.07	50-yr	2548.52	854.85	848.75	2.4	1.48	29.42	10.22	143.48	1228.64	4.97	1.69	6.1	6.1
Yellowstone County	B10	RM 317.70	31120.75	50-yr	2548.52	854.85	848.56	1.88	1.39	18.85	9.02	172.56	1504.17	4.34	2.04	6.28	6.28
Yellowstone County	B10	RM 317.61	30982.56	50-yr	2548.52	854.78	848.29	1.93	1.29	18.14	7.4	195.11	1547.2	4.12	1.65	6.5	6.5
Yellowstone County	B10	RM 317.53	30849.94	50-yr	2548.52	854.75	848.5	1.6	1.25	14.27	7.46	345.3	1679.25	3.57	1.85	6.24	6.24
Yellowstone County	B10	RM 317.45	30723.4	50-yr	2548.52	854.68	848.47	1.65	1.29	16.56	9.99	369.79	1783.64	3.14	1.88	6.21	6.21
Yellowstone County	B10	RM 317.37	30601.88	50-yr	2548.52	854.64	848.17	1.45	1.2	16.5	11.33	371.31	1758.49	3.11	2.12	6.47	6.47
Yellowstone County	B10	RM 317.30	30483.81	50-yr	2548.52	854.55	848.41	1.69	1.25	14.86	8.61	273.87	1636.28	3.82	2.18	6.14	6.14
Yellowstone County	B10	RM 317.19	30302.33	50-yr	2548.52	854.47	848.84	1.94	1.27	18.62	8.45	161.96	1560.41	5.13	2.28	5.63	5.63
Yellowstone County	B10	RM 317.05	30079.26	50-yr	2548.52	854.16	848.38	2.66	1.98	31.64	9.48	159.02	838.75	5.21	1.53	5.78	5.78
Yellowstone County	B10	RM 316.93	29889.26	50-yr	2548.52	853.88	847.25	3.03	2.15	51.33	16.78	150.51	732.04	5.08	1.62	6.63	6.63
Yellowstone County	B10	RM 316.79	29668.4	50-yr	2548.52	853.68	847.89	2.94	2.17	49.42	19	146.89	587.19	5.31	2	5.78	5.78
Yellowstone County	B10	RM 316.66	29466.39	50-yr	2548.52	853.46	847.86	2.92	2.29	45.39	21.89	163.35	464.39	5.04	2.4	5.6	5.6
Yellowstone County	B10	RM 316.58	29329.04	50-yr	2548.52	853.35	847.74	2.78	2	55.33	27.66	174.66	646.66	4.68	2.31	5.61	5.61
Yellowstone County	B10	RM 316.51	29227.18	50-yr	2548.52	853.19	847.41	2.89	1.99	51.54	24.25	183.91	665.28	4.25	1.98	5.79	5.79
Yellowstone County	B10	RM 316.43	29091.4	50-yr	2548.52	853.07	847.41	2.52	1.79	51.54	27.03	240.03	843.33	3.58	1.86	5.66	5.66
Yellowstone County	B10	RM 316.33	28935.99	50-yr	2548.52	852.81	847.74	2.44	1.88	55.96	35.15	286.51	721.14	3.16	1.97	5.07	5.07
Yellowstone County	B10	RM 316.24	28786.65	50-yr	2548.52	852.61	847.5	2.03	1.76	48.21	28.06	356.21	833.91	2.99	1.74	5.11	5.11
Yellowstone County	B10	RM 316.14	28628.02	50-yr	2548.52	852.39	846.92	2.02	1.62	35.97	20.73	330.46	788.81	3.48	1.99	5.47	5.47
Yellowstone County	B10	RM 316.05	28475.44	50-yr	2548.52	852.12	846.73	2.33	1.85	48.91	24.56	295.19	803.64	3.42	1.71	5.39	5.39

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	50-yr	2548.52	852	846.43	2.3	1.84	25.06	15.17	303.29	687.14	3.34	2.01	5.57	5.57
Yellowstone County	B10	RM 315.84	28140.65	50-yr	2548.52	851.65	846.58	2.85	2.12	65.15	27.63	177.15	744.89	3.85	1.61	5.07	5.07
Yellowstone County	B10	RM 315.71	27926.69	50-yr	2548.52	851.39	846.34	2.77	1.86	33.52	14.57	208.22	1024.31	3.41	1.47	5.05	5.05
Yellowstone County	B10	RM 315.58	27720.72	50-yr	2548.52	851.36	846.16	1.85	1.42	28.04	13.94	155.74	1102	3.88	1.89	5.21	5.21
Yellowstone County	B10	RM 315.44	27505.06	50-yr	2548.52	851.12	846.09	2.4	1.42	32.34	11.01	152.39	1291.6	4.53	1.51	5.02	5.02
Yellowstone County	B10	RM 315.30	27283.58	50-yr	2548.52	851.05	844.45	1.57	1.06	16.49	8.85	317.48	1448.87	3.12	1.66	6.6	6.6
Yellowstone County	B10	RM 315.18	27097.16	50-yr	2548.52	851.01	844.72	1.26	0.97	8.86	5.84	454.19	1520.47	2.69	1.76	6.29	6.29
Yellowstone County	B10	RM 315.01	26818.99	50-yr	2548.52	850.87	844.66	1.52	1.11	17.27	9.31	477.22	1592.93	2.83	1.51	6.21	6.21
Yellowstone County	B10	RM 314.85	26559.67	50-yr	2548.52	850.59	844.84	2.37	1.38	36.49	9.82	167.5	1539.26	4.72	1.23	5.75	5.75
Yellowstone County	B10	RM 314.69	26324.37	50-yr	2548.52	850.34	844.24	2.62	1.56	40.66	10.67	173.7	1433.51	4.48	1.15	6.1	6.1
Yellowstone County	B10	RM 314.57	26132.54	50-yr	2548.52	850.06	844.63	2.95	1.76	53.72	12.56	147.42	1303.05	4.85	1.11	5.43	5.43
Yellowstone County	B10	RM 314.46	25963.96	50-yr	2548.52	849.97	844.48	2.44	1.56	40.23	11.97	201.55	1315.49	4.25	1.24	5.49	5.49
Yellowstone County	B10	RM 314.35	25782.69	50-yr	2548.52	849.71	844.51	2.42	1.95	60.95	19.2	269.19	1161.46	3.62	1.13	5.2	5.2
Yellowstone County	B10	RM 314.24	25607.48	50-yr	2548.52	849.54	844.14	2.38	1.88	22.57	8.96	289.52	1005.22	3.47	1.35	5.39	5.39
Yellowstone County	B10	RM 314.15	25461.23	50-yr	2548.52	849.41	844.05	2.26	1.92	57.11	25.26	306.22	909.11	3.35	1.46	5.35	5.35
Yellowstone County	B10	RM 314.06	25326.45	50-yr	2548.52	849.37	843.63	1.67	1.38	13.55	7.44	455.22	1089.49	3.2	1.74	5.75	5.75
Yellowstone County	B10	RM 313.98	25189.4	50-yr	2548.52	849.32	843.05	1.42	1.2	22.69	15.66	559.69	1079.07	2.86	1.96	6.27	6.27
Yellowstone County	B10	RM 313.83	24942.42	50-yr	2548.52	849.17	843.2	1.44	1.28	15.49	8.98	476.74	984.7	3.52	2.03	5.97	5.97
Yellowstone County	B10	RM 313.72	24768.08	50-yr	2548.52	849.06	842.35	1.67	1.26	16.61	7.72	330.48	1083.21	4.06	1.87	6.71	6.71
Yellowstone County	B10	RM 313.66	24671.51	50-yr	2548.52	848.99	843.14	1.86	1.33	18.44	8.72	286.85	988.5	4.14	1.94	5.85	5.85
Yellowstone County	B10	RM 313.57	24513.04	50-yr	2548.52	848.91	842.47	1.84	1.36	18.97	10.06	303.74	898	3.98	2.09	6.45	6.45
Yellowstone County	B10	RM 313.47	24364.02	50-yr	2548.52	848.82	841.55	1.89	1.47	19.66	9.96	283.74	792.76	4.37	2.19	7.27	7.27
Yellowstone County	B10	RM 313.33	24143.26	50-yr	2548.52	848.52	842.65	2.58	1.88	52.74	21.52	187.46	710.48	4.76	1.91	5.87	5.87
Yellowstone County	B10	RM 313.18	23899.74	50-yr	2548.52	847.77	842.19	3.56	2.74	111.35	44.28	165.88	592.71	4.01	1.57	5.58	5.58
Yellowstone County	B10	RM 313.07	23728.15	50-yr	2548.52	847.4	842.62	3.52	2.92	67.22	26.39	163.66	523.93	4.29	1.66	4.78	4.78
Yellowstone County	B10	RM 312.98	23590.93	50-yr	2548.52	847.37	842.5	2.91	2.51	38.76	23.15	198.63	545.64	4.07	2.42	4.87	4.87
Yellowstone County	B10	RM 312.90	23455.11	50-yr	2548.52	847.32	842.38	2.46	2.09	45.89	22.99	204.15	747.81	4.17	2.07	4.95	4.95
Yellowstone County	B10	RM 312.75	23227.05	50-yr	2548.52	847.1	841.71	2.47	1.86	35.01	17.08	224.81	757.53	3.74	1.81	5.39	5.39
Yellowstone County	B10	RM 312.65	23058.61	50-yr	2548.52	846.99	841.61	2.17	1.7	29.08	17.02	273.98	772.72	3.33	1.94	5.38	5.38
Yellowstone County	B10	RM 312.53	22873.59	50-yr	2548.52	846.91	841.37	2	1.45	16.1	9.1	275.06	944.63	4.02	2.25	5.54	5.54
Yellowstone County	B10	RM 312.49	22797.96	50-yr	2548.52	846.82	841.34	2.31	1.59	28.19	12.94	202	1014.87	4.37	1.99	5.48	5.48
Yellowstone County	B10	RM 312.39	22646.67	50-yr	2548.52	846.68	840.85	2.63	1.74	43.01	21.1	151.49	875.53	4.09	1.98	5.83	5.83
Yellowstone County	B10	RM 312.33	22536.68	50-yr	2548.52	846.49	840.82	2.96	1.88	51.77	22.55	139.06	743.11	4.27	1.82	5.67	5.67
Yellowstone County	B10	RM 312.22	22360.55	50-yr	2548.52	846.44	840.91	2.36	1.7	36.22	15.05	128.68	785.58	4.68	1.91	5.53	5.53
Yellowstone County	B10	RM 312.13	22230.65	50-yr	2548.52	846.39	840.94	1.8	1.48	21.81	13.95	350.72	772.23	3.62	2.31	5.45	5.45
Yellowstone County	B10	RM 312.04	22082.88	50-yr	2548.52	846.25	840.82	1.97	1.61	27.18	16.35	346.94	806.93	3.37	2.02	5.43	5.43
Yellowstone County	B10	RM 311.95	21934.61	50-yr	2548.52	846.11	840.79	2.03	1.62	27.54	14.44	350.23	977.91	3.36	1.76	5.32	5.32
Yellowstone County	B10	RM 311.89	21840.24	50-yr	2548.52	846.04	840.76	1.96	1.57	30.19	14.56	325.27	912.8	3.71	1.78	5.28	5.28
Yellowstone County	B10	RM 311.77	21651.91	50-yr	2548.52	845.88	840.18	2.11	1.57	28.96	10.81	226.3	913.47	4.81	1.77	5.7	5.7
Yellowstone County	B10	RM 311.69	21530.39	50-yr	2548.52	845.71	839.85	2.61	1.63	41.79	12.77	150.83	1053.4	5.23	1.55	5.86	5.86
Yellowstone County	B10	RM 311.58	21350.77	50-yr	2548.52	845.59	839.63	2.44	1.49	37.37	11.86	171.57	1328.22	4.63	1.44	5.96	5.96
Yellowstone County	B10	RM 311.48	21191.11	50-yr	2548.52	845.5	839.42	2.16	1.38	26.24	10.29	228.87	1243.14	4.01	1.55	6.09	6.09
Yellowstone County	B10	RM 311.37	21010.53	50-yr	2548.52	845.43	839.18	1.78	1.21	20.38	10.2	336.85	1294.64	3.45	1.71	6.25	6.25
Yellowstone County	B10	RM 311.27	20852.82	50-yr	2548.52	845.34	838.96	1.78	1.2	20.95	10.34	322.54	1225.85	3.56	1.74	6.37	6.37
Yellowstone County	B10	RM 311.19	20716.8	50-yr	2548.52	845.27	838.84	1.82	1.15	20.71	8.85	247.96	1181.13	4.47	1.88	6.43	6.43
Yellowstone County	B10	RM 311.09	20559.11	50-yr	2548.52	844.95	839.14	2.89	1.62	46.38	15.28	144.57	1063.1	4.88	1.58	5.8	5.8
Yellowstone County	B10	RM 310.97	20364.78	50-yr	2548.52	844.82	839.45	2.56	1.55	39.45	14.92	173.15	1028.66	4.7	1.75	5.37	5.37
Yellowstone County	B10	RM 310.87	20211.96	50-yr	2548.52	844.69	839.02	2.52	1.59	37.17	14.08	190.23	1040.56	4.51	1.68	5.67	5.67
Yellowstone County	B10	RM 310.76	20019.23	50-yr	2548.52	844.22	839.18	3.4	2.14	62.34	17.12	144.37	970	4.6	1.23	5.04	5.04
Yellowstone County	B11	RM 310.67	19877.9	50-yr	2548.52	844.15	839.11	2.81	1.78	61.12	19.33	174.84	1072.97	4.28	1.33	5.03	5.03
Yellowstone County	B11	RM 310.57	19727.96	50-yr	2548.52	843.96	839.08	2.64	1.67	57.12	19	195.83	1129.22	4.11	1.35	4.88	4.88
Yellowstone County	B11	RM 310.48	19578.86	50-yr	2548.52	843.8	838.96	2.5	1.55	43.98	15.29	210.44	1192.5	4.01	1.38	4.84	4.84
Yellowstone County	B11	RM 310.39	19437.53	50-yr	2548.52	843.74	838.54	2.16	1.39	21.16	8.83	264.94	1197.25	3.7	1.53	5.2	5.2
Yellowstone County	B11	RM 310.31	19317.45	50-yr	2548.52	843.67	838.23	2.07	1.48	19.7	10.5	356.72	1072.43	3.03	1.61	5.44	5.44
Yellowstone County	B11	RM 310.24	19187.47	50-yr	2548.52	843.61	838.23	1.59	1.31	37.1	23.31	461.89	1086.98	2.87	1.79	5.38	5.38
Yellowstone County	B11	RM 310.16	19069.04	50-yr	2548.52	843.46	837.93	1.49	1.34	35.17	24.24	568.64	1027.07	2.69	1.85	5.53	5.53
Yellowstone County	B11	RM 310.09	18955.28	50-yr	2548.52	843.37	837.93	1.56	1.26	12.01	8.9	554.85	1042.66	2.63	1.94	5.44	5.44
Yellowstone County	B11	RM 309.97	18765.62	50-yr	2548.52	843.31	837.59	1.19	1.03	15.67	10.74	601.54	1087.1	3.33	2.27	5.72	5.72
Yellowstone County	B11	RM 309.90	18643.48	50-yr	2548.52	843.23	837.5	1.38	1.17	9.12	7.05	625.34	1124.11	2.78	2.15	5.73	5.73
Yellowstone County	B11	RM 309.82	18525.48	50-yr	2548.52	843.18	837.5	1.24	1.16	24.5	20.21	697.73	1022.6	2.6	2.14	5.68	5.68
Yellowstone County	B11	RM 309.73	18379.74	50-yr	2548.52	843.07	837.35	1.12	1.06	18.47	15.5	802.56	1045.37	2.73	2.29	5.72	5.72

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	50-yr	2548.52	843.01	837.38	0.95	0.92	12.22	10.99	876.43	1026.19	2.99	2.69	5.64	5.64
Yellowstone County	B11	RM 309.52	18029.98	50-yr	2548.52	842.88	836.68	1.13	1.11	17.95	16.89	816.46	915.45	2.73	2.56	6.2	6.2
Yellowstone County	B11	RM 309.39	17824.11	50-yr	2548.52	842.79	836.74	0.97	0.97	10.49	10.49	765.73	813.01	3.42	3.42	6.06	6.06
Yellowstone County	B11	RM 309.22	17557.23	50-yr	2548.52	842.61	836.07	1.64	1.44	15.44	10.36	334.93	676.74	4.47	2.98	6.55	6.55
Yellowstone County	B11	RM 309.06	17331.95	50-yr	2548.52	842.36	835.79	2.31	1.78	57.73	27.82	191.59	692.1	5.09	2.41	6.56	6.56
Yellowstone County	B11	RM 308.94	17142.36	50-yr	2548.52	841.56	835.4	3.92	2.85	95.61	37.71	121.56	495.5	4.71	1.8	6.16	6.16
Yellowstone County	B11	RM 308.83	16971.41	50-yr	2548.52	841.54	836.04	2.79	2.13	53.52	25.45	159.26	518.84	4.92	2.31	5.51	5.51
Yellowstone County	B11	RM 308.71	16778.65	50-yr	2548.52	841.49	835.91	2.18	1.73	21.58	12.37	251.14	620.97	4.17	2.37	5.58	5.58
Yellowstone County	B11	RM 308.62	16631.4	50-yr	2548.52	841.4	835.85	1.96	1.56	49.79	30.42	300.08	745.71	3.6	2.19	5.55	5.55
Yellowstone County	B11	RM 308.55	16518.64	50-yr	2548.52	841.24	835.85	1.9	1.56	46.61	29.13	368.88	845.9	3.1	1.93	5.39	5.39
Yellowstone County	B11	RM 308.43	16328.3	50-yr	2548.52	840.99	834.51	1.65	1.4	40.06	26.19	420.94	920.51	3.04	1.97	6.48	6.48
Yellowstone County	B11	RM 308.35	16192.95	50-yr	2548.52	840.85	834.88	1.59	1.26	25.28	15.18	402.97	1015.06	3.34	1.99	5.98	5.98
Yellowstone County	B11	RM 308.24	16015.46	50-yr	2548.52	840.76	834.63	1.53	1.12	14.84	8.36	363.15	1213.25	3.77	2.11	6.13	6.13
Yellowstone County	B11	RM 308.12	15826.82	50-yr	2548.52	840.7	834.63	1.45	1.1	12.78	7.5	382.83	1141.37	3.88	2.26	6.06	6.06
Yellowstone County	B11	RM 308.02	15675.58	50-yr	2548.52	840.62	834.76	1.62	1.2	12.52	6.28	304.06	1004.62	4.65	2.31	5.86	5.86
Yellowstone County	B11	RM 307.88	15434.86	50-yr	2548.52	840.26	834.45	3.1	1.91	58.46	21.93	113.52	787.46	4.88	1.77	5.81	5.81
Yellowstone County	B11	RM 307.77	15261.75	50-yr	2548.52	839.81	834.45	3.54	2.45	86.98	32.43	128.59	673.75	4.25	1.54	5.36	5.36
Yellowstone County	B11	RM 307.68	15125.28	50-yr	2548.52	839.65	834.85	2.97	2.13	58.65	26.39	158.76	630.02	4.28	1.9	4.81	4.81
Yellowstone County	B11	RM 307.60	14980.1	50-yr	2548.52	839.61	834.36	2.15	1.82	25.84	14.48	274.23	617.24	4.13	2.29	5.25	5.25
Yellowstone County	B11	RM 307.52	14873.7	50-yr	2548.52	839.43	834.12	2.54	2.06	38.65	20.01	253.95	664.59	3.7	1.9	5.32	5.32
Yellowstone County	B11	RM 307.46	14779.11	50-yr	2548.52	839.3	833.6	2.44	2.09	68.93	44.8	313.22	613.47	3.08	1.99	5.71	5.71
Yellowstone County	B11	RM 307.39	14664.34	50-yr	2548.52	839.15	833.63	2.39	2	23.4	16.56	365.52	661.22	2.73	1.93	5.52	5.52
Yellowstone County	B11	RM 307.30	14517.89	50-yr	2548.52	838.99	833.81	2.19	1.97	57.88	43.07	407.44	695.11	2.52	1.86	5.18	5.18
Yellowstone County	B11	RM 307.22	14385.45	50-yr	2548.52	838.72	833.87	2.14	1.92	45.61	33.81	396.39	696.41	2.67	1.97	4.85	4.85
Yellowstone County	B11	RM 307.14	14262.57	50-yr	2548.52	838.58	833.51	2.03	1.73	32.78	20.44	334.95	730.87	3.24	2.01	5.07	5.07
Yellowstone County	B11	RM 307.08	14166.72	50-yr	2548.52	838.52	833.11	1.88	1.59	20.04	12.61	348.63	753.17	3.4	2.13	5.41	5.41
Yellowstone County	B11	RM 307.01	14050.92	50-yr	2548.52	838.44	832.65	1.94	1.64	17.93	12.02	376.22	773.76	3	2	5.78	5.78
Yellowstone County	B11	RM 306.95	13949.23	50-yr	2548.52	838.33	832.35	2.12	1.66	26.85	18.15	324.62	758.42	3.02	2.02	5.98	5.98
Yellowstone County	B11	RM 306.90	13869.87	50-yr	2548.52	838.22	832.56	2.21	1.73	32.45	21.58	350.26	756.83	2.95	1.95	5.66	5.66
Yellowstone County	B11	RM 306.82	13726.64	50-yr	2548.52	838.11	832.62	2.03	1.61	26.72	17.09	361.85	806.67	3.08	1.96	5.48	5.48
Yellowstone County	B11	RM 306.72	13574.53	50-yr	2548.52	837.96	831.8	2.27	1.58	30.54	15.27	222.2	878.24	3.73	1.84	6.16	6.16
Yellowstone County	B11	RM 306.62	13414.11	50-yr	2548.52	837.8	832.77	2.37	1.75	42.63	20	215.2	868.44	3.62	1.68	5.03	5.03
Yellowstone County	B11	RM 306.52	13251.36	50-yr	2548.52	837.39	832.87	3.18	2.07	55.43	19.01	152.64	894.29	4.09	1.38	4.53	4.53
Yellowstone County	B11	RM 306.42	13099.73	50-yr	2548.52	837.05	832.74	3.59	2.43	67.37	22.92	135.62	825.19	3.82	1.27	4.31	4.31
Yellowstone County	B11	RM 306.34	12958.96	50-yr	2548.52	837.03	832.84	2.44	1.79	37.9	16.26	236.52	1036.66	3.39	1.44	4.2	4.2
Yellowstone County	B11	RM 306.25	12825.95	50-yr	2548.52	836.88	832.35	2.39	1.79	36.1	17	312.43	1145.97	2.77	1.3	4.53	4.53
Yellowstone County	B11	RM 306.16	12673.7	50-yr	2548.52	836.68	832.41	2.28	1.76	35.71	17.98	345.29	1128.34	2.57	1.29	4.27	4.27
Yellowstone County	B11	RM 306.11	12592.39	50-yr	2548.52	836.55	832.17	2.35	1.81	46.61	23.98	315.67	1035.09	2.66	1.36	4.38	4.38
Yellowstone County	B11	RM 306.03	12457.47	50-yr	2548.52	836.4	831.25	2.12	1.65	28.96	17.02	369.57	1042.85	2.54	1.48	5.15	5.15
Yellowstone County	B11	RM 305.93	12317.98	50-yr	2548.52	836.2	831.25	2.24	1.85	36.24	19.64	358.09	1063.09	2.41	1.3	4.95	4.95
Yellowstone County	B11	RM 305.84	12159.82	50-yr	2548.52	835.97	831.1	2.38	1.95	36.82	18.1	266.73	922.6	2.92	1.42	4.87	4.87
Yellowstone County	B11	RM 305.74	11989.73	50-yr	2548.52	835.7	830.64	2.61	1.95	48.31	17.04	196.88	1000.78	3.76	1.3	5.06	5.06
Yellowstone County	B11	RM 305.67	11883.31	50-yr	2548.52	835.53	830.43	2.83	1.92	47.94	15.05	162.86	1114.16	3.88	1.19	5.1	5.1
Yellowstone County	B11	RM 305.60	11764.11	50-yr	2548.52	835.5	830.18	2.09	1.76	24.73	10.8	167.99	1192.48	3.13	1.34	5.31	5.31
Yellowstone County	B11	RM 305.52	11651.48	50-yr	2548.52	835.39	830.18	2.3	1.58	29.74	11.45	151.74	1277.82	3.34	1.26	5.2	5.2
Yellowstone County	B11	RM 305.44	11514.64	50-yr	2548.52	835.32	830.43	1.87	1.31	16.49	7.14	158.15	1317.72	3.48	1.49	4.9	4.9
Yellowstone County	B11	RM 305.40	11441.77	50-yr	2548.52	835.21	830.61	1.97	1.57	16.76	7.78	239	1529.84	2.78	1.28	4.6	4.6
Yellowstone County	B11	RM 305.32	11312.15	50-yr	2548.52	835.15	830.61	1.9	1.31	22.36	9.29	167.71	1688.73	3.25	1.33	4.54	4.54
Yellowstone County	B11	RM 305.24	11186.22	50-yr	2548.52	835.14	830.43	1.22	0.95	10.14	6.06	156.67	1587.42	3.22	1.9	4.71	4.71
Yellowstone County	B11	RM 305.06	10905.09	50-yr	2548.52	835.07	830.15	1.18	0.92	6.88	5.19	302.98	1377.19	2.87	2.15	4.92	4.92
Yellowstone County	B11	RM 304.71	10460.6	50-yr	2548.52	834.95	828.96	1.32	1.17	11.32	8.86	396.9	1076.54	3.07	2.39	5.99	5.99
Yellowstone County	B11	RM 304.62	10332.33	50-yr	2548.52	834.93	829.09	1.26	1.09	8.97	5.85	206.85	1141.45	4.42	2.84	5.84	5.84
Yellowstone County	B11	RM 304.50	10132.63	50-yr	2548.52	834.66	829.09	2.47	2.03	49.95	22.89	122.88	919.13	4.84	2.16	5.58	5.58
Yellowstone County	B11	RM 304.42	10011.11	50-yr	2548.52	834.58	829.18	2.14	1.83	36.97	17.34	152.3	892.45	4.57	2.11	5.4	5.4
Yellowstone County	B11	RM 304.34	9873.393	50-yr	2548.52	834.43	828.78	2.18	1.84	23.79	13.27	263.04	887.95	4.22	2.34	5.65	5.65
Yellowstone County	B11	RM 304.25	9735.197	50-yr	2548.52	834.24	828.39	2.56	2.01	43.43	21.19	200.04	585	4.59	2.21	5.86	5.86
Yellowstone County	B11	RM 304.18	9615.178	50-yr	2548.52	834.14	828.54	2.56	2.05	29.86	15.42	216.36	688.85	4.35	2.22	5.6	5.6
Yellowstone County	B11	RM 304.09	9478.266	50-yr	2548.52	833.97	828.6	2.76	2.2	46.53	20.53	182.94	952.91	4.74	2.06	5.37	5.37
Yellowstone County	B11	RM 304.00	9326.206	50-yr	2548.52	833.87	828.39	2.52	1.85	41.79	16.97	190.99	1042.67	4.83	1.94	5.49	5.49
Yellowstone County	B11	RM 303.91	9177.479	50-yr	2548.52	833.82	828.14	2.11	1.46	32.44	14.76	215.99	1221.81	4.63	2.09	5.68	5.68
Yellowstone County	B11	RM 303.78	8973.508	50-yr	2548.52	833.55	827.93	2.61	1.68	42.78	13.78	164.29	974.93	4.95	1.55	5.62	5.62

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	50-yr	2548.52	833.36	827.9	2.6	1.73	49.87	16.62	170.65	960.24	4.69	1.53	5.47	5.47
Yellowstone County	B11	RM 303.55	8608.195	50-yr	2548.52	833.25	827.65	2.34	1.68	24.95	10.65	248.36	957.84	3.87	1.62	5.6	5.6
Yellowstone County	B11	RM 303.43	8422.329	50-yr	2548.52	833.19	827.87	1.76	1.43	33.55	16.32	329.98	1075.69	3.44	1.66	5.32	5.32
Yellowstone County	B11	RM 303.34	8276.308	50-yr	2548.52	833.13	826.92	1.58	1.21	13.72	6.47	325.32	1098.75	4.11	1.92	6.2	6.2
Yellowstone County	B11	RM 303.26	8138.725	50-yr	2548.52	832.95	826.98	2.05	1.69	45.85	19.87	304.9	976.34	3.63	1.55	5.97	5.97
Yellowstone County	B11	RM 303.18	8018.762	50-yr	2548.52	832.78	826.22	2.06	1.74	50.34	23.44	308.83	896.76	3.55	1.63	6.56	6.56
Yellowstone County	B11	RM 303.09	7876.674	50-yr	2548.52	832.58	825.43	2	1.71	46.08	23.23	337.6	888.27	3.36	1.68	7.15	7.15
Yellowstone County	B11	RM 302.99	7711.603	50-yr	2548.52	832.43	826.22	1.72	1.47	30.81	18.45	336.71	814.94	3.57	2.12	6.21	6.21
Yellowstone County	B11	RM 302.89	7556.419	50-yr	2548.52	832.22	825.73	2.04	1.75	39.49	23.44	290.25	643.97	3.85	2.26	6.48	6.48
Yellowstone County	B11	RM 302.81	7423.411	50-yr	2548.52	831.98	825.86	2.42	2.05	49.18	25.49	221.32	559.29	4.35	2.22	6.13	6.13
Yellowstone County	B11	RM 302.70	7257.14	50-yr	2548.52	831.82	826.01	2.47	2	32.96	15.13	184.02	538.65	5.2	2.36	5.82	5.82
Yellowstone County	B12	RM 302.56	7050.708	50-yr	2548.52	831.31	825.25	3.4	2.75	70.74	31.32	170.25	503.89	4.22	1.84	6.07	6.07
Yellowstone County	B12	RM 302.49	6918.549	50-yr	2548.52	831.14	825.92	3.22	2.66	58.8	23.25	170.36	545.86	4.49	1.75	5.23	5.23
Yellowstone County	B12	RM 302.41	6794.522	50-yr	2548.52	831.1	825.64	2.96	2.2	38.36	15.49	161.6	691.53	4.42	1.76	5.46	5.46
Yellowstone County	B12	RM 302.34	6674.634	50-yr	2548.52	831.01	825.76	2.69	2.02	51.25	22.47	214.69	906.16	3.76	1.63	5.24	5.24
Yellowstone County	B12	RM 302.22	6485.378	50-yr	2548.52	830.91	825.76	2.07	1.62	27.22	14.48	235.89	843.3	3.55	1.87	5.15	5.15
Yellowstone County	B12	RM 302.14	6360.047	50-yr	2548.52	830.66	825.76	2.72	1.95	46.49	20.51	178.16	775.88	3.85	1.68	4.9	4.9
Yellowstone County	B12	RM 302.08	6267.13	50-yr	2548.52	830.58	825.79	2.48	1.98	27.9	14.58	265.5	760.2	3.26	1.7	4.78	4.78
Yellowstone County	B12	RM 301.98	6100.949	50-yr	2548.52	830.52	825.34	2.03	1.61	27.68	12.88	257.2	874.98	3.91	1.8	5.18	5.18
Yellowstone County	B12	RM 301.88	5944.005	50-yr	2548.52	830.42	824.7	1.94	1.48	22.61	11.75	307.5	961.26	3.51	1.81	5.72	5.72
Yellowstone County	B12	RM 301.79	5801.18	50-yr	2548.52	830.36	824.36	1.79	1.45	15.29	9.42	369.92	877.55	3.28	2.01	6	6
Yellowstone County	B12	RM 301.72	5685.105	50-yr	2548.52	830.28	824.85	1.9	1.57	22.56	12.23	328.47	879.39	3.42	1.84	5.43	5.43
Yellowstone County	B12	RM 301.65	5569.191	50-yr	2548.52	830.15	824.61	2.1	1.69	30.04	15.34	311.48	921.87	3.23	1.64	5.55	5.55
Yellowstone County	B12	RM 301.59	5465.51	50-yr	2548.52	830.03	824.42	2.15	1.79	33.59	16.23	318.53	951.28	3.11	1.49	5.61	5.61
Yellowstone County	B12	RM 301.53	5366.723	50-yr	2548.52	829.95	824.12	1.92	1.66	36.02	18.39	364.63	1007.84	3	1.52	5.83	5.83
Yellowstone County	B12	RM 301.47	5270.902	50-yr	2548.52	829.83	824.12	1.95	1.66	34.41	17.97	353.58	956.2	3.1	1.6	5.71	5.71
Yellowstone County	B12	RM 301.39	5140.04	50-yr	2548.52	829.78	824.36	1.56	1.32	20.89	12.62	345.85	970.73	3.59	2.16	5.42	5.42
Yellowstone County	B12	RM 301.33	5044.575	50-yr	2548.52	829.7	824.12	1.72	1.35	18.78	10.14	329.55	980.02	3.77	2.02	5.58	5.58
Yellowstone County	B12	RM 301.24	4906.408	50-yr	2548.52	829.6	823.87	1.89	1.48	20.35	11.36	310.78	1027.79	3.65	2.03	5.72	5.72
Yellowstone County	B12	RM 301.18	4802.631	50-yr	2548.52	829.49	823.17	2.11	1.68	26.39	15.17	312.68	962.19	3.22	1.83	6.32	6.32
Yellowstone County	B12	RM 301.12	4698.913	50-yr	2548.52	829.34	823.81	2.27	1.89	30.08	15.83	308.25	823.61	3.4	1.78	5.53	5.53
Yellowstone County	B12	RM 301.07	4611.142	50-yr	2548.52	829.28	824	2.18	1.81	26.48	14.77	284.39	737.98	3.82	2.11	5.29	5.29
Yellowstone County	B12	RM 301.02	4531.484	50-yr	2548.52	829.2	823.81	2.32	1.95	23.82	13.64	261	623.05	3.91	2.22	5.39	5.39
Yellowstone County	B12	RM 300.97	4453.011	50-yr	2548.52	828.99	823.9	2.89	2.4	36	18.95	196.12	497.32	4.09	2.14	5.09	5.09
Yellowstone County	B12	RM 300.89	4332.618	50-yr	2548.52	828.84	823.66	2.96	2.55	56.62	33.07	198.89	465.25	3.84	2.23	5.18	5.18
Yellowstone County	B12	RM 300.83	4232.362	50-yr	2548.52	828.65	823.78	3.12	2.62	60.25	33.11	175.01	474.78	3.76	2.05	4.87	4.87
Yellowstone County	B12	RM 300.77	4151.049	50-yr	2548.52	828.54	823.75	2.96	2.53	61.87	33.25	176.2	485.08	3.91	2.08	4.79	4.79
Yellowstone County	B12	RM 300.69	4011.358	50-yr	2548.52	828.46	823.63	2.5	1.96	29.65	15.1	206.1	629.11	4.09	2.06	4.83	4.83
Yellowstone County	B12	RM 300.55	3793.957	50-yr	2548.52	828.34	822.93	2.09	1.68	30.84	19.18	263.47	757.43	3.5	2.16	5.41	5.41
Yellowstone County	B12	RM 300.45	3633.035	50-yr	2548.52	828.19	822.53	1.69	1.6	34.71	24.95	335.99	739.48	3.01	2.16	5.66	5.66
Yellowstone County	B12	RM 300.35	3461.833	50-yr	2548.52	827.91	822.66	2.19	1.67	21.65	14.85	389.33	836.29	2.67	1.83	5.26	5.26
Yellowstone County	B12	RM 300.24	3286.175	50-yr	2548.52	827.7	822.47	2.09	1.77	52.39	37.55	421.27	793.06	2.54	1.81	5.23	5.23
Yellowstone County	B12	RM 300.15	3141.724	50-yr	2548.52	827.41	822.47	1.99	1.78	47.55	37.44	481.67	733.56	2.48	1.95	4.94	4.94
Yellowstone County	B12	RM 300.10	3054.752	50-yr	2548.52	827.29	822.35	2.07	1.77	17.75	14.74	462.66	738.35	2.35	1.95	4.94	4.94
Yellowstone County	B12	RM 300.00	2887.728	50-yr	2548.52	827.1	821.22	1.96	1.86	49.69	37.28	467.25	910.72	2.47	1.84	5.88	5.88
Yellowstone County	B12	RM 299.91	2736.431	50-yr	2548.52	826.93	821.5	1.95	1.74	24.06	13.68	350.2	1118.41	2.88	1.63	5.43	5.43
Yellowstone County	B12	RM 299.83	2614.069	50-yr	2548.52	826.77	821.41	1.96	1.9	36.02	22.41	388.69	1071.61	2.44	1.51	5.37	5.37
Yellowstone County	B12	RM 299.72	2484.158	50-yr	2548.52	826.59	820.89	2.02	1.75	35.07	17.68	421.09	1051.57	2.88	1.44	5.7	5.7
Yellowstone County	B12	RM 299.59	2312.328	50-yr	2548.52	826.32	821.13	2.57	1.82	35.16	13.76	221.2	1084.76	3.46	1.34	5.19	5.19
Yellowstone County	B12	RM 299.48	2160.343	50-yr	2548.52	826.07	821.13	3.1	1.94	43.16	15.11	138.95	1010.49	4.04	1.39	4.94	4.94
Yellowstone County	B12	RM 299.38	1995.229	50-yr	2548.52	825.98	821.13	2.47	1.68	58.08	22.39	138.83	1218.1	3.88	1.47	4.85	4.85
Yellowstone County	B12	RM 299.31	1874.433	50-yr	2548.52	825.65	821.22	3.09	1.98	42.77	14.25	148.84	1179.91	3.64	1.2	4.42	4.42
Yellowstone County	B12	RM 299.22	1738.666	50-yr	2548.52	825.49	821.16	3.07	1.8	52.01	16.9	129.2	1182.19	3.96	1.26	4.33	4.33
Yellowstone County	B12	RM 299.15	1613.992	50-yr	2548.52	825.46	820.95	2.36	1.29	28.95	12.4	154.73	1361.39	3.81	1.61	4.51	4.51
Yellowstone County	B12	RM 299.06	1473.748	50-yr	2548.52	825.42	820.64	2.02	1.16	26.54	10.66	116.53	1343.73	4.25	1.66	4.78	4.78
Yellowstone County	B12	RM 298.99	1360.532	50-yr	2548.52	825.36	820.46	1.99	1.23	28.51	11.01	103.4	1392.84	4.16	1.55	4.9	4.9
Yellowstone County	B12	RM 298.93	1269.876	50-yr	2548.52	825.3	820.46	1.99	1.22	27.92	10.87	109.19	1467.22	4.01	1.51	4.83	4.83
Yellowstone County	B12	RM 298.88	1195.725	50-yr	2548.52	825.22	820.43	2.09	1.21	28.15	11.44	119.22	1419.89	3.92	1.54	4.79	4.79
Yellowstone County	B12	RM 298.82	1096.849	50-yr	2548.52	825.07	820.58	2.53	1.36	33.01	14.25	155.88	1331.79	3.36	1.42	4.48	4.48
Yellowstone County	B12	RM 298.77	1018.392	50-yr	2548.52	825	820.4	2.29	1.3	28.48	13.17	185.43	1286.75	3.33	1.52	4.6	4.6
Yellowstone County	B12	RM 298.67	854.844	50-yr	2548.52	824.94	819.39	2	1.27	17.66	10.15	244.95	1279.06	2.76	1.57	5.54	5.54

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	50-yr	2548.52	824.87	819.55	1.63	1.29	18.74	11.58	275.39	1228.55	2.65	1.61	5.33	5.33
Yellowstone County	B12	RM 298.49	579.164	50-yr	2548.52	824.78	819.27	1.81	1.18	15.53	8.09	214.03	1266.27	3.34	1.71	5.51	5.51
Yellowstone County	B12	RM 298.42	469.573	50-yr	2548.52	824.72	819.27	1.86	1.17	24.1	11.27	176.57	1262.14	3.77	1.73	5.45	5.45
Yellowstone County	B12	RM 298.35	368.049	50-yr	2548.52	824.61	819.97	2.19	1.24	25.65	10.28	147.33	1209.73	4.31	1.7	4.64	4.64
Yellowstone County	B12	RM 298.30	290.003	50-yr	2548.52	824.59	819.82	1.89	1.12	16.72	8.83	197.73	1155.4	3.78	1.98	4.77	4.77
Yellowstone County	B12	RM 298.26	211.35	50-yr	2548.52	824.54	819.82	1.89	1.23	20.82	11.65	221.52	1091.02	3.43	1.9	4.72	4.72
Yellowstone County	B12	RM 298.19	83.499	50-yr	2548.52	824.44	819.49	2.09	1.41	20.32	11.89	191.98	926.12	3.37	1.95	4.95	4.95

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	50-yr	3129	824.28	820.43	1.94	1.32	19.05	8.6	197.15	1792.59	3.56	1.59	3.85	3.85
Treasure County	C1	RM 297.89	61639	50-yr	3129	824.1	820.07	1.91	1.51	19.47	10.77	362.24	1335.38	2.94	1.62	4.04	4.04
Treasure County	C1	RM 297.76	61392	50-yr	3129	823.92	819.93	2.02	1.66	24.96	13.07	331	1413.37	3	1.56	3.99	3.99
Treasure County	C1	RM 297.62	61179	50-yr	3129	823.86	819.69	1.62	1.22	13.28	7.54	290.46	1461.08	3.24	1.83	4.17	4.17
Treasure County	C1	RM 297.5	60985	50-yr	3129	823.7	819.39	2.27	1.35	25.09	10.96	159.01	1335.06	4.02	1.74	4.31	4.31
Treasure County	C1	RM 297.36	60767	50-yr	3129	823.57	819.14	2.23	1.43	24.45	12.12	169.82	1144.85	3.88	1.91	4.43	4.43
Treasure County	C1	RM 297.22	60535	50-yr	3129	823.45	819	2.08	1.43	21.13	10.14	149.14	1172.68	3.95	1.87	4.46	4.46
Treasure County	C1	RM 297.08	60314	50-yr	3129	823.34	818.76	2.05	1.25	20.24	9.25	194.31	1352.76	4.1	1.85	4.58	4.58
Treasure County	C1	RM 296.94	60093	50-yr	3129	823.23	818.42	2.1	1.26	21.37	9.41	177.08	1556.13	4.11	1.79	4.81	4.81
Treasure County	C1	RM 296.79	59847	50-yr	3129	823.15	817.97	1.64	1.2	13.14	6.71	246.81	1288.55	4	2.03	5.18	5.18
Treasure County	C1	RM 296.64	59608	50-yr	3129	823.08	817.9	1.72	1.21	14.21	7.95	177.49	1105.24	4.23	2.34	5.18	5.18
Treasure County	C1	RM 296.51	59386	50-yr	3129	823.03	817.8	1.4	1.13	9.46	6	477.13	1068.64	4.1	2.59	5.23	5.23
Treasure County	C1	RM 296.33	59113	50-yr	3129	822.93	817.52	1.64	1.21	12.25	6.91	335.57	1058	4.85	2.71	5.41	5.41
Treasure County	C1	RM 296.16	58839	50-yr	3129	821.95	817.46	4.49	2.88	96.66	35.23	137.37	715.16	4.25	1.52	4.5	4.5
Treasure County	C1	RM 296.01	58583	50-yr	3129	821.67	817.45	2.85	2.27	40.91	23.9	259.72	634.85	3.74	2.17	4.21	4.21
Treasure County	C1	RM 295.83	58296	50-yr	3129	821.52	817.4	1.95	1.92	20.02	17.98	627.05	770.38	2.55	2.29	4.12	4.12
Treasure County	C1	RM 295.66	58032	50-yr	3129	821.2	817.27	2.25	2.25	26.22	26.15	561.89	563.53	2.48	2.47	3.93	3.93
Treasure County	C1	RM 295.52	57800	50-yr	3129	821.1	816.19	1.67	1.67	15.47	15.47	660.7	660.7	2.83	2.83	4.92	4.92
Treasure County	C1	RM 295.31	57474	50-yr	3129	820.97	815.61	1.55	1.47	12.19	10.87	554.61	699.67	3.42	3.05	5.36	5.36
Treasure County	C1	RM 295.13	57174	50-yr	3129	820.8	815.57	1.88	1.46	19.04	10.67	360.88	1043.58	3.91	2.18	5.23	5.23
Treasure County	C1	RM 294.94	56877	50-yr	3129	820.25	815.46	3.27	2.18	50.64	16.64	189.73	1099.75	4.16	1.35	4.8	4.8
Treasure County	C1	RM 294.76	56587	50-yr	3129	820.01	815.45	2.79	1.99	37.43	14.69	257.05	1075.21	3.75	1.46	4.55	4.55
Treasure County	C1	RM 294.55	56261	50-yr	3129	819.75	815.36	2.66	1.89	34.73	15.14	194.71	971.56	3.95	1.7	4.39	4.39
Treasure County	C1	RM 294.38	55980	50-yr	3129	819.56	815.07	2.39	1.74	29.12	12.83	227.09	1195	3.44	1.5	4.49	4.49
Treasure County	C1	RM 294.21	55714	50-yr	3129	819.27	814.88	2.71	1.6	36.16	11.34	201.2	1685.48	3.89	1.21	4.39	4.39
Treasure County	C1	RM 294.02	55401	50-yr	3129	819.05	814.59	2.43	1.53	28.44	10.68	231.94	1651.17	3.35	1.25	4.46	4.46
Treasure County	C1	RM 293.83	55100	50-yr	3129	818.89	814.3	2.06	1.3	20.56	8.36	274.8	1846.74	3.23	1.3	4.59	4.59
Treasure County	C1	RM 293.63	54777	50-yr	3129	818.71	813.55	1.95	1.21	17.13	5.63	332.83	1928.34	4.12	1.34	5.17	5.17
Treasure County	C1	RM 293.43	54432	50-yr	3129	818.43	813.29	2.61	1.26	32.06	9.15	202.13	1981.03	4.45	1.25	5.15	5.15
Treasure County	C1	RM 293.26	54152	50-yr	3129	818.31	813.24	2.33	1.1	25.33	10.1	247.33	2011.21	3.59	1.41	5.08	5.08
Treasure County	C1	RM 293.07	53839	50-yr	3129	818.15	813.24	2.19	0.95	24.18	9.96	241.79	2393.88	3.63	1.48	4.91	4.91
Treasure County	C1	RM 292.83	53458	50-yr	3129	818.09	813.1	1.41	0.78	10.41	5	380.97	2610.31	3.68	1.76	4.99	4.99
Treasure County	C1	RM 292.6	53082	50-yr	3129	817.87	812.6	2.11	1.1	20.65	5.8	238.91	2570.37	4.6	1.29	5.27	5.27
Treasure County	C2	RM 292.32	52612	50-yr	3129	817.7	811.76	2.16	1.08	20.72	7.03	207.17	2064.05	4.71	1.57	5.94	5.94
Treasure County	C2	RM 292.09	52256	50-yr	3129	817.59	811.6	2.17	1.24	20.61	7.23	174.28	1559.2	4.95	1.7	5.99	5.99
Treasure County	C2	RM 291.9	51956	50-yr	3129	817.48	811.55	1.91	1.23	17.39	7.81	240.72	1487.26	4.29	1.9	5.93	5.93
Treasure County	C2	RM 291.71	51639	50-yr	3129	816.89	811.5	3.17	2.17	71.58	29.33	244.86	1068.06	3.35	1.36	5.39	5.39
Treasure County	C2	RM 291.52	51333	50-yr	3129	816.67	811.46	2.52	1.56	29.5	11.88	214.15	1084.73	4.65	1.85	5.21	5.21
Treasure County	C2	RM 291.33	51042	50-yr	3129	816.42	811.46	2.63	1.81	33.34	14.67	232.04	961	4.14	1.8	4.97	4.97
Treasure County	C2	RM 291.15	50747	50-yr	3129	816.37	811.4	1.83	1.41	15.65	7.86	297.47	966.64	4.59	2.29	4.97	4.97
Treasure County	C2	RM 290.94	50437	50-yr	3129	816.25	811.31	1.94	1.25	18.19	10.45	259.99	1079.68	4.08	2.32	4.94	4.94
Treasure County	C2	RM 290.78	50179	50-yr	3129	816.15	810.97	1.68	1.22	14.29	10	393.13	1081.71	3.6	2.5	5.18	5.18
Treasure County	C2	RM 290.6	49891	50-yr	3129	816.05	810.54	1.54	1.34	11.35	7.04	473.72	1692.23	4.14	2.56	5.52	5.52
Treasure County	C2	RM 290.43	49607	50-yr	3129	815.83	810.13	2.22	1.59	23.81	10.16	273.61	1668.14	4.21	1.77	5.7	5.7
Treasure County	C2	RM 290.23	49287	50-yr	3129	815.15	810.07	3.61	2.33	59.86	16.12	154.05	1356.77	4.78	1.26	5.09	5.09
Treasure County	C2	RM 290.04	48976	50-yr	3129	815.05	810.04	2.56	1.71	29.98	9.38	209.93	1656.86	4.83	1.49	5.01	5.01
Treasure County	C2	RM 289.85	48667	50-yr	3129	814.95	809.87	1.91	1.36	18.33	7.63	359.02	1749.41	3.77	1.56	5.08	5.08
Treasure County	C2	RM 289.67	48372	50-yr	3129	814.79	809.87	1.86	1.25	17.85	8.12	397.84	1507.41	3.67	1.66	4.93	4.93
Treasure County	C2	RM 289.46	48067	50-yr	3129	814.69	809.56	1.66	1.18	12.6	7.03	411.53	1216.19	3.94	2.18	5.13	5.13
Treasure County	C2	RM 289.27	47769	50-yr	3129	814.46	809.32	2.19	1.5	23.65	11.66	320.68	1100.11	3.87	1.89	5.14	5.14
Treasure County	C2	RM 289.11	47515	50-yr	3129	814.27	809	2.38	1.52	25.66	10.59	228.59	1026.21	4.9	2	5.27	5.27
Treasure County	C2	RM 288.94	47232	50-yr	3129	813.99	808.59	2.8	1.65	35.37	13.04	186.98	1030.88	5.08	1.84	5.4	5.4
Treasure County	C2	RM 288.76	46939	50-yr	3129	813.88	808.33	2.39	1.35	26.39	11.11	217.33	1200.27	4.72	1.96	5.55	5.55
Treasure County	C2	RM 288.55	46613	50-yr	3129	813.45	808.24	2.99	1.84	43.52	17.79	224.04	1054.88	4	1.61	5.21	5.21
Treasure County	C2	RM 288.36	46302	50-yr	3129	813.34	807.91	2.32	1.43	23.98	7.5	219.5	1351.7	5.26	1.62	5.44	5.44
Treasure County	C2	RM 288.18	46008	50-yr	3129	813.19	807.77	2.36	1.32	26.05	8.78	246.58	1642.75	4.34	1.44	5.43	5.43
Treasure County	C2	RM 287.99	45713	50-yr	3129	813.14	807.58	1.82	1.02	15.07	5.78	241.63	1807.48	4.45	1.69	5.56	5.56
Treasure County	C2	RM 287.81	45421	50-yr	3129	813	807.25	1.99	1.31	18.36	5.29	229.88	1795.22	4.67	1.33	5.75	5.75
Treasure County	C2	RM 287.62	45112	50-yr	3129	812.66	807.19	2.96	1.65	39.6	8.12	138.9	1881.39	5.06	1.01	5.47	5.47
Treasure County	C2	RM 287.42	44789	50-yr	3129	812.34	807.15	3.08	1.69	43.71	9.08	159.89	1907.48	4.76	0.97	5.19	5.19

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	50-yr	3129	812.3	806.81	1.83	1.26	16.73	5.24	420.05	2189.67	3.64	1.13	5.48	5.48
Treasure County	C2	RM 287.06	44222	50-yr	3129	812.22	806.77	1.49	1.09	11.91	4.71	515.12	2257.95	3.54	1.39	5.45	5.45
Treasure County	C2	RM 286.9	43958	50-yr	3129	812.08	806.52	1.89	1.14	16.28	4.87	277.39	2193.09	4.81	1.42	5.56	5.56
Treasure County	C2	RM 286.72	43671	50-yr	3129	811.44	806.4	3.93	1.81	71.1	14.71	122.22	1808.27	4.71	0.96	5.04	5.04
Treasure County	C3	RM 286.58	43448	50-yr	3129	810.96	806.32	3.59	2.1	60.31	12.82	169.59	1584.26	4.5	0.94	4.64	4.64
Treasure County	C3	RM 286.51	43344	50-yr	3129	810.98	806.32	2.98	1.71	41.46	10.27	193.91	1661.69	4.52	1.1	4.66	4.66
Treasure County	C3	RM 286.46	43257	50-yr	3129	810.88	806.25	3.05	1.74	43.77	11.15	196.96	1630.11	4.35	1.1	4.63	4.63
Treasure County	C3	RM 286.37	43117	50-yr	3129	810.92	806.17	2.14	1.21	22.82	9.09	295.42	1859.26	3.68	1.45	4.75	4.75
Treasure County	C3	RM 286.26	42931	50-yr	3129	810.65	806.17	2.66	1.51	63.14	18.92	219.45	1960.33	3.57	1.06	4.48	4.48
Treasure County	C3	RM 286.06	42624	50-yr	3129	810.38	806.08	2.08	1.21	21.78	7.89	354.48	2358.99	3.45	1.24	4.3	4.3
Treasure County	C3	RM 285.81	42213	50-yr	3129	810.15	805.78	2.02	1.02	19.24	8.01	222.25	3504.01	2.83	1.16	4.37	4.37
Treasure County	C3	RM 285.56	41812	50-yr	3129	809.92	805.34	1.97	0.94	18.32	5.01	237.24	3668.09	4.32	1.17	4.59	4.59
Treasure County	C3	RM 285.23	41280	50-yr	3129	809.68	805.17	2.15	0.91	23.39	7.05	152.4	3969.95	3.59	1.06	4.51	4.51
Treasure County	C3	RM 284.69	40395	50-yr	3129	809.24	804.85	2.56	1.26	34.92	9.21	159.53	3111.9	3.09	0.8	4.39	4.39
Treasure County	C3	RM 284.26	39705	50-yr	3129	808.86	804.6	2.03	1.3	21.77	6.07	348.37	2700.34	3.28	0.91	4.26	4.26
Treasure County	C3	RM 283.96	39199	50-yr	3129	808.56	804.3	2.19	1.23	24.37	6.72	244.91	3275.59	3.47	0.94	4.26	4.26
Treasure County	C3	RM 283.69	38766	50-yr	3129	808.36	803.9	2.07	1.05	20.79	5.23	191.09	3322.53	4.05	1	4.46	4.46
Treasure County	C3	RM 283.35	38229	50-yr	3129	808.18	803.42	1.75	0.97	15.47	5.61	291.01	2793.96	3.52	1.26	4.76	4.76
Treasure County	C3	RM 283.05	37749	50-yr	3129	807.82	803.32	2.53	1.19	31.93	8.11	194.22	3003.43	3.71	0.93	4.5	4.5
Treasure County	C3	RM 282.78	37306	50-yr	3129	807.55	803.11	2.15	1.07	22.25	7.09	259.21	3072.02	3.25	1.02	4.44	4.44
Treasure County	C3	RM 282.56	36942	50-yr	3129	807.42	802.83	1.62	0.86	13.51	4.94	281.91	3313.88	3.21	1.16	4.59	4.59
Treasure County	C3	RM 282.31	36546	50-yr	3129	807.26	802.74	1.89	0.82	17.3	5.52	187.32	3100.61	4.09	1.28	4.52	4.52
Treasure County	C3	RM 282.09	36195	50-yr	3129	807.09	802.56	2.2	0.94	24.62	8.72	181.69	2855.28	3.49	1.22	4.53	4.53
Treasure County	C4	RM 281.73	35619	50-yr	3129	806.89	801.74	1.67	0.95	13.28	5.27	426.96	2835.46	3.02	1.19	5.15	5.15
Treasure County	C4	RM 281.35	35005	50-yr	3129	806.73	801.53	1.57	0.82	11.35	3.47	316.27	2704.08	4.68	1.42	5.2	5.2
Treasure County	C4	RM 281.03	34521	50-yr	3129	806.54	801.19	2.09	0.91	20.52	5.86	228.85	2728.22	4.46	1.26	5.34	5.34
Treasure County	C4	RM 280.73	34051	50-yr	3129	806.43	800.82	1.32	0.84	9.4	5.51	693.36	2466.32	2.59	1.51	5.62	5.62
Treasure County	C4	RM 280.5	33687	50-yr	3129	806.33	800.66	1.21	0.81	8.73	5.34	756.46	2380.34	2.67	1.63	5.67	5.67
Treasure County	C4	RM 280.27	33304	50-yr	3129	806.24	800.31	1.12	0.76	7.8	4.93	759.73	2225.81	2.95	1.86	5.92	5.92
Treasure County	C4	RM 279.95	32800	50-yr	3129	806.12	800.08	1.22	0.69	8.63	4.13	503.81	2495.42	3.83	1.82	6.04	6.04
Treasure County	C4	RM 279.6	32231	50-yr	3129	805.79	799.98	2.23	1.24	24	9.79	304.47	1772.03	3.52	1.42	5.81	5.81
Treasure County	C4	RM 279.33	31805	50-yr	3129	805.16	799.98	3.08	1.9	46.69	15.34	244.79	1430.84	3.63	1.18	5.18	5.18
Treasure County	C4	RM 279.14	31495	50-yr	3129	805.02	799.96	2.39	1.36	26.39	6.97	239.81	2111.56	4.23	1.1	5.06	5.06
Treasure County	C4	RM 278.96	31209	50-yr	3129	804.96	799.87	1.74	1.1	15.41	4.2	367.55	2634.11	4.16	1.13	5.09	5.09
Treasure County	C4	RM 278.76	30894	50-yr	3129	804.83	799.6	1.77	1.09	15.29	4.57	423.69	3026.09	3.47	1.03	5.23	5.23
Treasure County	C4	RM 278.56	30571	50-yr	3129	804.67	799.53	1.92	1.01	18.39	5.16	336.63	2977.95	3.75	1.04	5.14	5.14
Treasure County	C4	RM 278.37	30259	50-yr	3129	804.58	799.26	1.63	0.96	12.45	3.64	369.33	2523.83	4.45	1.29	5.32	5.32
Treasure County	C5	RM 278.16	29915	50-yr	3129	804.26	798.81	2.61	1.33	32.38	7.67	207.39	2136.63	4.73	1.1	5.44	5.44
Treasure County	C5	RM 277.99	29648	50-yr	3129	803.9	798.77	3.05	1.68	44.55	9.94	189.71	1843.29	4.62	1.01	5.13	5.13
Treasure County	C5	RM 277.8	29336	50-yr	3129	803.64	798.74	2.89	1.77	38.91	9.07	212.34	1670.3	4.58	1.06	4.9	4.9
Treasure County	C5	RM 277.61	29041	50-yr	3129	803.43	798.72	2.76	1.64	35.45	9.61	216.71	1568.13	4.54	1.21	4.71	4.71
Treasure County	C5	RM 277.43	28747	50-yr	3129	803.31	798.48	2.22	1.47	23.94	8.46	306.39	1513.02	4.05	1.41	4.83	4.83
Treasure County	C5	RM 277.22	28415	50-yr	3129	803.07	798.47	2.19	1.69	23.48	10.81	424.41	1313.29	3.08	1.41	4.61	4.61
Treasure County	C5	RM 277.04	28123	50-yr	3129	802.87	798.4	2.1	1.7	20.14	11.41	459.83	1061.36	3.08	1.73	4.47	4.47
Treasure County	C5	RM 276.81	27791	50-yr	3129	802.77	797.8	1.71	1.3	13.85	6.9	376.57	1128.6	4.3	2.13	4.97	4.97
Treasure County	C5	RM 276.63	27499	50-yr	3129	802.5	797.4	2.49	1.58	29.26	10.72	234.28	1252.63	4.34	1.58	5.1	5.1
Treasure County	C5	RM 276.4	27133	50-yr	3129	802.3	797.1	2.34	1.46	25.69	10.29	239.33	1213.09	4.44	1.76	5.2	5.2
Treasure County	C5	RM 276.19	26801	50-yr	3129	802.11	796.87	2.43	1.61	27.67	11.54	189.04	1048.56	4.51	1.85	5.24	5.24
Treasure County	C5	RM 276.01	26502	50-yr	3129	801.92	796.74	2.54	1.56	29.61	10.14	159.03	1233.31	4.84	1.62	5.19	5.19
Treasure County	C5	RM 275.81	26193	50-yr	3129	801.84	796.61	2.09	1.28	20.12	6.93	179.56	1542.36	4.68	1.59	5.22	5.22
Treasure County	C5	RM 275.63	25896	50-yr	3129	801.7	796.49	2.29	1.26	23.84	8.26	134.65	1482.4	4.95	1.68	5.21	5.21
Treasure County	C5	RM 275.45	25606	50-yr	3129	801.64	796.37	1.79	1.22	14.99	6.27	153.92	1652.3	4.56	1.87	5.26	5.26
Treasure County	C5	RM 275.26	25299	50-yr	3129	801.38	796.16	2.21	1.62	22.07	9.29	251.91	1614.17	4.98	2.08	5.22	5.22
Treasure County	C5	RM 275.09	25033	50-yr	3129	801	796.13	2.99	2.25	41.05	17.92	199.32	1203.88	4.73	2.04	4.87	4.87
Treasure County	C6	RM 274.89	24716	50-yr	3129	800.86	796.04	2.47	1.56	28.7	13.61	229.27	2669.86	4.4	2.07	4.83	4.83
Treasure County	C6	RM 274.72	24440	50-yr	3129	800.04	796.04	3.89	2.79	78.25	30.54	214.5	1682.45	3.35	1.3	4	4
Treasure County	C6	RM 274.55	24165	50-yr	3129	800	795.79	2.22	1.38	27.5	12.3	294.37	2926.86	3.07	1.36	4.2	4.2
Treasure County	C6	RM 274.38	23892	50-yr	3129	799.79	795.55	2.23	1.22	25.25	8.75	229.3	3272.14	3.54	1.22	4.24	4.24
Treasure County	C6	RM 274.13	23491	50-yr	3129	799.57	795.16	2.26	1.25	27.07	9.45	224.37	3290.42	3.14	1.08	4.41	4.41
Treasure County	C6	RM 273.83	22999	50-yr	3129	799.38	794.46	1.97	1.03	18.66	5.14	184.4	3906.05	4.11	1.11	4.91	4.91

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	50-yr	3129	799.12	794.04	2.38	1.06	25.88	6.8	179.34	3764.7	3.83	0.99	5.09	5.09
Treasure County	C6	RM 273.35	22238	50-yr	3129	798.94	794.04	2.01	0.93	19.7	7.53	230.93	4132.92	3.14	1.18	4.9	4.9
Treasure County	C6	RM 273.15	21916	50-yr	3129	798.79	793.92	1.9	0.87	18.15	7.44	266.7	4172.52	3.14	1.27	4.87	4.87
Treasure County	C6	RM 272.83	21397	50-yr	3129	798.62	793.79	1.79	0.82	14.86	5.29	263.82	4375.82	3.54	1.25	4.83	4.83
Treasure County	C6	RM 272.5	20872	50-yr	3129	798.41	793.46	2.1	0.93	23.35	8.39	229.86	4317.69	3.22	1.14	4.95	4.95
Treasure County	C6	RM 272.19	20368	50-yr	3129	798.1	793.34	2.28	1.04	24.79	7.91	247.4	3753.41	3.76	1.19	4.76	4.76
Treasure County	C6	RM 271.91	19902	50-yr	3129	797.88	793.18	2.24	1.08	24.1	6.56	227.32	3963.38	4.15	1.12	4.7	4.7
Treasure County	C6	RM 271.68	19534	50-yr	3129	797.5	792.81	2.92	1.55	42.09	10.47	192.12	3318.06	3.85	0.95	4.69	4.69
Treasure County	C6	RM 271.41	19102	50-yr	3129	797.47	792.54	1.54	0.97	11.95	5.61	302.07	3123.06	3.6	1.68	4.93	4.93
Treasure County	C6	RM 271.06	18548	50-yr	3129	796.96	792.18	3.07	1.76	47.11	11.26	172.42	2896.59	3.7	0.87	4.78	4.78
Treasure County	C6	RM 270.64	17870	50-yr	3129	796.76	792.05	1.74	0.99	15.44	5.57	234.57	3377.89	3.43	1.22	4.71	4.71
Treasure County	C6	RM 270.05	16897	50-yr	3129	796.5	791.48	2.05	0.94	19.01	6.83	174.33	2917.78	3.88	1.37	5.02	5.02
Treasure County	C6	RM 269.75	16413	50-yr	3129	796.18	791.35	2.42	1.19	28.73	8.98	224.82	3506.26	3.92	1.21	4.83	4.83
Treasure County	C6	RM 269.47	15967	50-yr	3129	795.77	791.23	2.8	1.63	37.86	7.9	209.73	3394.11	4.1	0.84	4.54	4.54
Treasure County	C7	RM 269.27	15645	50-yr	3129	795.65	791.23	2.13	1.33	22.05	6.21	279.64	3126.08	3.83	1.07	4.42	4.42
Treasure County	C7	RM 269.06	15308	50-yr	3129	795.55	791.01	1.65	1.01	13.83	4.75	197.37	3064.4	3.55	1.2	4.54	4.54
Treasure County	C7	RM 268.83	14957	50-yr	3129	795.48	790.6	1.14	0.76	6.73	2.97	267.05	3073.64	3.29	1.43	4.88	4.88
Treasure County	C7	RM 268.55	14516	50-yr	3129	795.35	790.17	1.54	0.8	11.37	3.83	224.66	3326.14	4.24	1.41	5.18	5.18
Treasure County	C7	RM 268.2	13976	50-yr	3129	795.12	789.62	2.11	0.91	21.12	6.32	234.34	3624	4.3	1.27	5.49	5.49
Treasure County	C7	RM 267.87	13439	50-yr	3129	794.75	789.53	2.54	1.07	29.11	9.31	227.32	2653.1	4	1.26	5.22	5.22
Treasure County	C7	RM 267.53	12884	50-yr	3129	794.05	789.5	3.19	1.49	51.02	15.01	242.41	2351.88	3.22	0.94	4.55	4.55
Treasure County	C7	RM 267.14	12253	50-yr	3129	793.84	789.26	2.02	1.09	19.89	6.39	227.28	2496.85	3.65	1.16	4.58	4.58
Treasure County	C7	RM 266.8	11700	50-yr	3129	793.7	789.2	1.83	0.96	16.67	5.68	214.75	2583.79	3.75	1.26	4.5	4.5
Treasure County	C7	RM 266.41	11078	50-yr	3129	793.5	789.14	2.2	1.06	24.97	8.39	159.5	2622.76	3.43	1.13	4.36	4.36
Treasure County	C7	RM 266.11	10593	50-yr	3129	793.29	788.83	2.03	1.09	21.36	7.17	259.43	2666.51	3.33	1.11	4.46	4.46
Treasure County	C7	RM 265.92	10283	50-yr	3129	793.19	788.65	1.7	1.05	14.25	5.65	341.48	2748.58	2.8	1.1	4.54	4.54
Treasure County	C7	RM 265.68	9915	50-yr	3129	792.88	788.21	2.54	1.47	30.43	7.01	180	2101.22	4.47	1.01	4.67	4.67
Treasure County	C7	RM 265.52	9650	50-yr	3129	792.76	788.07	2.41	1.34	28.9	8.87	162.02	2061.8	3.75	1.13	4.68	4.68
Treasure County	C7	RM 265.34	9362	50-yr	3129	792.52	788.07	2.34	1.35	28.44	9.86	179.19	2042.9	3.32	1.13	4.45	4.45
Treasure County	C7	RM 265.16	9071	50-yr	3129	792.33	787.95	1.92	1.33	21.74	8.45	297.09	2074.17	2.95	1.14	4.38	4.38
Treasure County	C7	RM 264.98	8775	50-yr	3129	792.16	787.59	1.87	1.33	17.59	9.52	461.79	2135.46	2.04	1.1	4.57	4.57
Treasure County	C7	RM 264.81	8508	50-yr	3129	792.06	787.35	1.23	1.03	12.44	7	661.69	2306.85	2.36	1.32	4.71	4.71
Treasure County	C7	RM 264.64	8216	50-yr	3129	791.94	787.22	1.3	1.05	12.16	6.74	652.13	2251.36	2.39	1.32	4.72	4.72
Treasure County	C7	RM 264.39	7803	50-yr	3129	791.72	786.86	1.81	1.23	19.26	7.27	343.32	2192.67	3.12	1.17	4.87	4.87
Treasure County	C7	RM 264.15	7406	50-yr	3129	791.63	786.6	1.47	1.02	11.38	5.27	202.21	2043.53	3.28	1.5	5.03	5.03
Treasure County	C7	RM 263.97	7116	50-yr	3129	791.5	786.49	1.81	1.17	15.3	4.56	179.44	2001.26	4.62	1.35	5.01	5.01
Treasure County	C7	RM 263.79	6834	50-yr	3129	791.34	786.49	2.2	1.27	23.63	9.08	204.2	2588.85	3.68	1.39	4.85	4.85
Treasure County	C7	RM 263.6	6534	50-yr	3129	791.16	786.37	2.12	1.25	21.9	8.33	207.01	1977.85	4.01	1.51	4.79	4.79
Treasure County	C7	RM 263.39	6194	50-yr	3129	790.99	786.25	1.71	1.24	14.54	6.3	459.15	2378.63	3.43	1.48	4.75	4.75
Treasure County	C7	RM 263.19	5862	50-yr	3129	790.78	786	2.04	1.1	21.87	9.63	333.53	2222.92	3.2	1.4	4.78	4.78
Treasure County	C7	RM 262.95	5479	50-yr	3129	790.51	785.85	2.01	1.24	18.36	7.34	417.03	2102	3.02	1.2	4.66	4.66
Treasure County	C7	RM 262.78	5206	50-yr	3129	790.43	785.76	1.57	0.96	13.88	6.69	440.96	2344.94	2.92	1.4	4.67	4.67
Treasure County	C7	RM 262.58	4883	50-yr	3129	790.34	785.64	1.19	0.76	8.78	5.23	621.05	2363.96	2.99	1.78	4.7	4.7
Treasure County	C7	RM 262.42	4613	50-yr	3129	790.28	785.54	1.09	0.72	6.98	4.13	655.56	2384.33	3.09	1.82	4.74	4.74
Treasure County	C7	RM 262.24	4323	50-yr	3129	790.22	785.43	1.03	0.79	5.86	3.14	839.62	2522.06	3.24	1.73	4.8	4.8
Treasure County	C7	RM 261.95	3917	50-yr	3129	790.1	785.28	1.3	0.97	9.94	5.35	654.59	1804.95	3.32	1.78	4.82	4.82
Treasure County	C7	RM 261.7	3519	50-yr	3129	789.89	784.87	1.45	1.25	29.73	14.68	605.89	1525.16	3.34	1.64	5.01	5.01
Treasure County	C7	RM 261.53	3256	50-yr	3129	789.62	784.51	1.5	1.3	30.52	18.56	623.93	1326.77	3	1.82	5.12	5.12
Treasure County	C7	RM 261.35	2959	50-yr	3129	789.51	784.33	1.3	1.11	8.51	5.19	580.98	1189.34	3.89	2.36	5.18	5.18
Treasure County	C7	RM 261.2	2720	50-yr	3129	789.4	784.14	1.44	1.24	27.22	16.12	545.92	1168.09	3.65	2.15	5.26	5.26
Treasure County	C7	RM 261.03	2441	50-yr	3129	789.27	783.66	1.56	1.18	11.62	5.36	401.64	1234.16	4.7	2.15	5.61	5.61
Treasure County	C7	RM 260.84	2142	50-yr	3129	789.15	783.41	1.77	1.22	14.77	6.07	341.22	1339.5	4.7	1.92	5.74	5.74
Treasure County	C7	RM 260.66	1863	50-yr	3129	789.07	783.29	1.72	1.13	14.09	6.53	351.21	1364.84	4.44	2.04	5.78	5.78
Treasure County	C8	RM 259.9	634	50-yr	3129	787.91	782.46	3.59	2.33	58.42	21.21	151.91	801.86	4.96	1.78	5.45	5.45
Treasure County	C8	RM 259.72	347	50-yr	3129	787.69	782.45	3.17	2.13	46	22.48	179.3	802.96	4.83	2.34	5.23	5.23
Treasure County	C8	RM 259.55	68	50-yr	3129	787.62	782.2	2.16	2.12	22.42	15.61	399.72	589.18	3.61	2.51	5.42	5.42

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	50-yr	3129	787.62	782.19	2.69	2.27	32.36	13.07	221.77	692.07	4.98	1.99	5.43	5.43
Rosebud County	C8	RM 259.41	87598	50-yr	3129	787.33	781.96	2.88	2.63	40.91	20.64	209.53	464.03	5.11	2.56	5.37	5.37
Rosebud County	C8	RM 259.22	87292	50-yr	3129	787.2	781.55	2.5	2.11	28.36	17.36	233.09	479.61	5.08	3.09	5.65	5.65
Rosebud County	C8	RM 259.04	87004	50-yr	3129	787	781	2.61	2.07	35.19	16.33	211.61	651.22	5.08	2.32	6	6
Rosebud County	C8	RM 258.85	86696	50-yr	3129	786.82	780.9	2.41	1.81	26.23	12.33	288.74	913.97	4.07	1.89	5.92	5.92
Rosebud County	C8	RM 258.66	86399	50-yr	3129	786.57	780.78	2.71	1.86	32.32	11.32	183.46	885.14	5.53	1.9	5.79	5.79
Rosebud County	C8	RM 258.47	86098	50-yr	3129	786.38	780.65	2.7	1.77	33.23	11.22	202.57	1139.49	4.67	1.56	5.73	5.73
Rosebud County	C8	RM 258.28	85798	50-yr	3129	786.22	780.53	2.46	1.67	27.77	12.18	222.43	989.73	4.37	1.9	5.69	5.69
Rosebud County	C8	RM 258.1	85498	50-yr	3129	785.96	780.14	2.69	1.76	32.18	11.77	180.25	928.75	5.32	1.91	5.82	5.82
Rosebud County	C8	RM 257.91	85200	50-yr	3129	785.82	780.14	2.42	1.5	27.93	10.01	224.43	1495.62	4.27	1.51	5.68	5.68
Rosebud County	C8	RM 257.71	84875	50-yr	3129	785.6	780.14	2.48	1.54	30.19	10.83	219.86	1520.18	3.88	1.37	5.46	5.46
Rosebud County	C8	RM 257.54	84597	50-yr	3129	785.46	780.17	2.27	1.3	23.58	8.54	209	1644.65	4.43	1.58	5.29	5.29
Rosebud County	C8	RM 257.36	84298	50-yr	3129	785.33	780.05	2.18	1.24	22.29	8.74	188.65	1612.01	4.35	1.7	5.28	5.28
Rosebud County	C8	RM 257.16	83984	50-yr	3129	785.29	780	1.49	0.97	10.03	4.11	305.45	2043.23	5.03	2.06	5.29	5.29
Rosebud County	C8	RM 256.87	83608	50-yr	3129	784.9	779.89	2.84	1.61	37.07	13.32	181.39	1393.44	4.66	1.66	5.01	5.01
Rosebud County	C8	RM 256.65	83257	50-yr	3129	784.89	779.82	1.8	1.2	15.32	7	171.34	1960.29	4.74	2.14	5.07	5.07
Rosebud County	C8	RM 256.45	82941	50-yr	3129	784.65	779.67	2.26	1.44	23.39	8.71	222.18	1959.14	4.82	1.78	4.98	4.98
Rosebud County	C8	RM 256.26	82630	50-yr	3129	784.49	779.58	1.93	1.42	31.74	18.57	369.93	1790.53	3.5	2.04	4.91	4.91
Rosebud County	C8	RM 256.1	82375	50-yr	3129	784.35	779.42	1.65	1.53	12.71	8.77	594.72	1531.58	3.15	2.17	4.93	4.93
Rosebud County	C8	RM 255.91	82077	50-yr	3129	784.28	779.09	1.4	1.23	9.06	5.82	591.1	2440.16	3.67	2.36	5.19	5.19
Rosebud County	C8	RM 255.7	81747	50-yr	3129	784.07	778.73	2.03	1.5	19.12	9.06	306.33	2105.08	4.45	2.09	5.34	5.34
Rosebud County	C8	RM 255.51	81446	50-yr	3129	783.91	778.49	2.17	1.54	22.02	11.52	269.19	1013.41	4.46	2.31	5.42	5.42
Rosebud County	C8	RM 255.31	81125	50-yr	3129	783.76	778.36	2.1	1.49	25.09	9.62	242.95	1120.04	4.94	1.88	5.4	5.4
Rosebud County	C8	RM 255.14	80856	50-yr	3129	783.54	778.24	2.43	1.66	26.48	10.71	210.87	925.65	5.09	2.04	5.3	5.3
Rosebud County	C8	RM 254.95	80554	50-yr	3129	783.32	778.12	2.61	1.79	30.76	12.63	205.86	860.9	5	2.03	5.2	5.2
Rosebud County	C8	RM 254.76	80251	50-yr	3129	783.17	778	2.43	1.67	26.73	11.64	218.15	867.49	5	2.16	5.17	5.17
Rosebud County	C8	RM 254.58	79960	50-yr	3129	783	777.88	2.43	1.68	26.6	10.24	229.98	991.55	4.99	1.91	5.12	5.12
Rosebud County	C8	RM 254.39	79658	50-yr	3129	782.95	777.41	1.9	1.34	16.41	7.06	296.93	1244.09	4.87	2.09	5.54	5.54
Rosebud County	C8	RM 254.2	79359	50-yr	3129	782.69	777.39	2.42	1.77	27.45	12.78	269.75	868.46	4.39	2.04	5.3	5.3
Rosebud County	C8	RM 254.01	79052	50-yr	3129	782.49	776.82	2.53	1.71	27.86	9.93	209.61	966.09	5.35	1.9	5.67	5.67
Rosebud County	C9	RM 253.82	78779	50-yr	3129	782.34	776.24	2.07	1.52	65.16	25.06	246.84	1369.29	4.46	1.69	6.1	6.1
Rosebud County	C9	RM 253.63	78478	50-yr	3129	781.69	776.12	2.77	1.66	73.63	20.81	180.25	1542.23	4.4	1.22	5.57	5.57
Rosebud County	C9	RM 253.45	78178	50-yr	3129	781.4	775.97	2.55	1.36	30.36	10.73	172.93	1550.41	4.28	1.49	5.43	5.43
Rosebud County	C9	RM 253.26	77879	50-yr	3129	781.27	775.72	2.08	1.14	17.74	7.13	240.93	1556.31	4.43	1.76	5.55	5.55
Rosebud County	C9	RM 253.07	77578	50-yr	3129	780.92	775.57	2.91	1.53	37.63	12.53	189.99	1555.32	4.03	1.32	5.35	5.35
Rosebud County	C9	RM 252.88	77278	50-yr	3129	780.76	775.45	2.35	1.39	27.33	8.36	221.89	2124.06	3.86	1.16	5.31	5.31
Rosebud County	C9	RM 252.69	76962	50-yr	3129	780.67	775.33	1.79	0.95	15.52	4.9	260.67	2620.47	4.04	1.26	5.34	5.34
Rosebud County	C9	RM 252.49	76646	50-yr	3129	780.36	775.36	2.78	1.13	34.74	8.24	161.39	3206.53	4.07	0.95	5	5
Rosebud County	C9	RM 252.24	76252	50-yr	3129	780.19	775.4	2.21	0.96	24.81	6.91	167.1	3346.71	3.76	1.03	4.79	4.79
Rosebud County	C9	RM 252.01	75885	50-yr	3129	780.04	775.39	1.78	0.86	22.85	6.69	252.1	3686.99	3.53	1.02	4.65	4.65
Rosebud County	C9	RM 251.7	75438	50-yr	3129	779.9	775.01	1.42	0.81	9.17	3.76	603.69	3649.98	2.58	1.05	4.89	4.89
Rosebud County	C9	RM 251.49	75098	50-yr	3129	779.79	775.02	1.25	0.78	10.36	6.1	716.44	3304.45	2.06	1.21	4.77	4.77
Rosebud County	C9	RM 251.23	74691	50-yr	3129	779.61	775.05	1.34	0.81	9.75	5.02	754.16	3581.73	2.12	1.08	4.56	4.56
Rosebud County	C9	RM 251.01	74322	50-yr	3129	779.45	774.84	1.46	0.79	9.41	4.4	595.57	3759.53	2.47	1.15	4.61	4.61
Rosebud County	C9	RM 250.79	73973	50-yr	3129	779.33	774.42	1.55	0.82	11.51	4.53	417.99	3487.47	3.18	1.24	4.91	4.91
Rosebud County	C9	RM 250.6	73678	50-yr	3129	779.2	774.17	1.62	0.92	22.05	8.45	376.03	3705.07	2.95	1.13	5.03	5.03
Rosebud County	C9	RM 250.37	73306	50-yr	3129	778.88	774.05	2.33	1.06	24.49	6.99	233.23	2727.54	3.97	1.13	4.83	4.83
Rosebud County	C9	RM 250.17	72982	50-yr	3129	778.7	773.93	2.48	1.07	30.7	11.37	214.36	2484.33	3.32	1.21	4.77	4.77
Rosebud County	C9	RM 249.95	72617	50-yr	3129	778.42	773.83	2.45	1.2	29.11	7.93	226.06	2504.67	3.87	1.04	4.59	4.59
Rosebud County	C9	RM 249.73	72253	50-yr	3129	778.21	773.71	2.25	1.09	24.93	8.1	273.96	2551.48	3.46	1.12	4.5	4.5
Rosebud County	C9	RM 249.53	71936	50-yr	3129	778.12	773.38	1.68	0.89	13.47	4.66	362.14	2712.06	3.75	1.3	4.74	4.74
Rosebud County	C9	RM 249.31	71579	50-yr	3129	777.87	773.14	2.1	1.2	24.93	8.41	363.92	3429.79	2.92	0.98	4.73	4.73
Rosebud County	C9	RM 249.13	71274	50-yr	3129	777.69	772.84	1.99	1	19.9	5.8	301.37	3543.03	3.8	1.1	4.85	4.85
Rosebud County	C9	RM 248.94	70978	50-yr	3129	777.44	772.56	2.47	1.04	29.56	7.5	201.69	3559.48	3.85	0.97	4.88	4.88
Rosebud County	C9	RM 248.76	70681	50-yr	3129	777.4	772.32	1.4	0.81	10.3	3.55	424.32	3055.5	3.68	1.26	5.08	5.08
Rosebud County	C9	RM 248.53	70312	50-yr	3129	777.34	772.17	1.41	0.65	8.91	3.18	164.13	3186.82	4.28	1.52	5.17	5.17
Rosebud County	C9	RM 248.31	69962	50-yr	3129	777.18	772.04	1.87	0.89	17.42	6.25	277.15	2768.17	3.61	1.28	5.14	5.14
Rosebud County	C9	RM 248.08	69603	50-yr	3129	777	771.92	2.17	0.89	20.47	5.79	211.49	3102.75	4.12	1.16	5.08	5.08
Rosebud County	C9	RM 247.88	69253	50-yr	3129	776.88	771.92	1.73	0.92	23.83	9.58	348.22	3083.62	2.81	1.12	4.96	4.96
Rosebud County	C9	RM 247.64	68836	50-yr	3129	776.63	771.95	1.82	0.99	17.63	6.68	416.51	2818.04	2.97	1.12	4.68	4.68

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	50-yr	3129	776.49	771.87	1.65	0.8	12.8	3.83	282.85	3269.2	4.19	1.25	4.62	4.62
Rosebud County	C9	RM 247.11	67963	50-yr	3129	776.22	771.45	2.62	1.18	33.79	9.14	199.91	2858.71	3.62	0.97	4.77	4.77
Rosebud County	C9	RM 246.83	67502	50-yr	3129	776.06	770.97	2.06	0.97	21.69	6.03	194.9	2723.13	4.5	1.24	5.09	5.09
Rosebud County	C9	RM 246.52	67019	50-yr	3129	775.91	770.61	1.9	0.97	16.62	4.89	225.63	2826.49	4.68	1.36	5.3	5.3
Rosebud County	C9	RM 246.22	66538	50-yr	3129	775.14	770.53	3.58	1.71	65.54	17.78	217.05	2676.81	3.05	0.82	4.61	4.61
Rosebud County	C9	RM 245.94	66068	50-yr	3129	774.65	770.29	2.3	1.55	27.69	8.48	297.16	2232.38	3.11	0.94	4.36	4.36
Rosebud County	C9	RM 245.66	65624	50-yr	3129	774.52	769.81	1.63	0.93	13.76	4.92	198.01	2177.82	4.46	1.57	5.28	5.28
Rosebud County	C9	RM 245.4	65205	50-yr	3129	774.33	769.59	1.92	1.23	16.81	8.11	376.4	2017.66	2.64	1.26	5.17	5.17
Rosebud County	C9	RM 245.15	64804	50-yr	3129	774.06	769.41	1.67	1.27	38.41	17.27	329.11	2271.09	2.44	1.09	4.9	4.9
Rosebud County	C9	RM 244.89	64387	50-yr	3129	773.37	769.41	2.97	1.73	44.38	11.4	189.43	1960.59	3.64	0.92	4.34	4.34
Rosebud County	C9	RM 244.7	64085	50-yr	3129	773.39	769.37	1.5	1.05	11.45	4.08	221.5	2438.39	3.45	1.23	4.48	4.48
Rosebud County	C9	RM 244.51	63776	50-yr	3129	773.33	769.35	1.3	0.9	9.69	3.94	264.21	2471.94	3.46	1.4	4.42	4.42
Rosebud County	C9	RM 244.33	63499	50-yr	3129	773.31	769.16	0.84	0.71	3.93	2.24	274.46	2377.31	3.28	1.86	4.88	4.88
Rosebud County	C9	RM 244.14	63224	50-yr	3129	773.27	768.52	1.1	0.73	5.85	2.72	208.4	2340.85	3.98	1.83	4.84	4.84
Rosebud County	C9	RM 243.96	62927	50-yr	3129	773.2	768.13	1.44	0.84	9.92	3.96	176.71	2243.74	4.2	1.67	5.07	5.07
Rosebud County	C9	RM 243.77	62617	50-yr	3129	773.17	767.57	0.99	0.68	4.4	2.19	160.76	2044.36	5.11	2.51	5.6	5.6
Rosebud County	C9	RM 243.59	62327	50-yr	3129	773.08	766.98	1.61	0.84	13.31	4.33	122.45	2589.46	5.7	1.8	6.1	6.1
Rosebud County	C9	RM 243.39	62012	50-yr	3129	772.86	766.86	2.29	1.05	23.57	6.42	156.08	2530.13	5.12	1.36	6	6
Rosebud County	C9	RM 243.21	61718	50-yr	3129	772.7	766.74	2.27	1.12	22.72	5.79	203.35	2474.49	5.44	1.36	5.96	5.96
Rosebud County	C10	RM 243.03	61422	50-yr	3129	772.46	766.73	2.81	1.26	36.99	10.84	174.23	2139.99	4.55	1.3	5.73	5.73
Rosebud County	C10	RM 242.84	61125	50-yr	3129	772.01	766.76	3.33	1.67	52.82	14	172.04	1643.35	4.39	1.14	5.25	5.25
Rosebud County	C10	RM 242.65	60825	50-yr	3129	771.79	766.76	2.83	1.53	38.43	10.89	204.7	1613.61	4.55	1.27	5.03	5.03
Rosebud County	C10	RM 242.47	60527	50-yr	3129	771.64	766.77	2.43	1.41	27.79	8.81	241.01	1616.71	4.61	1.46	4.87	4.87
Rosebud County	C10	RM 242.29	60239	50-yr	3129	771.5	766.64	2.23	1.44	24.26	8.72	282.31	1380.98	4.41	1.57	4.86	4.86
Rosebud County	C10	RM 242.1	59939	50-yr	3129	771.32	766.29	2.28	1.34	26.43	9.51	280	1639.44	4	1.43	5.03	5.03
Rosebud County	C10	RM 241.9	59618	50-yr	3129	771.16	765.95	2.15	1.13	21.12	6.65	249.51	2183.48	4.59	1.43	5.21	5.21
Rosebud County	C10	RM 241.72	59324	50-yr	3129	771.07	765.5	1.87	1.1	16.06	5.94	289.97	1657.75	4.68	1.72	5.57	5.57
Rosebud County	C10	RM 241.53	59025	50-yr	3129	770.73	765.17	2.83	1.4	41.22	9.47	160	1922.37	5.17	1.17	5.56	5.56
Rosebud County	C10	RM 241.34	58725	50-yr	3129	770.59	765.02	2.46	1.14	27.45	7.39	177.78	2080.55	4.99	1.32	5.57	5.57
Rosebud County	C10	RM 241.16	58424	50-yr	3129	770.53	764.97	1.95	1.02	17.31	6	171.92	1892.99	4.76	1.63	5.56	5.56
Rosebud County	C10	RM 240.97	58132	50-yr	3129	770.42	764.83	1.9	1.02	16.3	5.67	189.7	1790.39	4.99	1.72	5.59	5.59
Rosebud County	C10	RM 240.78	57818	50-yr	3129	770.39	764.56	1.52	0.82	10.15	3.67	159.68	1945.17	5.5	1.96	5.83	5.83
Rosebud County	C10	RM 240.56	57467	50-yr	3129	770.31	764.28	1.55	0.85	15.23	5.84	212.38	1900.99	5.13	1.94	6.03	6.03
Rosebud County	C10	RM 240.41	57228	50-yr	3129	770.25	763.91	1.51	0.85	12.26	4.87	216.4	1652.35	5.66	2.22	6.34	6.34
Rosebud County	C10	RM 240.22	56944	50-yr	3129	770.05	763.51	2.25	1.16	22.21	8.27	157.35	1208.85	6.22	2.24	6.54	6.54
Rosebud County	C10	RM 240.09	56741	50-yr	3129	769.77	763.47	3.11	1.43	33.31	12.13	120.86	1088.29	5.89	2.08	6.3	6.3
Rosebud County	C10	RM 239.97	56546	50-yr	3129	769.72	763.47	2.6	1.41	37.64	14.42	155.75	1031.56	5.73	2.15	6.25	6.25
Rosebud County	C10	RM 239.86	56371	50-yr	3129	769.65	763.25	2.3	1.4	24.79	10.03	205.85	1063.23	5.23	2.1	6.4	6.4
Rosebud County	C10	RM 239.68	56093	50-yr	3129	769.44	763.02	2.62	1.37	24.9	9.82	172.44	1123.36	5.27	2.03	6.42	6.42
Rosebud County	C10	RM 239.56	55888	50-yr	3129	768.74	763.1	4.31	2.11	67.57	20.43	119.6	1027.13	4.82	1.44	5.64	5.64
Rosebud County	C10	RM 239.41	55655	50-yr	3129	768.49	763.17	3.88	2.3	54.69	16.39	144.11	937.1	4.96	1.45	5.32	5.32
Rosebud County	C10	RM 239.25	55398	50-yr	3129	768.3	763.17	3.4	1.95	56.04	16.7	164.41	1409.43	4.75	1.39	5.13	5.13
Rosebud County	C10	RM 239.07	55108	50-yr	3129	768.23	763.2	2.54	1.67	23.78	10.63	219.55	1126.94	4.71	2.08	5.03	5.03
Rosebud County	C10	RM 238.89	54826	50-yr	3129	767.87	763.23	3.16	2.13	37.38	11.6	191.74	1263.57	4.49	1.37	4.64	4.64
Rosebud County	C10	RM 238.73	54570	50-yr	3129	767.64	763.38	3.04	2.4	35.59	12.96	242.11	947.82	4.07	1.47	4.26	4.26
Rosebud County	C10	RM 238.51	54223	50-yr	3129	767.61	762.88	1.8	1.51	18.17	11.33	435.56	957.87	3.48	2.17	4.73	4.73
Rosebud County	C10	RM 238.33	53926	50-yr	3129	767.4	762.37	2.1	1.63	21.35	11.13	306.34	858.41	4.32	2.24	5.03	5.03
Rosebud County	C10	RM 238.14	53626	50-yr	3129	767.17	762.25	2.52	1.57	29.41	13.62	214.01	981.89	4.54	2.1	4.92	4.92
Rosebud County	C10	RM 237.95	53321	50-yr	3129	767.05	762.09	2.25	1.22	23.16	9.42	189.37	1526.84	4.72	1.91	4.96	4.96
Rosebud County	C10	RM 237.77	53027	50-yr	3129	767.01	761.85	1.62	0.91	12.16	5.28	294.75	1758.6	4.65	2.02	5.16	5.16
Rosebud County	C10	RM 237.56	52703	50-yr	3129	766.92	761.46	1.52	0.93	11.59	5.65	410.69	2245.09	4	1.94	5.46	5.46
Rosebud County	C10	RM 237.36	52386	50-yr	3129	766.86	761.22	1.35	0.85	8.77	4.89	443.16	2512.06	4.15	2.29	5.64	5.64
Rosebud County	C10	RM 237.15	52029	50-yr	3129	766.78	760.88	1.41	0.9	9.22	5.07	385.86	2472.14	4.6	2.51	5.9	5.9
Rosebud County	C10	RM 236.99	51756	50-yr	3129	766.53	760.22	2.44	1.33	20.16	7.79	177.1	2278.04	5.99	2.28	6.31	6.31
Rosebud County	C10	RM 236.83	51500	50-yr	3129	766.22	760.07	3.09	1.82	33.9	14.41	167.82	2176.62	5.27	2.2	6.15	6.15
Rosebud County	C10	RM 236.66	51221	50-yr	3129	766.14	760.07	2.67	2	24.8	13.07	188.48	1590.74	5.6	2.91	6.07	6.07
Rosebud County	C10	RM 236.47	50924	50-yr	3129	765.99	759.94	2.67	2.06	24.6	11.06	193.41	662	5.7	2.53	6.05	6.05
Rosebud County	C11	RM 236.29	50623	50-yr	3129	765.89	760	2.53	1.9	22.41	9.33	211.22	736.04	5.43	2.24	5.89	5.89
Rosebud County	C11	RM 236.1	50327	50-yr	3129	765.63	760	2.88	2.27	30.04	12.19	206.87	788.91	4.94	1.98	5.63	5.63
Rosebud County	C11	RM 235.91	50024	50-yr	3129	765.24	760	3.38	2.49	51.85	21.68	170.49	617.86	4.94	2.04	5.24	5.24

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	50-yr	3129	765.18	760.15	2.41	2.13	27.27	18.46	243.8	518.01	4.51	3.04	5.04	5.04
Rosebud County	C11	RM 235.57	49480	50-yr	3129	765.07	760.02	2.13	1.91	21.23	11.53	318.23	963.46	4.5	2.43	5.05	5.05
Rosebud County	C11	RM 235.36	49133	50-yr	3129	764.89	759.74	2.1	1.84	19.7	10.01	428.22	1260.59	3.39	1.71	5.15	5.15
Rosebud County	C11	RM 235.17	48830	50-yr	3129	764.74	759.55	1.97	1.6	18.98	8.71	455.8	1449.13	3.3	1.51	5.19	5.19
Rosebud County	C11	RM 235	48571	50-yr	3129	764.61	759.29	2	1.45	18.53	5.83	320.92	1832.05	4.51	1.41	5.32	5.32
Rosebud County	C11	RM 234.82	48271	50-yr	3129	764.04	759.21	3.41	2.19	55.46	12.7	190.08	1495.06	4.22	0.96	4.83	4.83
Rosebud County	C11	RM 234.63	47978	50-yr	3129	763.91	759.21	2.57	1.69	31.11	9.52	238.2	1447	4.2	1.28	4.7	4.7
Rosebud County	C11	RM 234.45	47692	50-yr	3129	763.74	759.12	2.3	1.61	25.66	7.56	283.79	1648.97	4.04	1.19	4.62	4.62
Rosebud County	C11	RM 234.2	47305	50-yr	3129	763.64	758.6	1.64	1.31	11.57	5.75	528.71	1709.51	3.03	1.5	5.04	5.04
Rosebud County	C11	RM 234.01	47006	50-yr	3129	763.59	758.27	1.16	0.96	6.9	5.06	818.93	1600.07	2.99	2.19	5.32	5.32
Rosebud County	C11	RM 233.84	46737	50-yr	3129	763.48	758.12	1.4	1.15	10.52	6.52	583.98	1929.74	3.52	2.18	5.36	5.36
Rosebud County	C11	RM 233.61	46365	50-yr	3129	763.33	757.67	1.74	1.21	13.36	4.42	302.81	1463.96	5.34	1.76	5.66	5.66
Rosebud County	C11	RM 233.35	45943	50-yr	3129	763.11	757.03	2.27	1.23	23.48	7.96	214.65	1559.98	4.88	1.64	6.08	6.08
Rosebud County	C11	RM 233.13	45584	50-yr	3129	762.87	756.45	2.44	1.45	25.96	6.8	206.27	1519.18	5.52	1.42	6.42	6.42
Rosebud County	C11	RM 232.94	45281	50-yr	3129	762.58	756.15	2.92	1.63	37.31	7.89	169.36	1846.65	5.58	1.15	6.43	6.43
Rosebud County	C11	RM 232.75	44978	50-yr	3129	762.49	756.03	2.42	1.47	25.53	5.56	204.86	1777.79	5.67	1.21	6.46	6.46
Rosebud County	C11	RM 232.56	44674	50-yr	3129	762.34	755.79	2.42	1.58	26.62	6.77	241.61	1814.19	4.93	1.23	6.55	6.55
Rosebud County	C11	RM 232.37	44366	50-yr	3129	762.21	755.72	2.4	1.34	26.4	9.62	206.42	1529.36	4.82	1.73	6.49	6.49
Rosebud County	C11	RM 232.19	44074	50-yr	3129	761.94	755.67	2.64	1.69	31.43	10.47	204.11	1117.62	5.09	1.67	6.27	6.27
Rosebud County	C11	RM 232.01	43791	50-yr	3129	761.75	755.65	2.62	1.7	32.03	12.2	232.27	1276.44	4.55	1.71	6.1	6.1
Rosebud County	C11	RM 231.81	43473	50-yr	3129	761.46	755.6	2.87	1.65	38.36	16.44	201.55	1048.69	4.35	1.84	5.86	5.86
Rosebud County	C11	RM 231.62	43160	50-yr	3129	761.19	755.57	2.82	1.68	33.58	11.8	230.71	1602.45	4.01	1.39	5.62	5.62
Rosebud County	C11	RM 231.42	42835	50-yr	3129	761.13	755.45	2.07	1.18	19.03	6.7	229.33	1518.18	5.29	1.84	5.68	5.68
Rosebud County	C11	RM 231.22	42522	50-yr	3129	761.01	755.45	2.19	1.09	21.17	7.87	204	1649.9	4.76	1.74	5.56	5.56
Rosebud County	C11	RM 230.99	42160	50-yr	3129	760.52	755.45	3.27	1.57	50.5	15.18	154.03	1521.1	4.45	1.31	5.07	5.07
Rosebud County	C11	RM 230.79	41841	50-yr	3129	760.33	755.43	2.63	1.44	32.01	10.76	202.2	1414.94	4.62	1.53	4.9	4.9
Rosebud County	C11	RM 230.53	41415	50-yr	3129	760.21	755.17	1.87	1.35	17.35	7.22	299.8	1561.99	3.62	1.49	5.04	5.04
Rosebud County	C11	RM 230.29	41045	50-yr	3129	759.95	755.15	2.3	1.45	24.8	9.06	234.88	1582.11	3.98	1.44	4.8	4.8
Rosebud County	C11	RM 230.06	40676	50-yr	3129	759.69	754.81	2.28	1.6	26.78	8.65	287.47	1786.83	3.42	1.09	4.88	4.88
Rosebud County	C11	RM 229.81	40276	50-yr	3129	759.54	754.74	1.84	1.04	16.45	6.69	320.68	1885.94	3.97	1.6	4.8	4.8
Rosebud County	C11	RM 229.6	39937	50-yr	3129	759.39	754.58	1.88	1.05	16.2	8.78	412.79	1981.24	2.8	1.51	4.81	4.81
Rosebud County	C11	RM 229.4	39596	50-yr	3129	759.24	754.34	1.9	1.08	17.57	6.09	283.63	1978.85	4.25	1.46	4.9	4.9
Rosebud County	C11	RM 229.2	39273	50-yr	3129	758.92	754.15	2.76	1.51	37.85	11.96	214.46	1745.27	3.79	1.18	4.77	4.77
Rosebud County	C11	RM 229.02	38994	50-yr	3129	758.72	754.12	2.63	1.37	33.84	9.89	211.31	2029.37	3.9	1.13	4.6	4.6
Rosebud County	C11	RM 228.82	38676	50-yr	3129	758.56	753.8	2.2	1.23	23.82	7.3	271.56	2155.15	3.89	1.18	4.76	4.76
Rosebud County	C11	RM 228.64	38383	50-yr	3129	758.43	753.73	2.14	1.17	22.4	7.65	224.38	1993.6	3.97	1.34	4.74	4.74
Rosebud County	C11	RM 228.46	38093	50-yr	3129	758.35	753.53	1.68	0.95	13.65	5.39	301.72	2095.28	4.04	1.58	4.82	4.82
Rosebud County	C11	RM 228.26	37771	50-yr	3129	758.29	753.35	1.52	0.79	11	4.95	273.91	2119.43	4.19	1.86	4.94	4.94
Rosebud County	C11	RM 228.03	37408	50-yr	3129	758.17	753.16	1.83	0.84	15.93	6.67	233.4	2095.32	4.31	1.79	5.01	5.01
Rosebud County	C11	RM 227.74	36949	50-yr	3129	757.99	752.95	2.08	1.04	20.23	6.76	167.04	2008.56	4.56	1.5	5.04	5.04
Rosebud County	C11	RM 227.49	36537	50-yr	3129	757.88	752.83	2	0.99	18.6	5.97	175.55	2580.79	4.55	1.44	5.05	5.05
Rosebud County	C11	RM 227.2	36062	50-yr	3129	757.76	752.41	1.91	1.01	17.16	5.92	180.83	2627.88	4.49	1.53	5.35	5.35
Rosebud County	C11	RM 226.98	35709	50-yr	3129	757.39	752.31	2.73	1.46	36.1	13.53	211.99	1684	4.05	1.5	5.08	5.08
Rosebud County	C11	RM 226.79	35400	50-yr	3129	757.22	752.25	2.18	1.41	26.12	12.28	268.83	1141.16	4.16	1.94	4.97	4.97
Rosebud County	C11	RM 226.56	35065	50-yr	3129	757.08	751.83	1.83	1.35	19.06	12.47	338.41	852.03	4.18	2.73	5.25	5.25
Rosebud County	C11	RM 226.36	34743	50-yr	3129	756.76	751.68	2.39	1.82	30.62	15.24	303.18	876.76	3.97	1.96	5.07	5.07
Rosebud County	C11	RM 226.2	34476	50-yr	3129	756.68	751.25	1.8	1.39	16.44	9.46	424.72	1053.46	3.74	2.14	5.43	5.43
Rosebud County	C11	RM 226.01	34177	50-yr	3129	756.54	750.81	1.98	1.23	18.63	7.83	284.2	1536.25	4.71	1.95	5.73	5.73
Rosebud County	C11	RM 225.83	33884	50-yr	3129	756.31	750.59	2.65	1.22	31.53	10.7	159.74	1494.97	5.14	1.71	5.72	5.72
Rosebud County	C11	RM 225.64	33580	50-yr	3129	756.25	750.56	1.88	1.05	16.73	6.92	293.96	1647.94	4.41	1.81	5.69	5.69
Rosebud County	C11	RM 225.45	33275	50-yr	3126.2	756.16	750.31	1.72	1.07	13.63	5.16	332.17	1651.96	4.71	1.77	5.85	5.85
Rosebud County	C11	RM 225.26	32969	50-yr	3126.2	756.04	750.25	1.9	1.18	16.61	6.93	291.78	1599.77	4.79	1.98	5.79	5.79
Rosebud County	C11	RM 225.16	32805	50-yr	3126.2	755.86	750.19	2.4	1.53	25.89	9.96	224.54	1196.07	5.11	1.94	5.67	5.67
Rosebud County	C11	RM 225.06	32646	50-yr	3126.2	755.31	750.15	3.7	2.51	61.21	17.81	169.61	1135.66	4.63	1.34	5.16	5.16
Rosebud County	C12	RM 224.89	32368	50-yr	3126.2	755.31	750.09	2.51	2.05	28.74	12.44	249.97	1079.57	4.8	2.06	5.22	5.22
Rosebud County	C12	RM 224.71	32083	50-yr	3126.2	755.14	750.04	2.3	2.11	24.4	18.49	393.33	585.93	3.38	2.55	5.1	5.1
Rosebud County	C12	RM 224.53	31796	50-yr	3126.2	754.92	749.96	2.34	2.23	23.55	18.4	412.38	744.47	3.2	2.49	4.96	4.96
Rosebud County	C12	RM 224.34	31486	50-yr	3126.2	754.75	750.03	1.93	1.74	21.86	17.41	480.32	874.43	2.89	2.3	4.72	4.72
Rosebud County	C12	RM 224.16	31195	50-yr	3126.2	754.55	749.78	2.13	1.61	21.07	10.61	263.29	1626.46	4.19	2.09	4.87	4.87
Rosebud County	C12	RM 223.96	30878	50-yr	3126.2	754.37	749.48	2.38	1.57	26.5	10.91	179.51	1530.09	4.53	1.85	4.99	4.99

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	50-yr	3126.2	754.17	749.18	2.59	1.66	32.57	13.06	162.95	1505.12	4.08	1.62	4.99	4.99
Rosebud County	C12	RM 223.55	30235	50-yr	3126.2	754	748.87	2.28	1.41	23.68	7.6	229.9	1717.17	4.84	1.54	5.13	5.13
Rosebud County	C12	RM 223.37	29952	50-yr	3126.2	753.77	748.72	2.59	1.41	30.71	8.97	208.3	1705.22	4.8	1.38	5.05	5.05
Rosebud County	C12	RM 223.2	29681	50-yr	3126.2	753.63	748.51	2.46	1.26	27.45	7.5	209.66	2087.92	4.93	1.33	5.12	5.12
Rosebud County	C12	RM 223.02	29391	50-yr	3126.2	753.59	748.51	1.84	0.96	15.74	5.5	265.78	2313.17	4.54	1.57	5.08	5.08
Rosebud County	C12	RM 222.82	29071	50-yr	3126.2	753.49	748.5	1.8	0.93	15.05	4.98	268.13	2245.28	4.59	1.5	4.99	4.99
Rosebud County	C12	RM 222.64	28787	50-yr	3126.2	753.38	748.46	1.92	0.95	17.01	5.66	236.97	2128.36	4.68	1.54	4.92	4.92
Rosebud County	C12	RM 222.45	28479	50-yr	3126.2	753.28	748.44	1.83	0.97	15.94	6.15	281.49	1972.73	4.25	1.63	4.84	4.84
Rosebud County	C12	RM 222.22	28128	50-yr	3126.2	753.14	748.15	1.47	0.93	32.82	10.13	261.1	2412.36	4.71	1.44	4.99	4.99
Rosebud County	C12	RM 222.01	27784	50-yr	3126.2	753.01	747.57	1.43	0.78	9.92	3.24	372.22	2844.33	4.37	1.41	5.44	5.44
Rosebud County	C12	RM 221.77	27401	50-yr	3126.2	752.96	747.18	0.92	0.61	5.49	2.85	725.95	2812.41	3.53	1.83	5.78	5.78
Rosebud County	C12	RM 221.55	27042	50-yr	3126.2	752.92	747.07	0.76	0.51	4.22	2.66	807.88	2782.01	3.5	2.19	5.85	5.85
Rosebud County	C12	RM 221.34	26708	50-yr	3126.2	752.89	746.94	0.79	0.49	3.56	2.3	648.68	2722.72	3.8	2.44	5.95	5.95
Rosebud County	C12	RM 221.15	26406	50-yr	3126.2	752.83	746.7	1.29	0.64	7.26	3.1	265.14	2351.01	5.69	2.39	6.13	6.13
Rosebud County	C12	RM 220.96	26081	50-yr	3126.2	752.46	746.66	3.03	1.39	41.37	12.34	138.93	1668.1	5.15	1.49	5.8	5.8
Rosebud County	C12	RM 220.77	25779	50-yr	3126.2	751.69	746.73	3.9	2.83	70.76	16.8	163.4	1055.83	4.62	1.08	4.96	4.96
Rosebud County	C12	RM 220.6	25513	50-yr	3126.2	751.78	746.72	2.38	1.81	26.06	8.65	256.78	1102.43	4.78	1.57	5.06	5.06
Rosebud County	C12	RM 220.4	25183	50-yr	3126.2	751.68	746.88	1.93	1.42	17.94	9.3	395.04	1483.8	3.45	1.78	4.8	4.8
Rosebud County	C12	RM 220.23	24914	50-yr	3126.2	751.63	746.8	1.39	1.09	8.92	5.21	635.17	2285.42	3.08	1.79	4.83	4.83
Rosebud County	C12	RM 220.02	24578	50-yr	3126.2	751.52	746.54	1.3	1.11	9.21	6.12	792.77	1831.36	2.81	1.86	4.98	4.98
Rosebud County	C12	RM 219.83	24268	50-yr	3126.2	751.45	746.18	1.13	1	6.98	6.11	775.68	1101.9	3.26	2.85	5.27	5.27
Rosebud County	C12	RM 219.63	23947	50-yr	3126.2	751.3	745.79	1.52	1.34	13.28	8.9	587.54	1050.83	3.33	2.22	5.51	5.51
Rosebud County	C12	RM 219.47	23683	50-yr	3126.2	751.18	745.56	1.7	1.31	14.44	6.54	380.14	1203.02	4.4	1.98	5.62	5.62
Rosebud County	C12	RM 219.29	23386	50-yr	3126.2	750.83	745.27	2.74	1.73	34.77	12.96	208.04	1047.84	4.68	1.73	5.56	5.56
Rosebud County	C12	RM 219.11	23085	50-yr	3126.2	750.66	745.15	2.63	1.62	31.99	13.55	176.7	981.13	4.71	1.97	5.51	5.51
Rosebud County	C12	RM 218.92	22783	50-yr	3126.2	750.54	745.15	2.18	1.39	22.78	11.06	229.91	1115.47	4.19	2.02	5.39	5.39
Rosebud County	C12	RM 218.73	22473	50-yr	3126.2	750.35	745.06	2.24	1.37	22.8	9.83	226.8	1079.02	4.95	2.12	5.29	5.29
Rosebud County	C12	RM 218.54	22180	50-yr	3126.2	750.2	744.99	2.18	1.53	22.04	12.99	274.48	784.11	4.57	2.7	5.21	5.21
Rosebud County	C12	RM 218.38	21902	50-yr	3126.2	750.08	744.43	2.2	1.49	21.71	10.26	234.82	893.35	5.12	2.4	5.65	5.65
Rosebud County	C12	RM 218.18	21580	50-yr	3126.2	749.8	743.9	2.76	1.58	34.42	15.01	182.74	980.28	4.97	2.14	5.9	5.9
Rosebud County	C12	RM 217.99	21276	50-yr	3126.2	749.63	743.66	2.56	1.48	30.64	11.86	211.96	1237.96	4.54	1.73	5.97	5.97
Rosebud County	C12	RM 217.81	20981	50-yr	3126.2	749.59	743.51	1.85	1.22	15.1	5.35	293.45	1540.89	5.08	1.78	6.08	6.08
Rosebud County	C12	RM 217.64	20702	50-yr	3126.2	749.18	743.41	3.06	1.71	42.62	11.22	176.29	1532.78	4.89	1.26	5.77	5.77
Rosebud County	C12	RM 217.45	20392	50-yr	3126.2	748.97	743.29	2.89	1.49	38.8	10.45	184.69	1799.92	4.58	1.21	5.68	5.68
Rosebud County	C12	RM 217.25	20070	50-yr	3126.2	748.92	743.29	2.18	1.09	21.11	5.54	191.77	2116.73	5.25	1.35	5.63	5.63
Rosebud County	C12	RM 217	19662	50-yr	3126.2	748.65	743.25	2.54	1.28	29.52	7.55	192.47	2021.25	4.81	1.21	5.4	5.4
Rosebud County	C12	RM 216.77	19300	50-yr	3126.2	748.46	743.25	2.4	1.23	27.66	8.46	217.02	1993.61	4.21	1.27	5.21	5.21
Rosebud County	C12	RM 216.53	18912	50-yr	3126.2	748.33	743.3	1.94	1	18.03	7.48	274.18	1844.43	4.14	1.7	5.03	5.03
Rosebud County	C12	RM 216.27	18500	50-yr	3126.2	748.22	743.24	1.68	1	13.84	7.1	358.3	1564.22	3.92	2	4.98	4.98
Rosebud County	C12	RM 215.98	18038	50-yr	3126.2	748.12	743.12	1.56	0.88	11.55	5.27	273.73	1838.4	4.21	1.92	5	5
Rosebud County	C12	RM 215.68	17550	50-yr	3126.2	747.96	742.31	1.73	1	13.16	4.75	269.37	1785.12	5.36	1.93	5.65	5.65
Rosebud County	C12	RM 215.41	17101	50-yr	3126.2	747.78	741.82	2.1	1.2	19.8	7.02	218.66	1698.06	5.1	1.79	5.96	5.96
Rosebud County	C12	RM 215.21	16781	50-yr	3126.2	747.44	741.65	2.95	1.64	39.53	12.57	159.7	1603.36	4.97	1.55	5.79	5.79
Rosebud County	C12	RM 215.02	16479	50-yr	3126.2	747	741.68	3.47	2.13	54.78	19.15	146.57	958.33	4.97	1.7	5.32	5.32
Rosebud County	C13	RM 214.86	16220	50-yr	3126.2	747.02	741.64	2.21	1.64	21.88	11.07	252.91	1118.82	5.17	2.59	5.38	5.38
Rosebud County	C13	RM 214.65	15883	50-yr	3126.2	746.86	741.6	2.11	1.83	21.25	11.23	399.8	971.63	3.59	1.88	5.26	5.26
Rosebud County	C13	RM 214.46	15577	50-yr	3126.2	746.73	741.6	1.88	1.42	15.25	9.3	460.63	1205.02	3.23	1.96	5.13	5.13
Rosebud County	C13	RM 214.27	15282	50-yr	3126.2	746.63	741.59	1.65	1.29	12.47	7.58	505.93	1241.69	3.23	1.95	5.04	5.04
Rosebud County	C13	RM 214.07	14957	50-yr	3126.2	746.52	741.54	1.54	1.09	14.89	7.43	425.03	1492.96	4	1.98	4.98	4.98
Rosebud County	C13	RM 213.9	14672	50-yr	3126.2	746.31	741.37	1.95	1.46	18.37	6.52	363.41	1544.76	4.04	1.42	4.94	4.94
Rosebud County	C13	RM 213.7	14343	50-yr	3126.2	745.93	740.88	2.71	2.02	33.94	9.79	232.58	1701.49	4.69	1.34	5.04	5.04
Rosebud County	C13	RM 213.54	14083	50-yr	3126.2	745.58	740.59	3.18	1.97	47.03	12.13	191.86	2030.78	4.58	1.17	4.99	4.99
Rosebud County	C13	RM 213.36	13792	50-yr	3126.2	745.45	740.39	2.55	1.54	31.26	9.84	246.24	2054.08	4.16	1.3	5.06	5.06
Rosebud County	C13	RM 213.16	13475	50-yr	3126.2	745.29	740.27	2.4	1.38	27.22	8.49	214.1	2216.44	4	1.23	5.02	5.02
Rosebud County	C13	RM 212.99	13200	50-yr	3126.2	745.16	740.31	2.2	1.21	21.79	7.67	212.05	2175.83	3.87	1.34	4.85	4.85
Rosebud County	C13	RM 212.79	12880	50-yr	3126.2	744.95	740.19	2.4	1.17	26.77	8	178.07	2417.3	4.55	1.34	4.76	4.76
Rosebud County	C13	RM 212.6	12572	50-yr	3126.2	744.78	739.79	2.19	1.12	22.19	6.75	240.96	2736.05	4.67	1.41	4.99	4.99
Rosebud County	C13	RM 212.42	12284	50-yr	3126.2	744.57	739.58	2.51	1.18	31.45	9.24	211.31	2612.08	4.32	1.26	4.99	4.99
Rosebud County	C13	RM 212.23	11983	50-yr	3126.2	744.53	739.17	1.81	0.93	15.63	5.44	257.92	2539.5	4.31	1.48	5.36	5.36
Rosebud County	C13	RM 212.05	11688	50-yr	3126.2	744.36	738.83	2.13	1.08	20.64	5.58	227.41	2397.46	4.84	1.29	5.53	5.53

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	50-yr	3126.2	744.19	738.79	2.28	1.2	24.78	7.75	251.66	1983.98	4.24	1.31	5.4	5.4
Rosebud County	C13	RM 211.65	11066	50-yr	3126.2	744	738.58	2.33	1.22	25.55	7.72	248.86	2029	4.32	1.29	5.42	5.42
Rosebud County	C13	RM 211.44	10724	50-yr	3126.2	743.86	738.38	2.24	1.05	23.25	7.15	199.53	2230.85	4.6	1.4	5.48	5.48
Rosebud County	C13	RM 211.21	10353	50-yr	3126.2	743.77	737.87	2	1.03	17.28	6.34	207.36	1805.27	4.62	1.68	5.9	5.9
Rosebud County	C13	RM 210.96	9946	50-yr	3126.2	743.45	737.72	2.69	1.38	33.77	10.89	169.56	1555.01	4.58	1.45	5.73	5.73
Rosebud County	C13	RM 210.75	9612	50-yr	3126.2	743.39	737.48	2.09	1.16	19.78	6.75	191.27	1606.33	4.97	1.67	5.91	5.91
Rosebud County	C13	RM 210.57	9317	50-yr	3126.2	743.31	737.5	1.87	1.11	15.94	5.33	244	1726.47	4.95	1.63	5.81	5.81
Rosebud County	C13	RM 210.36	8986	50-yr	3126.2	743.03	737.54	2.56	1.36	30.54	9.6	194.77	1692.64	4.6	1.43	5.49	5.49
Rosebud County	C13	RM 210.16	8674	50-yr	3126.2	742.8	737.53	2.43	1.58	29.01	11.69	288.57	1276.74	3.88	1.55	5.27	5.27
Rosebud County	C13	RM 209.98	8382	50-yr	3126.2	742.79	737.25	1.63	1.09	12.13	4.68	307.03	1863.63	4.86	1.86	5.54	5.54
Rosebud County	C13	RM 209.8	8091	50-yr	3126.2	742.67	736.96	1.89	1.1	15.59	5.25	218.68	1919.5	5.58	1.86	5.71	5.71
Rosebud County	C13	RM 209.6	7774	50-yr	3126.2	742.53	736.72	2.21	1.03	21.45	6	179.37	2331.92	5.41	1.49	5.81	5.81
Rosebud County	C13	RM 209.41	7482	50-yr	3126.2	742.47	736.53	1.85	0.97	15.56	5.02	238.7	2323.91	4.92	1.57	5.94	5.94
Rosebud County	C13	RM 209.21	7161	50-yr	3126.2	742.28	736.29	2.26	1.25	23	7.02	197.21	1794.4	5.05	1.52	5.99	5.99
Rosebud County	C13	RM 209.03	6871	50-yr	3126.2	742.14	736.14	2.37	1.3	25.23	7.61	186.26	1646.63	5.13	1.52	6	6
Rosebud County	C13	RM 208.85	6571	50-yr	3126.2	742.06	736.03	2.01	1.17	18	5.74	229.12	1724.74	5.16	1.62	6.03	6.03
Rosebud County	C13	RM 208.65	6257	50-yr	3126.2	741.97	735.74	1.98	1.17	17.76	6.2	218.32	1687.11	4.93	1.7	6.23	6.23
Rosebud County	C13	RM 208.46	5945	50-yr	3126.2	741.75	735.69	2.37	1.61	27.51	10.93	204.54	1226.58	4.4	1.72	6.06	6.06
Rosebud County	C13	RM 208.29	5682	50-yr	3126.2	740.72	735.63	4.54	3.51	96.35	31.75	116.29	602.16	4.61	1.48	5.09	5.09
Rosebud County	C14	RM 208.1	5374	50-yr	3126.2	740.56	735.61	3.11	2.44	44.63	14.77	201.37	935.03	4.74	1.55	4.95	4.95
Rosebud County	C14	RM 207.91	5064	50-yr	3126.2	740.38	735.56	2.58	1.82	33.54	14.34	293.26	1294.28	3.62	1.53	4.82	4.82
Rosebud County	C14	RM 207.72	4766	50-yr	3126.2	740.16	735.52	2.28	1.6	24.91	11.09	400.5	1762.16	2.92	1.29	4.64	4.64
Rosebud County	C14	RM 207.53	4450	50-yr	3126.2	740.03	735.35	1.72	1.22	15.94	7.34	469.61	1724.72	3.23	1.48	4.68	4.68
Rosebud County	C14	RM 207.33	4123	50-yr	3126.2	739.77	735.27	2.25	1.43	24.96	10.34	282.48	1371.3	3.87	1.59	4.5	4.5
Rosebud County	C14	RM 207.15	3851	50-yr	3126.2	739.64	735.14	2.03	1.32	20.4	8.47	313.39	1588.86	3.88	1.6	4.5	4.5
Rosebud County	C14	RM 206.99	3599	50-yr	3126.2	739.55	734.95	1.9	1.15	17.99	7.61	327.09	1841.14	3.65	1.54	4.6	4.6
Rosebud County	C14	RM 206.81	3315	50-yr	3126.2	739.43	734.49	1.88	1.05	17.05	6.54	257.4	1916.53	4.11	1.56	4.94	4.94
Rosebud County	C14	RM 206.61	2997	50-yr	3126.2	739.31	733.91	2.01	1	18.68	6.7	197.48	2405.18	4.65	1.65	5.4	5.4
Rosebud County	C14	RM 206.43	2701	50-yr	3126.2	739.23	733.52	1.83	1.01	16.53	7.68	244.31	2782.6	3.87	1.78	5.71	5.71
Rosebud County	C14	RM 206.21	2350	50-yr	3126.2	739.1	733.38	1.85	1.1	17.26	7.34	253.17	2736.8	4.06	1.71	5.72	5.72
Rosebud County	C14	RM 205.97	1963	50-yr	3126.2	738.98	732.73	1.8	0.98	14.26	5.05	223.85	2559.07	5.46	1.9	6.25	6.25
Rosebud County	C14	RM 205.72	1563	50-yr	3126.2	738.55	732.73	3.3	1.42	65.69	16.96	107.48	2643.61	4.84	1.2	5.82	5.82
Rosebud County	C14	RM 205.49	1198	50-yr	3126.2	738.1	732.63	2.79	1.51	48.37	13.78	192.62	1941.72	4.27	1.2	5.47	5.47
Rosebud County	C14	RM 205.3	907	50-yr	3126.2	737.81	732.76	2.54	1.34	33.52	12.85	246.92	2214.42	3.31	1.25	5.05	5.05
Rosebud County	C14	RM 205.11	594	50-yr	3126.2	737.62	732.8	2.22	1.05	23.23	7.75	192	2146.03	4.43	1.45	4.82	4.82
Rosebud County	C14	RM 204.9	243	50-yr	3126.2	737.31	732.63	2.58	1.24	32.75	9.98	224.67	2311.29	3.85	1.16	4.68	4.68

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	50-yr	3126.2	737.31	732.67	2.8	1.28	38.83	10.29	192.07	2464.55	3.79	0.99	4.64	4.64
Custer County	C14	RM 204.43	73135	50-yr	3126.2	737.22	732.44	1.97	0.96	19.15	6.67	266.74	2476.89	3.81	1.31	4.78	4.78
Custer County	C14	RM 204.22	72808	50-yr	3126.2	737.06	732.3	2.07	1.01	21.56	7.31	262.16	2573.22	3.57	1.2	4.76	4.76
Custer County	C14	RM 204	72454	50-yr	3126.2	736.82	731.9	2.19	1.11	22.38	5.37	261.19	2649.1	4.47	1.06	4.92	4.92
Custer County	C14	RM 203.82	72156	50-yr	3126.2	736.67	731.14	2.3	1.02	25.1	7.39	197.43	2459.51	4.32	1.25	5.53	5.53
Custer County	C14	RM 203.65	71895	50-yr	3126.2	736.55	730.95	2.13	0.89	21.36	7.23	162.5	2388.41	4.43	1.47	5.6	5.6
Custer County	C14	RM 203.5	71641	50-yr	3126.2	736.46	730.78	1.75	0.83	14.54	5.5	195.78	2562.33	4.38	1.63	5.68	5.68
Custer County	C14	RM 203.3	71324	50-yr	3126.2	736.38	730.79	1.68	0.85	13.07	4.85	161.79	2142.75	4.74	1.72	5.59	5.59
Custer County	C14	RM 203.1	71035	50-yr	3126.2	736.21	730.79	2.2	1.04	23.11	8.05	184.4	2083.95	4.23	1.45	5.42	5.42
Custer County	C14	RM 202.9	70718	50-yr	3126.2	736.11	730.67	1.96	1.1	19.89	8.84	247.7	1938.74	3.33	1.46	5.44	5.44
Custer County	C14	RM 202.71	70415	50-yr	3126.2	735.87	730.64	2.31	1.21	26.07	8.88	231.8	2002.76	3.97	1.33	5.23	5.23
Custer County	C14	RM 202.51	70088	50-yr	3126.2	735.51	730.68	2.89	1.4	39.58	10.8	152.2	1892.79	4.4	1.18	4.83	4.83
Custer County	C14	RM 202.34	69815	50-yr	3126.2	735.39	730.63	2.03	1.17	20.6	8.3	321.87	1944.99	3.71	1.48	4.76	4.76
Custer County	C14	RM 202.13	69483	50-yr	3126.2	735.24	730.54	1.92	1.06	17.62	7.64	282.19	1904.42	4.24	1.82	4.7	4.7
Custer County	C14	RM 201.97	69219	50-yr	3126.2	735.02	730.01	2.27	1.43	24.78	10.48	264.21	1262	4.12	1.73	5.01	5.01
Custer County	C14	RM 201.75	68884	50-yr	3126.2	734.95	729.45	1.69	1.19	12.87	4.56	306.87	1467.04	5.12	1.8	5.5	5.5
Custer County	C14	RM 201.57	68612	50-yr	3126.2	734.84	729.37	1.9	1.27	18.36	8.08	362.67	1613.91	3.48	1.52	5.47	5.47
Custer County	C14	RM 201.38	68299	50-yr	3126.2	734.62	729.23	2.08	1.32	22.86	9.89	356.22	1783.76	3.1	1.33	5.39	5.39
Custer County	C14	RM 201.23	68055	50-yr	3126.2	734.48	729.13	1.91	1.19	18.82	8.57	369.58	1727.17	3.37	1.52	5.35	5.35
Custer County	C14	RM 201.06	67778	50-yr	3126.2	734.46	729.03	1.3	0.95	8.15	4.31	262.3	1536.2	4.1	2.15	5.43	5.43
Custer County	C14	RM 200.85	67439	50-yr	3126.2	733.98	729.05	3.46	2.1	55.67	16.51	114.21	1099.12	4.72	1.36	4.93	4.93
Custer County	C14	RM 200.64	67103	50-yr	3126.2	733.91	728.97	2.2	1.52	22.29	10.31	216.76	940.7	4.78	2.19	4.94	4.94
Custer County	C14	RM 200.48	66842	50-yr	3126.2	733.84	728.8	1.75	1.44	14.68	9.54	307.41	809.84	4.15	2.68	5.04	5.04
Custer County	C14	RM 200.27	66515	50-yr	3126.2	733.68	728.63	1.86	1.47	16.35	10.48	359.69	777.86	4.3	2.74	5.05	5.05
Custer County	C14	RM 200.05	66162	50-yr	3126.2	733.5	728.3	1.99	1.68	19.87	14.9	388.98	656.92	3.79	2.83	5.2	5.2
Custer County	C14	RM 199.9	65916	50-yr	3126.2	733.42	727.78	1.77	1.63	14.65	9.78	381.62	637.43	4.54	3.02	5.64	5.64
Custer County	C14	RM 199.71	65614	50-yr	3126.2	733.04	727.34	2.72	2.34	32.76	17.41	260.79	597.4	4.26	2.24	5.7	5.7
Custer County	C14	RM 199.53	65326	50-yr	3126.2	732.96	727.34	2.23	1.91	22.22	11.3	259.62	619.89	5.23	2.64	5.62	5.62
Custer County	C14	RM 199.38	65076	50-yr	3126.2	732.87	727.34	2.05	1.7	20.54	11.35	364.29	1001.22	3.89	2.13	5.53	5.53
Custer County	C14	RM 199.18	64754	50-yr	3126.2	732.72	727.64	1.86	1.47	19.06	10.76	456.73	1354.23	3.22	1.8	5.08	5.08
Custer County	C14	RM 199.04	64535	50-yr	3126.2	732.63	727.64	1.66	1.21	14.12	6.78	419.11	1437.9	3.83	1.83	4.99	4.99
Custer County	C14	RM 198.77	64102	50-yr	3126.2	732.37	727.28	2.04	1.39	19.2	7.22	294.95	1283.17	4.68	1.75	5.09	5.09
Custer County	C14	RM 198.57	63773	50-yr	3126.2	731.96	726.99	2.92	1.95	39.21	11.46	204.81	1170.35	4.74	1.37	4.97	4.97
Custer County	C14	RM 198.4	63505	50-yr	3126.2	731.78	726.86	2.79	1.71	36.13	11.36	199.72	1263.68	4.64	1.44	4.92	4.92
Custer County	C14	RM 198.22	63215	50-yr	3126.2	731.56	726.57	2.78	1.51	35.98	11.65	190.38	1416.51	4.55	1.46	4.99	4.99
Custer County	C14	RM 198.04	62923	50-yr	3126.2	731.42	726.32	2.37	1.41	26.02	8.43	227.09	1502.81	4.62	1.48	5.1	5.1
Custer County	C14	RM 197.84	62611	50-yr	3126.2	731.37	726.04	1.72	1.15	13.96	5.14	351.59	1723.98	4.3	1.57	5.33	5.33
Custer County	C14	RM 197.65	62306	50-yr	3126.2	731.28	725.69	1.79	1.03	13.8	5.32	317.28	1929.08	4.13	1.57	5.59	5.59
Custer County	C14	RM 197.47	62013	50-yr	3126.2	731.26	725.29	1.39	0.78	8.34	2.92	296.99	2019.65	5.75	1.99	5.97	5.97
Custer County	C14	RM 197.27	61686	50-yr	3126.2	731.2	724.81	1.69	0.81	12.81	5.33	212.46	1970.37	5.11	2.11	6.39	6.39
Custer County	C14	RM 197.07	61373	50-yr	3126.2	731.13	724.81	1.73	0.89	13.37	4.78	204.54	1901.84	5.29	1.85	6.32	6.32
Custer County	C14	RM 196.91	61115	50-yr	3126.2	731.12	724.81	1.33	0.68	7.9	3.92	223.11	1782.39	5.31	2.6	6.31	6.31
Custer County	C14	RM 196.73	60815	50-yr	3126.2	731.08	724.76	1.37	0.71	8.24	4.19	241.95	1799.8	5.46	2.76	6.32	6.32
Custer County	C14	RM 196.54	60518	50-yr	3126.2	731.03	724.67	1.48	0.8	9.92	4.89	270.26	2535.14	4.98	2.43	6.36	6.36
Custer County	C14	RM 196.33	60178	50-yr	3126.2	730.97	724.57	1.5	0.86	9.77	4.25	247.23	2025.24	5.73	2.47	6.4	6.4
Custer County	C14	RM 196.17	59915	50-yr	3126.2	730.92	724.51	1.61	1.07	11.16	5.54	191.57	1502.9	5.88	2.89	6.41	6.41
Custer County	C15	RM 195.98	59615	50-yr	3123.3	729.84	724.52	4.54	3.03	95.56	28.51	132.07	902.94	4.69	1.37	5.32	5.32
Custer County	C15	RM 195.81	59337	50-yr	3123.3	729.31	724.33	3.72	3.13	63.64	21.7	169.57	620.11	4.8	1.61	4.98	4.98
Custer County	C15	RM 195.61	59020	50-yr	3123.3	729.25	724.24	2.67	2.21	32.45	15.22	230.07	624.75	4.86	2.26	5.01	5.01
Custer County	C15	RM 195.43	58727	50-yr	3123.3	729.08	724.22	2.45	2.07	29.31	18.13	305.61	630.92	3.95	2.44	4.86	4.86
Custer County	C15	RM 195.23	58415	50-yr	3123.3	728.96	723.93	1.95	1.7	19.85	11.61	391.57	809.84	3.96	2.3	5.03	5.03
Custer County	C15	RM 195.04	58114	50-yr	3123.3	728.73	723.54	2.32	1.84	25.58	12.39	269.46	842.46	4.25	2.05	5.19	5.19
Custer County	C15	RM 194.86	57824	50-yr	3123.3	728.57	722.93	2.38	1.6	25.96	11.86	209.92	920.55	4.81	2.17	5.64	5.64
Custer County	C15	RM 194.67	57521	50-yr	3123.3	728.38	722.75	2.37	1.65	24.72	10.36	217.41	899.57	5.44	2.25	5.64	5.64
Custer County	C15	RM 194.49	57231	50-yr	3123.3	728.28	722.53	2.22	1.56	21.71	10.87	232.49	965.13	5.36	2.66	5.75	5.75
Custer County	C15	RM 194.32	56946	50-yr	3123.3	728.08	722.5	2.46	1.87	27.09	16.16	259.82	856.1	4.43	2.63	5.58	5.58
Custer County	C15	RM 194.13	56643	50-yr	3123.3	727.81	722.5	2.64	2.26	32.71	22.42	251.77	688.77	4.47	3.05	5.31	5.31
Custer County	C15	RM 193.93	56331	50-yr	3123.3	727.64	722.31	2.43	2.15	26.63	17.3	247.7	744.95	4.97	3.22	5.33	5.33
Custer County	C15	RM 193.74	56024	50-yr	3123.3	727.47	722.23	2.47	2	27.52	13.35	229.42	918.54	5.08	2.44	5.24	5.24
Custer County	C15	RM 193.55	55708	50-yr	3123.3	727.27	722.13	2.58	1.91	30.16	11.82	216.9	956.43	4.97	1.92	5.14	5.14

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	50-yr	3123.3	727.08	722.13	2.63	1.86	31.65	12.79	219.51	1002.1	4.77	1.91	4.95	4.95
Custer County	C15	RM 193.2	55158	50-yr	3123.3	727.02	722.13	2.07	1.48	19.68	8.18	280.33	1077.24	4.74	1.96	4.89	4.89
Custer County	C15	RM 193	54825	50-yr	3123.3	726.86	721.84	2.12	1.52	20.57	8.41	281.95	1129.58	4.72	1.92	5.02	5.02
Custer County	C15	RM 192.81	54525	50-yr	3123.3	726.72	721.37	2.28	1.42	23.25	8.34	207.4	1199.39	5.18	1.84	5.35	5.35
Custer County	C15	RM 192.63	54247	50-yr	3123.3	726.54	721.01	2.38	1.5	25.27	8.07	217.39	1259.1	5.24	1.65	5.53	5.53
Custer County	C15	RM 192.44	53935	50-yr	3123.3	726.45	721.01	2.06	1.42	19.14	7.84	241	1059.48	5.1	2.07	5.44	5.44
Custer County	C16	RM 192.26	53653	50-yr	3123.3	726.18	721.01	2.54	1.96	29.09	11.8	229.13	797.67	5	2	5.17	5.17
Custer County	C16	RM 192.05	53309	50-yr	3123.3	725.33	721.11	3.99	3.39	77.21	34.94	186.81	509.76	4.03	1.81	4.22	4.22
Custer County	C16	RM 191.74	52809	50-yr	3123.3	725.16	721.1	2.06	1.96	19.34	17.58	560.47	658.81	2.66	2.42	4.06	4.06
Custer County	C16	RM 191.35	52181	50-yr	3123.3	724.74	721.02	1.77	1.72	14.24	13.47	856.86	947.13	2.04	1.93	3.72	3.72
Custer County	C16	RM 191.12	51812	50-yr	3123.3	724.55	720.51	1.53	1.53	11.26	11.23	889.1	892.63	2.3	2.29	4.04	4.04
Custer County	C16	RM 190.87	51406	50-yr	3123.3	724.38	719.89	1.36	1.31	9.76	8.12	906.61	1448.13	2.52	2.09	4.49	4.49
Custer County	C16	RM 190.54	50885	50-yr	3123.3	724.25	719.15	1.12	1.02	7.69	5.33	789.91	1683.71	3.42	2.36	5.1	5.1
Custer County	C16	RM 190.29	50477	50-yr	3123.3	723.52	718.45	3.47	2.34	56.21	16.66	179.8	1124.38	4.56	1.33	5.07	5.07
Custer County	C16	RM 190.1	50176	50-yr	3123.3	723.24	718.43	3.06	2.03	45.1	12.61	227.08	1646.06	4.06	1.13	4.81	4.81
Custer County	C16	RM 189.85	49765	50-yr	3123.3	723.03	718.13	2.25	1.67	24.9	7.04	334.92	2146.24	3.81	1.07	4.9	4.9
Custer County	C16	RM 189.65	49458	50-yr	3123.3	722.87	718.1	2.1	1.26	20.22	6.83	340.01	2317.2	3.49	1.17	4.77	4.77
Custer County	C16	RM 189.43	49103	50-yr	3123.3	722.41	718.09	2.81	1.82	39.79	10.49	269.95	1825.53	3.59	0.94	4.32	4.32
Custer County	C16	RM 189.22	48763	50-yr	3123.3	722.41	717.93	1.53	1.11	11.25	3.99	452.46	1924.45	4.17	1.46	4.48	4.48
Custer County	C16	RM 188.91	48267	50-yr	3123.3	722.25	717.54	1.64	1.14	13.62	6.21	472.67	1716.89	3.51	1.59	4.71	4.71
Custer County	C16	RM 188.66	47869	50-yr	3123.3	721.89	716.75	2.57	1.42	29.89	10.15	195.28	1329.8	4.97	1.66	5.14	5.14
Custer County	C16	RM 188.51	47622	50-yr	3123.3	721.74	716.72	2.55	1.53	30.15	12	217.17	1128.23	4.59	1.81	5.02	5.02
Custer County	C16	RM 188.32	47314	50-yr	3123.3	721.64	716.79	2.05	1.55	20.84	10.11	152.19	964.09	4.39	2.09	4.85	4.85
Custer County	C16	RM 188.14	47024	50-yr	3123.3	721.46	716.93	1.35	1.42	10.77	9.43	474.59	1235.51	2.02	1.77	4.53	4.53
Custer County	C16	RM 187.98	46768	50-yr	3123.3	721.37	716.91	1.85	1.29	16.43	6.84	222.44	1421.74	4.14	1.71	4.46	4.46
Custer County	C16	RM 187.78	46440	50-yr	3123.3	721.29	716.69	1.57	1.18	13.17	5.43	251.06	1642.97	3.93	1.61	4.6	4.6
Custer County	C16	RM 187.55	46083	50-yr	3123.3	721.04	716.04	2.21	1.31	22.71	8.44	224.37	1411.67	4.59	1.69	5	5
Custer County	C16	RM 187.35	45750	50-yr	3123.3	720.62	715.34	3.02	1.65	42.36	12.25	182.36	1427.16	4.66	1.33	5.28	5.28
Custer County	C16	RM 187.14	45421	50-yr	3123.3	720.55	715.3	2.14	1.23	21.37	7.65	259.08	1716.5	4.52	1.6	5.25	5.25
Custer County	C16	RM 187.01	45211	50-yr	3123.3	720.48	715.3	1.91	1.24	16.93	6.76	300.38	1565.14	4.66	1.85	5.18	5.18
Custer County	C16	RM 186.84	44930	50-yr	3123.3	720.35	715.03	2.01	1.28	19.03	8.08	294.8	1479.55	4.41	1.86	5.32	5.32
Custer County	C16	RM 186.62	44553	50-yr	3123.3	719.96	714.75	2.85	1.9	36.76	10.93	188.38	1172.07	4.97	1.47	5.21	5.21
Custer County	C16	RM 186.46	44311	50-yr	3123.3	719.7	714.53	3.06	1.92	43.46	14.92	186.35	1043.33	4.69	1.58	5.17	5.17
Custer County	C16	RM 186.26	43996	50-yr	3123.3	719.32	714.27	3.13	2.55	45.5	20.17	205.3	601.97	4.63	2.04	5.05	5.05
Custer County	C16	RM 186.1	43730	50-yr	3123.3	719.25	713.9	2.37	2.12	26.43	14.11	294.06	665.76	4.39	2.33	5.35	5.35
Custer County	C16	RM 185.91	43424	50-yr	3080.9	719.08	713.84	2.22	2.02	23.24	14.76	388.65	704.5	3.49	2.21	5.24	5.24
Custer County	C16	RM 185.71	43110	50-yr	3080.9	718.5	713.84	3.13	2.77	45.72	32.7	325.31	538.63	2.91	2.07	4.66	4.66
Custer County	C16	RM 185.52	42808	50-yr	3080.9	718.47	713.71	1.96	1.7	18.51	11.23	366.12	725.86	4.14	2.5	4.76	4.76
Custer County	C16	RM 185.34	42508	50-yr	3080.9	718.27	713.28	2.07	1.99	19.81	16.89	511.74	793.08	2.9	2.47	4.99	4.99
Custer County	C16	RM 185.16	42219	50-yr	3080.9	718.21	712.93	1.6	1.29	12.19	8.62	419.95	1475.99	4.22	2.98	5.28	5.28
Custer County	C17	RM 184.95	41881	50-yr	3080.9	718.02	712.72	2.03	1.45	20.48	9.45	289.85	1513.77	4.6	2.11	5.3	5.3
Custer County	C17	RM 184.78	41621	50-yr	3080.9	717.79	712.51	2.48	1.56	28.07	10.01	215.1	1154.07	4.88	1.72	5.28	5.28
Custer County	C17	RM 184.59	41311	50-yr	3080.9	717.42	711.96	2.93	2.23	38.71	12.28	194.94	874.37	5.02	1.58	5.46	5.46
Custer County	C17	RM 184.4	41010	50-yr	3080.9	717.34	711.62	2.34	1.96	24.23	8.58	242.39	850.17	5.27	1.85	5.72	5.72
Custer County	C17	RM 184.23	40728	50-yr	3080.9	717.13	711.31	2.58	2.03	30.77	11.01	238.05	909.61	4.71	1.67	5.82	5.82
Custer County	C17	RM 184.1	40517	50-yr	3080.9	717.05	711.39	2.49	1.65	27.7	9.57	203.14	1132.12	5.09	1.76	5.65	5.65
Custer County	C17	RM 184.03	40407	50-yr	3080.9	716.91	711.49	2.62	2.04	30.92	9.16	222.9	1106.58	5.02	1.47	5.42	5.42
Custer County	C17	RM 183.83	40098	50-yr	3080.9	716.81	711.42	2.26	1.6	22.92	8.39	234.73	1041.35	5.1	1.85	5.39	5.39
Custer County	C17	RM 183.65	39806	50-yr	3080.9	716.53	711.39	2.65	2.22	31.85	10.83	224.55	829.45	4.98	1.68	5.14	5.14
Custer County	C17	RM 183.47	39513	50-yr	3080.9	716.22	711.39	2.94	2.47	40.16	16.23	211.47	669.88	4.68	1.86	4.83	4.83
Custer County	C17	RM 183.28	39210	50-yr	3080.9	716.16	711.31	2.22	1.66	22.68	7.99	263.55	1116.6	4.76	1.66	4.85	4.85
Custer County	C17	RM 183.09	38909	50-yr	3080.9	716.04	711.04	2.17	1.4	21.61	10.13	236.86	990.45	4.79	2.22	5	5
Custer County	C17	RM 182.94	38660	50-yr	3080.9	715.89	710.66	2.23	1.69	22.36	10.04	244.82	842.41	5.07	2.25	5.23	5.23
Custer County	C17	RM 182.72	38316	50-yr	3080.9	715.69	710.1	2.35	1.85	25.19	14.59	250.1	822.86	4.82	2.78	5.59	5.59
Custer County	C17	RM 182.54	38020	50-yr	3080.9	715.1	710.12	3.51	2.72	56.71	34.09	173.67	421.94	4.74	2.82	4.98	4.98
Custer County	C17	RM 182.34	37706	50-yr	3080.9	714.93	710.27	2.77	2.38	36.63	24.69	240.92	457.09	4.26	2.86	4.66	4.66
Custer County	C17	RM 182.15	37402	50-yr	3080.9	714.7	710.26	2.65	2.26	33.25	18.57	248.66	592.41	4.33	2.41	4.44	4.44
Custer County	C17	RM 181.97	37127	50-yr	3080.9	714.53	710.26	2.42	2.03	28.25	10.63	292.15	1163.98	4.11	1.54	4.27	4.27
Custer County	C17	RM 181.78	36815	50-yr	3080.9	714.33	710.09	2.26	1.75	22.46	11.26	407.22	1159.91	3.03	1.51	4.24	4.24
Custer County	C17	RM 181.59	36505	50-yr	3080.9	713.99	709.76	2.51	2.12	29.06	15.96	392.06	892.56	2.98	1.63	4.23	4.23

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	50-yr	3080.9	713.71	709.37	2.49	1.98	30.23	16.39	277.3	721.67	4	2.16	4.34	4.34
Custer County	C17	RM 181.23	35925	50-yr	3080.9	713.44	709.36	2.81	2.38	38.84	21.02	247.28	624.87	3.84	2.07	4.08	4.08
Custer County	C17	RM 181.03	35607	50-yr	3080.9	713.3	709.02	2.14	2	22.37	15.03	354.1	648.09	3.95	2.65	4.28	4.28
Custer County	C17	RM 180.83	35292	50-yr	3080.9	713.2	708.68	1.84	1.59	16.51	12.05	362.09	968.74	3.91	2.85	4.52	4.52
Custer County	C17	RM 180.66	35006	50-yr	3080.9	712.98	708.22	2.14	1.92	21.9	14.05	342.47	607.2	4.13	2.65	4.76	4.76
Custer County	C18	RM 180.46	34700	50-yr	3080.9	712.78	708.05	2.3	2	24.51	18.18	281.53	452.16	4.59	3.4	4.73	4.73
Custer County	C18	RM 180.29	34421	50-yr	3080.9	712.54	707.79	2.6	2.09	32.09	17.7	243.73	745	4.3	2.36	4.75	4.75
Custer County	C18	RM 180.08	34086	50-yr	3080.9	712.36	707.53	2.34	1.86	25.23	12.35	254.84	731.26	4.67	2.27	4.83	4.83
Custer County	C18	RM 179.9	33807	50-yr	3080.9	712.23	707.32	2.26	1.83	23.74	11.43	266.42	776.04	4.53	2.17	4.91	4.91
Custer County	C18	RM 179.73	33525	50-yr	3080.9	711.91	706.89	2.69	2.29	34.39	18	256.8	601.07	4.28	2.23	5.02	5.02
Custer County	C18	RM 179.54	33218	50-yr	3080.9	711.68	706.7	2.52	2.28	32.69	20.73	312.1	555.46	3.85	2.43	4.98	4.98
Custer County	C18	RM 179.35	32914	50-yr	3080.9	711.53	706.45	2.23	1.96	23.11	16.69	292.41	479.7	4.55	3.28	5.08	5.08
Custer County	C18	RM 179.16	32611	50-yr	3080.9	711.22	706.29	2.66	2.45	33.13	21.88	237.48	397.46	4.81	3.17	4.93	4.93
Custer County	C18	RM 178.99	32337	50-yr	3080.9	711.08	706.07	2.48	2.29	28.16	18.43	254.29	428.1	4.81	3.14	5.01	5.01
Custer County	C18	RM 178.79	32025	50-yr	3080.9	710.86	705.9	2.56	2.37	30.23	17.62	251.59	476.02	4.7	2.73	4.96	4.96
Custer County	C18	RM 178.61	31730	50-yr	3080.9	710.79	705.59	2.11	1.76	20.3	11.15	259.81	660.74	4.84	2.65	5.2	5.2
Custer County	C18	RM 178.43	31434	50-yr	3080.9	710.52	705.25	2.49	2.35	28.16	14.24	249.19	529.05	4.93	2.48	5.27	5.27
Custer County	C18	RM 178.23	31114	50-yr	3080.9	710.32	704.7	2.52	2.45	28.79	19.67	249.24	377.11	4.9	3.34	5.62	5.62
Custer County	C18	RM 178.06	30848	50-yr	3080.9	710.13	704.57	2.64	2.43	31.24	22.91	219.45	336.8	5.16	3.77	5.56	5.56
Custer County	C18	RM 177.88	30549	50-yr	3080.9	709.91	704.57	2.72	2.46	33.85	22.77	229.01	386.06	4.83	3.24	5.34	5.34
Custer County	C18	RM 177.66	30211	50-yr	3117.7	709.29	704.57	3.55	3.26	59.11	36.9	194.19	345.83	4.46	2.77	4.72	4.72
Custer County	C18	RM 177.49	29932	50-yr	3117.7	709.12	704.47	2.91	2.83	39.68	29.06	236.92	334.63	4.51	3.29	4.65	4.65
Custer County	C19	RM 177.3	29625	50-yr	3117.7	708.97	704.46	2.43	2.37	28.32	21.95	302.6	403.45	4.22	3.26	4.51	4.51
Custer County	C19	RM 177.11	29314	50-yr	3117.7	708.66	704.46	2.62	2.51	30.73	27.33	372.18	441.05	3.16	2.81	4.2	4.2
Custer County	C19	RM 176.93	29040	50-yr	3117.7	708.53	704.42	2.1	1.98	20.06	17.41	436.64	545.27	3.34	2.89	4.11	4.11
Custer County	C19	RM 176.74	28720	50-yr	3117.7	708.38	704.21	1.98	1.81	19.17	14.97	342.3	693.7	3.85	3.01	4.17	4.17
Custer County	C19	RM 176.53	28384	50-yr	3117.7	708.15	703.63	2.16	1.99	24.04	21.04	344.95	529.96	3.36	2.95	4.52	4.52
Custer County	C19	RM 176.36	28109	50-yr	3117.7	707.91	703.08	2.29	2.19	25.26	21.9	324.02	397.65	4.13	3.59	4.83	4.83
Custer County	C19	RM 176.18	27824	50-yr	3117.7	707.13	702.71	3.79	3.34	69.85	42.02	199.69	394.26	3.99	2.39	4.42	4.42
Custer County	C19	RM 176	27527	50-yr	3117.7	706.99	702.51	2.78	2.6	37.01	30.85	259.98	370.66	4.16	3.46	4.48	4.48
Custer County	C19	RM 175.81	27227	50-yr	3117.7	706.76	702.24	2.59	2.48	32.67	28.78	297.33	378.67	3.97	3.5	4.52	4.52
Custer County	C19	RM 175.62	26928	50-yr	3117.7	706.47	701.81	2.79	2.48	36.93	28.33	234.72	440.04	4.28	3.27	4.66	4.66
Custer County	C19	RM 175.43	26622	50-yr	3117.7	706.09	701.81	3.08	2.33	46.4	37.07	214.93	465.15	3.94	3.13	4.28	4.28
Custer County	C19	RM 175.25	26325	50-yr	3117.7	705.75	701.72	2.97	2.65	43.44	32.47	212.23	456.89	3.88	2.89	4.03	4.03
Custer County	C19	RM 175.08	26048	50-yr	3117.7	705.56	701.63	2.38	2.36	28.4	27.42	357.35	412.72	3.65	3.53	3.93	3.93
Custer County	C19	RM 174.9	25768	50-yr	3117.7	705.26	701.31	2.59	2.58	33.76	32.53	338.13	351.41	3.56	3.44	3.95	3.95
Custer County	C19	RM 174.69	25444	50-yr	3117.7	704.96	700.82	2.52	2.41	32.35	25.21	351.06	503.59	3.49	2.72	4.14	4.14
Custer County	C19	RM 174.49	25112	50-yr	3117.7	704.59	700.04	2.72	2.5	35.86	20.4	279.46	544.21	4.03	2.29	4.55	4.55
Custer County	C19	RM 174.32	24844	50-yr	3117.7	704.18	699.39	3.18	2.85	47.76	24.6	222.49	492.82	4.33	2.22	4.79	4.79
Custer County	C19	RM 174.13	24549	50-yr	3117.7	704.07	698.84	2.52	2.31	28.7	15.22	244.91	515.34	4.96	2.62	5.23	5.23
Custer County	C19	RM 173.94	24238	50-yr	3117.7	703.8	698.14	2.75	2.42	34.95	18.26	239.67	537.08	4.6	2.39	5.66	5.66
Custer County	C19	RM 173.75	23939	50-yr	3117.7	703.44	697.92	3.18	2.43	45.29	17.4	172.39	653.49	5.13	1.96	5.52	5.52
Custer County	C19	RM 173.57	23651	50-yr	3117.7	703.26	697.83	2.82	2.48	35.46	15.99	208.71	541.14	5.17	2.32	5.43	5.43
Custer County	C19	RM 173.39	23352	50-yr	3117.7	702.83	697.83	3.29	2.99	50.38	26.16	203.52	484.21	4.6	2.37	5	5
Custer County	C19	RM 173.2	23054	50-yr	3117.7	702.59	697.72	3.01	2.65	42.48	25.12	226.21	461.41	4.42	2.6	4.87	4.87
Custer County	C19	RM 173.02	22756	50-yr	3117.7	702.35	697.29	2.82	2.54	37.23	24.59	244.03	545.09	4.44	2.92	5.06	5.06
Custer County	C19	RM 172.82	22437	50-yr	3117.7	702.23	696.82	2.12	2.06	22.79	19.5	414.44	563.79	3.53	3.01	5.41	5.41
Custer County	C19	RM 172.67	22200	50-yr	3117.7	702.04	696.52	2.2	2.18	25.04	23.83	421.93	498.84	3.34	3.18	5.52	5.52
Custer County	C19	RM 172.49	21903	50-yr	3117.7	701.83	696.23	2.19	2.15	23.62	19.44	365.62	510.37	3.87	3.18	5.6	5.6
Custer County	C19	RM 172.29	21585	50-yr	3117.7	701.52	695.79	2.64	2.26	31.28	15.01	226.44	735.75	5.05	2.41	5.73	5.73
Custer County	C19	RM 172.12	21325	50-yr	3117.7	700.83	695.81	3.79	3.64	70.9	51.47	216.64	320.85	3.78	2.74	5.02	5.02
Custer County	C19	RM 171.89	20942	50-yr	3117.7	700.62	695.57	2.8	2.67	35.89	28.15	228.36	310.51	4.81	3.77	5.05	5.05
Custer County	C19	RM 171.71	20638	50-yr	3117.7	700.3	695.49	2.99	2.84	42.13	34.88	231.98	299.86	4.43	3.66	4.81	4.81
Custer County	C19	RM 171.52	20341	50-yr	3117.7	700.11	695.3	2.68	2.59	33.33	27.32	249.92	320.01	4.6	3.77	4.81	4.81
Custer County	C19	RM 171.34	20043	50-yr	3117.7	699.83	695.11	2.82	2.67	37.02	25.01	244.86	386.86	4.47	3.02	4.72	4.72
Custer County	C19	RM 171.15	19745	50-yr	3117.7	699.61	694.86	2.72	2.67	34.33	26.61	249.21	329.06	4.59	3.55	4.75	4.75
Custer County	C19	RM 170.96	19437	50-yr	3117.7	699.41	694.67	2.59	2.52	31.28	23.84	261.96	356.61	4.56	3.47	4.74	4.74
Custer County	C19	RM 170.78	19143	50-yr	3117.7	699.17	694.2	2.68	2.56	33.1	26.55	245.9	325.02	4.67	3.74	4.97	4.97
Custer County	C19	RM 170.58	18838	50-yr	3117.7	698.89	693.91	2.83	2.73	37.64	33.14	245.35	293.27	4.42	3.89	4.97	4.97
Custer County	C19	RM 170.4	18543	50-yr	3117.7	698.73	693.9	2.48	2.46	28.49	27.33	269.24	282.93	4.65	4.47	4.83	4.83

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	50-yr	3117.7	698.57	693.7	2.42	2.39	26.96	24.88	272.95	301	4.7	4.34	4.87	4.87
Custer County	C19	RM 170.03	17941	50-yr	3117.7	698.26	693.31	2.76	2.75	34.85	33.26	237.46	249.83	4.76	4.55	4.95	4.95
Custer County	C19	RM 169.84	17641	50-yr	3117.7	697.99	692.78	2.89	2.89	37.8	37.05	214.88	219.31	5.01	4.92	5.21	5.21
Custer County	C19	RM 169.65	17341	50-yr	3117.7	697.68	692.47	3.06	3.04	42.35	38.01	204.48	229.68	4.98	4.47	5.21	5.21
Custer County	C19	RM 169.47	17041	50-yr	3117.7	697.38	692.17	3.17	2.97	45.92	35.94	199.81	279.11	4.81	3.76	5.21	5.21
Custer County	C19	RM 169.28	16732	50-yr	3117.7	697.15	692	2.92	2.73	38.85	30.34	214.83	302	4.85	3.78	5.15	5.15
Custer County	C19	RM 169.09	16441	50-yr	3117.7	696.9	691.96	2.92	2.82	39.23	32.54	225.9	284.25	4.69	3.9	4.94	4.94
Custer County	C19	RM 168.91	16152	50-yr	3117.7	696.61	691.93	2.98	2.9	41.36	33.82	230.07	290.47	4.53	3.7	4.68	4.68
Custer County	C19	RM 168.72	15846	50-yr	3117.7	696.47	691.82	2.48	2.46	28.66	26.82	280.43	301.24	4.49	4.2	4.65	4.65
Custer County	C19	RM 168.51	15500	50-yr	3117.7	696.26	691.6	2.41	2.36	27.64	25.68	296.39	331.02	4.3	4	4.66	4.66
Custer County	C19	RM 168.35	15241	50-yr	3117.7	695.98	691.48	2.71	2.53	35.1	30.35	269.3	339.78	4.2	3.63	4.5	4.5
Custer County	C19	RM 168.15	14931	50-yr	3117.7	695.62	691.2	2.95	2.69	41.55	29.96	241.07	381.59	4.22	3.03	4.42	4.42
Custer County	C19	RM 167.97	14639	50-yr	3117.7	695.4	690.59	2.73	2.66	34.58	25.95	247.71	344.67	4.59	3.44	4.81	4.81
Custer County	C19	RM 167.79	14340	50-yr	3117.7	695.21	690.5	2.59	2.33	31.27	23.24	249.29	390.26	4.61	3.43	4.71	4.71
Custer County	C19	RM 167.61	14054	50-yr	3117.7	694.83	690.42	3	2.94	42.8	37.96	244.91	281.66	4.24	3.76	4.41	4.41
Custer County	C19	RM 167.41	13735	50-yr	3117.7	694.64	690.14	2.61	2.31	32.37	24.02	264.94	424.39	4.28	3.18	4.49	4.49
Custer County	C19	RM 167.22	13433	50-yr	3117.7	694.44	689.79	2.47	2.28	28.48	18.39	276.96	472.52	4.49	2.9	4.65	4.65
Custer County	C19	RM 167.04	13143	50-yr	3117.7	694.26	689.14	2.47	2.25	27.78	18.4	256.62	433.27	4.82	3.19	5.12	5.12
Custer County	C19	RM 166.85	12847	50-yr	3117.7	693.92	688.98	2.91	2.64	40.05	29.57	240.01	372.57	4.3	3.17	4.94	4.94
Custer County	C19	RM 166.67	12552	50-yr	3117.7	693.71	688.84	2.68	2.51	33.42	21.24	252.35	430.46	4.56	2.89	4.87	4.87
Custer County	C19	RM 166.52	12319	50-yr	3117.7	693.63	688.64	2.31	2.23	24.31	17.52	278.87	402.88	4.83	3.47	4.99	4.99
Custer County	C19	RM 166.31	11978	50-yr	3117.7	693.36	688.02	2.59	2.36	30.2	20.36	249.27	412.57	4.76	3.2	5.34	5.34
Custer County	C20	RM 166.2	11806	50-yr	3126.2	693.21	687.4	2.7	2.43	33.11	21.8	229.93	396.47	4.94	3.24	5.81	5.81
Custer County	C20	RM 166.06	11569	50-yr	3126.2	692.99	687.38	2.85	2.58	37.91	24.06	239.53	426.49	4.49	2.84	5.61	5.61
Custer County	C20	RM 165.92	11350	50-yr	3126.2	692.73	687.38	3	2.66	42.5	23.12	230.18	493.31	4.42	2.39	5.35	5.35
Custer County	C20	RM 165.73	11039	50-yr	3126.2	692.56	687.26	2.55	2.42	30.24	21.67	264.5	393.76	4.59	3.29	5.3	5.3
Custer County	C20	RM 165.55	10750	50-yr	3126.2	692.38	687.11	2.51	2.39	29.37	20.55	274.77	417.09	4.51	3.14	5.27	5.27
Custer County	C20	RM 165.35	10440	50-yr	3126.2	692.19	686.75	2.45	2.33	28.09	20.9	279.36	403.2	4.48	3.32	5.43	5.43
Custer County	C20	RM 165.17	10140	50-yr	3126.2	692.01	686.41	2.46	2.22	27.63	18.6	247.1	429.71	4.89	3.28	5.6	5.6
Custer County	C20	RM 165.01	9883	50-yr	3126.2	691.84	686.16	2.47	2.33	27.98	22.71	262.27	420.2	4.74	3.84	5.68	5.68
Custer County	C20	RM 164.81	9577	50-yr	3126.2	691.7	686.04	2.3	2.03	24.64	14.58	284.5	568.87	4.61	2.71	5.66	5.66
Custer County	C20	RM 164.61	9252	50-yr	3126.2	691.6	685.8	1.91	1.67	16.84	12.91	374.23	588.2	4.18	3.19	5.8	5.8
Custer County	C20	RM 164.42	8945	50-yr	3126.2	691.46	685.78	1.92	1.9	16.83	15.49	416.56	468.23	3.9	3.59	5.68	5.68
Custer County	C20	RM 164.23	8641	50-yr	3126.2	691.35	685.85	1.73	1.73	17.46	17.2	452.11	476.84	3.98	3.93	5.5	5.5
Custer County	C20	RM 164.06	8372	50-yr	3126.2	691.21	685.64	1.93	1.74	16.44	13.03	294.56	532.2	5.35	4.24	5.57	5.57
Custer County	C20	RM 163.85	8031	50-yr	3126.2	691.05	685	2.1	2	19.69	15.66	277.99	374.99	5.25	4.16	6.05	6.05
Custer County	C20	RM 163.67	7743	50-yr	3126.2	690.76	684.45	2.7	2.68	30.95	29.76	191.84	200.65	6.03	5.82	6.31	6.31
Custer County	C20	RM 163.48	7449	50-yr	3126.2	690.38	684.13	3.25	3.21	45.23	41.78	162.29	178.44	5.91	5.46	6.25	6.25
Custer County	C20	RM 163.3	7150	50-yr	3126.2	690.31	684.13	2.67	2.57	30.82	26.2	204.93	252.54	5.67	4.82	6.18	6.18
Custer County	C20	RM 163.12	6859	50-yr	3126.2	690.26	683.91	2.15	2.02	21.11	17.64	267.05	349.73	5.3	4.43	6.35	6.35
Custer County	C20	RM 162.94	6583	50-yr	3126.2	690.03	683.78	2.58	2.29	28.79	20.16	204.74	343.55	5.71	3.97	6.25	6.25
Custer County	C20	RM 162.74	6254	50-yr	3126.2	689.59	683.77	3.25	2.85	47.27	28.16	177.33	361.7	5.21	3.07	5.82	5.82
Custer County	C20	RM 162.55	5957	50-yr	3126.2	689.37	683.96	2.91	2.84	43.2	34.13	231.24	311.82	4.62	3.65	5.41	5.41
Custer County	C20	RM 162.34	5620	50-yr	3126.2	689.28	683.92	2.17	2.08	21.64	17.65	304.55	395.3	4.68	3.81	5.36	5.36
Custer County	C20	RM 162.18	5352	50-yr	3126.2	689.17	683.41	1.94	1.91	27.96	23.51	354.23	429.52	4.53	3.81	5.76	5.76
Custer County	C20	RM 162.03	5111	50-yr	3126.2	689.07	683.26	1.88	1.87	16.14	15.8	322.26	351.15	5.16	5.05	5.81	5.81
Custer County	C20	RM 161.81	4770	50-yr	3126.2	688.5	682.63	3.27	3.12	47.18	36.59	174.77	239.49	5.42	4.19	5.87	5.87
Custer County	C20	RM 161.62	4470	50-yr	3126.2	688.23	682.53	3.29	2.87	48.66	37.62	174.2	384.47	5.15	3.96	5.7	5.7
Custer County	C20	RM 161.43	4159	50-yr	3126.2	688	682.63	2.99	2.79	40.47	29.02	206.33	315.33	4.98	3.56	5.37	5.37
Custer County	C20	RM 161.24	3859	50-yr	3126.2	687.7	682.51	3.12	2.81	44.41	31.18	199.39	328.42	4.85	3.39	5.19	5.19
Custer County	C20	RM 161.06	3559	50-yr	3126.2	687.49	682.38	2.86	2.59	37.29	26.7	218.97	345.94	4.88	3.48	5.11	5.11
Custer County	C20	RM 160.87	3258	50-yr	3126.2	687.08	682.24	3.25	3.07	48.9	37.31	204.8	289.53	4.62	3.51	4.84	4.84
Custer County	C20	RM 160.68	2952	50-yr	3126.2	686.94	682.11	2.64	2.59	32.26	28.46	252.16	293.11	4.67	4.12	4.83	4.83
Custer County	C20	RM 160.5	2662	50-yr	3126.2	686.76	681.85	2.45	2.42	28.86	25.84	303.59	346.22	4.18	3.74	4.91	4.91
Custer County	C20	RM 160.31	2364	50-yr	3126.2	686.6	681.58	2.28	2.18	24.93	19.05	321.4	449.37	4.19	3.2	5.02	5.02
Custer County	C20	RM 160.12	2063	50-yr	3126.2	686.41	681.02	2.34	2.2	25.24	18.09	277.19	422.33	4.71	3.37	5.39	5.39
Custer County	C20	RM 159.93	1758	50-yr	3126.2	686.14	680.9	2.58	2.42	32.07	22.28	292.2	456.26	4.08	2.83	5.24	5.24
Custer County	C20	RM 159.75	1459	50-yr	3126.2	685.9	680.88	2.64	2.49	32.17	21.13	251.96	411.64	4.65	3.05	5.02	5.02
Custer County	C20	RM 159.55	1151	50-yr	3126.2	685.71	680.74	2.52	2.44	29.25	22.59	261.92	352.78	4.7	3.63	4.97	4.97
Custer County	C20	RM 159.38	876	50-yr	3126.2	685.47	680.37	2.74	2.49	33.93	25.26	229.23	343.94	4.89	3.64	5.1	5.1

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	50-yr	3126.2	685.27	679.77	2.63	2.62	31.92	30.71	236.5	247	5.01	4.83	5.5	5.5
Custer County	C20	RM 158.98	229	50-yr	3126.2	684.98	679.44	2.83	2.76	36.02	32.53	217.29	248.45	5.04	4.55	5.54	5.54

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	50-yr	3131.8	684.98	679.22	2.78	2.65	34.38	26.74	214.16	292.84	5.2	4.04	5.76	5.76
Prairie County	C21	RM 158.55	61087	50-yr	3131.8	684.86	678.98	2.47	2.41	26.51	21.3	226.29	290.03	5.59	4.49	5.88	5.88
Prairie County	C21	RM 158.36	60787	50-yr	3131.8	684.73	678.83	2.36	2.28	24.59	19.25	249.45	331.7	5.3	4.14	5.9	5.9
Prairie County	C21	RM 158.17	60481	50-yr	3131.8	684.57	678.35	2.39	2.21	27.96	16.56	253.18	471.81	5.09	3	6.22	6.22
Prairie County	C21	RM 157.98	60173	50-yr	3131.8	684.24	678.22	2.82	2.65	36.57	25.64	231.17	358.4	4.72	3.3	6.02	6.02
Prairie County	C21	RM 157.78	59862	50-yr	3131.8	683.99	678.23	2.88	2.57	37.09	24.6	201.99	358.2	5.16	3.4	5.76	5.76
Prairie County	C21	RM 157.6	59561	50-yr	3131.8	683.88	678.14	2.45	2.31	26.56	21.42	233.85	314.8	5.35	4.31	5.74	5.74
Prairie County	C21	RM 157.38	59209	50-yr	3131.8	683.75	677.81	2.19	1.98	22.05	16.94	288.08	462.66	4.69	3.59	5.94	5.94
Prairie County	C21	RM 157.18	58885	50-yr	3131.8	683.61	677.42	2.21	1.8	21.51	14.19	235.66	520.4	5.37	3.52	6.19	6.19
Prairie County	C21	RM 156.99	58595	50-yr	3131.8	683.35	677.32	2.76	2.08	33.54	20.44	173.83	456.87	5.46	3.3	6.03	6.03
Prairie County	C21	RM 156.8	58287	50-yr	3131.8	682.9	677.32	3.48	2.65	54.66	35.71	149.83	360.58	5.07	3.27	5.58	5.58
Prairie County	C21	RM 156.62	57990	50-yr	3131.8	682.82	677.29	2.61	2.4	30.51	22.66	207.6	344.1	5.13	3.8	5.53	5.53
Prairie County	C21	RM 156.42	57683	50-yr	3131.8	682.7	677.21	2.25	2.11	22.85	19.35	271.12	348.09	5.04	4.25	5.49	5.49
Prairie County	C21	RM 156.24	57378	50-yr	3131.8	682.4	676.91	2.69	2.47	33.44	24.35	245.34	374.26	4.66	3.38	5.49	5.49
Prairie County	C21	RM 156.04	57069	50-yr	3131.8	682.24	676.56	2.51	2.26	27.77	18.21	226.07	393.9	5.39	3.52	5.68	5.68
Prairie County	C21	RM 155.85	56762	50-yr	3131.8	681.96	676.11	2.85	2.51	36.23	23.68	204.32	368.18	5.22	3.39	5.85	5.85
Prairie County	C21	RM 155.66	56455	50-yr	3131.8	681.52	675.96	3.39	2.88	52.04	33.48	177.2	343.01	4.98	3.18	5.56	5.56
Prairie County	C21	RM 155.47	56151	50-yr	3131.8	681.43	675.89	2.55	2.29	30.11	22.1	257.44	404.6	4.61	3.38	5.54	5.54
Prairie County	C21	RM 155.27	55835	50-yr	3131.8	681.25	675.92	2.36	2.31	26.63	23.84	317.77	363.23	4.17	3.73	5.33	5.33
Prairie County	C21	RM 155.08	55530	50-yr	3131.8	681.01	675.95	2.45	2.38	28.53	24.17	296.49	361.31	4.29	3.64	5.06	5.06
Prairie County	C21	RM 154.88	55209	50-yr	3131.8	680.83	675.64	2.35	2.33	25.72	23.94	300.68	324.78	4.44	4.13	5.19	5.19
Prairie County	C21	RM 154.69	54901	50-yr	3131.8	680.51	675.39	2.72	2.67	35.09	32.23	264.93	321.41	4.31	3.96	5.12	5.12
Prairie County	C21	RM 154.5	54588	50-yr	3131.8	680.26	675.02	2.69	2.64	33.74	31.67	257.32	279.69	4.5	4.23	5.24	5.24
Prairie County	C21	RM 154.3	54273	50-yr	3131.8	680.07	674.8	2.5	2.47	29.34	25.28	277.5	327.85	4.49	3.87	5.27	5.27
Prairie County	C21	RM 154.1	53959	50-yr	3131.8	679.82	674.67	2.61	2.51	31.9	24.78	269.5	362.66	4.42	3.43	5.15	5.15
Prairie County	C21	RM 153.91	53650	50-yr	3131.8	679.64	674.51	2.46	2.41	27.5	24.34	260.55	302.5	4.86	4.3	5.13	5.13
Prairie County	C21	RM 153.72	53338	50-yr	3131.8	679.42	674.06	2.63	2.36	31.05	22.57	225.99	362.05	5.05	3.66	5.36	5.36
Prairie County	C21	RM 153.52	53023	50-yr	3131.8	679.03	673.78	3.1	2.75	44.95	33.83	206.24	342.48	4.54	3.4	5.25	5.25
Prairie County	C21	RM 153.32	52704	50-yr	3131.8	678.76	673.64	2.83	2.76	37.63	32.23	249.02	357.99	4.42	3.78	5.12	5.12
Prairie County	C21	RM 153.12	52380	50-yr	3131.8	678.61	673.43	2.41	2.33	26.61	21.2	270.43	476.42	4.76	3.79	5.18	5.18
Prairie County	C21	RM 152.92	52065	50-yr	3131.8	678.46	672.88	2.3	2.04	24.11	17.27	270.87	443.14	4.85	3.47	5.58	5.58
Prairie County	C21	RM 152.73	51762	50-yr	3131.8	678.27	672.27	2.38	2.26	26.04	19.21	271.58	443.46	4.78	3.52	6	6
Prairie County	C21	RM 152.54	51463	50-yr	3131.8	678.09	671.85	2.44	2.32	27.43	23.09	251.98	321.76	5	4.2	6.24	6.24
Prairie County	C21	RM 152.35	51157	50-yr	3131.8	677.92	671.41	2.44	2.42	26.03	24.29	229.76	249.28	5.58	5.2	6.51	6.51
Prairie County	C21	RM 152.16	50852	50-yr	3131.8	677.81	671.23	2.27	2.19	23.2	20.22	268.26	323.37	5.08	4.43	6.58	6.58
Prairie County	C21	RM 151.97	50546	50-yr	3131.8	677.7	670.99	2.12	1.94	19.04	15.92	284.09	395.95	4.9	4.08	6.71	6.71
Prairie County	C21	RM 151.77	50227	50-yr	3131.8	677.6	670.87	2.12	1.81	18.96	13.14	204.89	407.27	6.17	4.24	6.73	6.73
Prairie County	C21	RM 151.59	49936	50-yr	3131.8	677.26	670.75	2.99	2.51	38.67	24.36	152.18	344.19	5.84	3.63	6.51	6.51
Prairie County	C21	RM 151.38	49599	50-yr	3131.8	677.11	670.9	2.61	2.29	29.49	19.98	199.41	356.81	5.73	3.86	6.21	6.21
Prairie County	C21	RM 151.19	49287	50-yr	3131.8	676.98	670.96	2.4	2.28	24.86	16.68	226.6	360.55	5.71	3.82	6.02	6.02
Prairie County	C21	RM 151.01	49012	50-yr	3131.8	676.9	670.91	2.14	2.08	22.12	18.39	288.76	361.22	5.03	4.18	5.99	5.99
Prairie County	C21	RM 150.81	48683	50-yr	3131.8	676.84	670.79	1.7	1.68	13	12.01	428.92	469.72	4.29	3.97	6.05	6.05
Prairie County	C21	RM 150.63	48400	50-yr	3616.1	676.73	670.45	1.81	1.72	14.55	10.49	405.47	605.29	4.84	3.47	6.28	6.28
Prairie County	C21	RM 150.44	48094	50-yr	3616.1	676.51	669.86	2.32	2.12	24.23	14.91	273.64	508.67	5.46	3.35	6.65	6.65
Prairie County	C21	RM 150.25	47780	50-yr	3616.1	675.87	669.38	3.61	3.34	65.15	43.42	166.06	279.96	5.84	3.87	6.49	6.49
Prairie County	C21	RM 150.05	47474	50-yr	3616.1	675.77	669.21	2.91	2.86	36.05	32.4	204.16	232.2	6.05	5.45	6.56	6.56
Prairie County	C21	RM 149.87	47178	50-yr	3616.1	675.66	669.02	2.56	2.45	29.45	25.42	269.57	332	5.17	4.45	6.64	6.64
Prairie County	C21	RM 149.66	46846	50-yr	3616.1	675.55	668.97	2.17	2.07	21.1	18.25	331.18	408.14	4.96	4.28	6.58	6.58
Prairie County	C21	RM 149.48	46551	50-yr	3616.1	675.23	668.91	2.77	2.46	35.04	24.07	261.52	768.23	4.84	3.31	6.32	6.32
Prairie County	C21	RM 149.27	46219	50-yr	3616.1	675.08	668.94	2.57	2.03	29.65	18.9	208.49	662.07	5.28	3.34	6.14	6.14
Prairie County	D1	RM 149.08	45914	50-yr	3616.1	674.86	668.95	2.56	2.24	28.93	18.28	254.75	533.63	5.31	3.34	5.91	5.91
Prairie County	D1	RM 148.89	45608	50-yr	3618.9	674.78	668.96	2.16	2.14	20.65	20.09	314.73	425.42	5.31	5.18	5.82	5.82
Prairie County	D1	RM 148.7	45301	50-yr	3618.9	674.65	668.73	2.14	2.1	21.87	20.57	347.94	384.04	4.83	4.55	5.92	5.92
Prairie County	D1	RM 148.5	44987	50-yr	3618.9	674.38	668.42	2.61	2.31	29.78	23.69	235.13	358.11	5.55	4.42	5.96	5.96
Prairie County	D1	RM 148.3	44667	50-yr	3618.9	674.01	668.01	3.15	2.75	43	32.03	193.35	315.32	5.62	4.18	6	6
Prairie County	D1	RM 148.11	44353	50-yr	3618.9	673.86	667.73	2.75	2.59	33.03	28.46	230.09	307.57	5.57	4.8	6.13	6.13
Prairie County	D1	RM 147.93	44062	50-yr	3618.9	673.77	667.4	2.34	2.32	24.74	23.45	306.12	327.51	5.03	4.77	6.37	6.37
Prairie County	D1	RM 147.74	43761	50-yr	3618.9	673.66	667.21	2.24	2.05	23.14	18.84	251.8	404.63	5.36	4.35	6.45	6.45
Prairie County	D1	RM 147.55	43454	50-yr	3618.9	673.47	666.79	2.55	2.18	27.89	16.49	197.43	484.49	5.86	3.43	6.68	6.68
Prairie County	D1	RM 147.34	43128	50-yr	3618.9	673.27	666.46	2.75	2.3	32.13	18.09	173.86	468.19	6.07	3.36	6.81	6.81

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	50-yr	3618.9	673.08	666.42	2.81	2.45	34.03	24.2	178.57	361.84	5.78	4.08	6.66	6.66
Prairie County	D1	RM 146.96	42505	50-yr	3618.9	672.71	666.49	3.18	2.99	43.09	32.24	187.33	272.35	5.94	4.44	6.22	6.22
Prairie County	D1	RM 146.77	42199	50-yr	3618.9	672.59	666.48	2.77	2.75	33	29.77	225.21	251.45	5.8	5.24	6.11	6.11
Prairie County	D1	RM 146.58	41899	50-yr	3618.9	672.54	666.59	2.22	2.21	21.58	20.89	296.32	307.49	5.5	5.33	5.95	5.95
Prairie County	D1	RM 146.32	41487	50-yr	3618.9	672.31	666.62	2.33	2.28	25.46	22.39	325.06	381.86	4.73	4.16	5.69	5.69
Prairie County	D1	RM 146	40968	50-yr	3618.9	671.96	666.48	2.53	2.47	29.88	25.29	277.27	337.13	5.14	4.35	5.48	5.48
Prairie County	D1	RM 145.65	40420	50-yr	3618.9	671.58	665.52	2.69	2.6	33.79	27.68	247.14	315.15	5.39	4.41	6.06	6.06
Prairie County	D1	RM 145.36	39958	50-yr	3618.9	671.33	664.91	2.51	2.38	29.7	20.45	264.9	412.18	5.36	3.69	6.42	6.42
Prairie County	D1	RM 145.13	39579	50-yr	3618.9	671.16	664.58	2.39	2.28	26.15	18.3	266.31	403.39	5.64	3.93	6.58	6.58
Prairie County	D1	RM 144.92	39251	50-yr	3618.9	671	664.24	2.35	2.26	26.39	20.17	272.39	376.74	5.58	4.26	6.76	6.76
Prairie County	D1	RM 144.73	38942	50-yr	3618.9	670.82	663.99	2.45	2.31	28.39	22.11	264.25	368.96	5.46	4.24	6.83	6.83
Prairie County	D1	RM 144.56	38672	50-yr	3618.9	670.61	664.1	2.65	2.53	31.5	26.72	265.15	333.64	5.05	4.28	6.51	6.51
Prairie County	D1	RM 144.33	38305	50-yr	3618.9	670.39	664.19	2.65	2.44	30.34	23.26	232.15	342.18	5.68	4.34	6.2	6.2
Prairie County	D1	RM 144.13	37987	50-yr	3618.9	670.3	664.33	2.3	2.18	22.76	18.29	271.37	360.71	5.72	4.6	5.97	5.97
Prairie County	D1	RM 143.91	37637	50-yr	3618.9	670.22	663.96	2.01	1.78	17.65	13.17	299.48	487.95	5.59	4.16	6.26	6.26
Prairie County	D1	RM 143.71	37320	50-yr	3618.9	669.82	663.43	2.98	2.57	37.99	23.36	191.55	386.16	5.98	3.65	6.39	6.39
Prairie County	D1	RM 143.45	36908	50-yr	3618.9	669.35	663.01	3.43	3.14	50.86	36.46	179.26	282.93	5.7	4.08	6.34	6.34
Prairie County	D1	RM 143.21	36511	50-yr	3618.9	669.21	662.92	2.73	2.66	32.02	28.21	224.58	263.35	5.86	5.16	6.29	6.29
Prairie County	D1	RM 142.97	36139	50-yr	3618.9	669.04	662.7	2.6	2.54	28.73	25.72	232.06	266.15	5.97	5.35	6.34	6.34
Prairie County	D1	RM 142.71	35717	50-yr	3618.9	668.46	662.52	3.45	3.4	52.3	43.22	192.11	237.13	5.45	4.49	5.94	5.94
Prairie County	D1	RM 142.46	35322	50-yr	3618.9	668.37	662.36	2.54	2.42	28.28	23	254.79	333.1	5.52	4.48	6.01	6.01
Prairie County	D1	RM 142.23	34952	50-yr	3618.9	668.13	662.21	2.69	2.48	31.43	21.38	237.35	384.45	5.59	3.79	5.92	5.92
Prairie County	D1	RM 142.02	34614	50-yr	3618.9	667.98	662.21	2.49	2.29	28.14	22.96	269.68	393.75	4.92	4.01	5.77	5.77
Prairie County	D1	RM 141.8	34258	50-yr	3618.9	667.92	662.01	1.84	1.82	15.13	14.75	393.92	406.93	4.99	4.87	5.91	5.91
Prairie County	D1	RM 141.6	33942	50-yr	3618.9	667.74	661.72	2.1	2.09	16.02	15.83	496.43	503.62	3.47	3.43	6.02	6.02
Prairie County	D1	RM 141.42	33642	50-yr	3618.9	667.69	661.32	1.69	1.67	11.52	10.54	499.33	551.97	4.29	3.93	6.37	6.37
Prairie County	D1	RM 141.22	33325	50-yr	3618.9	667.54	660.91	1.95	1.9	16.4	13.4	326.47	410.25	5.68	4.64	6.63	6.63
Prairie County	D1	RM 141.02	33011	50-yr	3618.9	667.14	660.58	2.96	2.79	36.71	25.19	194.42	304.31	6.24	4.27	6.56	6.56
Prairie County	D1	RM 140.84	32709	50-yr	3618.9	667.06	660.35	2.52	2.47	27.09	24.11	241.98	278.57	5.92	5.26	6.71	6.71
Prairie County	D1	RM 140.64	32394	50-yr	3618.9	666.96	660.07	2.34	2.3	22.93	21.3	239.5	262.7	6.43	5.98	6.89	6.89
Prairie County	D1	RM 140.44	32074	50-yr	3618.9	666.74	659.63	2.65	2.59	30.03	27.02	225.88	257.72	6.02	5.42	7.11	7.11
Prairie County	D1	RM 140.23	31738	50-yr	3618.9	666.41	659.62	3.03	2.95	39.83	33.6	207.01	252.79	5.75	4.86	6.79	6.79
Prairie County	D1	RM 140.03	31420	50-yr	3618.9	666.35	659.59	2.44	2.38	25.54	21.24	253.77	313.16	5.83	4.86	6.76	6.76
Prairie County	D1	RM 139.84	31118	50-yr	3618.9	666.28	659.19	2.12	2.02	19.63	16.41	309.19	390.01	5.48	4.58	7.09	7.09
Prairie County	D1	RM 139.64	30801	50-yr	3618.9	666.12	658.96	2.35	2.04	22.73	15.3	222.13	401.56	6.57	4.41	7.16	7.16
Prairie County	D1	RM 139.44	30466	50-yr	3618.9	666.01	658.72	2.25	2.03	21.4	15.41	250.57	402.27	6.17	4.43	7.29	7.29
Prairie County	D1	RM 139.23	30138	50-yr	3618.9	665.81	658.34	2.45	2.41	28.57	23.39	219.78	274.13	6.69	5.47	7.47	7.47
Prairie County	D1	RM 139.02	29799	50-yr	3618.9	665.41	658.14	3.13	2.98	49.74	38.16	179.74	250.42	6.33	4.84	7.27	7.27
Prairie County	D1	RM 138.81	29470	50-yr	3618.9	665.38	658.11	2.35	2.27	25.93	22.33	219.94	267.25	6.93	5.95	7.27	7.27
Prairie County	D1	RM 138.62	29157	50-yr	3618.9	665.23	657.94	2.46	2.3	25.07	17.4	216.79	341.09	6.67	4.61	7.29	7.29
Prairie County	D1	RM 138.41	28823	50-yr	3618.9	664.99	657.82	2.76	2.59	34.93	23.82	202.45	322.67	6.38	4.33	7.17	7.17
Prairie County	D1	RM 138.22	28519	50-yr	3618.9	664.81	657.8	2.8	2.7	32.9	28.79	198.68	236.38	6.45	5.67	7.01	7.01
Prairie County	D1	RM 138.02	28200	50-yr	3618.9	664.8	657.74	2.13	2.09	19.99	18.45	246.99	273.81	6.83	6.31	7.06	7.06
Prairie County	D1	RM 137.82	27874	50-yr	3618.9	664.68	656.95	2.19	2.1	21.72	17.58	263.32	344.97	6.18	5	7.73	7.73
Prairie County	D1	RM 137.62	27552	50-yr	3618.9	664.58	656.75	2.16	1.84	21.57	16.14	234.81	497.32	6.23	4.64	7.83	7.83
Prairie County	D1	RM 137.42	27247	50-yr	3618.9	664.29	656.66	2.69	2.5	33.08	25.09	204.7	299.77	6.37	4.82	7.63	7.63
Prairie County	D1	RM 137.24	26944	50-yr	3618.9	664.12	656.66	2.7	2.6	34.34	28.17	205.46	341.92	6.44	5.27	7.46	7.46
Prairie County	D1	RM 137.04	26627	50-yr	3635.9	663.91	656.5	2.77	2.68	35.94	29.17	208.71	268.11	6.24	5.06	7.41	7.41
Prairie County	D2	RM 136.84	26475	50-yr	3635.9	663.87	656.46	2.57	2.55	28.89	26.8	207.19	224.91	6.82	6.33	7.41	7.41
Prairie County	D2	RM 136.44	26317	50-yr	3635.9	663.86	656.37	2.3	2.24	23.83	20.41	228.7	274.59	6.9	5.9	7.49	7.49
Prairie County	D2	RM 136.23	26001	50-yr	3635.9	663.71	656.19	2.39	2.29	25.67	21.15	246.47	315.63	6.12	5.03	7.52	7.52
Prairie County	D2	RM 136.04	25673	50-yr	3635.9	663.54	656.01	2.52	2.32	25.95	15.51	211.82	394.98	6.7	3.97	7.53	7.53
Prairie County	D2	RM 135.85	25337	50-yr	3635.9	663.24	655.93	2.96	2.84	36.21	19.12	186.08	371.41	6.58	3.45	7.31	7.31
Prairie County	D2	RM 135.66	25033	50-yr	3635.9	663.13	655.91	2.72	2.58	30.65	21.15	202.14	313.15	6.56	4.51	7.22	7.22
Prairie County	D2	RM 135.46	24715	50-yr	3635.9	662.95	655.86	2.75	2.62	37.42	29.05	199.11	271.46	6.59	5.11	7.09	7.09
Prairie County	D2	RM 135.24	24417	50-yr	3635.9	662.89	655.68	2.3	2.26	25.76	23.27	229.44	259.09	6.86	6.2	7.21	7.21
Prairie County	D2	RM 135	24090	50-yr	3635.9	662.74	655.56	2.38	2.31	26.49	22.64	246.98	301.16	6.12	5.23	7.18	7.18
Prairie County	D2	RM 134.78	23742	50-yr	3635.9	662.58	655.36	2.42	2.28	27.33	19.04	223.84	348.5	6.6	4.58	7.22	7.22
Prairie County	D2	RM 134.58	23351	50-yr	3635.9	662.21	655.29	2.94	2.79	43.04	29.54	189.75	296.86	6.44	4.4	6.92	6.92
Prairie County	D2	RM 134.39	23000	50-yr	3635.9	662.01	655.24	2.76	2.67	38.04	34	216.99	254.53	6	5.36	6.77	6.77

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	50-yr	3635.9	661.91	655.11	2.37	2.17	24.41	20.64	263.97	585.36	5.62	4.74	6.8	6.8
Prairie County	D2	RM 133.99	22372	50-yr	3635.9	661.78	654.97	2.34	2.23	23.62	20.32	264.94	326.54	5.8	4.98	6.81	6.81
Prairie County	D2	RM 133.79	22053	50-yr	3635.9	661.54	655	2.67	2.45	30.44	23.68	226.1	325.7	5.87	4.56	6.54	6.54
Prairie County	D2	RM 133.59	21733	50-yr	3635.9	661.4	654.96	2.53	2.44	27.65	22.46	247	319.2	5.77	4.68	6.44	6.44
Prairie County	D2	RM 133.41	21417	50-yr	3635.9	661.28	654.78	2.37	2.23	23.88	18.58	254.87	352.57	5.94	4.62	6.5	6.5
Prairie County	D2	RM 133.21	21104	50-yr	3635.9	661.08	654.64	2.59	2.34	28.62	18.2	229.84	410.25	5.97	3.78	6.44	6.44
Prairie County	D2	RM 133.02	20811	50-yr	3635.9	660.96	654.53	2.47	2.25	26.21	17.2	246.2	421.59	5.85	3.83	6.43	6.43
Prairie County	D2	RM 132.83	20491	50-yr	3635.9	660.84	654.29	2.38	2.19	24.56	18.63	262.67	390.93	5.61	4.25	6.55	6.55
Prairie County	D2	RM 132.63	20184	50-yr	3635.9	660.74	654.04	2.25	2.02	22	17.02	254.86	430.6	5.68	4.38	6.7	6.7
Prairie County	D2	RM 132.42	19875	50-yr	3635.9	660.53	653.98	2.52	2.25	26.82	17.7	221.68	403.36	6.09	4	6.55	6.55
Prairie County	D2	RM 132.23	19553	50-yr	3635.9	660.46	653.88	2.16	1.97	19.57	15.28	257.21	383.14	6.19	4.83	6.58	6.58
Prairie County	D2	RM 132.02	19225	50-yr	3635.9	660.23	653.63	2.53	2.36	27.62	22.75	246.63	326.73	5.73	4.71	6.6	6.6
Prairie County	D2	RM 131.81	18910	50-yr	3635.9	660.01	653.37	2.71	2.48	31.56	21.31	226.33	374.35	5.81	3.92	6.64	6.64
Prairie County	D2	RM 131.58	18573	50-yr	3635.9	659.92	653.02	2.34	2.15	22.87	16.1	238.03	425.29	6.41	4.51	6.9	6.9
Prairie County	D2	RM 131.38	18237	50-yr	3635.9	659.76	652.75	2.5	2.35	25.99	22.59	212.37	276.83	6.43	5.6	7.01	7.01
Prairie County	D2	RM 131.18	17875	50-yr	3635.9	659.47	652.49	2.84	2.69	34.14	24.93	209.79	306.6	6.05	4.41	6.98	6.98
Prairie County	D2	RM 130.98	17548	50-yr	3635.9	659.25	652.34	2.92	2.69	35.78	22.45	197.09	347.1	6.23	3.89	6.91	6.91
Prairie County	D2	RM 130.78	17227	50-yr	3635.9	659.15	652.27	2.6	2.32	28.39	19.32	216.24	368.74	6.27	4.25	6.88	6.88
Prairie County	D2	RM 130.59	16914	50-yr	3635.9	659.07	652.16	2.29	2.13	21.7	13.25	239.07	431.14	6.53	3.96	6.91	6.91
Prairie County	D2	RM 130.39	16588	50-yr	3635.9	658.84	651.95	2.66	2.58	29.48	18.1	212.42	359.62	6.41	3.92	6.89	6.89
Prairie County	D2	RM 130.19	16280	50-yr	3635.9	658.66	651.81	2.73	2.67	31.58	27.08	219.93	262.2	6.04	5.18	6.85	6.85
Prairie County	D2	RM 130	15965	50-yr	3635.9	658.57	651.57	2.42	2.36	24.73	19.42	244.4	321.48	6.12	4.8	7	7
Prairie County	D2	RM 129.81	15649	50-yr	3635.9	658.45	651.47	2.37	2.28	23.24	19.09	235.14	299.55	6.48	5.32	6.98	6.98
Prairie County	D2	RM 129.62	15337	50-yr	3635.9	658.27	651.34	2.6	2.34	28.35	20.85	216.64	339.72	6.23	4.57	6.93	6.93
Prairie County	D2	RM 129.43	15031	50-yr	3635.9	658.14	651.21	2.5	2.43	26.03	22.85	227.37	272.25	6.36	5.58	6.93	6.93
Prairie County	D2	RM 129.24	14724	50-yr	3698.2	657.92	651.06	2.75	2.63	32.28	23.14	222.31	371.94	5.99	4.29	6.86	6.86
Prairie County	D2	RM 129.04	14417	50-yr	3698.2	657.68	651.06	2.93	2.77	36.55	23.6	209.54	409.44	5.97	3.85	6.62	6.62
Prairie County	D2	RM 128.82	14112	50-yr	3698.2	657.48	651.05	2.95	2.8	37.26	24.1	209.12	417.32	5.94	3.83	6.43	6.43
Prairie County	D2	RM 128.62	13798	50-yr	3698.2	657.36	651.08	2.67	2.56	30.18	23.43	228.13	418.47	6.03	4.68	6.28	6.28
Prairie County	D2	RM 128.41	13446	50-yr	3698.2	657.21	651.07	2.49	2.37	26.59	20.04	255.09	358.83	5.77	4.34	6.14	6.14
Prairie County	D2	RM 128.21	13125	50-yr	3698.2	657.06	650.98	2.51	2.3	27.08	20.99	246.55	359.44	5.79	4.48	6.08	6.08
Prairie County	D2	RM 127.98	12790	50-yr	3698.2	656.9	650.84	2.48	2.29	26.45	16.2	250.67	452.72	5.84	3.56	6.06	6.06
Prairie County	D2	RM 127.75	12473	50-yr	3698.2	656.81	650.59	2.24	2.11	21.71	13.18	287.96	510.42	5.68	3.43	6.22	6.22
Prairie County	D2	RM 127.55	12112	50-yr	3698.2	656.67	650.35	2.22	2.09	21.27	15.09	287.38	437.56	5.71	4.04	6.32	6.32
Prairie County	D2	RM 127.27	11729	50-yr	3698.2	656.51	649.95	2.26	2.17	21.99	16.44	277.2	390.43	5.83	4.36	6.56	6.56
Prairie County	D2	RM 126.97	11415	50-yr	3698.2	656.24	649.68	2.71	2.55	31.43	17.57	226.77	439.47	5.94	3.3	6.56	6.56
Prairie County	D2	RM 126.71	10962	50-yr	3698.2	655.99	649.49	2.74	2.6	31.61	21.27	218.29	344.94	6.14	4.12	6.5	6.5
Prairie County	D2	RM 126.43	10478	50-yr	3698.2	655.87	649.32	2.21	2.16	20.62	18.24	275.96	318.76	6.05	5.36	6.55	6.55
Prairie County	D2	RM 126.42	10074	50-yr	3698.2	655.61	649.05	2.56	2.46	28.35	23.4	249.83	319.25	5.7	4.71	6.56	6.56
Prairie County	D2	RM 126.41	9625	50-yr	3698.2	655.34	648.27	2.71	2.53	31.09	23.46	220.07	320.3	6.05	4.57	7.06	7.06
Prairie County	D3	RM 126.38	9533	50-yr	3698.2	655.28	648.27	2.74	2.57	31.92	24.84	220.07	308.03	5.99	4.66	7	7
Prairie County	D3	RM 126.22	9286	50-yr	3698.2	655.2	648.8	2.49	2.4	26.26	19.18	246.62	352.01	6	4.37	6.4	6.4
Prairie County	D3	RM 126.03	8974	50-yr	3698.2	655.1	648.71	2.31	2.2	22.92	16.27	269.32	403.54	5.88	4.16	6.39	6.39
Prairie County	D3	RM 125.82	8648	50-yr	3698.2	654.96	648.36	2.3	2.21	23.03	17.6	282.4	388.35	5.64	4.3	6.6	6.6
Prairie County	D3	RM 125.63	8335	50-yr	3698.2	654.83	648.12	2.32	2.27	22.77	21.11	259.94	288.28	6.09	5.66	6.71	6.71
Prairie County	D3	RM 125.43	8020	50-yr	3698.2	654.64	647.8	2.59	2.32	27.93	19.91	217.06	352.81	6.37	4.52	6.84	6.84
Prairie County	D3	RM 125.24	7711	50-yr	3698.2	654.54	647.26	2.39	2.17	23.48	16.37	226.37	368.19	6.67	4.63	7.28	7.28
Prairie County	D3	RM 125.05	7403	50-yr	3698.2	654.37	647.23	2.58	2.33	27.41	18.69	209.96	352.12	6.65	4.51	7.14	7.14
Prairie County	D3	RM 124.83	7059	50-yr	3698.2	654.25	647.25	2.43	2.31	24.56	18.59	237.41	351.42	6.36	4.81	7	7
Prairie County	D3	RM 124.62	6712	50-yr	3698.2	654.12	647.25	2.38	2.29	24.14	17.64	257.84	370.46	5.98	4.36	6.87	6.87
Prairie County	D3	RM 124.41	6375	50-yr	3698.2	653.94	647.27	2.58	2	28.44	12.9	221.62	948.97	5.93	2.67	6.67	6.67
Prairie County	D3	RM 124.15	5960	50-yr	3698.2	653.66	647.27	2.73	2.14	32.52	13.75	232.47	832.46	5.56	2.33	6.39	6.39
Prairie County	D3	RM 123.94	5627	50-yr	3698.2	653.33	647.27	3.11	2.3	42.12	17.55	199.91	703.71	5.54	2.28	6.06	6.06
Prairie County	D3	RM 123.74	5312	50-yr	3698.2	653.08	647.25	3.08	2.32	41.57	15.28	206.88	792.01	5.53	2.01	5.83	5.83
Prairie County	D3	RM 123.56	5014	50-yr	3698.2	653.14	647.24	1.97	1.54	16.64	8.17	311.23	849.74	5.78	2.82	5.9	5.9
Prairie County	D3	RM 123.24	4500	50-yr	3698.2	653.05	647.19	1.12	1.12	14.23	14.14	934.44	940.88	3.54	3.52	5.86	5.86
Prairie County	D3	RM 122.99	4116	50-yr	3698.2	652.89	646.67	1.44	1.38	9.61	8.29	527.26	645.84	4.8	4.14	6.22	6.22
Prairie County	D3	RM 122.76	3746	50-yr	3698.2	652.73	646.22	1.83	1.8	14.59	11.86	362.48	455.16	5.56	4.51	6.51	6.51
Prairie County	D3	RM 122.55	3414	50-yr	3698.2	652.47	645.7	2.48	2.37	25.94	14.54	242.74	457.9	6.12	3.41	6.77	6.77
Prairie County	D3	RM 122.3	3012	50-yr	3698.2	652.16	645.57	2.83	2.44	34.21	15.51	214.39	566.04	5.95	2.68	6.59	6.59

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	50-yr	3698.2	651.99	645.49	2.64	2.34	29.99	15.26	240.65	548.51	5.71	2.89	6.5	6.5
Prairie County	D3	RM 121.88	2338	50-yr	3698.2	651.85	645.42	2.54	2.26	27.6	15.72	244.44	494.58	5.85	3.31	6.43	6.43
Prairie County	D3	RM 121.66	1982	50-yr	3698.2	651.6	645.3	2.74	2.51	32.05	19.16	226.93	420.4	5.88	3.5	6.3	6.3
Prairie County	D3	RM 121.46	1651	50-yr	3698.2	651.43	645.06	2.65	2.53	30.38	24.06	243.93	324.94	5.68	4.49	6.37	6.37
Prairie County	D3	RM 121.24	1304	50-yr	3698.2	651.23	644.99	2.69	2.48	32.19	22.25	247.35	395.15	5.48	3.78	6.24	6.24
Prairie County	D3	RM 121.02	957	50-yr	3698.2	651.07	644.88	2.48	2.27	27.99	21.74	259.65	376.17	5.58	4.33	6.19	6.19
Prairie County	D3	RM 120.84	660	50-yr	3698.2	650.9	644.78	2.52	2.43	30.53	22.77	255.32	356.51	5.72	4.26	6.12	6.12
Prairie County	D3	RM 120.64	350	50-yr	3698.2	650.73	644.42	2.53	2.51	27.24	23.39	244.23	287.34	5.97	5.14	6.31	6.31

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	50-yr	3698.67	650.71	643.94	2.38	2.26	24.26	22.22	254.01	378.31	5.85	5.36	6.77	6.77
Dawson County	D3	RM 120.28	90838.07	50-yr	3698.67	650.65	643.78	2.4	2.19	24.35	17.13	233.12	396.77	6.07	4.26	6.87	6.87
Dawson County	D3	RM 120.18	90675.23	50-yr	3698.67	650.55	643.7	2.51	2.35	26.35	19.88	213.48	329.15	6.34	4.79	6.84	6.84
Dawson County	D3	RM 120.00	90388.96	50-yr	3698.67	650.42	643.56	2.48	2.33	25.5	20.24	226.64	308.76	6.48	5.14	6.86	6.86
Dawson County	D3	RM 119.84	90136.35	50-yr	3698.67	650.27	643.44	2.65	2.5	29.09	23.19	213.73	383.39	6.43	5.13	6.82	6.82
Dawson County	D3	RM 119.68	89873.82	50-yr	3698.67	650.03	643.31	2.97	2.81	36.83	27.42	189.21	378.43	6.41	4.76	6.72	6.72
Dawson County	D3	RM 119.53	89627.16	50-yr	3698.67	649.92	643.2	2.81	2.76	32.93	25.73	204.32	267.89	6.41	5.01	6.72	6.72
Dawson County	D3	RM 119.39	89404.11	50-yr	3698.67	649.86	643.09	2.53	2.46	26.86	24.51	231.36	359.35	6.26	5.75	6.78	6.78
Dawson County	D3	RM 119.26	89201.38	50-yr	3698.67	649.81	642.99	2.34	2.17	23.43	17.44	263.7	389.23	5.89	4.38	6.83	6.83
Dawson County	D3	RM 119.12	88969.13	50-yr	3698.67	649.56	642.87	2.88	2.43	34.65	15.96	193.4	646.29	6.32	2.89	6.69	6.69
Dawson County	D3	RM 119.00	88780.83	50-yr	3698.67	649.48	642.78	2.76	2.34	32.06	15.44	199.46	581.22	6.26	3	6.7	6.7
Dawson County	D3	RM 118.85	88537.07	50-yr	3698.67	649.43	642.66	2.41	2.22	24.8	17.01	241.51	487.07	5.99	4.1	6.76	6.76
Dawson County	D3	RM 118.72	88336.12	50-yr	3698.67	649.38	642.56	2.25	1.97	21.01	12.22	237.19	649.65	6.42	3.73	6.81	6.81
Dawson County	D3	RM 118.60	88130.39	50-yr	3698.67	649.22	642.46	2.54	2.23	27.04	15.81	220.72	527.63	6.24	3.65	6.76	6.76
Dawson County	D3	RM 118.47	87924.15	50-yr	3698.67	649.06	642.37	2.78	2.51	33.15	19.84	211.72	423.81	5.81	3.47	6.69	6.69
Dawson County	D3	RM 118.34	87719.85	50-yr	3698.67	648.82	642.27	3.07	2.81	42.14	27.43	214.06	389.85	5.2	3.38	6.56	6.56
Dawson County	D3	RM 118.21	87507.02	50-yr	3698.67	648.68	642.16	3.04	2.64	38.63	19.14	175.82	450.85	6.34	3.11	6.52	6.52
Dawson County	D3	RM 118.07	87276.02	50-yr	3726.99	648.66	642.05	2.37	2.27	24.9	17.41	297.49	447.27	5.26	3.66	6.61	6.61
Dawson County	D4	RM 117.90	87004.77	50-yr	3726.99	648.6	641.92	2.15	1.9	19.86	13.3	234.19	571.07	5.83	3.88	6.68	6.68
Dawson County	D4	RM 117.77	86795.88	50-yr	3726.99	648.55	641.81	2.03	1.72	17.89	13.3	217.15	588.38	5.76	4.25	6.74	6.74
Dawson County	D4	RM 117.62	86560.03	50-yr	3726.99	648.48	641.7	2.02	1.74	17.28	11.58	247.32	628.25	6.12	4.09	6.77	6.77
Dawson County	D4	RM 117.46	86294.2	50-yr	3726.99	648.24	641.57	2.7	2.09	30.89	13.57	183	677.32	6.07	2.63	6.67	6.67
Dawson County	D4	RM 117.33	86073.88	50-yr	3726.99	647.92	641.46	3.34	2.59	46.95	22.18	137.01	569.57	6.39	2.94	6.46	6.46
Dawson County	D4	RM 117.16	85808.16	50-yr	3726.99	647.86	641.33	2.67	2.25	29.88	16.95	182.25	484.07	6.3	3.55	6.53	6.53
Dawson County	D4	RM 117.03	85604.68	50-yr	3726.99	647.81	641.3	2.3	2.09	22.96	13.17	243.69	579.52	5.67	3.24	6.51	6.51
Dawson County	D4	RM 116.87	85336.88	50-yr	3726.99	647.77	641.29	2.02	1.63	17.59	10.46	238.63	686.14	5.81	3.45	6.48	6.48
Dawson County	D4	RM 116.69	85043.25	50-yr	3726.99	647.64	641.44	2.12	1.76	20.13	12.8	279.08	644.59	5.17	3.28	6.2	6.2
Dawson County	D4	RM 116.56	84823.15	50-yr	3726.99	647.48	641.34	2.41	1.85	26.04	13.17	234.35	777.6	5.17	2.59	6.15	6.15
Dawson County	D4	RM 116.39	84558.58	50-yr	3726.99	647.41	641.21	2.06	1.66	18.53	8.93	269.92	846.94	5.52	2.64	6.2	6.2
Dawson County	D4	RM 116.22	84287.19	50-yr	3726.99	647.27	641	2.22	1.67	21.09	8.81	259.34	910.53	5.86	2.44	6.27	6.27
Dawson County	D4	RM 116.05	84007.59	50-yr	3726.99	647.09	640.84	2.55	1.74	27.79	10.79	213.93	937.74	5.89	2.28	6.24	6.24
Dawson County	D4	RM 115.87	83722.29	50-yr	3726.99	646.94	640.8	2.6	1.75	29.38	11.97	214.27	938.15	5.6	2.27	6.14	6.14
Dawson County	D4	RM 115.73	83500.35	50-yr	3726.99	646.91	640.69	2.07	1.48	19.65	10.25	310.77	1007.78	4.8	2.49	6.21	6.21
Dawson County	D4	RM 115.61	83294.37	50-yr	3726.99	646.86	640.59	1.76	1.4	14.06	7.89	385.01	965.46	4.97	2.79	6.27	6.27
Dawson County	D4	RM 115.45	83034.82	50-yr	3726.99	646.8	640.37	1.67	1.39	12.82	8.99	407.6	816.82	4.69	3.28	6.44	6.44
Dawson County	D4	RM 115.29	82782.88	50-yr	3726.99	646.66	640.34	1.99	1.64	17.62	9.55	319.39	803.92	5.25	2.82	6.31	6.31
Dawson County	D4	RM 115.09	82480.02	50-yr	3726.99	646.6	640.2	1.76	1.4	13.3	7.11	324	848.92	5.87	3.13	6.4	6.4
Dawson County	D4	RM 114.96	82177.99	50-yr	3726.99	646.43	640	2.19	1.81	20.54	12.41	260.73	608.67	5.92	3.56	6.43	6.43
Dawson County	D4	RM 114.74	81836.48	50-yr	3726.99	645.96	639.98	3.26	2.42	45.61	21.61	179.76	564.31	5.8	2.72	5.98	5.98
Dawson County	D4	RM 114.58	81577.9	50-yr	3726.99	645.97	639.46	2.34	2.16	23.12	20.06	195.77	357.97	6.13	5.3	6.52	6.52
Dawson County	D4	RM 114.42	81309.47	50-yr	3726.99	645.8	639.33	2.47	2.38	26.3	22.41	257.79	322.45	5.71	4.86	6.47	6.47
Dawson County	D4	RM 114.28	81078.59	50-yr	3726.99	645.54	639.21	2.91	2.67	36.21	26.74	213.07	321.53	5.88	4.34	6.33	6.33
Dawson County	D4	RM 114.11	80813.63	50-yr	3726.99	645.32	639.2	3.03	2.75	39.78	26.83	210.21	356.26	5.72	3.84	6.12	6.12
Dawson County	D4	RM 113.97	80580.15	50-yr	3726.99	645.16	639.45	2.99	2.63	39.44	26.96	225.76	438.6	5.35	3.65	5.71	5.71
Dawson County	D4	RM 113.79	80292.13	50-yr	3726.99	645.1	639.45	2.52	2.19	28.05	21.17	201.08	423.37	5.32	4.02	5.65	5.65
Dawson County	D4	RM 113.60	79987.05	50-yr	3726.99	645.09	639.2	1.76	1.59	13.39	11.29	179.84	502.66	5.74	4.81	5.89	5.89
Dawson County	D4	RM 113.43	79712.89	50-yr	3726.99	644.96	638.73	2.11	1.75	18.83	12.38	173.8	536.31	6.1	3.98	6.24	6.24
Dawson County	D4	RM 113.24	79405.49	50-yr	3726.99	644.65	638.43	2.94	2.35	36.7	19.34	130.78	499.5	6.11	3.17	6.22	6.22
Dawson County	D4	RM 113.08	79152.39	50-yr	3726.99	644.48	638.37	2.84	2.44	34.53	20.6	138.2	432.5	6	3.54	6.12	6.12
Dawson County	D4	RM 112.94	78925.1	50-yr	3726.99	644.47	638.26	2.1	1.94	19	15.21	194.62	414.77	5.83	4.63	6.22	6.22
Dawson County	D4	RM 112.74	78585.88	50-yr	3726.99	644.31	638.09	2.28	2.01	22.84	13.55	237.95	572.78	5.48	3.23	6.22	6.22
Dawson County	D4	RM 112.59	78355.25	50-yr	3726.99	644.18	637.98	2.36	2.01	25.07	15.14	271.99	606.06	5.1	3.06	6.2	6.2
Dawson County	D4	RM 112.37	78008.78	50-yr	3726.99	644.17	637.88	1.69	1.48	12.22	7.5	206.92	801.69	5.81	3.53	6.29	6.29
Dawson County	D4	RM 112.19	77721.27	50-yr	3726.99	643.99	637.59	2.18	1.93	20.44	13.1	213.8	515.1	5.86	3.74	6.39	6.39
Dawson County	D4	RM 111.89	77240.22	50-yr	3726.99	643.64	637.16	2.62	2.4	29.26	19.44	235.68	396.35	5.91	3.92	6.48	6.48
Dawson County	D4	RM 111.42	76486.24	50-yr	3726.99	643.37	636.91	2.23	2.04	21.42	15.45	287.11	442.76	5.71	4.12	6.46	6.46
Dawson County	D4	RM 111.26	76213.83	50-yr	3726.99	643.31	636.66	2.01	1.8	17.68	10.8	329.26	633.68	5.5	3.35	6.65	6.65
Dawson County	D4	RM 111.09	75911.9	50-yr	3726.99	642.98	636.51	2.75	2.61	32.82	26.48	240.23	365.38	5.59	4.49	6.46	6.46
Dawson County	D4	RM 110.95	75678.54	50-yr	3726.99	642.69	636.4	3.16	3	42.37	32.98	194.97	277.35	5.98	4.65	6.29	6.29
Dawson County	D4	RM 110.78	75415.61	50-yr	3726.99	642.37	636.27	3.44	3.31	50.85	37.62	186.03	262.8	5.8	4.28	6.09	6.09

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	50-yr	3726.99	642.25	636.09	2.72	2.59	32.11	23.12	240.69	368.26	5.65	4.07	6.16	6.16
Dawson County	D4	RM 110.39	74780.03	50-yr	3726.99	642.2	635.96	2.27	2.11	22.47	13.19	293.1	544.62	5.53	3.24	6.24	6.24
Dawson County	D4	RM 110.17	74428.56	50-yr	3726.99	642.02	635.79	2.34	2.15	25.05	16.24	321.63	556.34	4.81	3.11	6.23	6.23
Dawson County	D4	RM 109.95	74074.87	50-yr	3726.99	641.88	635.62	2.2	1.93	21.17	10.63	297.98	701.35	5.51	2.75	6.26	6.26
Dawson County	D4	RM 109.75	73741.09	50-yr	3726.99	641.7	635.46	2.37	2.05	24.46	10.5	272.8	761.98	5.58	2.39	6.25	6.25
Dawson County	D4	RM 109.54	73418.83	50-yr	3726.99	641.61	635.3	2.17	1.71	20.54	11.76	287.56	685.78	5.56	3.17	6.3	6.3
Dawson County	D4	RM 109.37	73150.54	50-yr	3726.99	641.42	635.17	2.51	1.92	26.96	12.46	224.7	725.65	5.8	2.67	6.25	6.25
Dawson County	D4	RM 109.19	72864.56	50-yr	3726.99	641.25	635.03	2.56	2.16	28.24	13.9	238.65	610.22	5.78	2.83	6.22	6.22
Dawson County	D4	RM 109.04	72628	50-yr	3726.99	640.89	634.92	3.22	2.78	44.86	23.88	194.23	442.51	5.73	3.03	5.97	5.97
Dawson County	D4	RM 108.86	72339.73	50-yr	3726.99	640.9	634.77	2.26	2.2	22.6	20.33	287.17	383.41	5.27	4.75	6.13	6.13
Dawson County	D4	RM 108.70	72072.36	50-yr	3726.99	640.82	634.65	2.1	2.02	19.34	15.49	291.61	429.75	5.43	4.35	6.17	6.17
Dawson County	D4	RM 108.55	71827.97	50-yr	3726.99	640.73	634.53	2.06	2.05	18.92	16.24	343.64	403.11	5.25	4.52	6.2	6.2
Dawson County	D4	RM 108.40	71587.18	50-yr	3726.99	640.55	634.41	2.35	2.32	23.02	21.26	363.68	399.51	4.34	4.01	6.14	6.14
Dawson County	D4	RM 108.25	71345.86	50-yr	3726.99	640.44	634.29	2.24	2.14	22.18	16.31	361.89	520.89	4.55	3.34	6.15	6.15
Dawson County	D4	RM 108.12	71131.88	50-yr	3726.99	640.32	634.19	2.31	2.11	23.39	12.83	289.42	591.31	5.45	2.98	6.14	6.14
Dawson County	D4	RM 107.98	70905.01	50-yr	3726.99	640.09	634.08	2.73	2.5	32.64	15.37	245.46	580.94	5.49	2.57	6.01	6.01
Dawson County	D4	RM 107.82	70651.22	50-yr	3726.99	639.87	633.95	2.91	2.49	37.37	15.74	231.93	665.26	5.35	2.25	5.92	5.92
Dawson County	D4	RM 107.68	70418.24	50-yr	3726.99	639.65	633.84	3.06	2.75	41.29	21.74	219.72	480.05	5.37	2.83	5.81	5.81
Dawson County	D4	RM 107.50	70132.11	50-yr	3726.99	639.49	633.17	2.8	2.49	34.7	19.78	239.71	492.16	5.3	3.04	6.32	6.32
Dawson County	D4	RM 107.31	69834.56	50-yr	3726.99	639.25	633.23	2.86	2.6	37.11	20.89	264.38	523.69	4.83	2.74	6.02	6.02
Dawson County	D4	RM 107.13	69541.52	50-yr	3726.99	639.08	633.98	2.6	2.41	31.89	23.27	322.33	487.44	4.33	3.17	5.1	5.1
Dawson County	D5	RM 106.98	69305.02	50-yr	3738.32	639.01	634.16	2.1	2.01	21.09	18.83	421.85	503.63	4.12	3.7	4.85	4.85
Dawson County	D5	RM 106.85	69065.27	50-yr	3738.32	638.91	633.6	2.01	1.94	19.36	16.19	412.29	559.75	4.09	3.44	5.31	5.31
Dawson County	D5	RM 106.65	68764.02	50-yr	3738.32	638.65	632.98	2.37	2.29	26.07	23.12	360.27	528.6	3.92	3.49	5.67	5.67
Dawson County	D5	RM 106.47	68475.87	50-yr	3738.32	638.48	632.51	2.36	1.86	26.17	16.99	307.26	807.93	4.36	2.84	5.97	5.97
Dawson County	D5	RM 106.28	68173.97	50-yr	3738.32	638.02	631.71	3.2	2.44	46.45	21.87	204.05	659.56	4.92	2.32	6.31	6.31
Dawson County	D5	RM 106.10	67879.83	50-yr	3738.32	637.81	631.29	2.99	2.29	41.34	23.77	206.53	617.88	4.58	2.64	6.52	6.52
Dawson County	D5	RM 105.89	67550.49	50-yr	3738.32	637.62	631.76	2.63	2.11	32.42	16.81	226.74	763.26	4.46	2.32	5.86	5.86
Dawson County	D5	RM 105.74	67300.35	50-yr	3738.32	637.47	632.3	2.47	1.74	28.48	15.75	203.14	865.1	4.49	2.48	5.17	5.17
Dawson County	D5	RM 105.54	66973.54	50-yr	3738.32	637.19	632.17	2.74	2.07	35.32	20.52	147.79	713	4.34	2.53	5.02	5.02
Dawson County	D5	RM 105.30	66609.03	50-yr	3738.32	637.07	632.29	1.79	1.58	15.99	12.02	219.79	907.96	3.68	2.77	4.95	4.95
Dawson County	D5	RM 105.06	66212.24	50-yr	3738.32	636.91	631.19	2.05	1.86	20.98	14.83	181.11	1135.66	3.68	2.6	5.72	5.72
Dawson County	D5	RM 104.89	65945.5	50-yr	3738.32	636.72	631.5	2.14	1.86	23.52	15.52	205.87	1162.78	3.41	2.26	5.3	5.3
Dawson County	D5	RM 104.77	65742.33	50-yr	3738.32	636.6	631.67	2.3	1.68	25.17	12.8	125.62	1194.95	4.28	2.18	5.89	5.89
Dawson County	D5	RM 104.64	65530.83	50-yr	3738.32	636.53	632.1	1.94	1.42	18.17	9.18	172.34	1499.45	4.05	2.03	5.57	5.57
Dawson County	D5	RM 104.43	65180.62	50-yr	3738.32	636.48	631.56	1.29	1.06	8.66	6.02	361.11	1552.63	3.25	2.27	5.69	5.69
Dawson County	D5	RM 104.26	64906.83	50-yr	3738.32	636.41	631.59	1.27	1.01	8.02	4.55	218.58	1764.12	3.68	2.09	5.77	5.77
Dawson County	D5	RM 104.10	64643.2	50-yr	3738.32	636.33	630.81	1.6	1.11	12.12	5.15	150.64	1838.9	4.3	1.83	5.89	5.89
Dawson County	D5	RM 103.95	64410.06	50-yr	3738.32	636.28	631.24	1.63	0.97	12.79	5.84	185.01	2053.89	4.08	1.87	6.46	6.46
Dawson County	D5	RM 103.68	63957.56	50-yr	3738.32	636.19	629.68	1.69	0.91	13.29	6.44	188.7	1893.41	4.49	2.18	6.75	6.75
Dawson County	D5	RM 103.48	63615.6	50-yr	3738.32	636.12	630.4	1.8	1	14.79	6.56	152.55	1742.59	4.88	2.16	6.61	6.61
Dawson County	D5	RM 103.26	63259.44	50-yr	3738.32	636.07	630.13	1.7	0.99	13.09	6.36	173.17	1579.72	4.96	2.4	6.66	6.66
Dawson County	D5	RM 102.58	62131.5	50-yr	3738.32	635.89	629.72	1.66	1.26	12.37	7.9	178.73	936.05	4.95	3.17	6.21	6.21
Dawson County	D5	RM 102.44	61920.83	50-yr	3738.32	635.74	629.74	2.12	1.57	20.44	11.42	255.44	866.27	4.91	2.75	6	6
Dawson County	D5	RM 102.31	61720.14	50-yr	3738.32	635.61	629.03	2.47	1.73	27.58	14.88	200.53	804.36	4.97	2.69	6.58	6.58
Dawson County	D5	RM 102.15	61456.58	50-yr	3738.32	635.49	629.39	2.4	1.79	25.64	14.49	201.3	712.78	5.17	2.93	6.1	6.1
Dawson County	D5	RM 102.00	61217.89	50-yr	3738.32	635.41	629.48	2.09	1.62	20.2	11.81	267.9	841.04	4.65	2.74	5.93	5.93
Dawson County	D5	RM 101.84	60967.97	50-yr	3738.32	635.37	629.23	1.78	1.23	14.48	9.76	155.67	926.62	4.85	3.27	6.14	6.14
Dawson County	D5	RM 101.60	60582.61	50-yr	3738.32	635.22	628.87	1.7	1.45	13.26	7.4	336.08	1014.88	4.74	2.65	6.35	6.35
Dawson County	D5	RM 101.45	60336.09	50-yr	3738.32	634.99	629.16	2.39	1.78	25.42	10.23	251.39	998.23	5.22	2.11	5.83	5.83
Dawson County	D5	RM 101.25	60019.5	50-yr	3738.32	634.76	627.81	2.7	1.85	31.86	11.74	209.15	1009.62	5.42	2	6.95	6.95
Dawson County	D5	RM 101.09	59759.25	50-yr	3738.32	634.64	627.99	2.53	1.7	28.36	11.66	216.65	1007.29	5.29	2.18	6.65	6.65
Dawson County	D5	RM 100.88	59426.42	50-yr	3738.32	634.52	627.86	2.39	1.62	24.94	9.91	196.58	1169.12	5.49	2.18	6.66	6.66
Dawson County	D5	RM 100.67	59075.4	50-yr	3738.32	634.34	627.1	2.63	1.58	29.37	11.43	151.88	1115	5.99	2.34	7.24	7.24
Dawson County	D5	RM 100.46	58743.44	50-yr	3738.32	634.3	627.92	1.92	1.28	16.02	8.28	202.94	1129.9	5.51	2.85	6.38	6.38
Dawson County	D5	RM 100.25	58401.49	50-yr	3738.32	634.05	627.57	2.48	1.65	26.82	11.32	196.17	976.96	5.49	2.31	6.48	6.48
Dawson County	D5	RM 100.05	58077.55	50-yr	3738.32	633.9	626.86	2.47	1.87	26.51	12.65	176.97	758.77	5.55	2.64	7.04	7.04
Dawson County	D5	RM 99.87	57778.81	50-yr	3738.32	633.63	626.4	2.56	2.24	30.23	15.87	301.61	682.55	4.66	2.45	7.23	7.23
Dawson County	D5	RM 99.68	57474.16	50-yr	3738.32	633.43	626.29	2.64	2.2	30.48	15.03	246.92	629.6	5.44	2.69	7.14	7.14
Dawson County	D5	RM 99.49	57160.47	50-yr	3738.32	633.11	626.53	3.02	2.41	40.15	17.84	218.38	657.56	5.3	2.36	6.58	6.58

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	50-yr	3738.32	632.97	627.26	2.66	2.12	31.82	17.04	267.93	811.54	4.95	2.66	5.71	5.71
Dawson County	D5	RM 99.13	56566.63	50-yr	3738.32	632.86	626.77	2.34	1.74	24.78	11.72	293.66	927.28	4.88	2.31	6.09	6.09
Dawson County	D5	RM 98.92	56243.98	50-yr	3738.32	632.69	626.63	2.24	1.83	23.35	12.99	339.1	883.47	4.5	2.52	6.06	6.06
Dawson County	D5	RM 98.71	55911.87	50-yr	3738.32	632.51	626.34	2.28	1.65	24.45	11.76	322.21	1072.44	4.4	2.12	6.17	6.17
Dawson County	D5	RM 98.57	55680.2	50-yr	3738.32	632.42	626.1	2.15	1.38	21.63	11.09	297.01	1173.48	4.52	2.31	6.32	6.32
Dawson County	D5	RM 98.35	55325.95	50-yr	3738.32	632.11	625.91	2.61	1.56	30.22	11.81	216.82	1170.69	5.26	2.05	6.2	6.2
Dawson County	D5	RM 98.19	55066.09	50-yr	3738.32	631.9	624.42	2.83	1.63	34.4	11.66	184	1183.13	5.72	1.94	7.48	7.48
Dawson County	D5	RM 97.99	54752.97	50-yr	3738.32	631.6	625.04	2.97	2.17	40.11	15.2	236.53	1052.18	4.89	1.85	6.56	6.56
Dawson County	D5	RM 97.84	54493.48	50-yr	3738.32	631.46	625.39	2.62	2.12	31.75	15.81	292.51	817.07	4.62	2.3	6.07	6.07
Dawson County	D5	RM 97.68	54241.32	50-yr	3738.32	631.31	624.99	2.5	1.97	30.27	19.54	340.05	752.71	4	2.59	6.32	6.32
Dawson County	D5	RM 97.48	53918.21	50-yr	3738.32	631.17	624.81	1.97	1.62	17.55	13.07	387.03	1206.99	3.11	2.32	6.36	6.36
Dawson County	D5	RM 97.28	53585.68	50-yr	3738.32	630.96	625.86	2.08	1.5	21.15	11.75	328.8	1367.96	3.91	2.17	5.51	5.51
Dawson County	D5	RM 97.08	53263.89	50-yr	3738.32	630.64	625.27	2.7	1.96	33.94	13.15	209.17	1259.74	4.53	1.76	5.37	5.37
Dawson County	D5	RM 96.94	53030.11	50-yr	3738.32	630.44	623.97	2.85	1.93	38.14	14.84	199.17	1314.18	4.39	1.71	6.47	6.47
Dawson County	D5	RM 96.77	52762.2	50-yr	3738.32	630.22	623.51	2.8	2.02	37.01	13.89	202.34	1371.95	4.34	1.63	6.71	6.71
Dawson County	D5	RM 96.55	52403.59	50-yr	3738.32	629.98	624.57	2.79	1.64	35.84	12.89	160.42	1676.62	4.67	1.68	5.41	5.41
Dawson County	D5	RM 96.35	52079.12	50-yr	3738.32	629.97	625.39	1.3	1.25	8.67	6.33	290.07	1593.6	3.43	2.51	6.5	6.5
Dawson County	D5	RM 96.17	51777.74	50-yr	3738.32	629.68	624.71	2.52	2.09	30.65	13.44	130.42	1263.16	4.05	1.78	5.3	5.3
Dawson County	D5	RM 96.00	51500.38	50-yr	3738.32	629.48	624.3	2.43	1.87	28.36	11.99	122.42	1458.14	4.15	1.75	5.18	5.18
Dawson County	D5	RM 95.79	51156.87	50-yr	3738.32	629.37	624.35	1.75	1.33	15.76	6.98	284.94	1782.98	3.83	1.7	5.12	5.12
Dawson County	D5	RM 95.60	50859.75	50-yr	3738.32	629.24	622.97	1.82	1.25	16.18	7.56	251.15	1624.56	3.96	1.85	6.27	6.27
Dawson County	D5	RM 95.40	50547.92	50-yr	3738.32	629.13	623.13	1.68	1.2	13.28	7.29	377.96	1308.03	4.31	2.38	6	6
Dawson County	D5	RM 95.21	50245.97	50-yr	3738.32	628.99	622.21	2.11	1.18	19.92	8.37	217.6	1482.46	5.08	2.14	6.78	6.78
Dawson County	D5	RM 95.04	49971.19	50-yr	3738.32	628.85	621.68	2.46	1.32	27.85	11.08	174.46	1504.37	4.74	1.88	7.16	7.16
Dawson County	D5	RM 94.88	49717.07	50-yr	3738.32	628.75	621.44	2.26	1.13	22.98	9.7	152.89	1695.9	5.04	2.12	7.31	7.31
Dawson County	D5	RM 94.71	49446.9	50-yr	3738.32	628.72	621.69	1.51	0.94	10.46	5	234.28	1776.01	4.69	2.24	7.03	7.03
Dawson County	D5	RM 94.58	49286.95	50-yr	3738.32	628.69	618.6	1.11	0.78	5.18	2.08	456.42	2191.15	6.44	2.59	10.1	10.1
Dawson County	D5	RM 94.57	49255.56	50-yr	3738.32	628.64	618.63	1.48	0.98	9.18	3.07	360.59	1846.18	6.19	2.06	10.01	10.01
Dawson County	D5	RM 94.52	49157.18	50-yr	3738.32	628.57	620.89	1.9	1.07	16.13	5.55	287.23	2518.88	5.2	1.78	7.68	7.68
Dawson County	D6	RM 94.42	48998.19	50-yr	3758.14	628.39	621.76	2.53	1.34	28.68	7.83	219.93	2240.39	5.13	1.39	6.63	6.63
Dawson County	D6	RM 94.30	48806.79	50-yr	3758.14	628.32	621.22	2.26	1.24	24.11	7.47	291.47	2260.83	4.33	1.34	7.1	7.1
Dawson County	D6	RM 94.20	48653.06	50-yr	3758.14	628.26	621.41	2.16	1.15	21.51	6.84	261.89	2127.98	4.84	1.53	6.85	6.85
Dawson County	D6	RM 94.08	48445.46	50-yr	3758.14	628.22	622.37	1.79	1.05	14.3	5.04	338.75	2019.37	5.05	1.77	5.85	5.85
Dawson County	D6	RM 93.96	48246.42	50-yr	3758.14	628.13	621.88	1.95	1.13	17.47	6.31	331.74	1970.34	4.69	1.69	6.25	6.25
Dawson County	D6	RM 93.83	48030.25	50-yr	3758.14	628.03	620.28	2.17	1.18	20.8	8.08	237.8	1914.62	5.35	2.07	7.75	7.75
Dawson County	D6	RM 93.68	47782.89	50-yr	3758.14	627.65	620.19	3.06	2.01	40.92	14.28	191.53	1250.03	5.49	1.91	7.46	7.46
Dawson County	D6	RM 93.57	47606.95	50-yr	3758.14	627.18	620.08	3.79	2.8	64.53	28.91	184.03	599.97	5	2.24	7.1	7.1
Dawson County	D6	RM 93.53	47552.11	50-yr	3758.14	627.11	620.21	3.74	2.91	62.42	29.73	184.33	526.01	5.15	2.45	6.9	6.9
Dawson County	D6	RM 93.47	47460.74	50-yr	3758.14	627.01	618.63	3.68	2.92	60.38	28.22	189.97	535.83	5.14	2.4	8.38	8.38
Dawson County	D6	RM 93.43	47382.46	50-yr	3758.14	626.95	619.44	3.56	2.92	55.86	22.58	191.32	675.69	5.33	2.15	7.51	7.51
Dawson County	D6	RM 93.36	47287.92	50-yr	3758.14	626.96	620.47	3.11	2.46	42.48	16.42	213.34	1149.26	5.43	2.09	6.49	6.49
Dawson County	D6	RM 93.25	47111.44	50-yr	3758.14	626.8	621.12	3.18	2.58	48.17	19.44	228.84	794.98	4.71	1.9	5.68	5.68
Dawson County	D6	RM 93.05	46807.77	50-yr	3758.14	626.73	621.74	2.35	1.68	25.48	10.92	283.11	1457.16	4.67	2	4.99	4.99
Dawson County	D6	RM 92.93	46606.31	50-yr	3758.14	626.61	621.34	2.36	1.58	26.47	10.55	305.87	1563.43	4.3	1.71	5.27	5.27
Dawson County	D6	RM 92.83	46460.06	50-yr	3758.14	626.52	621.02	2.31	1.58	24.52	9.99	357.35	1714.9	3.76	1.53	5.5	5.5
Dawson County	D6	RM 92.71	46261.84	50-yr	3758.14	626.49	620.37	1.85	1.14	15.72	7.39	359.38	1763.61	3.98	1.87	6.12	6.12
Dawson County	D6	RM 92.59	46079.79	50-yr	3758.14	626.41	620.95	1.86	1.17	16.67	6.59	321.05	1754.75	4.68	1.84	5.46	5.46
Dawson County	D6	RM 92.50	45933.81	50-yr	3758.14	626.29	620.75	2.14	1.38	21.52	7.42	325.45	1811.45	4.38	1.51	5.54	5.54
Dawson County	D6	RM 92.39	45753.94	50-yr	3758.14	626.1	620.58	2.43	1.64	27.41	7.3	299.01	1882.87	4.57	1.21	5.52	5.52
Dawson County	D6	RM 92.29	45591.17	50-yr	3758.14	626.04	620.64	2.28	1.45	24.09	6.86	295.77	1966.56	4.64	1.32	5.4	5.4
Dawson County	D6	RM 92.18	45414.13	50-yr	3758.14	626	620.23	1.99	1.39	18.37	6.2	358.66	2075.11	4.58	1.54	5.77	5.77
Dawson County	D6	RM 92.06	45238.47	50-yr	3758.14	625.92	620.12	2.03	1.52	19.22	7.79	354.46	1373.23	4.45	1.8	5.8	5.8
Dawson County	D6	RM 91.99	45117.89	50-yr	3758.14	625.91	619.81	1.69	1.38	13.75	7.65	390.42	1178.54	4.15	2.31	6.1	6.1
Dawson County	D6	RM 91.85	44886.16	50-yr	3758.14	625.86	619.7	1.57	1.23	12.76	7.77	238.98	1271.24	4.89	2.97	6.16	6.16
Dawson County	D6	RM 91.77	44752.88	50-yr	3758.14	625.79	619.28	1.77	1.39	18.86	10.45	224.91	1065.55	4.58	2.54	6.51	6.51
Dawson County	D6	RM 91.61	44507.01	50-yr	3758.14	625.64	619	2.1	1.41	19.28	7.18	148.19	1534.38	5.47	2.03	6.64	6.64
Dawson County	D6	RM 91.45	44219.47	50-yr	3758.14	625.55	618.66	2.13	1.48	20.8	6.8	189.07	1458.17	5.36	1.75	6.89	6.89
Dawson County	D6	RM 91.31	43987.79	50-yr	3758.14	625.32	618.98	2.42	1.68	26.46	9.43	271.16	1266.1	4.97	1.77	6.34	6.34
Dawson County	D6	RM 91.11	43666.49	50-yr	3758.14	625.03	618.54	2.77	1.89	33.47	11.5	219.42	1044.32	5.54	1.9	6.49	6.49
Dawson County	D6	RM 90.97	43442.55	50-yr	3758.14	624.9	618.3	2.78	1.81	34.27	11.95	224.14	1129.52	5.28	1.84	6.6	6.6

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	50-yr	3758.14	624.73	618.97	2.46	1.67	34.39	14.97	268.72	1445.27	4.84	2.11	5.76	5.76
Dawson County	D6	RM 90.59	42823.65	50-yr	3758.14	624.7	618.64	1.86	1.15	15.58	7.5	232.7	1449.11	5.04	2.43	6.06	6.06
Dawson County	D6	RM 90.43	42564.46	50-yr	3758.14	624.4	618.18	2.71	1.52	33.2	10.62	208.77	1574.88	4.89	1.57	6.22	6.22
Dawson County	D6	RM 90.29	42331.05	50-yr	3758.14	624.31	618.21	2.33	1.31	24.31	8.71	236.08	1570	5.13	1.83	6.1	6.1
Dawson County	D6	RM 90.16	42118.24	50-yr	3758.14	624.18	618.54	2.43	1.44	26.39	9.81	229.61	1405.39	5.12	1.91	5.64	5.64
Dawson County	D6	RM 89.96	41795.66	50-yr	3758.14	624.06	618.08	2.07	1.48	19.76	9.2	346.39	1273.94	4.67	2.18	5.98	5.98
Dawson County	D6	RM 89.83	41589.45	50-yr	3758.14	623.73	617.17	3.01	1.91	40.46	14.66	211.95	1058.51	5.11	1.86	6.56	6.56
Dawson County	D6	RM 89.65	41302.33	50-yr	3758.14	623.55	618.15	2.75	1.89	34.55	14.6	251.93	982.75	4.78	2.03	5.4	5.4
Dawson County	D6	RM 89.46	41003.8	50-yr	3758.14	623.36	617.56	2.67	2.01	31.24	13.14	236.74	816.69	5.47	2.29	5.8	5.8
Dawson County	D6	RM 89.29	40732.3	50-yr	3758.14	623.37	617.42	1.96	1.68	16.95	13.1	253.25	680.67	5.27	4.07	5.94	5.94
Dawson County	D6	RM 89.13	40476.68	50-yr	3758.14	623.12	617.29	2.54	2.02	28.44	13.37	231.92	747.85	5.34	2.49	5.83	5.83
Dawson County	D6	RM 88.96	40193.97	50-yr	3752.48	622.97	617.14	2.54	2.06	27.8	12.63	186.73	721.89	5.77	2.59	5.83	5.83
Dawson County	D7	RM 88.77	39887.75	50-yr	3752.48	622.81	616.98	2.48	1.95	27.66	14.7	260.04	733.39	5.09	2.7	5.83	5.83
Dawson County	D7	RM 88.58	39581.56	50-yr	3752.48	622.5	616.82	3.01	2.14	39.65	16.97	185.88	768.63	5.61	2.36	5.68	5.68
Dawson County	D7	RM 88.44	39345.29	50-yr	3752.48	622.24	616.7	3.21	2.39	45.16	15.57	181.67	899.2	5.53	1.87	5.54	5.54
Dawson County	D7	RM 88.25	39047.22	50-yr	3752.48	622.13	616.54	2.66	2.1	31.87	11.98	221.53	978.58	5.11	1.9	5.59	5.59
Dawson County	D7	RM 88.06	38736.32	50-yr	3752.48	621.97	616.38	2.39	1.94	26.07	9.49	305.89	1118.96	4.84	1.75	5.59	5.59
Dawson County	D7	RM 87.87	38426.68	50-yr	3752.48	621.9	616.22	1.87	1.48	16.81	8.19	429.53	1258.04	4.18	2.03	5.68	5.68
Dawson County	D7	RM 87.70	38161.81	50-yr	3752.48	621.85	616.08	1.81	1.29	14.24	6	181.73	1282.35	5.76	2.37	5.77	5.77
Dawson County	D7	RM 87.52	37862.82	50-yr	3752.48	621.8	615.92	1.6	1.32	11.87	6.48	308.23	1181.13	4.67	2.53	5.87	5.87
Dawson County	D7	RM 87.34	37574.69	50-yr	3752.48	621.56	615.85	2.37	1.77	25.94	13.29	253.88	880.25	4.74	2.41	5.71	5.71
Dawson County	D7	RM 87.17	37307.08	50-yr	3752.48	621.3	615.82	2.87	2.12	36.3	16.78	162.99	717.62	5.4	2.46	5.48	5.48
Dawson County	D7	RM 87.00	37023.47	50-yr	3752.48	621.16	615.79	2.46	2.09	27.93	14.16	241.45	761.97	4.69	2.36	5.38	5.38
Dawson County	D7	RM 86.82	36748.51	50-yr	3752.48	620.98	615.76	2.55	2.2	29.91	15.53	210.89	693.31	4.8	2.46	5.22	5.22
Dawson County	D7	RM 86.67	36501.76	50-yr	3752.48	620.73	615.73	3.01	2.45	41.44	21.73	151.27	600.62	4.99	2.55	5	5
Dawson County	D7	RM 86.52	36253.46	50-yr	3752.48	620.64	615.7	2.27	1.91	23.7	16.42	250.55	603.52	4.69	3.25	4.94	4.94
Dawson County	D7	RM 86.39	36046.31	50-yr	3752.48	620.54	615.59	2.31	1.86	24.65	16.82	147.45	640.83	4.69	3.15	4.95	4.95
Dawson County	D7	RM 86.24	35796.38	50-yr	3752.48	620.48	615.46	1.67	1.51	12.61	8.33	166.41	773.92	4.96	3.22	5.03	5.03
Dawson County	D7	RM 86.08	35541.56	50-yr	3752.48	620.16	615.48	2.84	2.2	38.14	16.27	160.1	916.6	4.44	1.86	4.69	4.69
Dawson County	D7	RM 85.91	35282.1	50-yr	3752.48	620.03	615.5	2.44	1.79	27.92	13.15	191.42	1006.23	4.43	2.08	4.52	4.52
Dawson County	D7	RM 85.78	35075.01	50-yr	3752.48	620.04	614.9	1.44	1.32	9.89	8.46	288.53	996.15	4.22	3.6	5.14	5.14
Dawson County	D7	RM 85.59	34774.5	50-yr	3752.48	619.97	614.32	1.71	1.26	12.67	6.42	184.84	1051.32	5.62	2.83	5.66	5.66
Dawson County	D7	RM 85.39	34449.3	50-yr	3752.48	619.74	614.15	2.39	1.87	25.53	13.21	219.47	754.13	5.18	2.66	5.59	5.59
Dawson County	D7	RM 85.23	34186.4	50-yr	3752.48	619.49	614.01	2.98	2.16	39.05	18.21	157.48	693.6	5.47	2.51	5.48	5.48
Dawson County	D7	RM 85.04	33863.7	50-yr	3752.48	619.43	613.84	2.17	1.79	21.74	15.32	265.03	633.18	4.72	3.31	5.58	5.58
Dawson County	D7	RM 84.89	33626.36	50-yr	3752.48	619.33	613.92	1.96	1.83	17.93	12.88	413.04	628.93	4.54	3.27	5.41	5.41
Dawson County	D7	RM 84.72	33349.5	50-yr	3752.48	619.14	613.77	2.23	2.16	22.96	15.33	353.9	552.76	4.72	3.15	5.36	5.36
Dawson County	D7	RM 84.57	33104.21	50-yr	3752.48	618.94	613.45	2.5	2.32	28.05	15.94	294.82	564.63	5.05	2.87	5.49	5.49
Dawson County	D7	RM 84.41	32856.7	50-yr	3752.48	618.82	613.32	2.4	2.16	26.22	10.69	312.69	882.95	4.88	1.98	5.5	5.5
Dawson County	D7	RM 84.22	32552.24	50-yr	3752.48	618.72	613.16	2.16	1.73	21.18	9.56	261.68	1104.01	4.95	2.21	5.57	5.57
Dawson County	D7	RM 84.05	32270.74	50-yr	3752.48	618.56	613.14	2.39	1.74	25.5	9.37	206.16	1130.97	5.21	1.9	5.42	5.42
Dawson County	D7	RM 83.89	32017.88	50-yr	3752.48	618.3	613.11	2.8	1.99	35.13	11.83	191.2	1097.04	5.12	1.72	5.2	5.2
Dawson County	D7	RM 83.73	31759.16	50-yr	3752.48	618.22	613.07	2.29	1.73	24.17	11.7	240.43	1114.98	4.74	2.28	5.15	5.15
Dawson County	D7	RM 83.53	31426.04	50-yr	3752.48	618.15	613.01	1.77	1.41	14.35	7.16	304.34	1125.14	4.77	2.37	5.14	5.14
Dawson County	D7	RM 83.39	31213.34	50-yr	3752.48	618.07	612.95	1.98	1.48	17.8	8.47	189.12	1097.5	4.92	2.31	5.12	5.12
Dawson County	D7	RM 83.21	30910.79	50-yr	3752.48	617.99	612.91	1.81	1.41	14.85	7.71	170.07	1055.96	5.04	2.58	5.21	5.21
Dawson County	D7	RM 83.05	30660.14	50-yr	3752.48	617.91	612.78	1.7	1.3	13.04	6.22	229.1	1226.12	4.95	2.36	5.45	5.45
Dawson County	D7	RM 82.94	30491.79	50-yr	3752.48	617.85	612.69	1.76	1.32	14.16	6.16	219.21	1339.23	4.91	2.12	5.46	5.46
Dawson County	D7	RM 82.81	30280.45	50-yr	3752.48	617.76	612.58	1.93	1.35	17.03	6.75	178.49	1482.41	4.75	1.87	5.61	5.61
Dawson County	D7	RM 82.68	30058.39	50-yr	3752.48	617.67	612.34	2.05	1.32	18.7	7.25	152.77	1398.53	5.33	2.03	5.57	5.57
Dawson County	D7	RM 82.51	29786.14	50-yr	3752.48	617.65	612.1	1.51	1.05	10.18	4.63	229.35	1530.11	5.22	2.34	5.8	5.8
Dawson County	D7	RM 82.33	29497.12	50-yr	3752.48	617.59	611.87	1.58	0.95	11.06	5.19	246.87	1607.6	5.36	2.47	5.84	5.84
Dawson County	D7	RM 82.22	29323.27	50-yr	3752.48	617.52	611.66	1.82	0.93	14.57	6.02	193.52	1961.2	5.49	2.25	5.86	5.86
Dawson County	D7	RM 82.06	29049.94	50-yr	3752.48	617.48	611.37	1.62	0.85	11.34	4.17	202.97	2120.46	5.78	2.08	6.11	6.11
Dawson County	D7	RM 81.91	28820.21	50-yr	3752.48	617.45	611.21	1.62	0.82	11.07	3.9	191.58	2163.46	6.12	2.12	6.24	6.24
Dawson County	D7	RM 81.71	28446.75	50-yr	3752.48	617.41	611.02	1.36	0.79	7.72	2.64	220.81	2360.94	6.19	2.1	6.38	6.38
Dawson County	D7	RM 81.49	28026.4	50-yr	3752.48	617.23	610.8	2.16	1.06	19.56	5.4	165.37	2373.7	6.43	1.73	6.43	6.43
Dawson County	D7	RM 81.31	27735.46	50-yr	3749.65	616.24	610.65	4.51	2.38	89.62	13.43	131.98	2190.02	5.52	0.8	5.59	5.59
Dawson County	D8	RM 81.10	27398.33	50-yr	3749.65	616.08	610.47	3.56	1.78	55.61	10.07	160.09	2518.76	5.51	0.98	5.61	5.61
Dawson County	D8	RM 80.94	27148.21	50-yr	3749.65	616.05	610.34	2.67	1.54	31.18	6.06	225.85	2504.78	5.45	1.05	5.71	5.71

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	50-yr	3749.65	616.05	610.19	2.05	1.1	18.1	4.16	181.68	2976.88	5.85	1.31	5.86	5.86
Dawson County	D8	RM 80.64	26669.58	50-yr	3749.65	616	610.09	1.99	1.04	17.23	3.66	209.02	3317.1	5.67	1.19	5.9	5.9
Dawson County	D8	RM 80.45	26373.01	50-yr	3749.65	616	609.94	1.41	0.81	8.56	2.55	122.91	3473.54	5.93	1.7	6.07	6.07
Dawson County	D8	RM 80.17	25926.88	50-yr	3749.65	615.89	609.71	1.92	0.88	15.64	3.25	146.98	3648.97	6.18	1.24	6.19	6.19
Dawson County	D8	RM 79.91	25496.94	50-yr	3749.65	615.8	609.42	1.51	0.8	10.03	2.5	362.06	3455.8	5.48	1.35	6.39	6.39
Dawson County	D8	RM 79.43	24626.85	50-yr	3749.65	615.56	609.14	1.89	1	15.24	3.38	289.02	2870.73	5.92	1.3	6.41	6.41
Dawson County	D8	RM 79.23	24229.4	50-yr	3749.65	615.01	608.87	3.32	1.83	47.37	7.83	173.46	2177.45	5.94	0.94	6.14	6.14
Dawson County	D8	RM 78.27	22640.58	50-yr	3749.65	614.31	608.6	2.31	1.47	23.87	9.47	226.68	1256.18	5.18	2.03	5.7	5.7
Dawson County	D8	RM 78.12	22398.86	50-yr	3749.65	614.26	608.48	2.09	1.45	19.46	7.35	222.94	1325.51	5.23	1.95	5.78	5.78
Dawson County	D8	RM 77.97	22135.34	50-yr	3749.65	614.12	608.34	2.3	1.55	23.03	7.97	214.67	1268.42	5.56	1.9	5.78	5.78
Dawson County	D8	RM 77.79	21831.85	50-yr	3749.65	614.06	608.18	1.88	1.43	16.55	7.12	332.54	1351.48	4.51	1.93	5.87	5.87
Dawson County	D8	RM 77.57	21474.71	50-yr	3749.65	613.81	608	2.35	1.79	24.3	8.1	250.08	1162.84	5.43	1.8	5.82	5.82
Dawson County	D8	RM 77.38	21170.35	50-yr	3749.65	613.58	607.84	2.69	1.97	31.65	10.49	215.18	1058.5	5.47	1.8	5.74	5.74
Dawson County	D8	RM 77.13	20780.17	50-yr	3749.65	613.58	607.63	1.85	1.38	15.02	6.16	188.55	1325.74	5.57	2.25	5.94	5.94
Dawson County	D8	RM 77.00	20442.34	50-yr	3749.65	613.46	607.46	2.2	1.43	20.93	6.55	131.83	1456.61	6	1.79	6.01	6.01
Dawson County	D8	RM 76.90	20124.49	50-yr	3749.65	613.38	607.29	2.11	1.51	18.97	5.53	153.24	1455.63	6.07	1.7	6.09	6.09
Dawson County	D8	RM 76.76	19785.25	50-yr	3749.65	613.32	607.12	1.73	1.32	12.96	4.82	269.03	1365.59	5.76	2.12	6.2	6.2
Dawson County	D8	RM 76.63	19501.04	50-yr	3749.65	613.24	606.97	1.86	1.44	15.39	6.53	246.86	1182.25	5.29	2.21	6.27	6.27
Dawson County	D8	RM 76.37	19137.53	50-yr	3749.65	612.99	606.78	2.25	1.66	21.86	8.14	272.76	1062.05	5.72	2.12	6.21	6.21
Dawson County	D8	RM 76.22	18884.28	50-yr	3749.65	612.87	606.65	2.35	1.68	23.62	9.28	253.7	978.02	5.84	2.28	6.22	6.22
Dawson County	D8	RM 76.00	18519.22	50-yr	3749.65	612.62	606.61	2.67	1.7	31.03	9.43	225.2	1309.76	5.61	1.69	6.01	6.01
Dawson County	D8	RM 75.75	18119.45	50-yr	3749.65	612.27	606.58	2.99	1.96	39.31	9.75	209.51	1449.23	5.39	1.32	5.69	5.69
Dawson County	D8	RM 75.56	17818.36	50-yr	3749.65	612.2	606.75	2.32	1.55	24.77	7.87	303.99	1620.96	4.72	1.49	5.45	5.45
Dawson County	D8	RM 75.31	17411.3	50-yr	3749.65	612.03	606.34	2.23	1.49	22.01	6.68	263.12	1591.25	5.23	1.58	5.7	5.7
Dawson County	D8	RM 75.13	17092.44	50-yr	3749.65	611.91	606.17	2.14	1.38	20.55	6.75	306.22	1647.35	5.03	1.65	5.74	5.74
Dawson County	D8	RM 74.90	16719.46	50-yr	3749.65	611.51	605.98	2.93	1.73	38.6	10.52	224.87	1597.58	5.02	1.36	5.53	5.53
Dawson County	D8	RM 74.65	16308.2	50-yr	3749.65	611.4	605.91	2.25	1.4	22.81	7.29	267.86	1680.28	5	1.59	5.48	5.48
Dawson County	D8	RM 74.37	15846.14	50-yr	3749.65	611.15	605.85	2.46	1.59	28	8.18	221.55	1746.07	4.67	1.35	5.3	5.3
Dawson County	D8	RM 74.13	15464.97	50-yr	3749.65	610.96	605.82	2.24	1.51	23.02	6.38	235.57	1923.56	4.77	1.31	5.14	5.14
Dawson County	D8	RM 73.91	15098.01	50-yr	3749.65	610.83	605.99	1.91	1.3	17.24	6.02	283.69	1882.08	4.41	1.53	4.84	4.84
Dawson County	D8	RM 73.71	14783.86	50-yr	3749.65	610.72	605.87	1.82	1.22	15.51	4.63	292.2	2350.17	4.46	1.33	4.85	4.85
Dawson County	D8	RM 73.53	14496.67	50-yr	3749.65	610.63	605.72	1.79	1.12	14.89	5.11	249.62	2596.1	4.64	1.58	4.91	4.91
Dawson County	D8	RM 73.29	14096.19	50-yr	3749.65	610.14	605.51	3.07	1.9	44.02	10.68	198.62	1805.41	4.54	1.09	4.63	4.63
Dawson County	D8	RM 73.07	13729.79	50-yr	3749.65	609.51	605.52	3.62	2.68	63.95	18.71	196.15	1222.99	3.93	1.14	4.26	4.26
Dawson County	D8	RM 72.83	13354.45	50-yr	3749.65	609.2	604.9	2.7	2.05	35.22	12.61	264.25	1259.96	4.06	1.45	4.3	4.3
Dawson County	D8	RM 72.62	13000.82	50-yr	3749.65	608.95	604.4	2.45	1.82	28.41	9.03	295.23	1672.03	4.32	1.37	4.56	4.56
Dawson County	D8	RM 72.37	12609.05	50-yr	3749.65	608.67	603.89	2.62	1.81	31.83	11.36	228.58	1271.85	4.58	1.63	4.78	4.78
Dawson County	D8	RM 72.16	12261.75	50-yr	3749.65	608.4	603.69	2.55	1.86	30.56	10.72	286.3	1348.16	4.43	1.55	4.71	4.71
Dawson County	D8	RM 71.92	11875.08	50-yr	3749.65	608.24	603.18	2.1	1.62	20.48	7.47	345.16	1438.6	4.53	1.65	5.06	5.06
Dawson County	D8	RM 71.69	11512.65	50-yr	3749.65	608.06	602.95	2.21	1.57	22.54	7.69	303.44	1486.75	4.71	1.6	5.11	5.11
Dawson County	D8	RM 71.49	11192.6	50-yr	3749.65	607.85	602.03	2.45	1.59	26.15	7.48	237.66	1511.69	5.49	1.56	5.82	5.82
Dawson County	D8	RM 71.31	10913.3	50-yr	3749.65	607.71	601.99	2.43	1.6	26.03	8.09	244.59	1421.58	5.34	1.65	5.72	5.72
Dawson County	D9	RM 71.10	10567.75	50-yr	3746.81	607.63	602.11	1.97	1.45	17.47	5.97	197.48	1525.1	5.01	1.69	5.53	5.53
Dawson County	D9	RM 70.91	10267.7	50-yr	3746.81	607.51	602.05	2.22	1.33	21.79	7.41	126.11	1580.88	5.39	1.8	5.46	5.46
Dawson County	D9	RM 70.72	9968.939	50-yr	3746.81	607.4	601.91	2.2	1.33	21.49	8.6	153.19	1518.55	5.48	2.12	5.49	5.49
Dawson County	D9	RM 70.50	9603.574	50-yr	3746.81	607.25	601.9	2.01	1.65	18.24	11.54	251.24	784.41	4.96	3.13	5.35	5.35
Dawson County	D9	RM 70.27	9238.535	50-yr	3746.81	606.93	601.31	2.63	1.88	30.65	10.6	236.79	1088.47	5.31	1.83	5.62	5.62
Dawson County	D9	RM 70.08	8928.013	50-yr	3746.81	606.8	600.85	2.45	1.59	26.35	8.68	234.44	1319.96	5.47	1.78	5.95	5.95
Dawson County	D9	RM 69.79	8464.726	50-yr	3746.81	606.68	600.61	2.1	1.25	19.22	6.43	248.41	1607.76	5.61	1.87	6.07	6.07
Dawson County	D9	RM 69.50	7983.226	50-yr	3746.81	606.57	600.56	1.95	1.1	16.62	5.93	237.14	1746.06	5.51	1.94	6.02	6.02
Dawson County	D9	RM 69.26	7575.04	50-yr	3746.81	606.45	600.35	1.99	1.11	17.13	6.45	245.78	1595.21	5.65	2.11	6.11	6.11
Dawson County	D9	RM 69.03	7206.967	50-yr	3746.81	606.37	599.95	1.9	1.21	15.34	6.45	236.36	1222.86	6.06	2.53	6.41	6.41
Dawson County	D9	RM 68.82	6851.789	50-yr	3746.81	606.15	599.77	2.34	1.46	23.53	7.37	217.59	1431.82	5.82	1.8	6.38	6.38
Dawson County	D9	RM 68.60	6509.797	50-yr	3746.81	605.75	599.59	3.02	2.08	38.82	9.69	189.13	1222.3	6.03	1.48	6.16	6.16
Dawson County	D9	RM 68.39	6158.879	50-yr	3746.81	605.58	599.51	2.69	2.1	31.74	8.75	241.73	1196.2	5.45	1.49	6.07	6.07
Dawson County	D9	RM 68.11	5709.195	50-yr	3746.81	605.36	599.37	2.49	1.96	27.41	9.05	262.72	1087.06	5.35	1.76	5.99	5.99
Dawson County	D9	RM 67.86	5308.187	50-yr	3746.81	605.15	599.17	2.7	2.14	31.59	12.63	130.41	774.89	5.81	2.26	5.98	5.98
Dawson County	D10	RM 67.57	4859.184	50-yr	3738.32	604.92	598.93	2.44	2.12	25.85	10.05	240.29	806.76	5.64	2.19	5.99	5.99
Dawson County	D10	RM 67.37	4523.862	50-yr	3738.32	604.83	598.75	2.21	1.67	21.11	7.6	224.36	1317.1	5.66	2.02	6.08	6.08
Dawson County	D10	RM 67.15	4175.103	50-yr	3738.32	604.44	598.47	3.14	1.97	42.71	8.86	158.11	1615.66	5.75	1.17	5.96	5.96

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

50-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	50-yr	3738.32	604.38	598.2	2.34	1.47	24.21	8.59	211.57	1358.07	5.32	1.87	6.18	6.18
Dawson County	D10	RM 66.74	3505.323	50-yr	3738.32	604.16	598.12	2.55	1.7	27.8	7.11	189.78	1480.61	5.91	1.48	6.04	6.04
Dawson County	D10	RM 66.52	3142.889	50-yr	3738.32	603.92	598.26	2.57	1.82	29.19	8.08	249	1401.73	5.34	1.47	5.67	5.67
Dawson County	D10	RM 66.28	2774.58	50-yr	3738.32	603.42	598.21	3.33	2.69	50.21	19.81	206.17	710.66	4.96	1.95	5.21	5.21
Dawson County	D10	RM 66.11	2492.331	50-yr	3738.32	603.3	597.8	2.73	2.28	34.13	15.16	269.84	777.39	4.76	2.11	5.5	5.5
Dawson County	D10	RM 65.90	2160.839	50-yr	3738.32	603.19	597.33	2.39	1.86	25.32	11	227.64	887.6	5.26	2.27	5.86	5.86
Dawson County	D10	RM 65.75	1926.044	50-yr	3738.32	603.06	597.2	2.36	1.93	25.63	10.2	203.78	1029.14	4.8	1.89	5.86	5.86
Dawson County	D10	RM 65.60	1669.095	50-yr	3738.32	602.89	597.07	2.66	1.7	30.98	9.19	140.14	1398.57	5.59	1.62	5.83	5.83
Dawson County	D10	RM 65.42	1386.836	50-yr	3738.32	602.79	596.92	2.14	1.62	20.18	6.19	247.82	1409.82	5.41	1.64	5.86	5.86
Dawson County	D10	RM 65.23	1090.639	50-yr	3738.32	602.67	596.91	2.16	1.48	22.09	6.98	263.18	1933.4	4.39	1.37	5.76	5.76
Dawson County	D10	RM 64.96	634.963	50-yr	3738.32	602.53	597.09	1.86	1.12	15.75	5.44	270.22	2429.21	4.91	1.69	5.44	5.44

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	50-yr	3737.8	602.41	596.42	1.39	0.82	9.04	3.57	398.12	2609.48	4.44	1.74	5.99	5.99
Richland/McKenzie County	D10	RM 64.32	103200	50-yr	3737.8	602.3	596.33	1.83	0.88	15.06	5.43	232.97	2306.73	5.12	1.83	5.97	5.97
Richland/McKenzie County	D10	RM 64.12	102900	50-yr	3737.8	602.26	596.18	1.55	0.92	11.08	4.71	281.09	2052.72	4.72	1.99	6.08	6.08
Richland/McKenzie County	D10	RM 63.92	102601	50-yr	3737.8	602.22	596.08	1.47	0.81	9.98	4.76	273.38	2131.09	4.59	2.17	6.14	6.14
Richland/McKenzie County	D10	RM 63.74	102302	50-yr	3737.8	602.15	595.94	1.58	0.86	11.22	4.61	254.65	2150.37	5	2.03	6.21	6.21
Richland/McKenzie County	D10	RM 63.55	101998	50-yr	3737.8	602.09	595.79	1.67	0.84	11.98	4.49	210.56	2049.18	5.84	2.16	6.3	6.3
Richland/McKenzie County	D10	RM 63.34	101671	50-yr	3737.8	602.04	595.21	1.63	0.82	11.97	5.42	241.49	1995.49	5.09	2.29	6.83	6.83
Richland/McKenzie County	D10	RM 63.08	101293	50-yr	3737.8	601.7	595.12	2.91	1.22	37.46	13.43	159.68	1606.18	5.42	1.91	6.58	6.58
Richland/McKenzie County	D10	RM 62.96	101094	50-yr	3737.8	601.5	595.12	3.1	1.43	52.47	16.08	149.74	1507.49	5.77	1.73	6.38	6.38
Richland/McKenzie County	D10	RM 62.83	100882	50-yr	3737.8	601.36	595.12	2.99	1.44	43.03	12.96	161.51	1485.54	5.92	1.75	6.24	6.24
Richland/McKenzie County	D10	RM 62.64	100582	50-yr	3737.8	601.23	595.12	2.68	1.41	30.96	10.27	189.94	1394.47	5.83	1.91	6.11	6.11
Richland/McKenzie County	D10	RM 62.46	100282	50-yr	3737.8	600.68	595.1	3.75	2.21	62.68	18.83	161.13	1094	5.23	1.54	5.58	5.58
Richland/McKenzie County	D10	RM 62.27	99977	50-yr	3737.8	600.76	594.91	2.11	1.51	19.98	8.28	303.35	1166.44	5.21	2.13	5.85	5.85
Richland/McKenzie County	D10	RM 62.1	99691	50-yr	3737.8	600.69	594.75	1.85	1.35	15.46	7.94	274.06	1233.94	4.42	2.25	5.94	5.94
Richland/McKenzie County	D10	RM 61.91	99377	50-yr	3737.8	600.54	594.51	2.06	1.32	18.74	9.53	164.84	1173.35	4.82	2.42	6.03	6.03
Richland/McKenzie County	D10	RM 61.72	99082	50-yr	3737.8	600.38	594.36	2.26	1.44	22.52	8.8	127.17	1255.67	5.39	2.06	6.02	6.02
Richland/McKenzie County	D10	RM 61.54	98782	50-yr	3737.8	600	594.36	2.76	1.97	33.43	11.01	230.57	1134.29	5.13	1.67	5.64	5.64
Richland/McKenzie County	D10	RM 61.35	98482	50-yr	3737.8	599.81	594.26	2.77	1.99	34.54	12.22	215	1050.72	5.11	1.79	5.55	5.55
Richland/McKenzie County	D10	RM 61.16	98182	50-yr	3737.8	599.77	594.17	2.01	1.47	18.58	8.67	248.77	1151.75	4.76	2.21	5.6	5.6
Richland/McKenzie County	D10	RM 60.99	97906	50-yr	3737.8	599.61	594.02	2.25	1.42	22.62	8.22	216.72	1409.75	5.17	1.86	5.59	5.59
Richland/McKenzie County	D10	RM 60.79	97582	50-yr	3737.8	599.49	593.78	2.14	1.23	21.41	8.1	224.25	1823.92	4.46	1.67	5.71	5.71
Richland/McKenzie County	D10	RM 60.64	97339	50-yr	3737.8	599.49	593.58	1.37	0.9	8.92	4.08	266.31	2283.72	4.26	1.93	5.91	5.91
Richland/McKenzie County	D10	RM 60.42	96982	50-yr	3737.8	599.34	593.38	1.91	1.05	16.18	4.75	215.62	2493.05	5.02	1.46	5.96	5.96
Richland/McKenzie County	D10	RM 60.25	96700	50-yr	3737.8	599.22	593.24	2.2	1.03	22.81	7.26	192.38	2611.23	4.44	1.39	5.98	5.98
Richland/McKenzie County	D10	RM 60.04	96365	50-yr	3737.8	599.09	593.14	1.99	0.99	19.47	7.83	227.05	2443.05	3.92	1.55	5.95	5.95
Richland/McKenzie County	D10	RM 59.86	96088	50-yr	3737.8	598.99	592.99	2.02	0.85	17.86	5.79	171.89	2515.8	5.53	1.75	6	6
Richland/McKenzie County	D10	RM 59.65	95769	50-yr	3737.8	598.96	592.85	1.56	0.75	10.94	4.15	207.22	2635.16	5.06	1.89	6.11	6.11
Richland/McKenzie County	D10	RM 59.5	95530	50-yr	3737.8	598.88	592.75	1.71	0.85	13.56	4.88	206.9	2639.19	4.71	1.67	6.13	6.13
Richland/McKenzie County	D10	RM 59.29	95183	50-yr	3737.8	598.8	592.55	1.61	0.88	11.85	4.36	232.08	2444.04	4.81	1.75	6.25	6.25
Richland/McKenzie County	D10	RM 59.07	94797	50-yr	3737.8	598.73	592.36	1.44	0.86	10.5	4.36	408.43	2295.45	4.61	1.9	6.37	6.37
Richland/McKenzie County	D10	RM 58.93	94582	50-yr	3737.8	598.63	592.31	1.8	0.95	14.78	5.6	328.36	2153.16	4.89	1.83	6.32	6.32
Richland/McKenzie County	D10	RM 58.75	94282	50-yr	3737.8	598.52	592.28	1.98	1.01	16.97	5.62	264.72	2013.67	5.59	1.83	6.24	6.24
Richland/McKenzie County	D10	RM 58.56	93982	50-yr	3737.8	598.09	592.22	3.27	1.49	46.66	11.75	157.23	1818.88	5.6	1.38	5.87	5.87
Richland/McKenzie County	D10	RM 58.37	93682	50-yr	3737.8	597.78	592.22	3.3	1.78	48.36	11.75	186.39	1660.31	5.29	1.26	5.56	5.56
Richland/McKenzie County	D10	RM 58.19	93382	50-yr	3737.8	597.82	592.22	2.14	1.34	20.11	6.9	254.64	1514.11	5.44	1.84	5.6	5.6
Richland/McKenzie County	D10	RM 58.01	93086	50-yr	3737.8	597.43	592.14	2.92	2.12	38.4	10.85	236.71	1251.93	5.04	1.41	5.29	5.29
Richland/McKenzie County	D10	RM 57.82	92782	50-yr	3737.8	597.41	592.11	2.04	1.56	19.58	8.35	308.1	1298.14	4.36	1.85	5.3	5.3
Richland/McKenzie County	D10	RM 57.63	92482	50-yr	3737.8	597.26	592.11	2.45	1.55	27.5	10.27	160.84	1347.37	4.85	1.79	5.15	5.15
Richland/McKenzie County	D10	RM 57.46	92205	50-yr	3737.8	597.19	591.95	1.8	1.18	14.77	6.09	192.28	1659.12	4.95	2.02	5.24	5.24
Richland/McKenzie County	D10	RM 57.26	91882	50-yr	3737.8	596.95	591.9	2.32	1.55	25.56	9.52	136.34	1501.12	4.37	1.6	5.05	5.05
Richland/McKenzie County	D10	RM 57.07	91583	50-yr	3737.8	596.88	591.73	1.88	1.23	16.2	6.09	137.42	1865.86	4.9	1.81	5.15	5.15
Richland/McKenzie County	D10	RM 56.87	91253	50-yr	3737.8	596.74	591.49	1.72	1.31	13.85	6.7	186.15	1734.66	4.43	2.13	5.31	5.31
Richland/McKenzie County	D10	RM 56.68	90943	50-yr	3737.8	596.67	591.12	1.52	1.29	11.09	7.08	299.58	1566.96	4.22	2.69	5.55	5.55
Richland/McKenzie County	D10	RM 56.54	90682	50-yr	3735	596.46	590.76	1.96	2.01	21.9	16.31	216.66	867.97	3.76	2.79	5.74	5.74
Richland/McKenzie County	D10	RM 56.35	90387	50-yr	3735	596.29	590.46	2.08	2.01	20.38	17.15	174.85	906.93	4.48	3.74	5.83	5.83
Richland/McKenzie County	D11	RM 56.16	90086	50-yr	3735	595.77	590.11	3.21	2.95	45.96	26.44	221.5	531.39	5.21	2.97	5.66	5.66
Richland/McKenzie County	D11	RM 55.96	89768	50-yr	3735	595.56	589.96	2.99	2.53	39.42	20.89	222.74	579.05	5.35	2.82	5.6	5.6
Richland/McKenzie County	D11	RM 55.78	89479	50-yr	3735	595.49	589.96	2.54	1.77	28.67	11.71	216.81	1005.79	5.22	2.12	5.53	5.53
Richland/McKenzie County	D11	RM 55.61	89193	50-yr	3735	595.33	589.98	2.54	1.65	28.87	8.76	222.22	1579.5	5.12	1.54	5.35	5.35
Richland/McKenzie County	D11	RM 55.41	88882	50-yr	3735	595.18	589.76	2.4	1.47	26.21	8.88	203.81	1543.13	4.9	1.64	5.42	5.42
Richland/McKenzie County	D11	RM 55.23	88582	50-yr	3735	595.01	589.53	2.36	1.49	24.78	7.51	238.9	1591.68	5.27	1.58	5.48	5.48
Richland/McKenzie County	D11	RM 55.04	88282	50-yr	3735	594.79	589.39	2.58	1.66	30.52	9.41	252.08	1549.56	4.74	1.45	5.4	5.4
Richland/McKenzie County	D11	RM 54.86	87996	50-yr	3735	594.4	589.33	3.18	2.23	48.78	15.29	223.59	1311.88	4.14	1.28	5.07	5.07
Richland/McKenzie County	D11	RM 54.69	87715	50-yr	3735	594.36	589.23	2.22	1.7	23.02	9.13	188.11	1380.94	4.49	1.76	5.13	5.13
Richland/McKenzie County	D11	RM 54.48	87382	50-yr	3735	594.26	589.15	1.87	1.13	16.3	4.94	179.29	2493.29	4.62	1.38	5.11	5.11
Richland/McKenzie County	D11	RM 54.32	87122	50-yr	3735	594.17	589	1.91	0.99	16.53	4.88	159.94	2592.66	5.02	1.45	5.17	5.17
Richland/McKenzie County	D11	RM 54.1	86783	50-yr	3735	594.06	588.83	1.7	1.05	13.02	4.39	202.24	2112.78	5.07	1.69	5.23	5.23
Richland/McKenzie County	D11	RM 53.92	86482	50-yr	3735	593.98	588.68	1.65	1.06	12.63	4.52	255.08	2370.82	4.59	1.61	5.3	5.3
Richland/McKenzie County	D11	RM 53.73	86182	50-yr	3735	593.87	588.51	1.93	1.1	16.72	5.47	196.75	2697.5	5.14	1.65	5.36	5.36
Richland/McKenzie County	D11	RM 53.55	85882	50-yr	3735	593.71	588.37	2.02	1.27	18.36	6.1	181.72	2119.88	4.99	1.64	5.34	5.34
Richland/McKenzie County	D11	RM 53.36	85582	50-yr	3735	593.55	588.01	2.19	1.3	22.45	6.97	166.55	2397.32	4.49	1.38	5.54	5.54

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	50-yr	3735	593	587.56	3.3	1.82	49.22	10.05	205.86	2086.18	4.96	1	5.44	5.44
Richland/McKenzie County	D11	RM 52.98	84982	50-yr	3735	592.8	587.56	2.86	1.31	41.64	14.73	271.44	2773.52	3.52	1.23	5.24	5.24
Richland/McKenzie County	D11	RM 52.79	84682	50-yr	3735	592.58	587.56	2.27	1.24	26.64	11.52	387.04	2498.35	3.31	1.41	5.02	5.02
Richland/McKenzie County	D11	RM 52.61	84390	50-yr	3735	592.44	587.43	1.89	1.25	17.39	5.89	450.01	2826.16	3.94	1.32	5.01	5.01
Richland/McKenzie County	D11	RM 52.42	84082	50-yr	3735	592.37	587.28	1.61	1	13.14	5.19	409.99	3157.54	3.53	1.39	5.09	5.09
Richland/McKenzie County	D11	RM 52.24	83798	50-yr	3735	592.31	587.28	1.5	0.72	10.7	3.77	227.41	3675.6	4.24	1.48	5.03	5.03
Richland/McKenzie County	D11	RM 52.01	83423	50-yr	3735	592.14	587.23	2.08	0.9	20.13	5.03	124.91	3844.24	4.7	1.14	4.91	4.91
Richland/McKenzie County	D11	RM 51.87	83182	50-yr	3735	592.06	587.16	1.65	0.83	13.8	5.3	156.7	3453.16	3.51	1.32	4.9	4.9
Richland/McKenzie County	D11	RM 51.69	82882	50-yr	3735	591.98	587.16	1.46	0.75	10.36	3.68	151.24	3574.79	4.02	1.4	4.82	4.82
Richland/McKenzie County	D11	RM 51.51	82585	50-yr	3735	591.91	587.16	1.66	0.83	13.81	4.63	149.84	3662.31	3.74	1.23	4.75	4.75
Richland/McKenzie County	D11	RM 51.32	82274	50-yr	3735	591.87	587.16	1.41	0.72	9.89	3.95	173.83	3580.24	3.7	1.45	4.71	4.71
Richland/McKenzie County	D11	RM 51.13	81982	50-yr	3735	591.81	587.13	1.53	0.73	10.96	3.47	164.51	3632.76	4.5	1.4	4.7	4.7
Richland/McKenzie County	D11	RM 50.95	81682	50-yr	3735	591.74	587.08	1.37	0.64	8.81	3.12	144.96	4020.87	4.44	1.55	4.66	4.66
Richland/McKenzie County	D11	RM 50.76	81378	50-yr	3735	591.69	586.89	1.27	0.57	7.74	3.25	174.41	4152.76	4.3	1.77	4.8	4.8
Richland/McKenzie County	D11	RM 50.56	81065	50-yr	3735	591.54	586.37	1.68	0.74	12.73	3.92	171.61	3559.13	5.05	1.53	5.17	5.17
Richland/McKenzie County	D11	RM 50.39	80787	50-yr	3735	591.49	585.7	1.61	0.72	11.19	3.33	196.96	3368.84	5.69	1.66	5.79	5.79
Richland/McKenzie County	D11	RM 50.21	80482	50-yr	3735	591.4	585.55	1.6	0.84	11.38	3.91	234.94	2672.76	5.14	1.75	5.85	5.85
Richland/McKenzie County	D11	RM 50.02	80182	50-yr	3729.3	591.26	585.55	1.95	1.07	17.11	5.52	197.51	2283.69	5.07	1.6	5.71	5.71
Richland/McKenzie County	D12	RM 49.82	79860	50-yr	3729.3	590.85	585.55	2.95	1.64	39.07	9	212.06	1975.36	5.06	1.15	5.3	5.3
Richland/McKenzie County	D12	RM 49.65	79582	50-yr	3729.3	590.48	585.55	3.3	2.13	50.27	12.41	213.94	1529.96	4.68	1.15	4.93	4.93
Richland/McKenzie County	D12	RM 49.5	79348	50-yr	3729.3	590.63	585.49	1.65	1.13	12.17	4.07	356	1959.27	5.05	1.68	5.18	5.18
Richland/McKenzie County	D12	RM 49.26	78981	50-yr	3729.3	590.55	585.29	1.9	1.19	16.29	5.43	137.44	1891.04	5.04	1.65	5.26	5.26
Richland/McKenzie County	D12	RM 49.08	78682	50-yr	3729.3	590.41	585.11	2.06	1.26	19.11	5.74	156.64	1989.25	5.04	1.49	5.37	5.37
Richland/McKenzie County	D12	RM 48.87	78351	50-yr	3729.3	590.31	584.96	1.99	1.18	17.71	5.49	209.35	2032.52	5.08	1.56	5.35	5.35
Richland/McKenzie County	D12	RM 48.7	78082	50-yr	3729.3	590.23	584.86	1.9	1.23	17.11	7.21	252.25	1693.65	4.33	1.8	5.37	5.37
Richland/McKenzie County	D12	RM 48.52	77782	50-yr	3729.3	590.2	584.74	1.27	0.94	7.71	4.13	473.03	1746.06	4.26	2.27	5.46	5.46
Richland/McKenzie County	D12	RM 48.33	77482	50-yr	3729.3	590.15	584.51	1.31	0.97	9.67	5.7	517.65	1805.94	3.63	2.13	5.64	5.64
Richland/McKenzie County	D12	RM 48.15	77182	50-yr	3729.3	590.04	584.24	1.55	0.92	11.42	6.77	497.96	1840.69	3.75	2.21	5.8	5.8
Richland/McKenzie County	D12	RM 47.97	76887	50-yr	3729.3	590.02	584.09	1.13	0.76	5.98	4.01	601.73	2181.26	3.43	2.29	5.93	5.93
Richland/McKenzie County	D12	RM 47.76	76570	50-yr	3729.3	589.98	583.86	1.11	0.79	6.23	3.81	565.5	2104.1	3.76	2.29	6.12	6.12
Richland/McKenzie County	D12	RM 47.59	76293	50-yr	3729.3	589.91	583.71	1.27	0.82	7.82	3.85	391.27	2069.39	4.48	2.19	6.2	6.2
Richland/McKenzie County	D12	RM 47.4	75982	50-yr	3729.3	589.82	583.42	1.68	0.89	12.46	5.07	196.88	1964.37	5.33	2.14	6.4	6.4
Richland/McKenzie County	D12	RM 47.12	75521	50-yr	3729.3	589.6	583.04	2.07	1.06	17.88	5.63	234.72	1792.33	6.3	1.96	6.56	6.56
Richland/McKenzie County	D12	RM 47	75323	50-yr	3729.3	589.28	583.04	3.15	1.41	43.04	11.99	162.2	1697.39	5.67	1.55	6.24	6.24
Richland/McKenzie County	D12	RM 46.85	75082	50-yr	3729.3	589.11	583.04	3.03	1.52	40	11.03	184.53	1606.95	5.61	1.52	6.07	6.07
Richland/McKenzie County	D12	RM 46.67	74782	50-yr	3729.3	588.79	583.04	3.26	1.92	46.43	12.17	185.83	1345.23	5.58	1.44	5.75	5.75
Richland/McKenzie County	D12	RM 46.47	74459	50-yr	3729.3	588.77	583.04	2.24	1.68	22.45	9.07	312.11	1092.54	5.09	2.04	5.73	5.73
Richland/McKenzie County	D12	RM 46.3	74186	50-yr	3729.3	588.63	583.04	2.23	1.83	22.32	13.82	421.1	942.39	3.8	2.34	5.59	5.59
Richland/McKenzie County	D12	RM 46.14	73920	50-yr	3729.3	588.51	583.04	2.04	1.72	18.55	12.2	454.73	862.47	3.88	2.54	5.47	5.47
Richland/McKenzie County	D12	RM 45.9	73546	50-yr	3729.3	588.35	582.97	2.06	1.45	19.85	9.73	339.6	1180.32	4.5	2.2	5.38	5.38
Richland/McKenzie County	D12	RM 45.75	73307	50-yr	3729.3	588.16	582.88	2.34	1.58	26.42	11.69	351.5	1558.26	3.87	1.7	5.28	5.28
Richland/McKenzie County	D12	RM 45.54	72980	50-yr	3729.3	588.04	582.55	1.92	1.33	17.31	6.7	382.5	1872.66	4.49	1.72	5.49	5.49
Richland/McKenzie County	D12	RM 45.29	72680	50-yr	3729.3	587.91	582.25	2	1.23	18.82	7.25	347.33	1791.39	4.44	1.7	5.66	5.66
Richland/McKenzie County	D12	RM 45.09	72380	50-yr	3729.3	587.81	582.08	2.02	1.1	17.99	5.73	267.36	2010.35	5.33	1.68	5.73	5.73
Richland/McKenzie County	D12	RM 44.91	72080	50-yr	3729.3	587.72	582.01	1.95	1.1	17.08	5.51	283.48	2079.52	5.1	1.63	5.71	5.71
Richland/McKenzie County	D12	RM 44.72	71783	50-yr	3729.3	587.49	581.97	2.51	1.25	28.02	7.39	208.81	2302.48	5.2	1.36	5.52	5.52
Richland/McKenzie County	D12	RM 44.53	71483	50-yr	3729.3	587.25	581.82	2.85	1.45	36.85	9.13	177.29	2112.75	4.98	1.21	5.43	5.43
Richland/McKenzie County	D12	RM 44.34	71183	50-yr	3729.3	586.84	581.8	3.27	1.83	51.1	11.68	199.26	2436.61	4.24	0.95	5.04	5.04
Richland/McKenzie County	D12	RM 44.17	70899	50-yr	3729.3	586.92	581.79	1.69	1.06	12.84	3.93	301.73	2430.86	5.05	1.53	5.13	5.13
Richland/McKenzie County	D12	RM 43.97	70594	50-yr	3729.3	586.88	581.73	1.39	0.87	9.24	3.59	326.68	2604.58	4.29	1.65	5.15	5.15
Richland/McKenzie County	D12	RM 43.74	70230	50-yr	3729.3	586.77	581.66	1.63	1.12	12.79	4.32	164.51	2406.98	4.13	1.38	5.11	5.11
Richland/McKenzie County	D12	RM 43.59	69983	50-yr	3729.3	586.67	581.56	1.58	0.82	11.85	4.52	143.76	2858.92	4.23	1.58	5.11	5.11
Richland/McKenzie County	D12	RM 43.4	69684	50-yr	3729.3	586.58	581.49	1.57	0.8	11.84	4.06	150.64	3126.99	4.45	1.5	5.09	5.09
Richland/McKenzie County	D12	RM 43.03	69084	50-yr	3729.3	586.48	581.37	1.45	0.67	10.04	3.83	131.62	3508.13	4.23	1.58	5.11	5.11
Richland/McKenzie County	D12	RM 42.66	68489	50-yr	3729.3	586.42	581.18	1.61	0.68	12.03	4.07	115.82	3619.95	4.59	1.52	5.24	5.24
Richland/McKenzie County	D12	RM 42.29	67889	50-yr	3729.3	586.36	580.87	1.24	0.63	6.98	2.32	281.47	3827.15	4.89	1.61	5.49	5.49
Richland/McKenzie County	D12	RM 42.08	67558	50-yr	3729.3	586.32	580.61	1.41	0.64	8.71	2.7	180.64	3522.37	5.45	1.66	5.71	5.71
Richland/McKenzie County	D12	RM 41.89	67260	50-yr	3729.3	586.23	580.31	1.54	0.74	10.43	3.34	292.42	2986.95	5.34	1.69	5.92	5.92
Richland/McKenzie County	D12	RM 41.75	67037	50-yr	3729.3	586.16	579.99	1.63	0.83	12.35	4.4	337.38	2726.61	4.66	1.64	6.17	6.17
Richland/McKenzie County	D12	RM 41.54	66695	50-yr	3729.3	585.97	579.72	2.18	0.97	20.39	6.1	196.39	2193.21	5.94	1.75	6.25	6.25
Richland/McKenzie County	D12	RM 41.34	66361	50-yr	3729.3	585.82	579.43	2.26	1.13	23.11	7.68	218.95	2006.77	5.03	1.65	6.39	6.39

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	50-yr	3729.3	585.67	579.08	2.4	1.19	25.21	7.75	195.81	1863.03	5.57	1.68	6.59	6.59
Richland/McKenzie County	D12	RM 40.99	65802	50-yr	3729.3	585.57	578.99	2.2	1.04	21.32	7	203.5	2043.97	5.43	1.76	6.58	6.58
Richland/McKenzie County	D12	RM 40.8	65502	50-yr	3729.3	585.39	578.97	2.25	1.24	23.14	6.82	273.63	2124.48	4.85	1.41	6.42	6.42
Richland/McKenzie County	D12	RM 40.62	65205	50-yr	3729.3	585.36	578.92	1.62	0.9	12.34	4.42	375.4	2962.02	4.39	1.56	6.44	6.44
Richland/McKenzie County	D12	RM 40.24	64602	50-yr	3729.3	585.2	578.6	1.47	0.81	10.52	4.03	507.11	3256.78	3.85	1.46	6.6	6.6
Richland/McKenzie County	D12	RM 40	64219	50-yr	3729.3	585.05	578.56	1.84	0.87	15.46	4.23	309.03	3355.95	4.89	1.32	6.49	6.49
Richland/McKenzie County	D12	RM 39.87	64002	50-yr	3729.3	584.92	578.55	2.22	0.96	21.54	4.77	222	3260.94	5.61	1.22	6.37	6.37
Richland/McKenzie County	D12	RM 39.68	63702	50-yr	3729.3	584.83	578.45	2.09	0.97	19.77	4.73	241.95	3263.63	5.04	1.19	6.38	6.38
Richland/McKenzie County	D12	RM 39.5	63402	50-yr	3729.3	584.75	578.35	2.04	0.9	18.99	4.87	226.39	3353.19	4.91	1.24	6.4	6.4
Richland/McKenzie County	D12	RM 39.31	63102	50-yr	3729.3	584.67	578.31	1.94	0.91	16.69	4.3	227.2	3115	5.19	1.32	6.36	6.36
Richland/McKenzie County	D12	RM 39.13	62802	50-yr	3729.3	584.58	578.2	1.88	0.9	16.18	4.69	286.13	3002.37	4.83	1.38	6.38	6.38
Richland/McKenzie County	D12	RM 38.94	62501	50-yr	3729.3	584.52	578.12	1.72	0.79	13.23	4.06	264.19	3003.31	5.18	1.57	6.4	6.4
Richland/McKenzie County	D12	RM 38.76	62201	50-yr	3729.3	584.44	578.03	1.72	0.8	12.84	3.66	245.72	2902.5	5.75	1.62	6.41	6.41
Richland/McKenzie County	D12	RM 38.57	61901	50-yr	3729.3	584.38	577.87	1.77	0.81	14.27	5.04	236.46	2699.48	4.9	1.71	6.51	6.51
Richland/McKenzie County	D12	RM 38.38	61601	50-yr	3729.3	584.37	577.84	1.1	0.62	5.71	2.86	268.55	2447.83	4.97	2.46	6.53	6.53
Richland/McKenzie County	D12	RM 38.2	61301	50-yr	3729.3	584.31	577.82	1.33	0.72	7.63	3.47	244.45	2358.61	5.79	2.6	6.49	6.49
Richland/McKenzie County	D12	RM 38.01	61008	50-yr	3729.3	584.26	577.81	1.39	0.87	8.97	5.07	307.49	1631.71	4.67	2.62	6.45	6.45
Richland/McKenzie County	D12	RM 37.84	60708	50-yr	3729.3	584.18	577.71	1.6	1.05	13.17	6.71	335.25	1526.33	4.69	2.37	6.47	6.47
Richland/McKenzie County	D12	RM 37.65	60408	50-yr	3729.3	584.17	577.66	1.09	0.84	5.51	3.48	565.75	1575.03	4.61	2.9	6.51	6.51
Richland/McKenzie County	D12	RM 37.5	60107	50-yr	3729.3	584.13	577.54	1.06	0.93	5.57	3.92	561.58	1396.17	4.15	2.92	6.59	6.59
Richland/McKenzie County	D12	RM 37.35	59808	50-yr	3729.3	584.04	577.37	1.25	0.98	8.77	5.86	427.63	1303.44	4.51	3	6.67	6.67
Richland/McKenzie County	D12	RM 37.16	59508	50-yr	3729.3	583.91	577.24	1.78	1.2	15.25	9.56	280.03	1091.44	4.67	2.91	6.67	6.67
Richland/McKenzie County	D12	RM 36.97	59208	50-yr	3729.3	583.81	576.96	1.96	1.26	17.7	8.78	222.26	1543.29	4.55	2.23	6.85	6.85
Richland/McKenzie County	D12	RM 36.78	58908	50-yr	3729.3	583.72	576.87	1.89	1.17	15.5	6.04	217.29	2114.74	5.41	2.09	6.85	6.85
Richland/McKenzie County	D12	RM 36.6	58608	50-yr	3729.3	583.64	576.66	1.94	1.12	15.79	5.27	182.19	2203.1	6.34	2.05	6.98	6.98
Richland/McKenzie County	D12	RM 36.38	58263	50-yr	3723.7	583.48	576.49	2.03	1.33	17.61	5.25	290.42	2128.15	5.92	1.74	6.99	6.99
Richland/McKenzie County	D13	RM 36.23	58011	50-yr	3723.7	583.24	576.43	2.67	1.5	29.82	6.62	199.11	2213.35	6.36	1.38	6.81	6.81
Richland/McKenzie County	D13	RM 36.04	57708	50-yr	3723.7	583.08	576.42	2.8	1.38	34.11	8.56	194.14	2293.81	5.67	1.39	6.66	6.66
Richland/McKenzie County	D13	RM 35.85	57408	50-yr	3723.7	583.02	576.41	2.27	1.19	22.03	6.68	278.61	2438.26	4.81	1.44	6.61	6.61
Richland/McKenzie County	D13	RM 35.66	57108	50-yr	3723.7	583.01	576.36	1.64	0.97	11.88	3.72	327.66	2524.85	5.48	1.7	6.65	6.65
Richland/McKenzie County	D13	RM 35.48	56810	50-yr	3723.7	582.87	576.3	2.17	1.09	20.18	5.5	189.87	2462.28	5.87	1.57	6.57	6.57
Richland/McKenzie County	D13	RM 35.29	56508	50-yr	3723.7	582.78	576.19	2.06	1.11	19.01	5.83	216.77	2444.94	5.17	1.56	6.59	6.59
Richland/McKenzie County	D13	RM 35.1	56208	50-yr	3723.7	582.66	576.07	2.01	1.11	17.2	4.68	244.46	2321.75	6.1	1.62	6.59	6.59
Richland/McKenzie County	D13	RM 34.92	55908	50-yr	3723.7	582.54	576.09	2.08	1.17	21.85	5.95	254.13	2287.73	5.59	1.5	6.45	6.45
Richland/McKenzie County	D13	RM 34.73	55605	50-yr	3723.7	582.48	575.89	1.69	1.24	12.46	4.96	414.63	1594.59	4.77	1.89	6.59	6.59
Richland/McKenzie County	D13	RM 34.54	55297	50-yr	3723.7	582.39	575.79	1.63	1.22	13.35	5.84	394.66	1662.18	4.24	1.84	6.6	6.6
Richland/McKenzie County	D13	RM 34.36	55008	50-yr	3723.7	582.35	575.75	1.5	1.02	9.45	3.54	323.48	1713.98	5.76	2.14	6.6	6.6
Richland/McKenzie County	D13	RM 34.17	54708	50-yr	3723.7	582.32	575.49	1.32	0.87	7.73	3.38	380.95	1867.72	5.27	2.28	6.83	6.83
Richland/McKenzie County	D13	RM 33.94	54408	50-yr	3723.7	582.3	575.34	1.23	0.87	6.59	2.99	374.48	1768.98	5.39	2.43	6.96	6.96
Richland/McKenzie County	D13	RM 33.76	54079	50-yr	3723.7	582.25	575.12	1.38	0.95	8.33	3.34	286.39	1793.83	5.56	2.19	7.13	7.13
Richland/McKenzie County	D13	RM 33.6	53799	50-yr	3723.7	582.21	574.88	1.32	0.94	8.29	3.91	376.74	1647.12	5.2	2.42	7.33	7.33
Richland/McKenzie County	D13	RM 33.42	53508	50-yr	3723.7	582.15	574.61	1.48	0.94	8.95	3.51	262.09	1617.97	6.37	2.45	7.54	7.54
Richland/McKenzie County	D13	RM 33.23	53208	50-yr	3723.7	582.13	574.45	1.42	0.89	8.15	2.85	209.05	1770.34	6.89	2.37	7.68	7.68
Richland/McKenzie County	D13	RM 33.04	52908	50-yr	3723.7	582.05	574.3	1.7	0.97	11.45	3.41	193.34	1774.1	7.41	2.17	7.75	7.75
Richland/McKenzie County	D13	RM 32.86	52608	50-yr	3723.7	581.93	574.18	2	1.02	16.22	5.25	209.27	1655.35	6.93	2.2	7.75	7.75
Richland/McKenzie County	D13	RM 32.67	52308	50-yr	3723.7	581.88	574.18	1.94	0.92	15.5	5.89	188.53	1617.66	6.74	2.51	7.7	7.7
Richland/McKenzie County	D13	RM 32.48	52008	50-yr	3723.7	581.78	574.04	2.06	0.99	17.63	7.07	196.91	1585.28	6.46	2.53	7.74	7.74
Richland/McKenzie County	D13	RM 32.29	51709	50-yr	3723.7	581.73	574.04	1.8	0.98	13.36	6.01	224.23	1534.33	6.69	2.97	7.69	7.69
Richland/McKenzie County	D13	RM 32.11	51423	50-yr	3723.7	581.67	573.94	1.78	1.07	12.86	4.91	220.08	1751.36	6.99	2.64	7.73	7.73
Richland/McKenzie County	D13	RM 31.92	51108	50-yr	3723.7	581.63	573.85	1.71	0.98	12.34	5.64	211.85	1884.77	6.23	2.81	7.78	7.78
Richland/McKenzie County	D13	RM 31.73	50809	50-yr	3723.7	581.58	573.72	1.53	0.89	10.25	4.39	261.37	1776.17	7.03	2.97	7.86	7.86
Richland/McKenzie County	D13	RM 31.51	50462	50-yr	3723.7	581.37	573.24	2.42	1.15	22.63	6.73	162.22	1729.73	7.01	2.04	8.13	8.13
Richland/McKenzie County	D13	RM 31.35	50208	50-yr	3723.7	581.19	573.24	2.72	1.43	31.24	8.51	169.04	1585.18	6.19	1.65	7.95	7.95
Richland/McKenzie County	D13	RM 31.22	50009	50-yr	3723.7	581.07	573.24	2.82	1.48	32.63	7.74	149.68	1613.11	6.76	1.56	7.83	7.83
Richland/McKenzie County	D13	RM 31.12	49859	50-yr	3723.7	580.88	573.24	2.83	2.35	45.53	10.73	196.27	1033.03	6.56	1.53	7.64	7.64
Richland/McKenzie County	D13	RM 30.97	49608	50-yr	3723.7	580.89	573.24	2.18	1.57	18.97	5.19	225.84	1216.81	7.23	1.95	7.65	7.65
Richland/McKenzie County	D13	RM 30.79	49308	50-yr	3723.7	580.67	573.24	2.66	1.77	29.31	8.55	199.27	1219.92	6.48	1.86	7.43	7.43
Richland/McKenzie County	D13	RM 30.6	49009	50-yr	3723.7	580.54	573.24	2.71	1.61	30.93	10.12	187.26	1147.87	6.26	2.01	7.3	7.3
Richland/McKenzie County	D13	RM 30.41	48706	50-yr	3723.7	580.44	573.15	2.46	1.5	26.51	8.87	212.3	1224.54	6.16	2.03	7.29	7.29
Richland/McKenzie County	D13	RM 30.22	48403	50-yr	3723.7	580.35	573.15	2.33	1.37	22.25	7.56	199.03	1440.67	6.73	2.25	7.2	7.2
Richland/McKenzie County	D13	RM 30.03	48102	50-yr	3723.7	580.37	573.15	1.56	1.03	10.14	4.07	315.48	1531.18	6.51	2.54	7.22	7.22

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	50-yr	3723.7	580.33	573.15	1.43	0.94	8.78	4.5	376.84	1314.29	5.98	3.02	7.18	7.18
Richland/McKenzie County	D13	RM 29.66	47508	50-yr	3723.7	580.25	573.11	1.6	0.97	10.67	4.97	393.01	1846.47	4.96	2.27	7.14	7.14
Richland/McKenzie County	D13	RM 29.48	47209	50-yr	3723.7	580.2	573.11	1.56	0.97	10.23	4.58	346.87	1791.58	5.82	2.57	7.09	7.09
Richland/McKenzie County	D13	RM 29.28	46894	50-yr	3723.7	580.15	572.98	1.42	1.07	8.91	4.63	401.07	1258.15	5.43	2.81	7.17	7.17
Richland/McKenzie County	D13	RM 29.1	46608	50-yr	3723.7	580.09	572.94	1.78	1.08	13.45	5.97	169.86	1277.95	6.19	2.7	7.15	7.15
Richland/McKenzie County	D13	RM 28.92	46308	50-yr	3723.7	580.01	572.85	1.88	1.14	14.62	4.81	146.69	1538.86	6.69	2.15	7.16	7.16
Richland/McKenzie County	D13	RM 28.73	46008	50-yr	3723.7	579.98	572.67	1.62	0.97	10.92	4.54	152.03	1455.5	6.43	2.63	7.31	7.31
Richland/McKenzie County	D13	RM 28.54	45708	50-yr	3723.7	579.95	572.67	1.49	0.92	9.11	4.09	201.29	1723.41	6.02	2.67	7.28	7.28
Richland/McKenzie County	D13	RM 28.36	45419	50-yr	3723.7	579.9	572.48	1.44	0.89	8.66	3.31	233.95	1803.45	6.44	2.42	7.42	7.42
Richland/McKenzie County	D13	RM 28.15	45071	50-yr	3723.7	579.84	572.25	1.34	1.01	7.58	2.5	429.8	1869.15	6.04	1.97	7.59	7.59
Richland/McKenzie County	D13	RM 27.98	44808	50-yr	3723.7	579.68	572.04	2.05	1.23	17.11	3.75	236.34	2046.21	6.87	1.48	7.64	7.64
Richland/McKenzie County	D13	RM 27.8	44508	50-yr	3723.7	579.61	571.87	2.02	1.24	16.13	3.28	226.85	2014.9	7.48	1.5	7.74	7.74
Richland/McKenzie County	D14	RM 27.61	44208	50-yr	3723.7	579.55	571.87	1.95	1.16	15.37	3.42	246.37	2107.8	6.94	1.52	7.68	7.68
Richland/McKenzie County	D14	RM 27.43	43916	50-yr	3723.7	579.52	571.87	1.72	0.98	11.84	2.7	261.74	2501.82	7.28	1.63	7.65	7.65
Richland/McKenzie County	D14	RM 27.23	43608	50-yr	3723.7	579.52	571.87	1.36	0.78	7.29	1.82	310.87	2567.43	7.53	1.85	7.65	7.65
Richland/McKenzie County	D14	RM 27.04	43305	50-yr	3723.7	579.46	571.87	1.56	0.81	9.82	2.51	277.5	2641.1	6.99	1.74	7.59	7.59
Richland/McKenzie County	D14	RM 26.86	43008	50-yr	3723.7	579.39	571.87	1.78	0.86	12.69	2.95	229.41	2624.44	7.23	1.65	7.52	7.52
Richland/McKenzie County	D14	RM 26.67	42708	50-yr	3723.7	579.35	571.87	1.66	0.83	10.96	2.62	252.42	2637.92	7.22	1.7	7.48	7.48
Richland/McKenzie County	D14	RM 26.48	42408	50-yr	3723.7	579.24	571.87	2.01	0.98	16.36	3.67	209.83	2454.47	7.07	1.56	7.37	7.37
Richland/McKenzie County	D14	RM 26.29	42108	50-yr	3723.7	579.13	571.87	2.17	1.1	19.1	3.96	205.84	2380.2	6.96	1.42	7.26	7.26
Richland/McKenzie County	D14	RM 26.11	41808	50-yr	3723.7	579.08	571.87	1.91	1.1	14.83	3.36	249.58	2195.9	6.91	1.54	7.21	7.21
Richland/McKenzie County	D14	RM 25.92	41508	50-yr	3723.7	579.05	571.87	1.62	1	10.62	2.56	305.76	2257.54	6.89	1.64	7.18	7.18
Richland/McKenzie County	D14	RM 25.73	41208	50-yr	3723.7	579.01	571.74	1.59	1.03	10.17	2.26	309.7	2339.52	7.05	1.55	7.27	7.27
Richland/McKenzie County	D14	RM 25.55	40918	50-yr	3723.7	578.96	571.74	1.62	1.02	11.14	2.98	346.01	2287.81	6	1.59	7.22	7.22
Richland/McKenzie County	D14	RM 25.37	40619	50-yr	3723.7	578.9	571.74	1.63	1.05	11.49	3.31	353.9	2146.15	5.81	1.66	7.16	7.16
Richland/McKenzie County	D14	RM 25.17	40310	50-yr	3723.7	578.8	571.74	1.76	1.2	14.23	4.69	361.09	1777.1	5.32	1.74	7.06	7.06
Richland/McKenzie County	D14	RM 24.99	40008	50-yr	3723.7	578.76	571.74	1.5	1.08	9.7	3.2	384.4	1728.21	6.06	1.99	7.02	7.02
Richland/McKenzie County	D14	RM 24.8	39703	50-yr	3723.7	578.73	571.71	1.34	1.1	8.18	3.1	401.45	1338.87	6.71	2.53	7.02	7.02
Richland/McKenzie County	D14	RM 24.62	39408	50-yr	3723.7	578.61	571.64	1.83	1.41	14.05	4.67	278.78	1276.24	6.31	2.07	6.97	6.97
Richland/McKenzie County	D14	RM 24.45	39139	50-yr	3723.7	578.41	571.64	2.31	1.89	22.04	6.36	239.98	1266.71	6.54	1.87	6.77	6.77
Richland/McKenzie County	D14	RM 24.24	38801	50-yr	3723.7	578.3	571.58	2.29	1.8	21.68	6.46	237.24	1287.89	6.52	1.92	6.72	6.72
Richland/McKenzie County	D14	RM 24.05	38506	50-yr	3723.7	578.23	571.48	2.11	1.76	18.5	5.39	264.93	1337.9	6.5	1.87	6.75	6.75
Richland/McKenzie County	D14	RM 23.87	38210	50-yr	3723.7	578.23	571.28	1.61	1.31	10.56	2.85	334.4	1779.62	6.75	1.81	6.95	6.95
Richland/McKenzie County	D14	RM 23.66	37912	50-yr	3723.7	578.22	571.21	1.3	1.09	7.1	2.18	442.5	1956.58	6.29	1.91	7.01	7.01
Richland/McKenzie County	D14	RM 23.48	37610	50-yr	3723.7	578.19	571.12	1.37	1.07	8.4	2.56	347.97	2266.68	5.47	1.65	7.07	7.07
Richland/McKenzie County	D14	RM 23.29	37312	50-yr	3723.7	578.13	570.86	1.51	1.06	10.38	3.26	313.75	2099.69	5.36	1.67	7.27	7.27
Richland/McKenzie County	D14	RM 23.1	37006	50-yr	3723.7	578.08	570.82	1.51	0.98	10.23	3	254.67	2148.83	6.14	1.77	7.26	7.26
Richland/McKenzie County	D14	RM 22.92	36721	50-yr	3723.7	578.04	570.8	1.57	0.91	10.59	2.89	214.08	2505.51	6.07	1.63	7.24	7.24
Richland/McKenzie County	D14	RM 22.72	36402	50-yr	3723.7	577.93	570.81	1.93	0.95	15.32	3.07	178.19	2950.42	6.74	1.32	7.12	7.12
Richland/McKenzie County	D14	RM 22.54	36108	50-yr	3723.7	577.87	570.76	1.69	0.89	12.13	2.58	276.8	3053.79	6.55	1.38	7.11	7.11
Richland/McKenzie County	D14	RM 22.35	35808	50-yr	3723.7	577.83	570.74	1.58	0.87	10.46	2.23	308.52	3187.07	6.35	1.34	7.09	7.09
Richland/McKenzie County	D14	RM 22.17	35508	50-yr	3723.7	577.79	570.68	1.53	0.83	9.49	1.94	303.06	3212.94	6.91	1.39	7.11	7.11
Richland/McKenzie County	D14	RM 22.02	35264	50-yr	3723.7	577.77	570.68	1.34	0.8	7.22	1.55	354.21	3135.8	6.98	1.48	7.09	7.09
Richland/McKenzie County	D14	RM 21.8	34901	50-yr	3723.7	577.71	570.69	1.45	0.91	9.03	2.11	401.53	3100.95	5.73	1.32	7.02	7.02
Richland/McKenzie County	D14	RM 21.61	34626	50-yr	3723.7	577.66	570.67	1.44	1.01	9.27	2.16	468.94	3100.07	5.15	1.19	6.99	6.99
Richland/McKenzie County	D14	RM 21.34	34140	50-yr	3723.7	577.64	570.67	1.24	0.81	6.46	1.42	289.68	3378.35	6.3	1.36	6.97	6.97
Richland/McKenzie County	D14	RM 21.25	33973	50-yr	3723.7	577.62	570.67	1.44	0.82	8.87	2.06	204.54	3453.53	5.8	1.32	6.95	6.95
Richland/McKenzie County	D14	RM 21.06	33672	50-yr	3723.7	577.61	570.6	1.14	0.64	5.56	1.55	267.5	3553.26	5.92	1.63	7.01	7.01
Richland/McKenzie County	D14	RM 20.9	33400	50-yr	3723.7	577.59	570.58	1.17	0.65	5.98	1.78	251.38	3592.99	5.44	1.6	7.01	7.01
Richland/McKenzie County	D14	RM 20.71	33101	50-yr	3723.7	577.55	570.53	1.38	0.67	8.27	2.22	247.47	3684.9	5.7	1.51	7.02	7.02
Richland/McKenzie County	D14	RM 20.52	32800	50-yr	3723.7	577.51	570.52	1.31	0.64	7.25	1.8	280.27	3852.74	6.11	1.5	6.99	6.99
Richland/McKenzie County	D14	RM 20.34	32500	50-yr	3723.7	577.48	570.52	1.36	0.67	7.79	1.81	256.92	3884.99	6.21	1.43	6.96	6.96
Richland/McKenzie County	D14	RM 20.15	32200	50-yr	3723.7	577.43	570.52	1.48	0.7	10.68	2.29	231.21	3933.43	6.37	1.35	6.91	6.91
Richland/McKenzie County	D14	RM 19.96	31900	50-yr	3723.7	577.25	570.52	2.22	0.86	20.47	3.61	189.46	3878.84	6.43	1.11	6.73	6.73
Richland/McKenzie County	D14	RM 19.77	31600	50-yr	3723.7	577.27	570.5	1.42	0.68	8.41	1.8	332.93	4129.77	6.24	1.33	6.77	6.77
Richland/McKenzie County	D14	RM 19.59	31297	50-yr	3723.7	577.24	570.45	1.33	0.64	7.68	1.76	334.34	4299.41	5.95	1.35	6.79	6.79
Richland/McKenzie County	D14	RM 19.4	30995	50-yr	3723.7	577.2	570.45	1.41	0.61	8.56	2.12	284.81	4344.42	5.76	1.41	6.75	6.75
Richland/McKenzie County	D14	RM 19.21	30710	50-yr	3723.7	577.19	570.38	1.06	0.52	4.66	1.25	380.6	4260.09	6.38	1.69	6.81	6.81
Richland/McKenzie County	D14	RM 19.03	30402	50-yr	3723.7	577.17	570.38	1.06	0.53	4.67	1.31	428.38	4387.19	5.74	1.59	6.79	6.79
Richland/McKenzie County	D14	RM 18.83	30086	50-yr	3723.7	577.15	570.38	1	0.5	4.24	1.4	505.09	4730	4.84	1.58	6.77	6.77
Richland/McKenzie County	D14	RM 18.66	29802	50-yr	3723.7	577.13	570.38	1	0.47	4.61	1.49	455.27	5090.62	4.85	1.54	6.75	6.75

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	50-yr	3723.7	577.09	570.36	1.28	0.53	7.26	1.87	299.05	5174.68	5.39	1.36	6.73	6.73
Richland/McKenzie County	D14	RM 18.28	29197	50-yr	3723.7	577.03	570.36	1.41	0.58	8.61	1.81	299.23	5101.82	6.11	1.27	6.67	6.67
Richland/McKenzie County	D14	RM 17.89	28624	50-yr	3723.7	577	570.33	1	0.55	4.11	0.93	468.41	4597.63	6.55	1.47	6.67	6.67
Richland/McKenzie County	D14	RM 17.56	27975	50-yr	3723.7	576.89	570.29	1.37	0.81	8.26	1.78	460.6	4125.71	5.25	1.12	6.6	6.6
Richland/McKenzie County	D14	RM 17.36	27539	50-yr	3723.7	576.63	570.31	2.24	1.33	21.37	3.52	254.84	2850.86	6.03	0.98	6.32	6.32
Richland/McKenzie County	D14	RM 17.1	27113	50-yr	3723.7	576.55	570.28	1.92	1.2	15.69	2.67	298.39	3095.16	6.04	1.02	6.27	6.27
Richland/McKenzie County	D14	RM 16.74	26537	50-yr	3723.7	576.5	570.14	1.41	0.94	8.34	1.58	406.85	3485.97	6.02	1.14	6.36	6.36
Richland/McKenzie County	D14	RM 16.35	25925	50-yr	3723.7	576.43	569.46	1.37	0.83	7.63	1.41	346.21	3613.74	6.76	1.24	6.97	6.97
Richland/McKenzie County	D14	RM 16.17	25629	50-yr	3723.7	576.41	569.2	1.28	0.79	6.99	1.54	377.41	3353.03	6.73	1.47	7.21	7.21
Richland/McKenzie County	D14	RM 15.95	25324	50-yr	3723.7	576.4	568.99	1.05	0.74	4.37	0.96	457.34	3287.66	7.21	1.57	7.41	7.41
Richland/McKenzie County	D14	RM 15.75	25032	50-yr	3723.7	576.37	568.85	1.15	0.85	5.45	1.33	462.46	2718.07	6.64	1.61	7.52	7.52
Richland/McKenzie County	D14	RM 15.56	24777	50-yr	3723.7	576.22	568.85	1.85	1.38	13.93	2.3	291.53	2469.24	6.73	1.1	7.37	7.37
Richland/McKenzie County	D14	RM 15.34	24438	50-yr	3723.7	576.13	568.79	1.93	1.37	14.95	2.42	261.89	2405.97	7.1	1.13	7.34	7.34
Richland/McKenzie County	D14	RM 15.16	24144	50-yr	3723.7	576.08	568.75	1.89	1.38	14.41	2.76	267.44	2286.1	7.08	1.33	7.33	7.33
Richland/McKenzie County	D14	RM 14.98	23841	50-yr	3723.7	575.99	568.76	1.98	1.41	17.71	3.27	254.68	2671.94	6.98	1.27	7.23	7.23
Richland/McKenzie County	D14	RM 14.79	23543	50-yr	3723.7	575.92	568.72	1.94	1.38	15.57	3.38	286.41	2745.98	6.4	1.36	7.2	7.2
Richland/McKenzie County	D14	RM 14.61	23241	50-yr	3723.7	575.86	568.7	1.9	1.47	14.59	3.76	274.36	2702.55	6.88	1.75	7.16	7.16
Richland/McKenzie County	D14	RM 14.42	22940	50-yr	3723.7	575.84	568.69	1.57	1.25	9.92	2.96	328.42	2688.04	6.95	2.05	7.15	7.15
Richland/McKenzie County	D14	RM 14.23	22647	50-yr	3723.7	575.84	568.67	1.19	0.98	5.74	2	444.61	2697.7	6.81	2.35	7.17	7.17
Richland/McKenzie County	D14	RM 14.05	22341	50-yr	3723.7	575.83	568.68	1.01	0.89	5.85	2.76	601.92	2405.03	5.97	2.81	7.15	7.15
Richland/McKenzie County	D14	RM 13.88	22040	50-yr	3723.7	575.79	568.67	1.08	0.98	5.88	3.85	682.22	1632.58	4.96	3.23	7.12	7.12
Richland/McKenzie County	D14	RM 13.7	21728	50-yr	3723.7	575.7	568.65	1.37	1.26	8.35	4.36	502.19	1372.19	5.31	2.76	7.05	7.05
Richland/McKenzie County	D14	RM 13.51	21429	50-yr	3723.7	575.65	568.63	1.44	1.32	8.6	3.89	409.72	1009.33	6.23	2.8	7.02	7.02
Richland/McKenzie County	D15	RM 13.31	21145	50-yr	3723.7	575.62	568.51	1.29	1.21	7.04	2.97	457.14	1567.65	6.25	2.63	7.11	7.11
Richland/McKenzie County	D15	RM 13.12	20858	50-yr	3723.7	575.54	568.39	1.57	1.46	9.99	4.12	344.8	1693.75	6.84	2.81	7.15	7.15
Richland/McKenzie County	D15	RM 12.9	20507	50-yr	3723.7	575.44	568.39	1.8	1.64	13.25	5.06	303.98	1466.41	6.72	2.55	7.05	7.05
Richland/McKenzie County	D15	RM 12.73	20241	50-yr	3723.7	575.38	568.35	1.82	1.71	13.55	4.76	297.97	1347.06	6.81	2.37	7.03	7.03
Richland/McKenzie County	D15	RM 12.56	19961	50-yr	3723.7	575.36	568.34	1.59	1.44	10.3	3.87	337.44	1427.83	6.85	2.56	7.02	7.02
Richland/McKenzie County	D15	RM 12.38	19686	50-yr	3723.7	575.35	568.23	1.28	1.14	6.73	2.8	425.75	1184.8	6.71	2.76	7.12	7.12
Richland/McKenzie County	D15	RM 12.21	19384	50-yr	3723.7	575.32	568.17	1.26	1.05	6.84	3.22	513.36	1388.16	5.47	2.57	7.15	7.15
Richland/McKenzie County	D15	RM 11.99	19084	50-yr	3723.7	575.29	568.16	1.19	1.01	6.42	2.79	592.13	1762.04	5.11	2.2	7.13	7.13
Richland/McKenzie County	D15	RM 11.53	18484	50-yr	3723.7	575.21	568.11	1.22	0.95	5.48	2.78	693.79	1918.43	4.05	2.04	7.1	7.1
Richland/McKenzie County	D15	RM 11.34	18216	50-yr	3723.7	575.16	568.06	1.11	0.96	20.47	9.8	710.89	1978.43	4.1	1.95	7.1	7.1
Richland/McKenzie County	D15	RM 11.17	17885	50-yr	3723.7	574.92	567.88	1.29	1.2	28.07	14.53	777.3	1711.02	3.52	1.81	7.04	7.04
Richland/McKenzie County	D15	RM 10.97	17584	50-yr	3723.7	574.83	567.8	1.23	1.07	5.71	2.81	780.34	1891.89	3.77	1.85	7.03	7.03
Richland/McKenzie County	D15	RM 10.75	17284	50-yr	3723.7	574.8	567.79	1.12	0.95	4.87	1.97	717.39	2171.24	4.49	1.81	7.01	7.01
Richland/McKenzie County	D15	RM 10.53	16964	50-yr	3723.7	574.74	567.73	1.26	1	6.27	2.5	641.5	2172.38	4.35	1.72	7.01	7.01
Richland/McKenzie County	D15	RM 10.35	16670	50-yr	3723.7	574.69	567.73	1.33	0.96	7.87	2.85	517.24	2223.49	4.89	1.75	6.96	6.96
Richland/McKenzie County	D15	RM 10.15	16384	50-yr	3723.7	574.66	567.73	1.42	0.86	8.26	2.23	251.85	2450.79	6.62	1.77	6.93	6.93
Richland/McKenzie County	D15	RM 9.94	16084	50-yr	3723.7	574.64	567.73	1.12	0.75	5.25	1.45	272.39	2807.2	6.43	1.76	6.91	6.91
Richland/McKenzie County	D15	RM 9.76	15797	50-yr	3723.7	574.59	567.65	1.27	0.79	6.54	1.88	352.04	2766.44	6.05	1.72	6.94	6.94
Richland/McKenzie County	D15	RM 9.57	15487	50-yr	3723.7	574.53	567.58	1.47	0.88	8.87	2.57	245.67	2243.65	6.74	1.93	6.95	6.95
Richland/McKenzie County	D15	RM 9.37	15187	50-yr	3723.7	574.46	567.58	1.71	1.06	12.02	3.48	203.96	1853.64	6.67	1.9	6.88	6.88
Richland/McKenzie County	D15	RM 9.24	14963	50-yr	3723.7	574.2	567.5	2.41	1.85	24.51	6.57	234.33	1330.46	6.23	1.65	6.7	6.7
Richland/McKenzie County	D15	RM 9.1	14741	50-yr	3723.7	574.07	567.39	2.53	2.02	27.45	6.9	231.83	1478.78	6.14	1.53	6.68	6.68
Richland/McKenzie County	D15	RM 9.03	14639	50-yr	3723.7	574.04	567.4	2.46	1.85	25.82	6.97	248.61	1337.97	5.8	1.56	6.64	6.64
Richland/McKenzie County	D15	RM 8.82	14300	50-yr	3723.7	574.09	567.41	1.46	1.11	8.93	2.98	381.12	1792.07	6.21	2.06	6.68	6.68
Richland/McKenzie County	D15	RM 8.61	13963	50-yr	3723.7	574.03	567.39	1.57	1.06	10.37	3.45	313.8	2058.6	6.13	2.02	6.64	6.64
Richland/McKenzie County	D15	RM 8.44	13687	50-yr	3723.7	573.97	567.32	1.73	1.05	12.51	3.76	258.5	2240.86	6.39	1.9	6.65	6.65
Richland/McKenzie County	D15	RM 8.24	13387	50-yr	3723.7	573.88	567.32	1.85	1.17	14.21	7.09	229.73	1065.29	6.41	3.16	6.56	6.56
Richland/McKenzie County	D15	RM 8.05	13080	50-yr	3723.7	573.82	567.05	1.76	1.2	12.83	5.13	266.23	1197.23	6.52	2.59	6.77	6.77
Richland/McKenzie County	D15	RM 7.87	12786	50-yr	3723.7	573.72	567.05	1.96	1.32	16	6.82	229.92	1039.71	6.42	2.72	6.67	6.67
Richland/McKenzie County	D15	RM 7.69	12506	50-yr	3723.7	573.66	567.05	1.85	1.46	14.21	8.85	266.56	642.96	6.39	3.96	6.61	6.61
Richland/McKenzie County	D15	RM 7.48	12179	50-yr	3723.7	573.62	566.95	1.58	1.55	10.26	5.89	361.54	644.55	6.52	3.73	6.67	6.67
Richland/McKenzie County	D16	RM 7.3	11891	50-yr	3723.7	573.53	566.76	1.76	1.7	12.82	5.87	337.01	771.12	6.26	2.85	6.77	6.77
Richland/McKenzie County	D16	RM 7.14	11639	50-yr	3723.7	573.48	566.76	1.78	1.63	13.55	5.99	324.06	880.05	5.89	2.59	6.72	6.72
Richland/McKenzie County	D16	RM 6.94	11319	50-yr	3723.7	573.42	566.76	1.72	1.36	12.21	4.34	297.15	1198.87	6.47	2.28	6.66	6.66
Richland/McKenzie County	D16	RM 6.77	11043	50-yr	3723.7	573.4	566.76	1.48	1.15	9.23	3.68	349.25	1319.41	6.17	2.44	6.64	6.64
Richland/McKenzie County	D16	RM 6.58	10733	50-yr	3723.7	573.36	566.59	1.39	1.03	8.09	3.12	342.3	1489.16	6.4	2.44	6.77	6.77
Richland/McKenzie County	D16	RM 6.38	10417	50-yr	3723.7	573.24	566.59	2.02	1.09	16.94	5.08	182.43	1943.37	6.42	1.89	6.65	6.65
Richland/McKenzie County	D16	RM 6.21	10138	50-yr	3723.7	573.2	566.44	1.78	0.96	13.1	4.25	217.11	1943.95	6.49	2.08	6.76	6.76

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	50-yr	3723.7	573.18	566.17	1.25	0.84	6.56	2.53	412.46	1996.83	6.22	2.38	7.01	7.01
Richland/McKenzie County	D16	RM 5.83	9551	50-yr	3723.7	573.17	565.96	1.05	0.75	4.58	2.08	480.72	2020.26	6.51	2.94	7.21	7.21
Richland/McKenzie County	D16	RM 5.67	9297	50-yr	3723.7	573.15	565.96	1.22	0.8	6.25	3.11	342.29	1843.29	6.4	3.13	7.19	7.19
Richland/McKenzie County	D16	RM 5.43	8926	50-yr	3723.7	573.07	565.96	1.52	0.99	10	4.76	269.78	2268.77	5.79	2.72	7.11	7.11
Richland/McKenzie County	D16	RM 5.25	8623	50-yr	3723.7	572.82	565.96	2.35	1.44	22.72	7.61	206.77	1685.52	6.59	2.18	6.86	6.86
Richland/McKenzie County	D16	RM 5.06	8331	50-yr	3723.7	572.82	565.82	1.76	1.24	12.76	4.41	289.25	1740.39	6.55	2.24	7	7
Richland/McKenzie County	D16	RM 4.87	8029	50-yr	3723.7	572.81	565.67	1.4	1.1	8.27	3.29	335.83	2334.68	6.25	2.46	7.14	7.14
Richland/McKenzie County	D16	RM 4.71	7757	50-yr	3723.7	572.75	565.54	1.63	1.2	10.81	4.45	253.72	1911.82	6.78	2.75	7.21	7.21
Richland/McKenzie County	D16	RM 4.53	7456	50-yr	3723.7	572.62	565.54	2.08	1.42	17.64	8.03	199	2792.4	6.83	3.06	7.08	7.08
Richland/McKenzie County	D16	RM 4.34	7156	50-yr	3723.7	572.56	565.54	1.89	1.4	17.44	10.11	217.62	2907.46	6.66	3.81	7.02	7.02
Richland/McKenzie County	D16	RM 4.17	6884	50-yr	3723.7	572.47	565.54	1.95	1.37	15.59	6.83	226.72	2895.32	6.65	2.87	6.93	6.93
Richland/McKenzie County	D16	RM 3.96	6550	50-yr	3723.7	572.46	565.54	1.56	1.16	9.96	6.13	216.6	3028.99	6.64	4.06	6.92	6.92
Richland/McKenzie County	D16	RM 3.78	6249	50-yr	3723.7	572.4	565.54	1.67	1.16	11.88	6.95	196.52	2798.45	6.07	3.52	6.86	6.86
Richland/McKenzie County	D16	RM 3.55	5904	50-yr	3723.7	572.34	565.54	1.65	1.22	11.17	6.1	206.04	2599.88	6.61	3.58	6.8	6.8
Richland/McKenzie County	D16	RM 3.38	5657	50-yr	3723.7	572.23	565.53	2.03	1.44	17.23	9.44	171.27	2463.01	6.45	3.48	6.7	6.7
Richland/McKenzie County	D16	RM 3.2	5363	50-yr	3723.7	572.14	565.54	2.14	1.59	19.79	9.08	168.06	2688.98	5.72	2.59	6.6	6.6
Richland/McKenzie County	D16	RM 3.01	5062	50-yr	3723.7	572.07	565.54	1.87	1.42	15.07	8.13	310	2490.81	5.9	3.14	6.53	6.53
Richland/McKenzie County	D16	RM 2.82	4763	50-yr	3723.7	572.02	565.46	1.65	1.36	12.24	7.31	423.69	2793.46	5.05	3	6.56	6.56

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	5% - 20yr	1016.7	1281.83	1278.12	2.71	2.29	38.82	20.33	110.15	383.13	3.15	1.63	3.71	3.71
Sweet Grass County	A1	RM 478.10	225378	5% - 20yr	1016.7	1281.35	1277.66	3.4	3.06	67.68	49.46	113.72	288.29	2.3	1.68	3.68	3.68
Sweet Grass County	A1	RM 478.00	224862	5% - 20yr	1016.7	1280.86	1277.97	3.28	3.06	66.08	54.85	137.18	307.17	1.99	1.65	2.89	2.89
Sweet Grass County	A1	RM 477.91	224362	5% - 20yr	1016.7	1280.28	1277.65	3.7	3.07	74.35	50.08	85.82	323.79	2.28	1.53	2.63	2.63
Sweet Grass County	A1	RM 477.81	223862	5% - 20yr	1016.7	1279.92	1276.96	3.15	2.72	43.95	34.01	126.95	294.98	1.89	1.46	2.96	2.96
Sweet Grass County	A1	RM 477.72	223354	5% - 20yr	1016.7	1279.55	1276.32	2.66	2.34	46.44	33.58	183.99	390.03	1.61	1.16	3.23	3.23
Sweet Grass County	A1	RM 477.63	222892	5% - 20yr	1016.7	1279.47	1275.76	1.6	1.48	15.56	11.52	252.05	608.04	2.02	1.49	3.71	3.71
Sweet Grass County	A1	RM 477.49	222220	5% - 20yr	1016.7	1279.28	1276.07	1.71	1.47	16.2	11.04	256.97	767.21	1.77	1.2	3.21	3.21
Sweet Grass County	A1	RM 477.40	221702	5% - 20yr	1016.7	1279.23	1275.47	1.29	0.97	9.47	5.9	242.4	858.88	2.51	1.55	3.76	3.76
Sweet Grass County	A1	RM 477.31	221259	5% - 20yr	1016.7	1278.77	1275.74	2.95	1.79	49.34	17.42	122.29	805.68	2.52	0.88	3.03	3.03
Sweet Grass County	A1	RM 477.21	220767	5% - 20yr	1016.7	1278.58	1275.28	2.64	1.69	38.34	13.15	126.43	816.53	2.77	0.95	3.3	3.3
Sweet Grass County	A1	RM 477.11	220252	5% - 20yr	1016.7	1278.26	1274.86	2.86	1.78	49.29	21.9	147.45	794.46	2.11	0.93	3.39	3.39
Sweet Grass County	A1	RM 477.04	219860	5% - 20yr	1016.7	1277.97	1275.13	2.94	1.74	50.87	22.29	131.95	778.24	2.25	0.98	2.84	2.84
Sweet Grass County	A1	RM 476.95	219422	5% - 20yr	1016.7	1277.44	1274.55	3.29	2.23	68.27	30.71	154.56	729.39	1.82	0.82	2.89	2.89
Sweet Grass County	A1	RM 476.84	218828	5% - 20yr	1016.7	1277.12	1273.95	2.67	1.98	42.67	21	134.66	618.3	2.18	1.06	3.17	3.17
Sweet Grass County	A1	RM 476.75	218345	5% - 20yr	1016.7	1276.84	1273.54	2.55	1.97	35.5	18.2	172.58	719.82	2.12	1.08	3.3	3.3
Sweet Grass County	A1	RM 476.66	217855	5% - 20yr	1016.7	1276.5	1273.45	2.78	1.96	42.43	19.22	160.17	855.54	2.08	0.94	3.05	3.05
Sweet Grass County	A1	RM 476.57	217396	5% - 20yr	1016.7	1276.12	1273.09	3.22	1.97	58.4	24.34	98.93	830.72	2.56	1.06	3.03	3.03
Sweet Grass County	A1	RM 476.47	216861	5% - 20yr	1016.7	1275.75	1273.04	3.03	2.18	54.35	25.51	126.17	656.68	2.19	1.03	2.71	2.71
Sweet Grass County	A1	RM 476.38	216362	5% - 20yr	1016.7	1275.46	1272.1	2.91	1.9	47.39	18.71	105.41	883.74	2.64	1.04	3.36	3.36
Sweet Grass County	A1	RM 476.28	215816	5% - 20yr	1016.7	1274.82	1271.85	3.63	3.2	76.57	47.04	100.31	332.88	2.33	1.42	2.96	2.96
Sweet Grass County	A1	RM 476.15	215126	5% - 20yr	1016.7	1274.27	1271.76	3.11	2.61	59.59	40.97	133.16	324.85	1.96	1.35	2.51	2.51
Sweet Grass County	A1	RM 476.01	214437	5% - 20yr	1016.7	1273.94	1270.96	2.44	2.29	35.01	26.81	151.58	329.84	2.28	1.74	2.99	2.99
Sweet Grass County	A1	RM 475.91	213787	5% - 20yr	1016.7	1273.51	1270.35	2.66	2.5	41.34	35.8	161.89	204.47	2.31	2	3.17	3.17
Sweet Grass County	A1	RM 475.76	213072	5% - 20yr	1016.7	1272.96	1270.22	3	2.46	53.39	32.48	146.41	310.07	2.2	1.33	2.74	2.74
Sweet Grass County	A1	RM 475.63	212347	5% - 20yr	1016.7	1272.71	1269.34	2.3	1.99	30.17	22.08	173.18	284.89	2.46	1.8	3.36	3.36
Sweet Grass County	A1	RM 475.47	211539	5% - 20yr	1016.7	1272.21	1268.97	2.76	2.7	41.5	36.51	144.1	168.23	2.55	2.24	3.24	3.24
Sweet Grass County	A1	RM 475.35	210875	5% - 20yr	1016.7	1271.52	1268.88	3.48	3.36	69.49	50.7	119.85	171.19	2.43	1.77	2.64	2.64
Sweet Grass County	A1	RM 475.24	210333	5% - 20yr	1016.7	1271.54	1267.53	2.32	2.08	27.18	17.42	118.16	305.41	3.61	2.29	4.01	4.01
Sweet Grass County	A2	RM 475.12	209673	5% - 20yr	1016.7	1270.49	1267.9	4.28	3.9	111.53	85.4	113.81	197.61	2.04	1.56	2.59	2.59
Sweet Grass County	A2	RM 475.00	209034	5% - 20yr	1016.7	1269.88	1266.93	3.12	3.12	59.38	59.36	158.98	159.02	2.05	2.05	2.95	2.95
Sweet Grass County	A2	RM 474.87	208359	5% - 20yr	1016.7	1269.7	1266.75	2.35	2.14	30.49	24.21	80.37	239.61	2.83	2.2	2.95	2.95
Sweet Grass County	A2	RM 474.76	207797	5% - 20yr	1016.7	1269.14	1266.42	3.4	2.75	65.68	36.67	77.58	269.2	2.54	1.39	2.73	2.73
Sweet Grass County	A2	RM 474.67	207305	5% - 20yr	1016.7	1268.7	1266.29	3.43	2.89	68.97	47.76	66.54	233.99	2.34	1.58	2.4	2.4
Sweet Grass County	A2	RM 474.54	206635	5% - 20yr	1016.7	1268.41	1264.92	2.53	2.22	35.68	20.9	128.46	293.29	2.67	1.56	3.49	3.49
Sweet Grass County	A2	RM 474.43	205945	5% - 20yr	1016.7	1268.07	1265.16	2.77	2.16	42.48	17.15	89.64	435.19	2.72	1.08	2.91	2.91
Sweet Grass County	A2	RM 474.30	205321	5% - 20yr	1016.7	1267.83	1264.46	2.48	1.72	33.93	14.51	133.13	504.21	2.76	1.17	3.36	3.36
Sweet Grass County	A2	RM 474.21	204877	5% - 20yr	1016.7	1267.36	1264.22	3.27	2.27	58.7	19.84	103.12	483.02	2.77	0.93	3.14	3.14
Sweet Grass County	A2	RM 474.12	204378	5% - 20yr	1016.7	1267.25	1263.24	2.51	1.69	35.38	14.26	140.42	577.64	2.61	1.04	4	4
Sweet Grass County	A2	RM 474.01	203787	5% - 20yr	1016.7	1266.72	1263.55	3.13	2.3	58.35	26.63	138.78	443.84	2.19	0.99	3.17	3.17
Sweet Grass County	A2	RM 473.87	203072	5% - 20yr	1016.7	1266.26	1263.52	3.05	2.25	51.53	17.32	100.42	732.75	2.4	0.8	2.74	2.74
Sweet Grass County	A2	RM 473.74	202395	5% - 20yr	1016.7	1265.98	1263.06	2.5	1.84	35.79	14.49	121.1	729.31	2.46	0.99	2.91	2.91
Sweet Grass County	A2	RM 473.62	201781	5% - 20yr	1016.7	1265.54	1262.63	2.81	1.98	47.7	18.6	150.66	665.74	2.09	0.81	2.92	2.92
Sweet Grass County	A2	RM 473.50	201110	5% - 20yr	1016.7	1265.17	1261.83	2.49	2.05	37.08	17.56	179.13	511.15	2.16	1.01	3.34	3.34
Sweet Grass County	A2	RM 473.36	200362	5% - 20yr	1016.7	1264.9	1261.08	2.38	1.99	30.11	12.11	133.21	469.75	3.08	1.23	3.82	3.82
Sweet Grass County	A2	RM 473.27	199862	5% - 20yr	1016.7	1264.55	1260.81	2.94	2.48	47.24	20.58	117.77	371.74	2.79	1.21	3.74	3.74
Sweet Grass County	A2	RM 473.17	199362	5% - 20yr	1016.7	1264.34	1260.56	2.81	2.57	40.45	17.07	102.94	274.65	3.45	1.44	3.78	3.78
Sweet Grass County	A2	RM 473.08	198879	5% - 20yr	1016.7	1263.9	1260.56	3.41	3.14	63.44	35.51	103.87	205.66	2.83	1.58	3.33	3.33
Sweet Grass County	A2	RM 472.98	198340	5% - 20yr	1016.7	1263.71	1260.21	2.85	2.56	43.92	23.69	120.55	255.49	2.89	1.55	3.51	3.51
Sweet Grass County	A2	RM 472.89	197862	5% - 20yr	1016.7	1263.21	1260.5	3.53	2.77	72.23	38.2	107.95	294.75	2.37	1.25	2.72	2.72
Sweet Grass County	A2	RM 472.79	197362	5% - 20yr	1016.7	1262.94	1259.98	2.92	2.42	49.55	25.96	136.27	343.59	2.33	1.22	2.95	2.95
Sweet Grass County	A2	RM 472.70	196862	5% - 20yr	1016.7	1262.38	1259.35	3.41	2.61	69.69	36.7	125.74	345.51	2.14	1.13	3.03	3.03
Sweet Grass County	A2	RM 472.60	196360	5% - 20yr	1016.7	1262.25	1259.01	2.3	1.91	32	20.37	181.89	406.67	2.05	1.31	3.24	3.24
Sweet Grass County	A2	RM 472.50	195816	5% - 20yr	1016.7	1261.94	1258.53	2.44	1.99	36.1	22.6	177.8	398.76	2.05	1.28	3.41	3.41
Sweet Grass County	A2	RM 472.41	195349	5% - 20yr	1016.7	1261.62	1258.52	2.52	2.19	39.18	28.2	196.56	332.93	1.94	1.4	3.1	3.1
Sweet Grass County	A2	RM 472.31	194860	5% - 20yr	1016.7	1261.41	1258.34	2.38	1.89	31.55	17.86	149.41	367.22	2.64	1.49	3.08	3.08
Sweet Grass County	A2	RM 472.22	194356	5% - 20yr	1016.7	1261.25	1257.3	2.44	1.78	29.4	12.45	115.58	439.57	3.13	1.3	3.95	3.95
Sweet Grass County	A2	RM 472.09	193660	5% - 20yr	1016.7	1260.4	1257.45	3.92	3.08	87.8	35.32	92.61	331.68	2.55	1	2.95	2.95
Sweet Grass County	A2	RM 471.95	192935	5% - 20yr	1016.7	1260.39	1256.05	2.4	1.64	29.21	12.07	103.53	425.91	3.59	1.46	4.34	4.34
Sweet Grass County	A2	RM 471.86	192442	5% - 20yr	1016.7	1259.84	1256.23	3.63	2.44	69.91	30.94	76.65	307.01	3.14	1.36	3.6	3.6
Sweet Grass County	A2	RM 471.75	191870	5% - 20yr	1016.7	1259.71	1256.47	2.57	1.92	36.43	18.48	134.52	405.72	2.7	1.37	3.25	3.25

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	5% - 20yr	1016.7	1258.93	1256.54	3.8	3.04	87.68	43.56	124.48	328.23	2.05	1.02	2.39	2.39
Sweet Grass County	A2	RM 471.52	190686	5% - 20yr	1016.7	1258.73	1255.75	2.59	1.81	37.7	13.41	127.76	639.39	2.61	0.92	2.98	2.98
Sweet Grass County	A2	RM 471.38	189910	5% - 20yr	1016.7	1258.03	1255.44	3.19	2.34	66.86	29.91	150.19	608.78	1.6	0.71	2.59	2.59
Sweet Grass County	A2	RM 471.28	189362	5% - 20yr	1016.7	1257.47	1254.65	2.49	2.1	43.41	26.69	228.65	586.15	1.34	0.83	2.82	2.82
Sweet Grass County	A2	RM 471.18	188875	5% - 20yr	1016.7	1257.09	1254.2	2.58	2.03	35.84	21.97	155.48	477.23	1.71	1.05	2.89	2.89
Sweet Grass County	A2	RM 471.06	188150	5% - 20yr	1016.7	1256.72	1253.95	2.3	1.57	33.42	18.28	140.6	653.1	1.81	0.99	2.77	2.77
Sweet Grass County	A2	RM 470.94	187526	5% - 20yr	1016.7	1256.3	1253.58	2.68	1.96	40.16	18.71	108.66	551.6	2.16	1	2.72	2.72
Sweet Grass County	A2	RM 470.84	186938	5% - 20yr	1016.7	1256.01	1252.88	2.41	1.78	36.13	21.08	157.2	571.83	1.93	1.12	3.13	3.13
Sweet Grass County	A2	RM 470.73	186362	5% - 20yr	1016.7	1255.83	1253.49	1.75	1.61	19.77	14.89	189.13	536.3	1.7	1.28	2.77	2.77
Sweet Grass County	A2	RM 470.65	185977	5% - 20yr	1016.7	1255.57	1252.18	2.2	1.85	28.75	15.6	202.91	600.98	2.19	1.18	3.39	3.39
Sweet Grass County	A2	RM 470.56	185491	5% - 20yr	1016.7	1255.41	1252.52	2.09	1.69	25.51	14.2	189.32	638.26	2.3	1.27	2.9	2.9
Sweet Grass County	A2	RM 470.44	184875	5% - 20yr	1016.7	1255.3	1251.39	1.84	1.43	17.78	9.74	158.35	411.36	3.18	1.72	3.91	3.91
Sweet Grass County	A2	RM 470.35	184363	5% - 20yr	1016.7	1254.34	1251.52	4.11	3.68	101.4	57.25	113.84	230.31	2.13	1.2	2.82	2.82
Sweet Grass County	A2	RM 470.23	183828	5% - 20yr	1016.7	1254.11	1251.51	2.77	2.42	47.59	30.66	180.8	336.23	1.93	1.25	2.6	2.6
Sweet Grass County	A2	RM 470.13	183304	5% - 20yr	1016.7	1253.84	1249.86	2.46	2.18	36.45	28.29	162.28	287.23	2.11	1.63	3.98	3.98
Sweet Grass County	A2	RM 470.05	182914	5% - 20yr	1016.7	1253.72	1250.59	2.1	1.88	26.31	20.75	175.23	315.95	2.16	1.71	3.12	3.12
Sweet Grass County	A2	RM 469.93	182267	5% - 20yr	1016.7	1252.94	1249.62	3.5	3.13	69.68	38.76	105.63	234.99	2.5	1.38	3.32	3.32
Sweet Grass County	A2	RM 469.85	181860	5% - 20yr	1016.7	1252.55	1249.59	3.64	2.94	74.69	32.37	96.24	312.11	2.58	1.11	2.96	2.96
Sweet Grass County	A2	RM 469.75	181348	5% - 20yr	1016.7	1252.52	1248.77	2.4	1.9	31.14	13.81	116.21	410.67	2.96	1.3	3.76	3.76
Sweet Grass County	A2	RM 469.68	180952	5% - 20yr	1016.7	1252.22	1249.31	2.81	2.15	44.68	19.16	135.73	442.8	2.5	1.07	2.91	2.91
Sweet Grass County	A2	RM 469.58	180427	5% - 20yr	1016.7	1252.19	1247.94	2.02	1.5	20.88	10.39	130.56	392.91	3.49	1.72	4.25	4.25
Sweet Grass County	A2	RM 469.47	179860	5% - 20yr	1016.7	1251.85	1247.85	2.84	1.95	39.86	17.23	93.72	363.73	3.36	1.43	4	4
Sweet Grass County	A2	RM 469.39	179400	5% - 20yr	1016.7	1251.53	1248.45	3.12	2.4	55.41	30.9	118.53	304.91	2.5	1.39	3.08	3.08
Sweet Grass County	A2	RM 469.30	178975	5% - 20yr	1016.7	1251.49	1247.55	2.41	1.83	29.89	15.21	106.16	319.11	3.48	1.74	3.94	3.94
Sweet Grass County	A2	RM 469.21	178467	5% - 20yr	1016.7	1250.86	1248.31	3.67	2.82	78.69	34.41	107.26	363.26	2.28	0.99	2.55	2.55
Sweet Grass County	A2	RM 469.09	177862	5% - 20yr	1016.7	1250.6	1247.12	2.15	1.55	26.56	14.03	118.23	518.07	2.4	1.27	3.48	3.48
Sweet Grass County	A2	RM 469.00	177350	5% - 20yr	1016.7	1249.96	1247.58	3.6	2.5	79.01	33.2	89.39	482.54	2.02	0.84	2.38	2.38
Sweet Grass County	A2	RM 468.90	176865	5% - 20yr	1016.7	1249.56	1246.48	2.42	1.93	30.5	15.9	157.69	488.08	2.08	1.08	3.08	3.08
Sweet Grass County	A2	RM 468.80	176341	5% - 20yr	1016.7	1249.28	1246.11	2.57	2.03	38.96	18.94	136.31	464.32	2.26	1.09	3.16	3.16
Sweet Grass County	A2	RM 468.71	175823	5% - 20yr	1016.7	1248.91	1246.41	2.72	2.32	47.3	28.63	146.73	474.33	1.76	1.06	2.5	2.5
Sweet Grass County	A2	RM 468.57	175192	5% - 20yr	1016.7	1248.73	1245.17	1.87	1.55	20.62	11.61	178.26	719.37	2.29	1.28	3.56	3.56
Sweet Grass County	A2	RM 468.42	174099	5% - 20yr	1016.7	1248.05	1244.97	2.76	2.3	46.23	28.95	168.48	472.46	2.06	1.29	3.09	3.09
Sweet Grass County	A3	RM 468.25	173324	5% - 20yr	1016.7	1247.89	1242.97	2.08	1.51	22.24	9.83	129.09	558.79	3.46	1.51	4.92	4.92
Sweet Grass County	A3	RM 468.16	172855	5% - 20yr	1016.7	1247.71	1243.58	2.44	1.71	32.18	15.91	119.05	576.4	2.93	1.44	4.13	4.13
Sweet Grass County	A3	RM 468.07	172364	5% - 20yr	1016.7	1247.67	1243.89	1.88	1.4	19.05	10.29	136.65	658.31	2.93	1.58	3.78	3.78
Sweet Grass County	A3	RM 467.97	171839	5% - 20yr	1016.7	1246.79	1244.32	4.25	3.22	111.87	55.52	92.44	455.21	1.97	0.96	2.47	2.47
Sweet Grass County	A3	RM 467.87	171312	5% - 20yr	1016.7	1246.65	1243.46	2.41	2.16	33.8	21.83	159.56	496.19	2.35	1.52	3.18	3.18
Sweet Grass County	A3	RM 467.78	170840	5% - 20yr	1016.7	1246.14	1243.74	3.3	2.81	66.13	39.45	100.58	298.15	2.04	1.21	2.4	2.4
Sweet Grass County	A3	RM 467.69	170376	5% - 20yr	1016.7	1245.87	1242.96	2.74	2.3	44.22	25.08	115.51	369.68	2.25	1.26	2.91	2.91
Sweet Grass County	A3	RM 467.55	169614	5% - 20yr	1016.7	1245.48	1242.1	2.32	2	33.14	22.68	133.88	400.2	1.96	1.33	3.38	3.38
Sweet Grass County	A3	RM 467.41	168870	5% - 20yr	1016.7	1245.3	1241.15	1.96	1.35	20.41	8.94	133.26	659.08	3.08	1.34	4.15	4.15
Sweet Grass County	A3	RM 467.30	168362	5% - 20yr	1016.7	1244.65	1242.15	3.74	2.39	81.34	26.51	90.56	574.56	2.36	0.76	2.5	2.5
Sweet Grass County	A3	RM 467.16	167641	5% - 20yr	1016.7	1244.35	1240.78	2.11	1.4	25.28	9.58	159.04	827.24	2.5	0.94	3.57	3.57
Sweet Grass County	A3	RM 467.00	166780	5% - 20yr	1016.7	1243.86	1240.48	2.72	1.75	44.07	16.41	141.03	802.52	2.18	0.8	3.38	3.38
Sweet Grass County	A3	RM 466.83	165902	5% - 20yr	1016.7	1243.39	1239.84	2.72	1.68	40.67	14.84	111.13	633.66	2.77	1	3.55	3.55
Sweet Grass County	A3	RM 466.73	165364	5% - 20yr	1016.7	1243.11	1239.81	2.77	1.85	42.46	14.95	115.43	581.42	2.73	0.96	3.3	3.3
Sweet Grass County	A3	RM 466.64	164858	5% - 20yr	1016.7	1242.6	1239.36	3.48	2.44	61.72	21.33	100.5	556.2	2.43	0.83	3.23	3.23
Sweet Grass County	A3	RM 466.49	164108	5% - 20yr	1016.7	1242.22	1239.67	2.82	1.77	46.27	21.52	107.44	635.16	2.31	1.08	2.55	2.55
Sweet Grass County	A3	RM 466.25	162845	5% - 20yr	1016.7	1240.97	1238.71	3.62	2.76	78.22	29.45	78.03	451.19	2.25	0.82	2.26	2.26
Sweet Grass County	A3	RM 465.79	160351	5% - 20yr	1016.7	1239.91	1236.48	2.22	1.2	27.55	10.7	110.96	837.42	2.68	1.01	3.43	3.43
Sweet Grass County	A3	RM 465.01	155919	5% - 20yr	1016.7	1237.71	1234.44	3.13	2.63	56.11	27.81	129.45	341.42	2.42	1.2	3.27	3.27
Sweet Grass County	A3	RM 464.68	154254	5% - 20yr	1016.7	1236.72	1233.35	2.61	2.16	40.47	20.13	171.59	460.34	2.16	1.07	3.38	3.38
Sweet Grass County	A3	RM 464.48	153160	5% - 20yr	1016.7	1236.18	1232.71	2.34	1.82	33.18	17.48	183.52	542.15	2.08	1.09	3.47	3.47
Sweet Grass County	A3	RM 464.33	152378	5% - 20yr	1016.7	1235.78	1232.61	2.36	1.77	33.22	16.52	183.37	544.32	2.14	1.06	3.17	3.17
Sweet Grass County	A3	RM 464.16	151621	5% - 20yr	1016.7	1235.37	1232.45	2.48	1.79	36.97	16.94	166.91	603.62	2.09	0.95	2.92	2.92
Sweet Grass County	A3	RM 464.04	150961	5% - 20yr	1016.7	1235.15	1231.48	2.32	1.52	28.25	12.68	118.42	528.51	3.17	1.41	3.67	3.67
Sweet Grass County	A3	RM 463.88	150174	5% - 20yr	1016.7	1234.47	1231.85	3.3	2.56	66.09	35.24	136.95	446.54	2.04	1.08	2.62	2.62
Sweet Grass County	A3	RM 463.78	149616	5% - 20yr	1016.7	1234.15	1230.54	2.74	2.21	44.01	29.59	149.53	430.48	2.29	1.54	3.61	3.61
Sweet Grass County	A3	RM 463.67	149069	5% - 20yr	1016.7	1233.82	1230.86	2.78	2	45.49	28.39	136.34	489.3	2.27	1.41	2.96	2.96
Sweet Grass County	A3	RM 463.59	148630	5% - 20yr	1016.7	1233.62	1230.39	2.57	1.81	36.34	22.34	137.49	849.74	2.57	1.58	3.23	3.23
Sweet Grass County	A3	RM 463.49	148111	5% - 20yr	1016.7	1232.84	1229.73	3.79	3.04	85.78	41.31	120.06	770.82	2.14	1.03	3.11	3.11

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	5% - 20yr	1016.7	1232.42	1229.72	2.53	1.87	39.98	22.41	179.27	1149.83	1.89	1.06	2.71	2.71
Sweet Grass County	A3	RM 463.20	146616	5% - 20yr	1016.7	1232.02	1228.95	2.38	1.66	35.59	19.37	122.31	1454.16	1.87	1	3.07	3.07
Sweet Grass County	A3	RM 463.06	145881	5% - 20yr	1016.7	1231.74	1228.89	1.9	1.11	22.59	12.86	147.76	1511.02	1.87	1.06	2.85	2.85
Sweet Grass County	A4	RM 462.79	144435	5% - 20yr	1016.7	1231.6	1228.25	1.17	0.66	7.62	4.78	133.61	1421.63	2.64	1.63	3.35	3.35
Sweet Grass County	A4	RM 462.16	141146	5% - 20yr	1016.7	1229.32	1226.15	3.26	2.18	62.88	25.98	106.85	578.13	2.26	0.92	3.17	3.17
Sweet Grass County	A4	RM 461.97	140135	5% - 20yr	1016.7	1228.8	1226.06	2.44	1.49	36.55	20.35	120.82	732.14	1.99	1.11	2.74	2.74
Sweet Grass County	A4	RM 461.71	138705	5% - 20yr	1016.7	1227.24	1224.75	3.73	3.11	90.04	59.25	100.54	343.77	1.69	1.11	2.49	2.49
Sweet Grass County	A4	RM 461.52	137683	5% - 20yr	1016.7	1226.8	1222.31	2.31	1.73	27.14	9.1	84.02	545.71	3.69	1.18	4.49	4.49
Sweet Grass County	A4	RM 461.33	136718	5% - 20yr	1016.7	1226.57	1223.38	2.04	1.54	24.18	13.8	124.34	693.62	2.36	1.34	3.19	3.19
Sweet Grass County	A4	RM 461.14	135736	5% - 20yr	1016.7	1225.82	1222.44	3.1	2.28	53.94	20.45	116.97	481.72	2.61	0.98	3.38	3.38
Sweet Grass County	A4	RM 460.99	134951	5% - 20yr	1016.7	1225.38	1221.98	2.92	2.25	47.41	20.46	121.6	390.92	2.69	1.15	3.39	3.39
Sweet Grass County	A4	RM 460.85	134214	5% - 20yr	1016.7	1224.23	1222.07	4.08	3.91	101.33	76.33	135.79	189.33	1.83	1.37	2.16	2.16
Sweet Grass County	A4	RM 460.74	133616	5% - 20yr	1016.7	1223.98	1220.27	2.75	2.58	40.62	23.41	121.59	228.95	3.01	1.72	3.71	3.71
Sweet Grass County	A4	RM 460.63	133067	5% - 20yr	1016.7	1223.98	1218.9	2.04	1.95	19.33	7.76	105.04	280.87	4.73	1.85	5.08	5.08
Sweet Grass County	A4	RM 460.50	132281	5% - 20yr	1016.7	1223.44	1221.12	3.28	2.66	67.99	37.9	151.32	406.36	1.8	1.01	2.32	2.32
Sweet Grass County	A4	RM 460.38	131785	5% - 20yr	1016.7	1223.18	1220.5	2.52	2.04	36.48	18.12	139.17	513.53	1.96	0.97	2.68	2.68
Sweet Grass County	A4	RM 460.29	131287	5% - 20yr	1016.7	1222.78	1219.97	2.73	2.48	45.65	24.1	135.01	389.75	2	1.05	2.81	2.81
Sweet Grass County	A4	RM 460.19	130793	5% - 20yr	1016.7	1222.56	1219.38	2.47	2.14	34.97	22.65	118.6	334.01	2.45	1.59	3.17	3.17
Sweet Grass County	A4	RM 460.08	130210	5% - 20yr	1016.7	1222.17	1218.23	2.71	2.58	40.11	23.86	132.3	240.67	2.82	1.67	3.95	3.95
Sweet Grass County	A4	RM 459.99	129763	5% - 20yr	1016.7	1221.85	1218.01	3.05	2.91	50.01	30.19	110.7	209.11	2.99	1.8	3.83	3.83
Sweet Grass County	A4	RM 459.90	129246	5% - 20yr	1016.7	1221.68	1217.62	2.77	2.59	39.33	26.76	106.75	247.2	3.4	2.31	4.06	4.06
Sweet Grass County	A4	RM 459.81	128792	5% - 20yr	1016.7	1220.97	1218.15	3.94	3.85	87.08	69.54	99.73	191.18	2.58	2.06	2.82	2.82
Sweet Grass County	A4	RM 459.72	128310	5% - 20yr	1113	1220.89	1217.31	2.93	2.5	46.81	27.24	127.21	312.2	2.85	1.65	3.58	3.58
Sweet Grass County	A4	RM 459.62	127798	5% - 20yr	1113	1220.64	1217.46	2.89	2.43	47.16	27.81	128.42	305.06	2.54	1.5	3.18	3.18
Sweet Grass County	A5	RM 459.53	127324	5% - 20yr	1113	1219.97	1217.26	3.55	3.52	76.75	68.55	156.16	176.33	2.01	1.79	2.7	2.7
Sweet Grass County	A5	RM 459.44	126881	5% - 20yr	1113	1219.75	1216.93	2.78	2.72	46.1	39.59	184.62	220.53	2.16	1.85	2.82	2.82
Sweet Grass County	A5	RM 459.31	126192	5% - 20yr	1113	1219.33	1215.66	2.78	2.64	43.68	34.85	153.23	355.08	2.58	2.06	3.67	3.67
Sweet Grass County	A5	RM 459.24	125848	5% - 20yr	1113	1219.02	1215.69	3.08	2.91	54.34	42.43	145.56	457.2	2.46	1.92	3.33	3.33
Sweet Grass County	A5	RM 459.16	125420	5% - 20yr	1113	1218.42	1215.82	3.59	3.59	79.51	78.95	158.87	194.22	1.95	1.94	2.6	2.6
Sweet Grass County	A5	RM 459.02	124624	5% - 20yr	1113	1218.12	1214.8	2.37	2.31	32.74	25.3	200.81	429.39	2.33	1.8	3.32	3.32
Sweet Grass County	A5	RM 458.79	123371	5% - 20yr	1113	1217.26	1214.02	3.01	2.96	51.71	38.04	150.32	208.61	2.46	1.8	3.24	3.24
Sweet Grass County	A5	RM 458.48	121727	5% - 20yr	1113	1216.18	1213.35	2.59	2.5	42.83	40.02	164.31	286.76	1.77	1.65	2.83	2.83
Sweet Grass County	A5	RM 458.36	121100	5% - 20yr	1113	1215.09	1212.73	3.99	3.6	99.74	73.27	114.99	227.24	1.85	1.36	2.36	2.36
Sweet Grass County	A5	RM 458.25	120543	5% - 20yr	1113	1214.94	1211.35	2.49	2.13	33.9	23.41	122.03	269.52	2.82	1.94	3.59	3.59
Sweet Grass County	A5	RM 458.13	119849	5% - 20yr	1113	1214.62	1211.21	2.57	2.31	37.18	29.21	130.92	235.66	2.62	2.05	3.41	3.41
Sweet Grass County	A5	RM 458.03	119256	5% - 20yr	1113	1214.45	1210.09	2.34	2.12	27.85	18.69	122.91	220.4	3.56	2.38	4.36	4.36
Sweet Grass County	A5	RM 457.87	118444	5% - 20yr	1113	1214.18	1209.57	2.52	2.47	30.59	26.04	104.9	126.52	4.19	3.57	4.62	4.62
Sweet Grass County	A5	RM 457.76	117858	5% - 20yr	1113	1213.96	1210.24	2.7	2.67	39.04	34.14	137.04	159.15	3	2.62	3.72	3.72
Sweet Grass County	A5	RM 457.66	117350	5% - 20yr	1113	1213.67	1210.03	2.88	2.82	44.99	38.37	132.62	159.49	2.9	2.47	3.65	3.65
Sweet Grass County	A5	RM 457.54	116694	5% - 20yr	1113	1213.28	1209.93	3.04	2.89	50.7	38.19	131.05	194.75	2.77	2.08	3.35	3.35
Sweet Grass County	A5	RM 457.35	115703	5% - 20yr	1113	1211.94	1209.69	4.04	4.04	103.86	103.86	155.04	155.04	1.78	1.78	2.25	2.25
Sweet Grass County	A5	RM 457.20	114921	5% - 20yr	1113	1211.74	1208.7	2.34	2.34	31.37	31.37	196.38	196.38	2.42	2.42	3.04	3.04
Sweet Grass County	A5	RM 457.02	113974	5% - 20yr	1113	1211.06	1208.04	3.21	2.7	57.99	30.91	103.04	298.61	2.6	1.38	3.01	3.01
Sweet Grass County	A5	RM 456.84	113009	5% - 20yr	1113	1210.61	1206.55	2.78	2.7	40.1	28.04	120.66	178.53	3.31	2.3	4.05	4.05
Sweet Grass County	A5	RM 456.68	112164	5% - 20yr	1113	1209.88	1206.59	3.56	3.53	69.9	61.85	113.81	130.03	2.74	2.43	3.29	3.29
Sweet Grass County	A5	RM 456.55	111455	5% - 20yr	1113	1209.59	1206.19	2.84	2.82	44.65	42.7	146.15	153.89	2.68	2.57	3.4	3.4
Sweet Grass County	A5	RM 456.43	110857	5% - 20yr	1113	1209.31	1205.33	2.89	2.81	42.74	30.57	110.87	160.44	3.46	2.47	3.97	3.97
Sweet Grass County	A6	RM 456.29	110121	5% - 20yr	1113	1208.83	1205.45	3.25	3.14	53.49	41.98	118.64	157.68	2.87	2.25	3.38	3.38
Sweet Grass County	A6	RM 456.18	109508	5% - 20yr	1113	1208.4	1205.45	3.29	3.27	62.09	57.36	139.71	152.09	2.42	2.24	2.95	2.95
Sweet Grass County	A6	RM 456.03	108721	5% - 20yr	1113	1207.88	1204.59	2.91	2.83	50.5	40.52	176.21	227.05	2.16	1.73	3.29	3.29
Sweet Grass County	A6	RM 455.84	107742	5% - 20yr	1113	1207.46	1204.05	2.42	2.26	31.4	22.55	183.51	307.06	2.47	1.77	3.42	3.42
Sweet Grass County	A6	RM 455.70	106976	5% - 20yr	1113	1207.18	1203.14	2.47	2.46	30.56	27.47	143.12	328.39	3.15	2.83	4.04	4.04
Sweet Grass County	A6	RM 455.56	106256	5% - 20yr	1113	1206.7	1203.35	3.1	2.98	49.78	33.63	119.56	321.21	2.97	2	3.35	3.35
Sweet Grass County	A6	RM 455.39	105360	5% - 20yr	1113	1206.48	1202.74	2.39	2.23	30.41	22.4	151.06	313.94	3.02	2.22	3.74	3.74
Sweet Grass County	A6	RM 455.26	104667	5% - 20yr	1113	1205.4	1202.83	4.22	3.88	106.56	70.23	123.67	226.13	2.1	1.38	2.56	2.56
Sweet Grass County	A6	RM 455.09	103771	5% - 20yr	1113	1205.14	1201.58	2.29	2.06	28.26	18.06	159.04	287.65	2.96	1.88	3.55	3.55
Sweet Grass County	A6	RM 454.95	103072	5% - 20yr	1113	1204.48	1201.94	3.25	3.12	67.44	62.62	179.65	219.14	1.75	1.63	2.54	2.54
Sweet Grass County	A6	RM 454.82	102364	5% - 20yr	1113	1204.08	1200.61	2.47	2.35	36.86	33.08	178.59	244.96	2.16	1.93	3.47	3.47
Sweet Grass County	A6	RM 454.72	101863	5% - 20yr	1113	1203.54	1200.47	3.07	3.07	52.07	52.05	185.37	185.41	1.95	1.95	3.07	3.07
Sweet Grass County	A6	RM 454.64	101419	5% - 20yr	1113	1203.38	1199.69	2.5	2.49	34.3	33.01	189.12	196.76	2.36	2.27	3.69	3.69
Sweet Grass County	A6	RM 454.53	100846	5% - 20yr	1113	1202.91	1199.59	3.1	2.99	50.63	36.63	120.59	176.29	2.92	2.11	3.33	3.33

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	5% - 20yr	1113	1202.65	1199	3.09	2.97	51.2	39.06	115.8	161.45	3.04	2.32	3.65	3.65
Sweet Grass County	A6	RM 454.29	99597	5% - 20yr	1113	1202.33	1198.71	2.91	2.64	44.64	31.78	114.12	187.93	3.17	2.24	3.62	3.62
Sweet Grass County	A6	RM 454.15	98861	5% - 20yr	1113	1201.99	1198.68	2.86	2.78	42.49	32.88	136.69	183.27	2.83	2.19	3.32	3.32
Sweet Grass County	A6	RM 454.00	98105	5% - 20yr	1113	1201.6	1198.53	2.81	2.81	39.96	39.9	195.05	195.27	2.03	2.03	3.06	3.06
Sweet Grass County	A6	RM 453.89	97523	5% - 20yr	1113	1201.22	1198.31	2.85	2.78	44.93	42.24	179.76	200.07	2.13	2	2.91	2.91
Sweet Grass County	A6	RM 453.78	96929	5% - 20yr	1113	1201.07	1197.07	2.32	2.28	28.26	21.45	153.06	205.76	3.13	2.37	4	4
Sweet Grass County	A6	RM 453.67	96361	5% - 20yr	1113	1200.63	1197.77	3.04	2.73	52.1	33.52	151.58	273.34	2.32	1.49	2.86	2.86
Sweet Grass County	A6	RM 453.58	95863	5% - 20yr	1113	1200.58	1196.37	2.21	2.2	24.48	23.81	182.6	188.88	3.23	3.15	4.21	4.21
Sweet Grass County	A6	RM 453.48	95355	5% - 20yr	1113	1199.97	1196.86	3.5	3.47	65.73	60.35	118.04	129.93	2.69	2.47	3.11	3.11
Sweet Grass County	A6	RM 453.35	94633	5% - 20yr	1113	1199.43	1196.43	3.4	3.34	63.08	54.84	133.91	196.07	2.43	2.12	2.99	2.99
Sweet Grass County	A7	RM 453.23	93994	5% - 20yr	1113	1199.01	1196.41	3.13	2.91	54.4	49	112.96	200.53	2.12	1.9	2.6	2.6
Sweet Grass County	A7	RM 453.11	93361	5% - 20yr	1113	1198.77	1195.68	2.43	2.39	28.07	27.24	216.98	234.45	2.05	1.99	3.09	3.09
Sweet Grass County	A7	RM 453.01	92863	5% - 20yr	1113	1198.27	1195.38	3.18	3.06	50.25	46.27	163.03	196.55	2.01	1.85	2.89	2.89
Sweet Grass County	A7	RM 452.91	92363	5% - 20yr	1113	1198.14	1194.85	2.62	2.3	34.93	22.09	117.27	298.46	2.59	1.63	3.29	3.29
Sweet Grass County	A7	RM 452.82	91863	5% - 20yr	1113	1197.89	1194.65	2.61	2.47	37.58	34.05	111.14	181.66	2.73	2.48	3.24	3.24
Sweet Grass County	A7	RM 452.72	91363	5% - 20yr	1113	1197.83	1193.29	2.08	2.01	21.49	17.96	144.32	178.94	3.7	3.09	4.54	4.54
Sweet Grass County	A7	RM 452.64	90932	5% - 20yr	1113	1197.59	1194.02	2.64	2.19	37.35	26.3	133.5	280.06	2.96	2.09	3.57	3.57
Sweet Grass County	A7	RM 452.53	90362	5% - 20yr	1113	1197.12	1193.87	3.25	2.98	55.66	42.16	116.37	180.33	2.74	2.07	3.26	3.26
Sweet Grass County	A7	RM 452.43	89864	5% - 20yr	1113	1196.81	1193.52	3.27	3	56.15	39.53	111.11	186.09	2.84	2	3.28	3.28
Sweet Grass County	A7	RM 452.33	89331	5% - 20yr	1113	1196.51	1193.16	3.1	2.95	49.6	37.63	134.45	189.21	2.63	2	3.35	3.35
Sweet Grass County	A7	RM 452.25	88863	5% - 20yr	1113	1196.25	1192.91	3.03	2.91	48.15	36.27	138.6	193.01	2.63	1.98	3.34	3.34
Sweet Grass County	A7	RM 452.16	88399	5% - 20yr	1113	1195.93	1192.68	3.22	2.73	54.74	32.47	119.78	247.22	2.78	1.65	3.25	3.25
Sweet Grass County	A7	RM 452.06	87882	5% - 20yr	1113	1195.69	1192.4	2.98	2.56	47.53	29.68	120.26	234.59	2.97	1.85	3.29	3.29
Sweet Grass County	A7	RM 451.96	87394	5% - 20yr	1113	1195.39	1191.9	3.09	2.62	52.98	29.79	125.87	281.04	2.69	1.51	3.49	3.49
Sweet Grass County	A7	RM 451.86	86835	5% - 20yr	1113	1195.16	1191.79	2.86	2.34	42	27.59	122.39	250.07	2.9	1.9	3.37	3.37
Sweet Grass County	A7	RM 451.75	86230	5% - 20yr	1113	1194.85	1191.43	2.84	2.84	42.26	42.26	132.81	132.81	2.95	2.95	3.42	3.42
Sweet Grass County	A7	RM 451.61	85483	5% - 20yr	1113	1194.56	1190.7	2.66	2.66	38.89	38.56	152.65	153.87	2.74	2.72	3.85	3.85
Sweet Grass County	A7	RM 451.49	84861	5% - 20yr	1113	1193.96	1191.07	3.4	3.24	60.42	53.36	126.46	152.7	2.54	2.25	2.9	2.9
Sweet Grass County	A7	RM 451.34	84113	5% - 20yr	1113	1193.91	1190.06	2.19	2.16	24.76	21.25	150.96	181.49	3.36	2.88	3.85	3.85
Sweet Grass County	A7	RM 451.20	83363	5% - 20yr	1113	1193.24	1189.8	3.44	3.42	62.45	57.69	103.86	123.35	3.12	2.88	3.45	3.45
Sweet Grass County	A7	RM 451.10	82863	5% - 20yr	1113	1193.1	1189.79	2.87	2.85	44.23	40.68	133.83	146.83	2.89	2.66	3.31	3.31
Sweet Grass County	A7	RM 451.00	82325	5% - 20yr	1113	1192.93	1189.55	2.63	2.45	37.53	31.09	118.3	190.81	2.88	2.38	3.38	3.38
Sweet Grass County	A7	RM 450.86	81602	5% - 20yr	1113	1192.74	1188.29	2.19	1.97	47.17	27.27	90.13	231.33	4.35	2.44	4.44	4.44
Sweet Grass County	A7	RM 450.73	80923	5% - 20yr	1113	1191.74	1188.46	3.97	3.66	86.53	64.71	94.53	144.23	2.84	2.11	3.28	3.28
Sweet Grass County	A7	RM 450.63	80374	5% - 20yr	1113	1191.47	1188.16	3.21	3.16	57.9	49.55	134.63	160.17	2.57	2.2	3.31	3.31
Sweet Grass County	A7	RM 450.53	79863	5% - 20yr	1113	1191.23	1187.88	2.88	2.85	43.49	36.3	150.46	182.31	2.56	2.14	3.35	3.35
Sweet Grass County	A7	RM 450.43	79300	5% - 20yr	1113	1190.97	1187.72	2.79	2.61	39.93	34.53	133.14	203.48	2.43	2.1	3.25	3.25
Sweet Grass County	A7	RM 450.34	78849	5% - 20yr	1172.5	1190.66	1188.05	2.93	2.72	49.08	42.31	125.38	224.78	2.23	1.92	2.61	2.61
Sweet Grass County	A7	RM 450.23	78298	5% - 20yr	1172.5	1190.55	1186.92	2.09	1.94	22.83	12.63	203.19	401.88	2.73	1.51	3.63	3.63
Sweet Grass County	A7	RM 450.14	77822	5% - 20yr	1172.5	1190.26	1186.4	2.64	2.34	38.15	18.87	152.34	380.36	2.84	1.38	3.85	3.85
Sweet Grass County	A7	RM 450.05	77362	5% - 20yr	1172.5	1189.63	1187.2	3.59	3.42	75.32	49.88	139.47	233.93	2.32	1.53	2.43	2.43
Sweet Grass County	A7	RM 449.96	76841	5% - 20yr	1172.5	1189.41	1186.28	2.98	2.48	47.91	24.37	127.52	336.77	2.97	1.5	3.13	3.13
Sweet Grass County	A7	RM 449.86	76356	5% - 20yr	1172.5	1189.09	1185.58	3.2	2.62	53.19	23.12	108.27	356.08	3.28	1.41	3.51	3.51
Sweet Grass County	A7	RM 449.77	75860	5% - 20yr	1172.5	1188.78	1185.68	3.22	2.84	52.04	43.66	168.44	239.34	2.05	1.72	3.1	3.1
Sweet Grass County	A7	RM 449.68	75373	5% - 20yr	1172.5	1188.44	1185.9	2.85	2.66	51.23	43.05	220.37	286.5	1.83	1.54	2.54	2.54
Sweet Grass County	A7	RM 449.59	74904	5% - 20yr	1172.5	1188.31	1184.15	2.49	2.11	31.15	15.26	112.06	310.72	3.73	1.79	4.16	4.16
Sweet Grass County	A7	RM 449.48	74351	5% - 20yr	1172.5	1187.86	1184.86	3.34	2.87	66.74	43.12	120.33	295.53	2.15	1.38	3	3
Sweet Grass County	A7	RM 449.37	73741	5% - 20yr	1172.5	1187.72	1184.73	2.06	1.84	25.19	14.51	210.35	574.95	2.17	1.25	2.99	2.99
Sweet Grass County	A7	RM 449.26	73165	5% - 20yr	1172.5	1187.61	1184.33	1.97	1.22	19.79	9.71	128.66	849.65	2.71	1.31	3.27	3.27
Sweet Grass County	A7	RM 449.10	72364	5% - 20yr	1172.5	1186.89	1183.97	3.63	1.8	73.01	25.29	87.4	833.79	2.79	0.94	2.92	2.92
Sweet Grass County	A7	RM 449.00	71858	5% - 20yr	1172.5	1186.21	1183.97	3.76	2.45	87.79	43.28	113.68	510.42	1.94	0.94	2.25	2.25
Sweet Grass County	A7	RM 448.88	71223	5% - 20yr	1172.5	1185.82	1183.11	2.25	2.02	31.94	23.12	230.96	480.76	1.82	1.32	2.7	2.7
Sweet Grass County	A7	RM 448.76	70537	5% - 20yr	1172.5	1185.76	1182.01	1.27	1.23	9.9	9.44	312.73	490.55	2.03	1.94	3.74	3.74
Sweet Grass County	A7	RM 448.55	69424	5% - 20yr	1172.5	1185.51	1181.8	1.85	1.63	17.88	12.21	154.14	326	3.23	2.21	3.71	3.71
Sweet Grass County	A7	RM 448.41	68815	5% - 20yr	1172.5	1184.63	1181.16	3.92	3.76	68.89	53.16	108.05	149.24	2.73	2.09	3.47	3.47
Sweet Grass County	A7	RM 448.32	68353	5% - 20yr	1172.5	1184.64	1179.91	2.17	2.17	22.66	21.75	126.03	177.01	4.28	4.11	4.73	4.73
Sweet Grass County	A7	RM 448.23	67851	5% - 20yr	1172.5	1184.33	1179.82	2.79	2.78	37.89	35.63	104.89	129.97	4.01	3.77	4.51	4.51
Sweet Grass County	A7	RM 448.07	67043	5% - 20yr	1172.5	1183.96	1180.7	2.93	2.63	47.72	26.96	149.15	409.67	2.65	1.49	3.26	3.26
Sweet Grass County	A7	RM 447.94	66348	5% - 20yr	1172.5	1183.67	1180.22	2.79	2.03	40.9	14.58	125.06	518.17	3.15	1.12	3.46	3.46
Sweet Grass County	A7	RM 447.85	65863	5% - 20yr	1172.5	1183.22	1180.39	3.34	2.59	63.3	25.26	133.25	454.26	2.5	1	2.83	2.83
Sweet Grass County	A7	RM 447.75	65363	5% - 20yr	1172.5	1183.15	1179.55	2.5	1.96	30.41	13.16	143.24	439.89	3.16	1.36	3.6	3.6

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	5% - 20yr	1172.5	1182.82	1179.59	3	2.14	47.7	16.52	121.32	519.97	3.06	1.05	3.23	3.23
Sweet Grass County	A7	RM 447.56	64365	5% - 20yr	1172.5	1182.26	1179.67	3.62	2.54	78.08	34.33	136.71	482.71	2.18	0.96	2.6	2.6
Sweet Grass County	A7	RM 447.49	64001	5% - 20yr	1172.5	1182.15	1179.82	2.71	2.11	43.26	25.8	193.72	447.42	2.08	1.24	2.33	2.33
Sweet Grass County	A7	RM 447.39	63473	5% - 20yr	1172.5	1181.6	1178.85	3.61	2.42	71.64	27.8	92.12	517	2.43	0.94	2.74	2.74
Sweet Grass County	A7	RM 447.27	62880	5% - 20yr	1172.5	1181.24	1178.26	3.1	2.2	56.15	24.85	106.73	520.97	2.34	1.02	2.98	2.98
Sweet Grass County	A7	RM 447.17	62358	5% - 20yr	1172.5	1180.93	1177.92	2.91	1.86	49.68	24.18	112.72	567.57	2.29	1.11	3	3
Sweet Grass County	A7	RM 447.08	61863	5% - 20yr	1172.5	1180.5	1177.91	3.07	1.92	59.13	33.71	101.48	573.01	1.87	1.06	2.59	2.59
Sweet Grass County	A7	RM 446.98	61358	5% - 20yr	1172.5	1179.99	1177.28	3.21	2.06	57.21	24.13	95.32	569.83	2.39	1	2.71	2.71
Sweet Grass County	A7	RM 446.89	60841	5% - 20yr	1172.5	1179.61	1176.94	3.38	2.09	66.01	26.61	79.31	608.36	2.41	0.96	2.66	2.66
Sweet Grass County	A7	RM 446.80	60396	5% - 20yr	1172.5	1179.43	1175.92	2.65	1.79	38.96	19.74	96.26	694.97	2.7	1.35	3.51	3.51
Sweet Grass County	A7	RM 446.70	59903	5% - 20yr	1172.5	1179.13	1176.22	3.2	2.14	56.45	24.58	65.84	542.81	2.87	1.19	2.91	2.91
Sweet Grass County	A7	RM 446.60	59371	5% - 20yr	1172.5	1178.81	1175.91	3.12	2.14	52.2	22.15	77.2	540.1	2.63	1.09	2.9	2.9
Sweet Grass County	A7	RM 446.51	58868	5% - 20yr	1172.5	1178.63	1175.24	2.62	2.1	38.44	18.99	117.15	447.23	2.65	1.3	3.39	3.39
Sweet Grass County	A7	RM 446.41	58363	5% - 20yr	1172.5	1178.44	1174.39	2.34	1.95	28.57	14.95	148.64	433.24	2.79	1.46	4.05	4.05
Sweet Grass County	A7	RM 446.30	57762	5% - 20yr	1172.5	1178.12	1174.85	2.73	2.27	39.37	16.86	123.97	441.86	2.73	1.17	3.27	3.27
Sweet Grass County	A7	RM 446.22	57365	5% - 20yr	1172.5	1177.6	1174.39	3.43	3.36	63.94	47.53	129.07	178.18	2.64	1.96	3.21	3.21
Sweet Grass County	A7	RM 446.12	56852	5% - 20yr	1172.5	1177.36	1174.04	3.04	2.88	48.73	23.15	140.19	315.66	2.72	1.29	3.32	3.32
Sweet Grass County	A7	RM 446.02	56303	5% - 20yr	1172.5	1177.25	1173.3	2.66	1.98	35.27	13.79	98.17	403.5	3.87	1.47	3.95	3.95
Sweet Grass County	A7	RM 445.94	55871	5% - 20yr	1172.5	1176.43	1173.6	4.27	3.85	103.3	57.37	94.19	217.48	2.55	1.4	2.83	2.83
Sweet Grass County	A7	RM 445.82	55236	5% - 20yr	1172.5	1176.35	1173.05	2.4	2.23	33.68	23.63	208.69	330.02	2.27	1.59	3.3	3.3
Sweet Grass County	A7	RM 445.71	54753	5% - 20yr	1172.5	1176.19	1172.38	2.22	2.14	24.57	19.14	210.48	283.7	2.48	1.93	3.81	3.81
Sweet Grass County	A7	RM 445.60	54202	5% - 20yr	1172.5	1175.98	1172.32	2.35	2.22	28.32	21.02	188.77	272.75	2.62	1.94	3.66	3.66
Sweet Grass County	A7	RM 445.46	53453	5% - 20yr	1172.5	1175.43	1171.04	3.14	2.85	49.45	32.45	131.45	230.92	2.73	1.78	4.39	4.39
Sweet Grass County	A7	RM 445.36	52888	5% - 20yr	1172.5	1175.23	1170.25	2.89	2.35	43.63	26.28	105.4	285.9	3.27	1.96	4.98	4.98
Sweet Grass County	A7	RM 445.26	52344	5% - 20yr	1172.5	1174.56	1171.35	3.81	3.39	80.1	47.24	105.61	215.57	2.73	1.6	3.22	3.22
Sweet Grass County	A7	RM 445.17	51873	5% - 20yr	1172.5	1173.99	1171.83	3.92	3.66	92.88	71.1	136.44	202.81	2.07	1.58	2.15	2.15
Sweet Grass County	A7	RM 445.07	51376	5% - 20yr	1172.5	1174.03	1170.28	2.26	2.01	28.34	16.44	181.57	414.79	2.72	1.57	3.75	3.75
Sweet Grass County	A7	RM 444.97	50844	5% - 20yr	1172.5	1173.53	1170.19	3.13	2.95	52.25	30.9	148.01	315.77	2.5	1.47	3.34	3.34
Sweet Grass County	A7	RM 444.88	50352	5% - 20yr	1172.5	1173.25	1170.05	3.03	2.74	49.25	25.25	144.09	316.57	2.65	1.35	3.2	3.2
Sweet Grass County	A7	RM 444.79	49860	5% - 20yr	1172.5	1172.83	1169.94	3.33	2.8	62.61	35.14	131.86	292.75	2.55	1.43	2.89	2.89
Sweet Grass County	A7	RM 444.69	49316	5% - 20yr	1172.5	1172.59	1169.55	2.58	2.57	30.04	28.18	315.9	338.09	1.44	1.35	3.04	3.04
Sweet Grass County	A7	RM 444.60	48863	5% - 20yr	1172.5	1172.44	1167.23	2.6	1.96	31.39	9.9	87.98	408.67	4.86	1.46	5.21	5.21
Sweet Grass County	A7	RM 444.50	48367	5% - 20yr	1172.5	1172.41	1169.73	0.95	1.69	12.64	13.4	176.47	636.43	1.09	1.16	3.75	3.75
Sweet Grass County	A7	RM 444.41	47863	5% - 20yr	1172.5	1172.21	1168.6	2.24	1.68	25.66	10.1	129.86	698.87	3.05	1.19	3.61	3.61
Sweet Grass County	A7	RM 444.30	47336	5% - 20yr	1172.5	1172.15	1168.26	1.85	1.38	17.35	8.73	167.8	702.17	3.23	1.62	3.89	3.89
Sweet Grass County	A7	RM 444.20	46789	5% - 20yr	1172.5	1171.36	1167.97	3.81	3.13	80.41	35.02	107.11	415.55	2.75	1.18	3.39	3.39
Sweet Grass County	A7	RM 444.12	46346	5% - 20yr	1172.5	1170.97	1167.62	3.76	3.24	75.7	38.79	100.07	234.79	3.05	1.54	3.35	3.35
Sweet Grass County	A7	RM 444.02	45829	5% - 20yr	1172.5	1170.8	1167.57	3.06	2.76	46.21	26.68	143.97	309.99	2.63	1.52	3.23	3.23
Sweet Grass County	A7	RM 443.91	45243	5% - 20yr	1172.5	1170.51	1167.08	2.9	2.48	47.57	21.66	152.84	538.97	2.52	1.14	3.43	3.43
Sweet Grass County	A7	RM 443.84	44853	5% - 20yr	1172.5	1169.9	1167.23	3.59	3.41	80.69	46.3	173.99	359.81	1.86	1.06	2.67	2.67
Sweet Grass County	A7	RM 443.75	44415	5% - 20yr	1172.5	1169.71	1166.67	2.75	2.72	44.2	34.71	183.8	453.86	2.31	1.81	3.04	3.04
Sweet Grass County	A7	RM 443.64	43870	5% - 20yr	1172.5	1169.57	1166.09	2.44	1.78	32.6	14.66	110.6	870.13	2.81	1.25	3.47	3.47
Sweet Grass County	A7	RM 443.53	43290	5% - 20yr	1172.5	1169.41	1165.72	2.38	1.88	29.18	13.51	87.59	804.87	3.4	1.55	3.69	3.69
Sweet Grass County	A8	RM 443.45	42860	5% - 20yr	1172.5	1168.94	1165.25	3.13	2.93	52.13	30.89	138.12	627.42	2.69	1.6	3.69	3.69
Sweet Grass County	A8	RM 443.35	42363	5% - 20yr	1172.5	1168.16	1164.95	4.13	3.79	95.14	62.84	101.62	479.24	2.67	1.75	3.21	3.21
Sweet Grass County	A8	RM 443.25	41863	5% - 20yr	1172.5	1168.05	1165.05	3	2.53	50.53	26.91	127.8	522.22	2.61	1.38	3	3
Sweet Grass County	A8	RM 443.16	41342	5% - 20yr	1172.5	1167.81	1165.43	2.68	2.03	43.79	26.03	152.93	708.55	2.01	1.19	2.37	2.37
Sweet Grass County	A8	RM 443.07	40863	5% - 20yr	1172.5	1167.39	1164.49	2.94	2	51.97	24.26	139	749.7	2.12	0.99	2.91	2.91
Sweet Grass County	A8	RM 442.97	40345	5% - 20yr	1172.5	1167.11	1164.28	2.55	1.8	35.75	22.68	161.47	595.86	2.05	1.3	2.83	2.83
Sweet Grass County	A8	RM 442.88	39863	5% - 20yr	1172.5	1166.91	1164.06	2.19	1.74	28.14	19.29	177.36	661.96	1.98	1.36	2.85	2.85
Sweet Grass County	A8	RM 442.78	39363	5% - 20yr	1172.5	1166.14	1164.18	3.55	3.11	84.43	55.91	136.39	480.32	1.52	1.01	2.29	2.29
Sweet Grass County	A8	RM 442.68	38840	5% - 20yr	1172.5	1165.82	1162.8	2.61	2.01	34.13	19.01	117.57	521.97	2.19	1.22	3.02	3.02
Sweet Grass County	A8	RM 442.60	38390	5% - 20yr	1172.5	1165.76	1162.57	1.78	1.49	18.37	11.32	157.4	540.15	2.37	1.46	3.19	3.19
Sweet Grass County	A8	RM 442.50	37863	5% - 20yr	1172.5	1165.35	1162.29	3.03	2.19	44.55	19.87	102.46	517.45	2.32	1.03	3.07	3.07
Sweet Grass County	A8	RM 442.42	37461	5% - 20yr	1172.5	1165.1	1162.07	3.02	2.28	42.83	23.65	121.06	457.27	2.05	1.12	3.03	3.03
Sweet Grass County	A8	RM 442.32	36914	5% - 20yr	1172.5	1164.8	1161.85	2.87	2.23	47.63	26.39	107.67	429.38	2.37	1.31	2.96	2.96
Sweet Grass County	A8	RM 442.24	36451	5% - 20yr	1172.5	1164.53	1161.75	2.74	2.39	39.46	23.86	127.02	429.88	2.04	1.23	2.78	2.78
Sweet Grass County	A8	RM 442.12	35820	5% - 20yr	1172.5	1164.24	1161.12	2.66	2.21	35.47	19.02	123.17	488.54	2.29	1.22	3.12	3.12
Sweet Grass County	A8	RM 442.03	35367	5% - 20yr	1172.5	1163.97	1161.18	2.7	2.31	43.38	23.88	123.16	470.32	2.17	1.2	2.8	2.8
Sweet Grass County	A8	RM 441.95	34945	5% - 20yr	1172.5	1163.9	1160.28	2.07	1.6	23.73	11.49	133.86	697.2	2.74	1.3	3.62	3.62
Sweet Grass County	A8	RM 441.84	34360	5% - 20yr	1172.5	1163.43	1160.33	2.86	2.17	42.41	21.93	186.27	523.39	2	1.03	3.1	3.1

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	5% - 20yr	1172.5	1163.1	1160.06	2.87	2.14	44.16	22.13	171.23	508.53	2.16	1.08	3.05	3.05
Sweet Grass County	A8	RM 441.65	33357	5% - 20yr	1172.5	1162.99	1159.78	2.24	1.52	27.27	11.51	173.66	832.11	2.62	1.1	3.21	3.21
Sweet Grass County	A8	RM 441.53	32732	5% - 20yr	1172.5	1162.56	1159.44	2.84	1.91	46.18	17.33	152.04	698.94	2.44	0.91	3.12	3.12
Sweet Grass County	A8	RM 441.47	32366	5% - 20yr	1172.5	1162.44	1158.95	2.58	1.64	36.2	13.72	138.98	777.1	2.85	1.08	3.49	3.49
Sweet Grass County	A8	RM 441.38	31928	5% - 20yr	1172.5	1162.48	1158.24	1.67	1.06	14.63	7.57	153.74	1021.7	3.16	1.63	4.24	4.24
Sweet Grass County	A8	RM 441.27	31350	5% - 20yr	1172.5	1161.91	1158.76	3.46	2.26	67.01	19.95	97.16	928.35	2.61	0.77	3.15	3.15
Sweet Grass County	A8	RM 441.18	30882	5% - 20yr	1172.5	1161.71	1158.5	2.52	1.56	33.66	11.86	125.73	974.46	2.59	0.91	3.21	3.21
Sweet Grass County	A8	RM 441.07	30295	5% - 20yr	1172.5	1161.56	1158.19	2.21	1.43	27.14	10.29	149.54	968.73	2.67	1.01	3.37	3.37
Sweet Grass County	A8	RM 441.00	29913	5% - 20yr	1172.5	1161.48	1157.63	2.09	1.33	24.18	10	146.59	944.19	2.69	1.1	3.85	3.85
Sweet Grass County	A8	RM 440.80	28852	5% - 20yr	1172.5	1160.67	1157.49	3.51	2.51	64.9	19.31	103.86	579.14	2.72	0.81	3.18	3.18
Sweet Grass County	A8	RM 440.60	27841	5% - 20yr	1172.5	1159.72	1157.2	3.11	2.45	57.56	28.58	121.05	470.33	2.15	1.07	2.52	2.52
Sweet Grass County	A8	RM 440.51	27361	5% - 20yr	1172.5	1159.16	1156.41	3.42	2.7	69.68	39.43	109.89	354.17	2.2	1.24	2.75	2.75
Sweet Grass County	A8	RM 440.42	26862	5% - 20yr	1172.5	1158.64	1156.26	3.5	2.77	74.19	38.92	88.96	394.01	2.06	1.08	2.38	2.38
Sweet Grass County	A8	RM 440.30	26223	5% - 20yr	1172.5	1158.59	1155.63	1.81	1.44	19.13	12.92	97.18	563.31	2.31	1.55	2.96	2.96
Sweet Grass County	A8	RM 440.17	25466	5% - 20yr	1172.5	1158.37	1154.7	2.33	1.69	28.93	16.4	64.56	404.87	3.12	1.71	3.67	3.67
Sweet Grass County	A8	RM 440.06	24863	5% - 20yr	1172.5	1158.11	1153.97	2.37	1.94	29.54	17.93	130.74	314.75	3.17	1.92	4.13	4.13
Sweet Grass County	A8	RM 439.96	24366	5% - 20yr	1172.5	1157.83	1154.18	2.86	2.24	42.44	19.67	95.94	421.15	3.31	1.53	3.65	3.65
Sweet Grass County	A8	RM 439.87	23863	5% - 20yr	1172.5	1157.56	1153.59	2.95	2.16	42.22	14.04	103.39	464.15	3.59	1.19	3.97	3.97
Sweet Grass County	A8	RM 439.77	23365	5% - 20yr	1172.5	1157.37	1153.6	2.87	2.15	41.22	9.63	124.68	937.59	3.07	0.71	3.78	3.78
Sweet Grass County	A8	RM 439.68	22863	5% - 20yr	1172.5	1156.97	1153.45	3.26	2.88	52.9	13.06	135.08	633.14	2.63	0.64	3.52	3.52
Sweet Grass County	A8	RM 439.58	22363	5% - 20yr	1172.5	1156.94	1153.39	2.37	1.51	29.24	8.01	150.28	983.15	2.89	0.79	3.55	3.55
Sweet Grass County	A8	RM 439.49	21863	5% - 20yr	1172.5	1156.82	1152.86	2.33	1.41	27.12	6.8	116.13	932.83	3.68	0.91	3.96	3.96
Sweet Grass County	A8	RM 439.39	21363	5% - 20yr	1172.5	1156.72	1153.06	2.25	1.39	26.23	8.24	131.98	939.79	3.22	1	3.67	3.67
Sweet Grass County	A8	RM 439.30	20863	5% - 20yr	1172.5	1156.49	1152.92	2.66	1.57	36.2	10.74	110.38	792.06	3.2	0.94	3.57	3.57
Sweet Grass County	A8	RM 439.20	20353	5% - 20yr	1172.5	1155.43	1152.64	4.38	4.22	102.76	70.01	111.19	170.66	2.39	1.63	2.79	2.79
Sweet Grass County	A8	RM 439.11	19864	5% - 20yr	1172.5	1155.55	1152.34	2.71	2	39.54	12.64	98.01	696.37	2.94	0.94	3.21	3.21
Sweet Grass County	A8	RM 439.01	19360	5% - 20yr	1172.5	1154.89	1152.4	3.62	3.11	72.87	32.36	125.93	422.05	2.02	0.89	2.48	2.48
Sweet Grass County	A8	RM 438.91	18848	5% - 20yr	1172.5	1154.73	1151.92	2.71	2.16	39.57	18.56	121.85	487.71	2.37	1.11	2.81	2.81
Sweet Grass County	A8	RM 438.82	18363	5% - 20yr	1172.5	1154.45	1151.23	2.76	2.21	43.16	19.42	119.22	614.57	2.5	1.12	3.22	3.22
Sweet Grass County	A8	RM 438.73	17853	5% - 20yr	1172.5	1154.1	1151.37	2.96	2.33	47.04	27.11	124.01	426.14	2.05	1.18	2.72	2.72
Sweet Grass County	A8	RM 438.63	17363	5% - 20yr	1172.5	1153.99	1150.74	2.24	1.82	27.45	18.4	100.37	343.12	2.8	1.88	3.24	3.24
Sweet Grass County	A8	RM 438.54	16863	5% - 20yr	1172.5	1153.85	1150.59	2.19	1.9	25.78	19.71	104.9	268.51	3.05	2.3	3.26	3.26
Sweet Grass County	A8	RM 438.43	16307	5% - 20yr	1172.5	1153.63	1149.52	2.27	2.2	27.38	20.74	165.05	248.4	3.1	2.34	4.11	4.11
Sweet Grass County	A9	RM 438.36	15889	5% - 20yr	1172.5	1153.5	1149.4	2.3	2.25	24.19	22.03	187.56	212.61	2.69	2.45	4.1	4.1
Sweet Grass County	A9	RM 438.26	15363	5% - 20yr	1172.5	1152.91	1149.84	3.54	3.04	67.55	34.39	115.54	286.05	2.65	1.35	3.07	3.07
Sweet Grass County	A9	RM 438.16	14863	5% - 20yr	1172.5	1152.67	1149.31	3.14	2.35	50.32	19.54	122.98	454.87	2.83	1.1	3.36	3.36
Sweet Grass County	A9	RM 438.07	14394	5% - 20yr	1172.5	1152.36	1149.19	3.23	2.28	58.79	21.88	128.67	542.21	2.56	0.95	3.17	3.17
Sweet Grass County	A9	RM 437.96	13827	5% - 20yr	1172.5	1152.15	1149.19	2.84	1.83	43.46	16.27	119.96	713.29	2.41	0.9	2.95	2.95
Sweet Grass County	A9	RM 437.88	13363	5% - 20yr	1172.5	1151.94	1148.94	2.83	1.79	41.58	16.62	108.96	710.08	2.37	0.94	3	3
Sweet Grass County	A9	RM 437.78	12844	5% - 20yr	1172.5	1151.6	1148.72	3.06	1.96	50.53	20.52	99.77	648.3	2.45	0.99	2.89	2.89
Sweet Grass County	A9	RM 437.69	12354	5% - 20yr	1172.5	1151.45	1148.45	2.29	1.67	31.16	16.33	147.12	628.35	2.21	1.15	3	3
Sweet Grass County	A9	RM 437.59	11863	5% - 20yr	1172.5	1151.16	1148.76	2.51	1.87	40.08	20	151.22	713.23	1.77	0.88	2.75	2.75
Sweet Grass County	A9	RM 437.50	11362	5% - 20yr	1172.5	1150.93	1148.29	2.19	1.69	29.59	15.77	189.39	672.53	1.93	1.03	2.64	2.64
Sweet Grass County	A9	RM 437.41	10902	5% - 20yr	1172.5	1150.64	1148.26	2.46	1.85	38.37	19.76	175.96	685.41	1.79	0.92	2.38	2.38
Sweet Grass County	A9	RM 437.31	10361	5% - 20yr	1172.5	1150.24	1147.37	2.73	1.92	45.18	21.03	148.16	637.23	2.06	0.96	2.87	2.87
Sweet Grass County	A9	RM 437.20	9764	5% - 20yr	1172.5	1149.91	1147.02	2.74	1.83	39.21	17.27	110.89	647.61	2.26	0.99	2.89	2.89
Sweet Grass County	A9	RM 437.08	9128	5% - 20yr	1172.5	1149.48	1146.9	2.67	2.08	41.36	21.38	190.75	591.74	1.84	0.95	2.58	2.58
Sweet Grass County	A9	RM 436.95	8363	5% - 20yr	1172.5	1149.27	1145.32	2.34	1.5	21.73	10.73	106.12	651.24	2.54	1.23	3.95	3.95
Sweet Grass County	A9	RM 436.83	7805	5% - 20yr	1172.5	1149.14	1145.93	1.75	1.38	19.51	12.12	154.6	762.59	1.79	1.11	3.21	3.21
Sweet Grass County	A9	RM 436.75	6857	5% - 20yr	1172.5	1148.6	1145.61	3.2	1.74	59.16	19.28	67.61	864.17	2.42	0.78	2.99	2.99
Sweet Grass County	A9	RM 436.66	6193	5% - 20yr	1172.5	1148.12	1145.68	2.96	1.87	52.26	19.01	97.51	827.54	2.09	0.76	2.44	2.44
Sweet Grass County	A9	RM 436.56	5280	5% - 20yr	1172.5	1147.67	1144.44	3.12	1.81	41.8	16.51	67.84	717.35	2.41	0.9	3.23	3.23
Sweet Grass County	A9	RM 436.40	4576	5% - 20yr	1172.5	1147.45	1144.05	2.56	1.57	35.63	13.04	57.78	732.63	2.99	1.04	3.41	3.41
Sweet Grass County	A9	RM 436.29	3787	5% - 20yr	1172.5	1147.01	1144.44	2.81	2.05	47.54	23.96	99.03	595.88	2.13	1.07	2.57	2.57
Sweet Grass County	A9	RM 436.16	3087	5% - 20yr	1172.5	1146.26	1143.57	3.28	2.64	65.04	31.34	107.65	607.98	2.08	1	2.69	2.69
Sweet Grass County	A9	RM 436.07	2676	5% - 20yr	1172.5	1146.03	1143.09	2.79	2.19	42.16	25.31	102.06	836.98	2.1	1.25	2.94	2.94
Sweet Grass County	A9	RM 435.98	2200	5% - 20yr	1172.5	1145.71	1142.85	2.92	2.16	51.14	23.26	77.47	849.6	2.17	0.97	2.86	2.86
Sweet Grass County	A9	RM 435.88	1580	5% - 20yr	1172.5	1145.31	1142.56	2.36	2.07	37	22.5	84.9	772.73	1.59	0.96	2.74	2.74
Sweet Grass County	A9	RM 435.73	890	5% - 20yr	1172.5	1145	1141.99	2.22	1.83	29.03	17.37	80.13	616.49	2.31	1.34	3	3
Sweet Grass County	A9	RM 435.62	104	5% - 20yr	1172.5	1144.52	1141.54	2.69	2.15	43.75	27.42	128.86	524.99	2.1	1.31	2.99	2.99

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	5% - 20yr	1172.5	1144.38	1140.73	1.53	1.34	13.56	8.02	151.59	691.48	2.38	1.41	3.69	3.69
Stillwater County	A9	RM 435.38	231282.1	5% - 20yr	1172.5	1144.17	1139.61	1.72	1.37	15.95	6.53	197.46	738.78	2.94	1.2	4.56	4.56
Stillwater County	A9	RM 435.25	230611.3	5% - 20yr	1172.5	1143.55	1138.48	3.25	2.64	56.98	16.76	118.57	515.58	2.96	0.86	5.07	5.07
Stillwater County	A9	RM 435.16	230122.9	5% - 20yr	1172.5	1143.31	1138.39	3.11	2.33	51.8	16.61	118.38	524.25	3.01	0.96	4.92	4.92
Stillwater County	A9	RM 435.07	229649	5% - 20yr	1172.5	1143.17	1137.85	2.88	1.97	42.2	13.83	103.72	528.07	3.46	1.13	5.32	5.32
Stillwater County	A9	RM 434.97	229153	5% - 20yr	1172.5	1142.83	1137.87	3.18	2.5	52.55	19.06	104.98	397.13	3.26	1.18	4.96	4.96
Stillwater County	A9	RM 434.84	228443.5	5% - 20yr	1172.5	1142.51	1137	3.12	2.64	50.05	24.45	103.17	270.9	3.37	1.64	5.51	5.51
Stillwater County	A9	RM 434.73	227855.5	5% - 20yr	1172.5	1142.16	1135.61	3.33	2.86	53.59	24.66	82.53	216.95	4.15	1.89	6.54	6.54
Stillwater County	A9	RM 434.63	227328.2	5% - 20yr	1172.5	1141.94	1135.42	3.29	3.12	53.5	32.45	91.65	162.12	3.84	2.32	6.51	6.51
Stillwater County	A9	RM 434.57	227011.2	5% - 20yr	1172.5	1141.77	1136.35	3.32	3.23	56.76	34.29	104.18	178.89	3.37	2.03	5.42	5.42
Stillwater County	A9	RM 434.53	226817.6	5% - 20yr	1172.5	1141.62	1136.73	3.41	3.34	62.87	42.45	118.64	180.22	2.89	1.95	4.89	4.89
Stillwater County	A10	RM 434.49	226573.3	5% - 20yr	1172.5	1141.56	1137.23	3.05	2.96	49.77	42.32	126.5	155.38	3	2.55	4.33	4.33
Stillwater County	A10	RM 434.42	226233.2	5% - 20yr	1172.5	1141.42	1137.1	2.9	2.63	45.74	21.44	138.92	483.09	2.85	1.33	4.32	4.32
Stillwater County	A10	RM 434.37	225940.2	5% - 20yr	1172.5	1141.15	1136.51	3.2	2.97	55.43	26.1	124.51	364.51	2.9	1.36	4.64	4.64
Stillwater County	A10	RM 434.24	225278.2	5% - 20yr	1172.5	1140.84	1136.56	3.02	2.84	48.89	36.25	116.79	185.6	2.99	2.22	4.28	4.28
Stillwater County	A10	RM 434.15	224819.6	5% - 20yr	1172.5	1140.64	1137.06	2.78	2.48	43.9	30.8	157.27	268.96	2.5	1.75	3.58	3.58
Stillwater County	A10	RM 434.07	224366.5	5% - 20yr	1172.5	1140.21	1136.55	3.3	2.86	63.88	48.5	116.1	236.88	2.27	1.73	3.81	3.81
Stillwater County	A10	RM 433.98	223883.5	5% - 20yr	1172.5	1140.07	1136.28	2.39	2.25	33.08	22.38	137.26	348.66	2.38	1.61	3.79	3.79
Stillwater County	A10	RM 433.87	223309.3	5% - 20yr	1172.5	1139.81	1135.82	2.62	2.29	37.28	16.07	107.67	420.82	2.85	1.22	3.99	3.99
Stillwater County	A10	RM 433.78	222850	5% - 20yr	1172.5	1139.62	1135.54	2.5	2.1	35.43	14.98	176.78	523.58	2.53	1.07	4.08	4.08
Stillwater County	A10	RM 433.66	222201.9	5% - 20yr	1172.5	1139.28	1135.16	2.71	2.25	39.77	17.12	144.21	425.77	2.86	1.23	4.12	4.12
Stillwater County	A10	RM 433.54	221596.6	5% - 20yr	1172.5	1138.82	1135.33	3.12	2.98	53.56	37.24	135.44	305.93	2.74	1.9	3.49	3.49
Stillwater County	A10	RM 433.42	220956.2	5% - 20yr	1172.5	1138.34	1134.88	3.31	2.99	60.7	26.89	130.66	332.53	2.67	1.18	3.46	3.46
Stillwater County	A10	RM 433.31	220362.5	5% - 20yr	1172.5	1138.12	1134.67	2.57	2.17	39.37	19.09	204.01	520.58	2.14	1.04	3.45	3.45
Stillwater County	A10	RM 433.20	219758.6	5% - 20yr	1172.5	1138	1134.17	1.94	1.42	21.63	10.64	148.63	701.55	2.39	1.17	3.83	3.83
Stillwater County	A10	RM 433.09	219185.2	5% - 20yr	1172.5	1137.7	1133.45	2.31	1.98	29.42	11.4	179.9	559.73	2.74	1.06	4.25	4.25
Stillwater County	A10	RM 432.97	218599.7	5% - 20yr	1172.5	1137.4	1133.57	2.63	2.23	38.03	16.59	152.81	437.87	2.76	1.2	3.83	3.83
Stillwater County	A10	RM 432.84	217905.9	5% - 20yr	1172.5	1137.14	1132.7	2.57	2.09	34.82	11.43	136.55	546.4	3.13	1.03	4.44	4.44
Stillwater County	A10	RM 432.69	217146.9	5% - 20yr	1172.5	1136.59	1131.51	3.33	2.89	55.13	24.62	90.53	244.13	3.75	1.66	5.08	5.08
Stillwater County	A10	RM 432.60	216656.8	5% - 20yr	1172.5	1136.39	1132.1	3.17	2.8	51.17	22.53	102.18	284.05	3.55	1.54	4.29	4.29
Stillwater County	A10	RM 432.45	215889.7	5% - 20yr	1172.5	1136.08	1132.07	2.91	2.54	45.9	17.12	137.96	486.7	2.87	1.07	4.01	4.01
Stillwater County	A10	RM 432.35	215361.3	5% - 20yr	1172.5	1135.92	1132.33	2.53	1.93	35.12	11.36	158.74	738.01	2.79	0.9	3.59	3.59
Stillwater County	A10	RM 432.20	214585.3	5% - 20yr	1206.5	1135.26	1131.29	3.34	3.01	60.65	23.25	125.04	365.99	2.86	1.1	3.97	3.97
Stillwater County	A10	RM 432.10	214039.1	5% - 20yr	1206.5	1135.02	1130.7	3.06	2.32	50.3	19.06	124.1	542.76	2.95	1.12	4.32	4.32
Stillwater County	A10	RM 432.02	213606.1	5% - 20yr	1206.5	1134.93	1130.52	2.47	2.03	33.37	11.63	161.07	716.77	2.77	0.96	4.41	4.41
Stillwater County	A10	RM 431.87	212811.5	5% - 20yr	1206.5	1134.63	1129.24	2.36	1.97	33.23	15.73	210.92	594.52	2.18	1.03	5.39	5.39
Stillwater County	A10	RM 431.74	212127.4	5% - 20yr	1206.5	1134.47	1129.66	2.06	1.33	22.79	9.95	161.11	702.1	2.97	1.29	4.8	4.8
Stillwater County	A10	RM 431.60	211373.6	5% - 20yr	1206.5	1133.91	1129.96	3.02	2.79	49.16	22.43	134.23	325.53	2.92	1.33	3.95	3.95
Stillwater County	A10	RM 431.49	210820.2	5% - 20yr	1206.5	1133.64	1129.62	2.96	2.65	47.04	19.2	133.49	377.76	2.97	1.21	4.02	4.02
Stillwater County	A10	RM 431.41	210365.9	5% - 20yr	1206.5	1133.29	1129.57	3.23	3.03	56.72	30.33	130.11	263.36	2.84	1.51	3.72	3.72
Stillwater County	A10	RM 431.28	209716.5	5% - 20yr	1206.5	1132.96	1129.79	2.91	2.67	48.41	24.48	164.56	362.75	2.47	1.25	3.17	3.17
Stillwater County	A10	RM 431.14	208918.5	5% - 20yr	1206.5	1132.58	1129.82	2.4	2.5	34.54	26.01	131.66	299.5	2.13	1.61	3.83	3.83
Stillwater County	A10	RM 431.03	208358.8	5% - 20yr	1206.5	1132.19	1128.56	2.71	2.81	45.48	45.29	128.19	221.61	1.94	1.94	3.63	3.63
Stillwater County	A10	RM 430.93	207821.9	5% - 20yr	1206.5	1132.02	1128.76	2.35	2.03	32.38	22.16	126.38	383.64	2.25	1.55	3.26	3.26
Stillwater County	A10	RM 430.83	207325.6	5% - 20yr	1206.5	1131.76	1127.66	2.46	2.25	34.47	22.97	160.64	323.45	2.48	1.66	4.1	4.1
Stillwater County	A10	RM 430.70	206629.1	5% - 20yr	1206.5	1131.65	1126.9	1.94	1.71	19.92	8.91	150.14	496.62	3.18	1.42	4.75	4.75
Stillwater County	A10	RM 430.59	206064.9	5% - 20yr	1206.5	1131.52	1127.2	2.11	1.65	22.79	8.01	134.54	611.75	3.41	1.2	4.31	4.31
Stillwater County	A10	RM 430.51	205629.5	5% - 20yr	1206.5	1131.1	1126.28	3.08	2.59	49.16	15.99	106.96	431.76	3.34	1.08	4.82	4.82
Stillwater County	A10	RM 430.43	205204.2	5% - 20yr	1206.5	1130.81	1126.08	3.3	2.78	55.83	17.04	98.33	416.1	3.44	1.04	4.73	4.73
Stillwater County	A10	RM 430.34	204728.4	5% - 20yr	1206.5	1130.47	1126.07	3.49	2.88	63.94	22.31	102.88	381.57	3.16	1.1	4.4	4.4
Stillwater County	A11	RM 430.23	204119.7	5% - 20yr	1206.5	1130.42	1126.63	2.37	1.79	30.77	12.05	168.91	701.21	2.79	1.09	3.79	3.79
Stillwater County	A11	RM 430.12	203479.6	5% - 20yr	1206.5	1130.21	1126.96	2.54	1.86	35.81	12.35	112.27	743.92	2.66	0.91	3.68	3.68
Stillwater County	A11	RM 430.04	202968.2	5% - 20yr	1206.5	1129.9	1127.24	2.75	2.28	43.54	15.41	112.57	626.76	2.42	0.85	3.26	3.26
Stillwater County	A11	RM 429.95	202589.5	5% - 20yr	1206.5	1129.72	1126.33	2.48	2.08	36.35	14.29	141.85	667.34	2.22	0.87	3.39	3.39
Stillwater County	A11	RM 429.88	202224.7	5% - 20yr	1206.5	1129.61	1125.62	2.06	1.75	16.13	12.09	316.81	740.69	1.24	0.93	3.99	3.99
Stillwater County	A11	RM 429.78	201933.6	5% - 20yr	1206.5	1129.39	1123.72	2.34	1.8	21.37	12.88	208.43	658.93	1.69	1.02	5.67	5.67
Stillwater County	A11	RM 429.69	201539.9	5% - 20yr	1206.5	1128.79	1123.39	3.59	2.8	71.13	31.74	90.2	353.51	2.76	1.22	5.4	5.4
Stillwater County	A11	RM 429.58	200961.9	5% - 20yr	1206.5	1128.55	1124.69	2.83	1.97	45.94	22.06	116.91	536.25	2.38	1.14	3.86	3.86
Stillwater County	A11	RM 429.38	200210.8	5% - 20yr	1206.5	1128.13	1125.15	2.21	1.8	29.47	17.18	184.51	546.3	2.11	1.23	3.7	3.7
Stillwater County	A11	RM 429.28	199644.1	5% - 20yr	1206.5	1127.84	1123.59	2.4	1.89	33.51	17.6	148.34	524.01	2.32	1.22	4.25	4.25

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	5% - 20yr	1206.5	1127.64	1124.66	2.06	1.76	25.86	14.54	144.34	598.04	2.04	1.14	3.73	3.73
Stillwater County	A11	RM 429.10	198708.6	5% - 20yr	1206.5	1127.26	1124.26	2.69	2.26	43.5	20.29	87.69	542.56	2.11	0.98	3.68	3.68
Stillwater County	A11	RM 429.00	198203.8	5% - 20yr	1206.5	1127.04	1123.47	2.28	2.01	32.35	22.99	124.54	443.06	1.9	1.35	3.57	3.57
Stillwater County	A11	RM 428.89	197650.5	5% - 20yr	1206.5	1126.82	1121.26	2.46	1.98	33	17.07	150.63	420.78	2.81	1.45	5.56	5.56
Stillwater County	A11	RM 428.81	197194.1	5% - 20yr	1206.5	1126.6	1121.47	2.78	2.09	40.51	18.6	98.54	392.03	3.22	1.48	5.12	5.12
Stillwater County	A11	RM 428.66	196404.4	5% - 20yr	1206.5	1126.39	1122.31	2.16	1.83	27.01	14.36	204.39	602.11	2.35	1.25	4.08	4.08
Stillwater County	A11	RM 428.52	195702.6	5% - 20yr	1206.5	1126.03	1122.1	2.43	2.02	34.64	15.87	206.65	680.04	2.26	1.03	3.93	3.93
Stillwater County	A11	RM 428.44	195293.8	5% - 20yr	1206.5	1125.74	1121.18	2.78	2.22	42.39	14.81	146.38	594.38	2.78	0.97	4.56	4.56
Stillwater County	A11	RM 428.39	195075.5	5% - 20yr	1206.5	1125.47	1120.72	3.27	2.6	58.17	18.54	122.37	512.56	2.84	0.9	4.74	4.74
Stillwater County	A11	RM 428.33	194724.6	5% - 20yr	1206.5	1125.22	1121.22	3.27	2.85	59.39	23.49	135.39	437.93	2.65	1.04	4	4
Stillwater County	A11	RM 428.28	194450.8	5% - 20yr	1206.5	1125.06	1121.2	3.16	2.68	56.67	24.84	144.11	407.9	2.52	1.1	3.86	3.86
Stillwater County	A11	RM 428.23	194235.2	5% - 20yr	1206.5	1124.94	1120.74	3.06	2.52	52.37	18.66	142.55	519.09	2.6	0.92	4.2	4.2
Stillwater County	A11	RM 428.20	194033.4	5% - 20yr	1206.5	1124.85	1120.37	3.04	2.48	49.72	19.27	120.5	425.21	2.97	1.14	4.48	4.48
Stillwater County	A11	RM 428.15	193779.9	5% - 20yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A11	RM 428.09	193436.6	5% - 20yr	1206.5	1124.64	1119.9	2.73	2.08	40.52	16.4	119.73	500.99	2.89	1.16	4.74	4.74
Stillwater County	A11	RM 428.05	193246.1	5% - 20yr	1206.5	1124.55	1120.1	2.72	2.09	40.63	16.53	125.98	517.58	2.77	1.12	4.45	4.45
Stillwater County	A11	RM 428.00	192989.8	5% - 20yr	1206.5	1124.46	1120.28	2.6	1.88	36.59	14.26	127.26	575.48	2.89	1.12	4.18	4.18
Stillwater County	A11	RM 427.95	192728.8	5% - 20yr	1206.5	1124.41	1119.57	2.38	1.7	30.12	11.87	131.09	617.96	3.04	1.19	4.83	4.83
Stillwater County	A11	RM 427.88	192333.2	5% - 20yr	1206.5	1123.97	1119.27	3.29	2.64	57.38	23.8	102.45	519.87	3.11	1.28	4.7	4.7
Stillwater County	A11	RM 427.83	192088.8	5% - 20yr	1206.5	1123.79	1119.18	3.38	2.76	60.67	23.07	103.17	511.75	3.05	1.15	4.61	4.61
Stillwater County	A11	RM 427.76	191724.1	5% - 20yr	1206.5	1123.46	1119.07	3.57	3.21	67.87	44.01	101.84	192.13	3.03	1.95	4.39	4.39
Stillwater County	A11	RM 427.65	191155.9	5% - 20yr	1206.5	1123.46	1118.58	2.37	1.72	28.98	13.32	139.89	673.18	3.32	1.53	4.88	4.88
Stillwater County	A11	RM 427.53	190509.6	5% - 20yr	1206.5	1123.06	1117.37	3.06	2.2	46.36	17.43	96.4	448.07	3.79	1.41	5.69	5.69
Stillwater County	A11	RM 427.41	189886.1	5% - 20yr	1206.5	1122.82	1118.73	2.94	2.47	44.45	20.36	115.97	320.88	3.4	1.55	4.09	4.09
Stillwater County	A11	RM 427.29	189253.3	5% - 20yr	1206.5	1122.53	1119.12	2.82	2.52	46.09	28.86	176.44	323.98	2.35	1.47	3.41	3.41
Stillwater County	A11	RM 427.17	188639.5	5% - 20yr	1206.5	1122.29	1118.44	2.42	2	33.74	20.58	197.68	413.39	2.38	1.46	3.85	3.85
Stillwater County	A11	RM 427.09	188179.7	5% - 20yr	1206.5	1121.86	1118.34	3.11	2.43	52.5	23.67	127.07	384.93	2.86	1.29	3.52	3.52
Stillwater County	A11	RM 427.00	187745.4	5% - 20yr	1206.5	1121.74	1117.71	2.67	2.04	39.33	20.19	143.34	425.23	2.71	1.39	4.03	4.03
Stillwater County	A11	RM 426.92	187309.3	5% - 20yr	1206.5	1121.53	1117.32	2.55	2.23	38.48	26.25	205.42	359.31	2.2	1.5	4.21	4.21
Stillwater County	A11	RM 426.86	186960.4	5% - 20yr	1206.5	1121.39	1116.77	2.37	2.16	32.83	23.47	210.51	335.2	2.33	1.67	4.61	4.61
Stillwater County	A11	RM 426.75	186401.3	5% - 20yr	1206.5	1121.13	1116.11	2.47	2.16	34.5	27.15	182.86	281.94	2.51	1.98	5.02	5.02
Stillwater County	A11	RM 426.67	185983.5	5% - 20yr	1206.5	1120.91	1115.84	2.63	2.41	36.02	23.93	138.91	232.63	3.24	2.15	5.07	5.07
Stillwater County	A11	RM 426.59	185580.4	5% - 20yr	1206.5	1120.54	1115.47	3.25	3.12	53.98	41.52	106	144.86	3.46	2.67	5.07	5.07
Stillwater County	A11	RM 426.52	185166.5	5% - 20yr	1206.5	1120.35	1115.54	3.19	3.19	51.6	50.43	108.17	110.72	3.5	3.42	4.81	4.81
Stillwater County	A11	RM 426.43	184738.3	5% - 20yr	1206.5	1120.16	1115.89	3.16	3.12	51.74	46.92	115.54	129.33	3.29	2.99	4.27	4.27
Stillwater County	A11	RM 426.32	184158.4	5% - 20yr	1206.5	1119.9	1116.39	3.01	3.01	48.6	48.43	133.45	133.88	3	2.99	3.51	3.51
Stillwater County	A11	RM 426.20	183517.2	5% - 20yr	1206.5	1119.59	1116.07	2.71	2.69	44.4	42.7	215.67	226.05	2.06	1.99	3.52	3.52
Stillwater County	A11	RM 426.11	183030.7	5% - 20yr	1206.5	1119.39	1115.37	2.29	2.25	29.19	28.35	270.07	302.61	1.94	1.89	4.02	4.02
Stillwater County	A11	RM 426.00	182442.5	5% - 20yr	1206.5	1119.15	1115.74	2.2	2.03	28.76	25.94	240.9	346.74	2.16	1.96	3.41	3.41
Stillwater County	A11	RM 425.89	181895	5% - 20yr	1206.5	1118.87	1115.1	2.41	2.32	32.4	24.39	186.08	316.56	2.66	2.01	3.77	3.77
Stillwater County	A11	RM 425.72	181043.5	5% - 20yr	1206.5	1118.44	1113.77	2.72	2.54	39.79	20.58	150.76	392.23	2.92	1.51	4.67	4.67
Stillwater County	A11	RM 425.58	180310.5	5% - 20yr	1206.5	1117.91	1112.19	3.33	3.09	55.66	31.7	98.64	206.85	3.63	2.07	5.72	5.72
Stillwater County	A11	RM 425.46	179669.9	5% - 20yr	1206.5	1117.45	1112.78	3.65	3.26	68.65	39.02	95.3	232.31	3.34	1.9	4.67	4.67
Stillwater County	A11	RM 425.34	179022.4	5% - 20yr	1206.5	1117.37	1113.64	2.57	2.3	35.7	25.22	136.92	255.88	2.9	2.05	3.73	3.73
Stillwater County	A11	RM 425.24	178485.9	5% - 20yr	1206.5	1117.11	1114.19	2.64	2.32	40.53	31.09	126.45	381.2	2.34	1.8	2.97	2.97
Stillwater County	A11	RM 425.18	178205.8	5% - 20yr	1206.5	1116.84	1113.81	2.9	2.67	49.41	40.93	127.72	242.62	2.24	1.86	3.53	3.53
Stillwater County	A11	RM 425.11	177826.8	5% - 20yr	1206.5	1116.55	1113.29	2.79	2.78	45.6	34.11	120.72	255.31	2.27	1.7	4.26	4.26
Stillwater County	A11	RM 425.04	177454.7	5% - 20yr	1206.5	1116.37	1112.86	2.77	2.45	42.88	30.65	106.76	260.53	2.65	1.89	3.9	3.9
Stillwater County	A11	RM 424.97	177098.9	5% - 20yr	1206.5	1116.02	1113.11	3.1	2.83	55.36	41.66	106.81	235.13	2.4	1.81	3.01	3.01
Stillwater County	A11	RM 424.89	176675.9	5% - 20yr	1206.5	1115.91	1112.27	2.31	2.1	31.09	21.62	136.62	377.73	2.28	1.59	5.11	5.11
Stillwater County	A11	RM 424.81	176242.8	5% - 20yr	1206.5	1115.46	1112.25	2.77	2.75	49.26	46.18	139.22	316.58	1.72	1.61	3.46	3.46
Stillwater County	A11	RM 424.70	175789.3	5% - 20yr	1206.5	1115.32	1111.91	2.28	2.07	29.88	19.1	161.26	437.47	2.41	1.54	3.41	3.41
Stillwater County	A11	RM 424.58	175159.4	5% - 20yr	1206.5	1115	1111.34	2.6	2.19	39.35	27.32	131.51	346.19	2.3	1.59	3.66	3.66
Stillwater County	A11	RM 424.51	174723.2	5% - 20yr	1206.5	1114.81	1110.93	2.31	1.98	32.82	23.64	140.84	432.53	1.95	1.41	3.88	3.88
Stillwater County	A11	RM 424.38	174051	5% - 20yr	1206.5	1114.4	1110.98	2.56	2.22	40.34	20.61	135.64	541.1	1.98	1.01	3.42	3.42
Stillwater County	A11	RM 424.30	173607.9	5% - 20yr	1206.5	1114.15	1110.75	2.57	1.95	42.8	24.09	158.99	652.69	1.69	0.95	3.4	3.4
Stillwater County	A11	RM 424.21	173153.7	5% - 20yr	1206.5	1113.89	1110.74	2.19	1.75	30.33	15.39	188.24	756.54	1.81	0.91	3.15	3.15
Stillwater County	A11	RM 424.13	172713.5	5% - 20yr	1206.5	1113.64	1110.43	2.34	1.57	34.3	18.14	101.11	786.68	1.85	0.98	3.29	3.29
Stillwater County	A11	RM 424.05	172309.3	5% - 20yr	1206.5	1113.46	1110.18	1.84	1.42	21.59	12.68	155.53	822	1.75	1.03	3.28	3.28
Stillwater County	A11	RM 423.98	171892.1	5% - 20yr	1206.5	1113.37	1110.15	1.64	1.27	16.02	8.75	252.65	806.81	2.16	1.18	3.22	3.22

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	5% - 20yr	1206.5	1113.15	1109.55	2.26	1.61	29.51	12.87	156.66	723.77	2.4	1.04	3.6	3.6
Stillwater County	A11	RM 423.84	171147.5	5% - 20yr	1206.5	1113.04	1109.08	2.27	1.51	28.13	10.98	126.81	726.13	2.83	1.1	3.96	3.96
Stillwater County	A11	RM 423.74	170686.3	5% - 20yr	1206.5	1113.01	1108.91	1.72	1.14	15.8	8.1	124.33	686.41	3.01	1.54	4.1	4.1
Stillwater County	A11	RM 423.69	170436.3	5% - 20yr	1206.5	1112.84	1108.49	2.34	1.59	29.04	13.7	88.65	521.32	3.12	1.46	4.35	4.35
Stillwater County	A11	RM 423.57	169782.9	5% - 20yr	1206.5	1112.62	1108.2	2.2	1.75	25.59	9.74	159.21	585.55	3.11	1.18	4.42	4.42
Stillwater County	A11	RM 423.47	169296.5	5% - 20yr	1206.5	1112.17	1107.67	3.08	2.72	49.51	20.77	120.55	465.79	3.21	1.35	4.5	4.5
Stillwater County	A11	RM 423.39	168860.7	5% - 20yr	1206.5	1111.81	1107.7	3.44	3.02	62.13	22.25	107.8	429.05	3.19	1.14	4.11	4.11
Stillwater County	A11	RM 423.27	168178	5% - 20yr	1206.5	1111.28	1107.36	3.58	3.37	69.99	26.31	118.28	338.65	2.83	1.06	3.92	3.92
Stillwater County	A12	RM 423.17	167687.7	5% - 20yr	1206.5	1111.1	1107.46	2.94	2.61	48.49	21.72	153.74	399.01	2.6	1.16	3.64	3.64
Stillwater County	A12	RM 423.08	167239.6	5% - 20yr	1206.5	1110.86	1107.21	2.95	2.44	49.01	23.76	129.56	396.15	2.57	1.25	3.65	3.65
Stillwater County	A12	RM 423.01	166844.5	5% - 20yr	1206.5	1110.62	1106.84	2.83	2.41	47.63	27.61	144.08	396.51	2.18	1.26	3.78	3.78
Stillwater County	A12	RM 422.91	166338	5% - 20yr	1206.5	1110.28	1106.54	3	2.46	49.45	25.75	112	344.06	2.73	1.42	3.74	3.74
Stillwater County	A12	RM 422.80	165757.6	5% - 20yr	1206.5	1109.97	1106.83	2.85	2.53	46.28	24.66	146.72	408.04	2.46	1.31	3.14	3.14
Stillwater County	A12	RM 422.70	165279.2	5% - 20yr	1206.5	1109.88	1105.79	2.15	1.74	26.79	16.01	202.82	498.37	2.33	1.39	4.09	4.09
Stillwater County	A12	RM 422.63	164895.4	5% - 20yr	1206.5	1109.77	1105.43	2.06	1.59	24.69	14.08	179.41	571.35	2.33	1.33	4.34	4.34
Stillwater County	A12	RM 422.53	164348.1	5% - 20yr	1206.5	1109.55	1104.76	2.2	1.79	27.53	13.74	167.27	537.58	2.53	1.25	4.79	4.79
Stillwater County	A12	RM 422.39	163609.2	5% - 20yr	1206.5	1109.17	1104.22	2.65	2.2	36.7	15.25	132.53	415.16	3.2	1.32	4.95	4.95
Stillwater County	A12	RM 422.30	163120.4	5% - 20yr	1206.5	1108.74	1104.18	3.25	3.09	54.4	33.55	109.03	222.55	3.36	2.07	4.56	4.56
Stillwater County	A12	RM 422.19	162534.3	5% - 20yr	1206.5	1108.56	1103.72	2.9	2.74	43.17	23.84	122.19	237.16	3.38	1.86	4.84	4.84
Stillwater County	A12	RM 422.08	161934.5	5% - 20yr	1206.5	1108.03	1104.18	3.5	3.37	65.34	38.45	112.69	200.69	3.04	1.78	3.85	3.85
Stillwater County	A12	RM 421.98	161402.1	5% - 20yr	1206.5	1107.93	1103.86	2.74	2.68	39.87	31.81	142.02	183.2	3.08	2.46	4.07	4.07
Stillwater County	A12	RM 421.90	161037.7	5% - 20yr	1206.5	1107.78	1103.14	2.67	2.67	39.38	39.38	167.8	167.8	2.7	2.7	4.64	4.64
Stillwater County	A12	RM 421.86	160799.3	5% - 20yr	1206.5	1107.67	1102.54	2.63	2.62	39.99	35.66	193.24	217.32	2.37	2.12	5.13	5.13
Stillwater County	A12	RM 421.81	160535.9	5% - 20yr	1206.5	1107.55	1102.38	2.54	2.54	38.47	38.47	221.01	221.01	2.15	2.15	5.17	5.17
Stillwater County	A12	RM 421.77	160279.4	5% - 20yr	1206.5	1107.35	1102.41	2.75	2.61	44.33	33.99	182.34	267.25	2.25	1.73	4.94	4.94
Stillwater County	A12	RM 421.69	159875.5	5% - 20yr	1206.5	1107.21	1102.56	2.58	2.18	34.35	13.72	130.2	413.66	3.36	1.34	4.65	4.65
Stillwater County	A12	RM 421.60	159411.4	5% - 20yr	1206.5	1106.86	1103.26	3.12	2.69	53.95	25.69	131.13	348.2	2.7	1.29	3.59	3.59
Stillwater County	A12	RM 421.53	159038	5% - 20yr	1206.5	1106.47	1102.81	3.45	3.13	68.61	39.16	133.17	282.97	2.39	1.36	3.66	3.66
Stillwater County	A12	RM 421.45	158590.5	5% - 20yr	1206.5	1106.32	1103.26	2.72	2.42	42.72	28.85	154.53	337.1	2.37	1.6	3.06	3.06
Stillwater County	A12	RM 421.32	157930.2	5% - 20yr	1206.5	1105.92	1102.82	2.73	2.51	46.41	36.09	97.58	328.04	1.88	1.47	3.1	3.1
Stillwater County	A12	RM 421.24	157513	5% - 20yr	1206.5	1105.64	1103.05	2.53	2.32	42.1	34.99	126.44	387.68	1.61	1.34	3.16	3.16
Stillwater County	A12	RM 421.13	156951.5	5% - 20yr	1206.5	1105.43	1100.38	2.21	1.94	29.49	21.72	118.8	411.68	2.05	1.51	5.05	5.05
Stillwater County	A12	RM 421.05	156536.5	5% - 20yr	1206.5	1105.33	1102.11	1.85	1.71	20.99	16.71	103.99	494.26	2.01	1.59	3.22	3.22
Stillwater County	A12	RM 420.94	155960.1	5% - 20yr	1206.5	1105.08	1101.68	2.02	1.91	22.33	19.29	213.29	332	2.74	2.37	3.4	3.4
Stillwater County	A12	RM 420.85	155473.6	5% - 20yr	1206.5	1104.44	1100.98	3.54	2.72	72.97	38.88	135.54	380	2.3	1.23	3.46	3.46
Stillwater County	A12	RM 420.75	154957.2	5% - 20yr	1206.5	1104.28	1099.95	2.63	2.02	38.93	18.73	157.51	481.93	2.57	1.24	4.33	4.33
Stillwater County	A12	RM 420.66	154483	5% - 20yr	1206.5	1104.13	1099.89	2.37	1.77	30.62	16.86	165.17	479.8	2.81	1.54	4.24	4.24
Stillwater County	A12	RM 420.58	154037.5	5% - 20yr	1206.5	1103.76	1100.13	3.04	2.22	49.55	23.59	122.25	385.1	2.96	1.41	3.63	3.63
Stillwater County	A12	RM 420.52	153691.5	5% - 20yr	1206.5	1103.58	1099.7	3.01	2.26	49.62	21.04	131.23	453.24	2.79	1.18	3.88	3.88
Stillwater County	A12	RM 420.46	153398	5% - 20yr	1206.5	1103.37	1099.36	3.11	2.52	53.79	26.68	136.75	364.97	2.65	1.31	4	4
Stillwater County	A12	RM 420.38	152998.3	5% - 20yr	1206.5	1103.24	1099.19	2.6	2	38.89	18.09	176.24	542.3	2.41	1.12	4.05	4.05
Stillwater County	A12	RM 420.30	152566.4	5% - 20yr	1206.5	1103.17	1099.43	1.98	1.5	22.76	13.05	230.5	606.94	2.33	1.34	3.74	3.74
Stillwater County	A12	RM 420.21	152106.2	5% - 20yr	1206.5	1102.99	1098.69	2.1	1.66	26.55	17.32	238.7	538.32	2.07	1.35	4.3	4.3
Stillwater County	A12	RM 420.15	151738.6	5% - 20yr	1206.5	1102.87	1098.38	1.99	1.78	19.35	12.66	260.65	460.96	2.26	1.47	4.49	4.49
Stillwater County	A12	RM 420.08	151399.3	5% - 20yr	1206.5	1102.73	1097.97	2.17	1.98	25.81	14.66	196.63	387.9	2.77	1.57	4.76	4.76
Stillwater County	A12	RM 420.03	151123.2	5% - 20yr	1206.5	1102.57	1097.96	2.48	2.04	32.12	14.5	142.7	404.11	3.26	1.46	4.61	4.61
Stillwater County	A12	RM 419.96	150779.4	5% - 20yr	1206.5	1102.35	1098.1	2.86	2.2	43.27	18.5	128.1	416.19	3.09	1.32	4.25	4.25
Stillwater County	A12	RM 419.91	150511.3	5% - 20yr	1206.5	1102.07	1097.83	3.28	2.64	54.82	18.46	102.77	395.44	3.46	1.16	4.24	4.24
Stillwater County	A12	RM 419.85	150192.4	5% - 20yr	1206.5	1101.68	1097.85	3.75	3.11	75.79	27.63	106.79	390.32	2.94	1.07	3.83	3.83
Stillwater County	A12	RM 419.78	149807.6	5% - 20yr	1206.5	1101.57	1097.13	3.26	2.42	54.84	20.49	104.86	400.44	3.36	1.25	4.44	4.44
Stillwater County	A12	RM 419.70	149371.5	5% - 20yr	1206.5	1101.32	1097.73	3.19	2.71	56.63	27.27	138.38	348.06	2.66	1.28	3.59	3.59
Stillwater County	A12	RM 419.63	149047.6	5% - 20yr	1206.5	1101.21	1097.92	2.79	2.47	44.02	24.6	168.2	345.45	2.53	1.41	3.29	3.29
Stillwater County	A12	RM 419.53	148495.9	5% - 20yr	1206.5	1100.84	1097.22	3.06	2.48	55.82	32.57	135.85	386.84	2.16	1.26	3.62	3.62
Stillwater County	A12	RM 419.46	148117.9	5% - 20yr	1206.5	1100.63	1097.34	2.66	2.18	41.94	23.82	133.46	445.29	2.19	1.24	3.55	3.55
Stillwater County	A12	RM 419.38	147728.5	5% - 20yr	1206.5	1100.45	1097.36	2.28	1.94	31.72	23.93	149.18	411.81	2	1.51	3.09	3.09
Stillwater County	A12	RM 419.31	147342.9	5% - 20yr	1206.5	1100.36	1096.9	1.87	1.7	19.53	15.31	114.45	345.59	2.61	2.05	3.46	3.46
Stillwater County	A12	RM 419.19	146720.3	5% - 20yr	1206.5	1100.23	1096.42	1.64	1.79	14.92	14.98	106.51	278.29	2.69	2.71	5.83	5.83
Stillwater County	A12	RM 419.10	146243.9	5% - 20yr	1206.5	1100.11	1095.09	2.05	1.88	20.97	12.89	156.37	339.94	3.69	2.26	5.02	5.02
Stillwater County	A12	RM 419.03	145859.8	5% - 20yr	1206.5	1099.8	1095.88	2.79	2.65	44.02	27.55	171.68	313.01	2.5	1.56	3.92	3.92
Stillwater County	A12	RM 418.95	145435.3	5% - 20yr	1206.5	1099.59	1095.15	2.63	2.43	41.19	25.18	207.07	393.93	2.17	1.32	4.44	4.44

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	5% - 20yr	1206.5	1099.23	1094.92	2.64	2.32	42.59	25.2	222.59	453.34	1.99	1.18	4.31	4.31
Stillwater County	A12	RM 418.57	143452.8	5% - 20yr	1206.5	1098.21	1095.1	2.98	2.45	52.88	23.35	135.5	518.18	2.17	0.96	3.11	3.11
Stillwater County	A12	RM 418.49	143008.1	5% - 20yr	1206.5	1098.13	1094.94	2.11	1.52	25.73	12.6	169.36	797.58	2.37	1.16	3.19	3.19
Stillwater County	A12	RM 418.25	141740.8	5% - 20yr	1206.5	1097.43	1093.71	2.16	1.63	28.71	20.16	177.59	603.7	1.94	1.36	3.71	3.71
Stillwater County	A12	RM 418.08	140894.8	5% - 20yr	1206.5	1097.11	1092.65	2.17	1.83	26.84	14.43	139.46	498.43	2.46	1.32	4.46	4.46
Stillwater County	A12	RM 417.89	139893.7	5% - 20yr	1206.5	1096.37	1092.75	3.21	2.77	57	28.97	128.08	419.96	2.7	1.37	3.62	3.62
Stillwater County	A12	RM 417.79	139376.4	5% - 20yr	1206.5	1096.15	1091.64	2.85	2.33	46.29	27.28	137.16	382.98	2.45	1.44	4.51	4.51
Stillwater County	A12	RM 417.65	138633.4	5% - 20yr	1206.5	1095.63	1091.57	3.28	2.65	56.59	27.82	93.48	315.09	3.12	1.53	4.06	4.06
Stillwater County	A12	RM 417.54	138089.5	5% - 20yr	1206.5	1095.08	1091.15	3.77	3.18	75.82	39.86	86.99	238.15	3.04	1.59	3.93	3.93
Stillwater County	A12	RM 417.40	137321.3	5% - 20yr	1382	1094.81	1091.71	2.79	2.37	45.12	31.02	128.15	377.74	2.35	1.61	3.1	3.1
Stillwater County	A12	RM 417.30	136818.2	5% - 20yr	1382	1094.47	1091.51	2.73	2.52	44.09	32.43	201.14	365.29	2.2	1.61	2.95	2.95
Stillwater County	A13	RM 417.09	135706	5% - 20yr	1382	1093.77	1090.35	3.16	2.79	58.46	38.12	189.62	337.02	2.25	1.47	3.42	3.42
Stillwater County	A13	RM 417.01	135303.6	5% - 20yr	1382	1093.66	1090	2.43	2.26	34.72	26.81	251.17	401.23	2.22	1.72	3.66	3.66
Stillwater County	A13	RM 416.85	134457.6	5% - 20yr	1382	1093.06	1089.62	2.69	2.32	39.92	22.82	186.12	386.28	2.7	1.54	3.44	3.44
Stillwater County	A13	RM 416.73	133843.5	5% - 20yr	1382	1092.62	1089.6	2.96	2.61	52.31	31.6	214.87	413.1	2.12	1.28	3.02	3.02
Stillwater County	A13	RM 416.63	133286.1	5% - 20yr	1382	1092.24	1089.3	2.9	2.59	51.89	37.33	134.05	380.41	1.94	1.4	2.94	2.94
Stillwater County	A13	RM 416.52	132717.9	5% - 20yr	1382	1091.95	1089.09	2.57	1.99	41.17	27.43	104.23	547.02	1.9	1.27	2.86	2.86
Stillwater County	A13	RM 416.43	132250.3	5% - 20yr	1382	1091.63	1088.74	2.42	2.01	37.07	25.15	114.45	562.91	1.8	1.22	2.88	2.88
Stillwater County	A13	RM 416.33	131707.5	5% - 20yr	1382	1091.39	1088.02	2.19	1.86	29.8	20.88	132.28	551.25	1.92	1.35	3.37	3.37
Stillwater County	A13	RM 416.22	131140.9	5% - 20yr	1382	1090.96	1087.56	3.07	2.3	52.93	28.22	84.28	434.98	2.6	1.38	3.4	3.4
Stillwater County	A13	RM 416.13	130626.3	5% - 20yr	1382	1090.62	1086.65	2.89	2.34	47.37	28.08	147.28	393.45	2.52	1.5	3.97	3.97
Stillwater County	A13	RM 416.04	130164.9	5% - 20yr	1382	1090.21	1085.03	3.3	2.37	60.68	29.32	123.44	454.99	2.65	1.28	5.18	5.18
Stillwater County	A13	RM 415.96	129734.7	5% - 20yr	1382	1090.12	1085.48	2.54	1.71	35.5	14.93	133.05	741.08	2.78	1.16	4.64	4.64
Stillwater County	A13	RM 415.90	129423.4	5% - 20yr	1382	1090.03	1085.77	2.09	1.43	24.75	12.03	159.35	845.54	2.53	1.23	4.26	4.26
Stillwater County	A13	RM 415.83	129071.6	5% - 20yr	1382	1089.93	1085.89	1.98	1.36	21.46	11.04	152.97	709.97	2.77	1.43	4.6	4.6
Stillwater County	A13	RM 415.74	128639.5	5% - 20yr	1382	1089.68	1084.72	2.54	1.74	33.78	15.11	152.97	725.2	3.21	1.43	4.96	4.96
Stillwater County	A13	RM 415.72	128521.2	5% - 20yr	1382	1089.51	1084.8	2.96	2.03	45.31	17.96	129.25	721.14	3.31	1.3	4.71	4.71
Stillwater County	A13	RM 415.65	128106.2	5% - 20yr	1382	1089.28	1083.7	3.02	2.25	52.1	26.24	169.58	703.91	2.47	1.24	5.58	5.58
Stillwater County	A13	RM 415.59	127828.3	5% - 20yr	1382	1088.78	1083.61	3.72	3.32	76.71	40.19	136.01	329.16	2.68	1.4	5.17	5.17
Stillwater County	A13	RM 415.55	127620.5	5% - 20yr	1382	1088.85	1082.84	2.67	2.66	35.06	31.15	132.92	154.49	3.89	3.45	6	6
Stillwater County	A13	RM 415.50	127340.9	5% - 20yr	1382	1088.71	1083.14	2.8	2.78	40.84	28.97	150.54	230.31	3.27	2.32	5.57	5.57
Stillwater County	A13	RM 415.45	127087.4	5% - 20yr	1382	1088.29	1083.18	3.48	3.37	68.31	45.94	154.65	268.1	2.56	1.72	5.11	5.11
Stillwater County	A13	RM 415.34	126499.1	5% - 20yr	1382	1088.05	1084.45	3.06	2.76	51.98	32.55	129.56	426.62	2.66	1.67	3.6	3.6
Stillwater County	A13	RM 415.25	126040.7	5% - 20yr	1382	1087.8	1082.42	3.04	2.5	50.02	24.3	123.59	450.43	2.91	1.41	5.38	5.38
Stillwater County	A13	RM 415.18	125663.1	5% - 20yr	1382	1087.62	1083.81	2.88	2.66	44.75	30.02	135.23	331.46	2.93	1.97	3.81	3.81
Stillwater County	A13	RM 414.97	124585.1	5% - 20yr	1382	1086.78	1082.64	3.26	2.65	58.76	30.79	121.02	387.65	2.7	1.42	4.14	4.14
Stillwater County	A13	RM 414.88	124110.1	5% - 20yr	1382	1086.48	1083.02	3.19	2.7	56.44	31.48	124.32	351.47	2.71	1.51	3.45	3.45
Stillwater County	A13	RM 414.71	123222	5% - 20yr	1382	1085.98	1080.88	2.89	2.76	45.36	25.14	164.89	315.35	2.88	1.59	5.1	5.1
Stillwater County	A13	RM 414.57	122473.6	5% - 20yr	1382	1085.39	1081.21	3.36	3.11	61.77	32.7	146.86	333.22	2.77	1.47	4.18	4.18
Stillwater County	A13	RM 414.43	121696.6	5% - 20yr	1382	1084.92	1080.49	3.12	2.59	55.15	27.85	170.98	634.7	2.49	1.26	4.43	4.43
Stillwater County	A13	RM 414.21	120527.7	5% - 20yr	1382	1084.21	1080.81	2.71	2.37	45.03	24.85	220.55	613.1	1.98	1.1	3.4	3.4
Stillwater County	A13	RM 413.90	118914.7	5% - 20yr	1382	1082.84	1079.28	3.31	2.56	61.9	25.98	155.79	512.45	2.52	1.05	3.56	3.56
Stillwater County	A13	RM 413.65	117570.4	5% - 20yr	1382	1082.12	1078.15	2.91	1.75	46.41	21.07	141.33	625.58	2.79	1.26	3.97	3.97
Stillwater County	A14	RM 413.44	116446.3	5% - 20yr	1382	1081.4	1076.4	3.16	1.93	55.05	17.39	146.43	840.44	2.71	0.85	5	5
Stillwater County	A14	RM 413.27	115556.7	5% - 20yr	1382	1080.86	1077.8	2.96	1.84	52.66	23.53	176.65	794.4	2.12	0.95	3.06	3.06
Stillwater County	A14	RM 413.11	114697.4	5% - 20yr	1382	1080.35	1077.12	2.64	1.78	41.15	17.85	197.19	812.75	2.23	0.96	3.23	3.23
Stillwater County	A14	RM 412.99	114113.2	5% - 20yr	1382	1079.96	1076.41	2.81	1.88	47.21	21.59	186.79	844.86	2.16	0.99	3.55	3.55
Stillwater County	A14	RM 412.88	113533.6	5% - 20yr	1382	1079.59	1076.03	2.9	2.14	46.64	21.17	143.79	649.95	2.69	1.22	3.56	3.56
Stillwater County	A14	RM 412.73	112742.6	5% - 20yr	1382	1079.08	1074.72	2.99	2.13	51.98	28.39	172.04	597.8	2.31	1.26	4.36	4.36
Stillwater County	A14	RM 412.59	112005.5	5% - 20yr	1382	1078.62	1074.72	2.79	2.09	45.64	30.06	198.19	675.81	2.25	1.48	3.9	3.9
Stillwater County	A14	RM 412.49	111442.5	5% - 20yr	1382	1078.52	1074.54	2.12	1.71	25.12	12.58	189.08	838.84	2.63	1.32	3.98	3.98
Stillwater County	A14	RM 412.31	110522	5% - 20yr	1382	1078.17	1072.96	2.43	1.92	29.53	12.64	144.87	595.15	3.73	1.58	5.21	5.21
Stillwater County	A14	RM 412.19	109955.3	5% - 20yr	1382	1077.36	1071.57	4.03	3.52	85.08	37.75	103.6	276.6	3.24	1.42	5.79	5.79
Stillwater County	A14	RM 412.05	109175.2	5% - 20yr	1382	1076.98	1072.08	3.47	2.94	61.83	25.13	113.76	373.4	3.39	1.37	4.9	4.9
Stillwater County	A14	RM 411.92	108510.2	5% - 20yr	1382	1076.7	1072.88	3.07	3.05	49.6	42.95	144.39	167.43	3.12	2.7	3.82	3.82
Stillwater County	A14	RM 411.81	107950.5	5% - 20yr	1382	1076.21	1070.62	3.51	3.51	66.11	66.11	132.74	137.45	2.97	2.97	5.59	5.59
Stillwater County	A14	RM 411.71	107391.9	5% - 20yr	1382	1075.95	1070.83	3.27	3.26	54.15	52.13	119.39	147.63	3.54	3.41	5.12	5.12
Stillwater County	A14	RM 411.58	106721	5% - 20yr	1382	1075.66	1071.65	3.04	2.99	50.23	37.15	161.07	298.52	2.82	2.09	4.01	4.01
Stillwater County	A14	RM 411.47	106133.7	5% - 20yr	1382	1075.33	1071.87	3.07	2.61	51.98	30.32	158.14	343.66	2.7	1.57	3.46	3.46
Stillwater County	A14	RM 411.32	105338.4	5% - 20yr	1382	1074.81	1069.29	3.12	2.76	54.05	37.48	161.79	280.03	2.66	1.84	5.52	5.52

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	5% - 20yr	1382	1073.89	1067.92	3.79	2.94	76.27	34.17	113.85	344.66	3.06	1.37	5.97	5.97
Stillwater County	A14	RM 411.00	103638.4	5% - 20yr	1382	1073.45	1069.6	3.35	2.54	63.64	35.77	141.53	388.7	2.49	1.4	3.85	3.85
Stillwater County	A14	RM 410.85	102835.8	5% - 20yr	1382	1073	1069.92	2.73	2.19	46.15	28.96	83.64	591.98	1.91	1.2	3.08	3.08
Stillwater County	A14	RM 410.74	102286.3	5% - 20yr	1382	1072.56	1068.99	2.87	2.15	49.21	28.35	74.13	651.5	2.17	1.24	3.57	3.57
Stillwater County	A14	RM 410.63	101668.3	5% - 20yr	1382	1072.27	1068.37	2.54	1.81	36.54	19.97	83.69	805.66	2.55	1.39	3.9	3.9
Stillwater County	A14	RM 410.52	101115.7	5% - 20yr	1382	1071.94	1067.81	2.65	2.14	38.7	24.13	123.09	716.96	2.72	1.69	4.13	4.13
Stillwater County	A14	RM 410.42	100568.4	5% - 20yr	1382	1071.43	1066.66	2.93	2.93	52.23	43.07	149.68	309.33	2.03	1.67	4.77	4.77
Stillwater County	A14	RM 410.33	100099.2	5% - 20yr	1382	1071.22	1066.6	2.6	2.32	37.8	25.11	198.78	687.08	2.59	1.72	4.62	4.62
Stillwater County	A14	RM 410.22	99589.26	5% - 20yr	1382	1070.73	1066.94	3.28	2.75	59.78	30.83	152.14	853.97	2.65	1.36	3.79	3.79
Stillwater County	A14	RM 410.12	99057.4	5% - 20yr	1382	1070.34	1065.8	3.23	2.72	61.34	42.5	175.03	763.77	2.25	1.56	4.54	4.54
Stillwater County	A14	RM 410.03	98630.66	5% - 20yr	1382	1070.02	1065.33	3.03	2.62	55.75	42.24	206.34	660.56	2.05	1.55	4.69	4.69
Stillwater County	A14	RM 409.99	98385.41	5% - 20yr	1382	1069.81	1065.38	3.04	2.58	56.19	38.48	205.2	699.93	2.04	1.39	4.43	4.43
Stillwater County	A14	RM 409.94	98072.09	5% - 20yr	1382	1069.65	1065.51	2.71	2.14	43.3	24.07	206.32	971.72	2.25	1.25	4.14	4.14
Stillwater County	A14	RM 409.87	97717.24	5% - 20yr	1382	1069.61	1065.52	2.23	1.54	25.87	12.07	166.49	1218.08	3.21	1.49	4.09	4.09
Stillwater County	A14	RM 409.76	97130.84	5% - 20yr	1382	1069.22	1065.37	2.95	2.05	47.23	17.39	146.97	896.78	2.83	1.04	3.85	3.85
Stillwater County	A14	RM 409.60	96278.7	5% - 20yr	1382	1068.28	1064.65	3.77	2.92	86.67	48.02	166.1	433.57	2	1.11	3.62	3.62
Stillwater County	A14	RM 409.43	95381.62	5% - 20yr	1382	1067.63	1063.55	3.09	2.15	53.48	24.52	134.36	806.9	2.58	1.18	4.09	4.09
Stillwater County	A14	RM 409.24	94405.29	5% - 20yr	1382	1066.95	1064.55	2.29	1.88	36.39	25.93	157.1	919.46	1.35	0.96	2.74	2.74
Stillwater County	A14	RM 409.15	93912.54	5% - 20yr	1382	1066.58	1064.27	1.98	1.79	26.24	18.72	168.13	710.4	1.52	1.09	4.51	4.51
Stillwater County	A14	RM 408.99	93008.08	5% - 20yr	1382	1065.78	1063.94	2.44	2.63	41.81	30.64	162.36	545.16	1.31	0.97	3.24	3.24
Stillwater County	A14	RM 408.84	92229.27	5% - 20yr	1382	1065.25	1062.1	2.69	2.55	47.43	32.1	154.99	488.27	1.63	1.11	3.15	3.15
Stillwater County	A14	RM 408.63	91072.98	5% - 20yr	1382	1064.65	1061.85	2.13	1.97	28.9	24.61	211.69	477.68	1.77	1.51	3.07	3.07
Stillwater County	A14	RM 408.41	89726.16	5% - 20yr	1382	1064.16	1059.04	2.45	2.04	30.14	16.71	105.48	336.35	3.66	2.02	5.12	5.12
Stillwater County	A14	RM 408.26	88966.66	5% - 20yr	1382	1063.87	1058.13	2.64	2.22	34.58	18.07	130.93	320.58	3.73	1.94	5.74	5.74
Stillwater County	A14	RM 408.10	88091.52	5% - 20yr	1382	1063.07	1057.78	3.81	3.56	72.91	45.19	98.48	172.46	3.63	2.25	5.29	5.29
Stillwater County	A14	RM 408.02	87720.33	5% - 20yr	1382	1063	1058.61	3.27	2.91	55.35	27.99	126.05	310.72	3.3	1.66	4.39	4.39
Stillwater County	A14	RM 407.83	86708.48	5% - 20yr	1382	1062.41	1058.65	2.99	2.74	54.62	36.44	158.15	379.57	1.99	1.33	3.76	3.76
Stillwater County	A14	RM 407.71	86078.99	5% - 20yr	1382	1061.98	1057.9	3.19	2.67	56.19	25.88	117.98	416.99	2.69	1.24	4.08	4.08
Stillwater County	A14	RM 407.61	85508.29	5% - 20yr	1382	1061.73	1058.36	2.63	2.35	41.84	28.34	170.59	425.08	2.05	1.39	3.37	3.37
Stillwater County	A14	RM 407.50	84909.3	5% - 20yr	1382	1061.45	1058.55	2.52	2.22	39.71	29.81	179.04	437.8	1.88	1.42	3.39	3.39
Stillwater County	A14	RM 407.41	84433.26	5% - 20yr	1382	1061.27	1057.85	2.46	1.93	35.6	22.54	122.26	497.49	2.27	1.44	3.61	3.61
Stillwater County	A14	RM 407.36	84180.66	5% - 20yr	1382	1061.09	1057.59	2.84	2.02	45.41	23.47	101.75	517.51	2.57	1.32	3.5	3.5
Stillwater County	A14	RM 407.29	83775.88	5% - 20yr	1382	1060.74	1057.08	2.44	2.48	36.48	29.12	154.53	350.13	1.99	1.59	3.92	3.92
Stillwater County	A14	RM 407.13	82954.84	5% - 20yr	1382	1060.4	1056.27	2.22	2.18	29.24	25.39	279.34	328.85	2.22	1.93	4.13	4.13
Stillwater County	A14	RM 406.98	82156.72	5% - 20yr	1382	1060.16	1056.37	2.15	2.05	24.28	18.27	199.76	287.75	3.16	2.38	3.79	3.79
Stillwater County	A14	RM 406.86	81532.92	5% - 20yr	1382	1059.37	1055.69	3.8	3.62	76.51	60.47	115.29	155.71	3.1	2.45	3.68	3.68
Stillwater County	A14	RM 406.77	81053.3	5% - 20yr	1382	1059.11	1053.84	3.57	3.15	66.14	42.41	112.47	208.46	3.29	2.1	5.27	5.27
Stillwater County	A14	RM 406.64	80405.13	5% - 20yr	1382	1058.85	1054.89	3.1	2.88	50.69	37.99	138.87	294.37	3.1	2.33	3.96	3.96
Stillwater County	A14	RM 406.48	79524.79	5% - 20yr	1382	1058.34	1054.8	2.99	2.43	50.4	30.98	205.39	484.83	2.03	1.24	3.54	3.54
Stillwater County	A14	RM 406.25	78337.26	5% - 20yr	1382	1057.63	1054.03	2.94	2.38	46.96	19.59	143.92	493.43	2.84	1.18	3.6	3.6
Stillwater County	A14	RM 406.08	77409.13	5% - 20yr	1382	1057.21	1052.87	2.86	1.97	44.11	16.62	131.8	678.51	2.94	1.1	4.33	4.33
Stillwater County	A14	RM 405.93	76624.91	5% - 20yr	1382	1056.46	1052.64	3.59	3.27	67.05	33.44	114.34	260.13	3.27	1.63	3.82	3.82
Stillwater County	A14	RM 405.81	75994.44	5% - 20yr	1382	1056.14	1051.93	3.29	3.16	57.53	52.63	133.87	207.59	3.05	2.8	4.21	4.21
Stillwater County	A15	RM 405.77	75764.36	5% - 20yr	1382	1055.85	1052.63	3.63	3.36	74.87	64.3	142.49	189.86	2.51	2.17	3.22	3.22
Stillwater County	A15	RM 405.67	75185.26	5% - 20yr	1382	1055.52	1052.06	3.19	2.74	57.19	43.08	82.19	258.3	2.58	1.95	3.46	3.46
Stillwater County	A15	RM 405.61	74883.52	5% - 20yr	1382	1055.3	1051.81	3.5	2.67	65.91	37.27	69.55	338.93	2.91	1.65	3.49	3.49
Stillwater County	A15	RM 405.52	74415.92	5% - 20yr	1382	1054.85	1051.43	3.92	2.74	82.85	43.87	52.24	406.33	2.95	1.56	3.42	3.42
Stillwater County	A15	RM 405.45	74031.34	5% - 20yr	1382	1054.8	1051.1	3.04	1.94	48.03	23.39	57.4	578.93	3.28	1.6	3.7	3.7
Stillwater County	A15	RM 405.34	73437.72	5% - 20yr	1382	1054.35	1050.67	3.14	2.49	51.94	22.32	116.05	522.24	3.1	1.33	3.67	3.67
Stillwater County	A15	RM 405.18	72616.33	5% - 20yr	1382	1053.86	1049.45	3.38	2.73	57.91	25.25	94.83	406.53	3.56	1.54	4.41	4.41
Stillwater County	A15	RM 405.09	72171.48	5% - 20yr	1382	1053.75	1049.09	2.84	2.43	41.09	21.21	115.98	437.53	3.47	1.79	4.66	4.66
Stillwater County	A15	RM 405.02	71774.52	5% - 20yr	1382	1053.31	1048.59	3.67	3.14	68.12	32.58	88.03	259.01	3.57	1.7	4.72	4.72
Stillwater County	A15	RM 404.97	71526.86	5% - 20yr	1382	1053.31	1048.35	3.07	2.55	47.81	20.55	105.86	503.73	3.48	1.49	4.97	4.97
Stillwater County	A15	RM 404.90	71150.58	5% - 20yr	1382	1053.15	1048.99	3.08	2.62	48.51	22.98	104.62	543.22	3.42	1.62	4.16	4.16
Stillwater County	A15	RM 404.84	70801.47	5% - 20yr	1382	1053.11	1049.19	2.64	2.09	35.77	12.87	118.04	944.65	3.4	1.22	3.92	3.92
Stillwater County	A15	RM 404.77	70415.17	5% - 20yr	1382	1052.96	1048.51	2.93	2.05	42.77	12.03	86.33	916.32	3.75	1.04	4.45	4.45
Stillwater County	A15	RM 404.59	69477.61	5% - 20yr	1382	1052.19	1047.56	3.71	3.46	71.63	31.66	110.32	275.39	3.33	1.45	4.63	4.63
Stillwater County	A15	RM 404.54	69214.33	5% - 20yr	1382	1052.11	1047.65	3.37	3.04	60.07	25.8	128.35	343.51	3.12	1.32	4.46	4.46
Stillwater County	A15	RM 404.35	68254.38	5% - 20yr	1382	1051.62	1048.18	2.91	2.75	48.39	31.88	145.86	309.11	2.45	1.63	3.85	3.85
Stillwater County	A15	RM 404.10	66934.17	5% - 20yr	1382	1050.85	1047.61	2.85	2.72	44.86	39.52	123.69	363.44	2.71	2.39	3.24	3.24

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	5% - 20yr	1382	1050.51	1045.27	2.84	2.35	43.28	24.96	113.06	520.43	2.99	1.72	5.24	5.24
Stillwater County	A15	RM 403.85	65604.39	5% - 20yr	1382	1050.07	1044.79	3.56	2.94	64.05	42.89	79.04	407.23	3.59	2.39	5.28	5.28
Stillwater County	A15	RM 403.75	65058.55	5% - 20yr	1382	1049.42	1046.13	4.09	3.61	93.1	67.14	101.02	228.26	2.66	1.91	3.29	3.29
Stillwater County	A15	RM 403.69	64721.22	5% - 20yr	1382	1049.36	1046.02	2.94	2.8	49.72	45.4	134.56	344.64	2.4	2.2	3.34	3.34
Stillwater County	A15	RM 403.62	64341.29	5% - 20yr	1382	1049.03	1045.75	3.22	3.04	63.39	52.79	92.33	353.65	2.01	1.68	3.28	3.28
Stillwater County	A15	RM 403.55	63997.04	5% - 20yr	1382	1048.89	1045.95	2.74	2.36	44.94	32.26	117.35	453.76	2.12	1.52	2.94	2.94
Stillwater County	A15	RM 403.38	62985.06	5% - 20yr	1382	1048.57	1043.43	2.16	1.95	25.76	20.4	194.68	407.34	2.72	2.15	5.14	5.14
Stillwater County	A15	RM 403.24	62260	5% - 20yr	1382	1048.23	1043.43	2.53	2.45	33.4	23.2	167.56	361.34	3.25	2.25	4.8	4.8
Stillwater County	A15	RM 403.15	61770.95	5% - 20yr	1382	1047.72	1042.51	3.41	3.21	61.74	36.16	130.41	277.45	3.08	1.8	5.21	5.21
Stillwater County	A15	RM 403.05	61263.44	5% - 20yr	1382	1047.43	1043.23	3.28	3.14	58.21	35.52	146.94	285.89	2.86	1.75	4.2	4.2
Stillwater County	A15	RM 402.97	60777.65	5% - 20yr	1382	1047.2	1043.89	2.93	2.84	48.87	39.37	190.96	299.39	2.46	1.99	3.31	3.31
Stillwater County	A15	RM 402.83	60113.9	5% - 20yr	1382	1046.64	1043.49	3.07	3.06	59.27	57.53	246.5	419.44	1.83	1.77	3.15	3.15
Stillwater County	A15	RM 402.68	59309.8	5% - 20yr	1382	1046.13	1042.55	2.63	2.36	40.82	25.82	233.75	753.11	2.2	1.39	3.58	3.58
Stillwater County	A15	RM 402.53	58529.61	5% - 20yr	1382	1045.76	1040.51	2.83	1.87	39.89	11.68	121.12	872.99	3.71	1.08	5.25	5.25
Stillwater County	A15	RM 402.37	57665.93	5% - 20yr	1382	1045.19	1041.09	3.2	2.44	64.24	31.86	212.6	708.37	1.87	0.93	4.1	4.1
Stillwater County	A15	RM 402.24	56987.42	5% - 20yr	1382	1045.04	1040.75	2.03	1.5	24	11.71	251.22	933.19	2.35	1.15	4.29	4.29
Stillwater County	A15	RM 402.07	56034.67	5% - 20yr	1382	1044.47	1041.1	2.73	2.03	44.24	25.78	204.35	529.62	2.2	1.28	3.37	3.37
Stillwater County	A15	RM 401.87	54972.92	5% - 20yr	1382	1043.84	1040.1	2.92	2	47.08	20.98	150.47	573.67	2.71	1.21	3.74	3.74
Stillwater County	A15	RM 401.69	54002.29	5% - 20yr	1382	1043.67	1038.43	1.89	1.59	20.01	11.28	248.14	588	2.63	1.48	5.24	5.24
Stillwater County	A15	RM 401.55	53267.48	5% - 20yr	1382	1042.85	1036.56	3.84	3.2	69.41	26.86	74.7	252.41	4.47	1.71	6.29	6.29
Stillwater County	A15	RM 401.41	52506.25	5% - 20yr	1382	1042.75	1037.91	2.78	2.35	40.6	25.69	136.71	348.1	3.19	2.02	4.84	4.84
Stillwater County	A15	RM 401.31	51997.63	5% - 20yr	1382	1042.36	1038.08	3.27	2.8	56.3	36.21	119.22	245.74	3.11	2.01	4.28	4.28
Stillwater County	A15	RM 401.17	51259.17	5% - 20yr	1382	1041.89	1037.38	3.23	2.99	56.44	34.48	145.77	281.69	2.9	1.77	4.51	4.51
Stillwater County	A15	RM 401.03	50507.04	5% - 20yr	1382	1041.49	1036.56	3.19	2.73	52.51	24.06	125.18	326.95	3.37	1.55	4.93	4.93
Stillwater County	A15	RM 400.90	49826.69	5% - 20yr	1382	1040.93	1036.25	3.54	3.22	69.98	49.75	146.68	253.9	2.61	1.86	4.68	4.68
Stillwater County	A15	RM 400.74	49002.09	5% - 20yr	1382	1040.39	1037.21	3.4	2.48	63.66	35.9	111.86	362.67	2.74	1.53	3.18	3.18
Stillwater County	A15	RM 400.61	48243.95	5% - 20yr	1382	1040.13	1035.99	2.48	2.13	34.78	24.98	144.79	355.6	2.55	1.82	4.14	4.14
Stillwater County	A15	RM 400.50	47710.55	5% - 20yr	1382	1039.8	1035.67	2.65	2.51	39.58	30.3	149.16	277.75	2.6	1.99	4.13	4.13
Stillwater County	A15	RM 400.42	47243.72	5% - 20yr	1382	1039.45	1034.87	3.12	2.82	51.59	32.33	103.89	252.91	3.11	1.93	4.58	4.58
Stillwater County	A15	RM 400.34	46832.6	5% - 20yr	1382	1039.28	1034.91	3.05	2.68	47.87	23.77	95.8	308.27	3.36	1.67	4.37	4.37
Stillwater County	A15	RM 400.25	46335.82	5% - 20yr	1382	1039.13	1035.01	2.81	2.37	41.3	21.68	107.99	343.61	3.25	1.7	4.12	4.12
Stillwater County	A15	RM 400.18	45999.89	5% - 20yr	1382	1038.96	1034.98	2.9	2.47	44.94	24.5	114.88	338.96	3.04	1.65	3.98	3.98
Stillwater County	A15	RM 400.13	45714.33	5% - 20yr	1382	1038.83	1035.2	2.87	2.38	43.62	26.21	122.23	313.16	3.09	1.85	3.63	3.63
Stillwater County	A15	RM 400.11	45623.77	5% - 20yr	1382	1038.74	1035.11	2.99	2.46	48.9	30.43	129.54	320.93	2.84	1.75	3.63	3.63
Stillwater County	A15	RM 400.09	45529.19	5% - 20yr	1382	1038.58	1035.05	3.32	2.8	62.08	40.78	128.18	293.36	2.57	1.68	3.53	3.53
Stillwater County	A15	RM 400.03	45177.97	5% - 20yr	1382	1038.37	1034.82	3.1	2.79	54.17	43.87	137.4	251.24	2.55	2.07	3.55	3.55
Stillwater County	A15	RM 399.95	44761.86	5% - 20yr	1382	1038.16	1033.69	2.88	2.88	43.54	38.08	149.97	178.48	3.2	2.79	4.47	4.47
Stillwater County	A16	RM 399.85	44225.61	5% - 20yr	1382	1037.71	1033.63	3.35	3.34	60.97	60.61	144.72	145.61	2.85	2.84	4.08	4.08
Stillwater County	A16	RM 399.74	43664.16	5% - 20yr	1382	1037.47	1033.48	2.86	2.86	46.36	46.08	188.33	189.3	2.56	2.55	3.99	3.99
Stillwater County	A16	RM 399.62	43026.17	5% - 20yr	1382	1037.13	1033.67	2.73	2.72	43.52	40.22	218.18	245.69	2.32	2.14	3.46	3.46
Stillwater County	A16	RM 399.50	42404.94	5% - 20yr	1382	1036.84	1031.89	2.68	2.56	38.12	27.95	167.47	240.77	3.06	2.24	4.95	4.95
Stillwater County	A16	RM 399.39	41801.43	5% - 20yr	1382	1036.49	1031.8	2.95	2.86	46.69	38.61	156.53	201.11	2.98	2.46	4.69	4.69
Stillwater County	A16	RM 399.30	41294.57	5% - 20yr	1382	1036.15	1031.14	3.19	2.96	55.35	40.25	146.13	224.32	2.87	2.08	5.01	5.01
Stillwater County	A16	RM 399.19	40736.83	5% - 20yr	1382	1035.54	1031.46	3.72	3.36	76.31	44.36	134.6	260.92	2.72	1.58	4.08	4.08
Stillwater County	A16	RM 399.09	40202.15	5% - 20yr	1382	1035.27	1031.09	3.29	2.85	57.45	30.1	129.05	301.8	3.08	1.61	4.18	4.18
Stillwater County	A16	RM 399.00	39710.39	5% - 20yr	1382	1035.1	1031.41	2.92	2.3	47.12	29.8	144.86	352.96	2.7	1.7	3.69	3.69
Stillwater County	A16	RM 398.91	39231.58	5% - 20yr	1382	1034.8	1031.73	2.84	2.3	49.82	33	180.64	463.91	1.95	1.29	3.07	3.07
Stillwater County	A16	RM 398.80	38666.26	5% - 20yr	1382	1034.39	1031.55	2.76	2.2	46.05	30.65	189.85	462.08	2.04	1.36	2.84	2.84
Stillwater County	A16	RM 398.73	38275.64	5% - 20yr	1382	1034.12	1030.78	2.69	2.18	36.89	23.93	222.51	529.61	1.85	1.2	3.34	3.34
Stillwater County	A16	RM 398.62	37715.08	5% - 20yr	1382	1033.8	1030.19	2.57	2.2	34.45	25.91	205.16	430.63	1.95	1.46	3.61	3.61
Stillwater County	A16	RM 398.51	37115.9	5% - 20yr	1382	1033.44	1030.68	2.57	2.24	39.72	25.93	212.08	446.99	2.12	1.38	2.78	2.78
Stillwater County	A16	RM 398.40	36522.49	5% - 20yr	1382	1033.26	1028.27	2.19	1.87	22.29	17.04	221.91	464.07	2.08	1.59	4.99	4.99
Stillwater County	A16	RM 398.29	35952.65	5% - 20yr	1382	1032.86	1027.62	2.56	2.31	40.81	29.6	276.97	432.92	1.91	1.38	5.24	5.24
Stillwater County	A16	RM 398.17	35320.39	5% - 20yr	1382	1032.64	1028.88	2.19	2.08	26.61	18.78	233.17	351.43	2.68	1.89	3.76	3.76
Stillwater County	A16	RM 398.04	34597.07	5% - 20yr	1382	1032.33	1027.24	2.32	2.22	37.51	28.73	255.81	400.41	2.31	1.77	5.09	5.09
Stillwater County	A16	RM 397.95	34133.39	5% - 20yr	1382	1031.95	1027.15	2.7	2.63	43.91	37.87	240.56	292.59	2.11	1.82	4.8	4.8
Stillwater County	A16	RM 397.81	33366.95	5% - 20yr	1382	1031.66	1027.05	2.28	2.17	29.38	22.81	238.03	342.92	2.53	1.96	4.61	4.61
Stillwater County	A16	RM 397.68	32754.86	5% - 20yr	1382	1031.43	1026.97	2.37	2.22	30.14	21.93	194.55	356.13	2.96	2.16	4.46	4.46
Stillwater County	A16	RM 397.56	32104.4	5% - 20yr	1382	1030.8	1026.76	3.43	3.24	63.18	41.2	135	516.58	2.95	1.93	4.04	4.04
Stillwater County	A16	RM 397.40	31237.31	5% - 20yr	1382	1030.29	1026.27	3.1	2.77	54.69	40.61	175.39	649.16	2.47	1.84	4.02	4.02

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% - 20yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	5% - 20yr	1382	1029.68	1025.84	2.46	1.95	37.56	23.28	268.51	981.43	1.92	1.19	3.84	3.84
Stillwater County	A16	RM 396.97	29050.44	5% - 20yr	1382	1029.26	1025.61	2.06	1.47	25.2	13.57	280.04	1071.33	2.18	1.17	3.65	3.65
Stillwater County	A16	RM 396.71	27639.86	5% - 20yr	1382	1028.62	1022.48	2.79	1.54	40.19	11.03	127.44	1092.77	3.37	0.91	6.14	6.14
Stillwater County	A16	RM 396.62	27103.31	5% - 20yr	1382	1028.18	1022.36	3.39	2.11	56.89	11.97	99.61	917.67	3.83	0.79	5.82	5.82
Stillwater County	A16	RM 396.52	26616.35	5% - 20yr	1382	1027.95	1023.41	3.42	1.98	60.3	14.98	107.46	843.27	3.36	0.83	4.54	4.54
Stillwater County	A16	RM 396.29	25423.1	5% - 20yr	1382	1027.57	1023.53	2.45	1.63	34.13	13.44	188.33	875.15	2.49	0.98	4.04	4.04
Stillwater County	A16	RM 396.14	24635.78	5% - 20yr	1382	1026.75	1022.46	3.59	2.86	72.64	37.41	129.45	496.05	2.55	1.31	4.29	4.29
Stillwater County	A16	RM 396.03	24026.24	5% - 20yr	1382	1026.63	1024.1	2.33	1.86	32.38	18.78	186.55	694.88	2.15	1.25	2.53	2.53
Stillwater County	A16	RM 395.89	23301.08	5% - 20yr	1382	1026.12	1022.79	2.78	2.02	48.23	24.63	152.52	799.79	1.89	0.97	3.33	3.33
Stillwater County	A16	RM 395.73	22420.29	5% - 20yr	1382	1025.76	1022.66	1.61	1.34	16.06	10.21	186.62	1002.18	1.91	1.21	3.1	3.1
Stillwater County	A16	RM 395.64	21923.33	5% - 20yr	1382	1025.52	1022.13	2.15	1.51	27.66	12.65	144.53	1103	2.13	0.97	3.69	3.69
Stillwater County	A16	RM 395.57	21526.11	5% - 20yr	1382	1025.09	1021.61	3.01	1.9	51.05	17.54	78.2	1163.5	2.55	0.87	3.48	3.48
Stillwater County	A16	RM 395.48	21053.74	5% - 20yr	1382	1024.73	1021.89	2.68	2.12	45.69	25.58	113.68	873.82	1.79	1	2.84	2.84
Stillwater County	A16	RM 395.36	20532.68	5% - 20yr	1382	1024.47	1021.53	2.27	1.82	30.83	15.55	131.95	926.8	2.13	1.07	2.94	2.94
Stillwater County	A16	RM 394.98	18666.37	5% - 20yr	1382	1023.84	1020.31	2.82	2.12	46.88	21.04	108.87	742.04	2.24	1	3.53	3.53
Stillwater County	A16	RM 394.80	17678.79	5% - 20yr	1382	1023.48	1019.23	2.59	2.13	40.79	23.29	140.79	608.48	2.03	1.16	4.25	4.25
Stillwater County	A16	RM 394.65	16921.48	5% - 20yr	1382	1023.02	1019.93	2.32	2.2	33.39	22.07	167.86	603.07	1.92	1.27	4.02	4.02
Stillwater County	A16	RM 394.59	16622.61	5% - 20yr	1382	1022.63	1019.92	2.47	2.45	40.33	34.74	159.79	544.41	1.6	1.37	3.06	3.06
Stillwater County	A16	RM 394.53	16295.21	5% - 20yr	1382	1022.37	1019.83	2.34	2.18	35.93	30.3	158.81	495.56	1.6	1.35	3.36	3.36
Stillwater County	A16	RM 394.20	14503.23	5% - 20yr	1382	1021.21	1016.38	2.7	2.28	41.36	23.35	149.53	431.5	2.48	1.4	4.83	4.83
Stillwater County	A16	RM 394.12	14088.57	5% - 20yr	1382	1020.8	1016.74	3.17	2.65	58.2	30.33	150.11	426.59	2.34	1.22	4.06	4.06
Stillwater County	A16	RM 393.99	13393.6	5% - 20yr	1382	1020.44	1017.11	2.61	2.07	41.17	24.74	122.87	539.48	2.06	1.24	3.33	3.33
Stillwater County	A16	RM 393.85	12650.05	5% - 20yr	1382	1019.95	1016.49	2.45	2.1	38.22	27.15	178.3	530.5	1.75	1.24	3.46	3.46
Stillwater County	A16	RM 393.59	11240.84	5% - 20yr	1382	1019.43	1015.45	1.83	1.46	19.97	11.23	272.87	790.18	2.12	1.19	3.98	3.98
Stillwater County	A16	RM 393.27	9813.245	5% - 20yr	1382	1018.41	1013.32	2.93	2.72	59	43.96	254.16	479.19	1.42	1.06	5.09	5.09
Stillwater County	A16	RM 393.10	8870.543	5% - 20yr	1382	1017.79	1013.34	2.11	1.95	29.31	24.78	339.99	524.15	1.6	1.35	4.45	4.45
Stillwater County	A16	RM 392.95	8114.595	5% - 20yr	1382	1016.98	1014.13	2.81	2.72	53.72	49.01	311.92	381.06	1.46	1.33	2.85	2.85
Stillwater County	A16	RM 392.69	6912.838	5% - 20yr	1382	1016.45	1012.43	1.99	1.75	23.43	15.13	191.48	821.8	2.19	1.41	4.02	4.02
Stillwater County	A16	RM 392.44	5710.825	5% - 20yr	1382	1015.87	1011.68	2.58	1.92	36.95	14.83	135.35	1073.44	2.66	1.06	4.19	4.19
Stillwater County	A17	RM 392.20	4388.056	5% - 20yr	1382	1014.82	1010.8	3.23	2.46	63.72	30.88	198.67	582.96	2	0.97	4.02	4.02
Stillwater County	A17	RM 392.00	3345.174	5% - 20yr	1382	1014.21	1009.53	2.8	2.24	44.05	23.76	165.9	463.39	2.55	1.37	4.68	4.68
Stillwater County	A17	RM 391.84	2491.214	5% - 20yr	1382	1013.89	1010.51	2.31	1.86	32.03	17.19	154.65	663.16	2.09	1.12	3.48	3.48
Stillwater County	A17	RM 391.68	1656.536	5% - 20yr	1382	1013.56	1010.5	1.91	1.62	23.78	16.69	255.36	730.17	1.66	1.17	3.06	3.06
Stillwater County	A17	RM 391.58	1120.168	5% - 20yr	1382	1013.29	1009.55	1.99	1.6	25.67	16.39	363.9	814.02	1.67	1.06	3.74	3.74
Stillwater County	A17	RM 391.46	505.9	5% - 20yr	1382	1013.03	1009.4	2	1.46	24.56	13.65	297.18	855.5	1.99	1.1	3.63	3.63

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	20-yr	1381.86	1012.61	1008.74	2.41	1.63	33.46	14.26	209.32	835.55	2.38	1.01	3.87	3.87
Yellowstone County	A17	RM 391.14	149661.4	20-yr	1381.86	1012.18	1007.82	2.45	1.55	42.4	19.58	204.17	828.35	2.34	1.08	4.36	4.36
Yellowstone County	A17	RM 390.83	149168.3	20-yr	1381.86	1011.08	1007.89	2.59	2.09	45.4	27.42	259.28	665.48	1.76	1.06	3.19	3.19
Yellowstone County	A17	RM 390.51	148644.1	20-yr	1381.86	1010.34	1006	1.76	1.36	27.16	9.48	203.03	1108.98	2.63	0.92	4.34	4.34
Yellowstone County	A17	RM 390.34	148387.5	20-yr	1381.86	1009.93	1005.26	2.39	1.8	47.09	18.41	155.53	728.82	2.7	1.05	4.67	4.67
Yellowstone County	A17	RM 390.13	148054.9	20-yr	1381.86	1009.25	1005.54	2.8	2.14	54.86	20.11	144.88	654.64	2.69	0.98	3.71	3.71
Yellowstone County	A17	RM 389.96	147776.4	20-yr	1381.86	1008.92	1004.81	2.17	1.73	30.52	12.1	175.73	835.3	2.41	0.96	4.11	4.11
Yellowstone County	A17	RM 389.76	147468.2	20-yr	1381.86	1008.67	1004.52	1.55	1.27	20.71	9.73	299.75	877.14	2.65	1.24	4.15	4.15
Yellowstone County	A17	RM 389.55	147162.3	20-yr	1381.86	1008.18	1003.2	2	1.66	49.86	24.44	321.95	864.96	1.98	0.96	4.98	4.98
Yellowstone County	A17	RM 389.31	146731.1	20-yr	1381.86	1007.44	1003.49	2.12	1.86	27.65	12.14	256.17	680.78	2.49	1.09	3.95	3.95
Yellowstone County	A17	RM 389.08	146349	20-yr	1381.86	1006.9	1001.61	1.85	1.64	46.16	31.42	309.47	617.88	2.01	1.36	5.29	5.29
Yellowstone County	A17	RM 388.92	146095.5	20-yr	1381.86	1006.47	1002.49	2.01	1.69	23.97	14.53	266.82	683.93	2.36	1.42	3.98	3.98
Yellowstone County	A17	RM 388.79	145883.6	20-yr	1381.86	1006.25	1002.14	2.19	1.5	27.09	11.23	163.73	1088.39	3.32	1.36	4.11	4.11
Yellowstone County	A17	RM 388.61	145594.9	20-yr	1381.86	1005.73	1000.48	2.86	2.08	60.07	29.6	142.18	1087.73	2.81	1.37	5.25	5.25
Yellowstone County	A17	RM 388.58	145547	20-yr	1381.86	1005.63	1000.28	2.61	2	63.65	30.07	154.52	1185.43	2.83	1.33	5.35	5.35
Yellowstone County	A17	RM 388.36	145196.7	20-yr	1381.86	1004.98	1001.21	2.68	1.97	45.74	18.99	160.44	795.22	2.65	1.1	3.77	3.77
Yellowstone County	A17	RM 388.22	144960.1	20-yr	1381.86	1004.47	1000.23	2.9	2.03	56.08	24.92	162.01	800.91	1.98	0.88	4.24	4.24
Yellowstone County	A17	RM 388.09	144745.8	20-yr	1381.86	1003.94	999.87	2.47	1.89	42.41	24.41	230.85	787.14	1.67	0.96	4.07	4.07
Yellowstone County	A17	RM 387.91	144452	20-yr	1381.86	1003.33	999.77	1.6	1.69	24.63	20.51	379.13	781.94	1.37	1.14	3.56	3.56
Yellowstone County	A17	RM 387.79	144255.2	20-yr	1381.86	1003.22	999.17	1.23	1.21	6.82	7.1	542.51	927.15	1.5	1.56	4.05	4.05
Yellowstone County	A17	RM 387.59	143932.9	20-yr	1381.86	1002.93	998.1	1.16	1.16	37.05	37.05	984.09	1095.67	1.21	1.21	4.83	4.83
Yellowstone County	A17	RM 387.36	143562.1	20-yr	1381.86	1001.88	997.78	1.94	1.94	18.77	18.65	729.66	790.19	0.97	0.97	4.1	4.1
Yellowstone County	A17	RM 387.24	143353.9	20-yr	1381.86	1001.54	997.71	1.97	1.97	20.41	20.41	470.19	476.52	1.49	1.49	3.83	3.83
Yellowstone County	A17	RM 387.04	143026.2	20-yr	1381.86	1001.03	996.49	1.97	1.9	20.09	18.55	564.29	722.37	1.19	1.1	4.54	4.54
Yellowstone County	A17	RM 386.86	142750.4	20-yr	1381.86	1000.45	997.01	1.72	1.61	48.52	35.9	454.58	763.34	1.66	1.22	3.44	3.44
Yellowstone County	A17	RM 386.74	142538.5	20-yr	1381.86	999.97	996.31	1.9	1.79	29.91	21.99	350.66	585.84	1.95	1.43	3.66	3.66
Yellowstone County	A17	RM 386.61	142318.4	20-yr	1381.86	999.37	995.9	2.75	2.5	49.7	29.51	186.76	388.56	2.39	1.42	3.47	3.47
Yellowstone County	A17	RM 386.47	142095.8	20-yr	1381.86	999.02	995.18	2.56	2.06	40.08	22.36	168.79	577.1	2.55	1.42	3.84	3.84
Yellowstone County	A17	RM 386.33	141875.1	20-yr	1381.86	998.55	994.36	2.89	2.13	45.09	23.24	163.28	523.3	2.4	1.24	4.19	4.19
Yellowstone County	A17	RM 386.17	141622.7	20-yr	1381.86	998.02	993.9	2.77	2.42	50.34	29.58	198.79	436.86	2.22	1.31	4.12	4.12
Yellowstone County	A17	RM 386.08	141479.6	20-yr	1381.86	997.64	994.12	2.84	2.43	63.27	34.16	177.21	1276.51	2.46	1.33	3.52	3.52
Yellowstone County	A17	RM 386.03	141389.2	20-yr	1381.86	997.42	993.82	2.8	2.54	46.93	33.85	214.21	1207.52	2.11	1.52	3.6	3.6
Yellowstone County	A17	RM 385.96	141289.2	20-yr	1381.86	997.38	993.01	2.18	2	25.5	17.84	230.19	1559.5	2.61	1.83	4.37	4.37
Yellowstone County	A17	RM 385.91	141204.9	20-yr	1381.86	997.32	992.33	2.02	1.93	22.36	16.95	259.36	1623.15	2.46	1.86	4.99	4.99
Yellowstone County	A17	RM 385.84	141096	20-yr	1381.86	997.35	990.57	1.2	1.19	10.22	8.92	342.75	1659.99	3.34	2.91	6.78	6.78
Yellowstone County	A17	RM 385.79	141006	20-yr	1381.86	996.98	992.48	2.7	2.59	33.94	20.9	160.41	1767.22	3.18	1.96	4.5	4.5
Yellowstone County	A18	RM 385.69	140846.5	20-yr	1381.86	996.78	992.9	2.56	2.23	46.74	27.49	209.89	1858.45	2.48	1.46	3.88	3.88
Yellowstone County	A18	RM 385.60	140705.5	20-yr	1381.86	996.44	992.71	2.7	2.38	57.18	34.95	202.55	1689.97	2.41	1.47	3.73	3.73
Yellowstone County	A18	RM 385.50	140538.8	20-yr	1381.86	996.16	990.71	2.71	2.33	38.36	16.7	152.15	1735.6	3.27	1.41	5.45	5.45
Yellowstone County	A18	RM 385.39	140367.1	20-yr	1381.86	995.93	992.41	2.69	2.31	37.65	21.25	204.01	1668.75	2.43	1.37	3.52	3.52
Yellowstone County	A18	RM 385.30	140231.3	20-yr	1381.86	995.61	992.53	2.79	2.5	63.32	39.27	239.85	445.83	2	1.24	3.08	3.08
Yellowstone County	A18	RM 385.23	140108.3	20-yr	1381.86	995.37	992.01	2.33	2.08	44.6	31.47	230.31	1629.48	2.01	1.42	3.36	3.36
Yellowstone County	A18	RM 385.12	139921.2	20-yr	1381.86	994.58	991.37	2.98	2.91	66.3	55.29	244.12	738.26	1.5	1.25	3.21	3.21
Yellowstone County	A18	RM 384.93	139688.7	20-yr	1381.86	994.22	991.06	2.16	1.96	26.78	19.98	237.99	622.52	2.01	1.5	3.16	3.16
Yellowstone County	A18	RM 384.75	139352.1	20-yr	1381.86	993.07	989.77	3.85	3.12	111.05	60.97	116.18	453.64	2.14	1.17	3.3	3.3
Yellowstone County	A18	RM 384.63	139146.9	20-yr	1381.86	992.77	989.58	1.88	1.72	24.7	21.5	189.95	848.71	1.51	1.32	3.19	3.19
Yellowstone County	A18	RM 384.48	138904.5	20-yr	1381.86	992.41	989.55	1.68	1.8	21.99	20.65	181.2	555.88	1.86	1.75	3.06	3.06
Yellowstone County	A18	RM 384.34	138682.4	20-yr	1381.86	992.12	988.23	1.85	1.81	39.88	18.13	164.93	1180.17	2.52	1.14	3.89	3.89
Yellowstone County	A18	RM 384.26	138551.1	20-yr	1381.86	991.78	987.34	3.01	1.97	41.11	20.11	110.24	902.88	2.45	1.19	4.44	4.44
Yellowstone County	A18	RM 384.15	138370.3	20-yr	1381.86	991.02	987.39	3.88	3.19	112.85	49.56	78.49	449.25	2.59	1.13	3.63	3.63
Yellowstone County	A18	RM 384.06	138235.3	20-yr	1381.86	990.86	987.31	2.85	1.95	49.29	25.62	85.14	768.91	2.51	1.3	3.55	3.55
Yellowstone County	A18	RM 383.96	138072.3	20-yr	1381.86	990.45	987.67	2.52	2.26	44.31	35.35	138.54	628.31	1.51	1.21	2.78	2.78
Yellowstone County	A18	RM 383.86	137914.6	20-yr	1381.86	990.25	987.24	1.9	1.75	21.78	16.91	158.17	632.85	2.07	1.6	3.01	3.01
Yellowstone County	A18	RM 383.75	137749.9	20-yr	1381.86	990	986.55	1.76	1.89	23.91	18.49	213.33	741.48	1.58	1.22	3.52	3.52
Yellowstone County	A18	RM 383.62	137544.5	20-yr	1381.86	989.79	986.32	1.67	1.52	17.83	11.98	176.43	885.72	1.91	1.28	4.17	4.17
Yellowstone County	A18	RM 383.54	137415.7	20-yr	1381.86	989.71	984.41	1.51	1.32	13.44	8.05	392.45	865.79	2.2	1.32	5.3	5.3
Yellowstone County	B1	RM 383.39	137175.7	20-yr	1809.45	989.26	984.98	2.43	2.37	22.06	19.15	538.17	637.13	1.38	1.2	4.28	4.28
Yellowstone County	B1	RM 383.31	137040.5	20-yr	1809.45	989.09	984.86	2.13	1.85	21.3	18.61	595.17	820.18	1.36	1.19	4.23	4.23
Yellowstone County	B1	RM 383.16	136817.2	20-yr	1809.45	988.87	984.9	1.67	1.44	13.06	12.71	780.48	994.28	1.3	1.26	3.97	3.97
Yellowstone County	B1	RM 382.88	136371.1	20-yr	1809.45	988.43	983.64	1.69	1.51	16.23	14.56	621.97	841.96	1.59	1.43	4.79	4.79
Yellowstone County	B1	RM 382.61	135921.1	20-yr	1809.45	987.85	982.68	2.42	1.83	32.02	13.49	196.01	680.12	3.45	1.45	5.17	5.17

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	20-yr	1809.45	987.46	981.56	2.95	1.89	44.92	13.19	132.77	848.35	3.86	1.13	5.9	5.9
Yellowstone County	B1	RM 382.28	135389.1	20-yr	1809.45	987.32	981.45	2.35	1.56	31.05	11.07	139.32	781.24	4.19	1.49	5.87	5.87
Yellowstone County	B1	RM 382.11	135122	20-yr	1809.45	986.82	980.52	3.1	2.13	54.68	17.33	133.35	688.84	3.91	1.23	6.3	6.3
Yellowstone County	B1	RM 381.93	134829.3	20-yr	1809.45	986.42	981.3	2.7	2.27	65.8	22.5	182.96	677.27	3.45	1.17	5.12	5.12
Yellowstone County	B1	RM 381.79	134602.8	20-yr	1809.45	985.96	981.63	2.96	2.42	49.38	17.1	167.4	629.15	3.46	1.19	4.33	4.33
Yellowstone County	B1	RM 381.69	134426.2	20-yr	1809.45	985.9	981.06	2.18	1.82	30.46	13.72	207.55	593.89	3.73	1.67	4.84	4.84
Yellowstone County	B1	RM 381.58	134232.5	20-yr	1809.45	985.75	981.02	2.08	1.8	26.18	15.95	271.39	546.7	3.02	1.84	4.73	4.73
Yellowstone County	B1	RM 381.47	134047.3	20-yr	1809.45	985.56	980.95	1.85	1.66	44.35	25.48	333.31	709.1	2.72	1.56	4.61	4.61
Yellowstone County	B1	RM 381.35	133871.9	20-yr	1809.45	985.24	980.79	1.82	1.68	49.55	32.91	366.2	721.7	2.55	1.69	4.45	4.45
Yellowstone County	B1	RM 381.22	133659.2	20-yr	1809.45	984.67	979.74	1.98	1.97	65.14	61.67	431.65	460.43	2.11	2	4.93	4.93
Yellowstone County	B1	RM 381.11	133491.4	20-yr	1809.45	984.1	979.61	2.13	2.08	67.83	45.29	284.26	578.85	2.25	1.5	4.49	4.49
Yellowstone County	B1	RM 381.00	133302.9	20-yr	1809.45	983.38	978.23	3.16	2.75	53.63	27.18	185.98	491.65	2.65	1.34	5.15	5.15
Yellowstone County	B1	RM 380.92	133180	20-yr	1809.45	983.25	976.97	2.82	2.26	51.57	20.48	152.3	591.79	3.42	1.35	6.28	6.28
Yellowstone County	B1	RM 380.81	132986.3	20-yr	1809.45	982.87	978.55	2.94	2.33	51.19	21.53	192.95	667.61	2.78	1.16	4.32	4.32
Yellowstone County	B1	RM 380.69	132800.2	20-yr	1809.45	982.68	978.53	2.36	1.84	31.25	16.97	264.69	735.59	2.47	1.34	4.15	4.15
Yellowstone County	B1	RM 380.57	132628.6	20-yr	1809.45	982.47	978.7	2.17	1.71	39	14.28	228.82	1062.74	2.72	1	3.77	3.77
Yellowstone County	B1	RM 380.48	132470	20-yr	1809.45	982.24	978.24	2.27	1.64	37.33	12.55	201.01	1115.6	2.96	0.99	4	4
Yellowstone County	B1	RM 380.34	132222.4	20-yr	1809.45	981.76	977.37	2.8	1.91	45.18	15.62	204.89	1096.56	2.49	0.86	4.39	4.39
Yellowstone County	B1	RM 380.22	132032.4	20-yr	1809.45	981.53	977.02	2.61	1.69	37.73	13.28	172.38	1026.59	2.96	1.04	4.51	4.51
Yellowstone County	B1	RM 380.11	131847.7	20-yr	1809.45	981.25	976.29	2.71	1.96	46.51	16.83	181.17	942.66	2.71	0.98	4.96	4.96
Yellowstone County	B1	RM 380.01	131671.4	20-yr	1809.45	980.99	976.21	2.62	1.82	50.04	18.33	173.93	964.21	2.82	1.03	4.78	4.78
Yellowstone County	B1	RM 379.92	131538.8	20-yr	1809.45	980.64	976.69	2.96	2.05	49.17	18.23	191.66	985.68	2.42	0.9	3.95	3.95
Yellowstone County	B1	RM 379.84	131406.9	20-yr	1809.45	980.59	975.94	1.83	1.37	20.61	10.46	414.88	1382.03	2.04	1.03	4.65	4.65
Yellowstone County	B1	RM 379.75	131265.1	20-yr	1809.45	980.44	974.98	1.85	1.35	25.13	11.36	375.33	1538.4	2.16	0.97	5.46	5.46
Yellowstone County	B1	RM 379.65	131104.3	20-yr	1809.45	980.33	975.6	1.55	1.07	14.61	7.8	379.6	1602.06	2.2	1.17	4.73	4.73
Yellowstone County	B1	RM 379.56	130964.3	20-yr	1809.45	980.25	975.94	1.52	1.06	13.97	6.5	313.71	1580.61	2.46	1.14	4.31	4.31
Yellowstone County	B1	RM 379.46	130794	20-yr	1809.45	980.13	974.74	1.67	1.14	15.4	8.03	297.5	1277.39	2.43	1.26	5.39	5.39
Yellowstone County	B1	RM 379.36	130642.3	20-yr	1809.45	980.01	975.71	1.77	1.18	24.65	11.64	247.15	1057.02	3.25	1.53	4.3	4.3
Yellowstone County	B1	RM 379.27	130496.2	20-yr	1809.45	979.69	974.66	2.65	1.58	60.19	26.86	164.66	842.58	3.06	1.36	5.03	5.03
Yellowstone County	B1	RM 379.17	130345.7	20-yr	1809.45	979.13	973.93	3.33	2.06	72.31	24.15	154.92	852.13	3.09	1.03	5.2	5.2
Yellowstone County	B1	RM 379.04	130142	20-yr	1809.45	978.89	974.79	2.7	1.68	40.65	18.39	203.31	898.78	2.65	1.2	4.1	4.1
Yellowstone County	B1	RM 378.97	130026.7	20-yr	1809.45	978.64	974.64	2.81	1.88	45.36	19.92	231.05	900.66	2.44	1.07	4	4
Yellowstone County	B1	RM 378.86	129850.9	20-yr	1809.45	978.25	974.4	2.87	1.97	51.85	22.92	250.72	925.19	2.24	0.99	3.85	3.85
Yellowstone County	B1	RM 378.76	129682.3	20-yr	1809.45	977.9	974.17	2.77	1.99	46.04	20.6	271.46	912.96	2.22	1	3.73	3.73
Yellowstone County	B1	RM 378.67	129541.3	20-yr	1809.45	977.64	973.97	2.73	1.8	38.52	18.55	272.46	1030.12	2.09	1.01	3.67	3.67
Yellowstone County	B1	RM 378.61	129443.1	20-yr	1809.45	977.5	973.83	2.21	1.59	58.09	30.15	242.88	1259.72	1.97	1.02	3.67	3.67
Yellowstone County	B1	RM 378.52	129297.7	20-yr	1809.45	977.23	973.62	1.94	1.5	22.19	14.47	554.22	1265.18	1.53	1	3.61	3.61
Yellowstone County	B1	RM 378.46	129200.8	20-yr	1809.45	977.15	973.48	1.6	1.36	18.73	11.72	613.27	1222.28	1.73	1.08	3.67	3.67
Yellowstone County	B1	RM 378.40	129112.2	20-yr	1809.45	977.01	973.41	1.6	1.41	43.97	26.97	605.91	1198.87	1.74	1.07	3.6	3.6
Yellowstone County	B1	RM 378.29	128929.4	20-yr	1809.45	976.85	972.93	1.32	1.12	12.8	7.23	567.41	1237.65	2.31	1.3	3.91	3.91
Yellowstone County	B1	RM 378.13	128673.7	20-yr	1809.45	976.51	971.4	2.13	1.78	19.47	10	417.44	1011.62	1.96	1.01	5.11	5.11
Yellowstone County	B1	RM 378.07	128569	20-yr	1809.45	976.42	970.46	2.11	1.67	17.81	9.27	346.06	891	2.35	1.22	5.96	5.96
Yellowstone County	B1	RM 377.96	128380.3	20-yr	1809.45	975.97	968.85	3.06	2.54	51.53	12.83	111.8	569.52	5.11	1.25	7.12	7.12
Yellowstone County	B1	RM 377.87	128244.4	20-yr	1809.45	975.85	970.56	2.77	2.22	56.72	20.77	223.61	1083.37	2.73	1	5.29	5.29
Yellowstone County	B1	RM 377.79	128118	20-yr	1809.45	975.64	970.94	2.6	2.14	33.99	16.33	334.54	1012.26	1.95	0.94	4.7	4.7
Yellowstone County	B1	RM 377.69	127964.3	20-yr	1809.45	975.47	969.86	2.23	1.72	23.06	13.44	420.1	1285.01	1.77	1.03	5.61	5.61
Yellowstone County	B1	RM 377.61	127824.8	20-yr	1809.45	974.98	970.53	3.07	2.61	44.17	25.95	292.45	661.91	1.88	1.1	4.45	4.45
Yellowstone County	B1	RM 377.55	127735.1	20-yr	1809.45	974.9	970.41	2.52	2.12	27.24	16.69	389.93	1139.02	1.74	1.06	4.49	4.49
Yellowstone County	B1	RM 377.48	127618.1	20-yr	1809.45	974.73	970.26	2.4	2.01	26.05	16.92	444.12	1152.17	1.57	1.02	4.47	4.47
Yellowstone County	B1	RM 377.39	127466.6	20-yr	1809.45	974.43	969.73	2.56	2.06	29.26	17.47	393.85	934.64	1.66	0.99	4.7	4.7
Yellowstone County	B1	RM 377.34	127391.5	20-yr	1809.45	974.2	969.95	2.62	2.22	91.31	44.57	328.51	927.66	1.89	0.92	4.25	4.25
Yellowstone County	B1	RM 377.25	127241.9	20-yr	1809.45	973.96	970.26	2.05	1.78	24.92	12.92	409.42	954.13	2.06	1.07	3.7	3.7
Yellowstone County	B1	RM 377.16	127097.7	20-yr	1809.45	973.79	969.82	2	1.72	25.95	14.91	410.15	975.68	1.87	1.08	3.97	3.97
Yellowstone County	B1	RM 377.08	126969	20-yr	1809.45	973.74	969	1.55	1.27	13.68	6.3	417.58	1268.69	2.49	1.14	4.74	4.74
Yellowstone County	B1	RM 377.04	126900.8	20-yr	1809.45	973.65	968.6	1.6	1.4	46.11	26.9	569.68	1263.37	1.75	1.02	5.05	5.05
Yellowstone County	B1	RM 376.98	126797.5	20-yr	1809.45	973.4	969.02	1.97	1.68	20.35	11.18	531.66	1191.63	1.65	0.91	4.38	4.38
Yellowstone County	B1	RM 376.92	126710.1	20-yr	1809.45	973.31	969.01	1.63	1.4	38.02	20.05	496.78	1191.6	2.07	1.09	4.3	4.3
Yellowstone County	B1	RM 376.84	126584.2	20-yr	1809.45	973.2	967.73	1.4	1.22	16.82	9.63	448.6	1125.39	2.35	1.34	5.47	5.47
Yellowstone County	B1	RM 376.75	126442.1	20-yr	1809.45	973.07	967.82	1.47	1.33	23.42	12.33	405.08	1132.14	2.54	1.33	5.25	5.25
Yellowstone County	B1	RM 376.67	126309	20-yr	1809.45	972.86	967.23	1.82	1.64	39.62	19.7	333.44	927.7	2.52	1.25	5.63	5.63
Yellowstone County	B1	RM 376.58	126174.1	20-yr	1809.45	972.57	966.82	2.02	1.78	47.24	23.88	344.97	853.57	2.36	1.19	5.75	5.75

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	20-yr	1809.45	972.19	966.77	2.58	2.38	47.62	29.02	264.65	503.97	2.54	1.54	5.42	5.42
Yellowstone County	B1	RM 376.42	125918.5	20-yr	1809.45	971.98	967.68	2.46	2.32	34.93	15.18	256.42	720.32	2.85	1.23	4.3	4.3
Yellowstone County	B1	RM 376.35	125809.8	20-yr	1809.45	971.92	966.71	2.26	1.77	26.92	9.15	225.22	1309.76	3.3	1.12	5.21	5.21
Yellowstone County	B1	RM 376.28	125697	20-yr	1809.45	971.5	966.28	3.14	2.76	57.25	26.04	218.01	607.55	2.51	1.14	5.22	5.22
Yellowstone County	B1	RM 376.20	125565.9	20-yr	1809.45	971.28	966.16	2.83	2.32	48.95	21.3	251.62	854.26	2.31	1	5.12	5.12
Yellowstone County	B1	RM 376.10	125404.8	20-yr	1809.45	971.04	966.61	2.46	1.84	35.65	17.04	269.06	1036.31	2.13	1.02	4.43	4.43
Yellowstone County	B1	RM 376.00	125250.5	20-yr	1809.45	970.78	967.42	2.47	1.7	38.44	16.35	242.08	1043.65	2.4	1.02	3.36	3.36
Yellowstone County	B1	RM 375.88	125055.1	20-yr	1809.45	970.55	966.01	2.25	1.45	33.91	14.19	185.92	1022.75	2.92	1.22	4.54	4.54
Yellowstone County	B1	RM 375.78	124897.3	20-yr	1809.45	970.36	965.37	2.24	1.55	32.82	15.25	187.38	890.87	2.81	1.31	4.99	4.99
Yellowstone County	B1	RM 375.67	124708.2	20-yr	1809.45	970.15	965.8	2.27	1.79	33.16	15.92	224.61	819.7	2.57	1.23	4.35	4.35
Yellowstone County	B1	RM 375.58	124564.2	20-yr	1809.45	969.89	966.54	2.49	2	39.04	19.17	225.19	733.99	2.51	1.23	3.35	3.35
Yellowstone County	B1	RM 375.23	124013.6	20-yr	1809.45	969.22	965.23	2.28	1.67	34.39	13.89	229.13	982.9	2.74	1.1	3.99	3.99
Yellowstone County	B1	RM 375.10	123799.5	20-yr	1809.45	968.59	963.88	3.38	2.23	77.74	25.38	126.27	745.24	3.35	1.09	4.71	4.71
Yellowstone County	B1	RM 374.97	123580.4	20-yr	1809.45	968.35	963.97	2.56	1.78	51.39	18.62	136.61	903.99	3.22	1.15	4.38	4.38
Yellowstone County	B1	RM 374.83	123365.5	20-yr	1809.45	968.1	963.52	2.27	1.61	31.89	12.51	132.59	987.09	3	1.17	4.58	4.58
Yellowstone County	B1	RM 374.73	123195.7	20-yr	1809.45	968.02	963.36	1.77	1.33	17.15	7.88	143.55	1106.46	3.13	1.43	4.65	4.65
Yellowstone County	B1	RM 374.61	123010.3	20-yr	1809.45	967.78	963.49	2.2	1.71	37.28	14.99	162.11	1055.82	3.08	1.24	4.29	4.29
Yellowstone County	B1	RM 374.53	122875.3	20-yr	1871.74	967.55	963.14	2.46	1.96	39	15.18	186.43	829.61	2.96	1.15	4.41	4.41
Yellowstone County	B1	RM 374.44	122726.7	20-yr	1871.74	967.19	963.04	3.02	2.2	64.67	20.61	126.01	765.06	3.5	1.11	4.15	4.15
Yellowstone County	B1	RM 374.32	122535.1	20-yr	1871.74	966.98	962.82	2.3	2.03	42.73	22.21	191.13	669.34	2.65	1.38	4.16	4.16
Yellowstone County	B1	RM 374.22	122379	20-yr	1871.74	966.76	960.92	2.55	1.7	38	13.47	134.27	907.13	3.42	1.22	5.84	5.84
Yellowstone County	B1	RM 374.13	122231.1	20-yr	1871.74	966.58	960.11	2.71	1.75	39.95	17.08	137.18	830.36	3.02	1.29	6.47	6.47
Yellowstone County	B1	RM 373.97	121972.4	20-yr	1871.74	966.35	958.8	2.15	1.74	28.2	13.3	223.32	764.48	3.01	1.41	7.55	7.55
Yellowstone County	B1	RM 373.88	121829.3	20-yr	1871.74	966.14	962.21	2.39	1.84	42.29	16.78	194.77	879.41	2.93	1.16	3.93	3.93
Yellowstone County	B1	RM 373.79	121688.7	20-yr	1871.74	965.93	961.66	2.35	1.77	44.81	19.78	188.78	909.84	2.9	1.28	4.27	4.27
Yellowstone County	B1	RM 373.69	121523.5	20-yr	1871.74	965.65	961.11	2.45	1.82	38.83	16.36	202.2	1106.06	2.62	1.1	4.54	4.54
Yellowstone County	B1	RM 373.56	121314.3	20-yr	1871.74	965	959.37	3.28	2.3	62.43	37	187.08	577.98	2.51	1.49	5.63	5.63
Yellowstone County	B1	RM 373.39	121015.9	20-yr	1871.74	964.3	958.78	3.18	2.35	59.39	28.89	183.69	598.73	2.74	1.33	5.52	5.52
Yellowstone County	B1	RM 373.26	120802.3	20-yr	1871.74	964.28	960.81	1.52	1.03	15.18	12.63	355.66	1113.99	2.04	1.7	3.47	3.47
Yellowstone County	B1	RM 373.09	120539.5	20-yr	1871.74	963.95	959.94	2.08	1.49	27.33	18.7	300.38	958.06	2	1.37	4.01	4.01
Yellowstone County	B1	RM 372.99	120365.2	20-yr	1871.74	963.62	959.69	2.16	1.69	43.67	28.33	326.11	932.68	1.83	1.19	3.93	3.93
Yellowstone County	B1	RM 372.82	120107.7	20-yr	1871.74	963.25	959.03	1.86	1.38	21.3	15.32	430.81	1167.01	1.62	1.16	4.22	4.22
Yellowstone County	B1	RM 372.72	119922.5	20-yr	1871.74	963.06	958.92	1.66	1.35	27.07	21.22	392.49	1072.08	1.65	1.3	4.14	4.14
Yellowstone County	B1	RM 372.65	119797.7	20-yr	1871.74	963	957.32	1.25	0.9	10.95	9.43	395.84	1410.9	1.73	1.48	5.68	5.68
Yellowstone County	B1	RM 372.58	119676.6	20-yr	1871.74	962.95	958.2	1.13	0.9	8.09	6.79	437.68	1356.46	1.83	1.53	4.75	4.75
Yellowstone County	B1	RM 372.41	119395.9	20-yr	1871.74	962.85	958.82	1.27	0.9	8.55	6.32	475.33	1460.95	1.92	1.42	4.03	4.03
Yellowstone County	B1	RM 372.32	119268.8	20-yr	1871.74	962.78	957.24	1.05	1.05	17.09	13.41	474.41	1189.78	1.91	1.49	5.54	5.54
Yellowstone County	B1	RM 372.20	119079.1	20-yr	1871.74	962.56	956.93	1.27	1.16	30	23.41	511.94	1215.01	1.7	1.33	5.63	5.63
Yellowstone County	B1	RM 372.08	118886.4	20-yr	1871.74	962.25	956.2	1.39	1.26	32.23	26.65	453.28	948.65	1.91	1.57	6.05	6.05
Yellowstone County	B1	RM 371.94	118669.8	20-yr	1871.74	961.71	957.58	1.73	1.82	40.18	34.4	439.83	643.78	1.87	1.6	4.13	4.13
Yellowstone County	B1	RM 371.83	118490.4	20-yr	1871.74	961.5	957.52	1.65	1.57	23.38	17.39	393.72	704.87	2.28	1.7	3.98	3.98
Yellowstone County	B1	RM 371.74	118350.7	20-yr	1871.74	961.29	957.48	1.97	1.68	25.83	16.27	386.04	802.98	2.2	1.39	3.81	3.81
Yellowstone County	B1	RM 371.62	118155.6	20-yr	1871.74	961.04	956.41	2.18	1.55	32.77	12.02	220.59	1011.05	3.25	1.19	4.63	4.63
Yellowstone County	B1	RM 371.53	118001.4	20-yr	1871.74	960.74	955.99	2.58	1.89	40.32	14.05	234.36	1036.26	2.75	0.96	4.75	4.75
Yellowstone County	B1	RM 371.43	117839.2	20-yr	1871.74	960.36	955.47	2.69	2.04	80.89	32.8	253.33	962.67	2.36	0.95	4.89	4.89
Yellowstone County	B1	RM 371.37	117745.1	20-yr	1871.74	960.13	955.72	2.67	2.17	35.14	17.67	292.28	765.1	2.24	1.13	4.41	4.41
Yellowstone County	B1	RM 371.32	117662.6	20-yr	1871.74	960.02	956.41	2.4	1.93	49.37	25.98	299.65	757.25	2.43	1.28	3.61	3.61
Yellowstone County	B1	RM 371.25	117560.3	20-yr	1871.74	959.88	955.99	2.17	1.81	29.84	17.93	372.58	791.09	2.2	1.32	3.89	3.89
Yellowstone County	B1	RM 371.21	117499	20-yr	1871.74	959.81	955.72	2.13	1.83	29.1	20.34	355.96	642.67	2.27	1.59	4.09	4.09
Yellowstone County	B1	RM 371.12	117353.9	20-yr	1871.74	959.66	955.54	1.99	1.69	24.45	15.67	376.22	843.58	2.32	1.48	4.12	4.12
Yellowstone County	B1	RM 371.04	117225.1	20-yr	1871.74	958.85	954.84	3.72	3.63	73.89	48	239.76	379.59	2.1	1.36	4.01	4.01
Yellowstone County	B1	RM 370.94	117054.9	20-yr	1871.74	958.86	955.57	2.18	1.84	33.65	24.19	240.87	821.63	2.54	1.82	3.29	3.29
Yellowstone County	B1	RM 370.85	116910.9	20-yr	1871.74	958.72	954.47	2.06	1.59	28.65	14.02	218.04	1042.52	2.7	1.32	4.25	4.25
Yellowstone County	B1	RM 370.77	116793.6	20-yr	1871.74	958.63	953.84	1.96	1.43	20.98	10.27	223.09	1111.36	2.64	1.29	4.79	4.79
Yellowstone County	B1	RM 370.72	116711.6	20-yr	1871.74	958.58	953.13	1.94	1.27	22.8	10	165.01	1078.33	3.23	1.41	5.45	5.45
Yellowstone County	B1	RM 370.70	116669.2	20-yr	1871.74	958.53	953.05	2.02	1.2	20.83	10.62	199.61	1091.89	2.8	1.43	5.48	5.48
Yellowstone County	B1	RM 370.63	116558.9	20-yr	1871.74	958.44	953.42	1.96	1.11	30.7	12.94	181.25	1141.89	3.49	1.47	5.02	5.02
Yellowstone County	B1	RM 370.56	116440.6	20-yr	1871.74	958.23	953.34	2.37	1.44	26	7.92	178.41	1144.03	3.75	1.14	4.89	4.89
Yellowstone County	B1	RM 370.44	116241.1	20-yr	1871.74	958.01	952.03	2.67	1.54	44.52	11.87	134.19	1108.61	4.15	1.1	5.98	5.98
Yellowstone County	B1	RM 370.34	116071.6	20-yr	1871.74	957.7	949.79	3.01	1.82	58.67	13.03	118.14	1031.45	4.55	1	7.91	7.91
Yellowstone County	B1	RM 370.24	115908.6	20-yr	1871.74	957.57	950.22	2.76	1.68	45.08	12.59	117.55	848.03	4.75	1.31	7.35	7.35

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	20-yr	1871.74	957.31	952.12	2.79	1.92	50.93	18.27	161	752.25	3.61	1.29	5.19	5.19
Yellowstone County	B1	RM 370.00	115535.2	20-yr	1871.74	957	952.2	2.51	2.18	72.9	46.09	260.55	579.73	2.35	1.48	4.8	4.8
Yellowstone County	B1	RM 369.89	115356.1	20-yr	1871.74	956.64	953.15	2.33	2.09	27.21	18.96	414.45	702.2	1.83	1.27	3.49	3.49
Yellowstone County	B1	RM 369.77	115164.3	20-yr	1871.74	956.37	952.34	2.17	2	25.44	18.94	487.98	733.04	1.75	1.3	4.03	4.03
Yellowstone County	B1	RM 369.64	114965.6	20-yr	1871.74	956.05	951.9	2.11	1.91	32.58	23.92	502.06	957.52	1.66	1.22	4.15	4.15
Yellowstone County	B1	RM 369.54	114789.5	20-yr	1871.74	955.74	952.38	2.08	1.82	26.89	20.03	498.01	1181.97	1.68	1.25	3.36	3.36
Yellowstone County	B1	RM 369.45	114650.1	20-yr	1871.74	955.59	951	1.82	1.53	22.88	15.04	465.18	1923.26	1.91	1.25	4.59	4.59
Yellowstone County	B1	RM 369.32	114431.1	20-yr	1871.74	955.37	951.1	1.74	1.28	22.08	11.16	375.92	2303.8	2.46	1.24	4.27	4.27
Yellowstone County	B1	RM 369.17	114210.5	20-yr	1871.74	955.14	949.85	2.02	1.55	36.85	14.82	198.8	2268.5	2.95	1.18	5.29	5.29
Yellowstone County	B1	RM 369.06	114022.4	20-yr	1871.74	954.52	949.89	3.26	2.18	60.4	19.13	136.69	1958.07	3.45	1.09	4.63	4.63
Yellowstone County	B1	RM 368.96	113871.2	20-yr	1871.74	954.37	949.68	2.73	2.02	47.4	18.66	169.6	1885.42	3.19	1.25	4.69	4.69
Yellowstone County	B1	RM 368.88	113745.9	20-yr	1871.74	954.21	948.77	2.54	1.86	39.57	15.22	214.69	2140.87	2.75	1.05	5.44	5.44
Yellowstone County	B1	RM 368.82	113641	20-yr	1871.74	954	948.47	2.49	2.03	49.72	24.3	296.4	2081.78	2.12	1.03	5.53	5.53
Yellowstone County	B1	RM 368.72	113477.3	20-yr	1871.74	953.77	948.45	2.01	1.68	35.16	20.77	349.44	1991.25	2.23	1.31	5.32	5.32
Yellowstone County	B1	RM 368.63	113328.9	20-yr	1871.74	953.57	947.82	1.93	1.56	32.31	17.02	312.34	2110.79	2.38	1.25	5.75	5.75
Yellowstone County	B1	RM 368.54	113195.6	20-yr	1871.74	953.34	947.51	2.2	1.6	31.59	11.49	269.62	2311.21	2.77	1	5.83	5.83
Yellowstone County	B1	RM 368.44	113035.8	20-yr	1871.74	953.04	947.4	2.39	1.76	65.23	25.2	255.87	2215.88	2.56	0.99	5.64	5.64
Yellowstone County	B1	RM 368.35	112878.7	20-yr	1871.74	952.98	946.64	1.68	1.3	16.4	5.04	283.07	2274.54	3.76	1.15	6.34	6.34
Yellowstone County	B1	RM 368.26	112737.6	20-yr	1871.74	952.78	946.23	2.16	1.5	70.04	19.48	227.9	2435.91	3.21	0.88	6.55	6.55
Yellowstone County	B1	RM 368.18	112604.7	20-yr	1871.74	952.37	947.11	2.83	1.94	48.01	11.87	161.81	1965.34	3.76	0.92	5.26	5.26
Yellowstone County	B2	RM 368.09	112456.7	20-yr	1871.74	952.1	947.7	3	2.43	63.23	17.69	156.05	1480.93	3.68	1.02	4.4	4.4
Yellowstone County	B2	RM 368.00	112314.4	20-yr	1871.74	952.07	947.56	2.26	1.62	28.73	8.91	198.48	2412.78	3.74	1.15	4.51	4.51
Yellowstone County	B2	RM 367.86	112104.7	20-yr	1871.74	951.65	946.1	2.9	2.2	57.33	17.52	176.38	1722.72	3.45	1.05	5.55	5.55
Yellowstone County	B2	RM 367.79	111989.2	20-yr	1871.74	951.53	945.04	2.51	1.75	54.8	16	203.42	1936.52	3.24	0.94	6.49	6.49
Yellowstone County	B2	RM 367.72	111876.5	20-yr	1871.74	951.29	945.45	2.8	1.88	42.73	10.51	149.5	1922.34	4.03	0.99	5.84	5.84
Yellowstone County	B2	RM 367.64	111739.2	20-yr	1871.74	951.15	945.68	2.73	1.6	50.58	10.93	140.64	2021.6	4.01	0.86	5.47	5.47
Yellowstone County	B2	RM 367.50	111519.9	20-yr	1871.74	950.68	945.21	3.16	2.03	64.82	12.92	129.06	1553.3	4.14	0.82	5.47	5.47
Yellowstone County	B2	RM 367.40	111357.1	20-yr	1871.74	950.45	944.36	3.22	2.14	58.53	11.69	113.36	1283.98	4.43	0.87	6.09	6.09
Yellowstone County	B2	RM 367.31	111214.8	20-yr	1871.74	950.27	945.36	3.09	2.17	47.99	13.12	144.65	984.79	3.79	1.03	4.91	4.91
Yellowstone County	B2	RM 367.19	110992.7	20-yr	1871.74	950.08	945.91	2.54	2.01	36.64	14.43	244.98	1030.28	2.82	1.1	4.17	4.17
Yellowstone County	B2	RM 367.11	110813.5	20-yr	1871.74	949.86	945.17	2.38	1.81	34.26	15.53	295.2	983.22	2.47	1.12	4.69	4.69
Yellowstone County	B2	RM 367.03	110669.4	20-yr	1871.74	949.79	945.89	1.84	1.47	17.8	9.23	418.55	1195.08	2.26	1.17	3.9	3.9
Yellowstone County	B2	RM 366.95	110543	20-yr	1871.74	949.73	945.34	1.33	1.15	21.86	11.72	560.16	1420.13	2.32	1.24	4.39	4.39
Yellowstone County	B2	RM 366.84	110376	20-yr	1871.74	949.6	944.61	1.21	1.07	18.12	8.71	595.67	1520.08	2.49	1.19	4.99	4.99
Yellowstone County	B2	RM 366.78	110300.8	20-yr	1871.74	949.54	943.84	1.24	1	19.54	8.48	562.69	1884.61	2.48	1.07	5.7	5.7
Yellowstone County	B2	RM 366.73	110074.8	20-yr	1871.74	949.27	943.42	1.59	1.29	28.35	10.37	436.05	1682.72	2.55	0.92	5.85	5.85
Yellowstone County	B2	RM 366.68	109931.6	20-yr	1871.74	949.04	942.77	1.92	1.49	36.88	12.35	310.85	1315.71	2.93	0.97	6.27	6.27
Yellowstone County	B2	RM 366.53	109747.6	20-yr	1871.74	948.59	940.86	2.84	2.18	39.62	10.65	163.65	833.1	3.88	1.03	7.73	7.73
Yellowstone County	B2	RM 366.38	109510.8	20-yr	1871.74	948.31	941.55	2.78	2.25	64.03	14.64	152.46	857.38	4.29	0.97	6.76	6.76
Yellowstone County	B2	RM 366.27	109345.5	20-yr	1871.74	948.22	942.72	2.2	1.96	29.91	10.13	225.93	839.29	3.72	1.26	5.5	5.5
Yellowstone County	B2	RM 366.15	109158.9	20-yr	1871.74	947.99	941.59	2.2	2.09	56.87	31.51	292.33	588.24	2.89	1.59	6.4	6.4
Yellowstone County	B2	RM 366.04	108972.6	20-yr	1871.74	947.69	941.41	2.41	2.33	22.87	16.37	312.49	514.12	2.48	1.77	6.28	6.28
Yellowstone County	B2	RM 365.94	108818.8	20-yr	1871.74	947.6	940.93	2.14	2.07	18.78	13.06	360.97	577.43	2.41	1.67	6.67	6.67
Yellowstone County	B2	RM 365.83	108647.5	20-yr	1871.74	947.38	939.93	2.06	1.85	71.04	35.89	329.53	911.88	2.66	1.34	7.45	7.45
Yellowstone County	B2	RM 365.75	108521.3	20-yr	1871.74	947.1	941.33	2.04	1.75	56.06	25.44	262.86	824.01	2.9	1.31	5.77	5.77
Yellowstone County	B2	RM 365.71	108446.5	20-yr	1871.74	946.89	941.83	2.33	1.98	55.53	21.4	234.21	769.94	3.28	1.26	5.06	5.06
Yellowstone County	B2	RM 365.64	108343.5	20-yr	1871.74	946.73	942.19	2.14	1.86	51.64	25.2	306.44	767.34	2.69	1.31	4.54	4.54
Yellowstone County	B2	RM 365.57	108220.5	20-yr	1871.74	946.41	942.08	2.45	2.19	50.83	28.96	251.94	513.18	2.93	1.66	4.33	4.33
Yellowstone County	B2	RM 365.51	108118.9	20-yr	1871.74	946.22	941.87	2.44	2.18	57.97	32.25	265.35	549.42	2.81	1.56	4.35	4.35
Yellowstone County	B2	RM 365.46	108042.9	20-yr	1871.74	946.16	941.73	2.02	1.87	35.5	22.04	317.69	565.3	2.86	1.77	4.43	4.43
Yellowstone County	B2	RM 365.41	107956.5	20-yr	1871.74	946.07	941.46	1.91	1.83	31.63	24.61	326.34	442.58	2.97	2.31	4.61	4.61
Yellowstone County	B2	RM 365.37	107905.7	20-yr	1871.74	946.02	940.74	1.94	1.87	21.86	12.84	309.01	548.58	3.11	1.82	5.28	5.28
Yellowstone County	B2	RM 365.31	107792.4	20-yr	1871.74	945.87	939.27	2.21	2.11	27.08	16.73	257.08	443.35	3.24	2	6.6	6.6
Yellowstone County	B2	RM 365.27	107727.9	20-yr	1871.74	945.75	939.34	2.42	2.34	36.27	24.44	251.44	389.93	3.05	2.05	6.41	6.41
Yellowstone County	B2	RM 365.23	107674.2	20-yr	1871.74	945.62	939.52	2.64	2.58	33.81	26.5	230.94	303.72	3.05	2.39	6.1	6.1
Yellowstone County	B2	RM 365.19	107603	20-yr	1871.74	945.56	939.93	2.52	2.48	33.34	27.26	235.86	293.71	3.14	2.57	5.63	5.63
Yellowstone County	B2	RM 365.15	107534.7	20-yr	1871.74	945.52	939.68	2.4	2.32	31.12	23.65	212.85	293.24	3.63	2.75	5.84	5.84
Yellowstone County	B2	RM 365.10	107466	20-yr	1871.74	945.37	938.61	2.68	2.64	39.13	32.02	186.92	232.87	3.72	3.04	6.76	6.76
Yellowstone County	B2	RM 365.06	107396.2	20-yr	1871.74	945.3	939.07	2.64	2.51	40.98	24.83	170.56	300.02	4.11	2.49	6.23	6.23
Yellowstone County	B2	RM 365.01	107325.8	20-yr	1871.74	945.28	939.22	2.41	2.32	38.8	19.08	174.95	374.16	4.41	2.16	6.06	6.06
Yellowstone County	B2	RM 364.99	107287.5	20-yr	1871.74	945.18	939.27	2.61	2.43	46.51	20.36	171.73	428.12	4.13	1.8	5.91	5.91

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	20-yr	1871.74	944.92	937.97	2.9	2.74	36.87	18.04	172.15	378.11	3.72	1.81	6.95	6.95
Yellowstone County	B2	RM 364.81	106996.1	20-yr	1871.74	944.91	938.93	2.36	2.07	25.38	18.03	230.15	507.86	3.32	2.35	5.98	5.98
Yellowstone County	B2	RM 364.74	106893.3	20-yr	1871.74	944.75	938.94	2.62	2.19	36.89	15.84	164.71	564.83	4.2	1.8	5.81	5.81
Yellowstone County	B2	RM 364.64	106739.2	20-yr	1871.74	944.47	939.09	3.1	2.34	44.41	17.11	120.08	550.8	4.69	1.79	5.38	5.38
Yellowstone County	B2	RM 364.61	106686.8	20-yr	1871.74	944.47	939.21	2.81	2.35	38.2	16.44	158.26	475.24	4.08	1.75	5.26	5.26
Yellowstone County	B2	RM 364.60	106666.6	20-yr	1871.74	944.36	939.26	3.08	2.65	44.75	19.54	133.67	369.94	4.41	1.91	5.1	5.1
Yellowstone County	B2	RM 364.53	106558.4	20-yr	1871.74	944.29	939.11	2.85	2.82	38.67	28.99	164.03	221.71	4	2.99	5.18	5.18
Yellowstone County	B2	RM 364.49	106490.3	20-yr	1871.74	944.24	939.24	2.79	2.47	39.42	15.13	162.45	488.15	4.06	1.55	5	5
Yellowstone County	B2	RM 364.43	106394	20-yr	1871.74	944.13	939.13	2.82	2.66	40.33	19.8	160.64	350.52	4.1	2.01	5	5
Yellowstone County	B2	RM 364.37	106296.4	20-yr	1871.74	944.07	938.98	2.71	2.17	35.02	15.66	146.91	447.53	4.5	1.99	5.09	5.09
Yellowstone County	B2	RM 364.32	106215.1	20-yr	1871.74	943.99	938.52	2.71	2.26	50.43	26.33	152.95	473.7	4.32	2.24	5.47	5.47
Yellowstone County	B2	RM 364.29	106172.9	20-yr	1871.74	944.02	938.13	2.23	2.19	39.25	36.54	191	508.5	4.37	4.07	5.89	5.89
Yellowstone County	B2	RM 364.26	106126.6	20-yr	1871.74	943.76	937.7	2.98	2.65	56.69	39.83	142.23	377.39	4.28	3	6.06	6.06
Yellowstone County	B2	RM 364.22	106055.2	20-yr	1871.74	943.58	938.15	3.16	3.11	67.07	40.83	136.36	250.73	4.34	2.64	5.43	5.43
Yellowstone County	B2	RM 364.14	105927.3	20-yr	1871.74	943.25	938.12	3.52	3.09	75.14	47.8	124.3	230.84	4.14	2.62	5.13	5.13
Yellowstone County	B2	RM 364.06	105809.9	20-yr	1871.74	943.16	938.22	2.98	2.58	62.81	33.4	154.82	501.65	3.92	2.08	4.94	4.94
Yellowstone County	B2	RM 363.96	105648.3	20-yr	1871.74	943.07	938.28	2.27	1.97	37.53	21.5	248.02	604.64	3.2	1.83	4.79	4.79
Yellowstone County	B2	RM 363.85	105472.4	20-yr	1871.74	942.73	936.25	2.84	2.41	39.46	21.06	150.29	420.95	3.98	2.11	6.48	6.48
Yellowstone County	B2	RM 363.76	105316.8	20-yr	1871.74	942.59	937.03	2.69	2.35	49.93	23.54	147.31	421.78	4.12	1.94	5.56	5.56
Yellowstone County	B2	RM 363.63	105118.1	20-yr	1871.74	942.35	937.93	2.22	2.16	46.93	35.29	335.7	461.37	2.5	1.88	4.42	4.42
Yellowstone County	B2	RM 363.52	104943.9	20-yr	1871.74	942.02	937.54	2.08	1.96	48.7	31.14	372.43	629.75	2.38	1.52	4.48	4.48
Yellowstone County	B2	RM 363.46	104841.5	20-yr	1871.74	941.89	937.16	1.89	1.63	34.07	19.42	330.96	741.32	2.86	1.63	4.73	4.73
Yellowstone County	B2	RM 363.33	104622.9	20-yr	1871.74	941.58	936.36	1.95	1.54	47.56	27.76	300.54	890.42	2.7	1.57	5.22	5.22
Yellowstone County	B2	RM 363.20	104414.5	20-yr	1871.74	941.22	936.48	2.12	1.5	35.22	17.02	282.91	1032.97	2.74	1.32	4.74	4.74
Yellowstone County	B2	RM 363.10	104256.4	20-yr	1871.74	940.94	936.25	2.3	1.68	41.65	21.24	275.29	839.78	2.6	1.32	4.69	4.69
Yellowstone County	B2	RM 363.03	104144.8	20-yr	1871.74	940.78	936.22	2.24	1.6	33.9	15.95	284.89	970.71	2.63	1.23	4.56	4.56
Yellowstone County	B2	RM 362.86	103869.6	20-yr	1871.74	940.64	934.32	1.58	1.2	14.75	8.97	405.06	978.08	2.63	1.6	6.32	6.32
Yellowstone County	B2	RM 362.74	103671.4	20-yr	1871.74	940.41	934.52	2.02	1.54	24.87	15.07	371.06	889.46	2.26	1.37	5.89	5.89
Yellowstone County	B2	RM 362.63	103493.2	20-yr	1871.74	940.16	934.5	1.97	1.55	43.78	28.18	388.17	865.02	2.17	1.39	5.66	5.66
Yellowstone County	B2	RM 362.52	103330.7	20-yr	1871.74	939.83	934.5	1.88	1.57	43.77	29.05	435.44	844.86	2.13	1.41	5.33	5.33
Yellowstone County	B2	RM 362.43	103185.5	20-yr	1871.74	939.67	934.1	1.79	1.53	16.83	12.33	438.35	777.41	2.3	1.68	5.57	5.57
Yellowstone County	B2	RM 362.36	103070.8	20-yr	1871.74	939.57	932.98	1.85	1.67	16.08	12.32	404.66	608.15	2.41	1.84	6.59	6.59
Yellowstone County	B2	RM 362.27	102929.3	20-yr	1871.74	939.34	932.93	2.39	2.25	27.26	13.25	195.39	433.14	3.99	1.92	6.41	6.41
Yellowstone County	B2	RM 362.20	102813.3	20-yr	1871.74	938.69	933.37	3.89	3.64	76.32	30.05	110.86	306.64	4.31	1.68	5.32	5.32
Yellowstone County	B2	RM 362.13	102693.1	20-yr	1871.74	938.47	933.47	3.85	3.63	73.03	39.44	124.97	249.05	3.86	2.07	5	5
Yellowstone County	B3	RM 362.05	102570.9	20-yr	1871.74	938.39	933.85	3.25	3.21	54.56	34.86	181.44	288.79	3.17	2.02	4.54	4.54
Yellowstone County	B3	RM 362.00	102488.8	20-yr	1871.74	938.39	934.11	2.64	2.64	42.01	41.87	243.99	306.55	2.9	2.89	4.28	4.28
Yellowstone County	B3	RM 361.93	102368.8	20-yr	1871.74	938.28	934.31	2.21	2.21	33.46	33.34	367.9	369.17	2.3	2.29	3.97	3.97
Yellowstone County	B3	RM 361.86	102261.1	20-yr	1871.74	937.92	934.36	2.67	2.61	67.92	58.72	363.43	439.92	1.89	1.63	3.56	3.56
Yellowstone County	B3	RM 361.78	102138.9	20-yr	1871.74	937.74	933.72	2.22	2.18	27.6	24.77	405.85	462.9	2.06	1.85	4.02	4.02
Yellowstone County	B3	RM 361.68	101970.2	20-yr	1871.74	937.53	933.64	2.05	1.99	30.34	26.48	425.38	511.39	2.11	1.84	3.89	3.89
Yellowstone County	B3	RM 361.65	101918.4	20-yr	1871.74	937.49	933.71	1.85	1.77	25.67	19.81	403.7	578.96	2.46	1.9	3.78	3.78
Yellowstone County	B3	RM 361.61	101855.6	20-yr	1871.74	937.33	932.7	2.23	2.04	31.8	21.79	332.96	592.6	2.44	1.67	4.63	4.63
Yellowstone County	B3	RM 361.56	101767.4	20-yr	1871.74	937.19	930.29	2.37	2.15	32.1	19.03	267.33	534.98	2.85	1.69	6.9	6.9
Yellowstone County	B3	RM 361.48	101644.6	20-yr	1871.74	937.01	929.97	2.61	2.24	43.72	21.32	181.01	813.09	3.5	1.7	7.04	7.04
Yellowstone County	B3	RM 361.42	101546.2	20-yr	1871.74	936.78	932.36	2.96	2.34	43.48	19.46	183.25	984.59	2.96	1.32	4.42	4.42
Yellowstone County	B3	RM 361.37	101468.9	20-yr	1871.74	936.68	932.21	2.89	2.13	43.51	14.88	171.32	1051.73	3.36	1.14	4.47	4.47
Yellowstone County	B3	RM 361.33	101409.4	20-yr	1871.74	936.17	932.02	3.93	3.05	81.82	26.12	154.32	702.78	2.91	0.93	4.15	4.15
Yellowstone County	B3	RM 361.29	101346	20-yr	1871.74	936.15	930.51	3.55	2.09	67.97	21.42	136.81	963.59	3.12	0.98	5.64	5.64
Yellowstone County	B3	RM 361.25	101284.9	20-yr	1871.74	936.05	928.42	3.53	2.01	63.45	19.53	110.34	929.91	3.53	1.07	7.63	7.63
Yellowstone County	B3	RM 361.21	101251.*	20-yr	1871.74	936.05	927.55	3.03	1.91	90.8	27.62	117.73	1008.3	4.06	1.22	8.5	8.5
Yellowstone County	B3	RM 361.21	101217.5	20-yr	1871.74	936.03	926.68	2.78	1.81	39.28	11	113.85	1147.1	4.86	1.35	9.35	9.35
Yellowstone County	B3	RM 361.18	101167.2	20-yr	1871.74	936.01	928.03	2.66	1.61	33.45	9.74	130.21	1195.64	4.36	1.26	7.98	7.98
Yellowstone County	B3	RM 361.16	101134.2	20-yr	1871.74	935.99	928.92	2.48	1.72	32.22	12.81	201.65	1459.09	3.22	1.27	7.07	7.07
Yellowstone County	B3	RM 361.09	101028.7	20-yr	1871.74	935.95	931.28	1.93	1.37	22.6	13.49	346.89	1601.13	1.99	1.19	4.67	4.67
Yellowstone County	B3	RM 361.01	100891.3	20-yr	1871.74	935.63	931.55	2.4	1.71	37.86	16.9	340.15	1443.13	1.84	0.82	4.08	4.08
Yellowstone County	B3	RM 360.92	100756	20-yr	1871.74	935.5	931.05	1.44	1.09	24.18	15.39	451.67	1598.15	1.69	1.07	4.45	4.45
Yellowstone County	B3	RM 360.81	100570.1	20-yr	1871.74	934.94	929.52	2.28	1.83	64.59	46.26	452.37	1180.31	1.45	1.04	5.42	5.42
Yellowstone County	B3	RM 360.69	100383.5	20-yr	1871.74	934.86	930.6	1.1	0.84	10.79	7.31	340.02	1631.89	2.32	1.58	4.97	4.97
Yellowstone County	B3	RM 360.59	100227.2	20-yr	1871.74	934.7	930.53	1.82	1.09	19.58	9.29	268.42	1721.09	2.31	1.09	4.49	4.49
Yellowstone County	B3	RM 360.50	100081	20-yr	1871.74	934.49	930.55	2.17	1.25	31.07	10.51	206.84	1693.04	2.89	0.97	3.94	3.94

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	20-yr	1871.74	934.32	929.97	2.4	1.3	34.81	11.87	187.85	1444.79	2.93	1	4.35	4.35
Yellowstone County	B3	RM 360.36	99862.66	20-yr	1871.74	934.2	929.68	2.28	1.32	28.2	10.99	240.38	1443.98	2.54	0.99	4.52	4.52
Yellowstone County	B3	RM 360.27	99717.18	20-yr	1871.74	933.92	929.52	2.8	1.51	44.68	14.86	149.73	1230.26	3.03	1	4.4	4.4
Yellowstone County	B3	RM 360.18	99578.06	20-yr	1871.74	933.64	929.32	2.97	1.62	56.67	15.12	134.96	1218.54	3.62	0.95	4.32	4.32
Yellowstone County	B3	RM 360.11	99458.59	20-yr	1871.74	933.55	929.38	2.66	1.54	38.8	11.41	148.51	1350.14	3.07	0.9	4.17	4.17
Yellowstone County	B3	RM 360.03	99328	20-yr	1888.73	933.45	929.58	2.2	1.3	37.17	11.94	168.97	1566.03	3.08	0.99	3.87	3.87
Yellowstone County	B3	RM 359.96	99226.54	20-yr	1888.73	933.34	929.2	2.25	1.22	32.26	10.76	163.81	1469.12	3.18	1.06	4.14	4.14
Yellowstone County	B3	RM 359.88	99098.18	20-yr	1888.73	933.2	927.78	2.45	1.24	33.35	10.19	144	1401.53	3.56	1.08	5.42	5.42
Yellowstone County	B3	RM 359.78	98940.52	20-yr	1888.73	933.11	928.1	2.25	1.17	35.56	10.86	149.61	1439.03	3.69	1.12	5.01	5.01
Yellowstone County	B3	RM 359.70	98813.18	20-yr	1888.73	932.74	928.32	3.02	1.8	75.5	19.05	143	1339.29	3.33	0.84	4.42	4.42
Yellowstone County	B3	RM 359.61	98663.44	20-yr	1888.73	932.56	928.8	2.25	1.76	36.71	13.29	318.49	1310.11	2.45	0.89	3.76	3.76
Yellowstone County	B3	RM 359.50	98492.66	20-yr	1888.73	932.32	928.22	2.29	1.65	30.84	11.46	321.3	1487.92	2.27	0.84	4.1	4.1
Yellowstone County	B3	RM 359.38	98291.15	20-yr	1888.73	932.04	927.09	1.97	1.53	44	18.89	380.94	1619.04	1.92	0.82	4.95	4.95
Yellowstone County	B3	RM 359.26	98107.42	20-yr	1888.73	931.56	927.71	2.33	1.87	35.68	19.03	406.08	1188.87	1.78	0.95	3.85	3.85
Yellowstone County	B3	RM 359.18	97966.53	20-yr	1888.73	931.35	927.28	2.23	1.58	30.78	13.38	299.78	1355.31	2.28	0.99	4.07	4.07
Yellowstone County	B3	RM 359.10	97841.82	20-yr	1888.73	931.2	926.69	2.05	1.47	26.9	13.63	374.28	1455.77	1.94	0.98	4.51	4.51
Yellowstone County	B3	RM 359.01	97692.75	20-yr	1888.73	931.04	925.91	1.75	1.15	27.92	14.41	329.94	1652.54	2.12	1.09	5.13	5.13
Yellowstone County	B3	RM 358.90	97524.59	20-yr	1888.73	930.63	926.77	2.53	1.5	45.02	16.21	227.3	1423.64	2.46	0.88	3.86	3.86
Yellowstone County	B3	RM 358.81	97374.99	20-yr	1888.73	930.33	926.37	2.66	1.55	36.96	12.21	225.13	1476.89	2.57	0.85	3.96	3.96
Yellowstone County	B3	RM 358.74	97267.71	20-yr	1888.73	930.16	925.53	2.76	1.49	60.18	20.34	166.83	1408.4	2.79	0.94	4.63	4.63
Yellowstone County	B3	RM 358.67	97155.8	20-yr	1888.73	930.07	925.59	2.09	1.46	25.3	11.61	277.61	1401.1	2.23	1.02	4.48	4.48
Yellowstone County	B3	RM 358.61	97062.24	20-yr	1888.73	930	925.74	1.64	1.31	21.8	11.29	389.39	1553.93	2.14	1.11	4.26	4.26
Yellowstone County	B3	RM 358.56	96985.92	20-yr	1888.73	929.93	926.2	1.51	1.27	16.93	9.98	457.52	1537.38	2.03	1.2	5.34	5.34
Yellowstone County	B3	RM 358.50	96888.4	20-yr	1888.73	929.87	925.64	1.4	1.19	12.95	9.54	550.02	1440.33	1.87	1.38	4.23	4.23
Yellowstone County	B3	RM 358.43	96788.43	20-yr	1888.73	929.81	925.27	1.17	1.11	13.55	11.06	650.58	1394.06	1.91	1.56	4.54	4.54
Yellowstone County	B3	RM 358.30	96638.82	20-yr	1888.73	929.75	924.7	1.05	0.97	9.2	7.53	686.08	1270.12	2.47	2.02	5.05	5.05
Yellowstone County	B3	RM 358.24	96561.93	20-yr	1888.73	929.71	923.57	1.18	1.1	10.86	8.83	644.55	1244.71	2.3	1.87	6.14	6.14
Yellowstone County	B3	RM 358.20	96500.79	20-yr	1888.73	929.65	922.99	1.32	1.23	12.37	9.79	619.95	992.16	2.17	1.71	6.67	6.67
Yellowstone County	B3	RM 358.14	96404.93	20-yr	1888.73	929.59	922.57	1.38	1.21	11.82	8.33	543.4	1233.45	2.34	1.65	7.02	7.02
Yellowstone County	B3	RM 358.12	96368.05	20-yr	1888.73	929.57	922.78	1.47	1.13	13.42	8.02	349.01	1219.72	2.93	1.75	6.79	6.79
Yellowstone County	B3	RM 358.04	96244.75	20-yr	1888.73	929.42	923.22	2.13	1.42	37.55	14.22	162.23	1114.45	3.74	1.41	6.2	6.2
Yellowstone County	B3	RM 358.00	96168.44	20-yr	1888.73	929.27	923.39	2.68	1.5	47.6	16.34	101.88	1194.14	4	1.35	5.88	5.88
Yellowstone County	B3	RM 357.93	96065.49	20-yr	1888.73	929.09	923.1	2.96	1.67	40.13	13.65	106.83	1116.7	3.75	1.27	5.99	5.99
Yellowstone County	B3	RM 357.88	95975.44	20-yr	1888.73	929.08	923.91	2.3	1.54	32.51	13.73	153.56	1163.7	3.53	1.48	5.17	5.17
Yellowstone County	B3	RM 357.82	95884.99	20-yr	1888.73	929.04	924.01	1.96	1.5	23.33	10.26	193.1	1010.74	3.57	1.56	5.03	5.03
Yellowstone County	B3	RM 357.78	95821.69	20-yr	1888.73	928.99	924.08	1.76	1.57	24.29	11.64	257.61	827.88	3.05	1.45	4.91	4.91
Yellowstone County	B3	RM 357.69	95683.91	20-yr	1888.73	928.81	923.81	2.06	1.75	22.85	10.41	293.71	794.27	2.99	1.36	5	5
Yellowstone County	B4	RM 357.62	95571.15	20-yr	1888.73	928.56	921.84	2.53	2.26	40.22	16.36	252.93	721.67	2.86	1.16	6.72	6.72
Yellowstone County	B4	RM 357.56	95469.4	20-yr	1888.73	928.51	918.46	2.19	1.93	31.28	12.99	225.69	798.26	3.71	1.53	10.05	10.05
Yellowstone County	B4	RM 357.48	95351.48	20-yr	1888.73	928.16	922.69	2.94	2.67	48.55	25.54	198.74	703.81	3.19	1.67	5.47	5.47
Yellowstone County	B4	RM 357.44	95275.91	20-yr	1888.73	928	922.22	3.01	2.8	53.4	35.98	196.21	597.49	3.17	2.13	5.78	5.78
Yellowstone County	B4	RM 357.34	95127.12	20-yr	1888.73	927.77	923.1	2.97	2.7	50.29	33.71	182.14	614.67	3.44	2.3	4.67	4.67
Yellowstone County	B4	RM 357.23	94939.75	20-yr	1888.73	927.53	920.81	2.95	2.52	52.9	28.2	143.13	731.5	4.23	2.24	6.72	6.72
Yellowstone County	B4	RM 357.13	94789.23	20-yr	1888.73	927.36	921.26	3	2.41	45.97	20.59	138.87	701.58	3.75	1.67	6.1	6.1
Yellowstone County	B4	RM 357.01	94595.53	20-yr	1888.73	927.24	921.72	2.43	1.79	29.04	16.04	185.54	666.65	3.78	2.09	5.52	5.52
Yellowstone County	B4	RM 356.90	94412.13	20-yr	1888.73	927.07	921.02	2.43	1.89	31.04	17.85	234.47	847.3	3.05	1.75	6.05	6.05
Yellowstone County	B4	RM 356.81	94272.48	20-yr	1888.73	926.93	919.95	2.4	1.84	33.2	20.26	233.74	778.45	2.92	1.78	6.98	6.98
Yellowstone County	B4	RM 356.73	94148.77	20-yr	1888.73	926.83	921.15	2.13	1.7	26.13	15.61	299.9	917.48	2.54	1.52	5.68	5.68
Yellowstone County	B4	RM 356.66	94030.68	20-yr	1888.73	926.72	921.75	2.05	1.58	22.99	11.76	300.18	990.08	2.71	1.38	4.97	4.97
Yellowstone County	B4	RM 356.59	93912.76	20-yr	1888.73	926.65	921.88	1.93	1.41	24.85	10.62	252.57	1063.68	3.24	1.38	4.77	4.77
Yellowstone County	B4	RM 356.50	93782.14	20-yr	1888.73	926.49	921.75	2.3	1.52	36.03	12.01	153.48	1041.03	3.82	1.26	4.74	4.74
Yellowstone County	B4	RM 356.44	93670.16	20-yr	1888.73	926.31	921.33	2.65	1.71	34.71	10.64	135.34	983.43	3.74	1.14	4.98	4.98
Yellowstone County	B4	RM 356.35	93525.27	20-yr	1888.73	926.1	919.71	2.83	1.83	55.95	15.74	115.5	916.96	4.15	1.15	6.39	6.39
Yellowstone County	B4	RM 356.26	93386.36	20-yr	1888.73	925.97	919.77	2.74	1.73	32.31	10.5	125.06	860.82	4.32	1.4	6.2	6.2
Yellowstone County	B4	RM 356.18	93264.31	20-yr	1888.73	925.91	919.95	2.46	1.71	37.02	13.74	128.53	689.88	4.35	1.6	5.96	5.96
Yellowstone County	B4	RM 356.11	93150.71	20-yr	1888.73	925.84	920.24	2.12	1.52	37.53	15.67	179.53	741.48	4.04	1.68	5.6	5.6
Yellowstone County	B4	RM 356.04	93034.25	20-yr	1888.73	925.62	920.36	2.46	1.83	55.06	22.02	173.32	709.28	3.66	1.46	5.26	5.26
Yellowstone County	B4	RM 355.97	92927.46	20-yr	1888.73	925.37	920.09	2.8	1.99	56.36	21.5	153.7	707.51	3.54	1.34	5.28	5.28
Yellowstone County	B4	RM 355.91	92825.82	20-yr	1888.73	925.32	919.82	2.4	1.55	27.98	11.85	153.74	853.78	3.78	1.59	5.5	5.5
Yellowstone County	B4	RM 355.82	92688.73	20-yr	1888.73	924.47	919.51	3.39	2.38	70.54	24.71	153.67	720.83	3.17	1.1	4.96	4.96
Yellowstone County	B4	RM 355.66	92419.94	20-yr	1888.73	924.16	919.8	3.11	2.26	47.6	15.15	139.95	795.33	3.31	1.05	4.36	4.36

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	20-yr	1888.73	924.1	919.42	2.83	2.03	41.86	14.26	148.04	822.58	3.32	1.13	4.68	4.68
Yellowstone County	B4	RM 355.49	92159.95	20-yr	1888.73	923.86	918.52	2.58	2.08	66.42	23.07	141.27	808.87	3.24	1.12	5.34	5.34
Yellowstone County	B4	RM 355.43	92061.2	20-yr	1888.73	923.66	918.67	2.56	2.04	63.88	20.38	134.53	836.72	3.49	1.11	4.99	4.99
Yellowstone County	B4	RM 355.41	92020.68	20-yr	1888.73	923.65	919.02	2.07	1.77	55.88	22.72	159.91	843.94	3.11	1.26	4.63	4.63
Yellowstone County	B4	RM 355.38	91976.12	20-yr	1888.73	923.47	919.25	2.68	2	58.3	19.06	125.74	841.73	3.45	1.12	4.22	4.22
Yellowstone County	B4	RM 355.35	91933.98	20-yr	1888.73	923.41	919.21	2.73	1.9	42.5	15.05	109.82	765.86	3.7	1.3	4.2	4.2
Yellowstone County	B4	RM 355.32	91885.87	20-yr	1888.73	923.36	919.16	2.73	1.9	42.6	14.33	107.08	822.47	3.62	1.21	4.2	4.2
Yellowstone County	B4	RM 355.29	91828.99	20-yr	1888.73	923.27	918.93	2.81	1.95	42.94	12.15	103	950.69	3.65	1.02	4.74	4.74
Yellowstone County	B4	RM 355.23	91732.97	20-yr	1888.73	923.17	918.68	2.71	1.86	46.68	11.74	101.56	1089.96	3.75	0.93	4.73	4.73
Yellowstone County	B4	RM 355.14	91596.1	20-yr	1888.73	923.07	918.52	2.4	1.48	31.85	9.36	118.49	1196.58	3.67	1.06	4.55	4.55
Yellowstone County	B4	RM 354.94	91268.08	20-yr	1888.73	922.28	917.25	3.12	2.27	93.59	29.51	167.33	827.84	3.21	1.01	5.03	5.03
Yellowstone County	B4	RM 354.86	91153.59	20-yr	1888.73	922.21	917.03	2.48	1.51	52.27	16.32	125.07	1156.11	3.99	1.24	5.18	5.18
Yellowstone County	B4	RM 354.80	91056.05	20-yr	1888.73	921.95	915.66	2.93	1.69	71.46	18.59	117.98	1581.72	3.78	0.97	6.29	6.29
Yellowstone County	B4	RM 354.70	90880.27	20-yr	1888.73	921.6	915.38	2.75	1.74	69.1	20.52	147.87	1443.63	2.99	0.88	6.22	6.22
Yellowstone County	B4	RM 354.61	90744.35	20-yr	1888.73	921.36	917.13	2.65	1.52	35.42	14.02	195.92	1349.21	2.44	0.97	4.23	4.23
Yellowstone County	B4	RM 354.53	90609.24	20-yr	1888.73	921.23	916.52	2.22	1.43	28.95	12.28	239.11	1178.79	2.65	1.12	4.71	4.71
Yellowstone County	B4	RM 354.45	90486.63	20-yr	1888.73	921.09	915.87	2.32	1.4	33.1	14.73	204.87	1241.68	2.52	1.12	5.22	5.22
Yellowstone County	B4	RM 354.39	90385.43	20-yr	1888.73	920.84	915.24	2.81	1.63	46.67	17.98	162.22	1208.23	2.68	1.02	5.6	5.6
Yellowstone County	B4	RM 354.33	90291.31	20-yr	1888.73	920.78	915.37	2.4	1.26	31.46	13.23	150.94	1366.71	2.82	1.18	5.41	5.41
Yellowstone County	B4	RM 354.23	90133.96	20-yr	1888.73	920.52	915.46	2.7	1.34	43.19	13.07	115.46	1443.75	3.5	1.05	5.06	5.06
Yellowstone County	B4	RM 354.13	89983.48	20-yr	1888.73	920.41	914.94	2.27	1.16	36.15	10.51	131.5	1538.82	3.65	1.06	5.47	5.47
Yellowstone County	B4	RM 354.00	89778.46	20-yr	1888.73	920.28	916.2	2.05	1.06	29.35	10.04	158.21	1716.44	3.04	1.03	4.08	4.08
Yellowstone County	B5	RM 353.90	89604.28	20-yr	1888.73	920.16	917.06	1.81	1.05	23.82	10.31	243.75	1753.51	2.38	1.03	3.26	3.26
Yellowstone County	B5	RM 353.80	89446.75	20-yr	2007.66	920.01	916.36	1.86	1.14	29.68	12.48	301.59	1844.35	2.27	0.95	3.65	3.65
Yellowstone County	B5	RM 353.70	89288.94	20-yr	2007.66	919.87	915.92	1.49	0.99	24.12	12.17	391.55	1857.15	2.17	1.09	3.95	3.95
Yellowstone County	B5	RM 353.65	89204.58	20-yr	2007.66	919.75	915.49	1.39	0.98	23.63	12.9	403.64	1755.06	2.16	1.17	4.26	4.26
Yellowstone County	B5	RM 353.56	89077.56	20-yr	2007.66	919.62	914.2	1.48	1.02	24.92	12.73	364	1575.7	2.45	1.25	5.42	5.42
Yellowstone County	B5	RM 353.50	88982.39	20-yr	2007.66	919.54	914.58	1.47	0.99	22.99	10.39	307.2	1444.15	3.12	1.41	4.96	4.96
Yellowstone County	B5	RM 353.41	88846.15	20-yr	2007.66	919.36	914.41	1.77	1.18	29.92	12.29	230.82	1362.82	3.08	1.26	4.95	4.95
Yellowstone County	B5	RM 353.32	88709.14	20-yr	2007.66	919.12	913.6	2.28	1.39	38.41	14.47	194.16	1197.6	3.22	1.21	5.52	5.52
Yellowstone County	B5	RM 353.25	88587.13	20-yr	2007.66	918.84	912.76	2.8	1.63	50.14	17.07	160.68	1122.94	3.23	1.09	6.08	6.08
Yellowstone County	B5	RM 353.15	88438.48	20-yr	2007.66	918.52	912.71	3.01	2	56.23	22.75	212.95	1075.87	2.31	0.93	5.81	5.81
Yellowstone County	B5	RM 353.08	88321.13	20-yr	2007.66	918.37	912.99	2.7	1.84	44.64	17.79	197.65	1045.43	2.62	1.04	5.38	5.38
Yellowstone County	B5	RM 353.01	88210.34	20-yr	2007.66	918.23	913.13	2.32	1.71	39.4	19.53	249.61	967.61	2.45	1.21	5.1	5.1
Yellowstone County	B5	RM 352.94	88090.6	20-yr	2007.66	918.14	912.5	2.07	1.57	29.82	13.51	175.39	880.77	3.24	1.46	5.64	5.64
Yellowstone County	B5	RM 352.86	87957.76	20-yr	2007.66	917.98	913.38	2.31	1.71	46.92	18.33	135.13	1662.19	3.26	1.27	4.6	4.6
Yellowstone County	B5	RM 352.79	87857.09	20-yr	2007.66	917.73	913.06	2.96	1.92	40.6	13.82	111.67	1238.38	3.13	1.06	4.67	4.67
Yellowstone County	B5	RM 352.72	87748.15	20-yr	2007.66	917.64	911.97	2.83	1.69	60.15	14.41	89.99	1943.18	4.13	0.97	5.67	5.67
Yellowstone County	B5	RM 352.68	87677.1	20-yr	2007.66	917.56	912.27	2.03	1.66	59.93	32.71	333.67	2055.26	2	1.08	5.29	5.29
Yellowstone County	B5	RM 352.64	87605.18	20-yr	2007.66	917.15	911.68	2.92	1.9	74.22	29.19	207.42	1394.23	2.75	1.07	5.47	5.47
Yellowstone County	B5	RM 352.54	87461.4	20-yr	2007.66	917.03	912.57	2.24	1.62	32.06	13.22	266.49	1966.21	2.75	1.13	4.46	4.46
Yellowstone County	B5	RM 352.47	87340.46	20-yr	2007.66	916.91	912.2	2.14	1.42	28.65	14.31	230.69	2225.6	2.47	1.23	4.71	4.71
Yellowstone County	B5	RM 352.39	87216.99	20-yr	2007.66	916.59	912.01	2.88	1.96	49.16	23.87	184.3	1416.35	2.21	1.07	5.4	5.4
Yellowstone County	B5	RM 352.31	87079.16	20-yr	2007.66	916.26	910.66	2.98	1.99	65.54	31.8	183.65	1079.71	2.16	1.05	5.6	5.6
Yellowstone County	B5	RM 352.23	86961.03	20-yr	2007.66	916.15	911.35	1.93	1.48	25.6	16.56	253.82	1401.26	1.83	1.18	4.8	4.8
Yellowstone County	B5	RM 352.18	86873.5	20-yr	2007.66	916.02	911.21	2.13	1.68	28.52	15.84	222.82	1412.23	2.27	1.26	4.81	4.81
Yellowstone County	B5	RM 352.09	86723.6	20-yr	2007.66	915.84	912.18	2.3	1.67	34.64	15.37	174.65	1477.69	2.48	1.1	3.66	3.66
Yellowstone County	B5	RM 351.99	86568.41	20-yr	2007.66	915.43	912.6	3.16	2.16	56.55	21.63	146.29	1094.48	2.39	0.91	2.85	2.85
Yellowstone County	B5	RM 351.93	86466.74	20-yr	2007.66	915.34	911.69	2.51	1.7	39.1	19.82	173.02	1296.68	2.08	1.06	3.65	3.65
Yellowstone County	B5	RM 351.88	86386.8	20-yr	2007.66	915.26	911.38	1.85	1.46	28.02	21.37	190.29	1531.15	1.84	1.4	3.88	3.88
Yellowstone County	B5	RM 351.81	86277.68	20-yr	2007.66	915.16	910.99	1.63	1.29	19.45	16.83	242.25	1715.58	1.68	1.45	4.17	4.17
Yellowstone County	B5	RM 351.74	86159.62	20-yr	2007.66	914.85	911.37	1.63	1.58	21.25	19.24	290.68	1396.1	1.29	1.17	4.02	4.02
Yellowstone County	B5	RM 351.67	86034.59	20-yr	2007.66	914.58	911.31	1.93	1.63	28.55	18.93	200.85	1043.56	1.85	1.22	4.2	4.2
Yellowstone County	B5	RM 351.58	85891.33	20-yr	2007.66	914.38	911.47	1.65	1.62	21.52	16.76	236.41	943.3	1.79	1.39	4.29	4.29
Yellowstone County	B5	RM 351.52	85811.35	20-yr	2007.66	914.24	911.37	1.97	1.76	24.11	18.14	251.16	897.03	1.74	1.31	3.52	3.52
Yellowstone County	B5	RM 351.47	85728.2	20-yr	2007.66	914.14	911.17	1.96	1.72	21.82	16.19	194.04	808.92	2.11	1.57	3.6	3.6
Yellowstone County	B5	RM 351.40	85601.48	20-yr	2007.66	914	910.26	2.04	1.64	24.95	15.9	158.33	1331.73	2.03	1.29	4.09	4.09
Yellowstone County	B5	RM 351.34	85482.66	20-yr	2007.66	913.9	909.98	1.47	1.44	28.98	15.32	145.49	1464.73	2.42	1.28	3.93	3.93
Yellowstone County	B5	RM 351.25	85342.53	20-yr	2007.66	913.78	909.91	1.51	1.29	17.37	12.23	261.15	1407.74	1.84	1.29	3.9	3.9
Yellowstone County	B5	RM 351.21	85257.19	20-yr	2007.66	913.71	909.48	1.71	1.27	20.21	12.96	207.21	1285.82	1.92	1.23	4.23	4.23
Yellowstone County	B5	RM 351.12	85127.55	20-yr	2007.66	913.63	909.49	1.75	1.3	19.09	11.43	173.01	1213.44	2.16	1.28	4.13	4.13

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	20-yr	2007.66	913.5	908.79	2.07	1.38	25.86	11.43	125.93	1159.47	2.9	1.26	4.71	4.71
Yellowstone County	B5	RM 350.90	84769.91	20-yr	2007.66	913.45	909.27	1.48	1.14	15.51	7.26	100.94	1212.85	3.27	1.5	4.18	4.18
Yellowstone County	B5	RM 350.75	84536.19	20-yr	2007.66	913.29	909.72	1.3	1.48	26.5	19.3	266.93	877.28	2.12	1.55	3.91	3.91
Yellowstone County	B5	RM 350.66	84383.33	20-yr	2007.66	913.1	909.32	1.71	1.65	35.27	18.85	174.8	931.16	2.45	1.3	3.78	3.78
Yellowstone County	B5	RM 350.57	84244.69	20-yr	2007.66	912.81	908.48	2.09	1.77	46.75	20.63	151.95	922.09	2.81	1.23	4.33	4.33
Yellowstone County	B5	RM 350.50	84128.62	20-yr	2007.66	912.55	908.49	2.23	1.91	52.14	24.68	161.32	870.62	2.56	1.21	4.06	4.06
Yellowstone County	B5	RM 350.40	83974.24	20-yr	2007.66	912.35	908.73	1.72	1.64	26.42	18.66	318.14	897.27	1.93	1.36	3.62	3.62
Yellowstone County	B5	RM 350.33	83868.06	20-yr	2007.66	912.22	908.17	1.74	1.57	21.43	16.03	326.5	874.07	1.96	1.47	4.05	4.05
Yellowstone County	B5	RM 350.23	83712.91	20-yr	2007.66	911.99	907.61	1.97	1.65	29.57	19.74	300.73	993.52	1.96	1.31	4.38	4.38
Yellowstone County	B5	RM 350.14	83563.43	20-yr	2007.66	911.81	907.94	1.78	1.49	25.36	16.3	301.69	1159.2	2.04	1.31	3.87	3.87
Yellowstone County	B5	RM 350.06	83419.86	20-yr	2007.66	911.6	907.84	1.65	1.43	26.42	16.31	344.41	1353.14	1.97	1.22	3.76	3.76
Yellowstone County	B5	RM 349.94	83229.4	20-yr	2007.66	911.38	906.93	1.73	1.4	24.91	13.1	281.92	1555.42	2.18	1.14	4.45	4.45
Yellowstone County	B5	RM 349.83	83071.99	20-yr	2007.66	911.25	907.36	1.68	1.18	15.23	6.59	370.02	1437.81	2.86	1.24	3.89	3.89
Yellowstone County	B5	RM 349.68	82904.73	20-yr	2007.66	911.04	906.92	2.07	1.47	33.2	14.89	347.89	1542.06	2.36	1.05	4.12	4.12
Yellowstone County	B5	RM 349.54	82632.78	20-yr	2007.66	910.65	906.29	2.05	1.7	27.69	15.59	449.31	1135.46	2.05	1.15	4.36	4.36
Yellowstone County	B5	RM 349.33	82276.28	20-yr	2007.66	910.38	906.45	1.32	1.21	15.57	11.85	351.92	1034.92	2.16	1.64	3.93	3.93
Yellowstone County	B5	RM 349.19	82046.53	20-yr	2007.66	910.06	905.16	2.1	1.46	27.04	14.44	282.11	1524.72	2.25	1.2	4.9	4.9
Yellowstone County	B5	RM 349.04	81800.47	20-yr	2115.27	909.87	904.5	1.67	1.29	17.62	9.72	345.54	1807.32	2.44	1.34	5.37	5.37
Yellowstone County	B5	RM 348.89	81574.02	20-yr	2115.27	909.74	904.75	1.32	1.14	18.64	10.73	550.23	1909.28	2.65	1.52	4.99	4.99
Yellowstone County	B5	RM 348.77	81370.46	20-yr	2115.27	909.58	905.09	1.43	1.18	24.35	13.06	461.48	1830.86	2.74	1.46	4.49	4.49
Yellowstone County	B5	RM 348.64	81138.52	20-yr	2115.27	909.38	903.35	1.78	1.26	18.6	7.69	295.31	1679.18	3.37	1.38	6.03	6.03
Yellowstone County	B5	RM 348.52	80960.09	20-yr	2115.27	909.2	902.88	2.15	1.48	37.35	13.01	207.89	1427.17	3.75	1.29	6.32	6.32
Yellowstone County	B5	RM 348.38	80737.31	20-yr	2115.27	908.76	902.85	2.79	1.92	56.3	15.97	186.9	1087.14	3.61	1.01	5.91	5.91
Yellowstone County	B5	RM 348.26	80551.51	20-yr	2115.27	908.49	902.73	2.72	1.88	62.04	17.25	167.96	1091.55	3.78	1.04	5.76	5.76
Yellowstone County	B5	RM 348.09	80276.34	20-yr	2115.27	908.16	901.64	2.56	1.73	43.29	15.83	171.66	890.9	3.77	1.37	6.52	6.52
Yellowstone County	B5	RM 347.95	80055.79	20-yr	2115.27	907.93	902.96	2.57	1.9	32.11	13.74	165.09	796.27	3.99	1.71	4.97	4.97
Yellowstone County	B5	RM 347.82	79844.2	20-yr	2115.27	907.78	902.93	2.25	1.71	42.17	14.2	180.88	1059.76	3.66	1.23	4.85	4.85
Yellowstone County	B5	RM 347.77	79751.93	20-yr	2115.27	907.68	902.38	2.26	1.59	43.75	15.88	178.59	990.86	3.69	1.34	5.3	5.3
Yellowstone County	B5	RM 347.70	79643.98	20-yr	2115.27	907.56	901.91	2.21	1.46	40.94	14.88	182.31	1170.87	3.61	1.31	5.65	5.65
Yellowstone County	B5	RM 347.61	79501.64	20-yr	2115.27	907.5	902.2	1.89	1.19	17.97	9.52	192.93	1029.56	3.93	2.08	5.3	5.3
Yellowstone County	B5	RM 347.51	79347.38	20-yr	2115.27	907.09	900.54	3.19	2.01	46.97	19.29	112.36	920.26	4.64	1.89	6.55	6.55
Yellowstone County	B5	RM 347.42	79196.21	20-yr	2115.27	907	900.73	2.64	2.01	65.38	33.45	146.45	992.28	4.07	2.07	6.27	6.27
Yellowstone County	B5	RM 347.35	79079.87	20-yr	2115.27	907.07	900.77	1.35	1.35	8.72	8.71	498.71	1230.99	3.14	3.14	6.3	6.3
Yellowstone County	B5	RM 347.23	78895.71	20-yr	2115.27	906.99	900.89	1.44	1.43	12.66	12.12	509.41	1509.97	2.87	2.75	6.1	6.1
Yellowstone County	B5	RM 347.13	78732.21	20-yr	2115.27	906.86	900.98	1.57	1.52	27.86	21.5	441.14	1445.57	3.01	2.32	5.88	5.88
Yellowstone County	B5	RM 346.93	78400.21	20-yr	2115.27	906.31	900.98	1.84	1.74	65.79	54.73	465.39	1123.9	2.4	1.99	5.33	5.33
Yellowstone County	B5	RM 346.80	78193.27	20-yr	2115.27	905.74	900.02	1.97	1.69	55.02	39.91	454.52	884.03	2.18	1.58	5.72	5.72
Yellowstone County	B5	RM 346.64	77938.83	20-yr	2115.27	905.46	900.47	2.03	1.44	21.73	9.92	247.2	948.05	3.46	1.57	4.99	4.99
Yellowstone County	B5	RM 346.49	77706.6	20-yr	2115.27	905.19	900.21	2.51	1.59	38.02	13.17	176.67	1091.76	3.62	1.24	4.98	4.98
Yellowstone County	B6	RM 346.35	77480.6	20-yr	2115.27	904.99	900.33	2.25	1.46	35.75	14.02	214.67	1077.28	3.51	1.37	4.66	4.66
Yellowstone County	B6	RM 346.23	77285.9	20-yr	2115.27	904.7	900.11	2.63	1.63	35.91	12.62	177.38	992.31	3.76	1.31	4.59	4.59
Yellowstone County	B6	RM 346.11	77095.33	20-yr	2115.27	904.51	899.75	2.57	1.76	46.55	18.72	182.5	904.25	3.72	1.49	4.76	4.76
Yellowstone County	B6	RM 346.00	76926.16	20-yr	2115.27	904.32	899.8	2.53	1.75	37.92	14.58	177.96	976.36	3.88	1.48	4.52	4.52
Yellowstone County	B6	RM 345.90	76766.95	20-yr	2115.27	904.04	899.51	2.82	1.96	52.75	22.72	179.39	813.11	3.65	1.56	4.53	4.53
Yellowstone County	B6	RM 345.80	76608.55	20-yr	2115.27	903.89	899.04	2.51	1.8	37.55	16.77	199.38	1055.57	3.69	1.64	4.99	4.99
Yellowstone County	B6	RM 345.73	76484.99	20-yr	2115.27	903.7	899.01	2.71	1.92	43.32	18.75	198.24	1064.49	3.34	1.45	4.8	4.8
Yellowstone County	B6	RM 345.67	76386.71	20-yr	2115.27	903.66	899.1	2.29	1.6	30.35	14	212.34	781.97	3.67	1.69	4.76	4.76
Yellowstone County	B6	RM 345.60	76268.76	20-yr	2115.27	903.56	899.22	2.23	1.63	33.14	18.78	235.37	695.13	3.3	1.87	4.66	4.66
Yellowstone County	B6	RM 345.50	76118.1	20-yr	2115.27	903.41	899.07	1.92	1.62	40.32	26.87	280.8	668.34	2.94	1.95	4.51	4.51
Yellowstone County	B6	RM 345.37	75909.53	20-yr	2115.27	902.96	897.51	2.36	2.04	45.05	23.7	316.61	794.59	2.74	1.44	5.45	5.45
Yellowstone County	B6	RM 345.27	75751.01	20-yr	2115.27	902.72	898.15	2.48	1.85	38.05	15.88	252.45	998.19	3.12	1.29	4.57	4.57
Yellowstone County	B6	RM 345.07	75427.56	20-yr	2115.27	902.49	897.07	2.09	1.52	23.66	9.56	241.2	1175.65	3.65	1.47	5.42	5.42
Yellowstone County	B6	RM 344.90	75166.64	20-yr	2115.27	902.38	897.3	1.77	1.31	17.92	7.81	294.53	1049.91	3.52	1.53	5.08	5.08
Yellowstone County	B6	RM 344.75	74927.69	20-yr	2115.27	902.17	896.02	2.09	1.54	34.75	13.74	235.74	960.78	3.67	1.44	6.15	6.15
Yellowstone County	B6	RM 344.64	74743.45	20-yr	2115.27	901.75	895.93	2.91	2.03	45.28	13.02	158.71	889.69	4.18	1.2	5.82	5.82
Yellowstone County	B6	RM 344.53	74576.12	20-yr	2115.27	901.59	895.39	2.71	1.88	62.61	20.13	162.09	961.96	3.88	1.24	6.2	6.2
Yellowstone County	B6	RM 344.43	74405.67	20-yr	2115.27	901.44	896.11	2.46	1.57	28.62	9.89	179.43	1126.06	3.71	1.28	5.33	5.33
Yellowstone County	B6	RM 344.29	74192.79	20-yr	2115.27	901.3	895.87	2.29	1.54	31.29	10.77	179.75	1019.1	3.91	1.34	5.43	5.43
Yellowstone County	B6	RM 344.13	73931.76	20-yr	2115.27	901.01	895.4	2.55	1.78	37.54	11.35	157.02	930.21	4.25	1.28	5.61	5.61
Yellowstone County	B6	RM 343.87	73520.95	20-yr	2115.27	900.76	895.23	2.03	1.5	21.74	8.9	287.43	1056.54	3.26	1.33	5.53	5.53
Yellowstone County	B6	RM 343.80	73403.19	20-yr	2115.27	900.72	894.69	1.57	1.22	27.55	12.93	356.81	1199.91	3.08	1.44	6.03	6.03

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	20-yr	2115.27	900.45	894.63	1.63	1.4	40.45	20.32	395.57	1071.08	2.81	1.41	5.82	5.82
Yellowstone County	B6	RM 343.55	72997.33	20-yr	2115.27	900.19	894.63	1.71	1.48	39.7	20	370.37	952.11	3	1.5	5.56	5.56
Yellowstone County	B6	RM 343.45	72840.49	20-yr	2115.27	899.94	894.78	1.83	1.62	37.78	19.55	401.62	934.52	2.7	1.39	5.16	5.16
Yellowstone County	B6	RM 343.37	72718.86	20-yr	2115.27	899.68	894.5	2.11	1.82	53.88	25.5	341.81	922.7	2.68	1.26	5.18	5.18
Yellowstone County	B6	RM 343.29	72586.22	20-yr	2115.27	899.45	894.28	2.12	1.73	43.96	21.55	279.91	789.6	3.17	1.54	5.17	5.17
Yellowstone County	B6	RM 343.21	72458.03	20-yr	2115.27	899.25	893.99	1.93	1.62	53.77	30.44	356.89	849.43	2.73	1.54	5.26	5.26
Yellowstone County	B6	RM 343.14	72328.78	20-yr	2115.27	898.96	893.94	1.88	1.6	58.26	40.1	432.62	823.72	2.34	1.61	5.02	5.02
Yellowstone County	B6	RM 343.04	72174.44	20-yr	2115.27	898.77	894.12	1.68	1.39	19.07	11.8	485.75	1012.83	2.44	1.5	4.65	4.65
Yellowstone County	B6	RM 342.96	72046.7	20-yr	2115.27	898.64	894.17	1.6	1.38	39.3	24.91	506.58	1101.51	2.29	1.45	4.47	4.47
Yellowstone County	B6	RM 342.87	71890.42	20-yr	2115.27	898.31	893.92	1.64	1.42	49.01	31.18	541.22	1151.84	2.05	1.3	4.39	4.39
Yellowstone County	B6	RM 342.78	71759.64	20-yr	2115.27	898.14	893.85	1.65	1.35	15.4	10.01	525.07	1260.01	2.03	1.32	4.29	4.29
Yellowstone County	B6	RM 342.71	71649.64	20-yr	2115.27	898.06	893.88	1.57	1.29	13.84	8.89	525.43	1463.99	1.95	1.25	4.18	4.18
Yellowstone County	B6	RM 342.64	71534.72	20-yr	2115.27	897.94	893.45	1.39	1.24	31.63	20.87	689.44	1776.73	1.94	1.27	4.49	4.49
Yellowstone County	B6	RM 342.59	71441.82	20-yr	2115.27	897.76	893.13	1.45	1.36	36.14	22.09	689.58	2205.16	1.92	1.17	4.63	4.63
Yellowstone County	B6	RM 342.49	71299.94	20-yr	2115.27	897.57	892.73	1.31	1.19	23.75	13.1	666.31	2301.7	2.3	1.27	4.84	4.84
Yellowstone County	B6	RM 342.40	71182.23	20-yr	2115.27	897.48	892.4	1.14	1.03	17.75	8.85	600.2	2449.82	2.89	1.44	5.08	5.08
Yellowstone County	B6	RM 342.29	70973.95	20-yr	2115.27	897.29	891.26	1.48	1.29	25.44	11.76	481.85	2124.68	2.72	1.25	6.03	6.03
Yellowstone County	B6	RM 342.17	70788.09	20-yr	2115.27	896.9	891.21	2.12	1.83	56.28	24.64	378.97	1624.74	2.4	1.05	5.69	5.69
Yellowstone County	B6	RM 342.09	70668.79	20-yr	2115.27	896.72	892.22	1.87	1.61	39.93	18.28	378.13	1457.63	2.76	1.26	4.5	4.5
Yellowstone County	B6	RM 341.96	70472.35	20-yr	2115.27	896.56	891.5	1.66	1.45	15.42	9.12	503.59	1465.72	2.37	1.4	5.06	5.06
Yellowstone County	B6	RM 341.82	70207.79	20-yr	2115.27	896.41	890.89	1.35	1.25	17.92	12.51	582.05	965.11	2.56	1.78	5.52	5.52
Yellowstone County	B6	RM 341.68	69974.03	20-yr	2115.27	896.21	890.38	1.51	1.39	23.99	16.67	480.9	808.77	2.76	1.92	5.83	5.83
Yellowstone County	B6	RM 341.57	69788.71	20-yr	2115.27	895.94	889.58	2.05	1.93	20	13.8	432.26	691.45	2.35	1.62	6.36	6.36
Yellowstone County	B6	RM 341.47	69629.19	20-yr	2115.27	895.76	889.76	1.87	1.76	52.32	36.65	395.38	685.61	2.73	1.91	6	6
Yellowstone County	B6	RM 341.32	69391.37	20-yr	2115.27	895.28	890.36	1.93	1.8	50.95	37.08	401.17	633.9	2.62	1.9	4.92	4.92
Yellowstone County	B6	RM 341.24	69252.71	20-yr	2115.27	895.16	890.28	1.73	1.53	17.43	11.55	396.74	768.51	2.83	1.88	4.88	4.88
Yellowstone County	B6	RM 341.11	69044.61	20-yr	2115.27	894.88	890	2.19	1.74	37.41	20.82	324.59	800.78	2.74	1.52	4.88	4.88
Yellowstone County	B6	RM 340.94	68773.18	20-yr	2115.27	894.56	889.22	2.14	1.5	33.64	16.15	280.24	1000.8	3.03	1.46	5.34	5.34
Yellowstone County	B6	RM 340.81	68556.42	20-yr	2115.27	894.45	889.05	1.57	1.09	20.8	10.89	315.44	1147.92	3.22	1.68	5.4	5.4
Yellowstone County	B6	RM 340.65	68325.7	20-yr	2115.27	894.23	888.87	2.16	1.29	22.55	9.37	204.11	1041.58	3.81	1.58	5.36	5.36
Yellowstone County	B6	RM 340.52	68126.27	20-yr	2115.27	894.01	887.3	2.58	1.46	44.07	13.65	130.27	970.87	4.86	1.49	6.71	6.71
Yellowstone County	B6	RM 340.40	67936.51	20-yr	2115.27	893.89	886.73	2.2	1.4	39.96	16.24	170.6	858.2	4.38	1.77	7.16	7.16
Yellowstone County	B7	RM 340.26	67715.84	20-yr	2115.27	893.62	887.99	2.12	1.63	51.71	28.48	252.03	688.71	3.44	1.89	5.63	5.63
Yellowstone County	B7	RM 340.16	67550.99	20-yr	2115.27	893.34	888.43	2.02	1.66	60.69	39.64	313.8	668.4	2.93	1.91	4.91	4.91
Yellowstone County	B7	RM 340.06	67387.35	20-yr	2115.27	893.05	888.74	1.97	1.73	42.47	29.54	315.76	576.05	3.05	2.12	4.31	4.31
Yellowstone County	B7	RM 339.96	67234.59	20-yr	2115.27	892.79	888.85	2.22	2.07	28.77	19.05	360.35	600.02	2.58	1.71	3.94	3.94
Yellowstone County	B7	RM 339.88	67094.07	20-yr	2115.27	892.63	888.78	1.95	1.86	41.73	33.86	445.51	593.18	2.36	1.92	3.85	3.85
Yellowstone County	B7	RM 339.79	66960.51	20-yr	2115.27	892.32	888.98	2.2	2.2	34.14	33.73	504.3	510.77	1.91	1.88	3.34	3.34
Yellowstone County	B7	RM 339.72	66843.76	20-yr	2115.27	892.19	888.72	1.95	1.87	25.04	22.31	511.94	624.15	2.09	1.86	3.47	3.47
Yellowstone County	B7	RM 339.66	66753.41	20-yr	2115.27	892.13	887.9	1.69	1.62	17.92	15.4	524.48	711.14	2.34	2.01	4.23	4.23
Yellowstone County	B7	RM 339.52	66527.74	20-yr	2115.27	891.95	887.31	1.89	1.5	19.28	12.25	312.36	954.34	3.19	2.03	4.64	4.64
Yellowstone County	B7	RM 339.37	66324.85	20-yr	2115.27	891.76	887.17	2.08	1.56	41.68	21.93	232.31	1180.76	3.43	1.8	4.59	4.59
Yellowstone County	B7	RM 339.24	66108.49	20-yr	2115.27	891.29	886.45	2.81	2.13	41.8	22.92	218.09	875.7	2.89	1.59	4.84	4.84
Yellowstone County	B7	RM 339.13	65940.41	20-yr	2115.27	891.06	885.31	2.87	1.94	50.88	25.67	143.34	876.25	3.49	1.75	5.75	5.75
Yellowstone County	B7	RM 339.02	65745.93	20-yr	2115.27	890.7	886.09	2.93	2.21	45.42	21.42	187.64	722.16	3.06	1.44	4.61	4.61
Yellowstone County	B7	RM 338.94	65621.59	20-yr	2115.27	890.64	886.36	2.4	1.75	30.69	16.59	223.57	893.83	2.89	1.56	4.28	4.28
Yellowstone County	B7	RM 338.83	65433.26	20-yr	2115.27	890.46	886.37	2.15	1.65	34.08	18.18	224.77	888.5	2.93	1.56	4.44	4.44
Yellowstone County	B7	RM 338.72	65256.88	20-yr	2115.27	890.22	886.18	2.19	1.83	38.15	22.69	205.92	695.44	3.17	1.89	4.42	4.42
Yellowstone County	B7	RM 338.62	65095.08	20-yr	2115.27	889.88	886.28	2.8	2.21	43	25.03	179.05	604.18	3	1.74	4.26	4.26
Yellowstone County	B7	RM 338.49	64891.36	20-yr	2115.27	889.7	885.05	2.47	1.92	33.21	19.71	173.95	746.08	3.13	1.85	4.65	4.65
Yellowstone County	B7	RM 338.40	64742.15	20-yr	2115.27	889.68	884.28	1.71	1.42	15.32	10.42	165.79	920.49	3.27	2.21	5.4	5.4
Yellowstone County	B7	RM 338.29	64577.05	20-yr	2115.27	889.55	884.18	2.1	1.51	23.33	10.85	123.01	951.88	3.64	1.69	5.37	5.37
Yellowstone County	B7	RM 338.19	64384.71	20-yr	2115.27	889.5	885.23	1.44	1.18	12.92	9.31	393.33	977.23	2.67	1.92	4.27	4.27
Yellowstone County	B7	RM 338.06	64164.59	20-yr	2115.27	889.42	884.64	1.5	1.05	13.89	7.94	284.25	1178.29	3.19	1.83	4.78	4.78
Yellowstone County	B7	RM 337.91	63921.69	20-yr	2115.27	889.25	884.16	1.94	1.2	18.47	9.14	205.66	1207.88	3.48	1.72	5.09	5.09
Yellowstone County	B7	RM 337.83	63789.53	20-yr	2115.27	888.92	882.72	2.83	1.74	47.05	18.32	178.12	905.38	3.47	1.34	6.2	6.2
Yellowstone County	B7	RM 337.75	63667.96	20-yr	2115.27	888.58	881.69	3.37	2.05	60.01	21.2	143.08	796.56	3.69	1.29	6.89	6.89
Yellowstone County	B7	RM 337.68	63550.4	20-yr	2115.27	888.4	882.49	3.13	2.18	59.72	20.47	161.63	755.21	3.76	1.28	5.91	5.91
Yellowstone County	B7	RM 337.58	63396.62	20-yr	2115.27	888.19	883.62	3.06	2.13	48.76	18.85	189.36	811.8	3.16	1.22	4.56	4.56
Yellowstone County	B7	RM 337.47	63212.44	20-yr	2115.27	888.04	883.31	2.58	1.77	41.13	17.01	178.55	868.63	3.34	1.38	4.72	4.72
Yellowstone County	B7	RM 337.38	63064.58	20-yr	2115.27	887.82	883.29	2.75	1.73	38.43	16.25	177.51	914.13	3.18	1.34	4.53	4.53

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	20-yr	2115.27	887.81	883.15	1.83	1.18	16.73	8.26	210.44	1114.15	3.25	1.6	4.66	4.66
Yellowstone County	B7	RM 337.16	62717.85	20-yr	2115.27	887.76	882.57	1.39	1.07	10.57	6.63	396.94	1134.53	2.87	1.8	5.19	5.19
Yellowstone County	B7	RM 337.04	62524.52	20-yr	2115.27	887.69	879.61	1.62	1.06	13.21	5.64	154.19	995.94	4.75	2.02	8.08	8.08
Yellowstone County	B7	RM 336.96	62390.64	20-yr	2115.27	887.62	880.21	1.75	1.24	22.29	10.37	185.77	1011.13	4.17	1.92	7.41	7.41
Yellowstone County	B7	RM 336.87	62246.97	20-yr	2115.27	887.49	881.41	2.09	1.38	24.28	10.54	156.32	1031.08	4.32	1.86	6.08	6.08
Yellowstone County	B7	RM 336.80	62131.42	20-yr	2115.27	887.43	881.33	1.98	1.37	31.32	14.83	162.29	1046.64	3.97	1.87	6.1	6.1
Yellowstone County	B7	RM 336.72	62005.73	20-yr	2115.27	887.18	881.38	2.58	1.69	50.62	17.62	136.15	954.88	4.17	1.44	5.8	5.8
Yellowstone County	B7	RM 336.66	61902.64	20-yr	2115.27	886.68	881.45	3.65	2.58	93.03	29.59	117.32	678.72	3.84	1.21	5.23	5.23
Yellowstone County	B7	RM 336.59	61800.43	20-yr	2115.27	886.61	880.66	2.92	2.11	62.48	18.22	135.93	816.16	4.23	1.23	5.95	5.95
Yellowstone County	B7	RM 336.52	61689.55	20-yr	2115.27	886.46	881.76	2.84	1.97	50.83	17.7	145.49	855.71	3.61	1.26	4.7	4.7
Yellowstone County	B7	RM 336.46	61580.5	20-yr	2115.27	886.35	882.13	2.57	1.88	50.9	18.74	162.48	927.69	3.31	1.22	4.22	4.22
Yellowstone County	B7	RM 336.40	61491.01	20-yr	2115.27	886.19	882.03	2.64	1.82	51.71	19.29	162.53	938.05	3.39	1.26	4.16	4.16
Yellowstone County	B7	RM 336.34	61394.22	20-yr	2115.27	886.05	881.93	2.67	1.72	46.84	20.47	163.69	932.69	3.23	1.41	4.12	4.12
Yellowstone County	B7	RM 336.27	61278.9	20-yr	2115.27	885.9	881.67	2.57	1.61	42.97	18.68	169.95	993.35	3.22	1.4	4.23	4.23
Yellowstone County	B7	RM 336.19	61159.07	20-yr	2115.27	885.73	882.11	2.55	1.73	35.49	17.12	211.78	1048.43	2.5	1.2	3.62	3.62
Yellowstone County	B7	RM 336.09	60993.57	20-yr	2115.27	885.58	882.16	1.95	1.36	24.27	14.56	319.78	1125.79	2.38	1.43	3.42	3.42
Yellowstone County	B7	RM 335.98	60812.26	20-yr	2115.27	885.43	881.93	1.43	1.3	26.23	20.7	440.99	1241.63	1.96	1.54	3.7	3.7
Yellowstone County	B7	RM 335.89	60669.74	20-yr	2115.27	885.25	880.16	1.64	1.49	15.43	13.65	733.27	1398.27	1.61	1.42	5.09	5.09
Yellowstone County	B7	RM 335.77	60465.85	20-yr	2115.27	884.93	880.49	1.59	1.55	45.49	40.48	881.09	1586.86	1.4	1.25	4.44	4.44
Yellowstone County	B7	RM 335.68	60324.8	20-yr	2115.27	884.61	880.65	1.82	1.7	16.46	14.08	860.75	1659.24	1.31	1.12	3.96	3.96
Yellowstone County	B7	RM 335.59	60183.7	20-yr	2115.27	884.43	880.3	1.8	1.68	16.94	13.85	911.81	1934.82	1.25	1.02	4.13	4.13
Yellowstone County	B7	RM 335.51	60046.12	20-yr	2115.27	884.25	880.03	1.77	1.64	15.14	11.6	926.19	2379.63	1.26	0.97	4.22	4.22
Yellowstone County	B7	RM 335.41	59899.97	20-yr	2115.27	884.16	879.45	1.34	1.18	12.41	9.72	911.11	2388.58	1.62	1.27	4.71	4.71
Yellowstone County	B7	RM 335.36	59814.82	20-yr	2115.27	884.15	878.65	1.01	0.86	5.93	4.38	896.25	2741.1	2.19	1.62	5.5	5.5
Yellowstone County	B7	RM 335.12	59393.71	20-yr	2115.27	883.93	878.54	1.7	0.98	16.22	6.51	331.92	3037.04	2.78	1.11	5.39	5.39
Yellowstone County	B7	RM 335.03	59228.59	20-yr	2115.27	883.62	876.8	2.81	1.34	53.4	13.6	149.82	2535.7	3.27	0.83	6.82	6.82
Yellowstone County	B7	RM 334.91	59041.32	20-yr	2115.27	883.42	878.31	2.22	1.15	35.22	12	229.84	2187.03	2.73	0.93	5.11	5.11
Yellowstone County	B7	RM 334.85	58937.73	20-yr	2115.27	883.28	878.66	2.2	1.12	36.11	12.33	224.38	2270.17	2.79	0.95	4.62	4.62
Yellowstone County	B7	RM 334.73	58737.5	20-yr	2115.27	882.78	879.52	2.99	1.62	54.52	16.53	192.81	1638.64	2.72	0.82	3.4	3.4
Yellowstone County	B7	RM 334.63	58573.32	20-yr	2115.27	882.66	878.31	2.37	1.34	30.88	11.89	187.59	1771.72	2.75	1.06	4.35	4.35
Yellowstone County	B7	RM 334.54	58424.99	20-yr	2115.27	882.65	877.09	1.18	1.08	14.46	7	154.81	1539.92	2.99	1.44	5.56	5.56
Yellowstone County	B7	RM 334.22	57821.07	20-yr	2115.27	882.34	875.76	1.97	1.2	17.35	6.35	196.5	1502.55	3.97	1.45	6.58	6.58
Yellowstone County	B7	RM 334.09	57621.62	20-yr	2115.27	882.1	875.55	2.75	1.75	61.3	21.39	119.41	1086.79	3.78	1.31	6.55	6.55
Yellowstone County	B7	RM 333.98	57440.64	20-yr	2115.27	881.95	875.46	2.44	1.65	30.23	10.33	140.01	852.41	4.62	1.57	6.49	6.49
Yellowstone County	B7	RM 333.83	57207.78	20-yr	2115.27	881.75	875.4	2.46	1.93	42.88	17.09	160.47	828.94	3.82	1.51	6.35	6.35
Yellowstone County	B7	RM 333.69	56989.22	20-yr	2115.27	881.52	873.45	1.93	1.77	39.18	23.26	337.33	735.21	3.14	1.86	8.07	8.07
Yellowstone County	B7	RM 333.54	56738.21	20-yr	2115.27	881.38	874.22	1.35	1.18	20.84	11.23	409.8	1278.76	3.56	1.91	7.16	7.16
Yellowstone County	B7	RM 333.42	56552.03	20-yr	2115.27	881.2	873.42	1.54	1.43	30.33	21.19	426.16	1352.36	3	2.09	7.78	7.78
Yellowstone County	B7	RM 333.30	56351.75	20-yr	2115.27	880.86	875.65	1.78	1.71	53.89	42.16	449.89	888.76	2.52	1.96	5.21	5.21
Yellowstone County	B7	RM 333.19	56177.76	20-yr	2115.27	880.41	875.72	2.12	2.02	49.52	39	397.49	607.43	2.42	1.9	4.69	4.69
Yellowstone County	B7	RM 333.09	56027.56	20-yr	2115.27	880.25	875.59	1.9	1.69	20.58	14.81	427.32	1180.43	2.51	1.8	4.66	4.66
Yellowstone County	B7	RM 332.99	55855.76	20-yr	2115.27	880.02	873.86	1.98	1.67	50.94	32.4	384.45	1590.58	2.52	1.6	6.16	6.16
Yellowstone County	B7	RM 332.88	55687.68	20-yr	2115.27	879.87	874.43	1.67	1.44	18.11	10.91	408.54	1746.32	2.7	1.62	5.44	5.44
Yellowstone County	B7	RM 332.77	55504.73	20-yr	2115.27	879.81	875.49	1.44	1.15	11.82	6.7	376.01	2001.09	3.23	1.83	4.32	4.32
Yellowstone County	B7	RM 332.66	55333.33	20-yr	2115.27	879.72	874.96	1.57	1.19	17.63	8.54	334.7	1925.24	3.24	1.56	4.76	4.76
Yellowstone County	B7	RM 332.56	55182.74	20-yr	2115.27	879.62	874.54	1.64	1.19	18.13	7.23	311.78	2047.95	3.57	1.42	5.08	5.08
Yellowstone County	B7	RM 332.47	55059.84	20-yr	2115.27	879.58	873.95	1.52	1.09	16.75	6.38	281.38	2172.19	3.83	1.45	5.63	5.63
Yellowstone County	B7	RM 332.38	54913.1	20-yr	2115.27	879.25	873.16	2.62	1.7	46.54	10.55	159.58	2019.89	4.39	0.98	6.09	6.09
Yellowstone County	B7	RM 332.33	54822.67	20-yr	2115.27	879.21	872.5	2.25	1.48	52.92	13.47	187.45	2177.9	3.93	1	6.71	6.71
Yellowstone County	B7	RM 332.21	54626.48	20-yr	2115.27	879.04	873.4	2.27	1.34	29.22	6.3	173.61	2323.47	4.32	0.92	5.64	5.64
Yellowstone County	B7	RM 332.17	54575.38	20-yr	2115.27	878.99	872.76	2.32	1.25	29.68	5.98	145.13	2526.75	4.72	0.93	6.23	6.23
Yellowstone County	B7	RM 332.08	54422.01	20-yr	2115.27	878.84	873.77	2.4	1.42	38.02	7.71	155.31	2612.49	4.24	0.85	5.07	5.07
Yellowstone County	B7	RM 331.96	54224.76	20-yr	2115.27	878.7	873.18	1.94	1.25	36.36	9.74	205.19	2437.27	3.65	0.97	5.52	5.52
Yellowstone County	B7	RM 331.85	54057.19	20-yr	2115.27	878.46	873.16	2.06	1.47	56.23	15.49	249.87	2164.9	3.46	0.95	5.3	5.3
Yellowstone County	B7	RM 331.74	53882.8	20-yr	2115.27	877.92	872.62	3.07	2.03	60.85	14.24	149.48	1242.31	4.09	0.95	5.3	5.3
Yellowstone County	B8	RM 331.66	53744.64	20-yr	2115.27	877.83	871.68	2.43	1.8	45.22	10.85	219.63	1361.57	3.62	0.86	6.15	6.15
Yellowstone County	B8	RM 331.55	53575.67	20-yr	2115.27	877.62	872.61	2.48	1.83	44.32	13.24	198.25	1133.89	3.43	1.02	5.01	5.01
Yellowstone County	B8	RM 331.41	53354.89	20-yr	2115.27	877.38	872.56	2.41	1.68	40.48	14.61	218.29	1090.6	3.21	1.15	4.82	4.82
Yellowstone County	B8	RM 331.32	53209.79	20-yr	2115.27	877.2	871.92	2.14	1.43	33.1	15.37	275.52	1206.81	2.65	1.22	5.28	5.28
Yellowstone County	B8	RM 331.23	53053.99	20-yr	2115.27	877.04	871.53	1.83	1.37	24.95	14.25	375.22	1144.95	2.38	1.35	5.51	5.51
Yellowstone County	B8	RM 331.14	52919.44	20-yr	2115.27	876.95	871.72	1.61	1.34	19.84	10.61	309.55	1062.14	2.8	1.49	5.23	5.23

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	20-yr	2115.27	876.85	871.29	1.73	1.37	21.77	9.98	305.99	1075.95	3.14	1.43	5.56	5.56
Yellowstone County	B8	RM 331.01	52700.37	20-yr	2115.27	876.75	871.8	1.74	1.37	23.05	12.22	299.81	954.46	3.1	1.64	4.95	4.95
Yellowstone County	B8	RM 330.93	52576.5	20-yr	2115.27	876.65	871.67	1.77	1.43	24	9.26	250.76	1180.84	3.57	1.37	4.98	4.98
Yellowstone County	B8	RM 330.83	52418.21	20-yr	2115.27	876.41	870.75	2.49	1.7	34.01	10.02	141.59	1041.75	4.4	1.28	5.66	5.66
Yellowstone County	B8	RM 330.77	52321.13	20-yr	2115.27	876.35	870.68	2.31	1.51	34.05	11.96	174.99	1486.28	3.75	1.31	5.67	5.67
Yellowstone County	B8	RM 330.68	52174.9	20-yr	2115.27	876.01	870.33	3.05	1.91	48.94	10.57	129.48	1677.48	4.12	0.88	5.68	5.68
Yellowstone County	B8	RM 330.58	52000.46	20-yr	2115.27	875.85	869.72	2.83	1.91	57.61	11.83	117.76	1554.9	4.4	0.89	6.13	6.13
Yellowstone County	B8	RM 330.48	51852.83	20-yr	2115.27	875.67	868.81	2.89	1.77	55.75	10.95	105.75	1451.84	4.75	0.91	6.86	6.86
Yellowstone County	B8	RM 330.39	51701.57	20-yr	2115.27	875.54	869.32	2.66	1.56	36.51	9.05	134.16	1366.19	4.02	0.99	6.22	6.22
Yellowstone County	B8	RM 330.32	51592.04	20-yr	2115.27	875.4	869.57	2.79	1.69	37.74	8.98	135.54	1276.59	4.14	0.98	5.83	5.83
Yellowstone County	B8	RM 330.25	51473.55	20-yr	2115.27	875.32	868.38	2.62	1.64	36.74	9.99	144.92	1243.76	3.85	1.04	6.94	6.94
Yellowstone County	B8	RM 330.17	51344.77	20-yr	2115.27	875.17	869.9	2.65	1.72	38.57	11.52	151.83	1125.15	3.68	1.09	5.27	5.27
Yellowstone County	B8	RM 330.10	51243.99	20-yr	2115.27	874.96	870.02	2.81	1.9	47.32	15.33	186.03	1057.47	3.27	1.05	4.94	4.94
Yellowstone County	B8	RM 330.05	51150.67	20-yr	2115.27	874.95	869.94	2.04	1.47	26.18	12.21	298.66	1206.69	2.65	1.23	5.01	5.01
Yellowstone County	B8	RM 329.95	50995.78	20-yr	2115.27	874.8	869.67	1.92	1.48	26.04	12.99	399.09	1143.45	2.51	1.25	5.13	5.13
Yellowstone County	B8	RM 329.86	50853.11	20-yr	2115.27	874.67	869.99	1.67	1.33	25.66	14.42	443.98	1192.99	2.38	1.33	4.68	4.68
Yellowstone County	B8	RM 329.75	50682.47	20-yr	2115.27	874.48	869.45	1.38	1.17	31.48	20.74	611.28	1507.67	2.03	1.33	5.03	5.03
Yellowstone County	B8	RM 329.66	50540.7	20-yr	2115.27	874.18	869.45	1.6	1.37	40.13	27.24	641.38	1376.07	1.66	1.12	4.73	4.73
Yellowstone County	B8	RM 329.57	50390.78	20-yr	2115.27	873.91	869.17	1.82	1.47	20.1	12.97	545.6	1205.83	1.88	1.21	4.74	4.74
Yellowstone County	B8	RM 329.49	50267.58	20-yr	2115.27	873.77	869.52	1.85	1.42	20.18	12.87	513.67	1246.87	1.88	1.2	4.25	4.25
Yellowstone County	B8	RM 329.43	50165.22	20-yr	2115.27	873.72	869.82	1.51	1.25	13.71	8.77	543.15	1092.43	2.42	1.55	3.9	3.9
Yellowstone County	B8	RM 329.37	50053.96	20-yr	2115.27	873.67	869.58	1.44	1.15	12.48	8.13	447.42	1103.77	2.57	1.67	4.09	4.09
Yellowstone County	B8	RM 329.31	49969.13	20-yr	2115.27	873.61	869.66	1.54	1.17	18.1	11.28	378.18	1156.35	2.51	1.56	3.95	3.95
Yellowstone County	B8	RM 329.26	49883.05	20-yr	2115.27	873.54	868.74	1.61	1.2	15.26	8.85	376.88	1218.32	2.51	1.45	4.8	4.8
Yellowstone County	B8	RM 329.20	49785.51	20-yr	2115.27	873.45	868.71	1.71	1.32	18.07	9.98	397.53	1292.07	2.34	1.29	4.74	4.74
Yellowstone County	B8	RM 329.15	49699.71	20-yr	2321.98	873.38	868.64	1.61	1.27	22.62	12.15	463.75	1357.5	2.52	1.35	4.74	4.74
Yellowstone County	B8	RM 329.08	49597.49	20-yr	2321.98	873.29	869.34	1.49	1.17	21.66	12.7	471.57	1352.72	2.51	1.47	3.95	3.95
Yellowstone County	B8	RM 328.96	49388.08	20-yr	2321.98	873.15	868.99	1.66	1.12	19.29	9.67	305.63	1465.38	2.83	1.42	4.16	4.16
Yellowstone County	B8	RM 328.85	49197.37	20-yr	2321.98	872.99	866.79	1.86	1.35	16.22	10.07	472.5	1385.71	2.01	1.25	6.2	6.2
Yellowstone County	B8	RM 328.75	49036.09	20-yr	2321.98	872.96	866.93	1.31	0.97	10.62	7.81	424.64	1441.01	2.27	1.66	6.02	6.02
Yellowstone County	B8	RM 328.68	48920.76	20-yr	2321.98	872.85	867.09	1.69	1.11	18.46	9.48	303.39	1465.05	2.78	1.42	5.76	5.76
Yellowstone County	B8	RM 328.60	48788.86	20-yr	2321.98	872.67	866.36	2.27	1.3	25.53	9.12	196.19	1433.68	3.56	1.25	6.31	6.31
Yellowstone County	B8	RM 328.52	48664.7	20-yr	2321.98	872.66	867.75	1.88	1.15	19.24	9.08	167.5	1418.34	3.25	1.52	4.91	4.91
Yellowstone County	B8	RM 328.44	48539.46	20-yr	2321.98	872.51	867.34	2.29	1.3	34.01	11.14	137.79	1282.82	4.34	1.4	5.17	5.17
Yellowstone County	B8	RM 328.36	48405.85	20-yr	2321.98	872.27	867.12	2.87	1.59	39	13.53	131.88	1052.63	4.08	1.39	5.15	5.15
Yellowstone County	B8	RM 328.28	48276.93	20-yr	2321.98	872.18	867.73	2.34	1.79	44.72	19.15	191.8	836.45	3.63	1.55	5.07	5.07
Yellowstone County	B8	RM 328.16	48097.58	20-yr	2321.98	871.99	866.7	2.16	1.71	40.04	20.11	224.09	881.37	3.08	1.54	5.29	5.29
Yellowstone County	B8	RM 328.05	47914.16	20-yr	2321.98	871.81	866.62	1.97	1.54	29.71	15.67	264.18	927.58	3.08	1.62	5.19	5.19
Yellowstone County	B8	RM 327.93	47729.4	20-yr	2321.98	871.58	865.67	2.23	1.68	26.01	13.14	305.74	961.71	2.85	1.44	5.91	5.91
Yellowstone County	B8	RM 327.88	47641.03	20-yr	2321.98	871.44	866	2.47	1.69	37.02	16.58	246.29	1003.19	3.06	1.37	5.44	5.44
Yellowstone County	B8	RM 327.81	47525.32	20-yr	2321.98	871.33	866.29	2.53	1.66	21.91	12.05	266.34	959.33	2.65	1.46	5.04	5.04
Yellowstone County	B8	RM 327.75	47432.57	20-yr	2321.98	871.04	865.09	3.24	1.96	46.85	13.91	134.59	923.6	4.35	1.29	5.95	5.95
Yellowstone County	B8	RM 327.69	47341.24	20-yr	2321.98	870.75	864.48	3.94	2.32	64.82	20.97	108.27	759.51	4.12	1.32	6.27	6.27
Yellowstone County	B8	RM 327.62	47227.31	20-yr	2321.98	870.72	863.86	3.28	2.18	52.81	21.73	128.88	799.34	3.92	1.6	6.86	6.86
Yellowstone County	B8	RM 327.56	47124.87	20-yr	2321.98	870.72	864.46	2.68	1.86	35.26	16.91	158.59	849.74	3.49	1.67	6.26	6.26
Yellowstone County	B8	RM 327.51	47053.82	20-yr	2321.98	870.72	865.84	2.07	1.6	24.5	17.44	310.93	867	2.35	1.67	4.88	4.88
Yellowstone County	B8	RM 327.44	46933.28	20-yr	2321.98	870.71	866.93	1.25	1.26	10.88	9.55	390.17	882.05	2.39	2.09	4.09	4.09
Yellowstone County	B8	RM 327.37	46817.72	20-yr	2321.98	870.58	866.26	1.82	1.47	22.66	14.17	342.21	955.23	2.65	1.65	4.32	4.32
Yellowstone County	B8	RM 327.29	46687.12	20-yr	2321.98	870.51	866.04	1.79	1.37	19.7	11.52	304.88	1041.74	2.79	1.63	4.47	4.47
Yellowstone County	B8	RM 327.23	46600.07	20-yr	2321.98	870.43	866.25	1.89	1.39	21.29	12.2	287.86	1051.02	2.77	1.59	4.58	4.58
Yellowstone County	B8	RM 327.16	46485.25	20-yr	2321.98	870.3	865.67	2.09	1.45	29.25	15.46	271.45	1117.53	2.84	1.5	4.63	4.63
Yellowstone County	B8	RM 327.08	46360.36	20-yr	2321.98	870.24	864.94	1.78	1.3	19.41	11.04	266.92	1138	3.26	1.85	5.3	5.3
Yellowstone County	B8	RM 327.00	46240.1	20-yr	2321.98	870.12	864.56	1.94	1.54	28.22	14.94	227.91	845.54	4	2.12	5.56	5.56
Yellowstone County	B8	RM 326.94	46091.8	20-yr	2321.98	870.04	864.04	1.98	1.45	19.06	9.31	223.67	815.38	4.02	1.97	6	6
Yellowstone County	B8	RM 326.88	46003.77	20-yr	2321.98	869.94	864.08	2.28	1.64	33.85	15.66	170.66	808.98	3.8	1.76	5.86	5.86
Yellowstone County	B8	RM 326.82	45901.15	20-yr	2321.98	869.86	864.18	2.22	1.62	30.51	17.66	201.73	859.41	2.99	1.73	5.68	5.68
Yellowstone County	B8	RM 326.78	45830.7	20-yr	2321.98	869.8	864.46	2.28	1.6	27.32	16.24	163.64	847.6	3.18	1.89	5.34	5.34
Yellowstone County	B8	RM 326.70	45707.6	20-yr	2321.98	869.74	864.66	1.98	1.49	18.84	14.23	264.27	963.41	2.7	2.04	5.08	5.08
Yellowstone County	B8	RM 326.64	45589.72	20-yr	2321.98	869.64	864.92	1.66	1.54	45.74	36.86	430.69	953.35	2.3	1.85	4.72	4.72
Yellowstone County	B8	RM 326.55	45430.24	20-yr	2321.98	869.42	864.83	1.98	1.66	22.14	14.73	350.63	750.42	2.86	1.9	4.59	4.59
Yellowstone County	B8	RM 326.45	45281.78	20-yr	2321.98	869.32	864.12	1.98	1.69	23.45	16.1	339.99	693.59	2.89	1.98	5.2	5.2

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions
20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	20-yr	2321.98	869.31	864.32	1.63	1.45	15.46	10.97	432.08	827.8	2.79	1.98	4.99	4.99
Yellowstone County	B8	RM 326.35	45106.57	20-yr	2321.98	869.27	864.43	1.44	1.21	11.78	7.87	483.02	1098.59	3.09	2.06	4.84	4.84
Yellowstone County	B8	RM 326.28	45022.31	20-yr	2321.98	869.27	864.61	1.24	1.05	7.94	5.19	548.28	1297.73	3.72	2.43	4.66	4.66
Yellowstone County	B8	RM 326.07	44588.61	20-yr	2321.98	869.04	862.39	1.7	1.52	12.22	9.56	711.41	1550.15	1.82	1.42	6.65	6.65
Yellowstone County	B8	RM 326.00	44481.07	20-yr	2321.98	868.98	861.24	1.63	1.47	11.24	8.85	749.88	1560.33	1.81	1.43	7.74	7.74
Yellowstone County	B8	RM 325.94	44379.11	20-yr	2321.98	868.92	861.85	1.32	1.23	30.37	24.62	828.12	1571.53	1.95	1.58	7.07	7.07
Yellowstone County	B8	RM 325.89	44304.17	20-yr	2321.98	868.81	863	1.24	1.17	28.01	23.3	844.95	1336.85	2.01	1.67	5.81	5.81
Yellowstone County	B8	RM 325.86	44262.16	20-yr	2321.98	868.77	863.76	1.3	1.18	8.51	7.07	823.46	1140.01	2.09	1.73	5.01	5.01
Yellowstone County	B8	RM 325.81	44176.46	20-yr	2321.98	868.73	863.1	1.29	1.14	8.61	7.46	846.47	1173.4	2.01	1.74	5.63	5.63
Yellowstone County	B8	RM 325.76	44089.5	20-yr	2321.98	868.68	862.66	1.16	1.06	23	18.73	851.22	1302.77	2.13	1.73	6.02	6.02
Yellowstone County	B8	RM 325.69	43989.97	20-yr	2321.98	868.61	862.55	1.29	1.02	8.83	5.66	625.24	1417.61	2.63	1.68	6.06	6.06
Yellowstone County	B8	RM 325.58	43809.68	20-yr	2321.98	868.53	862.61	1.27	1	24.6	14.27	476.8	1283.26	3.13	1.81	5.92	5.92
Yellowstone County	B8	RM 325.50	43680.96	20-yr	2321.98	868.38	862.6	1.46	1.16	29.81	16.17	434.18	1193.77	3.12	1.67	5.78	5.78
Yellowstone County	B8	RM 325.43	43556.76	20-yr	2321.98	868.26	860.89	1.47	1.17	31.96	16.92	386.82	1121.55	3.35	1.77	7.37	7.37
Yellowstone County	B8	RM 325.37	43461.41	20-yr	2321.98	868.19	861.36	1.38	1.13	27.78	14.6	344.91	1101.55	3.57	1.87	6.83	6.83
Yellowstone County	B8	RM 325.30	43343.13	20-yr	2321.98	868.06	861.56	1.71	1.26	26.11	11.72	266.73	1052.88	3.93	1.76	6.5	6.5
Yellowstone County	B8	RM 325.21	43210.67	20-yr	2321.98	867.91	861.34	2.08	1.46	27.19	11.24	204.3	868.84	4.48	1.84	6.57	6.57
Yellowstone County	B8	RM 325.13	43078.9	20-yr	2321.98	867.75	861.36	2.42	1.59	37.89	13.23	149.39	822.54	5.15	1.78	6.39	6.39
Yellowstone County	B8	RM 325.06	42966.54	20-yr	2321.98	867.36	860.78	3.33	2.18	69.95	20.39	122.89	755.14	4.9	1.41	6.58	6.58
Yellowstone County	B8	RM 324.99	42864.51	20-yr	2321.98	867.29	861.24	2.95	1.87	58.69	20.75	135.2	772.95	4.59	1.61	6.05	6.05
Yellowstone County	B8	RM 324.91	42729.7	20-yr	2321.98	867.09	860.76	3	1.92	62.4	20.82	132.89	760.31	4.8	1.59	6.33	6.33
Yellowstone County	B8	RM 324.81	42573.19	20-yr	2321.98	866.86	860.39	3.01	2.08	66.02	23.47	140.39	672.49	4.68	1.66	6.47	6.47
Yellowstone County	B8	RM 324.73	42451.12	20-yr	2321.98	866.76	861.59	2.69	1.93	47.14	20.67	179.41	678.61	4.06	1.77	5.17	5.17
Yellowstone County	B8	RM 324.65	42323.44	20-yr	2321.98	866.7	861.99	1.97	1.63	41.93	26.18	300.92	717.06	3.19	1.99	4.71	4.71
Yellowstone County	B8	RM 324.56	42178.25	20-yr	2321.98	866.55	861.76	1.97	1.58	18.21	14.3	404.18	785.8	2.39	1.88	4.79	4.79
Yellowstone County	B8	RM 324.48	42039.74	20-yr	2321.98	866.41	861.58	1.76	1.52	44.97	32.59	477.36	889.73	2.38	1.72	4.83	4.83
Yellowstone County	B8	RM 324.42	41946.09	20-yr	2321.98	866.3	861.04	1.51	1.28	30.18	20.24	478.13	949.66	2.84	1.91	5.26	5.26
Yellowstone County	B8	RM 324.34	41812.99	20-yr	2321.98	866.08	861.07	1.81	1.4	48.77	28.62	378.78	1021.22	2.76	1.62	5.01	5.01
Yellowstone County	B8	RM 324.28	41712.42	20-yr	2321.98	865.9	859.64	1.79	1.43	49.28	28.84	364.85	1049	2.64	1.54	6.26	6.26
Yellowstone County	B8	RM 324.20	41597.64	20-yr	2321.98	865.82	860.59	1.12	1.05	18.55	14.63	675.53	1056.91	2.67	2.1	5.23	5.23
Yellowstone County	B8	RM 324.16	41526.97	20-yr	2321.98	865.72	861.07	1.5	1.36	13.14	9.93	664.6	1094.69	2.18	1.64	4.65	4.65
Yellowstone County	B8	RM 324.10	41434.55	20-yr	2321.98	865.66	860.81	1.31	1.23	23.55	17.49	690.84	1141.95	2.43	1.8	4.85	4.85
Yellowstone County	B8	RM 324.04	41346.42	20-yr	2321.98	865.61	860.39	1.21	1.12	15.81	11.04	633.13	1203.06	2.62	1.82	5.22	5.22
Yellowstone County	B8	RM 323.97	41219.29	20-yr	2321.98	865.53	860.64	1.14	1.06	14.03	10.03	573.41	1134.93	2.71	1.93	4.89	4.89
Yellowstone County	B8	RM 323.83	40977.08	20-yr	2321.98	865.42	860.31	1.28	0.99	11.64	6.95	453.77	1214.6	3.23	1.92	5.11	5.11
Yellowstone County	B8	RM 323.71	40786.71	20-yr	2321.98	865.23	858.49	2.05	1.3	25.57	9.92	221.5	1167.32	3.96	1.53	6.74	6.74
Yellowstone County	B8	RM 323.60	40615.85	20-yr	2321.98	865.22	858.06	1.61	1.11	15.71	6.22	121.88	1095.96	4.87	1.91	7.16	7.16
Yellowstone County	B8	RM 323.55	40536.83	20-yr	2321.98	864.82	857.58	3.25	1.82	66.98	19.93	114.69	986.67	4.37	1.29	7.24	7.24
Yellowstone County	B8	RM 323.49	40429.96	20-yr	2321.98	864.65	858.37	3.23	1.82	61.97	17.43	119.27	1028.29	4.45	1.24	6.28	6.28
Yellowstone County	B8	RM 323.41	40309.21	20-yr	2321.98	864.53	859.41	2.94	1.79	63.11	19.94	135.74	1028.74	4.01	1.26	5.12	5.12
Yellowstone County	B8	RM 323.33	40186.15	20-yr	2321.98	864.45	859.58	2.41	1.51	32.4	13.27	175.88	1019.36	3.71	1.51	4.87	4.87
Yellowstone County	B8	RM 323.27	40082.34	20-yr	2321.98	864.33	859.66	2.46	1.53	38.01	16.31	188.89	989.27	3.58	1.53	4.67	4.67
Yellowstone County	B8	RM 323.21	39985.33	20-yr	2321.98	864.22	859.54	2.42	1.52	38.44	18.61	211.17	977.84	3.24	1.56	4.68	4.68
Yellowstone County	B8	RM 323.16	39899.29	20-yr	2321.98	864.18	859.55	1.83	1.31	32.92	19.36	276.01	1015.71	2.96	1.74	4.63	4.63
Yellowstone County	B8	RM 323.06	39735.77	20-yr	2321.98	863.92	858.56	1.75	1.49	38.92	19.84	311.52	1386.44	2.66	1.35	5.36	5.36
Yellowstone County	B8	RM 322.93	39531.81	20-yr	2321.98	863.7	859.35	1.66	1.3	26.66	13.52	322.23	1368.27	2.93	1.47	4.35	4.35
Yellowstone County	B8	RM 322.79	39301.41	20-yr	2321.98	863.46	858.62	2	1.32	26.33	11.65	220.82	1276.09	3.49	1.54	4.84	4.84
Yellowstone County	B8	RM 322.69	39142.64	20-yr	2321.98	863.34	857.47	2.16	1.41	23.16	10.91	200.75	1129.38	3.64	1.71	5.87	5.87
Yellowstone County	B8	RM 322.58	38982.22	20-yr	2321.98	862.78	856.56	3.74	2.57	86.3	29.82	116.27	719.68	3.66	1.25	6.22	6.22
Yellowstone County	B9	RM 322.51	38859.49	20-yr	2321.98	862.7	858.28	2.92	2.13	53.41	21.57	163.06	779.84	3.48	1.4	4.42	4.42
Yellowstone County	B9	RM 322.41	38696.02	20-yr	2321.98	862.59	857.62	1.72	1.67	36.66	23.6	457.42	963.05	2.33	1.49	4.98	4.98
Yellowstone County	B9	RM 322.34	38586.33	20-yr	2321.98	862.48	857.65	1.42	1.4	23.56	17.23	589.64	1050.05	2.21	1.61	4.84	4.84
Yellowstone County	B9	RM 322.23	38396.25	20-yr	2321.98	862.33	857.13	1.11	1.12	18.97	15.48	754.22	1141.13	2.23	1.81	5.2	5.2
Yellowstone County	B9	RM 322.13	38239.27	20-yr	2321.98	862.19	857.1	1	1.07	20.57	18.37	880.36	1169	2.07	1.85	5.09	5.09
Yellowstone County	B9	RM 322.03	38090.48	20-yr	2321.98	861.88	856.15	1.24	1.37	45.7	44.11	970.28	1134.09	1.55	1.49	5.73	5.73
Yellowstone County	B9	RM 321.91	37898.13	20-yr	2321.98	861.55	856.85	1.79	1.79	11.93	11.93	905.58	905.58	1.43	1.43	4.7	4.7
Yellowstone County	B9	RM 321.82	37758.36	20-yr	2321.98	861.51	856.34	1.47	1.47	7.82	7.81	829.96	830.6	1.9	1.9	5.17	5.17
Yellowstone County	B9	RM 321.70	37567.01	20-yr	2321.98	861.39	855.27	1.34	1.33	27.81	26.17	809.33	871.57	2.13	2.01	6.12	6.12
Yellowstone County	B9	RM 321.60	37414.63	20-yr	2321.98	861.3	854.48	1.1	1.09	12.46	11.7	755.19	816.7	2.78	2.61	6.82	6.82
Yellowstone County	B9	RM 321.48	37188.51	20-yr	2321.98	861.06	855.03	1.61	1.54	29.98	25.89	545.94	680.64	2.57	2.21	6.04	6.04
Yellowstone County	B9	RM 321.38	37016.94	20-yr	2321.98	860.75	854.75	1.98	1.85	38.53	29.08	471.9	693.52	2.4	1.81	6	6

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

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Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	20-yr	2321.98	860.64	855.3	1.64	1.43	18.96	10.57	459.36	983.25	2.98	1.65	5.34	5.34
Yellowstone County	B9	RM 321.13	36652.19	20-yr	2321.98	860.54	854.69	1.52	1.11	23.48	11.92	274.03	1179.72	3.79	1.89	5.85	5.85
Yellowstone County	B9	RM 321.05	36531.25	20-yr	2321.98	860.42	855.36	1.89	1.21	18.1	6.38	188.88	1241.62	4.43	1.54	5.06	5.06
Yellowstone County	B9	RM 321.00	36446.98	20-yr	2321.98	860.33	855.12	2.28	1.42	35.04	10.89	134.73	1244.37	4.34	1.32	5.22	5.22
Yellowstone County	B9	RM 320.71	36404.1*	20-yr	2321.98	860.2	855.12	2.7	1.52	33.15	10.14	140.13	1249.82	4.08	1.22	5.09	5.09
Yellowstone County	B9	RM 320.62	36361.3*	20-yr	2321.98	860.15	855.12	2.75	1.53	34.34	10.35	143.76	1306.93	3.94	1.16	5.04	5.04
Yellowstone County	B9	RM 320.92	36318.56	20-yr	2321.98	860.13	855.12	2.64	1.63	52.87	14.97	134.56	1627.43	4.11	1.14	5.01	5.01
Yellowstone County	B9	RM 320.44	36258.3*	20-yr	2321.98	859.99	855.19	2.83	1.66	35.53	10	154.55	1638.14	3.79	1.05	4.81	4.81
Yellowstone County	B9	RM 320.38	36198.1*	20-yr	2321.98	859.95	855.26	2.68	1.53	32.79	9.13	161.33	1687.8	3.89	1.07	4.69	4.69
Yellowstone County	B9	RM 320.80	36137.92	20-yr	2321.98	859.96	855.33	2.3	1.38	37.38	10.59	157.17	1709.74	4.13	1.15	4.63	4.63
Yellowstone County	B9	RM 320.71	35990.21	20-yr	2321.98	859.93	854.38	1.53	1.12	20.07	7.34	275.47	1717.55	3.97	1.43	5.54	5.54
Yellowstone County	B9	RM 320.54	35839.45	20-yr	2321.98	859.81	853.99	1.67	1.16	20.07	8.44	324.02	1727.4	3.41	1.41	5.83	5.83
Yellowstone County	B9	RM 320.44	35717.45	20-yr	2321.98	859.76	854.32	1.57	1.06	14.66	6.97	334.82	1722.32	3.26	1.53	5.44	5.44
Yellowstone County	B9	RM 320.62	35556.9	20-yr	2321.98	859.68	854.17	1.54	1.12	24.01	11.58	265.5	1627.25	3.48	1.65	5.51	5.51
Yellowstone County	B9	RM 320.38	35461.42	20-yr	2321.98	859.55	854.17	2.01	1.25	23.33	8.73	196.57	1588.31	4.3	1.58	5.38	5.38
Yellowstone County	B9	RM 320.32	35359.13	20-yr	2321.98	859.38	854.57	2.59	1.59	43.7	13.46	140.41	1534.74	4.51	1.36	4.81	4.81
Yellowstone County	B9	RM 320.25	35241.01	20-yr	2321.98	858.86	854.29	3.81	2.31	92.23	24.07	110.85	959.82	4.15	1.05	4.57	4.57
Yellowstone County	B9	RM 320.20	35163.52	20-yr	2321.98	858.73	854.2	3.48	2.32	96.56	30.62	134.26	937.44	3.61	1.12	4.53	4.53
Yellowstone County	B9	RM 320.14	35071.29	20-yr	2321.98	858.48	854.32	3.4	2.4	78.94	28.9	160.56	1046.16	3.31	1.19	4.15	4.15
Yellowstone County	B9	RM 320.01	34865.89	20-yr	2321.98	858.07	854.42	2.91	2.51	42.73	21.07	122.19	730.58	2.65	1.29	3.72	3.72
Yellowstone County	B9	RM 319.91	34707.77	20-yr	2321.98	858.03	854.66	1.76	1.88	20.92	13.02	143.74	837.03	2.75	1.69	4.45	4.45
Yellowstone County	B9	RM 319.86	34625.68	20-yr	2321.98	858.01	854.6	1.53	1.67	20.26	12.76	153.74	958.19	2.66	1.66	4.45	4.45
Yellowstone County	B9	RM 319.78	34508.06	20-yr	2321.98	857.9	854.51	2.3	1.83	36.68	16.48	111.07	991.32	3.09	1.37	4.38	4.38
Yellowstone County	B9	RM 319.73	34426.63	20-yr	2321.98	857.61	854.69	3.27	1.71	56.63	30.67	156.77	963.52	2.61	1.41	4.14	4.14
Yellowstone County	B9	RM 319.66	34314.84	20-yr	2321.98	857.59	854.51	2.17	1.63	24.27	14.4	158.66	939.46	2.56	1.52	4.16	4.16
Yellowstone County	B9	RM 319.57	34163.05	20-yr	2321.98	857.44	853.93	2.15	1.77	22.34	14.94	198.21	745.9	2.64	1.76	4.1	4.1
Yellowstone County	B9	RM 319.44	33955.96	20-yr	2321.98	857.35	853.14	1.98	1.71	25.83	16.43	153.57	737.18	2.94	1.85	4.22	4.22
Yellowstone County	B9	RM 319.39	33872.4	20-yr	2321.98	857.29	852.65	2.14	1.64	22.82	12.63	137.96	860.75	3.08	1.67	4.64	4.64
Yellowstone County	B9	RM 319.34	33786.83	20-yr	2321.98	857.26	852.83	2	1.51	19.33	12.04	178.14	812.91	3.07	1.9	4.43	4.43
Yellowstone County	B9	RM 319.22	33580.15	20-yr	2321.98	857.21	851.79	2.03	1.3	18.13	8.76	80.63	892.58	4.28	2	5.42	5.42
Yellowstone County	B9	RM 319.17	33497.33	20-yr	2321.98	857.2	851.64	1.58	1.25	13.3	7.57	121.71	1046.97	3.49	1.94	5.56	5.56
Yellowstone County	B9	RM 319.09	33368.53	20-yr	2321.98	856.94	851.25	2.6	1.96	46.38	16.56	135.23	870.55	3.9	1.36	5.7	5.7
Yellowstone County	B9	RM 319.04	33287.21	20-yr	2321.98	856.69	851.49	3.23	2.19	66.95	18.75	112.87	922.56	4.23	1.15	5.2	5.2
Yellowstone County	B9	RM 318.96	33153.16	20-yr	2321.98	856.53	851.64	2.83	2.06	58.97	18.77	156.64	932.34	3.86	1.21	4.89	4.89
Yellowstone County	B9	RM 318.91	33065.54	20-yr	2321.98	856.44	851.86	2.49	1.97	57.21	20.73	189.76	933.57	3.52	1.26	4.59	4.59
Yellowstone County	B9	RM 318.82	32939.33	20-yr	2321.98	856.16	851.86	2.95	2.15	41.31	14.55	160.37	822.19	3.78	1.32	4.3	4.3
Yellowstone County	B9	RM 318.74	32833.24	20-yr	2321.98	856.15	851.86	2.26	1.82	33.62	15.97	184.65	891.81	3.72	1.75	4.3	4.3
Yellowstone County	B9	RM 318.62	32649.76	20-yr	2321.98	856.01	850.67	1.8	1.63	31.46	18.94	316.37	826.51	2.89	1.73	5.34	5.34
Yellowstone County	B9	RM 318.42	32315.28	20-yr	2321.98	855.61	850.15	2.1	1.91	25.25	13.94	347.98	744.79	3.08	1.69	5.46	5.46
Yellowstone County	B9	RM 318.17	31866.42	20-yr	2321.98	855.24	849.17	2.28	1.54	33.46	11.53	211.8	1118.97	4.08	1.38	6.06	6.06
Yellowstone County	B9	RM 317.97	31551.39	20-yr	2321.98	854.92	848.35	2.47	1.91	26.66	11.58	238.16	780.63	3.73	1.6	6.57	6.57
Yellowstone County	B10	RM 317.87	31388.76	20-yr	2321.98	854.66	848.78	2.98	2	46.95	16.17	163.77	840.16	4.1	1.38	5.88	5.88
Yellowstone County	B10	RM 317.78	31248.07	20-yr	2321.98	854.66	848.75	2.38	1.51	29.33	10.12	143.48	1102.7	4.78	1.62	5.92	5.92
Yellowstone County	B10	RM 317.70	31120.75	20-yr	2321.98	854.66	848.56	1.86	1.39	18.66	9.01	172.29	1145.78	4.16	1.98	6.1	6.1
Yellowstone County	B10	RM 317.61	30982.56	20-yr	2321.98	854.59	848.29	1.92	1.32	18.24	7.74	195.02	1168.3	3.93	1.64	6.3	6.3
Yellowstone County	B10	RM 317.53	30849.94	20-yr	2321.98	854.56	848.5	1.57	1.26	13.98	7.18	345.18	1382.43	3.38	1.72	6.05	6.05
Yellowstone County	B10	RM 317.45	30723.4	20-yr	2321.98	854.49	848.47	1.63	1.3	16.54	9.68	369.59	1643.64	2.94	1.71	6.02	6.02
Yellowstone County	B10	RM 317.37	30601.88	20-yr	2321.98	854.44	848.17	1.43	1.2	16.52	11.46	371.12	1621.27	2.91	2	6.27	6.27
Yellowstone County	B10	RM 317.30	30483.81	20-yr	2321.98	854.35	848.41	1.66	1.25	14.65	8.33	273.72	1561.62	3.62	2.03	5.94	5.94
Yellowstone County	B10	RM 317.19	30302.33	20-yr	2321.98	854.26	848.84	1.91	1.27	18.33	7.96	161.69	1450.75	4.93	2.11	5.42	5.42
Yellowstone County	B10	RM 317.05	30079.26	20-yr	2321.98	853.98	848.38	2.55	2	29.53	13.55	159.02	511.63	5.03	2.27	5.6	5.6
Yellowstone County	B10	RM 316.93	29889.26	20-yr	2321.98	853.7	847.25	2.94	2.21	48.98	15.35	150.51	701.63	4.9	1.5	6.44	6.44
Yellowstone County	B10	RM 316.79	29668.4	20-yr	2321.98	853.5	847.89	2.83	2.16	46.35	17.32	146.89	570.5	5.13	1.88	5.61	5.61
Yellowstone County	B10	RM 316.66	29466.39	20-yr	2321.98	853.31	847.86	2.77	2.22	41.09	19.81	163.11	448.53	4.9	2.33	5.45	5.45
Yellowstone County	B10	RM 316.58	29329.04	20-yr	2321.98	853.2	847.74	2.66	1.94	51.07	24.79	174.53	612.93	4.53	2.18	5.46	5.46
Yellowstone County	B10	RM 316.51	29227.18	20-yr	2321.98	853.05	847.41	2.77	1.95	47.92	21.81	183.91	649.05	4.11	1.85	5.64	5.64
Yellowstone County	B10	RM 316.43	29091.4	20-yr	2321.98	852.92	847.41	2.45	1.77	49.43	24.94	239.83	776.06	3.44	1.71	5.51	5.51
Yellowstone County	B10	RM 316.33	28935.99	20-yr	2321.98	852.66	847.74	2.37	1.85	53.79	33.44	286.03	697.63	3.01	1.86	4.92	4.92
Yellowstone County	B10	RM 316.24	28786.65	20-yr	2321.98	852.45	847.5	1.99	1.76	46.76	27.59	356.21	791.33	2.84	1.67	4.96	4.96
Yellowstone County	B10	RM 316.14	28628.02	20-yr	2321.98	852.24	846.92	1.95	1.6	34.06	19.43	330.46	770.83	3.33	1.89	5.32	5.32
Yellowstone County	B10	RM 316.05	28475.44	20-yr	2321.98	851.97	846.73	2.27	1.85	46.96	22.77	295.19	794.3	3.27	1.58	5.24	5.24

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	20-yr	2321.98	851.85	846.43	2.22	1.81	23.16	13.62	302.93	685.97	3.2	1.88	5.42	5.42
Yellowstone County	B10	RM 315.84	28140.65	20-yr	2321.98	851.51	846.58	2.79	2.12	61.06	25.45	174.4	707.15	3.76	1.55	4.93	4.93
Yellowstone County	B10	RM 315.71	27926.69	20-yr	2321.98	851.25	846.34	2.71	1.87	31.97	13.15	206.82	1016.38	3.3	1.34	4.91	4.91
Yellowstone County	B10	RM 315.58	27720.72	20-yr	2321.98	851.22	846.16	1.8	1.4	26.85	13.18	155.66	1076.73	3.75	1.8	5.07	5.07
Yellowstone County	B10	RM 315.44	27505.06	20-yr	2321.98	850.98	846.09	2.33	1.42	30.7	9.98	152.3	1273.46	4.4	1.4	4.89	4.89
Yellowstone County	B10	RM 315.30	27283.58	20-yr	2321.98	850.92	844.45	1.53	1.05	15.91	8.34	317.48	1425.69	2.99	1.55	6.47	6.47
Yellowstone County	B10	RM 315.18	27097.16	20-yr	2321.98	850.87	844.72	1.23	0.96	8.55	5.56	454.19	1482.81	2.55	1.65	6.15	6.15
Yellowstone County	B10	RM 315.01	26818.99	20-yr	2321.98	850.73	844.66	1.49	1.12	16.82	9.01	477.22	1489.91	2.69	1.43	6.07	6.07
Yellowstone County	B10	RM 314.85	26559.67	20-yr	2321.98	850.44	844.84	2.34	1.44	36.19	8.89	167.41	1506.22	4.56	1.09	5.59	5.59
Yellowstone County	B10	RM 314.69	26324.37	20-yr	2321.98	850.17	844.24	2.6	1.66	40.55	10.21	173.49	1327.01	4.32	1.06	5.93	5.93
Yellowstone County	B10	RM 314.57	26132.54	20-yr	2321.98	849.9	844.63	2.87	1.84	51.45	12.83	147.42	1098	4.7	1.15	5.27	5.27
Yellowstone County	B10	RM 314.46	25963.96	20-yr	2321.98	849.8	844.48	2.41	1.64	39.66	10.89	201.42	1285.48	4.09	1.1	5.32	5.32
Yellowstone County	B10	RM 314.35	25782.69	20-yr	2321.98	849.53	844.51	2.41	2.09	61.33	20.91	268.91	959.95	3.44	1.16	5.02	5.02
Yellowstone County	B10	RM 314.24	25607.48	20-yr	2321.98	849.36	844.14	2.34	1.95	21.58	9.02	286.47	873.14	3.33	1.37	5.22	5.22
Yellowstone County	B10	RM 314.15	25461.23	20-yr	2321.98	849.23	844.05	2.23	1.97	56.23	28.22	305.88	748.55	3.17	1.57	5.18	5.18
Yellowstone County	B10	RM 314.06	25326.45	20-yr	2321.98	849.19	843.63	1.64	1.4	12.83	7	455.22	1045.16	3.02	1.64	5.57	5.57
Yellowstone County	B10	RM 313.98	25189.4	20-yr	2321.98	849.14	843.05	1.42	1.21	22.97	15.5	559.69	1069.2	2.68	1.8	6.09	6.09
Yellowstone County	B10	RM 313.83	24942.42	20-yr	2321.98	848.98	843.2	1.41	1.28	15.16	8.81	476.74	943.58	3.33	1.92	5.78	5.78
Yellowstone County	B10	RM 313.72	24768.08	20-yr	2321.98	848.87	842.35	1.65	1.28	16.36	7.7	330.48	1009.32	3.86	1.8	6.52	6.52
Yellowstone County	B10	RM 313.66	24671.51	20-yr	2321.98	848.79	843.14	1.83	1.35	18.11	8.38	286.85	955.03	3.95	1.81	5.65	5.65
Yellowstone County	B10	RM 313.57	24513.04	20-yr	2321.98	848.72	842.47	1.8	1.36	18.59	9.76	303.74	866.49	3.78	1.97	6.25	6.25
Yellowstone County	B10	RM 313.47	24364.02	20-yr	2321.98	848.63	841.55	1.84	1.47	18.76	9.52	283.74	757.17	4.18	2.09	7.08	7.08
Yellowstone County	B10	RM 313.33	24143.26	20-yr	2321.98	848.33	842.65	2.51	1.89	50.44	20.61	187.3	667.09	4.57	1.84	5.68	5.68
Yellowstone County	B10	RM 313.18	23899.74	20-yr	2321.98	847.58	842.19	3.49	2.83	108.67	44.17	165.62	536.33	3.83	1.53	5.39	5.39
Yellowstone County	B10	RM 313.07	23728.15	20-yr	2321.98	847.24	842.62	3.36	2.91	61.15	27.4	163	433.26	4.15	1.84	4.63	4.63
Yellowstone County	B10	RM 312.98	23590.93	20-yr	2321.98	847.21	842.5	2.78	2.44	35.68	21.08	197.39	530.88	3.94	2.31	4.72	4.72
Yellowstone County	B10	RM 312.90	23455.11	20-yr	2321.98	847.16	842.38	2.36	2.05	42.38	21.47	203.2	602.64	4.03	2.03	4.79	4.79
Yellowstone County	B10	RM 312.75	23227.05	20-yr	2321.98	846.94	841.71	2.39	1.86	33.07	15.75	224.3	738.12	3.6	1.7	5.23	5.23
Yellowstone County	B10	RM 312.65	23058.61	20-yr	2321.98	846.83	841.61	2.11	1.69	27.85	16.13	273.86	753.05	3.17	1.82	5.22	5.22
Yellowstone County	B10	RM 312.53	22873.59	20-yr	2321.98	846.76	841.37	1.92	1.42	15.71	8.26	245.41	771.41	4.1	2.14	5.39	5.39
Yellowstone County	B10	RM 312.49	22797.96	20-yr	2321.98	846.67	841.34	2.22	1.57	26.42	11.85	202	876.97	4.22	1.87	5.33	5.33
Yellowstone County	B10	RM 312.39	22646.67	20-yr	2321.98	846.53	840.85	2.57	1.72	40.63	19.44	150.54	731.64	3.96	1.87	5.67	5.67
Yellowstone County	B10	RM 312.33	22536.68	20-yr	2321.98	846.34	840.82	2.87	1.87	49.33	20.81	139.06	730.17	4.12	1.7	5.52	5.52
Yellowstone County	B10	RM 312.22	22360.55	20-yr	2321.98	846.29	840.91	2.28	1.68	34.15	14.43	128.42	735	4.54	1.88	5.37	5.37
Yellowstone County	B10	RM 312.13	22230.65	20-yr	2321.98	846.24	840.94	1.73	1.44	20.4	12.77	350.72	743.11	3.47	2.16	5.3	5.3
Yellowstone County	B10	RM 312.04	22082.88	20-yr	2321.98	846.1	840.82	1.9	1.58	25.68	15.01	346.94	784.86	3.22	1.87	5.28	5.28
Yellowstone County	B10	RM 311.95	21934.61	20-yr	2321.98	845.96	840.79	1.96	1.61	26.12	13.35	350.23	881	3.22	1.64	5.17	5.17
Yellowstone County	B10	RM 311.89	21840.24	20-yr	2321.98	845.9	840.76	1.89	1.56	28.45	13.57	325.27	882.59	3.57	1.69	5.14	5.14
Yellowstone County	B10	RM 311.77	21651.91	20-yr	2321.98	845.74	840.18	2.03	1.55	26.95	9.8	226.3	890.68	4.67	1.68	5.56	5.56
Yellowstone County	B10	RM 311.69	21530.39	20-yr	2321.98	845.56	839.85	2.54	1.63	39.98	11.48	150.78	1027.76	5.09	1.42	5.72	5.72
Yellowstone County	B10	RM 311.58	21350.77	20-yr	2321.98	845.44	839.63	2.41	1.51	36.66	11.26	171.57	1143.67	4.48	1.35	5.81	5.81
Yellowstone County	B10	RM 311.48	21191.11	20-yr	2321.98	845.35	839.42	2.12	1.39	25.68	9.52	228.87	1201.17	3.86	1.41	5.94	5.94
Yellowstone County	B10	RM 311.37	21010.53	20-yr	2321.98	845.28	839.18	1.75	1.21	20.01	9.59	336.85	1260.87	3.3	1.57	6.1	6.1
Yellowstone County	B10	RM 311.27	20852.82	20-yr	2321.98	845.18	838.96	1.75	1.2	20.43	9.83	322.36	1198.34	3.4	1.62	6.22	6.22
Yellowstone County	B10	RM 311.19	20716.8	20-yr	2321.98	845.11	838.84	1.77	1.14	19.85	8.15	247.96	1168.68	4.32	1.74	6.27	6.27
Yellowstone County	B10	RM 311.09	20559.11	20-yr	2321.98	844.79	839.14	2.83	1.64	45.03	13.8	144.57	1055.22	4.73	1.42	5.64	5.64
Yellowstone County	B10	RM 310.97	20364.78	20-yr	2321.98	844.67	839.45	2.49	1.55	37.7	13.42	172.8	1006.64	4.55	1.6	5.22	5.22
Yellowstone County	B10	RM 310.87	20211.96	20-yr	2321.98	844.54	839.02	2.45	1.59	35.52	12.67	190.23	1029.88	4.36	1.53	5.52	5.52
Yellowstone County	B10	RM 310.76	20019.23	20-yr	2321.98	844.08	839.18	3.29	2.18	58.83	15.64	144.3	919.67	4.47	1.16	4.91	4.91
Yellowstone County	B11	RM 310.67	19877.9	20-yr	2321.98	844	839.11	2.76	1.83	59.93	17.91	174.84	1044.88	4.12	1.22	4.88	4.88
Yellowstone County	B11	RM 310.57	19727.96	20-yr	2321.98	843.8	839.08	2.6	1.72	56.23	17.97	195.83	1082.89	3.95	1.25	4.72	4.72
Yellowstone County	B11	RM 310.48	19578.86	20-yr	2321.98	843.64	838.96	2.45	1.58	42.64	14.63	210	1116.98	3.86	1.31	4.68	4.68
Yellowstone County	B11	RM 310.39	19437.53	20-yr	2321.98	843.58	838.54	2.1	1.4	19.99	8.11	263.96	1154	3.56	1.43	5.05	5.05
Yellowstone County	B11	RM 310.31	19317.45	20-yr	2321.98	843.51	838.23	2.02	1.48	18.66	9.76	355.47	1040.05	2.89	1.5	5.28	5.28
Yellowstone County	B11	RM 310.24	19187.47	20-yr	2321.98	843.45	838.23	1.57	1.31	36.86	23.39	461.89	1039.79	2.71	1.71	5.22	5.22
Yellowstone County	B11	RM 310.16	19069.04	20-yr	2321.98	843.29	837.93	1.47	1.34	34.86	26.67	568.17	901.86	2.52	1.92	5.37	5.37
Yellowstone County	B11	RM 310.09	18955.28	20-yr	2321.98	843.19	837.93	1.55	1.26	11.27	8.2	554.71	1034.3	2.46	1.78	5.27	5.27
Yellowstone County	B11	RM 309.97	18765.62	20-yr	2321.98	843.14	837.59	1.15	1.02	15.11	10.18	601.54	1078.39	3.15	2.12	5.55	5.55
Yellowstone County	B11	RM 309.90	18643.48	20-yr	2321.98	843.06	837.5	1.35	1.16	8.46	6.41	625.15	1056.4	2.61	1.97	5.56	5.56
Yellowstone County	B11	RM 309.82	18525.48	20-yr	2321.98	843.01	837.5	1.23	1.15	24.57	20.02	697.37	1018.92	2.43	1.98	5.51	5.51
Yellowstone County	B11	RM 309.73	18379.74	20-yr	2321.98	842.89	837.35	1.1	1.05	18.35	15.21	802.01	1043.46	2.55	2.11	5.54	5.54

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	20-yr	2321.98	842.83	837.38	0.93	0.9	11.87	10.65	876.43	1020.83	2.81	2.52	5.45	5.45
Yellowstone County	B11	RM 309.52	18029.98	20-yr	2321.98	842.69	836.68	1.11	1.09	17.75	16.64	816.46	895.83	2.54	2.38	6.01	6.01
Yellowstone County	B11	RM 309.39	17824.11	20-yr	2321.98	842.6	836.74	0.94	0.94	9.95	9.95	764.52	766.75	3.23	3.23	5.87	5.87
Yellowstone County	B11	RM 309.22	17557.23	20-yr	2321.98	842.43	836.07	1.57	1.4	14.32	9.4	334.64	651.61	4.29	2.8	6.36	6.36
Yellowstone County	B11	RM 309.06	17331.95	20-yr	2321.98	842.18	835.79	2.23	1.75	54.33	25.15	191.59	678.36	4.92	2.23	6.39	6.39
Yellowstone County	B11	RM 308.94	17142.36	20-yr	2321.98	841.41	835.4	3.79	2.83	90.14	34.27	121.56	487.77	4.56	1.68	6.01	6.01
Yellowstone County	B11	RM 308.83	16971.41	20-yr	2321.98	841.4	836.04	2.68	2.07	49.91	22.91	159	517.94	4.78	2.16	5.36	5.36
Yellowstone County	B11	RM 308.71	16778.65	20-yr	2321.98	841.35	835.91	2.09	1.68	19.82	11.08	251.14	619.53	4.03	2.24	5.43	5.43
Yellowstone County	B11	RM 308.62	16631.4	20-yr	2321.98	841.26	835.85	1.9	1.53	47.51	28.31	300.08	743.86	3.46	2.05	5.41	5.41
Yellowstone County	B11	RM 308.55	16518.64	20-yr	2321.98	841.09	835.85	1.86	1.55	45.65	27.69	368.88	844.83	2.95	1.78	5.24	5.24
Yellowstone County	B11	RM 308.43	16328.3	20-yr	2321.98	840.83	834.51	1.64	1.39	39.9	25.48	420.94	913.47	2.88	1.83	6.32	6.32
Yellowstone County	B11	RM 308.35	16192.95	20-yr	2321.98	840.69	834.88	1.56	1.25	24.93	14.53	402.97	1009.39	3.18	1.84	5.81	5.81
Yellowstone County	B11	RM 308.24	16015.46	20-yr	2321.98	840.59	834.63	1.5	1.11	14.37	7.8	363.15	1185.87	3.6	1.94	5.96	5.96
Yellowstone County	B11	RM 308.12	15826.82	20-yr	2321.98	840.53	834.63	1.41	1.08	12.26	6.96	382.83	1138.19	3.71	2.09	5.89	5.89
Yellowstone County	B11	RM 308.02	15675.58	20-yr	2321.98	840.46	834.76	1.56	1.17	11.69	5.65	303.95	979.99	4.49	2.15	5.7	5.7
Yellowstone County	B11	RM 307.88	15434.86	20-yr	2321.98	840.09	834.45	3.06	1.93	57.36	20.18	113.42	763	4.71	1.61	5.64	5.64
Yellowstone County	B11	RM 307.77	15261.75	20-yr	2321.98	839.65	834.45	3.45	2.49	83.52	29.62	128.41	658.75	4.1	1.41	5.2	5.2
Yellowstone County	B11	RM 307.68	15125.28	20-yr	2321.98	839.5	834.85	2.87	2.11	55.31	23.73	158.58	629.31	4.14	1.75	4.65	4.65
Yellowstone County	B11	RM 307.60	14980.1	20-yr	2321.98	839.47	834.36	2.04	1.76	23.64	13.37	274.1	593.48	3.98	2.24	5.11	5.11
Yellowstone County	B11	RM 307.52	14873.7	20-yr	2321.98	839.29	834.12	2.44	2.03	36.05	18.24	253.87	652.31	3.56	1.78	5.18	5.18
Yellowstone County	B11	RM 307.46	14779.11	20-yr	2321.98	839.16	833.6	2.36	2.05	65.63	41.8	312.91	609.09	2.95	1.86	5.56	5.56
Yellowstone County	B11	RM 307.39	14664.34	20-yr	2321.98	839.02	833.63	2.31	1.96	21.29	14.8	365.52	658.7	2.6	1.8	5.39	5.39
Yellowstone County	B11	RM 307.30	14517.89	20-yr	2321.98	838.85	833.81	2.15	1.94	56.55	41.33	407.44	693.42	2.38	1.73	5.04	5.04
Yellowstone County	B11	RM 307.22	14385.45	20-yr	2321.98	838.58	833.87	2.09	1.88	44.35	32.27	396.39	694.01	2.52	1.83	4.7	4.7
Yellowstone County	B11	RM 307.14	14262.57	20-yr	2321.98	838.43	833.51	1.98	1.7	31.5	19.28	334.95	722.96	3.09	1.88	4.92	4.92
Yellowstone County	B11	RM 307.08	14166.72	20-yr	2321.98	838.37	833.11	1.82	1.55	18.97	11.66	348.63	750.8	3.26	1.99	5.26	5.26
Yellowstone County	B11	RM 307.01	14050.92	20-yr	2321.98	838.29	832.65	1.88	1.61	16.75	11.17	376.22	758.77	2.86	1.9	5.64	5.64
Yellowstone County	B11	RM 306.95	13949.23	20-yr	2321.98	838.19	832.35	2.06	1.63	25.66	16.95	324.62	756.94	2.87	1.88	5.84	5.84
Yellowstone County	B11	RM 306.90	13869.87	20-yr	2321.98	838.1	832.56	2.1	1.68	29.57	21.08	349.89	690.1	2.82	2	5.53	5.53
Yellowstone County	B11	RM 306.82	13726.64	20-yr	2321.98	837.97	832.62	1.96	1.57	25.2	16.14	361.85	785.35	2.95	1.88	5.35	5.35
Yellowstone County	B11	RM 306.72	13574.53	20-yr	2321.98	837.83	831.8	2.2	1.55	29.2	14.06	222.2	876.35	3.59	1.7	6.03	6.03
Yellowstone County	B11	RM 306.62	13414.11	20-yr	2321.98	837.66	832.77	2.32	1.74	41.39	18.54	215.2	866.77	3.48	1.54	4.88	4.88
Yellowstone County	B11	RM 306.52	13251.36	20-yr	2321.98	837.25	832.87	3.1	2.1	53.49	17.77	152.64	860.16	3.95	1.29	4.39	4.39
Yellowstone County	B11	RM 306.42	13099.73	20-yr	2321.98	836.9	832.74	3.54	2.5	66.02	23.13	134.85	734.88	3.69	1.26	4.15	4.15
Yellowstone County	B11	RM 306.34	12958.96	20-yr	2321.98	836.88	832.84	2.39	1.82	36.83	15.9	236.52	939.32	3.24	1.39	4.05	4.05
Yellowstone County	B11	RM 306.25	12825.95	20-yr	2321.98	836.71	832.35	2.37	1.86	36.08	16.89	311.88	1037.13	2.61	1.21	4.36	4.36
Yellowstone County	B11	RM 306.16	12673.7	20-yr	2321.98	836.51	832.41	2.31	1.83	33.42	15.72	310.58	1014.17	2.68	1.25	4.1	4.1
Yellowstone County	B11	RM 306.11	12592.39	20-yr	2321.98	836.4	832.17	2.32	1.85	44.74	21.36	298.54	996.16	2.66	1.26	4.23	4.23
Yellowstone County	B11	RM 306.03	12457.47	20-yr	2321.98	836.25	831.25	2.09	1.67	28.28	16.12	365.25	1016.66	2.42	1.37	5	5
Yellowstone County	B11	RM 305.93	12317.98	20-yr	2321.98	836.04	831.25	2.23	1.91	35.55	19.99	355.37	960.61	2.27	1.27	4.79	4.79
Yellowstone County	B11	RM 305.84	12159.82	20-yr	2321.98	835.81	831.1	2.34	1.98	35.73	18.84	262.4	801.05	2.81	1.46	4.71	4.71
Yellowstone County	B11	RM 305.74	11989.73	20-yr	2321.98	835.54	830.64	2.55	2	45.93	17.41	195.76	858.75	3.63	1.35	4.9	4.9
Yellowstone County	B11	RM 305.67	11883.31	20-yr	2321.98	835.37	830.43	2.79	2	46.73	16	162.34	929.22	3.73	1.25	4.94	4.94
Yellowstone County	B11	RM 305.60	11764.11	20-yr	2321.98	835.33	830.18	2.04	1.81	23.71	11.11	166.02	1041.5	3	1.38	5.15	5.15
Yellowstone County	B11	RM 305.52	11651.48	20-yr	2321.98	835.21	830.18	2.32	1.67	30.82	12.23	151.74	1133.21	3.17	1.23	5.03	5.03
Yellowstone County	B11	RM 305.44	11514.64	20-yr	2321.98	835.15	830.43	1.87	1.34	16.38	8.23	157.88	1056.08	3.31	1.64	4.72	4.72
Yellowstone County	B11	RM 305.40	11441.77	20-yr	2321.98	835.03	830.61	1.95	1.64	16.07	8.59	239	1083.06	2.6	1.38	4.42	4.42
Yellowstone County	B11	RM 305.32	11312.15	20-yr	2321.98	834.97	830.61	1.91	1.39	22.94	9.21	167.71	1462.29	3.06	1.21	4.36	4.36
Yellowstone County	B11	RM 305.24	11186.22	20-yr	2321.98	834.96	830.43	1.21	0.96	10.17	5.99	156.67	1461.06	3.04	1.76	4.53	4.53
Yellowstone County	B11	RM 305.06	10905.09	20-yr	2321.98	834.88	830.15	1.18	0.91	6.87	5.18	302.98	1297.05	2.68	2.01	4.73	4.73
Yellowstone County	B11	RM 304.71	10460.6	20-yr	2321.98	834.76	828.96	1.3	1.16	11.11	8.55	395.74	927.65	2.88	2.21	5.8	5.8
Yellowstone County	B11	RM 304.62	10332.33	20-yr	2321.98	834.73	829.09	1.21	1.06	8.43	5.54	206.62	980.48	4.23	2.74	5.65	5.65
Yellowstone County	B11	RM 304.50	10132.63	20-yr	2321.98	834.47	829.09	2.41	2.02	48.16	21.98	122.71	637.08	4.66	2.07	5.39	5.39
Yellowstone County	B11	RM 304.42	10011.11	20-yr	2321.98	834.39	829.18	2.08	1.83	35.53	17	152.06	695.78	4.39	2.07	5.21	5.21
Yellowstone County	B11	RM 304.34	9873.393	20-yr	2321.98	834.26	828.78	2.1	1.82	22.07	12.1	263.04	665.66	4.04	2.2	5.47	5.47
Yellowstone County	B11	RM 304.25	9735.197	20-yr	2321.98	834.07	828.39	2.46	1.99	40.56	19.22	199.9	570.79	4.43	2.07	5.69	5.69
Yellowstone County	B11	RM 304.18	9615.178	20-yr	2321.98	833.97	828.54	2.45	2.01	27.33	13.79	216.14	587.41	4.19	2.09	5.44	5.44
Yellowstone County	B11	RM 304.09	9478.266	20-yr	2321.98	833.82	828.6	2.62	2.15	42.47	18.79	182.78	786.42	4.6	2.01	5.22	5.22
Yellowstone County	B11	RM 304.00	9326.206	20-yr	2321.98	833.72	828.39	2.41	1.82	38.62	15.19	190.99	942.41	4.69	1.82	5.34	5.34
Yellowstone County	B11	RM 303.91	9177.479	20-yr	2321.98	833.67	828.14	2.04	1.43	30.41	13.51	215.99	1108.59	4.48	1.97	5.53	5.53
Yellowstone County	B11	RM 303.78	8973.508	20-yr	2321.98	833.4	827.93	2.55	1.7	40.85	12.53	164.05	952.51	4.81	1.44	5.47	5.47

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	20-yr	2321.98	833.22	827.9	2.52	1.74	47.44	15.3	170.5	926.64	4.55	1.44	5.32	5.32
Yellowstone County	B11	RM 303.55	8608.195	20-yr	2321.98	833.11	827.65	2.27	1.68	23.42	9.49	248.28	952.96	3.72	1.49	5.45	5.45
Yellowstone County	B11	RM 303.43	8422.329	20-yr	2321.98	833.03	827.87	1.75	1.43	33.74	15.98	329.8	1050.1	3.29	1.54	5.17	5.17
Yellowstone County	B11	RM 303.34	8276.308	20-yr	2321.98	832.97	826.92	1.53	1.2	13.07	6.05	325.32	1070.56	3.95	1.81	6.05	6.05
Yellowstone County	B11	RM 303.26	8138.725	20-yr	2321.98	832.79	826.98	2.03	1.72	45.59	18.8	304.55	961.37	3.47	1.42	5.81	5.81
Yellowstone County	B11	RM 303.18	8018.762	20-yr	2321.98	832.61	826.22	2.05	1.76	50.48	22.45	308.41	884.45	3.38	1.49	6.39	6.39
Yellowstone County	B11	RM 303.09	7876.674	20-yr	2321.98	832.4	825.43	2	1.75	47.03	22.77	337.26	872.16	3.18	1.52	6.97	6.97
Yellowstone County	B11	RM 302.99	7711.603	20-yr	2321.98	832.24	826.22	1.72	1.47	31.41	18.17	336.71	811.1	3.38	1.94	6.02	6.02
Yellowstone County	B11	RM 302.89	7556.419	20-yr	2321.98	832.02	825.73	2.01	1.75	38.98	22.97	289.97	623.44	3.65	2.13	6.29	6.29
Yellowstone County	B11	RM 302.81	7423.411	20-yr	2321.98	831.78	825.86	2.37	2.05	48.02	24.28	221.32	547.69	4.15	2.07	5.93	5.93
Yellowstone County	B11	RM 302.70	7257.14	20-yr	2321.98	831.64	826.01	2.38	1.98	31.03	13.81	184.02	530.69	5.01	2.21	5.63	5.63
Yellowstone County	B12	RM 302.56	7050.708	20-yr	2321.98	831.15	825.25	3.26	2.74	65.78	28.35	170.25	492.18	4.07	1.72	5.91	5.91
Yellowstone County	B12	RM 302.49	6918.549	20-yr	2321.98	831	825.92	3.07	2.64	53.82	21.31	170.36	517.45	4.34	1.7	5.08	5.08
Yellowstone County	B12	RM 302.41	6794.522	20-yr	2321.98	830.94	825.64	2.85	2.19	35.73	14.69	161.6	617.27	4.27	1.73	5.3	5.3
Yellowstone County	B12	RM 302.34	6674.634	20-yr	2321.98	830.85	825.76	2.62	2.04	48.82	20.55	214.11	872.19	3.61	1.51	5.08	5.08
Yellowstone County	B12	RM 302.22	6485.378	20-yr	2321.98	830.75	825.76	2.01	1.61	26.05	13.47	235.89	830.74	3.39	1.74	4.98	4.98
Yellowstone County	B12	RM 302.14	6360.047	20-yr	2321.98	830.5	825.76	2.65	1.96	44.65	19.25	178.16	751.2	3.69	1.58	4.74	4.74
Yellowstone County	B12	RM 302.08	6267.13	20-yr	2321.98	830.42	825.79	2.41	1.98	26.22	13.72	265.5	725.36	3.11	1.62	4.63	4.63
Yellowstone County	B12	RM 301.98	6100.949	20-yr	2321.98	830.36	825.34	1.97	1.61	26.33	12.03	257.2	848.06	3.76	1.7	5.02	5.02
Yellowstone County	B12	RM 301.88	5944.005	20-yr	2321.98	830.26	824.7	1.89	1.48	21.88	11.08	307.5	938.51	3.35	1.68	5.56	5.56
Yellowstone County	B12	RM 301.79	5801.18	20-yr	2321.98	830.2	824.36	1.74	1.43	14.38	8.9	369.92	846.37	3.12	1.92	5.84	5.84
Yellowstone County	B12	RM 301.72	5685.105	20-yr	2321.98	830.12	824.85	1.84	1.55	21.38	12.75	328.47	772.06	3.26	1.94	5.27	5.27
Yellowstone County	B12	RM 301.65	5569.191	20-yr	2321.98	829.99	824.61	2.04	1.7	28.89	15.38	311.48	841.87	3.07	1.63	5.39	5.39
Yellowstone County	B12	RM 301.59	5465.51	20-yr	2321.98	829.87	824.42	2.1	1.82	32.63	16.62	318.53	852.46	2.95	1.49	5.45	5.45
Yellowstone County	B12	RM 301.53	5366.723	20-yr	2321.98	829.78	824.12	1.89	1.7	35.46	18.7	364.43	921.57	2.83	1.48	5.66	5.66
Yellowstone County	B12	RM 301.47	5270.902	20-yr	2321.98	829.66	824.12	1.92	1.69	33.94	17.74	353.58	905.66	2.92	1.51	5.54	5.54
Yellowstone County	B12	RM 301.39	5140.04	20-yr	2321.98	829.6	824.36	1.52	1.3	20.18	12	345.85	889.73	3.42	2.02	5.24	5.24
Yellowstone County	B12	RM 301.33	5044.575	20-yr	2321.98	829.53	824.12	1.68	1.35	18.12	9.49	329.55	942.88	3.59	1.87	5.41	5.41
Yellowstone County	B12	RM 301.24	4906.408	20-yr	2321.98	829.42	823.87	1.84	1.48	19.62	10.77	310.78	960.24	3.48	1.9	5.55	5.55
Yellowstone County	B12	RM 301.18	4802.631	20-yr	2321.98	829.31	823.17	2.08	1.7	26.16	14.45	312.68	858.35	3.04	1.66	6.13	6.13
Yellowstone County	B12	RM 301.12	4698.913	20-yr	2321.98	829.16	823.81	2.22	1.91	29.12	14.81	308.25	769.44	3.22	1.63	5.35	5.35
Yellowstone County	B12	RM 301.07	4611.142	20-yr	2321.98	829.11	824	2.11	1.8	25.23	13.6	284.39	679.96	3.64	1.94	5.11	5.11
Yellowstone County	B12	RM 301.02	4531.484	20-yr	2321.98	829.03	823.81	2.23	1.92	22.09	12.28	260.96	586.03	3.74	2.06	5.21	5.21
Yellowstone County	B12	RM 300.97	4453.011	20-yr	2321.98	828.83	823.9	2.77	2.35	33.25	17.3	196.12	485.4	3.94	2.03	4.93	4.93
Yellowstone County	B12	RM 300.89	4332.618	20-yr	2321.98	828.69	823.66	2.83	2.49	52.6	30.41	198.89	439.3	3.69	2.12	5.03	5.03
Yellowstone County	B12	RM 300.83	4232.362	20-yr	2321.98	828.5	823.78	3.01	2.57	56.75	33.12	175.01	432.68	3.61	2.09	4.72	4.72
Yellowstone County	B12	RM 300.77	4151.049	20-yr	2321.98	828.4	823.75	2.81	2.47	56.42	30.95	175.97	459.2	3.78	2.05	4.65	4.65
Yellowstone County	B12	RM 300.69	4011.358	20-yr	2321.98	828.31	823.63	2.39	1.92	27.36	13.75	205.94	614.57	3.95	1.97	4.68	4.68
Yellowstone County	B12	RM 300.55	3793.957	20-yr	2321.98	828.19	822.93	2.02	1.64	29.09	17.63	263.47	728.51	3.35	2.02	5.26	5.26
Yellowstone County	B12	RM 300.45	3633.035	20-yr	2321.98	828.05	822.53	1.63	1.56	32.82	23.19	335.99	737.48	2.87	2.02	5.51	5.51
Yellowstone County	B12	RM 300.35	3461.833	20-yr	2321.98	827.78	822.66	2.13	1.64	19.76	13.23	389.33	835.89	2.54	1.7	5.12	5.12
Yellowstone County	B12	RM 300.24	3286.175	20-yr	2321.98	827.57	822.47	2.04	1.74	50.61	35.52	421.27	792.28	2.41	1.68	5.1	5.1
Yellowstone County	B12	RM 300.15	3141.724	20-yr	2321.98	827.27	822.47	1.93	1.75	45.84	35.67	481.67	730.4	2.34	1.82	4.8	4.8
Yellowstone County	B12	RM 300.10	3054.752	20-yr	2321.98	827.16	822.35	2.03	1.74	16.22	13.32	462.66	736.84	2.22	1.82	4.8	4.8
Yellowstone County	B12	RM 300.00	2887.728	20-yr	2321.98	826.97	821.22	1.91	1.82	47.8	38.59	467.25	700.62	2.33	1.88	5.75	5.75
Yellowstone County	B12	RM 299.91	2736.431	20-yr	2321.98	826.8	821.5	1.88	1.73	22.73	12.83	350.2	971.94	2.75	1.54	5.3	5.3
Yellowstone County	B12	RM 299.83	2614.069	20-yr	2321.98	826.63	821.41	1.9	1.91	34.81	21.77	388.69	912.29	2.3	1.43	5.22	5.22
Yellowstone County	B12	RM 299.72	2484.158	20-yr	2321.98	826.45	820.89	1.96	1.76	33.09	16.61	418.65	969.6	2.76	1.38	5.57	5.57
Yellowstone County	B12	RM 299.59	2312.328	20-yr	2321.98	826.18	821.13	2.5	1.83	33.76	13.94	220.92	933.87	3.32	1.36	5.05	5.05
Yellowstone County	B12	RM 299.48	2160.343	20-yr	2321.98	825.93	821.13	3.03	1.96	41.2	14.35	138.95	900.3	3.9	1.34	4.8	4.8
Yellowstone County	B12	RM 299.38	1995.229	20-yr	2321.98	825.83	821.13	2.46	1.7	57.51	21.83	137.71	1135.92	3.76	1.41	4.7	4.7
Yellowstone County	B12	RM 299.31	1874.433	20-yr	2321.98	825.52	821.22	3	2.01	40.85	13.74	146.55	1050.46	3.57	1.18	4.29	4.29
Yellowstone County	B12	RM 299.22	1738.666	20-yr	2321.98	825.34	821.16	3.04	1.85	51.81	15.98	129.2	1116.35	3.81	1.15	4.18	4.18
Yellowstone County	B12	RM 299.15	1613.992	20-yr	2321.98	825.32	820.95	2.33	1.29	28.45	11.56	154.73	1314.65	3.66	1.47	4.37	4.37
Yellowstone County	B12	RM 299.06	1473.748	20-yr	2321.98	825.28	820.64	2	1.16	26.31	10	116.53	1338.56	4.11	1.52	4.63	4.63
Yellowstone County	B12	RM 298.99	1360.532	20-yr	2321.98	825.21	820.46	1.99	1.25	28.86	10.43	102.87	1347.5	4.03	1.41	4.75	4.75
Yellowstone County	B12	RM 298.93	1269.876	20-yr	2321.98	825.14	820.46	1.99	1.24	28.15	10.54	108.97	1351.86	3.86	1.4	4.68	4.68
Yellowstone County	B12	RM 298.88	1195.725	20-yr	2321.98	825.07	820.43	2.07	1.23	27.91	10.68	119.22	1364.88	3.77	1.39	4.64	4.64
Yellowstone County	B12	RM 298.82	1096.849	20-yr	2321.98	824.91	820.58	2.52	1.4	33.25	13.71	155.44	1292.31	3.21	1.3	4.32	4.32
Yellowstone County	B12	RM 298.77	1018.392	20-yr	2321.98	824.84	820.4	2.29	1.34	28.72	12.43	184.93	1284.21	3.18	1.35	4.44	4.44
Yellowstone County	B12	RM 298.67	854.844	20-yr	2321.98	824.77	819.39	2	1.3	17.45	9.64	244.95	1264.47	2.59	1.41	5.37	5.37

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	20-yr	2321.98	824.7	819.55	1.64	1.31	19.1	11.35	274.44	1214.87	2.48	1.45	5.15	5.15
Yellowstone County	B12	RM 298.49	579.164	20-yr	2321.98	824.6	819.27	1.81	1.2	15.39	7.64	214.03	1255.68	3.16	1.54	5.33	5.33
Yellowstone County	B12	RM 298.42	469.573	20-yr	2321.98	824.53	819.27	1.86	1.19	24.34	10.81	176.57	1247.78	3.59	1.56	5.26	5.26
Yellowstone County	B12	RM 298.35	368.049	20-yr	2321.98	824.42	819.97	2.19	1.27	26.08	9.77	147.33	1201.97	4.12	1.52	4.44	4.44
Yellowstone County	B12	RM 298.30	290.003	20-yr	2321.98	824.4	819.82	1.88	1.13	16.63	8.4	197.73	1149.87	3.59	1.79	4.58	4.58
Yellowstone County	B12	RM 298.26	211.35	20-yr	2321.98	824.35	819.82	1.88	1.25	20.98	11.3	221	1076.64	3.24	1.73	4.52	4.52
Yellowstone County	B12	RM 298.19	83.499	20-yr	2321.98	824.24	819.49	2.09	1.43	20.22	11.23	190.69	924.58	3.19	1.75	4.75	4.75

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	20-yr	2752.4	824.08	820.43	1.88	1.32	18.14	7.93	197.15	1693.02	3.36	1.46	3.65	3.65
Treasure County	C1	RM 297.89	61639	20-yr	2752.4	823.91	820.07	1.83	1.49	18.23	11.32	362.24	1102.02	2.74	1.7	3.84	3.84
Treasure County	C1	RM 297.76	61392	20-yr	2752.4	823.72	819.93	1.94	1.66	23.44	13.14	331	1135.48	2.8	1.56	3.8	3.8
Treasure County	C1	RM 297.62	61179	20-yr	2752.4	823.66	819.69	1.57	1.21	12.63	6.89	290.46	1389.86	3.03	1.65	3.97	3.97
Treasure County	C1	RM 297.5	60985	20-yr	2752.4	823.49	819.39	2.24	1.35	24.94	10.14	159.01	1328.94	3.81	1.53	4.1	4.1
Treasure County	C1	RM 297.36	60767	20-yr	2752.4	823.35	819.14	2.19	1.42	24.04	11.28	169.82	1135.63	3.66	1.7	4.21	4.21
Treasure County	C1	RM 297.22	60535	20-yr	2752.4	823.23	819	2.03	1.42	20.65	9.41	149.14	1153.96	3.73	1.68	4.23	4.23
Treasure County	C1	RM 297.08	60314	20-yr	2752.4	823.11	818.76	2.02	1.26	20.01	8.5	194.31	1349	3.87	1.62	4.35	4.35
Treasure County	C1	RM 296.94	60093	20-yr	2752.4	822.99	818.42	2.07	1.23	21.09	7.91	177.08	1555.05	3.87	1.43	4.57	4.57
Treasure County	C1	RM 296.79	59847	20-yr	2752.4	822.92	817.97	1.59	1.19	12.57	6.03	246.81	1287.66	3.77	1.79	4.95	4.95
Treasure County	C1	RM 296.64	59608	20-yr	2752.4	822.85	817.9	1.66	1.18	13.43	7.17	177.49	1104.55	3.99	2.1	4.95	4.95
Treasure County	C1	RM 296.51	59386	20-yr	2752.4	822.8	817.8	1.34	1.09	8.81	5.39	477.13	1067.73	3.87	2.36	4.99	4.99
Treasure County	C1	RM 296.33	59113	20-yr	2752.4	822.7	817.52	1.54	1.14	11.06	5.54	335.57	1055.91	4.62	2.3	5.18	5.18
Treasure County	C1	RM 296.16	58839	20-yr	2752.4	821.7	817.46	4.42	3.02	95.45	32.22	137.37	687.25	4	1.33	4.25	4.25
Treasure County	C1	RM 296.01	58583	20-yr	2752.4	821.45	817.45	2.73	2.22	38.45	21.59	259.72	631.43	3.52	1.97	3.99	3.99
Treasure County	C1	RM 295.83	58296	20-yr	2752.4	821.29	817.4	1.88	1.87	18.24	16.95	627.05	680.55	2.33	2.16	3.9	3.9
Treasure County	C1	RM 295.66	58032	20-yr	2752.4	820.99	817.27	2.16	2.16	23.45	23.42	558.68	559.37	2.28	2.27	3.72	3.72
Treasure County	C1	RM 295.52	57800	20-yr	2752.4	820.89	816.19	1.59	1.59	13.4	13.4	660.06	660.06	2.63	2.63	4.71	4.71
Treasure County	C1	RM 295.31	57474	20-yr	2752.4	820.78	815.61	1.45	1.38	10.47	9.36	554.61	692.42	3.23	2.89	5.17	5.17
Treasure County	C1	RM 295.13	57174	20-yr	2752.4	820.6	815.57	1.82	1.48	17.9	10.07	360.88	1021.83	3.71	2.08	5.03	5.03
Treasure County	C1	RM 294.94	56877	20-yr	2752.4	820.07	815.46	3.13	2.29	47.13	16.25	189.73	1012.84	3.98	1.36	4.62	4.62
Treasure County	C1	RM 294.76	56587	20-yr	2752.4	819.85	815.45	2.63	1.96	33.49	13.34	257.05	991.23	3.59	1.42	4.39	4.39
Treasure County	C1	RM 294.55	56261	20-yr	2752.4	819.62	815.36	2.49	1.81	30.73	12.79	194.71	969.98	3.81	1.57	4.26	4.26
Treasure County	C1	RM 294.38	55980	20-yr	2752.4	819.44	815.07	2.22	1.68	25.47	11.45	227.09	1181.52	3.32	1.48	4.37	4.37
Treasure County	C1	RM 294.21	55714	20-yr	2752.4	819.14	814.88	2.63	1.71	34.43	10.97	201.2	1607.6	3.76	1.18	4.26	4.26
Treasure County	C1	RM 294.02	55401	20-yr	2752.4	818.9	814.59	2.42	1.72	28.25	11.27	231.94	1630.58	3.2	1.27	4.31	4.31
Treasure County	C1	RM 293.83	55100	20-yr	2752.4	818.72	814.3	2.1	1.49	21.11	9.18	274.8	1811.62	3.05	1.32	4.41	4.41
Treasure County	C1	RM 293.63	54777	20-yr	2752.4	818.56	813.55	1.91	1.33	16.41	5.75	332.83	1890.29	3.97	1.38	5.01	5.01
Treasure County	C1	RM 293.43	54432	20-yr	2752.4	818.27	813.29	2.55	1.31	30.92	8.62	202.13	1962.98	4.29	1.18	4.99	4.99
Treasure County	C1	RM 293.26	54152	20-yr	2752.4	818.13	813.24	2.37	1.18	26.28	10.45	247.33	1951.98	3.4	1.34	4.89	4.89
Treasure County	C1	RM 293.07	53839	20-yr	2752.4	817.96	813.24	2.18	0.97	24.4	10	241.79	2287.44	3.44	1.39	4.72	4.72
Treasure County	C1	RM 292.83	53458	20-yr	2752.4	817.88	813.1	1.42	0.82	10.56	4.69	380.97	2569.37	3.47	1.54	4.78	4.78
Treasure County	C1	RM 292.6	53082	20-yr	2752.4	817.66	812.6	2.05	1.16	19.81	5.2	238.91	2451.26	4.4	1.15	5.06	5.06
Treasure County	C2	RM 292.32	52612	20-yr	2752.4	817.49	811.76	2.11	1.1	19.86	6.12	207.17	2030.86	4.49	1.37	5.73	5.73
Treasure County	C2	RM 292.09	52256	20-yr	2752.4	817.36	811.6	2.15	1.26	20.22	6.47	174.28	1521	4.72	1.48	5.76	5.76
Treasure County	C2	RM 291.9	51956	20-yr	2752.4	817.26	811.55	1.88	1.23	17.16	7.24	240.72	1393.61	4.06	1.69	5.71	5.71
Treasure County	C2	RM 291.71	51639	20-yr	2752.4	816.64	811.5	3.14	2.3	72.07	31.98	244.85	879.34	3.11	1.36	5.14	5.14
Treasure County	C2	RM 291.52	51333	20-yr	2752.4	816.42	811.46	2.45	1.6	28.39	11.27	214.15	1043.49	4.4	1.73	4.95	4.95
Treasure County	C2	RM 291.33	51042	20-yr	2752.4	816.17	811.46	2.55	1.85	32.1	12.99	232.04	956.83	3.89	1.56	4.71	4.71
Treasure County	C2	RM 291.15	50747	20-yr	2752.4	816.12	811.4	1.75	1.4	14.53	7.71	297.47	888.26	4.34	2.29	4.72	4.72
Treasure County	C2	RM 290.94	50437	20-yr	2752.4	816	811.31	1.88	1.23	17.45	9.6	259.99	1070.43	3.82	2.08	4.69	4.69
Treasure County	C2	RM 290.78	50179	20-yr	2752.4	815.89	810.97	1.63	1.2	13.44	9.11	393.13	1022.42	3.34	2.25	4.92	4.92
Treasure County	C2	RM 290.6	49891	20-yr	2752.4	815.8	810.54	1.45	1.29	10.26	8.21	473.72	687.7	3.89	3.11	5.27	5.27
Treasure County	C2	RM 290.43	49607	20-yr	2752.4	815.57	810.13	2.17	1.75	22.83	14.63	273.61	1028.57	3.95	2.51	5.44	5.44
Treasure County	C2	RM 290.23	49287	20-yr	2752.4	814.94	810.07	3.43	2.43	54.87	22.96	154.05	805.07	4.56	1.88	4.87	4.87
Treasure County	C2	RM 290.04	48976	20-yr	2752.4	814.83	810.04	2.45	1.84	27.78	12.51	209.93	1045.16	4.61	2.06	4.79	4.79
Treasure County	C2	RM 289.85	48667	20-yr	2752.4	814.73	809.87	1.84	1.45	17.27	9.16	359.02	1482.06	3.55	1.87	4.86	4.86
Treasure County	C2	RM 289.67	48372	20-yr	2752.4	814.56	809.87	1.86	1.4	17.85	8.65	397.84	1494.79	3.43	1.65	4.69	4.69
Treasure County	C2	RM 289.46	48067	20-yr	2752.4	814.46	809.56	1.6	1.16	11.73	6.26	411.53	1208.09	3.71	1.96	4.9	4.9
Treasure County	C2	RM 289.27	47769	20-yr	2752.4	814.23	809.32	2.12	1.5	22.44	10.48	320.68	1087.48	3.64	1.69	4.91	4.91
Treasure County	C2	RM 289.11	47515	20-yr	2752.4	814.06	809	2.26	1.5	23.55	9.11	228.59	1023.21	4.69	1.8	5.05	5.05
Treasure County	C2	RM 288.94	47232	20-yr	2752.4	813.8	808.59	2.64	1.62	31.94	10.96	186.83	1029.4	4.89	1.65	5.21	5.21
Treasure County	C2	RM 288.76	46939	20-yr	2752.4	813.69	808.33	2.28	1.33	24.36	10.23	217.33	1122.36	4.52	1.87	5.36	5.36
Treasure County	C2	RM 288.55	46613	20-yr	2752.4	813.29	808.24	2.82	1.8	39.42	15.13	224.04	1052.75	3.84	1.45	5.05	5.05
Treasure County	C2	RM 288.36	46302	20-yr	2752.4	813.19	807.91	2.16	1.38	21	6.38	219.5	1300.36	5.11	1.53	5.29	5.29
Treasure County	C2	RM 288.18	46008	20-yr	2752.4	813.03	807.77	2.29	1.45	24.82	9.54	246.42	1613.55	4.18	1.58	5.26	5.26
Treasure County	C2	RM 287.99	45713	20-yr	2752.4	812.91	807.58	2.02	1.36	18.84	8.02	241.63	1801.09	4.23	1.78	5.33	5.33
Treasure County	C2	RM 287.81	45421	20-yr	2752.4	812.81	807.25	1.92	1.39	17.3	7.9	229.88	1422.25	4.48	2.02	5.56	5.56
Treasure County	C2	RM 287.62	45112	20-yr	2752.4	812.48	807.19	2.84	1.7	36.76	13.3	138.53	1181.1	4.89	1.73	5.3	5.3
Treasure County	C2	RM 287.42	44789	20-yr	2752.4	812.19	807.15	2.9	1.74	39.28	14.64	159.89	1352.51	4.61	1.69	5.04	5.04

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	20-yr	2752.4	812.14	806.81	1.76	1.43	15.77	9.19	420.05	2028.18	3.48	2.02	5.33	5.33
Treasure County	C2	RM 287.06	44222	20-yr	2752.4	812.06	806.77	1.45	1.18	11.32	5.64	515.12	2149.04	3.38	1.67	5.29	5.29
Treasure County	C2	RM 286.9	43958	20-yr	2752.4	811.93	806.52	1.82	1.2	15.25	4.91	277.39	2065.16	4.66	1.49	5.41	5.41
Treasure County	C2	RM 286.72	43671	20-yr	2752.4	811.31	806.4	3.76	1.82	65.73	14.07	122.22	1559.79	4.58	0.97	4.91	4.91
Treasure County	C3	RM 286.58	43448	20-yr	2752.4	810.84	806.32	3.35	2.1	53.1	11.18	169.59	1443.27	4.38	0.91	4.52	4.52
Treasure County	C3	RM 286.51	43344	20-yr	2752.4	810.85	806.32	2.81	1.71	37.31	8.55	193.91	1628.4	4.39	0.99	4.53	4.53
Treasure County	C3	RM 286.46	43257	20-yr	2752.4	810.75	806.25	2.89	1.74	39.84	9.24	196.96	1624.38	4.22	0.97	4.5	4.5
Treasure County	C3	RM 286.37	43117	20-yr	2752.4	810.79	806.17	2.02	1.17	20.57	8.07	295.42	1713.54	3.55	1.38	4.62	4.62
Treasure County	C3	RM 286.26	42931	20-yr	2752.4	810.49	806.17	2.63	1.55	62.89	17.22	219.45	1918.6	3.42	0.92	4.33	4.33
Treasure County	C3	RM 286.06	42624	20-yr	2752.4	810.25	806.08	1.98	1.19	19.83	6.74	354.48	2241.1	3.32	1.12	4.17	4.17
Treasure County	C3	RM 285.81	42213	20-yr	2752.4	810.02	805.78	1.98	1.02	18.25	7.39	222.01	3181.59	2.71	1.08	4.24	4.24
Treasure County	C3	RM 285.56	41812	20-yr	2752.4	809.81	805.34	1.87	0.93	16.64	4.37	237.24	3445.8	4.21	1.1	4.47	4.47
Treasure County	C3	RM 285.23	41280	20-yr	2752.4	809.57	805.17	2.09	0.91	22.41	6.46	152.4	3630.3	3.48	0.98	4.4	4.4
Treasure County	C3	RM 284.69	40395	20-yr	2752.4	809.1	804.85	2.54	1.33	34.93	9.16	159.53	2724.11	2.94	0.76	4.25	4.25
Treasure County	C3	RM 284.26	39705	20-yr	2752.4	808.72	804.6	1.93	1.35	19.89	5.78	348.37	2250.44	3.14	0.91	4.12	4.12
Treasure County	C3	RM 283.96	39199	20-yr	2752.4	808.42	804.3	2.11	1.26	22.99	6.6	244.91	2889.94	3.33	0.94	4.12	4.12
Treasure County	C3	RM 283.69	38766	20-yr	2752.4	808.22	803.9	1.99	1.06	19.4	4.82	190.07	3034.22	3.93	0.96	4.32	4.32
Treasure County	C3	RM 283.35	38229	20-yr	2752.4	808.04	803.42	1.68	0.95	14.35	5.24	288.07	2584.73	3.42	1.23	4.62	4.62
Treasure County	C3	RM 283.05	37749	20-yr	2752.4	807.68	803.32	2.46	1.22	30.67	7.66	194.2	2724.05	3.57	0.88	4.36	4.36
Treasure County	C3	RM 282.78	37306	20-yr	2752.4	807.41	803.11	2.09	1.09	20.87	6.27	257.34	2933.81	3.14	0.93	4.3	4.3
Treasure County	C3	RM 282.56	36942	20-yr	2752.4	807.29	802.83	1.56	0.85	12.67	4.33	281.54	3267.4	3.08	1.04	4.46	4.46
Treasure County	C3	RM 282.31	36546	20-yr	2752.4	807.13	802.74	1.79	0.8	15.71	4.68	187.32	3075.37	3.97	1.15	4.4	4.4
Treasure County	C3	RM 282.09	36195	20-yr	2752.4	806.96	802.56	2.16	0.93	24.04	7.89	181.69	2846.83	3.35	1.08	4.39	4.39
Treasure County	C4	RM 281.73	35619	20-yr	2752.4	806.75	801.74	1.63	0.94	12.67	4.92	426.96	2644.46	2.88	1.11	5	5
Treasure County	C4	RM 281.35	35005	20-yr	2752.4	806.59	801.53	1.49	0.8	10.33	2.99	316.27	2652.48	4.54	1.3	5.06	5.06
Treasure County	C4	RM 281.03	34521	20-yr	2752.4	806.38	801.19	2.05	0.94	19.9	5.55	228.85	2649.09	4.31	1.19	5.19	5.19
Treasure County	C4	RM 280.73	34051	20-yr	2752.4	806.27	800.82	1.33	0.88	9.09	5.46	693.36	2458.03	2.43	1.45	5.45	5.45
Treasure County	C4	RM 280.5	33687	20-yr	2752.4	806.16	800.66	1.23	0.87	8.6	5.64	756.46	2356.69	2.49	1.63	5.5	5.5
Treasure County	C4	RM 280.27	33304	20-yr	2752.4	806.05	800.31	1.15	0.83	8.01	5.51	759.73	2216.72	2.77	1.89	5.74	5.74
Treasure County	C4	RM 279.95	32800	20-yr	2752.4	805.92	800.08	1.24	0.8	8.88	5	503.81	2344.97	3.63	2.03	5.84	5.84
Treasure County	C4	RM 279.6	32231	20-yr	2752.4	805.58	799.98	2.16	1.24	22.1	11.49	304.47	1301.87	3.31	1.71	5.6	5.6
Treasure County	C4	RM 279.33	31805	20-yr	2752.4	805.01	799.98	2.9	1.93	41.46	17.25	244.79	1193.48	3.48	1.43	5.03	5.03
Treasure County	C4	RM 279.14	31495	20-yr	2752.4	804.86	799.96	2.3	1.51	24.37	10.63	238.77	1688.31	4.09	1.76	4.9	4.9
Treasure County	C4	RM 278.96	31209	20-yr	2752.4	804.8	799.87	1.68	1.29	14.36	6.78	367.55	2009.66	4.01	1.88	4.93	4.93
Treasure County	C4	RM 278.76	30894	20-yr	2752.4	804.67	799.6	1.73	1.32	14.85	7.25	423.69	2403.69	3.31	1.61	5.07	5.07
Treasure County	C4	RM 278.56	30571	20-yr	2752.4	804.48	799.53	1.95	1.29	19.26	7.63	336.63	2648.69	3.56	1.4	4.95	4.95
Treasure County	C4	RM 278.37	30259	20-yr	2752.4	804.39	799.26	1.6	1.13	12.26	4.46	369.33	2317.96	4.26	1.54	5.13	5.13
Treasure County	C5	RM 278.16	29915	20-yr	2752.4	804.02	798.81	2.65	1.6	33.51	7.98	207.39	1979.55	4.49	1.06	5.2	5.2
Treasure County	C5	RM 277.99	29648	20-yr	2752.4	803.68	798.77	2.99	1.85	43.1	8.93	189.71	1659.75	4.4	0.9	4.91	4.91
Treasure County	C5	RM 277.8	29336	20-yr	2752.4	803.43	798.74	2.77	1.91	36.3	8.47	212.34	1430.23	4.38	1.01	4.69	4.69
Treasure County	C5	RM 277.61	29041	20-yr	2752.4	803.22	798.72	2.67	1.75	33.93	8.21	216.71	1520.54	4.32	1.03	4.5	4.5
Treasure County	C5	RM 277.43	28747	20-yr	2752.4	803.09	798.48	2.15	1.52	22.95	7.51	306.39	1464.55	3.83	1.23	4.61	4.61
Treasure County	C5	RM 277.22	28415	20-yr	2752.4	802.84	798.47	2.16	1.77	22.36	9.69	424.41	1266.16	2.86	1.23	4.38	4.38
Treasure County	C5	RM 277.04	28123	20-yr	2752.4	802.65	798.4	2.02	1.7	18.14	10.93	459.83	944.82	2.86	1.72	4.25	4.25
Treasure County	C5	RM 276.81	27791	20-yr	2752.4	802.56	797.8	1.63	1.27	12.8	6.08	376.57	1121.4	4.09	1.93	4.76	4.76
Treasure County	C5	RM 276.63	27499	20-yr	2752.4	802.28	797.4	2.42	1.62	28.2	9.93	234.28	1184.26	4.12	1.44	4.88	4.88
Treasure County	C5	RM 276.4	27133	20-yr	2752.4	802.07	797.1	2.27	1.47	24.54	9.28	239.33	1182.14	4.22	1.58	4.97	4.97
Treasure County	C5	RM 276.19	26801	20-yr	2752.4	801.89	796.87	2.33	1.6	25.9	10.31	189.04	1019.73	4.29	1.68	5.02	5.02
Treasure County	C5	RM 276.01	26502	20-yr	2752.4	801.69	796.74	2.48	1.6	28.54	8.85	158.76	1224.29	4.62	1.4	4.96	4.96
Treasure County	C5	RM 275.81	26193	20-yr	2752.4	801.6	796.61	2.06	1.33	19.92	6.25	179.56	1537.08	4.43	1.37	4.98	4.98
Treasure County	C5	RM 275.63	25896	20-yr	2752.4	801.45	796.49	2.28	1.3	24.04	7.48	134.65	1478.11	4.7	1.43	4.95	4.95
Treasure County	C5	RM 275.45	25606	20-yr	2752.4	801.38	796.37	1.77	1.25	14.88	5.7	153.92	1516.01	4.3	1.62	5.01	5.01
Treasure County	C5	RM 275.26	25299	20-yr	2752.4	801.14	796.16	2.11	1.61	20.47	8.27	251.91	1034.71	4.74	1.9	4.98	4.98
Treasure County	C5	RM 275.09	25033	20-yr	2752.4	800.8	796.13	2.81	2.2	37.02	15.96	199.32	914.48	4.52	1.93	4.67	4.67
Treasure County	C6	RM 274.89	24716	20-yr	2752.4	800.65	796.04	2.37	1.54	26.91	12.07	228.79	2189.87	4.2	1.86	4.61	4.61
Treasure County	C6	RM 274.72	24440	20-yr	2752.4	799.93	796.04	3.6	2.67	67.72	27.58	214.5	1527.89	3.24	1.31	3.89	3.89
Treasure County	C6	RM 274.55	24165	20-yr	2752.4	799.86	795.79	2.11	1.35	25.34	10.77	294.37	2743.1	2.93	1.24	4.07	4.07
Treasure County	C6	RM 274.38	23892	20-yr	2752.4	799.66	795.55	2.12	1.2	23.13	7.58	229.3	3074.91	3.41	1.11	4.11	4.11
Treasure County	C6	RM 274.13	23491	20-yr	2752.4	799.44	795.16	2.19	1.26	25.61	9.02	224.37	3102.86	3	1.05	4.28	4.28
Treasure County	C6	RM 273.83	22999	20-yr	2752.4	799.25	794.46	1.88	1.02	17.22	4.41	184.4	3815.21	3.98	1	4.78	4.78

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	20-yr	2752.4	798.99	794.04	2.34	1.08	25.04	5.91	179.34	3679	3.7	0.86	4.95	4.95
Treasure County	C6	RM 273.35	22238	20-yr	2752.4	798.8	794.04	1.98	0.93	19.04	6.76	230.93	4011.11	3	1.05	4.77	4.77
Treasure County	C6	RM 273.15	21916	20-yr	2752.4	798.65	793.92	1.83	0.86	16.94	6.56	266.7	4027.77	3.01	1.15	4.74	4.74
Treasure County	C6	RM 272.83	21397	20-yr	2752.4	798.49	793.79	1.71	0.8	13.55	4.65	263.82	4228.62	3.42	1.16	4.7	4.7
Treasure County	C6	RM 272.5	20872	20-yr	2752.4	798.27	793.46	2.08	0.93	22.9	7.72	229.86	4193.79	3.08	1.02	4.81	4.81
Treasure County	C6	RM 272.19	20368	20-yr	2752.4	797.94	793.34	2.23	1.04	23.87	7.26	247.4	3622.54	3.61	1.08	4.61	4.61
Treasure County	C6	RM 271.91	19902	20-yr	2752.4	797.72	793.18	2.19	1.12	23.3	6.36	227.32	3906.13	3.98	1.07	4.53	4.53
Treasure County	C6	RM 271.68	19534	20-yr	2752.4	797.33	792.81	2.82	1.65	39.9	9.37	192.12	3105.15	3.69	0.86	4.53	4.53
Treasure County	C6	RM 271.41	19102	20-yr	2752.4	797.3	792.54	1.46	0.95	10.91	4.98	302.07	3005.11	3.44	1.56	4.77	4.77
Treasure County	C6	RM 271.06	18548	20-yr	2752.4	796.81	792.18	2.93	1.83	43.51	11.81	172.42	2317.33	3.55	0.95	4.64	4.64
Treasure County	C6	RM 270.64	17870	20-yr	2752.4	796.62	792.05	1.65	0.98	14.21	4.97	234.57	2966.94	3.29	1.14	4.57	4.57
Treasure County	C6	RM 270.05	16897	20-yr	2752.4	796.34	791.48	2.01	0.95	18.33	6.24	174.33	2741.68	3.73	1.25	4.87	4.87
Treasure County	C6	RM 269.75	16413	20-yr	2752.4	796.01	791.35	2.37	1.25	28.04	8.5	224.41	2857.46	3.75	1.12	4.66	4.66
Treasure County	C6	RM 269.47	15967	20-yr	2752.4	795.62	791.23	2.65	1.74	34.3	7.72	209.71	3051.37	3.95	0.88	4.39	4.39
Treasure County	C7	RM 269.27	15645	20-yr	2752.4	795.51	791.23	2.02	1.38	20.11	6.56	279.64	2924.85	3.68	1.19	4.27	4.27
Treasure County	C7	RM 269.06	15308	20-yr	2752.4	795.41	791.01	1.58	1.03	12.85	4.35	197.37	2986.11	3.4	1.13	4.4	4.4
Treasure County	C7	RM 268.83	14957	20-yr	2752.4	795.33	790.6	1.08	0.76	6.18	2.7	267.05	3060.28	3.15	1.36	4.73	4.73
Treasure County	C7	RM 268.55	14516	20-yr	2752.4	795.21	790.17	1.49	0.82	10.76	3.67	224.66	3032.07	4.1	1.38	5.04	5.04
Treasure County	C7	RM 268.2	13976	20-yr	2752.4	794.96	789.62	2.08	0.95	20.83	6.12	234.34	3270.36	4.14	1.2	5.33	5.33
Treasure County	C7	RM 267.87	13439	20-yr	2752.4	794.58	789.53	2.5	1.11	28.26	8.49	227.32	2641.27	3.83	1.13	5.05	5.05
Treasure County	C7	RM 267.53	12884	20-yr	2752.4	793.93	789.5	2.98	1.49	44.97	13.18	242.41	2100.34	3.1	0.9	4.43	4.43
Treasure County	C7	RM 267.14	12253	20-yr	2752.4	793.74	789.26	1.87	1.05	17.14	5.65	227.28	2263.44	3.55	1.16	4.48	4.48
Treasure County	C7	RM 266.8	11700	20-yr	2752.4	793.55	789.2	1.93	1.09	18.85	5.68	214.75	2362.24	3.6	1.07	4.35	4.35
Treasure County	C7	RM 266.41	11078	20-yr	2752.4	793.34	789.14	2.16	1.08	24.42	7.69	159.5	2522.32	3.27	1.01	4.2	4.2
Treasure County	C7	RM 266.11	10593	20-yr	2752.4	793.12	788.83	1.98	1.13	20.71	6.93	259.43	2353.79	3.16	1.05	4.29	4.29
Treasure County	C7	RM 265.92	10283	20-yr	2752.4	793.01	788.65	1.67	1.08	13.5	5.57	341.48	2363.37	2.63	1.07	4.36	4.36
Treasure County	C7	RM 265.68	9915	20-yr	2752.4	792.72	788.21	2.42	1.52	27.81	6.71	180	1767.71	4.31	1.02	4.51	4.51
Treasure County	C7	RM 265.52	9650	20-yr	2752.4	792.59	788.07	2.34	1.39	27.83	8.36	162.02	1918.21	3.58	1.06	4.51	4.51
Treasure County	C7	RM 265.34	9362	20-yr	2752.4	792.35	788.07	2.27	1.39	27.14	9.48	179.19	1879.53	3.15	1.08	4.28	4.28
Treasure County	C7	RM 265.16	9071	20-yr	2752.4	792.16	787.95	1.85	1.37	20.3	8.58	297.09	1867.45	2.78	1.16	4.21	4.21
Treasure County	C7	RM 264.98	8775	20-yr	2752.4	791.98	787.59	1.86	1.39	16.18	9.56	460.02	1889.48	1.87	1.1	4.39	4.39
Treasure County	C7	RM 264.81	8508	20-yr	2752.4	791.88	787.35	1.21	1.05	11.62	7.44	661.4	2113.72	2.18	1.39	4.53	4.53
Treasure County	C7	RM 264.64	8216	20-yr	2752.4	791.76	787.22	1.27	1.07	11.28	7.03	652.13	2017.43	2.21	1.37	4.54	4.54
Treasure County	C7	RM 264.39	7803	20-yr	2752.4	791.53	786.86	1.77	1.28	18.45	6.82	343.32	2048.76	2.93	1.07	4.67	4.67
Treasure County	C7	RM 264.15	7406	20-yr	2752.4	791.43	786.6	1.43	1.03	10.86	5.31	202.21	1841.38	3.08	1.49	4.83	4.83
Treasure County	C7	RM 263.97	7116	20-yr	2752.4	791.31	786.49	1.75	1.19	14.35	4.47	179.44	1774.5	4.43	1.36	4.82	4.82
Treasure County	C7	RM 263.79	6834	20-yr	2752.4	791.14	786.49	2.16	1.3	22.77	8.51	204.2	1986.08	3.48	1.28	4.65	4.65
Treasure County	C7	RM 263.6	6534	20-yr	2752.4	790.97	786.37	2.04	1.25	20.58	8.86	207.01	1714.12	3.82	1.63	4.6	4.6
Treasure County	C7	RM 263.39	6194	20-yr	2752.4	790.81	786.25	1.62	1.23	13.16	5.63	459.15	1899.44	3.25	1.38	4.57	4.57
Treasure County	C7	RM 263.19	5862	20-yr	2752.4	790.59	786	2.01	1.12	21.58	8.86	333.53	2004.29	3.01	1.22	4.58	4.58
Treasure County	C7	RM 262.95	5479	20-yr	2752.4	790.31	785.85	1.97	1.31	17.03	6.46	415.89	1981.22	2.82	1.06	4.46	4.46
Treasure County	C7	RM 262.78	5206	20-yr	2752.4	790.23	785.76	1.56	0.98	13.58	6.35	440.96	2229.19	2.71	1.26	4.46	4.46
Treasure County	C7	RM 262.58	4883	20-yr	2752.4	790.12	785.64	1.22	0.82	9.36	5.42	621.05	2324.39	2.77	1.6	4.48	4.48
Treasure County	C7	RM 262.42	4613	20-yr	2752.4	790.06	785.54	1.08	0.74	6.81	4.05	655.56	2254.78	2.87	1.7	4.52	4.52
Treasure County	C7	RM 262.24	4323	20-yr	2752.4	790	785.43	1	0.79	5.57	3.43	839.62	2124.62	3.02	1.85	4.57	4.57
Treasure County	C7	RM 261.95	3917	20-yr	2752.4	789.87	785.28	1.26	1	9.23	5.43	654.59	1795.5	3.09	1.81	4.6	4.6
Treasure County	C7	RM 261.7	3519	20-yr	2752.4	789.65	784.87	1.44	1.32	29.75	14.61	605.89	1517.39	3.1	1.52	4.78	4.78
Treasure County	C7	RM 261.53	3256	20-yr	2752.4	789.35	784.51	1.53	1.38	32.86	19.2	623.93	1325.86	2.72	1.58	4.84	4.84
Treasure County	C7	RM 261.35	2959	20-yr	2752.4	789.24	784.33	1.26	1.11	7.98	4.63	580.98	1187.63	3.61	2.09	4.9	4.9
Treasure County	C7	RM 261.2	2720	20-yr	2752.4	789.12	784.14	1.43	1.26	27.24	15.2	545.92	1166.84	3.37	1.87	4.98	4.98
Treasure County	C7	RM 261.03	2441	20-yr	2752.4	788.99	783.66	1.49	1.19	10.73	4.61	401.64	1227.68	4.42	1.88	5.33	5.33
Treasure County	C7	RM 260.84	2142	20-yr	2752.4	788.87	783.41	1.71	1.25	14	5.24	341.22	1337.87	4.42	1.64	5.46	5.46
Treasure County	C7	RM 260.66	1863	20-yr	2752.4	788.79	783.29	1.68	1.15	13.4	5.76	351.21	1353.32	4.15	1.77	5.5	5.5
Treasure County	C8	RM 259.9	634	20-yr	2752.4	787.63	782.46	3.47	2.42	55.81	25.52	151.91	612.58	4.68	2.12	5.17	5.17
Treasure County	C8	RM 259.72	347	20-yr	2752.4	787.4	782.45	3.06	2.14	43.66	20.02	179.3	640.28	4.55	2.06	4.95	4.95
Treasure County	C8	RM 259.55	68	20-yr	2752.4	787.34	782.2	2.07	2.06	19.8	17.38	399.72	457.04	3.33	2.93	5.14	5.14

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	20-yr	2755.2	787.34	782.19	2.54	2.23	29.1	18.11	221.77	425.79	4.69	2.91	5.15	5.15
Rosebud County	C8	RM 259.41	87598	20-yr	2755.2	787.07	781.96	2.69	2.54	36.31	23.23	209.53	351.29	4.85	3.09	5.11	5.11
Rosebud County	C8	RM 259.22	87292	20-yr	2755.2	786.95	781.55	2.33	2	24.94	18.92	233.09	378.08	4.83	3.65	5.4	5.4
Rosebud County	C8	RM 259.04	87004	20-yr	2755.2	786.76	781	2.46	2.04	31.78	15.93	211.45	590.49	4.84	2.39	5.76	5.76
Rosebud County	C8	RM 258.85	86696	20-yr	2755.2	786.57	780.9	2.33	1.86	24.17	11.65	288.74	883.3	3.81	1.82	5.67	5.67
Rosebud County	C8	RM 258.66	86399	20-yr	2755.2	786.33	780.78	2.58	1.87	29.66	9.84	183.46	856.93	5.3	1.72	5.55	5.55
Rosebud County	C8	RM 258.47	86098	20-yr	2755.2	786.13	780.65	2.62	1.88	31.69	12.89	202.57	1047.19	4.42	1.78	5.48	5.48
Rosebud County	C8	RM 258.28	85798	20-yr	2755.2	785.98	780.53	2.36	1.66	25.74	12.33	222.43	845.16	4.13	1.96	5.45	5.45
Rosebud County	C8	RM 258.1	85498	20-yr	2755.2	785.74	780.14	2.54	1.73	28.98	11.54	180.25	799.05	5.1	2	5.6	5.6
Rosebud County	C8	RM 257.91	85200	20-yr	2755.2	785.6	780.14	2.34	1.55	26.68	9.35	224.43	1272.5	4.05	1.4	5.46	5.46
Rosebud County	C8	RM 257.71	84875	20-yr	2755.2	785.37	780.14	2.42	1.58	29.5	10.84	219.86	1317.02	3.64	1.32	5.23	5.23
Rosebud County	C8	RM 257.54	84597	20-yr	2755.2	785.21	780.17	2.24	1.35	23.29	7.9	209	1457.76	4.18	1.4	5.04	5.04
Rosebud County	C8	RM 257.36	84298	20-yr	2755.2	785.08	780.05	2.14	1.27	21.78	8.94	188.65	1293.99	4.1	1.68	5.03	5.03
Rosebud County	C8	RM 257.16	83984	20-yr	2755.2	785.04	780	1.43	0.97	9.4	3.57	305.45	1686.98	4.78	1.82	5.04	5.04
Rosebud County	C8	RM 256.87	83608	20-yr	2755.2	784.64	779.89	2.8	1.68	36.45	11.97	181.39	1178.66	4.4	1.43	4.75	4.75
Rosebud County	C8	RM 256.65	83257	20-yr	2755.2	784.63	779.82	1.77	1.21	14.94	6.35	171.34	1654.08	4.47	1.88	4.81	4.81
Rosebud County	C8	RM 256.45	82941	20-yr	2755.2	784.4	779.67	2.18	1.47	22.11	8.34	222.18	1764.74	4.57	1.71	4.73	4.73
Rosebud County	C8	RM 256.26	82630	20-yr	2755.2	784.21	779.58	1.9	1.43	31.54	18.93	369.93	1465.36	3.23	1.93	4.63	4.63
Rosebud County	C8	RM 256.1	82375	20-yr	2755.2	784.07	779.42	1.61	1.54	11.87	7.98	594.72	1328.82	2.87	1.93	4.65	4.65
Rosebud County	C8	RM 255.91	82077	20-yr	2755.2	784	779.09	1.35	1.23	8.36	5.21	591.1	1964.19	3.39	2.11	4.91	4.91
Rosebud County	C8	RM 255.7	81747	20-yr	2755.2	783.79	778.73	1.98	1.52	18.51	8.23	306.33	1833.14	4.17	1.84	5.06	5.06
Rosebud County	C8	RM 255.51	81446	20-yr	2755.2	783.63	778.49	2.12	1.55	21.52	10.65	269.19	868.25	4.18	2.05	5.14	5.14
Rosebud County	C8	RM 255.31	81125	20-yr	2755.2	783.46	778.36	2.06	1.51	24.72	10.94	242.95	896.58	4.64	2.04	5.1	5.1
Rosebud County	C8	RM 255.14	80856	20-yr	2755.2	783.24	778.24	2.38	1.7	25.93	10.57	210.87	840.71	4.79	1.93	5	5
Rosebud County	C8	RM 254.95	80554	20-yr	2755.2	782.99	778.12	2.59	1.87	30.97	11.51	205.86	855.45	4.68	1.72	4.87	4.87
Rosebud County	C8	RM 254.76	80251	20-yr	2755.2	782.83	778	2.42	1.75	27.18	10.73	218.15	864.94	4.66	1.82	4.83	4.83
Rosebud County	C8	RM 254.58	79960	20-yr	2755.2	782.64	777.88	2.43	1.83	27.38	9.31	229.98	973.71	4.63	1.56	4.76	4.76
Rosebud County	C8	RM 254.39	79658	20-yr	2755.2	782.58	777.41	1.91	1.43	17.02	6.61	296.93	1161.26	4.49	1.74	5.17	5.17
Rosebud County	C8	RM 254.2	79359	20-yr	2755.2	782.29	777.39	2.43	1.92	28.77	12.79	269.75	810.75	3.99	1.77	4.9	4.9
Rosebud County	C8	RM 254.01	79052	20-yr	2755.2	782.06	776.82	2.53	1.9	28.7	9.94	209.61	853.38	4.92	1.7	5.24	5.24
Rosebud County	C9	RM 253.82	78779	20-yr	2755.2	781.88	776.24	2.5	1.79	33.25	12.65	246.84	1024.35	4.01	1.51	5.64	5.64
Rosebud County	C9	RM 253.63	78478	20-yr	2755.2	781.51	776.12	2.68	1.7	70.12	19.23	180.25	1425.39	4.22	1.14	5.39	5.39
Rosebud County	C9	RM 253.45	78178	20-yr	2755.2	781.24	775.97	2.45	1.33	27.93	9.32	172.93	1525.21	4.13	1.35	5.27	5.27
Rosebud County	C9	RM 253.26	77879	20-yr	2755.2	781.13	775.72	1.95	1.09	15.49	6.09	240.93	1513.29	4.29	1.67	5.41	5.41
Rosebud County	C9	RM 253.07	77578	20-yr	2755.2	780.83	775.57	2.69	1.44	31.99	10.72	189.86	1474.27	3.94	1.3	5.26	5.26
Rosebud County	C9	RM 252.88	77278	20-yr	2755.2	780.69	775.45	2.16	1.3	23.11	7.1	221.89	1846.72	3.79	1.15	5.24	5.24
Rosebud County	C9	RM 252.69	76962	20-yr	2755.2	780.61	775.33	1.63	0.89	13.01	4.45	260.67	2604.46	3.99	1.34	5.28	5.28
Rosebud County	C9	RM 252.49	76646	20-yr	2755.2	780.26	775.36	2.8	1.26	35.32	7.96	161.39	3198.51	3.98	0.88	4.9	4.9
Rosebud County	C9	RM 252.24	76252	20-yr	2755.2	780.08	775.4	2.22	1.05	25.46	6.96	167.1	3322.44	3.65	0.98	4.68	4.68
Rosebud County	C9	RM 252.01	75885	20-yr	2755.2	779.92	775.39	1.81	0.93	23.83	6.92	252.1	3642.87	3.4	0.98	4.53	4.53
Rosebud County	C9	RM 251.7	75438	20-yr	2755.2	779.77	775.01	1.39	0.86	8.58	3.74	603.69	3546.03	2.45	1.06	4.76	4.76
Rosebud County	C9	RM 251.49	75098	20-yr	2755.2	779.66	775.02	1.25	0.78	9.99	5.79	716.44	3272.71	1.93	1.11	4.64	4.64
Rosebud County	C9	RM 251.23	74691	20-yr	2755.2	779.46	775.05	1.35	0.83	9.43	4.67	754.16	3573.71	1.97	0.97	4.41	4.41
Rosebud County	C9	RM 251.01	74322	20-yr	2755.2	779.3	774.84	1.46	0.83	8.84	3.94	595.57	3655.98	2.32	1.03	4.46	4.46
Rosebud County	C9	RM 250.79	73973	20-yr	2755.2	779.19	774.42	1.49	0.82	10.54	3.88	417.99	3358.77	3.03	1.11	4.77	4.77
Rosebud County	C9	RM 250.6	73678	20-yr	2755.2	779.05	774.17	1.58	0.92	21.35	8.22	376.03	3071.07	2.8	1.07	4.88	4.88
Rosebud County	C9	RM 250.37	73306	20-yr	2755.2	778.74	774.05	2.24	1.07	22.49	6.09	233.23	2521.12	3.82	1.03	4.69	4.69
Rosebud County	C9	RM 250.17	72982	20-yr	2755.2	778.55	773.93	2.42	1.07	29.53	10.3	214.36	2429.59	3.17	1.09	4.62	4.62
Rosebud County	C9	RM 249.95	72617	20-yr	2755.2	778.29	773.83	2.33	1.2	26.59	7.31	226.06	2301.62	3.74	1.02	4.46	4.46
Rosebud County	C9	RM 249.73	72253	20-yr	2755.2	778.09	773.71	2.14	1.08	22.85	7.08	273.96	2471.91	3.34	1.03	4.38	4.38
Rosebud County	C9	RM 249.53	71936	20-yr	2755.2	778.01	773.38	1.57	0.86	11.91	3.97	362.14	2649.57	3.64	1.21	4.63	4.63
Rosebud County	C9	RM 249.31	71579	20-yr	2755.2	777.77	773.14	1.99	1.2	22.59	7.87	363.92	3296.13	2.82	0.97	4.63	4.63
Rosebud County	C9	RM 249.13	71274	20-yr	2755.2	777.6	772.84	1.88	1	17.77	5.28	301.37	3437.97	3.71	1.09	4.76	4.76
Rosebud County	C9	RM 248.94	70978	20-yr	2755.2	777.31	772.56	2.54	1.16	31.1	7.79	201.69	3332.38	3.71	0.93	4.75	4.75
Rosebud County	C9	RM 248.76	70681	20-yr	2755.2	777.28	772.32	1.38	0.83	10	3.5	424.32	2992.56	3.56	1.24	4.96	4.96
Rosebud County	C9	RM 248.53	70312	20-yr	2755.2	777.22	772.17	1.43	0.68	9.19	3.22	164.13	3168.34	4.16	1.45	5.05	5.05
Rosebud County	C9	RM 248.31	69962	20-yr	2755.2	777.07	772.04	1.78	0.86	15.88	5.38	277.15	2752.47	3.5	1.18	5.03	5.03
Rosebud County	C9	RM 248.08	69603	20-yr	2755.2	776.89	771.92	2.08	0.86	18.77	4.98	211.49	3078.64	4.01	1.06	4.97	4.97
Rosebud County	C9	RM 247.88	69253	20-yr	2755.2	776.77	771.92	1.68	0.9	22.81	8.78	348.22	2999.99	2.7	1.03	4.85	4.85
Rosebud County	C9	RM 247.64	68836	20-yr	2755.2	776.53	771.95	1.73	0.96	15.93	5.77	416.51	2776.12	2.87	1.03	4.58	4.58

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	20-yr	2755.2	776.4	771.87	1.56	0.79	11.5	3.27	282.85	3249.91	4.09	1.16	4.53	4.53
Rosebud County	C9	RM 247.11	67963	20-yr	2755.2	776.13	771.45	2.51	1.18	31.33	8.09	199.91	2788.57	3.53	0.91	4.68	4.68
Rosebud County	C9	RM 246.83	67502	20-yr	2755.2	775.97	770.97	2.01	1.03	20.93	5.93	194.9	2717.75	4.41	1.24	5	5
Rosebud County	C9	RM 246.52	67019	20-yr	2755.2	775.82	770.61	1.83	1.02	15.56	4.68	225.63	2825.81	4.59	1.37	5.21	5.21
Rosebud County	C9	RM 246.22	66538	20-yr	2755.2	774.95	770.53	3.7	2.03	70.7	18.45	217.05	2430.51	2.86	0.74	4.42	4.42
Rosebud County	C9	RM 245.94	66068	20-yr	2755.2	774.49	770.29	2.19	1.61	25.53	9.61	297.16	1667.79	2.94	1.1	4.2	4.2
Rosebud County	C9	RM 245.66	65624	20-yr	2755.2	774.36	769.81	1.56	0.91	12.82	4.54	198.01	2021.65	4.3	1.5	5.12	5.12
Rosebud County	C9	RM 245.4	65205	20-yr	2755.2	774.18	769.59	1.84	1.24	15.34	7.12	373.08	1969.88	2.51	1.15	5.02	5.02
Rosebud County	C9	RM 245.15	64804	20-yr	2755.2	773.89	769.41	1.66	1.37	38.98	17.35	328.41	2193.52	2.28	1	4.73	4.73
Rosebud County	C9	RM 244.89	64387	20-yr	2755.2	773.2	769.41	2.84	1.86	41.29	10.81	189.43	1707.25	3.48	0.9	4.17	4.17
Rosebud County	C9	RM 244.7	64085	20-yr	2755.2	773.22	769.37	1.43	1.08	10.43	4.28	221.5	2115.18	3.27	1.34	4.31	4.31
Rosebud County	C9	RM 244.51	63776	20-yr	2755.2	773.16	769.35	1.24	0.94	8.91	4.15	264.21	2358.21	3.29	1.53	4.25	4.25
Rosebud County	C9	RM 244.33	63499	20-yr	2755.2	773.12	769.16	0.63	0.72	6.63	4.08	274.46	2352.05	3.09	1.9	4.69	4.69
Rosebud County	C9	RM 244.14	63224	20-yr	2755.2	773.08	768.52	1.06	0.74	5.55	2.61	208.4	2311.18	3.79	1.77	4.65	4.65
Rosebud County	C9	RM 243.96	62927	20-yr	2755.2	773.01	768.13	1.39	0.84	9.36	3.94	176.71	2084.94	4.01	1.68	4.88	4.88
Rosebud County	C9	RM 243.77	62617	20-yr	2755.2	772.98	767.57	0.94	0.65	3.97	1.96	160.76	1853.37	4.93	2.4	5.41	5.41
Rosebud County	C9	RM 243.59	62327	20-yr	2755.2	772.9	766.98	1.54	0.83	12.34	3.73	122.45	2584.6	5.52	1.62	5.92	5.92
Rosebud County	C9	RM 243.39	62012	20-yr	2755.2	772.67	766.86	2.25	1.1	23.08	5.93	156.08	2521.61	4.93	1.24	5.81	5.81
Rosebud County	C9	RM 243.21	61718	20-yr	2755.2	772.53	766.74	2.16	1.13	20.82	4.98	203.35	2361.51	5.27	1.24	5.79	5.79
Rosebud County	C10	RM 243.03	61422	20-yr	2755.2	772.27	766.73	2.76	1.29	36.07	10.4	174.23	1782.86	4.36	1.23	5.54	5.54
Rosebud County	C10	RM 242.84	61125	20-yr	2755.2	771.81	766.76	3.25	1.77	50.85	12.33	172	1560.2	4.2	1	5.05	5.05
Rosebud County	C10	RM 242.65	60825	20-yr	2755.2	771.6	766.76	2.73	1.58	35.92	9.34	204.7	1563.75	4.36	1.12	4.84	4.84
Rosebud County	C10	RM 242.47	60527	20-yr	2755.2	771.46	766.77	2.3	1.41	25.16	7.64	241.01	1456.18	4.43	1.34	4.69	4.69
Rosebud County	C10	RM 242.29	60239	20-yr	2755.2	771.34	766.64	2.09	1.41	21.38	7.97	282.31	1245.7	4.25	1.57	4.7	4.7
Rosebud County	C10	RM 242.1	59939	20-yr	2755.2	771.14	766.29	2.23	1.41	25.5	9.12	280	1623.49	3.82	1.35	4.85	4.85
Rosebud County	C10	RM 241.9	59618	20-yr	2755.2	770.97	765.95	2.13	1.23	20.95	6.32	249.51	2144.09	4.4	1.32	5.02	5.02
Rosebud County	C10	RM 241.72	59324	20-yr	2755.2	770.89	765.5	1.78	1.08	14.7	5.09	289.97	1649.67	4.5	1.55	5.39	5.39
Rosebud County	C10	RM 241.53	59025	20-yr	2755.2	770.52	765.17	2.84	1.51	41.86	8.34	160	1888.56	4.95	0.97	5.35	5.35
Rosebud County	C10	RM 241.34	58725	20-yr	2755.2	770.37	765.02	2.48	1.21	28.15	6.76	177.78	2026.34	4.76	1.13	5.35	5.35
Rosebud County	C10	RM 241.16	58424	20-yr	2755.2	770.3	764.97	1.94	1.04	17.4	5.53	171.92	1867.72	4.53	1.42	5.33	5.33
Rosebud County	C10	RM 240.97	58132	20-yr	2755.2	770.19	764.83	1.87	1.04	16.05	5.12	189.7	1773.69	4.76	1.5	5.36	5.36
Rosebud County	C10	RM 240.78	57818	20-yr	2755.2	770.16	764.56	1.48	0.82	9.79	3.3	159.68	1921.49	5.26	1.75	5.6	5.6
Rosebud County	C10	RM 240.56	57467	20-yr	2755.2	770.07	764.28	1.53	0.85	15.03	5.37	212.38	1879.95	4.89	1.72	5.79	5.79
Rosebud County	C10	RM 240.41	57228	20-yr	2755.2	770.01	763.91	1.46	0.84	11.59	4.35	216.4	1635.86	5.43	2.01	6.1	6.1
Rosebud County	C10	RM 240.22	56944	20-yr	2755.2	769.82	763.51	2.16	1.13	20.67	7.27	157.35	1193.1	5.99	2.04	6.31	6.31
Rosebud County	C10	RM 240.09	56741	20-yr	2755.2	769.56	763.47	2.98	1.4	30.92	10.62	120.86	1040.6	5.68	1.89	6.09	6.09
Rosebud County	C10	RM 239.97	56546	20-yr	2755.2	769.51	763.47	2.48	1.37	34.62	12.79	155.75	1002.83	5.52	2	6.04	6.04
Rosebud County	C10	RM 239.86	56371	20-yr	2755.2	769.44	763.25	2.19	1.37	22.78	8.86	205.85	1039.04	5.02	1.94	6.19	6.19
Rosebud County	C10	RM 239.68	56093	20-yr	2755.2	769.24	763.02	2.5	1.34	22.67	8.4	172.44	1121.6	5.07	1.84	6.22	6.22
Rosebud County	C10	RM 239.56	55888	20-yr	2755.2	768.45	763.1	4.34	2.31	70.14	18.84	119.6	988.89	4.54	1.2	5.35	5.35
Rosebud County	C10	RM 239.41	55655	20-yr	2755.2	768.23	763.17	3.78	2.46	52.71	13.78	144.11	934.67	4.71	1.2	5.06	5.06
Rosebud County	C10	RM 239.25	55398	20-yr	2755.2	768.02	763.17	3.37	2.16	56.26	16.84	164.41	1066.91	4.47	1.31	4.85	4.85
Rosebud County	C10	RM 239.07	55108	20-yr	2755.2	767.97	763.2	2.45	1.67	22.55	10.3	219.55	961.83	4.44	2.01	4.77	4.77
Rosebud County	C10	RM 238.89	54826	20-yr	2755.2	767.62	763.23	3.02	2.29	34.86	15.86	191.74	912.26	4.24	1.91	4.39	4.39
Rosebud County	C10	RM 238.73	54570	20-yr	2755.2	767.41	763.38	2.87	2.41	32.45	19.13	242.11	567.48	3.84	2.25	4.03	4.03
Rosebud County	C10	RM 238.51	54223	20-yr	2755.2	767.36	762.88	1.74	1.52	17.05	12.2	435.56	903.69	3.23	2.31	4.48	4.48
Rosebud County	C10	RM 238.33	53926	20-yr	2755.2	767.16	762.37	1.99	1.61	19.5	11	306.34	780.07	4.07	2.28	4.79	4.79
Rosebud County	C10	RM 238.14	53626	20-yr	2755.2	766.92	762.25	2.43	1.57	27.98	12.75	214.01	918.04	4.29	1.95	4.67	4.67
Rosebud County	C10	RM 237.95	53321	20-yr	2755.2	766.79	762.09	2.23	1.25	23.22	8.84	189.37	1466.11	4.46	1.69	4.7	4.7
Rosebud County	C10	RM 237.77	53027	20-yr	2755.2	766.7	761.85	1.76	1.09	14.57	5.8	294.75	1756.43	4.35	1.73	4.85	4.85
Rosebud County	C10	RM 237.56	52703	20-yr	2755.2	766.62	761.46	1.51	0.97	11.52	5.71	410.69	2109.01	3.7	1.82	5.16	5.16
Rosebud County	C10	RM 237.36	52386	20-yr	2755.2	766.56	761.22	1.33	0.86	8.72	4.55	443.16	2469.07	3.84	1.99	5.34	5.34
Rosebud County	C10	RM 237.15	52029	20-yr	2755.2	766.48	760.88	1.38	0.89	9.03	4.61	385.86	2469.91	4.29	2.18	5.6	5.6
Rosebud County	C10	RM 236.99	51756	20-yr	2755.2	766.23	760.22	2.36	1.35	19.29	6.81	177.1	2216.29	5.69	1.97	6.01	6.01
Rosebud County	C10	RM 236.83	51500	20-yr	2755.2	765.92	760.07	2.98	1.85	32.21	12.57	167.82	2053.74	4.97	1.91	5.85	5.85
Rosebud County	C10	RM 236.66	51221	20-yr	2755.2	765.85	760.07	2.53	1.95	22.68	11.54	188.48	1563.84	5.32	2.67	5.78	5.78
Rosebud County	C10	RM 236.47	50924	20-yr	2755.2	765.72	759.94	2.51	2.03	22.14	9.78	193.41	624.2	5.43	2.36	5.78	5.78
Rosebud County	C11	RM 236.29	50623	20-yr	2755.2	765.61	760	2.4	1.9	20.52	8.22	211.22	708.76	5.16	2.04	5.61	5.61
Rosebud County	C11	RM 236.1	50327	20-yr	2755.2	765.38	760	2.72	2.28	27.29	11.86	206.87	599.32	4.69	2.02	5.38	5.38
Rosebud County	C11	RM 235.91	50024	20-yr	2755.2	765.01	760	3.19	2.46	47.08	21.77	170.49	520.8	4.71	2.15	5.01	5.01

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	20-yr	2755.2	764.96	760.15	2.26	2.02	24.18	17.82	243.8	462.4	4.28	3.14	4.81	4.81
Rosebud County	C11	RM 235.57	49480	20-yr	2755.2	764.85	760.02	2	1.85	19.06	9.89	318.23	862	4.27	2.2	4.83	4.83
Rosebud County	C11	RM 235.36	49133	20-yr	2755.2	764.67	759.74	2.01	1.86	17.66	9.07	428.22	993.22	3.16	1.62	4.93	4.93
Rosebud County	C11	RM 235.17	48830	20-yr	2755.2	764.51	759.55	1.9	1.64	17.36	8.49	455.8	1214.41	3.08	1.5	4.96	4.96
Rosebud County	C11	RM 235	48571	20-yr	2755.2	764.39	759.29	1.9	1.49	16.97	5.87	320.92	1314.56	4.29	1.47	5.1	5.1
Rosebud County	C11	RM 234.82	48271	20-yr	2755.2	763.81	759.21	3.32	2.46	53.56	18.77	190.08	1085.69	4	1.39	4.6	4.6
Rosebud County	C11	RM 234.63	47978	20-yr	2755.2	763.68	759.21	2.51	1.85	30.18	12.55	238.2	1045.3	3.97	1.64	4.47	4.47
Rosebud County	C11	RM 234.45	47692	20-yr	2755.2	763.5	759.12	2.25	1.73	24.78	9.92	283.79	1166.32	3.8	1.52	4.38	4.38
Rosebud County	C11	RM 234.2	47305	20-yr	2755.2	763.4	758.6	1.62	1.37	11.07	7.5	520.63	1228.27	2.83	1.91	4.8	4.8
Rosebud County	C11	RM 234.01	47006	20-yr	2755.2	763.34	758.27	1.15	0.99	6.41	5.05	818.93	1474.28	2.74	2.16	5.07	5.07
Rosebud County	C11	RM 233.84	46737	20-yr	2755.2	763.24	758.12	1.35	1.14	9.64	5.78	583.08	1228.59	3.28	1.97	5.12	5.12
Rosebud County	C11	RM 233.61	46365	20-yr	2755.2	763.1	757.67	1.65	1.22	12.24	3.99	302.81	1357.34	5.11	1.66	5.43	5.43
Rosebud County	C11	RM 233.35	45943	20-yr	2755.2	762.88	757.03	2.21	1.26	22.53	7.05	214.65	1523.55	4.64	1.44	5.85	5.85
Rosebud County	C11	RM 233.13	45584	20-yr	2755.2	762.65	756.45	2.34	1.51	24.21	5.71	206.27	1481.97	5.29	1.23	6.2	6.2
Rosebud County	C11	RM 232.94	45281	20-yr	2755.2	762.34	756.15	2.83	1.79	35.55	6.59	169.36	1683.81	5.34	0.97	6.19	6.19
Rosebud County	C11	RM 232.75	44978	20-yr	2755.2	762.27	756.03	2.31	1.58	23.53	4.77	204.61	1610.29	5.45	1.08	6.24	6.24
Rosebud County	C11	RM 232.56	44674	20-yr	2755.2	762.12	755.79	2.31	1.67	24.6	6.1	241.61	1632.49	4.71	1.15	6.33	6.33
Rosebud County	C11	RM 232.37	44366	20-yr	2755.2	761.98	755.72	2.32	1.35	24.97	8.64	206.42	1425.42	4.6	1.56	6.26	6.26
Rosebud County	C11	RM 232.19	44074	20-yr	2755.2	761.73	755.67	2.51	1.7	28.73	8.93	204.11	1088.42	4.88	1.49	6.06	6.06
Rosebud County	C11	RM 232.01	43791	20-yr	2755.2	761.55	755.65	2.49	1.69	29.37	10.41	232.27	1229.2	4.35	1.52	5.9	5.9
Rosebud County	C11	RM 231.81	43473	20-yr	2755.2	761.29	755.6	2.7	1.6	34.15	14.27	201.55	1001.03	4.18	1.72	5.69	5.69
Rosebud County	C11	RM 231.62	43160	20-yr	2755.2	761	755.57	2.71	1.74	30.92	10.9	230.71	1513.37	3.83	1.33	5.43	5.43
Rosebud County	C11	RM 231.42	42835	20-yr	2755.2	760.96	755.45	1.95	1.14	17.05	5.65	229.33	1510.05	5.12	1.67	5.51	5.51
Rosebud County	C11	RM 231.22	42522	20-yr	2755.2	760.84	755.45	2.1	1.06	19.58	6.82	204	1648.36	4.59	1.57	5.39	5.39
Rosebud County	C11	RM 230.99	42160	20-yr	2755.2	760.3	755.45	3.3	1.67	52.15	13.79	154.03	1511.92	4.22	1.09	4.85	4.85
Rosebud County	C11	RM 230.79	41841	20-yr	2755.2	760.13	755.43	2.53	1.46	30.17	9.47	202.2	1379.76	4.42	1.37	4.7	4.7
Rosebud County	C11	RM 230.53	41415	20-yr	2755.2	760.01	755.17	1.79	1.36	15.99	7.08	299.8	1344.93	3.43	1.5	4.84	4.84
Rosebud County	C11	RM 230.29	41045	20-yr	2755.2	759.77	755.15	2.19	1.46	22.71	8.47	234.88	1346.8	3.8	1.4	4.62	4.62
Rosebud County	C11	RM 230.06	40676	20-yr	2755.2	759.51	754.81	2.17	1.64	24.53	9.57	287.47	1339.48	3.24	1.25	4.7	4.7
Rosebud County	C11	RM 229.81	40276	20-yr	2755.2	759.36	754.74	1.75	1.03	15.19	5.8	320.68	1869.42	3.8	1.44	4.62	4.62
Rosebud County	C11	RM 229.6	39937	20-yr	2755.2	759.21	754.58	1.85	1.05	15.33	7.88	412.79	1961.74	2.62	1.34	4.63	4.63
Rosebud County	C11	RM 229.4	39596	20-yr	2755.2	759.06	754.34	1.82	1.08	16.33	5.3	283.63	1938.41	4.07	1.31	4.72	4.72
Rosebud County	C11	RM 229.2	39273	20-yr	2755.2	758.73	754.15	2.68	1.56	36.2	11.3	214.46	1584.85	3.61	1.11	4.58	4.58
Rosebud County	C11	RM 229.02	38994	20-yr	2755.2	758.53	754.12	2.55	1.42	32.47	10.41	211.31	1641.43	3.71	1.18	4.41	4.41
Rosebud County	C11	RM 228.82	38676	20-yr	2755.2	758.37	753.8	2.14	1.29	22.77	6.71	271.56	1980.96	3.7	1.08	4.57	4.57
Rosebud County	C11	RM 228.64	38383	20-yr	2755.2	758.23	753.73	2.07	1.2	21.17	6.91	224.38	1879.97	3.77	1.22	4.54	4.54
Rosebud County	C11	RM 228.46	38093	20-yr	2755.2	758.16	753.53	1.6	0.95	12.67	4.91	301.72	1972.15	3.84	1.48	4.63	4.63
Rosebud County	C11	RM 228.26	37771	20-yr	2755.2	758.1	753.35	1.45	0.78	10.23	4.51	273.91	2038.12	3.99	1.74	4.75	4.75
Rosebud County	C11	RM 228.03	37408	20-yr	2755.2	757.97	753.16	1.79	0.83	15.37	6.04	233.4	2080.48	4.11	1.6	4.81	4.81
Rosebud County	C11	RM 227.74	36949	20-yr	2755.2	757.78	752.95	2.05	1.07	19.91	6.65	167.04	1984.44	4.35	1.43	4.83	4.83
Rosebud County	C11	RM 227.49	36537	20-yr	2755.2	757.66	752.83	1.97	1.02	18.35	7.05	175.55	2066.57	4.33	1.64	4.83	4.83
Rosebud County	C11	RM 227.2	36062	20-yr	2755.2	757.54	752.41	1.89	1.09	17.06	7.24	180.83	2526.88	4.26	1.78	5.13	5.13
Rosebud County	C11	RM 226.98	35709	20-yr	2755.2	757.14	752.31	2.69	1.52	35.82	15.65	211.99	1416.71	3.81	1.65	4.83	4.83
Rosebud County	C11	RM 226.79	35400	20-yr	2755.2	756.98	752.25	2.1	1.4	24.46	13.48	268.83	920.02	3.92	2.14	4.73	4.73
Rosebud County	C11	RM 226.56	35065	20-yr	2755.2	756.85	751.83	1.73	1.29	17.33	11.41	338.41	821.62	3.95	2.59	5.02	5.02
Rosebud County	C11	RM 226.36	34743	20-yr	2755.2	756.54	751.68	2.27	1.8	28.04	13.42	303.18	858.71	3.76	1.78	4.86	4.86
Rosebud County	C11	RM 226.2	34476	20-yr	2755.2	756.46	751.25	1.71	1.36	14.95	8.23	424.72	1049.77	3.52	1.93	5.21	5.21
Rosebud County	C11	RM 226.01	34177	20-yr	2755.2	756.31	750.81	1.91	1.26	17.43	6.91	284.2	1506.79	4.49	1.76	5.5	5.5
Rosebud County	C11	RM 225.83	33884	20-yr	2755.2	756.06	750.59	2.65	1.29	32.1	9.9	159.74	1493.55	4.89	1.48	5.47	5.47
Rosebud County	C11	RM 225.64	33580	20-yr	2755.2	756	750.56	1.86	1.08	16.61	6.3	293.96	1638.52	4.15	1.56	5.44	5.44
Rosebud County	C11	RM 225.45	33275	20-yr	2752.4	755.91	750.31	1.67	1.1	13.08	4.55	332.17	1627.13	4.46	1.54	5.6	5.6
Rosebud County	C11	RM 225.26	32969	20-yr	2752.4	755.78	750.25	1.85	1.2	15.9	6.11	291.78	1596.73	4.53	1.72	5.53	5.53
Rosebud County	C11	RM 225.16	32805	20-yr	2752.4	755.61	750.19	2.3	1.55	24.29	8.56	224.54	1193.2	4.86	1.69	5.42	5.42
Rosebud County	C11	RM 225.06	32646	20-yr	2752.4	755.08	750.15	3.55	2.67	57.09	14.46	169.61	1130.21	4.4	1.1	4.93	4.93
Rosebud County	C12	RM 224.89	32368	20-yr	2752.4	755.09	750.09	2.35	2.02	25.72	10.44	249.97	1077.05	4.58	1.84	5	5
Rosebud County	C12	RM 224.71	32083	20-yr	2752.4	754.93	750.04	2.17	2.03	21.59	16.05	392.82	576.56	3.18	2.35	4.89	4.89
Rosebud County	C12	RM 224.53	31796	20-yr	2752.4	754.72	749.96	2.21	2.13	20.28	15.57	412.38	742.94	3	2.3	4.76	4.76
Rosebud County	C12	RM 224.34	31486	20-yr	2752.4	754.54	750.03	1.91	1.77	21.09	16.55	480.32	871.95	2.68	2.1	4.51	4.51
Rosebud County	C12	RM 224.16	31195	20-yr	2752.4	754.36	749.78	2.01	1.56	18.9	9.08	263.29	1624.6	4	1.9	4.68	4.68
Rosebud County	C12	RM 223.96	30878	20-yr	2752.4	754.18	749.48	2.27	1.54	24.34	9.42	179.51	1459.49	4.34	1.66	4.8	4.8

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	20-yr	2752.4	753.99	749.18	2.48	1.65	30.35	11.28	162.95	1457.54	3.89	1.43	4.81	4.81
Rosebud County	C12	RM 223.55	30235	20-yr	2752.4	753.82	748.87	2.16	1.41	21.63	6.39	229.9	1711.41	4.66	1.36	4.95	4.95
Rosebud County	C12	RM 223.37	29952	20-yr	2752.4	753.6	748.72	2.47	1.42	28.27	7.56	208.3	1647.16	4.63	1.22	4.88	4.88
Rosebud County	C12	RM 223.2	29681	20-yr	2752.4	753.46	748.51	2.36	1.27	25.52	6.29	209.66	2049.09	4.76	1.16	4.95	4.95
Rosebud County	C12	RM 223.02	29391	20-yr	2752.4	753.42	748.51	1.77	0.94	14.72	4.76	265.78	2268.7	4.37	1.4	4.91	4.91
Rosebud County	C12	RM 222.82	29071	20-yr	2752.4	753.32	748.5	1.73	0.92	14.06	4.35	268.13	2214.62	4.42	1.35	4.82	4.82
Rosebud County	C12	RM 222.64	28787	20-yr	2752.4	753.22	748.46	1.83	0.93	15.64	5.03	236.97	2046.35	4.51	1.44	4.76	4.76
Rosebud County	C12	RM 222.45	28479	20-yr	2752.4	753.12	748.44	1.73	0.94	14.4	5.5	281.49	1877.94	4.1	1.55	4.68	4.68
Rosebud County	C12	RM 222.22	28128	20-yr	2752.4	752.99	748.15	1.4	0.91	30.46	9.54	261.1	2214.44	4.56	1.41	4.84	4.84
Rosebud County	C12	RM 222.01	27784	20-yr	2752.4	752.86	747.57	1.35	0.79	9.01	3.08	372.22	2723.55	4.23	1.43	5.29	5.29
Rosebud County	C12	RM 221.77	27401	20-yr	2752.4	752.82	747.18	0.91	0.63	5.27	2.83	725.95	2809.47	3.39	1.81	5.64	5.64
Rosebud County	C12	RM 221.55	27042	20-yr	2752.4	752.77	747.07	0.81	0.61	4.8	3.31	807.88	2779.31	3.35	2.3	5.7	5.7
Rosebud County	C12	RM 221.34	26708	20-yr	2752.4	752.72	746.94	0.92	0.66	4.74	3.27	648.68	2702.21	3.63	2.49	5.78	5.78
Rosebud County	C12	RM 221.15	26406	20-yr	2752.4	752.61	746.7	1.54	0.96	10.42	4.73	265.14	2151.02	5.47	2.45	5.91	5.91
Rosebud County	C12	RM 220.96	26081	20-yr	2752.4	752.07	746.66	3.39	1.96	53.05	19.82	138.93	1243.12	4.76	1.74	5.41	5.41
Rosebud County	C12	RM 220.77	25779	20-yr	2752.4	751.47	746.73	3.71	3.03	64.99	22.87	163.4	658.31	4.4	1.53	4.73	4.73
Rosebud County	C12	RM 220.6	25513	20-yr	2752.4	751.54	746.72	2.26	1.85	23.8	11.63	256.78	807.97	4.54	2.2	4.82	4.82
Rosebud County	C12	RM 220.4	25183	20-yr	2752.4	751.42	746.88	1.89	1.43	17.04	10.42	395.04	1209.48	3.2	1.94	4.54	4.54
Rosebud County	C12	RM 220.23	24914	20-yr	2752.4	751.37	746.8	1.36	1.11	8.33	6.36	635.17	1483.09	2.82	2.15	4.57	4.57
Rosebud County	C12	RM 220.02	24578	20-yr	2752.4	751.27	746.54	1.27	1.12	8.56	6.97	792.77	1440.51	2.55	2.08	4.73	4.73
Rosebud County	C12	RM 219.83	24268	20-yr	2752.4	751.19	746.18	1.13	1.03	6.76	5.92	775.68	1099.77	2.99	2.62	5.01	5.01
Rosebud County	C12	RM 219.63	23947	20-yr	2752.4	751.05	745.79	1.46	1.32	11.94	10.01	587.54	863.12	3.07	2.57	5.26	5.26
Rosebud County	C12	RM 219.47	23683	20-yr	2752.4	750.93	745.56	1.62	1.3	13.12	8.1	380.14	864.13	4.15	2.55	5.37	5.37
Rosebud County	C12	RM 219.29	23386	20-yr	2752.4	750.6	745.27	2.61	1.71	32.01	14.81	208.04	790.46	4.46	2.04	5.33	5.33
Rosebud County	C12	RM 219.11	23085	20-yr	2752.4	750.42	745.15	2.53	1.63	30.1	12.94	176.7	934.82	4.47	1.9	5.27	5.27
Rosebud County	C12	RM 218.92	22783	20-yr	2752.4	750.3	745.15	2.12	1.38	21.6	10.32	229.91	1062.43	3.95	1.87	5.15	5.15
Rosebud County	C12	RM 218.73	22473	20-yr	2752.4	750.12	745.06	2.14	1.35	21.04	8.95	226.8	1025.7	4.72	1.99	5.06	5.06
Rosebud County	C12	RM 218.54	22180	20-yr	2752.4	749.98	744.99	2.05	1.47	19.84	11.3	274.48	756.13	4.35	2.48	4.99	4.99
Rosebud County	C12	RM 218.38	21902	20-yr	2752.4	749.87	744.43	2.07	1.43	19.4	9.58	234.82	801.05	4.91	2.41	5.44	5.44
Rosebud County	C12	RM 218.18	21580	20-yr	2752.4	749.61	743.9	2.6	1.53	31.04	12.99	182.74	942.51	4.77	1.97	5.71	5.71
Rosebud County	C12	RM 217.99	21276	20-yr	2752.4	749.44	743.66	2.45	1.46	28.5	10.14	211.96	1233.04	4.35	1.52	5.78	5.78
Rosebud County	C12	RM 217.81	20981	20-yr	2752.4	749.39	743.51	1.75	1.2	13.58	4.46	293.45	1536.04	4.88	1.59	5.88	5.88
Rosebud County	C12	RM 217.64	20702	20-yr	2752.4	749.01	743.41	2.91	1.74	39.05	9.37	176.29	1502.44	4.72	1.11	5.6	5.6
Rosebud County	C12	RM 217.45	20392	20-yr	2752.4	748.78	743.29	2.81	1.54	37.19	9.15	184.69	1736	4.4	1.06	5.49	5.49
Rosebud County	C12	RM 217.25	20070	20-yr	2752.4	748.73	743.29	2.1	1.11	19.9	4.78	191.77	2071.68	5.06	1.2	5.44	5.44
Rosebud County	C12	RM 217	19662	20-yr	2752.4	748.45	743.25	2.49	1.34	28.83	6.73	192.47	1935.55	4.61	1.06	5.2	5.2
Rosebud County	C12	RM 216.77	19300	20-yr	2752.4	748.25	743.25	2.39	1.3	27.88	8.07	217.02	1857.38	4	1.14	5	5
Rosebud County	C12	RM 216.53	18912	20-yr	2752.4	748.11	743.3	1.91	1.01	17.85	6.87	274.18	1826.19	3.92	1.49	4.81	4.81
Rosebud County	C12	RM 216.27	18500	20-yr	2752.4	747.99	743.24	1.64	0.99	13.39	6.7	358.3	1513.96	3.69	1.84	4.75	4.75
Rosebud County	C12	RM 215.98	18038	20-yr	2752.4	747.88	743.12	1.51	0.88	11.05	5.55	273.73	1622.98	3.98	2	4.76	4.76
Rosebud County	C12	RM 215.68	17550	20-yr	2752.4	747.73	742.31	1.66	1	12.23	4.51	269.37	1640.53	5.13	1.89	5.42	5.42
Rosebud County	C12	RM 215.41	17101	20-yr	2752.4	747.55	741.82	2.02	1.24	18.61	6.94	218.66	1492.05	4.86	1.79	5.73	5.73
Rosebud County	C12	RM 215.21	16781	20-yr	2752.4	747.19	741.65	2.89	1.7	38.59	13.25	159.7	1423.67	4.73	1.6	5.54	5.54
Rosebud County	C12	RM 215.02	16479	20-yr	2752.4	746.79	741.68	3.3	2.11	50.17	18.01	146.57	785.44	4.76	1.68	5.11	5.11
Rosebud County	C13	RM 214.86	16220	20-yr	2752.4	746.82	741.64	2.07	1.6	19.34	10.06	252.91	1024.09	4.97	2.56	5.18	5.18
Rosebud County	C13	RM 214.65	15883	20-yr	2752.4	746.67	741.6	1.99	1.77	18.54	11.24	399.8	778.12	3.39	2.04	5.07	5.07
Rosebud County	C13	RM 214.46	15577	20-yr	2752.4	746.54	741.6	1.81	1.43	13.72	8.86	460.4	1189.61	3.04	1.95	4.94	4.94
Rosebud County	C13	RM 214.27	15282	20-yr	2752.4	746.44	741.59	1.59	1.26	11.29	6.6	505.93	1238.25	3.04	1.77	4.85	4.85
Rosebud County	C13	RM 214.07	14957	20-yr	2752.4	746.33	741.54	1.47	1.08	13.82	6.93	425.03	1491.51	3.81	1.9	4.79	4.79
Rosebud County	C13	RM 213.9	14672	20-yr	2752.4	746.15	741.37	1.82	1.45	16.2	6.52	363.41	1298.67	3.88	1.55	4.78	4.78
Rosebud County	C13	RM 213.7	14343	20-yr	2752.4	745.82	740.88	2.47	1.92	28.32	8.21	232.58	1629.63	4.59	1.32	4.94	4.94
Rosebud County	C13	RM 213.54	14083	20-yr	2752.4	745.5	740.59	2.96	2.03	41.1	10.57	191.86	2028.01	4.49	1.14	4.91	4.91
Rosebud County	C13	RM 213.36	13792	20-yr	2752.4	745.4	740.39	2.33	1.49	26.2	8.62	246.24	2041.87	4.11	1.34	5.01	5.01
Rosebud County	C13	RM 213.16	13475	20-yr	2752.4	745.1	740.27	2.68	1.5	34.67	11.11	214.1	2023.28	3.81	1.21	4.83	4.83
Rosebud County	C13	RM 212.99	13200	20-yr	2752.4	745	740.31	2.19	1.32	21.63	7.19	212.05	2115.83	3.7	1.22	4.69	4.69
Rosebud County	C13	RM 212.79	12880	20-yr	2752.4	744.8	740.19	2.31	1.18	25.16	7.03	178.07	2410.39	4.4	1.21	4.61	4.61
Rosebud County	C13	RM 212.6	12572	20-yr	2752.4	744.65	739.79	2.07	1.1	19.99	5.72	240.96	2729.21	4.54	1.28	4.86	4.86
Rosebud County	C13	RM 212.42	12284	20-yr	2752.4	744.42	739.58	2.46	1.22	30.52	8.37	211.31	2598.39	4.17	1.13	4.84	4.84
Rosebud County	C13	RM 212.23	11983	20-yr	2752.4	744.37	739.17	1.79	0.95	15.42	5.14	257.92	2530.6	4.15	1.37	5.2	5.2
Rosebud County	C13	RM 212.05	11688	20-yr	2752.4	744.2	738.83	2.08	1.12	20.04	5.05	227.41	2391.87	4.68	1.16	5.37	5.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	20-yr	2752.4	743.98	738.79	2.34	1.35	26.64	7.71	251.66	1922.25	4.03	1.16	5.19	5.19
Rosebud County	C13	RM 211.65	11066	20-yr	2752.4	743.8	738.58	2.26	1.26	24.53	7.32	248.86	1870.16	4.12	1.22	5.22	5.22
Rosebud County	C13	RM 211.44	10724	20-yr	2752.4	743.66	738.38	2.21	1.13	22.99	7.76	199.53	2046.73	4.39	1.47	5.28	5.28
Rosebud County	C13	RM 211.21	10353	20-yr	2752.4	743.55	737.87	1.96	1.1	16.65	7.04	207.36	1766.17	4.41	1.85	5.68	5.68
Rosebud County	C13	RM 210.96	9946	20-yr	2752.4	743.23	737.72	2.64	1.46	33.08	12.85	169.56	1413.77	4.36	1.67	5.51	5.51
Rosebud County	C13	RM 210.75	9612	20-yr	2752.4	743.16	737.48	2.02	1.19	18.73	7.96	191.27	1386.1	4.75	1.99	5.68	5.68
Rosebud County	C13	RM 210.57	9317	20-yr	2752.4	743.08	737.5	1.8	1.12	14.86	6.18	244	1438.28	4.72	1.95	5.58	5.58
Rosebud County	C13	RM 210.36	8986	20-yr	2752.4	742.8	737.54	2.51	1.45	29.72	10.75	194.77	1621.33	4.38	1.57	5.26	5.26
Rosebud County	C13	RM 210.16	8674	20-yr	2752.4	742.56	737.53	2.37	1.65	28.16	13.01	288.57	1097.49	3.65	1.67	5.03	5.03
Rosebud County	C13	RM 209.98	8382	20-yr	2752.4	742.56	737.25	1.57	1.13	11.37	5.74	307.03	1429.83	4.63	2.32	5.31	5.31
Rosebud County	C13	RM 209.8	8091	20-yr	2752.4	742.45	736.96	1.81	1.13	14.4	5.24	218.68	1660.12	5.35	1.93	5.49	5.49
Rosebud County	C13	RM 209.6	7774	20-yr	2752.4	742.29	736.72	2.18	1.09	21.22	7.22	179.37	1941.66	5.17	1.73	5.57	5.57
Rosebud County	C13	RM 209.41	7482	20-yr	2752.4	742.22	736.53	1.84	1.05	15.58	6.16	238.7	1930.99	4.68	1.83	5.69	5.69
Rosebud County	C13	RM 209.21	7161	20-yr	2752.4	742.01	736.29	2.27	1.37	23.75	8.1	197.21	1582.95	4.78	1.61	5.72	5.72
Rosebud County	C13	RM 209.03	6871	20-yr	2752.4	741.86	736.14	2.36	1.36	25.45	8.85	186.26	1277.89	4.85	1.66	5.72	5.72
Rosebud County	C13	RM 208.85	6571	20-yr	2752.4	741.78	736.03	1.98	1.24	17.8	7.58	229.12	1215.63	4.88	2.05	5.75	5.75
Rosebud County	C13	RM 208.65	6257	20-yr	2752.4	741.69	735.74	1.94	1.27	17.37	8.88	218.32	1239.33	4.64	2.34	5.95	5.95
Rosebud County	C13	RM 208.46	5945	20-yr	2752.4	741.45	735.69	2.35	1.67	26.43	12.38	204.54	869.46	4.11	1.89	5.76	5.76
Rosebud County	C13	RM 208.29	5682	20-yr	2752.4	740.53	735.63	4.24	3.5	85.14	31.28	116.29	497.03	4.43	1.58	4.9	4.9
Rosebud County	C14	RM 208.1	5374	20-yr	2752.4	740.4	735.61	2.88	2.38	38.54	14.47	201.37	778.91	4.58	1.7	4.79	4.79
Rosebud County	C14	RM 207.91	5064	20-yr	2752.4	740.22	735.56	2.44	1.79	29.92	12.63	293.26	1213.38	3.46	1.45	4.66	4.66
Rosebud County	C14	RM 207.72	4766	20-yr	2752.4	739.99	735.52	2.21	1.61	23.18	9.74	400.5	1730.41	2.76	1.15	4.47	4.47
Rosebud County	C14	RM 207.53	4450	20-yr	2752.4	739.87	735.35	1.65	1.23	14.92	7.32	469.61	1635.55	3.07	1.5	4.52	4.52
Rosebud County	C14	RM 207.33	4123	20-yr	2752.4	739.62	735.27	2.13	1.38	22.51	9.39	282.48	1289.86	3.73	1.54	4.35	4.35
Rosebud County	C14	RM 207.15	3851	20-yr	2752.4	739.5	735.14	1.92	1.27	18.24	7.22	313.39	1577.23	3.74	1.47	4.36	4.36
Rosebud County	C14	RM 206.99	3599	20-yr	2752.4	739.41	734.95	1.8	1.11	16.39	6.79	327.09	1776.21	3.51	1.45	4.46	4.46
Rosebud County	C14	RM 206.81	3315	20-yr	2752.4	739.3	734.49	1.78	1	15.46	5.62	257.4	1915.02	3.98	1.43	4.81	4.81
Rosebud County	C14	RM 206.61	2997	20-yr	2752.4	739.18	733.91	1.92	0.97	17.25	5.85	197.48	2403.93	4.53	1.52	5.27	5.27
Rosebud County	C14	RM 206.43	2701	20-yr	2752.4	739.1	733.52	1.73	0.96	14.95	6.68	244.31	2771.52	3.75	1.66	5.58	5.58
Rosebud County	C14	RM 206.21	2350	20-yr	2752.4	738.99	733.38	1.73	1.03	15.01	6.2	253.17	2720.57	3.95	1.61	5.61	5.61
Rosebud County	C14	RM 205.97	1963	20-yr	2752.4	738.88	732.73	1.67	0.93	12.35	4.26	223.85	2557.22	5.37	1.82	6.15	6.15
Rosebud County	C14	RM 205.72	1563	20-yr	2752.4	738.35	732.73	3.56	1.5	75.25	15.65	94.98	2610.99	5.07	1.01	5.62	5.62
Rosebud County	C14	RM 205.49	1198	20-yr	2752.4	737.94	732.63	2.75	1.54	47.24	12	187.25	1887.04	4.2	1.05	5.31	5.31
Rosebud County	C14	RM 205.3	907	20-yr	2752.4	737.65	732.76	2.5	1.35	32.92	11.88	246.92	2024.92	3.15	1.12	4.89	4.89
Rosebud County	C14	RM 205.11	594	20-yr	2752.4	737.47	732.8	2.12	1.02	21.46	7.17	192	1984.76	4.28	1.41	4.67	4.67
Rosebud County	C14	RM 204.9	243	20-yr	2752.4	737.15	732.63	2.53	1.27	32.02	9.1	224.67	2220.25	3.69	1.04	4.52	4.52

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	20-yr	2752.4	737.15	732.67	2.81	1.34	39.84	10.25	192.07	2256.36	3.62	0.92	4.48	4.48
Custer County	C14	RM 204.43	73135	20-yr	2752.4	737.07	732.44	1.93	0.96	18.62	6.18	266.74	2393.51	3.66	1.2	4.63	4.63
Custer County	C14	RM 204.22	72808	20-yr	2752.4	736.89	732.3	2.06	1.03	21.76	7.09	262.16	2424.13	3.4	1.1	4.59	4.59
Custer County	C14	RM 204	72454	20-yr	2752.4	736.66	731.9	2.08	1.14	20.56	4.76	261.19	2457.69	4.31	0.99	4.76	4.76
Custer County	C14	RM 203.82	72156	20-yr	2752.4	736.5	731.14	2.27	1.03	24.86	6.75	197.43	2413.29	4.16	1.11	5.36	5.36
Custer County	C14	RM 203.65	71895	20-yr	2752.4	736.39	730.95	2.1	0.88	21.08	6.82	162.5	2310.36	4.27	1.35	5.44	5.44
Custer County	C14	RM 203.5	71641	20-yr	2752.4	736.3	730.78	1.71	0.81	14.04	4.97	195.78	2559.23	4.22	1.47	5.52	5.52
Custer County	C14	RM 203.3	71324	20-yr	2752.4	736.23	730.79	1.61	0.82	12.17	4.27	161.79	2134.79	4.58	1.57	5.44	5.44
Custer County	C14	RM 203.1	71035	20-yr	2752.4	736.05	730.79	2.13	1.02	21.98	7.55	184.4	1962.59	4.07	1.37	5.26	5.26
Custer County	C14	RM 202.9	70718	20-yr	2752.4	735.95	730.67	1.92	1.09	19.37	8.05	247.7	1936.12	3.17	1.3	5.28	5.28
Custer County	C14	RM 202.71	70415	20-yr	2752.4	735.69	730.64	2.28	1.23	25.7	7.82	231.54	1973.7	3.79	1.14	5.05	5.05
Custer County	C14	RM 202.51	70088	20-yr	2752.4	735.3	730.68	2.92	1.51	40.88	9.87	152.2	1843.03	4.19	0.99	4.62	4.62
Custer County	C14	RM 202.34	69815	20-yr	2752.4	735.18	730.63	1.99	1.19	20.21	7.09	321.87	1905.74	3.5	1.22	4.55	4.55
Custer County	C14	RM 202.13	69483	20-yr	2752.4	735.03	730.54	1.87	1.06	16.93	6.83	282.19	1880.45	4.03	1.61	4.49	4.49
Custer County	C14	RM 201.97	69219	20-yr	2752.4	734.82	730.01	2.19	1.43	23.4	9.24	264.21	1255.62	3.92	1.54	4.81	4.81
Custer County	C14	RM 201.75	68884	20-yr	2752.4	734.76	729.45	1.6	1.17	11.58	4.12	306.87	1362.27	4.93	1.73	5.31	5.31
Custer County	C14	RM 201.57	68612	20-yr	2752.4	734.63	729.37	1.85	1.28	17.7	7.82	362.67	1489.75	3.28	1.44	5.26	5.26
Custer County	C14	RM 201.38	68299	20-yr	2752.4	734.38	729.23	2.12	1.41	24.45	10.01	356.22	1680.22	2.86	1.16	5.15	5.15
Custer County	C14	RM 201.23	68055	20-yr	2752.4	734.22	729.13	1.92	1.25	19.45	8.94	369.58	1546.96	3.11	1.42	5.09	5.09
Custer County	C14	RM 201.06	67778	20-yr	2752.4	734.2	729.03	1.3	1.01	8.28	5.15	262.3	1533.43	3.84	2.36	5.17	5.17
Custer County	C14	RM 200.85	67439	20-yr	2752.4	733.71	729.05	3.4	2.28	54.84	20.31	114.21	777.67	4.45	1.6	4.66	4.66
Custer County	C14	RM 200.64	67103	20-yr	2752.4	733.63	728.97	2.14	1.57	21.35	10.81	216.61	925.54	4.51	2.26	4.66	4.66
Custer County	C14	RM 200.48	66842	20-yr	2752.4	733.57	728.8	1.67	1.41	13.64	9.31	307.41	745.69	3.88	2.63	4.77	4.77
Custer County	C14	RM 200.27	66515	20-yr	2752.4	733.42	728.63	1.77	1.43	15.15	9.71	359.69	749.96	4.03	2.57	4.79	4.79
Custer County	C14	RM 200.05	66162	20-yr	2752.4	733.23	728.3	1.91	1.63	18.44	13.63	388.69	649.17	3.53	2.6	4.93	4.93
Custer County	C14	RM 199.9	65916	20-yr	2752.4	733.16	727.78	1.67	1.57	13.23	8.72	381.62	626.1	4.28	2.81	5.38	5.38
Custer County	C14	RM 199.71	65614	20-yr	2752.4	732.81	727.34	2.56	2.3	28.92	14.7	260.79	592.36	4.03	2.02	5.47	5.47
Custer County	C14	RM 199.53	65326	20-yr	2752.4	732.73	727.34	2.08	1.84	19.52	9.67	259.62	608.97	5.01	2.46	5.4	5.4
Custer County	C14	RM 199.38	65076	20-yr	2752.4	732.64	727.34	1.98	1.69	18.97	10.09	364.29	984.23	3.65	1.93	5.3	5.3
Custer County	C14	RM 199.18	64754	20-yr	2752.4	732.48	727.64	1.84	1.5	18.05	9.66	456.73	1328.85	2.97	1.58	4.84	4.84
Custer County	C14	RM 199.04	64535	20-yr	2752.4	732.39	727.64	1.62	1.23	13.36	5.99	419.11	1423.43	3.59	1.6	4.75	4.75
Custer County	C14	RM 198.77	64102	20-yr	2752.4	732.15	727.28	1.94	1.42	17.67	6.72	294.95	1246.9	4.46	1.68	4.87	4.87
Custer County	C14	RM 198.57	63773	20-yr	2752.4	731.76	726.99	2.77	1.99	35.85	10.79	204.81	1024.3	4.53	1.35	4.77	4.77
Custer County	C14	RM 198.4	63505	20-yr	2752.4	731.57	726.86	2.7	1.86	34.39	11.14	199.72	1205.3	4.43	1.42	4.71	4.71
Custer County	C14	RM 198.22	63215	20-yr	2752.4	731.34	726.57	2.71	1.63	34.88	11.14	190.38	1342.45	4.34	1.37	4.78	4.78
Custer County	C14	RM 198.04	62923	20-yr	2752.4	731.21	726.32	2.29	1.51	24.68	9.58	227.09	1432.61	4.41	1.69	4.89	4.89
Custer County	C14	RM 197.84	62611	20-yr	2752.4	731.15	726.04	1.66	1.23	13.23	5.57	351.59	1685.5	4.09	1.71	5.11	5.11
Custer County	C14	RM 197.65	62306	20-yr	2752.4	731.06	725.69	1.74	1.08	13.13	5.57	317.28	1810.47	3.91	1.64	5.37	5.37
Custer County	C14	RM 197.47	62013	20-yr	2752.4	731.04	725.29	1.32	0.78	7.63	2.82	296.71	1924.36	5.54	2.03	5.75	5.75
Custer County	C14	RM 197.27	61686	20-yr	2752.4	730.97	724.81	1.64	0.8	12.22	5.15	212.39	1934.91	4.89	2.04	6.16	6.16
Custer County	C14	RM 197.07	61373	20-yr	2752.4	730.91	724.81	1.68	0.89	12.71	4.76	204.54	1805.64	5.06	1.86	6.1	6.1
Custer County	C14	RM 196.91	61115	20-yr	2752.4	730.9	724.81	1.27	0.65	7.28	3.47	222.96	1766.96	5.09	2.4	6.09	6.09
Custer County	C14	RM 196.73	60815	20-yr	2752.4	730.86	724.76	1.3	0.68	7.49	3.66	241.76	1596.45	5.25	2.54	6.1	6.1
Custer County	C14	RM 196.54	60518	20-yr	2752.4	730.81	724.67	1.41	0.79	9.19	4.46	270.26	2186.59	4.76	2.28	6.14	6.14
Custer County	C14	RM 196.33	60178	20-yr	2752.4	730.74	724.57	1.49	0.93	9.73	4.5	247.23	1822.63	5.5	2.52	6.17	6.17
Custer County	C14	RM 196.17	59915	20-yr	2752.4	730.68	724.51	1.62	1.22	11.39	7.27	191.57	1381.05	5.64	3.58	6.17	6.17
Custer County	C15	RM 195.98	59615	20-yr	2752.4	729.09	724.52	5.25	4.87	135.05	83.51	132.07	269.71	3.94	2.42	4.57	4.57
Custer County	C15	RM 195.81	59337	20-yr	2752.4	729.06	724.33	3.53	3.21	58.2	25.61	169.47	464.84	4.55	1.97	4.73	4.73
Custer County	C15	RM 195.61	59020	20-yr	2752.4	728.98	724.24	2.53	2.21	29.89	13.64	230.07	600.77	4.59	2.08	4.74	4.74
Custer County	C15	RM 195.43	58727	20-yr	2752.4	728.8	724.22	2.36	2.06	27.92	16.7	305.61	610.74	3.68	2.19	4.58	4.58
Custer County	C15	RM 195.23	58415	20-yr	2752.4	728.68	723.93	1.87	1.71	18.43	10.49	391.57	773.35	3.68	2.08	4.75	4.75
Custer County	C15	RM 195.04	58114	20-yr	2752.4	728.45	723.54	2.24	1.88	24.41	10.95	269.46	826.33	3.97	1.77	4.91	4.91
Custer County	C15	RM 194.86	57824	20-yr	2752.4	728.27	722.93	2.31	1.63	25.07	10.58	209.92	898.51	4.52	1.88	5.34	5.34
Custer County	C15	RM 194.67	57521	20-yr	2752.4	728.1	722.75	2.28	1.66	23.29	9.03	217.41	849.71	5.15	1.97	5.35	5.35
Custer County	C15	RM 194.49	57231	20-yr	2752.4	728	722.53	2.12	1.54	20.21	9.62	232.49	777.81	5.08	2.39	5.47	5.47
Custer County	C15	RM 194.32	56946	20-yr	2752.4	727.79	722.5	2.37	1.84	25.33	14.43	259.82	669.51	4.15	2.35	5.29	5.29
Custer County	C15	RM 194.13	56643	20-yr	2752.4	727.54	722.5	2.5	2.18	29.95	20.01	251.61	466.8	4.21	2.79	5.04	5.04
Custer County	C15	RM 193.93	56331	20-yr	2752.4	727.39	722.31	2.27	2.05	23.74	17.38	247.7	523.08	4.72	3.44	5.08	5.08
Custer County	C15	RM 193.74	56024	20-yr	2752.4	727.21	722.23	2.35	1.97	25.25	12.32	229.42	811.8	4.82	2.33	4.98	4.98
Custer County	C15	RM 193.55	55708	20-yr	2752.4	727	722.13	2.49	1.94	28.5	10.97	216.64	820.02	4.71	1.79	4.88	4.88

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	20-yr	2752.4	726.81	722.13	2.55	1.9	30.4	11.82	219.51	908.97	4.49	1.73	4.68	4.68
Custer County	C15	RM 193.2	55158	20-yr	2752.4	726.74	722.13	2.01	1.53	18.92	8.44	280.33	973.62	4.46	1.98	4.61	4.61
Custer County	C15	RM 193	54825	20-yr	2752.4	726.58	721.84	2.04	1.58	19.49	11.17	281.95	909.24	4.44	2.54	4.74	4.74
Custer County	C15	RM 192.81	54525	20-yr	2752.4	726.43	721.37	2.22	1.49	22.5	8.99	207.4	1122.37	4.89	1.94	5.06	5.06
Custer County	C15	RM 192.63	54247	20-yr	2752.4	726.25	721.01	2.32	1.61	24.52	8.66	217.39	1116.19	4.95	1.73	5.24	5.24
Custer County	C15	RM 192.44	53935	20-yr	2752.4	726.16	721.01	2	1.45	18.24	7.58	241	956.41	4.81	1.98	5.15	5.15
Custer County	C16	RM 192.26	53653	20-yr	2752.4	725.9	721.01	2.43	1.99	27.17	11.08	228.64	725.62	4.73	1.91	4.89	4.89
Custer County	C16	RM 192.05	53309	20-yr	2752.4	725.14	721.11	3.72	3.29	68.31	36.49	186.81	410.24	3.85	2.04	4.03	4.03
Custer County	C16	RM 191.74	52809	20-yr	2752.4	724.94	721.1	1.98	1.89	17.3	15.69	560.47	654.59	2.45	2.22	3.84	3.84
Custer County	C16	RM 191.35	52181	20-yr	2752.4	724.51	721.02	1.76	1.71	13.37	12.62	837.17	915.71	1.86	1.76	3.49	3.49
Custer County	C16	RM 191.12	51812	20-yr	2752.4	724.32	720.51	1.48	1.48	10.66	10.63	825.32	828.11	2.25	2.24	3.81	3.81
Custer County	C16	RM 190.87	51406	20-yr	2752.4	724.16	719.89	1.32	1.29	8.95	8.39	890.29	1057.35	2.34	2.19	4.27	4.27
Custer County	C16	RM 190.54	50885	20-yr	2752.4	724.03	719.15	1.07	0.98	7	4.9	789.91	1556.08	3.2	2.24	4.88	4.88
Custer County	C16	RM 190.29	50477	20-yr	2752.4	723.37	718.45	3.23	2.31	49.23	14.48	179.8	1048.61	4.42	1.28	4.92	4.92
Custer County	C16	RM 190.1	50176	20-yr	2752.4	723.07	718.43	2.97	2.29	43.2	13.32	226.72	1499.67	3.9	1.2	4.64	4.64
Custer County	C16	RM 189.85	49765	20-yr	2752.4	722.88	718.13	2.12	1.78	22.53	8.09	334.92	1944.45	3.67	1.31	4.75	4.75
Custer County	C16	RM 189.65	49458	20-yr	2752.4	722.71	718.1	2.08	1.37	19.93	7.27	340.01	2214.94	3.33	1.21	4.61	4.61
Custer County	C16	RM 189.43	49103	20-yr	2752.4	722.17	718.09	2.88	2.32	42.9	16.5	269.95	1260.17	3.36	1.28	4.08	4.08
Custer County	C16	RM 189.22	48763	20-yr	2752.4	722.2	717.93	1.49	1.22	10.79	4.3	452.46	1761.1	3.96	1.56	4.27	4.27
Custer County	C16	RM 188.91	48267	20-yr	2752.4	722.02	717.54	1.62	1.23	13.15	6.41	472.67	1656.56	3.28	1.59	4.48	4.48
Custer County	C16	RM 188.66	47869	20-yr	2752.4	721.67	716.75	2.49	1.44	28.6	8.81	195.28	1328.19	4.74	1.44	4.92	4.92
Custer County	C16	RM 188.51	47622	20-yr	2752.4	721.51	716.72	2.46	1.54	28.72	10.56	217.17	1126.05	4.37	1.59	4.8	4.8
Custer County	C16	RM 188.32	47314	20-yr	2752.4	721.42	716.79	1.96	1.52	19.33	9.01	152.01	945.81	4.18	1.91	4.63	4.63
Custer County	C16	RM 188.14	47024	20-yr	2752.4	721.25	716.93	1.33	1.44	9.49	9.24	474.59	1197.3	1.81	1.77	4.32	4.32
Custer County	C16	RM 187.98	46768	20-yr	2752.4	721.16	716.91	1.76	1.31	15.13	9.05	222.44	1318.04	3.93	2.33	4.25	4.25
Custer County	C16	RM 187.78	46440	20-yr	2752.4	721.08	716.69	1.5	1.19	11.99	6.63	251.06	1283.32	3.71	2.04	4.39	4.39
Custer County	C16	RM 187.55	46083	20-yr	2752.4	720.84	716.04	2.13	1.3	21.38	9.36	224.37	1199.45	4.38	1.91	4.8	4.8
Custer County	C16	RM 187.35	45750	20-yr	2752.4	720.36	715.34	3.04	1.9	43.72	12.82	182.36	1325.98	4.4	1.27	5.02	5.02
Custer County	C16	RM 187.14	45421	20-yr	2752.4	720.29	715.3	2.15	1.36	22.06	7.94	259.08	1588.94	4.26	1.52	4.99	4.99
Custer County	C16	RM 187.01	45211	20-yr	2752.4	720.23	715.3	1.84	1.27	15.98	6.49	300.38	1406.27	4.41	1.78	4.93	4.93
Custer County	C16	RM 186.84	44930	20-yr	2752.4	720.1	715.03	1.96	1.33	18.5	7.86	294.8	1351.43	4.16	1.75	5.07	5.07
Custer County	C16	RM 186.62	44553	20-yr	2752.4	719.68	714.75	2.81	2.02	36.46	11.56	188.38	930.88	4.69	1.48	4.93	4.93
Custer County	C16	RM 186.46	44311	20-yr	2752.4	719.42	714.53	3	2.02	42.51	15.73	186.16	849.91	4.41	1.61	4.89	4.89
Custer County	C16	RM 186.26	43996	20-yr	2752.4	719.1	714.27	2.94	2.49	40.84	20.47	205.3	503.66	4.41	2.19	4.83	4.83
Custer County	C16	RM 186.1	43730	20-yr	2752.4	719.02	713.9	2.22	2.07	23.76	13.33	294.02	590.2	4.16	2.32	5.12	5.12
Custer County	C16	RM 185.91	43424	20-yr	2735.4	718.85	713.84	2.13	1.99	21.15	14.8	388.65	610.92	3.26	2.28	5.01	5.01
Custer County	C16	RM 185.71	43110	20-yr	2735.4	718.28	713.84	3.06	2.75	41.84	30.29	325.31	521.23	2.68	1.93	4.44	4.44
Custer County	C16	RM 185.52	42808	20-yr	2735.4	718.25	713.71	1.86	1.65	16.87	11.21	366.12	663.82	3.92	2.6	4.54	4.54
Custer County	C16	RM 185.34	42508	20-yr	2735.4	718.06	713.28	1.99	1.93	17.9	15.65	511.74	709.17	2.68	2.34	4.78	4.78
Custer County	C16	RM 185.16	42219	20-yr	2735.4	718	712.93	1.51	1.23	11.02	7.92	419.95	1427.21	4.01	2.87	5.07	5.07
Custer County	C17	RM 184.95	41881	20-yr	2735.4	717.81	712.72	1.94	1.45	18.94	9.6	289.56	1329.71	4.4	2.21	5.09	5.09
Custer County	C17	RM 184.78	41621	20-yr	2735.4	717.53	712.51	2.51	1.79	29.32	10.96	214.93	1098.82	4.63	1.71	5.02	5.02
Custer County	C17	RM 184.59	41311	20-yr	2735.4	717.25	711.96	2.74	2.19	34.12	13.61	194.94	648.62	4.85	1.92	5.29	5.29
Custer County	C17	RM 184.4	41010	20-yr	2735.4	717.16	711.62	2.21	2.14	21.93	14.52	242.39	760.6	5.09	3.36	5.54	5.54
Custer County	C17	RM 184.23	40728	20-yr	2735.4	716.92	711.31	2.53	2.42	30.03	19.43	237.76	766.01	4.51	2.9	5.61	5.61
Custer County	C17	RM 184.1	40517	20-yr	2735.4	716.71	711.39	2.76	2.46	34.95	19.05	203.14	878.58	4.76	2.6	5.32	5.32
Custer County	C17	RM 184.03	40407	20-yr	2735.4	716.68	711.49	2.52	2.3	29.11	15.51	222.9	905.12	4.79	2.53	5.19	5.19
Custer County	C17	RM 183.83	40098	20-yr	2735.4	716.51	711.42	2.41	2.31	26.66	17.05	234.05	929.89	4.81	3.06	5.09	5.09
Custer County	C17	RM 183.65	39806	20-yr	2735.4	716.3	711.39	2.54	2.4	29.7	15.96	224.4	589.22	4.75	2.54	4.91	4.91
Custer County	C17	RM 183.47	39513	20-yr	2735.4	715.96	711.39	2.91	2.76	39.87	22.22	210.84	506.64	4.43	2.44	4.57	4.57
Custer County	C17	RM 183.28	39210	20-yr	2735.4	715.87	711.31	2.24	1.99	23.55	13.33	263.55	1003	4.48	2.52	4.56	4.56
Custer County	C17	RM 183.09	38909	20-yr	2735.4	715.71	711.04	2.29	1.64	24.62	12.03	236.5	959.84	4.47	2.16	4.67	4.67
Custer County	C17	RM 182.94	38660	20-yr	2735.4	715.6	710.66	2.16	1.72	21.36	8.91	244.68	806.06	4.79	1.98	4.94	4.94
Custer County	C17	RM 182.72	38316	20-yr	2735.4	715.41	710.1	2.25	1.83	23.54	13.4	250.1	639.15	4.54	2.57	5.31	5.31
Custer County	C17	RM 182.54	38020	20-yr	2735.4	714.87	710.12	3.31	2.63	51.33	30.49	173.67	392.36	4.51	2.66	4.75	4.75
Custer County	C17	RM 182.34	37706	20-yr	2735.4	714.69	710.27	2.63	2.3	33.61	22.49	240.92	443.63	4.02	2.68	4.42	4.42
Custer County	C17	RM 182.15	37402	20-yr	2735.4	714.47	710.26	2.52	2.21	30.54	17.15	248.66	561.05	4.1	2.3	4.21	4.21
Custer County	C17	RM 181.97	37127	20-yr	2735.4	714.29	710.26	2.32	2.08	26.33	12.31	292.15	855.12	3.88	1.8	4.04	4.04
Custer County	C17	RM 181.78	36815	20-yr	2735.4	714.08	710.09	2.26	1.9	21.97	12.04	407.22	1031.32	2.77	1.52	3.99	3.99
Custer County	C17	RM 181.59	36505	20-yr	2735.4	713.73	709.76	2.47	2.19	27.4	17.71	392.06	712.18	2.72	1.75	3.97	3.97

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	20-yr	2735.4	713.45	709.37	2.41	1.98	28.88	17.5	277.04	611.27	3.74	2.26	4.08	4.08
Custer County	C17	RM 181.23	35925	20-yr	2735.4	713.17	709.36	2.74	2.4	37.79	24.2	247.28	500.09	3.56	2.28	3.81	3.81
Custer County	C17	RM 181.03	35607	20-yr	2735.4	713.02	709.02	2.06	1.96	21.16	16.12	354.1	560.16	3.66	2.79	4	4
Custer County	C17	RM 180.83	35292	20-yr	2735.4	712.9	708.68	1.78	1.57	15.93	11.73	362.09	938.77	3.62	2.66	4.22	4.22
Custer County	C17	RM 180.66	35006	20-yr	2735.4	712.7	708.22	2.05	1.89	20.56	14.67	342.47	528.07	3.85	2.74	4.48	4.48
Custer County	C18	RM 180.46	34700	20-yr	2735.4	712.5	708.05	2.19	1.94	22.69	16.85	281.53	441.74	4.31	3.2	4.45	4.45
Custer County	C18	RM 180.29	34421	20-yr	2735.4	712.26	707.79	2.51	1.99	30.57	15.21	243.73	692.58	4.01	1.99	4.47	4.47
Custer County	C18	RM 180.08	34086	20-yr	2735.4	712.07	707.53	2.26	1.88	24.2	11.92	254.64	678.35	4.37	2.14	4.54	4.54
Custer County	C18	RM 179.9	33807	20-yr	2735.4	711.93	707.32	2.19	1.88	22.88	12.55	266.42	665.12	4.22	2.31	4.61	4.61
Custer County	C18	RM 179.73	33525	20-yr	2735.4	711.62	706.89	2.6	2.35	32.82	22.06	256.8	477.75	3.99	2.68	4.73	4.73
Custer County	C18	RM 179.54	33218	20-yr	2735.4	711.37	706.7	2.45	2.3	31.27	21.83	312.1	482.6	3.54	2.47	4.67	4.67
Custer County	C18	RM 179.35	32914	20-yr	2735.4	711.22	706.45	2.15	1.92	21.95	15.49	292.41	477.21	4.24	2.98	4.77	4.77
Custer County	C18	RM 179.16	32611	20-yr	2735.4	710.93	706.29	2.53	2.38	30.57	21.26	237.48	366.28	4.52	3.13	4.64	4.64
Custer County	C18	RM 178.99	32337	20-yr	2735.4	710.78	706.07	2.36	2.25	26.01	21.57	254.29	357.19	4.52	3.74	4.71	4.71
Custer County	C18	RM 178.79	32025	20-yr	2735.4	710.57	705.9	2.44	2.34	28.01	25.22	251.59	359.76	4.41	3.97	4.67	4.67
Custer County	C18	RM 178.61	31730	20-yr	2735.4	710.39	705.59	2.36	2.3	26.05	23.74	259.81	495.08	4.44	4.04	4.8	4.8
Custer County	C18	RM 178.43	31434	20-yr	2735.4	710.21	705.25	2.38	2.37	26.19	25.43	249.19	356.17	4.62	4.49	4.96	4.96
Custer County	C18	RM 178.23	31114	20-yr	2735.4	710.02	704.7	2.39	2.38	26.51	25.81	249.24	296.67	4.59	4.47	5.32	5.32
Custer County	C18	RM 178.06	30848	20-yr	2735.4	709.83	704.57	2.51	2.34	28.86	20.77	219.45	335.47	4.85	3.48	5.26	5.26
Custer County	C18	RM 177.88	30549	20-yr	2735.4	709.61	704.57	2.59	2.4	31.36	22.37	229.01	353.38	4.54	3.23	5.04	5.04
Custer County	C18	RM 177.66	30211	20-yr	2763.7	709.04	704.57	3.35	3.16	53.69	37.01	194.04	302.65	4.21	2.89	4.47	4.47
Custer County	C18	RM 177.49	29932	20-yr	2763.7	708.87	704.47	2.74	2.7	35.74	30.75	236.92	282.65	4.26	3.66	4.4	4.4
Custer County	C19	RM 177.3	29625	20-yr	2763.7	708.71	704.46	2.3	2.29	25.91	24.96	302.6	354.57	3.96	3.82	4.25	4.25
Custer County	C19	RM 177.11	29314	20-yr	2763.7	708.39	704.46	2.55	2.46	28.46	25.1	372.18	439.81	2.9	2.55	3.93	3.93
Custer County	C19	RM 176.93	29040	20-yr	2763.7	708.26	704.42	2.04	1.93	18.69	16.83	436.64	519.41	3.06	2.75	3.84	3.84
Custer County	C19	RM 176.74	28720	20-yr	2763.7	708.1	704.21	1.9	1.77	18.24	14.2	342.3	648.16	3.58	2.79	3.89	3.89
Custer County	C19	RM 176.53	28384	20-yr	2763.7	707.86	703.63	2.1	1.96	23.38	20.29	344.95	527.79	3.07	2.67	4.23	4.23
Custer County	C19	RM 176.36	28109	20-yr	2763.7	707.63	703.08	2.19	2.1	23.52	20.34	324.02	394.42	3.86	3.34	4.55	4.55
Custer County	C19	RM 176.18	27824	20-yr	2763.7	706.88	702.71	3.64	3.38	65.76	45.3	199.69	365.15	3.74	2.57	4.17	4.17
Custer County	C19	RM 176	27527	20-yr	2763.7	706.74	702.51	2.64	2.48	34.22	28.5	259.98	365.19	3.9	3.24	4.23	4.23
Custer County	C19	RM 175.81	27227	20-yr	2763.7	706.5	702.24	2.47	2.38	30.29	26.61	297.33	374.24	3.71	3.26	4.26	4.26
Custer County	C19	RM 175.62	26928	20-yr	2763.7	706.21	701.81	2.66	2.39	34.44	26.15	234.72	428.34	4.02	3.04	4.4	4.4
Custer County	C19	RM 175.43	26622	20-yr	2763.7	705.84	701.81	2.96	2.25	43.74	34.68	214.93	445.1	3.68	2.9	4.03	4.03
Custer County	C19	RM 175.25	26325	20-yr	2763.7	705.49	701.72	2.86	2.58	41.14	31.69	212.23	417.09	3.62	2.78	3.77	3.77
Custer County	C19	RM 175.08	26048	20-yr	2763.7	705.29	701.63	2.28	2.27	26.73	25.91	357.35	397.99	3.38	3.28	3.66	3.66
Custer County	C19	RM 174.9	25768	20-yr	2763.7	704.99	701.31	2.48	2.48	31.86	31.74	337.7	338.93	3.3	3.29	3.68	3.68
Custer County	C19	RM 174.69	25444	20-yr	2763.7	704.67	700.82	2.45	2.38	31.29	25.18	351.06	461.69	3.21	2.58	3.85	3.85
Custer County	C19	RM 174.49	25112	20-yr	2763.7	704.3	700.04	2.62	2.51	34.2	22.42	279.46	449.87	3.74	2.45	4.26	4.26
Custer County	C19	RM 174.32	24844	20-yr	2763.7	703.89	699.39	3.05	2.88	44.89	25.37	222.49	422.31	4.04	2.28	4.5	4.5
Custer County	C19	RM 174.13	24549	20-yr	2763.7	703.78	698.84	2.39	2.27	26.4	16.75	244.91	412.16	4.68	2.95	4.94	4.94
Custer County	C19	RM 173.94	24238	20-yr	2763.7	703.51	698.14	2.63	2.42	32.78	18.67	239.67	467.38	4.32	2.45	5.37	5.37
Custer County	C19	RM 173.75	23939	20-yr	2763.7	703.13	697.92	3.1	2.53	43.92	18.72	172.39	535.18	4.82	2.04	5.21	5.21
Custer County	C19	RM 173.57	23651	20-yr	2763.7	702.97	697.83	2.69	2.48	32.79	17.26	208.71	435.21	4.87	2.56	5.14	5.14
Custer County	C19	RM 173.39	23352	20-yr	2763.7	702.57	697.83	3.12	2.97	46.24	26.2	203.48	382.12	4.33	2.44	4.74	4.74
Custer County	C19	RM 173.2	23054	20-yr	2763.7	702.32	697.72	2.86	2.6	39.24	29.75	226.21	363.61	4.14	3.14	4.6	4.6
Custer County	C19	RM 173.02	22756	20-yr	2763.7	702.08	697.29	2.68	2.47	34.43	23.1	244.03	450.92	4.17	2.79	4.79	4.79
Custer County	C19	RM 172.82	22437	20-yr	2763.7	701.94	696.82	2.05	2.02	21.97	19.41	414.44	508	3.24	2.86	5.12	5.12
Custer County	C19	RM 172.67	22200	20-yr	2763.7	701.73	696.52	2.15	2.13	24.66	23.95	421.93	470.11	3.03	2.94	5.21	5.21
Custer County	C19	RM 172.49	21903	20-yr	2763.7	701.52	696.23	2.12	2.1	22.64	21.59	365.62	409.98	3.56	3.4	5.29	5.29
Custer County	C19	RM 172.29	21585	20-yr	2763.7	701.2	695.79	2.55	2.42	30	21.85	226.44	525.66	4.73	3.43	5.41	5.41
Custer County	C19	RM 172.12	21325	20-yr	2763.7	700.54	695.81	3.66	3.6	67.96	55.57	216.64	274.48	3.48	2.84	4.73	4.73
Custer County	C19	RM 171.89	20942	20-yr	2763.7	700.32	695.57	2.67	2.57	33.22	27.35	228.36	290.49	4.5	3.7	4.75	4.75
Custer County	C19	RM 171.71	20638	20-yr	2763.7	699.99	695.49	2.86	2.75	39.51	32.9	231.98	293.78	4.12	3.42	4.5	4.5
Custer County	C19	RM 171.52	20341	20-yr	2763.7	699.8	695.3	2.56	2.49	31.04	27.04	249.92	297.38	4.29	3.74	4.5	4.5
Custer County	C19	RM 171.34	20043	20-yr	2763.7	699.51	695.11	2.71	2.68	35.22	31.9	244.86	341.6	4.15	3.76	4.4	4.4
Custer County	C19	RM 171.15	19745	20-yr	2763.7	699.29	694.86	2.6	2.59	32.05	30.01	249.21	283.04	4.27	4	4.43	4.43
Custer County	C19	RM 170.96	19437	20-yr	2763.7	699.08	694.67	2.48	2.46	29.44	26.6	261.96	321.05	4.24	3.83	4.41	4.41
Custer County	C19	RM 170.78	19143	20-yr	2763.7	698.85	694.2	2.57	2.48	31.15	25.86	245.9	309.18	4.34	3.6	4.65	4.65
Custer County	C19	RM 170.58	18838	20-yr	2763.7	698.55	693.91	2.72	2.64	35.73	31.79	245.35	287.29	4.09	3.64	4.64	4.64
Custer County	C19	RM 170.4	18543	20-yr	2763.7	698.39	693.9	2.37	2.36	26.7	25.83	269.24	279.89	4.32	4.18	4.49	4.49

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	20-yr	2763.7	698.23	693.7	2.32	2.29	25.31	23.67	272.95	295.36	4.36	4.08	4.53	4.53
Custer County	C19	RM 170.03	17941	20-yr	2763.7	697.93	693.31	2.63	2.62	32.37	31.69	237.46	243.04	4.43	4.34	4.62	4.62
Custer County	C19	RM 169.84	17641	20-yr	2763.7	697.67	692.78	2.74	2.74	34.58	34.15	214.88	217.52	4.7	4.65	4.89	4.89
Custer County	C19	RM 169.65	17341	20-yr	2763.7	697.38	692.47	2.88	2.88	38.43	37.3	204.18	211.19	4.69	4.55	4.91	4.91
Custer County	C19	RM 169.47	17041	20-yr	2763.7	697.08	692.17	3.01	2.86	42.31	33.76	199.81	269	4.51	3.6	4.91	4.91
Custer County	C19	RM 169.28	16732	20-yr	2763.7	696.85	692	2.78	2.63	35.94	28.12	214.83	295.93	4.55	3.55	4.85	4.85
Custer County	C19	RM 169.09	16441	20-yr	2763.7	696.6	691.96	2.79	2.77	36.58	35.04	225.9	261.35	4.39	4.21	4.64	4.64
Custer County	C19	RM 168.91	16152	20-yr	2763.7	696.33	691.93	2.83	2.78	38.07	32.26	230.07	276.25	4.24	3.59	4.4	4.4
Custer County	C19	RM 168.72	15846	20-yr	2763.7	696.18	691.82	2.35	2.34	26.39	25.62	280.43	289.37	4.2	4.07	4.36	4.36
Custer County	C19	RM 168.51	15500	20-yr	2763.7	695.96	691.6	2.3	2.25	25.78	23.97	296.39	329.14	4	3.73	4.36	4.36
Custer County	C19	RM 168.35	15241	20-yr	2763.7	695.69	691.48	2.59	2.44	32.85	28.28	269.3	337.49	3.91	3.36	4.21	4.21
Custer County	C19	RM 168.15	14931	20-yr	2763.7	695.33	691.2	2.84	2.64	39.52	29.32	240.64	359.87	3.93	2.91	4.12	4.12
Custer County	C19	RM 167.97	14639	20-yr	2763.7	695.11	690.59	2.59	2.57	31.91	25.5	247.71	313.77	4.3	3.43	4.52	4.52
Custer County	C19	RM 167.79	14340	20-yr	2763.7	694.88	690.5	2.59	2.57	31.91	30.34	249.29	357.24	4.28	4.07	4.38	4.38
Custer County	C19	RM 167.61	14054	20-yr	2763.7	694.54	690.42	2.85	2.82	39.68	37.67	244.91	261.34	3.95	3.75	4.12	4.12
Custer County	C19	RM 167.41	13735	20-yr	2763.7	694.33	690.14	2.53	2.27	31.08	22.53	264.94	423.05	3.97	2.88	4.18	4.18
Custer County	C19	RM 167.22	13433	20-yr	2763.7	694.13	689.79	2.37	2.25	26.87	19.01	276.96	415.48	4.17	2.95	4.34	4.34
Custer County	C19	RM 167.04	13143	20-yr	2763.7	693.95	689.14	2.35	2.21	25.87	20.98	256.62	377.92	4.51	3.66	4.81	4.81
Custer County	C19	RM 166.85	12847	20-yr	2763.7	693.61	688.98	2.8	2.61	38.28	30.8	240.01	352.63	3.99	3.21	4.63	4.63
Custer County	C19	RM 166.67	12552	20-yr	2763.7	693.39	688.84	2.57	2.48	31.47	21.67	252.35	381.81	4.24	2.92	4.55	4.55
Custer County	C19	RM 166.52	12319	20-yr	2763.7	693.31	688.64	2.19	2.16	22.49	18.94	278.87	338.1	4.51	3.79	4.67	4.67
Custer County	C19	RM 166.31	11978	20-yr	2763.7	693.04	688.02	2.48	2.32	28.03	18.46	249.27	408.13	4.44	2.92	5.02	5.02
Custer County	C20	RM 166.2	11806	20-yr	2769.4	692.9	687.4	2.57	2.38	30.68	19.75	229.93	391.47	4.63	2.97	5.5	5.5
Custer County	C20	RM 166.06	11569	20-yr	2769.4	692.67	687.38	2.74	2.57	36	23.15	239.53	402.83	4.17	2.67	5.29	5.29
Custer County	C20	RM 165.92	11350	20-yr	2769.4	692.41	687.38	2.9	2.69	40.58	24.46	229.93	418.65	4.11	2.46	5.03	5.03
Custer County	C20	RM 165.73	11039	20-yr	2769.4	692.23	687.26	2.45	2.37	28.52	21.77	264.5	360.5	4.26	3.25	4.97	4.97
Custer County	C20	RM 165.55	10750	20-yr	2769.4	692.04	687.11	2.41	2.34	27.75	22	273.69	357.23	4.19	3.31	4.93	4.93
Custer County	C20	RM 165.35	10440	20-yr	2769.4	691.84	686.75	2.37	2.29	26.91	22.05	279.36	357.77	4.13	3.38	5.09	5.09
Custer County	C20	RM 165.17	10140	20-yr	2769.4	691.66	686.41	2.38	2.2	26.38	17.47	247.1	420.45	4.53	2.99	5.25	5.25
Custer County	C20	RM 165.01	9883	20-yr	2769.4	691.49	686.16	2.38	2.27	26.64	21.38	262.27	362.67	4.39	3.51	5.33	5.33
Custer County	C20	RM 164.81	9577	20-yr	2769.4	691.33	686.04	2.25	2.07	24.14	15.79	284.5	486.04	4.24	2.76	5.29	5.29
Custer County	C20	RM 164.61	9252	20-yr	2769.4	691.22	685.8	1.89	1.68	16.08	12.01	374.23	584.89	3.8	2.82	5.42	5.42
Custer County	C20	RM 164.42	8945	20-yr	2769.4	691.07	685.78	1.89	1.88	15.96	15.43	416.56	441.44	3.51	3.4	5.29	5.29
Custer County	C20	RM 164.23	8641	20-yr	2769.4	690.95	685.85	1.71	1.7	16.85	16.63	452.11	472.24	3.59	3.55	5.1	5.1
Custer County	C20	RM 164.06	8372	20-yr	2769.4	690.82	685.64	1.86	1.69	15.62	12.18	294.56	498.28	4.96	3.86	5.18	5.18
Custer County	C20	RM 163.85	8031	20-yr	2769.4	690.66	685	2.03	1.96	18.85	14.9	277.99	369.42	4.85	3.83	5.66	5.66
Custer County	C20	RM 163.67	7743	20-yr	2769.4	690.39	684.45	2.54	2.53	28.1	27.19	191.84	199.23	5.67	5.5	5.94	5.94
Custer County	C20	RM 163.48	7449	20-yr	2769.4	690.05	684.13	3.06	3.02	40.71	37.91	162.29	176.32	5.57	5.19	5.92	5.92
Custer County	C20	RM 163.3	7150	20-yr	2769.4	689.97	684.13	2.52	2.45	28.11	24.47	204.93	243.9	5.33	4.64	5.84	5.84
Custer County	C20	RM 163.12	6859	20-yr	2769.4	689.91	683.91	2.05	1.94	19.47	16.47	267.05	340.99	4.95	4.19	6	6
Custer County	C20	RM 162.94	6583	20-yr	2769.4	689.68	683.78	2.45	2.22	26.62	18.35	204.74	339.42	5.37	3.68	5.9	5.9
Custer County	C20	RM 162.74	6254	20-yr	2769.4	689.25	683.77	3.13	2.83	44.73	26.7	177.33	339.88	4.88	2.88	5.48	5.48
Custer County	C20	RM 162.55	5957	20-yr	2769.4	689.03	683.96	2.79	2.75	39.95	36.34	231.24	258.29	4.28	3.9	5.07	5.07
Custer County	C20	RM 162.34	5620	20-yr	2769.4	688.93	683.92	2.09	2.03	20.64	16.92	304.55	386.58	4.32	3.54	5.01	5.01
Custer County	C20	RM 162.18	5352	20-yr	2769.4	688.81	683.41	1.87	1.86	26.74	25.14	354.23	379.67	4.17	3.92	5.4	5.4
Custer County	C20	RM 162.03	5111	20-yr	2769.4	688.71	683.26	1.79	1.79	14.91	14.64	322.26	347.88	4.8	4.71	5.45	5.45
Custer County	C20	RM 161.81	4770	20-yr	2769.4	688.19	682.63	3.09	2.98	42.82	33.54	174.77	233.11	5.1	3.99	5.56	5.56
Custer County	C20	RM 161.62	4470	20-yr	2769.4	687.92	682.53	3.14	2.76	45	34.36	174.2	369.32	4.83	3.68	5.39	5.39
Custer County	C20	RM 161.43	4159	20-yr	2769.4	687.69	682.63	2.84	2.7	37.33	28	206.33	294	4.67	3.49	5.06	5.06
Custer County	C20	RM 161.24	3859	20-yr	2769.4	687.39	682.51	2.98	2.74	41.53	29.36	199.39	316.73	4.54	3.19	4.88	4.88
Custer County	C20	RM 161.06	3559	20-yr	2769.4	687.18	682.38	2.73	2.52	34.64	25.03	218.97	334.02	4.57	3.29	4.8	4.8
Custer County	C20	RM 160.87	3258	20-yr	2769.4	686.78	682.24	3.1	2.97	45.52	35.47	204.8	277.6	4.32	3.36	4.54	4.54
Custer County	C20	RM 160.68	2952	20-yr	2769.4	686.63	682.11	2.51	2.48	29.84	26.85	252.16	285.02	4.36	3.92	4.52	4.52
Custer County	C20	RM 160.5	2662	20-yr	2769.4	686.45	681.85	2.36	2.33	27.34	24.82	303.25	338.28	3.87	3.51	4.6	4.6
Custer County	C20	RM 160.31	2364	20-yr	2769.4	686.27	681.58	2.2	2.13	23.87	20.88	321.4	397.26	3.86	3.38	4.69	4.69
Custer County	C20	RM 160.12	2063	20-yr	2769.4	686.09	681.02	2.23	2.14	23.52	20.37	277.19	346.22	4.39	3.8	5.07	5.07
Custer County	C20	RM 159.93	1758	20-yr	2769.4	685.81	680.9	2.51	2.43	31.24	26.63	292.2	390.77	3.74	3.18	4.91	4.91
Custer County	C20	RM 159.75	1459	20-yr	2769.4	685.56	680.88	2.54	2.48	30.46	25.28	251.96	340.18	4.31	3.57	4.68	4.68
Custer County	C20	RM 159.55	1151	20-yr	2769.4	685.37	680.74	2.42	2.38	27.54	25.51	261.92	312.21	4.36	4.04	4.63	4.63
Custer County	C20	RM 159.38	876	20-yr	2769.4	685.13	680.37	2.62	2.44	31.97	23.55	229.23	338.87	4.55	3.35	4.76	4.76

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	20-yr	2769.4	684.93	679.77	2.5	2.49	29.51	28.66	236.5	244.16	4.67	4.55	5.16	5.16
Custer County	C20	RM 158.98	229	20-yr	2769.4	684.65	679.44	2.69	2.64	33.26	30.51	217.29	243.08	4.71	4.32	5.21	5.21

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	20-yr	2775.1	684.65	679.22	2.63	2.54	31.6	26.9	214.16	263.6	4.88	4.15	5.43	5.43
Prairie County	C21	RM 158.55	61087	20-yr	2775.1	684.53	678.98	2.33	2.32	24.05	23.31	226.29	274.91	5.26	5.11	5.55	5.55
Prairie County	C21	RM 158.36	60787	20-yr	2775.1	684.41	678.83	2.23	2.22	22.56	21.22	249.45	296.87	4.98	4.68	5.58	5.58
Prairie County	C21	RM 158.17	60481	20-yr	2775.1	684.24	678.35	2.28	2.22	26.05	22.13	253.18	401.29	4.77	4.04	5.89	5.89
Prairie County	C21	RM 157.98	60173	20-yr	2775.1	683.92	678.22	2.7	2.61	34.22	29.56	231.17	321.05	4.41	3.8	5.7	5.7
Prairie County	C21	RM 157.78	59862	20-yr	2775.1	683.67	678.23	2.76	2.57	34.88	26.62	201.99	347.84	4.83	3.68	5.44	5.44
Prairie County	C21	RM 157.6	59561	20-yr	2775.1	683.56	678.14	2.32	2.21	24.34	19.55	233.85	311.39	5.03	4.04	5.42	5.42
Prairie County	C21	RM 157.38	59209	20-yr	2775.1	683.42	677.81	2.1	1.93	20.85	16.04	288.08	438.31	4.36	3.34	5.61	5.61
Prairie County	C21	RM 157.18	58885	20-yr	2775.1	683.28	677.42	2.12	1.76	20.29	12.95	235.66	515.85	5.04	3.19	5.86	5.86
Prairie County	C21	RM 156.99	58595	20-yr	2775.1	683.02	677.32	2.66	2.05	31.79	18.66	173.83	454.62	5.13	2.98	5.7	5.7
Prairie County	C21	RM 156.8	58287	20-yr	2775.1	682.57	677.32	3.36	2.61	52.04	32.97	149.83	358.28	4.74	2.97	5.25	5.25
Prairie County	C21	RM 156.62	57990	20-yr	2775.1	682.49	677.29	2.49	2.32	28.36	21.86	207.6	323.99	4.8	3.69	5.2	5.2
Prairie County	C21	RM 156.42	57683	20-yr	2775.1	682.37	677.21	2.14	2.03	21.18	17.8	271.12	346.52	4.71	3.95	5.16	5.16
Prairie County	C21	RM 156.24	57378	20-yr	2775.1	682.08	676.91	2.57	2.41	31.33	23.86	245.34	348.77	4.34	3.3	5.17	5.17
Prairie County	C21	RM 156.04	57069	20-yr	2775.1	681.92	676.56	2.39	2.2	25.58	16.3	226.07	392.12	5.07	3.22	5.36	5.36
Prairie County	C21	RM 155.85	56762	20-yr	2775.1	681.65	676.11	2.71	2.45	33.5	21.25	204.32	366.57	4.91	3.09	5.54	5.54
Prairie County	C21	RM 155.66	56455	20-yr	2775.1	681.22	675.96	3.23	2.81	48.41	30.26	177.2	340.41	4.68	2.9	5.26	5.26
Prairie County	C21	RM 155.47	56151	20-yr	2775.1	681.12	675.89	2.45	2.24	28.45	20.42	257.44	402.68	4.3	3.08	5.23	5.23
Prairie County	C21	RM 155.27	55835	20-yr	2775.1	680.93	675.92	2.26	2.24	25.24	22.49	317.77	361.74	3.85	3.43	5.01	5.01
Prairie County	C21	RM 155.08	55530	20-yr	2775.1	680.7	675.95	2.35	2.31	26.91	23.56	296.49	344.9	3.97	3.48	4.74	4.74
Prairie County	C21	RM 154.88	55209	20-yr	2775.1	680.51	675.64	2.24	2.24	23.93	23.25	300.68	309.81	4.11	4	4.87	4.87
Prairie County	C21	RM 154.69	54901	20-yr	2775.1	680.19	675.39	2.61	2.57	33.13	30.48	264.93	307.73	3.99	3.68	4.8	4.8
Prairie County	C21	RM 154.5	54588	20-yr	2775.1	679.94	675.02	2.57	2.53	31.57	29.78	257.32	277.11	4.18	3.95	4.92	4.92
Prairie County	C21	RM 154.3	54273	20-yr	2775.1	679.74	674.8	2.4	2.38	27.56	25.27	277.5	305.23	4.16	3.82	4.94	4.94
Prairie County	C21	RM 154.1	53959	20-yr	2775.1	679.49	674.67	2.5	2.44	30.14	26.34	269.5	317.42	4.09	3.58	4.82	4.82
Prairie County	C21	RM 153.91	53650	20-yr	2775.1	679.31	674.51	2.34	2.31	25.56	22.93	260.55	295.95	4.53	4.07	4.8	4.8
Prairie County	C21	RM 153.72	53338	20-yr	2775.1	679.08	674.06	2.53	2.31	29.39	20.89	225.99	360.37	4.71	3.34	5.02	5.02
Prairie County	C21	RM 153.52	53023	20-yr	2775.1	678.69	673.78	3.01	2.71	43.38	32.53	206.24	326.67	4.19	3.13	4.91	4.91
Prairie County	C21	RM 153.32	52704	20-yr	2775.1	678.41	673.64	2.73	2.69	36.06	32.16	249.02	319.64	4.07	3.62	4.77	4.77
Prairie County	C21	RM 153.12	52380	20-yr	2775.1	678.25	673.43	2.33	2.27	25.47	21.35	270.43	395.99	4.39	3.68	4.82	4.82
Prairie County	C21	RM 152.92	52065	20-yr	2775.1	678.07	672.88	2.3	2.25	24.53	20.41	270.87	422.3	4.45	3.69	5.19	5.19
Prairie County	C21	RM 152.73	51762	20-yr	2775.1	677.89	672.27	2.31	2.23	25	21.32	271.58	368.76	4.4	3.75	5.62	5.62
Prairie County	C21	RM 152.54	51463	20-yr	2775.1	677.7	671.85	2.36	2.26	26.1	21.87	251.98	318.25	4.62	3.86	5.85	5.85
Prairie County	C21	RM 152.35	51157	20-yr	2775.1	677.54	671.41	2.32	2.31	24.16	22.91	229.76	244.22	5.19	4.92	6.13	6.13
Prairie County	C21	RM 152.16	50852	20-yr	2775.1	677.42	671.23	2.19	2.12	22.11	19.44	268.26	317.1	4.69	4.12	6.19	6.19
Prairie County	C21	RM 151.97	50546	20-yr	2775.1	677.3	670.99	2.07	1.9	17.95	15.03	284.09	388.86	4.49	3.75	6.31	6.31
Prairie County	C21	RM 151.77	50227	20-yr	2775.1	677.2	670.87	2.06	1.77	18.27	12.43	204.89	402.19	5.76	3.89	6.33	6.33
Prairie County	C21	RM 151.59	49936	20-yr	2775.1	676.85	670.75	2.93	2.5	38.06	23.18	152.18	340.05	5.43	3.26	6.1	6.1
Prairie County	C21	RM 151.38	49599	20-yr	2775.1	676.69	670.9	2.53	2.27	28.32	18.98	199.41	344.59	5.31	3.54	5.79	5.79
Prairie County	C21	RM 151.19	49287	20-yr	2775.1	676.57	670.96	2.3	2.23	23.53	18.56	226.6	298.3	5.29	4.17	5.61	5.61
Prairie County	C21	RM 151.01	49012	20-yr	2775.1	676.47	670.91	2.08	2.04	21.34	18.82	288.76	335.31	4.6	4.05	5.56	5.56
Prairie County	C21	RM 150.81	48683	20-yr	2775.1	676.39	670.79	1.68	1.67	12.64	12.28	428.92	443.66	3.85	3.74	5.6	5.6
Prairie County	C21	RM 150.63	48400	20-yr	3154.5	676.28	670.45	1.76	1.72	13.74	11.24	405.47	542.94	4.39	3.59	5.83	5.83
Prairie County	C21	RM 150.44	48094	20-yr	3154.5	676.07	669.86	2.23	2.12	22.54	19.91	273.64	415.91	5.02	4.44	6.21	6.21
Prairie County	C21	RM 150.25	47780	20-yr	3154.5	675.49	669.38	3.41	3.22	59.37	46.37	166.06	243.92	5.45	4.24	6.11	6.11
Prairie County	C21	RM 150.05	47474	20-yr	3154.5	675.39	669.21	2.72	2.68	32.05	28.86	204.16	230.21	5.67	5.11	6.18	6.18
Prairie County	C21	RM 149.87	47178	20-yr	3154.5	675.27	669.02	2.43	2.34	27.2	23.32	269.57	329.98	4.77	4.08	6.25	6.25
Prairie County	C21	RM 149.66	46846	20-yr	3154.5	675.16	668.97	2.07	1.99	19.06	16.33	331.18	406.67	4.56	3.89	6.19	6.19
Prairie County	C21	RM 149.48	46551	20-yr	3154.5	674.83	668.91	2.67	2.43	33.37	22.26	261.52	658.21	4.44	2.95	5.92	5.92
Prairie County	C21	RM 149.27	46219	20-yr	3154.5	674.66	668.94	2.52	2.03	28.97	17.56	208.49	658.71	4.86	2.92	5.72	5.72
Prairie County	D1	RM 149.08	45914	20-yr	3154.5	674.44	668.95	2.47	2.26	27.78	18.3	254.75	529.68	4.89	3.21	5.49	5.49
Prairie County	D1	RM 148.89	45608	20-yr	3157.3	674.36	668.96	2.05	2.03	19.03	18.51	314.73	423.14	4.9	4.77	5.4	5.4
Prairie County	D1	RM 148.7	45301	20-yr	3157.3	674.23	668.73	2.05	2.02	20.35	19.13	347.94	377.66	4.41	4.14	5.5	5.5
Prairie County	D1	RM 148.5	44987	20-yr	3157.3	673.97	668.42	2.49	2.23	27.76	21.72	235.13	353.14	5.14	4.02	5.55	5.55
Prairie County	D1	RM 148.3	44667	20-yr	3157.3	673.61	668.01	2.99	2.65	39.9	29.08	193.35	313.94	5.22	3.79	5.6	5.6
Prairie County	D1	RM 148.11	44353	20-yr	3157.3	673.46	667.73	2.6	2.46	30.22	25.87	230.09	303.32	5.17	4.43	5.73	5.73
Prairie County	D1	RM 147.93	44062	20-yr	3157.3	673.36	667.4	2.23	2.21	22.98	21.97	306.12	323.39	4.62	4.42	5.96	5.96
Prairie County	D1	RM 147.74	43761	20-yr	3157.3	673.24	667.21	2.16	1.98	22.15	17.82	251.8	401.81	4.94	3.96	6.03	6.03
Prairie County	D1	RM 147.55	43454	20-yr	3157.3	673.04	666.79	2.47	2.17	26.92	15.11	197.43	482.05	5.43	3.02	6.25	6.25
Prairie County	D1	RM 147.34	43128	20-yr	3157.3	672.83	666.46	2.67	2.3	31.1	17.77	173.86	434.78	5.63	3.16	6.37	6.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	20-yr	3157.3	672.64	666.42	2.72	2.39	32.7	23.96	178.57	340.6	5.34	3.88	6.22	6.22
Prairie County	D1	RM 146.96	42505	20-yr	3157.3	672.3	666.49	2.99	2.87	39.23	33.63	187.33	248.03	5.53	4.75	5.81	5.81
Prairie County	D1	RM 146.77	42199	20-yr	3157.3	672.18	666.48	2.6	2.59	29.79	28.73	225.21	233.44	5.39	5.22	5.7	5.7
Prairie County	D1	RM 146.58	41899	20-yr	3157.3	672.12	666.59	2.09	2.09	19.75	19.26	296.32	304.68	5.09	4.96	5.53	5.53
Prairie County	D1	RM 146.32	41487	20-yr	3157.3	671.89	666.62	2.25	2.21	23.76	21.49	325.06	366.79	4.31	3.89	5.27	5.27
Prairie County	D1	RM 146	40968	20-yr	3157.3	671.54	666.48	2.41	2.38	27.88	24.72	277.27	317.3	4.72	4.19	5.06	5.06
Prairie County	D1	RM 145.65	40420	20-yr	3157.3	671.16	665.52	2.56	2.51	31.38	26.88	247.14	296.32	4.97	4.25	5.64	5.64
Prairie County	D1	RM 145.36	39958	20-yr	3157.3	670.9	664.91	2.39	2.32	27.73	24.15	264.9	315.78	4.94	4.3	5.99	5.99
Prairie County	D1	RM 145.13	39579	20-yr	3157.3	670.72	664.58	2.27	2.22	24.19	19.6	266.31	338.26	5.2	4.21	6.14	6.14
Prairie County	D1	RM 144.92	39251	20-yr	3157.3	670.57	664.24	2.24	2.19	24.55	19.97	272.39	345.28	5.15	4.18	6.33	6.33
Prairie County	D1	RM 144.73	38942	20-yr	3157.3	670.39	663.99	2.34	2.24	26.66	21.52	264.25	347.77	5.03	4.05	6.4	6.4
Prairie County	D1	RM 144.56	38672	20-yr	3157.3	670.17	664.1	2.55	2.46	30.04	26	265.15	322.15	4.61	3.99	6.07	6.07
Prairie County	D1	RM 144.33	38305	20-yr	3157.3	669.94	664.19	2.54	2.37	28.68	21.66	232.15	338.57	5.23	3.94	5.75	5.75
Prairie County	D1	RM 144.13	37987	20-yr	3157.3	669.85	664.33	2.19	2.1	21.21	17.66	271.37	341.71	5.27	4.39	5.52	5.52
Prairie County	D1	RM 143.91	37637	20-yr	3157.3	669.75	663.96	1.95	1.75	17.07	12.5	299.48	482.01	5.12	3.74	5.79	5.79
Prairie County	D1	RM 143.71	37320	20-yr	3157.3	669.37	663.43	2.87	2.55	35.96	22.87	191.55	355.4	5.52	3.49	5.94	5.94
Prairie County	D1	RM 143.45	36908	20-yr	3157.3	668.91	663.01	3.27	3.06	47.55	35.26	179.26	265.02	5.26	3.89	5.9	5.9
Prairie County	D1	RM 143.21	36511	20-yr	3157.3	668.76	662.92	2.59	2.54	29.5	26.25	224.58	258.2	5.41	4.81	5.84	5.84
Prairie County	D1	RM 142.97	36139	20-yr	3157.3	668.59	662.7	2.46	2.42	26.35	23.98	232.06	259.61	5.53	5.03	5.89	5.89
Prairie County	D1	RM 142.71	35717	20-yr	3157.3	668.04	662.52	3.26	3.25	48.1	44.08	192.11	210.73	5.03	4.61	5.52	5.52
Prairie County	D1	RM 142.46	35322	20-yr	3157.3	667.93	662.36	2.43	2.35	26.48	21.35	254.79	329.51	5.07	4.08	5.57	5.57
Prairie County	D1	RM 142.23	34952	20-yr	3157.3	667.68	662.21	2.57	2.44	29.52	22.08	237.35	337.01	5.14	3.83	5.47	5.47
Prairie County	D1	RM 142.02	34614	20-yr	3157.3	667.51	662.21	2.43	2.26	27.73	22.69	269.68	383.97	4.45	3.64	5.3	5.3
Prairie County	D1	RM 141.8	34258	20-yr	3157.3	667.43	662.01	1.78	1.77	14.58	14.26	393.92	404.97	4.51	4.41	5.42	5.42
Prairie County	D1	RM 141.6	33942	20-yr	3157.3	667.23	661.72	2.13	2.12	18.19	17.98	410.15	415.48	3.61	3.58	5.51	5.51
Prairie County	D1	RM 141.42	33642	20-yr	3157.3	667.17	661.32	1.67	1.67	10.97	10.7	495.82	509.61	3.8	3.71	5.85	5.85
Prairie County	D1	RM 141.22	33325	20-yr	3157.3	667.04	660.91	1.87	1.86	15.6	15.21	326.47	363.81	5.17	5.05	6.13	6.13
Prairie County	D1	RM 141.02	33011	20-yr	3157.3	666.66	660.58	2.81	2.73	34.06	25.51	194.42	268.63	5.76	4.3	6.08	6.08
Prairie County	D1	RM 140.84	32709	20-yr	3157.3	666.57	660.35	2.4	2.37	25.35	22.81	241.98	272.78	5.43	4.88	6.22	6.22
Prairie County	D1	RM 140.64	32394	20-yr	3157.3	666.47	660.07	2.22	2.19	20.99	19.57	239.5	260.53	5.94	5.53	6.4	6.4
Prairie County	D1	RM 140.44	32074	20-yr	3157.3	666.25	659.63	2.52	2.48	27.84	25.17	225.88	254.48	5.53	5	6.62	6.62
Prairie County	D1	RM 140.23	31738	20-yr	3157.3	665.93	659.62	2.89	2.85	37.14	32.61	207.01	239.28	5.26	4.63	6.31	6.31
Prairie County	D1	RM 140.03	31420	20-yr	3157.3	665.85	659.59	2.33	2.31	23.95	21.32	253.77	287.45	5.34	4.76	6.26	6.26
Prairie County	D1	RM 139.84	31118	20-yr	3157.3	665.77	659.19	2.04	1.98	18.82	16.75	309.19	360.24	4.97	4.43	6.58	6.58
Prairie County	D1	RM 139.64	30801	20-yr	3157.3	665.6	658.96	2.26	2.02	21.73	14.12	222.13	398.92	6.05	3.92	6.64	6.64
Prairie County	D1	RM 139.44	30466	20-yr	3157.3	665.49	658.72	2.18	2.01	20.61	14.4	250.57	400.02	5.65	3.93	6.77	6.77
Prairie County	D1	RM 139.23	30138	20-yr	3157.3	665.31	658.34	2.32	2.3	26.16	24.66	219.78	235.16	6.19	5.84	6.97	6.97
Prairie County	D1	RM 139.02	29799	20-yr	3157.3	664.92	658.14	2.98	2.88	46.14	37.81	179.74	229.21	5.85	4.78	6.78	6.78
Prairie County	D1	RM 138.81	29470	20-yr	3157.3	664.88	658.11	2.22	2.16	23.63	20.81	219.94	258.25	6.43	5.65	6.77	6.77
Prairie County	D1	RM 138.62	29157	20-yr	3157.3	664.73	657.94	2.33	2.23	23.03	17.98	216.79	294.08	6.18	4.81	6.79	6.79
Prairie County	D1	RM 138.41	28823	20-yr	3157.3	664.5	657.82	2.62	2.52	32.37	26.29	202.45	262.41	5.89	4.78	6.68	6.68
Prairie County	D1	RM 138.22	28519	20-yr	3157.3	664.32	657.8	2.65	2.58	30.1	26.32	198.68	234.25	5.97	5.23	6.52	6.52
Prairie County	D1	RM 138.02	28200	20-yr	3157.3	664.31	657.74	2.01	1.98	18.19	16.89	246.99	270.43	6.34	5.89	6.57	6.57
Prairie County	D1	RM 137.82	27874	20-yr	3157.3	664.18	656.95	2.09	2.03	20.35	16.93	263.32	329.2	5.69	4.73	7.23	7.23
Prairie County	D1	RM 137.62	27552	20-yr	3157.3	664.07	656.75	2.11	1.8	21.03	15.29	234.81	489.32	5.72	4.13	7.32	7.32
Prairie County	D1	RM 137.42	27247	20-yr	3157.3	663.8	656.66	2.57	2.43	31.05	23.69	204.7	290.72	5.88	4.47	7.14	7.14
Prairie County	D1	RM 137.24	26944	20-yr	3157.3	663.63	656.66	2.57	2.5	31.81	26.18	205.46	330.41	5.95	4.88	6.97	6.97
Prairie County	D1	RM 137.04	26627	20-yr	3168.7	663.42	656.5	2.63	2.58	33.23	28.23	208.71	251.87	5.75	4.88	6.92	6.92
Prairie County	D2	RM 136.84	26475	20-yr	3168.7	663.39	656.46	2.41	2.4	26.09	25.04	207.19	216.52	6.34	6.09	6.93	6.93
Prairie County	D2	RM 136.44	26317	20-yr	3168.7	663.37	656.37	2.16	2.13	21.59	19.08	228.7	263.09	6.41	5.66	7	7
Prairie County	D2	RM 136.23	26001	20-yr	3168.7	663.22	656.19	2.27	2.21	23.51	19.89	246.47	302.22	5.62	4.75	7.03	7.03
Prairie County	D2	RM 136.04	25673	20-yr	3168.7	663.05	656.01	2.4	2.33	23.84	18.22	211.82	349.77	6.21	4.72	7.04	7.04
Prairie County	D2	RM 135.85	25337	20-yr	3168.7	662.78	655.93	2.78	2.77	32.84	31.66	186.08	198.21	6.11	5.92	6.85	6.85
Prairie County	D2	RM 135.66	25033	20-yr	3168.7	662.66	655.91	2.57	2.55	28.05	25.84	202.14	285.49	6.09	5.61	6.75	6.75
Prairie County	D2	RM 135.46	24715	20-yr	3168.7	662.49	655.86	2.59	2.51	34.02	26.24	199.11	267.55	6.13	4.72	6.63	6.63
Prairie County	D2	RM 135.24	24417	20-yr	3168.7	662.43	655.68	2.16	2.13	23.11	21.25	229.44	252.91	6.39	5.88	6.75	6.75
Prairie County	D2	RM 135	24090	20-yr	3168.7	662.27	655.56	2.25	2.21	24.41	21.08	246.98	294.19	5.66	4.88	6.71	6.71
Prairie County	D2	RM 134.78	23742	20-yr	3168.7	662.11	655.36	2.29	2.21	25.11	17.2	223.84	342.87	6.14	4.19	6.75	6.75
Prairie County	D2	RM 134.58	23351	20-yr	3168.7	661.77	655.29	2.77	2.69	39.07	29.41	189.75	262.2	6	4.5	6.48	6.48
Prairie County	D2	RM 134.39	23000	20-yr	3168.7	661.57	655.24	2.61	2.53	34.72	31.07	216.99	252.06	5.56	4.97	6.33	6.33

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	20-yr	3168.7	661.45	655.11	2.29	2.17	23.38	20.61	263.97	584.1	5.15	4.54	6.34	6.34
Prairie County	D2	RM 133.99	22372	20-yr	3168.7	661.32	654.97	2.22	2.14	21.64	18.65	264.94	321.73	5.34	4.6	6.35	6.35
Prairie County	D2	RM 133.79	22053	20-yr	3168.7	661.09	655	2.54	2.37	28.35	21.82	226.1	321.65	5.42	4.16	6.09	6.09
Prairie County	D2	RM 133.59	21733	20-yr	3168.7	660.94	654.96	2.41	2.35	25.61	21.43	247	304.31	5.31	4.44	5.98	5.98
Prairie County	D2	RM 133.41	21417	20-yr	3168.7	660.83	654.78	2.25	2.16	22.15	17.08	254.87	347.56	5.49	4.22	6.05	6.05
Prairie County	D2	RM 133.21	21104	20-yr	3168.7	660.62	654.64	2.48	2.32	26.82	16.6	229.84	401.53	5.51	3.4	5.98	5.98
Prairie County	D2	RM 133.02	20811	20-yr	3168.7	660.5	654.53	2.37	2.23	24.72	15.61	246.2	418.45	5.39	3.39	5.97	5.97
Prairie County	D2	RM 132.83	20491	20-yr	3168.7	660.37	654.29	2.29	2.15	23.45	17.62	262.67	383.67	5.14	3.85	6.08	6.08
Prairie County	D2	RM 132.63	20184	20-yr	3168.7	660.25	654.04	2.19	1.98	21.34	16.28	254.86	404.97	5.19	3.95	6.21	6.21
Prairie County	D2	RM 132.42	19875	20-yr	3168.7	660.05	653.98	2.42	2.22	25.57	16.92	221.68	385.37	5.61	3.7	6.07	6.07
Prairie County	D2	RM 132.23	19553	20-yr	3168.7	659.97	653.88	2.07	1.91	18.46	14.22	257.21	379.08	5.7	4.39	6.09	6.09
Prairie County	D2	RM 132.02	19225	20-yr	3168.7	659.75	653.63	2.42	2.29	26.01	21.53	246.63	319.06	5.25	4.34	6.12	6.12
Prairie County	D2	RM 131.81	18910	20-yr	3168.7	659.53	653.37	2.59	2.43	29.69	24.01	226.33	302.25	5.33	4.31	6.16	6.16
Prairie County	D2	RM 131.58	18573	20-yr	3168.7	659.43	653.02	2.23	2.14	21.28	18.44	238.03	325.91	5.92	5.13	6.41	6.41
Prairie County	D2	RM 131.38	18237	20-yr	3168.7	659.28	652.75	2.37	2.24	23.97	20.88	212.37	273.04	5.95	5.19	6.53	6.53
Prairie County	D2	RM 131.18	17875	20-yr	3168.7	659	652.49	2.69	2.61	31.6	26.23	209.79	262.28	5.58	4.62	6.51	6.51
Prairie County	D2	RM 130.98	17548	20-yr	3168.7	658.79	652.34	2.75	2.62	32.6	26.99	197.09	253.65	5.77	4.77	6.45	6.45
Prairie County	D2	RM 130.78	17227	20-yr	3168.7	658.67	652.27	2.48	2.29	26.56	19.2	216.24	346.24	5.79	4.17	6.4	6.4
Prairie County	D2	RM 130.59	16914	20-yr	3168.7	658.6	652.16	2.17	2.06	19.88	15.88	239.07	319.99	6.05	4.82	6.44	6.44
Prairie County	D2	RM 130.39	16588	20-yr	3168.7	658.38	651.95	2.5	2.5	26.74	25.98	212.42	255.09	5.96	5.8	6.43	6.43
Prairie County	D2	RM 130.19	16280	20-yr	3168.7	658.2	651.81	2.58	2.57	28.98	28.11	219.93	249.26	5.59	5.43	6.39	6.39
Prairie County	D2	RM 130	15965	20-yr	3168.7	658.1	651.57	2.29	2.28	22.74	21.52	244.4	282.14	5.66	5.36	6.53	6.53
Prairie County	D2	RM 129.81	15649	20-yr	3168.7	657.99	651.47	2.23	2.19	21.14	19.16	235.14	285.43	6.02	5.46	6.52	6.52
Prairie County	D2	RM 129.62	15337	20-yr	3168.7	657.8	651.34	2.48	2.27	26.4	19.01	216.64	337	5.77	4.14	6.46	6.46
Prairie County	D2	RM 129.43	15031	20-yr	3168.7	657.69	651.21	2.35	2.31	23.62	21.02	227.37	261.73	5.91	5.25	6.48	6.48
Prairie County	D2	RM 129.24	14724	20-yr	3216.8	657.47	651.06	2.6	2.55	29.53	25.65	222.31	316.15	5.55	4.82	6.41	6.41
Prairie County	D2	RM 129.04	14417	20-yr	3216.8	657.24	651.06	2.76	2.7	33.33	29.6	209.54	307.34	5.53	4.92	6.18	6.18
Prairie County	D2	RM 128.82	14112	20-yr	3216.8	657.04	651.05	2.79	2.75	34.07	30.79	209.12	337.4	5.5	4.98	5.99	5.99
Prairie County	D2	RM 128.62	13798	20-yr	3216.8	656.91	651.08	2.52	2.51	27.68	26.62	228.13	383.79	5.59	5.39	5.83	5.83
Prairie County	D2	RM 128.41	13446	20-yr	3216.8	656.77	651.07	2.35	2.29	24.52	19.69	255.09	328.99	5.32	4.27	5.7	5.7
Prairie County	D2	RM 128.21	13125	20-yr	3216.8	656.61	650.98	2.39	2.22	25.24	19.5	246.55	352.21	5.34	4.11	5.63	5.63
Prairie County	D2	RM 127.98	12790	20-yr	3216.8	656.45	650.84	2.37	2.27	24.64	16.88	250.67	386.05	5.39	3.68	5.61	5.61
Prairie County	D2	RM 127.75	12473	20-yr	3216.8	656.35	650.59	2.13	2.07	20.24	16.03	287.96	375.65	5.22	4.13	5.76	5.76
Prairie County	D2	RM 127.55	12112	20-yr	3216.8	656.21	650.35	2.11	2.03	19.73	16.49	287.38	360.96	5.25	4.38	5.86	5.86
Prairie County	D2	RM 127.27	11729	20-yr	3216.8	656.05	649.95	2.15	2.1	20.33	16.4	277.2	353.75	5.38	4.33	6.1	6.1
Prairie County	D2	RM 126.97	11415	20-yr	3216.8	655.8	649.68	2.57	2.5	28.82	22.67	226.77	298.46	5.5	4.31	6.12	6.12
Prairie County	D2	RM 126.71	10962	20-yr	3216.8	655.55	649.49	2.58	2.52	28.76	22.03	218.29	291.93	5.7	4.37	6.06	6.06
Prairie County	D2	RM 126.43	10478	20-yr	3216.8	655.43	649.32	2.08	2.05	18.74	16.61	275.96	315.3	5.6	4.97	6.11	6.11
Prairie County	D2	RM 126.42	10074	20-yr	3216.8	655.17	649.05	2.43	2.36	26.14	21.52	249.83	314.86	5.27	4.34	6.12	6.12
Prairie County	D2	RM 126.41	9625	20-yr	3216.8	654.91	648.27	2.56	2.42	28.38	21.63	220.07	309.79	5.62	4.29	6.63	6.63
Prairie County	D3	RM 126.38	9533	20-yr	3216.8	654.85	648.27	2.59	2.46	29.13	22.71	220.07	301.08	5.57	4.34	6.58	6.58
Prairie County	D3	RM 126.22	9286	20-yr	3216.8	654.77	648.8	2.34	2.31	23.79	18.83	246.62	316.77	5.57	4.4	5.97	5.97
Prairie County	D3	RM 126.03	8974	20-yr	3216.8	654.67	648.71	2.18	2.13	20.95	15.12	269.32	384.55	5.45	3.92	5.96	5.96
Prairie County	D3	RM 125.82	8648	20-yr	3216.8	654.53	648.36	2.18	2.14	21.17	16.22	282.4	378.09	5.21	3.98	6.17	6.17
Prairie County	D3	RM 125.63	8335	20-yr	3216.8	654.41	648.12	2.17	2.13	20.42	18.99	259.94	286.02	5.67	5.28	6.29	6.29
Prairie County	D3	RM 125.43	8020	20-yr	3216.8	654.22	647.8	2.43	2.22	25.22	17.57	217.06	350.95	5.96	4.13	6.42	6.42
Prairie County	D3	RM 125.24	7711	20-yr	3216.8	654.13	647.26	2.23	2.07	20.87	14.31	226.37	363.77	6.26	4.27	6.87	6.87
Prairie County	D3	RM 125.05	7403	20-yr	3216.8	653.98	647.23	2.41	2.22	24.33	16.59	209.96	341.84	6.25	4.25	6.75	6.75
Prairie County	D3	RM 124.83	7059	20-yr	3216.8	653.86	647.25	2.26	2.19	21.67	19.45	237.41	312.13	5.97	5.36	6.61	6.61
Prairie County	D3	RM 124.62	6712	20-yr	3216.8	653.74	647.25	2.22	2.16	21.38	18.12	257.84	314.3	5.6	4.74	6.49	6.49
Prairie County	D3	RM 124.41	6375	20-yr	3216.8	653.51	647.27	2.53	2.2	28.02	15.15	221.62	878.38	5.51	2.96	6.24	6.24
Prairie County	D3	RM 124.15	5960	20-yr	3216.8	653.25	647.27	2.63	2.26	30.85	13.62	232.47	770.27	5.15	2.26	5.98	5.98
Prairie County	D3	RM 123.94	5627	20-yr	3216.8	652.9	647.27	3.02	2.45	40.9	16.76	199.91	633.63	5.11	2.07	5.63	5.63
Prairie County	D3	RM 123.74	5312	20-yr	3216.8	652.65	647.25	2.98	2.49	39.79	16.13	206.88	630.24	5.1	2.05	5.4	5.4
Prairie County	D3	RM 123.56	5014	20-yr	3216.8	652.69	647.24	1.89	1.59	15.76	7.47	311.23	805.13	5.33	2.52	5.45	5.45
Prairie County	D3	RM 123.24	4500	20-yr	3216.8	652.57	647.19	1.12	1.12	15.04	14.97	934.44	939.34	3.07	3.06	5.38	5.38
Prairie County	D3	RM 122.99	4116	20-yr	3216.8	652.41	646.67	1.4	1.35	9.1	8.45	527.26	592.83	4.32	4.01	5.74	5.74
Prairie County	D3	RM 122.76	3746	20-yr	3216.8	652.26	646.22	1.74	1.72	13.6	12.91	362.48	386.08	5.09	4.84	6.04	6.04
Prairie County	D3	RM 122.55	3414	20-yr	3216.8	652.01	645.7	2.33	2.32	23.64	22.82	242.74	289.51	5.67	5.48	6.31	6.31
Prairie County	D3	RM 122.3	3012	20-yr	3216.8	651.7	645.57	2.72	2.64	32.5	26.36	214.39	466.48	5.48	4.44	6.13	6.13

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	20-yr	3216.8	651.52	645.49	2.54	2.46	28.43	22.33	240.65	448.94	5.24	4.1	6.03	6.03
Prairie County	D3	RM 121.88	2338	20-yr	3216.8	651.38	645.42	2.44	2.37	26.04	22.06	244.44	478.01	5.38	4.55	5.96	5.96
Prairie County	D3	RM 121.66	1982	20-yr	3216.8	651.14	645.3	2.61	2.55	29.76	26.32	226.93	370.44	5.41	4.78	5.84	5.84
Prairie County	D3	RM 121.46	1651	20-yr	3216.8	650.97	645.06	2.52	2.47	28.31	26.39	243.93	312.03	5.21	4.86	5.91	5.91
Prairie County	D3	RM 121.24	1304	20-yr	3216.8	650.75	644.99	2.56	2.44	29.99	26.31	247.35	306.94	5.01	4.39	5.76	5.76
Prairie County	D3	RM 121.02	957	20-yr	3216.8	650.59	644.88	2.38	2.22	26.4	21.1	259.65	356.93	5.1	4.07	5.71	5.71
Prairie County	D3	RM 120.84	660	20-yr	3216.8	650.41	644.78	2.4	2.37	28.59	26.69	255.32	307.01	5.23	4.89	5.63	5.63
Prairie County	D3	RM 120.64	350	20-yr	3216.8	650.26	644.42	2.39	2.38	25.08	24.05	244.23	255.68	5.49	5.28	5.84	5.84

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	20-yr	3217.22	650.25	643.94	2.26	2.15	22.47	20.53	254.01	346.39	5.39	4.92	6.31	6.31
Dawson County	D3	RM 120.28	90838.07	20-yr	3217.22	650.19	643.78	2.29	2.12	22.88	16.9	233.12	366.53	5.6	4.13	6.4	6.4
Dawson County	D3	RM 120.18	90675.23	20-yr	3217.22	650.09	643.7	2.37	2.24	24.06	19.67	213.48	297.04	5.88	4.83	6.39	6.39
Dawson County	D3	RM 120.00	90388.96	20-yr	3217.22	649.98	643.56	2.33	2.21	22.98	18.53	226.64	298.75	6.03	4.86	6.41	6.41
Dawson County	D3	RM 119.84	90136.35	20-yr	3217.22	649.83	643.44	2.48	2.38	26.23	21.07	213.73	311.07	5.99	4.82	6.39	6.39
Dawson County	D3	RM 119.68	89873.82	20-yr	3217.22	649.61	643.31	2.78	2.67	33.01	27.31	189.21	253.94	5.99	4.96	6.3	6.3
Dawson County	D3	RM 119.53	89627.16	20-yr	3217.22	649.51	643.2	2.62	2.59	29.15	27.2	204.32	221.58	6	5.61	6.31	6.31
Dawson County	D3	RM 119.39	89404.11	20-yr	3217.22	649.45	643.09	2.36	2.31	23.86	22.35	231.36	318.98	5.85	5.51	6.36	6.36
Dawson County	D3	RM 119.26	89201.38	20-yr	3217.22	649.39	642.99	2.21	2.08	21.29	15.88	263.7	378.92	5.47	4.07	6.4	6.4
Dawson County	D3	RM 119.12	88969.13	20-yr	3217.22	649.16	642.87	2.71	2.4	31.39	19.18	193.4	479.61	5.92	3.59	6.28	6.28
Dawson County	D3	RM 119.00	88780.83	20-yr	3217.22	649.07	642.78	2.62	2.33	29.34	15.25	199.46	456.65	5.86	3.03	6.29	6.29
Dawson County	D3	RM 118.85	88537.07	20-yr	3217.22	649.02	642.66	2.27	2.13	22.53	16.29	241.51	406.4	5.58	4.03	6.36	6.36
Dawson County	D3	RM 118.72	88336.12	20-yr	3217.22	648.97	642.56	2.1	1.91	18.81	12.14	237.19	503.55	6.02	3.88	6.41	6.41
Dawson County	D3	RM 118.60	88130.39	20-yr	3217.22	648.82	642.46	2.39	2.17	24.52	14.2	220.72	488.11	5.84	3.38	6.36	6.36
Dawson County	D3	RM 118.47	87924.15	20-yr	3217.22	648.66	642.37	2.62	2.44	30.18	22.23	211.72	329.81	5.42	4	6.3	6.3
Dawson County	D3	RM 118.34	87719.85	20-yr	3217.22	648.43	642.27	2.92	2.74	39.15	26.86	214.06	355.6	4.81	3.3	6.17	6.17
Dawson County	D3	RM 118.21	87507.02	20-yr	3217.22	648.3	642.16	2.86	2.56	34.93	21.7	175.82	341.46	5.95	3.67	6.13	6.13
Dawson County	D3	RM 118.07	87276.02	20-yr	3239.88	648.27	642.05	2.23	2.18	22.65	19.03	297.49	363.09	4.87	4.09	6.22	6.22
Dawson County	D4	RM 117.90	87004.77	20-yr	3239.88	648.21	641.92	2.03	1.81	18.15	14.7	234.19	423.16	5.44	4.39	6.29	6.29
Dawson County	D4	RM 117.77	86795.88	20-yr	3239.88	648.16	641.81	1.94	1.64	16.73	12.17	217.15	561.87	5.37	3.87	6.34	6.34
Dawson County	D4	RM 117.62	86560.03	20-yr	3239.88	648.08	641.7	1.93	1.67	16.01	10.4	247.32	568.22	5.72	3.71	6.38	6.38
Dawson County	D4	RM 117.46	86294.2	20-yr	3239.88	647.85	641.57	2.57	2.11	28.72	13.38	183	587.31	5.68	2.62	6.28	6.28
Dawson County	D4	RM 117.33	86073.88	20-yr	3239.88	647.55	641.46	3.17	2.57	43.08	20.2	137.01	468.33	6.02	2.75	6.09	6.09
Dawson County	D4	RM 117.16	85808.16	20-yr	3239.88	647.5	641.33	2.5	2.17	26.81	16.43	182.25	425.51	5.94	3.62	6.16	6.16
Dawson County	D4	RM 117.03	85604.68	20-yr	3239.88	647.45	641.3	2.15	2.02	20.59	14.18	243.69	459.54	5.31	3.65	6.15	6.15
Dawson County	D4	RM 116.87	85336.88	20-yr	3239.88	647.4	641.29	1.92	1.58	16.26	9.77	238.63	638.87	5.44	3.27	6.11	6.11
Dawson County	D4	RM 116.69	85043.25	20-yr	3239.88	647.27	641.44	2.03	1.72	18.86	12.67	279.08	585.76	4.8	3.22	5.83	5.83
Dawson County	D4	RM 116.56	84823.15	20-yr	3239.88	647.11	641.34	2.33	1.87	24.83	13.03	234.35	693.11	4.79	2.49	5.77	5.77
Dawson County	D4	RM 116.39	84558.58	20-yr	3239.88	647.03	641.21	1.97	1.68	17.3	8.65	269.92	756.05	5.14	2.56	5.82	5.82
Dawson County	D4	RM 116.22	84287.19	20-yr	3239.88	646.89	641	2.13	1.71	19.88	7.93	259.34	865.7	5.49	2.18	5.89	5.89
Dawson County	D4	RM 116.05	84007.59	20-yr	3239.88	646.7	640.84	2.48	1.82	26.84	10.14	213.93	860.42	5.5	2.07	5.85	5.85
Dawson County	D4	RM 115.87	83722.29	20-yr	3239.88	646.53	640.8	2.57	1.86	29.48	10.79	214.27	923.06	5.19	1.88	5.73	5.73
Dawson County	D4	RM 115.73	83500.35	20-yr	3239.88	646.49	640.69	2.06	1.55	20.06	9.54	310.77	1006.36	4.38	2.08	5.79	5.79
Dawson County	D4	RM 115.61	83294.37	20-yr	3239.88	646.44	640.59	1.72	1.43	13.81	7.43	385.01	936.11	4.55	2.44	5.85	5.85
Dawson County	D4	RM 115.45	83034.82	20-yr	3239.88	646.37	640.37	1.64	1.39	12.79	8.65	407.6	811.28	4.26	2.87	6.01	6.01
Dawson County	D4	RM 115.29	82782.88	20-yr	3239.88	646.23	640.34	1.94	1.68	17.26	9.06	319.39	768.63	4.82	2.51	5.88	5.88
Dawson County	D4	RM 115.09	82480.02	20-yr	3239.88	646.17	640.2	1.71	1.41	12.76	6.43	324	837.99	5.43	2.73	5.97	5.97
Dawson County	D4	RM 114.96	82177.99	20-yr	3239.88	646	640	2.1	1.79	19.37	11.21	260.73	601.22	5.49	3.16	6	6
Dawson County	D4	RM 114.74	81836.48	20-yr	3239.88	645.52	639.98	3.16	2.51	44.18	19.31	179.76	556.09	5.36	2.32	5.54	5.54
Dawson County	D4	RM 114.58	81577.9	20-yr	3239.88	645.55	639.46	2.21	2.05	21.26	18.28	195.77	355.25	5.7	4.88	6.09	6.09
Dawson County	D4	RM 114.42	81309.47	20-yr	3239.88	645.38	639.33	2.33	2.26	24.14	20.65	257.79	317.2	5.28	4.52	6.05	6.05
Dawson County	D4	RM 114.28	81078.59	20-yr	3239.88	645.14	639.21	2.74	2.56	32.8	23.88	213.07	317.85	5.48	3.98	5.93	5.93
Dawson County	D4	RM 114.11	80813.63	20-yr	3239.88	644.93	639.2	2.86	2.66	36.12	24.15	210.21	343.38	5.32	3.55	5.73	5.73
Dawson County	D4	RM 113.97	80580.15	20-yr	3239.88	644.76	639.45	2.84	2.57	36.64	24.36	225.76	433.22	4.95	3.28	5.31	5.31
Dawson County	D4	RM 113.79	80292.13	20-yr	3239.88	644.67	639.45	2.45	2.13	27.33	20.13	201.08	421.7	4.89	3.61	5.22	5.22
Dawson County	D4	RM 113.60	79987.05	20-yr	3239.88	644.66	639.2	1.69	1.52	12.63	10.48	179.84	500.91	5.31	4.38	5.46	5.46
Dawson County	D4	RM 113.43	79712.89	20-yr	3239.88	644.53	638.73	2.03	1.7	17.97	11.37	173.8	534.85	5.67	3.55	5.8	5.8
Dawson County	D4	RM 113.24	79405.49	20-yr	3239.88	644.21	638.43	2.85	2.36	35.4	18.65	130.78	465.91	5.67	2.94	5.78	5.78
Dawson County	D4	RM 113.08	79152.39	20-yr	3239.88	644.05	638.37	2.73	2.4	32.67	21.34	138.2	375.44	5.57	3.59	5.68	5.68
Dawson County	D4	RM 112.94	78925.1	20-yr	3239.88	644.04	638.26	2	1.86	17.76	14.37	194.62	402.23	5.39	4.33	5.78	5.78
Dawson County	D4	RM 112.74	78585.88	20-yr	3239.88	643.86	638.09	2.2	2.02	21.92	14.56	237.95	483.13	5.03	3.33	5.77	5.77
Dawson County	D4	RM 112.59	78355.25	20-yr	3239.88	643.73	637.98	2.29	2.02	24.34	16.7	271.99	505	4.64	3.17	5.75	5.75
Dawson County	D4	RM 112.37	78008.78	20-yr	3239.88	643.71	637.88	1.63	1.46	11.73	8.02	206.92	696.32	5.35	3.62	5.83	5.83
Dawson County	D4	RM 112.19	77721.27	20-yr	3239.88	643.53	637.59	2.09	1.91	19.18	13.21	213.8	457.69	5.41	3.71	5.94	5.94
Dawson County	D4	RM 111.89	77240.22	20-yr	3239.88	643.2	637.16	2.48	2.34	26.92	18.86	235.68	361.96	5.47	3.83	6.04	6.04
Dawson County	D4	RM 111.42	76486.24	20-yr	3239.88	642.92	636.91	2.12	1.99	19.89	14.47	287.11	426.08	5.27	3.83	6.01	6.01
Dawson County	D4	RM 111.26	76213.83	20-yr	3239.88	642.85	636.66	1.92	1.8	16.67	10.07	329.26	599.11	5.04	3.04	6.19	6.19
Dawson County	D4	RM 111.09	75911.9	20-yr	3239.88	642.55	636.51	2.6	2.51	30.22	24.07	240.23	361.56	5.16	4.1	6.03	6.03
Dawson County	D4	RM 110.95	75678.54	20-yr	3239.88	642.28	636.4	2.96	2.85	38.05	31.09	194.97	259.27	5.58	4.55	5.88	5.88
Dawson County	D4	RM 110.78	75415.61	20-yr	3239.88	641.99	636.27	3.2	3.14	45.18	36.05	186.03	238.81	5.42	4.32	5.72	5.72

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	20-yr	3239.88	641.87	636.09	2.55	2.49	28.89	21.59	240.69	331.28	5.26	3.93	5.78	5.78
Dawson County	D4	RM 110.39	74780.03	20-yr	3239.88	641.81	635.96	2.12	2.04	20.18	16.12	293.1	386.58	5.14	4.1	5.85	5.85
Dawson County	D4	RM 110.17	74428.56	20-yr	3239.88	641.62	635.79	2.24	2.13	23.64	16.87	321.63	484.27	4.41	3.14	5.83	5.83
Dawson County	D4	RM 109.95	74074.87	20-yr	3239.88	641.48	635.62	2.1	1.95	19.7	10.58	297.98	607.17	5.1	2.73	5.86	5.86
Dawson County	D4	RM 109.75	73741.09	20-yr	3239.88	641.3	635.46	2.26	2.09	22.69	12.06	272.8	563.34	5.18	2.75	5.84	5.84
Dawson County	D4	RM 109.54	73418.83	20-yr	3239.88	641.19	635.3	2.08	1.71	19.42	10.66	287.56	673.52	5.15	2.82	5.89	5.89
Dawson County	D4	RM 109.37	73150.54	20-yr	3239.88	641.01	635.17	2.41	1.97	25.66	12.16	224.7	646.97	5.38	2.54	5.84	5.84
Dawson County	D4	RM 109.19	72864.56	20-yr	3239.88	640.84	635.03	2.45	2.18	26.41	13.18	238.65	555.7	5.37	2.67	5.81	5.81
Dawson County	D4	RM 109.04	72628	20-yr	3239.88	640.51	634.92	3.04	2.75	40.94	21.48	194.23	421.61	5.35	2.79	5.59	5.59
Dawson County	D4	RM 108.86	72339.73	20-yr	3239.88	640.51	634.77	2.12	2.07	20.53	19.38	287.17	363.57	4.88	4.62	5.74	5.74
Dawson County	D4	RM 108.70	72072.36	20-yr	3239.88	640.43	634.65	1.98	1.92	17.58	15.32	291.61	384.76	5.04	4.4	5.78	5.78
Dawson County	D4	RM 108.55	71827.97	20-yr	3239.88	640.34	634.53	1.94	1.93	17.08	16.71	343.64	351.54	4.87	4.78	5.82	5.82
Dawson County	D4	RM 108.40	71587.18	20-yr	3239.88	640.16	634.41	2.25	2.23	20.56	19.33	363.68	390.02	3.96	3.72	5.76	5.76
Dawson County	D4	RM 108.25	71345.86	20-yr	3239.88	640.06	634.29	2.14	2.09	20.14	16.39	361.89	459.01	4.16	3.38	5.76	5.76
Dawson County	D4	RM 108.12	71131.88	20-yr	3239.88	639.95	634.19	2.17	2.06	21.21	14.49	289.42	453.79	5.07	3.46	5.77	5.77
Dawson County	D4	RM 107.98	70905.01	20-yr	3239.88	639.74	634.08	2.55	2.44	29.18	18.89	245.46	399.98	5.14	3.32	5.66	5.66
Dawson County	D4	RM 107.82	70651.22	20-yr	3239.88	639.52	633.95	2.74	2.5	33.92	18.08	231.93	486.93	5.01	2.66	5.57	5.57
Dawson County	D4	RM 107.68	70418.24	20-yr	3239.88	639.32	633.84	2.85	2.66	36.67	23.49	219.72	376.04	5.04	3.24	5.48	5.48
Dawson County	D4	RM 107.50	70132.11	20-yr	3239.88	639.17	633.17	2.62	2.39	30.98	20.71	239.71	404.46	4.98	3.35	6	6
Dawson County	D4	RM 107.31	69834.56	20-yr	3239.88	638.95	633.23	2.66	2.52	32.92	22.67	264.38	410.14	4.53	3.14	5.72	5.72
Dawson County	D4	RM 107.13	69541.52	20-yr	3239.88	638.77	633.98	2.44	2.31	28.87	22.57	322.33	444.25	4.03	3.16	4.79	4.79
Dawson County	D5	RM 106.98	69305.02	20-yr	3251.2	638.7	634.16	1.97	1.9	19.11	17.27	421.85	493.2	3.81	3.46	4.54	4.54
Dawson County	D5	RM 106.85	69065.27	20-yr	3251.2	638.6	633.6	1.89	1.85	17.66	16.34	412.29	500.84	3.78	3.52	5	5
Dawson County	D5	RM 106.65	68764.02	20-yr	3251.2	638.35	632.98	2.24	2.18	23.32	21.64	360.27	454.46	3.62	3.37	5.37	5.37
Dawson County	D5	RM 106.47	68475.87	20-yr	3251.2	638.18	632.51	2.24	1.81	24.3	15.59	307.26	736.72	4.06	2.61	5.67	5.67
Dawson County	D5	RM 106.28	68173.97	20-yr	3251.2	637.76	631.71	3	2.38	41.49	20.86	204.05	582.68	4.66	2.35	6.05	6.05
Dawson County	D5	RM 106.10	67879.83	20-yr	3251.2	637.55	631.29	2.82	2.2	37.53	23.06	206.53	555.83	4.32	2.66	6.26	6.26
Dawson County	D5	RM 105.89	67550.49	20-yr	3251.2	637.35	631.76	2.49	2.05	29.64	17.36	226.74	641.94	4.2	2.47	5.59	5.59
Dawson County	D5	RM 105.74	67300.35	20-yr	3251.2	637.21	632.3	2.35	1.68	26.39	15.19	203.14	792.75	4.22	2.43	4.91	4.91
Dawson County	D5	RM 105.54	66973.54	20-yr	3251.2	636.92	632.17	2.65	2.05	33.97	20.89	147.79	693.96	4.07	2.51	4.75	4.75
Dawson County	D5	RM 105.30	66609.03	20-yr	3251.2	636.79	632.29	1.72	1.52	15.08	11.83	219.79	804.6	3.41	2.67	4.67	4.67
Dawson County	D5	RM 105.06	66212.24	20-yr	3251.2	636.63	631.19	1.95	1.8	19.44	14.45	181.11	1034.82	3.41	2.53	5.44	5.44
Dawson County	D5	RM 104.89	65945.5	20-yr	3251.2	636.44	631.5	2.06	1.83	22.45	16.86	205.87	992.75	3.12	2.36	5.02	5.02
Dawson County	D5	RM 104.77	65742.33	20-yr	3251.2	636.31	631.67	2.21	1.67	23.71	12.42	125.62	1092.09	3.99	2.09	5.6	5.6
Dawson County	D5	RM 104.64	65530.83	20-yr	3251.2	636.24	632.1	1.86	1.44	17.2	8.9	172.34	1369.23	3.75	1.93	5.28	5.28
Dawson County	D5	RM 104.43	65180.62	20-yr	3251.2	636.18	631.56	1.25	1.06	8.4	6.28	361.11	1389.91	2.95	2.22	5.39	5.39
Dawson County	D5	RM 104.26	64906.83	20-yr	3251.2	636.11	631.59	1.22	1.02	7.65	4.77	218.58	1510.22	3.38	2.11	5.47	5.47
Dawson County	D5	RM 104.10	64643.2	20-yr	3251.2	636.02	630.81	1.55	1.16	11.72	4.69	150.64	1755.42	3.99	1.6	5.58	5.58
Dawson County	D5	RM 103.95	64410.06	20-yr	3251.2	635.97	631.24	1.6	1.02	12.67	5.48	185.01	1961.86	3.77	1.63	6.15	6.15
Dawson County	D5	RM 103.68	63957.56	20-yr	3251.2	635.87	629.68	1.66	0.92	13.15	6.03	188.7	1841.17	4.17	1.91	6.43	6.43
Dawson County	D5	RM 103.48	63615.6	20-yr	3251.2	635.8	630.4	1.79	1.02	14.89	6.01	152.55	1742.02	4.56	1.83	6.29	6.29
Dawson County	D5	RM 103.26	63259.44	20-yr	3251.2	635.74	630.13	1.67	1	12.89	5.79	173.17	1578.55	4.63	2.07	6.33	6.33
Dawson County	D5	RM 102.58	62131.5	20-yr	3251.2	635.56	629.72	1.58	1.22	11.55	7.13	178.73	929.99	4.62	2.86	5.88	5.88
Dawson County	D5	RM 102.44	61920.83	20-yr	3251.2	635.42	629.74	2.04	1.55	19.2	10.59	255.44	830.2	4.58	2.53	5.68	5.68
Dawson County	D5	RM 102.31	61720.14	20-yr	3251.2	635.28	629.03	2.38	1.7	26.14	14.05	200.53	762.28	4.65	2.51	6.25	6.25
Dawson County	D5	RM 102.15	61456.58	20-yr	3251.2	635.16	629.39	2.29	1.74	23.89	13.44	201.3	681.78	4.84	2.74	5.77	5.77
Dawson County	D5	RM 102.00	61217.89	20-yr	3251.2	635.08	629.48	2	1.58	18.83	12.08	267.9	734.64	4.33	2.8	5.6	5.6
Dawson County	D5	RM 101.84	60967.97	20-yr	3251.2	635.03	629.23	1.73	1.2	13.88	9.04	155.67	924.47	4.51	2.94	5.8	5.8
Dawson County	D5	RM 101.60	60582.61	20-yr	3251.2	634.89	628.87	1.62	1.43	12.35	7.55	336.08	874.71	4.41	2.7	6.02	6.02
Dawson County	D5	RM 101.45	60336.09	20-yr	3251.2	634.67	629.16	2.28	1.82	23.57	9.25	251.39	927.74	4.9	1.93	5.51	5.51
Dawson County	D5	RM 101.25	60019.5	20-yr	3251.2	634.43	627.81	2.58	1.92	29.88	9.95	209.15	997.06	5.09	1.7	6.62	6.62
Dawson County	D5	RM 101.09	59759.25	20-yr	3251.2	634.32	627.99	2.44	1.73	26.8	10.63	216.65	951.58	4.96	1.97	6.33	6.33
Dawson County	D5	RM 100.88	59426.42	20-yr	3251.2	634.19	627.86	2.3	1.65	23.45	9.45	196.58	958.3	5.16	2.08	6.33	6.33
Dawson County	D5	RM 100.67	59075.4	20-yr	3251.2	634	627.1	2.56	1.61	28.26	9.97	151.88	1072.46	5.65	2	6.9	6.9
Dawson County	D5	RM 100.46	58743.44	20-yr	3251.2	633.95	627.92	1.86	1.26	15.35	7.5	202.94	1057.49	5.17	2.53	6.03	6.03
Dawson County	D5	RM 100.25	58401.49	20-yr	3251.2	633.71	627.57	2.39	1.73	25.58	12.35	196.17	884.77	5.15	2.48	6.14	6.14
Dawson County	D5	RM 100.05	58077.55	20-yr	3251.2	633.56	626.86	2.35	1.85	24.51	12.05	176.97	688.56	5.21	2.55	6.7	6.7
Dawson County	D5	RM 99.87	57778.81	20-yr	3251.2	633.3	626.4	2.45	2.24	28.29	14.52	301.61	651.99	4.33	2.22	6.9	6.9
Dawson County	D5	RM 99.68	57474.16	20-yr	3251.2	633.13	626.29	2.45	2.15	26.66	14.15	246.92	553.03	5.14	2.74	6.84	6.84
Dawson County	D5	RM 99.49	57160.47	20-yr	3251.2	632.83	626.53	2.82	2.37	35.7	16.4	218.38	593.78	5.02	2.31	6.3	6.3

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	20-yr	3251.2	632.69	627.26	2.49	2.06	28.43	15.23	267.93	669.69	4.67	2.51	5.43	5.43
Dawson County	D5	RM 99.13	56566.63	20-yr	3251.2	632.57	626.77	2.23	1.78	22.95	13.01	293.66	913.24	4.6	2.61	5.8	5.8
Dawson County	D5	RM 98.92	56243.98	20-yr	3251.2	632.41	626.63	2.12	1.78	21.35	11.96	339.1	803.74	4.22	2.38	5.78	5.78
Dawson County	D5	RM 98.71	55911.87	20-yr	3251.2	632.22	626.34	2.2	1.66	23.34	10.43	322.21	1066.57	4.11	1.84	5.88	5.88
Dawson County	D5	RM 98.57	55680.2	20-yr	3251.2	632.12	626.1	2.09	1.37	20.88	10.02	297.01	1170.19	4.22	2.02	6.02	6.02
Dawson County	D5	RM 98.35	55325.95	20-yr	3251.2	631.82	625.91	2.53	1.58	28.86	10.26	216.82	1167.19	4.97	1.76	5.91	5.91
Dawson County	D5	RM 98.19	55066.09	20-yr	3251.2	631.61	624.42	2.73	1.67	32.76	10	184	1173.25	5.42	1.66	7.19	7.19
Dawson County	D5	RM 97.99	54752.97	20-yr	3251.2	631.34	625.04	2.79	2.18	36.01	14.67	236.53	822.15	4.63	1.88	6.3	6.3
Dawson County	D5	RM 97.84	54493.48	20-yr	3251.2	631.21	625.39	2.45	2.06	28.16	14.17	292.51	717.67	4.37	2.2	5.82	5.82
Dawson County	D5	RM 97.68	54241.32	20-yr	3251.2	631.06	624.99	2.36	1.9	27.54	17.24	340.05	745.86	3.75	2.35	6.07	6.07
Dawson County	D5	RM 97.48	53918.21	20-yr	3251.2	630.9	624.81	1.94	1.59	16.56	11.96	387.03	1177.55	2.84	2.06	6.09	6.09
Dawson County	D5	RM 97.28	53585.68	20-yr	3251.2	630.69	625.86	2	1.49	20.01	10.48	328.8	1364.58	3.65	1.91	5.24	5.24
Dawson County	D5	RM 97.08	53263.89	20-yr	3251.2	630.39	625.27	2.57	1.98	31.31	12.11	209.17	1150.47	4.27	1.66	5.12	5.12
Dawson County	D5	RM 96.94	53030.11	20-yr	3251.2	630.17	623.97	2.75	1.98	36.18	13.16	199.17	1264.94	4.13	1.5	6.2	6.2
Dawson County	D5	RM 96.77	52762.2	20-yr	3251.2	629.96	623.51	2.67	2.07	34.4	13.02	202.34	1244.36	4.08	1.55	6.45	6.45
Dawson County	D5	RM 96.55	52403.59	20-yr	3251.2	629.7	624.57	2.75	1.71	35.49	11.44	160.42	1661.29	4.38	1.42	5.13	5.13
Dawson County	D5	RM 96.35	52079.12	20-yr	3251.2	629.69	625.39	1.24	1.22	8.01	5.83	290.07	1544.54	3.15	2.3	6.22	6.22
Dawson County	D5	RM 96.17	51777.74	20-yr	3251.2	629.41	624.71	2.38	2.06	27.97	17.08	130.42	877.29	3.78	2.32	5.03	5.03
Dawson County	D5	RM 96.00	51500.38	20-yr	3251.2	629.21	624.3	2.33	1.9	26.63	11.89	122.42	1199.39	3.88	1.73	4.91	4.91
Dawson County	D5	RM 95.79	51156.87	20-yr	3251.2	629.1	624.35	1.66	1.35	14.45	7.44	284.94	1429.61	3.56	1.84	4.85	4.85
Dawson County	D5	RM 95.60	50859.75	20-yr	3251.2	628.97	622.97	1.74	1.25	15.03	7.64	251.15	1380.94	3.69	1.88	6	6
Dawson County	D5	RM 95.40	50547.92	20-yr	3251.2	628.87	623.13	1.58	1.17	12.03	6.64	377.96	1236.91	4.05	2.24	5.74	5.74
Dawson County	D5	RM 95.21	50245.97	20-yr	3251.2	628.73	622.21	2	1.16	18.29	7.78	217.6	1362.52	4.82	2.05	6.52	6.52
Dawson County	D5	RM 95.04	49971.19	20-yr	3251.2	628.58	621.68	2.38	1.32	26.5	10.78	174.46	1356.5	4.48	1.82	6.9	6.9
Dawson County	D5	RM 94.88	49717.07	20-yr	3251.2	628.49	621.44	2.19	1.12	21.88	9.37	152.89	1563.2	4.77	2.04	7.05	7.05
Dawson County	D5	RM 94.71	49446.9	20-yr	3251.2	628.45	621.69	1.46	0.93	10.02	4.56	234.28	1743.62	4.43	2.01	6.76	6.76
Dawson County	D5	RM 94.58	49286.95	20-yr	3251.2	628.43	618.6	1.04	0.75	4.6	1.74	456.42	1959.88	6.18	2.33	9.83	9.83
Dawson County	D5	RM 94.57	49255.56	20-yr	3251.2	628.38	618.63	1.39	0.98	8.26	2.55	360.59	1820.14	5.93	1.83	9.75	9.75
Dawson County	D5	RM 94.52	49157.18	20-yr	3251.2	628.3	620.89	1.87	1.09	15.79	4.88	287.23	2042	4.93	1.51	7.41	7.41
Dawson County	D6	RM 94.42	48998.19	20-yr	3265.36	628.09	621.76	2.56	1.48	29.8	7.27	219.93	1977.05	4.82	1.17	6.33	6.33
Dawson County	D6	RM 94.30	48806.79	20-yr	3265.36	627.99	621.22	2.36	1.42	26.96	7.33	291.47	2113.52	4	1.08	6.77	6.77
Dawson County	D6	RM 94.20	48653.06	20-yr	3265.36	627.92	621.41	2.22	1.26	23.28	6.88	261.89	1946.93	4.5	1.33	6.51	6.51
Dawson County	D6	RM 94.08	48445.46	20-yr	3265.36	627.89	622.37	1.77	1.11	14.37	4.72	338.75	1894.37	4.72	1.55	5.52	5.52
Dawson County	D6	RM 93.96	48246.42	20-yr	3265.36	627.8	621.88	1.91	1.2	17.26	6.38	331.74	1695.84	4.36	1.61	5.92	5.92
Dawson County	D6	RM 93.83	48030.25	20-yr	3265.36	627.69	620.28	2.14	1.22	20.61	7.54	237.8	1555.03	5.01	1.83	7.41	7.41
Dawson County	D6	RM 93.68	47782.89	20-yr	3265.36	627.31	620.19	2.98	2.09	39.54	14.89	191.53	988.76	5.15	1.94	7.12	7.12
Dawson County	D6	RM 93.57	47606.95	20-yr	3265.36	626.93	620.08	3.53	2.71	57.03	27.88	184.03	519.41	4.75	2.32	6.84	6.84
Dawson County	D6	RM 93.53	47552.11	20-yr	3265.36	626.87	620.21	3.46	2.79	54.12	26.63	184.33	483.85	4.91	2.41	6.66	6.66
Dawson County	D6	RM 93.47	47460.74	20-yr	3265.36	626.78	618.63	3.39	2.81	52.12	23.69	189.97	522.09	4.91	2.23	8.15	8.15
Dawson County	D6	RM 93.43	47382.46	20-yr	3265.36	626.73	619.44	3.26	2.8	47.52	20.98	191.32	519.77	5.11	2.25	7.29	7.29
Dawson County	D6	RM 93.36	47287.92	20-yr	3265.36	626.74	620.47	2.86	2.4	36.37	14.15	213.34	850.98	5.21	2.02	6.27	6.27
Dawson County	D6	RM 93.25	47111.44	20-yr	3265.36	626.57	621.12	2.97	2.52	42.57	19.35	228.84	661.42	4.48	2.03	5.45	5.45
Dawson County	D6	RM 93.05	46807.77	20-yr	3265.36	626.49	621.74	2.23	1.66	23.46	9.39	283.11	1449.68	4.43	1.77	4.75	4.75
Dawson County	D6	RM 92.93	46606.31	20-yr	3265.36	626.36	621.34	2.29	1.61	25.24	9.27	305.87	1541.64	4.05	1.48	5.02	5.02
Dawson County	D6	RM 92.83	46460.06	20-yr	3265.36	626.26	621.02	2.28	1.65	23.78	8.73	357.35	1698.67	3.5	1.28	5.24	5.24
Dawson County	D6	RM 92.71	46261.84	20-yr	3265.36	626.22	620.37	1.83	1.15	15.36	6.73	359.38	1743.28	3.72	1.62	5.85	5.85
Dawson County	D6	RM 92.59	46079.79	20-yr	3265.36	626.14	620.95	1.83	1.18	16.37	5.89	321.05	1749.58	4.41	1.58	5.19	5.19
Dawson County	D6	RM 92.50	45933.81	20-yr	3265.36	626	620.75	2.14	1.47	22.04	6.62	325.45	1807.49	4.1	1.23	5.25	5.25
Dawson County	D6	RM 92.39	45753.94	20-yr	3265.36	625.82	620.58	2.41	1.87	27.54	6.36	299.01	1773.08	4.28	0.99	5.24	5.24
Dawson County	D6	RM 92.29	45591.17	20-yr	3265.36	625.74	620.64	2.29	1.62	24.82	6.5	295.77	1778.23	4.34	1.13	5.1	5.1
Dawson County	D6	RM 92.18	45414.13	20-yr	3265.36	625.7	620.23	1.96	1.49	18.16	5.93	358.66	1863.83	4.28	1.4	5.47	5.47
Dawson County	D6	RM 92.06	45238.47	20-yr	3265.36	625.63	620.12	1.96	1.55	18.34	8.8	354.46	1055.2	4.15	1.99	5.51	5.51
Dawson County	D6	RM 91.99	45117.89	20-yr	3265.36	625.61	619.81	1.63	1.37	13.04	7.58	390.42	1063.79	3.85	2.24	5.8	5.8
Dawson County	D6	RM 91.85	44886.16	20-yr	3265.36	625.57	619.7	1.49	1.19	11.76	6.91	238.98	1050.22	4.59	2.7	5.87	5.87
Dawson County	D6	RM 91.77	44752.88	20-yr	3265.36	625.5	619.28	1.68	1.36	17.3	9.96	224.91	974.32	4.29	2.47	6.22	6.22
Dawson County	D6	RM 91.61	44507.01	20-yr	3265.36	625.35	619	2.03	1.43	18.36	6.49	148.19	1473.35	5.18	1.83	6.35	6.35
Dawson County	D6	RM 91.45	44219.47	20-yr	3265.36	625.24	618.66	2.07	1.55	20.08	6.26	189.07	1344.43	5.05	1.57	6.58	6.58
Dawson County	D6	RM 91.31	43987.79	20-yr	3265.36	625.02	618.98	2.36	1.76	25.75	8.54	271.16	1201.19	4.67	1.55	6.04	6.04
Dawson County	D6	RM 91.11	43666.49	20-yr	3265.36	624.76	618.54	2.63	1.92	30.67	9.97	219.42	994.92	5.26	1.71	6.22	6.22
Dawson County	D6	RM 90.97	43442.55	20-yr	3265.36	624.61	618.3	2.67	1.85	32.2	10.26	224.14	1105.91	4.99	1.59	6.31	6.31

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	20-yr	3265.36	624.44	618.97	2.38	1.68	32.82	13.13	268.72	1403	4.55	1.82	5.47	5.47
Dawson County	D6	RM 90.59	42823.65	20-yr	3265.36	624.41	618.64	1.81	1.14	14.93	6.7	232.7	1442.7	4.74	2.13	5.77	5.77
Dawson County	D6	RM 90.43	42564.46	20-yr	3265.36	624.08	618.18	2.7	1.65	33.67	9.82	208.77	1478.09	4.57	1.34	5.9	5.9
Dawson County	D6	RM 90.29	42331.05	20-yr	3265.36	623.99	618.21	2.31	1.38	24.28	7.68	236.08	1560.25	4.8	1.52	5.78	5.78
Dawson County	D6	RM 90.16	42118.24	20-yr	3265.36	623.85	618.54	2.39	1.5	26.13	9.02	229.61	1343.7	4.79	1.66	5.31	5.31
Dawson County	D6	RM 89.96	41795.66	20-yr	3265.36	623.73	618.08	2	1.51	18.81	8.52	346.39	1208.29	4.34	1.97	5.65	5.65
Dawson County	D6	RM 89.83	41589.45	20-yr	3265.36	623.39	617.17	2.92	2.01	38.82	13.48	211.95	977.49	4.78	1.66	6.22	6.22
Dawson County	D6	RM 89.65	41302.33	20-yr	3265.36	623.2	618.15	2.69	1.97	33.83	13.21	251.93	952.71	4.43	1.74	5.05	5.05
Dawson County	D6	RM 89.46	41003.8	20-yr	3265.36	623.02	617.56	2.54	2.04	28.86	11.67	236.74	775.88	5.13	2.07	5.46	5.46
Dawson County	D6	RM 89.29	40732.3	20-yr	3265.36	623.02	617.42	1.85	1.59	15.58	11.82	253.25	608.09	4.93	3.74	5.6	5.6
Dawson County	D6	RM 89.13	40476.68	20-yr	3265.36	622.79	617.29	2.41	2.02	26.16	12.3	231.92	691.6	5	2.34	5.5	5.5
Dawson County	D6	RM 88.96	40193.97	20-yr	3262.53	622.65	617.14	2.4	2.03	25.42	12.1	186.73	630.92	5.44	2.56	5.51	5.51
Dawson County	D7	RM 88.77	39887.75	20-yr	3262.53	622.48	616.98	2.38	1.93	25.98	13.47	260.04	702.84	4.75	2.46	5.5	5.5
Dawson County	D7	RM 88.58	39581.56	20-yr	3262.53	622.16	616.82	2.91	2.17	37.69	15.92	185.88	698.13	5.27	2.19	5.34	5.34
Dawson County	D7	RM 88.44	39345.29	20-yr	3262.53	621.92	616.7	3.05	2.45	41.57	16.58	181.67	700.02	5.22	2.04	5.22	5.22
Dawson County	D7	RM 88.25	39047.22	20-yr	3262.53	621.81	616.54	2.54	2.15	29.57	13.99	221.53	703.03	4.78	2.25	5.26	5.26
Dawson County	D7	RM 88.06	38736.32	20-yr	3262.53	621.65	616.38	2.26	1.98	23.93	11.98	305.89	735.8	4.53	2.26	5.27	5.27
Dawson County	D7	RM 87.87	38426.68	20-yr	3262.53	621.58	616.22	1.79	1.5	15.81	9.27	429.53	967.72	3.85	2.26	5.35	5.35
Dawson County	D7	RM 87.70	38161.81	20-yr	3262.53	621.51	616.08	1.76	1.28	13.76	6.34	181.73	1091.54	5.43	2.44	5.43	5.43
Dawson County	D7	RM 87.52	37862.82	20-yr	3262.53	621.46	615.92	1.53	1.31	11.14	6.17	308.23	1077.07	4.33	2.38	5.54	5.54
Dawson County	D7	RM 87.34	37574.69	20-yr	3262.53	621.23	615.85	2.27	1.77	24.36	12.42	253.88	823.51	4.41	2.23	5.38	5.38
Dawson County	D7	RM 87.17	37307.08	20-yr	3262.53	620.99	615.82	2.71	2.1	33.16	15.64	162.99	655.34	5.09	2.37	5.17	5.17
Dawson County	D7	RM 87.00	37023.47	20-yr	3262.53	620.85	615.79	2.33	2.07	25.69	14.5	241.45	643.24	4.37	2.45	5.06	5.06
Dawson County	D7	RM 86.82	36748.51	20-yr	3262.53	620.67	615.76	2.42	2.17	27.48	16.03	210.89	580.53	4.49	2.59	4.91	4.91
Dawson County	D7	RM 86.67	36501.76	20-yr	3262.53	620.42	615.73	2.89	2.4	38.84	22.65	151.27	510.38	4.68	2.67	4.69	4.69
Dawson County	D7	RM 86.52	36253.46	20-yr	3262.53	620.33	615.7	2.18	1.84	22.3	15	250.55	602.17	4.37	2.94	4.63	4.63
Dawson County	D7	RM 86.39	36046.31	20-yr	3262.53	620.22	615.59	2.27	1.8	24.35	16.07	147.45	638.9	4.37	2.84	4.63	4.63
Dawson County	D7	RM 86.24	35796.38	20-yr	3262.53	620.16	615.46	1.57	1.45	11.5	8.53	166.41	665.79	4.64	3.39	4.71	4.71
Dawson County	D7	RM 86.08	35541.56	20-yr	3262.53	619.83	615.48	2.74	2.3	36.44	16.77	160.1	764.36	4.1	1.85	4.35	4.35
Dawson County	D7	RM 85.91	35282.1	20-yr	3262.53	619.69	615.5	2.36	1.83	26.78	13.45	191.42	868.33	4.1	2.05	4.19	4.19
Dawson County	D7	RM 85.78	35075.01	20-yr	3262.53	619.7	614.9	1.37	1.27	9.26	7.82	288.53	994.49	3.88	3.27	4.8	4.8
Dawson County	D7	RM 85.59	34774.5	20-yr	3262.53	619.63	614.32	1.64	1.25	11.98	5.72	184.84	1045.94	5.28	2.5	5.32	5.32
Dawson County	D7	RM 85.39	34449.3	20-yr	3262.53	619.41	614.15	2.28	1.84	23.7	12.55	219.47	693.28	4.86	2.56	5.26	5.26
Dawson County	D7	RM 85.23	34186.4	20-yr	3262.53	619.16	614.01	2.86	2.14	36.86	17.67	157.48	627.71	5.14	2.43	5.15	5.15
Dawson County	D7	RM 85.04	33863.7	20-yr	3262.53	619.1	613.84	2.07	1.72	20.18	14.33	265.03	609.93	4.39	3.1	5.25	5.25
Dawson County	D7	RM 84.89	33626.36	20-yr	3262.53	619	613.92	1.84	1.75	16.22	13.48	413.04	531.02	4.21	3.51	5.09	5.09
Dawson County	D7	RM 84.72	33349.5	20-yr	3262.53	618.83	613.77	2.08	2.05	20.41	16.79	353.9	437.54	4.41	3.63	5.05	5.05
Dawson County	D7	RM 84.57	33104.21	20-yr	3262.53	618.65	613.45	2.31	2.22	24.54	15.91	294.82	476.14	4.76	3.08	5.2	5.2
Dawson County	D7	RM 84.41	32856.7	20-yr	3262.53	618.53	613.32	2.24	2.14	23.25	13.26	312.69	582.32	4.59	2.62	5.22	5.22
Dawson County	D7	RM 84.22	32552.24	20-yr	3262.53	618.43	613.16	2.05	1.73	19.52	8.8	261.68	999.57	4.65	2.08	5.27	5.27
Dawson County	D7	RM 84.05	32270.74	20-yr	3262.53	618.26	613.14	2.28	1.78	23.64	8.89	206.16	999.09	4.92	1.84	5.13	5.13
Dawson County	D7	RM 83.89	32017.88	20-yr	3262.53	618.03	613.11	2.62	2.01	31.4	12.27	191.2	859.39	4.85	1.89	4.93	4.93
Dawson County	D7	RM 83.73	31759.16	20-yr	3262.53	617.95	613.07	2.16	1.69	21.82	11.06	240.43	956.29	4.47	2.25	4.88	4.88
Dawson County	D7	RM 83.53	31426.04	20-yr	3262.53	617.88	613.01	1.66	1.37	12.91	6.85	304.34	1000.33	4.5	2.38	4.87	4.87
Dawson County	D7	RM 83.39	31213.34	20-yr	3262.53	617.81	612.95	1.86	1.45	15.96	7.57	189.12	1034.14	4.65	2.18	4.85	4.85
Dawson County	D7	RM 83.21	30910.79	20-yr	3262.53	617.72	612.91	1.7	1.36	13.3	7.09	170.07	961.77	4.78	2.51	4.95	4.95
Dawson County	D7	RM 83.05	30660.14	20-yr	3262.53	617.65	612.78	1.59	1.26	11.66	5.58	229.1	1151.58	4.69	2.25	5.2	5.2
Dawson County	D7	RM 82.94	30491.79	20-yr	3262.53	617.6	612.69	1.64	1.3	12.53	5.84	219.21	1168.57	4.65	2.16	5.21	5.21
Dawson County	D7	RM 82.81	30280.45	20-yr	3262.53	617.51	612.58	1.8	1.35	15.24	6.41	178.49	1285.77	4.5	1.88	5.36	5.36
Dawson County	D7	RM 82.68	30058.39	20-yr	3262.53	617.43	612.34	1.92	1.3	16.62	6.45	152.77	1294.55	5.08	1.94	5.33	5.33
Dawson County	D7	RM 82.51	29786.14	20-yr	3262.53	617.41	612.1	1.4	1.01	8.95	4.07	229.35	1443.32	4.98	2.23	5.56	5.56
Dawson County	D7	RM 82.33	29497.12	20-yr	3262.53	617.35	611.87	1.47	0.91	9.73	4.53	246.87	1536.04	5.12	2.34	5.6	5.6
Dawson County	D7	RM 82.22	29323.27	20-yr	3262.53	617.29	611.66	1.71	0.9	13.03	5.17	193.52	1895.3	5.26	2.07	5.63	5.63
Dawson County	D7	RM 82.06	29049.94	20-yr	3262.53	617.25	611.37	1.53	0.83	10.3	3.63	202.97	2055.27	5.54	1.91	5.88	5.88
Dawson County	D7	RM 81.91	28820.21	20-yr	3262.53	617.22	611.21	1.54	0.8	10.12	3.31	191.58	2157.79	5.89	1.89	6.01	6.01
Dawson County	D7	RM 81.71	28446.75	20-yr	3262.53	617.18	611.02	1.29	0.77	7.03	2.23	220.81	2345.96	5.96	1.88	6.16	6.16
Dawson County	D7	RM 81.49	28026.4	20-yr	3262.53	617	610.8	2.12	1.06	18.93	4.69	165.37	2371.5	6.19	1.5	6.2	6.2
Dawson County	D7	RM 81.31	27735.46	20-yr	3262.53	616.02	610.65	4.34	2.74	84.07	12.79	131.98	1587.93	5.3	0.78	5.38	5.38
Dawson County	D8	RM 81.10	27398.33	20-yr	3262.53	615.81	610.47	3.51	2.07	55.02	9.08	160.09	1951.37	5.24	0.85	5.34	5.34
Dawson County	D8	RM 80.94	27148.21	20-yr	3262.53	615.8	610.34	2.6	1.75	30.1	5.35	225.85	2209.13	5.2	0.91	5.45	5.45

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	20-yr	3262.53	615.79	610.19	1.99	1.18	17.24	3.81	181.68	2672.16	5.6	1.2	5.6	5.6
Dawson County	D8	RM 80.64	26669.58	20-yr	3262.53	615.73	610.09	1.98	1.14	17.28	3.57	209.02	2862.3	5.41	1.1	5.64	5.64
Dawson County	D8	RM 80.45	26373.01	20-yr	3262.53	615.74	609.94	1.37	0.84	8.23	2.24	122.91	3374.86	5.66	1.48	5.8	5.8
Dawson County	D8	RM 80.17	25926.88	20-yr	3262.53	615.62	609.71	1.93	0.98	16.08	2.89	146.98	3419.2	5.9	1.02	5.91	5.91
Dawson County	D8	RM 79.91	25496.94	20-yr	3262.53	615.52	609.42	1.5	0.88	10.06	2.15	362.06	3368.61	5.2	1.1	6.11	6.11
Dawson County	D8	RM 79.43	24626.85	20-yr	3262.53	615.27	609.14	1.84	1.12	14.66	2.78	289.02	2760.17	5.63	1.06	6.13	6.13
Dawson County	D8	RM 79.23	24229.4	20-yr	3262.53	614.73	608.87	3.19	2.17	44.61	7.68	173.46	1606.93	5.66	0.94	5.86	5.86
Dawson County	D8	RM 78.27	22640.58	20-yr	3262.53	613.99	608.6	2.23	1.51	22.78	9.45	226.68	1089.2	4.86	1.99	5.38	5.38
Dawson County	D8	RM 78.12	22398.86	20-yr	3262.53	613.93	608.48	2.03	1.5	18.67	7.13	222.94	1175.43	4.91	1.86	5.45	5.45
Dawson County	D8	RM 77.97	22135.34	20-yr	3262.53	613.8	608.34	2.2	1.6	21.59	8.26	214.67	1027.73	5.24	1.99	5.46	5.46
Dawson County	D8	RM 77.79	21831.85	20-yr	3262.53	613.73	608.18	1.83	1.49	16.02	6.93	332.54	1212.7	4.18	1.8	5.55	5.55
Dawson County	D8	RM 77.57	21474.71	20-yr	3262.53	613.5	608	2.24	1.84	22.48	8.94	250.08	872.29	5.11	2.03	5.5	5.5
Dawson County	D8	RM 77.38	21170.35	20-yr	3262.53	613.27	607.84	2.54	2	28.87	11.76	215.18	777.69	5.17	2.09	5.44	5.44
Dawson County	D8	RM 77.13	20780.17	20-yr	3262.53	613.26	607.63	1.77	1.38	14.01	6.36	188.55	1016.19	5.26	2.35	5.63	5.63
Dawson County	D8	RM 77.00	20442.34	20-yr	3262.53	613.15	607.46	2.11	1.48	19.63	7.31	131.83	1089.63	5.68	2.03	5.69	5.69
Dawson County	D8	RM 76.90	20124.49	20-yr	3262.53	613.06	607.29	2	1.56	17.39	6.58	153.24	991.26	5.76	2.11	5.77	5.77
Dawson County	D8	RM 76.76	19785.25	20-yr	3262.53	613.01	607.12	1.63	1.34	11.72	4.4	269.03	1224.23	5.45	2.03	5.89	5.89
Dawson County	D8	RM 76.63	19501.04	20-yr	3262.53	612.93	606.97	1.77	1.45	14.19	6.05	246.86	1077.04	4.98	2.09	5.96	5.96
Dawson County	D8	RM 76.37	19137.53	20-yr	3262.53	612.71	606.78	2.11	1.66	19.45	7.27	272.76	968.78	5.44	2.03	5.93	5.93
Dawson County	D8	RM 76.22	18884.28	20-yr	3262.53	612.59	606.65	2.2	1.66	21.08	7.67	253.7	975.04	5.56	2.01	5.94	5.94
Dawson County	D8	RM 76.00	18519.22	20-yr	3262.53	612.34	606.61	2.54	1.76	28.55	8.05	225.2	1245	5.33	1.49	5.73	5.73
Dawson County	D8	RM 75.75	18119.45	20-yr	3262.53	612.01	606.58	2.83	2.03	35.85	10.81	209.51	1046.77	5.14	1.53	5.43	5.43
Dawson County	D8	RM 75.56	17818.36	20-yr	3262.53	611.93	606.75	2.21	1.61	22.94	7.58	303.99	1377.34	4.46	1.47	5.19	5.19
Dawson County	D8	RM 75.31	17411.3	20-yr	3262.53	611.77	606.34	2.12	1.53	20.33	6.75	263.12	1300.77	4.97	1.64	5.43	5.43
Dawson County	D8	RM 75.13	17092.44	20-yr	3262.53	611.65	606.17	2.03	1.41	18.85	6.69	306.22	1372.29	4.77	1.69	5.48	5.48
Dawson County	D8	RM 74.90	16719.46	20-yr	3262.53	611.26	605.98	2.79	1.8	35.64	10.28	224.87	1327.74	4.77	1.36	5.28	5.28
Dawson County	D8	RM 74.65	16308.2	20-yr	3262.53	611.14	605.91	2.14	1.44	21.07	6.66	267.86	1517.11	4.75	1.49	5.23	5.23
Dawson County	D8	RM 74.37	15846.14	20-yr	3262.53	610.89	605.85	2.38	1.66	26.65	8.49	221.55	1406.32	4.41	1.39	5.04	5.04
Dawson County	D8	RM 74.13	15464.97	20-yr	3262.53	610.7	605.82	2.15	1.6	21.6	6.29	235.57	1581.82	4.51	1.3	4.88	4.88
Dawson County	D8	RM 73.91	15098.01	20-yr	3262.53	610.57	605.99	1.83	1.34	16.13	6.17	283.69	1544.58	4.15	1.58	4.58	4.58
Dawson County	D8	RM 73.71	14783.86	20-yr	3262.53	610.46	605.87	1.76	1.3	14.72	4.7	292.2	1919.82	4.2	1.33	4.59	4.59
Dawson County	D8	RM 73.53	14496.67	20-yr	3262.53	610.36	605.72	1.75	1.17	14.42	4.45	249.62	2523.84	4.37	1.34	4.64	4.64
Dawson County	D8	RM 73.29	14096.19	20-yr	3262.53	609.87	605.51	3	2.12	42.82	11.75	198.62	1326.46	4.26	1.16	4.36	4.36
Dawson County	D8	RM 73.07	13729.79	20-yr	3262.53	609.23	605.52	3.5	2.88	61.18	25.58	196.15	744.17	3.65	1.52	3.98	3.98
Dawson County	D8	RM 72.83	13354.45	20-yr	3262.53	608.92	604.9	2.6	2.11	33.31	15.75	264.25	866.83	3.78	1.79	4.02	4.02
Dawson County	D8	RM 72.62	13000.82	20-yr	3262.53	608.66	604.4	2.37	1.93	27.13	10.97	295.23	1153.56	4.03	1.63	4.27	4.27
Dawson County	D8	RM 72.37	12609.05	20-yr	3262.53	608.36	603.89	2.55	1.91	30.91	11.71	228.58	1058.15	4.27	1.61	4.47	4.47
Dawson County	D8	RM 72.16	12261.75	20-yr	3262.53	608.09	603.69	2.47	1.97	29.24	11.06	286.3	1107.13	4.12	1.56	4.4	4.4
Dawson County	D8	RM 71.92	11875.08	20-yr	3262.53	607.93	603.18	2.02	1.69	19.37	8.72	345.16	1043.69	4.22	1.9	4.75	4.75
Dawson County	D8	RM 71.69	11512.65	20-yr	3262.53	607.72	602.95	2.17	1.69	22.19	7.82	303.44	1253.38	4.38	1.54	4.78	4.78
Dawson County	D8	RM 71.49	11192.6	20-yr	3262.53	607.52	602.03	2.34	1.71	24.54	7.76	237.66	1178.62	5.16	1.62	5.49	5.49
Dawson County	D8	RM 71.31	10913.3	20-yr	3262.53	607.39	601.99	2.31	1.66	24.14	8.91	244.59	1063.88	5.02	1.84	5.4	5.4
Dawson County	D9	RM 71.10	10567.75	20-yr	3259.7	607.31	602.11	1.91	1.53	16.77	6.91	197.48	1115.92	4.68	1.91	5.2	5.2
Dawson County	D9	RM 70.91	10267.7	20-yr	3259.7	607.16	602.05	2.2	1.5	21.8	7.54	126.11	1543.59	5.04	1.71	5.12	5.12
Dawson County	D9	RM 70.72	9968.939	20-yr	3259.7	607.05	601.91	2.16	1.38	21.04	7.59	153.19	1498.74	5.13	1.79	5.14	5.14
Dawson County	D9	RM 70.50	9603.574	20-yr	3259.7	606.92	601.9	1.92	1.6	16.98	10.89	251.24	687.11	4.63	2.96	5.02	5.02
Dawson County	D9	RM 70.27	9238.535	20-yr	3259.7	606.6	601.31	2.53	1.97	28.87	10.68	236.79	901.69	4.97	1.83	5.29	5.29
Dawson County	D9	RM 70.08	8928.013	20-yr	3259.7	606.47	600.85	2.36	1.69	24.98	8.31	234.44	1143.03	5.13	1.69	5.62	5.62
Dawson County	D9	RM 69.79	8464.726	20-yr	3259.7	606.33	600.61	2.02	1.33	18.14	5.56	248.41	1530.46	5.26	1.6	5.72	5.72
Dawson County	D9	RM 69.50	7983.226	20-yr	3259.7	606.22	600.56	1.92	1.17	16.48	5.47	237.14	1642.73	5.15	1.69	5.66	5.66
Dawson County	D9	RM 69.26	7575.04	20-yr	3259.7	606.09	600.35	1.95	1.17	16.8	5.96	245.78	1503.24	5.28	1.86	5.74	5.74
Dawson County	D9	RM 69.03	7206.967	20-yr	3259.7	606	599.95	1.83	1.22	14.53	6.21	236.36	1107.49	5.69	2.41	6.05	6.05
Dawson County	D9	RM 68.82	6851.789	20-yr	3259.7	605.79	599.77	2.26	1.53	22.43	7.99	217.59	1108.93	5.46	1.92	6.02	6.02
Dawson County	D9	RM 68.60	6509.797	20-yr	3259.7	605.4	599.59	2.89	2.26	36.2	10.46	189.13	895.38	5.69	1.61	5.81	5.81
Dawson County	D9	RM 68.39	6158.879	20-yr	3259.7	605.24	599.51	2.55	2.26	29.24	11.33	241.73	733.05	5.11	1.96	5.73	5.73
Dawson County	D9	RM 68.11	5709.195	20-yr	3259.7	605.02	599.37	2.37	2.07	25.41	10.27	262.72	780.74	5.01	2.02	5.65	5.65
Dawson County	D9	RM 67.86	5308.187	20-yr	3259.7	604.81	599.17	2.56	2.15	28.98	13.79	130.41	596.57	5.48	2.54	5.65	5.65
Dawson County	D10	RM 67.57	4859.184	20-yr	3256.87	604.6	598.93	2.29	2.06	23.17	16.03	240.29	429.78	5.32	3.68	5.67	5.67
Dawson County	D10	RM 67.37	4523.862	20-yr	3256.87	604.5	598.75	2.12	1.72	19.85	7.59	224.36	1087.01	5.33	2.02	5.74	5.74
Dawson County	D10	RM 67.15	4175.103	20-yr	3256.87	604.11	598.47	3.03	2.19	40.6	12.53	158.11	902.79	5.42	1.65	5.63	5.63

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

20-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	20-yr	3256.87	604.03	598.2	2.29	1.55	23.68	8.78	211.57	1151.65	4.97	1.82	5.83	5.83
Dawson County	D10	RM 66.74	3505.323	20-yr	3256.87	603.83	598.12	2.43	1.79	25.72	11.06	189.78	770.69	5.58	2.36	5.71	5.71
Dawson County	D10	RM 66.52	3142.889	20-yr	3256.87	603.61	598.26	2.43	1.91	26.57	10.24	249	884.19	5.03	1.93	5.35	5.35
Dawson County	D10	RM 66.28	2774.58	20-yr	3256.87	603.16	598.21	3.1	2.63	44.2	25.66	206.17	453.31	4.7	2.74	4.95	4.95
Dawson County	D10	RM 66.11	2492.331	20-yr	3256.87	603.04	597.8	2.53	2.21	29.93	17.22	269.84	567.53	4.5	2.59	5.24	5.24
Dawson County	D10	RM 65.90	2160.839	20-yr	3256.87	602.92	597.33	2.24	1.81	22.77	11.16	227.64	739.13	5	2.43	5.6	5.6
Dawson County	D10	RM 65.75	1926.044	20-yr	3256.87	602.8	597.2	2.22	1.89	23.15	12.58	203.78	703.98	4.54	2.45	5.6	5.6
Dawson County	D10	RM 65.60	1669.095	20-yr	3256.87	602.63	597.07	2.53	1.72	28.41	9.16	140.14	1120.24	5.33	1.69	5.57	5.57
Dawson County	D10	RM 65.42	1386.836	20-yr	3256.87	602.54	596.92	1.99	1.62	17.76	6.47	247.82	1078.65	5.16	1.86	5.62	5.62
Dawson County	D10	RM 65.23	1090.639	20-yr	3256.87	602.42	596.91	2.08	1.54	20.79	7.71	263.18	1434.39	4.14	1.52	5.51	5.51
Dawson County	D10	RM 64.96	634.963	20-yr	3256.87	602.28	597.09	1.79	1.13	14.7	5.24	270.22	2114.79	4.67	1.66	5.19	5.19

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	20-yr	3256.4	602.15	596.42	1.35	0.84	8.67	3.13	398.12	2582.67	4.19	1.5	5.73	5.73
Richland/McKenzie County	D10	RM 64.32	103200	20-yr	3256.4	602.04	596.33	1.79	0.9	14.62	4.8	232.97	2291.34	4.86	1.58	5.71	5.71
Richland/McKenzie County	D10	RM 64.12	102900	20-yr	3256.4	602	596.18	1.49	0.92	10.42	4.11	281.09	2033.32	4.46	1.74	5.82	5.82
Richland/McKenzie County	D10	RM 63.92	102601	20-yr	3256.4	601.96	596.08	1.41	0.8	9.43	4.23	273.38	2116.27	4.33	1.92	5.88	5.88
Richland/McKenzie County	D10	RM 63.74	102302	20-yr	3256.4	601.89	595.94	1.51	0.85	10.53	3.98	254.65	2148.97	4.74	1.77	5.95	5.95
Richland/McKenzie County	D10	RM 63.55	101998	20-yr	3256.4	601.83	595.79	1.6	0.83	11.16	3.86	210.56	2048.18	5.58	1.9	6.04	6.04
Richland/McKenzie County	D10	RM 63.34	101671	20-yr	3256.4	601.78	595.21	1.57	0.8	11.26	4.77	241.49	1994.21	4.83	2.03	6.57	6.57
Richland/McKenzie County	D10	RM 63.08	101293	20-yr	3256.4	601.41	595.12	2.87	1.25	36.99	11.94	159.68	1604.32	5.14	1.63	6.29	6.29
Richland/McKenzie County	D10	RM 62.96	101094	20-yr	3256.4	601.21	595.12	3.05	1.5	51.87	15.36	149.74	1373.1	5.47	1.59	6.09	6.09
Richland/McKenzie County	D10	RM 62.83	100882	20-yr	3256.4	601.06	595.12	2.92	1.51	41.65	11.64	161.51	1402.49	5.62	1.54	5.94	5.94
Richland/McKenzie County	D10	RM 62.64	100582	20-yr	3256.4	600.93	595.12	2.59	1.45	29.29	9.08	189.94	1330.08	5.53	1.69	5.81	5.81
Richland/McKenzie County	D10	RM 62.46	100282	20-yr	3256.4	600.41	595.1	3.56	2.3	57.69	18.29	161.13	916.92	4.96	1.55	5.31	5.31
Richland/McKenzie County	D10	RM 62.27	99977	20-yr	3256.4	600.49	594.91	1.99	1.5	17.96	7.31	303.35	1095.62	4.94	1.98	5.58	5.58
Richland/McKenzie County	D10	RM 62.1	99691	20-yr	3256.4	600.41	594.75	1.76	1.33	14.24	7.74	274.06	1096.79	4.14	2.24	5.66	5.66
Richland/McKenzie County	D10	RM 61.91	99377	20-yr	3256.4	600.26	594.51	1.97	1.3	17.47	8.42	164.84	1164.48	4.54	2.16	5.75	5.75
Richland/McKenzie County	D10	RM 61.72	99082	20-yr	3256.4	600.11	594.36	2.15	1.45	20.72	7.65	127.17	1216.79	5.12	1.85	5.75	5.75
Richland/McKenzie County	D10	RM 61.54	98782	20-yr	3256.4	599.77	594.36	2.59	2	29.74	9.21	230.57	1087.8	4.89	1.5	5.41	5.41
Richland/McKenzie County	D10	RM 61.35	98482	20-yr	3256.4	599.58	594.26	2.6	1.98	30.76	10.42	215	1007.27	4.89	1.64	5.32	5.32
Richland/McKenzie County	D10	RM 61.16	98182	20-yr	3256.4	599.54	594.17	1.9	1.41	16.75	8.7	248.77	985.83	4.54	2.34	5.37	5.37
Richland/McKenzie County	D10	RM 60.99	97906	20-yr	3256.4	599.4	594.02	2.12	1.4	20.28	7.44	216.72	1335.7	4.96	1.8	5.37	5.37
Richland/McKenzie County	D10	RM 60.79	97582	20-yr	3256.4	599.27	593.78	2.07	1.26	20.45	7.63	224.25	1794.62	4.23	1.56	5.49	5.49
Richland/McKenzie County	D10	RM 60.64	97339	20-yr	3256.4	599.26	593.58	1.32	0.92	8.47	3.84	266.31	2261.12	4.04	1.81	5.68	5.68
Richland/McKenzie County	D10	RM 60.42	96982	20-yr	3256.4	599.11	593.38	1.84	1.12	15.26	4.24	215.62	2441.19	4.8	1.32	5.73	5.73
Richland/McKenzie County	D10	RM 60.25	96700	20-yr	3256.4	598.99	593.24	2.19	1.13	23.04	6.71	192.38	2596.4	4.21	1.2	5.75	5.75
Richland/McKenzie County	D10	RM 60.04	96365	20-yr	3256.4	598.85	593.14	1.97	1.01	19.44	7.06	227.05	2440.49	3.68	1.32	5.71	5.71
Richland/McKenzie County	D10	RM 59.86	96088	20-yr	3256.4	598.75	592.99	1.96	0.85	17.17	5.03	171.89	2514.69	5.29	1.52	5.76	5.76
Richland/McKenzie County	D10	RM 59.65	95769	20-yr	3256.4	598.72	592.85	1.51	0.75	10.48	3.7	207.22	2602.33	4.82	1.67	5.87	5.87
Richland/McKenzie County	D10	RM 59.5	95530	20-yr	3256.4	598.64	592.75	1.67	0.86	13.12	4.3	206.9	2620.33	4.47	1.44	5.89	5.89
Richland/McKenzie County	D10	RM 59.29	95183	20-yr	3256.4	598.56	592.55	1.56	0.89	11.29	3.77	232.08	2439.33	4.57	1.51	6.01	6.01
Richland/McKenzie County	D10	RM 59.07	94797	20-yr	3256.4	598.49	592.36	1.39	0.86	9.9	3.8	408.43	2290.34	4.36	1.66	6.13	6.13
Richland/McKenzie County	D10	RM 58.93	94582	20-yr	3256.4	598.38	592.31	1.74	0.95	14.02	4.85	328.36	2152.14	4.65	1.59	6.07	6.07
Richland/McKenzie County	D10	RM 58.75	94282	20-yr	3256.4	598.27	592.28	1.9	1.02	15.76	4.74	264.72	2012.63	5.35	1.59	5.99	5.99
Richland/McKenzie County	D10	RM 58.56	93982	20-yr	3256.4	597.8	592.22	3.27	1.64	47.54	10.16	157.23	1787.25	5.3	1.11	5.58	5.58
Richland/McKenzie County	D10	RM 58.37	93682	20-yr	3256.4	597.46	592.22	3.3	2.08	49.31	9.73	186.39	1622.48	4.96	0.96	5.24	5.24
Richland/McKenzie County	D10	RM 58.19	93382	20-yr	3256.4	597.51	592.22	2.09	1.39	19.57	6.39	254.64	1410.93	5.12	1.66	5.29	5.29
Richland/McKenzie County	D10	RM 58.01	93086	20-yr	3256.4	597.17	592.14	2.74	2.26	34.53	10.52	236.71	1004.64	4.77	1.44	5.03	5.03
Richland/McKenzie County	D10	RM 57.82	92782	20-yr	3256.4	597.12	592.11	1.94	1.59	18.22	7.77	308.1	1184.95	4.08	1.73	5.01	5.01
Richland/McKenzie County	D10	RM 57.63	92482	20-yr	3256.4	596.96	592.11	2.41	1.62	27.12	9.63	160.84	1263.77	4.55	1.59	4.85	4.85
Richland/McKenzie County	D10	RM 57.46	92205	20-yr	3256.4	596.88	591.95	1.76	1.2	14.39	6.29	192.28	1389.89	4.65	2.01	4.93	4.93
Richland/McKenzie County	D10	RM 57.26	91882	20-yr	3256.4	596.62	591.9	2.31	1.72	25.98	10.88	136.34	1347.77	4.04	1.67	4.72	4.72
Richland/McKenzie County	D10	RM 57.07	91583	20-yr	3256.4	596.55	591.73	1.86	1.34	16.15	6.91	137.42	1737.25	4.57	1.92	4.82	4.82
Richland/McKenzie County	D10	RM 56.87	91253	20-yr	3256.4	596.4	591.49	1.66	1.34	13.35	6.38	186.15	1588.56	4.1	1.95	4.97	4.97
Richland/McKenzie County	D10	RM 56.68	90943	20-yr	3256.4	596.33	591.12	1.45	1.29	10.3	6.37	299.58	1418.75	3.89	2.4	5.21	5.21
Richland/McKenzie County	D10	RM 56.54	90682	20-yr	3253.6	596.12	590.76	1.86	1.99	19.76	14.7	216.66	667.99	3.42	2.53	5.4	5.4
Richland/McKenzie County	D10	RM 56.35	90387	20-yr	3253.6	595.97	590.46	1.94	1.91	18.11	15.91	174.85	624.28	4.17	3.63	5.51	5.51
Richland/McKenzie County	D11	RM 56.16	90086	20-yr	3253.6	595.52	590.11	2.94	2.8	39.33	23.63	221.25	405.78	4.98	2.96	5.41	5.41
Richland/McKenzie County	D11	RM 55.96	89768	20-yr	3253.6	595.33	589.96	2.75	2.39	33.81	19.87	222.74	469.4	5.12	3	5.37	5.37
Richland/McKenzie County	D11	RM 55.78	89479	20-yr	3253.6	595.25	589.96	2.38	1.75	25.61	11.16	216.81	899.98	4.98	2.16	5.29	5.29
Richland/McKenzie County	D11	RM 55.61	89193	20-yr	3253.6	595.09	589.98	2.41	1.76	26.47	10.03	222.22	1276.25	4.88	1.83	5.11	5.11
Richland/McKenzie County	D11	RM 55.41	88882	20-yr	3253.6	594.93	589.76	2.35	1.6	25.47	10.56	203.81	1340.02	4.64	1.91	5.17	5.17
Richland/McKenzie County	D11	RM 55.23	88582	20-yr	3253.6	594.78	589.53	2.23	1.58	22.49	9.29	238.9	1280.38	5.04	2.06	5.25	5.25
Richland/McKenzie County	D11	RM 55.04	88282	20-yr	3253.6	594.57	589.39	2.43	1.74	27.47	12.42	252.08	1195.96	4.53	2.03	5.18	5.18
Richland/McKenzie County	D11	RM 54.86	87996	20-yr	3253.6	594.2	589.33	3.01	2.31	44.27	20.57	223.34	1000.25	3.95	1.82	4.87	4.87
Richland/McKenzie County	D11	RM 54.69	87715	20-yr	3253.6	594.16	589.23	2.07	1.7	20.47	12.37	188.11	1035.92	4.29	2.57	4.93	4.93
Richland/McKenzie County	D11	RM 54.48	87382	20-yr	3253.6	594.05	589.15	1.81	1.27	15.37	7.09	179.29	2078.94	4.41	2.01	4.9	4.9
Richland/McKenzie County	D11	RM 54.32	87122	20-yr	3253.6	593.96	589	1.88	1.17	16.16	6.38	159.94	2421.68	4.81	1.86	4.96	4.96
Richland/McKenzie County	D11	RM 54.1	86783	20-yr	3253.6	593.84	588.83	1.74	1.26	13.88	5.66	202.24	1906.85	4.85	1.95	5.01	5.01
Richland/McKenzie County	D11	RM 53.92	86482	20-yr	3253.6	593.77	588.68	1.56	1.08	11.55	4.31	255.08	2241.14	4.38	1.61	5.09	5.09
Richland/McKenzie County	D11	RM 53.73	86182	20-yr	3253.6	593.67	588.51	1.81	1.08	14.93	4.76	196.75	2564.04	4.95	1.55	5.16	5.16
Richland/McKenzie County	D11	RM 53.55	85882	20-yr	3253.6	593.53	588.37	1.88	1.24	16.1	5.05	181.72	2020.39	4.81	1.49	5.16	5.16
Richland/McKenzie County	D11	RM 53.36	85582	20-yr	3253.6	593.38	588.01	2.04	1.28	19.75	5.8	166.55	2257.66	4.32	1.25	5.37	5.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	20-yr	3253.6	592.95	587.56	2.95	1.7	39.41	8.54	205.74	2051.43	4.91	1.05	5.39	5.39
Richland/McKenzie County	D11	RM 52.98	84982	20-yr	3253.6	592.62	587.56	3.05	1.67	48.22	14.74	271.44	2661.79	3.34	1.01	5.06	5.06
Richland/McKenzie County	D11	RM 52.79	84682	20-yr	3253.6	592.39	587.56	2.33	1.44	28.66	12.19	387.04	2357.41	3.11	1.31	4.83	4.83
Richland/McKenzie County	D11	RM 52.61	84390	20-yr	3253.6	592.27	587.43	1.81	1.42	16.28	5.82	450.01	2513.33	3.76	1.34	4.84	4.84
Richland/McKenzie County	D11	RM 52.42	84082	20-yr	3253.6	592.19	587.28	1.58	1.09	12.84	5.52	409.99	2695.66	3.35	1.43	4.91	4.91
Richland/McKenzie County	D11	RM 52.24	83798	20-yr	3253.6	592.12	587.28	1.5	0.79	10.94	3.78	227.41	3613.78	4.04	1.38	4.84	4.84
Richland/McKenzie County	D11	RM 52.01	83423	20-yr	3253.6	591.92	587.23	2.15	1.07	21.79	4.55	124.91	3793.52	4.48	0.91	4.69	4.69
Richland/McKenzie County	D11	RM 51.87	83182	20-yr	3253.6	591.84	587.16	1.63	0.87	13.86	4.79	156.7	3372.07	3.28	1.11	4.68	4.68
Richland/McKenzie County	D11	RM 51.69	82882	20-yr	3253.6	591.74	587.16	1.46	0.78	10.41	3.37	151.19	3476.57	3.79	1.2	4.58	4.58
Richland/McKenzie County	D11	RM 51.51	82585	20-yr	3253.6	591.67	587.16	1.65	0.89	13.89	4.2	149.84	3511.26	3.51	1.04	4.51	4.51
Richland/McKenzie County	D11	RM 51.32	82274	20-yr	3253.6	591.63	587.16	1.39	0.75	9.87	3.64	173.83	3469.28	3.46	1.25	4.47	4.47
Richland/McKenzie County	D11	RM 51.13	81982	20-yr	3253.6	591.57	587.13	1.51	0.77	10.95	3.04	164.51	3623.24	4.26	1.16	4.46	4.46
Richland/McKenzie County	D11	RM 50.95	81682	20-yr	3253.6	591.49	587.08	1.35	0.66	8.74	2.78	144.96	3819.71	4.19	1.31	4.41	4.41
Richland/McKenzie County	D11	RM 50.76	81378	20-yr	3253.6	591.44	586.89	1.25	0.58	7.65	2.94	174.41	3804.53	4.05	1.52	4.55	4.55
Richland/McKenzie County	D11	RM 50.56	81065	20-yr	3253.6	591.28	586.37	1.67	0.77	12.82	3.47	171.61	3381.73	4.79	1.27	4.91	4.91
Richland/McKenzie County	D11	RM 50.39	80787	20-yr	3253.6	591.23	585.7	1.57	0.74	10.91	2.89	196.96	3157.19	5.43	1.41	5.53	5.53
Richland/McKenzie County	D11	RM 50.21	80482	20-yr	3253.6	591.14	585.55	1.54	0.86	10.81	3.41	234.94	2516.45	4.88	1.53	5.59	5.59
Richland/McKenzie County	D11	RM 50.02	80182	20-yr	3253.6	590.99	585.55	1.9	1.12	16.52	4.75	197.51	2156.11	4.8	1.35	5.44	5.44
Richland/McKenzie County	D12	RM 49.82	79860	20-yr	3253.6	590.57	585.55	2.88	1.83	37.92	8.77	211.84	1623.32	4.79	1.09	5.02	5.02
Richland/McKenzie County	D12	RM 49.65	79582	20-yr	3253.6	590.24	585.55	3.14	2.29	46.21	12.41	213.94	1198.61	4.44	1.18	4.69	4.69
Richland/McKenzie County	D12	RM 49.5	79348	20-yr	3253.6	590.38	585.49	1.56	1.16	11.09	3.58	356	1825.99	4.79	1.54	4.93	4.93
Richland/McKenzie County	D12	RM 49.26	78981	20-yr	3253.6	590.3	585.29	1.82	1.22	15.17	5.43	137.44	1586.49	4.78	1.68	5	5
Richland/McKenzie County	D12	RM 49.08	78682	20-yr	3253.6	590.16	585.11	1.97	1.31	17.88	5.36	156.64	1754.49	4.78	1.41	5.12	5.12
Richland/McKenzie County	D12	RM 48.87	78351	20-yr	3253.6	590.05	584.96	1.92	1.23	16.77	4.68	209.35	1988	4.82	1.33	5.09	5.09
Richland/McKenzie County	D12	RM 48.7	78082	20-yr	3253.6	589.97	584.86	1.82	1.25	15.99	6.3	252.25	1654.64	4.07	1.58	5.11	5.11
Richland/McKenzie County	D12	RM 48.52	77782	20-yr	3253.6	589.95	584.74	1.2	0.92	6.99	3.58	473.03	1721.67	4	2.04	5.21	5.21
Richland/McKenzie County	D12	RM 48.33	77482	20-yr	3253.6	589.89	584.51	1.26	0.96	8.72	5.04	517.65	1747.13	3.38	1.94	5.38	5.38
Richland/McKenzie County	D12	RM 48.15	77182	20-yr	3253.6	589.79	584.24	1.51	0.9	10.61	6.01	497.96	1828.61	3.5	1.97	5.55	5.55
Richland/McKenzie County	D12	RM 47.97	76887	20-yr	3253.6	589.76	584.09	1.12	0.79	5.53	3.69	601.73	2179.89	3.17	2.11	5.67	5.67
Richland/McKenzie County	D12	RM 47.76	76570	20-yr	3253.6	589.72	583.86	1.08	0.81	5.75	3.46	565.5	2099.63	3.5	2.1	5.86	5.86
Richland/McKenzie County	D12	RM 47.59	76293	20-yr	3253.6	589.65	583.71	1.23	0.85	7.33	3.46	391.27	2068.43	4.22	1.98	5.94	5.94
Richland/McKenzie County	D12	RM 47.4	75982	20-yr	3253.6	589.55	583.42	1.64	0.92	11.97	4.57	196.88	1963.28	5.06	1.91	6.13	6.13
Richland/McKenzie County	D12	RM 47.12	75521	20-yr	3253.6	589.34	583.04	1.99	1.1	16.88	4.86	234.72	1789.71	6.04	1.72	6.3	6.3
Richland/McKenzie County	D12	RM 47	75323	20-yr	3253.6	588.99	583.04	3.13	1.52	43.22	10.33	162.2	1691.55	5.37	1.26	5.95	5.95
Richland/McKenzie County	D12	RM 46.85	75082	20-yr	3253.6	588.82	583.04	2.97	1.65	39.14	9.19	184.53	1604.72	5.32	1.23	5.78	5.78
Richland/McKenzie County	D12	RM 46.67	74782	20-yr	3253.6	588.53	583.04	3.1	2.04	42.69	9.86	185.83	1314.05	5.32	1.21	5.49	5.49
Richland/McKenzie County	D12	RM 46.47	74459	20-yr	3253.6	588.51	583.04	2.1	1.67	20.07	7.47	312.11	1091.48	4.83	1.78	5.47	5.47
Richland/McKenzie County	D12	RM 46.3	74186	20-yr	3253.6	588.37	583.04	2.12	1.79	19.64	11.72	421.1	915.4	3.55	2.1	5.33	5.33
Richland/McKenzie County	D12	RM 46.14	73920	20-yr	3253.6	588.27	583.04	1.92	1.66	16.22	10.35	454.73	855.54	3.64	2.31	5.23	5.23
Richland/McKenzie County	D12	RM 45.9	73546	20-yr	3253.6	588.11	582.97	1.94	1.41	17.85	8.53	339.6	1140.63	4.27	2.03	5.14	5.14
Richland/McKenzie County	D12	RM 45.75	73307	20-yr	3253.6	587.92	582.88	2.24	1.6	23.98	9.94	351.5	1525.18	3.63	1.5	5.04	5.04
Richland/McKenzie County	D12	RM 45.54	72980	20-yr	3253.6	587.81	582.55	1.81	1.34	15.63	5.76	382.5	1807.96	4.26	1.55	5.26	5.26
Richland/McKenzie County	D12	RM 45.29	72680	20-yr	3253.6	587.68	582.25	1.92	1.24	17.53	6.26	347.33	1762.29	4.21	1.49	5.43	5.43
Richland/McKenzie County	D12	RM 45.09	72380	20-yr	3253.6	587.58	582.08	1.93	1.11	16.72	4.85	267.36	1993.39	5.1	1.47	5.5	5.5
Richland/McKenzie County	D12	RM 44.91	72080	20-yr	3253.6	587.49	582.01	1.87	1.11	15.84	4.85	283.48	1980.63	4.88	1.48	5.48	5.48
Richland/McKenzie County	D12	RM 44.72	71783	20-yr	3253.6	587.27	581.97	2.4	1.3	26.05	6.52	208.81	2137.26	4.98	1.23	5.3	5.3
Richland/McKenzie County	D12	RM 44.53	71483	20-yr	3253.6	587.03	581.82	2.74	1.55	34.46	9.44	177.29	1769.18	4.76	1.29	5.21	5.21
Richland/McKenzie County	D12	RM 44.34	71183	20-yr	3253.6	586.68	581.8	3.03	1.88	44.48	11.86	199.04	1910.47	4.08	1.07	4.88	4.88
Richland/McKenzie County	D12	RM 44.17	70899	20-yr	3253.6	586.71	581.79	1.72	1.26	13.52	5.14	301.73	2136.62	4.84	1.83	4.92	4.92
Richland/McKenzie County	D12	RM 43.97	70594	20-yr	3253.6	586.66	581.73	1.43	1.01	9.84	3.95	326.68	2442.94	4.07	1.62	4.93	4.93
Richland/McKenzie County	D12	RM 43.74	70230	20-yr	3253.6	586.53	581.66	1.62	1.3	12.93	4.71	164.51	1919.76	3.9	1.41	4.87	4.87
Richland/McKenzie County	D12	RM 43.59	69983	20-yr	3253.6	586.44	581.56	1.52	0.83	11.08	3.98	143.76	2764.34	4.01	1.41	4.88	4.88
Richland/McKenzie County	D12	RM 43.4	69684	20-yr	3253.6	586.36	581.49	1.52	0.81	11.18	3.62	150.64	2986.52	4.22	1.34	4.87	4.87
Richland/McKenzie County	D12	RM 43.03	69084	20-yr	3253.6	586.26	581.37	1.43	0.68	10.01	3.46	131.62	3506.05	4	1.36	4.89	4.89
Richland/McKenzie County	D12	RM 42.66	68489	20-yr	3253.6	586.18	581.18	1.59	0.7	12.03	3.64	115.82	3614.79	4.36	1.29	5	5
Richland/McKenzie County	D12	RM 42.29	67889	20-yr	3253.6	586.12	580.87	1.21	0.66	6.78	2.12	281.47	3774.44	4.66	1.44	5.25	5.25
Richland/McKenzie County	D12	RM 42.08	67558	20-yr	3253.6	586.08	580.61	1.38	0.66	8.53	2.5	180.64	3424.25	5.22	1.51	5.47	5.47
Richland/McKenzie County	D12	RM 41.89	67260	20-yr	3253.6	586	580.31	1.49	0.75	9.93	3.06	292.42	2859.32	5.1	1.56	5.69	5.69
Richland/McKenzie County	D12	RM 41.75	67037	20-yr	3253.6	585.92	579.99	1.59	0.85	11.97	3.91	337.38	2710.83	4.43	1.43	5.93	5.93
Richland/McKenzie County	D12	RM 41.54	66695	20-yr	3253.6	585.75	579.72	2.07	0.97	18.63	5.26	196.39	2105.64	5.72	1.59	6.03	6.03
Richland/McKenzie County	D12	RM 41.34	66361	20-yr	3253.6	585.61	579.43	2.14	1.13	20.96	6.56	218.95	1939.85	4.81	1.49	6.18	6.18

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	20-yr	3253.6	585.47	579.08	2.27	1.18	22.73	6.65	195.81	1786.4	5.36	1.54	6.39	6.39
Richland/McKenzie County	D12	RM 40.99	65802	20-yr	3253.6	585.37	578.99	2.09	1.02	19.48	5.91	203.5	2034.17	5.23	1.56	6.38	6.38
Richland/McKenzie County	D12	RM 40.8	65502	20-yr	3253.6	585.19	578.97	2.15	1.31	21.49	5.99	273.63	2047.36	4.65	1.28	6.22	6.22
Richland/McKenzie County	D12	RM 40.62	65205	20-yr	3253.6	585.15	578.92	1.58	0.98	11.98	4.36	375.4	2839.36	4.18	1.51	6.23	6.23
Richland/McKenzie County	D12	RM 40.24	64602	20-yr	3253.6	584.99	578.6	1.43	0.83	9.93	3.84	507.11	3097.78	3.64	1.4	6.39	6.39
Richland/McKenzie County	D12	RM 40	64219	20-yr	3253.6	584.83	578.56	1.8	0.91	14.95	4.01	309.03	3108.28	4.67	1.24	6.27	6.27
Richland/McKenzie County	D12	RM 39.87	64002	20-yr	3253.6	584.7	578.55	2.15	1.01	20.43	4.63	222	2836.34	5.39	1.2	6.15	6.15
Richland/McKenzie County	D12	RM 39.68	63702	20-yr	3253.6	584.6	578.45	2.1	1.04	20.19	4.43	241.95	3032.93	4.81	1.04	6.15	6.15
Richland/McKenzie County	D12	RM 39.5	63402	20-yr	3253.6	584.49	578.35	2.14	1.04	21.17	4.81	226.39	3230.58	4.65	1.04	6.14	6.14
Richland/McKenzie County	D12	RM 39.31	63102	20-yr	3253.6	584.41	578.31	1.95	1	17.13	4.28	227.2	2973.68	4.93	1.22	6.1	6.1
Richland/McKenzie County	D12	RM 39.13	62802	20-yr	3253.6	584.3	578.2	1.9	0.98	16.79	4.26	286.13	2968.64	4.56	1.14	6.1	6.1
Richland/McKenzie County	D12	RM 38.94	62501	20-yr	3253.6	584.24	578.12	1.73	0.84	13.69	3.65	264.19	2996.52	4.9	1.29	6.12	6.12
Richland/McKenzie County	D12	RM 38.76	62201	20-yr	3253.6	584.16	578.03	1.72	0.84	12.93	3.22	245.72	2876.68	5.47	1.34	6.13	6.13
Richland/McKenzie County	D12	RM 38.57	61901	20-yr	3253.6	584.09	577.87	1.78	0.85	14.78	4.69	236.46	2652.83	4.61	1.44	6.22	6.22
Richland/McKenzie County	D12	RM 38.38	61601	20-yr	3253.6	584.08	577.84	1.07	0.61	5.49	2.6	268.55	2424.07	4.68	2.2	6.24	6.24
Richland/McKenzie County	D12	RM 38.2	61301	20-yr	3253.6	584.02	577.82	1.29	0.7	7.23	3.09	244.45	2351.56	5.5	2.32	6.2	6.2
Richland/McKenzie County	D12	RM 38.01	61008	20-yr	3253.6	583.98	577.81	1.34	0.85	8.49	4.75	307.49	1565.18	4.39	2.44	6.17	6.17
Richland/McKenzie County	D12	RM 37.84	60708	20-yr	3253.6	583.89	577.71	1.54	1.04	12.36	6.07	335.25	1455.95	4.4	2.14	6.18	6.18
Richland/McKenzie County	D12	RM 37.65	60408	20-yr	3253.6	583.88	577.66	1.03	0.81	5.05	3.17	565.75	1488.52	4.32	2.71	6.22	6.22
Richland/McKenzie County	D12	RM 37.5	60107	20-yr	3253.6	583.84	577.54	1.01	0.9	5.11	3.48	561.58	1372.11	3.86	2.63	6.3	6.3
Richland/McKenzie County	D12	RM 37.35	59808	20-yr	3253.6	583.76	577.37	1.17	0.94	7.86	5.08	427.63	1270.2	4.23	2.73	6.39	6.39
Richland/McKenzie County	D12	RM 37.16	59508	20-yr	3253.6	583.64	577.24	1.68	1.15	13.58	8.41	280.03	1045.65	4.4	2.71	6.4	6.4
Richland/McKenzie County	D12	RM 36.97	59208	20-yr	3253.6	583.54	576.96	1.86	1.25	15.8	8.14	222.26	1283.65	4.28	2.18	6.58	6.58
Richland/McKenzie County	D12	RM 36.78	58908	20-yr	3253.6	583.46	576.87	1.79	1.22	14.06	6.37	217.29	1993.5	5.15	2.31	6.59	6.59
Richland/McKenzie County	D12	RM 36.6	58608	20-yr	3253.6	583.37	576.66	1.88	1.24	15.04	4.99	182.19	2200.67	6.06	1.95	6.71	6.71
Richland/McKenzie County	D12	RM 36.38	58263	20-yr	3250.8	583.22	576.49	1.93	1.51	16.13	4.88	290.42	2110.84	5.66	1.69	6.73	6.73
Richland/McKenzie County	D13	RM 36.23	58011	20-yr	3250.8	582.98	576.43	2.55	1.76	27.62	6.13	199.11	2172.95	6.11	1.33	6.55	6.55
Richland/McKenzie County	D13	RM 36.04	57708	20-yr	3250.8	582.79	576.42	2.76	1.62	33.59	9.1	194.14	2129.14	5.39	1.43	6.37	6.37
Richland/McKenzie County	D13	RM 35.85	57408	20-yr	3250.8	582.72	576.41	2.27	1.4	22.19	6.82	278.61	2312.99	4.5	1.37	6.31	6.31
Richland/McKenzie County	D13	RM 35.66	57108	20-yr	3250.8	582.71	576.36	1.6	1.07	11.32	3.72	327.66	2470.27	5.18	1.69	6.35	6.35
Richland/McKenzie County	D13	RM 35.48	56810	20-yr	3250.8	582.55	576.3	2.17	1.23	20.62	5.4	189.87	2391.65	5.55	1.43	6.25	6.25
Richland/McKenzie County	D13	RM 35.29	56508	20-yr	3250.8	582.45	576.19	2.08	1.25	19.76	5.87	216.77	2280.83	4.84	1.41	6.26	6.26
Richland/McKenzie County	D13	RM 35.1	56208	20-yr	3250.8	582.33	576.07	1.99	1.27	17.12	4.85	244.46	2174.3	5.77	1.6	6.26	6.26
Richland/McKenzie County	D13	RM 34.92	55908	20-yr	3250.8	582.2	576.09	2.06	1.37	21.9	7.71	254.13	1846.14	5.25	1.83	6.11	6.11
Richland/McKenzie County	D13	RM 34.73	55605	20-yr	3250.8	582.14	575.89	1.63	1.33	11.81	6.18	414.63	1407.19	4.44	2.31	6.25	6.25
Richland/McKenzie County	D13	RM 34.54	55297	20-yr	3250.8	582.06	575.79	1.6	1.31	12.67	7.48	394.66	1351.04	3.9	2.29	6.27	6.27
Richland/McKenzie County	D13	RM 34.36	55008	20-yr	3250.8	582.02	575.75	1.44	1.04	8.75	3.92	323.48	1410.9	5.43	2.41	6.26	6.26
Richland/McKenzie County	D13	RM 34.17	54708	20-yr	3250.8	581.99	575.49	1.27	0.88	7.33	3.59	380.95	1580.08	4.93	2.4	6.5	6.5
Richland/McKenzie County	D13	RM 33.94	54408	20-yr	3250.8	581.96	575.34	1.17	0.85	6.04	3.63	374.48	1258.01	5.06	3.03	6.62	6.62
Richland/McKenzie County	D13	RM 33.76	54079	20-yr	3250.8	581.91	575.12	1.33	1.02	7.95	4.87	286.39	1491.59	5.22	3.15	6.79	6.79
Richland/McKenzie County	D13	RM 33.6	53799	20-yr	3250.8	581.87	574.88	1.27	0.97	7.82	4.82	376.74	1608.03	4.86	2.96	6.99	6.99
Richland/McKenzie County	D13	RM 33.42	53508	20-yr	3250.8	581.81	574.61	1.43	1.01	8.44	4.54	262.09	1404.21	6.03	3.2	7.2	7.2
Richland/McKenzie County	D13	RM 33.23	53208	20-yr	3250.8	581.79	574.45	1.38	0.99	7.88	3.67	209.05	1729.54	6.55	3.01	7.34	7.34
Richland/McKenzie County	D13	RM 33.04	52908	20-yr	3250.8	581.71	574.3	1.67	1.12	11.23	3.95	193.34	1700.9	7.07	2.44	7.41	7.41
Richland/McKenzie County	D13	RM 32.86	52608	20-yr	3250.8	581.58	574.18	1.98	1.16	16.29	5.52	209.27	1598.81	6.57	2.18	7.4	7.4
Richland/McKenzie County	D13	RM 32.67	52308	20-yr	3250.8	581.53	574.18	1.92	0.95	15.36	5.79	188.53	1575	6.39	2.37	7.35	7.35
Richland/McKenzie County	D13	RM 32.48	52008	20-yr	3250.8	581.43	574.04	2.02	1.01	17.28	6.32	196.91	1480.81	6.1	2.18	7.39	7.39
Richland/McKenzie County	D13	RM 32.29	51709	20-yr	3250.8	581.38	574.04	1.74	0.97	12.61	5.29	224.23	1332.43	6.34	2.62	7.34	7.34
Richland/McKenzie County	D13	RM 32.11	51423	20-yr	3250.8	581.32	573.94	1.71	1.07	12	4.69	220.08	1320.72	6.63	2.57	7.38	7.38
Richland/McKenzie County	D13	RM 31.92	51108	20-yr	3250.8	581.27	573.85	1.67	0.97	11.89	5.74	211.85	1531.67	5.88	2.8	7.42	7.42
Richland/McKenzie County	D13	RM 31.73	50809	20-yr	3250.8	581.23	573.72	1.46	0.89	9.45	4.1	261.37	1728.13	6.67	2.86	7.51	7.51
Richland/McKenzie County	D13	RM 31.51	50462	20-yr	3250.8	581.01	573.24	2.36	1.25	21.82	8.31	162.22	1559.02	6.66	2.48	7.77	7.77
Richland/McKenzie County	D13	RM 31.35	50208	20-yr	3250.8	580.83	573.24	2.65	1.57	30.2	15.26	169.04	1012.29	5.83	2.89	7.59	7.59
Richland/McKenzie County	D13	RM 31.22	50009	20-yr	3250.8	580.7	573.24	2.77	1.8	32.05	15.08	149.68	1471.46	6.39	2.94	7.46	7.46
Richland/McKenzie County	D13	RM 31.12	49859	20-yr	3250.8	580.57	573.24	2.63	2.59	39.89	36.82	196.27	551.59	6.25	5.79	7.33	7.33
Richland/McKenzie County	D13	RM 30.97	49608	20-yr	3250.8	580.57	573.24	2.06	1.92	17.31	12.1	225.84	865.65	6.9	4.79	7.33	7.33
Richland/McKenzie County	D13	RM 30.79	49308	20-yr	3250.8	580.36	573.24	2.54	2.03	27.19	14.65	199.27	889.86	6.16	3.28	7.12	7.12
Richland/McKenzie County	D13	RM 30.6	49009	20-yr	3250.8	580.19	573.24	2.66	1.84	30.34	15.21	187.26	777.69	5.92	2.92	6.95	6.95
Richland/McKenzie County	D13	RM 30.41	48706	20-yr	3250.8	580.1	573.15	2.37	1.62	24.79	11.83	212.3	847.03	5.83	2.75	6.95	6.95
Richland/McKenzie County	D13	RM 30.22	48403	20-yr	3250.8	580.01	573.15	2.25	1.45	21.13	8.01	199.03	1258.08	6.39	2.38	6.86	6.86
Richland/McKenzie County	D13	RM 30.03	48102	20-yr	3250.8	580.03	573.15	1.48	1.02	9.29	4.16	315.48	1296.72	6.17	2.69	6.88	6.88

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	20-yr	3250.8	580	573.15	1.36	0.92	8	3.98	376.84	1275.05	5.64	2.77	6.85	6.85
Richland/McKenzie County	D13	RM 29.66	47508	20-yr	3250.8	579.92	573.11	1.55	0.98	9.8	4.97	393.01	1440.73	4.62	2.31	6.81	6.81
Richland/McKenzie County	D13	RM 29.48	47209	20-yr	3250.8	579.86	573.11	1.49	0.97	9.37	4.6	346.87	1559.03	5.49	2.66	6.75	6.75
Richland/McKenzie County	D13	RM 29.28	46894	20-yr	3250.8	579.82	572.98	1.35	1.04	8.12	5.46	401.07	986.46	5.1	3.42	6.84	6.84
Richland/McKenzie County	D13	RM 29.1	46608	20-yr	3250.8	579.76	572.94	1.7	1.08	12.4	7.22	169.86	1099.46	5.85	3.36	6.82	6.82
Richland/McKenzie County	D13	RM 28.92	46308	20-yr	3250.8	579.68	572.85	1.79	1.18	13.46	5.08	146.69	1357.31	6.36	2.35	6.83	6.83
Richland/McKenzie County	D13	RM 28.73	46008	20-yr	3250.8	579.65	572.67	1.55	0.97	10.22	4.04	152.03	1409.3	6.1	2.37	6.98	6.98
Richland/McKenzie County	D13	RM 28.54	45708	20-yr	3250.8	579.61	572.67	1.43	0.91	8.58	3.69	201.29	1475.13	5.69	2.41	6.94	6.94
Richland/McKenzie County	D13	RM 28.36	45419	20-yr	3250.8	579.57	572.48	1.37	0.88	7.94	3.3	233.95	1464.89	6.11	2.51	7.09	7.09
Richland/McKenzie County	D13	RM 28.15	45071	20-yr	3250.8	579.51	572.25	1.26	1.04	6.84	3.61	429.8	1245.87	5.72	2.99	7.26	7.26
Richland/McKenzie County	D13	RM 27.98	44808	20-yr	3250.8	579.36	572.04	1.96	1.38	15.85	4.87	236.34	1629.25	6.55	1.99	7.32	7.32
Richland/McKenzie County	D13	RM 27.8	44508	20-yr	3250.8	579.29	571.87	1.9	1.37	14.46	4.12	226.85	1572.72	7.17	2.01	7.42	7.42
Richland/McKenzie County	D14	RM 27.61	44208	20-yr	3250.8	579.24	571.87	1.85	1.3	14.16	4.28	246.37	1824.05	6.63	1.98	7.37	7.37
Richland/McKenzie County	D14	RM 27.43	43916	20-yr	3250.8	579.21	571.87	1.64	1.08	10.9	3.15	261.74	2156.58	6.97	1.98	7.34	7.34
Richland/McKenzie County	D14	RM 27.23	43608	20-yr	3250.8	579.2	571.87	1.3	0.84	6.74	2.02	310.87	2324.17	7.22	2.13	7.33	7.33
Richland/McKenzie County	D14	RM 27.04	43305	20-yr	3250.8	579.14	571.87	1.51	0.88	9.37	2.72	277.5	2445.63	6.67	1.89	7.27	7.27
Richland/McKenzie County	D14	RM 26.86	43008	20-yr	3250.8	579.07	571.87	1.74	0.95	12.3	3.14	229.41	2314.26	6.91	1.73	7.2	7.2
Richland/McKenzie County	D14	RM 26.67	42708	20-yr	3250.8	579.03	571.87	1.6	0.91	10.38	2.91	252.42	2269.77	6.89	1.91	7.16	7.16
Richland/McKenzie County	D14	RM 26.48	42408	20-yr	3250.8	578.91	571.87	1.97	1.09	15.92	3.97	209.83	2153.27	6.74	1.65	7.04	7.04
Richland/McKenzie County	D14	RM 26.29	42108	20-yr	3250.8	578.8	571.87	2.1	1.23	18.2	4.36	205.84	1961.75	6.63	1.56	6.93	6.93
Richland/McKenzie County	D14	RM 26.11	41808	20-yr	3250.8	578.76	571.87	1.83	1.2	13.77	3.74	249.58	1736.42	6.59	1.77	6.89	6.89
Richland/McKenzie County	D14	RM 25.92	41508	20-yr	3250.8	578.73	571.87	1.54	1.08	9.73	2.56	305.76	1934.89	6.57	1.71	6.86	6.86
Richland/McKenzie County	D14	RM 25.73	41208	20-yr	3250.8	578.69	571.74	1.5	1.11	9.17	2.67	309.7	1626.07	6.73	1.94	6.95	6.95
Richland/McKenzie County	D14	RM 25.55	40918	20-yr	3250.8	578.64	571.74	1.56	1.12	10.47	2.8	346.01	2093.89	5.68	1.5	6.9	6.9
Richland/McKenzie County	D14	RM 25.37	40619	20-yr	3250.8	578.58	571.74	1.56	1.11	10.8	3.06	353.9	1894.76	5.49	1.54	6.84	6.84
Richland/McKenzie County	D14	RM 25.17	40310	20-yr	3250.8	578.48	571.74	1.69	1.28	13.05	4.56	361.09	1506.18	5.01	1.74	6.74	6.74
Richland/McKenzie County	D14	RM 24.99	40008	20-yr	3250.8	578.45	571.74	1.41	1.12	8.64	3.4	384.4	1378.1	5.75	2.25	6.71	6.71
Richland/McKenzie County	D14	RM 24.8	39703	20-yr	3250.8	578.42	571.71	1.24	1.1	7.11	4.5	401.11	1061.72	6.41	4.04	6.71	6.71
Richland/McKenzie County	D14	RM 24.62	39408	20-yr	3250.8	578.31	571.64	1.71	1.46	12.51	7.26	278.78	969.95	6.01	3.47	6.67	6.67
Richland/McKenzie County	D14	RM 24.45	39139	20-yr	3250.8	578.14	571.64	2.14	1.97	19.17	12.27	239.98	831.58	6.27	3.99	6.5	6.5
Richland/McKenzie County	D14	RM 24.24	38801	20-yr	3250.8	578.04	571.58	2.12	1.86	18.88	12.33	237.24	857.33	6.26	4.07	6.46	6.46
Richland/McKenzie County	D14	RM 24.05	38506	20-yr	3250.8	577.98	571.48	1.95	1.82	15.95	10.51	264.93	990.52	6.24	4.09	6.5	6.5
Richland/McKenzie County	D14	RM 23.87	38210	20-yr	3250.8	577.98	571.28	1.49	1.4	9.16	5.62	334.4	1310.29	6.5	3.97	6.7	6.7
Richland/McKenzie County	D14	RM 23.66	37912	20-yr	3250.8	577.96	571.21	1.21	1.14	6.2	4.01	442.5	1510.04	6.03	3.89	6.75	6.75
Richland/McKenzie County	D14	RM 23.48	37610	20-yr	3250.8	577.93	571.12	1.28	1.15	7.41	4.44	347.97	1818.65	5.21	3.11	6.81	6.81
Richland/McKenzie County	D14	RM 23.29	37312	20-yr	3250.8	577.87	570.86	1.42	1.15	9.25	4.79	313.75	1750.99	5.11	2.62	7.01	7.01
Richland/McKenzie County	D14	RM 23.1	37006	20-yr	3250.8	577.83	570.82	1.42	1.05	9.14	4.02	254.67	1908.37	5.89	2.56	7.01	7.01
Richland/McKenzie County	D14	RM 22.92	36721	20-yr	3250.8	577.78	570.8	1.51	1.02	9.87	4.04	214.08	2242.75	5.82	2.34	6.98	6.98
Richland/McKenzie County	D14	RM 22.72	36402	20-yr	3250.8	577.68	570.81	1.87	1.11	14.47	4.15	178.19	2579.88	6.48	1.83	6.87	6.87
Richland/McKenzie County	D14	RM 22.54	36108	20-yr	3250.8	577.62	570.76	1.63	1	11.35	3.19	276.8	2699.77	6.3	1.75	6.86	6.86
Richland/McKenzie County	D14	RM 22.35	35808	20-yr	3250.8	577.58	570.74	1.52	0.98	9.79	2.83	308.52	2775.55	6.1	1.75	6.84	6.84
Richland/McKenzie County	D14	RM 22.17	35508	20-yr	3250.8	577.54	570.68	1.48	0.95	8.97	1.93	303.06	3125.74	6.66	1.42	6.86	6.86
Richland/McKenzie County	D14	RM 22.02	35264	20-yr	3250.8	577.53	570.68	1.27	0.87	6.59	1.57	354.21	2863.94	6.73	1.58	6.85	6.85
Richland/McKenzie County	D14	RM 21.8	34901	20-yr	3250.8	577.47	570.69	1.37	0.98	8.26	2.08	401.37	2734.08	5.49	1.37	6.78	6.78
Richland/McKenzie County	D14	RM 21.61	34626	20-yr	3250.8	577.42	570.67	1.37	1.1	8.49	2.24	468.94	2555.23	4.91	1.28	6.75	6.75
Richland/McKenzie County	D14	RM 21.34	34140	20-yr	3250.8	577.39	570.67	1.18	0.86	5.9	1.37	289.68	2902.06	6.05	1.39	6.72	6.72
Richland/McKenzie County	D14	RM 21.25	33973	20-yr	3250.8	577.37	570.67	1.4	0.88	8.54	1.98	204.54	3056.61	5.55	1.26	6.7	6.7
Richland/McKenzie County	D14	RM 21.06	33672	20-yr	3250.8	577.36	570.6	1.11	0.66	5.3	1.53	267.5	3146.85	5.67	1.62	6.76	6.76
Richland/McKenzie County	D14	RM 20.9	33400	20-yr	3250.8	577.34	570.58	1.15	0.67	5.87	1.68	251.38	3389.89	5.19	1.46	6.76	6.76
Richland/McKenzie County	D14	RM 20.71	33101	20-yr	3250.8	577.29	570.53	1.36	0.71	8.2	2.06	247.47	3454.91	5.45	1.35	6.76	6.76
Richland/McKenzie County	D14	RM 20.52	32800	20-yr	3250.8	577.26	570.52	1.28	0.68	6.99	1.59	280.27	3676.05	5.86	1.31	6.74	6.74
Richland/McKenzie County	D14	RM 20.34	32500	20-yr	3250.8	577.23	570.52	1.33	0.72	7.49	1.59	256.92	3699.98	5.96	1.24	6.71	6.71
Richland/McKenzie County	D14	RM 20.15	32200	20-yr	3250.8	577.18	570.52	1.45	0.77	10.38	2.03	231.21	3673.48	6.12	1.18	6.66	6.66
Richland/McKenzie County	D14	RM 19.96	31900	20-yr	3250.8	576.97	570.52	2.25	1.02	21.32	3.34	189.46	3482.11	6.15	0.94	6.45	6.45
Richland/McKenzie County	D14	RM 19.77	31600	20-yr	3250.8	576.99	570.5	1.4	0.75	8.29	1.65	332.93	3750.74	5.96	1.18	6.49	6.49
Richland/McKenzie County	D14	RM 19.59	31297	20-yr	3250.8	576.96	570.45	1.33	0.71	7.66	1.56	334.34	4069.21	5.67	1.15	6.51	6.51
Richland/McKenzie County	D14	RM 19.4	30995	20-yr	3250.8	576.92	570.45	1.42	0.66	8.8	1.96	284.81	4103.28	5.48	1.2	6.47	6.47
Richland/McKenzie County	D14	RM 19.21	30710	20-yr	3250.8	576.91	570.38	1.04	0.55	4.58	1.12	380.6	4122.99	6.1	1.47	6.53	6.53
Richland/McKenzie County	D14	RM 19.03	30402	20-yr	3250.8	576.88	570.38	1.06	0.6	4.74	1.19	428.38	4295.62	5.45	1.36	6.5	6.5
Richland/McKenzie County	D14	RM 18.83	30086	20-yr	3250.8	576.86	570.38	1.02	0.58	4.43	1.46	505.09	4557.35	4.55	1.48	6.48	6.48
Richland/McKenzie County	D14	RM 18.66	29802	20-yr	3250.8	576.83	570.38	1.06	0.6	5.18	1.73	455.27	4935.32	4.55	1.5	6.45	6.45

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	20-yr	3250.8	576.76	570.36	1.45	0.79	9.49	2.58	299.05	4967.12	5.06	1.35	6.4	6.4
Richland/McKenzie County	D14	RM 18.28	29197	20-yr	3250.8	576.67	570.36	1.61	0.93	11.29	2.56	299.23	5010.05	5.74	1.29	6.31	6.31
Richland/McKenzie County	D14	RM 17.89	28624	20-yr	3250.8	576.65	570.33	1.02	0.76	4.33	1.87	468.41	3701.22	6.19	2.65	6.32	6.32
Richland/McKenzie County	D14	RM 17.56	27975	20-yr	3250.8	576.52	570.29	1.4	1.2	8.52	4.28	460.6	2829.61	4.88	2.44	6.23	6.23
Richland/McKenzie County	D14	RM 17.36	27539	20-yr	3250.8	576.24	570.31	2.24	2.05	21.77	10.11	254.84	1637.8	5.64	2.6	5.93	5.93
Richland/McKenzie County	D14	RM 17.1	27113	20-yr	3250.8	576.15	570.28	1.9	1.72	15.68	8.9	298.39	1654.52	5.64	3.19	5.87	5.87
Richland/McKenzie County	D14	RM 16.74	26537	20-yr	3250.8	576.09	570.14	1.38	1.2	8.12	5.37	406.85	1420.16	5.61	3.7	5.95	5.95
Richland/McKenzie County	D14	RM 16.35	25925	20-yr	3250.8	576.02	569.46	1.33	1.02	7.38	3.77	346.13	1548.75	6.35	3.22	6.56	6.56
Richland/McKenzie County	D14	RM 16.17	25629	20-yr	3250.8	576	569.2	1.24	0.92	6.67	3.85	377.41	1797.86	6.32	3.62	6.8	6.8
Richland/McKenzie County	D14	RM 15.95	25324	20-yr	3250.8	575.99	568.99	0.99	0.84	4.02	2.54	457.34	1724.34	6.8	4.29	7	7
Richland/McKenzie County	D14	RM 15.75	25032	20-yr	3250.8	575.95	568.85	1.1	1	5.09	2.85	462.46	1946.15	6.23	3.47	7.1	7.1
Richland/McKenzie County	D14	RM 15.56	24777	20-yr	3250.8	575.82	568.85	1.76	1.73	12.83	8.38	291.53	1100.64	6.33	4.12	6.96	6.96
Richland/McKenzie County	D14	RM 15.34	24438	20-yr	3250.8	575.73	568.79	1.83	1.65	13.72	6.46	261.89	1049.28	6.7	3.13	6.94	6.94
Richland/McKenzie County	D14	RM 15.16	24144	20-yr	3250.8	575.68	568.75	1.78	1.58	13.08	7.01	267.44	911.3	6.68	3.54	6.93	6.93
Richland/McKenzie County	D14	RM 14.98	23841	20-yr	3250.8	575.59	568.76	1.88	1.6	16.21	8.36	254.68	897.44	6.59	3.37	6.83	6.83
Richland/McKenzie County	D14	RM 14.79	23543	20-yr	3250.8	575.53	568.72	1.83	1.57	14.12	7.94	286.41	1202.98	6.01	3.34	6.81	6.81
Richland/McKenzie County	D14	RM 14.61	23241	20-yr	3250.8	575.47	568.7	1.77	1.51	12.91	8.06	274.36	1286.16	6.49	4.02	6.77	6.77
Richland/McKenzie County	D14	RM 14.42	22940	20-yr	3250.8	575.45	568.69	1.47	1.31	8.92	6.34	328.42	1826.68	6.55	4.64	6.76	6.76
Richland/McKenzie County	D14	RM 14.23	22647	20-yr	3250.8	575.45	568.67	1.12	1.01	5.18	3.81	444.61	1756.78	6.41	4.69	6.78	6.78
Richland/McKenzie County	D14	RM 14.05	22341	20-yr	3250.8	575.43	568.68	0.95	0.88	5.33	4.37	601.92	1416.84	5.58	4.57	6.75	6.75
Richland/McKenzie County	D14	RM 13.88	22040	20-yr	3250.8	575.39	568.67	1.03	0.97	5.34	4.36	682.22	991.82	4.57	3.73	6.72	6.72
Richland/McKenzie County	D14	RM 13.7	21728	20-yr	3250.8	575.31	568.65	1.32	1.31	7.57	7.43	502.19	692.45	4.92	4.84	6.66	6.66
Richland/McKenzie County	D14	RM 13.51	21429	20-yr	3250.8	575.26	568.63	1.35	1.32	7.69	7.13	409.72	541.03	5.85	5.42	6.63	6.63
Richland/McKenzie County	D15	RM 13.31	21145	20-yr	3250.8	575.24	568.51	1.21	1.2	6.27	6.05	457.14	696.1	5.87	5.67	6.73	6.73
Richland/McKenzie County	D15	RM 13.12	20858	20-yr	3250.8	575.17	568.39	1.46	1.45	8.81	8.29	344.8	673.99	6.46	6.09	6.78	6.78
Richland/McKenzie County	D15	RM 12.9	20507	20-yr	3250.8	575.07	568.39	1.68	1.67	11.77	10.43	303.98	541.72	6.36	5.63	6.68	6.68
Richland/McKenzie County	D15	RM 12.73	20241	20-yr	3250.8	575.02	568.35	1.69	1.68	11.86	9.28	297.97	415.82	6.45	5.04	6.67	6.67
Richland/McKenzie County	D15	RM 12.56	19961	20-yr	3250.8	575	568.34	1.48	1.43	9.06	6.72	337.44	876.54	6.49	4.8	6.66	6.66
Richland/McKenzie County	D15	RM 12.38	19686	20-yr	3250.8	574.99	568.23	1.2	1.15	5.97	4.74	425.75	796.81	6.35	5.02	6.76	6.76
Richland/McKenzie County	D15	RM 12.21	19384	20-yr	3250.8	574.96	568.17	1.21	1.1	6.31	5.29	513.36	933.41	5.11	4.28	6.79	6.79
Richland/McKenzie County	D15	RM 11.99	19084	20-yr	3250.8	574.93	568.16	1.14	1.04	5.78	4.43	592.13	1227	4.75	3.63	6.77	6.77
Richland/McKenzie County	D15	RM 11.53	18484	20-yr	3250.8	574.84	568.11	1.2	0.99	4.92	4.07	693.79	1338.92	3.69	3.04	6.73	6.73
Richland/McKenzie County	D15	RM 11.34	18216	20-yr	3250.8	574.79	568.06	1.1	1	20.57	17.84	710.89	1204.88	3.73	3.23	6.73	6.73
Richland/McKenzie County	D15	RM 11.17	17885	20-yr	3250.8	574.55	567.88	1.27	1.22	24.95	23.37	694.14	881.76	3.53	3.31	6.67	6.67
Richland/McKenzie County	D15	RM 10.97	17584	20-yr	3250.8	574.47	567.8	1.2	1.14	5.13	4.87	780.34	1138.83	3.41	3.23	6.67	6.67
Richland/McKenzie County	D15	RM 10.75	17284	20-yr	3250.8	574.44	567.79	1.08	1.03	4.37	3.91	717.39	1474.09	4.13	3.69	6.65	6.65
Richland/McKenzie County	D15	RM 10.53	16964	20-yr	3250.8	574.38	567.73	1.25	1.17	5.92	4.91	641.5	1828.8	3.99	3.3	6.65	6.65
Richland/McKenzie County	D15	RM 10.35	16670	20-yr	3250.8	574.32	567.73	1.34	1.16	7.89	5.64	517.24	1940.41	4.52	3.21	6.59	6.59
Richland/McKenzie County	D15	RM 10.15	16384	20-yr	3250.8	574.28	567.73	1.4	1.02	8.23	4.17	251.85	2035.14	6.25	3.14	6.55	6.55
Richland/McKenzie County	D15	RM 9.94	16084	20-yr	3250.8	574.26	567.73	1.12	0.9	5.27	2.81	272.39	2194.76	6.05	3.22	6.53	6.53
Richland/McKenzie County	D15	RM 9.76	15797	20-yr	3250.8	574.21	567.65	1.26	0.95	6.57	3.6	352.04	2193.19	5.67	3.09	6.56	6.56
Richland/McKenzie County	D15	RM 9.57	15487	20-yr	3250.8	574.15	567.58	1.46	1.04	8.88	4.9	245.67	1917.35	6.36	3.49	6.57	6.57
Richland/McKenzie County	D15	RM 9.37	15187	20-yr	3250.8	574.07	567.58	1.7	1.27	12.1	8.11	203.96	1402.75	6.28	4.19	6.49	6.49
Richland/McKenzie County	D15	RM 9.24	14963	20-yr	3250.8	573.82	567.5	2.35	2.26	23.79	20.7	234.33	960.17	5.84	5.09	6.32	6.32
Richland/McKenzie County	D15	RM 9.1	14741	20-yr	3250.8	573.71	567.39	2.4	2.24	25.22	18.45	231.83	858.8	5.77	4.21	6.32	6.32
Richland/McKenzie County	D15	RM 9.03	14639	20-yr	3250.8	573.66	567.4	2.39	2.25	25.07	15.46	248.61	984.88	5.43	3.35	6.26	6.26
Richland/McKenzie County	D15	RM 8.82	14300	20-yr	3250.8	573.71	567.41	1.43	1.32	8.8	5.96	381.12	1403.01	5.82	3.93	6.3	6.3
Richland/McKenzie County	D15	RM 8.61	13963	20-yr	3250.8	573.64	567.39	1.55	1.21	10.27	5.29	313.8	1826.92	5.74	2.94	6.25	6.25
Richland/McKenzie County	D15	RM 8.44	13687	20-yr	3250.8	573.57	567.32	1.7	1.17	12.32	5.37	258.5	1868.82	6	2.6	6.25	6.25
Richland/McKenzie County	D15	RM 8.24	13387	20-yr	3250.8	573.5	567.32	1.79	1.19	13.62	7.55	229.73	959.63	6.02	3.3	6.18	6.18
Richland/McKenzie County	D15	RM 8.05	13080	20-yr	3250.8	573.43	567.05	1.69	1.24	12.06	6.83	266.23	891.58	6.13	3.45	6.38	6.38
Richland/McKenzie County	D15	RM 7.87	12786	20-yr	3250.8	573.33	567.05	1.9	1.39	15.28	9.11	229.92	770.99	6.04	3.58	6.28	6.28
Richland/McKenzie County	D15	RM 7.69	12506	20-yr	3250.8	573.28	567.05	1.74	1.4	12.86	8.86	266.56	575.1	6.01	4.13	6.23	6.23
Richland/McKenzie County	D15	RM 7.48	12179	20-yr	3250.8	573.24	566.95	1.46	1.46	9	8.8	361.54	378.12	6.14	6.01	6.29	6.29
Richland/McKenzie County	D16	RM 7.3	11891	20-yr	3250.8	573.16	566.76	1.64	1.64	11.28	11.2	336.95	367.49	5.89	5.86	6.4	6.4
Richland/McKenzie County	D16	RM 7.14	11639	20-yr	3250.8	573.11	566.76	1.68	1.6	12.29	10.84	324.06	473.78	5.52	4.88	6.35	6.35
Richland/McKenzie County	D16	RM 6.94	11319	20-yr	3250.8	573.05	566.76	1.62	1.4	11.15	7.93	297.15	766.57	6.1	4.33	6.29	6.29
Richland/McKenzie County	D16	RM 6.77	11043	20-yr	3250.8	573.03	566.76	1.41	1.19	8.55	5.96	349.25	963.82	5.79	4.03	6.27	6.27
Richland/McKenzie County	D16	RM 6.58	10733	20-yr	3250.8	572.99	566.59	1.33	1.05	7.56	4.64	342.3	1100.71	6.03	3.67	6.4	6.4
Richland/McKenzie County	D16	RM 6.38	10417	20-yr	3250.8	572.85	566.59	2.03	1.2	17.52	6.93	182.43	1525.14	6.03	2.35	6.26	6.26
Richland/McKenzie County	D16	RM 6.21	10138	20-yr	3250.8	572.8	566.44	1.76	1.03	13.17	5.13	217.11	1598.78	6.1	2.34	6.36	6.36

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	20-yr	3250.8	572.79	566.17	1.2	0.86	6.22	2.98	412.46	1415.26	5.83	2.78	6.62	6.62
Richland/McKenzie County	D16	RM 5.83	9551	20-yr	3250.8	572.78	565.96	1	0.75	4.25	2.18	480.72	1426.99	6.12	3.12	6.82	6.82
Richland/McKenzie County	D16	RM 5.67	9297	20-yr	3250.8	572.76	565.96	1.17	0.79	5.85	2.95	342.21	1376.07	6.01	2.98	6.8	6.8
Richland/McKenzie County	D16	RM 5.43	8926	20-yr	3250.8	572.68	565.96	1.49	1.02	9.79	4.53	269.58	1624.2	5.4	2.47	6.72	6.72
Richland/McKenzie County	D16	RM 5.25	8623	20-yr	3250.8	572.44	565.96	2.25	1.49	21.34	7.42	206.77	1040.59	6.21	2.13	6.48	6.48
Richland/McKenzie County	D16	RM 5.06	8331	20-yr	3250.8	572.43	565.82	1.66	1.26	11.62	5.08	289.25	1126.88	6.17	2.67	6.61	6.61
Richland/McKenzie County	D16	RM 4.87	8029	20-yr	3250.8	572.42	565.67	1.34	1.13	7.72	3.67	335.83	1294.09	5.87	2.77	6.75	6.75
Richland/McKenzie County	D16	RM 4.71	7757	20-yr	3250.8	572.36	565.54	1.55	1.24	10.05	6.54	253.6	1188.44	6.4	4.12	6.82	6.82
Richland/McKenzie County	D16	RM 4.53	7456	20-yr	3250.8	572.24	565.54	1.98	1.39	16.36	8.3	199	1732.67	6.45	3.22	6.7	6.7
Richland/McKenzie County	D16	RM 4.34	7156	20-yr	3250.8	572.18	565.54	1.81	1.35	16.07	9.29	216.94	2099.03	6.3	3.59	6.64	6.64
Richland/McKenzie County	D16	RM 4.17	6884	20-yr	3250.8	572.1	565.54	1.85	1.35	14.37	7.75	226.27	2038.88	6.29	3.35	6.56	6.56
Richland/McKenzie County	D16	RM 3.96	6550	20-yr	3250.8	572.08	565.54	1.47	1.11	9.11	5.4	216.6	2003.13	6.27	3.69	6.54	6.54
Richland/McKenzie County	D16	RM 3.78	6249	20-yr	3250.8	572.03	565.54	1.61	1.13	11.17	6.24	196.52	2280.85	5.7	3.15	6.49	6.49
Richland/McKenzie County	D16	RM 3.55	5904	20-yr	3250.8	571.96	565.54	1.56	1.18	10.2	6.05	206.04	2079.49	6.24	3.66	6.42	6.42
Richland/McKenzie County	D16	RM 3.38	5657	20-yr	3250.8	571.87	565.53	1.93	1.4	15.74	8.68	171.27	2028	6.08	3.31	6.34	6.34
Richland/McKenzie County	D16	RM 3.2	5363	20-yr	3250.8	571.77	565.54	2.02	1.59	18.13	9.4	168.06	2052.17	5.36	2.74	6.23	6.23
Richland/McKenzie County	D16	RM 3.01	5062	20-yr	3250.8	571.71	565.54	1.77	1.39	13.74	7.91	310	1959.3	5.54	3.15	6.17	6.17
Richland/McKenzie County	D16	RM 2.82	4763	20-yr	3250.8	571.65	565.46	1.57	1.34	11.36	7.51	423.69	2211.08	4.69	3.08	6.19	6.19

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	10% - 10yr	1070.5	1144.22	1140.73	1.51	1.36	13.39	8.96	151.59	564.5	2.22	1.49	3.53	3.53
Stillwater County	A9	RM 435.38	231282.1	10% - 10yr	1070.5	1144.01	1139.61	1.69	1.42	15.66	6.98	197.42	609.29	2.78	1.24	4.4	4.4
Stillwater County	A9	RM 435.25	230611.3	10% - 10yr	1070.5	1143.41	1138.48	3.17	2.82	54.77	19.58	118.32	379.46	2.82	1	4.93	4.93
Stillwater County	A9	RM 435.16	230122.9	10% - 10yr	1070.5	1143.14	1138.39	3.08	2.52	51.49	17.93	118.38	430.86	2.85	0.99	4.75	4.75
Stillwater County	A9	RM 435.07	229649	10% - 10yr	1070.5	1142.95	1137.85	2.95	2.2	45.49	14.39	103.72	477.18	3.24	1.02	5.1	5.1
Stillwater County	A9	RM 434.97	229153	10% - 10yr	1070.5	1142.65	1137.87	3.12	2.63	51.45	24.33	104.61	278.9	3.09	1.46	4.78	4.78
Stillwater County	A9	RM 434.84	228443.5	10% - 10yr	1070.5	1142.32	1137	3.05	2.69	48.71	27.99	102.45	216.49	3.2	1.84	5.32	5.32
Stillwater County	A9	RM 434.73	227855.5	10% - 10yr	1070.5	1142	1135.61	3.19	2.85	49.8	23.58	82.33	200.68	4	1.87	6.38	6.38
Stillwater County	A9	RM 434.63	227328.2	10% - 10yr	1070.5	1141.79	1135.42	3.14	3.03	49.13	30.99	90.89	150.88	3.73	2.34	6.37	6.37
Stillwater County	A9	RM 434.57	227011.2	10% - 10yr	1070.5	1141.64	1136.35	3.16	3.12	52.08	43.58	104.09	126.72	3.24	2.71	5.29	5.29
Stillwater County	A9	RM 434.53	226817.6	10% - 10yr	1070.5	1141.49	1136.73	3.26	3.23	58.4	53.61	118.47	130.36	2.76	2.54	4.76	4.76
Stillwater County	A10	RM 434.49	226573.3	10% - 10yr	1070.5	1141.42	1137.23	2.92	2.85	46.27	40.34	125.44	149.15	2.89	2.52	4.19	4.19
Stillwater County	A10	RM 434.42	226233.2	10% - 10yr	1070.5	1141.27	1137.1	2.82	2.68	44.12	23.12	138.74	364.82	2.71	1.42	4.17	4.17
Stillwater County	A10	RM 434.37	225940.2	10% - 10yr	1070.5	1141.02	1136.51	3.09	2.97	52.23	28.92	124.51	237.41	2.77	1.53	4.51	4.51
Stillwater County	A10	RM 434.24	225278.2	10% - 10yr	1070.5	1140.73	1136.56	2.88	2.73	44.79	35.99	115.98	168.13	2.9	2.33	4.17	4.17
Stillwater County	A10	RM 434.15	224819.6	10% - 10yr	1070.5	1140.53	1137.06	2.67	2.41	41.08	30.79	156.87	246.85	2.4	1.8	3.47	3.47
Stillwater County	A10	RM 434.07	224366.5	10% - 10yr	1070.5	1140.1	1136.55	3.22	2.79	61.93	47.8	116.1	229.46	2.15	1.67	3.7	3.7
Stillwater County	A10	RM 433.98	223883.5	10% - 10yr	1070.5	1139.95	1136.28	2.32	2.22	31.69	23.25	137.26	308.26	2.25	1.66	3.67	3.67
Stillwater County	A10	RM 433.87	223309.3	10% - 10yr	1070.5	1139.69	1135.82	2.53	2.31	35.42	17.69	107.6	343.48	2.72	1.35	3.87	3.87
Stillwater County	A10	RM 433.78	222850	10% - 10yr	1070.5	1139.47	1135.54	2.48	2.21	35.48	15.55	175.88	463.02	2.4	1.05	3.93	3.93
Stillwater County	A10	RM 433.66	222201.9	10% - 10yr	1070.5	1139.12	1135.16	2.68	2.34	39.71	17.42	143.21	384.82	2.71	1.19	3.96	3.96
Stillwater County	A10	RM 433.54	221596.6	10% - 10yr	1070.5	1138.7	1135.33	3	2.91	50.07	36.97	133.99	265.12	2.64	1.95	3.37	3.37
Stillwater County	A10	RM 433.42	220956.2	10% - 10yr	1070.5	1138.24	1134.88	3.16	2.97	55.92	27.35	129.08	284.3	2.6	1.27	3.36	3.36
Stillwater County	A10	RM 433.31	220362.5	10% - 10yr	1070.5	1137.99	1134.67	2.54	2.26	39.4	18.93	203.41	489.68	2.02	0.97	3.32	3.32
Stillwater County	A10	RM 433.20	219758.6	10% - 10yr	1070.5	1137.84	1134.17	1.95	1.5	22.31	10.95	148.63	654.03	2.23	1.09	3.67	3.67
Stillwater County	A10	RM 433.09	219185.2	10% - 10yr	1070.5	1137.54	1133.45	2.27	2.09	29.07	13.78	179.63	420.77	2.58	1.22	4.09	4.09
Stillwater County	A10	RM 432.97	218599.7	10% - 10yr	1070.5	1137.22	1133.57	2.61	2.33	38.07	19.21	151.3	349.35	2.61	1.32	3.65	3.65
Stillwater County	A10	RM 432.84	217905.9	10% - 10yr	1070.5	1136.96	1132.7	2.52	2.25	34.24	14.85	136.55	373.04	2.95	1.28	4.26	4.26
Stillwater County	A10	RM 432.69	217146.9	10% - 10yr	1070.5	1136.44	1131.51	3.19	2.85	51.31	27.4	90.29	195.33	3.61	1.92	4.93	4.93
Stillwater County	A10	RM 432.60	216656.8	10% - 10yr	1070.5	1136.25	1132.1	3.02	2.76	47.01	28.16	102.1	202.69	3.42	2.03	4.15	4.15
Stillwater County	A10	RM 432.45	215889.7	10% - 10yr	1070.5	1135.94	1132.07	2.82	2.61	43.54	20.47	136.72	370.6	2.76	1.29	3.87	3.87
Stillwater County	A10	RM 432.35	215361.3	10% - 10yr	1070.5	1135.76	1132.33	2.51	2.1	35	13.01	158.42	558.88	2.64	0.98	3.43	3.43
Stillwater County	A10	RM 432.20	214585.3	10% - 10yr	1101.7	1135.14	1131.29	3.19	3.02	56.06	26.71	124.8	277.93	2.75	1.31	3.85	3.85
Stillwater County	A10	RM 432.10	214039.1	10% - 10yr	1101.7	1134.9	1130.7	2.94	2.33	47.06	20.06	124.1	465.66	2.83	1.21	4.2	4.2
Stillwater County	A10	RM 432.02	213606.1	10% - 10yr	1101.7	1134.81	1130.52	2.39	2.1	31.95	13.3	161.07	571.49	2.64	1.1	4.29	4.29
Stillwater County	A10	RM 431.87	212811.5	10% - 10yr	1101.7	1134.47	1129.24	2.36	2.06	34.01	19.49	210.76	459.53	2.03	1.16	5.23	5.23
Stillwater County	A10	RM 431.74	212127.4	10% - 10yr	1101.7	1134.3	1129.66	2.03	1.37	22.55	12.14	161.11	534.01	2.8	1.51	4.64	4.64
Stillwater County	A10	RM 431.60	211373.6	10% - 10yr	1101.7	1133.77	1129.96	2.91	2.78	46.39	34.93	134.11	189.03	2.78	2.1	3.81	3.81
Stillwater County	A10	RM 431.49	210820.2	10% - 10yr	1101.7	1133.5	1129.62	2.86	2.67	44.42	26.11	132.59	246.99	2.85	1.67	3.88	3.88
Stillwater County	A10	RM 431.41	210365.9	10% - 10yr	1101.7	1133.17	1129.57	3.09	2.97	52.62	32.16	129.85	223.05	2.73	1.66	3.6	3.6
Stillwater County	A10	RM 431.28	209716.5	10% - 10yr	1101.7	1132.84	1129.79	2.82	2.67	45.99	27.52	164.19	293.36	2.36	1.41	3.05	3.05
Stillwater County	A10	RM 431.14	208918.5	10% - 10yr	1101.7	1132.46	1129.82	2.31	2.46	32.5	28.97	131.21	248.44	2.01	1.8	3.71	3.71
Stillwater County	A10	RM 431.03	208358.8	10% - 10yr	1101.7	1132.07	1128.56	2.62	2.73	43.26	44.47	127.51	213.79	1.83	1.89	3.51	3.51
Stillwater County	A10	RM 430.93	207821.9	10% - 10yr	1101.7	1131.88	1128.76	2.33	2.04	32.61	23.09	126.38	359.82	2.1	1.5	3.12	3.12
Stillwater County	A10	RM 430.83	207325.6	10% - 10yr	1101.7	1131.61	1127.66	2.41	2.23	33.58	25.25	160.25	279.07	2.34	1.77	3.95	3.95
Stillwater County	A10	RM 430.70	206629.1	10% - 10yr	1101.7	1131.5	1126.9	1.88	1.73	18.99	10.15	150.14	392.8	3.02	1.62	4.59	4.59
Stillwater County	A10	RM 430.59	206064.9	10% - 10yr	1101.7	1131.35	1127.2	2.07	1.72	22.4	8.42	134.54	524.58	3.25	1.22	4.15	4.15
Stillwater County	A10	RM 430.51	205629.5	10% - 10yr	1101.7	1130.96	1126.28	2.98	2.68	46.54	18.19	106.76	329.95	3.21	1.25	4.68	4.68
Stillwater County	A10	RM 430.43	205204.2	10% - 10yr	1101.7	1130.7	1126.08	3.16	2.82	51.73	18.22	98.16	334.45	3.33	1.17	4.62	4.62
Stillwater County	A10	RM 430.34	204728.4	10% - 10yr	1101.7	1130.39	1126.07	3.32	2.84	58.24	21.62	102.38	339.27	3.09	1.14	4.31	4.31
Stillwater County	A11	RM 430.23	204119.7	10% - 10yr	1101.7	1130.32	1126.63	2.28	1.79	28.8	10.98	168.7	679.04	2.69	1.02	3.69	3.69
Stillwater County	A11	RM 430.12	203479.6	10% - 10yr	1101.7	1130.09	1126.96	2.5	1.94	35.44	12.72	112.27	628.35	2.53	0.91	3.56	3.56
Stillwater County	A11	RM 430.04	202968.2	10% - 10yr	1101.7	1129.79	1127.24	2.66	2.35	41.46	19.1	112.37	444.09	2.31	1.05	3.15	3.15
Stillwater County	A11	RM 429.95	202589.5	10% - 10yr	1101.7	1129.59	1126.33	2.42	2.17	35.3	16.85	141.76	507.47	2.1	1	3.26	3.26
Stillwater County	A11	RM 429.88	202224.7	10% - 10yr	1101.7	1129.47	1125.62	2.11	1.85	18.12	12.47	264.91	646.56	1.33	0.92	3.85	3.85
Stillwater County	A11	RM 429.78	201933.6	10% - 10yr	1101.7	1129.24	1123.72	2.39	1.93	20.88	12.12	205.45	631.86	1.57	0.91	5.52	5.52
Stillwater County	A11	RM 429.69	201539.9	10% - 10yr	1101.7	1128.7	1123.39	3.43	2.74	65.42	33.35	89.89	296.58	2.67	1.35	5.31	5.31
Stillwater County	A11	RM 429.58	200961.9	10% - 10yr	1101.7	1128.45	1124.69	2.75	1.96	43.76	22.28	116.91	484.18	2.28	1.16	3.76	3.76
Stillwater County	A11	RM 429.38	200210.8	10% - 10yr	1101.7	1128.02	1125.15	2.15	1.8	28.37	16.67	184.38	521.8	2	1.18	3.59	3.59
Stillwater County	A11	RM 429.28	199644.1	10% - 10yr	1101.7	1127.73	1123.59	2.34	1.9	32.26	16.71	148.15	507.53	2.21	1.14	4.14	4.14

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	10% - 10yr	1101.7	1127.53	1124.66	2	1.78	24.83	14.94	144.34	535.84	1.92	1.16	3.62	3.62
Stillwater County	A11	RM 429.10	198708.6	10% - 10yr	1101.7	1127.14	1124.26	2.61	2.32	41.51	20.66	87.46	476.52	2	1	3.56	3.56
Stillwater County	A11	RM 429.00	198203.8	10% - 10yr	1101.7	1126.93	1123.47	2.19	2	30.37	22.28	124.54	419.45	1.79	1.31	3.46	3.46
Stillwater County	A11	RM 428.89	197650.5	10% - 10yr	1101.7	1126.71	1121.26	2.36	1.94	30.95	16.3	150.45	398.27	2.71	1.42	5.45	5.45
Stillwater County	A11	RM 428.81	197194.1	10% - 10yr	1101.7	1126.5	1121.47	2.68	2.04	37.93	17.32	98.54	379.63	3.12	1.42	5.03	5.03
Stillwater County	A11	RM 428.66	196404.4	10% - 10yr	1101.7	1126.29	1122.31	2.09	1.82	25.71	13.14	204.39	597.34	2.25	1.15	3.98	3.98
Stillwater County	A11	RM 428.52	195702.6	10% - 10yr	1101.7	1125.91	1122.1	2.4	2.08	34.39	14.89	206.49	672.25	2.14	0.92	3.81	3.81
Stillwater County	A11	RM 428.44	195293.8	10% - 10yr	1101.7	1125.62	1121.18	2.73	2.31	41.48	14.15	146.38	551.24	2.66	0.9	4.44	4.44
Stillwater County	A11	RM 428.39	195075.5	10% - 10yr	1101.7	1125.34	1120.72	3.21	2.75	56.94	17.83	122.37	472.78	2.72	0.85	4.62	4.62
Stillwater County	A11	RM 428.33	194724.6	10% - 10yr	1101.7	1125.12	1121.22	3.15	2.88	56.04	23.21	135.14	393.77	2.55	1.05	3.9	3.9
Stillwater County	A11	RM 428.28	194450.8	10% - 10yr	1101.7	1124.95	1121.2	3.08	2.71	54.47	24.55	143.82	374	2.41	1.09	3.75	3.75
Stillwater County	A11	RM 428.23	194235.2	10% - 10yr	1101.7	1124.83	1120.74	2.99	2.59	50.88	21.81	142.19	399.28	2.49	1.06	4.09	4.09
Stillwater County	A11	RM 428.20	194033.4	10% - 10yr	1101.7	1124.73	1120.37	2.96	2.51	47.49	19.07	120.23	384.71	2.86	1.14	4.36	4.36
Stillwater County	A11	RM 428.15	193779.9	10% - 10yr	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Stillwater County	A11	RM 428.09	193436.6	10% - 10yr	1101.7	1124.52	1119.9	2.68	2.12	39.51	16.15	119.38	463.04	2.77	1.12	4.62	4.62
Stillwater County	A11	RM 428.05	193246.1	10% - 10yr	1101.7	1124.41	1120.1	2.72	2.17	41.46	17.37	125.43	463.17	2.64	1.1	4.3	4.3
Stillwater County	A11	RM 428.00	192989.8	10% - 10yr	1101.7	1124.31	1120.28	2.59	1.97	37.05	14.25	126.85	533.34	2.75	1.05	4.03	4.03
Stillwater County	A11	RM 427.95	192728.8	10% - 10yr	1101.7	1124.24	1119.57	2.4	1.79	31.22	12.24	131.09	571.03	2.88	1.12	4.67	4.67
Stillwater County	A11	RM 427.88	192333.2	10% - 10yr	1101.7	1123.82	1119.27	3.23	2.7	56	24.13	101.66	388.58	2.98	1.28	4.55	4.55
Stillwater County	A11	RM 427.83	192088.8	10% - 10yr	1101.7	1123.61	1119.18	3.36	2.94	61.18	24.17	103.17	449.9	2.88	1.13	4.43	4.43
Stillwater County	A11	RM 427.76	191724.1	10% - 10yr	1101.7	1123.31	1119.07	3.48	3.17	65.9	45.38	101.84	176.33	2.88	1.97	4.24	4.24
Stillwater County	A11	RM 427.65	191155.9	10% - 10yr	1101.7	1123.29	1118.58	2.35	1.78	28.95	12.48	139.89	643.73	3.15	1.35	4.71	4.71
Stillwater County	A11	RM 427.53	190509.6	10% - 10yr	1101.7	1122.93	1117.37	2.91	2.21	42.61	16.33	96.4	409.02	3.66	1.39	5.56	5.56
Stillwater County	A11	RM 427.41	189886.1	10% - 10yr	1101.7	1122.7	1118.73	2.81	2.43	40.9	21.16	115.86	268.05	3.28	1.69	3.97	3.97
Stillwater County	A11	RM 427.29	189253.3	10% - 10yr	1101.7	1122.41	1119.12	2.73	2.5	43.96	29.96	175.94	288.24	2.24	1.53	3.29	3.29
Stillwater County	A11	RM 427.17	188639.5	10% - 10yr	1101.7	1122.15	1118.44	2.37	2.02	33.11	19.92	197.68	403.22	2.24	1.35	3.71	3.71
Stillwater County	A11	RM 427.09	188179.7	10% - 10yr	1101.7	1121.74	1118.34	3	2.45	49.6	22.49	126.52	361.27	2.75	1.25	3.4	3.4
Stillwater County	A11	RM 427.00	187745.4	10% - 10yr	1101.7	1121.61	1117.71	2.6	2.04	38.07	22.29	143	356.49	2.58	1.52	3.9	3.9
Stillwater County	A11	RM 426.92	187309.3	10% - 10yr	1101.7	1121.38	1117.32	2.53	2.26	38.72	27.37	205.1	335.56	2.05	1.45	4.05	4.05
Stillwater County	A11	RM 426.86	186960.4	10% - 10yr	1101.7	1121.22	1116.77	2.34	2.17	32.75	25.89	210.08	295.17	2.17	1.72	4.45	4.45
Stillwater County	A11	RM 426.75	186401.3	10% - 10yr	1101.7	1120.94	1116.11	2.46	2.17	35.09	28.34	182.48	268.81	2.33	1.89	4.83	4.83
Stillwater County	A11	RM 426.67	185983.5	10% - 10yr	1101.7	1120.73	1115.84	2.56	2.4	34.76	24.18	138.91	216.07	3.06	2.13	4.89	4.89
Stillwater County	A11	RM 426.59	185580.4	10% - 10yr	1101.7	1120.39	1115.47	3.11	3	50.12	43.21	106	127.98	3.31	2.87	4.92	4.92
Stillwater County	A11	RM 426.52	185166.5	10% - 10yr	1101.7	1120.22	1115.54	3.03	3.03	47.14	47.14	107.47	107.47	3.38	3.38	4.67	4.67
Stillwater County	A11	RM 426.43	184738.3	10% - 10yr	1101.7	1120.03	1115.89	3	2.97	47.25	45.07	114.81	121.78	3.19	3.04	4.14	4.14
Stillwater County	A11	RM 426.32	184158.4	10% - 10yr	1101.7	1119.78	1116.39	2.86	2.86	44.33	44.29	133.3	133.42	2.89	2.89	3.39	3.39
Stillwater County	A11	RM 426.20	183517.2	10% - 10yr	1101.7	1119.46	1116.07	2.64	2.62	42.93	41.73	215.21	222.8	1.94	1.89	3.39	3.39
Stillwater County	A11	RM 426.11	183030.7	10% - 10yr	1101.7	1119.24	1115.37	2.26	2.23	28.51	27.64	269.96	302.02	1.8	1.74	3.87	3.87
Stillwater County	A11	RM 426.00	182442.5	10% - 10yr	1101.7	1118.99	1115.74	2.18	2.02	29	26.78	238.42	326.24	2.02	1.87	3.25	3.25
Stillwater County	A11	RM 425.89	181895	10% - 10yr	1101.7	1118.7	1115.1	2.36	2.3	31.71	26.05	185.54	270.12	2.5	2.06	3.6	3.6
Stillwater County	A11	RM 425.72	181043.5	10% - 10yr	1101.7	1118.26	1113.77	2.66	2.59	38.92	27.84	149.91	246.9	2.75	1.97	4.49	4.49
Stillwater County	A11	RM 425.58	180310.5	10% - 10yr	1101.7	1117.77	1112.19	3.17	3.01	51.17	34.31	98.64	166.52	3.49	2.34	5.58	5.58
Stillwater County	A11	RM 425.46	179669.9	10% - 10yr	1101.7	1117.34	1112.78	3.45	3.13	61.84	41.27	94.92	194.41	3.26	2.17	4.56	4.56
Stillwater County	A11	RM 425.34	179022.4	10% - 10yr	1101.7	1117.26	1113.64	2.45	2.22	32.85	24.68	136.3	236	2.8	2.11	3.62	3.62
Stillwater County	A11	RM 425.24	178485.9	10% - 10yr	1101.7	1116.99	1114.19	2.6	2.28	39.8	30.04	126.45	380.48	2.22	1.68	2.85	2.85
Stillwater County	A11	RM 425.18	178205.8	10% - 10yr	1101.7	1116.72	1113.81	2.82	2.6	47.61	39.89	127.08	236.18	2.14	1.8	3.41	3.41
Stillwater County	A11	RM 425.11	177826.8	10% - 10yr	1101.7	1116.42	1113.29	2.68	2.74	43.06	33.15	120.72	243.39	2.14	1.65	4.13	4.13
Stillwater County	A11	RM 425.04	177454.7	10% - 10yr	1101.7	1116.26	1112.86	2.66	2.38	39.93	30.7	106.76	238.34	2.53	1.94	3.79	3.79
Stillwater County	A11	RM 424.97	177098.9	10% - 10yr	1101.7	1115.92	1113.11	2.99	2.74	52.35	40.97	106.81	223	2.3	1.8	2.91	2.91
Stillwater County	A11	RM 424.89	176675.9	10% - 10yr	1101.7	1115.79	1112.27	2.23	2.07	29.64	20.72	136.62	362.86	2.16	1.52	4.99	4.99
Stillwater County	A11	RM 424.81	176242.8	10% - 10yr	1101.7	1115.35	1112.25	2.73	2.69	47.96	45.73	132.18	290.07	1.69	1.62	3.35	3.35
Stillwater County	A11	RM 424.70	175789.3	10% - 10yr	1101.7	1115.21	1111.91	2.21	2.03	28.39	19.47	161.26	401.47	2.3	1.58	3.3	3.3
Stillwater County	A11	RM 424.58	175159.4	10% - 10yr	1101.7	1114.91	1111.34	2.45	2.11	35.41	25.1	130.81	331.58	2.22	1.57	3.57	3.57
Stillwater County	A11	RM 424.51	174723.2	10% - 10yr	1101.7	1114.73	1110.93	2.22	1.93	30.97	22.22	140.84	425.97	1.86	1.34	3.79	3.79
Stillwater County	A11	RM 424.38	174051	10% - 10yr	1101.7	1114.33	1110.98	2.46	2.18	37.57	21.03	134.14	471.04	1.92	1.07	3.35	3.35
Stillwater County	A11	RM 424.30	173607.9	10% - 10yr	1101.7	1114.07	1110.75	2.54	1.94	42.57	25.01	158.99	601.18	1.61	0.94	3.32	3.32
Stillwater County	A11	RM 424.21	173153.7	10% - 10yr	1101.7	1113.79	1110.74	2.12	1.76	29.07	15.52	188.14	684.31	1.71	0.91	3.05	3.05
Stillwater County	A11	RM 424.13	172713.5	10% - 10yr	1101.7	1113.54	1110.43	2.34	1.6	34.69	17.87	97.17	736.54	1.82	0.93	3.19	3.19
Stillwater County	A11	RM 424.05	172309.3	10% - 10yr	1101.7	1113.33	1110.18	1.84	1.47	22.18	12.87	155.33	789.03	1.63	0.95	3.15	3.15
Stillwater County	A11	RM 423.98	171892.1	10% - 10yr	1101.7	1113.24	1110.15	1.63	1.28	16.08	9.38	252.51	719.83	2.04	1.19	3.09	3.09

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	10% - 10yr	1101.7	1113.01	1109.55	2.26	1.68	30.16	14.06	156.59	626.94	2.26	1.05	3.46	3.46
Stillwater County	A11	RM 423.84	171147.5	10% - 10yr	1101.7	1112.88	1109.08	2.31	1.61	29.73	11.1	126.81	690.62	2.67	0.99	3.8	3.8
Stillwater County	A11	RM 423.74	170686.3	10% - 10yr	1101.7	1112.84	1108.91	1.72	1.17	16.07	7.97	124.33	671.79	2.85	1.41	3.93	3.93
Stillwater County	A11	RM 423.69	170436.3	10% - 10yr	1101.7	1112.66	1108.49	2.37	1.65	30.21	13.85	88.65	501.38	2.94	1.34	4.17	4.17
Stillwater County	A11	RM 423.57	169782.9	10% - 10yr	1101.7	1112.44	1108.2	2.17	1.86	25.36	10.47	159.05	491.49	2.93	1.21	4.24	4.24
Stillwater County	A11	RM 423.47	169296.5	10% - 10yr	1101.7	1112.02	1107.67	2.97	2.77	46.8	21.6	120.55	377.13	3.06	1.41	4.35	4.35
Stillwater County	A11	RM 423.39	168860.7	10% - 10yr	1101.7	1111.67	1107.7	3.33	3.1	58.95	25.8	107.8	326.47	3.05	1.33	3.96	3.96
Stillwater County	A11	RM 423.27	168178	10% - 10yr	1101.7	1111.18	1107.36	3.4	3.32	63.88	36.18	118.28	214.91	2.73	1.54	3.82	3.82
Stillwater County	A12	RM 423.17	167687.7	10% - 10yr	1101.7	1110.99	1107.46	2.82	2.6	45.32	24.74	153.54	312.42	2.49	1.36	3.53	3.53
Stillwater County	A12	RM 423.08	167239.6	10% - 10yr	1101.7	1110.75	1107.21	2.88	2.44	47.21	24.77	129.25	349.25	2.47	1.29	3.54	3.54
Stillwater County	A12	RM 423.01	166844.5	10% - 10yr	1101.7	1110.49	1106.84	2.8	2.45	47.64	28.37	143.53	367.79	2.06	1.22	3.65	3.65
Stillwater County	A12	RM 422.91	166338	10% - 10yr	1101.7	1110.16	1106.54	2.9	2.45	47.08	25.13	111.27	320.16	2.63	1.4	3.62	3.62
Stillwater County	A12	RM 422.80	165757.6	10% - 10yr	1101.7	1109.85	1106.83	2.75	2.51	43.81	27.22	145.95	339.9	2.36	1.46	3.02	3.02
Stillwater County	A12	RM 422.70	165279.2	10% - 10yr	1101.7	1109.75	1105.79	2.1	1.74	26.21	16.37	202.26	458.29	2.2	1.38	3.96	3.96
Stillwater County	A12	RM 422.63	164895.4	10% - 10yr	1101.7	1109.63	1105.43	2.05	1.61	25	14.76	179.12	526.73	2.19	1.3	4.2	4.2
Stillwater County	A12	RM 422.53	164348.1	10% - 10yr	1101.7	1109.38	1104.76	2.22	1.87	28.56	14.81	167.27	484.9	2.36	1.22	4.62	4.62
Stillwater County	A12	RM 422.39	163609.2	10% - 10yr	1101.7	1108.97	1104.22	2.66	2.37	37.93	15.48	132.3	382.52	3	1.22	4.75	4.75
Stillwater County	A12	RM 422.30	163120.4	10% - 10yr	1101.7	1108.59	1104.18	3.12	3.01	50.95	38.97	108.94	179.43	3.21	2.45	4.41	4.41
Stillwater County	A12	RM 422.19	162534.3	10% - 10yr	1101.7	1108.4	1103.72	2.79	2.71	40.62	25.19	122.14	203.77	3.23	1.99	4.68	4.68
Stillwater County	A12	RM 422.08	161934.5	10% - 10yr	1101.7	1107.91	1104.18	3.35	3.3	60.41	36.51	112.07	188.9	2.93	1.77	3.73	3.73
Stillwater County	A12	RM 421.98	161402.1	10% - 10yr	1101.7	1107.8	1103.86	2.62	2.58	36.8	29.61	142.02	179.76	2.95	2.38	3.94	3.94
Stillwater County	A12	RM 421.90	161037.7	10% - 10yr	1101.7	1107.66	1103.14	2.55	2.55	36.51	36.51	167.28	167.28	2.58	2.58	4.52	4.52
Stillwater County	A12	RM 421.86	160799.3	10% - 10yr	1101.7	1107.55	1102.54	2.53	2.53	37.77	37.64	193.24	193.95	2.25	2.24	5.01	5.01
Stillwater County	A12	RM 421.81	160535.9	10% - 10yr	1101.7	1107.42	1102.38	2.47	2.47	37	37	220.14	220.14	2.03	2.03	5.04	5.04
Stillwater County	A12	RM 421.77	160279.4	10% - 10yr	1101.7	1107.21	1102.41	2.68	2.57	42.94	35.75	181.89	241.59	2.12	1.77	4.8	4.8
Stillwater County	A12	RM 421.69	159875.5	10% - 10yr	1101.7	1107.08	1102.56	2.48	2.2	32.22	13.61	130.1	368.02	3.23	1.36	4.51	4.51
Stillwater County	A12	RM 421.60	159411.4	10% - 10yr	1101.7	1106.75	1103.26	2.98	2.66	49.65	26.95	131.13	293.44	2.6	1.41	3.49	3.49
Stillwater County	A12	RM 421.53	159038	10% - 10yr	1101.7	1106.38	1102.81	3.3	3.05	63.74	41.46	132.96	241.68	2.3	1.49	3.57	3.57
Stillwater County	A12	RM 421.45	158590.5	10% - 10yr	1101.7	1106.22	1103.26	2.62	2.34	40.09	28.01	154.17	308.08	2.28	1.59	2.96	2.96
Stillwater County	A12	RM 421.32	157930.2	10% - 10yr	1101.7	1105.83	1102.82	2.65	2.44	44.36	36.2	97.07	306.94	1.79	1.47	3.01	3.01
Stillwater County	A12	RM 421.24	157513	10% - 10yr	1101.7	1105.53	1103.05	2.47	2.3	40.88	34	126.27	381.48	1.5	1.26	3.05	3.05
Stillwater County	A12	RM 421.13	156951.5	10% - 10yr	1101.7	1105.31	1100.38	2.19	1.93	29.73	22.67	118.8	389.17	1.93	1.47	4.92	4.92
Stillwater County	A12	RM 421.05	156536.5	10% - 10yr	1101.7	1105.19	1102.11	1.84	1.71	21.16	17.34	103.54	440.94	1.88	1.54	3.08	3.08
Stillwater County	A12	RM 420.94	155960.1	10% - 10yr	1101.7	1104.95	1101.68	1.93	1.84	20.89	18.37	213.29	291.41	2.61	2.3	3.27	3.27
Stillwater County	A12	RM 420.85	155473.6	10% - 10yr	1101.7	1104.33	1100.98	3.43	2.71	69.45	38.69	134.52	344.52	2.21	1.23	3.35	3.35
Stillwater County	A12	RM 420.75	154957.2	10% - 10yr	1101.7	1104.14	1099.95	2.62	2.09	39.14	17.93	157.18	473.78	2.43	1.11	4.19	4.19
Stillwater County	A12	RM 420.66	154483	10% - 10yr	1101.7	1103.99	1099.89	2.32	1.78	29.87	16.12	164.98	437.25	2.67	1.44	4.1	4.1
Stillwater County	A12	RM 420.58	154037.5	10% - 10yr	1101.7	1103.63	1100.13	2.95	2.23	47.38	23.36	122.25	353.94	2.83	1.39	3.5	3.5
Stillwater County	A12	RM 420.52	153691.5	10% - 10yr	1101.7	1103.46	1099.7	2.88	2.26	46	23.58	131.23	356.61	2.67	1.37	3.76	3.76
Stillwater County	A12	RM 420.46	153398	10% - 10yr	1101.7	1103.26	1099.36	2.98	2.48	49.71	30.06	134.04	282.88	2.59	1.57	3.89	3.89
Stillwater County	A12	RM 420.38	152998.3	10% - 10yr	1101.7	1103.12	1099.19	2.54	2.04	37.65	18.59	175.43	478.84	2.29	1.13	3.93	3.93
Stillwater County	A12	RM 420.30	152566.4	10% - 10yr	1101.7	1103.03	1099.43	1.96	1.52	22.83	13.09	229.57	575.51	2.2	1.26	3.6	3.6
Stillwater County	A12	RM 420.21	152106.2	10% - 10yr	1101.7	1102.83	1098.69	2.1	1.71	27.43	17.9	238.5	515.32	1.92	1.25	4.14	4.14
Stillwater County	A12	RM 420.15	151738.6	10% - 10yr	1101.7	1102.7	1098.38	1.99	1.82	18.89	12.4	260.38	440.48	2.09	1.37	4.32	4.32
Stillwater County	A12	RM 420.08	151399.3	10% - 10yr	1101.7	1102.57	1097.97	2.12	2	25.1	15.6	196.11	339.19	2.62	1.63	4.6	4.6
Stillwater County	A12	RM 420.03	151123.2	10% - 10yr	1101.7	1102.42	1097.96	2.41	2.07	30.74	14.79	142.55	357.7	3.11	1.49	4.46	4.46
Stillwater County	A12	RM 419.96	150779.4	10% - 10yr	1101.7	1102.17	1098.1	2.85	2.32	43.87	17.83	128.1	402.08	2.91	1.18	4.07	4.07
Stillwater County	A12	RM 419.91	150511.3	10% - 10yr	1101.7	1101.93	1097.83	3.17	2.72	51.92	21.65	102.77	325.9	3.31	1.37	4.1	4.1
Stillwater County	A12	RM 419.85	150192.4	10% - 10yr	1101.7	1101.57	1097.85	3.6	3.15	70.42	30.5	106.25	311.61	2.84	1.23	3.72	3.72
Stillwater County	A12	RM 419.78	149807.6	10% - 10yr	1101.7	1101.46	1097.13	3.11	2.42	50.37	19.46	104.5	364.66	3.26	1.25	4.33	4.33
Stillwater County	A12	RM 419.70	149371.5	10% - 10yr	1101.7	1101.22	1097.73	3.05	2.67	52.32	26.82	137.46	312.4	2.57	1.32	3.49	3.49
Stillwater County	A12	RM 419.63	149047.6	10% - 10yr	1101.7	1101.11	1097.92	2.66	2.42	40.53	23.75	167.63	319.09	2.44	1.43	3.19	3.19
Stillwater County	A12	RM 419.53	148495.9	10% - 10yr	1101.7	1100.73	1097.22	2.97	2.46	53.6	33.26	135.7	351.4	2.05	1.28	3.51	3.51
Stillwater County	A12	RM 419.46	148117.9	10% - 10yr	1101.7	1100.51	1097.34	2.6	2.19	40.96	23.82	133.46	417.15	2.07	1.21	3.43	3.43
Stillwater County	A12	RM 419.38	147728.5	10% - 10yr	1101.7	1100.31	1097.36	2.27	1.95	32.27	24.33	149.06	402.25	1.86	1.41	2.95	2.95
Stillwater County	A12	RM 419.31	147342.9	10% - 10yr	1101.7	1100.22	1096.9	1.81	1.67	18.73	14.71	114.45	339.88	2.47	1.95	3.32	3.32
Stillwater County	A12	RM 419.19	146720.3	10% - 10yr	1101.7	1100.1	1096.42	1.56	1.71	13.68	14.74	106.51	249.4	2.56	2.77	5.7	5.7
Stillwater County	A12	RM 419.10	146243.9	10% - 10yr	1101.7	1099.99	1095.09	1.95	1.81	19.08	12.39	156.37	292.45	3.57	2.31	4.9	4.9
Stillwater County	A12	RM 419.03	145859.8	10% - 10yr	1101.7	1099.7	1095.88	2.66	2.57	40.47	29.04	170.07	265.15	2.42	1.74	3.82	3.82
Stillwater County	A12	RM 418.95	145435.3	10% - 10yr	1101.7	1099.49	1095.15	2.53	2.38	38.44	26.07	206	335.85	2.09	1.41	4.34	4.34

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	10% - 10yr	1101.7	1099.14	1094.92	2.55	2.3	40.56	25.19	222.59	417.96	1.89	1.18	4.22	4.22
Stillwater County	A12	RM 418.57	143452.8	10% - 10yr	1101.7	1098.12	1095.1	2.88	2.46	49.95	24.88	134.98	435.41	2.08	1.04	3.01	3.01
Stillwater County	A12	RM 418.49	143008.1	10% - 10yr	1101.7	1098.02	1094.94	2.07	1.52	25.13	11.97	169.36	748.49	2.27	1.08	3.08	3.08
Stillwater County	A12	RM 418.25	141740.8	10% - 10yr	1101.7	1097.31	1093.71	2.12	1.62	28.28	20.37	177.04	569.58	1.83	1.32	3.6	3.6
Stillwater County	A12	RM 418.08	140894.8	10% - 10yr	1101.7	1096.99	1092.65	2.14	1.84	26.64	15.75	139.46	435.51	2.33	1.38	4.34	4.34
Stillwater County	A12	RM 417.89	139893.7	10% - 10yr	1101.7	1096.25	1092.75	3.1	2.74	54.17	31.14	128.08	361.99	2.58	1.48	3.5	3.5
Stillwater County	A12	RM 417.79	139376.4	10% - 10yr	1101.7	1096.01	1091.64	2.82	2.34	46.09	28.22	136.09	330.35	2.33	1.42	4.37	4.37
Stillwater County	A12	RM 417.65	138633.4	10% - 10yr	1101.7	1095.48	1091.57	3.21	2.67	55.09	27.26	93.48	297.05	2.98	1.47	3.91	3.91
Stillwater County	A12	RM 417.54	138089.5	10% - 10yr	1101.7	1094.99	1091.15	3.6	3.08	69.53	39.91	86.17	210.31	2.97	1.7	3.84	3.84
Stillwater County	A12	RM 417.40	137321.3	10% - 10yr	1263.1	1094.69	1091.71	2.74	2.35	44.37	29.73	127.73	365.34	2.24	1.5	2.98	2.98
Stillwater County	A12	RM 417.30	136818.2	10% - 10yr	1263.1	1094.34	1091.51	2.66	2.49	42.76	34.29	200.44	328.82	2.08	1.67	2.83	2.83
Stillwater County	A13	RM 417.09	135706	10% - 10yr	1263.1	1093.66	1090.35	3.06	2.76	55.69	37.52	189	316.45	2.14	1.45	3.31	3.31
Stillwater County	A13	RM 417.01	135303.6	10% - 10yr	1263.1	1093.54	1090	2.36	2.22	33.32	28.76	249.64	349.21	2.11	1.82	3.54	3.54
Stillwater County	A13	RM 416.85	134457.6	10% - 10yr	1263.1	1092.96	1089.62	2.56	2.27	36.64	22.59	185.32	346.93	2.6	1.6	3.34	3.34
Stillwater County	A13	RM 416.73	133843.5	10% - 10yr	1263.1	1092.53	1089.6	2.84	2.57	49.13	31.63	214.2	375.94	2.03	1.31	2.93	2.93
Stillwater County	A13	RM 416.63	133286.1	10% - 10yr	1263.1	1092.15	1089.3	2.8	2.52	48.66	38.73	130.3	329.24	1.91	1.52	2.85	2.85
Stillwater County	A13	RM 416.52	132717.9	10% - 10yr	1263.1	1091.86	1089.09	2.52	1.96	40.1	27.07	104.23	526.62	1.8	1.22	2.77	2.77
Stillwater County	A13	RM 416.43	132250.3	10% - 10yr	1263.1	1091.51	1088.74	2.38	2.02	36.62	24.8	113.84	544.08	1.69	1.15	2.77	2.77
Stillwater County	A13	RM 416.33	131707.5	10% - 10yr	1263.1	1091.26	1088.02	2.17	1.87	29.79	22.01	131.69	506.14	1.8	1.33	3.24	3.24
Stillwater County	A13	RM 416.22	131140.9	10% - 10yr	1263.1	1090.84	1087.56	2.96	2.28	49.89	30.52	84.28	365.09	2.48	1.51	3.28	3.28
Stillwater County	A13	RM 416.13	130626.3	10% - 10yr	1263.1	1090.49	1086.65	2.81	2.32	45.23	29.86	146.08	340.52	2.42	1.6	3.84	3.84
Stillwater County	A13	RM 416.04	130164.9	10% - 10yr	1263.1	1090.08	1085.03	3.25	2.4	59.49	32.02	122.45	385.41	2.54	1.36	5.05	5.05
Stillwater County	A13	RM 415.96	129734.7	10% - 10yr	1263.1	1089.96	1085.48	2.57	1.8	36.78	16.15	131.98	647.74	2.64	1.15	4.48	4.48
Stillwater County	A13	RM 415.90	129423.4	10% - 10yr	1263.1	1089.86	1085.77	2.11	1.51	25.69	12.66	159.01	777.97	2.37	1.17	4.09	4.09
Stillwater County	A13	RM 415.83	129071.6	10% - 10yr	1263.1	1089.75	1085.89	1.98	1.42	21.9	10.99	152.97	682.74	2.59	1.3	4.42	4.42
Stillwater County	A13	RM 415.74	128639.5	10% - 10yr	1263.1	1089.49	1084.72	2.53	1.81	33.98	15.78	150.82	601.8	3.07	1.42	4.77	4.77
Stillwater County	A13	RM 415.72	128521.2	10% - 10yr	1263.1	1089.33	1084.8	2.91	2.12	44.5	19.92	128.45	563.94	3.15	1.4	4.53	4.53
Stillwater County	A13	RM 415.65	128106.2	10% - 10yr	1263.1	1089.06	1083.7	3.07	2.43	52.95	27.43	148.35	496.74	2.6	1.34	5.36	5.36
Stillwater County	A13	RM 415.59	127828.3	10% - 10yr	1263.1	1088.63	1083.61	3.62	3.35	73.82	47.6	133.27	252.29	2.58	1.66	5.02	5.02
Stillwater County	A13	RM 415.55	127620.5	10% - 10yr	1263.1	1088.7	1082.84	2.54	2.54	32	31.74	132.33	133.4	3.76	3.73	5.86	5.86
Stillwater County	A13	RM 415.50	127340.9	10% - 10yr	1263.1	1088.56	1083.14	2.68	2.68	37.77	37.27	149.19	154.38	3.16	3.12	5.42	5.42
Stillwater County	A13	RM 415.45	127087.4	10% - 10yr	1263.1	1088.16	1083.18	3.34	3.28	63.53	51.06	150.85	209.79	2.5	2.01	4.98	4.98
Stillwater County	A13	RM 415.34	126499.1	10% - 10yr	1263.1	1087.91	1084.45	2.98	2.73	50.04	34.91	129.56	358.89	2.53	1.77	3.46	3.46
Stillwater County	A13	RM 415.25	126040.7	10% - 10yr	1263.1	1087.65	1082.42	2.98	2.54	48.89	26.06	123.59	389.16	2.76	1.47	5.23	5.23
Stillwater County	A13	RM 415.18	125663.1	10% - 10yr	1263.1	1087.48	1083.81	2.78	2.6	42.45	31.81	135.23	273.37	2.79	2.1	3.67	3.67
Stillwater County	A13	RM 414.97	124585.1	10% - 10yr	1263.1	1086.66	1082.64	3.15	2.64	55.85	30.24	121.02	355.47	2.58	1.4	4.02	4.02
Stillwater County	A13	RM 414.88	124110.1	10% - 10yr	1263.1	1086.32	1083.02	3.18	2.73	56.99	33.17	124.06	319.31	2.56	1.49	3.3	3.3
Stillwater County	A13	RM 414.71	123222	10% - 10yr	1263.1	1085.84	1080.88	2.79	2.73	42.79	30.69	163.29	234.2	2.76	1.98	4.96	4.96
Stillwater County	A13	RM 414.57	122473.6	10% - 10yr	1263.1	1085.28	1081.21	3.2	3.05	56.89	34.85	146.58	281.52	2.67	1.64	4.07	4.07
Stillwater County	A13	RM 414.43	121696.6	10% - 10yr	1263.1	1084.82	1080.49	2.99	2.56	51.57	27.41	170.98	557.89	2.39	1.27	4.33	4.33
Stillwater County	A13	RM 414.21	120527.7	10% - 10yr	1263.1	1084.1	1080.81	2.64	2.39	43.45	26.6	219.62	525.12	1.88	1.15	3.29	3.29
Stillwater County	A13	RM 413.90	118914.7	10% - 10yr	1263.1	1082.72	1079.28	3.21	2.6	59.28	26.04	155.24	458.91	2.41	1.06	3.44	3.44
Stillwater County	A13	RM 413.65	117570.4	10% - 10yr	1263.1	1082	1078.15	2.84	1.76	44.8	21.1	140.55	568.4	2.68	1.26	3.85	3.85
Stillwater County	A14	RM 413.44	116446.3	10% - 10yr	1263.1	1081.31	1076.4	3.02	1.96	50.89	15.9	145.44	786.17	2.64	0.82	4.91	4.91
Stillwater County	A14	RM 413.27	115556.7	10% - 10yr	1263.1	1080.77	1077.8	2.9	1.86	51.23	23.94	176.1	714.56	2.03	0.95	2.97	2.97
Stillwater County	A14	RM 413.11	114697.4	10% - 10yr	1263.1	1080.27	1077.12	2.54	1.78	38.51	16.46	196.42	774.58	2.15	0.92	3.15	3.15
Stillwater County	A14	RM 412.99	114113.2	10% - 10yr	1263.1	1079.85	1076.41	2.8	1.94	47.58	20.72	185.16	818.09	2.07	0.9	3.44	3.44
Stillwater County	A14	RM 412.88	113533.6	10% - 10yr	1263.1	1079.48	1076.03	2.84	2.14	45.04	20.91	142.95	597.67	2.59	1.2	3.45	3.45
Stillwater County	A14	RM 412.73	112742.6	10% - 10yr	1263.1	1078.96	1074.72	2.94	2.15	51.18	26.94	171.33	582.75	2.2	1.15	4.24	4.24
Stillwater County	A14	RM 412.59	112005.5	10% - 10yr	1263.1	1078.46	1074.72	2.79	2.13	46.69	31.57	197.95	583.63	2.09	1.42	3.74	3.74
Stillwater County	A14	RM 412.49	111442.5	10% - 10yr	1263.1	1078.33	1074.54	2.13	1.8	26.07	14.98	189.08	646.55	2.44	1.4	3.79	3.79
Stillwater County	A14	RM 412.31	110522	10% - 10yr	1263.1	1077.98	1072.96	2.37	1.97	28.5	13.3	144.87	516.74	3.54	1.64	5.02	5.02
Stillwater County	A14	RM 412.19	109955.3	10% - 10yr	1263.1	1077.21	1071.57	3.9	3.56	80.92	39.87	103.6	235.59	3.09	1.51	5.64	5.64
Stillwater County	A14	RM 412.05	109175.2	10% - 10yr	1263.1	1076.8	1072.08	3.4	3.04	60.17	28.08	113.04	299.3	3.24	1.5	4.72	4.72
Stillwater County	A14	RM 411.92	108510.2	10% - 10yr	1263.1	1076.53	1072.88	2.97	2.96	47.1	45.9	143.18	147.02	2.97	2.9	3.65	3.65
Stillwater County	A14	RM 411.81	107950.5	10% - 10yr	1263.1	1076.06	1070.62	3.38	3.38	61.95	61.95	131.16	135.16	2.85	2.85	5.44	5.44
Stillwater County	A14	RM 411.71	107391.9	10% - 10yr	1263.1	1075.82	1070.83	3.1	3.1	49.39	48	119.39	137.61	3.41	3.31	4.99	4.99
Stillwater County	A14	RM 411.58	106721	10% - 10yr	1263.1	1075.53	1071.65	2.91	2.9	46.68	41.38	160.34	239.81	2.71	2.4	3.88	3.88
Stillwater County	A14	RM 411.47	106133.7	10% - 10yr	1263.1	1075.17	1071.87	3.03	2.66	51.62	29.12	156.86	334.53	2.56	1.44	3.29	3.29
Stillwater County	A14	RM 411.32	105338.4	10% - 10yr	1263.1	1074.65	1069.29	3.05	2.76	52.59	38.24	160.25	250.3	2.52	1.83	5.35	5.35

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	10% - 10yr	1263.1	1073.77	1067.92	3.63	2.92	70.51	32.13	112.42	319.15	2.98	1.35	5.85	5.85
Stillwater County	A14	RM 411.00	103638.4	10% - 10yr	1263.1	1073.36	1069.6	3.18	2.48	58.21	34.46	140.73	356.83	2.42	1.43	3.76	3.76
Stillwater County	A14	RM 410.85	102835.8	10% - 10yr	1263.1	1072.89	1069.92	2.63	2.18	43.82	29.29	83.64	481.73	1.81	1.21	2.97	2.97
Stillwater County	A14	RM 410.74	102286.3	10% - 10yr	1263.1	1072.45	1068.99	2.82	2.15	48.1	28.63	73.08	501.99	2.1	1.24	3.46	3.46
Stillwater County	A14	RM 410.63	101668.3	10% - 10yr	1263.1	1072.14	1068.37	2.56	1.82	37.53	20.2	83.64	686.4	2.42	1.3	3.77	3.77
Stillwater County	A14	RM 410.52	101115.7	10% - 10yr	1263.1	1071.81	1067.81	2.58	2.11	37.47	23	123.09	545.03	2.59	1.59	4	4
Stillwater County	A14	RM 410.42	100568.4	10% - 10yr	1263.1	1071.3	1066.66	2.85	2.89	50.59	48.07	149.5	247.56	1.9	1.81	4.64	4.64
Stillwater County	A14	RM 410.33	100099.2	10% - 10yr	1263.1	1071.09	1066.6	2.51	2.29	36.04	24.92	198.78	487.05	2.46	1.7	4.49	4.49
Stillwater County	A14	RM 410.22	99589.26	10% - 10yr	1263.1	1070.6	1066.94	3.19	2.77	57.38	30.22	151.19	703.79	2.54	1.33	3.66	3.66
Stillwater County	A14	RM 410.12	99057.4	10% - 10yr	1263.1	1070.24	1065.8	3.06	2.64	55.89	41.65	174.14	655.58	2.16	1.61	4.44	4.44
Stillwater County	A14	RM 410.03	98630.66	10% - 10yr	1263.1	1069.92	1065.33	2.9	2.54	51.83	41.19	205.94	496.15	1.96	1.56	4.59	4.59
Stillwater County	A14	RM 409.99	98385.41	10% - 10yr	1263.1	1069.7	1065.38	2.96	2.55	54.1	39.55	202.8	570.13	1.95	1.42	4.32	4.32
Stillwater County	A14	RM 409.94	98072.09	10% - 10yr	1263.1	1069.53	1065.51	2.67	2.17	42.43	24.73	202.56	788.49	2.17	1.26	4.01	4.01
Stillwater County	A14	RM 409.87	97717.24	10% - 10yr	1263.1	1069.49	1065.52	2.14	1.52	24.13	11.82	165.45	1054.41	3.11	1.52	3.97	3.97
Stillwater County	A14	RM 409.76	97130.84	10% - 10yr	1263.1	1069.11	1065.37	2.84	2.07	44.38	17.68	146.81	707.9	2.73	1.09	3.75	3.75
Stillwater County	A14	RM 409.60	96278.7	10% - 10yr	1263.1	1068.17	1064.65	3.68	2.93	84.33	48.91	165.88	396.29	1.9	1.1	3.52	3.52
Stillwater County	A14	RM 409.43	95381.62	10% - 10yr	1263.1	1067.55	1063.55	2.97	2.11	49.95	23.22	132.57	766.63	2.53	1.17	4	4
Stillwater County	A14	RM 409.24	94405.29	10% - 10yr	1263.1	1066.86	1064.55	2.28	1.89	36.52	25.06	151.24	894.79	1.31	0.9	2.64	2.64
Stillwater County	A14	RM 409.15	93912.54	10% - 10yr	1263.1	1066.5	1064.27	1.88	1.77	24.16	17.29	166.93	687.16	1.45	1.04	4.42	4.42
Stillwater County	A14	RM 408.99	93008.08	10% - 10yr	1263.1	1065.66	1063.94	2.36	2.7	40.08	33.82	160.76	456.91	1.21	1.02	3.12	3.12
Stillwater County	A14	RM 408.84	92229.27	10% - 10yr	1263.1	1065.16	1062.1	2.62	2.53	45.4	33.05	151.38	432.51	1.57	1.15	3.06	3.06
Stillwater County	A14	RM 408.63	91072.98	10% - 10yr	1263.1	1064.48	1061.85	2.14	2.03	30.27	26.21	211.69	462.08	1.6	1.39	2.9	2.9
Stillwater County	A14	RM 408.41	89726.16	10% - 10yr	1263.1	1063.98	1059.04	2.4	2.04	29.29	17.38	105.39	301.85	3.47	2.05	4.94	4.94
Stillwater County	A14	RM 408.26	88966.66	10% - 10yr	1263.1	1063.68	1058.13	2.58	2.23	33.76	18.78	130.93	288.22	3.54	1.96	5.55	5.55
Stillwater County	A14	RM 408.10	88091.52	10% - 10yr	1263.1	1062.97	1057.78	3.59	3.39	65.25	48.3	98.48	142.29	3.53	2.62	5.19	5.19
Stillwater County	A14	RM 408.02	87720.33	10% - 10yr	1263.1	1062.89	1058.61	3.1	2.84	50.19	26.46	125.17	264.25	3.21	1.69	4.28	4.28
Stillwater County	A14	RM 407.83	86708.48	10% - 10yr	1263.1	1062.3	1058.65	2.9	2.71	52.46	37.01	157.59	348.59	1.88	1.33	3.65	3.65
Stillwater County	A14	RM 407.71	86078.99	10% - 10yr	1263.1	1061.88	1057.9	3.05	2.64	52.21	24.76	117.47	386.61	2.6	1.24	3.98	3.98
Stillwater County	A14	RM 407.61	85508.29	10% - 10yr	1263.1	1061.64	1058.36	2.53	2.3	39.56	26.89	170.45	413.5	1.95	1.33	3.28	3.28
Stillwater County	A14	RM 407.50	84909.3	10% - 10yr	1263.1	1061.35	1058.55	2.47	2.19	38.65	29.98	178.72	415.57	1.78	1.39	3.29	3.29
Stillwater County	A14	RM 407.41	84433.26	10% - 10yr	1263.1	1061.15	1057.85	2.44	1.92	35.56	22.23	122.26	488.07	2.15	1.35	3.49	3.49
Stillwater County	A14	RM 407.36	84180.66	10% - 10yr	1263.1	1060.96	1057.59	2.8	2.03	44.95	23.45	101.75	488.79	2.44	1.27	3.37	3.37
Stillwater County	A14	RM 407.29	83775.88	10% - 10yr	1263.1	1060.59	1057.08	2.39	2.5	35.77	28.75	153.81	339.52	1.85	1.49	3.77	3.77
Stillwater County	A14	RM 407.13	82954.84	10% - 10yr	1263.1	1060.23	1056.27	2.21	2.18	29.58	27.6	278.38	302.23	2.05	1.92	3.95	3.95
Stillwater County	A14	RM 406.98	82156.72	10% - 10yr	1263.1	1059.99	1056.37	2.09	2.02	23.34	19.09	198.98	258.02	3	2.46	3.61	3.61
Stillwater County	A14	RM 406.86	81532.92	10% - 10yr	1263.1	1059.25	1055.69	3.63	3.48	70.54	56.92	114.65	150.12	3	2.42	3.56	3.56
Stillwater County	A14	RM 406.77	81053.3	10% - 10yr	1263.1	1058.99	1053.84	3.42	3.05	61.26	38.71	112.17	206.66	3.18	2	5.15	5.15
Stillwater County	A14	RM 406.64	80405.13	10% - 10yr	1263.1	1058.75	1054.89	2.93	2.74	45.92	37.08	138.42	197.35	3.01	2.44	3.86	3.86
Stillwater County	A14	RM 406.48	79524.79	10% - 10yr	1263.1	1058.21	1054.8	2.97	2.47	51.41	30.71	199.97	439.66	1.95	1.16	3.41	3.41
Stillwater County	A14	RM 406.25	78337.26	10% - 10yr	1263.1	1057.5	1054.03	2.85	2.41	44.87	20.99	142.4	410.26	2.74	1.28	3.47	3.47
Stillwater County	A14	RM 406.08	77409.13	10% - 10yr	1263.1	1057.01	1052.87	2.92	2.17	47.14	16.85	131.8	632.6	2.75	0.97	4.14	4.14
Stillwater County	A14	RM 405.93	76624.91	10% - 10yr	1263.1	1056.33	1052.64	3.43	3.21	62.09	37.66	114.34	206.58	3.14	1.91	3.69	3.69
Stillwater County	A14	RM 405.81	75994.44	10% - 10yr	1263.1	1056.03	1051.93	3.12	3	52.46	47.91	133.87	199.31	2.94	2.7	4.1	4.1
Stillwater County	A15	RM 405.77	75764.36	10% - 10yr	1263.1	1055.76	1052.63	3.46	3.21	68.85	59.2	142.49	188.54	2.42	2.09	3.13	3.13
Stillwater County	A15	RM 405.67	75185.26	10% - 10yr	1263.1	1055.43	1052.06	3.07	2.63	53.59	40.25	82.19	256.08	2.48	1.87	3.36	3.36
Stillwater County	A15	RM 405.61	74883.52	10% - 10yr	1263.1	1055.19	1051.81	3.43	2.62	64.11	37.15	69.55	320.07	2.8	1.63	3.38	3.38
Stillwater County	A15	RM 405.52	74415.92	10% - 10yr	1263.1	1054.72	1051.43	3.87	2.73	82.03	42.19	52.24	388.73	2.82	1.44	3.29	3.29
Stillwater County	A15	RM 405.45	74031.34	10% - 10yr	1263.1	1054.66	1051.1	3	1.93	47.26	26.95	57.4	468.28	3.14	1.8	3.56	3.56
Stillwater County	A15	RM 405.34	73437.72	10% - 10yr	1263.1	1054.21	1050.67	3.06	2.5	50.1	24.53	116.05	432.36	2.96	1.45	3.54	3.54
Stillwater County	A15	RM 405.18	72616.33	10% - 10yr	1263.1	1053.69	1049.45	3.36	2.77	58.07	28.8	94.83	323	3.39	1.67	4.24	4.24
Stillwater County	A15	RM 405.09	72171.48	10% - 10yr	1263.1	1053.59	1049.09	2.78	2.43	39.96	22.31	115.98	308.49	3.3	1.84	4.5	4.5
Stillwater County	A15	RM 405.02	71774.52	10% - 10yr	1263.1	1053.17	1048.59	3.53	3.09	63.89	36.34	88.03	209.87	3.43	1.95	4.59	4.59
Stillwater County	A15	RM 404.97	71526.86	10% - 10yr	1263.1	1053.17	1048.35	2.97	2.55	45.57	25.45	105.86	353.51	3.33	1.86	4.82	4.82
Stillwater County	A15	RM 404.90	71150.58	10% - 10yr	1263.1	1053	1048.99	2.98	2.61	46.21	24.7	104.62	418.85	3.28	1.75	4.01	4.01
Stillwater County	A15	RM 404.84	70801.47	10% - 10yr	1263.1	1052.96	1049.19	2.58	2.17	34.73	13.71	118.04	718.98	3.24	1.27	3.77	3.77
Stillwater County	A15	RM 404.77	70415.17	10% - 10yr	1263.1	1052.76	1048.51	2.96	2.25	44.5	13.76	86.33	735.24	3.56	1.08	4.25	4.25
Stillwater County	A15	RM 404.59	69477.61	10% - 10yr	1263.1	1052.05	1047.56	3.56	3.44	66.55	38.09	109.25	200.85	3.23	1.83	4.49	4.49
Stillwater County	A15	RM 404.54	69214.33	10% - 10yr	1263.1	1051.96	1047.65	3.26	3.05	56.72	31.58	126.3	247.52	3.03	1.67	4.31	4.31
Stillwater County	A15	RM 404.35	68254.38	10% - 10yr	1263.1	1051.47	1048.18	2.82	2.74	46.19	35.85	144.81	254.27	2.32	1.81	3.7	3.7
Stillwater County	A15	RM 404.10	66934.17	10% - 10yr	1263.1	1050.72	1047.61	2.76	2.63	42.82	39.14	123.12	273.72	2.59	2.36	3.11	3.11

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	10% - 10yr	1263.1	1050.36	1045.27	2.79	2.36	42.4	25.42	113.06	480.73	2.83	1.69	5.09	5.09
Stillwater County	A15	RM 403.85	65604.39	10% - 10yr	1263.1	1049.92	1044.79	3.47	2.86	61.59	40.49	78.72	366.72	3.46	2.26	5.13	5.13
Stillwater County	A15	RM 403.75	65058.55	10% - 10yr	1263.1	1049.33	1046.13	3.9	3.46	85.71	61.73	101.02	214.05	2.56	1.84	3.2	3.2
Stillwater County	A15	RM 403.69	64721.22	10% - 10yr	1263.1	1049.26	1046.02	2.82	2.68	46.48	42.36	134.15	322.61	2.31	2.11	3.24	3.24
Stillwater County	A15	RM 403.62	64341.29	10% - 10yr	1263.1	1048.92	1045.75	3.14	2.97	61.21	54.9	91.85	308.25	1.9	1.72	3.17	3.17
Stillwater County	A15	RM 403.55	63997.04	10% - 10yr	1263.1	1048.74	1045.95	2.72	2.38	45.28	31.65	117.01	436.25	1.98	1.39	2.79	2.79
Stillwater County	A15	RM 403.38	62985.06	10% - 10yr	1263.1	1048.4	1043.43	2.15	1.94	26.13	20.41	194.65	336.18	2.54	1.99	4.97	4.97
Stillwater County	A15	RM 403.24	62260	10% - 10yr	1263.1	1048.07	1043.43	2.44	2.4	31.45	23.37	167.44	280.38	3.09	2.29	4.64	4.64
Stillwater County	A15	RM 403.15	61770.95	10% - 10yr	1263.1	1047.6	1042.51	3.26	3.13	56.96	39.41	130.41	209.96	2.96	2.04	5.09	5.09
Stillwater County	A15	RM 403.05	61263.44	10% - 10yr	1263.1	1047.32	1043.23	3.12	3.05	53.42	35.84	146.71	241.77	2.76	1.85	4.09	4.09
Stillwater County	A15	RM 402.97	60777.65	10% - 10yr	1263.1	1047.1	1043.89	2.8	2.74	45.07	38.41	189.33	261.54	2.38	2.03	3.21	3.21
Stillwater County	A15	RM 402.83	60113.9	10% - 10yr	1263.1	1046.54	1043.49	2.97	2.97	56.68	56.09	246.42	406.9	1.73	1.71	3.05	3.05
Stillwater County	A15	RM 402.68	59309.8	10% - 10yr	1263.1	1046.01	1042.55	2.55	2.35	39.24	27	233.75	675.82	2.08	1.43	3.46	3.46
Stillwater County	A15	RM 402.53	58529.61	10% - 10yr	1263.1	1045.66	1040.51	2.69	1.86	36.35	10.68	120.07	792.65	3.65	1.07	5.15	5.15
Stillwater County	A15	RM 402.37	57665.93	10% - 10yr	1263.1	1045.09	1041.09	3.13	2.48	62.34	33.31	211.96	629.31	1.78	0.95	4	4
Stillwater County	A15	RM 402.24	56987.42	10% - 10yr	1263.1	1044.93	1040.75	1.98	1.51	23.13	11.68	251.22	860.89	2.24	1.13	4.18	4.18
Stillwater County	A15	RM 402.07	56034.67	10% - 10yr	1263.1	1044.38	1041.1	2.65	2.01	42.09	25.52	204.12	492.61	2.1	1.28	3.27	3.27
Stillwater County	A15	RM 401.87	54972.92	10% - 10yr	1263.1	1043.68	1040.1	2.92	2.08	48.03	22.52	150.47	507.61	2.55	1.19	3.58	3.58
Stillwater County	A15	RM 401.69	54002.29	10% - 10yr	1263.1	1043.48	1038.43	1.9	1.65	20.62	11.58	248.14	556.77	2.44	1.37	5.05	5.05
Stillwater County	A15	RM 401.55	53267.48	10% - 10yr	1263.1	1042.71	1036.56	3.66	3.16	63.64	25.91	74.7	229.11	4.34	1.75	6.15	6.15
Stillwater County	A15	RM 401.41	52506.25	10% - 10yr	1263.1	1042.59	1037.91	2.73	2.33	39.6	24.55	136.71	332.87	3.03	1.87	4.68	4.68
Stillwater County	A15	RM 401.31	51997.63	10% - 10yr	1263.1	1042.19	1038.08	3.21	2.79	55.33	35.95	118.98	235.64	2.96	1.92	4.11	4.11
Stillwater County	A15	RM 401.17	51259.17	10% - 10yr	1263.1	1041.74	1037.38	3.13	2.97	53.76	37.34	145.37	229.49	2.75	1.92	4.36	4.36
Stillwater County	A15	RM 401.03	50507.04	10% - 10yr	1263.1	1041.35	1036.56	3.06	2.72	48.82	26.36	124.79	264.66	3.25	1.75	4.79	4.79
Stillwater County	A15	RM 400.90	49826.69	10% - 10yr	1263.1	1040.83	1036.25	3.38	3.11	64.45	48.76	145.19	225.89	2.53	1.92	4.58	4.58
Stillwater County	A15	RM 400.74	49002.09	10% - 10yr	1263.1	1040.26	1037.21	3.33	2.47	62.05	34.36	111.61	355.14	2.62	1.44	3.05	3.05
Stillwater County	A15	RM 400.61	48243.95	10% - 10yr	1263.1	1039.98	1035.99	2.48	2.13	35.38	24.81	144.69	354.37	2.4	1.67	3.99	3.99
Stillwater County	A15	RM 400.50	47710.55	10% - 10yr	1263.1	1039.65	1035.67	2.58	2.46	38.04	33.66	149.15	236.67	2.45	2.17	3.98	3.98
Stillwater County	A15	RM 400.42	47243.72	10% - 10yr	1263.1	1039.31	1034.87	3	2.77	48.53	33.28	103.86	225.17	2.97	2.02	4.44	4.44
Stillwater County	A15	RM 400.34	46832.6	10% - 10yr	1263.1	1039.14	1034.91	2.93	2.66	44.82	25.13	95.8	262.4	3.22	1.81	4.23	4.23
Stillwater County	A15	RM 400.25	46335.82	10% - 10yr	1263.1	1038.99	1035.01	2.71	2.35	38.89	20.75	107.9	324.62	3.12	1.66	3.98	3.98
Stillwater County	A15	RM 400.18	45999.89	10% - 10yr	1263.1	1038.82	1034.98	2.81	2.46	42.81	23.62	114.17	319.83	2.92	1.6	3.84	3.84
Stillwater County	A15	RM 400.13	45714.33	10% - 10yr	1263.1	1038.7	1035.2	2.79	2.35	41.83	24.91	122.23	306.44	2.96	1.75	3.5	3.5
Stillwater County	A15	RM 400.11	45623.77	10% - 10yr	1263.1	1038.6	1035.11	2.93	2.44	47.56	29.24	129.49	314.21	2.7	1.65	3.49	3.49
Stillwater County	A15	RM 400.09	45529.19	10% - 10yr	1263.1	1038.43	1035.05	3.28	2.8	61.74	40.78	128.18	282.76	2.42	1.59	3.37	3.37
Stillwater County	A15	RM 400.03	45177.97	10% - 10yr	1263.1	1038.2	1034.82	3.06	2.77	54.08	44.78	137.4	230.74	2.38	1.98	3.38	3.38
Stillwater County	A15	RM 399.95	44761.86	10% - 10yr	1263.1	1038.01	1033.69	2.76	2.76	40.68	40.46	149.91	153.19	3.05	3.03	4.32	4.32
Stillwater County	A16	RM 399.85	44225.61	10% - 10yr	1263.1	1037.59	1033.63	3.2	3.2	56.62	56.62	144.67	144.67	2.73	2.73	3.96	3.96
Stillwater County	A16	RM 399.74	43664.16	10% - 10yr	1263.1	1037.34	1033.48	2.77	2.77	44.02	43.83	188.33	189.04	2.42	2.42	3.85	3.85
Stillwater County	A16	RM 399.62	43026.17	10% - 10yr	1263.1	1036.97	1033.67	2.68	2.68	42.71	42.06	217.64	226.69	2.17	2.14	3.3	3.3
Stillwater County	A16	RM 399.50	42404.94	10% - 10yr	1263.1	1036.69	1031.89	2.58	2.51	36.1	27.81	167.47	225.22	2.91	2.24	4.8	4.8
Stillwater County	A16	RM 399.39	41801.43	10% - 10yr	1263.1	1036.35	1031.8	2.84	2.77	43.78	37.95	156.01	184.7	2.84	2.47	4.55	4.55
Stillwater County	A16	RM 399.30	41294.57	10% - 10yr	1263.1	1036.01	1031.14	3.09	2.9	52.54	39.58	145.51	211.68	2.74	2.06	4.87	4.87
Stillwater County	A16	RM 399.19	40736.83	10% - 10yr	1263.1	1035.42	1031.46	3.57	3.31	71.36	41.76	134.24	250.2	2.61	1.52	3.96	3.96
Stillwater County	A16	RM 399.09	40202.15	10% - 10yr	1263.1	1035.18	1031.09	3.12	2.76	52.05	31.01	128.9	258.29	2.99	1.78	4.09	4.09
Stillwater County	A16	RM 399.00	39710.39	10% - 10yr	1263.1	1035	1031.41	2.79	2.22	43.47	27.14	144.49	349.31	2.61	1.63	3.59	3.59
Stillwater County	A16	RM 398.91	39231.58	10% - 10yr	1263.1	1034.7	1031.73	2.77	2.28	47.99	30.94	180.48	463.42	1.86	1.2	2.97	2.97
Stillwater County	A16	RM 398.80	38666.26	10% - 10yr	1263.1	1034.29	1031.55	2.69	2.17	44.7	29.58	189.2	450.75	1.95	1.29	2.74	2.74
Stillwater County	A16	RM 398.73	38275.64	10% - 10yr	1263.1	1034.01	1030.78	2.65	2.19	36.61	23.92	214.55	489.89	1.8	1.18	3.23	3.23
Stillwater County	A16	RM 398.62	37715.08	10% - 10yr	1263.1	1033.68	1030.19	2.51	2.17	32.74	24.77	203	415.34	1.86	1.4	3.49	3.49
Stillwater County	A16	RM 398.51	37115.9	10% - 10yr	1263.1	1033.32	1030.68	2.53	2.24	39.11	25.56	212.07	432.11	1.99	1.3	2.65	2.65
Stillwater County	A16	RM 398.40	36522.49	10% - 10yr	1263.1	1033.12	1028.27	2.15	1.86	22.33	16.82	210.36	437.56	2.06	1.55	4.85	4.85
Stillwater County	A16	RM 398.29	35952.65	10% - 10yr	1263.1	1032.72	1027.62	2.54	2.34	40.48	29.28	265.31	404.57	1.85	1.34	5.1	5.1
Stillwater County	A16	RM 398.17	35320.39	10% - 10yr	1263.1	1032.51	1028.88	2.11	2.03	25.07	19.27	233.04	316.9	2.56	1.97	3.63	3.63
Stillwater County	A16	RM 398.04	34597.07	10% - 10yr	1263.1	1032.2	1027.24	2.25	2.19	35.92	28.68	255.31	365.22	2.19	1.74	4.95	4.95
Stillwater County	A16	RM 397.95	34133.39	10% - 10yr	1263.1	1031.81	1027.15	2.65	2.6	43.27	39.89	240.46	267.23	1.97	1.82	4.66	4.66
Stillwater County	A16	RM 397.81	33366.95	10% - 10yr	1263.1	1031.5	1027.05	2.23	2.15	28.81	23.43	237.76	321.01	2.37	1.92	4.45	4.45
Stillwater County	A16	RM 397.68	32754.86	10% - 10yr	1263.1	1031.27	1026.97	2.3	2.19	28.74	21.83	193.21	333.06	2.82	2.15	4.3	4.3
Stillwater County	A16	RM 397.56	32104.4	10% - 10yr	1263.1	1030.69	1026.76	3.26	3.12	57.88	45.75	134.77	380.17	2.84	2.26	3.93	3.93
Stillwater County	A16	RM 397.40	31237.31	10% - 10yr	1263.1	1030.2	1026.27	2.95	2.66	50.08	38.43	174.71	632.96	2.39	1.84	3.93	3.93

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	10% - 10yr	1263.1	1029.58	1025.84	2.41	1.94	36.41	22.58	266.79	934.51	1.83	1.14	3.74	3.74
Stillwater County	A16	RM 396.97	29050.44	10% - 10yr	1263.1	1029.15	1025.61	2.02	1.49	24.64	12.85	280.04	1036.68	2.07	1.08	3.54	3.54
Stillwater County	A16	RM 396.71	27639.86	10% - 10yr	1263.1	1028.45	1022.48	2.8	1.72	41.02	10.9	127.42	973.86	3.2	0.84	5.97	5.97
Stillwater County	A16	RM 396.62	27103.31	10% - 10yr	1263.1	1028.09	1022.36	3.2	2.16	51.07	11.94	99.61	753.92	3.73	0.86	5.73	5.73
Stillwater County	A16	RM 396.52	26616.35	10% - 10yr	1263.1	1027.83	1023.41	3.31	2.08	56.88	14.86	106.41	717.3	3.28	0.85	4.42	4.42
Stillwater County	A16	RM 396.29	25423.1	10% - 10yr	1263.1	1027.44	1023.53	2.41	1.7	33.55	13.67	187.81	774.26	2.37	0.97	3.91	3.91
Stillwater County	A16	RM 396.14	24635.78	10% - 10yr	1263.1	1026.68	1022.46	3.41	2.77	66.32	34.78	129.19	459.33	2.48	1.3	4.22	4.22
Stillwater County	A16	RM 396.03	24026.24	10% - 10yr	1263.1	1026.54	1024.1	2.24	1.83	30.37	17.47	186.55	648.93	2.07	1.19	2.44	2.44
Stillwater County	A16	RM 395.89	23301.08	10% - 10yr	1263.1	1026.04	1022.79	2.72	2.03	46.67	24.17	152.18	737.38	1.81	0.94	3.24	3.24
Stillwater County	A16	RM 395.73	22420.29	10% - 10yr	1263.1	1025.67	1022.66	1.55	1.32	15.11	9.65	186.35	966.46	1.82	1.16	3.01	3.01
Stillwater County	A16	RM 395.64	21923.33	10% - 10yr	1263.1	1025.43	1022.13	2.08	1.52	26.3	11.86	144.53	1058.46	2.04	0.92	3.61	3.61
Stillwater County	A16	RM 395.57	21526.11	10% - 10yr	1263.1	1025	1021.61	2.95	1.92	49.65	18.09	78.04	1043.09	2.46	0.89	3.39	3.39
Stillwater County	A16	RM 395.48	21053.74	10% - 10yr	1263.1	1024.63	1021.89	2.66	2.14	45.4	27.22	112.48	780.81	1.71	1.02	2.74	2.74
Stillwater County	A16	RM 395.36	20532.68	10% - 10yr	1263.1	1024.37	1021.53	2.22	1.84	30.19	16.54	131.9	826.85	2.02	1.1	2.83	2.83
Stillwater County	A16	RM 394.98	18666.37	10% - 10yr	1263.1	1023.74	1020.31	2.71	2.14	43.63	20.95	106.83	627.02	2.18	1.05	3.43	3.43
Stillwater County	A16	RM 394.80	17678.79	10% - 10yr	1263.1	1023.38	1019.23	2.53	2.13	39.76	23.77	140.71	530.4	1.93	1.15	4.15	4.15
Stillwater County	A16	RM 394.65	16921.48	10% - 10yr	1263.1	1022.92	1019.93	2.25	2.17	31.9	24.21	166.19	496.01	1.83	1.39	3.92	3.92
Stillwater County	A16	RM 394.59	16622.61	10% - 10yr	1263.1	1022.54	1019.92	2.43	2.4	39.34	34.65	153.43	432.74	1.56	1.38	2.96	2.96
Stillwater County	A16	RM 394.53	16295.21	10% - 10yr	1263.1	1022.27	1019.83	2.28	2.16	34.83	29.63	158.26	466.68	1.5	1.28	3.26	3.26
Stillwater County	A16	RM 394.20	14503.23	10% - 10yr	1263.1	1021.1	1016.38	2.63	2.25	39.91	24.11	149.53	391.08	2.37	1.44	4.72	4.72
Stillwater County	A16	RM 394.12	14088.57	10% - 10yr	1263.1	1020.71	1016.74	3.06	2.61	54.76	30.95	148.21	375.24	2.28	1.29	3.97	3.97
Stillwater County	A16	RM 393.99	13393.6	10% - 10yr	1263.1	1020.36	1017.11	2.54	2.02	39.31	23.86	120.52	509.58	2.02	1.22	3.24	3.24
Stillwater County	A16	RM 393.85	12650.05	10% - 10yr	1263.1	1019.86	1016.49	2.41	2.07	37.58	27.01	177.48	510.98	1.66	1.2	3.37	3.37
Stillwater County	A16	RM 393.59	11240.84	10% - 10yr	1263.1	1019.33	1015.45	1.77	1.45	19.02	10.89	272.85	748.43	2.03	1.16	3.88	3.88
Stillwater County	A16	RM 393.27	9813.245	10% - 10yr	1263.1	1018.3	1013.32	2.99	2.75	60.22	48.71	221.26	375.78	1.51	1.22	4.98	4.98
Stillwater County	A16	RM 393.10	8870.543	10% - 10yr	1263.1	1017.69	1013.34	2.05	1.93	28.36	24.28	339.23	510.57	1.5	1.28	4.35	4.35
Stillwater County	A16	RM 392.95	8114.595	10% - 10yr	1263.1	1016.87	1014.13	2.8	2.7	52.95	48.32	287.86	349.2	1.47	1.34	2.74	2.74
Stillwater County	A16	RM 392.69	6912.838	10% - 10yr	1263.1	1016.34	1012.43	1.94	1.73	22.78	15.81	190.88	711.36	2.08	1.44	3.91	3.91
Stillwater County	A16	RM 392.44	5710.825	10% - 10yr	1263.1	1015.76	1011.68	2.5	1.93	35.21	15.83	135.35	937.72	2.56	1.15	4.08	4.08
Stillwater County	A17	RM 392.20	4388.056	10% - 10yr	1263.1	1014.71	1010.8	3.16	2.52	61.81	31.21	196.13	517.17	1.92	0.97	3.91	3.91
Stillwater County	A17	RM 392.00	3345.174	10% - 10yr	1263.1	1014.11	1009.53	2.68	2.18	41.03	23.41	164.72	419.46	2.48	1.41	4.58	4.58
Stillwater County	A17	RM 391.84	2491.214	10% - 10yr	1263.1	1013.8	1010.51	2.22	1.84	30.1	16.95	154.41	608.49	2	1.13	3.39	3.39
Stillwater County	A17	RM 391.68	1656.536	10% - 10yr	1263.1	1013.47	1010.5	1.85	1.6	22.58	16.37	255.36	691.1	1.57	1.14	2.97	2.97
Stillwater County	A17	RM 391.58	1120.168	10% - 10yr	1263.1	1013.2	1009.55	1.94	1.59	24.86	16.19	363.79	772.57	1.57	1.03	3.65	3.65
Stillwater County	A17	RM 391.46	505.9	10% - 10yr	1263.1	1012.93	1009.4	1.95	1.47	23.76	13.12	297.18	825.55	1.89	1.04	3.53	3.53

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	10% - 10yr	926.1	1281.71	1278.12	2.59	2.24	35.92	20.95	109.01	275.9	3.06	1.77	3.59	3.59
Sweet Grass County	A1	RM 478.10	225378	10% - 10yr	926.1	1281.24	1277.66	3.29	2.97	63.9	47.74	112.72	230	2.21	1.65	3.58	3.58
Sweet Grass County	A1	RM 478.00	224862	10% - 10yr	926.1	1280.76	1277.97	3.17	2.97	62.73	53.19	137.18	272.32	1.89	1.6	2.79	2.79
Sweet Grass County	A1	RM 477.91	224362	10% - 10yr	926.1	1280.18	1277.65	3.59	2.99	70.79	47.78	85.22	294	2.19	1.47	2.53	2.53
Sweet Grass County	A1	RM 477.81	223862	10% - 10yr	926.1	1279.82	1276.96	3.08	2.65	41.58	33.11	125.25	269.98	1.81	1.44	2.86	2.86
Sweet Grass County	A1	RM 477.72	223354	10% - 10yr	926.1	1279.44	1276.32	2.59	2.35	45.03	32.38	182.82	374.93	1.51	1.08	3.12	3.12
Sweet Grass County	A1	RM 477.63	222892	10% - 10yr	926.1	1279.35	1275.76	1.56	1.46	15.08	11.31	248.65	563.89	1.93	1.45	3.59	3.59
Sweet Grass County	A1	RM 477.49	222220	10% - 10yr	926.1	1279.17	1276.07	1.63	1.47	14.74	9.99	256.97	749.42	1.66	1.12	3.1	3.1
Sweet Grass County	A1	RM 477.40	221702	10% - 10yr	926.1	1279.11	1275.47	1.25	0.95	9.04	5.47	242.4	857.84	2.39	1.44	3.65	3.65
Sweet Grass County	A1	RM 477.31	221259	10% - 10yr	926.1	1278.67	1275.74	2.88	1.85	47.68	16.18	122.05	761.99	2.41	0.81	2.92	2.92
Sweet Grass County	A1	RM 477.21	220767	10% - 10yr	926.1	1278.48	1275.28	2.55	1.72	36.1	12	126.43	788.91	2.67	0.88	3.2	3.2
Sweet Grass County	A1	RM 477.11	220252	10% - 10yr	926.1	1278.15	1274.86	2.8	1.83	48.1	20.97	147.45	762.9	2	0.87	3.28	3.28
Sweet Grass County	A1	RM 477.04	219860	10% - 10yr	926.1	1277.87	1275.13	2.84	1.77	48.24	20.26	131.95	751.77	2.15	0.9	2.73	2.73
Sweet Grass County	A1	RM 476.95	219422	10% - 10yr	926.1	1277.36	1274.55	3.16	2.25	64.12	30.07	154.29	652.62	1.74	0.81	2.81	2.81
Sweet Grass County	A1	RM 476.84	218828	10% - 10yr	926.1	1277.01	1273.95	2.61	2	41.41	20.05	134.66	552.84	2.07	1	3.07	3.07
Sweet Grass County	A1	RM 476.75	218345	10% - 10yr	926.1	1276.75	1273.54	2.46	1.95	33.08	18.04	172.58	637.27	2.03	1.1	3.21	3.21
Sweet Grass County	A1	RM 476.66	217855	10% - 10yr	926.1	1276.42	1273.45	2.68	1.96	39.75	17.83	160.17	819.11	1.99	0.89	2.96	2.96
Sweet Grass County	A1	RM 476.57	217396	10% - 10yr	926.1	1276.01	1273.09	3.16	1.98	57.19	23.6	98.93	806.12	2.45	1.01	2.92	2.92
Sweet Grass County	A1	RM 476.47	216861	10% - 10yr	926.1	1275.64	1273.04	2.95	2.19	52.34	26.14	126.17	582.16	2.09	1.04	2.61	2.61
Sweet Grass County	A1	RM 476.38	216362	10% - 10yr	926.1	1275.32	1272.1	2.9	1.97	47.64	19.01	105.41	798.57	2.51	1	3.23	3.23
Sweet Grass County	A1	RM 476.28	215816	10% - 10yr	926.1	1274.72	1271.85	3.49	3.1	71.83	47.6	100.31	284.21	2.23	1.48	2.87	2.87
Sweet Grass County	A1	RM 476.15	215126	10% - 10yr	926.1	1274.16	1271.76	3.05	2.59	58.32	41.4	133.16	289.78	1.84	1.31	2.4	2.4
Sweet Grass County	A1	RM 476.01	214437	10% - 10yr	926.1	1273.81	1270.96	2.38	2.24	33.72	28.37	150.3	265.89	2.17	1.82	2.86	2.86
Sweet Grass County	A1	RM 475.91	213787	10% - 10yr	926.1	1273.4	1270.35	2.56	2.41	38.71	33.36	161.12	202.34	2.2	1.9	3.05	3.05
Sweet Grass County	A1	RM 475.76	213072	10% - 10yr	926.1	1272.82	1270.22	2.95	2.49	52.79	32.24	146.41	296.36	2.06	1.26	2.6	2.6
Sweet Grass County	A1	RM 475.63	212347	10% - 10yr	926.1	1272.55	1269.34	2.25	1.98	29.67	21.35	173.18	282.67	2.31	1.65	3.21	3.21
Sweet Grass County	A1	RM 475.47	211539	10% - 10yr	926.1	1272.06	1268.97	2.68	2.64	39.37	35.33	144.1	163.6	2.39	2.15	3.08	3.08
Sweet Grass County	A1	RM 475.35	210875	10% - 10yr	926.1	1271.38	1268.88	3.37	3.31	66.73	55.57	119.62	146.7	2.29	1.9	2.49	2.49
Sweet Grass County	A1	RM 475.24	210333	10% - 10yr	926.1	1271.39	1267.53	2.22	2.02	25.26	16.03	118.16	284.15	3.46	2.18	3.86	3.86
Sweet Grass County	A2	RM 475.12	209673	10% - 10yr	926.1	1270.26	1267.9	4.38	4.07	119.91	104.92	110.26	147.55	1.87	1.64	2.36	2.36
Sweet Grass County	A2	RM 475.00	209034	10% - 10yr	926.1	1269.77	1266.93	3.01	3.01	55.85	55.85	156.95	156.95	1.96	1.96	2.83	2.83
Sweet Grass County	A2	RM 474.87	208359	10% - 10yr	926.1	1269.59	1266.75	2.27	2.05	28.6	23.32	79.75	222.03	2.74	2.19	2.84	2.84
Sweet Grass County	A2	RM 474.76	207797	10% - 10yr	926.1	1269.04	1266.42	3.3	2.69	62.87	37.82	77.58	239.26	2.44	1.44	2.62	2.62
Sweet Grass County	A2	RM 474.67	207305	10% - 10yr	926.1	1268.58	1266.29	3.38	2.84	68.05	48.14	66.14	220.61	2.24	1.55	2.29	2.29
Sweet Grass County	A2	RM 474.54	206635	10% - 10yr	926.1	1268.29	1264.92	2.43	2.16	33.36	23.17	128.46	241.84	2.56	1.77	3.37	3.37
Sweet Grass County	A2	RM 474.43	205945	10% - 10yr	926.1	1267.96	1265.16	2.69	2.19	40.86	17.48	89.64	385.16	2.61	1.1	2.79	2.79
Sweet Grass County	A2	RM 474.30	205321	10% - 10yr	926.1	1267.71	1264.46	2.41	1.74	32.5	13.77	132.82	478.13	2.65	1.11	3.24	3.24
Sweet Grass County	A2	RM 474.21	204877	10% - 10yr	926.1	1267.25	1264.22	3.18	2.33	56.13	18.57	102.96	453.73	2.67	0.88	3.03	3.03
Sweet Grass County	A2	RM 474.12	204378	10% - 10yr	926.1	1267.14	1263.24	2.44	1.71	33.75	14.72	140.42	502.34	2.49	1.08	3.89	3.89
Sweet Grass County	A2	RM 474.01	203787	10% - 10yr	926.1	1266.64	1263.55	2.99	2.28	53.89	24.41	138.78	427.47	2.11	0.95	3.09	3.09
Sweet Grass County	A2	RM 473.87	203072	10% - 10yr	926.1	1266.18	1263.52	2.95	2.27	48.98	17.02	100.17	613.66	2.33	0.8	2.66	2.66
Sweet Grass County	A2	RM 473.74	202395	10% - 10yr	926.1	1265.91	1263.06	2.4	1.79	33.16	12.99	120.92	718.61	2.39	0.93	2.85	2.85
Sweet Grass County	A2	RM 473.62	201781	10% - 10yr	926.1	1265.43	1262.63	2.83	2.09	49.18	17.97	150.66	621.56	1.98	0.72	2.8	2.8
Sweet Grass County	A2	RM 473.50	201110	10% - 10yr	926.1	1265.03	1261.83	2.49	2.16	37.89	17.52	177.6	464.37	2.03	0.93	3.2	3.2
Sweet Grass County	A2	RM 473.36	200362	10% - 10yr	926.1	1264.75	1261.08	2.32	2.05	29	11.65	133.06	390.74	2.94	1.17	3.67	3.67
Sweet Grass County	A2	RM 473.27	199862	10% - 10yr	926.1	1264.38	1260.81	2.93	2.61	47.61	20.41	114.84	321.77	2.69	1.14	3.57	3.57
Sweet Grass County	A2	RM 473.17	199362	10% - 10yr	926.1	1264.2	1260.56	2.7	2.55	37.77	21.28	102.94	196.32	3.3	1.85	3.64	3.64
Sweet Grass County	A2	RM 473.08	198879	10% - 10yr	926.1	1263.77	1260.56	3.27	3.09	58.96	33.74	103.08	192.83	2.73	1.55	3.21	3.21
Sweet Grass County	A2	RM 472.98	198340	10% - 10yr	926.1	1263.59	1260.21	2.72	2.51	40.75	24.72	120.55	220.24	2.77	1.68	3.39	3.39
Sweet Grass County	A2	RM 472.89	197862	10% - 10yr	926.1	1263.1	1260.5	3.42	2.74	68.23	41.13	105.46	243.29	2.31	1.39	2.61	2.61
Sweet Grass County	A2	RM 472.79	197362	10% - 10yr	926.1	1262.83	1259.98	2.81	2.39	46.74	29.66	136.27	273.94	2.22	1.41	2.85	2.85
Sweet Grass County	A2	RM 472.70	196862	10% - 10yr	926.1	1262.3	1259.35	3.25	2.54	63.96	35.15	125.74	321.21	2.07	1.14	2.96	2.96
Sweet Grass County	A2	RM 472.60	196360	10% - 10yr	926.1	1262.13	1259.01	2.3	2.05	32.79	25.68	181.89	381.8	1.93	1.51	3.12	3.12
Sweet Grass County	A2	RM 472.50	195816	10% - 10yr	926.1	1261.81	1258.53	2.4	2.01	35.74	22.63	177.8	379.48	1.93	1.22	3.28	3.28
Sweet Grass County	A2	RM 472.41	195349	10% - 10yr	926.1	1261.49	1258.52	2.47	2.18	38.22	29.82	190.87	291.03	1.87	1.46	2.97	2.97
Sweet Grass County	A2	RM 472.31	194860	10% - 10yr	926.1	1261.29	1258.34	2.29	1.88	29.74	17.18	149.11	338.89	2.52	1.46	2.95	2.95
Sweet Grass County	A2	RM 472.22	194356	10% - 10yr	926.1	1261.11	1257.3	2.41	1.82	28.73	11.57	115.58	430.93	2.99	1.18	3.81	3.81
Sweet Grass County	A2	RM 472.09	193660	10% - 10yr	926.1	1260.27	1257.45	3.85	3.2	85.24	38.45	89.87	264.67	2.49	1.09	2.81	2.81
Sweet Grass County	A2	RM 471.95	192935	10% - 10yr	926.1	1260.25	1256.05	2.34	1.65	28.09	11.17	103.53	416.27	3.45	1.35	4.2	4.2
Sweet Grass County	A2	RM 471.86	192442	10% - 10yr	926.1	1259.71	1256.23	3.52	2.44	66.85	30.69	76.65	280.82	3.01	1.35	3.48	3.48
Sweet Grass County	A2	RM 471.75	191870	10% - 10yr	926.1	1259.59	1256.47	2.48	1.91	34.56	18.63	134.52	348.23	2.58	1.39	3.12	3.12

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	10% - 10yr	926.1	1258.86	1256.54	3.61	2.96	80.08	41.89	124.48	301.54	1.98	1.04	2.32	2.32
Sweet Grass County	A2	RM 471.52	190686	10% - 10yr	926.1	1258.67	1255.75	2.45	1.76	34.04	12.03	127.76	616.15	2.54	0.89	2.92	2.92
Sweet Grass County	A2	RM 471.38	189910	10% - 10yr	926.1	1257.95	1255.44	3.18	2.41	67.97	31.45	149.89	548.2	1.51	0.7	2.5	2.5
Sweet Grass County	A2	RM 471.28	189362	10% - 10yr	926.1	1257.39	1254.65	2.45	2.11	42.75	29.08	228.55	511.23	1.26	0.86	2.74	2.74
Sweet Grass County	A2	RM 471.18	188875	10% - 10yr	926.1	1257.01	1254.2	2.5	1.99	33.47	21.28	155.36	446.86	1.64	1.04	2.81	2.81
Sweet Grass County	A2	RM 471.06	188150	10% - 10yr	926.1	1256.63	1253.95	2.27	1.57	33.14	17.41	140.6	650.91	1.72	0.9	2.68	2.68
Sweet Grass County	A2	RM 470.94	187526	10% - 10yr	926.1	1256.2	1253.58	2.63	1.97	39.42	18.68	106.75	506.22	2.1	0.99	2.62	2.62
Sweet Grass County	A2	RM 470.84	186938	10% - 10yr	926.1	1255.89	1252.88	2.39	1.8	36.28	21.52	157.2	522.98	1.82	1.07	3.01	3.01
Sweet Grass County	A2	RM 470.73	186362	10% - 10yr	926.1	1255.7	1253.49	1.72	1.63	19.57	15.52	189.08	476.29	1.57	1.24	2.63	2.63
Sweet Grass County	A2	RM 470.65	185977	10% - 10yr	926.1	1255.44	1252.18	2.16	1.9	28.26	16.3	201.38	496.64	2.07	1.19	3.26	3.26
Sweet Grass County	A2	RM 470.56	185491	10% - 10yr	926.1	1255.25	1252.52	2.11	1.75	26.67	14.58	189.32	618.8	2.14	1.16	2.74	2.74
Sweet Grass County	A2	RM 470.44	184875	10% - 10yr	926.1	1255.14	1251.39	1.79	1.43	17.14	9.54	158.35	387.97	3.02	1.66	3.75	3.75
Sweet Grass County	A2	RM 470.35	184363	10% - 10yr	926.1	1254.27	1251.52	3.9	3.56	92.03	52.45	113.84	222.19	2.06	1.17	2.74	2.74
Sweet Grass County	A2	RM 470.23	183828	10% - 10yr	926.1	1254.01	1251.51	2.69	2.39	45.39	31.3	180.8	305.56	1.83	1.27	2.5	2.5
Sweet Grass County	A2	RM 470.13	183304	10% - 10yr	926.1	1253.73	1249.86	2.4	2.14	35.53	27.24	162.28	285.83	1.99	1.52	3.87	3.87
Sweet Grass County	A2	RM 470.05	182914	10% - 10yr	926.1	1253.59	1250.59	2.08	1.86	26.25	20.38	175.23	315.6	2.03	1.58	2.99	2.99
Sweet Grass County	A2	RM 469.93	182267	10% - 10yr	926.1	1252.86	1249.62	3.32	3.01	63.59	40.2	105.63	201.81	2.42	1.52	3.24	3.24
Sweet Grass County	A2	RM 469.85	181860	10% - 10yr	926.1	1252.42	1249.59	3.57	3.01	73.1	32.04	96.16	287.34	2.46	1.07	2.83	2.83
Sweet Grass County	A2	RM 469.75	181348	10% - 10yr	926.1	1252.39	1248.77	2.33	1.92	29.71	13.07	116.21	391.05	2.84	1.23	3.63	3.63
Sweet Grass County	A2	RM 469.68	180952	10% - 10yr	926.1	1252.08	1249.31	2.77	2.24	44.43	19.61	135.73	398.7	2.36	1.04	2.77	2.77
Sweet Grass County	A2	RM 469.58	180427	10% - 10yr	926.1	1252.06	1247.94	1.95	1.48	19.58	9.66	130.56	380.39	3.36	1.64	4.11	4.11
Sweet Grass County	A2	RM 469.47	179860	10% - 10yr	926.1	1251.74	1247.85	2.72	1.94	36.99	15.57	93.72	355.42	3.24	1.35	3.89	3.89
Sweet Grass County	A2	RM 469.39	179400	10% - 10yr	926.1	1251.43	1248.45	2.99	2.36	51.57	28.26	118.53	300.14	2.4	1.31	2.98	2.98
Sweet Grass County	A2	RM 469.30	178975	10% - 10yr	926.1	1251.39	1247.55	2.3	1.77	27.46	13.59	106.16	318.5	3.38	1.64	3.84	3.84
Sweet Grass County	A2	RM 469.21	178467	10% - 10yr	926.1	1250.76	1248.31	3.59	2.85	76.58	33.34	107.1	343.31	2.18	0.95	2.45	2.45
Sweet Grass County	A2	RM 469.09	177862	10% - 10yr	926.1	1250.51	1247.12	2.09	1.52	25.53	13.17	118.23	512.14	2.31	1.19	3.39	3.39
Sweet Grass County	A2	RM 469.00	177350	10% - 10yr	926.1	1249.92	1247.58	3.41	2.41	71.67	29.68	89.39	474.14	1.98	0.81	2.34	2.34
Sweet Grass County	A2	RM 468.90	176865	10% - 10yr	926.1	1249.46	1246.48	2.36	1.94	29	14.9	157.69	472.24	1.98	1.01	2.98	2.98
Sweet Grass County	A2	RM 468.80	176341	10% - 10yr	926.1	1249.19	1246.11	2.48	2	36.63	18.72	136.15	419.9	2.17	1.1	3.07	3.07
Sweet Grass County	A2	RM 468.71	175823	10% - 10yr	926.1	1248.8	1246.41	2.7	2.34	47.53	32.03	146.06	411.65	1.65	1.11	2.39	2.39
Sweet Grass County	A2	RM 468.57	175192	10% - 10yr	926.1	1248.61	1245.17	1.83	1.56	19.95	10.85	178.26	713.83	2.17	1.17	3.44	3.44
Sweet Grass County	A2	RM 468.42	174099	10% - 10yr	926.1	1247.92	1244.97	2.71	2.32	45.4	28.86	168.48	437.47	1.93	1.22	2.96	2.96
Sweet Grass County	A3	RM 468.25	173324	10% - 10yr	926.1	1247.77	1242.97	2.01	1.5	20.85	8.82	128.87	554.51	3.34	1.4	4.79	4.79
Sweet Grass County	A3	RM 468.16	172855	10% - 10yr	926.1	1247.58	1243.58	2.39	1.72	31.42	14.84	119.05	558.68	2.8	1.31	4	4
Sweet Grass County	A3	RM 468.07	172364	10% - 10yr	926.1	1247.53	1243.89	1.86	1.4	18.98	9.91	136.65	644.87	2.79	1.45	3.64	3.64
Sweet Grass County	A3	RM 467.97	171839	10% - 10yr	926.1	1246.78	1244.32	3.89	2.96	93.91	46.64	92.44	450.63	1.96	0.96	2.46	2.46
Sweet Grass County	A3	RM 467.87	171312	10% - 10yr	926.1	1246.55	1243.46	2.33	2.1	31.99	20.38	159.56	454.21	2.25	1.43	3.08	3.08
Sweet Grass County	A3	RM 467.78	170840	10% - 10yr	926.1	1246.05	1243.74	3.19	2.76	62.7	37.39	100.58	289.29	1.95	1.16	2.31	2.31
Sweet Grass County	A3	RM 467.69	170376	10% - 10yr	926.1	1245.78	1242.96	2.65	2.26	42.06	23.87	115.51	342	2.16	1.21	2.82	2.82
Sweet Grass County	A3	RM 467.55	169614	10% - 10yr	926.1	1245.38	1242.1	2.27	1.97	32.37	21.82	133.88	378.58	1.86	1.24	3.28	3.28
Sweet Grass County	A3	RM 467.41	168870	10% - 10yr	926.1	1245.2	1241.15	1.89	1.33	19.12	8.09	133.26	625.78	2.98	1.25	4.05	4.05
Sweet Grass County	A3	RM 467.30	168362	10% - 10yr	926.1	1244.55	1242.15	3.68	2.51	79.57	25.12	90.33	525	2.26	0.71	2.4	2.4
Sweet Grass County	A3	RM 467.16	167641	10% - 10yr	926.1	1244.26	1240.78	2.04	1.42	24.05	8.68	159.02	801.86	2.41	0.86	3.47	3.47
Sweet Grass County	A3	RM 467.00	166780	10% - 10yr	926.1	1243.75	1240.48	2.69	1.85	43.91	15.38	140.98	742.18	2.07	0.72	3.27	3.27
Sweet Grass County	A3	RM 466.83	165902	10% - 10yr	926.1	1243.28	1239.84	2.64	1.71	38.75	14.06	111.13	578.01	2.66	0.96	3.44	3.44
Sweet Grass County	A3	RM 466.73	165364	10% - 10yr	926.1	1243	1239.81	2.69	1.9	40.59	14.28	115.43	538.18	2.62	0.92	3.19	3.19
Sweet Grass County	A3	RM 466.64	164858	10% - 10yr	926.1	1242.51	1239.36	3.36	2.47	57.8	20.62	99.31	501.44	2.37	0.84	3.15	3.15
Sweet Grass County	A3	RM 466.49	164108	10% - 10yr	926.1	1242.12	1239.67	2.77	1.79	45.5	20.32	107.44	623.95	2.21	0.99	2.45	2.45
Sweet Grass County	A3	RM 466.25	162845	10% - 10yr	926.1	1240.89	1238.71	3.48	2.75	72.84	30.31	78.03	384.57	2.17	0.87	2.19	2.19
Sweet Grass County	A3	RM 465.79	160351	10% - 10yr	926.1	1239.79	1236.48	2.21	1.24	27.59	10.38	109.57	790.26	2.59	0.95	3.31	3.31
Sweet Grass County	A3	RM 465.01	155919	10% - 10yr	926.1	1237.6	1234.44	3	2.61	52.52	30.71	128.64	261.63	2.33	1.36	3.16	3.16
Sweet Grass County	A3	RM 464.68	154254	10% - 10yr	926.1	1236.63	1233.35	2.51	2.15	38.16	19.95	171.39	415.58	2.07	1.08	3.28	3.28
Sweet Grass County	A3	RM 464.48	153160	10% - 10yr	926.1	1236.08	1232.71	2.28	1.81	31.83	17.13	183.52	508.33	1.98	1.07	3.37	3.37
Sweet Grass County	A3	RM 464.33	152378	10% - 10yr	926.1	1235.69	1232.61	2.27	1.76	31.44	16.13	183.32	504.23	2.04	1.04	3.07	3.07
Sweet Grass County	A3	RM 464.16	151621	10% - 10yr	926.1	1235.25	1232.45	2.46	1.85	36.96	17.09	164.72	542.37	2	0.92	2.8	2.8
Sweet Grass County	A3	RM 464.04	150961	10% - 10yr	926.1	1235.04	1231.48	2.23	1.5	26.41	11.57	118.42	486.02	3.06	1.32	3.56	3.56
Sweet Grass County	A3	RM 463.88	150174	10% - 10yr	926.1	1234.36	1231.85	3.24	2.59	64.82	32.94	136.95	443.24	1.93	0.98	2.51	2.51
Sweet Grass County	A3	RM 463.78	149616	10% - 10yr	926.1	1234.03	1230.54	2.66	2.17	42.2	27.74	149.51	428.79	2.18	1.43	3.49	3.49
Sweet Grass County	A3	RM 463.67	149069	10% - 10yr	926.1	1233.7	1230.86	2.72	2	44.25	27.07	136.34	481.43	2.14	1.31	2.84	2.84
Sweet Grass County	A3	RM 463.59	148630	10% - 10yr	926.1	1233.49	1230.39	2.51	1.8	35.57	20.97	136	706.4	2.46	1.45	3.1	3.1
Sweet Grass County	A3	RM 463.49	148111	10% - 10yr	926.1	1232.77	1229.73	3.58	2.95	77.39	38.36	119.69	664.5	2.08	1.03	3.04	3.04

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	10% - 10yr	926.1	1232.34	1229.72	2.47	1.85	38.52	21.21	179.1	1058.92	1.81	0.99	2.62	2.62
Sweet Grass County	A3	RM 463.20	146616	10% - 10yr	926.1	1231.93	1228.95	2.33	1.65	34.4	19.25	118.38	1383.06	1.85	1.02	2.98	2.98
Sweet Grass County	A3	RM 463.06	145881	10% - 10yr	926.1	1231.63	1228.89	1.93	1.14	23.88	12.93	147.76	1495.19	1.75	0.94	2.73	2.73
Sweet Grass County	A4	RM 462.79	144435	10% - 10yr	926.1	1231.47	1228.25	1.16	0.65	7.73	4.69	133.61	1418.54	2.51	1.5	3.22	3.22
Sweet Grass County	A4	RM 462.16	141146	10% - 10yr	926.1	1229.25	1226.15	3.16	2.15	59.62	24.6	106.85	518.92	2.19	0.89	3.09	3.09
Sweet Grass County	A4	RM 461.97	140135	10% - 10yr	926.1	1228.72	1226.06	2.38	1.45	35.12	18.95	120.82	731.63	1.92	1.03	2.67	2.67
Sweet Grass County	A4	RM 461.71	138705	10% - 10yr	926.1	1227.15	1224.75	3.68	3.08	89.1	62.07	100.18	317.17	1.61	1.11	2.4	2.4
Sweet Grass County	A4	RM 461.52	137683	10% - 10yr	926.1	1226.69	1222.31	2.23	1.7	25.41	10.7	83.02	370.89	3.62	1.47	4.38	4.38
Sweet Grass County	A4	RM 461.33	136718	10% - 10yr	926.1	1226.46	1223.38	2.01	1.53	23.79	13.09	124.34	641.9	2.25	1.24	3.08	3.08
Sweet Grass County	A4	RM 461.14	135736	10% - 10yr	926.1	1225.69	1222.44	3.05	2.37	52.9	18.72	116.81	468.07	2.49	0.87	3.25	3.25
Sweet Grass County	A4	RM 460.99	134951	10% - 10yr	926.1	1225.25	1221.98	2.84	2.29	45.53	19.72	121.6	365.84	2.56	1.11	3.27	3.27
Sweet Grass County	A4	RM 460.85	134214	10% - 10yr	926.1	1224.09	1222.07	4.02	3.92	100.21	78.82	134.12	175.03	1.72	1.35	2.03	2.03
Sweet Grass County	A4	RM 460.74	133616	10% - 10yr	926.1	1223.87	1220.27	2.62	2.5	37.05	23.01	121.01	205.72	2.91	1.8	3.6	3.6
Sweet Grass County	A4	RM 460.63	133067	10% - 10yr	926.1	1223.87	1218.9	1.9	1.87	16.95	12.3	104.84	148.91	4.63	3.33	4.98	4.98
Sweet Grass County	A4	RM 460.50	132281	10% - 10yr	926.1	1223.36	1221.12	3.14	2.62	63.12	36.55	150.73	377.24	1.73	1	2.24	2.24
Sweet Grass County	A4	RM 460.38	131785	10% - 10yr	926.1	1223.06	1220.5	2.52	2.12	37	18.03	138.87	488.55	1.84	0.9	2.56	2.56
Sweet Grass County	A4	RM 460.29	131287	10% - 10yr	926.1	1222.61	1219.97	2.74	2.63	47.08	31.55	134.09	285.12	1.85	1.23	2.64	2.64
Sweet Grass County	A4	RM 460.19	130793	10% - 10yr	926.1	1222.36	1219.38	2.5	2.21	36.57	23.49	118.05	320.62	2.27	1.46	2.98	2.98
Sweet Grass County	A4	RM 460.08	130210	10% - 10yr	926.1	1221.99	1218.23	2.65	2.6	39.24	31.05	131.76	170.44	2.64	2.09	3.76	3.76
Sweet Grass County	A4	RM 459.99	129763	10% - 10yr	926.1	1221.68	1218.01	2.96	2.89	46.84	33.29	104.54	156.81	2.99	2.12	3.66	3.66
Sweet Grass County	A4	RM 459.90	129246	10% - 10yr	926.1	1221.52	1217.62	2.66	2.54	36.93	25.04	106.75	240.46	3.24	2.19	3.9	3.9
Sweet Grass County	A4	RM 459.81	128792	10% - 10yr	926.1	1220.87	1218.15	3.73	3.68	79.43	66.91	99.73	165.39	2.48	2.09	2.72	2.72
Sweet Grass County	A4	RM 459.72	128310	10% - 10yr	1013.9	1220.76	1217.31	2.83	2.47	44.13	24.99	127.1	287.85	2.73	1.54	3.45	3.45
Sweet Grass County	A4	RM 459.62	127798	10% - 10yr	1013.9	1220.5	1217.46	2.84	2.44	46.3	27.48	128.42	291.18	2.4	1.43	3.03	3.03
Sweet Grass County	A5	RM 459.53	127324	10% - 10yr	1013.9	1219.85	1217.26	3.43	3.42	73	68.03	155.29	167.08	1.9	1.77	2.59	2.59
Sweet Grass County	A5	RM 459.44	126881	10% - 10yr	1013.9	1219.61	1216.93	2.71	2.67	44.68	39.31	183.68	212.04	2.03	1.79	2.68	2.68
Sweet Grass County	A5	RM 459.31	126192	10% - 10yr	1013.9	1219.2	1215.66	2.67	2.56	40.99	35.98	153.23	253.17	2.45	2.15	3.53	3.53
Sweet Grass County	A5	RM 459.24	125848	10% - 10yr	1013.9	1218.9	1215.69	2.95	2.83	50.74	41.76	145.56	396.79	2.34	1.92	3.21	3.21
Sweet Grass County	A5	RM 459.16	125420	10% - 10yr	1013.9	1218.31	1215.82	3.47	3.47	75.61	75.61	158.45	176.1	1.84	1.84	2.49	2.49
Sweet Grass County	A5	RM 459.02	124624	10% - 10yr	1013.9	1217.98	1214.8	2.31	2.27	31.55	26.07	200.55	333.12	2.19	1.81	3.18	3.18
Sweet Grass County	A5	RM 458.79	123371	10% - 10yr	1013.9	1217.14	1214.02	2.89	2.87	48.24	41.94	149.49	173.3	2.35	2.04	3.12	3.12
Sweet Grass County	A5	RM 458.48	121727	10% - 10yr	1013.9	1216.07	1213.35	2.55	2.44	41.65	38.55	156.32	272.32	1.74	1.61	2.72	2.72
Sweet Grass County	A5	RM 458.36	121100	10% - 10yr	1013.9	1214.98	1212.73	3.92	3.56	98.19	73.7	114.34	216.46	1.75	1.32	2.25	2.25
Sweet Grass County	A5	RM 458.25	120543	10% - 10yr	1013.9	1214.79	1211.35	2.47	2.1	33.92	22.85	122.03	269.33	2.67	1.79	3.44	3.44
Sweet Grass County	A5	RM 458.13	119849	10% - 10yr	1013.9	1214.44	1211.21	2.58	2.31	38.35	29.5	130.73	235.3	2.44	1.87	3.22	3.22
Sweet Grass County	A5	RM 458.03	119256	10% - 10yr	1013.9	1214.27	1210.09	2.27	2.08	26.5	18.95	122.33	200.69	3.4	2.42	4.18	4.18
Sweet Grass County	A5	RM 457.87	118444	10% - 10yr	1013.9	1214.04	1209.57	2.39	2.34	27.68	23.54	104.9	125.94	4.04	3.43	4.47	4.47
Sweet Grass County	A5	RM 457.76	117858	10% - 10yr	1013.9	1213.81	1210.24	2.59	2.57	36.51	32.87	137.04	153.62	2.85	2.57	3.57	3.57
Sweet Grass County	A5	RM 457.66	117350	10% - 10yr	1013.9	1213.54	1210.03	2.76	2.72	41.96	35.9	132.62	157.69	2.76	2.36	3.51	3.51
Sweet Grass County	A5	RM 457.54	116694	10% - 10yr	1013.9	1213.15	1209.93	2.91	2.8	47.37	35.78	131.05	183.29	2.64	1.99	3.22	3.22
Sweet Grass County	A5	RM 457.35	115703	10% - 10yr	1013.9	1211.84	1209.69	3.92	3.92	99.68	99.68	154.41	154.41	1.68	1.68	2.14	2.14
Sweet Grass County	A5	RM 457.20	114921	10% - 10yr	1013.9	1211.62	1208.7	2.25	2.25	29.45	29.45	195.89	195.89	2.3	2.3	2.91	2.91
Sweet Grass County	A5	RM 457.02	113974	10% - 10yr	1013.9	1210.88	1208.04	3.22	2.81	59.68	35.56	103.04	251.84	2.42	1.44	2.83	2.83
Sweet Grass County	A5	RM 456.84	113009	10% - 10yr	1013.9	1210.43	1206.55	2.68	2.64	37.85	31.01	120.59	149.61	3.13	2.56	3.88	3.88
Sweet Grass County	A5	RM 456.68	112164	10% - 10yr	1013.9	1209.72	1206.59	3.45	3.43	66.85	62.44	113.81	122.46	2.58	2.41	3.13	3.13
Sweet Grass County	A5	RM 456.55	111455	10% - 10yr	1013.9	1209.42	1206.19	2.76	2.75	42.77	41.12	141.2	147.5	2.6	2.5	3.23	3.23
Sweet Grass County	A5	RM 456.43	110857	10% - 10yr	1013.9	1209.16	1205.33	2.76	2.72	39.42	30.21	110.69	146.87	3.32	2.53	3.82	3.82
Sweet Grass County	A6	RM 456.29	110121	10% - 10yr	1013.9	1208.71	1205.45	3.11	3.03	49.32	38.43	118.61	156.78	2.74	2.13	3.25	3.25
Sweet Grass County	A6	RM 456.18	109508	10% - 10yr	1013.9	1208.29	1205.45	3.15	3.13	57.8	54.29	139.71	149.19	2.3	2.17	2.83	2.83
Sweet Grass County	A6	RM 456.03	108721	10% - 10yr	1013.9	1207.74	1204.59	2.84	2.8	49.3	43.01	176	205.47	2.02	1.76	3.15	3.15
Sweet Grass County	A6	RM 455.84	107742	10% - 10yr	1013.9	1207.29	1204.05	2.38	2.26	30.94	26.3	183.51	250.76	2.29	1.95	3.24	3.24
Sweet Grass County	A6	RM 455.70	106976	10% - 10yr	1013.9	1207.01	1203.14	2.37	2.37	28.55	27.51	141.61	259.01	3.02	2.9	3.88	3.88
Sweet Grass County	A6	RM 455.56	106256	10% - 10yr	1013.9	1206.57	1203.35	2.97	2.89	46.03	37.73	119.56	272.91	2.84	2.32	3.22	3.22
Sweet Grass County	A6	RM 455.39	105360	10% - 10yr	1013.9	1206.34	1202.74	2.3	2.17	28.7	20.81	151.06	312.34	2.87	2.08	3.6	3.6
Sweet Grass County	A6	RM 455.26	104667	10% - 10yr	1013.9	1205.25	1202.83	4.17	3.94	105.48	73.62	120.81	202.5	2	1.39	2.41	2.41
Sweet Grass County	A6	RM 455.09	103771	10% - 10yr	1013.9	1205.01	1201.58	2.19	2	26.18	18.6	158.2	251.6	2.85	2.02	3.43	3.43
Sweet Grass County	A6	RM 454.95	103072	10% - 10yr	1013.9	1204.37	1201.94	3.15	3.06	65.17	61.61	179.31	213.85	1.63	1.55	2.42	2.42
Sweet Grass County	A6	RM 454.82	102364	10% - 10yr	1013.9	1203.94	1200.61	2.4	2.3	35.37	32.61	178.18	236.2	2.03	1.86	3.33	3.33
Sweet Grass County	A6	RM 454.72	101863	10% - 10yr	1013.9	1203.36	1200.47	3.07	3.07	52.44	52.44	183.96	183.96	1.8	1.8	2.89	2.89
Sweet Grass County	A6	RM 454.64	101419	10% - 10yr	1013.9	1203.21	1199.69	2.45	2.45	33.44	33.44	177.52	177.52	2.33	2.33	3.51	3.51
Sweet Grass County	A6	RM 454.53	100846	10% - 10yr	1013.9	1202.77	1199.59	2.99	2.92	47.86	37.86	120.44	158.31	2.78	2.2	3.18	3.18

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	10% - 10yr	1013.9	1202.5	1199	2.97	2.87	47.92	38.13	115.19	151.95	2.91	2.32	3.51	3.51
Sweet Grass County	A6	RM 454.29	99597	10% - 10yr	1013.9	1202.19	1198.71	2.8	2.56	41.97	30.94	114.12	178.49	3.03	2.22	3.48	3.48
Sweet Grass County	A6	RM 454.15	98861	10% - 10yr	1013.9	1201.87	1198.68	2.73	2.68	39.29	32.34	136.64	170.06	2.71	2.22	3.19	3.19
Sweet Grass County	A6	RM 454.00	98105	10% - 10yr	1013.9	1201.46	1198.53	2.74	2.74	37.98	37.96	193.61	193.69	1.91	1.91	2.93	2.93
Sweet Grass County	A6	RM 453.89	97523	10% - 10yr	1013.9	1201.08	1198.31	2.79	2.72	43.55	41.14	178.07	196.49	2	1.9	2.77	2.77
Sweet Grass County	A6	RM 453.78	96929	10% - 10yr	1013.9	1200.93	1197.07	2.21	2.19	26.08	22.26	153.06	180.88	3	2.56	3.86	3.86
Sweet Grass County	A6	RM 453.67	96361	10% - 10yr	1013.9	1200.44	1197.77	3.06	2.83	54.06	34.48	151.58	262.98	2.13	1.36	2.68	2.68
Sweet Grass County	A6	RM 453.58	95863	10% - 10yr	1013.9	1200.41	1196.37	2.13	2.12	22.89	22.34	182.6	187.86	3.07	3	4.04	4.04
Sweet Grass County	A6	RM 453.48	95355	10% - 10yr	1013.9	1199.85	1196.86	3.34	3.32	60.87	56.14	118.04	128.82	2.57	2.37	2.98	2.98
Sweet Grass County	A6	RM 453.35	94633	10% - 10yr	1013.9	1199.32	1196.43	3.25	3.2	58.07	51.34	133.91	184.73	2.33	2.06	2.88	2.88
Sweet Grass County	A7	RM 453.23	93994	10% - 10yr	1013.9	1198.88	1196.41	3.08	2.86	53.53	47.99	112.66	199.39	1.99	1.78	2.46	2.46
Sweet Grass County	A7	RM 453.11	93361	10% - 10yr	1013.9	1198.63	1195.68	2.37	2.33	29.84	28.67	188.09	204.84	2.21	2.13	2.95	2.95
Sweet Grass County	A7	RM 453.01	92863	10% - 10yr	1013.9	1198.13	1195.38	3.14	3.01	53.1	47.87	147.71	180.73	2.07	1.86	2.75	2.75
Sweet Grass County	A7	RM 452.91	92363	10% - 10yr	1013.9	1197.97	1194.85	2.59	2.33	34.46	22.76	117.27	274.76	2.42	1.59	3.13	3.13
Sweet Grass County	A7	RM 452.82	91863	10% - 10yr	1013.9	1197.74	1194.65	2.54	2.4	36.26	32.77	111.14	181.15	2.58	2.33	3.09	3.09
Sweet Grass County	A7	RM 452.72	91363	10% - 10yr	1013.9	1197.68	1193.29	1.97	1.93	19.68	16.69	144.32	175.07	3.55	3.01	4.39	4.39
Sweet Grass County	A7	RM 452.64	90932	10% - 10yr	1013.9	1197.45	1194.02	2.56	2.15	35.62	24.57	133.5	279.09	2.81	1.94	3.42	3.42
Sweet Grass County	A7	RM 452.53	90362	10% - 10yr	1013.9	1196.98	1193.87	3.17	2.92	53.33	40.96	116.32	174.79	2.59	1.99	3.11	3.11
Sweet Grass County	A7	RM 452.43	89864	10% - 10yr	1013.9	1196.66	1193.52	3.17	2.93	53.56	40	110.51	171.03	2.71	2.02	3.14	3.14
Sweet Grass County	A7	RM 452.33	89331	10% - 10yr	1013.9	1196.37	1193.16	3	2.89	46.89	37	134.45	178.82	2.49	1.96	3.2	3.2
Sweet Grass County	A7	RM 452.25	88863	10% - 10yr	1013.9	1196.11	1192.91	2.92	2.84	45.15	37.4	138.6	172.97	2.49	2.06	3.2	3.2
Sweet Grass County	A7	RM 452.16	88399	10% - 10yr	1013.9	1195.79	1192.68	3.11	2.7	51.77	32.41	119.78	226.74	2.64	1.65	3.11	3.11
Sweet Grass County	A7	RM 452.06	87882	10% - 10yr	1013.9	1195.55	1192.4	2.87	2.51	44.79	30.24	120.11	211.15	2.84	1.91	3.15	3.15
Sweet Grass County	A7	RM 451.96	87394	10% - 10yr	1013.9	1195.23	1191.9	3.04	2.65	52.29	31.36	125.59	251.27	2.54	1.52	3.33	3.33
Sweet Grass County	A7	RM 451.86	86835	10% - 10yr	1013.9	1194.97	1191.79	2.84	2.36	41.89	27.07	121.84	244.18	2.73	1.76	3.18	3.18
Sweet Grass County	A7	RM 451.75	86230	10% - 10yr	1013.9	1194.69	1191.43	2.74	2.74	39.91	39.91	132.09	132.09	2.8	2.8	3.26	3.26
Sweet Grass County	A7	RM 451.61	85483	10% - 10yr	1013.9	1194.39	1190.7	2.58	2.58	37.37	37.28	151.35	151.63	2.6	2.59	3.68	3.68
Sweet Grass County	A7	RM 451.49	84861	10% - 10yr	1013.9	1193.79	1191.07	3.33	3.19	60.03	53.84	122.52	144.48	2.45	2.2	2.72	2.72
Sweet Grass County	A7	RM 451.34	84113	10% - 10yr	1013.9	1193.72	1190.06	2.11	2.1	23.52	20.7	150.96	173.29	3.17	2.79	3.66	3.66
Sweet Grass County	A7	RM 451.20	83363	10% - 10yr	1013.9	1193.1	1189.8	3.28	3.27	57.81	55.49	103.86	108.35	2.97	2.86	3.31	3.31
Sweet Grass County	A7	RM 451.10	82863	10% - 10yr	1013.9	1192.95	1189.79	2.76	2.75	41.73	38.73	133.83	144.88	2.74	2.54	3.16	3.16
Sweet Grass County	A7	RM 451.00	82325	10% - 10yr	1013.9	1192.76	1189.55	2.58	2.4	36.88	31.55	118.3	182.61	2.71	2.31	3.21	3.21
Sweet Grass County	A7	RM 450.86	81602	10% - 10yr	1013.9	1192.55	1188.29	2.15	1.94	46	27.26	90.13	218.21	4.17	2.4	4.26	4.26
Sweet Grass County	A7	RM 450.73	80923	10% - 10yr	1013.9	1191.61	1188.46	3.83	3.56	81.22	60.84	93.32	139.75	2.74	2.04	3.15	3.15
Sweet Grass County	A7	RM 450.63	80374	10% - 10yr	1013.9	1191.34	1188.16	3.08	3.05	54.09	49.99	133.04	145.66	2.47	2.28	3.18	3.18
Sweet Grass County	A7	RM 450.53	79863	10% - 10yr	1013.9	1191.1	1187.88	2.76	2.75	40.33	38.09	149.62	159.25	2.45	2.32	3.22	3.22
Sweet Grass County	A7	RM 450.43	79300	10% - 10yr	1013.9	1190.84	1187.72	2.7	2.53	37.85	32.75	131.58	199.28	2.33	2.01	3.12	3.12
Sweet Grass County	A7	RM 450.34	78849	10% - 10yr	1070.5	1190.52	1188.05	2.89	2.68	48.39	42.25	124.63	218.39	2.1	1.83	2.47	2.47
Sweet Grass County	A7	RM 450.23	78298	10% - 10yr	1070.5	1190.4	1186.92	2.03	1.95	21.76	13.89	203.19	334.78	2.58	1.64	3.48	3.48
Sweet Grass County	A7	RM 450.14	77822	10% - 10yr	1070.5	1190.11	1186.4	2.57	2.37	36.89	19.43	152.15	333.86	2.69	1.4	3.7	3.7
Sweet Grass County	A7	RM 450.05	77362	10% - 10yr	1070.5	1189.49	1187.2	3.5	3.41	72.78	50.66	139.26	210.32	2.19	1.52	2.3	2.3
Sweet Grass County	A7	RM 449.96	76841	10% - 10yr	1070.5	1189.27	1186.28	2.89	2.49	45.48	22.96	127.13	318.26	2.84	1.43	2.99	2.99
Sweet Grass County	A7	RM 449.86	76356	10% - 10yr	1070.5	1188.98	1185.58	3.05	2.59	48.81	22.36	108.14	303.71	3.17	1.44	3.4	3.4
Sweet Grass County	A7	RM 449.77	75860	10% - 10yr	1070.5	1188.67	1185.68	3.11	2.76	48.56	43.42	167.85	221.92	1.95	1.75	2.99	2.99
Sweet Grass County	A7	RM 449.68	75373	10% - 10yr	1070.5	1188.32	1185.9	2.78	2.62	49.39	43.27	216.29	266.78	1.75	1.53	2.42	2.42
Sweet Grass County	A7	RM 449.59	74904	10% - 10yr	1070.5	1188.22	1184.15	2.33	2.02	27.58	14.35	111.95	284.49	3.64	1.86	4.07	4.07
Sweet Grass County	A7	RM 449.48	74351	10% - 10yr	1070.5	1187.77	1184.86	3.24	2.8	63.63	40.59	119.03	289.01	2.08	1.32	2.91	2.91
Sweet Grass County	A7	RM 449.37	73741	10% - 10yr	1070.5	1187.64	1184.73	1.97	1.8	23.33	14.39	210.32	527.02	2.08	1.28	2.9	2.9
Sweet Grass County	A7	RM 449.26	73165	10% - 10yr	1070.5	1187.52	1184.33	1.91	1.19	18.7	8.87	128.66	839.36	2.62	1.23	3.19	3.19
Sweet Grass County	A7	RM 449.10	72364	10% - 10yr	1070.5	1186.72	1183.97	3.73	2	78.48	24.64	86.85	798.53	2.64	0.8	2.75	2.75
Sweet Grass County	A7	RM 449.00	71858	10% - 10yr	1070.5	1186.13	1183.97	3.66	2.44	84.54	41.6	113.44	487.37	1.86	0.9	2.16	2.16
Sweet Grass County	A7	RM 448.88	71223	10% - 10yr	1070.5	1185.65	1183.11	2.32	2.09	34.88	25.41	230.65	460.01	1.66	1.21	2.54	2.54
Sweet Grass County	A7	RM 448.76	70537	10% - 10yr	1070.5	1185.58	1182.01	1.28	1.24	10.37	9.92	312.64	487.2	1.85	1.77	3.56	3.56
Sweet Grass County	A7	RM 448.55	69424	10% - 10yr	1070.5	1185.32	1181.8	1.82	1.63	17.59	11.72	154.14	324.78	3.05	2.02	3.52	3.52
Sweet Grass County	A7	RM 448.41	68815	10% - 10yr	1070.5	1184.47	1181.16	3.83	3.72	64.97	52.73	108.05	139.22	2.57	2.07	3.3	3.3
Sweet Grass County	A7	RM 448.32	68353	10% - 10yr	1070.5	1184.48	1179.91	2.06	2.06	20.68	20.52	126.03	144.64	4.12	4.09	4.57	4.57
Sweet Grass County	A7	RM 448.23	67851	10% - 10yr	1070.5	1184.2	1179.82	2.63	2.63	33.95	33.95	103.76	107.75	3.93	3.93	4.38	4.38
Sweet Grass County	A7	RM 448.07	67043	10% - 10yr	1070.5	1183.83	1180.7	2.83	2.63	45.35	26.39	148.93	382.84	2.52	1.46	3.13	3.13
Sweet Grass County	A7	RM 447.94	66348	10% - 10yr	1070.5	1183.53	1180.22	2.72	2.1	39.33	14.31	123.91	462.76	3.04	1.1	3.32	3.32
Sweet Grass County	A7	RM 447.85	65863	10% - 10yr	1070.5	1183.08	1180.39	3.26	2.69	61.42	29.43	132.33	348.85	2.38	1.14	2.7	2.7
Sweet Grass County	A7	RM 447.75	65363	10% - 10yr	1070.5	1183.02	1179.55	2.4	1.97	28.34	12.11	143.24	421.4	3.03	1.29	3.47	3.47

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	10% - 10yr	1070.5	1182.71	1179.59	2.87	2.19	44.49	15.27	121.32	487.39	2.95	1	3.11	3.11
Sweet Grass County	A7	RM 447.56	64365	10% - 10yr	1070.5	1182.19	1179.67	3.46	2.52	71.86	32.27	136.45	450.51	2.11	0.94	2.52	2.52
Sweet Grass County	A7	RM 447.49	64001	10% - 10yr	1070.5	1182.07	1179.82	2.59	2.06	40.25	23.96	193.72	436.15	2	1.19	2.25	2.25
Sweet Grass County	A7	RM 447.39	63473	10% - 10yr	1070.5	1181.51	1178.85	3.51	2.42	68.56	26.15	91.4	492.81	2.37	0.9	2.66	2.66
Sweet Grass County	A7	RM 447.27	62880	10% - 10yr	1070.5	1181.15	1178.26	3.05	2.2	54.64	23.34	104.04	499.22	2.31	0.97	2.89	2.89
Sweet Grass County	A7	RM 447.17	62358	10% - 10yr	1070.5	1180.84	1177.92	2.84	1.84	47.73	22.49	111.94	558.94	2.23	1.04	2.92	2.92
Sweet Grass County	A7	RM 447.08	61863	10% - 10yr	1070.5	1180.41	1177.91	3.03	1.92	58.34	33.06	100.93	552.01	1.79	1.01	2.5	2.5
Sweet Grass County	A7	RM 446.98	61358	10% - 10yr	1070.5	1179.91	1177.28	3.12	2.03	54.35	23.13	95.19	538.09	2.31	0.98	2.63	2.63
Sweet Grass County	A7	RM 446.89	60841	10% - 10yr	1070.5	1179.5	1176.94	3.35	2.12	65.43	26.92	78.96	540.14	2.32	0.95	2.56	2.56
Sweet Grass County	A7	RM 446.80	60396	10% - 10yr	1070.5	1179.34	1175.92	2.57	1.75	36.99	18.23	95.65	611.2	2.63	1.28	3.42	3.42
Sweet Grass County	A7	RM 446.70	59903	10% - 10yr	1070.5	1179.03	1176.22	3.14	2.13	55.02	24.06	65.84	486.2	2.77	1.16	2.81	2.81
Sweet Grass County	A7	RM 446.60	59371	10% - 10yr	1070.5	1178.67	1175.91	3.15	2.22	53.97	23.54	77.01	474.17	2.5	1.07	2.76	2.76
Sweet Grass County	A7	RM 446.51	58868	10% - 10yr	1070.5	1178.47	1175.24	2.62	2.17	39.14	19.22	117.15	415.3	2.49	1.21	3.23	3.23
Sweet Grass County	A7	RM 446.41	58363	10% - 10yr	1070.5	1178.29	1174.39	2.3	1.96	27.69	17.29	147.08	340.87	2.66	1.67	3.9	3.9
Sweet Grass County	A7	RM 446.30	57762	10% - 10yr	1070.5	1177.93	1174.85	2.75	2.41	40.49	18.69	123.97	376.44	2.55	1.18	3.09	3.09
Sweet Grass County	A7	RM 446.22	57365	10% - 10yr	1070.5	1177.47	1174.39	3.3	3.27	60.25	52.91	128.94	148.85	2.51	2.2	3.07	3.07
Sweet Grass County	A7	RM 446.12	56852	10% - 10yr	1070.5	1177.21	1174.04	2.95	2.88	46.38	33.35	140.19	200.37	2.58	1.85	3.18	3.18
Sweet Grass County	A7	RM 446.02	56303	10% - 10yr	1070.5	1177.08	1173.3	2.63	2.04	34.82	13.11	98.05	387.72	3.7	1.35	3.78	3.78
Sweet Grass County	A7	RM 445.94	55871	10% - 10yr	1070.5	1176.32	1173.6	4.09	3.77	96.38	63	94.09	179.08	2.45	1.59	2.73	2.73
Sweet Grass County	A7	RM 445.82	55236	10% - 10yr	1070.5	1176.2	1173.05	2.36	2.23	33.4	26.58	208.52	284.07	2.13	1.69	3.15	3.15
Sweet Grass County	A7	RM 445.71	54753	10% - 10yr	1070.5	1176.04	1172.38	2.16	2.11	23.42	20.05	208.96	252.62	2.35	2.01	3.66	3.66
Sweet Grass County	A7	RM 445.60	54202	10% - 10yr	1070.5	1175.83	1172.32	2.28	2.19	26.98	21.15	188.77	253.43	2.47	1.93	3.51	3.51
Sweet Grass County	A7	RM 445.46	53453	10% - 10yr	1070.5	1175.29	1171.04	3.05	2.82	47.11	31.96	130.19	215.39	2.61	1.76	4.25	4.25
Sweet Grass County	A7	RM 445.36	52888	10% - 10yr	1070.5	1175.08	1170.25	2.82	2.32	42.19	25.15	105.08	266.46	3.13	1.85	4.83	4.83
Sweet Grass County	A7	RM 445.26	52344	10% - 10yr	1070.5	1174.47	1171.35	3.62	3.28	73.36	45.4	105.5	200.5	2.64	1.63	3.12	3.12
Sweet Grass County	A7	RM 445.17	51873	10% - 10yr	1070.5	1173.86	1171.83	3.84	3.63	91.04	72.89	135.78	189.37	1.95	1.56	2.02	2.02
Sweet Grass County	A7	RM 445.07	51376	10% - 10yr	1070.5	1173.89	1170.28	2.21	2.02	27.53	16.28	181.57	391.05	2.57	1.52	3.61	3.61
Sweet Grass County	A7	RM 444.97	50844	10% - 10yr	1070.5	1173.4	1170.19	3.03	2.94	49.62	31.41	147.84	243.11	2.38	1.5	3.21	3.21
Sweet Grass County	A7	RM 444.88	50352	10% - 10yr	1070.5	1173.12	1170.05	2.92	2.73	46.41	27	143.9	267.03	2.53	1.47	3.07	3.07
Sweet Grass County	A7	RM 444.79	49860	10% - 10yr	1070.5	1172.71	1169.94	3.22	2.78	59.41	36.17	131.46	259.9	2.43	1.48	2.77	2.77
Sweet Grass County	A7	RM 444.69	49316	10% - 10yr	1070.5	1172.43	1169.55	2.62	2.62	31.04	30.96	283.43	284.11	1.44	1.44	2.88	2.88
Sweet Grass County	A7	RM 444.60	48863	10% - 10yr	1070.5	1172.31	1167.23	2.49	2.1	28.96	11.28	87.57	314.68	4.75	1.78	5.08	5.08
Sweet Grass County	A7	RM 444.50	48367	10% - 10yr	1070.5	1172.24	1169.73	0.94	1.81	12.66	13.14	169.41	624.1	0.96	1	3.58	3.58
Sweet Grass County	A7	RM 444.41	47863	10% - 10yr	1070.5	1172.05	1168.6	2.24	1.75	25.94	10.65	129.86	628.53	2.89	1.18	3.46	3.46
Sweet Grass County	A7	RM 444.30	47336	10% - 10yr	1070.5	1171.99	1168.26	1.84	1.39	17.34	8.29	167.8	695.43	3.07	1.46	3.73	3.73
Sweet Grass County	A7	RM 444.20	46789	10% - 10yr	1070.5	1171.21	1167.97	3.74	3.24	78.64	36.91	106.17	366.91	2.62	1.22	3.24	3.24
Sweet Grass County	A7	RM 444.12	46346	10% - 10yr	1070.5	1170.87	1167.62	3.57	3.17	68.78	37.21	99.82	214.31	2.95	1.58	3.25	3.25
Sweet Grass County	A7	RM 444.02	45829	10% - 10yr	1070.5	1170.69	1167.57	2.92	2.7	42.33	27.58	143.97	241.77	2.52	1.64	3.13	3.13
Sweet Grass County	A7	RM 443.91	45243	10% - 10yr	1070.5	1170.39	1167.08	2.83	2.5	45.97	22.05	152.29	427.44	2.41	1.15	3.31	3.31
Sweet Grass County	A7	RM 443.84	44853	10% - 10yr	1070.5	1169.79	1167.23	3.51	3.43	78.99	57.09	173.9	258.44	1.75	1.26	2.56	2.56
Sweet Grass County	A7	RM 443.75	44415	10% - 10yr	1070.5	1169.59	1166.67	2.65	2.63	41.59	37.91	183.8	340.08	2.2	2	2.92	2.92
Sweet Grass County	A7	RM 443.64	43870	10% - 10yr	1070.5	1169.4	1166.09	2.51	1.88	35.33	14.62	110.6	831.69	2.64	1.08	3.31	3.31
Sweet Grass County	A7	RM 443.53	43290	10% - 10yr	1070.5	1169.24	1165.72	2.37	1.92	29.4	13.51	87.59	770.33	3.23	1.46	3.52	3.52
Sweet Grass County	A8	RM 443.45	42860	10% - 10yr	1070.5	1168.79	1165.25	3.04	2.95	49.81	30.76	136.96	549.44	2.57	1.58	3.54	3.54
Sweet Grass County	A8	RM 443.35	42363	10% - 10yr	1070.5	1168.08	1164.95	3.91	3.62	86.37	58.18	101.62	390.44	2.59	1.73	3.13	3.13
Sweet Grass County	A8	RM 443.25	41863	10% - 10yr	1070.5	1167.96	1165.05	2.86	2.46	46.38	26.76	127.8	467.89	2.52	1.45	2.92	2.92
Sweet Grass County	A8	RM 443.16	41342	10% - 10yr	1070.5	1167.71	1165.43	2.6	2.01	41.99	25.66	152.61	587.74	1.91	1.17	2.28	2.28
Sweet Grass County	A8	RM 443.07	40863	10% - 10yr	1070.5	1167.3	1164.49	2.85	2.01	49.43	22.98	139	699.68	2.03	0.94	2.81	2.81
Sweet Grass County	A8	RM 442.97	40345	10% - 10yr	1070.5	1167.02	1164.28	2.48	1.76	33.94	21.96	161.15	559.97	1.96	1.27	2.74	2.74
Sweet Grass County	A8	RM 442.88	39863	10% - 10yr	1070.5	1166.82	1164.06	2.11	1.69	26.53	18.82	177.36	612.54	1.89	1.34	2.77	2.77
Sweet Grass County	A8	RM 442.78	39363	10% - 10yr	1070.5	1166.06	1164.18	3.47	3.08	81.27	53.04	133.62	450.38	1.47	0.97	2.21	2.21
Sweet Grass County	A8	RM 442.68	38840	10% - 10yr	1070.5	1165.71	1162.8	2.59	2.01	33.41	18.46	117.57	486.76	2.09	1.15	2.91	2.91
Sweet Grass County	A8	RM 442.60	38390	10% - 10yr	1070.5	1165.66	1162.57	1.72	1.46	17.31	11.11	157.4	505	2.27	1.46	3.09	3.09
Sweet Grass County	A8	RM 442.50	37863	10% - 10yr	1070.5	1165.26	1162.29	2.92	2.18	41.86	19.5	100.6	464.78	2.28	1.06	2.98	2.98
Sweet Grass County	A8	RM 442.42	37461	10% - 10yr	1070.5	1165	1162.07	2.97	2.27	41.1	22.81	121.06	437.67	1.95	1.08	2.94	2.94
Sweet Grass County	A8	RM 442.32	36914	10% - 10yr	1070.5	1164.69	1161.85	2.85	2.22	47.81	26.1	107.03	410.75	2.27	1.24	2.84	2.84
Sweet Grass County	A8	RM 442.24	36451	10% - 10yr	1070.5	1164.42	1161.75	2.66	2.37	37.58	25.85	125.32	349.93	1.96	1.34	2.67	2.67
Sweet Grass County	A8	RM 442.12	35820	10% - 10yr	1070.5	1164.14	1161.12	2.57	2.18	33.18	20.33	122.94	391.84	2.19	1.34	3.02	3.02
Sweet Grass County	A8	RM 442.03	35367	10% - 10yr	1070.5	1163.87	1161.18	2.63	2.29	41.77	24.83	123.16	403.5	2.07	1.23	2.69	2.69
Sweet Grass County	A8	RM 441.95	34945	10% - 10yr	1070.5	1163.8	1160.28	2.01	1.58	22.62	11.55	133.85	604.88	2.64	1.32	3.52	3.52
Sweet Grass County	A8	RM 441.84	34360	10% - 10yr	1070.5	1163.33	1160.33	2.81	2.2	40.93	21.11	186.27	499.28	1.89	0.98	3	3

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

10% - 10yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	10% - 10yr	1070.5	1163	1160.06	2.8	2.14	42.22	21.92	171.23	467.15	2.06	1.07	2.94	2.94
Sweet Grass County	A8	RM 441.65	33357	10% - 10yr	1070.5	1162.88	1159.78	2.19	1.54	26.16	10.66	173.66	768.96	2.52	1.02	3.1	3.1
Sweet Grass County	A8	RM 441.53	32732	10% - 10yr	1070.5	1162.48	1159.44	2.73	1.92	43.3	17.02	152.04	609.7	2.36	0.92	3.03	3.03
Sweet Grass County	A8	RM 441.47	32366	10% - 10yr	1070.5	1162.36	1158.95	2.46	1.61	33.17	12.6	138.98	708.96	2.77	1.05	3.41	3.41
Sweet Grass County	A8	RM 441.38	31928	10% - 10yr	1070.5	1162.39	1158.24	1.61	1.02	13.67	6.89	153.74	938.12	3.07	1.54	4.15	4.15
Sweet Grass County	A8	RM 441.27	31350	10% - 10yr	1070.5	1161.82	1158.76	3.38	2.3	64.9	19.8	97.16	781.11	2.53	0.76	3.07	3.07
Sweet Grass County	A8	RM 441.18	30882	10% - 10yr	1070.5	1161.65	1158.5	2.45	1.53	31.81	10.7	125.73	958.71	2.53	0.85	3.15	3.15
Sweet Grass County	A8	RM 441.07	30295	10% - 10yr	1070.5	1161.51	1158.19	2.11	1.37	24.88	9.2	149.54	951.35	2.62	0.96	3.32	3.32
Sweet Grass County	A8	RM 441.00	29913	10% - 10yr	1070.5	1161.43	1157.63	1.98	1.27	21.89	8.87	146.59	938.47	2.64	1.06	3.8	3.8
Sweet Grass County	A8	RM 440.80	28852	10% - 10yr	1070.5	1160.38	1157.49	3.88	3.28	81.58	33.83	103.86	324.52	2.43	1.01	2.89	2.89
Sweet Grass County	A8	RM 440.60	27841	10% - 10yr	1070.5	1159.61	1157.2	3.09	2.5	57.94	28.37	121.05	449.81	2.03	1	2.4	2.4
Sweet Grass County	A8	RM 440.51	27361	10% - 10yr	1070.5	1159.09	1156.41	3.27	2.6	64.36	39.11	109.89	321.04	2.13	1.29	2.68	2.68
Sweet Grass County	A8	RM 440.42	26862	10% - 10yr	1070.5	1158.54	1156.26	3.47	2.77	74.36	42.12	88.83	349.14	1.96	1.11	2.28	2.28
Sweet Grass County	A8	RM 440.30	26223	10% - 10yr	1070.5	1158.46	1155.63	1.82	1.43	19.73	13	97.18	541.16	2.19	1.43	2.83	2.83
Sweet Grass County	A8	RM 440.17	25466	10% - 10yr	1070.5	1158.22	1154.7	2.36	1.69	30.24	16.5	64.56	403.53	2.98	1.57	3.52	3.52
Sweet Grass County	A8	RM 440.06	24863	10% - 10yr	1070.5	1157.96	1153.97	2.31	1.92	28.58	16.86	130.58	313.37	3.03	1.78	3.99	3.99
Sweet Grass County	A8	RM 439.96	24366	10% - 10yr	1070.5	1157.7	1154.18	2.78	2.23	40.5	19.99	95.94	365.89	3.17	1.56	3.51	3.51
Sweet Grass County	A8	RM 439.87	23863	10% - 10yr	1070.5	1157.44	1153.59	2.83	2.18	39.29	14.15	103.39	396.19	3.47	1.24	3.85	3.85
Sweet Grass County	A8	RM 439.77	23365	10% - 10yr	1070.5	1157.24	1153.6	2.81	2.36	39.88	10.54	124.68	673.3	2.94	0.77	3.65	3.65
Sweet Grass County	A8	RM 439.68	22863	10% - 10yr	1070.5	1156.88	1153.45	3.1	2.95	47.94	15.74	134.99	437.48	2.55	0.83	3.44	3.44
Sweet Grass County	A8	RM 439.58	22363	10% - 10yr	1070.5	1156.82	1153.39	2.37	1.63	29.42	7.33	150.28	955.95	2.77	0.69	3.43	3.43
Sweet Grass County	A8	RM 439.49	21863	10% - 10yr	1070.5	1156.7	1152.86	2.29	1.47	26.6	6.95	116.13	791.18	3.56	0.92	3.84	3.84
Sweet Grass County	A8	RM 439.39	21363	10% - 10yr	1070.5	1156.59	1153.06	2.25	1.46	26.53	8.32	131.98	774.66	3.09	0.95	3.53	3.53
Sweet Grass County	A8	RM 439.30	20863	10% - 10yr	1070.5	1156.25	1152.92	2.88	1.9	43.62	11.95	110.38	702.41	2.96	0.8	3.33	3.33
Sweet Grass County	A8	RM 439.20	20353	10% - 10yr	1070.5	1155.39	1152.64	4.06	3.95	88.7	64.66	111.19	158.33	2.35	1.71	2.75	2.75
Sweet Grass County	A8	RM 439.11	19864	10% - 10yr	1070.5	1155.44	1152.34	2.64	2.05	38.02	13.55	98.01	568.63	2.83	1	3.1	3.1
Sweet Grass County	A8	RM 439.01	19360	10% - 10yr	1070.5	1154.79	1152.4	3.53	3.16	69.96	34.38	125.41	358.73	1.93	0.95	2.38	2.38
Sweet Grass County	A8	RM 438.91	18848	10% - 10yr	1070.5	1154.59	1151.92	2.7	2.22	39.74	20.64	121.85	413.59	2.24	1.16	2.68	2.68
Sweet Grass County	A8	RM 438.82	18363	10% - 10yr	1070.5	1154.32	1151.23	2.7	2.26	41.99	22.1	118.12	385.28	2.4	1.26	3.09	3.09
Sweet Grass County	A8	RM 438.73	17853	10% - 10yr	1070.5	1153.96	1151.37	2.87	2.4	44.27	26.97	124.01	383.46	1.91	1.16	2.58	2.58
Sweet Grass County	A8	RM 438.63	17363	10% - 10yr	1070.5	1153.83	1150.74	2.24	1.81	28.02	18.3	100.37	342.35	2.65	1.73	3.09	3.09
Sweet Grass County	A8	RM 438.54	16863	10% - 10yr	1070.5	1153.7	1150.59	2.16	1.85	25.37	19.04	104.55	268.07	2.91	2.16	3.11	3.11
Sweet Grass County	A8	RM 438.43	16307	10% - 10yr	1070.5	1153.49	1149.52	2.19	2.19	25.81	25.66	164.18	228.09	2.98	2.96	3.97	3.97
Sweet Grass County	A9	RM 438.36	15889	10% - 10yr	1070.5	1153.37	1149.4	2.22	2.17	22.41	20.55	187.56	210.3	2.55	2.34	3.97	3.97
Sweet Grass County	A9	RM 438.26	15363	10% - 10yr	1070.5	1152.81	1149.84	3.38	2.97	62.22	35.91	115.23	243.82	2.56	1.48	2.97	2.97
Sweet Grass County	A9	RM 438.16	14863	10% - 10yr	1070.5	1152.58	1149.31	3.01	2.34	46.68	17.87	121.54	432.65	2.78	1.06	3.26	3.26
Sweet Grass County	A9	RM 438.07	14394	10% - 10yr	1070.5	1152.29	1149.19	3.08	2.25	54.12	21.24	128.55	489.15	2.49	0.97	3.09	3.09
Sweet Grass County	A9	RM 437.96	13827	10% - 10yr	1070.5	1152.06	1149.19	2.78	1.85	41.95	15.01	119.75	696.96	2.33	0.83	2.86	2.86
Sweet Grass County	A9	RM 437.88	13363	10% - 10yr	1070.5	1151.83	1148.94	2.83	1.84	42.04	15.79	106.63	687.07	2.32	0.86	2.89	2.89
Sweet Grass County	A9	RM 437.78	12844	10% - 10yr	1070.5	1151.52	1148.72	2.96	1.96	47.69	19.16	99.7	618.37	2.37	0.94	2.8	2.8
Sweet Grass County	A9	RM 437.69	12354	10% - 10yr	1070.5	1151.37	1148.45	2.19	1.62	28.75	15.31	147.02	598.83	2.13	1.13	2.92	2.92
Sweet Grass County	A9	RM 437.59	11863	10% - 10yr	1070.5	1151.07	1148.76	2.46	1.89	39.26	19.51	151.09	679.93	1.68	0.83	2.66	2.66
Sweet Grass County	A9	RM 437.50	11362	10% - 10yr	1070.5	1150.84	1148.29	2.12	1.68	28.16	15.41	189.36	630.04	1.85	1.01	2.55	2.55
Sweet Grass County	A9	RM 437.41	10902	10% - 10yr	1070.5	1150.56	1148.26	2.38	1.85	36.58	19.33	175.96	639.18	1.71	0.9	2.3	2.3
Sweet Grass County	A9	RM 437.31	10361	10% - 10yr	1070.5	1150.17	1147.37	2.63	1.89	42.44	19.8	148.1	609.8	1.98	0.93	2.79	2.79
Sweet Grass County	A9	RM 437.20	9764	10% - 10yr	1070.5	1149.82	1147.02	2.71	1.82	38.5	16.53	110.89	632.06	2.17	0.93	2.81	2.81
Sweet Grass County	A9	RM 437.08	9128	10% - 10yr	1070.5	1149.4	1146.9	2.62	2.08	40.15	20.98	189.62	557.91	1.77	0.92	2.49	2.49
Sweet Grass County	A9	RM 436.95	8363	10% - 10yr	1070.5	1149.2	1145.32	2.25	1.45	19.8	9.55	106.12	644.19	2.47	1.16	3.88	3.88
Sweet Grass County	A9	RM 436.83	7805	10% - 10yr	1070.5	1149.07	1145.93	1.68	1.34	18.05	10.99	154.6	760.21	1.73	1.05	3.14	3.14
Sweet Grass County	A9	RM 436.75	6857	10% - 10yr	1070.5	1148.54	1145.61	3.16	1.74	58.17	17.96	67.41	854.31	2.36	0.72	2.92	2.92
Sweet Grass County	A9	RM 436.66	6193	10% - 10yr	1070.5	1148.06	1145.68	2.88	1.84	49.94	17.98	97.51	794.82	2.03	0.73	2.38	2.38
Sweet Grass County	A9	RM 436.56	5280	10% - 10yr	1070.5	1147.58	1144.44	3.13	1.83	43.34	16.06	64.9	688.27	2.43	0.85	3.14	3.14
Sweet Grass County	A9	RM 436.40	4576	10% - 10yr	1070.5	1147.36	1144.05	2.53	1.57	35.31	12.81	57.78	697.62	2.9	1	3.32	3.32
Sweet Grass County	A9	RM 436.29	3787	10% - 10yr	1070.5	1146.92	1144.44	2.76	2.05	46.45	22.63	99.03	556.85	2.04	0.98	2.48	2.48
Sweet Grass County	A9	RM 436.16	3087	10% - 10yr	1070.5	1146.18	1143.57	3.18	2.59	61.66	31.62	107.65	536.31	2	1.02	2.61	2.61
Sweet Grass County	A9	RM 436.07	2676	10% - 10yr	1070.5	1145.96	1143.09	2.7	2.12	39.5	23.93	102.06	782.3	2.03	1.22	2.87	2.87
Sweet Grass County	A9	RM 435.98	2200	10% - 10yr	1070.5	1145.63	1142.85	2.89	2.14	50.28	22.92	75.72	782.68	2.14	0.95	2.78	2.78
Sweet Grass County	A9	RM 435.88	1580	10% - 10yr	1070.5	1145.2	1142.56	2.37	2.1	37.77	25.51	83.99	652	1.5	1	2.64	2.64
Sweet Grass County	A9	RM 435.73	890	10% - 10yr	1070.5	1144.88	1141.99	2.18	1.82	28.4	17.07	79.5	553.71	2.21	1.3	2.89	2.89
Sweet Grass County	A9	RM 435.62	104	10% - 10yr	1070.5	1144.37	1141.54	2.73	2.19	46.04	32.98	128.14	415.62	1.96	1.4	2.83	2.83

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	10-yr	1262.93	1012.51	1008.74	2.33	1.64	31.75	13.29	208.68	803.26	2.29	0.96	3.77	3.77
Yellowstone County	A17	RM 391.14	149661.4	10-yr	1262.93	1012.09	1007.82	2.36	1.54	40.09	19.09	204.17	768.86	2.25	1.07	4.27	4.27
Yellowstone County	A17	RM 390.83	149168.3	10-yr	1262.93	1010.99	1007.89	2.53	2.09	43.99	27.17	256.9	620.89	1.68	1.04	3.09	3.09
Yellowstone County	A17	RM 390.51	148644.1	10-yr	1262.93	1010.23	1006	1.72	1.4	26.17	9.11	202.63	1026.96	2.53	0.88	4.23	4.23
Yellowstone County	A17	RM 390.34	148387.5	10-yr	1262.93	1009.82	1005.26	2.35	1.83	45.93	18.77	155.16	652.29	2.6	1.06	4.56	4.56
Yellowstone County	A17	RM 390.13	148054.9	10-yr	1262.93	1009.15	1005.54	2.72	2.16	51.56	22.36	144.15	519.63	2.6	1.13	3.61	3.61
Yellowstone County	A17	RM 389.96	147776.4	10-yr	1262.93	1008.81	1004.81	2.12	1.76	29.25	12.99	175.38	699.82	2.32	1.03	4	4
Yellowstone County	A17	RM 389.76	147468.2	10-yr	1262.93	1008.57	1004.52	1.52	1.26	19.98	9.53	299.18	823.42	2.55	1.21	4.05	4.05
Yellowstone County	A17	RM 389.55	147162.3	10-yr	1262.93	1008.07	1003.2	1.98	1.7	49.69	28.1	319.61	703.29	1.88	1.06	4.87	4.87
Yellowstone County	A17	RM 389.31	146731.1	10-yr	1262.93	1007.34	1003.49	2.03	1.86	25.81	14.32	256.17	514.73	2.39	1.32	3.85	3.85
Yellowstone County	A17	RM 389.08	146349	10-yr	1262.93	1006.78	1001.61	1.83	1.64	46.29	33.29	305.41	561.87	1.91	1.37	5.17	5.17
Yellowstone County	A17	RM 388.92	146095.5	10-yr	1262.93	1006.35	1002.49	1.95	1.68	23.09	15.87	266.6	565.45	2.24	1.53	3.86	3.86
Yellowstone County	A17	RM 388.79	145883.6	10-yr	1262.93	1006.13	1002.14	2.13	1.51	25.85	10.78	163.47	975.07	3.2	1.32	3.99	3.99
Yellowstone County	A17	RM 388.61	145594.9	10-yr	1262.93	1005.61	1000.48	2.79	2.07	56.95	28.31	141.12	969.73	2.71	1.34	5.13	5.13
Yellowstone County	A17	RM 388.58	145547	10-yr	1262.93	1005.52	1000.28	2.53	1.98	59.58	29.49	153.19	1094.28	2.75	1.35	5.24	5.24
Yellowstone County	A17	RM 388.36	145196.7	10-yr	1262.93	1004.9	1001.21	2.57	1.94	42.34	17.74	159.62	703.33	2.59	1.08	3.69	3.69
Yellowstone County	A17	RM 388.22	144960.1	10-yr	1262.93	1004.4	1000.23	2.83	2.02	53.95	24.66	161.59	730.19	1.91	0.87	4.16	4.16
Yellowstone County	A17	RM 388.09	144745.8	10-yr	1262.93	1003.85	999.87	2.43	1.91	41.72	24.89	230.17	721.6	1.58	0.94	3.98	3.98
Yellowstone County	A17	RM 387.91	144452	10-yr	1262.93	1003.22	999.77	1.55	1.71	23.26	20.5	373.34	706.55	1.28	1.13	3.45	3.45
Yellowstone County	A17	RM 387.79	144255.2	10-yr	1262.93	1003.12	999.17	1.21	1.18	6.46	6.73	520.6	887.95	1.45	1.51	3.94	3.94
Yellowstone County	A17	RM 387.59	143932.9	10-yr	1262.93	1002.82	998.1	1.17	1.17	37.22	37.22	947.41	1053.9	1.14	1.14	4.72	4.72
Yellowstone County	A17	RM 387.36	143562.1	10-yr	1262.93	1001.76	997.78	2.01	2.01	20.06	19.97	578.69	624.64	1.09	1.08	3.98	3.98
Yellowstone County	A17	RM 387.24	143353.9	10-yr	1262.93	1001.43	997.71	1.93	1.93	20.06	20.06	444.06	449.17	1.47	1.47	3.72	3.72
Yellowstone County	A17	RM 387.04	143026.2	10-yr	1262.93	1000.85	996.49	2.12	2.05	25.59	22.6	447.17	588.75	1.3	1.14	4.36	4.36
Yellowstone County	A17	RM 386.86	142750.4	10-yr	1262.93	1000.28	997.01	1.79	1.68	41.34	30.53	392.67	645.38	1.73	1.28	3.27	3.27
Yellowstone County	A17	RM 386.74	142538.5	10-yr	1262.93	999.85	996.31	1.86	1.78	29.21	23.69	349.7	487.22	1.83	1.49	3.54	3.54
Yellowstone County	A17	RM 386.61	142318.4	10-yr	1262.93	999.26	995.9	2.66	2.47	46.96	30.77	185.03	338.84	2.3	1.51	3.36	3.36
Yellowstone County	A17	RM 386.47	142095.8	10-yr	1262.93	998.9	995.18	2.49	2.05	38.21	21.43	167.52	544.95	2.45	1.38	3.72	3.72
Yellowstone County	A17	RM 386.33	141875.1	10-yr	1262.93	998.43	994.36	2.83	2.14	44.11	24.3	161.08	462.62	2.31	1.28	4.07	4.07
Yellowstone County	A17	RM 386.17	141622.7	10-yr	1262.93	997.89	993.9	2.71	2.42	49.07	32.06	195.1	372.73	2.14	1.4	3.99	3.99
Yellowstone County	A17	RM 386.08	141479.6	10-yr	1262.93	997.52	994.12	2.77	2.44	60.72	36.05	176.55	1189.1	2.35	1.39	3.4	3.4
Yellowstone County	A17	RM 386.03	141389.2	10-yr	1262.93	997.27	993.82	2.79	2.56	48.3	35.59	208.91	1106.29	2.01	1.48	3.45	3.45
Yellowstone County	A17	RM 385.96	141289.2	10-yr	1262.93	997.23	993.01	2.13	1.99	24.84	17.88	227.21	1465.22	2.5	1.8	4.22	4.22
Yellowstone County	A17	RM 385.91	141204.9	10-yr	1262.93	997.16	992.33	1.98	1.91	21.64	18.04	257.64	1434.88	2.32	1.94	4.83	4.83
Yellowstone County	A17	RM 385.84	141096	10-yr	1262.93	997.2	990.57	1.15	1.15	9.44	8.68	341.57	1556.1	3.2	2.94	6.63	6.63
Yellowstone County	A17	RM 385.79	141006	10-yr	1262.93	996.86	992.48	2.56	2.5	31.17	21.6	157.67	1620.11	3.12	2.16	4.38	4.38
Yellowstone County	A18	RM 385.69	140846.5	10-yr	1262.93	996.66	992.9	2.49	2.23	44.63	25.47	208.73	1716.06	2.37	1.35	3.76	3.76
Yellowstone County	A18	RM 385.60	140705.5	10-yr	1262.93	996.31	992.71	2.65	2.39	55.2	34.03	201.38	1522.52	2.3	1.41	3.6	3.6
Yellowstone County	A18	RM 385.50	140538.8	10-yr	1262.93	996.05	990.71	2.58	2.29	35	15.76	152.15	1651.45	3.16	1.42	5.34	5.34
Yellowstone County	A18	RM 385.39	140367.1	10-yr	1262.93	995.83	992.41	2.58	2.27	34.87	19.91	202.91	1567.94	2.34	1.34	3.42	3.42
Yellowstone County	A18	RM 385.30	140231.3	10-yr	1262.93	995.51	992.53	2.71	2.48	60.34	38.16	239.35	422.94	1.91	1.2	2.98	2.98
Yellowstone County	A18	RM 385.23	140108.3	10-yr	1262.93	995.26	992.01	2.29	2.05	43.28	31.43	226.89	1454.69	1.93	1.4	3.25	3.25
Yellowstone County	A18	RM 385.12	139921.2	10-yr	1262.93	994.45	991.37	3.02	2.94	66.66	55.07	216.26	544.72	1.56	1.29	3.08	3.08
Yellowstone County	A18	RM 384.93	139688.7	10-yr	1262.93	994.12	991.06	2.1	1.92	25.66	19.66	234.6	556.44	1.93	1.48	3.06	3.06
Yellowstone County	A18	RM 384.75	139352.1	10-yr	1262.93	992.99	989.77	3.73	3.04	105.39	58.58	115.24	432.78	2.08	1.15	3.22	3.22
Yellowstone County	A18	RM 384.63	139146.9	10-yr	1262.93	992.66	989.58	1.88	1.71	25.14	21.44	182.97	809.42	1.46	1.25	3.08	3.08
Yellowstone County	A18	RM 384.48	138904.5	10-yr	1262.93	992.3	989.55	1.64	1.75	20.97	20.05	178.98	504.84	1.78	1.7	2.95	2.95
Yellowstone County	A18	RM 384.34	138682.4	10-yr	1262.93	991.99	988.23	1.82	1.85	38.75	19.35	163.62	958.2	2.41	1.2	3.76	3.76
Yellowstone County	A18	RM 384.26	138551.1	10-yr	1262.93	991.66	987.34	2.96	2	41.17	19.18	103.93	722.93	2.47	1.14	4.32	4.32
Yellowstone County	A18	RM 384.15	138370.3	10-yr	1262.93	990.93	987.39	3.73	3.13	104.83	49.13	78.15	406.05	2.52	1.17	3.54	3.54
Yellowstone County	A18	RM 384.06	138235.3	10-yr	1262.93	990.78	987.31	2.77	1.89	46.69	24.47	84.65	708.83	2.45	1.27	3.47	3.47
Yellowstone County	A18	RM 383.96	138072.3	10-yr	1262.93	990.35	987.67	2.51	2.25	45.01	35.99	137.81	610.53	1.42	1.13	2.68	2.68
Yellowstone County	A18	RM 383.86	137914.6	10-yr	1262.93	990.15	987.24	1.85	1.71	20.83	16.75	155.98	583.98	1.99	1.6	2.91	2.91
Yellowstone County	A18	RM 383.75	137749.9	10-yr	1262.93	989.89	986.55	1.71	1.89	23.05	19.22	205.53	653.91	1.53	1.27	3.41	3.41
Yellowstone County	A18	RM 383.62	137544.5	10-yr	1262.93	989.68	986.32	1.63	1.51	17.01	11.85	175.76	831.24	1.8	1.25	4.06	4.06
Yellowstone County	A18	RM 383.54	137415.7	10-yr	1262.93	989.6	984.41	1.46	1.31	12.85	9.36	392.45	813.99	2.09	1.52	5.19	5.19
Yellowstone County	B1	RM 383.39	137175.7	10-yr	1659.37	989.15	984.98	2.41	2.38	23.74	20.91	453.58	523.09	1.51	1.33	4.17	4.17
Yellowstone County	B1	RM 383.31	137040.5	10-yr	1659.37	988.98	984.86	2.14	1.88	22.03	18.49	532.63	753.24	1.4	1.17	4.12	4.12
Yellowstone County	B1	RM 383.16	136817.2	10-yr	1659.37	988.75	984.9	1.7	1.46	12.53	12.07	754.28	967.8	1.22	1.17	3.85	3.85
Yellowstone County	B1	RM 382.88	136371.1	10-yr	1659.37	988.29	983.64	1.71	1.53	15.69	13.88	612.79	832.28	1.48	1.31	4.65	4.65
Yellowstone County	B1	RM 382.61	135921.1	10-yr	1659.37	987.73	982.68	2.33	1.82	30.08	13.29	196.01	619.1	3.33	1.47	5.05	5.05

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	10-yr	1659.37	987.34	981.56	2.89	1.95	43.48	13	132.7	767.36	3.73	1.11	5.78	5.78
Yellowstone County	B1	RM 382.28	135389.1	10-yr	1659.37	987.19	981.45	2.32	1.57	30.49	10.34	139.32	772.64	4.06	1.37	5.74	5.74
Yellowstone County	B1	RM 382.11	135122	10-yr	1659.37	986.69	980.52	3.03	2.18	52.81	16.25	133.03	655.92	3.79	1.16	6.17	6.17
Yellowstone County	B1	RM 381.93	134829.3	10-yr	1659.37	986.28	981.3	2.63	2.34	63.32	23.69	182.96	574.18	3.31	1.24	4.98	4.98
Yellowstone County	B1	RM 381.79	134602.8	10-yr	1659.37	985.84	981.63	2.86	2.45	46.72	17.47	167.24	545.07	3.34	1.24	4.21	4.21
Yellowstone County	B1	RM 381.69	134426.2	10-yr	1659.37	985.78	981.06	2.1	1.79	28.35	13.11	207.55	555.79	3.61	1.66	4.72	4.72
Yellowstone County	B1	RM 381.58	134232.5	10-yr	1659.37	985.63	981.02	2.01	1.76	24.64	14.99	271.39	533.99	2.9	1.76	4.61	4.61
Yellowstone County	B1	RM 381.47	134047.3	10-yr	1659.37	985.44	980.95	1.81	1.65	42.82	24.77	333.31	670.72	2.6	1.5	4.49	4.49
Yellowstone County	B1	RM 381.35	133871.9	10-yr	1659.37	985.12	980.79	1.78	1.66	47.89	32.66	364.73	622.61	2.43	1.66	4.33	4.33
Yellowstone County	B1	RM 381.22	133659.2	10-yr	1659.37	984.54	979.74	1.95	1.94	64.37	61.48	430.29	453.37	1.98	1.89	4.8	4.8
Yellowstone County	B1	RM 381.11	133491.4	10-yr	1659.37	983.95	979.61	2.18	2.11	65.22	43.26	266.94	529.32	2.24	1.49	4.34	4.34
Yellowstone County	B1	RM 381.00	133302.9	10-yr	1659.37	983.27	978.23	3.06	2.74	51.45	30.05	184.29	406.43	2.55	1.49	5.04	5.04
Yellowstone County	B1	RM 380.92	133180	10-yr	1659.37	983.13	976.97	2.74	2.25	48.62	21.8	151.3	495.68	3.33	1.49	6.16	6.16
Yellowstone County	B1	RM 380.81	132986.3	10-yr	1659.37	982.77	978.55	2.82	2.31	47.23	21.55	192.37	587.03	2.7	1.23	4.22	4.22
Yellowstone County	B1	RM 380.69	132800.2	10-yr	1659.37	982.59	978.53	2.28	1.8	29.34	17.03	264.18	667.38	2.38	1.38	4.06	4.06
Yellowstone County	B1	RM 380.57	132628.6	10-yr	1659.37	982.38	978.7	2.12	1.72	37.33	14.05	228.5	974.96	2.64	0.99	3.68	3.68
Yellowstone County	B1	RM 380.48	132470	10-yr	1659.37	982.15	978.24	2.22	1.65	35.98	11.97	200.56	1056.04	2.87	0.95	3.91	3.91
Yellowstone County	B1	RM 380.34	132222.4	10-yr	1659.37	981.67	977.37	2.75	1.95	43.86	15.11	203.48	1018.64	2.42	0.83	4.3	4.3
Yellowstone County	B1	RM 380.22	132032.4	10-yr	1659.37	981.43	977.02	2.57	1.71	36.88	12.57	172.21	994.42	2.87	0.98	4.41	4.41
Yellowstone County	B1	RM 380.11	131847.7	10-yr	1659.37	981.16	976.29	2.63	1.97	44.44	16.53	181.17	864.82	2.62	0.98	4.87	4.87
Yellowstone County	B1	RM 380.01	131671.4	10-yr	1659.37	980.89	976.21	2.56	1.83	48.41	17.99	173.63	894.91	2.73	1.01	4.68	4.68
Yellowstone County	B1	RM 379.92	131538.8	10-yr	1659.37	980.55	976.69	2.89	2.07	47.38	18.37	191.12	883.61	2.34	0.91	3.86	3.86
Yellowstone County	B1	RM 379.84	131406.9	10-yr	1659.37	980.5	975.94	1.79	1.38	19.9	10.27	414.05	1285.61	1.95	1.01	4.56	4.56
Yellowstone County	B1	RM 379.75	131265.1	10-yr	1659.37	980.34	974.98	1.82	1.38	24.67	11.15	375.18	1460.5	2.07	0.93	5.36	5.36
Yellowstone County	B1	RM 379.65	131104.3	10-yr	1659.37	980.23	975.6	1.53	1.07	14.35	7.85	379.51	1504.94	2.09	1.14	4.63	4.63
Yellowstone County	B1	RM 379.56	130964.3	10-yr	1659.37	980.14	975.94	1.5	1.07	13.78	6.32	313.71	1498.73	2.36	1.08	4.2	4.2
Yellowstone County	B1	RM 379.46	130794	10-yr	1659.37	980.02	974.74	1.64	1.14	15.13	7.79	294.18	1211.36	2.35	1.2	5.28	5.28
Yellowstone County	B1	RM 379.36	130642.3	10-yr	1659.37	979.9	975.71	1.72	1.16	23.46	10.72	246.9	1038.21	3.15	1.44	4.19	4.19
Yellowstone County	B1	RM 379.27	130496.2	10-yr	1659.37	979.58	974.66	2.61	1.58	59.09	25.18	164.52	840.12	2.95	1.25	4.92	4.92
Yellowstone County	B1	RM 379.17	130345.7	10-yr	1659.37	979.04	973.93	3.22	2.07	68.59	21.66	154.92	846.22	3	0.95	5.11	5.11
Yellowstone County	B1	RM 379.04	130142	10-yr	1659.37	978.79	974.79	2.64	1.68	39.2	16.96	203.31	896.08	2.55	1.11	4	4
Yellowstone County	B1	RM 378.97	130026.7	10-yr	1659.37	978.55	974.64	2.74	1.88	43.42	18.93	231.05	861.68	2.34	1.02	3.91	3.91
Yellowstone County	B1	RM 378.86	129850.9	10-yr	1659.37	978.16	974.4	2.8	1.99	50.1	22.85	248.14	843.51	2.17	0.99	3.76	3.76
Yellowstone County	B1	RM 378.76	129682.3	10-yr	1659.37	977.81	974.17	2.69	2	43.78	19.42	270.72	872.65	2.14	0.95	3.64	3.64
Yellowstone County	B1	RM 378.67	129541.3	10-yr	1659.37	977.54	973.97	2.69	1.82	38.36	18.01	263.18	969.66	2.07	0.97	3.57	3.57
Yellowstone County	B1	RM 378.61	129443.1	10-yr	1659.37	977.38	973.83	2.33	1.64	57.18	27.48	228.97	1209.96	1.98	0.95	3.55	3.55
Yellowstone County	B1	RM 378.52	129297.7	10-yr	1659.37	977.12	973.62	1.94	1.54	21.75	14.52	550.91	1176.66	1.43	0.95	3.5	3.5
Yellowstone County	B1	RM 378.46	129200.8	10-yr	1659.37	977.04	973.48	1.59	1.39	18.12	11.65	611.43	1141	1.63	1.05	3.56	3.56
Yellowstone County	B1	RM 378.40	129112.2	10-yr	1659.37	976.88	973.41	1.62	1.47	45.95	29.33	605.22	1098.99	1.62	1.03	3.47	3.47
Yellowstone County	B1	RM 378.29	128929.4	10-yr	1659.37	976.71	972.93	1.3	1.15	12.69	7.44	566.49	1135.77	2.17	1.27	3.78	3.78
Yellowstone County	B1	RM 378.13	128673.7	10-yr	1659.37	976.35	971.4	2.15	1.89	19.26	11.34	401.61	793.26	1.88	1.11	4.95	4.95
Yellowstone County	B1	RM 378.07	128569	10-yr	1659.37	976.26	970.46	2.1	1.74	17.25	9.77	338.8	753.55	2.24	1.27	5.8	5.8
Yellowstone County	B1	RM 377.96	128380.3	10-yr	1659.37	975.88	968.85	2.89	2.5	45.77	13.23	111.37	463.46	5.04	1.43	7.03	7.03
Yellowstone County	B1	RM 377.87	128244.4	10-yr	1659.37	975.74	970.56	2.7	2.27	54.66	21.39	223.61	878.72	2.62	1.02	5.18	5.18
Yellowstone County	B1	RM 377.79	128118	10-yr	1659.37	975.52	970.94	2.58	2.22	32.93	18.45	328.81	794.27	1.87	1.04	4.58	4.58
Yellowstone County	B1	RM 377.69	127964.3	10-yr	1659.37	975.33	969.86	2.26	1.8	24	13.59	386.49	1120.55	1.78	1.01	5.47	5.47
Yellowstone County	B1	RM 377.61	127824.8	10-yr	1659.37	974.87	970.53	3.01	2.62	46.77	28.69	257.53	517.28	2.02	1.24	4.34	4.34
Yellowstone County	B1	RM 377.55	127735.1	10-yr	1659.37	974.79	970.41	2.47	2.14	27.97	17.88	349.92	780.88	1.82	1.16	4.38	4.38
Yellowstone County	B1	RM 377.48	127618.1	10-yr	1659.37	974.62	970.26	2.39	2.06	26.9	17.55	404.2	895.18	1.61	1.05	4.36	4.36
Yellowstone County	B1	RM 377.39	127466.6	10-yr	1659.37	974.31	969.73	2.55	2.12	30.25	19.47	359.49	750.71	1.69	1.09	4.58	4.58
Yellowstone County	B1	RM 377.34	127391.5	10-yr	1659.37	974.07	969.95	2.7	2.36	80.56	39.03	294.31	743.1	1.96	0.95	4.12	4.12
Yellowstone County	B1	RM 377.25	127241.9	10-yr	1659.37	973.87	970.26	1.99	1.77	23.6	12.59	401.26	872.43	2.01	1.07	3.61	3.61
Yellowstone County	B1	RM 377.16	127097.7	10-yr	1659.37	973.7	969.82	1.95	1.72	25.12	15.42	409.57	880.42	1.78	1.09	3.88	3.88
Yellowstone County	B1	RM 377.08	126969	10-yr	1659.37	973.64	969	1.5	1.26	12.77	5.86	417.58	1210.19	2.39	1.1	4.64	4.64
Yellowstone County	B1	RM 377.04	126900.8	10-yr	1659.37	973.55	968.6	1.61	1.43	47.05	26.36	565.22	1247.77	1.67	0.93	4.95	4.95
Yellowstone County	B1	RM 376.98	126797.5	10-yr	1659.37	973.29	969.02	1.97	1.74	19.39	10.79	529.34	1106.59	1.55	0.86	4.27	4.27
Yellowstone County	B1	RM 376.92	126710.1	10-yr	1659.37	973.19	969.01	1.62	1.43	38.59	19.73	496.59	1164.81	1.95	1	4.18	4.18
Yellowstone County	B1	RM 376.84	126584.2	10-yr	1659.37	973.08	967.73	1.37	1.22	16.42	9.29	448.07	1081.31	2.23	1.26	5.35	5.35
Yellowstone County	B1	RM 376.75	126442.1	10-yr	1659.37	972.95	967.82	1.44	1.34	22.25	12.42	400.78	928.77	2.45	1.36	5.13	5.13
Yellowstone County	B1	RM 376.67	126309	10-yr	1659.37	972.74	967.23	1.78	1.65	38.58	20.39	332.92	809.71	2.4	1.26	5.51	5.51
Yellowstone County	B1	RM 376.58	126174.1	10-yr	1659.37	972.43	966.82	2.03	1.84	48.4	25.74	344.97	766.88	2.22	1.18	5.61	5.61

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	10-yr	1659.37	972.06	966.77	2.51	2.35	45.4	34.63	263.45	392.06	2.42	1.84	5.29	5.29
Yellowstone County	B1	RM 376.42	125918.5	10-yr	1659.37	971.87	967.68	2.36	2.31	32.63	22.59	255.94	434.23	2.74	1.89	4.19	4.19
Yellowstone County	B1	RM 376.35	125809.8	10-yr	1659.37	971.79	966.71	2.21	1.83	26.19	8.65	224.99	952.18	3.18	1.04	5.08	5.08
Yellowstone County	B1	RM 376.28	125697	10-yr	1659.37	971.41	966.28	3.01	2.71	52.84	32.55	214.35	417.18	2.46	1.51	5.13	5.13
Yellowstone County	B1	RM 376.20	125565.9	10-yr	1659.37	971.18	966.16	2.76	2.34	47.25	22.09	251.13	702.06	2.22	1.04	5.02	5.02
Yellowstone County	B1	RM 376.10	125404.8	10-yr	1659.37	970.96	966.61	2.35	1.84	32.95	16.53	268.14	880.23	2.06	1.03	4.35	4.35
Yellowstone County	B1	RM 376.00	125250.5	10-yr	1659.37	970.67	967.42	2.45	1.74	38.12	15.51	241.61	1020.43	2.3	0.93	3.25	3.25
Yellowstone County	B1	RM 375.88	125055.1	10-yr	1659.37	970.44	966.01	2.22	1.46	33.29	13.25	185.25	1011.77	2.81	1.12	4.43	4.43
Yellowstone County	B1	RM 375.78	124897.3	10-yr	1659.37	970.25	965.37	2.19	1.55	31.57	15.19	186.99	821.55	2.71	1.3	4.88	4.88
Yellowstone County	B1	RM 375.67	124708.2	10-yr	1659.37	970.04	965.8	2.22	1.79	31.89	16.56	223.94	722.17	2.47	1.28	4.24	4.24
Yellowstone County	B1	RM 375.58	124564.2	10-yr	1659.37	969.79	966.54	2.42	2	37.23	19.56	224.62	655.51	2.41	1.27	3.25	3.25
Yellowstone County	B1	RM 375.23	124013.6	10-yr	1659.37	969.11	965.23	2.24	1.69	32.92	14.14	227.41	863.73	2.64	1.14	3.88	3.88
Yellowstone County	B1	RM 375.10	123799.5	10-yr	1659.37	968.49	963.88	3.3	2.26	74.95	25.12	126.15	678.88	3.24	1.08	4.61	4.61
Yellowstone County	B1	RM 374.97	123580.4	10-yr	1659.37	968.24	963.97	2.53	1.81	50.62	19.02	136.59	816.03	3.1	1.15	4.27	4.27
Yellowstone County	B1	RM 374.83	123365.5	10-yr	1659.37	967.98	963.52	2.24	1.63	31.35	13.53	132.26	840.91	2.88	1.24	4.46	4.46
Yellowstone County	B1	RM 374.73	123195.7	10-yr	1659.37	967.89	963.36	1.74	1.34	16.69	7.62	143.34	1018.19	3.01	1.37	4.53	4.53
Yellowstone County	B1	RM 374.61	123010.3	10-yr	1659.37	967.65	963.49	2.17	1.74	36.15	15.22	160.62	855.43	2.98	1.25	4.16	4.16
Yellowstone County	B1	RM 374.53	122875.3	10-yr	1716	967.42	963.14	2.4	2	37.78	16.91	186.43	678.56	2.83	1.27	4.28	4.28
Yellowstone County	B1	RM 374.44	122726.7	10-yr	1716	967.07	963.04	2.96	2.24	60.71	21.57	124.83	632.96	3.41	1.21	4.03	4.03
Yellowstone County	B1	RM 374.32	122535.1	10-yr	1716	966.86	962.82	2.25	2.02	41.12	23.83	190.27	575.7	2.55	1.48	4.04	4.04
Yellowstone County	B1	RM 374.22	122379	10-yr	1716	966.63	960.92	2.52	1.73	37.82	13.78	134.27	823.61	3.29	1.2	5.71	5.71
Yellowstone County	B1	RM 374.13	122231.1	10-yr	1716	966.46	960.11	2.63	1.77	38.14	16.09	137.18	795.73	2.9	1.22	6.35	6.35
Yellowstone County	B1	RM 373.97	121972.4	10-yr	1716	966.23	958.8	2.08	1.73	26.83	14.21	223.02	651.4	2.89	1.52	7.43	7.43
Yellowstone County	B1	RM 373.88	121829.3	10-yr	1716	966.01	962.21	2.37	1.89	40.56	16.33	190.79	793.65	2.86	1.15	3.8	3.8
Yellowstone County	B1	RM 373.79	121688.7	10-yr	1716	965.81	961.66	2.31	1.8	44.19	19.72	188.61	851.43	2.77	1.23	4.15	4.15
Yellowstone County	B1	RM 373.69	121523.5	10-yr	1716	965.51	961.11	2.42	1.9	38.62	18	200.57	887.1	2.5	1.16	4.4	4.4
Yellowstone County	B1	RM 373.56	121314.3	10-yr	1716	964.88	959.37	3.2	2.29	59.8	37.18	180.84	497.87	2.47	1.54	5.51	5.51
Yellowstone County	B1	RM 373.39	121015.9	10-yr	1716	964.21	958.78	3.04	2.31	55.11	28.37	183.02	544.8	2.66	1.37	5.43	5.43
Yellowstone County	B1	RM 373.26	120802.3	10-yr	1716	964.17	960.81	1.48	1	14.47	12.17	355.25	1073.05	1.93	1.63	3.36	3.36
Yellowstone County	B1	RM 373.09	120539.5	10-yr	1716	963.85	959.94	2	1.47	25.61	20.33	298.88	806.57	1.91	1.51	3.91	3.91
Yellowstone County	B1	RM 372.99	120365.2	10-yr	1716	963.52	959.69	2.11	1.67	42.14	32.62	321.53	753.73	1.76	1.36	3.83	3.83
Yellowstone County	B1	RM 372.82	120107.7	10-yr	1716	963.14	959.03	1.84	1.38	21.26	17.01	413.14	982.87	1.58	1.26	4.11	4.11
Yellowstone County	B1	RM 372.72	119922.5	10-yr	1716	962.95	958.92	1.63	1.35	26.63	25.19	386.94	863.57	1.56	1.48	4.03	4.03
Yellowstone County	B1	RM 372.65	119797.7	10-yr	1716	962.88	957.32	1.23	0.89	10.72	10.15	392.53	1262.55	1.62	1.53	5.56	5.56
Yellowstone County	B1	RM 372.58	119676.6	10-yr	1716	962.83	958.2	1.11	0.89	7.81	7.06	435.3	1239.66	1.71	1.55	4.63	4.63
Yellowstone County	B1	RM 372.41	119395.9	10-yr	1716	962.72	958.82	1.26	0.9	8.51	6.34	459.24	1367.07	1.86	1.39	3.9	3.9
Yellowstone County	B1	RM 372.32	119268.8	10-yr	1716	962.65	957.24	1.07	1.05	16.9	12.69	434.39	1115.94	1.95	1.46	5.41	5.41
Yellowstone County	B1	RM 372.20	119079.1	10-yr	1716	962.43	956.93	1.29	1.18	30.88	26.28	491.84	1050.55	1.64	1.39	5.5	5.5
Yellowstone County	B1	RM 372.08	118886.4	10-yr	1716	962.1	956.2	1.42	1.26	32.73	27.49	416.06	845.13	1.92	1.61	5.9	5.9
Yellowstone County	B1	RM 371.94	118669.8	10-yr	1716	961.59	957.58	1.72	1.8	37.04	32.23	404.84	576.83	1.9	1.65	4.01	4.01
Yellowstone County	B1	RM 371.83	118490.4	10-yr	1716	961.39	957.52	1.6	1.54	22.29	17.5	393.32	656.36	2.17	1.7	3.87	3.87
Yellowstone County	B1	RM 371.74	118350.7	10-yr	1716	961.18	957.48	1.92	1.67	24.92	16.67	386.04	734.3	2.09	1.4	3.7	3.7
Yellowstone County	B1	RM 371.62	118155.6	10-yr	1716	960.93	956.41	2.11	1.56	31.01	12.21	220.59	890	3.13	1.23	4.52	4.52
Yellowstone County	B1	RM 371.53	118001.4	10-yr	1716	960.64	955.99	2.5	1.93	38.34	14.25	234.36	905.67	2.65	0.98	4.65	4.65
Yellowstone County	B1	RM 371.43	117839.2	10-yr	1716	960.22	955.47	2.72	2.17	82.33	35.21	248.4	819.32	2.26	0.97	4.75	4.75
Yellowstone County	B1	RM 371.37	117745.1	10-yr	1716	960	955.72	2.63	2.22	33.51	18.35	291.62	664.56	2.12	1.16	4.28	4.28
Yellowstone County	B1	RM 371.32	117662.6	10-yr	1716	959.89	956.41	2.36	1.96	48.5	26.59	299.65	692.94	2.3	1.26	3.48	3.48
Yellowstone County	B1	RM 371.25	117560.3	10-yr	1716	959.74	955.99	2.15	1.85	30.01	18.67	371.7	729.22	2.06	1.28	3.75	3.75
Yellowstone County	B1	RM 371.21	117499	10-yr	1716	959.66	955.72	2.11	1.84	29.18	20.86	355.15	609.87	2.13	1.53	3.94	3.94
Yellowstone County	B1	RM 371.12	117353.9	10-yr	1716	959.5	955.54	1.99	1.73	24.72	15.55	356.64	788.53	2.28	1.43	3.96	3.96
Yellowstone County	B1	RM 371.04	117225.1	10-yr	1716	958.75	954.84	3.59	3.57	69.72	57.56	229.22	279.7	2.09	1.72	3.91	3.91
Yellowstone County	B1	RM 370.94	117054.9	10-yr	1716	958.75	955.57	2.12	1.8	31.86	23.31	240.02	780.1	2.42	1.77	3.18	3.18
Yellowstone County	B1	RM 370.85	116910.9	10-yr	1716	958.59	954.47	2.02	1.61	27.84	14.46	217.2	948.98	2.59	1.34	4.12	4.12
Yellowstone County	B1	RM 370.77	116793.6	10-yr	1716	958.5	953.84	1.93	1.45	20.66	10.87	222.21	990.59	2.52	1.33	4.66	4.66
Yellowstone County	B1	RM 370.72	116711.6	10-yr	1716	958.44	953.13	1.92	1.28	22.7	9.93	165.01	1024.49	3.1	1.35	5.31	5.31
Yellowstone County	B1	RM 370.70	116669.2	10-yr	1716	958.4	953.05	2.01	1.21	20.86	10.71	197.42	1022.86	2.69	1.38	5.35	5.35
Yellowstone County	B1	RM 370.63	116558.9	10-yr	1716	958.3	953.42	1.94	1.13	30.15	12.28	180.16	1108.94	3.38	1.37	4.88	4.88
Yellowstone County	B1	RM 370.56	116440.6	10-yr	1716	958.1	953.34	2.31	1.48	24.86	7.65	178.4	1044.79	3.62	1.11	4.76	4.76
Yellowstone County	B1	RM 370.44	116241.1	10-yr	1716	957.88	952.03	2.6	1.59	42.57	11.44	134.05	1006.04	4.02	1.07	5.85	5.85
Yellowstone County	B1	RM 370.34	116071.6	10-yr	1716	957.55	949.79	2.98	1.95	58.29	12.26	118.14	962.03	4.4	0.91	7.76	7.76
Yellowstone County	B1	RM 370.24	115908.6	10-yr	1716	957.43	950.22	2.71	1.72	43.91	12.24	117.55	783.6	4.61	1.27	7.21	7.21

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	10-yr	1716	957.19	952.12	2.68	1.93	47.31	18.16	160.57	662.08	3.5	1.34	5.07	5.07
Yellowstone County	B1	RM 370.00	115535.2	10-yr	1716	956.89	952.2	2.43	2.15	67.53	45.7	257.39	521.52	2.27	1.53	4.69	4.69
Yellowstone County	B1	RM 369.89	115356.1	10-yr	1716	956.54	953.15	2.27	2.07	25.62	19.34	406.57	622.38	1.76	1.33	3.39	3.39
Yellowstone County	B1	RM 369.77	115164.3	10-yr	1716	956.28	952.34	2.1	1.97	23.66	18.57	483.28	668.48	1.67	1.31	3.94	3.94
Yellowstone County	B1	RM 369.64	114965.6	10-yr	1716	955.95	951.9	2.06	1.89	31.48	23.43	501.38	885.68	1.57	1.17	4.05	4.05
Yellowstone County	B1	RM 369.54	114789.5	10-yr	1716	955.63	952.38	2.05	1.83	26.87	20.3	492.58	1112.63	1.59	1.2	3.25	3.25
Yellowstone County	B1	RM 369.45	114650.1	10-yr	1716	955.47	951	1.78	1.54	22.37	15.54	464.6	1775.51	1.79	1.24	4.47	4.47
Yellowstone County	B1	RM 369.32	114431.1	10-yr	1716	955.24	951.1	1.71	1.3	21.62	10.87	375.23	2225.99	2.34	1.17	4.14	4.14
Yellowstone County	B1	RM 369.17	114210.5	10-yr	1716	955.01	949.85	1.99	1.58	35.67	16.18	196.33	2041.71	2.85	1.29	5.16	5.16
Yellowstone County	B1	RM 369.06	114022.4	10-yr	1716	954.4	949.89	3.18	2.23	58.09	19.33	136.69	1865.11	3.33	1.1	4.51	4.51
Yellowstone County	B1	RM 368.96	113871.2	10-yr	1716	954.27	949.68	2.62	2.01	43.76	19.22	168.92	1770.43	3.1	1.36	4.59	4.59
Yellowstone County	B1	RM 368.88	113745.9	10-yr	1716	954.1	948.77	2.46	1.88	37.61	15.33	214.44	2023.3	2.65	1.07	5.33	5.33
Yellowstone County	B1	RM 368.82	113641	10-yr	1716	953.88	948.47	2.46	2.09	49.16	26.56	295.82	1946.43	2	1.08	5.41	5.41
Yellowstone County	B1	RM 368.72	113477.3	10-yr	1716	953.64	948.45	1.99	1.7	33.98	21.26	345.2	1903.54	2.12	1.32	5.19	5.19
Yellowstone County	B1	RM 368.63	113328.9	10-yr	1716	953.44	947.82	1.94	1.59	30.48	16.71	303.77	2003.69	2.31	1.26	5.62	5.62
Yellowstone County	B1	RM 368.54	113195.6	10-yr	1716	953.21	947.51	2.15	1.64	30.67	13.51	269.35	2044.41	2.65	1.17	5.7	5.7
Yellowstone County	B1	RM 368.44	113035.8	10-yr	1716	952.89	947.4	2.4	1.86	67.17	30.53	255.57	1975.8	2.41	1.09	5.49	5.49
Yellowstone County	B1	RM 368.35	112878.7	10-yr	1716	952.84	946.64	1.62	1.34	15.52	5.68	283.07	1815.83	3.62	1.32	6.2	6.2
Yellowstone County	B1	RM 368.26	112737.6	10-yr	1716	952.62	946.23	2.17	1.64	71.95	21.74	227.19	1881.76	3.06	0.92	6.39	6.39
Yellowstone County	B1	RM 368.18	112604.7	10-yr	1716	952.21	947.11	2.79	2.12	47.29	12.17	161.11	1682.73	3.62	0.92	5.1	5.1
Yellowstone County	B2	RM 368.09	112456.7	10-yr	1716	951.96	947.7	2.9	2.53	58.85	20.47	155.15	1138.06	3.57	1.23	4.26	4.26
Yellowstone County	B2	RM 368.00	112314.4	10-yr	1716	951.92	947.56	2.22	1.69	28.12	9.06	198.48	2093.93	3.59	1.15	4.36	4.36
Yellowstone County	B2	RM 367.86	112104.7	10-yr	1716	951.51	946.1	2.83	2.29	53.48	17.4	174.57	1464.3	3.35	1.08	5.41	5.41
Yellowstone County	B2	RM 367.79	111989.2	10-yr	1716	951.37	945.04	2.53	1.91	56.73	16.87	203.42	1616.28	3.07	0.91	6.33	6.33
Yellowstone County	B2	RM 367.72	111876.5	10-yr	1716	951.16	945.45	2.7	1.95	40.11	10.51	149.5	1649.52	3.91	1.02	5.71	5.71
Yellowstone County	B2	RM 367.64	111739.2	10-yr	1716	951	945.68	2.75	1.76	51.79	11.12	140.32	1686.63	3.87	0.82	5.32	5.32
Yellowstone County	B2	RM 367.50	111519.9	10-yr	1716	950.54	945.21	3.13	2.24	61.87	11.66	126.67	1335.24	4.07	0.76	5.33	5.33
Yellowstone County	B2	RM 367.40	111357.1	10-yr	1716	950.32	944.36	3.12	2.25	55.39	11.86	113.26	999.23	4.32	0.91	5.96	5.96
Yellowstone County	B2	RM 367.31	111214.8	10-yr	1716	950.16	945.36	2.97	2.2	44.45	13.11	144.65	804.05	3.68	1.08	4.8	4.8
Yellowstone County	B2	RM 367.19	110992.7	10-yr	1716	949.97	945.91	2.46	2.02	34.63	14.21	244.92	918.63	2.71	1.11	4.06	4.06
Yellowstone County	B2	RM 367.11	110813.5	10-yr	1716	949.75	945.17	2.32	1.83	33.21	16.01	295.2	860.83	2.36	1.13	4.58	4.58
Yellowstone County	B2	RM 367.03	110669.4	10-yr	1716	949.67	945.89	1.8	1.49	17.16	9.53	410.24	1010.88	2.19	1.21	3.78	3.78
Yellowstone County	B2	RM 366.95	110543	10-yr	1716	949.61	945.34	1.31	1.16	21.46	12.44	560.16	1204.3	2.2	1.28	4.27	4.27
Yellowstone County	B2	RM 366.84	110376	10-yr	1716	949.47	944.61	1.19	1.09	17.8	9.32	595.67	1309.43	2.36	1.23	4.86	4.86
Yellowstone County	B2	RM 366.78	110300.8	10-yr	1716	949.41	943.84	1.23	1.04	19.67	8.69	562.54	1685.52	2.35	1.03	5.57	5.57
Yellowstone County	B2	RM 366.73	110074.8	10-yr	1716	949.12	943.42	1.59	1.38	28.88	12.31	435.92	1306.18	2.4	1.02	5.7	5.7
Yellowstone County	B2	RM 366.68	109931.6	10-yr	1716	948.87	942.77	1.93	1.62	37.88	14.34	310.12	1017.9	2.76	1.04	6.1	6.1
Yellowstone County	B2	RM 366.53	109747.6	10-yr	1716	948.43	940.86	2.76	2.32	37.93	11.23	162.72	675.08	3.75	1.1	7.57	7.57
Yellowstone County	B2	RM 366.38	109510.8	10-yr	1716	948.16	941.55	2.67	2.36	59.79	18.55	152.3	568.79	4.14	1.28	6.61	6.61
Yellowstone County	B2	RM 366.27	109345.5	10-yr	1716	948.07	942.72	2.12	2.01	28.06	11.22	225.72	646.69	3.57	1.43	5.35	5.35
Yellowstone County	B2	RM 366.15	109158.9	10-yr	1716	947.84	941.59	2.13	2.08	54.55	37.45	291.8	437.99	2.75	1.88	6.25	6.25
Yellowstone County	B2	RM 366.04	108972.6	10-yr	1716	947.55	941.41	2.35	2.32	20.76	16.19	311.73	442.14	2.34	1.82	6.14	6.14
Yellowstone County	B2	RM 365.94	108818.8	10-yr	1716	947.46	940.93	2.09	2.06	17.03	13.07	360.05	484.69	2.28	1.74	6.53	6.53
Yellowstone County	B2	RM 365.83	108647.5	10-yr	1716	947.24	939.93	2.03	1.88	69.96	36.82	329.53	839.76	2.51	1.32	7.31	7.31
Yellowstone County	B2	RM 365.75	108521.3	10-yr	1716	946.95	941.33	2.02	1.81	55.98	29.65	262.86	657.07	2.74	1.45	5.62	5.62
Yellowstone County	B2	RM 365.71	108446.5	10-yr	1716	946.73	941.83	2.28	2.04	53.71	24.94	234.04	580.17	3.13	1.45	4.9	4.9
Yellowstone County	B2	RM 365.64	108343.5	10-yr	1716	946.56	942.19	2.13	1.93	51.97	29.45	305.14	620.19	2.53	1.43	4.37	4.37
Yellowstone County	B2	RM 365.57	108220.5	10-yr	1716	946.24	942.08	2.41	2.21	49.61	33.32	251.4	419.09	2.77	1.86	4.16	4.16
Yellowstone County	B2	RM 365.51	108118.9	10-yr	1716	946.03	941.87	2.41	2.23	58.08	38.79	265.35	438.26	2.63	1.75	4.16	4.16
Yellowstone County	B2	RM 365.46	108042.9	10-yr	1716	945.96	941.73	2	1.89	35.63	25.99	317.69	465.57	2.67	1.95	4.23	4.23
Yellowstone County	B2	RM 365.41	107956.5	10-yr	1716	945.87	941.46	1.88	1.83	31.08	25.46	324.15	410.48	2.79	2.29	4.41	4.41
Yellowstone County	B2	RM 365.37	107905.7	10-yr	1716	945.82	940.74	1.9	1.89	21.5	18.54	308.55	361.98	2.92	2.51	5.08	5.08
Yellowstone County	B2	RM 365.31	107792.4	10-yr	1716	945.67	939.27	2.17	2.11	26.64	22.67	257.08	313.07	3.04	2.59	6.4	6.4
Yellowstone County	B2	RM 365.27	107727.9	10-yr	1716	945.54	939.34	2.39	2.35	36.13	30.54	251.44	303.98	2.85	2.4	6.2	6.2
Yellowstone County	B2	RM 365.23	107674.2	10-yr	1716	945.41	939.52	2.6	2.57	32.82	28.05	230.94	274.62	2.85	2.43	5.89	5.89
Yellowstone County	B2	RM 365.19	107603	10-yr	1716	945.35	939.93	2.48	2.47	32.71	29.71	234.61	260.08	2.95	2.68	5.42	5.42
Yellowstone County	B2	RM 365.15	107534.7	10-yr	1716	945.31	939.68	2.34	2.29	30.12	26.74	212.57	247.32	3.42	3.03	5.63	5.63
Yellowstone County	B2	RM 365.10	107466	10-yr	1716	945.16	938.61	2.61	2.59	37.46	32.04	186.5	219.69	3.53	3.01	6.55	6.55
Yellowstone County	B2	RM 365.06	107396.2	10-yr	1716	945.1	939.07	2.57	2.49	39.24	26.82	170.56	258.34	3.9	2.67	6.03	6.03
Yellowstone County	B2	RM 365.01	107325.8	10-yr	1716	945.07	939.22	2.33	2.29	36.58	27.13	174.67	240.74	4.21	3.12	5.85	5.85
Yellowstone County	B2	RM 364.99	107287.5	10-yr	1716	944.98	939.27	2.53	2.47	44.1	29.36	170.76	264.4	3.95	2.62	5.71	5.71

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	10-yr	1716	944.72	937.97	2.82	2.76	35.5	26.74	169.5	231.33	3.58	2.68	6.75	6.75
Yellowstone County	B2	RM 364.81	106996.1	10-yr	1716	944.69	938.93	2.33	2.08	26.99	18.41	212.47	441.23	3.37	2.29	5.76	5.76
Yellowstone County	B2	RM 364.74	106893.3	10-yr	1716	944.53	938.94	2.57	2.26	35.98	16.43	164.71	434.4	3.99	1.81	5.59	5.59
Yellowstone County	B2	RM 364.64	106739.2	10-yr	1716	944.26	939.09	3.02	2.41	42.69	16.83	120.08	470.23	4.48	1.75	5.17	5.17
Yellowstone County	B2	RM 364.61	106686.8	10-yr	1716	944.26	939.21	2.75	2.44	37.07	16.81	156.75	400.06	3.91	1.76	5.05	5.05
Yellowstone County	B2	RM 364.60	106666.6	10-yr	1716	944.15	939.26	3	2.7	43.17	19.99	133.67	328.18	4.2	1.94	4.89	4.89
Yellowstone County	B2	RM 364.53	106558.4	10-yr	1716	944.09	939.11	2.75	2.74	36.91	34.14	158.9	172.25	3.93	3.63	4.98	4.98
Yellowstone County	B2	RM 364.49	106490.3	10-yr	1716	944.03	939.24	2.72	2.56	37.13	17.86	161.14	360.19	3.89	1.86	4.79	4.79
Yellowstone County	B2	RM 364.43	106394	10-yr	1716	943.93	939.13	2.73	2.66	38	23.51	160.15	266.73	3.92	2.42	4.8	4.8
Yellowstone County	B2	RM 364.37	106296.4	10-yr	1716	943.87	938.98	2.63	2.21	33.7	15.2	146.91	405.25	4.3	1.92	4.89	4.89
Yellowstone County	B2	RM 364.32	106215.1	10-yr	1716	943.78	938.52	2.65	2.28	49.02	24.59	152.95	403.2	4.11	2.05	5.26	5.26
Yellowstone County	B2	RM 364.29	106172.9	10-yr	1716	943.82	938.13	2.15	2.11	36.96	34.28	191	432.26	4.17	3.86	5.69	5.69
Yellowstone County	B2	RM 364.26	106126.6	10-yr	1716	943.57	937.7	2.88	2.59	53.77	37.28	142.23	327.97	4.09	2.83	5.87	5.87
Yellowstone County	B2	RM 364.22	106055.2	10-yr	1716	943.41	938.15	3.01	3.01	60.36	58.61	135.24	208.67	4.21	4.09	5.26	5.26
Yellowstone County	B2	RM 364.14	105927.3	10-yr	1716	943.1	938.12	3.37	3.01	68.21	43.21	123.5	225.36	4.02	2.53	4.98	4.98
Yellowstone County	B2	RM 364.06	105809.9	10-yr	1716	943.01	938.22	2.86	2.54	57.67	32.49	153.94	439.17	3.79	2.13	4.79	4.79
Yellowstone County	B2	RM 363.96	105648.3	10-yr	1716	942.9	938.28	2.21	1.97	36.27	22.06	247.85	550.57	3.04	1.84	4.62	4.62
Yellowstone County	B2	RM 363.85	105472.4	10-yr	1716	942.59	936.25	2.73	2.35	36.79	22.67	150.21	348.4	3.84	2.35	6.34	6.34
Yellowstone County	B2	RM 363.76	105316.8	10-yr	1716	942.46	937.03	2.57	2.3	45.89	25.88	146.89	333.59	4	2.25	5.43	5.43
Yellowstone County	B2	RM 363.63	105118.1	10-yr	1716	942.23	937.93	2.15	2.11	42.41	34.92	329.33	407.57	2.42	1.99	4.3	4.3
Yellowstone County	B2	RM 363.52	104943.9	10-yr	1716	941.91	937.54	2.01	1.92	46.21	36.04	372.43	506.13	2.27	1.77	4.37	4.37
Yellowstone County	B2	RM 363.46	104841.5	10-yr	1716	941.78	937.16	1.82	1.6	32.06	18.46	330.96	712.55	2.75	1.58	4.62	4.62
Yellowstone County	B2	RM 363.33	104622.9	10-yr	1716	941.46	936.36	1.9	1.52	45.83	26.13	300.03	860.44	2.59	1.47	5.1	5.1
Yellowstone County	B2	RM 363.20	104414.5	10-yr	1716	941.1	936.48	2.07	1.51	34.09	15.88	282.91	1015.48	2.62	1.22	4.62	4.62
Yellowstone County	B2	RM 363.10	104256.4	10-yr	1716	940.83	936.25	2.24	1.68	39.86	20.23	274.84	807.04	2.49	1.26	4.58	4.58
Yellowstone County	B2	RM 363.03	104144.8	10-yr	1716	940.67	936.22	2.18	1.61	32.38	14.97	284.67	919.9	2.52	1.16	4.45	4.45
Yellowstone County	B2	RM 362.86	103869.6	10-yr	1716	940.53	934.32	1.53	1.18	14.01	8.27	405.06	977	2.51	1.48	6.21	6.21
Yellowstone County	B2	RM 362.74	103671.4	10-yr	1716	940.3	934.52	1.99	1.54	24.33	14.23	370.96	888.46	2.15	1.25	5.78	5.78
Yellowstone County	B2	RM 362.63	103493.2	10-yr	1716	940.02	934.5	1.97	1.58	44.48	27.62	387.96	862.79	2.04	1.26	5.52	5.52
Yellowstone County	B2	RM 362.52	103330.7	10-yr	1716	939.64	934.5	1.93	1.66	47.66	30.88	435.44	823.72	1.94	1.25	5.14	5.14
Yellowstone County	B2	RM 362.43	103185.5	10-yr	1716	939.46	934.1	1.82	1.6	16.74	11.92	438.15	768.81	2.09	1.49	5.36	5.36
Yellowstone County	B2	RM 362.36	103070.8	10-yr	1716	939.36	932.98	1.88	1.73	15.65	11.91	404.45	593.92	2.2	1.67	6.38	6.38
Yellowstone County	B2	RM 362.27	102929.3	10-yr	1716	939.15	932.93	2.31	2.25	25.44	16.55	195.25	309.47	3.8	2.46	6.22	6.22
Yellowstone County	B2	RM 362.20	102813.3	10-yr	1716	938.57	933.37	3.68	3.58	68.96	28.41	110.76	280.43	4.2	1.71	5.2	5.2
Yellowstone County	B2	RM 362.13	102693.1	10-yr	1716	938.37	933.47	3.63	3.49	65.55	37.8	124.9	228.01	3.77	2.16	4.9	4.9
Yellowstone County	B3	RM 362.05	102570.9	10-yr	1716	938.29	933.85	3.08	3.08	49.26	42.05	181.01	212.45	3.08	2.62	4.44	4.44
Yellowstone County	B3	RM 362.00	102488.8	10-yr	1716	938.28	934.11	2.51	2.51	38.41	38.41	243.67	282.78	2.8	2.8	4.17	4.17
Yellowstone County	B3	RM 361.93	102368.8	10-yr	1716	938.17	934.31	2.13	2.13	31.6	31.52	367.87	368.69	2.19	2.18	3.86	3.86
Yellowstone County	B3	RM 361.86	102261.1	10-yr	1716	937.8	934.36	2.63	2.58	65.51	56.66	359.07	429.94	1.79	1.55	3.44	3.44
Yellowstone County	B3	RM 361.78	102138.9	10-yr	1716	937.62	933.72	2.17	2.14	26.13	23.92	402.89	447.77	1.96	1.79	3.9	3.9
Yellowstone County	B3	RM 361.68	101970.2	10-yr	1716	937.4	933.64	2.01	1.96	29.89	26.86	425.31	492.48	1.98	1.78	3.76	3.76
Yellowstone County	B3	RM 361.65	101918.4	10-yr	1716	937.36	933.71	1.8	1.74	24.86	19.81	403.7	552.27	2.33	1.86	3.65	3.65
Yellowstone County	B3	RM 361.61	101855.6	10-yr	1716	937.21	932.7	2.16	2.02	30.41	22.57	331.5	501.35	2.32	1.73	4.51	4.51
Yellowstone County	B3	RM 361.56	101767.4	10-yr	1716	937.07	930.29	2.28	2.11	29.97	20.2	267.33	450.24	2.73	1.84	6.78	6.78
Yellowstone County	B3	RM 361.48	101644.6	10-yr	1716	936.89	929.97	2.5	2.19	40.43	21.64	180.61	691.4	3.4	1.81	6.92	6.92
Yellowstone County	B3	RM 361.42	101546.2	10-yr	1716	936.65	932.36	2.93	2.37	43.25	20.5	181.43	853.18	2.85	1.35	4.28	4.28
Yellowstone County	B3	RM 361.37	101468.9	10-yr	1716	936.54	932.21	2.86	2.22	43.3	15.37	170.65	901.52	3.23	1.14	4.33	4.33
Yellowstone County	B3	RM 361.33	101409.4	10-yr	1716	936.09	932.02	3.75	3.04	74.96	24.27	151.87	642.71	2.88	0.93	4.07	4.07
Yellowstone County	B3	RM 361.29	101346	10-yr	1716	936.07	930.51	3.43	2.1	63.85	19.77	136.14	908.21	3.04	0.94	5.56	5.56
Yellowstone County	B3	RM 361.25	101284.9	10-yr	1716	935.95	928.42	3.45	2.03	60.9	18.16	109.49	890.25	3.46	1.01	7.53	7.53
Yellowstone County	B3	RM 361.21	101251.*	10-yr	1716	935.96	927.55	2.93	1.88	85.31	25.8	116.96	939.53	4	1.2	8.41	8.41
Yellowstone County	B3	RM 361.21	101217.5	10-yr	1716	935.96	926.68	2.64	1.75	35.36	9.95	113.68	1099.56	4.79	1.33	9.28	9.28
Yellowstone County	B3	RM 361.18	101167.2	10-yr	1716	935.93	928.03	2.53	1.57	30.56	9.13	129.42	1108.91	4.31	1.28	7.9	7.9
Yellowstone County	B3	RM 361.16	101134.2	10-yr	1716	935.92	928.92	2.36	1.67	29.23	12.28	201.08	1317.75	3.15	1.32	7	7
Yellowstone County	B3	RM 361.09	101028.7	10-yr	1716	935.88	931.28	1.87	1.34	21.48	12.96	345.11	1536.71	1.92	1.16	4.6	4.6
Yellowstone County	B3	RM 361.01	100891.3	10-yr	1716	935.56	931.55	2.34	1.71	36.32	16.8	336.11	1308.64	1.79	0.83	4.01	4.01
Yellowstone County	B3	RM 360.92	100756	10-yr	1716	935.43	931.05	1.41	1.07	23.4	15.09	450.97	1536.99	1.62	1.04	4.38	4.38
Yellowstone County	B3	RM 360.81	100570.1	10-yr	1716	934.84	929.52	2.3	1.86	65.85	46.34	440.04	1002.2	1.39	0.98	5.32	5.32
Yellowstone County	B3	RM 360.69	100383.5	10-yr	1716	934.77	930.6	1.07	0.82	10.25	7.04	338.56	1532.88	2.24	1.54	4.88	4.88
Yellowstone County	B3	RM 360.59	100227.2	10-yr	1716	934.6	930.53	1.81	1.1	19.53	9.11	267.17	1655.03	2.22	1.03	4.39	4.39
Yellowstone County	B3	RM 360.50	100081	10-yr	1716	934.39	930.55	2.14	1.27	30.41	10.49	205.06	1535.31	2.81	0.96	3.84	3.84

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	10-yr	1716	934.21	929.97	2.37	1.33	34.3	11.82	186.38	1322.18	2.85	0.98	4.24	4.24
Yellowstone County	B3	RM 360.36	99862.66	10-yr	1716	934.1	929.68	2.22	1.33	27.08	11.26	237.51	1252.66	2.47	1.03	4.42	4.42
Yellowstone County	B3	RM 360.27	99717.18	10-yr	1716	933.82	929.52	2.74	1.53	43.19	14.7	149.73	1126.48	2.93	0.99	4.3	4.3
Yellowstone County	B3	RM 360.18	99578.06	10-yr	1716	933.56	929.32	2.86	1.62	52.7	14.51	134.82	1106.4	3.54	0.96	4.24	4.24
Yellowstone County	B3	RM 360.11	99458.59	10-yr	1716	933.46	929.38	2.59	1.55	37.06	10.52	148.51	1308.1	2.99	0.85	4.08	4.08
Yellowstone County	B3	RM 360.03	99328	10-yr	1730.16	933.36	929.58	2.16	1.31	36.08	11.16	168.97	1525.25	3	0.93	3.78	3.78
Yellowstone County	B3	RM 359.96	99226.54	10-yr	1730.16	933.26	929.2	2.2	1.21	31.08	9.92	163.81	1451.19	3.09	0.98	4.06	4.06
Yellowstone County	B3	RM 359.88	99098.18	10-yr	1730.16	933.12	927.78	2.38	1.23	31.53	9.27	144	1380.91	3.48	1.02	5.34	5.34
Yellowstone County	B3	RM 359.78	98940.52	10-yr	1730.16	933.02	928.1	2.19	1.16	33.86	9.87	149.45	1428.8	3.62	1.05	4.92	4.92
Yellowstone County	B3	RM 359.70	98813.18	10-yr	1730.16	932.64	928.32	3	1.85	73.66	18.19	142.14	1248.51	3.26	0.8	4.32	4.32
Yellowstone County	B3	RM 359.61	98663.44	10-yr	1730.16	932.48	928.8	2.17	1.76	34.41	12.37	318.49	1241.53	2.37	0.85	3.68	3.68
Yellowstone County	B3	RM 359.50	98492.66	10-yr	1730.16	932.24	928.22	2.22	1.66	29.26	10.58	321.3	1444.63	2.2	0.79	4.02	4.02
Yellowstone County	B3	RM 359.38	98291.15	10-yr	1730.16	931.95	927.09	1.96	1.58	44.25	18.26	380.31	1563	1.84	0.75	4.86	4.86
Yellowstone County	B3	RM 359.26	98107.42	10-yr	1730.16	931.47	927.71	2.27	1.88	34.3	20.03	396.5	1023.64	1.73	1.01	3.76	3.76
Yellowstone County	B3	RM 359.18	97966.53	10-yr	1730.16	931.27	927.28	2.16	1.57	29.19	13.35	299.78	1225.19	2.19	1	3.99	3.99
Yellowstone County	B3	RM 359.10	97841.82	10-yr	1730.16	931.11	926.69	2	1.47	26.05	13.47	372.94	1367.93	1.86	0.96	4.42	4.42
Yellowstone County	B3	RM 359.01	97692.75	10-yr	1730.16	930.95	925.91	1.71	1.14	26.93	13.69	329.4	1610.51	2.03	1.03	5.04	5.04
Yellowstone County	B3	RM 358.90	97524.59	10-yr	1730.16	930.53	926.77	2.5	1.54	44.53	15.47	223.73	1346.97	2.4	0.83	3.76	3.76
Yellowstone County	B3	RM 358.81	97374.99	10-yr	1730.16	930.24	926.37	2.61	1.59	36.17	11.59	221.48	1385.82	2.51	0.8	3.87	3.87
Yellowstone County	B3	RM 358.74	97267.71	10-yr	1730.16	930.03	925.53	2.81	1.57	62.5	20.35	166.35	1329.27	2.68	0.87	4.5	4.5
Yellowstone County	B3	RM 358.67	97155.8	10-yr	1730.16	929.96	925.59	2.02	1.49	24.07	11.26	276.77	1298.58	2.13	0.99	4.37	4.37
Yellowstone County	B3	RM 358.61	97062.24	10-yr	1730.16	929.88	925.74	1.61	1.34	21.43	10.92	389.27	1485.19	2.02	1.03	4.14	4.14
Yellowstone County	B3	RM 358.56	96985.92	10-yr	1730.16	929.82	926.2	1.47	1.28	16.31	9.48	450.02	1470.25	1.94	1.13	5.23	5.23
Yellowstone County	B3	RM 358.50	96888.4	10-yr	1730.16	929.75	925.64	1.38	1.2	12.71	9.16	538.62	1397.19	1.79	1.29	4.11	4.11
Yellowstone County	B3	RM 358.43	96788.43	10-yr	1730.16	929.69	925.27	1.15	1.1	13.36	10.74	650.58	1381.24	1.78	1.44	4.42	4.42
Yellowstone County	B3	RM 358.30	96638.82	10-yr	1730.16	929.63	924.7	1.02	0.94	8.81	7.15	686.03	1248.71	2.35	1.9	4.93	4.93
Yellowstone County	B3	RM 358.24	96561.93	10-yr	1730.16	929.58	923.57	1.16	1.07	10.52	8.46	644.55	1231.18	2.17	1.75	6.01	6.01
Yellowstone County	B3	RM 358.20	96500.79	10-yr	1730.16	929.53	922.99	1.29	1.21	12.04	9.74	619.61	919.85	2.05	1.65	6.54	6.54
Yellowstone County	B3	RM 358.14	96404.93	10-yr	1730.16	929.47	922.57	1.35	1.2	11.47	7.92	543.4	1189.04	2.22	1.53	6.9	6.9
Yellowstone County	B3	RM 358.12	96368.05	10-yr	1730.16	929.44	922.78	1.44	1.12	12.9	7.5	348.81	1171.75	2.81	1.63	6.66	6.66
Yellowstone County	B3	RM 358.04	96244.75	10-yr	1730.16	929.28	923.22	2.11	1.44	37.24	13.4	162.23	1052.1	3.61	1.29	6.06	6.06
Yellowstone County	B3	RM 358.00	96168.44	10-yr	1730.16	929.12	923.39	2.7	1.54	48.98	15.71	101.88	1170.46	3.85	1.22	5.73	5.73
Yellowstone County	B3	RM 357.93	96065.49	10-yr	1730.16	928.91	923.1	3	1.77	41.24	13.15	106.83	1065.82	3.58	1.13	5.81	5.81
Yellowstone County	B3	RM 357.88	95975.44	10-yr	1730.16	928.91	923.91	2.3	1.59	33.2	13.12	153.56	1142.05	3.36	1.32	5	5
Yellowstone County	B3	RM 357.82	95884.99	10-yr	1730.16	928.87	924.01	1.92	1.52	22.78	10.31	193.1	899.69	3.4	1.54	4.86	4.86
Yellowstone County	B3	RM 357.78	95821.69	10-yr	1730.16	928.82	924.08	1.74	1.62	24.17	12.1	257.61	745.01	2.88	1.44	4.74	4.74
Yellowstone County	B3	RM 357.69	95683.91	10-yr	1730.16	928.64	923.81	2.04	1.83	22.87	10.56	293.46	729.81	2.82	1.3	4.83	4.83
Yellowstone County	B4	RM 357.62	95571.15	10-yr	1730.16	928.39	921.84	2.5	2.35	39.64	24.11	252.2	449.21	2.7	1.64	6.55	6.55
Yellowstone County	B4	RM 357.56	95469.4	10-yr	1730.16	928.33	918.46	2.14	1.97	30.3	14.11	225.69	582.69	3.54	1.64	9.87	9.87
Yellowstone County	B4	RM 357.48	95351.48	10-yr	1730.16	928	922.69	2.84	2.66	46.18	30.31	198.49	463.87	3.04	1.99	5.31	5.31
Yellowstone County	B4	RM 357.44	95275.91	10-yr	1730.16	927.86	922.22	2.9	2.75	50.26	33.19	195.91	542.32	3.03	2	5.64	5.64
Yellowstone County	B4	RM 357.34	95127.12	10-yr	1730.16	927.64	923.1	2.84	2.63	46.73	31.36	181.95	514.31	3.31	2.21	4.54	4.54
Yellowstone County	B4	RM 357.23	94939.75	10-yr	1730.16	927.4	920.81	2.81	2.45	48.38	25.96	143	540.94	4.11	2.19	6.59	6.59
Yellowstone County	B4	RM 357.13	94789.23	10-yr	1730.16	927.23	921.26	2.91	2.39	43.59	18.62	138.68	607.52	3.62	1.54	5.96	5.96
Yellowstone County	B4	RM 357.01	94595.53	10-yr	1730.16	927.12	921.72	2.33	1.74	26.82	14.63	185.27	583.17	3.66	2	5.4	5.4
Yellowstone County	B4	RM 356.90	94412.13	10-yr	1730.16	926.95	921.02	2.35	1.85	29.13	16.86	234.33	764.54	2.94	1.7	5.93	5.93
Yellowstone County	B4	RM 356.81	94272.48	10-yr	1730.16	926.81	919.95	2.32	1.8	31.35	19.14	233.74	733.99	2.8	1.71	6.86	6.86
Yellowstone County	B4	RM 356.73	94148.77	10-yr	1730.16	926.71	921.15	2.07	1.69	25.26	14.59	299.9	878.49	2.42	1.4	5.56	5.56
Yellowstone County	B4	RM 356.66	94030.68	10-yr	1730.16	926.6	921.75	2	1.59	22.32	10.9	300.18	942.18	2.58	1.26	4.85	4.85
Yellowstone County	B4	RM 356.59	93912.76	10-yr	1730.16	926.52	921.88	1.88	1.42	24.07	9.74	252.57	1054.32	3.11	1.26	4.64	4.64
Yellowstone County	B4	RM 356.50	93782.14	10-yr	1730.16	926.36	921.75	2.25	1.55	34.94	10.83	153.48	1029.06	3.69	1.13	4.61	4.61
Yellowstone County	B4	RM 356.44	93670.16	10-yr	1730.16	926.18	921.33	2.59	1.76	33.55	9.46	135.34	969.27	3.61	1.01	4.85	4.85
Yellowstone County	B4	RM 356.35	93525.27	10-yr	1730.16	925.97	919.71	2.78	1.9	54.57	14.02	115.36	892.35	4.03	1.02	6.26	6.26
Yellowstone County	B4	RM 356.26	93386.36	10-yr	1730.16	925.85	919.77	2.64	1.73	30	9.79	125.06	792.01	4.2	1.37	6.08	6.08
Yellowstone County	B4	RM 356.18	93264.31	10-yr	1730.16	925.79	919.95	2.39	1.7	35.24	12.47	128.51	688.04	4.23	1.48	5.84	5.84
Yellowstone County	B4	RM 356.11	93150.71	10-yr	1730.16	925.72	920.24	2.06	1.5	35.8	14.49	179.42	731.78	3.93	1.58	5.48	5.48
Yellowstone County	B4	RM 356.04	93034.25	10-yr	1730.16	925.5	920.36	2.39	1.82	52.8	20.59	173.16	691.21	3.55	1.38	5.14	5.14
Yellowstone County	B4	RM 355.97	92927.46	10-yr	1730.16	925.25	920.09	2.73	2	54.4	20.08	153.59	690.66	3.42	1.25	5.16	5.16
Yellowstone County	B4	RM 355.91	92825.82	10-yr	1730.16	925.2	919.82	2.34	1.53	26.73	10.85	153.74	810.4	3.66	1.48	5.38	5.38
Yellowstone County	B4	RM 355.82	92688.73	10-yr	1730.16	924.33	919.51	3.39	2.49	70.1	23.27	152.37	690.16	3.05	1	4.82	4.82
Yellowstone County	B4	RM 355.66	92419.94	10-yr	1730.16	924.05	919.8	3.04	2.31	45.58	15	139.95	712.2	3.19	1.05	4.25	4.25

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	10-yr	1730.16	923.98	919.42	2.76	2.06	39.74	14.78	148.04	705.78	3.21	1.19	4.56	4.56
Yellowstone County	B4	RM 355.49	92159.95	10-yr	1730.16	923.74	918.52	2.53	2.11	64.99	26.3	141.27	651.1	3.12	1.26	5.22	5.22
Yellowstone County	B4	RM 355.43	92061.2	10-yr	1730.16	923.54	918.67	2.5	2.07	61.4	21.66	134.53	706.16	3.37	1.18	4.87	4.87
Yellowstone County	B4	RM 355.41	92020.68	10-yr	1730.16	923.52	919.02	2.08	1.88	57.18	23.79	159.91	802.41	2.98	1.24	4.5	4.5
Yellowstone County	B4	RM 355.38	91976.12	10-yr	1730.16	923.34	919.25	2.66	2.06	57.93	19.29	125.74	764.91	3.32	1.1	4.09	4.09
Yellowstone County	B4	RM 355.35	91933.98	10-yr	1730.16	923.29	919.21	2.69	1.92	41.6	14.99	109.82	706.03	3.58	1.28	4.08	4.08
Yellowstone County	B4	RM 355.32	91885.87	10-yr	1730.16	923.23	919.16	2.69	1.94	41.72	14.09	107.08	762.39	3.49	1.17	4.07	4.07
Yellowstone County	B4	RM 355.29	91828.99	10-yr	1730.16	923.15	918.93	2.74	1.99	40.96	14.9	102.71	684.25	3.53	1.27	4.62	4.62
Yellowstone County	B4	RM 355.23	91732.97	10-yr	1730.16	923.04	918.68	2.67	1.96	45.54	12.15	101.43	926.69	3.62	0.95	4.6	4.6
Yellowstone County	B4	RM 355.14	91596.1	10-yr	1730.16	922.94	918.52	2.37	1.53	31.26	9.28	118.43	1085.89	3.55	1.04	4.42	4.42
Yellowstone County	B4	RM 354.94	91268.08	10-yr	1730.16	922.18	917.25	3	2.28	87.29	28.8	167.02	740.96	3.12	1.02	4.93	4.93
Yellowstone County	B4	RM 354.86	91153.59	10-yr	1730.16	922.1	917.03	2.45	1.51	51.31	16.24	125.07	1010.79	3.88	1.22	5.07	5.07
Yellowstone County	B4	RM 354.80	91056.05	10-yr	1730.16	921.83	915.66	2.89	1.74	70.24	18.52	117.98	1311.59	3.66	0.96	6.17	6.17
Yellowstone County	B4	RM 354.70	90880.27	10-yr	1730.16	921.52	915.38	2.64	1.76	62.2	18.97	145.31	1304.57	2.95	0.9	6.14	6.14
Yellowstone County	B4	RM 354.61	90744.35	10-yr	1730.16	921.27	917.13	2.61	1.53	35.82	13.57	188.62	1260.64	2.45	0.93	4.14	4.14
Yellowstone County	B4	RM 354.53	90609.24	10-yr	1730.16	921.16	916.52	2.13	1.4	26.8	11.17	239.01	1153.32	2.58	1.07	4.64	4.64
Yellowstone County	B4	RM 354.45	90486.63	10-yr	1730.16	921.02	915.87	2.27	1.38	31.98	13.98	203.74	1208.95	2.46	1.07	5.15	5.15
Yellowstone County	B4	RM 354.39	90385.43	10-yr	1730.16	920.76	915.24	2.76	1.61	45.27	16.97	161.88	1180.56	2.61	0.97	5.52	5.52
Yellowstone County	B4	RM 354.33	90291.31	10-yr	1730.16	920.7	915.37	2.34	1.24	30.27	12.39	150.94	1342.58	2.74	1.12	5.33	5.33
Yellowstone County	B4	RM 354.23	90133.96	10-yr	1730.16	920.44	915.46	2.67	1.33	41.64	11.99	114.68	1379.49	3.44	0.98	4.98	4.98
Yellowstone County	B4	RM 354.13	89983.48	10-yr	1730.16	920.33	914.94	2.22	1.14	34.44	9.76	130.92	1493	3.59	1.01	5.39	5.39
Yellowstone County	B4	RM 354.00	89778.46	10-yr	1730.16	920.2	916.2	2.02	1.05	28.56	9.42	157.78	1687.28	2.97	0.98	4	4
Yellowstone County	B5	RM 353.90	89604.28	10-yr	1730.16	920.08	917.06	1.78	1.04	23.16	10.04	243.01	1671.48	2.31	1	3.18	3.18
Yellowstone County	B5	RM 353.80	89446.75	10-yr	1840.6	919.93	916.36	1.84	1.15	29.53	11.84	301.01	1827.75	2.19	0.87	3.57	3.57
Yellowstone County	B5	RM 353.70	89288.94	10-yr	1840.6	919.78	915.92	1.47	0.99	23.8	11.6	391.45	1839.39	2.08	1.01	3.86	3.86
Yellowstone County	B5	RM 353.65	89204.58	10-yr	1840.6	919.66	915.49	1.38	0.97	23.8	12.54	403.6	1748.16	2.06	1.08	4.17	4.17
Yellowstone County	B5	RM 353.56	89077.56	10-yr	1840.6	919.52	914.2	1.47	1.02	24.91	12.28	363.8	1563.08	2.35	1.15	5.32	5.32
Yellowstone County	B5	RM 353.50	88982.39	10-yr	1840.6	919.44	914.58	1.44	0.98	22.21	9.68	306.65	1433.53	3.03	1.32	4.86	4.86
Yellowstone County	B5	RM 353.41	88846.15	10-yr	1840.6	919.26	914.41	1.74	1.17	29.22	11.51	230.57	1350.98	2.98	1.17	4.85	4.85
Yellowstone County	B5	RM 353.32	88709.14	10-yr	1840.6	919.03	913.6	2.23	1.39	37.04	13.32	194.16	1189.58	3.12	1.12	5.43	5.43
Yellowstone County	B5	RM 353.25	88587.13	10-yr	1840.6	918.75	912.76	2.74	1.64	48.41	15.9	160.68	1095.73	3.13	1.03	5.99	5.99
Yellowstone County	B5	RM 353.15	88438.48	10-yr	1840.6	918.43	912.71	2.94	2.03	53.89	22.61	211.93	973.95	2.23	0.93	5.72	5.72
Yellowstone County	B5	RM 353.08	88321.13	10-yr	1840.6	918.27	912.99	2.66	1.86	43.71	18	197.65	953.47	2.52	1.04	5.28	5.28
Yellowstone County	B5	RM 353.01	88210.34	10-yr	1840.6	918.12	913.13	2.31	1.72	39.66	19.28	249.61	940.16	2.34	1.14	4.99	4.99
Yellowstone County	B5	RM 352.94	88090.6	10-yr	1840.6	918.03	912.5	2.04	1.55	29.12	13.31	175.15	833.96	3.13	1.43	5.53	5.53
Yellowstone County	B5	RM 352.86	87957.76	10-yr	1840.6	917.87	913.38	2.27	1.72	44.17	16.78	131.42	1310.18	3.23	1.22	4.49	4.49
Yellowstone County	B5	RM 352.79	87857.09	10-yr	1840.6	917.62	913.06	2.9	1.94	39.26	14.26	110.01	930.93	3.07	1.11	4.56	4.56
Yellowstone County	B5	RM 352.72	87748.15	10-yr	1840.6	917.51	911.97	2.84	1.76	60.91	14.6	89.99	1443.48	4.01	0.95	5.54	5.54
Yellowstone County	B5	RM 352.68	87677.1	10-yr	1840.6	917.42	912.27	2.18	1.75	64.83	31.96	309.5	1819.15	2.01	0.98	5.15	5.15
Yellowstone County	B5	RM 352.64	87605.18	10-yr	1840.6	917.02	911.68	2.94	1.97	64.2	23.43	190.45	976.14	2.86	1.03	5.34	5.34
Yellowstone County	B5	RM 352.54	87461.4	10-yr	1840.6	916.94	912.57	2.16	1.61	30.24	12.67	266.08	1499.31	2.67	1.11	4.37	4.37
Yellowstone County	B5	RM 352.47	87340.46	10-yr	1840.6	916.82	912.2	2.1	1.41	27.91	13.58	230.4	2024.87	2.38	1.16	4.62	4.62
Yellowstone County	B5	RM 352.39	87216.99	10-yr	1840.6	916.51	912.01	2.79	1.93	46.67	24.26	182.32	1170.07	2.16	1.12	5.32	5.32
Yellowstone County	B5	RM 352.31	87079.16	10-yr	1840.6	916.17	910.66	2.95	1.99	65.14	32.81	182.85	956.09	2.08	1.04	5.51	5.51
Yellowstone County	B5	RM 352.23	86961.03	10-yr	1840.6	916.05	911.35	1.9	1.47	24.85	17.88	252.25	1160.68	1.75	1.26	4.7	4.7
Yellowstone County	B5	RM 352.18	86873.5	10-yr	1840.6	915.93	911.21	2.05	1.65	26.59	17.19	220.67	1163.49	2.2	1.42	4.72	4.72
Yellowstone County	B5	RM 352.09	86723.6	10-yr	1840.6	915.75	912.18	2.24	1.67	33.25	14.55	174.13	1383.35	2.4	1.05	3.57	3.57
Yellowstone County	B5	RM 351.99	86568.41	10-yr	1840.6	915.35	912.6	3.07	2.16	53.96	22.01	145.44	956.17	2.32	0.94	2.77	2.77
Yellowstone County	B5	RM 351.93	86466.74	10-yr	1840.6	915.25	911.69	2.48	1.7	38.42	19.18	171.81	1217.52	2.01	1	3.56	3.56
Yellowstone County	B5	RM 351.88	86386.8	10-yr	1840.6	915.17	911.38	1.81	1.42	26.98	20.46	189.58	1398.17	1.76	1.33	3.79	3.79
Yellowstone County	B5	RM 351.81	86277.68	10-yr	1840.6	915.07	910.99	1.59	1.26	18.74	16.1	239.54	1602.64	1.61	1.38	4.08	4.08
Yellowstone County	B5	RM 351.74	86159.62	10-yr	1840.6	914.75	911.37	1.61	1.58	21.79	19.22	269.53	1232.42	1.29	1.14	3.92	3.92
Yellowstone County	B5	RM 351.67	86034.59	10-yr	1840.6	914.48	911.31	1.88	1.62	27.74	19.76	200.04	946.53	1.75	1.25	4.1	4.1
Yellowstone County	B5	RM 351.58	85891.33	10-yr	1840.6	914.28	911.47	1.59	1.6	20.36	16.28	235.36	890.08	1.69	1.35	4.19	4.19
Yellowstone County	B5	RM 351.52	85811.35	10-yr	1840.6	914.14	911.37	1.91	1.75	23.08	17.92	249.91	848.62	1.64	1.28	3.41	3.41
Yellowstone County	B5	RM 351.47	85728.2	10-yr	1840.6	914.04	911.17	1.89	1.68	20.66	15.73	191.74	744.32	2.04	1.55	3.5	3.5
Yellowstone County	B5	RM 351.40	85601.48	10-yr	1840.6	913.9	910.26	1.97	1.63	23.64	15.17	156.44	1210.25	1.95	1.25	3.99	3.99
Yellowstone County	B5	RM 351.34	85482.66	10-yr	1840.6	913.8	909.98	1.43	1.43	28.14	14.92	144.75	1362.29	2.33	1.23	3.83	3.83
Yellowstone County	B5	RM 351.25	85342.53	10-yr	1840.6	913.68	909.91	1.47	1.28	16.73	11.83	260.93	1287.43	1.74	1.23	3.8	3.8
Yellowstone County	B5	RM 351.21	85257.19	10-yr	1840.6	913.6	909.48	1.71	1.28	20.42	12.39	199.86	1261.95	1.88	1.14	4.12	4.12
Yellowstone County	B5	RM 351.12	85127.55	10-yr	1840.6	913.51	909.49	1.72	1.31	18.72	11.08	172.25	1165.09	2.06	1.21	4.02	4.02

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	10-yr	1840.6	913.38	908.79	2.03	1.38	25.15	11.55	125.54	1050.85	2.79	1.27	4.59	4.59
Yellowstone County	B5	RM 350.90	84769.91	10-yr	1840.6	913.33	909.27	1.5	1.13	15.07	6.64	97.93	1157.86	3.25	1.41	4.06	4.06
Yellowstone County	B5	RM 350.75	84536.19	10-yr	1840.6	913.18	909.72	1.28	1.46	25.73	18.97	261.11	829.62	2.06	1.52	3.8	3.8
Yellowstone County	B5	RM 350.66	84383.33	10-yr	1840.6	912.99	909.32	1.71	1.66	34.18	18.12	171.32	881.84	2.38	1.26	3.67	3.67
Yellowstone County	B5	RM 350.57	84244.69	10-yr	1840.6	912.69	908.48	2.03	1.78	44.61	19.41	151.54	884.02	2.71	1.17	4.22	4.22
Yellowstone County	B5	RM 350.50	84128.62	10-yr	1840.6	912.44	908.49	2.19	1.92	49.33	23.17	159.13	824.28	2.48	1.16	3.95	3.95
Yellowstone County	B5	RM 350.40	83974.24	10-yr	1840.6	912.25	908.73	1.66	1.63	24.58	17.06	316.24	887.02	1.84	1.28	3.52	3.52
Yellowstone County	B5	RM 350.33	83868.06	10-yr	1840.6	912.13	908.17	1.68	1.54	20.22	14.88	326.5	869.59	1.87	1.37	3.96	3.96
Yellowstone County	B5	RM 350.23	83712.91	10-yr	1840.6	911.9	907.61	1.91	1.64	28.28	18.42	300.73	963.74	1.87	1.21	4.29	4.29
Yellowstone County	B5	RM 350.14	83563.43	10-yr	1840.6	911.72	907.94	1.73	1.48	24.09	15.07	301.02	1120.6	1.95	1.21	3.78	3.78
Yellowstone County	B5	RM 350.06	83419.86	10-yr	1840.6	911.51	907.84	1.61	1.42	25.43	15.31	344.29	1282.25	1.87	1.13	3.67	3.67
Yellowstone County	B5	RM 349.94	83229.4	10-yr	1840.6	911.27	906.93	1.71	1.41	24.47	12.64	279.96	1485.56	2.09	1.08	4.34	4.34
Yellowstone County	B5	RM 349.83	83071.99	10-yr	1840.6	911.15	907.36	1.63	1.18	14.4	6.24	370.02	1342.44	2.76	1.2	3.79	3.79
Yellowstone County	B5	RM 349.68	82904.73	10-yr	1840.6	910.94	906.92	2.04	1.49	32.12	15.26	346.49	1344.49	2.27	1.07	4.02	4.02
Yellowstone County	B5	RM 349.54	82632.78	10-yr	1840.6	910.55	906.29	1.99	1.7	26.59	15.58	449.31	1036.27	1.95	1.14	4.26	4.26
Yellowstone County	B5	RM 349.33	82276.28	10-yr	1840.6	910.28	906.45	1.26	1.18	14.52	11.43	351.49	969.48	2.06	1.63	3.83	3.83
Yellowstone County	B5	RM 349.19	82046.53	10-yr	1840.6	909.96	905.16	2.06	1.46	26.3	13.67	282.11	1341.38	2.15	1.12	4.8	4.8
Yellowstone County	B5	RM 349.04	81800.47	10-yr	1942.54	909.77	904.5	1.63	1.28	16.89	9.4	345.54	1626.64	2.34	1.3	5.27	5.27
Yellowstone County	B5	RM 348.89	81574.02	10-yr	1942.54	909.64	904.75	1.28	1.12	17.8	10.32	550.23	1650.69	2.55	1.47	4.89	4.89
Yellowstone County	B5	RM 348.77	81370.46	10-yr	1942.54	909.47	905.09	1.4	1.17	23.53	12.47	461.39	1666.58	2.64	1.39	4.38	4.38
Yellowstone County	B5	RM 348.64	81138.52	10-yr	1942.54	909.27	903.35	1.74	1.25	17.81	7.21	295.17	1520.24	3.27	1.31	5.92	5.92
Yellowstone County	B5	RM 348.52	80960.09	10-yr	1942.54	909.09	902.88	2.11	1.48	36.38	12.26	207.47	1174.52	3.65	1.22	6.21	6.21
Yellowstone County	B5	RM 348.38	80737.31	10-yr	1942.54	908.65	902.85	2.74	1.99	54.59	14.45	186.79	1068.05	3.5	0.92	5.8	5.8
Yellowstone County	B5	RM 348.26	80551.51	10-yr	1942.54	908.36	902.73	2.71	1.96	61.78	16.36	167.8	1034.72	3.65	0.96	5.63	5.63
Yellowstone County	B5	RM 348.09	80276.34	10-yr	1942.54	908.01	901.64	2.56	1.78	43.57	15.28	171.66	865.49	3.62	1.26	6.37	6.37
Yellowstone County	B5	RM 347.95	80055.79	10-yr	1942.54	907.8	902.96	2.5	1.88	30.8	13.31	165.09	746.64	3.85	1.67	4.84	4.84
Yellowstone County	B5	RM 347.82	79844.2	10-yr	1942.54	907.64	902.93	2.2	1.75	40.91	14.43	180.88	896.8	3.53	1.24	4.71	4.71
Yellowstone County	B5	RM 347.77	79751.93	10-yr	1942.54	907.54	902.38	2.23	1.63	43.14	16.26	178.59	892.34	3.55	1.34	5.16	5.16
Yellowstone County	B5	RM 347.70	79643.98	10-yr	1942.54	907.4	901.91	2.22	1.52	41.94	14.15	182.31	1101.93	3.46	1.16	5.49	5.49
Yellowstone County	B5	RM 347.61	79501.64	10-yr	1942.54	907.35	902.2	1.85	1.17	17.34	8.93	192.93	931.89	3.78	1.95	5.15	5.15
Yellowstone County	B5	RM 347.51	79347.38	10-yr	1942.54	906.96	900.54	3.06	1.98	43.74	17.28	112.36	800.09	4.52	1.77	6.42	6.42
Yellowstone County	B5	RM 347.42	79196.21	10-yr	1942.54	906.88	900.73	2.55	1.96	61.31	30.24	145.02	841.2	3.98	1.96	6.15	6.15
Yellowstone County	B5	RM 347.35	79079.87	10-yr	1942.54	906.94	900.77	1.29	1.29	7.89	7.88	498.52	1062.11	3.02	3.01	6.17	6.17
Yellowstone County	B5	RM 347.23	78895.71	10-yr	1942.54	906.87	900.89	1.39	1.38	11.8	11.29	509.03	1341.67	2.75	2.63	5.98	5.98
Yellowstone County	B5	RM 347.13	78732.21	10-yr	1942.54	906.75	900.98	1.51	1.47	25.97	19.86	440.82	1309.92	2.9	2.21	5.77	5.77
Yellowstone County	B5	RM 346.93	78400.21	10-yr	1942.54	906.21	900.98	1.78	1.69	62.18	51.35	465.17	914.38	2.3	1.89	5.23	5.23
Yellowstone County	B5	RM 346.80	78193.27	10-yr	1942.54	905.61	900.02	1.95	1.69	54.81	38.85	454.36	816.72	2.06	1.46	5.59	5.59
Yellowstone County	B5	RM 346.64	77938.83	10-yr	1942.54	905.33	900.47	1.97	1.44	20.68	9.77	247.04	876.42	3.33	1.57	4.86	4.86
Yellowstone County	B5	RM 346.49	77706.6	10-yr	1942.54	905.07	900.21	2.44	1.62	36.37	12.36	176.57	1037.33	3.5	1.18	4.86	4.86
Yellowstone County	B6	RM 346.35	77480.6	10-yr	1942.54	904.86	900.33	2.22	1.48	35.17	12.95	214.58	1075.78	3.38	1.24	4.53	4.53
Yellowstone County	B6	RM 346.23	77285.9	10-yr	1942.54	904.56	900.11	2.6	1.68	35.48	11.58	177.25	989.39	3.62	1.17	4.45	4.45
Yellowstone County	B6	RM 346.11	77095.33	10-yr	1942.54	904.36	899.75	2.52	1.78	45.44	18.63	182.29	816.24	3.58	1.46	4.61	4.61
Yellowstone County	B6	RM 346.00	76926.16	10-yr	1942.54	904.18	899.8	2.47	1.77	36.46	14.44	177.87	880.94	3.74	1.47	4.38	4.38
Yellowstone County	B6	RM 345.90	76766.95	10-yr	1942.54	903.91	899.51	2.74	1.95	50.46	22.35	179.39	725.95	3.51	1.55	4.4	4.4
Yellowstone County	B6	RM 345.80	76608.55	10-yr	1942.54	903.76	899.04	2.43	1.79	35.43	15.35	198.64	913.64	3.57	1.54	4.86	4.86
Yellowstone County	B6	RM 345.73	76484.99	10-yr	1942.54	903.57	899.01	2.64	1.93	41.77	17.24	198.24	1059.01	3.21	1.33	4.67	4.67
Yellowstone County	B6	RM 345.67	76386.71	10-yr	1942.54	903.53	899.1	2.21	1.59	28.76	12.79	212.21	776.14	3.54	1.57	4.63	4.63
Yellowstone County	B6	RM 345.60	76268.76	10-yr	1942.54	903.43	899.22	2.16	1.6	31.43	17.44	235.37	688.87	3.18	1.76	4.53	4.53
Yellowstone County	B6	RM 345.50	76118.1	10-yr	1942.54	903.29	899.07	1.86	1.59	38.35	25.74	280.8	648.51	2.81	1.88	4.39	4.39
Yellowstone County	B6	RM 345.37	75909.53	10-yr	1942.54	902.85	897.51	2.28	2.04	42.96	23.02	316.61	705.77	2.62	1.4	5.34	5.34
Yellowstone County	B6	RM 345.27	75751.01	10-yr	1942.54	902.6	898.15	2.41	1.87	36.49	15.06	252.45	902.37	3	1.23	4.45	4.45
Yellowstone County	B6	RM 345.07	75427.56	10-yr	1942.54	902.36	897.07	2.05	1.53	23.04	8.83	241.2	1130.11	3.52	1.34	5.29	5.29
Yellowstone County	B6	RM 344.90	75166.64	10-yr	1942.54	902.25	897.3	1.74	1.32	17.47	7.27	294.53	1044.18	3.39	1.41	4.95	4.95
Yellowstone County	B6	RM 344.75	74927.69	10-yr	1942.54	902.03	896.02	2.06	1.56	34.08	12.89	235.01	934.43	3.55	1.33	6.01	6.01
Yellowstone County	B6	RM 344.64	74743.45	10-yr	1942.54	901.64	895.93	2.81	2.06	42.68	11.75	158.71	848.44	4.07	1.11	5.71	5.71
Yellowstone County	B6	RM 344.53	74576.12	10-yr	1942.54	901.47	895.39	2.65	1.9	60.32	18.82	162.09	908.45	3.76	1.17	6.08	6.08
Yellowstone County	B6	RM 344.43	74405.67	10-yr	1942.54	901.33	896.11	2.41	1.59	27.33	8.92	179.43	1104.36	3.59	1.17	5.22	5.22
Yellowstone County	B6	RM 344.29	74192.79	10-yr	1942.54	901.18	895.87	2.25	1.56	30.58	10.03	179.75	1005.24	3.79	1.24	5.31	5.31
Yellowstone County	B6	RM 344.13	73931.76	10-yr	1942.54	900.91	895.4	2.47	1.77	35.4	11.58	157.02	812.51	4.14	1.35	5.51	5.51
Yellowstone County	B6	RM 343.87	73520.95	10-yr	1942.54	900.66	895.23	1.96	1.49	20.36	8.21	287.43	1025.42	3.16	1.27	5.43	5.43
Yellowstone County	B6	RM 343.80	73403.19	10-yr	1942.54	900.62	894.69	1.54	1.21	26.77	12.13	356.81	1194.35	2.98	1.35	5.93	5.93

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	10-yr	1942.54	900.34	894.63	1.6	1.39	39.64	20.49	395.43	1002.44	2.71	1.39	5.71	5.71
Yellowstone County	B6	RM 343.55	72997.33	10-yr	1942.54	900.08	894.63	1.67	1.46	38.44	18.8	370.26	944.41	2.89	1.41	5.45	5.45
Yellowstone County	B6	RM 343.45	72840.49	10-yr	1942.54	899.83	894.78	1.79	1.62	36.62	18.47	401.54	920.75	2.59	1.31	5.05	5.05
Yellowstone County	B6	RM 343.37	72718.86	10-yr	1942.54	899.57	894.5	2.07	1.83	52.51	24.26	336.2	885.63	2.61	1.2	5.07	5.07
Yellowstone County	B6	RM 343.29	72586.22	10-yr	1942.54	899.34	894.28	2.06	1.7	41.64	20.22	279.7	769.15	3.07	1.48	5.06	5.06
Yellowstone County	B6	RM 343.21	72458.03	10-yr	1942.54	899.15	893.99	1.87	1.58	51.08	29.91	356.78	798.5	2.64	1.54	5.16	5.16
Yellowstone County	B6	RM 343.14	72328.78	10-yr	1942.54	898.87	893.94	1.82	1.56	55.38	37.84	432.5	813.97	2.24	1.53	4.93	4.93
Yellowstone County	B6	RM 343.04	72174.44	10-yr	1942.54	898.69	894.12	1.61	1.36	17.83	11.1	485.75	983.26	2.35	1.46	4.57	4.57
Yellowstone County	B6	RM 342.96	72046.7	10-yr	1942.54	898.55	894.17	1.56	1.35	37.46	23.19	506.46	1088.31	2.2	1.36	4.38	4.38
Yellowstone County	B6	RM 342.87	71890.42	10-yr	1942.54	898.21	893.92	1.62	1.41	48.26	29.91	541.11	1143.5	1.95	1.21	4.29	4.29
Yellowstone County	B6	RM 342.78	71759.64	10-yr	1942.54	898.05	893.85	1.61	1.34	14.45	9.27	524.98	1213.76	1.94	1.24	4.2	4.2
Yellowstone County	B6	RM 342.71	71649.64	10-yr	1942.54	897.97	893.88	1.54	1.27	13.03	8.18	525.35	1415.23	1.86	1.16	4.09	4.09
Yellowstone County	B6	RM 342.64	71534.72	10-yr	1942.54	897.85	893.45	1.36	1.22	30.53	20.67	689.38	1657.19	1.85	1.25	4.4	4.4
Yellowstone County	B6	RM 342.59	71441.82	10-yr	1942.54	897.66	893.13	1.43	1.35	35.63	24.22	689.48	1950.78	1.82	1.24	4.53	4.53
Yellowstone County	B6	RM 342.49	71299.94	10-yr	1942.54	897.47	892.73	1.28	1.19	23.09	12.83	666.31	2140.31	2.2	1.22	4.74	4.74
Yellowstone County	B6	RM 342.40	71182.23	10-yr	1942.54	897.39	892.4	1.11	1.01	16.79	8.5	600.2	2188.4	2.79	1.41	4.99	4.99
Yellowstone County	B6	RM 342.29	70973.95	10-yr	1942.54	897.19	891.26	1.44	1.28	24.48	11.31	481.61	1939.52	2.62	1.21	5.93	5.93
Yellowstone County	B6	RM 342.17	70788.09	10-yr	1942.54	896.79	891.21	2.11	1.87	56.48	25.75	378.69	1459.39	2.29	1.04	5.58	5.58
Yellowstone County	B6	RM 342.09	70668.79	10-yr	1942.54	896.6	892.22	1.85	1.63	39.73	17.54	377.92	1356.01	2.64	1.16	4.38	4.38
Yellowstone County	B6	RM 341.96	70472.35	10-yr	1942.54	896.44	891.5	1.64	1.46	14.64	8.43	503.44	1402.87	2.24	1.29	4.94	4.94
Yellowstone County	B6	RM 341.82	70207.79	10-yr	1942.54	896.29	890.89	1.32	1.23	17.39	12.19	580.95	929.16	2.43	1.7	5.4	5.4
Yellowstone County	B6	RM 341.68	69974.03	10-yr	1942.54	896.08	890.38	1.47	1.37	23.04	16.14	479.64	781.97	2.64	1.85	5.7	5.7
Yellowstone County	B6	RM 341.57	69788.71	10-yr	1942.54	895.82	889.58	1.99	1.91	18.35	13.55	430.96	621.45	2.23	1.65	6.24	6.24
Yellowstone County	B6	RM 341.47	69629.19	10-yr	1942.54	895.64	889.76	1.81	1.72	49.99	34.63	395.38	674.17	2.62	1.81	5.88	5.88
Yellowstone County	B6	RM 341.32	69391.37	10-yr	1942.54	895.16	890.36	1.88	1.76	48.93	35.27	401.03	613.98	2.5	1.8	4.8	4.8
Yellowstone County	B6	RM 341.24	69252.71	10-yr	1942.54	895.04	890.28	1.68	1.5	16.56	10.79	396.74	731.89	2.71	1.77	4.76	4.76
Yellowstone County	B6	RM 341.11	69044.61	10-yr	1942.54	894.76	890	2.13	1.72	35.7	20.55	324.55	748.92	2.63	1.51	4.76	4.76
Yellowstone County	B6	RM 340.94	68773.18	10-yr	1942.54	894.44	889.22	2.1	1.5	32.83	15.05	280.24	998.57	2.91	1.33	5.22	5.22
Yellowstone County	B6	RM 340.81	68556.42	10-yr	1942.54	894.32	889.05	1.54	1.09	20.31	10.61	315.44	1109.34	3.1	1.61	5.27	5.27
Yellowstone County	B6	RM 340.65	68325.7	10-yr	1942.54	894.1	888.87	2.11	1.28	21.58	8.88	204.11	1002.55	3.69	1.51	5.23	5.23
Yellowstone County	B6	RM 340.52	68126.27	10-yr	1942.54	893.88	887.3	2.54	1.47	43.11	12.54	130.27	967.91	4.73	1.36	6.58	6.58
Yellowstone County	B6	RM 340.40	67936.51	10-yr	1942.54	893.75	886.73	2.16	1.39	38.75	15.04	170.6	855.33	4.24	1.64	7.02	7.02
Yellowstone County	B7	RM 340.26	67715.84	10-yr	1942.54	893.5	887.99	2.05	1.6	49.24	27.35	251.72	661.69	3.32	1.84	5.51	5.51
Yellowstone County	B7	RM 340.16	67550.99	10-yr	1942.54	893.21	888.43	1.97	1.63	58.55	37.4	313.54	666.6	2.81	1.79	4.78	4.78
Yellowstone County	B7	RM 340.06	67387.35	10-yr	1942.54	892.93	888.74	1.9	1.69	39.96	27.98	315.76	562.41	2.93	2.05	4.19	4.19
Yellowstone County	B7	RM 339.96	67234.59	10-yr	1942.54	892.67	888.85	2.16	2.04	27.49	17.84	360.1	596.96	2.47	1.6	3.82	3.82
Yellowstone County	B7	RM 339.88	67094.07	10-yr	1942.54	892.51	888.78	1.9	1.82	39.98	34.36	445.51	554.23	2.25	1.93	3.73	3.73
Yellowstone County	B7	RM 339.79	66960.51	10-yr	1942.54	892.19	888.98	2.16	2.16	32.84	32.75	502.86	504.23	1.79	1.78	3.21	3.21
Yellowstone County	B7	RM 339.72	66843.76	10-yr	1942.54	892.05	888.72	1.92	1.85	24.21	21.65	511.19	606.05	1.96	1.75	3.33	3.33
Yellowstone County	B7	RM 339.66	66753.41	10-yr	1942.54	892	887.9	1.66	1.59	17.28	14.75	524.07	701.61	2.2	1.88	4.1	4.1
Yellowstone County	B7	RM 339.52	66527.74	10-yr	1942.54	891.82	887.31	1.83	1.47	18.31	11.35	312.36	942.92	3.06	1.89	4.51	4.51
Yellowstone County	B7	RM 339.37	66324.85	10-yr	1942.54	891.63	887.17	2.03	1.55	40.45	20.66	232.31	1084.03	3.29	1.68	4.46	4.46
Yellowstone County	B7	RM 339.24	66108.49	10-yr	1942.54	891.16	886.45	2.74	2.12	39.74	22.58	218.09	749.17	2.77	1.57	4.71	4.71
Yellowstone County	B7	RM 339.13	65940.41	10-yr	1942.54	890.93	885.31	2.8	1.93	48.96	24.28	143.34	781	3.35	1.65	5.62	5.62
Yellowstone County	B7	RM 339.02	65745.93	10-yr	1942.54	890.58	886.09	2.86	2.21	43.21	20.69	186.97	648.08	2.94	1.41	4.49	4.49
Yellowstone County	B7	RM 338.94	65621.59	10-yr	1942.54	890.51	886.36	2.34	1.74	29.37	16.28	223.57	763.13	2.76	1.53	4.15	4.15
Yellowstone County	B7	RM 338.83	65433.26	10-yr	1942.54	890.32	886.37	2.11	1.66	33.07	17.39	224.18	816.23	2.8	1.47	4.3	4.3
Yellowstone County	B7	RM 338.72	65256.88	10-yr	1942.54	890.09	886.18	2.12	1.81	36.22	21.57	205.45	627.02	3.05	1.82	4.29	4.29
Yellowstone County	B7	RM 338.62	65095.08	10-yr	1942.54	889.76	886.28	2.7	2.17	40.57	22.9	178.57	594.49	2.89	1.63	4.14	4.14
Yellowstone County	B7	RM 338.49	64891.36	10-yr	1942.54	889.58	885.05	2.41	1.88	31.79	18.64	173.44	657.47	3.01	1.77	4.53	4.53
Yellowstone County	B7	RM 338.40	64742.15	10-yr	1942.54	889.56	884.28	1.67	1.38	14.76	10.02	165.67	907.38	3.15	2.13	5.28	5.28
Yellowstone County	B7	RM 338.29	64577.05	10-yr	1942.54	889.43	884.18	2.06	1.5	22.71	10.3	123.01	923.37	3.52	1.59	5.25	5.25
Yellowstone County	B7	RM 338.19	64384.71	10-yr	1942.54	889.38	885.23	1.41	1.16	12.51	8.85	393.33	949.17	2.54	1.8	4.15	4.15
Yellowstone County	B7	RM 338.06	64164.59	10-yr	1942.54	889.29	884.64	1.47	1.04	13.54	7.5	284.25	1169.5	3.06	1.7	4.65	4.65
Yellowstone County	B7	RM 337.91	63921.69	10-yr	1942.54	889.11	884.16	1.91	1.19	18.05	8.58	205.66	1179.13	3.35	1.59	4.95	4.95
Yellowstone County	B7	RM 337.83	63789.53	10-yr	1942.54	888.8	882.72	2.76	1.76	45.22	16.82	177.97	891.25	3.35	1.24	6.08	6.08
Yellowstone County	B7	RM 337.75	63667.96	10-yr	1942.54	888.45	881.69	3.3	2.09	58.19	20.22	142.92	756.61	3.56	1.23	6.76	6.76
Yellowstone County	B7	RM 337.68	63550.4	10-yr	1942.54	888.29	882.49	3.02	2.19	56.04	19.57	161.63	699.91	3.64	1.27	5.8	5.8
Yellowstone County	B7	RM 337.58	63396.62	10-yr	1942.54	888.07	883.62	2.97	2.15	46.51	18.32	189.36	752.55	3.05	1.2	4.45	4.45
Yellowstone County	B7	RM 337.47	63212.44	10-yr	1942.54	887.92	883.31	2.52	1.77	39.58	16.01	178.5	842.91	3.22	1.3	4.61	4.61
Yellowstone County	B7	RM 337.38	63064.58	10-yr	1942.54	887.69	883.29	2.72	1.75	37.86	15.31	176.55	896.68	3.07	1.24	4.4	4.4

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	10-yr	1942.54	887.68	883.15	1.8	1.18	16.4	7.77	210.44	1112.5	3.12	1.48	4.53	4.53
Yellowstone County	B7	RM 337.16	62717.85	10-yr	1942.54	887.63	882.57	1.37	1.05	10.43	6.35	396.41	1102.64	2.74	1.67	5.06	5.06
Yellowstone County	B7	RM 337.04	62524.52	10-yr	1942.54	887.56	879.61	1.58	1.04	12.63	5.2	153.87	980.82	4.63	1.9	7.95	7.95
Yellowstone County	B7	RM 336.96	62390.64	10-yr	1942.54	887.49	880.21	1.72	1.22	21.64	9.74	185.6	890.34	4.04	1.81	7.28	7.28
Yellowstone County	B7	RM 336.87	62246.97	10-yr	1942.54	887.36	881.41	2.04	1.36	23.36	9.87	156.32	832.31	4.19	1.76	5.95	5.95
Yellowstone County	B7	RM 336.80	62131.42	10-yr	1942.54	887.3	881.33	1.95	1.35	30.68	14.11	162.29	958.33	3.84	1.76	5.97	5.97
Yellowstone County	B7	RM 336.72	62005.73	10-yr	1942.54	887.05	881.38	2.54	1.71	49.59	16.93	136.15	897.65	4.04	1.37	5.67	5.67
Yellowstone County	B7	RM 336.66	61902.64	10-yr	1942.54	886.54	881.45	3.59	2.62	89.74	30.27	116.63	592.9	3.73	1.25	5.09	5.09
Yellowstone County	B7	RM 336.59	61800.43	10-yr	1942.54	886.5	880.66	2.81	2.11	58.03	19.11	135.93	679.76	4.13	1.35	5.84	5.84
Yellowstone County	B7	RM 336.52	61689.55	10-yr	1942.54	886.36	881.76	2.74	1.97	47.79	16.57	145.49	812.39	3.5	1.21	4.6	4.6
Yellowstone County	B7	RM 336.46	61580.5	10-yr	1942.54	886.24	882.13	2.49	1.88	48.19	17.43	162.48	892.21	3.2	1.16	4.11	4.11
Yellowstone County	B7	RM 336.40	61491.01	10-yr	1942.54	886.09	882.03	2.55	1.81	48.76	17.47	162.53	911.72	3.3	1.18	4.06	4.06
Yellowstone County	B7	RM 336.34	61394.22	10-yr	1942.54	885.95	881.93	2.58	1.69	44.15	18.81	163.69	917.42	3.14	1.33	4.02	4.02
Yellowstone County	B7	RM 336.27	61278.9	10-yr	1942.54	885.81	881.67	2.47	1.58	40.27	16.95	169.95	982.17	3.13	1.32	4.14	4.14
Yellowstone County	B7	RM 336.19	61159.07	10-yr	1942.54	885.64	882.11	2.49	1.72	33.99	15.83	211.78	1036.81	2.41	1.12	3.52	3.52
Yellowstone County	B7	RM 336.09	60993.57	10-yr	1942.54	885.5	882.16	1.89	1.33	23.04	13.5	319.78	1120.46	2.3	1.34	3.34	3.34
Yellowstone County	B7	RM 335.98	60812.26	10-yr	1942.54	885.34	881.93	1.4	1.27	25.07	19.47	437.55	1203.36	1.89	1.46	3.61	3.61
Yellowstone County	B7	RM 335.89	60669.74	10-yr	1942.54	885.17	880.16	1.61	1.45	14.44	12.66	726.47	1336.1	1.54	1.35	5.01	5.01
Yellowstone County	B7	RM 335.77	60465.85	10-yr	1942.54	884.84	880.49	1.57	1.52	43.95	38.87	866.77	1510.4	1.34	1.18	4.35	4.35
Yellowstone County	B7	RM 335.68	60324.8	10-yr	1942.54	884.53	880.65	1.8	1.69	15.68	13.23	838.08	1505.54	1.26	1.06	3.88	3.88
Yellowstone County	B7	RM 335.59	60183.7	10-yr	1942.54	884.34	880.3	1.79	1.68	15.81	12.77	904.12	1659.42	1.18	0.95	4.04	4.04
Yellowstone County	B7	RM 335.51	60046.12	10-yr	1942.54	884.17	880.03	1.75	1.64	14.04	10.52	916.06	2138.54	1.19	0.89	4.14	4.14
Yellowstone County	B7	RM 335.41	59899.97	10-yr	1942.54	884.08	879.45	1.31	1.16	11.75	9.06	905.47	2262.26	1.55	1.2	4.63	4.63
Yellowstone County	B7	RM 335.36	59814.82	10-yr	1942.54	884.07	878.65	0.97	0.83	5.47	3.99	896.25	2618.45	2.11	1.54	5.42	5.42
Yellowstone County	B7	RM 335.12	59393.71	10-yr	1942.54	883.86	878.54	1.65	0.96	15.27	5.94	331.92	2861.57	2.71	1.05	5.32	5.32
Yellowstone County	B7	RM 335.03	59228.59	10-yr	1942.54	883.54	876.8	2.78	1.36	52.46	12.78	149.6	2406.72	3.19	0.77	6.74	6.74
Yellowstone County	B7	RM 334.91	59041.32	10-yr	1942.54	883.34	878.31	2.18	1.16	34.49	11.27	229.84	2121.69	2.65	0.87	5.03	5.03
Yellowstone County	B7	RM 334.85	58937.73	10-yr	1942.54	883.19	878.66	2.19	1.13	36.26	11.66	224.38	2157.39	2.7	0.87	4.53	4.53
Yellowstone County	B7	RM 334.73	58737.5	10-yr	1942.54	882.66	879.52	3	1.73	55.46	16.88	192.5	1463.15	2.61	0.79	3.28	3.28
Yellowstone County	B7	RM 334.63	58573.32	10-yr	1942.54	882.52	878.31	2.42	1.42	32.64	12.85	187.59	1593.61	2.61	1.03	4.21	4.21
Yellowstone County	B7	RM 334.54	58424.99	10-yr	1942.54	882.51	877.09	1.18	1.1	14.67	7.25	154.81	1395.38	2.85	1.4	5.42	5.42
Yellowstone County	B7	RM 334.22	57821.07	10-yr	1942.54	882.2	875.76	1.92	1.22	16.39	5.92	196.06	1326.79	3.84	1.38	6.44	6.44
Yellowstone County	B7	RM 334.09	57621.62	10-yr	1942.54	881.95	875.55	2.75	1.81	61.96	22.61	119.41	953.16	3.62	1.32	6.4	6.4
Yellowstone County	B7	RM 333.98	57440.64	10-yr	1942.54	881.81	875.46	2.35	1.65	28.2	10.25	140.01	756.06	4.48	1.62	6.35	6.35
Yellowstone County	B7	RM 333.83	57207.78	10-yr	1942.54	881.61	875.4	2.4	1.94	39.72	18.95	157.79	628.22	3.74	1.78	6.21	6.21
Yellowstone County	B7	RM 333.69	56989.22	10-yr	1942.54	881.4	873.45	1.86	1.73	36.79	24.74	337.33	597.77	3.01	2.02	7.95	7.95
Yellowstone County	B7	RM 333.54	56738.21	10-yr	1942.54	881.25	874.22	1.3	1.16	19.67	11.14	409.8	1126.65	3.43	1.94	7.03	7.03
Yellowstone County	B7	RM 333.42	56552.03	10-yr	1942.54	881.08	873.42	1.5	1.4	29.11	20.03	425.95	1190.42	2.88	1.97	7.66	7.66
Yellowstone County	B7	RM 333.30	56351.75	10-yr	1942.54	880.73	875.65	1.74	1.68	52.58	40.65	449.89	807.46	2.39	1.84	5.08	5.08
Yellowstone County	B7	RM 333.19	56177.76	10-yr	1942.54	880.29	875.72	2.07	1.98	46.42	37.63	389.61	564.03	2.35	1.9	4.57	4.57
Yellowstone County	B7	RM 333.09	56027.56	10-yr	1942.54	880.13	875.59	1.84	1.66	19.41	14.06	425.91	1099.94	2.4	1.74	4.54	4.54
Yellowstone County	B7	RM 332.99	55855.76	10-yr	1942.54	879.9	873.86	1.93	1.66	49.19	30.44	384.13	1484.89	2.41	1.48	6.04	6.04
Yellowstone County	B7	RM 332.88	55687.68	10-yr	1942.54	879.76	874.43	1.63	1.43	17.35	10.13	408.36	1659.58	2.58	1.51	5.33	5.33
Yellowstone County	B7	RM 332.77	55504.73	10-yr	1942.54	879.69	875.49	1.4	1.13	11.37	6.25	376.01	1919.18	3.11	1.71	4.2	4.2
Yellowstone County	B7	RM 332.66	55333.33	10-yr	1942.54	879.6	874.96	1.54	1.18	17.08	8.1	334.55	1858.79	3.12	1.48	4.64	4.64
Yellowstone County	B7	RM 332.56	55182.74	10-yr	1942.54	879.5	874.54	1.59	1.19	17.18	6.63	311.65	1999.54	3.46	1.33	4.96	4.96
Yellowstone County	B7	RM 332.47	55059.84	10-yr	1942.54	879.46	873.95	1.48	1.09	16.07	6.01	281.33	2114.07	3.71	1.38	5.51	5.51
Yellowstone County	B7	RM 332.38	54913.1	10-yr	1942.54	879.15	873.16	2.52	1.74	43.5	9.71	159.44	1915.87	4.3	0.94	5.99	5.99
Yellowstone County	B7	RM 332.33	54822.67	10-yr	1942.54	879.09	872.5	2.26	1.54	53.6	12.72	186.63	2134.01	3.83	0.9	6.59	6.59
Yellowstone County	B7	RM 332.21	54626.48	10-yr	1942.54	878.91	873.4	2.26	1.42	29.15	5.8	173.61	2257.14	4.19	0.83	5.51	5.51
Yellowstone County	B7	RM 332.17	54575.38	10-yr	1942.54	878.85	872.76	2.36	1.35	30.89	5.51	145.13	2507.35	4.58	0.8	6.09	6.09
Yellowstone County	B7	RM 332.08	54422.01	10-yr	1942.54	878.74	873.77	2.29	1.48	34.41	6.39	154.97	2586.29	4.15	0.76	4.97	4.97
Yellowstone County	B7	RM 331.96	54224.76	10-yr	1942.54	878.59	873.18	1.94	1.31	36.88	9.03	205.19	2422.86	3.53	0.86	5.41	5.41
Yellowstone County	B7	RM 331.85	54057.19	10-yr	1942.54	878.32	873.16	2.09	1.57	58.19	15.01	249.73	2063.04	3.33	0.86	5.16	5.16
Yellowstone County	B7	RM 331.74	53882.8	10-yr	1942.54	877.79	872.62	3	2.12	58.45	14.03	149.18	1046.43	3.97	0.94	5.17	5.17
Yellowstone County	B8	RM 331.66	53744.64	10-yr	1942.54	877.71	871.68	2.37	1.87	43.3	12.8	219.63	1007.98	3.51	1.03	6.03	6.03
Yellowstone County	B8	RM 331.55	53575.67	10-yr	1942.54	877.51	872.61	2.43	1.88	41.93	13.63	195.37	948.99	3.37	1.09	4.9	4.9
Yellowstone County	B8	RM 331.41	53354.89	10-yr	1942.54	877.27	872.56	2.35	1.71	38.97	14.25	218.29	1010.09	3.1	1.13	4.71	4.71
Yellowstone County	B8	RM 331.32	53209.79	10-yr	1942.54	877.08	871.92	2.12	1.45	32.89	15.14	275.42	1153.68	2.53	1.16	5.16	5.16
Yellowstone County	B8	RM 331.23	53053.99	10-yr	1942.54	876.92	871.53	1.81	1.38	24.74	14.1	374.52	1099.24	2.26	1.28	5.39	5.39
Yellowstone County	B8	RM 331.14	52919.44	10-yr	1942.54	876.82	871.72	1.57	1.33	19.21	11.24	309.55	935.78	2.68	1.56	5.1	5.1

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	10-yr	1942.54	876.72	871.29	1.68	1.38	20.77	9.32	305.99	1045.68	3.02	1.35	5.43	5.43
Yellowstone County	B8	RM 331.01	52700.37	10-yr	1942.54	876.63	871.8	1.68	1.35	21.74	12.32	299.78	864.19	2.98	1.68	4.83	4.83
Yellowstone County	B8	RM 330.93	52576.5	10-yr	1942.54	876.53	871.67	1.71	1.43	22.61	9.39	250.39	1048.2	3.46	1.43	4.86	4.86
Yellowstone County	B8	RM 330.83	52418.21	10-yr	1942.54	876.3	870.75	2.4	1.7	31.71	9.02	141.58	1014.42	4.29	1.2	5.55	5.55
Yellowstone County	B8	RM 330.77	52321.13	10-yr	1942.54	876.24	870.68	2.25	1.52	32.63	10.82	174.99	1447.15	3.64	1.2	5.56	5.56
Yellowstone County	B8	RM 330.68	52174.9	10-yr	1942.54	875.88	870.33	3.02	2.02	48.13	10.03	129.32	1434.84	4.01	0.83	5.55	5.55
Yellowstone County	B8	RM 330.58	52000.46	10-yr	1942.54	875.73	869.72	2.77	2.01	55.51	11.31	117.66	1409.28	4.29	0.86	6.01	6.01
Yellowstone County	B8	RM 330.48	51852.83	10-yr	1942.54	875.55	868.81	2.84	1.87	54.25	9.99	105.59	1334.52	4.64	0.83	6.74	6.74
Yellowstone County	B8	RM 330.39	51701.57	10-yr	1942.54	875.42	869.32	2.65	1.64	36.36	8.33	133.78	1330.05	3.91	0.89	6.1	6.1
Yellowstone County	B8	RM 330.32	51592.04	10-yr	1942.54	875.28	869.57	2.75	1.77	37.04	8.17	135.54	1244.4	4.02	0.88	5.71	5.71
Yellowstone County	B8	RM 330.25	51473.55	10-yr	1942.54	875.2	868.38	2.58	1.71	36.02	9.52	144.78	1167	3.73	0.98	6.82	6.82
Yellowstone County	B8	RM 330.17	51344.77	10-yr	1942.54	875.05	869.9	2.6	1.77	37.35	10.6	151.66	1091.39	3.57	1.01	5.15	5.15
Yellowstone County	B8	RM 330.10	51243.99	10-yr	1942.54	874.88	870.02	2.66	1.89	43	13.64	185.89	1021.47	3.19	1.01	4.86	4.86
Yellowstone County	B8	RM 330.05	51150.67	10-yr	1942.54	874.86	869.94	1.98	1.46	24.99	11.21	298.53	1187.47	2.56	1.14	4.92	4.92
Yellowstone County	B8	RM 329.95	50995.78	10-yr	1942.54	874.71	869.67	1.85	1.46	24.66	12.03	399.03	1127.14	2.42	1.18	5.04	5.04
Yellowstone County	B8	RM 329.86	50853.11	10-yr	1942.54	874.58	869.99	1.63	1.31	24.68	13.47	443.55	1189.65	2.3	1.25	4.59	4.59
Yellowstone County	B8	RM 329.75	50682.47	10-yr	1942.54	874.39	869.45	1.36	1.15	30.96	19.97	606.85	1475.37	1.95	1.25	4.94	4.94
Yellowstone County	B8	RM 329.66	50540.7	10-yr	1942.54	874.07	869.45	1.61	1.39	39.77	25.92	612.05	1323.61	1.63	1.06	4.62	4.62
Yellowstone County	B8	RM 329.57	50390.78	10-yr	1942.54	873.81	869.17	1.78	1.47	19.68	12.71	535.82	1145.33	1.81	1.16	4.64	4.64
Yellowstone County	B8	RM 329.49	50267.58	10-yr	1942.54	873.66	869.52	1.83	1.43	20.65	12.5	490.55	1209.47	1.86	1.12	4.14	4.14
Yellowstone County	B8	RM 329.43	50165.22	10-yr	1942.54	873.61	869.82	1.46	1.23	13.05	8.17	543.15	1087.81	2.32	1.45	3.79	3.79
Yellowstone County	B8	RM 329.37	50053.96	10-yr	1942.54	873.57	869.58	1.4	1.13	11.9	7.63	447.42	1094.58	2.46	1.58	3.99	3.99
Yellowstone County	B8	RM 329.31	49969.13	10-yr	1942.54	873.5	869.66	1.51	1.16	17.46	10.6	378.18	1154.62	2.4	1.45	3.84	3.84
Yellowstone County	B8	RM 329.26	49883.05	10-yr	1942.54	873.43	868.74	1.55	1.19	14.52	8.2	376.88	1210.58	2.4	1.35	4.69	4.69
Yellowstone County	B8	RM 329.20	49785.51	10-yr	1942.54	873.34	868.71	1.67	1.32	17.37	9.76	397.53	1182.04	2.24	1.25	4.63	4.63
Yellowstone County	B8	RM 329.15	49699.71	10-yr	2132.26	873.27	868.64	1.56	1.26	21.71	11.9	463.75	1281.86	2.41	1.32	4.63	4.63
Yellowstone County	B8	RM 329.08	49597.49	10-yr	2132.26	873.19	869.34	1.45	1.16	20.76	12.01	471.45	1327.13	2.4	1.39	3.85	3.85
Yellowstone County	B8	RM 328.96	49388.08	10-yr	2132.26	873.04	868.99	1.63	1.12	18.75	9.1	305.48	1450.85	2.72	1.32	4.05	4.05
Yellowstone County	B8	RM 328.85	49197.37	10-yr	2132.26	872.87	866.79	1.86	1.37	15.47	9.23	472.35	1384.88	1.89	1.13	6.08	6.08
Yellowstone County	B8	RM 328.75	49036.09	10-yr	2132.26	872.84	866.93	1.3	0.96	10.1	7.3	424.64	1436.7	2.15	1.55	5.91	5.91
Yellowstone County	B8	RM 328.68	48920.76	10-yr	2132.26	872.73	867.09	1.67	1.12	18.36	9.03	303.39	1462.41	2.66	1.31	5.64	5.64
Yellowstone County	B8	RM 328.60	48788.86	10-yr	2132.26	872.54	866.36	2.26	1.32	25.2	8.47	196.16	1419.74	3.44	1.13	6.18	6.18
Yellowstone County	B8	RM 328.52	48664.7	10-yr	2132.26	872.53	867.75	1.86	1.16	18.97	8.54	167.5	1417.53	3.12	1.39	4.78	4.78
Yellowstone County	B8	RM 328.44	48539.46	10-yr	2132.26	872.38	867.34	2.28	1.32	33.89	10.37	137.73	1280.06	4.2	1.26	5.04	5.04
Yellowstone County	B8	RM 328.36	48405.85	10-yr	2132.26	872.14	867.12	2.83	1.61	37.95	12.31	131.86	1051.72	3.95	1.26	5.02	5.02
Yellowstone County	B8	RM 328.28	48276.93	10-yr	2132.26	872.06	867.73	2.27	1.79	42.5	17.44	191.72	830.45	3.51	1.44	4.95	4.95
Yellowstone County	B8	RM 328.16	48097.58	10-yr	2132.26	871.86	866.7	2.11	1.71	38.99	18.75	224.09	880.06	2.95	1.42	5.16	5.16
Yellowstone County	B8	RM 328.05	47914.16	10-yr	2132.26	871.68	866.62	1.92	1.54	28.84	14.81	264.18	914.75	2.95	1.51	5.06	5.06
Yellowstone County	B8	RM 327.93	47729.4	10-yr	2132.26	871.44	865.67	2.19	1.7	25.69	12.6	300.85	927.55	2.76	1.35	5.77	5.77
Yellowstone County	B8	RM 327.88	47641.03	10-yr	2132.26	871.31	866	2.42	1.72	36.15	15.9	246.29	964.16	2.92	1.28	5.31	5.31
Yellowstone County	B8	RM 327.81	47525.32	10-yr	2132.26	871.19	866.29	2.49	1.68	27.56	11.78	199.43	881.47	3.37	1.44	4.9	4.9
Yellowstone County	B8	RM 327.75	47432.57	10-yr	2132.26	870.92	865.09	3.15	1.99	44.24	12.62	134.59	894.94	4.23	1.2	5.83	5.83
Yellowstone County	B8	RM 327.69	47341.24	10-yr	2132.26	870.63	864.48	3.81	2.32	60.45	21.79	108.18	644.1	4.01	1.43	6.15	6.15
Yellowstone County	B8	RM 327.62	47227.31	10-yr	2132.26	870.6	863.86	3.19	2.16	50.47	20.43	128.62	778.29	3.81	1.53	6.74	6.74
Yellowstone County	B8	RM 327.56	47124.87	10-yr	2132.26	870.6	864.46	2.61	1.84	33.68	15.57	158.59	847.94	3.37	1.55	6.14	6.14
Yellowstone County	B8	RM 327.51	47053.82	10-yr	2132.26	870.59	865.84	2.03	1.59	23.95	16.66	310.41	865.93	2.23	1.55	4.75	4.75
Yellowstone County	B8	RM 327.44	46933.28	10-yr	2132.26	870.58	866.93	1.21	1.23	10.27	8.95	389.65	881.32	2.26	1.97	3.96	3.96
Yellowstone County	B8	RM 327.37	46817.72	10-yr	2132.26	870.46	866.26	1.78	1.46	21.89	13.3	342.21	953.88	2.52	1.53	4.2	4.2
Yellowstone County	B8	RM 327.29	46687.12	10-yr	2132.26	870.38	866.04	1.75	1.36	18.96	10.81	304.8	1032.83	2.67	1.52	4.34	4.34
Yellowstone County	B8	RM 327.23	46600.07	10-yr	2132.26	870.31	866.25	1.85	1.39	20.59	11.4	287.86	1049.18	2.65	1.46	4.46	4.46
Yellowstone County	B8	RM 327.16	46485.25	10-yr	2132.26	870.17	865.67	2.05	1.46	28.62	14.49	271.45	1116.95	2.71	1.37	4.5	4.5
Yellowstone County	B8	RM 327.08	46360.36	10-yr	2132.26	870.11	864.94	1.74	1.28	18.62	10.26	266.92	1137.33	3.13	1.72	5.17	5.17
Yellowstone County	B8	RM 327.00	46240.1	10-yr	2132.26	870	864.56	1.86	1.5	26.19	13.95	227.91	821.69	3.88	2.07	5.44	5.44
Yellowstone County	B8	RM 326.94	46091.8	10-yr	2132.26	869.92	864.04	1.9	1.41	17.72	9.06	223.67	756.68	3.9	2	5.88	5.88
Yellowstone County	B8	RM 326.88	46003.77	10-yr	2132.26	869.82	864.08	2.21	1.61	32.16	15.58	170.66	744.56	3.68	1.78	5.74	5.74
Yellowstone County	B8	RM 326.82	45901.15	10-yr	2132.26	869.74	864.18	2.17	1.6	29.5	17.29	201.73	793.19	2.86	1.68	5.56	5.56
Yellowstone County	B8	RM 326.78	45830.7	10-yr	2132.26	869.68	864.46	2.23	1.57	26.46	15.48	163.64	765.79	3.06	1.79	5.22	5.22
Yellowstone County	B8	RM 326.70	45707.6	10-yr	2132.26	869.61	864.66	1.93	1.46	17.92	13.38	264.13	831.76	2.58	1.92	4.95	4.95
Yellowstone County	B8	RM 326.64	45589.72	10-yr	2132.26	869.52	864.92	1.63	1.52	44.89	35.75	430.53	853	2.17	1.73	4.6	4.6
Yellowstone County	B8	RM 326.55	45430.24	10-yr	2132.26	869.3	864.83	1.91	1.63	21.06	13.7	350.63	741.45	2.74	1.78	4.47	4.47
Yellowstone County	B8	RM 326.45	45281.78	10-yr	2132.26	869.2	864.12	1.91	1.65	22.09	14.88	338.94	690.96	2.77	1.87	5.08	5.08

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	10-yr	2132.26	869.18	864.32	1.58	1.42	14.68	10.74	432.08	772.11	2.67	1.95	4.86	4.86
Yellowstone County	B8	RM 326.35	45106.57	10-yr	2132.26	869.15	864.43	1.39	1.18	11.09	7.41	483.02	928.14	2.97	1.98	4.72	4.72
Yellowstone County	B8	RM 326.28	45022.31	10-yr	2132.26	869.15	864.61	1.18	1.02	7.36	4.75	548.28	1253.5	3.6	2.32	4.54	4.54
Yellowstone County	B8	RM 326.07	44588.61	10-yr	2132.26	868.92	862.39	1.69	1.53	11.18	8.78	711.35	1468.46	1.7	1.33	6.53	6.53
Yellowstone County	B8	RM 326.00	44481.07	10-yr	2132.26	868.86	861.24	1.62	1.47	10.23	8.2	749.88	1515.67	1.69	1.35	7.62	7.62
Yellowstone County	B8	RM 325.94	44379.11	10-yr	2132.26	868.79	861.85	1.31	1.23	30.59	24.37	823.83	1566.46	1.84	1.46	6.94	6.94
Yellowstone County	B8	RM 325.89	44304.17	10-yr	2132.26	868.67	863	1.24	1.17	28.43	23.3	843.42	1333.3	1.89	1.54	5.67	5.67
Yellowstone County	B8	RM 325.86	44262.16	10-yr	2132.26	868.64	863.76	1.29	1.17	7.86	6.45	821.63	1137.31	1.96	1.61	4.88	4.88
Yellowstone County	B8	RM 325.81	44176.46	10-yr	2132.26	868.6	863.1	1.27	1.13	7.97	6.84	846.47	1172.8	1.88	1.61	5.5	5.5
Yellowstone County	B8	RM 325.76	44089.5	10-yr	2132.26	868.55	862.66	1.15	1.06	23.03	18.46	851.15	1302.03	2	1.6	5.89	5.89
Yellowstone County	B8	RM 325.69	43989.97	10-yr	2132.26	868.48	862.55	1.26	1.01	8.38	5.22	625.04	1416.84	2.5	1.55	5.93	5.93
Yellowstone County	B8	RM 325.58	43809.68	10-yr	2132.26	868.39	862.61	1.25	0.99	24.2	13.59	476.8	1282.64	3	1.68	5.78	5.78
Yellowstone County	B8	RM 325.50	43680.96	10-yr	2132.26	868.24	862.6	1.44	1.16	29.5	15.47	434.18	1185.4	2.98	1.54	5.64	5.64
Yellowstone County	B8	RM 325.43	43556.76	10-yr	2132.26	868.11	860.89	1.45	1.17	31.59	16.35	386.69	1101.89	3.22	1.65	7.22	7.22
Yellowstone County	B8	RM 325.37	43461.41	10-yr	2132.26	868.04	861.36	1.37	1.12	27.68	14.08	344.63	1093.56	3.43	1.74	6.68	6.68
Yellowstone County	B8	RM 325.30	43343.13	10-yr	2132.26	867.91	861.56	1.69	1.26	25.93	11.26	266.56	1035.17	3.79	1.64	6.35	6.35
Yellowstone County	B8	RM 325.21	43210.67	10-yr	2132.26	867.76	861.34	2.03	1.45	26.26	10.72	204.07	837.37	4.34	1.76	6.42	6.42
Yellowstone County	B8	RM 325.13	43078.9	10-yr	2132.26	867.61	861.36	2.36	1.58	36.51	12.62	149.25	786.17	5.01	1.71	6.25	6.25
Yellowstone County	B8	RM 325.06	42966.54	10-yr	2132.26	867.23	860.78	3.24	2.2	66.6	18.34	122.74	743.81	4.78	1.3	6.45	6.45
Yellowstone County	B8	RM 324.99	42864.51	10-yr	2132.26	867.15	861.24	2.9	1.88	57.16	19.56	135.03	751.33	4.45	1.51	5.91	5.91
Yellowstone County	B8	RM 324.91	42729.7	10-yr	2132.26	866.96	860.76	2.92	1.92	59.52	19.44	132.68	732.48	4.68	1.52	6.2	6.2
Yellowstone County	B8	RM 324.81	42573.19	10-yr	2132.26	866.74	860.39	2.91	2.05	62.04	21.56	140.39	656.84	4.57	1.58	6.35	6.35
Yellowstone County	B8	RM 324.73	42451.12	10-yr	2132.26	866.64	861.59	2.59	1.89	44.34	19.47	179.41	653.49	3.95	1.72	5.05	5.05
Yellowstone County	B8	RM 324.65	42323.44	10-yr	2132.26	866.58	861.99	1.91	1.58	39.97	24.44	300.92	715.96	3.08	1.88	4.59	4.59
Yellowstone County	B8	RM 324.56	42178.25	10-yr	2132.26	866.44	861.76	1.92	1.54	16.81	13.03	404.18	785.41	2.28	1.76	4.68	4.68
Yellowstone County	B8	RM 324.48	42039.74	10-yr	2132.26	866.3	861.58	1.72	1.49	43.79	31.18	477.36	888.78	2.27	1.61	4.72	4.72
Yellowstone County	B8	RM 324.42	41946.09	10-yr	2132.26	866.19	861.04	1.47	1.25	28.73	18.9	478.13	949.12	2.73	1.8	5.15	5.15
Yellowstone County	B8	RM 324.34	41812.99	10-yr	2132.26	865.96	861.07	1.78	1.39	47.65	27.13	378.78	1020.58	2.65	1.51	4.89	4.89
Yellowstone County	B8	RM 324.28	41712.42	10-yr	2132.26	865.77	859.64	1.78	1.43	49.64	28.28	364.85	1040	2.52	1.43	6.13	6.13
Yellowstone County	B8	RM 324.20	41597.64	10-yr	2132.26	865.7	860.59	1.1	1.02	17.97	14.03	673.94	1051.8	2.55	1.99	5.11	5.11
Yellowstone County	B8	RM 324.16	41526.97	10-yr	2132.26	865.59	861.07	1.48	1.35	12.5	9.51	664.55	1029.87	2.05	1.56	4.52	4.52
Yellowstone County	B8	RM 324.10	41434.55	10-yr	2132.26	865.54	860.81	1.29	1.22	23.15	16.87	690.66	1100.66	2.3	1.67	4.73	4.73
Yellowstone County	B8	RM 324.04	41346.42	10-yr	2132.26	865.48	860.39	1.18	1.11	15.41	10.51	630.68	1185.45	2.5	1.7	5.09	5.09
Yellowstone County	B8	RM 323.97	41219.29	10-yr	2132.26	865.4	860.64	1.12	1.05	13.81	9.7	573.41	1131.88	2.57	1.8	4.76	4.76
Yellowstone County	B8	RM 323.83	40977.08	10-yr	2132.26	865.29	860.31	1.25	0.98	11.23	6.52	453.6	1211.94	3.1	1.8	4.98	4.98
Yellowstone County	B8	RM 323.71	40786.71	10-yr	2132.26	865.1	858.49	1.99	1.31	24.5	9.14	221.25	1146.7	3.83	1.42	6.61	6.61
Yellowstone County	B8	RM 323.60	40615.85	10-yr	2132.26	865.09	858.06	1.56	1.09	14.85	5.77	121.72	1069.03	4.75	1.82	7.03	7.03
Yellowstone County	B8	RM 323.55	40536.83	10-yr	2132.26	864.7	857.58	3.18	1.85	64.52	19.67	114.47	897.28	4.26	1.29	7.12	7.12
Yellowstone County	B8	RM 323.49	40429.96	10-yr	2132.26	864.53	858.37	3.13	1.83	58.93	16.76	119.27	949.77	4.33	1.22	6.16	6.16
Yellowstone County	B8	RM 323.41	40309.21	10-yr	2132.26	864.41	859.41	2.87	1.82	60.86	18.28	135.74	1009.38	3.89	1.16	5	5
Yellowstone County	B8	RM 323.33	40186.15	10-yr	2132.26	864.33	859.58	2.35	1.5	30.95	12.09	175.88	1018.06	3.59	1.39	4.75	4.75
Yellowstone County	B8	RM 323.27	40082.34	10-yr	2132.26	864.22	859.66	2.38	1.52	36.11	14.88	188.89	985.56	3.46	1.42	4.56	4.56
Yellowstone County	B8	RM 323.21	39985.33	10-yr	2132.26	864.11	859.54	2.35	1.5	36.71	17.21	211.17	970.8	3.13	1.46	4.57	4.57
Yellowstone County	B8	RM 323.16	39899.29	10-yr	2132.26	864.06	859.55	1.79	1.29	31.65	18.1	276.01	1015.16	2.85	1.63	4.51	4.51
Yellowstone County	B8	RM 323.06	39735.77	10-yr	2132.26	863.8	858.56	1.72	1.5	38.43	18.77	311.52	1378.85	2.54	1.24	5.24	5.24
Yellowstone County	B8	RM 322.93	39531.81	10-yr	2132.26	863.57	859.35	1.64	1.3	26.26	12.79	322.23	1315.88	2.8	1.35	4.22	4.22
Yellowstone County	B8	RM 322.79	39301.41	10-yr	2132.26	863.33	858.62	1.96	1.32	25.47	11	220.82	1203.91	3.36	1.45	4.71	4.71
Yellowstone County	B8	RM 322.69	39142.64	10-yr	2132.26	863.21	857.47	2.1	1.4	22.05	10.36	200.75	1053.53	3.51	1.65	5.74	5.74
Yellowstone County	B8	RM 322.58	38982.22	10-yr	2132.26	862.67	856.56	3.63	2.59	81.19	27.01	115.86	701.44	3.56	1.18	6.11	6.11
Yellowstone County	B9	RM 322.51	38859.49	10-yr	2132.26	862.59	858.28	2.81	2.11	50.03	19.41	162.88	773.49	3.38	1.31	4.31	4.31
Yellowstone County	B9	RM 322.41	38696.02	10-yr	2132.26	862.49	857.62	1.66	1.65	34.39	22.87	456.07	907.59	2.23	1.48	4.87	4.87
Yellowstone County	B9	RM 322.34	38586.33	10-yr	2132.26	862.38	857.65	1.37	1.38	22.42	17.04	589.5	992.83	2.1	1.59	4.73	4.73
Yellowstone County	B9	RM 322.23	38396.25	10-yr	2132.26	862.22	857.13	1.07	1.1	18.13	14.62	754.13	1140.75	2.12	1.7	5.09	5.09
Yellowstone County	B9	RM 322.13	38239.27	10-yr	2132.26	862.08	857.1	0.97	1.05	19.67	17.46	880.27	1168.5	1.96	1.74	4.98	4.98
Yellowstone County	B9	RM 322.03	38090.48	10-yr	2132.26	861.74	856.15	1.24	1.39	46.62	45.23	967.13	1120.74	1.41	1.37	5.59	5.59
Yellowstone County	B9	RM 321.91	37898.13	10-yr	2132.26	861.42	856.85	1.81	1.81	11.07	11.07	863.75	863.75	1.36	1.36	4.56	4.56
Yellowstone County	B9	RM 321.82	37758.36	10-yr	2132.26	861.38	856.34	1.45	1.45	7.27	7.27	802.64	802.64	1.84	1.84	5.04	5.04
Yellowstone County	B9	RM 321.70	37567.01	10-yr	2132.26	861.26	855.27	1.31	1.3	27.09	25.57	809.33	866.07	2.01	1.89	5.99	5.99
Yellowstone County	B9	RM 321.60	37414.63	10-yr	2132.26	861.17	854.48	1.06	1.05	11.73	11.08	755.09	808.99	2.66	2.51	6.69	6.69
Yellowstone County	B9	RM 321.48	37188.51	10-yr	2132.26	860.94	855.03	1.55	1.49	28.27	25.8	545.68	639.6	2.45	2.23	5.92	5.92
Yellowstone County	B9	RM 321.38	37016.94	10-yr	2132.26	860.64	854.75	1.92	1.81	36.67	30.29	471.9	624.53	2.29	1.89	5.88	5.88

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	10-yr	2132.26	860.52	855.3	1.58	1.41	17.84	9.75	459.1	970.31	2.87	1.56	5.22	5.22
Yellowstone County	B9	RM 321.13	36652.19	10-yr	2132.26	860.42	854.69	1.48	1.08	22.34	11.02	274.03	1175.94	3.67	1.79	5.73	5.73
Yellowstone County	B9	RM 321.05	36531.25	10-yr	2132.26	860.31	855.36	1.83	1.2	17.07	5.74	188.88	1240.03	4.32	1.43	4.95	4.95
Yellowstone County	B9	RM 321.00	36446.98	10-yr	2132.26	860.22	855.12	2.25	1.43	34.25	10.17	134.73	1220.37	4.22	1.23	5.1	5.1
Yellowstone County	B9	RM 320.71	36404.1*	10-yr	2132.26	860.09	855.12	2.64	1.54	31.73	9.19	140.13	1233.27	3.97	1.13	4.97	4.97
Yellowstone County	B9	RM 320.62	36361.3*	10-yr	2132.26	860.04	855.12	2.7	1.55	33.13	9.68	143.76	1252.6	3.83	1.1	4.92	4.92
Yellowstone County	B9	RM 320.92	36318.56	10-yr	2132.26	860.01	855.12	2.62	1.67	52.76	13.95	134.56	1585.35	3.99	1.03	4.89	4.89
Yellowstone County	B9	RM 320.44	36258.3*	10-yr	2132.26	859.88	855.19	2.77	1.7	34.08	9.02	154.55	1613.51	3.68	0.96	4.7	4.7
Yellowstone County	B9	RM 320.38	36198.1*	10-yr	2132.26	859.85	855.26	2.63	1.56	31.52	8.24	161.33	1658.79	3.78	0.97	4.59	4.59
Yellowstone County	B9	RM 320.80	36137.92	10-yr	2132.26	859.85	855.33	2.26	1.39	36.29	10.12	157.17	1624.88	4.02	1.1	4.52	4.52
Yellowstone County	B9	RM 320.71	35990.21	10-yr	2132.26	859.82	854.38	1.5	1.11	19.34	6.78	275.47	1704.18	3.86	1.34	5.43	5.43
Yellowstone County	B9	RM 320.54	35839.45	10-yr	2132.26	859.71	853.99	1.62	1.14	19.14	7.86	324.02	1676.63	3.3	1.34	5.72	5.72
Yellowstone County	B9	RM 320.44	35717.45	10-yr	2132.26	859.66	854.32	1.54	1.05	14.13	6.46	334.82	1657.26	3.16	1.43	5.33	5.33
Yellowstone County	B9	RM 320.62	35556.9	10-yr	2132.26	859.58	854.17	1.51	1.1	23.15	10.78	265.5	1578.53	3.37	1.55	5.41	5.41
Yellowstone County	B9	RM 320.38	35461.42	10-yr	2132.26	859.45	854.17	1.94	1.22	21.91	7.87	196.57	1406.73	4.2	1.48	5.28	5.28
Yellowstone County	B9	RM 320.32	35359.13	10-yr	2132.26	859.28	854.57	2.53	1.57	41.93	12.2	140.16	1332.26	4.42	1.26	4.71	4.71
Yellowstone County	B9	RM 320.25	35241.01	10-yr	2132.26	858.73	854.29	3.79	2.41	92.41	22.9	110.8	914.11	4.02	0.97	4.44	4.44
Yellowstone County	B9	RM 320.20	35163.52	10-yr	2132.26	858.61	854.2	3.44	2.38	95.38	30.18	134.04	842.66	3.49	1.08	4.4	4.4
Yellowstone County	B9	RM 320.14	35071.29	10-yr	2132.26	858.35	854.32	3.37	2.46	78.08	28	160.35	769.08	3.19	1.13	4.03	4.03
Yellowstone County	B9	RM 320.01	34865.89	10-yr	2132.26	857.94	854.42	2.85	2.54	40.8	21.63	122.19	633.89	2.52	1.32	3.59	3.59
Yellowstone County	B9	RM 319.91	34707.77	10-yr	2132.26	857.9	854.66	1.67	1.86	19.26	12.14	143.6	767.61	2.63	1.64	4.32	4.32
Yellowstone County	B9	RM 319.86	34625.68	10-yr	2132.26	857.88	854.6	1.47	1.66	18.93	12.09	153.74	901.02	2.53	1.6	4.32	4.32
Yellowstone County	B9	RM 319.78	34508.06	10-yr	2132.26	857.77	854.51	2.24	1.85	35.25	16.27	111.07	901.28	2.96	1.35	4.25	4.25
Yellowstone County	B9	RM 319.73	34426.63	10-yr	2132.26	857.49	854.69	3.19	1.71	54.41	30.19	156.77	902.74	2.49	1.38	4.02	4.02
Yellowstone County	B9	RM 319.66	34314.84	10-yr	2132.26	857.45	854.51	2.15	1.64	23.87	13.83	158.66	926.6	2.43	1.4	4.02	4.02
Yellowstone County	B9	RM 319.57	34163.05	10-yr	2132.26	857.31	853.93	2.1	1.75	21.41	14	198.21	742.76	2.51	1.64	3.97	3.97
Yellowstone County	B9	RM 319.44	33955.96	10-yr	2132.26	857.22	853.14	1.94	1.69	25.19	16.16	153.57	711.45	2.81	1.78	4.08	4.08
Yellowstone County	B9	RM 319.39	33872.4	10-yr	2132.26	857.15	852.65	2.11	1.64	22.31	12.09	137.96	832.13	2.94	1.56	4.51	4.51
Yellowstone County	B9	RM 319.34	33786.83	10-yr	2132.26	857.12	852.83	1.96	1.49	18.71	11.44	178.14	804.83	2.93	1.78	4.29	4.29
Yellowstone County	B9	RM 319.22	33580.15	10-yr	2132.26	857.07	851.79	1.99	1.28	17.52	8.16	80.63	891.53	4.14	1.86	5.28	5.28
Yellowstone County	B9	RM 319.17	33497.33	10-yr	2132.26	857.06	851.64	1.54	1.24	12.82	7.07	121.71	1044.07	3.35	1.81	5.42	5.42
Yellowstone County	B9	RM 319.09	33368.53	10-yr	2132.26	856.8	851.25	2.55	2.01	44.65	15.02	134.88	857.42	3.77	1.24	5.56	5.56
Yellowstone County	B9	RM 319.04	33287.21	10-yr	2132.26	856.54	851.49	3.18	2.29	65.1	18.52	112.7	825.31	4.09	1.13	5.05	5.05
Yellowstone County	B9	RM 318.96	33153.16	10-yr	2132.26	856.38	851.64	2.79	2.14	57.89	18.54	156.29	848.26	3.72	1.17	4.74	4.74
Yellowstone County	B9	RM 318.91	33065.54	10-yr	2132.26	856.29	851.86	2.46	2.05	57.01	21.13	189.76	841.42	3.36	1.23	4.43	4.43
Yellowstone County	B9	RM 318.82	32939.33	10-yr	2132.26	856.02	851.86	2.89	2.2	39.8	15.02	159.52	711.27	3.66	1.36	4.16	4.16
Yellowstone County	B9	RM 318.74	32833.24	10-yr	2132.26	856.01	851.86	2.2	1.82	32.07	15.18	184.18	850.19	3.58	1.68	4.15	4.15
Yellowstone County	B9	RM 318.62	32649.76	10-yr	2132.26	855.86	850.67	1.78	1.63	31.11	18.72	316.37	797.61	2.74	1.64	5.19	5.19
Yellowstone County	B9	RM 318.42	32315.28	10-yr	2132.26	855.46	850.15	2.04	1.9	24.18	15.89	347.67	608.13	2.93	1.92	5.32	5.32
Yellowstone County	B9	RM 318.17	31866.42	10-yr	2132.26	855.08	849.17	2.23	1.58	32.18	11.72	211.49	957.94	3.93	1.41	5.91	5.91
Yellowstone County	B9	RM 317.97	31551.39	10-yr	2132.26	854.77	848.35	2.39	1.92	24.86	10.98	238.16	713.37	3.59	1.57	6.42	6.42
Yellowstone County	B10	RM 317.87	31388.76	10-yr	2132.26	854.5	848.78	2.94	2.07	46.16	15.25	163.63	807.02	3.94	1.27	5.72	5.72
Yellowstone County	B10	RM 317.78	31248.07	10-yr	2132.26	854.5	848.75	2.37	1.53	29.3	10.19	143.48	925.56	4.62	1.58	5.75	5.75
Yellowstone County	B10	RM 317.70	31120.75	10-yr	2132.26	854.5	848.56	1.84	1.39	18.5	9.49	172.05	965.06	4.01	2.02	5.93	5.93
Yellowstone County	B10	RM 317.61	30982.56	10-yr	2132.26	854.42	848.29	1.91	1.34	18.22	8.32	194.83	939.75	3.76	1.69	6.13	6.13
Yellowstone County	B10	RM 317.53	30849.94	10-yr	2132.26	854.39	848.5	1.54	1.28	13.68	7.18	344.66	1120.23	3.22	1.68	5.88	5.88
Yellowstone County	B10	RM 317.45	30723.4	10-yr	2132.26	854.31	848.47	1.62	1.33	16.61	9.71	369.36	1336.36	2.77	1.61	5.84	5.84
Yellowstone County	B10	RM 317.37	30601.88	10-yr	2132.26	854.26	848.17	1.42	1.21	16.65	11.33	370.94	1437.31	2.74	1.85	6.09	6.09
Yellowstone County	B10	RM 317.30	30483.81	10-yr	2132.26	854.17	848.41	1.65	1.26	14.57	8.04	273.58	1342.5	3.44	1.87	5.76	5.76
Yellowstone County	B10	RM 317.19	30302.33	10-yr	2132.26	854.08	848.84	1.89	1.27	18.17	7.49	161.44	1205.59	4.76	1.93	5.24	5.24
Yellowstone County	B10	RM 317.05	30079.26	10-yr	2132.26	853.81	848.38	2.45	1.96	27.46	14.86	159.02	419.1	4.86	2.6	5.43	5.43
Yellowstone County	B10	RM 316.93	29889.26	10-yr	2132.26	853.54	847.25	2.85	2.25	46.38	15.85	150.51	600.73	4.74	1.58	6.28	6.28
Yellowstone County	B10	RM 316.79	29668.4	10-yr	2132.26	853.35	847.89	2.73	2.16	43.42	15.62	146.89	561.92	4.98	1.76	5.46	5.46
Yellowstone County	B10	RM 316.66	29466.39	10-yr	2132.26	853.18	847.86	2.63	2.16	37.48	17.86	162.9	439.47	4.77	2.24	5.32	5.32
Yellowstone County	B10	RM 316.58	29329.04	10-yr	2132.26	853.07	847.74	2.55	1.9	47.37	22.38	174.41	597.22	4.4	2.06	5.33	5.33
Yellowstone County	B10	RM 316.51	29227.18	10-yr	2132.26	852.92	847.41	2.66	1.93	44.89	19.71	183.91	643.87	3.98	1.73	5.52	5.52
Yellowstone County	B10	RM 316.43	29091.4	10-yr	2132.26	852.79	847.41	2.39	1.76	47.6	23.23	239.65	759.88	3.31	1.6	5.38	5.38
Yellowstone County	B10	RM 316.33	28935.99	10-yr	2132.26	852.53	847.74	2.31	1.82	51.82	31.65	285.73	673.99	2.88	1.75	4.79	4.79
Yellowstone County	B10	RM 316.24	28786.65	10-yr	2132.26	852.31	847.5	1.94	1.76	45.37	27.37	356.21	747.79	2.7	1.62	4.82	4.82
Yellowstone County	B10	RM 316.14	28628.02	10-yr	2132.26	852.1	846.92	1.89	1.58	32.6	18.39	330.46	754.3	3.19	1.79	5.18	5.18
Yellowstone County	B10	RM 316.05	28475.44	10-yr	2132.26	851.84	846.73	2.21	1.86	45.24	21.41	295.19	776.72	3.14	1.48	5.1	5.1

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	10-yr	2132.26	851.72	846.43	2.14	1.78	21.57	12.51	302.61	674.13	3.08	1.78	5.29	5.29
Yellowstone County	B10	RM 315.84	28140.65	10-yr	2132.26	851.37	846.58	2.75	2.13	57.56	23.1	171.84	686.34	3.68	1.46	4.79	4.79
Yellowstone County	B10	RM 315.71	27926.69	10-yr	2132.26	851.12	846.34	2.66	1.89	30.72	11.9	205.24	1009.4	3.2	1.23	4.79	4.79
Yellowstone County	B10	RM 315.58	27720.72	10-yr	2132.26	851.1	846.16	1.76	1.38	26.05	12.45	155.56	1065.56	3.62	1.69	4.94	4.94
Yellowstone County	B10	RM 315.44	27505.06	10-yr	2132.26	850.86	846.09	2.27	1.43	29.37	9.13	152.14	1249.97	4.28	1.31	4.77	4.77
Yellowstone County	B10	RM 315.30	27283.58	10-yr	2132.26	850.79	844.45	1.5	1.05	15.59	7.93	317.48	1409.24	2.86	1.44	6.34	6.34
Yellowstone County	B10	RM 315.18	27097.16	10-yr	2132.26	850.74	844.72	1.2	0.95	8.33	5.36	454.11	1453.19	2.42	1.55	6.02	6.02
Yellowstone County	B10	RM 315.01	26818.99	10-yr	2132.26	850.6	844.66	1.47	1.13	16.76	8.8	477.22	1426.14	2.56	1.33	5.94	5.94
Yellowstone County	B10	RM 314.85	26559.67	10-yr	2132.26	850.29	844.84	2.32	1.52	35.71	8.58	167.32	1366.72	4.42	1.03	5.44	5.44
Yellowstone County	B10	RM 314.69	26324.37	10-yr	2132.26	850.01	844.24	2.56	1.77	40.01	10.35	173.3	1151.61	4.17	1.05	5.78	5.78
Yellowstone County	B10	RM 314.57	26132.54	10-yr	2132.26	849.75	844.63	2.82	1.93	50.11	14.11	147.42	881.78	4.54	1.26	5.11	5.11
Yellowstone County	B10	RM 314.46	25963.96	10-yr	2132.26	849.64	844.48	2.38	1.75	39.4	11.37	201.29	1093.53	3.93	1.12	5.16	5.16
Yellowstone County	B10	RM 314.35	25782.69	10-yr	2132.26	849.37	844.51	2.35	2.16	59.26	26.28	268.16	681.35	3.29	1.45	4.86	4.86
Yellowstone County	B10	RM 314.24	25607.48	10-yr	2132.26	849.2	844.14	2.29	2.01	20.5	9.16	282.25	751.94	3.22	1.41	5.06	5.06
Yellowstone County	B10	RM 314.15	25461.23	10-yr	2132.26	849.07	844.05	2.2	2	55.69	32.57	305.58	612.49	3.01	1.75	5.01	5.01
Yellowstone County	B10	RM 314.06	25326.45	10-yr	2132.26	849.03	843.63	1.61	1.43	12.17	6.47	455.22	1022.1	2.85	1.51	5.4	5.4
Yellowstone County	B10	RM 313.98	25189.4	10-yr	2132.26	848.97	843.05	1.41	1.23	23.43	15.47	559.69	1056.43	2.51	1.65	5.92	5.92
Yellowstone County	B10	RM 313.83	24942.42	10-yr	2132.26	848.8	843.2	1.38	1.29	14.92	9.06	476.74	868.43	3.16	1.9	5.6	5.6
Yellowstone County	B10	RM 313.72	24768.08	10-yr	2132.26	848.68	842.35	1.63	1.3	16.25	7.54	330.48	968.56	3.68	1.69	6.34	6.34
Yellowstone County	B10	RM 313.66	24671.51	10-yr	2132.26	848.61	843.14	1.8	1.37	17.88	8.05	286.85	926.12	3.77	1.68	5.47	5.47
Yellowstone County	B10	RM 313.57	24513.04	10-yr	2132.26	848.53	842.47	1.78	1.38	18.41	9.38	303.74	850.41	3.6	1.82	6.07	6.07
Yellowstone County	B10	RM 313.47	24364.02	10-yr	2132.26	848.45	841.55	1.79	1.47	18.08	9.41	283.74	706.39	4	2.05	6.9	6.9
Yellowstone County	B10	RM 313.33	24143.26	10-yr	2132.26	848.15	842.65	2.44	1.91	48.48	20.22	187.04	614.76	4.4	1.81	5.5	5.5
Yellowstone County	B10	RM 313.18	23899.74	10-yr	2132.26	847.41	842.19	3.42	2.92	104.06	42.7	164.4	491.99	3.68	1.49	5.21	5.21
Yellowstone County	B10	RM 313.07	23728.15	10-yr	2132.26	847.11	842.62	3.21	2.87	55.82	28.14	162.42	369.17	4.03	2.01	4.49	4.49
Yellowstone County	B10	RM 312.98	23590.93	10-yr	2132.26	847.07	842.5	2.67	2.38	33.84	20.44	191.2	465.24	3.92	2.36	4.58	4.58
Yellowstone County	B10	RM 312.90	23455.11	10-yr	2132.26	847.02	842.38	2.28	2.02	39.32	20.68	202.34	516.77	3.9	2.04	4.64	4.64
Yellowstone County	B10	RM 312.75	23227.05	10-yr	2132.26	846.8	841.71	2.32	1.86	31.35	15.16	223.84	693.61	3.46	1.66	5.09	5.09
Yellowstone County	B10	RM 312.65	23058.61	10-yr	2132.26	846.69	841.61	2.05	1.68	26.75	15.28	273.46	736.04	3.03	1.72	5.08	5.08
Yellowstone County	B10	RM 312.53	22873.59	10-yr	2132.26	846.62	841.37	1.85	1.4	14.9	7.47	238.53	759.35	4.05	2.01	5.25	5.25
Yellowstone County	B10	RM 312.49	22797.96	10-yr	2132.26	846.53	841.34	2.14	1.56	24.87	11.01	202	771.48	4.08	1.79	5.19	5.19
Yellowstone County	B10	RM 312.39	22646.67	10-yr	2132.26	846.38	840.85	2.51	1.71	38.78	17.92	149.98	716.73	3.83	1.74	5.53	5.53
Yellowstone County	B10	RM 312.33	22536.68	10-yr	2132.26	846.2	840.82	2.8	1.87	47.67	19.3	139.06	722.68	3.98	1.58	5.37	5.37
Yellowstone County	B10	RM 312.22	22360.55	10-yr	2132.26	846.14	840.91	2.23	1.67	32.45	13.45	127.91	712.85	4.41	1.8	5.23	5.23
Yellowstone County	B10	RM 312.13	22230.65	10-yr	2132.26	846.1	840.94	1.66	1.42	19.07	11.96	350.7	723.63	3.33	2.08	5.16	5.16
Yellowstone County	B10	RM 312.04	22082.88	10-yr	2132.26	845.97	840.82	1.83	1.56	24.24	14.22	346.94	758	3.09	1.8	5.15	5.15
Yellowstone County	B10	RM 311.95	21934.61	10-yr	2132.26	845.83	840.79	1.9	1.6	24.77	13.6	350.23	788.91	3.08	1.69	5.04	5.04
Yellowstone County	B10	RM 311.89	21840.24	10-yr	2132.26	845.76	840.76	1.82	1.55	26.85	13.87	325.27	781.94	3.43	1.76	5	5
Yellowstone County	B10	RM 311.77	21651.91	10-yr	2132.26	845.61	840.18	1.95	1.54	25.12	9.19	226.3	842.78	4.54	1.64	5.43	5.43
Yellowstone County	B10	RM 311.69	21530.39	10-yr	2132.26	845.43	839.85	2.48	1.65	38.3	10.87	150.74	945.62	4.96	1.37	5.59	5.59
Yellowstone County	B10	RM 311.58	21350.77	10-yr	2132.26	845.3	839.63	2.37	1.54	36.06	10.62	171.57	1105.47	4.34	1.26	5.67	5.67
Yellowstone County	B10	RM 311.48	21191.11	10-yr	2132.26	845.22	839.42	2.09	1.41	25.26	9.16	228.87	1132.31	3.73	1.33	5.8	5.8
Yellowstone County	B10	RM 311.37	21010.53	10-yr	2132.26	845.13	839.18	1.73	1.22	19.83	9.08	336.85	1226.21	3.16	1.43	5.96	5.96
Yellowstone County	B10	RM 311.27	20852.82	10-yr	2132.26	845.04	838.96	1.73	1.21	20.21	9.41	322.19	1177.82	3.26	1.5	6.08	6.08
Yellowstone County	B10	RM 311.19	20716.8	10-yr	2132.26	844.97	838.84	1.73	1.14	19.12	7.6	247.96	1147.5	4.17	1.63	6.13	6.13
Yellowstone County	B10	RM 311.09	20559.11	10-yr	2132.26	844.64	839.14	2.79	1.68	44.25	12.52	144.57	1026.63	4.57	1.27	5.49	5.49
Yellowstone County	B10	RM 310.97	20364.78	10-yr	2132.26	844.51	839.45	2.45	1.57	36.49	12.12	172.15	981.34	4.42	1.45	5.06	5.06
Yellowstone County	B10	RM 310.87	20211.96	10-yr	2132.26	844.39	839.02	2.4	1.62	34.56	11.51	190.23	1007.52	4.2	1.38	5.37	5.37
Yellowstone County	B10	RM 310.76	20019.23	10-yr	2132.26	843.96	839.18	3.17	2.24	54.8	14.61	143.59	839.96	4.36	1.13	4.78	4.78
Yellowstone County	B11	RM 310.67	19877.9	10-yr	2132.26	843.86	839.11	2.72	1.89	58.69	16.82	174.84	1000.01	3.98	1.13	4.74	4.74
Yellowstone County	B11	RM 310.57	19727.96	10-yr	2132.26	843.67	839.08	2.53	1.76	53.48	17.31	194.98	987.65	3.83	1.23	4.58	4.58
Yellowstone County	B11	RM 310.48	19578.86	10-yr	2132.26	843.5	838.96	2.4	1.62	41.16	13.81	209.62	1060.91	3.73	1.24	4.54	4.54
Yellowstone County	B11	RM 310.39	19437.53	10-yr	2132.26	843.45	838.54	2.03	1.42	18.85	7.95	263.01	1046.43	3.44	1.44	4.91	4.91
Yellowstone County	B11	RM 310.31	19317.45	10-yr	2132.26	843.38	838.23	1.97	1.49	17.71	9.2	352.79	993.63	2.77	1.44	5.15	5.15
Yellowstone County	B11	RM 310.24	19187.47	10-yr	2132.26	843.31	838.23	1.55	1.31	36.62	22.62	461.89	1034.73	2.57	1.58	5.08	5.08
Yellowstone County	B11	RM 310.16	19069.04	10-yr	2132.26	843.14	837.93	1.45	1.33	34.63	26.22	567.76	893.08	2.38	1.79	5.22	5.22
Yellowstone County	B11	RM 310.09	18955.28	10-yr	2132.26	843.04	837.93	1.54	1.26	10.59	7.55	554.59	1030.25	2.31	1.64	5.12	5.12
Yellowstone County	B11	RM 309.97	18765.62	10-yr	2132.26	842.99	837.59	1.13	1.01	14.62	9.67	601.54	1071.86	3	1.98	5.39	5.39
Yellowstone County	B11	RM 309.90	18643.48	10-yr	2132.26	842.91	837.5	1.33	1.15	7.88	5.85	624.98	1032.88	2.46	1.82	5.41	5.41
Yellowstone County	B11	RM 309.82	18525.48	10-yr	2132.26	842.85	837.5	1.22	1.15	24.77	19.93	697.1	1015.28	2.28	1.83	5.35	5.35
Yellowstone County	B11	RM 309.73	18379.74	10-yr	2132.26	842.72	837.35	1.09	1.05	18.37	15.03	801.52	1041.35	2.39	1.95	5.38	5.38

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	10-yr	2132.26	842.66	837.38	0.91	0.89	11.62	10.42	876.43	1013.97	2.64	2.37	5.29	5.29
Yellowstone County	B11	RM 309.52	18029.98	10-yr	2132.26	842.51	836.68	1.1	1.08	17.74	16.65	816.46	890.82	2.36	2.22	5.84	5.84
Yellowstone County	B11	RM 309.39	17824.11	10-yr	2132.26	842.43	836.74	0.91	0.91	9.55	9.55	763.97	763.97	3.06	3.06	5.69	5.69
Yellowstone County	B11	RM 309.22	17557.23	10-yr	2132.26	842.26	836.07	1.51	1.37	13.41	8.83	334.37	577.15	4.13	2.7	6.2	6.2
Yellowstone County	B11	RM 309.06	17331.95	10-yr	2132.26	842.02	835.79	2.16	1.73	51.27	23.07	191.46	661.11	4.76	2.1	6.23	6.23
Yellowstone County	B11	RM 308.94	17142.36	10-yr	2132.26	841.28	835.4	3.65	2.8	84.49	30.9	121.56	482.59	4.43	1.58	5.89	5.89
Yellowstone County	B11	RM 308.83	16971.41	10-yr	2132.26	841.27	836.04	2.59	2.02	46.69	20.71	158.77	517.15	4.66	2.04	5.23	5.23
Yellowstone County	B11	RM 308.71	16778.65	10-yr	2132.26	841.22	835.91	2.01	1.63	18.3	9.98	251.14	618.52	3.9	2.11	5.31	5.31
Yellowstone County	B11	RM 308.62	16631.4	10-yr	2132.26	841.13	835.85	1.85	1.49	45.51	26.47	300.08	742.16	3.33	1.92	5.28	5.28
Yellowstone County	B11	RM 308.55	16518.64	10-yr	2132.26	840.96	835.85	1.83	1.53	44.83	26.38	368.88	843.85	2.81	1.65	5.11	5.11
Yellowstone County	B11	RM 308.43	16328.3	10-yr	2132.26	840.68	834.51	1.62	1.39	39.99	24.84	420.94	910.38	2.74	1.69	6.17	6.17
Yellowstone County	B11	RM 308.35	16192.95	10-yr	2132.26	840.53	834.88	1.54	1.25	24.79	13.97	402.97	1005.21	3.02	1.69	5.66	5.66
Yellowstone County	B11	RM 308.24	16015.46	10-yr	2132.26	840.44	834.63	1.46	1.1	13.93	7.31	363.15	1128.01	3.45	1.8	5.81	5.81
Yellowstone County	B11	RM 308.12	15826.82	10-yr	2132.26	840.38	834.63	1.37	1.07	11.86	6.51	382.83	1135.26	3.56	1.94	5.74	5.74
Yellowstone County	B11	RM 308.02	15675.58	10-yr	2132.26	840.31	834.76	1.5	1.16	10.98	5.11	303.85	960.75	4.34	2.01	5.55	5.55
Yellowstone County	B11	RM 307.88	15434.86	10-yr	2132.26	839.92	834.45	3.03	1.97	56.68	18.56	113.22	756.7	4.56	1.45	5.47	5.47
Yellowstone County	B11	RM 307.77	15261.75	10-yr	2132.26	839.51	834.45	3.36	2.54	80.05	28.3	128.25	615.53	3.96	1.36	5.06	5.06
Yellowstone County	B11	RM 307.68	15125.28	10-yr	2132.26	839.37	834.85	2.77	2.1	52.29	21.61	158.43	622.85	4.01	1.63	4.52	4.52
Yellowstone County	B11	RM 307.60	14980.1	10-yr	2132.26	839.34	834.36	1.96	1.72	21.88	12.33	273.99	579.61	3.85	2.16	4.98	4.98
Yellowstone County	B11	RM 307.52	14873.7	10-yr	2132.26	839.17	834.12	2.35	2	33.76	16.94	253.79	632.1	3.44	1.71	5.05	5.05
Yellowstone County	B11	RM 307.46	14779.11	10-yr	2132.26	839.04	833.6	2.3	2.02	62.82	39.16	312.63	605.74	2.82	1.75	5.44	5.44
Yellowstone County	B11	RM 307.39	14664.34	10-yr	2132.26	838.9	833.63	2.25	1.93	19.48	13.33	365.52	654.53	2.48	1.69	5.27	5.27
Yellowstone County	B11	RM 307.30	14517.89	10-yr	2132.26	838.73	833.81	2.11	1.91	55.42	40.38	407.28	681.63	2.26	1.64	4.92	4.92
Yellowstone County	B11	RM 307.22	14385.45	10-yr	2132.26	838.45	833.87	2.04	1.86	43.22	31.09	396.39	686.77	2.39	1.72	4.57	4.57
Yellowstone County	B11	RM 307.14	14262.57	10-yr	2132.26	838.3	833.51	1.93	1.68	30.43	18.28	334.95	716.18	2.96	1.77	4.79	4.79
Yellowstone County	B11	RM 307.08	14166.72	10-yr	2132.26	838.24	833.11	1.76	1.53	18.02	10.89	348.63	742.75	3.13	1.88	5.13	5.13
Yellowstone County	B11	RM 307.01	14050.92	10-yr	2132.26	838.16	832.65	1.82	1.59	15.84	10.55	373.3	736	2.75	1.82	5.51	5.51
Yellowstone County	B11	RM 306.95	13949.23	10-yr	2132.26	838.06	832.35	2	1.6	24.65	15.98	324.62	752.63	2.74	1.77	5.71	5.71
Yellowstone County	B11	RM 306.90	13869.87	10-yr	2132.26	837.97	832.56	2.03	1.64	27.93	20.22	349.3	666.25	2.7	1.95	5.41	5.41
Yellowstone County	B11	RM 306.82	13726.64	10-yr	2132.26	837.85	832.62	1.9	1.54	24.06	15.47	361.85	763.3	2.83	1.81	5.23	5.23
Yellowstone County	B11	RM 306.72	13574.53	10-yr	2132.26	837.7	831.8	2.16	1.55	28.33	13.1	222.2	874.48	3.46	1.58	5.9	5.9
Yellowstone County	B11	RM 306.62	13414.11	10-yr	2132.26	837.52	832.77	2.29	1.75	40.88	17.71	215.2	850.42	3.34	1.43	4.75	4.75
Yellowstone County	B11	RM 306.52	13251.36	10-yr	2132.26	837.09	832.87	3.1	2.18	50.58	16.02	149.74	812	3.86	1.2	4.23	4.23
Yellowstone County	B11	RM 306.42	13099.73	10-yr	2132.26	836.76	832.74	3.48	2.55	64.53	22.9	133.79	670.9	3.59	1.25	4.02	4.02
Yellowstone County	B11	RM 306.34	12958.96	10-yr	2132.26	836.75	832.84	2.33	1.84	35.59	15.36	236.52	879.93	3.11	1.33	3.91	3.91
Yellowstone County	B11	RM 306.25	12825.95	10-yr	2132.26	836.57	832.35	2.34	1.92	35.6	17.12	311.42	938.15	2.47	1.18	4.22	4.22
Yellowstone County	B11	RM 306.16	12673.7	10-yr	2132.26	836.37	832.41	2.28	1.89	32.21	15.22	304.15	928.78	2.59	1.22	3.96	3.96
Yellowstone County	B11	RM 306.11	12592.39	10-yr	2132.26	836.25	832.17	2.34	1.92	42.62	19.3	266.46	878.98	2.82	1.27	4.08	4.08
Yellowstone County	B11	RM 306.03	12457.47	10-yr	2132.26	836.11	831.25	2.06	1.7	27.74	15.68	361.59	969.77	2.3	1.29	4.86	4.86
Yellowstone County	B11	RM 305.93	12317.98	10-yr	2132.26	835.89	831.25	2.23	1.96	34.87	22.62	345.34	772.28	2.19	1.41	4.64	4.64
Yellowstone County	B11	RM 305.84	12159.82	10-yr	2132.26	835.67	831.1	2.3	2	34.7	20.32	256.52	673.9	2.73	1.58	4.57	4.57
Yellowstone County	B11	RM 305.74	11989.73	10-yr	2132.26	835.4	830.64	2.48	2.03	43.41	17.8	194.49	740.96	3.52	1.42	4.76	4.76
Yellowstone County	B11	RM 305.67	11883.31	10-yr	2132.26	835.22	830.43	2.75	2.06	45.53	16.16	161.36	825.72	3.6	1.25	4.8	4.8
Yellowstone County	B11	RM 305.60	11764.11	10-yr	2132.26	835.19	830.18	1.98	1.84	22.59	11.43	163.4	913.81	2.91	1.44	5.01	5.01
Yellowstone County	B11	RM 305.52	11651.48	10-yr	2132.26	835.05	830.18	2.34	1.73	31.85	13.96	151.54	952.17	3.01	1.3	4.87	4.87
Yellowstone County	B11	RM 305.44	11514.64	10-yr	2132.26	834.99	830.43	1.84	1.34	15.9	8.99	157.2	895.04	3.17	1.77	4.57	4.57
Yellowstone County	B11	RM 305.40	11441.77	10-yr	2132.26	834.87	830.61	1.92	1.67	15.32	10.56	239	759.27	2.45	1.68	4.26	4.26
Yellowstone County	B11	RM 305.32	11312.15	10-yr	2132.26	834.79	830.61	1.98	1.55	24.63	10.86	159.52	1205.65	3.04	1.33	4.18	4.18
Yellowstone County	B11	RM 305.24	11186.22	10-yr	2132.26	834.78	830.43	1.22	1.05	10.58	6.69	156.67	1350.38	2.87	1.78	4.36	4.36
Yellowstone County	B11	RM 305.06	10905.09	10-yr	2132.26	834.71	830.15	1.19	0.92	6.94	5.32	302.98	1219.58	2.51	1.91	4.56	4.56
Yellowstone County	B11	RM 304.71	10460.6	10-yr	2132.26	834.58	828.96	1.28	1.15	10.97	8.29	394.69	905.79	2.71	2.04	5.62	5.62
Yellowstone County	B11	RM 304.62	10332.33	10-yr	2132.26	834.56	829.09	1.18	1.04	8.02	5.2	206.41	845	4.06	2.6	5.47	5.47
Yellowstone County	B11	RM 304.50	10132.63	10-yr	2132.26	834.3	829.09	2.37	2.02	46.94	20.68	122.56	547.14	4.49	1.93	5.21	5.21
Yellowstone County	B11	RM 304.42	10011.11	10-yr	2132.26	834.21	829.18	2.04	1.83	34.43	16.17	151.84	601.82	4.22	1.95	5.03	5.03
Yellowstone County	B11	RM 304.34	9873.393	10-yr	2132.26	834.09	828.78	2.03	1.8	20.67	11.14	263.04	584.64	3.87	2.08	5.31	5.31
Yellowstone County	B11	RM 304.25	9735.197	10-yr	2132.26	833.91	828.39	2.38	1.98	38.34	17.51	199.77	560.85	4.27	1.92	5.53	5.53
Yellowstone County	B11	RM 304.18	9615.178	10-yr	2132.26	833.82	828.54	2.36	1.99	25.34	12.41	215.94	546.44	4.04	1.96	5.28	5.28
Yellowstone County	B11	RM 304.09	9478.266	10-yr	2132.26	833.68	828.6	2.51	2.12	39.24	17.95	182.63	619.11	4.46	2.02	5.08	5.08
Yellowstone County	B11	RM 304.00	9326.206	10-yr	2132.26	833.58	828.39	2.32	1.81	36.12	13.73	190.93	824.78	4.55	1.71	5.2	5.2
Yellowstone County	B11	RM 303.91	9177.479	10-yr	2132.26	833.53	828.14	1.98	1.42	29	12.41	215.99	1018.06	4.33	1.84	5.39	5.39
Yellowstone County	B11	RM 303.78	8973.508	10-yr	2132.26	833.25	827.93	2.5	1.73	37.4	10.9	160.87	913.03	4.76	1.35	5.33	5.33

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	10-yr	2132.26	833.09	827.9	2.45	1.75	45.02	14.29	170.36	882.3	4.42	1.38	5.19	5.19
Yellowstone County	B11	RM 303.55	8608.195	10-yr	2132.26	832.98	827.65	2.21	1.69	22.02	8.47	248.21	947.97	3.59	1.36	5.33	5.33
Yellowstone County	B11	RM 303.43	8422.329	10-yr	2132.26	832.9	827.87	1.75	1.44	34	15.37	329.63	1045.51	3.15	1.41	5.03	5.03
Yellowstone County	B11	RM 303.34	8276.308	10-yr	2132.26	832.84	826.92	1.48	1.18	12.28	5.68	325.32	1029.87	3.82	1.75	5.92	5.92
Yellowstone County	B11	RM 303.26	8138.725	10-yr	2132.26	832.66	826.98	1.99	1.74	44.62	17.48	304.25	949.82	3.34	1.29	5.67	5.67
Yellowstone County	B11	RM 303.18	8018.762	10-yr	2132.26	832.47	826.22	2.03	1.8	50.25	21.1	308.05	882.1	3.24	1.35	6.25	6.25
Yellowstone County	B11	RM 303.09	7876.674	10-yr	2132.26	832.24	825.43	2	1.79	47.68	22.07	336.96	859.4	3.02	1.39	6.81	6.81
Yellowstone County	B11	RM 302.99	7711.603	10-yr	2132.26	832.07	826.22	1.73	1.49	32.17	17.93	336.71	808.38	3.21	1.77	5.85	5.85
Yellowstone County	B11	RM 302.89	7556.419	10-yr	2132.26	831.84	825.73	1.98	1.75	38.68	22.43	289.71	610.64	3.48	1.99	6.11	6.11
Yellowstone County	B11	RM 302.81	7423.411	10-yr	2132.26	831.6	825.86	2.33	2.06	47.02	23.02	221.32	540.26	3.97	1.92	5.75	5.75
Yellowstone County	B11	RM 302.70	7257.14	10-yr	2132.26	831.46	826.01	2.3	1.98	29.38	12.7	184.02	521.71	4.84	2.07	5.45	5.45
Yellowstone County	B12	RM 302.56	7050.708	10-yr	2132.26	831.01	825.25	3.13	2.74	61.43	27.28	170.25	454.97	3.92	1.71	5.77	5.77
Yellowstone County	B12	RM 302.49	6918.549	10-yr	2132.26	830.87	825.92	2.93	2.61	49.31	22.18	170.15	434.75	4.21	1.88	4.95	4.95
Yellowstone County	B12	RM 302.41	6794.522	10-yr	2132.26	830.8	825.64	2.75	2.18	33.45	14.32	161.6	563.3	4.13	1.75	5.16	5.16
Yellowstone County	B12	RM 302.34	6674.634	10-yr	2132.26	830.71	825.76	2.54	2.04	46.32	23.21	213.61	648.66	3.48	1.73	4.94	4.94
Yellowstone County	B12	RM 302.22	6485.378	10-yr	2132.26	830.6	825.76	1.94	1.61	24.76	12.65	235.89	806.11	3.25	1.64	4.84	4.84
Yellowstone County	B12	RM 302.14	6360.047	10-yr	2132.26	830.36	825.76	2.59	1.98	43.38	18.15	178.16	732.14	3.55	1.47	4.59	4.59
Yellowstone County	B12	RM 302.08	6267.13	10-yr	2132.26	830.28	825.79	2.35	1.99	24.74	13.15	265.5	683.61	2.96	1.57	4.48	4.48
Yellowstone County	B12	RM 301.98	6100.949	10-yr	2132.26	830.21	825.34	1.91	1.61	25.06	11.38	257.2	813.4	3.61	1.63	4.88	4.88
Yellowstone County	B12	RM 301.88	5944.005	10-yr	2132.26	830.11	824.7	1.85	1.48	21.21	10.44	307.5	918.99	3.21	1.56	5.42	5.42
Yellowstone County	B12	RM 301.79	5801.18	10-yr	2132.26	830.05	824.36	1.69	1.42	13.65	8.57	369.92	809.71	2.98	1.86	5.69	5.69
Yellowstone County	B12	RM 301.72	5685.105	10-yr	2132.26	829.98	824.85	1.78	1.53	20.23	12.74	328.47	709.96	3.12	1.96	5.13	5.13
Yellowstone County	B12	RM 301.65	5569.191	10-yr	2132.26	829.85	824.61	1.99	1.7	27.81	15.71	311.48	762.15	2.93	1.65	5.24	5.24
Yellowstone County	B12	RM 301.59	5465.51	10-yr	2132.26	829.72	824.42	2.06	1.84	31.7	18.29	318.53	719.56	2.81	1.61	5.3	5.3
Yellowstone County	B12	RM 301.53	5366.723	10-yr	2132.26	829.63	824.12	1.86	1.73	34.73	20.29	363.47	790.93	2.69	1.56	5.51	5.51
Yellowstone County	B12	RM 301.47	5270.902	10-yr	2132.26	829.5	824.12	1.88	1.72	33.33	19.37	352.5	775.75	2.78	1.6	5.38	5.38
Yellowstone County	B12	RM 301.39	5140.04	10-yr	2132.26	829.44	824.36	1.48	1.3	19.56	11.64	345.85	853.73	3.26	1.93	5.08	5.08
Yellowstone County	B12	RM 301.33	5044.575	10-yr	2132.26	829.37	824.12	1.63	1.35	17.47	9.05	329.55	895.81	3.44	1.76	5.25	5.25
Yellowstone County	B12	RM 301.24	4906.408	10-yr	2132.26	829.26	823.87	1.8	1.48	19.04	10.35	310.78	883.5	3.32	1.79	5.39	5.39
Yellowstone County	B12	RM 301.18	4802.631	10-yr	2132.26	829.15	823.17	2.04	1.72	25.7	14.15	312.68	806.53	2.88	1.57	5.97	5.97
Yellowstone County	B12	RM 301.12	4698.913	10-yr	2132.26	829	823.81	2.16	1.93	28.25	15.2	308.25	673.55	3.07	1.64	5.19	5.19
Yellowstone County	B12	RM 301.07	4611.142	10-yr	2132.26	828.95	824	2.05	1.8	24.1	12.87	284.39	642.5	3.48	1.84	4.95	4.95
Yellowstone County	B12	RM 301.02	4531.484	10-yr	2132.26	828.87	823.81	2.16	1.9	20.58	11.3	260.69	571.77	3.59	1.96	5.06	5.06
Yellowstone County	B12	RM 300.97	4453.011	10-yr	2132.26	828.69	823.9	2.66	2.32	30.84	15.77	196.12	476.59	3.8	1.93	4.79	4.79
Yellowstone County	B12	RM 300.89	4332.618	10-yr	2132.26	828.55	823.66	2.72	2.44	49.29	28.09	198.89	433.31	3.55	2.02	4.89	4.89
Yellowstone County	B12	RM 300.83	4232.362	10-yr	2132.26	828.37	823.78	2.91	2.52	53.69	30.73	174.94	428.72	3.48	1.98	4.58	4.58
Yellowstone County	B12	RM 300.77	4151.049	10-yr	2132.26	828.27	823.75	2.7	2.41	52.53	31.49	175.77	408.05	3.65	2.16	4.52	4.52
Yellowstone County	B12	RM 300.69	4011.358	10-yr	2132.26	828.19	823.63	2.29	1.89	25.31	13.06	205.8	578.37	3.83	1.96	4.56	4.56
Yellowstone County	B12	RM 300.55	3793.957	10-yr	2132.26	828.07	822.93	1.95	1.61	27.58	16.4	263.47	696.52	3.23	1.9	5.14	5.14
Yellowstone County	B12	RM 300.45	3633.035	10-yr	2132.26	827.92	822.53	1.57	1.53	31.23	21.71	335.99	735.07	2.74	1.9	5.39	5.39
Yellowstone County	B12	RM 300.35	3461.833	10-yr	2132.26	827.66	822.66	2.08	1.62	18.15	11.86	389.33	835.52	2.42	1.58	5	5
Yellowstone County	B12	RM 300.24	3286.175	10-yr	2132.26	827.45	822.47	1.99	1.72	49.26	33.84	421.27	791.47	2.29	1.57	4.98	4.98
Yellowstone County	B12	RM 300.15	3141.724	10-yr	2132.26	827.14	822.47	1.89	1.73	44.75	34.51	481.67	724.88	2.21	1.7	4.67	4.67
Yellowstone County	B12	RM 300.10	3054.752	10-yr	2132.26	827.03	822.35	2	1.72	14.98	12.18	462.66	734.35	2.09	1.69	4.68	4.68
Yellowstone County	B12	RM 300.00	2887.728	10-yr	2132.26	826.84	821.22	1.87	1.78	46.1	39.95	462.94	622.4	2.23	1.93	5.62	5.62
Yellowstone County	B12	RM 299.91	2736.431	10-yr	2132.26	826.67	821.5	1.82	1.71	21.65	15.44	350.2	679.9	2.62	1.86	5.18	5.18
Yellowstone County	B12	RM 299.83	2614.069	10-yr	2132.26	826.5	821.41	1.86	1.91	33.7	25.81	388.69	674.57	2.17	1.66	5.09	5.09
Yellowstone County	B12	RM 299.72	2484.158	10-yr	2132.26	826.33	820.89	1.9	1.76	31.1	17.42	414.3	816.75	2.66	1.48	5.44	5.44
Yellowstone County	B12	RM 299.59	2312.328	10-yr	2132.26	826.06	821.13	2.44	1.84	32.26	14.34	220.56	822.02	3.21	1.41	4.93	4.93
Yellowstone County	B12	RM 299.48	2160.343	10-yr	2132.26	825.81	821.13	2.95	1.97	39.13	14.53	138.95	784.42	3.78	1.38	4.68	4.68
Yellowstone County	B12	RM 299.38	1995.229	10-yr	2132.26	825.7	821.13	2.43	1.7	55.6	22	136.55	932.96	3.66	1.43	4.57	4.57
Yellowstone County	B12	RM 299.31	1874.433	10-yr	2132.26	825.41	821.22	2.91	2.03	39.31	13.91	143.47	875.95	3.53	1.23	4.18	4.18
Yellowstone County	B12	RM 299.22	1738.666	10-yr	2132.26	825.24	821.16	2.93	1.86	48.46	14.85	129	1054.72	3.72	1.11	4.08	4.08
Yellowstone County	B12	RM 299.15	1613.992	10-yr	2132.26	825.19	820.95	2.38	1.45	30.07	12.05	154.73	1266.85	3.53	1.4	4.24	4.24
Yellowstone County	B12	RM 299.06	1473.748	10-yr	2132.26	825.16	820.64	1.97	1.16	25.83	9.34	116.53	1331.51	3.99	1.4	4.51	4.51
Yellowstone County	B12	RM 298.99	1360.532	10-yr	2132.26	825.08	820.46	2	1.25	28.86	9.86	101.91	1327.16	3.95	1.3	4.62	4.62
Yellowstone County	B12	RM 298.93	1269.876	10-yr	2132.26	825.02	820.46	1.97	1.25	27.92	9.91	108.79	1331.83	3.74	1.29	4.56	4.56
Yellowstone County	B12	RM 298.88	1195.725	10-yr	2132.26	824.95	820.43	2.03	1.24	27.24	9.95	119.02	1335.1	3.65	1.29	4.52	4.52
Yellowstone County	B12	RM 298.82	1096.849	10-yr	2132.26	824.78	820.58	2.48	1.42	32.75	13	155.1	1258.92	3.09	1.2	4.2	4.2
Yellowstone County	B12	RM 298.77	1018.392	10-yr	2132.26	824.71	820.4	2.24	1.35	27.86	11.58	184.55	1261.3	3.06	1.25	4.31	4.31
Yellowstone County	B12	RM 298.67	854.844	10-yr	2132.26	824.64	819.39	1.95	1.31	16.59	9.1	244.95	1220.06	2.47	1.33	5.25	5.25

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	10-yr	2132.26	824.57	819.55	1.62	1.33	18.9	10.83	273.74	1208.04	2.35	1.33	5.02	5.02
Yellowstone County	B12	RM 298.49	579.164	10-yr	2132.26	824.47	819.27	1.77	1.2	14.68	7.09	214.03	1234.11	3.03	1.44	5.2	5.2
Yellowstone County	B12	RM 298.42	469.573	10-yr	2132.26	824.4	819.27	1.82	1.19	23.75	10.06	176.57	1244.68	3.46	1.44	5.13	5.13
Yellowstone County	B12	RM 298.35	368.049	10-yr	2132.26	824.29	819.97	2.15	1.28	25.34	9.02	147.33	1193	3.99	1.4	4.31	4.31
Yellowstone County	B12	RM 298.30	290.003	10-yr	2132.26	824.27	819.82	1.83	1.11	15.92	7.75	197.73	1149.15	3.46	1.66	4.45	4.45
Yellowstone County	B12	RM 298.26	211.35	10-yr	2132.26	824.22	819.82	1.83	1.24	20.22	10.49	220.65	1075.73	3.12	1.6	4.4	4.4
Yellowstone County	B12	RM 298.19	83.499	10-yr	2132.26	824.11	819.49	2.04	1.42	19.2	10.26	189.32	921.49	3.09	1.63	4.62	4.62

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	10-yr	2491.9	823.96	820.43	1.8	1.3	16.85	7.4	197.15	1591.29	3.24	1.41	3.53	3.53
Treasure County	C1	RM 297.89	61639	10-yr	2491.9	823.8	820.07	1.74	1.44	16.59	10.55	362.24	1050.99	2.64	1.67	3.73	3.73
Treasure County	C1	RM 297.76	61392	10-yr	2491.9	823.63	819.93	1.82	1.58	20.98	14.39	331	875.87	2.71	1.85	3.7	3.7
Treasure County	C1	RM 297.62	61179	10-yr	2491.9	823.56	819.69	1.55	1.3	12.34	8.56	290.46	1375.5	2.93	2.03	3.87	3.87
Treasure County	C1	RM 297.5	60985	10-yr	2491.9	823.37	819.39	2.29	1.51	26.32	11.5	159.01	1328.08	3.68	1.59	3.97	3.97
Treasure County	C1	RM 297.36	60767	10-yr	2491.9	823.23	819.14	2.16	1.45	23.59	10.98	169.82	1131.33	3.54	1.63	4.09	4.09
Treasure County	C1	RM 297.22	60535	10-yr	2491.9	823.11	819	1.95	1.38	19.17	8.77	149.14	1105.9	3.62	1.63	4.12	4.12
Treasure County	C1	RM 297.08	60314	10-yr	2491.9	822.99	818.76	1.96	1.28	19.19	8.41	194.31	1347.09	3.75	1.62	4.23	4.23
Treasure County	C1	RM 296.94	60093	10-yr	2491.9	822.86	818.42	2.04	1.29	20.77	8.33	177.08	1554.51	3.74	1.48	4.44	4.44
Treasure County	C1	RM 296.79	59847	10-yr	2491.9	822.8	817.97	1.5	1.15	11.29	5.46	246.81	1233.32	3.65	1.75	4.83	4.83
Treasure County	C1	RM 296.64	59608	10-yr	2491.9	822.74	817.9	1.57	1.13	12.11	6.3	177.49	1104.23	3.88	1.99	4.84	4.84
Treasure County	C1	RM 296.51	59386	10-yr	2491.9	822.69	817.8	1.29	1.11	8.24	5.53	477.13	1067.38	3.76	2.51	4.88	4.88
Treasure County	C1	RM 296.33	59113	10-yr	2491.9	822.6	817.52	1.5	1.22	10.5	6.56	335.57	1054.01	4.51	2.8	5.07	5.07
Treasure County	C1	RM 296.16	58839	10-yr	2491.9	821.17	817.46	5.05	4.2	130.7	51.38	137.32	442.38	3.47	1.34	3.71	3.71
Treasure County	C1	RM 296.01	58583	10-yr	2491.9	821.26	817.45	2.77	2.44	40.1	23.35	259.72	631	3.33	1.93	3.8	3.8
Treasure County	C1	RM 295.83	58296	10-yr	2491.9	821.11	817.4	1.85	1.84	17.17	16.77	627.05	645.58	2.14	2.1	3.71	3.71
Treasure County	C1	RM 295.66	58032	10-yr	2491.9	820.8	817.27	2.13	2.13	21.89	21.89	555.13	555.14	2.11	2.11	3.53	3.53
Treasure County	C1	RM 295.52	57800	10-yr	2491.9	820.71	816.19	1.55	1.55	12.15	12.15	659.5	659.5	2.44	2.44	4.52	4.52
Treasure County	C1	RM 295.31	57474	10-yr	2491.9	820.6	815.61	1.4	1.33	9.47	8.45	554.61	689.82	3.05	2.72	4.99	4.99
Treasure County	C1	RM 295.13	57174	10-yr	2491.9	820.43	815.57	1.76	1.46	16.85	9.21	360.88	1001.99	3.54	1.92	4.86	4.86
Treasure County	C1	RM 294.94	56877	10-yr	2491.9	819.92	815.46	3.01	2.31	43.78	17.11	189.73	838.52	3.83	1.48	4.47	4.47
Treasure County	C1	RM 294.76	56587	10-yr	2491.9	819.7	815.45	2.54	1.97	31.4	12.23	257.05	949.5	3.45	1.33	4.25	4.25
Treasure County	C1	RM 294.55	56261	10-yr	2491.9	819.47	815.36	2.41	1.8	29.08	11.59	194.71	955.6	3.66	1.45	4.11	4.11
Treasure County	C1	RM 294.38	55980	10-yr	2491.9	819.3	815.07	2.13	1.68	23.86	10.37	227.09	1131.4	3.17	1.37	4.23	4.23
Treasure County	C1	RM 294.21	55714	10-yr	2491.9	819	814.88	2.55	1.75	32.8	9.94	201.2	1554.73	3.62	1.08	4.12	4.12
Treasure County	C1	RM 294.02	55401	10-yr	2491.9	818.76	814.59	2.35	1.74	26.51	10.19	231.94	1577.28	3.07	1.17	4.17	4.17
Treasure County	C1	RM 293.83	55100	10-yr	2491.9	818.58	814.3	2.05	1.5	19.83	8.32	274.8	1765.24	2.92	1.22	4.28	4.28
Treasure County	C1	RM 293.63	54777	10-yr	2491.9	818.43	813.55	1.82	1.32	15.18	5.01	329.03	1860.48	3.88	1.27	4.88	4.88
Treasure County	C1	RM 293.43	54432	10-yr	2491.9	818.14	813.29	2.48	1.33	29.57	7.7	202.13	1931.16	4.16	1.07	4.86	4.86
Treasure County	C1	RM 293.26	54152	10-yr	2491.9	817.99	813.24	2.34	1.19	25.82	9.6	247.33	1931.49	3.26	1.2	4.75	4.75
Treasure County	C1	RM 293.07	53839	10-yr	2491.9	817.8	813.24	2.19	1	24.93	9.49	241.79	2144.58	3.28	1.23	4.56	4.56
Treasure County	C1	RM 292.83	53458	10-yr	2491.9	817.72	813.1	1.39	0.83	10.25	4.31	380.97	2489.65	3.31	1.39	4.62	4.62
Treasure County	C1	RM 292.6	53082	10-yr	2491.9	817.5	812.6	2	1.22	19.07	4.73	238.91	2263.54	4.23	1.05	4.9	4.9
Treasure County	C2	RM 292.32	52612	10-yr	2491.9	817.32	811.76	2.07	1.13	19.22	5.52	207.17	1937.93	4.32	1.22	5.56	5.56
Treasure County	C2	RM 292.09	52256	10-yr	2491.9	817.18	811.6	2.14	1.3	20.14	5.92	174.28	1484.41	4.55	1.31	5.58	5.58
Treasure County	C2	RM 291.9	51956	10-yr	2491.9	817.07	811.55	1.87	1.25	17.25	6.9	240.72	1341.21	3.88	1.53	5.52	5.52
Treasure County	C2	RM 291.71	51639	10-yr	2491.9	816.45	811.5	3.1	2.38	71.53	36.54	244.04	707.22	2.92	1.48	4.95	4.95
Treasure County	C2	RM 291.52	51333	10-yr	2491.9	816.22	811.46	2.39	1.63	27.29	10.62	214.15	978.34	4.2	1.62	4.76	4.76
Treasure County	C2	RM 291.33	51042	10-yr	2491.9	815.97	811.46	2.5	1.92	31.23	12.24	232.04	908.62	3.69	1.43	4.51	4.51
Treasure County	C2	RM 291.15	50747	10-yr	2491.9	815.92	811.4	1.69	1.39	13.8	7.07	297.47	869.12	4.14	2.11	4.52	4.52
Treasure County	C2	RM 290.94	50437	10-yr	2491.9	815.79	811.31	1.85	1.24	17.21	9.15	259.99	1055.34	3.61	1.9	4.48	4.48
Treasure County	C2	RM 290.78	50179	10-yr	2491.9	815.68	810.97	1.6	1.19	12.98	8.61	393.13	1011.04	3.13	2.06	4.71	4.71
Treasure County	C2	RM 290.6	49891	10-yr	2491.9	815.59	810.54	1.39	1.25	9.66	7.66	473.72	684.61	3.68	2.92	5.06	5.06
Treasure County	C2	RM 290.43	49607	10-yr	2491.9	815.37	810.13	2.1	1.72	21.54	13.4	273.61	890.56	3.74	2.31	5.24	5.24
Treasure County	C2	RM 290.23	49287	10-yr	2491.9	814.76	810.07	3.3	2.43	51.51	20.43	154.05	603.2	4.39	1.71	4.69	4.69
Treasure County	C2	RM 290.04	48976	10-yr	2491.9	814.66	810.04	2.33	1.82	25.61	11.23	209.93	944.24	4.44	1.93	4.62	4.62
Treasure County	C2	RM 289.85	48667	10-yr	2491.9	814.55	809.87	1.79	1.45	16.38	8.28	359.02	1314.47	3.37	1.69	4.68	4.68
Treasure County	C2	RM 289.67	48372	10-yr	2491.9	814.38	809.87	1.82	1.42	17.06	7.78	397.84	1491.46	3.25	1.47	4.51	4.51
Treasure County	C2	RM 289.46	48067	10-yr	2491.9	814.28	809.56	1.56	1.16	11.2	5.72	411.53	1205.68	3.53	1.79	4.72	4.72
Treasure County	C2	RM 289.27	47769	10-yr	2491.9	814.05	809.32	2.07	1.52	21.88	9.67	320.68	1078.89	3.46	1.52	4.73	4.73
Treasure County	C2	RM 289.11	47515	10-yr	2491.9	813.88	809	2.18	1.5	22.12	8.15	228.59	1007.95	4.51	1.65	4.88	4.88
Treasure County	C2	RM 288.94	47232	10-yr	2491.9	813.64	808.59	2.54	1.63	29.8	9.61	186.59	1019.74	4.73	1.5	5.05	5.05
Treasure County	C2	RM 288.76	46939	10-yr	2491.9	813.52	808.33	2.2	1.32	23.04	9.34	217.33	1100.4	4.36	1.74	5.19	5.19
Treasure County	C2	RM 288.55	46613	10-yr	2491.9	813.13	808.24	2.75	1.84	37.97	13.59	224.04	1047.01	3.67	1.3	4.88	4.88
Treasure County	C2	RM 288.36	46302	10-yr	2491.9	813.04	807.91	2.07	1.39	19.48	5.92	219.5	1209.79	4.96	1.48	5.13	5.13
Treasure County	C2	RM 288.18	46008	10-yr	2491.9	812.87	807.77	2.22	1.46	23.78	8.54	246.26	1596.97	4.02	1.43	5.1	5.1
Treasure County	C2	RM 287.99	45713	10-yr	2491.9	812.75	807.58	1.97	1.35	18.05	7.27	241.63	1796.72	4.07	1.62	5.17	5.17
Treasure County	C2	RM 287.81	45421	10-yr	2491.9	812.65	807.25	1.85	1.37	16.3	7.15	229.88	1342.78	4.32	1.88	5.4	5.4
Treasure County	C2	RM 287.62	45112	10-yr	2491.9	812.33	807.19	2.76	1.69	35.06	11.92	138.21	951.37	4.75	1.58	5.14	5.14
Treasure County	C2	RM 287.42	44789	10-yr	2491.9	812.08	807.15	2.74	1.69	35.24	13.09	159.89	1046.31	4.49	1.64	4.93	4.93

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	10-yr	2491.9	812.03	806.81	1.66	1.37	14.16	8.82	420.05	1699.44	3.37	2.09	5.21	5.21
Treasure County	C2	RM 287.06	44222	10-yr	2491.9	811.95	806.77	1.37	1.15	10.28	5.1	515.12	1964.16	3.27	1.61	5.18	5.18
Treasure County	C2	RM 286.9	43958	10-yr	2491.9	811.82	806.52	1.72	1.17	13.8	4.24	277.39	1960.21	4.56	1.38	5.3	5.3
Treasure County	C2	RM 286.72	43671	10-yr	2491.9	811.17	806.4	3.74	1.93	65.77	12.88	122.22	1504	4.44	0.86	4.77	4.77
Treasure County	C3	RM 286.58	43448	10-yr	2491.9	810.75	806.32	3.16	2.11	47.6	10.29	169.59	1296.74	4.28	0.91	4.43	4.43
Treasure County	C3	RM 286.51	43344	10-yr	2491.9	810.75	806.32	2.67	1.71	34.06	7.51	193.91	1561.41	4.29	0.93	4.43	4.43
Treasure County	C3	RM 286.46	43257	10-yr	2491.9	810.65	806.25	2.76	1.75	36.73	8.01	196.96	1592.32	4.12	0.89	4.4	4.4
Treasure County	C3	RM 286.37	43117	10-yr	2491.9	810.69	806.17	1.93	1.14	19.03	7.57	295.42	1615.98	3.44	1.36	4.52	4.52
Treasure County	C3	RM 286.26	42931	10-yr	2491.9	810.37	806.17	2.62	1.61	62.78	15.85	219.27	1877.51	3.3	0.82	4.21	4.21
Treasure County	C3	RM 286.06	42624	10-yr	2491.9	810.15	806.08	1.9	1.19	18.53	5.92	354.48	2064.01	3.21	1.02	4.07	4.07
Treasure County	C3	RM 285.81	42213	10-yr	2491.9	809.92	805.78	1.94	1.02	17.54	6.83	221.82	2901.84	2.61	1	4.14	4.14
Treasure County	C3	RM 285.56	41812	10-yr	2491.9	809.72	805.34	1.79	0.92	15.35	3.8	237.24	3327.94	4.12	1.01	4.39	4.39
Treasure County	C3	RM 285.23	41280	10-yr	2491.9	809.48	805.17	2.04	0.9	21.51	5.81	152.4	3389.9	3.39	0.9	4.32	4.32
Treasure County	C3	RM 284.69	40395	10-yr	2491.9	808.98	804.85	2.53	1.41	35.06	8.75	159.53	2538.3	2.83	0.69	4.13	4.13
Treasure County	C3	RM 284.26	39705	10-yr	2491.9	808.61	804.6	1.85	1.37	18.42	5.64	348.37	1960.55	3.03	0.93	4.01	4.01
Treasure County	C3	RM 283.96	39199	10-yr	2491.9	808.31	804.3	2.04	1.28	21.89	6.78	244.91	2539.92	3.22	0.99	4.01	4.01
Treasure County	C3	RM 283.69	38766	10-yr	2491.9	808.12	803.9	1.93	1.07	18.37	4.74	189.23	2717.89	3.84	0.98	4.22	4.22
Treasure County	C3	RM 283.35	38229	10-yr	2491.9	807.94	803.42	1.63	0.94	13.56	5.08	285.51	2384.96	3.35	1.24	4.52	4.52
Treasure County	C3	RM 283.05	37749	10-yr	2491.9	807.57	803.32	2.41	1.25	29.81	7.99	193.93	2335.84	3.47	0.91	4.25	4.25
Treasure County	C3	RM 282.78	37306	10-yr	2491.9	807.3	803.11	2.03	1.1	19.7	6.15	257.15	2620.36	3.04	0.94	4.19	4.19
Treasure County	C3	RM 282.56	36942	10-yr	2491.9	807.18	802.83	1.51	0.86	12.07	4.08	281.25	3086.34	2.98	1	4.35	4.35
Treasure County	C3	RM 282.31	36546	10-yr	2491.9	807.03	802.74	1.74	0.79	14.99	4.23	187.32	3031.31	3.86	1.06	4.29	4.29
Treasure County	C3	RM 282.09	36195	10-yr	2491.9	806.84	802.56	2.16	0.94	24.29	7.59	181.69	2767.71	3.24	1	4.28	4.28
Treasure County	C4	RM 281.73	35619	10-yr	2491.9	806.61	801.74	1.64	0.97	12.74	4.71	426.96	2542.72	2.74	1.01	4.87	4.87
Treasure County	C4	RM 281.35	35005	10-yr	2491.9	806.45	801.53	1.46	0.81	10.02	2.75	316.27	2577.03	4.4	1.19	4.92	4.92
Treasure County	C4	RM 281.03	34521	10-yr	2491.9	806.23	801.19	2.03	0.98	19.84	5.43	228.85	2454.83	4.15	1.12	5.04	5.04
Treasure County	C4	RM 280.73	34051	10-yr	2491.9	806.11	800.82	1.34	0.9	8.76	5.01	693.36	2450.31	2.27	1.29	5.29	5.29
Treasure County	C4	RM 280.5	33687	10-yr	2491.9	805.99	800.66	1.23	0.88	8.16	5.14	756.46	2350.75	2.32	1.46	5.33	5.33
Treasure County	C4	RM 280.27	33304	10-yr	2491.9	805.88	800.31	1.13	0.83	7.51	5.01	759.73	2211.29	2.6	1.72	5.57	5.57
Treasure County	C4	RM 279.95	32800	10-yr	2491.9	805.75	800.08	1.21	0.79	8.4	4.55	503.81	2336.59	3.46	1.86	5.67	5.67
Treasure County	C4	RM 279.6	32231	10-yr	2491.9	805.41	799.98	2.13	1.25	21.12	10.46	304.47	1295.89	3.14	1.54	5.43	5.43
Treasure County	C4	RM 279.33	31805	10-yr	2491.9	804.84	799.98	2.83	1.98	39.57	16.44	244.79	978.12	3.3	1.36	4.86	4.86
Treasure County	C4	RM 279.14	31495	10-yr	2491.9	804.7	799.96	2.22	1.51	22.94	9.49	238.13	1497.05	3.93	1.61	4.74	4.74
Treasure County	C4	RM 278.96	31209	10-yr	2491.9	804.63	799.87	1.61	1.28	13.26	5.96	367.55	1886.91	3.84	1.72	4.77	4.77
Treasure County	C4	RM 278.76	30894	10-yr	2491.9	804.5	799.6	1.68	1.34	14.08	6.75	423.56	1943.43	3.14	1.5	4.9	4.9
Treasure County	C4	RM 278.56	30571	10-yr	2491.9	804.31	799.53	1.9	1.33	18.58	7.25	336.63	2187.73	3.39	1.31	4.78	4.78
Treasure County	C4	RM 278.37	30259	10-yr	2491.9	804.22	799.26	1.55	1.15	11.55	3.99	369.33	2087.42	4.1	1.4	4.96	4.96
Treasure County	C5	RM 278.16	29915	10-yr	2491.9	803.85	798.81	2.57	1.71	31.66	6.87	207.39	1802.59	4.33	0.93	5.04	5.04
Treasure County	C5	RM 277.99	29648	10-yr	2491.9	803.51	798.77	2.93	2.05	41.57	8.31	189.71	1464.3	4.23	0.83	4.74	4.74
Treasure County	C5	RM 277.8	29336	10-yr	2491.9	803.27	798.74	2.67	2.03	34.13	8.12	212.34	1238	4.22	0.99	4.53	4.53
Treasure County	C5	RM 277.61	29041	10-yr	2491.9	803.05	798.72	2.59	1.87	32.31	7.89	216.71	1329.7	4.16	1	4.34	4.34
Treasure County	C5	RM 277.43	28747	10-yr	2491.9	802.92	798.48	2.1	1.59	22.12	6.77	306.39	1417.04	3.66	1.11	4.44	4.44
Treasure County	C5	RM 277.22	28415	10-yr	2491.9	802.67	798.47	2.13	1.85	21.25	9.68	424.41	1112.58	2.68	1.21	4.21	4.21
Treasure County	C5	RM 277.04	28123	10-yr	2491.9	802.49	798.4	1.96	1.69	16.72	10.16	459.83	900.25	2.7	1.63	4.09	4.09
Treasure County	C5	RM 276.81	27791	10-yr	2491.9	802.39	797.8	1.57	1.26	12.04	5.53	376.57	1105.64	3.92	1.79	4.59	4.59
Treasure County	C5	RM 276.63	27499	10-yr	2491.9	802.11	797.4	2.37	1.65	27.4	9.35	234.28	1129.62	3.95	1.34	4.71	4.71
Treasure County	C5	RM 276.4	27133	10-yr	2491.9	801.9	797.1	2.22	1.49	23.74	8.78	239.33	1126.41	4.05	1.48	4.8	4.8
Treasure County	C5	RM 276.19	26801	10-yr	2491.9	801.72	796.87	2.25	1.61	24.36	9.78	189.04	950.3	4.13	1.63	4.86	4.86
Treasure County	C5	RM 276.01	26502	10-yr	2491.9	801.52	796.74	2.41	1.65	27.46	8.02	158.55	1184.48	4.45	1.27	4.78	4.78
Treasure County	C5	RM 275.81	26193	10-yr	2491.9	801.42	796.61	2.01	1.38	19.36	5.67	179.56	1493.71	4.26	1.23	4.81	4.81
Treasure County	C5	RM 275.63	25896	10-yr	2491.9	801.26	796.49	2.27	1.36	24.14	6.81	134.65	1475.6	4.51	1.24	4.77	4.77
Treasure County	C5	RM 275.45	25606	10-yr	2491.9	801.19	796.37	1.75	1.28	14.76	5.26	153.92	1355.06	4.11	1.44	4.82	4.82
Treasure County	C5	RM 275.26	25299	10-yr	2491.9	800.96	796.16	2.03	1.6	19.22	7.5	251.91	881.52	4.56	1.76	4.8	4.8
Treasure County	C5	RM 275.09	25033	10-yr	2491.9	800.64	796.13	2.69	2.16	34.23	14.18	199.32	833.84	4.37	1.79	4.51	4.51
Treasure County	C6	RM 274.89	24716	10-yr	2491.9	800.49	796.04	2.29	1.52	25.44	10.95	228.44	1902.18	4.05	1.73	4.45	4.45
Treasure County	C6	RM 274.72	24440	10-yr	2491.9	799.84	796.04	3.39	2.58	60.72	26.4	214.5	1427.07	3.15	1.36	3.81	3.81
Treasure County	C6	RM 274.55	24165	10-yr	2491.9	799.75	795.79	2.04	1.34	23.87	9.64	294.37	2661.09	2.83	1.13	3.96	3.96
Treasure County	C6	RM 274.38	23892	10-yr	2491.9	799.56	795.55	2.05	1.2	21.71	6.77	229.3	2994.35	3.31	1.02	4.01	4.01
Treasure County	C6	RM 274.13	23491	10-yr	2491.9	799.33	795.16	2.12	1.26	24.45	8.15	224.37	2992.53	2.9	0.96	4.18	4.18
Treasure County	C6	RM 273.83	22999	10-yr	2491.9	799.15	794.46	1.81	1.03	16.18	3.99	184.4	3648.07	3.88	0.94	4.68	4.68

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	10-yr	2491.9	798.88	794.04	2.3	1.11	24.25	5.3	179.34	3586.2	3.59	0.77	4.85	4.85
Treasure County	C6	RM 273.35	22238	10-yr	2491.9	798.7	794.04	1.96	0.93	18.46	6.2	230.93	3918.44	2.9	0.96	4.67	4.67
Treasure County	C6	RM 273.15	21916	10-yr	2491.9	798.55	793.92	1.79	0.85	16.11	6.03	266.7	3944.19	2.91	1.08	4.64	4.64
Treasure County	C6	RM 272.83	21397	10-yr	2491.9	798.39	793.79	1.65	0.79	12.66	4.34	263.82	4046.23	3.32	1.12	4.6	4.6
Treasure County	C6	RM 272.5	20872	10-yr	2491.9	798.16	793.46	2.06	0.94	22.62	7.43	229.86	3985.57	2.97	0.96	4.7	4.7
Treasure County	C6	RM 272.19	20368	10-yr	2491.9	797.81	793.34	2.21	1.08	23.75	6.69	247.4	3564.59	3.47	0.97	4.47	4.47
Treasure County	C6	RM 271.91	19902	10-yr	2491.9	797.59	793.18	2.1	1.15	21.73	5.77	227.32	3478.02	3.85	1.01	4.41	4.41
Treasure County	C6	RM 271.68	19534	10-yr	2491.9	797.2	792.81	2.76	1.76	38.49	8.92	192.12	2755.13	3.55	0.81	4.39	4.39
Treasure County	C6	RM 271.41	19102	10-yr	2491.9	797.17	792.54	1.41	0.94	10.28	4.48	302.07	2899.4	3.3	1.43	4.63	4.63
Treasure County	C6	RM 271.06	18548	10-yr	2491.9	796.7	792.18	2.8	1.87	40.19	11.34	172.42	1928.5	3.43	0.95	4.52	4.52
Treasure County	C6	RM 270.64	17870	10-yr	2491.9	796.5	792.05	1.6	0.99	13.48	4.65	234.57	2689.67	3.17	1.08	4.45	4.45
Treasure County	C6	RM 270.05	16897	10-yr	2491.9	796.21	791.48	1.99	0.96	18	5.67	174.33	2652.77	3.59	1.11	4.73	4.73
Treasure County	C6	RM 269.75	16413	10-yr	2491.9	795.86	791.35	2.34	1.29	27.57	7.83	224.06	2491.5	3.61	1.01	4.51	4.51
Treasure County	C6	RM 269.47	15967	10-yr	2491.9	795.49	791.23	2.54	1.81	31.84	7.83	209.28	2520.7	3.83	0.93	4.26	4.26
Treasure County	C7	RM 269.27	15645	10-yr	2491.9	795.38	791.23	1.94	1.39	18.67	6.38	279.64	2589.31	3.56	1.2	4.15	4.15
Treasure County	C7	RM 269.06	15308	10-yr	2491.9	795.28	791.01	1.54	1.05	12.3	4.2	197.37	2699.31	3.27	1.1	4.27	4.27
Treasure County	C7	RM 268.83	14957	10-yr	2491.9	795.21	790.6	1.04	0.76	5.81	2.48	267.05	2897.52	3.02	1.27	4.6	4.6
Treasure County	C7	RM 268.55	14516	10-yr	2491.9	795.09	790.17	1.43	0.82	10.03	3.26	224.66	2928.45	3.97	1.28	4.92	4.92
Treasure County	C7	RM 268.2	13976	10-yr	2491.9	794.83	789.62	2.02	0.96	19.91	5.42	234.34	2985.53	4.02	1.08	5.21	5.21
Treasure County	C7	RM 267.87	13439	10-yr	2491.9	794.44	789.53	2.46	1.14	27.29	7.49	227.32	2623.56	3.69	1	4.91	4.91
Treasure County	C7	RM 267.53	12884	10-yr	2491.9	793.81	789.5	2.89	1.55	42.43	12.55	242.41	1843.92	2.98	0.87	4.31	4.31
Treasure County	C7	RM 267.14	12253	10-yr	2491.9	793.62	789.26	1.79	1.06	15.85	5.36	227.28	2057.42	3.43	1.14	4.36	4.36
Treasure County	C7	RM 266.8	11700	10-yr	2491.9	793.43	789.2	1.87	1.11	17.76	5.15	214.75	2256.28	3.48	1	4.23	4.23
Treasure County	C7	RM 266.41	11078	10-yr	2491.9	793.2	789.14	2.12	1.12	23.9	7.32	159.49	2360.79	3.13	0.94	4.07	4.07
Treasure County	C7	RM 266.11	10593	10-yr	2491.9	792.98	788.83	1.94	1.17	20.04	6.8	259.43	2103.7	3.02	1.02	4.15	4.15
Treasure County	C7	RM 265.92	10283	10-yr	2491.9	792.86	788.65	1.66	1.12	13.02	5.92	341.48	1986.73	2.48	1.12	4.22	4.22
Treasure County	C7	RM 265.68	9915	10-yr	2491.9	792.59	788.21	2.3	1.55	25.41	7.26	180	1367.48	4.18	1.18	4.38	4.38
Treasure County	C7	RM 265.52	9650	10-yr	2491.9	792.45	788.07	2.29	1.43	26.93	7.92	161.85	1764.15	3.45	1	4.38	4.38
Treasure County	C7	RM 265.34	9362	10-yr	2491.9	792.22	788.07	2.21	1.43	26.09	9.26	179.19	1669.58	3.02	1.05	4.15	4.15
Treasure County	C7	RM 265.16	9071	10-yr	2491.9	792.03	787.95	1.79	1.39	19.17	8.12	297.09	1606.12	2.65	1.11	4.08	4.08
Treasure County	C7	RM 264.98	8775	10-yr	2491.9	791.83	787.59	1.88	1.44	15.17	8.78	458.31	1763.49	1.73	1	4.24	4.24
Treasure County	C7	RM 264.81	8508	10-yr	2491.9	791.74	787.35	1.18	1.06	10.95	6.9	661.17	1928.74	2.04	1.28	4.39	4.39
Treasure County	C7	RM 264.64	8216	10-yr	2491.9	791.62	787.22	1.25	1.08	10.63	6.42	652.04	1902.04	2.07	1.25	4.4	4.4
Treasure County	C7	RM 264.39	7803	10-yr	2491.9	791.38	786.86	1.74	1.35	17.79	6.36	343.32	1885.73	2.78	0.98	4.53	4.53
Treasure County	C7	RM 264.15	7406	10-yr	2491.9	791.28	786.6	1.41	1.03	10.55	5.14	202.21	1724	2.93	1.41	4.68	4.68
Treasure County	C7	RM 263.97	7116	10-yr	2491.9	791.16	786.49	1.68	1.2	13.53	4.55	179.44	1502.62	4.28	1.42	4.67	4.67
Treasure County	C7	RM 263.79	6834	10-yr	2491.9	790.99	786.49	2.14	1.33	22.26	7.78	204.2	1652.13	3.33	1.15	4.49	4.49
Treasure County	C7	RM 263.6	6534	10-yr	2491.9	790.81	786.37	1.98	1.25	19.64	8.13	205.7	1485.45	3.7	1.51	4.44	4.44
Treasure County	C7	RM 263.39	6194	10-yr	2491.9	790.67	786.25	1.56	1.24	12.3	5.49	459.13	1652.36	3.11	1.38	4.42	4.42
Treasure County	C7	RM 263.19	5862	10-yr	2491.9	790.43	786	1.99	1.16	21.53	8.34	333.53	1956.26	2.85	1.09	4.42	4.42
Treasure County	C7	RM 262.95	5479	10-yr	2491.9	790.15	785.85	1.95	1.38	16.43	6.62	401.87	1641.34	2.76	1.1	4.3	4.3
Treasure County	C7	RM 262.78	5206	10-yr	2491.9	790.05	785.76	1.58	1.03	13.58	5.97	440.96	2188.67	2.54	1.11	4.29	4.29
Treasure County	C7	RM 262.58	4883	10-yr	2491.9	789.95	785.64	1.21	0.84	9.34	5.27	621.05	2255.21	2.6	1.46	4.31	4.31
Treasure County	C7	RM 262.42	4613	10-yr	2491.9	789.88	785.54	1.07	0.75	6.65	3.8	655.56	2240.09	2.69	1.53	4.34	4.34
Treasure County	C7	RM 262.24	4323	10-yr	2491.9	789.82	785.43	0.98	0.79	5.42	3.34	839.62	2032.22	2.84	1.74	4.39	4.39
Treasure County	C7	RM 261.95	3917	10-yr	2491.9	789.69	785.28	1.23	1	8.67	5.6	654.59	1550.37	2.91	1.88	4.41	4.41
Treasure County	C7	RM 261.7	3519	10-yr	2491.9	789.46	784.87	1.4	1.36	28.93	15.74	605.89	1296.1	2.92	1.58	4.59	4.59
Treasure County	C7	RM 261.53	3256	10-yr	2491.9	789.13	784.51	1.53	1.43	33.86	23.67	623.93	1056.9	2.5	1.75	4.62	4.62
Treasure County	C7	RM 261.35	2959	10-yr	2491.9	789.02	784.33	1.23	1.12	7.59	4.24	580.98	1177.22	3.4	1.89	4.69	4.69
Treasure County	C7	RM 261.2	2720	10-yr	2491.9	788.9	784.14	1.41	1.29	27.41	14.61	545.92	1153.31	3.15	1.67	4.76	4.76
Treasure County	C7	RM 261.03	2441	10-yr	2491.9	788.78	783.66	1.44	1.22	10.1	4.12	401.64	1202.67	4.2	1.7	5.12	5.12
Treasure County	C7	RM 260.84	2142	10-yr	2491.9	788.66	783.41	1.66	1.3	13.4	5.11	341.22	1203.58	4.21	1.59	5.24	5.24
Treasure County	C7	RM 260.66	1863	10-yr	2491.9	788.57	783.29	1.64	1.18	12.89	5.99	351.21	1166.4	3.94	1.81	5.28	5.28
Treasure County	C8	RM 259.9	634	10-yr	2491.9	787.42	782.46	3.37	2.43	53.45	23.11	151.91	556.83	4.47	1.91	4.96	4.96
Treasure County	C8	RM 259.72	347	10-yr	2491.9	787.18	782.45	2.98	2.16	42.13	18.37	179.3	616.45	4.33	1.87	4.73	4.73
Treasure County	C8	RM 259.55	68	10-yr	2491.9	787.12	782.2	2	2	18.02	17.89	399.72	402.64	3.11	3.09	4.92	4.92

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	10-yr	2494.7	787.12	782.19	2.42	2.16	26.62	20.27	221.77	340.41	4.47	3.4	4.93	4.93
Rosebud County	C8	RM 259.41	87598	10-yr	2494.7	786.87	781.96	2.55	2.45	33.09	22.23	209.53	327.02	4.65	3.11	4.91	4.91
Rosebud County	C8	RM 259.22	87292	10-yr	2494.7	786.75	781.55	2.21	1.91	22.64	17.88	233.09	359.05	4.63	3.64	5.2	5.2
Rosebud County	C8	RM 259.04	87004	10-yr	2494.7	786.56	781	2.35	2.01	29.29	14.98	211.13	539.32	4.65	2.34	5.56	5.56
Rosebud County	C8	RM 258.85	86696	10-yr	2494.7	786.37	780.9	2.26	1.87	22.45	10.93	288.74	818.4	3.62	1.75	5.47	5.47
Rosebud County	C8	RM 258.66	86399	10-yr	2494.7	786.15	780.78	2.48	1.89	27.63	8.78	183.46	829.57	5.11	1.59	5.37	5.37
Rosebud County	C8	RM 258.47	86098	10-yr	2494.7	785.95	780.65	2.54	1.9	29.98	11.54	202.57	903.67	4.24	1.61	5.3	5.3
Rosebud County	C8	RM 258.28	85798	10-yr	2494.7	785.8	780.53	2.29	1.65	24.25	11.78	222.43	795.63	3.95	1.9	5.27	5.27
Rosebud County	C8	RM 258.1	85498	10-yr	2494.7	785.58	780.14	2.42	1.7	26.67	10.14	180.25	794.97	4.94	1.85	5.44	5.44
Rosebud County	C8	RM 257.91	85200	10-yr	2494.7	785.43	780.14	2.28	1.59	25.56	8.84	224.43	1187.65	3.88	1.32	5.29	5.29
Rosebud County	C8	RM 257.71	84875	10-yr	2494.7	785.19	780.14	2.38	1.64	29.05	11.42	219.86	1128.66	3.46	1.34	5.05	5.05
Rosebud County	C8	RM 257.54	84597	10-yr	2494.7	785.02	780.17	2.21	1.41	22.83	7.65	209	1344.89	4	1.32	4.85	4.85
Rosebud County	C8	RM 257.36	84298	10-yr	2494.7	784.89	780.05	2.11	1.29	21.27	8.59	188.65	1227.86	3.91	1.58	4.84	4.84
Rosebud County	C8	RM 257.16	83984	10-yr	2494.7	784.85	780	1.38	0.97	8.85	3.56	305.45	1423.79	4.6	1.85	4.85	4.85
Rosebud County	C8	RM 256.87	83608	10-yr	2494.7	784.45	779.89	2.75	1.76	35.58	10.84	181.39	1125.5	4.21	1.27	4.56	4.56
Rosebud County	C8	RM 256.65	83257	10-yr	2494.7	784.43	779.82	1.74	1.22	14.62	5.83	171.34	1299.55	4.28	1.68	4.61	4.61
Rosebud County	C8	RM 256.45	82941	10-yr	2494.7	784.21	779.67	2.11	1.49	20.96	7.83	222.18	1639.42	4.38	1.62	4.54	4.54
Rosebud County	C8	RM 256.26	82630	10-yr	2494.7	784.02	779.58	1.86	1.44	31.16	19.66	369.93	1358.91	3.03	1.9	4.44	4.44
Rosebud County	C8	RM 256.1	82375	10-yr	2494.7	783.87	779.42	1.57	1.55	11.13	7.94	594.42	1219	2.68	1.91	4.45	4.45
Rosebud County	C8	RM 255.91	82077	10-yr	2494.7	783.81	779.09	1.31	1.23	7.79	4.69	591.1	1689.46	3.2	1.92	4.72	4.72
Rosebud County	C8	RM 255.7	81747	10-yr	2494.7	783.59	778.73	1.93	1.54	17.8	7.47	306.33	1556.35	3.97	1.65	4.86	4.86
Rosebud County	C8	RM 255.51	81446	10-yr	2494.7	783.43	778.49	2.07	1.55	20.89	9.86	269.19	863.46	3.98	1.86	4.94	4.94
Rosebud County	C8	RM 255.31	81125	10-yr	2494.7	783.26	778.36	2.02	1.52	24.12	10.15	242.95	887.58	4.44	1.85	4.9	4.9
Rosebud County	C8	RM 255.14	80856	10-yr	2494.7	783.04	778.24	2.32	1.72	25.15	9.85	210.87	818.06	4.58	1.78	4.8	4.8
Rosebud County	C8	RM 254.95	80554	10-yr	2494.7	782.81	778.12	2.47	1.89	28.64	10.85	205.86	781.9	4.49	1.69	4.69	4.69
Rosebud County	C8	RM 254.76	80251	10-yr	2494.7	782.64	778	2.35	1.76	25.88	9.77	218.15	846.41	4.48	1.67	4.64	4.64
Rosebud County	C8	RM 254.58	79960	10-yr	2494.7	782.47	777.88	2.32	1.85	25.26	8.36	229.98	925.51	4.46	1.46	4.59	4.59
Rosebud County	C8	RM 254.39	79658	10-yr	2494.7	782.4	777.41	1.84	1.44	15.96	6.2	296.93	1083.26	4.32	1.67	4.99	4.99
Rosebud County	C8	RM 254.2	79359	10-yr	2494.7	782.13	777.39	2.33	1.91	26.71	11.59	269.75	788.31	3.83	1.66	4.74	4.74
Rosebud County	C8	RM 254.01	79052	10-yr	2494.7	781.93	776.82	2.39	1.88	25.86	8.65	209.61	835.4	4.79	1.59	5.11	5.11
Rosebud County	C9	RM 253.82	78779	10-yr	2494.7	781.75	776.24	2.4	1.77	30.92	11.21	246.64	1012.47	3.88	1.39	5.51	5.51
Rosebud County	C9	RM 253.63	78478	10-yr	2494.7	781.37	776.12	2.63	1.75	68.25	18.53	180.25	1311.44	4.08	1.09	5.25	5.25
Rosebud County	C9	RM 253.45	78178	10-yr	2494.7	781.11	775.97	2.38	1.34	26.29	8.3	172.93	1503.18	3.99	1.24	5.14	5.14
Rosebud County	C9	RM 253.26	77879	10-yr	2494.7	781.01	775.72	1.86	1.07	14.09	5.43	240.93	1473.29	4.17	1.59	5.29	5.29
Rosebud County	C9	RM 253.07	77578	10-yr	2494.7	780.72	775.57	2.58	1.42	29.49	9.62	189.67	1428.09	3.84	1.23	5.15	5.15
Rosebud County	C9	RM 252.88	77278	10-yr	2494.7	780.59	775.45	2.07	1.29	21.54	6.52	221.89	1759.42	3.69	1.1	5.14	5.14
Rosebud County	C9	RM 252.69	76962	10-yr	2494.7	780.52	775.33	1.56	0.87	12.02	3.94	260.67	2567.64	3.89	1.26	5.19	5.19
Rosebud County	C9	RM 252.49	76646	10-yr	2494.7	780.17	775.36	2.73	1.29	33.73	6.98	161.39	3172.38	3.88	0.79	4.81	4.81
Rosebud County	C9	RM 252.24	76252	10-yr	2494.7	779.99	775.4	2.18	1.06	24.68	6.31	167.1	3288.82	3.56	0.89	4.59	4.59
Rosebud County	C9	RM 252.01	75885	10-yr	2494.7	779.81	775.39	1.79	0.94	23.63	6.42	252.1	3592.7	3.3	0.89	4.42	4.42
Rosebud County	C9	RM 251.7	75438	10-yr	2494.7	779.66	775.01	1.36	0.86	7.96	3.51	603.45	3319.2	2.35	1.03	4.65	4.65
Rosebud County	C9	RM 251.49	75098	10-yr	2494.7	779.55	775.02	1.26	0.78	9.8	5.46	716.44	3241.79	1.82	1.01	4.53	4.53
Rosebud County	C9	RM 251.23	74691	10-yr	2494.7	779.35	775.05	1.35	0.86	8.92	4.14	754.16	3556.23	1.85	0.86	4.3	4.3
Rosebud County	C9	RM 251.01	74322	10-yr	2494.7	779.18	774.84	1.44	0.85	8.3	3.46	595.57	3586.02	2.2	0.91	4.34	4.34
Rosebud County	C9	RM 250.79	73973	10-yr	2494.7	779.07	774.42	1.45	0.82	9.87	3.4	417.99	3290.08	2.92	1	4.65	4.65
Rosebud County	C9	RM 250.6	73678	10-yr	2494.7	778.93	774.17	1.56	0.94	20.95	7.64	376.03	2942.28	2.69	0.97	4.76	4.76
Rosebud County	C9	RM 250.37	73306	10-yr	2494.7	778.62	774.05	2.17	1.09	21.15	5.62	233.23	2355.62	3.71	0.98	4.57	4.57
Rosebud County	C9	RM 250.17	72982	10-yr	2494.7	778.42	773.93	2.38	1.09	28.72	9.67	214.36	2325.52	3.05	1.01	4.49	4.49
Rosebud County	C9	RM 249.95	72617	10-yr	2494.7	778.17	773.83	2.25	1.22	25.06	6.56	226.06	2171.67	3.62	0.94	4.34	4.34
Rosebud County	C9	RM 249.73	72253	10-yr	2494.7	777.97	773.71	2.09	1.1	21.99	6.46	273.96	2398.7	3.22	0.94	4.26	4.26
Rosebud County	C9	RM 249.53	71936	10-yr	2494.7	777.89	773.38	1.52	0.86	11.11	3.55	362.14	2587.18	3.52	1.13	4.51	4.51
Rosebud County	C9	RM 249.31	71579	10-yr	2494.7	777.66	773.14	1.94	1.22	21.61	7.61	363.92	3069.07	2.7	0.95	4.52	4.52
Rosebud County	C9	RM 249.13	71274	10-yr	2494.7	777.5	772.84	1.81	1	16.53	4.88	301.37	3176.56	3.61	1.06	4.66	4.66
Rosebud County	C9	RM 248.94	70978	10-yr	2494.7	777.2	772.56	2.48	1.17	29.64	7.43	201.45	3068.52	3.61	0.9	4.64	4.64
Rosebud County	C9	RM 248.76	70681	10-yr	2494.7	777.19	772.32	1.32	0.82	9.22	3.11	424.32	2900.02	3.47	1.16	4.87	4.87
Rosebud County	C9	RM 248.53	70312	10-yr	2494.7	777.12	772.17	1.38	0.66	8.56	2.89	164.13	3143.74	4.07	1.36	4.95	4.95
Rosebud County	C9	RM 248.31	69962	10-yr	2494.7	776.98	772.04	1.72	0.85	14.91	4.83	277.15	2723.42	3.4	1.09	4.94	4.94
Rosebud County	C9	RM 248.08	69603	10-yr	2494.7	776.79	771.92	2.02	0.86	17.79	4.48	211.49	3030.94	3.92	0.98	4.87	4.87
Rosebud County	C9	RM 247.88	69253	10-yr	2494.7	776.67	771.92	1.68	0.9	22.89	8.33	348.22	2971.27	2.6	0.94	4.75	4.75
Rosebud County	C9	RM 247.64	68836	10-yr	2494.7	776.42	771.95	1.71	0.97	15.51	5.28	416.51	2744.35	2.76	0.93	4.47	4.47

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	10-yr	2494.7	776.28	771.87	1.51	0.79	10.89	2.93	282.85	3187.74	3.98	1.07	4.41	4.41
Rosebud County	C9	RM 247.11	67963	10-yr	2494.7	776	771.45	2.49	1.24	31.13	7.81	199.91	2586.42	3.41	0.85	4.55	4.55
Rosebud County	C9	RM 246.83	67502	10-yr	2494.7	775.84	770.97	1.96	1.03	20.05	5.36	194.9	2662.95	4.28	1.14	4.87	4.87
Rosebud County	C9	RM 246.52	67019	10-yr	2494.7	775.69	770.61	1.77	1.01	14.63	4.12	225.63	2824.88	4.47	1.25	5.08	5.08
Rosebud County	C9	RM 246.22	66538	10-yr	2494.7	774.83	770.53	3.62	2.15	68.27	18.56	217.05	1879.58	2.75	0.74	4.3	4.3
Rosebud County	C9	RM 245.94	66068	10-yr	2494.7	774.36	770.29	2.09	1.63	23.71	10.9	297.16	1235.44	2.81	1.29	4.07	4.07
Rosebud County	C9	RM 245.66	65624	10-yr	2494.7	774.23	769.81	1.52	0.9	12.32	4.22	197.98	1967.92	4.17	1.4	4.99	4.99
Rosebud County	C9	RM 245.4	65205	10-yr	2494.7	774.05	769.59	1.79	1.26	14.76	6.3	361.29	1920.42	2.45	1.04	4.89	4.89
Rosebud County	C9	RM 245.15	64804	10-yr	2494.7	773.74	769.41	1.65	1.45	39.47	16.64	326.84	2074.5	2.14	0.89	4.58	4.58
Rosebud County	C9	RM 244.89	64387	10-yr	2494.7	773.05	769.41	2.75	1.99	39.21	11.22	189.43	1382.71	3.33	0.94	4.02	4.02
Rosebud County	C9	RM 244.7	64085	10-yr	2494.7	773.07	769.37	1.37	1.1	9.7	4.5	221.5	1709.96	3.12	1.45	4.16	4.16
Rosebud County	C9	RM 244.51	63776	10-yr	2494.7	773.01	769.35	1.19	0.94	8.41	4.04	264.21	2060.52	3.14	1.51	4.1	4.1
Rosebud County	C9	RM 244.33	63499	10-yr	2494.7	772.97	769.16	0.62	0.71	6.41	3.83	274.46	2318.88	2.94	1.75	4.54	4.54
Rosebud County	C9	RM 244.14	63224	10-yr	2494.7	772.93	768.52	1.03	0.73	5.28	2.37	208.4	2273.42	3.64	1.62	4.5	4.5
Rosebud County	C9	RM 243.96	62927	10-yr	2494.7	772.86	768.13	1.35	0.83	8.96	3.58	176.71	2035.76	3.86	1.54	4.73	4.73
Rosebud County	C9	RM 243.77	62617	10-yr	2494.7	772.84	767.57	0.9	0.62	3.69	1.77	160.76	1771.99	4.78	2.26	5.27	5.27
Rosebud County	C9	RM 243.59	62327	10-yr	2494.7	772.76	766.98	1.49	0.82	11.7	3.32	122.45	2570.02	5.37	1.48	5.78	5.78
Rosebud County	C9	RM 243.39	62012	10-yr	2494.7	772.53	766.86	2.2	1.13	22.36	5.22	156.08	2506.33	4.78	1.09	5.67	5.67
Rosebud County	C9	RM 243.21	61718	10-yr	2494.7	772.39	766.74	2.08	1.14	19.35	4.65	203.35	2087.19	5.14	1.21	5.65	5.65
Rosebud County	C10	RM 243.03	61422	10-yr	2494.7	772.11	766.73	2.73	1.34	35.77	9.47	174.06	1709.94	4.21	1.09	5.38	5.38
Rosebud County	C10	RM 242.84	61125	10-yr	2494.7	771.64	766.76	3.21	1.9	49.86	11.92	171.77	1384.29	4.03	0.95	4.88	4.88
Rosebud County	C10	RM 242.65	60825	10-yr	2494.7	771.44	766.76	2.64	1.65	33.8	8.26	204.51	1489.04	4.21	1.01	4.68	4.68
Rosebud County	C10	RM 242.47	60527	10-yr	2494.7	771.31	766.77	2.22	1.43	23.47	7.02	241.01	1360.54	4.28	1.28	4.54	4.54
Rosebud County	C10	RM 242.29	60239	10-yr	2494.7	771.2	766.64	1.99	1.4	19.58	7.7	282.31	1114.95	4.11	1.6	4.56	4.56
Rosebud County	C10	RM 242.1	59939	10-yr	2494.7	770.99	766.29	2.17	1.45	24.51	8.3	280	1579.97	3.67	1.23	4.7	4.7
Rosebud County	C10	RM 241.9	59618	10-yr	2494.7	770.82	765.95	2.07	1.25	19.86	5.53	249.51	2082.01	4.26	1.17	4.87	4.87
Rosebud County	C10	RM 241.72	59324	10-yr	2494.7	770.75	765.5	1.71	1.08	13.75	4.5	289.97	1638.9	4.36	1.42	5.25	5.25
Rosebud County	C10	RM 241.53	59025	10-yr	2494.7	770.36	765.17	2.81	1.63	41.55	7.45	160	1820.74	4.79	0.84	5.19	5.19
Rosebud County	C10	RM 241.34	58725	10-yr	2494.7	770.2	765.02	2.47	1.28	28.22	6.19	177.78	1964.79	4.6	0.99	5.18	5.18
Rosebud County	C10	RM 241.16	58424	10-yr	2494.7	770.13	764.97	1.93	1.06	17.36	5.18	171.92	1824.73	4.37	1.28	5.16	5.16
Rosebud County	C10	RM 240.97	58132	10-yr	2494.7	770.02	764.83	1.84	1.06	15.79	4.66	189.7	1760.3	4.59	1.34	5.19	5.19
Rosebud County	C10	RM 240.78	57818	10-yr	2494.7	769.99	764.56	1.45	0.82	9.47	3.18	159.68	1803.5	5.09	1.68	5.43	5.43
Rosebud County	C10	RM 240.56	57467	10-yr	2494.7	769.9	764.28	1.51	0.85	14.8	5.22	212.38	1780.93	4.72	1.64	5.62	5.62
Rosebud County	C10	RM 240.41	57228	10-yr	2494.7	769.84	763.91	1.42	0.83	11.07	4.02	216.4	1595.94	5.26	1.89	5.93	5.93
Rosebud County	C10	RM 240.22	56944	10-yr	2494.7	769.66	763.51	2.09	1.12	19.44	6.59	157.35	1169.95	5.83	1.91	6.15	6.15
Rosebud County	C10	RM 240.09	56741	10-yr	2494.7	769.4	763.47	2.87	1.38	28.97	9.53	120.86	1025.56	5.52	1.76	5.93	5.93
Rosebud County	C10	RM 239.97	56546	10-yr	2494.7	769.36	763.47	2.37	1.34	32.16	11.54	155.75	982.28	5.37	1.89	5.89	5.89
Rosebud County	C10	RM 239.86	56371	10-yr	2494.7	769.29	763.25	2.1	1.34	21.14	7.97	205.85	1021.21	4.87	1.82	6.04	6.04
Rosebud County	C10	RM 239.68	56093	10-yr	2494.7	769.11	763.02	2.4	1.31	20.84	7.35	172.44	1120.38	4.94	1.7	6.09	6.09
Rosebud County	C10	RM 239.56	55888	10-yr	2494.7	768.2	763.1	4.43	2.63	74.55	17.38	119.6	958.67	4.28	0.99	5.1	5.1
Rosebud County	C10	RM 239.41	55655	10-yr	2494.7	768.05	763.17	3.66	2.63	50.16	11.8	144.11	915.17	4.52	1.04	4.88	4.88
Rosebud County	C10	RM 239.25	55398	10-yr	2494.7	767.8	763.17	3.36	2.35	56.8	15.07	164.41	961.12	4.25	1.1	4.63	4.63
Rosebud County	C10	RM 239.07	55108	10-yr	2494.7	767.75	763.2	2.4	1.69	21.86	9.41	219.55	857.16	4.23	1.8	4.55	4.55
Rosebud County	C10	RM 238.89	54826	10-yr	2494.7	767.43	763.23	2.9	2.29	32.53	15.14	191.74	625.67	4.05	1.87	4.2	4.2
Rosebud County	C10	RM 238.73	54570	10-yr	2494.7	767.23	763.38	2.75	2.37	30.13	18.05	242.11	495.01	3.66	2.18	3.85	3.85
Rosebud County	C10	RM 238.51	54223	10-yr	2494.7	767.16	762.88	1.7	1.51	16.16	11.39	435.56	866.79	3.03	2.13	4.28	4.28
Rosebud County	C10	RM 238.33	53926	10-yr	2494.7	766.97	762.37	1.92	1.6	18.25	9.98	306.34	762.87	3.88	2.11	4.6	4.6
Rosebud County	C10	RM 238.14	53626	10-yr	2494.7	766.72	762.25	2.38	1.58	27.17	11.75	214.01	901.6	4.09	1.77	4.47	4.47
Rosebud County	C10	RM 237.95	53321	10-yr	2494.7	766.57	762.09	2.23	1.3	23.72	8.4	189.37	1440.64	4.24	1.5	4.48	4.48
Rosebud County	C10	RM 237.77	53027	10-yr	2494.7	766.48	761.85	1.74	1.13	14.5	5.32	294.75	1750.65	4.13	1.51	4.63	4.63
Rosebud County	C10	RM 237.56	52703	10-yr	2494.7	766.39	761.46	1.52	1	11.58	5.42	410.69	1882.76	3.47	1.62	4.93	4.93
Rosebud County	C10	RM 237.36	52386	10-yr	2494.7	766.32	761.22	1.33	0.88	8.76	4.3	443.16	2341.9	3.61	1.76	5.1	5.1
Rosebud County	C10	RM 237.15	52029	10-yr	2494.7	766.24	760.88	1.37	0.91	9.03	4.35	385.86	2456.48	4.05	1.94	5.36	5.36
Rosebud County	C10	RM 236.99	51756	10-yr	2494.7	765.99	760.22	2.31	1.39	18.73	6.07	177.1	1871.42	5.45	1.74	5.77	5.77
Rosebud County	C10	RM 236.83	51500	10-yr	2494.7	765.69	760.07	2.91	1.91	31.21	11.22	167.82	1879.81	4.74	1.67	5.62	5.62
Rosebud County	C10	RM 236.66	51221	10-yr	2494.7	765.63	760.07	2.43	1.93	21.29	10.47	188.48	1335.91	5.09	2.47	5.56	5.56
Rosebud County	C10	RM 236.47	50924	10-yr	2494.7	765.5	759.94	2.4	2	20.44	10.26	193.41	515.3	5.21	2.58	5.56	5.56
Rosebud County	C11	RM 236.29	50623	10-yr	2494.7	765.4	760	2.3	1.92	19.17	7.66	211.22	664.02	4.94	1.95	5.4	5.4
Rosebud County	C11	RM 236.1	50327	10-yr	2494.7	765.17	760	2.6	2.24	25.3	15.5	206.87	407.78	4.48	2.73	5.17	5.17
Rosebud County	C11	RM 235.91	50024	10-yr	2494.7	764.81	760	3.06	2.43	43.96	21.77	170.49	464.3	4.52	2.21	4.82	4.82

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	10-yr	2494.7	764.76	760.15	2.15	1.94	22.27	18.47	243.8	398.68	4.08	3.37	4.61	4.61
Rosebud County	C11	RM 235.57	49480	10-yr	2494.7	764.66	760.02	1.92	1.85	17.72	10.38	318.23	629.78	4.08	2.38	4.64	4.64
Rosebud County	C11	RM 235.36	49133	10-yr	2494.7	764.47	759.74	1.95	1.89	16.34	11.49	428.22	690.39	2.97	2.08	4.73	4.73
Rosebud County	C11	RM 235.17	48830	10-yr	2494.7	764.31	759.55	1.87	1.73	16.5	9.32	455.8	1016.43	2.88	1.62	4.76	4.76
Rosebud County	C11	RM 235	48571	10-yr	2494.7	764.19	759.29	1.85	1.59	16.18	6.54	320.92	1091.9	4.09	1.64	4.9	4.9
Rosebud County	C11	RM 234.82	48271	10-yr	2494.7	763.64	759.21	3.2	2.51	50.67	21.37	190.08	628.5	3.82	1.6	4.43	4.43
Rosebud County	C11	RM 234.63	47978	10-yr	2494.7	763.49	759.21	2.43	1.87	28.68	13.23	238.2	865.61	3.79	1.74	4.28	4.28
Rosebud County	C11	RM 234.45	47692	10-yr	2494.7	763.31	759.12	2.19	1.77	23.74	9.9	283.79	967.18	3.61	1.51	4.19	4.19
Rosebud County	C11	RM 234.2	47305	10-yr	2494.7	763.2	758.6	1.6	1.38	10.56	7.04	515.35	1149.39	2.66	1.77	4.6	4.6
Rosebud County	C11	RM 234.01	47006	10-yr	2494.7	763.15	758.27	1.13	0.99	5.92	4.57	818.93	1465.53	2.55	1.96	4.88	4.88
Rosebud County	C11	RM 233.84	46737	10-yr	2494.7	763.05	758.12	1.31	1.14	9.11	5.5	577.55	1159.4	3.12	1.88	4.93	4.93
Rosebud County	C11	RM 233.61	46365	10-yr	2494.7	762.91	757.67	1.59	1.24	11.41	3.82	302.81	1218.73	4.92	1.65	5.24	5.24
Rosebud County	C11	RM 233.35	45943	10-yr	2494.7	762.68	757.03	2.17	1.31	22.04	6.44	214.65	1474.55	4.45	1.29	5.65	5.65
Rosebud County	C11	RM 233.13	45584	10-yr	2494.7	762.46	756.45	2.26	1.61	22.92	5.06	206.27	1397.07	5.1	1.11	6.01	6.01
Rosebud County	C11	RM 232.94	45281	10-yr	2494.7	762.16	756.15	2.74	1.97	33.67	5.98	169.36	1410.06	5.16	0.9	6.01	6.01
Rosebud County	C11	RM 232.75	44978	10-yr	2494.7	762.09	756.03	2.21	1.69	21.71	4.77	204.36	1301.75	5.28	1.14	6.06	6.06
Rosebud County	C11	RM 232.56	44674	10-yr	2494.7	761.95	755.79	2.22	1.77	22.97	5.48	241.37	1511.44	4.54	1.06	6.16	6.16
Rosebud County	C11	RM 232.37	44366	10-yr	2494.7	761.81	755.72	2.24	1.37	23.69	7.92	206.42	1362.16	4.42	1.45	6.09	6.09
Rosebud County	C11	RM 232.19	44074	10-yr	2494.7	761.57	755.67	2.41	1.72	26.77	7.96	204.11	1050.59	4.72	1.38	5.9	5.9
Rosebud County	C11	RM 232.01	43791	10-yr	2494.7	761.39	755.65	2.39	1.7	27.44	9.58	232.27	1143.01	4.19	1.44	5.74	5.74
Rosebud County	C11	RM 231.81	43473	10-yr	2494.7	761.15	755.6	2.56	1.57	30.98	13.14	201.55	942.82	4.05	1.69	5.55	5.55
Rosebud County	C11	RM 231.62	43160	10-yr	2494.7	760.88	755.57	2.6	1.73	28.16	9.97	230.71	1413.16	3.7	1.29	5.31	5.31
Rosebud County	C11	RM 231.42	42835	10-yr	2494.7	760.84	755.45	1.85	1.12	15.51	4.91	229.33	1501.25	5	1.56	5.39	5.39
Rosebud County	C11	RM 231.22	42522	10-yr	2494.7	760.72	755.45	2.03	1.04	18.27	6.03	204	1647.27	4.47	1.45	5.27	5.27
Rosebud County	C11	RM 230.99	42160	10-yr	2494.7	760.2	755.45	3.17	1.66	48.73	12.07	154.03	1501.91	4.12	1	4.75	4.75
Rosebud County	C11	RM 230.79	41841	10-yr	2494.7	760.02	755.43	2.49	1.53	29.37	8.71	202.2	1358.8	4.31	1.26	4.59	4.59
Rosebud County	C11	RM 230.53	41415	10-yr	2494.7	759.93	755.17	1.68	1.33	14.2	7.79	299.8	1239.65	3.34	1.82	4.76	4.76
Rosebud County	C11	RM 230.29	41045	10-yr	2494.7	759.69	755.15	2.08	1.55	20.61	10.56	234.84	1307.44	3.73	1.89	4.54	4.54
Rosebud County	C11	RM 230.06	40676	10-yr	2494.7	759.48	754.81	1.99	1.55	20.72	10.44	287.47	1288.67	3.22	1.61	4.67	4.67
Rosebud County	C11	RM 229.81	40276	10-yr	2494.7	759.33	754.74	1.7	1.14	14.28	5.78	320.68	1864.8	3.77	1.51	4.59	4.59
Rosebud County	C11	RM 229.6	39937	10-yr	2494.7	759.13	754.58	1.96	1.23	16.96	8.24	412.79	1927.79	2.54	1.23	4.55	4.55
Rosebud County	C11	RM 229.4	39596	10-yr	2494.7	758.97	754.34	1.85	1.24	16.9	5.03	283.63	1908.08	3.98	1.17	4.63	4.63
Rosebud County	C11	RM 229.2	39273	10-yr	2494.7	758.6	754.15	2.73	1.82	38.01	11.59	214.46	1433.08	3.47	1.05	4.45	4.45
Rosebud County	C11	RM 229.02	38994	10-yr	2494.7	758.39	754.12	2.54	1.54	32.5	10.75	211.31	1472.91	3.57	1.17	4.27	4.27
Rosebud County	C11	RM 228.82	38676	10-yr	2494.7	758.22	753.8	2.11	1.39	22.47	7.1	271.56	1665	3.55	1.11	4.42	4.42
Rosebud County	C11	RM 228.64	38383	10-yr	2494.7	758.09	753.73	2	1.24	20.13	7.23	224.38	1642.15	3.63	1.29	4.4	4.4
Rosebud County	C11	RM 228.46	38093	10-yr	2494.7	758.01	753.53	1.55	0.97	12.02	4.88	301.72	1805.1	3.69	1.49	4.48	4.48
Rosebud County	C11	RM 228.26	37771	10-yr	2494.7	757.95	753.35	1.4	0.77	9.62	4.22	273.91	1969.9	3.84	1.67	4.6	4.6
Rosebud County	C11	RM 228.03	37408	10-yr	2494.7	757.81	753.16	1.77	0.86	15.37	5.7	233.4	2065.42	3.96	1.45	4.65	4.65
Rosebud County	C11	RM 227.74	36949	10-yr	2494.7	757.62	752.95	2.03	1.09	19.7	6.09	167.04	1798.6	4.19	1.27	4.67	4.67
Rosebud County	C11	RM 227.49	36537	10-yr	2494.7	757.5	752.83	1.95	1.03	18.24	6.54	175.55	1784.79	4.16	1.47	4.67	4.67
Rosebud County	C11	RM 227.2	36062	10-yr	2494.7	757.36	752.41	1.85	1.09	16.62	6.64	180.83	2291.03	4.08	1.61	4.95	4.95
Rosebud County	C11	RM 226.98	35709	10-yr	2494.7	756.96	752.31	2.67	1.55	35.7	14.74	211.99	1084.75	3.62	1.48	4.65	4.65
Rosebud County	C11	RM 226.79	35400	10-yr	2494.7	756.79	752.25	2.05	1.38	23.41	12.4	268.83	917.6	3.73	1.96	4.54	4.54
Rosebud County	C11	RM 226.56	35065	10-yr	2494.7	756.67	751.83	1.67	1.26	16.23	10.5	338.41	815.48	3.76	2.43	4.84	4.84
Rosebud County	C11	RM 226.36	34743	10-yr	2494.7	756.37	751.68	2.19	1.8	26.25	12.72	302.71	802.52	3.59	1.73	4.69	4.69
Rosebud County	C11	RM 226.2	34476	10-yr	2494.7	756.29	751.25	1.66	1.35	13.95	7.54	424.72	1025.2	3.34	1.8	5.04	5.04
Rosebud County	C11	RM 226.01	34177	10-yr	2494.7	756.14	750.81	1.85	1.26	16.34	6.09	284.2	1486.77	4.31	1.59	5.33	5.33
Rosebud County	C11	RM 225.83	33884	10-yr	2494.7	755.86	750.59	2.64	1.34	32.17	9	159.74	1487.3	4.69	1.29	5.27	5.27
Rosebud County	C11	RM 225.64	33580	10-yr	2494.7	755.79	750.56	1.85	1.12	16.62	5.94	293.96	1596.54	3.95	1.4	5.23	5.23
Rosebud County	C11	RM 225.45	33275	10-yr	2494.7	755.71	750.31	1.63	1.15	12.74	4.4	332.17	1496.62	4.25	1.46	5.4	5.4
Rosebud County	C11	RM 225.26	32969	10-yr	2494.7	755.58	750.25	1.81	1.23	15.54	5.52	291.78	1590.04	4.33	1.52	5.33	5.33
Rosebud County	C11	RM 225.16	32805	10-yr	2494.7	755.41	750.19	2.24	1.59	23.34	7.56	224.54	1190.09	4.66	1.48	5.22	5.22
Rosebud County	C11	RM 225.06	32646	10-yr	2494.7	754.91	750.15	3.43	2.87	53.44	12.45	169.35	1081.45	4.23	0.98	4.76	4.76
Rosebud County	C12	RM 224.89	32368	10-yr	2494.7	754.91	750.09	2.24	2.02	23.65	9.05	249.97	1072.82	4.41	1.67	4.82	4.82
Rosebud County	C12	RM 224.71	32083	10-yr	2494.7	754.76	750.04	2.09	1.98	19.77	14.47	392.41	573.71	3.01	2.19	4.72	4.72
Rosebud County	C12	RM 224.53	31796	10-yr	2494.7	754.56	749.96	2.12	2.07	18.15	13.72	412.38	741.68	2.84	2.14	4.6	4.6
Rosebud County	C12	RM 224.34	31486	10-yr	2494.7	754.38	750.03	1.86	1.73	19.93	15.35	476.13	865.83	2.55	1.96	4.35	4.35
Rosebud County	C12	RM 224.16	31195	10-yr	2494.7	754.21	749.78	1.92	1.53	17.5	8.05	263.29	1512.84	3.85	1.75	4.53	4.53
Rosebud County	C12	RM 223.96	30878	10-yr	2494.7	754.03	749.48	2.19	1.53	23.04	8.41	179.51	1368.63	4.19	1.51	4.65	4.65

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	10-yr	2494.7	753.83	749.18	2.42	1.68	29.23	10.08	162.95	1408.34	3.73	1.27	4.65	4.65
Rosebud County	C12	RM 223.55	30235	10-yr	2494.7	753.67	748.87	2.09	1.44	20.47	5.57	229.9	1704.64	4.51	1.21	4.8	4.8
Rosebud County	C12	RM 223.37	29952	10-yr	2494.7	753.44	748.72	2.41	1.47	27.21	6.68	208.3	1579.45	4.47	1.08	4.72	4.72
Rosebud County	C12	RM 223.2	29681	10-yr	2494.7	753.3	748.51	2.31	1.35	24.89	5.49	209.66	1947.34	4.6	1	4.79	4.79
Rosebud County	C12	RM 223.02	29391	10-yr	2494.7	753.26	748.51	1.74	0.98	14.49	4.69	265.78	2229.34	4.2	1.34	4.75	4.75
Rosebud County	C12	RM 222.82	29071	10-yr	2494.7	753.15	748.5	1.74	1.02	14.35	5.15	268.13	2183.11	4.25	1.51	4.65	4.65
Rosebud County	C12	RM 222.64	28787	10-yr	2494.7	753.04	748.46	1.83	1.02	15.87	6.63	236.97	1939.92	4.33	1.8	4.58	4.58
Rosebud County	C12	RM 222.45	28479	10-yr	2494.7	752.94	748.44	1.71	0.98	14.38	6.73	281.49	1638.96	3.91	1.82	4.5	4.5
Rosebud County	C12	RM 222.22	28128	10-yr	2494.7	752.8	748.15	1.42	0.95	31.6	13.37	261.1	1560.72	4.36	1.83	4.65	4.65
Rosebud County	C12	RM 222.01	27784	10-yr	2494.7	752.66	747.57	1.35	0.84	9.05	4.1	372.22	2396.57	4.02	1.81	5.09	5.09
Rosebud County	C12	RM 221.77	27401	10-yr	2494.7	752.62	747.18	0.91	0.67	5.21	3.38	725.95	2775.1	3.18	2.06	5.44	5.44
Rosebud County	C12	RM 221.55	27042	10-yr	2494.7	752.57	747.07	0.81	0.61	4.66	3.11	807.88	2775.29	3.14	2.09	5.5	5.5
Rosebud County	C12	RM 221.34	26708	10-yr	2494.7	752.52	746.94	0.9	0.65	4.55	3.05	648.68	2690.43	3.43	2.28	5.58	5.58
Rosebud County	C12	RM 221.15	26406	10-yr	2494.7	752.4	746.7	1.49	0.95	9.92	4.29	265.14	2125.52	5.27	2.25	5.7	5.7
Rosebud County	C12	RM 220.96	26081	10-yr	2494.7	751.83	746.66	3.4	2.06	54.34	18.57	138.75	1203.6	4.53	1.51	5.17	5.17
Rosebud County	C12	RM 220.77	25779	10-yr	2494.7	751.3	746.73	3.53	3.04	59.73	22.72	163.4	515.41	4.24	1.59	4.57	4.57
Rosebud County	C12	RM 220.6	25513	10-yr	2494.7	751.36	746.72	2.16	1.83	22.02	10.57	256.78	707.34	4.36	2.08	4.64	4.64
Rosebud County	C12	RM 220.4	25183	10-yr	2494.7	751.23	746.88	1.87	1.44	16.41	9.63	395.04	1168.35	3.01	1.75	4.35	4.35
Rosebud County	C12	RM 220.23	24914	10-yr	2494.7	751.18	746.8	1.35	1.11	7.86	5.87	635.17	1301.18	2.63	1.96	4.38	4.38
Rosebud County	C12	RM 220.02	24578	10-yr	2494.7	751.07	746.54	1.27	1.12	8.14	6.59	792.77	1170.82	2.36	1.91	4.53	4.53
Rosebud County	C12	RM 219.83	24268	10-yr	2494.7	751	746.18	1.1	1.01	6.26	5.44	775.68	1096.94	2.8	2.43	4.82	4.82
Rosebud County	C12	RM 219.63	23947	10-yr	2494.7	750.86	745.79	1.42	1.29	11.02	9.13	587.54	808.64	2.88	2.39	5.07	5.07
Rosebud County	C12	RM 219.47	23683	10-yr	2494.7	750.75	745.56	1.56	1.27	12.15	7.3	380.14	827.79	3.97	2.37	5.19	5.19
Rosebud County	C12	RM 219.29	23386	10-yr	2494.7	750.42	745.27	2.51	1.69	30.09	13.28	208.04	788.79	4.28	1.87	5.15	5.15
Rosebud County	C12	RM 219.11	23085	10-yr	2494.7	750.25	745.15	2.45	1.62	28.6	11.95	176.7	893.5	4.3	1.77	5.1	5.1
Rosebud County	C12	RM 218.92	22783	10-yr	2494.7	750.12	745.15	2.06	1.38	20.7	9.83	229.91	1014.2	3.77	1.78	4.97	4.97
Rosebud County	C12	RM 218.73	22473	10-yr	2494.7	749.94	745.06	2.06	1.34	19.79	8.23	226.8	996.15	4.55	1.88	4.88	4.88
Rosebud County	C12	RM 218.54	22180	10-yr	2494.7	749.82	744.99	1.96	1.42	18.36	10.16	274.48	755.54	4.19	2.32	4.83	4.83
Rosebud County	C12	RM 218.38	21902	10-yr	2494.7	749.71	744.43	1.97	1.38	17.82	8.83	234.82	771.26	4.75	2.34	5.28	5.28
Rosebud County	C12	RM 218.18	21580	10-yr	2494.7	749.46	743.9	2.49	1.5	28.77	11.66	182.74	901.63	4.62	1.85	5.56	5.56
Rosebud County	C12	RM 217.99	21276	10-yr	2494.7	749.29	743.66	2.37	1.47	26.96	9.01	211.96	1225.83	4.19	1.38	5.63	5.63
Rosebud County	C12	RM 217.81	20981	10-yr	2494.7	749.25	743.51	1.67	1.2	12.52	3.85	293.45	1532.2	4.74	1.44	5.74	5.74
Rosebud County	C12	RM 217.64	20702	10-yr	2494.7	748.87	743.41	2.8	1.79	36.54	7.99	176.29	1488.28	4.59	0.98	5.46	5.46
Rosebud County	C12	RM 217.45	20392	10-yr	2494.7	748.64	743.29	2.74	1.61	35.83	8.08	184.69	1686.33	4.26	0.94	5.35	5.35
Rosebud County	C12	RM 217.25	20070	10-yr	2494.7	748.59	743.29	2.04	1.14	18.91	4.34	191.77	1974.32	4.92	1.11	5.3	5.3
Rosebud County	C12	RM 217	19662	10-yr	2494.7	748.3	743.25	2.44	1.4	28.04	6.59	192.47	1723.42	4.46	1.03	5.05	5.05
Rosebud County	C12	RM 216.77	19300	10-yr	2494.7	748.08	743.25	2.38	1.36	27.97	7.7	217.02	1754.04	3.84	1.04	4.83	4.83
Rosebud County	C12	RM 216.53	18912	10-yr	2494.7	747.94	743.3	1.89	1.03	17.82	6.39	274.13	1812.85	3.74	1.33	4.64	4.64
Rosebud County	C12	RM 216.27	18500	10-yr	2494.7	747.81	743.24	1.61	0.99	13.18	6.3	358.3	1505.12	3.51	1.67	4.57	4.57
Rosebud County	C12	RM 215.98	18038	10-yr	2494.7	747.7	743.12	1.48	0.88	10.75	5.19	273.73	1547.82	3.79	1.83	4.58	4.58
Rosebud County	C12	RM 215.68	17550	10-yr	2494.7	747.55	742.31	1.6	1	11.62	4.03	269.37	1456.41	4.95	1.71	5.24	5.24
Rosebud County	C12	RM 215.41	17101	10-yr	2494.7	747.36	741.82	1.97	1.24	17.9	6.51	218.66	1307.17	4.68	1.68	5.54	5.54
Rosebud County	C12	RM 215.21	16781	10-yr	2494.7	747.01	741.65	2.82	1.73	37.2	12.88	159.7	1081.93	4.54	1.55	5.36	5.36
Rosebud County	C12	RM 215.02	16479	10-yr	2494.7	746.63	741.68	3.17	2.12	47.02	16.07	146.57	770.42	4.59	1.54	4.95	4.95
Rosebud County	C13	RM 214.86	16220	10-yr	2494.7	746.66	741.64	1.95	1.55	17.5	8.83	252.91	887.14	4.81	2.41	5.02	5.02
Rosebud County	C13	RM 214.65	15883	10-yr	2494.7	746.51	741.6	1.9	1.74	16.73	10.04	399.8	753.47	3.24	1.93	4.91	4.91
Rosebud County	C13	RM 214.46	15577	10-yr	2494.7	746.39	741.6	1.75	1.41	12.48	7.9	460.23	1178.93	2.89	1.82	4.79	4.79
Rosebud County	C13	RM 214.27	15282	10-yr	2494.7	746.29	741.59	1.55	1.24	10.5	5.93	505.93	1234.7	2.89	1.62	4.7	4.7
Rosebud County	C13	RM 214.07	14957	10-yr	2494.7	746.19	741.54	1.41	1.06	12.94	6.23	425.03	1490.39	3.66	1.75	4.65	4.65
Rosebud County	C13	RM 213.9	14672	10-yr	2494.7	746.02	741.37	1.72	1.43	14.7	6.41	363.41	1077.37	3.75	1.62	4.65	4.65
Rosebud County	C13	RM 213.7	14343	10-yr	2494.7	745.73	740.88	2.3	1.87	24.82	7.35	232.58	1553.77	4.5	1.32	4.85	4.85
Rosebud County	C13	RM 213.54	14083	10-yr	2494.7	745.44	740.59	2.76	2.04	35.8	12.81	191.86	1986.86	4.44	1.57	4.85	4.85
Rosebud County	C13	RM 213.36	13792	10-yr	2494.7	745.31	740.39	2.3	1.78	25.77	10.29	245.94	2016.06	4.02	1.59	4.92	4.92
Rosebud County	C13	RM 213.16	13475	10-yr	2494.7	745.02	740.27	2.62	1.65	33.01	12.22	209.11	1872.01	3.82	1.4	4.75	4.75
Rosebud County	C13	RM 212.99	13200	10-yr	2494.7	744.9	740.31	2.24	1.67	22.6	8.29	212.05	1987.75	3.6	1.31	4.59	4.59
Rosebud County	C13	RM 212.79	12880	10-yr	2494.7	744.72	740.19	2.26	1.31	24.32	7.49	178.07	2402.3	4.32	1.31	4.53	4.53
Rosebud County	C13	RM 212.6	12572	10-yr	2494.7	744.57	739.79	2.01	1.2	18.94	5.95	240.96	2710.23	4.46	1.39	4.78	4.78
Rosebud County	C13	RM 212.42	12284	10-yr	2494.7	744.35	739.58	2.38	1.31	28.55	8.61	211.31	2596.53	4.11	1.22	4.77	4.77
Rosebud County	C13	RM 212.23	11983	10-yr	2494.7	744.24	739.17	1.98	1.18	19.13	6.05	257.92	2522.73	4.02	1.26	5.07	5.07
Rosebud County	C13	RM 212.05	11688	10-yr	2494.7	744.07	738.83	2.12	1.31	20.96	5.45	227.41	2372.38	4.56	1.17	5.24	5.24

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	10-yr	2494.7	743.85	738.79	2.34	1.54	26.83	8.74	251.66	1914.43	3.9	1.26	5.06	5.06
Rosebud County	C13	RM 211.65	11066	10-yr	2494.7	743.65	738.58	2.29	1.46	25.31	8.62	248.86	1798.5	3.97	1.34	5.07	5.07
Rosebud County	C13	RM 211.44	10724	10-yr	2494.7	743.49	738.38	2.22	1.27	23.6	9.47	199.53	1887.29	4.23	1.68	5.11	5.11
Rosebud County	C13	RM 211.21	10353	10-yr	2494.7	743.37	737.87	1.98	1.21	17	7.83	207.36	1740.42	4.22	1.93	5.5	5.5
Rosebud County	C13	RM 210.96	9946	10-yr	2494.7	743.05	737.72	2.6	1.48	32.45	11.9	169.56	1154.46	4.18	1.51	5.33	5.33
Rosebud County	C13	RM 210.75	9612	10-yr	2494.7	742.98	737.48	1.97	1.18	18.04	7.4	191.27	1156.12	4.57	1.85	5.5	5.5
Rosebud County	C13	RM 210.57	9317	10-yr	2494.7	742.9	737.5	1.75	1.12	14.17	5.6	244	1252.26	4.54	1.78	5.4	5.4
Rosebud County	C13	RM 210.36	8986	10-yr	2494.7	742.62	737.54	2.44	1.47	28.62	11.47	194.77	1050.65	4.2	1.67	5.08	5.08
Rosebud County	C13	RM 210.16	8674	10-yr	2494.7	742.39	737.53	2.3	1.66	26.91	12	288.38	1059.53	3.48	1.54	4.86	4.86
Rosebud County	C13	RM 209.98	8382	10-yr	2494.7	742.38	737.25	1.51	1.11	10.63	5.23	307.03	1169	4.46	2.18	5.13	5.13
Rosebud County	C13	RM 209.8	8091	10-yr	2494.7	742.28	736.96	1.73	1.12	13.43	4.6	218.68	1514.99	5.18	1.75	5.32	5.32
Rosebud County	C13	RM 209.6	7774	10-yr	2494.7	742.11	736.72	2.14	1.1	20.83	6.58	179.37	1891.05	4.99	1.55	5.39	5.39
Rosebud County	C13	RM 209.41	7482	10-yr	2494.7	742.04	736.53	1.81	1.06	15.34	5.68	238.7	1732.46	4.49	1.64	5.51	5.51
Rosebud County	C13	RM 209.21	7161	10-yr	2494.7	741.82	736.29	2.25	1.42	23.62	7.46	197.21	1457.68	4.59	1.43	5.53	5.53
Rosebud County	C13	RM 209.03	6871	10-yr	2494.7	741.65	736.14	2.35	1.41	25.6	8.23	186.12	1261.25	4.65	1.47	5.51	5.51
Rosebud County	C13	RM 208.85	6571	10-yr	2494.7	741.57	736.03	1.94	1.26	17.39	6.97	229.12	1133.99	4.67	1.85	5.54	5.54
Rosebud County	C13	RM 208.65	6257	10-yr	2494.7	741.48	735.74	1.89	1.27	16.9	8.28	218.32	1045.1	4.43	2.14	5.74	5.74
Rosebud County	C13	RM 208.46	5945	10-yr	2494.7	741.23	735.69	2.32	1.71	25.9	11.36	204.54	867.7	3.89	1.68	5.54	5.54
Rosebud County	C13	RM 208.29	5682	10-yr	2494.7	740.4	735.63	4	3.43	76.5	33.32	116.29	398.25	4.29	1.82	4.77	4.77
Rosebud County	C14	RM 208.1	5374	10-yr	2494.7	740.27	735.61	2.7	2.32	34.42	13.43	201.37	686.33	4.46	1.72	4.66	4.66
Rosebud County	C14	RM 207.91	5064	10-yr	2494.7	740.09	735.56	2.35	1.79	27.78	12.66	293.26	1031.88	3.33	1.5	4.53	4.53
Rosebud County	C14	RM 207.72	4766	10-yr	2494.7	739.86	735.52	2.15	1.64	21.81	9.09	400.5	1613.04	2.63	1.09	4.34	4.34
Rosebud County	C14	RM 207.53	4450	10-yr	2494.7	739.74	735.35	1.59	1.22	14.06	6.94	469.61	1554.07	2.94	1.44	4.39	4.39
Rosebud County	C14	RM 207.33	4123	10-yr	2494.7	739.5	735.27	2.04	1.35	21	8.63	282.48	1250.96	3.61	1.47	4.23	4.23
Rosebud County	C14	RM 207.15	3851	10-yr	2494.7	739.39	735.14	1.84	1.25	16.87	6.4	312.91	1562.68	3.63	1.37	4.25	4.25
Rosebud County	C14	RM 206.99	3599	10-yr	2494.7	739.3	734.95	1.74	1.09	15.46	6.11	327.09	1770.3	3.4	1.34	4.35	4.35
Rosebud County	C14	RM 206.81	3315	10-yr	2494.7	739.19	734.49	1.72	0.99	14.6	5.03	257.4	1912.81	3.87	1.32	4.7	4.7
Rosebud County	C14	RM 206.61	2997	10-yr	2494.7	739.07	733.91	1.85	0.94	16.12	5.21	197.48	2402.89	4.42	1.41	5.16	5.16
Rosebud County	C14	RM 206.43	2701	10-yr	2494.7	739	733.52	1.67	0.93	13.96	6.01	244.31	2769.26	3.64	1.55	5.48	5.48
Rosebud County	C14	RM 206.21	2350	10-yr	2494.7	738.89	733.38	1.65	0.99	13.72	5.56	253.17	2689.54	3.85	1.54	5.51	5.51
Rosebud County	C14	RM 205.97	1963	10-yr	2494.7	738.79	732.73	1.58	0.88	11.04	3.68	223.85	2555.53	5.28	1.73	6.06	6.06
Rosebud County	C14	RM 205.72	1563	10-yr	2494.7	738.25	732.73	3.5	1.51	73.38	14.14	94.98	2564	4.98	0.92	5.52	5.52
Rosebud County	C14	RM 205.49	1198	10-yr	2494.7	737.82	732.63	2.69	1.57	45.69	10.75	187.25	1843.75	4.08	0.95	5.19	5.19
Rosebud County	C14	RM 205.3	907	10-yr	2494.7	737.52	732.76	2.49	1.38	33.13	11.24	246.92	1899.33	3.03	1.01	4.76	4.76
Rosebud County	C14	RM 205.11	594	10-yr	2494.7	737.35	732.8	2.07	1.01	20.58	6.73	192	1905.77	4.16	1.34	4.55	4.55
Rosebud County	C14	RM 204.9	243	10-yr	2494.7	737.01	732.63	2.51	1.33	31.95	8.35	224.67	2153.85	3.55	0.92	4.38	4.38

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	10-yr	2494.7	737.01	732.67	2.87	1.43	41.81	9.61	191.78	2208.83	3.49	0.79	4.34	4.34
Custer County	C14	RM 204.43	73135	10-yr	2494.7	736.94	732.44	1.91	0.97	18.55	5.88	266.74	2319.22	3.53	1.11	4.5	4.5
Custer County	C14	RM 204.22	72808	10-yr	2494.7	736.76	732.3	2	1.05	20.69	6.96	262.16	2170.98	3.27	1.1	4.46	4.46
Custer County	C14	RM 204	72454	10-yr	2494.7	736.55	731.9	1.98	1.15	18.66	4.3	261.19	2257.15	4.21	0.96	4.65	4.65
Custer County	C14	RM 203.82	72156	10-yr	2494.7	736.38	731.14	2.25	1.05	24.57	6.24	197.43	2366.55	4.04	1.01	5.24	5.24
Custer County	C14	RM 203.65	71895	10-yr	2494.7	736.26	730.95	2.09	0.88	20.97	6.47	162.5	2270.17	4.14	1.25	5.31	5.31
Custer County	C14	RM 203.5	71641	10-yr	2494.7	736.18	730.78	1.68	0.8	13.71	4.6	195.78	2485.28	4.1	1.35	5.4	5.4
Custer County	C14	RM 203.3	71324	10-yr	2494.7	736.11	730.79	1.56	0.8	11.53	3.85	161.79	2127.94	4.47	1.46	5.32	5.32
Custer County	C14	RM 203.1	71035	10-yr	2494.7	735.93	730.79	2.08	1.01	21.16	6.85	184.4	1960.32	3.95	1.26	5.14	5.14
Custer County	C14	RM 202.9	70718	10-yr	2494.7	735.82	730.67	1.89	1.1	19.1	7.48	247.7	1934.12	3.05	1.18	5.15	5.15
Custer County	C14	RM 202.71	70415	10-yr	2494.7	735.56	730.64	2.25	1.26	25.46	7.15	231.35	1951.54	3.66	1.01	4.92	4.92
Custer County	C14	RM 202.51	70088	10-yr	2494.7	735.14	730.68	2.91	1.62	41.32	9	152.2	1787.87	4.03	0.86	4.46	4.46
Custer County	C14	RM 202.34	69815	10-yr	2494.7	735.02	730.63	1.97	1.23	20.04	6.59	321.87	1858.17	3.34	1.09	4.39	4.39
Custer County	C14	RM 202.13	69483	10-yr	2494.7	734.87	730.54	1.83	1.07	16.47	6.24	282.19	1862.34	3.87	1.45	4.33	4.33
Custer County	C14	RM 201.97	69219	10-yr	2494.7	734.66	730.01	2.12	1.44	22.36	8.31	264.21	1250.85	3.77	1.39	4.65	4.65
Custer County	C14	RM 201.75	68884	10-yr	2494.7	734.61	729.45	1.52	1.15	10.64	3.76	306.87	1294.09	4.78	1.67	5.16	5.16
Custer County	C14	RM 201.57	68612	10-yr	2494.7	734.48	729.37	1.81	1.3	17.24	7.66	362.67	1394.67	3.13	1.38	5.11	5.11
Custer County	C14	RM 201.38	68299	10-yr	2494.7	734.19	729.23	2.16	1.51	26.01	10.92	356.22	1490.88	2.67	1.11	4.96	4.96
Custer County	C14	RM 201.23	68055	10-yr	2494.7	734.01	729.13	1.93	1.31	20.21	10.15	369.58	1310.21	2.91	1.45	4.88	4.88
Custer County	C14	RM 201.06	67778	10-yr	2494.7	733.99	729.03	1.28	1.01	8.18	4.93	262.3	1488.22	3.63	2.17	4.96	4.96
Custer County	C14	RM 200.85	67439	10-yr	2494.7	733.5	729.05	3.34	2.37	53.82	19.13	114.21	719.35	4.23	1.46	4.45	4.45
Custer County	C14	RM 200.64	67103	10-yr	2494.7	733.42	728.97	2.07	1.56	20.4	11.22	216.36	751.91	4.3	2.34	4.45	4.45
Custer County	C14	RM 200.48	66842	10-yr	2494.7	733.36	728.8	1.6	1.38	12.91	8.88	307.41	719.55	3.66	2.5	4.56	4.56
Custer County	C14	RM 200.27	66515	10-yr	2494.7	733.2	728.63	1.71	1.4	14.4	9.9	359.69	679.66	3.82	2.61	4.57	4.57
Custer County	C14	RM 200.05	66162	10-yr	2494.7	733.02	728.3	1.85	1.61	17.67	12.85	388.47	644.5	3.32	2.4	4.72	4.72
Custer County	C14	RM 199.9	65916	10-yr	2494.7	732.94	727.78	1.6	1.53	12.35	8.04	381.62	616.89	4.07	2.64	5.16	5.16
Custer County	C14	RM 199.71	65614	10-yr	2494.7	732.62	727.34	2.46	2.29	26.38	17.89	260.67	423.03	3.83	2.58	5.28	5.28
Custer County	C14	RM 199.53	65326	10-yr	2494.7	732.54	727.34	1.97	1.81	17.85	8.55	259.62	603.92	4.81	2.29	5.2	5.2
Custer County	C14	RM 199.38	65076	10-yr	2494.7	732.44	727.34	1.93	1.71	18.02	9.08	364.29	928.08	3.46	1.73	5.1	5.1
Custer County	C14	RM 199.18	64754	10-yr	2494.7	732.26	727.64	1.85	1.56	17.66	9.72	456.73	1162.11	2.76	1.51	4.62	4.62
Custer County	C14	RM 199.04	64535	10-yr	2494.7	732.17	727.64	1.61	1.28	13.13	5.74	419.11	1345.93	3.38	1.47	4.53	4.53
Custer County	C14	RM 198.77	64102	10-yr	2494.7	731.94	727.28	1.89	1.45	16.94	6.34	294.95	1109.99	4.25	1.58	4.66	4.66
Custer County	C14	RM 198.57	63773	10-yr	2494.7	731.55	726.99	2.71	2.13	34.76	9.83	204.81	969.25	4.33	1.21	4.56	4.56
Custer County	C14	RM 198.4	63505	10-yr	2494.7	731.35	726.86	2.65	2	33.62	15.27	199.72	1011.14	4.21	1.9	4.49	4.49
Custer County	C14	RM 198.22	63215	10-yr	2494.7	731.12	726.57	2.67	1.79	34.32	15.33	190.38	1118.35	4.11	1.82	4.55	4.55
Custer County	C14	RM 198.04	62923	10-yr	2494.7	730.97	726.32	2.26	1.59	24.62	9.16	227.09	1231.13	4.17	1.54	4.65	4.65
Custer County	C14	RM 197.84	62611	10-yr	2494.7	730.91	726.04	1.65	1.3	13.37	5.16	351.59	1484.98	3.84	1.47	4.87	4.87
Custer County	C14	RM 197.65	62306	10-yr	2494.7	730.79	725.69	1.78	1.17	13.62	5.37	317.28	1640.9	3.64	1.42	5.1	5.1
Custer County	C14	RM 197.47	62013	10-yr	2494.7	730.77	725.29	1.31	0.81	7.66	2.74	296.37	1671.91	5.27	1.87	5.48	5.48
Custer County	C14	RM 197.27	61686	10-yr	2494.7	730.69	724.81	1.68	0.84	13.09	5.34	212.02	1725.13	4.62	1.87	5.88	5.88
Custer County	C14	RM 197.07	61373	10-yr	2494.7	730.62	724.81	1.73	0.96	13.7	4.78	204.54	1618.24	4.77	1.63	5.81	5.81
Custer County	C14	RM 196.91	61115	10-yr	2494.7	730.61	724.81	1.29	0.67	7.6	3.55	222.75	1685.14	4.8	2.21	5.8	5.8
Custer County	C14	RM 196.73	60815	10-yr	2494.7	730.56	724.76	1.31	0.7	7.74	3.58	241.51	1575.16	4.95	2.28	5.8	5.8
Custer County	C14	RM 196.54	60518	10-yr	2494.7	730.5	724.67	1.43	0.83	9.63	4.34	270.26	1969.35	4.46	1.99	5.83	5.83
Custer County	C14	RM 196.33	60178	10-yr	2494.7	730.43	724.57	1.48	0.96	9.79	4.25	247.23	1793.04	5.19	2.23	5.86	5.86
Custer County	C14	RM 196.17	59915	10-yr	2494.7	730.37	724.51	1.58	1.21	10.99	6.79	191.57	1339.51	5.34	3.28	5.86	5.86
Custer County	C15	RM 195.98	59615	10-yr	2494.7	728.94	724.52	4.96	4.7	122.09	80.05	132.07	224.64	3.79	2.47	4.42	4.42
Custer County	C15	RM 195.81	59337	10-yr	2494.7	728.87	724.33	3.36	3.2	53.41	26.07	169.2	384.14	4.37	2.11	4.54	4.54
Custer County	C15	RM 195.61	59020	10-yr	2494.7	728.78	724.24	2.43	2.21	27.92	12.87	230.07	563.22	4.39	2.01	4.54	4.54
Custer County	C15	RM 195.43	58727	10-yr	2494.7	728.6	724.22	2.3	2.06	26.92	16	305.61	590.28	3.47	2.05	4.38	4.38
Custer County	C15	RM 195.23	58415	10-yr	2494.7	728.47	723.93	1.81	1.7	17.35	11.91	391.57	618.99	3.47	2.37	4.54	4.54
Custer County	C15	RM 195.04	58114	10-yr	2494.7	728.24	723.54	2.17	1.93	23.46	11.18	269.46	725.29	3.75	1.78	4.7	4.7
Custer County	C15	RM 194.86	57824	10-yr	2494.7	728.05	722.93	2.27	1.67	24.52	9.61	209.92	896.83	4.29	1.66	5.12	5.12
Custer County	C15	RM 194.67	57521	10-yr	2494.7	727.88	722.75	2.21	1.69	22.16	8.06	217.41	831.06	4.93	1.77	5.13	5.13
Custer County	C15	RM 194.49	57231	10-yr	2494.7	727.78	722.53	2.05	1.54	19.19	8.72	232.49	740.37	4.86	2.19	5.25	5.25
Custer County	C15	RM 194.32	56946	10-yr	2494.7	727.57	722.5	2.31	1.84	24.18	13.21	259.82	642.73	3.93	2.13	5.07	5.07
Custer County	C15	RM 194.13	56643	10-yr	2494.7	727.34	722.5	2.41	2.13	28.21	18.36	251.39	462.58	4.01	2.59	4.84	4.84
Custer County	C15	RM 193.93	56331	10-yr	2494.7	727.19	722.31	2.17	1.97	21.89	15.84	247.7	459.8	4.52	3.26	4.88	4.88
Custer County	C15	RM 193.74	56024	10-yr	2494.7	727.01	722.23	2.26	1.95	23.72	11.85	229.33	688.74	4.62	2.29	4.78	4.78
Custer County	C15	RM 193.55	55708	10-yr	2494.7	726.8	722.13	2.41	1.98	27.3	11.48	216.44	685.93	4.51	1.87	4.67	4.67

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	10-yr	2494.7	726.59	722.13	2.48	1.95	29.35	12.14	219.51	747.31	4.28	1.75	4.46	4.46
Custer County	C15	RM 193.2	55158	10-yr	2494.7	726.53	722.13	1.95	1.55	18.1	8.3	280.33	854.9	4.25	1.94	4.4	4.4
Custer County	C15	RM 193	54825	10-yr	2494.7	726.37	721.84	1.97	1.56	18.5	10.25	281.95	761.86	4.23	2.33	4.53	4.53
Custer County	C15	RM 192.81	54525	10-yr	2494.7	726.21	721.37	2.17	1.52	21.7	8.37	207.4	941.26	4.68	1.79	4.84	4.84
Custer County	C15	RM 192.63	54247	10-yr	2494.7	726.03	721.01	2.26	1.65	23.5	8.64	217.02	899.83	4.74	1.72	5.02	5.02
Custer County	C15	RM 192.44	53935	10-yr	2494.7	725.94	721.01	1.94	1.47	17.46	7.39	241	880.31	4.59	1.93	4.93	4.93
Custer County	C16	RM 192.26	53653	10-yr	2494.7	725.7	721.01	2.34	2	25.53	11.58	228.28	611.6	4.53	2.04	4.69	4.69
Custer County	C16	RM 192.05	53309	10-yr	2494.7	724.99	721.11	3.54	3.2	62.48	37.5	186.81	353.99	3.7	2.21	3.88	3.88
Custer County	C16	RM 191.74	52809	10-yr	2494.7	724.77	721.1	1.93	1.86	16.45	14.94	540.31	625.96	2.36	2.14	3.67	3.67
Custer County	C16	RM 191.35	52181	10-yr	2494.7	724.32	721.02	1.76	1.73	13.68	13.08	773.68	831	1.82	1.74	3.3	3.3
Custer County	C16	RM 191.12	51812	10-yr	2494.7	724.13	720.51	1.47	1.47	10.42	10.4	781.52	783.68	2.18	2.17	3.62	3.62
Custer County	C16	RM 190.87	51406	10-yr	2494.7	723.97	719.89	1.3	1.27	8.76	8.13	853.6	945.51	2.24	2.08	4.08	4.08
Custer County	C16	RM 190.54	50885	10-yr	2494.7	723.84	719.15	1.04	0.98	6.64	4.62	789.71	1461.54	3.01	2.08	4.69	4.69
Custer County	C16	RM 190.29	50477	10-yr	2494.7	723.21	718.45	3.11	2.37	46.14	15.38	179.8	857.5	4.25	1.4	4.76	4.76
Custer County	C16	RM 190.1	50176	10-yr	2494.7	722.91	718.43	2.86	2.37	40.72	13.73	226.37	1203.37	3.74	1.26	4.48	4.48
Custer County	C16	RM 189.85	49765	10-yr	2494.7	722.72	718.13	2.04	1.82	21.22	8.85	334.92	1436.89	3.5	1.45	4.59	4.59
Custer County	C16	RM 189.65	49458	10-yr	2494.7	722.53	718.1	2.08	1.45	19.84	7.11	340.01	1982.29	3.15	1.12	4.43	4.43
Custer County	C16	RM 189.43	49103	10-yr	2494.7	722.01	718.09	2.79	2.37	40.9	18.76	269.76	953.6	3.2	1.46	3.92	3.92
Custer County	C16	RM 189.22	48763	10-yr	2494.7	722.03	717.93	1.43	1.23	10.07	4.13	452.4	1542.05	3.79	1.54	4.1	4.1
Custer County	C16	RM 188.91	48267	10-yr	2494.7	721.85	717.54	1.59	1.25	12.45	5.88	472.67	1554.92	3.11	1.46	4.31	4.31
Custer County	C16	RM 188.66	47869	10-yr	2494.7	721.49	716.75	2.44	1.49	27.88	8.05	195.28	1291.21	4.57	1.3	4.74	4.74
Custer County	C16	RM 188.51	47622	10-yr	2494.7	721.33	716.72	2.41	1.57	27.89	9.54	217.17	1119.46	4.19	1.42	4.61	4.61
Custer County	C16	RM 188.32	47314	10-yr	2494.7	721.24	716.79	1.91	1.52	18.53	8.46	151.87	913.12	4	1.79	4.45	4.45
Custer County	C16	RM 188.14	47024	10-yr	2494.7	721.07	716.93	1.32	1.45	8.55	8.69	474.59	1081.79	1.63	1.66	4.14	4.14
Custer County	C16	RM 187.98	46768	10-yr	2494.7	720.98	716.91	1.69	1.28	14.28	8.4	222.44	889.59	3.75	2.19	4.07	4.07
Custer County	C16	RM 187.78	46440	10-yr	2494.7	720.9	716.69	1.45	1.18	11.28	6.19	251.06	1097.4	3.54	1.93	4.21	4.21
Custer County	C16	RM 187.55	46083	10-yr	2494.7	720.66	716.04	2.1	1.3	21	8.8	224.37	1093.14	4.2	1.75	4.62	4.62
Custer County	C16	RM 187.35	45750	10-yr	2494.7	720.18	715.34	2.98	1.99	42.38	13.6	182.36	1107.82	4.21	1.33	4.84	4.84
Custer County	C16	RM 187.14	45421	10-yr	2494.7	720.09	715.3	2.12	1.41	21.66	7.66	259.08	1460.06	4.06	1.42	4.79	4.79
Custer County	C16	RM 187.01	45211	10-yr	2494.7	720.04	715.3	1.79	1.28	15.35	6.7	300.38	1177.52	4.22	1.83	4.74	4.74
Custer County	C16	RM 186.84	44930	10-yr	2494.7	719.9	715.03	1.92	1.35	17.96	7.94	294.8	1168.14	3.96	1.74	4.87	4.87
Custer County	C16	RM 186.62	44553	10-yr	2494.7	719.46	714.75	2.77	2.13	35.95	10.5	188.38	898.79	4.48	1.3	4.71	4.71
Custer County	C16	RM 186.46	44311	10-yr	2494.7	719.22	714.53	2.92	2.08	40.87	15.24	186.02	775.9	4.21	1.55	4.69	4.69
Custer County	C16	RM 186.26	43996	10-yr	2494.7	718.92	714.27	2.8	2.45	37.54	19.92	205.3	457.75	4.23	2.23	4.65	4.65
Custer County	C16	RM 186.1	43730	10-yr	2494.7	718.85	713.9	2.12	2.01	21.79	14.26	293.59	488.66	3.99	2.6	4.95	4.95
Custer County	C16	RM 185.91	43424	10-yr	2509.2	718.67	713.84	2.08	1.97	19.93	15.47	388.65	533.54	3.08	2.39	4.83	4.83
Custer County	C16	RM 185.71	43110	10-yr	2509.2	718.07	713.84	3.07	2.83	40.41	28.54	325.31	510.58	2.47	1.74	4.23	4.23
Custer County	C16	RM 185.52	42808	10-yr	2509.2	718.05	713.71	1.81	1.64	16.24	11.08	365.9	624.17	3.72	2.53	4.34	4.34
Custer County	C16	RM 185.34	42508	10-yr	2509.2	717.84	713.28	1.98	1.94	17.31	15.87	511.74	657.72	2.47	2.26	4.56	4.56
Custer County	C16	RM 185.16	42219	10-yr	2509.2	717.78	712.93	1.48	1.22	10.79	7.61	419.95	1382.9	3.79	2.67	4.85	4.85
Custer County	C17	RM 184.95	41881	10-yr	2509.2	717.58	712.72	1.92	1.47	18.79	9.39	289.24	1239.65	4.18	2.07	4.86	4.86
Custer County	C17	RM 184.78	41621	10-yr	2509.2	717.31	712.51	2.48	1.88	28.97	11.64	214.66	927.33	4.41	1.75	4.8	4.8
Custer County	C17	RM 184.59	41311	10-yr	2509.2	717.03	711.96	2.67	2.24	32.87	15.66	194.75	509.69	4.63	2.2	5.07	5.07
Custer County	C17	RM 184.4	41010	10-yr	2509.2	716.95	711.62	2.12	2.08	20.51	16.5	242.39	547.28	4.87	3.91	5.32	5.32
Custer County	C17	RM 184.23	40728	10-yr	2509.2	716.71	711.31	2.45	2.38	28.45	20.5	237.46	654.49	4.3	3.09	5.4	5.4
Custer County	C17	RM 184.1	40517	10-yr	2509.2	716.5	711.39	2.67	2.43	32.99	20.76	203.14	772.75	4.55	2.87	5.11	5.11
Custer County	C17	RM 184.03	40407	10-yr	2509.2	716.47	711.49	2.44	2.3	27.62	15.24	222.9	665.87	4.58	2.51	4.98	4.98
Custer County	C17	RM 183.83	40098	10-yr	2509.2	716.3	711.42	2.32	2.26	24.98	17.82	233.59	837.21	4.61	3.28	4.88	4.88
Custer County	C17	RM 183.65	39806	10-yr	2509.2	716.1	711.39	2.44	2.37	27.82	18.64	224.13	429.31	4.56	3.04	4.71	4.71
Custer County	C17	RM 183.47	39513	10-yr	2509.2	715.77	711.39	2.8	2.72	37.34	23.93	210.36	434.24	4.25	2.71	4.38	4.38
Custer County	C17	RM 183.28	39210	10-yr	2509.2	715.68	711.31	2.17	1.98	22.43	12.81	263.55	740.82	4.28	2.43	4.37	4.37
Custer County	C17	RM 183.09	38909	10-yr	2509.2	715.51	711.04	2.24	1.65	23.96	12.24	236.28	875.52	4.27	2.16	4.47	4.47
Custer County	C17	RM 182.94	38660	10-yr	2509.2	715.4	710.66	2.1	1.75	20.48	8.57	244.43	753.58	4.59	1.9	4.74	4.74
Custer County	C17	RM 182.72	38316	10-yr	2509.2	715.21	710.1	2.18	1.81	22.43	12.36	250.1	599.75	4.35	2.38	5.11	5.11
Custer County	C17	RM 182.54	38020	10-yr	2509.2	714.7	710.12	3.18	2.57	47.87	28.17	173.67	385.76	4.34	2.53	4.58	4.58
Custer County	C17	RM 182.34	37706	10-yr	2509.2	714.52	710.27	2.54	2.25	31.72	20.86	240.92	441.46	3.85	2.52	4.25	4.25
Custer County	C17	RM 182.15	37402	10-yr	2509.2	714.3	710.26	2.42	2.18	28.71	17.02	248.66	495.73	3.93	2.33	4.04	4.04
Custer County	C17	RM 181.97	37127	10-yr	2509.2	714.13	710.26	2.23	2.07	24.83	14.44	292.15	592.46	3.71	2.15	3.87	3.87
Custer County	C17	RM 181.78	36815	10-yr	2509.2	713.9	710.09	2.23	1.96	21.32	12.23	402.91	930.59	2.63	1.5	3.81	3.81
Custer County	C17	RM 181.59	36505	10-yr	2509.2	713.55	709.76	2.44	2.22	26.79	18.51	380.86	625.19	2.62	1.81	3.79	3.79

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	10-yr	2509.2	713.27	709.37	2.35	1.97	27.8	17.77	276.86	561.7	3.56	2.27	3.9	3.9
Custer County	C17	RM 181.23	35925	10-yr	2509.2	712.98	709.36	2.68	2.38	36.93	25.82	247.28	446.16	3.37	2.36	3.62	3.62
Custer County	C17	RM 181.03	35607	10-yr	2508.9	712.83	709.02	2	1.93	20.28	16.68	354.1	500.07	3.47	2.86	3.81	3.81
Custer County	C17	RM 180.83	35292	10-yr	2508.9	712.7	708.68	1.74	1.56	15.54	11.56	362.09	868.61	3.42	2.54	4.02	4.02
Custer County	C17	RM 180.66	35006	10-yr	2508.9	712.5	708.22	1.98	1.86	19.62	14.86	342.47	488.16	3.65	2.77	4.28	4.28
Custer County	C18	RM 180.46	34700	10-yr	2508.9	712.31	708.05	2.11	1.89	21.42	15.93	281.53	434.29	4.12	3.06	4.26	4.26
Custer County	C18	RM 180.29	34421	10-yr	2508.9	712.05	707.79	2.48	2.03	30.31	14.75	243.73	669.84	3.81	1.84	4.26	4.26
Custer County	C18	RM 180.08	34086	10-yr	2508.9	711.86	707.53	2.21	1.91	23.47	12.04	254.17	618.3	4.17	2.13	4.33	4.33
Custer County	C18	RM 179.9	33807	10-yr	2508.9	711.71	707.32	2.14	1.89	22.31	13.12	266.42	585.35	4.01	2.35	4.39	4.39
Custer County	C18	RM 179.73	33525	10-yr	2508.9	711.41	706.89	2.53	2.32	31.58	24.38	256.8	408.66	3.78	2.92	4.52	4.52
Custer County	C18	RM 179.54	33218	10-yr	2508.9	711.15	706.7	2.4	2.3	30.44	23.7	312.1	422.42	3.32	2.58	4.45	4.45
Custer County	C18	RM 179.35	32914	10-yr	2508.9	710.99	706.45	2.09	1.91	21.3	14.83	292.41	472.3	4.01	2.79	4.54	4.54
Custer County	C18	RM 179.16	32611	10-yr	2508.9	710.71	706.29	2.45	2.34	29.07	21.28	237.48	340.91	4.3	3.14	4.42	4.42
Custer County	C18	RM 178.99	32337	10-yr	2508.9	710.56	706.07	2.28	2.19	24.7	20.75	254.29	332.7	4.3	3.6	4.49	4.49
Custer County	C18	RM 178.79	32025	10-yr	2508.9	710.35	705.9	2.36	2.27	26.64	24.03	251.59	300.88	4.19	3.78	4.45	4.45
Custer County	C18	RM 178.61	31730	10-yr	2508.9	710.17	705.59	2.28	2.23	24.76	22.5	259.81	429.93	4.22	3.83	4.58	4.58
Custer County	C18	RM 178.43	31434	10-yr	2508.9	710	705.25	2.29	2.28	24.64	24.05	249.19	284.32	4.4	4.3	4.75	4.75
Custer County	C18	RM 178.23	31114	10-yr	2508.9	709.81	704.7	2.3	2.29	24.92	24.34	249.24	269.66	4.38	4.28	5.11	5.11
Custer County	C18	RM 178.06	30848	10-yr	2508.9	709.62	704.57	2.42	2.29	27.23	20.03	219.45	322.64	4.64	3.4	5.05	5.05
Custer County	C18	RM 177.88	30549	10-yr	2508.9	709.4	704.57	2.5	2.35	29.67	21.93	229.01	334.81	4.33	3.19	4.83	4.83
Custer County	C18	RM 177.66	30211	10-yr	2531.5	708.86	704.57	3.21	3.07	49.99	37.84	193.53	270.04	4.05	3.05	4.29	4.29
Custer County	C18	RM 177.49	29932	10-yr	2531.5	708.69	704.47	2.62	2.6	33.13	29.64	236.92	267.45	4.08	3.64	4.22	4.22
Custer County	C19	RM 177.3	29625	10-yr	2531.5	708.54	704.46	2.21	2.2	24.2	23.44	302.47	348.29	3.79	3.67	4.08	4.08
Custer County	C19	RM 177.11	29314	10-yr	2531.5	708.21	704.46	2.5	2.43	27.15	23.74	369.02	435.78	2.74	2.39	3.75	3.75
Custer County	C19	RM 176.93	29040	10-yr	2531.5	708.07	704.42	1.99	1.9	17.79	15.93	436.64	518.34	2.87	2.57	3.65	3.65
Custer County	C19	RM 176.74	28720	10-yr	2531.5	707.91	704.21	1.85	1.74	17.62	14.39	342.3	592.89	3.38	2.76	3.7	3.7
Custer County	C19	RM 176.53	28384	10-yr	2531.5	707.65	703.63	2.06	1.94	23.02	20.29	344.95	514.08	2.87	2.54	4.02	4.02
Custer County	C19	RM 176.36	28109	10-yr	2531.5	707.43	703.08	2.12	2.05	22.48	19.36	324.02	393.02	3.65	3.15	4.35	4.35
Custer County	C19	RM 176.18	27824	10-yr	2531.5	706.72	702.71	3.5	3.3	61.97	46.32	199.69	326.84	3.57	2.66	4.01	4.01
Custer County	C19	RM 176	27527	10-yr	2531.5	706.56	702.51	2.55	2.41	32.3	26.93	259.98	360.63	3.72	3.1	4.05	4.05
Custer County	C19	RM 175.81	27227	10-yr	2531.5	706.32	702.24	2.38	2.3	28.67	25.13	297.33	369.45	3.54	3.1	4.08	4.08
Custer County	C19	RM 175.62	26928	10-yr	2531.5	706.04	701.81	2.58	2.32	32.72	24.69	234.72	420.34	3.84	2.89	4.23	4.23
Custer County	C19	RM 175.43	26622	10-yr	2531.5	705.66	701.81	2.87	2.2	41.94	33.06	214.93	432.2	3.5	2.75	3.85	3.85
Custer County	C19	RM 175.25	26325	10-yr	2531.5	705.31	701.72	2.78	2.52	39.59	30.67	212.23	399.52	3.43	2.65	3.59	3.59
Custer County	C19	RM 175.08	26048	10-yr	2531.5	705.1	701.63	2.21	2.2	25.65	24.96	357.35	387.73	3.19	3.11	3.47	3.47
Custer County	C19	RM 174.9	25768	10-yr	2531.5	704.8	701.31	2.41	2.41	30.7	30.61	337.4	338.28	3.11	3.1	3.49	3.49
Custer County	C19	RM 174.69	25444	10-yr	2531.5	704.46	700.82	2.4	2.36	30.75	26.9	351.06	417.67	3	2.62	3.64	3.64
Custer County	C19	RM 174.49	25112	10-yr	2531.5	704.09	700.04	2.56	2.5	33.17	25.58	279.46	373.37	3.52	2.72	4.05	4.05
Custer County	C19	RM 174.32	24844	10-yr	2531.5	703.68	699.39	2.95	2.86	42.96	30.57	222.49	325.36	3.83	2.72	4.29	4.29
Custer County	C19	RM 174.13	24549	10-yr	2531.5	703.57	698.84	2.3	2.23	24.91	17.21	244.91	368.72	4.46	3.07	4.73	4.73
Custer County	C19	RM 173.94	24238	10-yr	2531.5	703.29	698.14	2.56	2.42	31.48	18.22	239.67	442.99	4.1	2.36	5.15	5.15
Custer County	C19	RM 173.75	23939	10-yr	2531.5	702.92	697.92	3.01	2.56	42.09	19.77	172.39	459.56	4.6	2.15	5	5
Custer County	C19	RM 173.57	23651	10-yr	2531.5	702.76	697.83	2.59	2.46	30.87	17.52	208.71	389.35	4.66	2.64	4.93	4.93
Custer County	C19	RM 173.39	23352	10-yr	2531.5	702.38	697.83	3	2.92	43.22	28.97	202.94	312.71	4.15	2.77	4.55	4.55
Custer County	C19	RM 173.2	23054	10-yr	2531.5	702.13	697.72	2.75	2.53	36.92	29.21	226.21	334	3.96	3.13	4.41	4.41
Custer County	C19	RM 173.02	22756	10-yr	2531.5	701.89	697.29	2.58	2.43	32.49	21.96	244.03	407.4	3.98	2.68	4.6	4.6
Custer County	C19	RM 172.82	22437	10-yr	2531.5	701.73	696.82	2.01	1.99	21.48	19.99	414.44	454.19	3.03	2.82	4.91	4.91
Custer County	C19	RM 172.67	22200	10-yr	2531.5	701.52	696.52	2.12	2.11	24.64	23.98	421.93	438.42	2.81	2.74	5	5
Custer County	C19	RM 172.49	21903	10-yr	2531.5	701.29	696.23	2.07	2.06	22.18	21.49	365.62	384.98	3.33	3.23	5.06	5.06
Custer County	C19	RM 172.29	21585	10-yr	2531.5	700.98	695.79	2.46	2.36	28.28	21.63	226.44	482.11	4.51	3.44	5.19	5.19
Custer County	C19	RM 172.12	21325	10-yr	2531.5	700.33	695.81	3.56	3.54	65.85	59.09	216.31	243.31	3.28	2.94	4.52	4.52
Custer County	C19	RM 171.89	20942	10-yr	2531.5	700.1	695.57	2.57	2.5	31.4	25.99	228.36	285.99	4.29	3.55	4.53	4.53
Custer County	C19	RM 171.71	20638	10-yr	2531.5	699.78	695.49	2.78	2.68	37.82	31.52	231.98	290.45	3.9	3.25	4.29	4.29
Custer County	C19	RM 171.52	20341	10-yr	2531.5	699.58	695.3	2.47	2.42	29.57	26.1	249.92	291.37	4.07	3.59	4.28	4.28
Custer County	C19	RM 171.34	20043	10-yr	2531.5	699.29	695.11	2.62	2.6	33.59	31.07	244.86	312.88	3.93	3.64	4.18	4.18
Custer County	C19	RM 171.15	19745	10-yr	2531.5	699.07	694.86	2.51	2.5	30.44	29.58	249.21	257.02	4.05	3.94	4.21	4.21
Custer County	C19	RM 170.96	19437	10-yr	2531.5	698.86	694.67	2.4	2.39	28.06	26.16	261.96	285.94	4.02	3.74	4.19	4.19
Custer County	C19	RM 170.78	19143	10-yr	2531.5	698.62	694.2	2.49	2.42	29.74	25.22	245.9	299.64	4.12	3.49	4.42	4.42
Custer County	C19	RM 170.58	18838	10-yr	2531.5	698.33	693.91	2.65	2.58	34.45	30.76	245.35	284.39	3.86	3.45	4.42	4.42
Custer County	C19	RM 170.4	18543	10-yr	2531.5	698.16	693.9	2.3	2.29	25.51	24.81	269.24	278.05	4.08	3.98	4.26	4.26

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	10-yr	2531.5	697.99	693.7	2.24	2.23	24.22	22.81	272.95	292.29	4.13	3.89	4.29	4.29
Custer County	C19	RM 170.03	17941	10-yr	2531.5	697.7	693.31	2.54	2.53	30.75	30.3	237.46	241.3	4.2	4.14	4.39	4.39
Custer County	C19	RM 169.84	17641	10-yr	2531.5	697.45	692.78	2.63	2.63	32.48	32.25	214.88	216.29	4.48	4.45	4.67	4.67
Custer County	C19	RM 169.65	17341	10-yr	2531.5	697.17	692.47	2.77	2.76	35.92	35.03	203.97	209.65	4.48	4.37	4.7	4.7
Custer County	C19	RM 169.47	17041	10-yr	2531.5	696.87	692.17	2.9	2.78	39.97	32.51	199.81	260.85	4.3	3.49	4.7	4.7
Custer County	C19	RM 169.28	16732	10-yr	2531.5	696.64	692	2.68	2.56	34.06	26.68	214.83	291.66	4.34	3.39	4.64	4.64
Custer County	C19	RM 169.09	16441	10-yr	2531.5	696.39	691.96	2.68	2.67	34.32	33.21	225.9	256.8	4.18	4.05	4.43	4.43
Custer County	C19	RM 168.91	16152	10-yr	2531.5	696.12	691.93	2.72	2.7	35.83	32.55	230.07	255.8	4.04	3.67	4.19	4.19
Custer County	C19	RM 168.72	15846	10-yr	2531.5	695.97	691.82	2.26	2.26	24.89	24.48	280.43	285.38	3.99	3.92	4.15	4.15
Custer County	C19	RM 168.51	15500	10-yr	2531.5	695.75	691.6	2.23	2.19	24.59	22.86	296.39	327.85	3.8	3.53	4.15	4.15
Custer County	C19	RM 168.35	15241	10-yr	2531.5	695.48	691.48	2.51	2.38	31.45	26.93	269.3	336.42	3.7	3.17	4	4
Custer County	C19	RM 168.15	14931	10-yr	2531.5	695.11	691.2	2.77	2.6	38.17	29.44	240.34	339.48	3.72	2.86	3.91	3.91
Custer County	C19	RM 167.97	14639	10-yr	2531.5	694.9	690.59	2.5	2.49	30.1	28.61	247.71	261.07	4.09	3.89	4.31	4.31
Custer County	C19	RM 167.79	14340	10-yr	2531.5	694.67	690.5	2.49	2.48	30.06	28.95	249.29	350.7	4.07	3.92	4.17	4.17
Custer County	C19	RM 167.61	14054	10-yr	2531.5	694.34	690.42	2.75	2.73	37.64	35.87	244.91	259.75	3.75	3.57	3.92	3.92
Custer County	C19	RM 167.41	13735	10-yr	2531.5	694.11	690.14	2.47	2.24	30.25	21.5	264.94	422.12	3.76	2.67	3.97	3.97
Custer County	C19	RM 167.22	13433	10-yr	2531.5	693.91	689.79	2.3	2.22	25.68	20.03	276.96	369.93	3.96	3.08	4.12	4.12
Custer County	C19	RM 167.04	13143	10-yr	2531.5	693.73	689.14	2.27	2.15	24.48	19.97	256.62	363.85	4.3	3.51	4.59	4.59
Custer County	C19	RM 166.85	12847	10-yr	2531.5	693.39	688.98	2.73	2.57	37.08	29.8	240.01	344.57	3.77	3.03	4.41	4.41
Custer County	C19	RM 166.67	12552	10-yr	2531.5	693.17	688.84	2.49	2.45	30.04	23.06	252.35	335.15	4.02	3.08	4.33	4.33
Custer County	C19	RM 166.52	12319	10-yr	2531.5	693.08	688.64	2.12	2.09	21.28	18.98	278.87	316.54	4.28	3.82	4.44	4.44
Custer County	C19	RM 166.31	11978	10-yr	2531.5	692.82	688.02	2.4	2.3	26.52	17.97	249.27	386.13	4.22	2.86	4.8	4.8
Custer County	C20	RM 166.2	11806	10-yr	2534.4	692.68	687.4	2.48	2.35	28.96	18.95	229.93	374.71	4.42	2.88	5.28	5.28
Custer County	C20	RM 166.06	11569	10-yr	2534.4	692.45	687.38	2.66	2.55	34.57	23.42	239.53	371.81	3.95	2.67	5.07	5.07
Custer County	C20	RM 165.92	11350	10-yr	2534.4	692.19	687.38	2.82	2.69	39.1	26.43	229.76	360.42	3.89	2.61	4.81	4.81
Custer County	C20	RM 165.73	11039	10-yr	2534.4	692.01	687.26	2.37	2.32	27.25	22.11	264.5	333.69	4.03	3.27	4.75	4.75
Custer County	C20	RM 165.55	10750	10-yr	2534.4	691.81	687.11	2.33	2.29	26.54	23.1	272.34	319.47	3.98	3.46	4.7	4.7
Custer County	C20	RM 165.35	10440	10-yr	2534.4	691.61	686.75	2.31	2.25	26.09	21.79	279.36	346.84	3.9	3.25	4.85	4.85
Custer County	C20	RM 165.17	10140	10-yr	2534.4	691.42	686.41	2.31	2.18	25.38	19.13	247.1	360.06	4.29	3.23	5.01	5.01
Custer County	C20	RM 165.01	9883	10-yr	2534.4	691.25	686.16	2.31	2.23	25.7	20.44	262.27	345.53	4.14	3.29	5.09	5.09
Custer County	C20	RM 164.81	9577	10-yr	2534.4	691.08	686.04	2.2	2.07	23.61	17.16	284.5	424.69	3.99	2.89	5.04	5.04
Custer County	C20	RM 164.61	9252	10-yr	2534.4	690.95	685.8	1.87	1.69	15.51	11.49	374.23	575.18	3.53	2.6	5.15	5.15
Custer County	C20	RM 164.42	8945	10-yr	2534.4	690.8	685.78	1.87	1.87	15.35	15.15	416.56	430.6	3.25	3.21	5.02	5.02
Custer County	C20	RM 164.23	8641	10-yr	2534.4	690.68	685.85	1.69	1.69	16.47	16.28	452.11	469.16	3.31	3.28	4.83	4.83
Custer County	C20	RM 164.06	8372	10-yr	2534.4	690.55	685.64	1.81	1.67	15.08	11.59	294.56	457.11	4.68	3.59	4.91	4.91
Custer County	C20	RM 163.85	8031	10-yr	2534.4	690.38	685	1.98	1.93	18.26	14.36	277.99	365.8	4.58	3.59	5.38	5.38
Custer County	C20	RM 163.67	7743	10-yr	2534.4	690.14	684.45	2.44	2.43	26.23	25.47	191.84	198.34	5.41	5.26	5.69	5.69
Custer County	C20	RM 163.48	7449	10-yr	2534.4	689.81	684.13	2.92	2.9	37.76	35.41	162.29	174.6	5.34	5.01	5.68	5.68
Custer County	C20	RM 163.3	7150	10-yr	2534.4	689.72	684.13	2.42	2.36	26.31	23.62	204.93	234.87	5.09	4.57	5.59	5.59
Custer County	C20	RM 163.12	6859	10-yr	2534.4	689.66	683.91	1.98	1.89	18.42	15.53	267.05	338.91	4.7	3.96	5.75	5.75
Custer County	C20	RM 162.94	6583	10-yr	2534.4	689.44	683.78	2.37	2.17	25.17	17.13	204.74	336.66	5.13	3.47	5.66	5.66
Custer County	C20	RM 162.74	6254	10-yr	2534.4	689.02	683.77	3.02	2.8	42.5	27.26	177.33	306.65	4.65	2.95	5.25	5.25
Custer County	C20	RM 162.55	5957	10-yr	2534.4	688.8	683.96	2.7	2.67	37.75	34.88	231.24	253.06	4.05	3.75	4.84	4.84
Custer County	C20	RM 162.34	5620	10-yr	2534.4	688.68	683.92	2.03	1.99	19.85	17.11	304.55	363.3	4.08	3.51	4.76	4.76
Custer County	C20	RM 162.18	5352	10-yr	2534.4	688.56	683.41	1.82	1.81	25.89	25.34	354.23	363.47	3.92	3.84	5.15	5.15
Custer County	C20	RM 162.03	5111	10-yr	2534.4	688.46	683.26	1.73	1.72	14.08	13.86	322.26	345.8	4.55	4.48	5.2	5.2
Custer County	C20	RM 161.81	4770	10-yr	2534.4	687.97	682.63	2.96	2.88	39.82	31.59	174.77	227.41	4.89	3.87	5.34	5.34
Custer County	C20	RM 161.62	4470	10-yr	2534.4	687.7	682.53	3.02	2.68	42.51	32.15	174.2	356.4	4.62	3.48	5.17	5.17
Custer County	C20	RM 161.43	4159	10-yr	2534.4	687.47	682.63	2.74	2.63	35.21	26.94	206.33	283.95	4.45	3.39	4.84	4.84
Custer County	C20	RM 161.24	3859	10-yr	2534.4	687.17	682.51	2.89	2.69	39.49	27.68	199.39	312.85	4.32	3.01	4.66	4.66
Custer County	C20	RM 161.06	3559	10-yr	2534.4	686.96	682.38	2.63	2.47	32.83	23.44	218.97	331.57	4.35	3.09	4.58	4.58
Custer County	C20	RM 160.87	3258	10-yr	2534.4	686.57	682.24	2.99	2.9	43.14	33.89	204.8	271.44	4.11	3.22	4.33	4.33
Custer County	C20	RM 160.68	2952	10-yr	2534.4	686.42	682.11	2.42	2.4	28.16	25.67	252.16	279.97	4.14	3.78	4.3	4.3
Custer County	C20	RM 160.5	2662	10-yr	2534.4	686.23	681.85	2.29	2.28	26.27	24.14	303.02	332.01	3.65	3.35	4.38	4.38
Custer County	C20	RM 160.31	2364	10-yr	2534.4	686.04	681.58	2.15	2.09	23.19	20.32	321.4	380.52	3.63	3.19	4.46	4.46
Custer County	C20	RM 160.12	2063	10-yr	2534.4	685.86	681.02	2.16	2.08	22.41	19.61	277.19	335.03	4.16	3.64	4.84	4.84
Custer County	C20	RM 159.93	1758	10-yr	2534.4	685.57	680.9	2.45	2.4	30.59	27.32	292.2	352.02	3.51	3.13	4.67	4.67
Custer County	C20	RM 159.75	1459	10-yr	2534.4	685.33	680.88	2.46	2.42	29.18	25.66	251.96	302.15	4.08	3.58	4.45	4.45
Custer County	C20	RM 159.55	1151	10-yr	2534.4	685.13	680.74	2.34	2.32	26.33	24.61	261.92	294.45	4.12	3.86	4.39	4.39
Custer County	C20	RM 159.38	876	10-yr	2534.4	684.89	680.37	2.54	2.4	30.59	22.41	229.23	334.4	4.31	3.16	4.52	4.52

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	10-yr	2534.4	684.7	679.77	2.41	2.41	27.89	27.27	236.5	242.25	4.44	4.35	4.93	4.93
Custer County	C20	RM 158.98	229	10-yr	2534.4	684.42	679.44	2.59	2.55	31.4	28.95	217.29	240.9	4.48	4.13	4.98	4.98

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	10-yr	2540	684.42	679.22	2.54	2.46	29.81	25.33	214.16	261.89	4.64	3.94	5.2	5.2
Prairie County	C21	RM 158.55	61087	10-yr	2540	684.3	678.98	2.23	2.22	22.38	21.8	226.29	268.91	5.03	4.91	5.32	5.32
Prairie County	C21	RM 158.36	60787	10-yr	2540	684.18	678.83	2.14	2.13	21.12	20.06	249.45	291.75	4.75	4.5	5.35	5.35
Prairie County	C21	RM 158.17	60481	10-yr	2540	684.01	678.35	2.2	2.15	24.59	21.29	253.18	343.69	4.54	3.92	5.66	5.66
Prairie County	C21	RM 157.98	60173	10-yr	2540	683.7	678.22	2.61	2.54	32.58	28.17	231.17	303.71	4.18	3.61	5.48	5.48
Prairie County	C21	RM 157.78	59862	10-yr	2540	683.44	678.23	2.67	2.5	33.06	24.88	201.99	346.58	4.61	3.46	5.21	5.21
Prairie County	C21	RM 157.6	59561	10-yr	2540	683.34	678.14	2.23	2.14	22.83	18.28	233.85	309.01	4.81	3.84	5.2	5.2
Prairie County	C21	RM 157.38	59209	10-yr	2540	683.2	677.81	2.04	1.89	19.99	15.82	288.08	416.88	4.13	3.26	5.39	5.39
Prairie County	C21	RM 157.18	58885	10-yr	2540	683.05	677.42	2.06	1.74	19.44	12.08	235.66	512.61	4.8	2.96	5.63	5.63
Prairie County	C21	RM 156.99	58595	10-yr	2540	682.8	677.32	2.59	2.03	30.57	17.4	173.83	453.05	4.9	2.76	5.48	5.48
Prairie County	C21	RM 156.8	58287	10-yr	2540	682.35	677.32	3.27	2.58	50.28	31.06	149.83	356.62	4.52	2.76	5.03	5.03
Prairie County	C21	RM 156.62	57990	10-yr	2540	682.26	677.29	2.4	2.26	26.89	21.33	207.6	310.44	4.57	3.62	4.97	4.97
Prairie County	C21	RM 156.42	57683	10-yr	2540	682.14	677.21	2.07	1.97	20.07	16.75	271.12	345.42	4.48	3.73	4.93	4.93
Prairie County	C21	RM 156.24	57378	10-yr	2540	681.86	676.91	2.49	2.36	29.83	24.13	245.34	323.46	4.12	3.32	4.95	4.95
Prairie County	C21	RM 156.04	57069	10-yr	2540	681.7	676.56	2.3	2.16	24.04	14.97	226.07	390.67	4.85	3.01	5.14	5.14
Prairie County	C21	RM 155.85	56762	10-yr	2540	681.43	676.11	2.61	2.41	31.53	19.94	204.32	357.98	4.69	2.95	5.32	5.32
Prairie County	C21	RM 155.66	56455	10-yr	2540	681.02	675.96	3.12	2.77	45.78	28.08	177.2	337.35	4.48	2.72	5.06	5.06
Prairie County	C21	RM 155.47	56151	10-yr	2540	680.9	675.89	2.37	2.2	27.23	19.22	257.44	401.15	4.09	2.87	5.01	5.01
Prairie County	C21	RM 155.27	55835	10-yr	2540	680.71	675.92	2.2	2.18	24.26	22.55	317.77	344.54	3.63	3.38	4.79	4.79
Prairie County	C21	RM 155.08	55530	10-yr	2540	680.48	675.95	2.28	2.25	25.78	23.92	296.49	323.39	3.75	3.48	4.53	4.53
Prairie County	C21	RM 154.88	55209	10-yr	2540	680.28	675.64	2.17	2.17	22.69	22.36	300.68	305.15	3.89	3.84	4.64	4.64
Prairie County	C21	RM 154.69	54901	10-yr	2540	679.97	675.39	2.53	2.5	31.77	29.25	264.93	302.19	3.77	3.47	4.58	4.58
Prairie County	C21	RM 154.5	54588	10-yr	2540	679.72	675.02	2.48	2.46	30.08	28.49	257.32	275.2	3.96	3.76	4.7	4.7
Prairie County	C21	RM 154.3	54273	10-yr	2540	679.52	674.8	2.32	2.31	26.3	25.5	277.5	287.47	3.94	3.83	4.72	4.72
Prairie County	C21	RM 154.1	53959	10-yr	2540	679.26	674.67	2.43	2.39	29	25.9	269.5	308.21	3.86	3.45	4.59	4.59
Prairie County	C21	RM 153.91	53650	10-yr	2540	679.08	674.51	2.26	2.24	24.24	22.22	260.55	288.05	4.3	3.94	4.57	4.57
Prairie County	C21	RM 153.72	53338	10-yr	2540	678.85	674.06	2.45	2.27	28.22	19.7	225.99	359.13	4.48	3.12	4.79	4.79
Prairie County	C21	RM 153.52	53023	10-yr	2540	678.45	673.78	2.94	2.68	42.24	32.05	206.24	316.58	3.95	2.99	4.67	4.67
Prairie County	C21	RM 153.32	52704	10-yr	2540	678.16	673.64	2.67	2.64	35.07	31.83	249.02	295.08	3.82	3.46	4.52	4.52
Prairie County	C21	RM 153.12	52380	10-yr	2540	677.99	673.43	2.27	2.24	24.7	21.19	270.43	363.33	4.13	3.54	4.56	4.56
Prairie County	C21	RM 152.92	52065	10-yr	2540	677.8	672.88	2.24	2.21	23.63	20.35	270.87	404.35	4.19	3.6	4.92	4.92
Prairie County	C21	RM 152.73	51762	10-yr	2540	677.62	672.27	2.26	2.2	24.32	21.16	271.58	327.24	4.13	3.59	5.35	5.35
Prairie County	C21	RM 152.54	51463	10-yr	2540	677.42	671.85	2.31	2.23	25.28	21.1	251.98	315.65	4.34	3.61	5.57	5.57
Prairie County	C21	RM 152.35	51157	10-yr	2540	677.27	671.41	2.25	2.24	23	22.03	229.76	241.19	4.92	4.71	5.86	5.86
Prairie County	C21	RM 152.16	50852	10-yr	2540	677.13	671.23	2.14	2.09	21.51	18.94	268.26	314.02	4.41	3.88	5.9	5.9
Prairie County	C21	RM 151.97	50546	10-yr	2540	677.01	670.99	2.04	1.89	17.28	14.52	284.09	382.42	4.2	3.52	6.02	6.02
Prairie County	C21	RM 151.77	50227	10-yr	2540	676.9	670.87	2.02	1.76	17.93	12	204.89	398.51	5.47	3.63	6.03	6.03
Prairie County	C21	RM 151.59	49936	10-yr	2540	676.54	670.75	2.9	2.53	38	22.48	152.18	336.47	5.13	2.99	5.79	5.79
Prairie County	C21	RM 151.38	49599	10-yr	2540	676.38	670.9	2.48	2.31	27.82	21.64	199.41	317.38	5	3.88	5.48	5.48
Prairie County	C21	RM 151.19	49287	10-yr	2540	676.25	670.96	2.25	2.2	22.86	19.91	226.6	273.03	4.97	4.33	5.29	5.29
Prairie County	C21	RM 151.01	49012	10-yr	2540	676.14	670.91	2.06	2.05	21.2	20.73	288.76	319.92	4.28	4.18	5.23	5.23
Prairie County	C21	RM 150.81	48683	10-yr	2540	676.05	670.79	1.69	1.68	12.62	12.43	428.92	437	3.5	3.45	5.26	5.26
Prairie County	C21	RM 150.63	48400	10-yr	2826	675.95	670.45	1.71	1.68	13.01	12.31	405.47	444.38	4.06	3.83	5.5	5.5
Prairie County	C21	RM 150.44	48094	10-yr	2826	675.74	669.86	2.15	2.05	21.08	18.59	273.64	337.68	4.69	4.14	5.88	5.88
Prairie County	C21	RM 150.25	47780	10-yr	2826	675.2	669.38	3.25	3.1	54.91	42.58	166.06	235.42	5.16	3.98	5.82	5.82
Prairie County	C21	RM 150.05	47474	10-yr	2826	675.1	669.21	2.57	2.55	29.15	26.48	204.16	226.99	5.38	4.89	5.89	5.89
Prairie County	C21	RM 149.87	47178	10-yr	2826	674.97	669.02	2.33	2.26	25.55	21.83	269.57	327.47	4.48	3.81	5.95	5.95
Prairie County	C21	RM 149.66	46846	10-yr	2826	674.85	668.97	2	1.94	17.54	14.89	331.18	405.55	4.25	3.6	5.88	5.88
Prairie County	C21	RM 149.48	46551	10-yr	2826	674.53	668.91	2.58	2.42	32.02	20.86	261.52	522.91	4.15	2.69	5.63	5.63
Prairie County	C21	RM 149.27	46219	10-yr	2826	674.34	668.94	2.48	2.04	28.51	16.5	208.49	655.65	4.54	2.6	5.4	5.4
Prairie County	D1	RM 149.08	45914	10-yr	2826	674.13	668.95	2.39	2.24	26.55	17.79	254.75	477.23	4.58	3.06	5.18	5.18
Prairie County	D1	RM 148.89	45608	10-yr	2828.9	674.05	668.96	1.96	1.95	17.84	17.34	314.73	420.88	4.58	4.46	5.09	5.09
Prairie County	D1	RM 148.7	45301	10-yr	2828.9	673.91	668.73	1.98	1.96	19.23	18.08	347.94	375.92	4.09	3.84	5.18	5.18
Prairie County	D1	RM 148.5	44987	10-yr	2828.9	673.65	668.42	2.4	2.16	26.25	20.25	235.13	352	4.83	3.72	5.23	5.23
Prairie County	D1	RM 148.3	44667	10-yr	2828.9	673.3	668.01	2.88	2.58	37.57	26.86	193.35	312.78	4.92	3.51	5.29	5.29
Prairie County	D1	RM 148.11	44353	10-yr	2828.9	673.16	667.73	2.49	2.37	28.16	23.99	230.09	298.7	4.87	4.15	5.43	5.43
Prairie County	D1	RM 147.93	44062	10-yr	2828.9	673.05	667.4	2.14	2.13	21.71	20.87	306.12	320.89	4.31	4.15	5.65	5.65
Prairie County	D1	RM 147.74	43761	10-yr	2828.9	672.92	667.21	2.1	1.93	21.48	17.11	251.8	399.24	4.62	3.67	5.71	5.71
Prairie County	D1	RM 147.55	43454	10-yr	2828.9	672.72	666.79	2.39	2.14	25.72	18.39	197.43	363.73	5.11	3.63	5.93	5.93
Prairie County	D1	RM 147.34	43128	10-yr	2828.9	672.51	666.46	2.6	2.28	30.01	19.65	173.86	363.28	5.3	3.42	6.05	6.05

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	10-yr	2828.9	672.31	666.42	2.65	2.34	31.81	22.85	178.57	338.93	5.01	3.57	5.89	5.89
Prairie County	D1	RM 146.96	42505	10-yr	2828.9	672	666.49	2.85	2.75	36.25	31.02	187.33	239.56	5.23	4.47	5.51	5.51
Prairie County	D1	RM 146.77	42199	10-yr	2828.9	671.87	666.48	2.47	2.47	27.4	27.06	225.21	227.88	5.09	5.04	5.39	5.39
Prairie County	D1	RM 146.58	41899	10-yr	2828.9	671.81	666.59	2	2	18.4	18.03	296.32	302.78	4.77	4.68	5.22	5.22
Prairie County	D1	RM 146.32	41487	10-yr	2828.9	671.57	666.62	2.18	2.15	22.43	20.97	325.06	352.08	3.99	3.73	4.95	4.95
Prairie County	D1	RM 146	40968	10-yr	2828.9	671.22	666.48	2.31	2.29	26.38	25.03	277.27	295.05	4.4	4.18	4.74	4.74
Prairie County	D1	RM 145.65	40420	10-yr	2828.9	670.84	665.52	2.45	2.42	29.53	26.51	247.14	280.4	4.65	4.17	5.32	5.32
Prairie County	D1	RM 145.36	39958	10-yr	2828.9	670.58	664.91	2.3	2.25	26.23	23.28	264.9	307.12	4.61	4.1	5.67	5.67
Prairie County	D1	RM 145.13	39579	10-yr	2828.9	670.4	664.58	2.17	2.14	22.67	20.02	266.31	306.75	4.88	4.31	5.82	5.82
Prairie County	D1	RM 144.92	39251	10-yr	2828.9	670.24	664.24	2.15	2.12	23.05	20.09	272.39	318.27	4.82	4.2	6	6
Prairie County	D1	RM 144.73	38942	10-yr	2828.9	670.06	663.99	2.26	2.18	25.31	20.74	264.25	337.41	4.7	3.84	6.07	6.07
Prairie County	D1	RM 144.56	38672	10-yr	2828.9	669.83	664.1	2.47	2.4	28.99	25.35	265.15	315.35	4.27	3.74	5.73	5.73
Prairie County	D1	RM 144.33	38305	10-yr	2828.9	669.61	664.19	2.45	2.32	27.28	20.89	232.15	326.93	4.89	3.73	5.42	5.42
Prairie County	D1	RM 144.13	37987	10-yr	2828.9	669.5	664.33	2.1	2.04	20.01	17.3	271.37	325.16	4.93	4.27	5.17	5.17
Prairie County	D1	RM 143.91	37637	10-yr	2828.9	669.4	663.96	1.91	1.73	16.65	11.97	299.48	477.47	4.77	3.42	5.44	5.44
Prairie County	D1	RM 143.71	37320	10-yr	2828.9	669.03	663.43	2.76	2.51	34.06	23.13	191.55	322.41	5.19	3.5	5.6	5.6
Prairie County	D1	RM 143.45	36908	10-yr	2828.9	668.58	663.01	3.15	2.99	45.04	34.54	179.26	250.7	4.93	3.77	5.56	5.56
Prairie County	D1	RM 143.21	36511	10-yr	2828.9	668.42	662.92	2.48	2.45	27.61	25.05	224.58	251.41	5.07	4.6	5.5	5.5
Prairie County	D1	RM 142.97	36139	10-yr	2828.9	668.25	662.7	2.35	2.32	24.55	22.84	232.06	252.74	5.19	4.82	5.55	5.55
Prairie County	D1	RM 142.71	35717	10-yr	2828.9	667.73	662.52	3.12	3.12	44.91	44.11	192.1	195.85	4.72	4.63	5.21	5.21
Prairie County	D1	RM 142.46	35322	10-yr	2828.9	667.59	662.36	2.33	2.29	25.08	20.65	254.79	317.81	4.74	3.9	5.23	5.23
Prairie County	D1	RM 142.23	34952	10-yr	2828.9	667.35	662.21	2.47	2.39	27.92	22.02	237.35	313.2	4.8	3.78	5.14	5.14
Prairie County	D1	RM 142.02	34614	10-yr	2828.9	667.15	662.21	2.39	2.24	27.52	22.29	269.68	380.74	4.1	3.31	4.94	4.94
Prairie County	D1	RM 141.8	34258	10-yr	2828.9	667.07	662.01	1.73	1.73	14.23	13.95	393.92	403.4	4.14	4.07	5.06	5.06
Prairie County	D1	RM 141.6	33942	10-yr	2828.9	666.85	661.72	2.12	2.12	19.41	19.22	369.63	373.58	3.61	3.57	5.13	5.13
Prairie County	D1	RM 141.42	33642	10-yr	2828.9	666.78	661.32	1.66	1.66	11.04	10.9	469.29	476.09	3.62	3.58	5.46	5.46
Prairie County	D1	RM 141.22	33325	10-yr	2828.9	666.66	660.91	1.81	1.8	14.98	14.72	326.47	341.13	4.79	4.71	5.75	5.75
Prairie County	D1	RM 141.02	33011	10-yr	2828.9	666.3	660.58	2.69	2.66	31.94	25.79	194.42	244.23	5.4	4.35	5.72	5.72
Prairie County	D1	RM 140.84	32709	10-yr	2828.9	666.2	660.35	2.31	2.3	24.06	21.86	241.98	267.99	5.06	4.59	5.85	5.85
Prairie County	D1	RM 140.64	32394	10-yr	2828.9	666.1	660.07	2.12	2.1	19.55	18.42	239.5	256.72	5.56	5.24	6.03	6.03
Prairie County	D1	RM 140.44	32074	10-yr	2828.9	665.88	659.63	2.42	2.4	26.19	24.25	225.88	246.9	5.16	4.78	6.25	6.25
Prairie County	D1	RM 140.23	31738	10-yr	2828.9	665.57	659.62	2.78	2.76	35.07	33.09	207.01	221.2	4.9	4.64	5.95	5.95
Prairie County	D1	RM 140.03	31420	10-yr	2828.9	665.48	659.59	2.25	2.24	22.74	21.47	253.77	269.48	4.96	4.69	5.89	5.89
Prairie County	D1	RM 139.84	31118	10-yr	2828.9	665.38	659.19	1.98	1.94	18.33	16.81	309.19	346.9	4.58	4.21	6.19	6.19
Prairie County	D1	RM 139.64	30801	10-yr	2828.9	665.21	658.96	2.2	2.01	20.91	13.16	222.13	397.01	5.67	3.55	6.25	6.25
Prairie County	D1	RM 139.44	30466	10-yr	2828.9	665.09	658.72	2.12	1.99	19.91	14.62	250.57	369.4	5.25	3.85	6.37	6.37
Prairie County	D1	RM 139.23	30138	10-yr	2828.9	664.93	658.34	2.22	2.2	24.4	23.33	219.78	231.18	5.8	5.55	6.59	6.59
Prairie County	D1	RM 139.02	29799	10-yr	2828.9	664.55	658.14	2.86	2.79	43.52	36.94	179.74	218.36	5.47	4.64	6.41	6.41
Prairie County	D1	RM 138.81	29470	10-yr	2828.9	664.5	658.11	2.12	2.07	21.93	19.86	219.94	249.25	6.05	5.47	6.39	6.39
Prairie County	D1	RM 138.62	29157	10-yr	2828.9	664.36	657.94	2.23	2.16	21.46	18.76	216.79	259.08	5.8	5.06	6.42	6.42
Prairie County	D1	RM 138.41	28823	10-yr	2828.9	664.13	657.82	2.51	2.44	30.42	26.6	202.45	240.64	5.52	4.82	6.31	6.31
Prairie County	D1	RM 138.22	28519	10-yr	2828.9	663.96	657.8	2.54	2.48	28.06	24.52	198.68	232.48	5.6	4.9	6.16	6.16
Prairie County	D1	RM 138.02	28200	10-yr	2828.9	663.93	657.74	1.92	1.9	16.87	15.83	246.99	266.68	5.96	5.6	6.19	6.19
Prairie County	D1	RM 137.82	27874	10-yr	2828.9	663.8	656.95	2.02	1.97	19.32	16.45	263.32	317.45	5.31	4.51	6.85	6.85
Prairie County	D1	RM 137.62	27552	10-yr	2828.9	663.68	656.75	2.07	1.79	20.72	14.66	234.81	481.68	5.33	3.75	6.93	6.93
Prairie County	D1	RM 137.42	27247	10-yr	2828.9	663.42	656.66	2.48	2.38	29.57	22.53	204.7	285.25	5.5	4.18	6.76	6.76
Prairie County	D1	RM 137.24	26944	10-yr	2828.9	663.25	656.66	2.46	2.42	29.95	24.9	205.46	306.14	5.57	4.62	6.59	6.59
Prairie County	D1	RM 137.04	26627	10-yr	2837.3	663.05	656.5	2.53	2.5	31.31	27.68	208.71	239.37	5.37	4.75	6.55	6.55
Prairie County	D2	RM 136.84	26475	10-yr	2837.3	663.01	656.46	2.3	2.29	24.13	23.53	207.19	212.66	5.96	5.82	6.55	6.55
Prairie County	D2	RM 136.44	26317	10-yr	2837.3	662.99	656.37	2.06	2.04	19.99	17.89	228.7	257.84	6.03	5.39	6.62	6.62
Prairie County	D2	RM 136.23	26001	10-yr	2837.3	662.84	656.19	2.19	2.15	21.98	18.69	246.47	296.91	5.24	4.45	6.65	6.65
Prairie County	D2	RM 136.04	25673	10-yr	2837.3	662.68	656.01	2.29	2.25	22.01	18.57	211.82	290.07	5.83	4.91	6.67	6.67
Prairie County	D2	RM 135.85	25337	10-yr	2837.3	662.42	655.93	2.65	2.64	30.3	29.48	186.08	191.18	5.76	5.62	6.49	6.49
Prairie County	D2	RM 135.66	25033	10-yr	2837.3	662.3	655.91	2.45	2.43	25.91	24.72	202.14	245.49	5.73	5.47	6.39	6.39
Prairie County	D2	RM 135.46	24715	10-yr	2837.3	662.14	655.86	2.46	2.42	31.47	26.27	199.11	243.24	5.77	4.82	6.28	6.28
Prairie County	D2	RM 135.24	24417	10-yr	2837.3	662.07	655.68	2.05	2.03	21.23	19.64	229.44	250.18	6.04	5.59	6.39	6.39
Prairie County	D2	RM 135	24090	10-yr	2837.3	661.91	655.56	2.16	2.13	22.91	20.72	246.98	278.19	5.3	4.79	6.35	6.35
Prairie County	D2	RM 134.78	23742	10-yr	2837.3	661.75	655.36	2.19	2.16	23.35	19.24	223.84	302.81	5.78	4.76	6.39	6.39
Prairie County	D2	RM 134.58	23351	10-yr	2837.3	661.43	655.29	2.64	2.61	36.1	33.21	189.75	226.63	5.66	5.2	6.14	6.14
Prairie County	D2	RM 134.39	23000	10-yr	2837.3	661.23	655.24	2.49	2.43	32.37	28.99	216.99	250.11	5.22	4.67	5.99	5.99

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	10-yr	2837.3	661.1	655.11	2.2	2.1	22.24	19.45	263.97	583.16	4.81	4.2	5.99	5.99
Prairie County	D2	RM 133.99	22372	10-yr	2837.3	660.97	654.97	2.13	2.08	20.21	17.44	264.94	317.73	4.99	4.3	6	6
Prairie County	D2	RM 133.79	22053	10-yr	2837.3	660.74	655	2.44	2.31	26.84	20.43	226.1	318.66	5.07	3.85	5.74	5.74
Prairie County	D2	RM 133.59	21733	10-yr	2837.3	660.6	654.96	2.31	2.27	24.09	21.3	247	285.03	4.97	4.39	5.64	5.64
Prairie County	D2	RM 133.41	21417	10-yr	2837.3	660.48	654.78	2.16	2.1	20.86	16.69	254.87	328.5	5.14	4.1	5.7	5.7
Prairie County	D2	RM 133.21	21104	10-yr	2837.3	660.28	654.64	2.37	2.28	25.14	20.43	229.84	311.29	5.16	4.19	5.64	5.64
Prairie County	D2	RM 133.02	20811	10-yr	2837.3	660.15	654.53	2.28	2.22	23.33	19.8	246.2	326.5	5.04	4.27	5.62	5.62
Prairie County	D2	RM 132.83	20491	10-yr	2837.3	660.01	654.29	2.22	2.11	22.59	17.37	262.67	365.92	4.78	3.67	5.72	5.72
Prairie County	D2	RM 132.63	20184	10-yr	2837.3	659.89	654.04	2.14	1.95	20.89	15.7	254.86	401.6	4.83	3.62	5.84	5.84
Prairie County	D2	RM 132.42	19875	10-yr	2837.3	659.68	653.98	2.35	2.19	24.47	17.83	221.68	339.47	5.24	3.81	5.7	5.7
Prairie County	D2	RM 132.23	19553	10-yr	2837.3	659.61	653.88	2	1.86	17.63	13.47	257.21	374.6	5.33	4.07	5.73	5.73
Prairie County	D2	RM 132.02	19225	10-yr	2837.3	659.38	653.63	2.34	2.24	24.85	20.6	246.63	313.93	4.89	4.04	5.75	5.75
Prairie County	D2	RM 131.81	18910	10-yr	2837.3	659.16	653.37	2.5	2.38	28.34	22.8	226.33	298.91	4.97	3.99	5.79	5.79
Prairie County	D2	RM 131.58	18573	10-yr	2837.3	659.07	653.02	2.14	2.06	19.91	17.22	238.03	305.86	5.55	4.8	6.05	6.05
Prairie County	D2	RM 131.38	18237	10-yr	2837.3	658.91	652.75	2.27	2.15	22.51	19.68	212.37	269.55	5.58	4.89	6.16	6.16
Prairie County	D2	RM 131.18	17875	10-yr	2837.3	658.64	652.49	2.58	2.53	29.72	25.88	209.79	246.88	5.22	4.54	6.15	6.15
Prairie County	D2	RM 130.98	17548	10-yr	2837.3	658.43	652.34	2.63	2.53	30.55	25.71	197.09	246.34	5.41	4.55	6.09	6.09
Prairie County	D2	RM 130.78	17227	10-yr	2837.3	658.31	652.27	2.39	2.25	25.15	17.99	216.24	339.01	5.43	3.86	6.04	6.04
Prairie County	D2	RM 130.59	16914	10-yr	2837.3	658.23	652.16	2.07	2	18.57	15.49	239.07	300.03	5.69	4.74	6.07	6.07
Prairie County	D2	RM 130.39	16588	10-yr	2837.3	658.02	651.95	2.38	2.38	24.75	24.24	212.42	216.82	5.6	5.5	6.07	6.07
Prairie County	D2	RM 130.19	16280	10-yr	2837.3	657.85	651.81	2.46	2.46	27.08	26.45	219.93	238.65	5.23	5.11	6.04	6.04
Prairie County	D2	RM 130	15965	10-yr	2837.3	657.75	651.57	2.19	2.19	21.24	20.85	244.4	263.7	5.3	5.21	6.18	6.18
Prairie County	D2	RM 129.81	15649	10-yr	2837.3	657.63	651.47	2.13	2.1	19.59	17.96	235.14	274.46	5.66	5.19	6.16	6.16
Prairie County	D2	RM 129.62	15337	10-yr	2837.3	657.44	651.34	2.38	2.23	25.04	17.68	216.64	335.01	5.41	3.8	6.1	6.1
Prairie County	D2	RM 129.43	15031	10-yr	2837.3	657.33	651.21	2.24	2.21	21.97	19.77	227.37	256.85	5.55	4.99	6.12	6.12
Prairie County	D2	RM 129.24	14724	10-yr	2874.2	657.12	651.06	2.48	2.45	27.52	24.77	222.31	296.83	5.2	4.68	6.06	6.06
Prairie County	D2	RM 129.04	14417	10-yr	2874.2	656.9	651.06	2.63	2.59	30.97	28.03	209.54	281.82	5.19	4.71	5.84	5.84
Prairie County	D2	RM 128.82	14112	10-yr	2874.2	656.7	651.05	2.66	2.63	31.6	29.32	209.12	300.58	5.16	4.8	5.65	5.65
Prairie County	D2	RM 128.62	13798	10-yr	2874.2	656.57	651.08	2.4	2.39	25.59	24.9	228.13	352.82	5.25	5.12	5.49	5.49
Prairie County	D2	RM 128.41	13446	10-yr	2874.2	656.42	651.07	2.26	2.22	23	20.18	255.09	296.9	4.98	4.37	5.35	5.35
Prairie County	D2	RM 128.21	13125	10-yr	2874.2	656.26	650.98	2.3	2.17	23.93	18.35	246.55	347.71	4.99	3.82	5.28	5.28
Prairie County	D2	RM 127.98	12790	10-yr	2874.2	656.1	650.84	2.27	2.22	23.2	17.71	250.67	337.27	5.04	3.84	5.26	5.26
Prairie County	D2	RM 127.75	12473	10-yr	2874.2	655.99	650.59	2.05	2.02	19.15	15.26	287.96	366.63	4.87	3.87	5.4	5.4
Prairie County	D2	RM 127.55	12112	10-yr	2874.2	655.85	650.35	2.03	1.97	18.72	16.08	287.38	346.73	4.9	4.2	5.5	5.5
Prairie County	D2	RM 127.27	11729	10-yr	2874.2	655.69	649.95	2.06	2.03	19.14	16.85	277.2	319.81	5.02	4.42	5.74	5.74
Prairie County	D2	RM 126.97	11415	10-yr	2874.2	655.45	649.68	2.45	2.41	26.89	23.97	226.77	265.97	5.15	4.59	5.77	5.77
Prairie County	D2	RM 126.71	10962	10-yr	2874.2	655.21	649.49	2.45	2.44	26.62	25.33	218.29	245.99	5.36	5.11	5.72	5.72
Prairie County	D2	RM 126.43	10478	10-yr	2874.2	655.08	649.32	1.98	1.97	17.39	16.01	275.96	301.4	5.26	4.85	5.76	5.76
Prairie County	D2	RM 126.42	10074	10-yr	2874.2	654.83	649.05	2.32	2.28	24.51	21.34	249.83	293.68	4.93	4.29	5.78	5.78
Prairie County	D2	RM 126.41	9625	10-yr	2874.2	654.57	648.27	2.45	2.35	26.46	20.34	220.07	301.56	5.29	4.06	6.3	6.3
Prairie County	D3	RM 126.38	9533	10-yr	2874.2	654.52	648.27	2.47	2.38	27.17	21.21	220.07	295.63	5.23	4.08	6.24	6.24
Prairie County	D3	RM 126.22	9286	10-yr	2874.2	654.44	648.8	2.22	2.22	22.01	21.61	246.62	265.45	5.24	5.15	5.64	5.64
Prairie County	D3	RM 126.03	8974	10-yr	2874.2	654.33	648.71	2.08	2.06	19.47	18.66	269.32	288.64	5.11	4.91	5.62	5.62
Prairie County	D3	RM 125.82	8648	10-yr	2874.2	654.2	648.36	2.09	2.08	19.85	19.44	282.4	322.03	4.87	4.78	5.84	5.84
Prairie County	D3	RM 125.63	8335	10-yr	2874.2	654.08	648.12	2.06	2.03	18.83	17.6	259.94	283.45	5.34	4.99	5.96	5.96
Prairie County	D3	RM 125.43	8020	10-yr	2874.2	653.9	647.8	2.31	2.15	23.25	15.92	217.06	348.08	5.63	3.84	6.1	6.1
Prairie County	D3	RM 125.24	7711	10-yr	2874.2	653.81	647.26	2.12	2	19.04	12.94	226.37	357.94	5.94	4.01	6.55	6.55
Prairie County	D3	RM 125.05	7403	10-yr	2874.2	653.66	647.23	2.28	2.14	22.2	15.04	209.96	335.81	5.94	4	6.43	6.43
Prairie County	D3	RM 124.83	7059	10-yr	2874.2	653.55	647.25	2.13	2.08	19.65	17.66	237.41	304.66	5.66	5.09	6.3	6.3
Prairie County	D3	RM 124.62	6712	10-yr	2874.2	653.43	647.25	2.1	2.06	19.53	16.68	257.84	308.91	5.29	4.52	6.18	6.18
Prairie County	D3	RM 124.41	6375	10-yr	2874.2	653.2	647.27	2.44	2.2	26.66	13.76	221.62	718.4	5.19	2.66	5.93	5.93
Prairie County	D3	RM 124.15	5960	10-yr	2874.2	652.94	647.27	2.53	2.31	29.13	14.87	232.47	598.17	4.84	2.45	5.67	5.67
Prairie County	D3	RM 123.94	5627	10-yr	2874.2	652.58	647.27	2.93	2.54	39.47	18.96	199.91	496.1	4.78	2.28	5.31	5.31
Prairie County	D3	RM 123.74	5312	10-yr	2874.2	652.33	647.25	2.87	2.56	37.74	19.84	206.88	450.06	4.78	2.49	5.08	5.08
Prairie County	D3	RM 123.56	5014	10-yr	2874.2	652.36	647.24	1.82	1.62	14.98	7.48	311.23	711.72	5	2.49	5.12	5.12
Prairie County	D3	RM 123.24	4500	10-yr	2874.2	652.21	647.19	1.14	1.14	16.12	16.06	934.44	938.44	2.7	2.7	5.02	5.02
Prairie County	D3	RM 122.99	4116	10-yr	2874.2	652.04	646.67	1.37	1.33	8.78	8.13	527.26	589.93	3.95	3.66	5.37	5.37
Prairie County	D3	RM 122.76	3746	10-yr	2874.2	651.9	646.22	1.68	1.67	12.95	12.35	362.48	383.15	4.72	4.5	5.68	5.68
Prairie County	D3	RM 122.55	3414	10-yr	2874.2	651.66	645.7	2.23	2.22	21.96	21.31	242.74	250.95	5.32	5.17	5.96	5.96
Prairie County	D3	RM 122.3	3012	10-yr	2874.2	651.36	645.57	2.6	2.56	30.36	24.65	214.39	326.83	5.14	4.17	5.79	5.79

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	10-yr	2874.2	651.17	645.49	2.44	2.39	26.73	23.09	240.65	323.19	4.89	4.22	5.68	5.68
Prairie County	D3	RM 121.88	2338	10-yr	2874.2	651.02	645.42	2.33	2.29	24.27	21.22	244.44	335.23	5.03	4.39	5.6	5.6
Prairie County	D3	RM 121.66	1982	10-yr	2874.2	650.79	645.3	2.49	2.45	27.63	25.25	226.93	253.18	5.07	4.63	5.49	5.49
Prairie County	D3	RM 121.46	1651	10-yr	2874.2	650.62	645.06	2.41	2.38	26.58	25.05	243.93	263.8	4.86	4.58	5.56	5.56
Prairie County	D3	RM 121.24	1304	10-yr	2874.2	650.4	644.99	2.47	2.37	28.4	25.07	247.35	295.95	4.65	4.1	5.41	5.41
Prairie County	D3	RM 121.02	957	10-yr	2874.2	650.23	644.88	2.31	2.17	25.13	19.84	259.65	354.43	4.74	3.74	5.35	5.35
Prairie County	D3	RM 120.84	660	10-yr	2874.2	650.06	644.78	2.3	2.28	26.97	25.34	255.32	282.27	4.88	4.58	5.28	5.28
Prairie County	D3	RM 120.64	350	10-yr	2874.2	649.9	644.42	2.29	2.28	23.44	22.69	244.23	252.8	5.14	4.98	5.48	5.48

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	10-yr	2874.54	649.89	643.94	2.17	2.07	21.23	19.32	254.01	335.46	5.03	4.58	5.95	5.95
Dawson County	D3	RM 120.28	90838.07	10-yr	2874.54	649.83	643.78	2.21	2.08	21.83	15.84	233.12	364.33	5.24	3.79	6.04	6.04
Dawson County	D3	RM 120.18	90675.23	10-yr	2874.54	649.74	643.7	2.27	2.16	22.46	18.84	213.48	285.78	5.53	4.66	6.04	6.04
Dawson County	D3	RM 120.00	90388.96	10-yr	2874.54	649.63	643.56	2.21	2.13	21.17	17.57	226.64	286.14	5.68	4.72	6.06	6.06
Dawson County	D3	RM 119.84	90136.35	10-yr	2874.54	649.49	643.44	2.36	2.29	24.19	19.75	213.73	276.19	5.65	4.62	6.04	6.04
Dawson County	D3	RM 119.68	89873.82	10-yr	2874.54	649.28	643.31	2.64	2.55	30.27	26.68	189.21	225.81	5.66	5	5.97	5.97
Dawson County	D3	RM 119.53	89627.16	10-yr	2874.54	649.18	643.2	2.48	2.46	26.57	24.89	204.32	219.97	5.67	5.32	5.98	5.98
Dawson County	D3	RM 119.39	89404.11	10-yr	2874.54	649.12	643.09	2.24	2.19	21.84	20.51	231.36	257.42	5.52	5.21	6.04	6.04
Dawson County	D3	RM 119.26	89201.38	10-yr	2874.54	649.06	642.99	2.1	2.02	19.79	15.43	263.7	355.07	5.13	4	6.07	6.07
Dawson County	D3	RM 119.12	88969.13	10-yr	2874.54	648.84	642.87	2.58	2.34	29.02	19.07	193.4	403.65	5.6	3.66	5.97	5.97
Dawson County	D3	RM 119.00	88780.83	10-yr	2874.54	648.75	642.78	2.5	2.3	27.23	17.15	199.46	358.46	5.54	3.48	5.97	5.97
Dawson County	D3	RM 118.85	88537.07	10-yr	2874.54	648.7	642.66	2.17	2.06	20.91	16.32	241.51	347.72	5.26	4.11	6.03	6.03
Dawson County	D3	RM 118.72	88336.12	10-yr	2874.54	648.65	642.56	2.01	1.86	17.39	11.57	237.19	429.55	5.69	3.79	6.09	6.09
Dawson County	D3	RM 118.60	88130.39	10-yr	2874.54	648.51	642.46	2.28	2.13	22.63	13.95	220.72	414.15	5.53	3.41	6.04	6.04
Dawson County	D3	RM 118.47	87924.15	10-yr	2874.54	648.36	642.37	2.5	2.35	28.08	21.86	211.72	306.55	5.11	3.99	5.99	5.99
Dawson County	D3	RM 118.34	87719.85	10-yr	2874.54	648.12	642.27	2.81	2.69	37.04	27.79	214.06	316.33	4.5	3.38	5.86	5.86
Dawson County	D3	RM 118.21	87507.02	10-yr	2874.54	647.99	642.16	2.72	2.49	32.25	20.71	175.82	320.17	5.65	3.61	5.83	5.83
Dawson County	D3	RM 118.07	87276.02	10-yr	2891.53	647.96	642.05	2.13	2.1	21.09	18.66	297.49	340.94	4.56	4.04	5.91	5.91
Dawson County	D4	RM 117.90	87004.77	10-yr	2891.53	647.9	641.92	1.95	1.74	17	13.7	234.19	403.69	5.12	4.12	5.98	5.98
Dawson County	D4	RM 117.77	86795.88	10-yr	2891.53	647.84	641.81	1.88	1.6	16.02	11.41	217.15	517.83	5.05	3.57	6.03	6.03
Dawson County	D4	RM 117.62	86560.03	10-yr	2891.53	647.76	641.7	1.86	1.63	15.15	9.56	247.32	547.77	5.41	3.4	6.06	6.06
Dawson County	D4	RM 117.46	86294.2	10-yr	2891.53	647.54	641.57	2.48	2.12	27.13	13.89	183	502.36	5.37	2.72	5.96	5.96
Dawson County	D4	RM 117.33	86073.88	10-yr	2891.53	647.25	641.46	3.03	2.55	40.18	21.11	137.01	390.22	5.72	2.94	5.79	5.79
Dawson County	D4	RM 117.16	85808.16	10-yr	2891.53	647.2	641.33	2.38	2.1	24.68	15.42	182.25	400.62	5.64	3.51	5.87	5.87
Dawson County	D4	RM 117.03	85604.68	10-yr	2891.53	647.15	641.3	2.05	1.95	18.93	15.54	243.69	378.48	5.01	4.12	5.85	5.85
Dawson County	D4	RM 116.87	85336.88	10-yr	2891.53	647.09	641.29	1.85	1.55	15.39	9.45	238.63	595.55	5.14	3.15	5.81	5.81
Dawson County	D4	RM 116.69	85043.25	10-yr	2891.53	646.96	641.44	1.97	1.69	18.18	11.88	279.08	582.77	4.5	2.93	5.52	5.52
Dawson County	D4	RM 116.56	84823.15	10-yr	2891.53	646.8	641.34	2.25	1.88	23.75	14.42	234.35	567.88	4.49	2.71	5.46	5.46
Dawson County	D4	RM 116.39	84558.58	10-yr	2891.53	646.73	641.21	1.9	1.68	16.41	9.83	269.92	596.06	4.83	2.89	5.52	5.52
Dawson County	D4	RM 116.22	84287.19	10-yr	2891.53	646.58	641	2.06	1.77	18.91	7.77	259.34	768.12	5.18	2.12	5.58	5.58
Dawson County	D4	RM 116.05	84007.59	10-yr	2891.53	646.4	640.84	2.38	1.87	25.29	10.67	213.93	704.95	5.2	2.19	5.56	5.56
Dawson County	D4	RM 115.87	83722.29	10-yr	2891.53	646.22	640.8	2.5	1.96	28.51	11.7	214.27	740.51	4.88	1.99	5.42	5.42
Dawson County	D4	RM 115.73	83500.35	10-yr	2891.53	646.16	640.69	2.04	1.63	20.24	9.63	310.77	921.48	4.05	1.92	5.47	5.47
Dawson County	D4	RM 115.61	83294.37	10-yr	2891.53	646.11	640.59	1.69	1.47	13.63	7.06	385.01	907.33	4.22	2.18	5.52	5.52
Dawson County	D4	RM 115.45	83034.82	10-yr	2891.53	646.04	640.37	1.62	1.4	12.89	8.43	407.6	804.22	3.93	2.56	5.67	5.67
Dawson County	D4	RM 115.29	82782.88	10-yr	2891.53	645.89	640.34	1.89	1.72	16.83	8.94	319.39	710.22	4.48	2.37	5.55	5.55
Dawson County	D4	RM 115.09	82480.02	10-yr	2891.53	645.83	640.2	1.66	1.44	12.32	6.11	324	798.78	5.09	2.52	5.63	5.63
Dawson County	D4	RM 114.96	82177.99	10-yr	2891.53	645.66	640	2.03	1.78	18.52	10.32	260.73	593.2	5.16	2.86	5.66	5.66
Dawson County	D4	RM 114.74	81836.48	10-yr	2891.53	645.19	639.98	3.06	2.59	42.27	19.38	179.76	487.78	5.03	2.29	5.21	5.21
Dawson County	D4	RM 114.58	81577.9	10-yr	2891.53	645.22	639.46	2.12	1.96	19.91	16.98	195.77	353.42	5.37	4.56	5.76	5.76
Dawson County	D4	RM 114.42	81309.47	10-yr	2891.53	645.05	639.33	2.23	2.17	22.55	19.24	257.79	314.67	4.96	4.23	5.73	5.73
Dawson County	D4	RM 114.28	81078.59	10-yr	2891.53	644.83	639.21	2.6	2.47	30.21	22.4	213.07	305.5	5.17	3.83	5.62	5.62
Dawson County	D4	RM 114.11	80813.63	10-yr	2891.53	644.63	639.2	2.72	2.58	33.31	24.13	210.21	308.76	5.02	3.63	5.43	5.43
Dawson County	D4	RM 113.97	80580.15	10-yr	2891.53	644.46	639.45	2.73	2.53	34.47	22.3	225.76	416.07	4.64	3	5.01	5.01
Dawson County	D4	RM 113.79	80292.13	10-yr	2891.53	644.35	639.45	2.4	2.09	26.91	19.45	201.08	419.04	4.56	3.3	4.9	4.9
Dawson County	D4	RM 113.60	79987.05	10-yr	2891.53	644.33	639.2	1.64	1.46	12.1	9.9	179.84	497.8	4.98	4.05	5.13	5.13
Dawson County	D4	RM 113.43	79712.89	10-yr	2891.53	644.2	638.73	1.98	1.68	17.37	10.61	173.8	533.39	5.34	3.23	5.47	5.47
Dawson County	D4	RM 113.24	79405.49	10-yr	2891.53	643.88	638.43	2.78	2.36	34.33	18.87	130.78	423.14	5.34	2.89	5.44	5.44
Dawson County	D4	RM 113.08	79152.39	10-yr	2891.53	643.71	638.37	2.64	2.34	31.16	23.12	138.2	320.89	5.23	3.85	5.35	5.35
Dawson County	D4	RM 112.94	78925.1	10-yr	2891.53	643.7	638.26	1.93	1.8	16.86	14.07	194.62	384.08	5.05	4.19	5.44	5.44
Dawson County	D4	RM 112.74	78585.88	10-yr	2891.53	643.52	638.09	2.14	1.98	21.08	16.17	237.95	406.33	4.69	3.59	5.43	5.43
Dawson County	D4	RM 112.59	78355.25	10-yr	2891.53	643.38	637.98	2.24	2.01	23.77	18.85	271.99	423.45	4.29	3.39	5.4	5.4
Dawson County	D4	RM 112.37	78008.78	10-yr	2891.53	643.35	637.88	1.58	1.44	11.37	8.29	206.92	633.15	4.99	3.61	5.47	5.47
Dawson County	D4	RM 112.19	77721.27	10-yr	2891.53	643.18	637.59	2.01	1.86	18.2	14.25	213.8	392.87	5.05	3.95	5.59	5.59
Dawson County	D4	RM 111.89	77240.22	10-yr	2891.53	642.86	637.16	2.37	2.28	25.15	18.76	235.68	331.92	5.13	3.83	5.7	5.7
Dawson County	D4	RM 111.42	76486.24	10-yr	2891.53	642.58	636.91	2.03	1.95	18.75	13.89	287.11	408.16	4.92	3.64	5.67	5.67
Dawson County	D4	RM 111.26	76213.83	10-yr	2891.53	642.5	636.66	1.86	1.79	15.88	11.74	329.26	466.85	4.69	3.46	5.84	5.84
Dawson County	D4	RM 111.09	75911.9	10-yr	2891.53	642.21	636.51	2.49	2.44	28.37	22.63	240.23	350	4.82	3.84	5.7	5.7
Dawson County	D4	RM 110.95	75678.54	10-yr	2891.53	641.97	636.4	2.8	2.73	34.93	28.99	194.97	251.27	5.26	4.36	5.57	5.57
Dawson County	D4	RM 110.78	75415.61	10-yr	2891.53	641.69	636.27	3.03	3	41.17	36.46	186.03	212.12	5.13	4.54	5.42	5.42

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	10-yr	2891.53	641.56	636.09	2.42	2.39	26.57	22.69	240.69	285.06	4.95	4.24	5.47	5.47
Dawson County	D4	RM 110.39	74780.03	10-yr	2891.53	641.5	635.96	2.03	1.97	18.75	16.13	293.1	353.74	4.82	4.15	5.54	5.54
Dawson County	D4	RM 110.17	74428.56	10-yr	2891.53	641.3	635.79	2.16	2.09	22.63	19.73	321.63	387.21	4.09	3.57	5.51	5.51
Dawson County	D4	RM 109.95	74074.87	10-yr	2891.53	641.16	635.62	2.01	1.93	18.46	14.43	297.98	401.55	4.78	3.74	5.54	5.54
Dawson County	D4	RM 109.75	73741.09	10-yr	2891.53	640.98	635.46	2.15	2.07	21.12	16.06	272.8	378.09	4.86	3.7	5.53	5.53
Dawson County	D4	RM 109.54	73418.83	10-yr	2891.53	640.87	635.3	2.02	1.72	18.61	9.89	287.56	657.66	4.83	2.55	5.57	5.57
Dawson County	D4	RM 109.37	73150.54	10-yr	2891.53	640.69	635.17	2.32	1.97	24.15	15.24	224.7	459.6	5.06	3.2	5.52	5.52
Dawson County	D4	RM 109.19	72864.56	10-yr	2891.53	640.53	635.03	2.34	2.16	24.68	15.72	238.65	415.16	5.06	3.22	5.5	5.5
Dawson County	D4	RM 109.04	72628	10-yr	2891.53	640.22	634.92	2.89	2.69	37.58	25.47	194.23	314.12	5.06	3.43	5.31	5.31
Dawson County	D4	RM 108.86	72339.73	10-yr	2891.53	640.21	634.77	2.03	1.98	19.08	17.99	287.17	358.86	4.58	4.33	5.44	5.44
Dawson County	D4	RM 108.70	72072.36	10-yr	2891.53	640.13	634.65	1.88	1.83	16.29	15.16	291.61	357.43	4.74	4.42	5.49	5.49
Dawson County	D4	RM 108.55	71827.97	10-yr	2891.53	640.04	634.53	1.84	1.84	15.77	15.51	343.64	349.61	4.57	4.51	5.52	5.52
Dawson County	D4	RM 108.40	71587.18	10-yr	2891.53	639.87	634.41	2.17	2.16	18.74	18.03	363.68	379.44	3.66	3.53	5.46	5.46
Dawson County	D4	RM 108.25	71345.86	10-yr	2891.53	639.76	634.29	2.06	2.04	18.59	15.42	361.89	443.29	3.86	3.2	5.47	5.47
Dawson County	D4	RM 108.12	71131.88	10-yr	2891.53	639.66	634.19	2.07	1.99	19.56	15.44	289.42	384.31	4.78	3.78	5.48	5.48
Dawson County	D4	RM 107.98	70905.01	10-yr	2891.53	639.46	634.08	2.41	2.35	26.54	20.73	245.46	323.69	4.86	3.8	5.39	5.39
Dawson County	D4	RM 107.82	70651.22	10-yr	2891.53	639.26	633.95	2.6	2.46	31.11	18.99	231.93	407.14	4.74	2.89	5.3	5.3
Dawson County	D4	RM 107.68	70418.24	10-yr	2891.53	639.07	633.84	2.69	2.55	33.2	24.97	219.72	312.84	4.79	3.62	5.23	5.23
Dawson County	D4	RM 107.50	70132.11	10-yr	2891.53	638.92	633.17	2.48	2.3	28.22	19.91	239.71	374.99	4.73	3.36	5.75	5.75
Dawson County	D4	RM 107.31	69834.56	10-yr	2891.53	638.71	633.23	2.52	2.42	30	24.27	264.38	342.57	4.29	3.49	5.48	5.48
Dawson County	D4	RM 107.13	69541.52	10-yr	2891.53	638.54	633.98	2.32	2.22	26.56	22.16	322.33	410.6	3.79	3.17	4.56	4.56
Dawson County	D5	RM 106.98	69305.02	10-yr	2900.03	638.46	634.16	1.88	1.82	17.73	16.83	421.85	467.59	3.57	3.41	4.3	4.3
Dawson County	D5	RM 106.85	69065.27	10-yr	2900.03	638.35	633.6	1.81	1.77	16.46	15.51	412.29	490.37	3.54	3.35	4.75	4.75
Dawson County	D5	RM 106.65	68764.02	10-yr	2900.03	638.11	632.98	2.14	2.09	21.31	20.11	360.27	433.5	3.38	3.21	5.13	5.13
Dawson County	D5	RM 106.47	68475.87	10-yr	2900.03	637.94	632.51	2.16	1.78	22.9	14.57	307.26	696.34	3.82	2.43	5.43	5.43
Dawson County	D5	RM 106.28	68173.97	10-yr	2900.03	637.55	631.71	2.84	2.32	37.76	20.5	204.05	517.38	4.45	2.42	5.84	5.84
Dawson County	D5	RM 106.10	67879.83	10-yr	2900.03	637.34	631.29	2.69	2.12	34.72	21.24	206.53	541.54	4.12	2.53	6.05	6.05
Dawson County	D5	RM 105.89	67550.49	10-yr	2900.03	637.15	631.76	2.38	1.99	27.55	17.39	226.74	576.64	3.99	2.53	5.39	5.39
Dawson County	D5	RM 105.74	67300.35	10-yr	2900.03	637	632.3	2.26	1.64	24.73	14.55	203.14	748.5	4.01	2.37	4.7	4.7
Dawson County	D5	RM 105.54	66973.54	10-yr	2900.03	636.72	632.17	2.58	2	32.58	19.48	147.79	669.76	3.86	2.32	4.55	4.55
Dawson County	D5	RM 105.30	66609.03	10-yr	2900.03	636.58	632.29	1.66	1.47	14.42	11.59	219.79	767.87	3.2	2.57	4.46	4.46
Dawson County	D5	RM 105.06	66212.24	10-yr	2900.03	636.42	631.19	1.87	1.74	18.21	14.84	181.11	936.48	3.2	2.61	5.23	5.23
Dawson County	D5	RM 104.89	65945.5	10-yr	2900.03	636.22	631.5	2.01	1.79	21.7	17.27	205.87	927.79	2.91	2.33	4.8	4.8
Dawson County	D5	RM 104.77	65742.33	10-yr	2900.03	636.09	631.67	2.14	1.65	22.59	12.71	125.62	971.65	3.77	2.12	5.38	5.38
Dawson County	D5	RM 104.64	65530.83	10-yr	2900.03	636.02	632.1	1.79	1.43	16.33	9.8	172.34	1146.25	3.53	2.1	5.06	5.06
Dawson County	D5	RM 104.43	65180.62	10-yr	2900.03	635.95	631.56	1.22	1.05	8.26	6.27	361.11	1332.51	2.72	2.08	5.16	5.16
Dawson County	D5	RM 104.26	64906.83	10-yr	2900.03	635.87	631.59	1.18	1.01	7.32	5.1	218.58	1301.17	3.15	2.2	5.23	5.23
Dawson County	D5	RM 104.10	64643.2	10-yr	2900.03	635.77	630.81	1.5	1.21	11.21	4.67	150.64	1532.99	3.74	1.57	5.33	5.33
Dawson County	D5	RM 103.95	64410.06	10-yr	2900.03	635.73	631.24	1.57	1.06	12.54	5.37	185.01	1811.63	3.53	1.51	5.91	5.91
Dawson County	D5	RM 103.68	63957.56	10-yr	2900.03	635.62	629.68	1.64	0.94	13.15	5.66	188.7	1819.16	3.92	1.69	6.18	6.18
Dawson County	D5	RM 103.48	63615.6	10-yr	2900.03	635.54	630.4	1.78	1.06	15.05	5.54	152.55	1741.58	4.3	1.57	6.03	6.03
Dawson County	D5	RM 103.26	63259.44	10-yr	2900.03	635.47	630.13	1.65	1.02	12.81	5.33	173.17	1577.58	4.36	1.81	6.06	6.06
Dawson County	D5	RM 102.58	62131.5	10-yr	2900.03	635.29	629.72	1.53	1.2	11	6.56	178.73	928.08	4.36	2.6	5.61	5.61
Dawson County	D5	RM 102.44	61920.83	10-yr	2900.03	635.16	629.74	1.97	1.54	18.33	9.67	255.44	826.63	4.32	2.28	5.42	5.42
Dawson County	D5	RM 102.31	61720.14	10-yr	2900.03	635.02	629.03	2.32	1.69	25.22	12.91	200.53	759.75	4.38	2.25	5.99	5.99
Dawson County	D5	RM 102.15	61456.58	10-yr	2900.03	634.9	629.39	2.22	1.72	22.72	12.25	201.3	680.48	4.58	2.48	5.51	5.51
Dawson County	D5	RM 102.00	61217.89	10-yr	2900.03	634.81	629.48	1.93	1.56	17.95	11.11	267.9	734.15	4.06	2.53	5.33	5.33
Dawson County	D5	RM 101.84	60967.97	10-yr	2900.03	634.76	629.23	1.69	1.17	13.61	8.58	155.67	922.88	4.24	2.68	5.53	5.53
Dawson County	D5	RM 101.60	60582.61	10-yr	2900.03	634.62	628.87	1.56	1.4	11.68	8.15	336.08	739.09	4.14	2.89	5.75	5.75
Dawson County	D5	RM 101.45	60336.09	10-yr	2900.03	634.41	629.16	2.18	1.84	21.97	10.84	251.39	687.8	4.64	2.3	5.25	5.25
Dawson County	D5	RM 101.25	60019.5	10-yr	2900.03	634.17	627.81	2.49	2.02	28.15	9.16	209.15	913.86	4.83	1.57	6.36	6.36
Dawson County	D5	RM 101.09	59759.25	10-yr	2900.03	634.05	627.99	2.36	1.78	25.62	9.62	216.65	920.85	4.69	1.77	6.06	6.06
Dawson County	D5	RM 100.88	59426.42	10-yr	2900.03	633.92	627.86	2.23	1.68	22.47	8.94	196.58	886.34	4.89	1.95	6.06	6.06
Dawson County	D5	RM 100.67	59075.4	10-yr	2900.03	633.73	627.1	2.49	1.66	27.29	8.95	151.88	994.52	5.38	1.77	6.63	6.63
Dawson County	D5	RM 100.46	58743.44	10-yr	2900.03	633.67	627.92	1.82	1.27	14.96	7.03	202.94	995.69	4.89	2.3	5.75	5.75
Dawson County	D5	RM 100.25	58401.49	10-yr	2900.03	633.44	627.57	2.3	1.72	23.99	12.46	196.17	773.42	4.88	2.53	5.87	5.87
Dawson County	D5	RM 100.05	58077.55	10-yr	2900.03	633.29	626.86	2.25	1.83	22.9	12.72	176.97	579.99	4.94	2.74	6.43	6.43
Dawson County	D5	RM 99.87	57778.81	10-yr	2900.03	633.05	626.4	2.34	2.26	26.49	14.21	301.61	587.55	4.08	2.19	6.65	6.65
Dawson County	D5	RM 99.68	57474.16	10-yr	2900.03	632.88	626.29	2.31	2.09	24.24	14.9	246.92	459.38	4.89	3.02	6.59	6.59
Dawson County	D5	RM 99.49	57160.47	10-yr	2900.03	632.6	626.53	2.67	2.32	32.46	17.4	218.38	484.99	4.79	2.57	6.07	6.07

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	10-yr	2900.03	632.46	627.26	2.36	2.01	25.97	14.08	267.93	615.04	4.45	2.42	5.2	5.2
Dawson County	D5	RM 99.13	56566.63	10-yr	2900.03	632.34	626.77	2.12	1.74	21.14	11.8	293.66	788.98	4.37	2.44	5.57	5.57
Dawson County	D5	RM 98.92	56243.98	10-yr	2900.03	632.19	626.63	2.03	1.75	19.92	10.81	339.1	760.7	4	2.18	5.56	5.56
Dawson County	D5	RM 98.71	55911.87	10-yr	2900.03	631.99	626.34	2.15	1.7	22.56	9.52	322.21	1044.62	3.87	1.64	5.65	5.65
Dawson County	D5	RM 98.57	55680.2	10-yr	2900.03	631.88	626.1	2.06	1.39	20.55	9.26	297.01	1163.43	3.98	1.79	5.78	5.78
Dawson County	D5	RM 98.35	55325.95	10-yr	2900.03	631.57	625.91	2.46	1.63	27.9	9.25	216.82	1136.46	4.72	1.56	5.66	5.66
Dawson County	D5	RM 98.19	55066.09	10-yr	2900.03	631.37	624.42	2.64	1.73	30.97	9.05	184	1105.43	5.18	1.52	6.95	6.95
Dawson County	D5	RM 97.99	54752.97	10-yr	2900.03	631.13	625.04	2.65	2.16	32.98	15.06	236.53	666.88	4.42	2.02	6.09	6.09
Dawson County	D5	RM 97.84	54493.48	10-yr	2900.03	631.01	625.39	2.31	2.02	25.6	13.71	292.51	643.86	4.17	2.23	5.62	5.62
Dawson County	D5	RM 97.68	54241.32	10-yr	2900.03	630.86	624.99	2.24	1.85	25.36	15.67	340.05	728.1	3.55	2.2	5.87	5.87
Dawson County	D5	RM 97.48	53918.21	10-yr	2900.03	630.68	624.81	1.93	1.59	16.03	11.22	387.03	1174.79	2.62	1.84	5.87	5.87
Dawson County	D5	RM 97.28	53585.68	10-yr	2900.03	630.48	625.86	1.92	1.49	18.82	9.45	328.8	1343.03	3.44	1.73	5.03	5.03
Dawson County	D5	RM 97.08	53263.89	10-yr	2900.03	630.18	625.27	2.46	2	29.14	11.97	209.17	951.78	4.07	1.67	4.91	4.91
Dawson County	D5	RM 96.94	53030.11	10-yr	2900.03	629.96	623.97	2.65	2.03	34.36	13.5	199.17	1075.79	3.92	1.54	5.99	5.99
Dawson County	D5	RM 96.77	52762.2	10-yr	2900.03	629.75	623.51	2.56	2.1	32.2	14.13	202.34	1020.58	3.87	1.7	6.24	6.24
Dawson County	D5	RM 96.55	52403.59	10-yr	2900.03	629.47	624.57	2.71	1.78	35.09	12.21	160.42	1382.44	4.16	1.45	4.9	4.9
Dawson County	D5	RM 96.35	52079.12	10-yr	2900.03	629.47	625.39	1.18	1.2	7.51	5.57	290.07	1473.79	2.93	2.18	6	6
Dawson County	D5	RM 96.17	51777.74	10-yr	2900.03	629.2	624.71	2.27	2.01	25.86	16.96	130.42	726.23	3.57	2.36	4.82	4.82
Dawson County	D5	RM 96.00	51500.38	10-yr	2900.03	629	624.3	2.25	1.91	25.23	12.67	122.42	910.28	3.66	1.84	4.7	4.7
Dawson County	D5	RM 95.79	51156.87	10-yr	2900.03	628.89	624.35	1.59	1.35	13.53	6.9	284.94	1265.49	3.35	1.71	4.64	4.64
Dawson County	D5	RM 95.60	50859.75	10-yr	2900.03	628.76	622.97	1.66	1.25	14.07	7.58	251.15	1237.36	3.48	1.87	5.79	5.79
Dawson County	D5	RM 95.40	50547.92	10-yr	2900.03	628.66	623.13	1.51	1.15	11.22	6.2	377.96	1184.19	3.84	2.13	5.53	5.53
Dawson County	D5	RM 95.21	50245.97	10-yr	2900.03	628.52	622.21	1.91	1.15	16.93	6.96	217.6	1327.75	4.62	1.9	6.31	6.31
Dawson County	D5	RM 95.04	49971.19	10-yr	2900.03	628.37	621.68	2.32	1.33	25.65	9.78	174.46	1341.72	4.26	1.62	6.69	6.69
Dawson County	D5	RM 94.88	49717.07	10-yr	2900.03	628.27	621.44	2.13	1.12	21.12	8.91	152.89	1496.48	4.55	1.92	6.83	6.83
Dawson County	D5	RM 94.71	49446.9	10-yr	2900.03	628.23	621.69	1.43	0.92	9.72	4.79	234.28	1520.57	4.21	2.07	6.54	6.54
Dawson County	D5	RM 94.58	49286.95	10-yr	2900.03	628.22	618.6	0.98	0.74	4.16	1.54	456.42	1860.85	5.97	2.21	9.62	9.62
Dawson County	D5	RM 94.57	49255.56	10-yr	2900.03	628.17	618.63	1.32	0.98	7.55	2.22	360.59	1763.25	5.71	1.67	9.54	9.54
Dawson County	D5	RM 94.52	49157.18	10-yr	2900.03	628.08	620.89	1.84	1.14	15.6	4.38	287.23	1936.1	4.71	1.31	7.19	7.19
Dawson County	D6	RM 94.42	48998.19	10-yr	2910.22	627.85	621.76	2.54	1.63	29.93	6.78	219.93	1719.65	4.59	1.04	6.09	6.09
Dawson County	D6	RM 94.30	48806.79	10-yr	2910.22	627.73	621.22	2.4	1.63	28.62	7.68	291.47	1784.12	3.74	1	6.51	6.51
Dawson County	D6	RM 94.20	48653.06	10-yr	2910.22	627.66	621.41	2.25	1.39	24.43	6.81	261.89	1772.17	4.24	1.18	6.25	6.25
Dawson County	D6	RM 94.08	48445.46	10-yr	2910.22	627.63	622.37	1.75	1.19	14.31	4.49	338.75	1758.09	4.46	1.4	5.26	5.26
Dawson County	D6	RM 93.96	48246.42	10-yr	2910.22	627.53	621.88	1.89	1.27	17.21	6.43	331.74	1504.63	4.1	1.53	5.65	5.65
Dawson County	D6	RM 93.83	48030.25	10-yr	2910.22	627.41	620.28	2.14	1.27	20.91	7.4	237.8	1367.08	4.73	1.67	7.13	7.13
Dawson County	D6	RM 93.68	47782.89	10-yr	2910.22	627.04	620.19	2.9	2.16	38.27	13.39	191.53	907.5	4.88	1.71	6.85	6.85
Dawson County	D6	RM 93.57	47606.95	10-yr	2910.22	626.71	620.08	3.34	2.66	51.78	24.97	184.03	501.84	4.54	2.18	6.63	6.63
Dawson County	D6	RM 93.53	47552.11	10-yr	2910.22	626.67	620.21	3.25	2.72	48.63	23.7	184.33	467.29	4.7	2.29	6.45	6.45
Dawson County	D6	RM 93.47	47460.74	10-yr	2910.22	626.58	618.63	3.18	2.74	46.5	21.18	189.97	496.07	4.71	2.14	7.96	7.96
Dawson County	D6	RM 93.43	47382.46	10-yr	2910.22	626.54	619.44	3.04	2.7	41.83	22.11	191.32	415.91	4.92	2.6	7.1	7.1
Dawson County	D6	RM 93.36	47287.92	10-yr	2910.22	626.54	620.47	2.67	2.32	32.01	16.3	213.34	538.66	5.01	2.54	6.07	6.07
Dawson County	D6	RM 93.25	47111.44	10-yr	2910.22	626.38	621.12	2.81	2.44	38.76	22.18	228.84	493.55	4.28	2.45	5.26	5.26
Dawson County	D6	RM 93.05	46807.77	10-yr	2910.22	626.28	621.74	2.15	1.67	22.11	9.23	283.11	1300.28	4.22	1.76	4.54	4.54
Dawson County	D6	RM 92.93	46606.31	10-yr	2910.22	626.14	621.34	2.24	1.67	24.58	9.41	305.87	1361.91	3.83	1.46	4.8	4.8
Dawson County	D6	RM 92.83	46460.06	10-yr	2910.22	626.03	621.02	2.27	1.77	23.46	8.88	357.35	1485.52	3.27	1.23	5.01	5.01
Dawson County	D6	RM 92.71	46261.84	10-yr	2910.22	625.98	620.37	1.84	1.2	15.48	6.4	359.38	1686.57	3.48	1.43	5.61	5.61
Dawson County	D6	RM 92.59	46079.79	10-yr	2910.22	625.9	620.95	1.83	1.25	16.58	5.54	321.05	1687.13	4.17	1.38	4.95	4.95
Dawson County	D6	RM 92.50	45933.81	10-yr	2910.22	625.74	620.75	2.16	1.65	22.86	6.79	325.45	1553.82	3.84	1.14	4.99	4.99
Dawson County	D6	RM 92.39	45753.94	10-yr	2910.22	625.59	620.58	2.3	2	25.46	10.41	299.01	878.37	4.05	1.65	5.01	5.01
Dawson County	D6	RM 92.29	45591.17	10-yr	2910.22	625.5	620.64	2.24	1.79	24.24	8.01	295.77	1204.65	4.1	1.35	4.86	4.86
Dawson County	D6	RM 92.18	45414.13	10-yr	2910.22	625.46	620.23	1.91	1.58	17.55	6.44	358.66	1464.76	4.03	1.48	5.23	5.23
Dawson County	D6	RM 92.06	45238.47	10-yr	2910.22	625.38	620.12	1.9	1.55	17.55	10.13	354.46	833.12	3.91	2.26	5.26	5.26
Dawson County	D6	RM 91.99	45117.89	10-yr	2910.22	625.37	619.81	1.58	1.36	12.59	7.93	390.42	940.86	3.61	2.28	5.56	5.56
Dawson County	D6	RM 91.85	44886.16	10-yr	2910.22	625.33	619.7	1.44	1.16	11.13	6.48	238.98	989.34	4.35	2.53	5.63	5.63
Dawson County	D6	RM 91.77	44752.88	10-yr	2910.22	625.25	619.28	1.6	1.33	16.06	9.8	224.91	882.42	4.05	2.47	5.97	5.97
Dawson County	D6	RM 91.61	44507.01	10-yr	2910.22	625.11	619	1.96	1.45	17.36	6.83	148.19	1261.13	4.93	1.94	6.11	6.11
Dawson County	D6	RM 91.45	44219.47	10-yr	2910.22	625	618.66	2.01	1.61	19.25	6.53	189.07	1114.03	4.8	1.63	6.34	6.34
Dawson County	D6	RM 91.31	43987.79	10-yr	2910.22	624.77	618.98	2.3	1.83	24.84	8.78	271.16	1016.76	4.42	1.56	5.79	5.79
Dawson County	D6	RM 91.11	43666.49	10-yr	2910.22	624.53	618.54	2.51	1.95	28.28	9.74	219.42	860.06	5.04	1.74	5.99	5.99
Dawson County	D6	RM 90.97	43442.55	10-yr	2910.22	624.38	618.3	2.58	1.92	30.36	9.31	224.14	1037.39	4.77	1.46	6.08	6.08

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	10-yr	2910.22	624.2	618.97	2.32	1.72	31.71	11.94	268.72	1301.86	4.32	1.62	5.23	5.23
Dawson County	D6	RM 90.59	42823.65	10-yr	2910.22	624.16	618.64	1.77	1.14	14.59	6.12	232.7	1439.5	4.5	1.89	5.52	5.52
Dawson County	D6	RM 90.43	42564.46	10-yr	2910.22	623.82	618.18	2.67	1.81	33.59	9.42	208.77	1329.09	4.32	1.21	5.64	5.64
Dawson County	D6	RM 90.29	42331.05	10-yr	2910.22	623.72	618.21	2.28	1.48	24.28	7.06	236.08	1489.48	4.54	1.32	5.51	5.51
Dawson County	D6	RM 90.16	42118.24	10-yr	2910.22	623.59	618.54	2.35	1.59	25.79	8.17	229.61	1302.65	4.53	1.44	5.05	5.05
Dawson County	D6	RM 89.96	41795.66	10-yr	2910.22	623.47	618.08	1.94	1.54	18.09	8.11	346.39	1132.98	4.08	1.83	5.39	5.39
Dawson County	D6	RM 89.83	41589.45	10-yr	2910.22	623.13	617.17	2.83	2.11	37.37	12.58	211.95	903.93	4.52	1.52	5.96	5.96
Dawson County	D6	RM 89.65	41302.33	10-yr	2910.22	622.93	618.15	2.63	2.09	33.18	12.21	251.93	909.01	4.15	1.53	4.78	4.78
Dawson County	D6	RM 89.46	41003.8	10-yr	2910.22	622.76	617.56	2.43	2.07	26.88	11.45	236.74	681.73	4.86	2.06	5.2	5.2
Dawson County	D6	RM 89.29	40732.3	10-yr	2910.22	622.75	617.42	1.78	1.53	14.66	10.93	253.25	599.21	4.66	3.47	5.33	5.33
Dawson County	D6	RM 89.13	40476.68	10-yr	2910.22	622.53	617.29	2.29	2.01	24.16	12.89	231.92	576.45	4.74	2.52	5.24	5.24
Dawson County	D6	RM 88.96	40193.97	10-yr	2914.19	622.39	617.14	2.29	2	23.54	12.84	186.73	522.45	5.18	2.8	5.25	5.25
Dawson County	D7	RM 88.77	39887.75	10-yr	2914.19	622.22	616.98	2.3	1.93	24.78	12.41	260.04	685.26	4.49	2.24	5.24	5.24
Dawson County	D7	RM 88.58	39581.56	10-yr	2914.19	621.89	616.82	2.82	2.19	35.98	14.91	185.88	658.13	5	2.04	5.07	5.07
Dawson County	D7	RM 88.44	39345.29	10-yr	2914.19	621.67	616.7	2.92	2.45	38.72	17.75	181.67	574.37	4.97	2.24	4.98	4.98
Dawson County	D7	RM 88.25	39047.22	10-yr	2914.19	621.55	616.54	2.44	2.12	27.76	16.66	221.53	526.92	4.53	2.71	5.01	5.01
Dawson County	D7	RM 88.06	38736.32	10-yr	2914.19	621.4	616.38	2.16	1.97	22.29	12.81	305.89	608.97	4.28	2.45	5.02	5.02
Dawson County	D7	RM 87.87	38426.68	10-yr	2914.19	621.32	616.22	1.71	1.5	14.77	10.17	429.53	791.12	3.6	2.48	5.1	5.1
Dawson County	D7	RM 87.70	38161.81	10-yr	2914.19	621.25	616.08	1.73	1.28	13.46	6.03	181.73	1052.17	5.16	2.26	5.17	5.17
Dawson County	D7	RM 87.52	37862.82	10-yr	2914.19	621.2	615.92	1.47	1.3	10.44	6.75	308.23	878.44	4.07	2.61	5.27	5.27
Dawson County	D7	RM 87.34	37574.69	10-yr	2914.19	620.97	615.85	2.2	1.78	23.22	12.51	253.88	737.74	4.16	2.22	5.12	5.12
Dawson County	D7	RM 87.17	37307.08	10-yr	2914.19	620.74	615.82	2.58	2.07	30.57	15.45	162.99	580.4	4.84	2.42	4.93	4.93
Dawson County	D7	RM 87.00	37023.47	10-yr	2914.19	620.61	615.79	2.23	2.04	23.9	15.15	241.45	549.72	4.13	2.6	4.82	4.82
Dawson County	D7	RM 86.82	36748.51	10-yr	2914.19	620.43	615.76	2.31	2.11	25.5	16.83	210.89	496.08	4.25	2.78	4.67	4.67
Dawson County	D7	RM 86.67	36501.76	10-yr	2914.19	620.18	615.73	2.79	2.35	36.91	21.72	151.27	485.86	4.44	2.56	4.45	4.45
Dawson County	D7	RM 86.52	36253.46	10-yr	2914.19	620.08	615.7	2.11	1.79	21.35	13.98	250.55	601.12	4.13	2.71	4.39	4.39
Dawson County	D7	RM 86.39	36046.31	10-yr	2914.19	619.96	615.59	2.24	1.76	24.32	15.57	147.45	637.28	4.12	2.6	4.38	4.38
Dawson County	D7	RM 86.24	35796.38	10-yr	2914.19	619.91	615.46	1.5	1.39	10.69	8.75	166.41	594.64	4.39	3.54	4.46	4.46
Dawson County	D7	RM 86.08	35541.56	10-yr	2914.19	619.58	615.48	2.66	2.33	34.91	21.17	160.1	544.13	3.85	2.3	4.1	4.1
Dawson County	D7	RM 85.91	35282.1	10-yr	2914.19	619.43	615.5	2.3	1.87	26	12.97	191.42	818.1	3.84	1.9	3.92	3.92
Dawson County	D7	RM 85.78	35075.01	10-yr	2914.19	619.44	614.9	1.33	1.23	8.86	7.39	288.53	993.19	3.62	3.02	4.54	4.54
Dawson County	D7	RM 85.59	34774.5	10-yr	2914.19	619.37	614.32	1.59	1.23	11.45	6.05	184.84	895.86	5.02	2.64	5.05	5.05
Dawson County	D7	RM 85.39	34449.3	10-yr	2914.19	619.15	614.15	2.19	1.82	22.36	12.06	219.47	648.3	4.6	2.47	5	5
Dawson County	D7	RM 85.23	34186.4	10-yr	2914.19	618.9	614.01	2.78	2.14	35.35	16.51	157.48	607.35	4.88	2.24	4.89	4.89
Dawson County	D7	RM 85.04	33863.7	10-yr	2914.19	618.83	613.84	2	1.68	19.19	13.4	265.03	604.12	4.13	2.87	4.99	4.99
Dawson County	D7	RM 84.89	33626.36	10-yr	2914.19	618.74	613.92	1.76	1.68	15.08	13.58	413.04	485.4	3.95	3.57	4.82	4.82
Dawson County	D7	RM 84.72	33349.5	10-yr	2914.19	618.58	613.77	1.97	1.96	18.68	18.21	353.9	365.95	4.16	4.07	4.8	4.8
Dawson County	D7	RM 84.57	33104.21	10-yr	2914.19	618.41	613.45	2.18	2.14	22.14	16.69	294.82	399.95	4.52	3.41	4.97	4.97
Dawson County	D7	RM 84.41	32856.7	10-yr	2914.19	618.3	613.32	2.11	2.06	21.08	18.36	312.69	371.74	4.36	3.8	4.98	4.98
Dawson County	D7	RM 84.22	32552.24	10-yr	2914.19	618.19	613.16	1.97	1.71	18.19	10.13	261.68	741.73	4.42	2.44	5.04	5.04
Dawson County	D7	RM 84.05	32270.74	10-yr	2914.19	618.03	613.14	2.19	1.8	22.22	8.97	206.16	859.29	4.68	1.88	4.89	4.89
Dawson County	D7	RM 83.89	32017.88	10-yr	2914.19	617.81	613.11	2.49	2.02	28.78	12.07	191.2	746.19	4.63	1.93	4.71	4.71
Dawson County	D7	RM 83.73	31759.16	10-yr	2914.19	617.73	613.07	2.06	1.67	20.26	11.29	240.43	815.11	4.25	2.35	4.65	4.65
Dawson County	D7	RM 83.53	31426.04	10-yr	2914.19	617.66	613.01	1.59	1.34	11.95	6.77	304.34	897.01	4.28	2.42	4.65	4.65
Dawson County	D7	RM 83.39	31213.34	10-yr	2914.19	617.58	612.95	1.77	1.43	14.83	7.62	189.12	906.42	4.43	2.25	4.63	4.63
Dawson County	D7	RM 83.21	30910.79	10-yr	2914.19	617.5	612.91	1.62	1.32	12.32	7.35	170.07	822.86	4.56	2.69	4.72	4.72
Dawson County	D7	RM 83.05	30660.14	10-yr	2914.19	617.43	612.78	1.51	1.24	10.71	5.24	229.1	1069.63	4.47	2.19	4.97	4.97
Dawson County	D7	RM 82.94	30491.79	10-yr	2914.19	617.38	612.69	1.56	1.28	11.49	5.47	219.21	1082.96	4.43	2.1	4.99	4.99
Dawson County	D7	RM 82.81	30280.45	10-yr	2914.19	617.29	612.58	1.71	1.36	13.99	6.21	178.49	1136.82	4.28	1.89	5.14	5.14
Dawson County	D7	RM 82.68	30058.39	10-yr	2914.19	617.22	612.34	1.83	1.29	15.28	6.07	152.77	1180.38	4.87	1.91	5.12	5.12
Dawson County	D7	RM 82.51	29786.14	10-yr	2914.19	617.19	612.1	1.33	1	8.17	3.75	229.35	1355.14	4.77	2.16	5.34	5.34
Dawson County	D7	RM 82.33	29497.12	10-yr	2914.19	617.14	611.87	1.4	0.89	8.92	4.14	246.87	1465.36	4.91	2.24	5.39	5.39
Dawson County	D7	RM 82.22	29323.27	10-yr	2914.19	617.08	611.66	1.63	0.9	12	4.64	193.52	1810.76	5.06	1.94	5.42	5.42
Dawson County	D7	RM 82.06	29049.94	10-yr	2914.19	617.04	611.37	1.48	0.83	9.69	3.38	202.97	1924.57	5.34	1.82	5.68	5.68
Dawson County	D7	RM 81.91	28820.21	10-yr	2914.19	617.01	611.21	1.49	0.8	9.61	2.91	191.58	2153.31	5.68	1.69	5.8	5.8
Dawson County	D7	RM 81.71	28446.75	10-yr	2914.19	616.97	611.02	1.24	0.77	6.65	1.96	220.81	2313.91	5.75	1.68	5.95	5.95
Dawson County	D7	RM 81.49	28026.4	10-yr	2914.19	616.73	610.8	2.26	1.31	21.9	5.19	165.37	2365.43	5.92	1.37	5.93	5.93
Dawson County	D7	RM 81.31	27735.46	10-yr	2917.02	615.83	610.65	4.16	3.08	78.23	14.61	131.98	1033.87	5.1	0.93	5.18	5.18
Dawson County	D8	RM 81.10	27398.33	10-yr	2917.02	615.6	610.47	3.4	2.38	52.32	10.45	160.09	1291.28	5.03	0.99	5.13	5.13
Dawson County	D8	RM 80.94	27148.21	10-yr	2917.02	615.58	610.34	2.51	1.97	28.45	6	225.85	1573.76	4.98	1.04	5.23	5.23

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	10-yr	2917.02	615.57	610.19	1.93	1.27	16.54	3.82	181.68	2248.23	5.37	1.21	5.38	5.38
Dawson County	D8	RM 80.64	26669.58	10-yr	2917.02	615.49	610.09	1.97	1.29	17.42	3.53	209.02	2428.14	5.17	1.03	5.4	5.4
Dawson County	D8	RM 80.45	26373.01	10-yr	2917.02	615.5	609.94	1.36	0.88	8.18	2.3	122.91	2985.98	5.43	1.47	5.56	5.56
Dawson County	D8	RM 80.17	25926.88	10-yr	2917.02	615.37	609.71	1.94	1.13	16.51	3.09	146.98	2605.3	5.65	1.02	5.66	5.66
Dawson County	D8	RM 79.91	25496.94	10-yr	2917.02	615.27	609.42	1.5	1.01	10.19	1.99	362.06	3009.85	4.95	0.96	5.85	5.85
Dawson County	D8	RM 79.43	24626.85	10-yr	2917.02	615.01	609.14	1.79	1.29	14.15	2.76	289.02	2178.84	5.37	1.04	5.87	5.87
Dawson County	D8	RM 79.23	24229.4	10-yr	2917.02	614.5	608.87	3.05	2.44	41.18	8.43	173.46	1114.18	5.43	1.07	5.63	5.63
Dawson County	D8	RM 78.27	22640.58	10-yr	2917.02	613.73	608.6	2.18	1.54	22.08	9.21	226.68	1001.79	4.6	1.9	5.13	5.13
Dawson County	D8	RM 78.12	22398.86	10-yr	2917.02	613.67	608.48	1.98	1.53	18.12	7.96	222.94	942.3	4.64	2.02	5.19	5.19
Dawson County	D8	RM 77.97	22135.34	10-yr	2917.02	613.54	608.34	2.13	1.62	20.52	9.23	214.67	813.01	4.97	2.22	5.2	5.2
Dawson County	D8	RM 77.79	21831.85	10-yr	2917.02	613.46	608.18	1.79	1.53	15.59	8.38	332.54	909.87	3.92	2.1	5.28	5.28
Dawson County	D8	RM 77.57	21474.71	10-yr	2917.02	613.24	608	2.15	1.86	21.06	9.66	250.08	705.9	4.86	2.22	5.24	5.24
Dawson County	D8	RM 77.38	21170.35	10-yr	2917.02	613.03	607.84	2.43	2.01	26.76	12.03	215.18	659.48	4.92	2.2	5.19	5.19
Dawson County	D8	RM 77.13	20780.17	10-yr	2917.02	613	607.63	1.71	1.37	13.26	7.18	188.55	801.18	5	2.67	5.37	5.37
Dawson County	D8	RM 77.00	20442.34	10-yr	2917.02	612.88	607.46	2.05	1.49	18.74	8.02	131.83	877.75	5.42	2.22	5.43	5.43
Dawson County	D8	RM 76.90	20124.49	10-yr	2917.02	612.8	607.29	1.92	1.57	16.24	7.49	153.24	758.13	5.5	2.46	5.51	5.51
Dawson County	D8	RM 76.76	19785.25	10-yr	2917.02	612.75	607.12	1.56	1.35	10.85	5	269.03	919.48	5.19	2.38	5.64	5.64
Dawson County	D8	RM 76.63	19501.04	10-yr	2917.02	612.67	606.97	1.69	1.45	13.24	6.53	246.86	873.51	4.73	2.3	5.7	5.7
Dawson County	D8	RM 76.37	19137.53	10-yr	2917.02	612.47	606.78	2	1.67	17.75	7.37	272.76	813.39	5.2	2.15	5.69	5.69
Dawson County	D8	RM 76.22	18884.28	10-yr	2917.02	612.36	606.65	2.09	1.68	19.25	6.88	253.7	918.02	5.33	1.9	5.71	5.71
Dawson County	D8	RM 76.00	18519.22	10-yr	2917.02	612.12	606.61	2.43	1.84	26.47	7.43	225.2	1116.88	5.11	1.42	5.5	5.5
Dawson County	D8	RM 75.75	18119.45	10-yr	2917.02	611.8	606.58	2.7	2.09	33.15	10.12	209.51	936.71	4.92	1.49	5.22	5.22
Dawson County	D8	RM 75.56	17818.36	10-yr	2917.02	611.71	606.75	2.14	1.67	21.9	8.11	303.99	1116.44	4.24	1.56	4.96	4.96
Dawson County	D8	RM 75.31	17411.3	10-yr	2917.02	611.55	606.34	2.04	1.57	19.12	6.5	263.12	1159.67	4.74	1.6	5.21	5.21
Dawson County	D8	RM 75.13	17092.44	10-yr	2917.02	611.43	606.17	1.95	1.44	17.68	6.48	306.22	1221.08	4.55	1.66	5.25	5.25
Dawson County	D8	RM 74.90	16719.46	10-yr	2917.02	611.06	605.98	2.66	1.87	32.81	9.57	224.87	1177.99	4.57	1.32	5.08	5.08
Dawson County	D8	RM 74.65	16308.2	10-yr	2917.02	610.93	605.91	2.06	1.48	19.82	6.47	267.86	1333.83	4.54	1.47	5.02	5.02
Dawson County	D8	RM 74.37	15846.14	10-yr	2917.02	610.67	605.85	2.32	1.74	25.68	8.27	221.55	1246.67	4.19	1.34	4.82	4.82
Dawson County	D8	RM 74.13	15464.97	10-yr	2917.02	610.49	605.82	2.07	1.67	20.38	7.73	235.57	1097.55	4.29	1.61	4.67	4.67
Dawson County	D8	RM 73.91	15098.01	10-yr	2917.02	610.36	605.99	1.77	1.37	15.39	6.12	283.69	1362.32	3.93	1.56	4.37	4.37
Dawson County	D8	RM 73.71	14783.86	10-yr	2917.02	610.24	605.87	1.7	1.36	14.1	5.14	292.2	1520.37	3.98	1.44	4.37	4.37
Dawson County	D8	RM 73.53	14496.67	10-yr	2917.02	610.14	605.72	1.71	1.24	14.07	4.49	249.62	2232.37	4.15	1.32	4.42	4.42
Dawson County	D8	RM 73.29	14096.19	10-yr	2917.02	609.65	605.51	2.92	2.26	41.36	14.36	198.62	928.2	4.04	1.39	4.13	4.13
Dawson County	D8	RM 73.07	13729.79	10-yr	2917.02	609.01	605.52	3.38	2.95	58.5	29.61	196.15	570.49	3.43	1.73	3.76	3.76
Dawson County	D8	RM 72.83	13354.45	10-yr	2917.02	608.68	604.9	2.52	2.15	31.93	16.02	264.25	764.24	3.55	1.78	3.78	3.78
Dawson County	D8	RM 72.62	13000.82	10-yr	2917.02	608.42	604.4	2.29	1.98	25.95	12.98	295.23	822.71	3.79	1.9	4.03	4.03
Dawson County	D8	RM 72.37	12609.05	10-yr	2917.02	608.11	603.89	2.49	1.97	29.97	14.77	228.58	750.32	4.02	1.97	4.21	4.21
Dawson County	D8	RM 72.16	12261.75	10-yr	2917.02	607.84	603.69	2.39	2.05	28.05	13.18	286.3	824.05	3.87	1.82	4.16	4.16
Dawson County	D8	RM 71.92	11875.08	10-yr	2917.02	607.67	603.18	1.96	1.73	18.63	9.27	345.16	857.03	3.96	1.97	4.49	4.49
Dawson County	D8	RM 71.69	11512.65	10-yr	2917.02	607.46	602.95	2.11	1.78	21.36	9.26	303.44	920.07	4.12	1.78	4.51	4.51
Dawson County	D8	RM 71.49	11192.6	10-yr	2917.02	607.27	602.03	2.25	1.78	22.98	8.03	237.66	960.77	4.91	1.71	5.24	5.24
Dawson County	D8	RM 71.31	10913.3	10-yr	2917.02	607.14	601.99	2.23	1.7	22.71	9.38	244.59	872.96	4.76	1.96	5.15	5.15
Dawson County	D9	RM 71.10	10567.75	10-yr	2917.02	607.05	602.11	1.85	1.54	16.06	9.14	197.48	759.16	4.42	2.5	4.94	4.94
Dawson County	D9	RM 70.91	10267.7	10-yr	2917.02	606.89	602.05	2.15	1.58	21.34	7.07	126.11	1368.83	4.77	1.55	4.85	4.85
Dawson County	D9	RM 70.72	9968.939	10-yr	2917.02	606.78	601.91	2.11	1.45	20.56	7.17	153.19	1371.11	4.86	1.64	4.87	4.87
Dawson County	D9	RM 70.50	9603.574	10-yr	2917.02	606.65	601.9	1.85	1.57	16.11	10.58	251.24	649.65	4.36	2.86	4.75	4.75
Dawson County	D9	RM 70.27	9238.535	10-yr	2917.02	606.34	601.31	2.44	2.03	27.41	10.93	236.79	766.17	4.71	1.87	5.02	5.02
Dawson County	D9	RM 70.08	8928.013	10-yr	2917.02	606.2	600.85	2.29	1.77	23.83	8.55	234.44	956.6	4.86	1.73	5.35	5.35
Dawson County	D9	RM 69.79	8464.726	10-yr	2917.02	606.06	600.61	1.97	1.42	17.48	5.62	248.41	1292.15	4.99	1.59	5.45	5.45
Dawson County	D9	RM 69.50	7983.226	10-yr	2917.02	605.93	600.56	1.89	1.25	16.3	5.31	237.14	1485.9	4.86	1.57	5.37	5.37
Dawson County	D9	RM 69.26	7575.04	10-yr	2917.02	605.79	600.35	1.92	1.23	16.61	5.85	245.78	1362.39	4.99	1.74	5.45	5.45
Dawson County	D9	RM 69.03	7206.967	10-yr	2917.02	605.71	599.95	1.79	1.24	14.03	5.91	236.36	1042.76	5.4	2.26	5.75	5.75
Dawson County	D9	RM 68.82	6851.789	10-yr	2917.02	605.49	599.77	2.2	1.61	21.73	7.86	217.59	986.46	5.16	1.84	5.72	5.72
Dawson County	D9	RM 68.60	6509.797	10-yr	2917.02	605.13	599.59	2.76	2.38	33.77	11.05	189.13	703	5.41	1.74	5.54	5.54
Dawson County	D9	RM 68.39	6158.879	10-yr	2917.02	604.97	599.51	2.43	2.25	27.04	16.69	241.73	435.59	4.84	2.98	5.46	5.46
Dawson County	D9	RM 68.11	5709.195	10-yr	2917.02	604.75	599.37	2.27	2.08	23.66	13.6	262.72	515.64	4.74	2.73	5.38	5.38
Dawson County	D9	RM 67.86	5308.187	10-yr	2917.02	604.55	599.17	2.45	2.11	26.87	17.92	130.41	405.96	5.21	3.4	5.38	5.38
Dawson County	D10	RM 67.57	4859.184	10-yr	2922.68	604.35	598.93	2.18	1.98	21.36	15.22	240.29	408.87	5.06	3.61	5.42	5.42
Dawson County	D10	RM 67.37	4523.862	10-yr	2922.68	604.24	598.75	2.05	1.74	18.81	10.2	224.36	671.09	5.07	2.74	5.48	5.48
Dawson County	D10	RM 67.15	4175.103	10-yr	2922.68	603.85	598.47	2.93	2.26	38.49	14.34	158.11	680.64	5.17	1.9	5.38	5.38

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

10-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	10-yr	2922.68	603.77	598.2	2.24	1.59	23.11	10.01	211.57	907.28	4.7	2.02	5.57	5.57
Dawson County	D10	RM 66.74	3505.323	10-yr	2922.68	603.58	598.12	2.33	1.78	24.1	11.39	189.78	661.49	5.32	2.48	5.45	5.45
Dawson County	D10	RM 66.52	3142.889	10-yr	2922.68	603.37	598.26	2.31	1.92	24.5	11.16	249	697.79	4.79	2.18	5.11	5.11
Dawson County	D10	RM 66.28	2774.58	10-yr	2922.68	602.95	598.21	2.93	2.54	40.25	25.86	206.17	397.65	4.49	2.9	4.74	4.74
Dawson County	D10	RM 66.11	2492.331	10-yr	2922.68	602.83	597.8	2.39	2.14	27.22	18.59	269.84	464.16	4.3	2.94	5.04	5.04
Dawson County	D10	RM 65.90	2160.839	10-yr	2922.68	602.71	597.33	2.14	1.77	21.08	10.92	227.64	669.77	4.79	2.46	5.39	5.39
Dawson County	D10	RM 65.75	1926.044	10-yr	2922.68	602.6	597.2	2.13	1.84	21.52	13.65	203.78	582.15	4.34	2.73	5.39	5.39
Dawson County	D10	RM 65.60	1669.095	10-yr	2922.68	602.42	597.07	2.44	1.75	26.76	9.5	140.14	936.3	5.12	1.78	5.36	5.36
Dawson County	D10	RM 65.42	1386.836	10-yr	2922.68	602.34	596.92	1.88	1.6	16.05	8.13	247.82	733.65	4.96	2.49	5.42	5.42
Dawson County	D10	RM 65.23	1090.639	10-yr	2922.68	602.22	596.91	1.99	1.56	19.47	8.38	263.18	1150.83	3.94	1.68	5.31	5.31
Dawson County	D10	RM 64.96	634.963	10-yr	2922.68	602.08	597.09	1.74	1.15	14.11	5.38	270.22	1801.23	4.46	1.7	4.99	4.99

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	10-yr	2922.3	601.95	596.42	1.31	0.87	8.36	2.95	398.12	2409.38	3.98	1.4	5.53	5.53
Richland/McKenzie County	D10	RM 64.32	103200	10-yr	2922.3	601.83	596.33	1.76	0.92	14.29	4.49	232.97	2180.43	4.66	1.45	5.5	5.5
Richland/McKenzie County	D10	RM 64.12	102900	10-yr	2922.3	601.79	596.18	1.45	0.93	10	3.76	281.09	1975.93	4.25	1.58	5.61	5.61
Richland/McKenzie County	D10	RM 63.92	102601	10-yr	2922.3	601.75	596.08	1.38	0.8	9.14	3.88	273.38	2095.88	4.12	1.73	5.67	5.67
Richland/McKenzie County	D10	RM 63.74	102302	10-yr	2922.3	601.68	595.94	1.47	0.87	10.1	3.58	254.65	2115.31	4.53	1.59	5.74	5.74
Richland/McKenzie County	D10	RM 63.55	101998	10-yr	2922.3	601.62	595.79	1.55	0.84	10.67	3.47	210.56	2013.89	5.37	1.72	5.83	5.83
Richland/McKenzie County	D10	RM 63.34	101671	10-yr	2922.3	601.57	595.21	1.54	0.81	10.92	4.34	241.49	1992.91	4.62	1.82	6.36	6.36
Richland/McKenzie County	D10	RM 63.08	101293	10-yr	2922.3	601.17	595.12	2.87	1.31	37.61	10.95	159.68	1590.06	4.89	1.4	6.05	6.05
Richland/McKenzie County	D10	RM 62.96	101094	10-yr	2922.3	600.96	595.12	3.01	1.57	51.23	14.43	149.74	1288.42	5.23	1.44	5.84	5.84
Richland/McKenzie County	D10	RM 62.83	100882	10-yr	2922.3	600.81	595.12	2.86	1.6	40.82	10.9	161.51	1295.26	5.37	1.41	5.69	5.69
Richland/McKenzie County	D10	RM 62.64	100582	10-yr	2922.3	600.7	595.12	2.49	1.5	27.43	8.52	189.94	1201.45	5.29	1.62	5.58	5.58
Richland/McKenzie County	D10	RM 62.46	100282	10-yr	2922.3	600.2	595.1	3.4	2.35	53.24	19.65	161.13	721.31	4.76	1.73	5.1	5.1
Richland/McKenzie County	D10	RM 62.27	99977	10-yr	2922.3	600.27	594.91	1.88	1.5	16.38	7.06	303.35	968.47	4.72	2.01	5.36	5.36
Richland/McKenzie County	D10	RM 62.1	99691	10-yr	2922.3	600.19	594.75	1.7	1.32	13.45	7.2	274.06	1062.42	3.92	2.09	5.44	5.44
Richland/McKenzie County	D10	RM 61.91	99377	10-yr	2922.3	600.04	594.51	1.91	1.29	16.66	7.85	164.84	1126.03	4.32	2.01	5.53	5.53
Richland/McKenzie County	D10	RM 61.72	99082	10-yr	2922.3	599.89	594.36	2.07	1.47	19.59	7.14	127.17	1139.22	4.9	1.75	5.53	5.53
Richland/McKenzie County	D10	RM 61.54	98782	10-yr	2922.3	599.58	594.36	2.46	2.03	26.94	8.96	230.57	928.73	4.7	1.55	5.22	5.22
Richland/McKenzie County	D10	RM 61.35	98482	10-yr	2922.3	599.4	594.26	2.47	1.98	28.09	10.31	215	864.7	4.71	1.71	5.14	5.14
Richland/McKenzie County	D10	RM 61.16	98182	10-yr	2922.3	599.36	594.17	1.82	1.37	15.64	7.86	248.77	978.48	4.35	2.17	5.19	5.19
Richland/McKenzie County	D10	RM 60.99	97906	10-yr	2922.3	599.22	594.02	2.02	1.39	18.76	6.66	216.72	1248.43	4.78	1.68	5.2	5.2
Richland/McKenzie County	D10	RM 60.79	97582	10-yr	2922.3	599.09	593.78	2.01	1.28	19.65	7.02	224.25	1706.27	4.05	1.43	5.31	5.31
Richland/McKenzie County	D10	RM 60.64	97339	10-yr	2922.3	599.08	593.58	1.27	0.92	7.99	3.63	266.31	2118.52	3.86	1.73	5.5	5.5
Richland/McKenzie County	D10	RM 60.42	96982	10-yr	2922.3	598.93	593.38	1.77	1.15	14.21	3.78	215.62	2276.36	4.62	1.22	5.55	5.55
Richland/McKenzie County	D10	RM 60.25	96700	10-yr	2922.3	598.8	593.24	2.17	1.2	22.85	5.95	192.38	2557.14	4.02	1.03	5.56	5.56
Richland/McKenzie County	D10	RM 60.04	96365	10-yr	2922.3	598.66	593.14	1.97	1.07	19.72	6.49	227.05	2420.86	3.49	1.13	5.52	5.52
Richland/McKenzie County	D10	RM 59.86	96088	10-yr	2922.3	598.55	592.99	1.94	0.88	16.98	4.52	171.89	2504.73	5.09	1.33	5.56	5.56
Richland/McKenzie County	D10	RM 59.65	95769	10-yr	2922.3	598.52	592.85	1.49	0.76	10.36	3.41	207.22	2565.79	4.62	1.5	5.67	5.67
Richland/McKenzie County	D10	RM 59.5	95530	10-yr	2922.3	598.44	592.75	1.65	0.9	12.99	3.95	206.9	2542.9	4.27	1.28	5.69	5.69
Richland/McKenzie County	D10	RM 59.29	95183	10-yr	2922.3	598.35	592.55	1.53	0.92	11.11	3.41	232.08	2403.55	4.37	1.32	5.8	5.8
Richland/McKenzie County	D10	RM 59.07	94797	10-yr	2922.3	598.28	592.36	1.37	0.88	9.7	3.42	408.43	2286.74	4.15	1.45	5.92	5.92
Richland/McKenzie County	D10	RM 58.93	94582	10-yr	2922.3	598.17	592.31	1.72	0.99	13.87	4.35	328.36	2151.23	4.43	1.38	5.86	5.86
Richland/McKenzie County	D10	RM 58.75	94282	10-yr	2922.3	598.06	592.28	1.86	1.06	15.21	4.13	264.72	2009.19	5.13	1.38	5.78	5.78
Richland/McKenzie County	D10	RM 58.56	93982	10-yr	2922.3	597.53	592.22	3.31	1.94	49.6	8.97	157.23	1688.07	5.03	0.89	5.31	5.31
Richland/McKenzie County	D10	RM 58.37	93682	10-yr	2922.3	597.24	592.22	3.18	2.37	46.62	10.16	186.39	1212.41	4.74	1.02	5.02	5.02
Richland/McKenzie County	D10	RM 58.19	93382	10-yr	2922.3	597.27	592.22	2.06	1.5	19.32	6.99	254.64	1314.33	4.88	1.75	5.05	5.05
Richland/McKenzie County	D10	RM 58.01	93086	10-yr	2922.3	596.96	592.14	2.61	2.3	31.75	12.19	236.55	731.63	4.56	1.73	4.82	4.82
Richland/McKenzie County	D10	RM 57.82	92782	10-yr	2922.3	596.9	592.11	1.88	1.68	17.43	9.07	308.1	1105.19	3.85	2	4.79	4.79
Richland/McKenzie County	D10	RM 57.63	92482	10-yr	2922.3	596.72	592.11	2.37	1.69	26.64	9.79	160.84	1106.12	4.31	1.56	4.61	4.61
Richland/McKenzie County	D10	RM 57.46	92205	10-yr	2922.3	596.64	591.95	1.73	1.22	14.08	6.74	192.28	1178.44	4.41	2.09	4.69	4.69
Richland/McKenzie County	D10	RM 57.26	91882	10-yr	2922.3	596.36	591.9	2.28	1.81	25.78	10.7	136.34	1102.53	3.79	1.55	4.46	4.46
Richland/McKenzie County	D10	RM 57.07	91583	10-yr	2922.3	596.3	591.73	1.83	1.37	15.9	8.46	137.42	1079.01	4.32	2.26	4.57	4.57
Richland/McKenzie County	D10	RM 56.87	91253	10-yr	2922.3	596.14	591.49	1.62	1.36	12.92	8.36	186.15	1072.95	3.84	2.47	4.71	4.71
Richland/McKenzie County	D10	RM 56.68	90943	10-yr	2922.3	596.07	591.12	1.39	1.29	9.67	6.86	299.58	1004.8	3.62	2.57	4.95	4.95
Richland/McKenzie County	D10	RM 56.54	90682	10-yr	2925.1	595.85	590.76	1.78	1.99	18.24	14.92	216.66	572.88	3.15	2.56	5.13	5.13
Richland/McKenzie County	D10	RM 56.35	90387	10-yr	2925.1	595.72	590.46	1.85	1.84	16.74	15.11	174.85	453.55	3.91	3.5	5.26	5.26
Richland/McKenzie County	D11	RM 56.16	90086	10-yr	2925.1	595.31	590.11	2.77	2.69	35.31	24.3	220.75	333.53	4.77	3.26	5.2	5.2
Richland/McKenzie County	D11	RM 55.96	89768	10-yr	2925.1	595.13	589.96	2.59	2.3	30.39	18.67	222.74	434.63	4.92	3.01	5.17	5.17
Richland/McKenzie County	D11	RM 55.78	89479	10-yr	2925.1	595.04	589.96	2.27	1.73	23.73	11.53	216.81	758.86	4.77	2.3	5.08	5.08
Richland/McKenzie County	D11	RM 55.61	89193	10-yr	2925.1	594.88	589.98	2.31	1.76	24.56	9.99	222.22	1096.01	4.68	1.89	4.9	4.9
Richland/McKenzie County	D11	RM 55.41	88882	10-yr	2925.1	594.72	589.76	2.28	1.61	24.45	10.25	203.81	1232.73	4.43	1.85	4.96	4.96
Richland/McKenzie County	D11	RM 55.23	88582	10-yr	2925.1	594.58	589.53	2.13	1.56	20.76	9.37	238.9	1045.75	4.84	2.16	5.05	5.05
Richland/McKenzie County	D11	RM 55.04	88282	10-yr	2925.1	594.38	589.39	2.31	1.71	25.32	12.94	252.08	886.47	4.33	2.2	4.99	4.99
Richland/McKenzie County	D11	RM 54.86	87996	10-yr	2925.1	594.01	589.33	2.9	2.3	41.8	20.51	223.1	750.73	3.76	1.83	4.68	4.68
Richland/McKenzie County	D11	RM 54.69	87715	10-yr	2925.1	593.97	589.23	1.99	1.64	19.05	12.52	188.11	812.57	4.1	2.67	4.74	4.74
Richland/McKenzie County	D11	RM 54.48	87382	10-yr	2925.1	593.86	589.15	1.75	1.26	14.67	6.96	179.29	1788.68	4.22	1.98	4.71	4.71
Richland/McKenzie County	D11	RM 54.32	87122	10-yr	2925.1	593.77	589	1.82	1.17	15.42	6.03	159.94	2093.03	4.61	1.77	4.77	4.77
Richland/McKenzie County	D11	RM 54.1	86783	10-yr	2925.1	593.65	588.83	1.67	1.24	12.88	5.7	202.24	1629.65	4.66	2.04	4.82	4.82
Richland/McKenzie County	D11	RM 53.92	86482	10-yr	2925.1	593.58	588.68	1.51	1.1	10.92	4.15	255.08	1922.41	4.19	1.57	4.9	4.9
Richland/McKenzie County	D11	RM 53.73	86182	10-yr	2925.1	593.48	588.51	1.75	1.1	14.09	4.42	196.75	2386.63	4.76	1.47	4.97	4.97
Richland/McKenzie County	D11	RM 53.55	85882	10-yr	2925.1	593.35	588.37	1.8	1.27	15.01	4.67	181.72	1855.49	4.63	1.42	4.98	4.98
Richland/McKenzie County	D11	RM 53.36	85582	10-yr	2925.1	593.19	588.01	1.97	1.34	18.8	5.46	166.55	2014.25	4.12	1.19	5.18	5.18

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	10-yr	2925.1	592.82	587.56	2.76	1.73	34.78	7.46	205.49	1725.51	4.79	1.02	5.26	5.26
Richland/McKenzie County	D11	RM 52.98	84982	10-yr	2925.1	592.46	587.56	2.98	1.76	46.52	13.86	271.44	2488.03	3.19	0.94	4.9	4.9
Richland/McKenzie County	D11	RM 52.79	84682	10-yr	2925.1	592.23	587.56	2.27	1.47	27.64	11.6	387.02	2230.89	2.95	1.23	4.67	4.67
Richland/McKenzie County	D11	RM 52.61	84390	10-yr	2925.1	592.11	587.43	1.72	1.43	14.89	5.81	450.01	2238	3.61	1.4	4.68	4.68
Richland/McKenzie County	D11	RM 52.42	84082	10-yr	2925.1	592.03	587.28	1.53	1.09	12.28	5.56	409.99	2390.59	3.19	1.44	4.75	4.75
Richland/McKenzie County	D11	RM 52.24	83798	10-yr	2925.1	591.96	587.28	1.48	0.8	10.8	3.82	227.41	3331.2	3.88	1.36	4.68	4.68
Richland/McKenzie County	D11	RM 52.01	83423	10-yr	2925.1	591.75	587.23	2.12	1.17	21.49	4.06	124.91	3570.85	4.31	0.79	4.52	4.52
Richland/McKenzie County	D11	RM 51.87	83182	10-yr	2925.1	591.66	587.16	1.62	0.92	13.99	4.41	156.7	3294.86	3.11	0.96	4.5	4.5
Richland/McKenzie County	D11	RM 51.69	82882	10-yr	2925.1	591.56	587.16	1.46	0.82	10.52	3.22	150.57	3274.93	3.62	1.09	4.4	4.4
Richland/McKenzie County	D11	RM 51.51	82585	10-yr	2925.1	591.49	587.16	1.64	0.97	13.95	4.2	149.84	3079.66	3.32	0.98	4.33	4.33
Richland/McKenzie County	D11	RM 51.32	82274	10-yr	2925.1	591.44	587.16	1.39	0.79	10.02	3.48	173.83	3319.3	3.27	1.11	4.28	4.28
Richland/McKenzie County	D11	RM 51.13	81982	10-yr	2925.1	591.37	587.13	1.5	0.83	10.86	2.77	164.51	3455.72	4.06	1.02	4.26	4.26
Richland/McKenzie County	D11	RM 50.95	81682	10-yr	2925.1	591.3	587.08	1.35	0.7	8.82	2.57	144.96	3675.67	4	1.14	4.22	4.22
Richland/McKenzie County	D11	RM 50.76	81378	10-yr	2925.1	591.24	586.89	1.24	0.6	7.67	2.74	174.41	3651.95	3.85	1.35	4.35	4.35
Richland/McKenzie County	D11	RM 50.56	81065	10-yr	2925.1	591.07	586.37	1.67	0.83	13.01	3.22	171.61	3224.04	4.58	1.11	4.7	4.7
Richland/McKenzie County	D11	RM 50.39	80787	10-yr	2925.1	591.02	585.7	1.55	0.78	10.78	2.57	196.96	3071.48	5.22	1.22	5.32	5.32
Richland/McKenzie County	D11	RM 50.21	80482	10-yr	2925.1	590.93	585.55	1.51	0.89	10.55	3.03	234.94	2456.36	4.66	1.33	5.38	5.38
Richland/McKenzie County	D11	RM 50.02	80182	10-yr	2928	590.78	585.55	1.86	1.19	16.23	4.41	197.51	2012.91	4.58	1.22	5.23	5.23
Richland/McKenzie County	D12	RM 49.82	79860	10-yr	2928	590.36	585.55	2.8	2	36.47	9.02	211.51	1305.34	4.58	1.12	4.81	4.81
Richland/McKenzie County	D12	RM 49.65	79582	10-yr	2928	590.05	585.55	3	2.36	42.8	16.28	213.94	770.68	4.26	1.61	4.5	4.5
Richland/McKenzie County	D12	RM 49.5	79348	10-yr	2928	590.18	585.49	1.5	1.25	10.45	4.31	356	1563.19	4.59	1.89	4.73	4.73
Richland/McKenzie County	D12	RM 49.26	78981	10-yr	2928	590.09	585.29	1.76	1.23	14.42	5.93	137.44	1284.05	4.58	1.86	4.8	4.8
Richland/McKenzie County	D12	RM 49.08	78682	10-yr	2928	589.95	585.11	1.91	1.35	17.04	5.96	156.64	1371.1	4.58	1.58	4.91	4.91
Richland/McKenzie County	D12	RM 48.87	78351	10-yr	2928	589.84	584.96	1.87	1.31	16.22	4.15	209.35	1914.32	4.61	1.17	4.88	4.88
Richland/McKenzie County	D12	RM 48.7	78082	10-yr	2928	589.76	584.86	1.77	1.29	15.42	5.63	252.25	1632.76	3.86	1.39	4.9	4.9
Richland/McKenzie County	D12	RM 48.52	77782	10-yr	2928	589.74	584.74	1.15	0.93	6.57	3.28	473.03	1675.2	3.79	1.89	5	5
Richland/McKenzie County	D12	RM 48.33	77482	10-yr	2928	589.68	584.51	1.22	0.97	8.1	4.6	517.65	1692.01	3.17	1.79	5.17	5.17
Richland/McKenzie County	D12	RM 48.15	77182	10-yr	2928	589.58	584.24	1.46	0.91	9.82	5.47	497.96	1770.61	3.29	1.82	5.34	5.34
Richland/McKenzie County	D12	RM 47.97	76887	10-yr	2928	589.55	584.09	1.1	0.79	5.13	3.3	601.73	2178.74	2.96	1.9	5.46	5.46
Richland/McKenzie County	D12	RM 47.76	76570	10-yr	2928	589.51	583.86	1.05	0.81	5.3	3.06	565.5	2088.23	3.29	1.9	5.65	5.65
Richland/McKenzie County	D12	RM 47.59	76293	10-yr	2928	589.44	583.71	1.2	0.86	6.86	3.07	391.27	2053.05	4.01	1.79	5.73	5.73
Richland/McKenzie County	D12	RM 47.4	75982	10-yr	2928	589.35	583.42	1.6	0.93	11.44	4.06	196.88	1962.42	4.86	1.7	5.93	5.93
Richland/McKenzie County	D12	RM 47.12	75521	10-yr	2928	589.14	583.04	1.92	1.12	15.81	4.18	234.72	1782.27	5.83	1.52	6.1	6.1
Richland/McKenzie County	D12	RM 47	75323	10-yr	2928	588.75	583.04	3.12	1.68	43.64	8.96	162.2	1677.5	5.14	1.04	5.71	5.71
Richland/McKenzie County	D12	RM 46.85	75082	10-yr	2928	588.59	583.04	2.91	1.82	38.14	7.93	184.53	1541.71	5.09	1.04	5.55	5.55
Richland/McKenzie County	D12	RM 46.67	74782	10-yr	2928	588.33	583.04	2.96	2.17	39.37	9.15	185.83	1148.54	5.13	1.17	5.29	5.29
Richland/McKenzie County	D12	RM 46.47	74459	10-yr	2928	588.31	583.04	1.99	1.69	18.37	6.56	312.11	1054.33	4.63	1.64	5.27	5.27
Richland/McKenzie County	D12	RM 46.3	74186	10-yr	2928	588.17	583.04	2.04	1.78	17.87	10.33	421.1	893.94	3.35	1.92	5.13	5.13
Richland/McKenzie County	D12	RM 46.14	73920	10-yr	2928	588.07	583.04	1.84	1.63	14.71	9.16	454.73	847.35	3.44	2.13	5.03	5.03
Richland/McKenzie County	D12	RM 45.9	73546	10-yr	2928	587.92	582.97	1.86	1.4	16.58	7.59	339.6	1129.02	4.08	1.86	4.95	4.95
Richland/McKenzie County	D12	RM 45.75	73307	10-yr	2928	587.73	582.88	2.17	1.63	22.3	9.22	351.5	1296.65	3.44	1.42	4.85	4.85
Richland/McKenzie County	D12	RM 45.54	72980	10-yr	2928	587.63	582.55	1.73	1.35	14.55	5.61	382.5	1550.98	4.07	1.56	5.08	5.08
Richland/McKenzie County	D12	RM 45.29	72680	10-yr	2928	587.5	582.25	1.85	1.27	16.64	5.66	347.33	1697.14	4.02	1.36	5.25	5.25
Richland/McKenzie County	D12	RM 45.09	72380	10-yr	2928	587.39	582.08	1.88	1.15	16	4.27	267.36	1965.38	4.91	1.3	5.31	5.31
Richland/McKenzie County	D12	RM 44.91	72080	10-yr	2928	587.3	582.01	1.81	1.14	15.1	4.56	283.48	1832.98	4.69	1.4	5.29	5.29
Richland/McKenzie County	D12	RM 44.72	71783	10-yr	2928	587.08	581.97	2.33	1.36	24.93	6.63	208.81	1802.18	4.8	1.26	5.11	5.11
Richland/McKenzie County	D12	RM 44.53	71483	10-yr	2928	586.85	581.82	2.65	1.6	32.84	10.24	177.29	1364.46	4.58	1.41	5.03	5.03
Richland/McKenzie County	D12	RM 44.34	71183	10-yr	2928	586.5	581.8	2.94	1.98	42.41	13.76	198.78	1389.96	3.91	1.25	4.7	4.7
Richland/McKenzie County	D12	RM 44.17	70899	10-yr	2928	586.53	581.79	1.64	1.25	12.37	4.9	301.73	1889.58	4.66	1.83	4.74	4.74
Richland/McKenzie County	D12	RM 43.97	70594	10-yr	2928	586.48	581.73	1.37	1.01	9.23	3.87	326.68	2223	3.89	1.62	4.75	4.75
Richland/McKenzie County	D12	RM 43.74	70230	10-yr	2928	586.36	581.66	1.54	1.31	11.79	5.38	164.51	1462.96	3.73	1.68	4.7	4.7
Richland/McKenzie County	D12	RM 43.59	69983	10-yr	2928	586.27	581.56	1.48	0.85	10.59	3.73	143.76	2592.53	3.84	1.32	4.71	4.71
Richland/McKenzie County	D12	RM 43.4	69684	10-yr	2928	586.18	581.49	1.49	0.84	10.78	3.37	150.64	2814.71	4.05	1.24	4.69	4.69
Richland/McKenzie County	D12	RM 43.03	69084	10-yr	2928	586.08	581.37	1.44	0.71	10.2	3.21	131.62	3495.6	3.82	1.18	4.71	4.71
Richland/McKenzie County	D12	RM 42.66	68489	10-yr	2928	586	581.18	1.58	0.73	11.97	3.28	115.82	3565.09	4.17	1.12	4.82	4.82
Richland/McKenzie County	D12	RM 42.29	67889	10-yr	2928	585.94	580.87	1.18	0.68	6.56	1.96	281.47	3611.53	4.47	1.32	5.07	5.07
Richland/McKenzie County	D12	RM 42.08	67558	10-yr	2928	585.89	580.61	1.36	0.68	8.39	2.28	180.64	3354.32	5.03	1.35	5.28	5.28
Richland/McKenzie County	D12	RM 41.89	67260	10-yr	2928	585.81	580.31	1.46	0.77	9.64	2.78	292.42	2778.93	4.91	1.41	5.5	5.5
Richland/McKenzie County	D12	RM 41.75	67037	10-yr	2928	585.73	579.99	1.58	0.89	11.88	3.51	337.38	2687.24	4.23	1.23	5.74	5.74
Richland/McKenzie County	D12	RM 41.54	66695	10-yr	2928	585.56	579.72	2.01	0.99	17.72	4.72	196.39	2039.25	5.53	1.45	5.84	5.84
Richland/McKenzie County	D12	RM 41.34	66361	10-yr	2928	585.42	579.43	2.08	1.15	20.14	6.23	218.95	1796.65	4.63	1.41	5.99	5.99

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	10-yr	2928	585.29	579.08	2.19	1.2	21.43	5.95	195.81	1724.4	5.18	1.41	6.21	6.21
Richland/McKenzie County	D12	RM 40.99	65802	10-yr	2928	585.18	578.99	2.04	1.04	18.68	5.24	203.5	2013.08	5.05	1.39	6.2	6.2
Richland/McKenzie County	D12	RM 40.8	65502	10-yr	2928	585.02	578.97	2.07	1.36	20.02	5.35	273.63	1931.62	4.48	1.19	6.05	6.05
Richland/McKenzie County	D12	RM 40.62	65205	10-yr	2928	584.97	578.92	1.53	0.99	11.39	3.9	375.4	2706.2	4.01	1.36	6.05	6.05
Richland/McKenzie County	D12	RM 40.24	64602	10-yr	2928	584.81	578.6	1.41	0.86	9.57	3.55	507.11	2826.71	3.46	1.27	6.21	6.21
Richland/McKenzie County	D12	RM 40	64219	10-yr	2928	584.64	578.56	1.78	0.96	14.86	3.84	309.03	2761.31	4.48	1.14	6.08	6.08
Richland/McKenzie County	D12	RM 39.87	64002	10-yr	2928	584.52	578.55	2.1	1.05	19.59	4.68	222	2280.39	5.21	1.23	5.97	5.97
Richland/McKenzie County	D12	RM 39.68	63702	10-yr	2928	584.41	578.45	2.09	1.14	20.3	4.17	241.95	2751	4.61	0.94	5.96	5.96
Richland/McKenzie County	D12	RM 39.5	63402	10-yr	2928	584.27	578.35	2.19	1.17	22.5	4.69	226.39	2954.9	4.43	0.91	5.92	5.92
Richland/McKenzie County	D12	RM 39.31	63102	10-yr	2928	584.19	578.31	1.93	1.09	17.1	4.15	227.2	2535.08	4.71	1.13	5.88	5.88
Richland/McKenzie County	D12	RM 39.13	62802	10-yr	2928	584.08	578.2	1.88	1.08	16.81	4.3	286.13	2473.63	4.34	1.1	5.88	5.88
Richland/McKenzie County	D12	RM 38.94	62501	10-yr	2928	584	578.12	1.74	0.92	14.05	3.4	264.19	2851.48	4.67	1.11	5.88	5.88
Richland/McKenzie County	D12	RM 38.76	62201	10-yr	2928	583.92	578.03	1.72	0.92	13.2	2.96	245.72	2767.49	5.23	1.15	5.89	5.89
Richland/McKenzie County	D12	RM 38.57	61901	10-yr	2928	583.84	577.87	1.82	0.92	15.61	4.66	236.46	2476.42	4.36	1.28	5.97	5.97
Richland/McKenzie County	D12	RM 38.38	61601	10-yr	2928	583.83	577.84	1.07	0.62	5.47	2.49	268.55	2371.89	4.43	2	5.99	5.99
Richland/McKenzie County	D12	RM 38.2	61301	10-yr	2928	583.77	577.82	1.27	0.71	7.14	2.89	244.45	2323.7	5.25	2.1	5.95	5.95
Richland/McKenzie County	D12	RM 38.01	61008	10-yr	2928	583.73	577.81	1.33	0.85	8.45	4.57	307.49	1543.78	4.14	2.22	5.92	5.92
Richland/McKenzie County	D12	RM 37.84	60708	10-yr	2928	583.64	577.71	1.51	1.06	12	6.04	335.25	1334.98	4.15	2.07	5.93	5.93
Richland/McKenzie County	D12	RM 37.65	60408	10-yr	2928	583.63	577.66	1	0.8	4.88	3.29	565.75	1430.07	4.07	2.74	5.97	5.97
Richland/McKenzie County	D12	RM 37.5	60107	10-yr	2928	583.59	577.54	0.99	0.91	4.93	3.63	561.58	1341.62	3.61	2.66	6.05	6.05
Richland/McKenzie County	D12	RM 37.35	59808	10-yr	2928	583.5	577.37	1.14	0.93	7.43	4.64	427.63	1269.26	3.98	2.47	6.13	6.13
Richland/McKenzie County	D12	RM 37.16	59508	10-yr	2928	583.38	577.24	1.64	1.14	12.81	7.65	280.03	1043.55	4.15	2.46	6.14	6.14
Richland/McKenzie County	D12	RM 36.97	59208	10-yr	2928	583.29	576.96	1.81	1.26	14.91	8.07	222.26	1104.98	4.03	2.16	6.33	6.33
Richland/McKenzie County	D12	RM 36.78	58908	10-yr	2928	583.21	576.87	1.73	1.23	13.09	6.26	217.29	1800.89	4.89	2.32	6.34	6.34
Richland/McKenzie County	D12	RM 36.6	58608	10-yr	2928	583.12	576.66	1.81	1.28	14.16	4.34	182.19	2171.7	5.81	1.73	6.46	6.46
Richland/McKenzie County	D12	RM 36.38	58263	10-yr	2932.8	582.98	576.49	1.84	1.57	14.93	4.51	290.42	1984.37	5.42	1.62	6.49	6.49
Richland/McKenzie County	D13	RM 36.23	58011	10-yr	2932.8	582.76	576.43	2.43	1.86	25.29	6.92	199.11	1714.78	5.88	1.58	6.33	6.33
Richland/McKenzie County	D13	RM 36.04	57708	10-yr	2932.8	582.56	576.42	2.68	1.73	32.19	8.72	194.14	1845.1	5.15	1.37	6.14	6.14
Richland/McKenzie County	D13	RM 35.85	57408	10-yr	2932.8	582.47	576.41	2.23	1.51	21.4	7.67	278.37	1803.29	4.25	1.51	6.06	6.06
Richland/McKenzie County	D13	RM 35.66	57108	10-yr	2932.8	582.46	576.36	1.56	1.13	10.79	3.6	327.66	2007.65	4.93	1.63	6.1	6.1
Richland/McKenzie County	D13	RM 35.48	56810	10-yr	2932.8	582.28	576.3	2.17	1.35	20.88	5.25	189.87	2051.5	5.28	1.31	5.98	5.98
Richland/McKenzie County	D13	RM 35.29	56508	10-yr	2932.8	582.17	576.19	2.09	1.38	20.38	6.08	216.77	1953.74	4.57	1.34	5.98	5.98
Richland/McKenzie County	D13	RM 35.1	56208	10-yr	2932.8	582.06	576.07	1.94	1.36	16.63	5.15	244.46	1689.09	5.5	1.67	5.99	5.99
Richland/McKenzie County	D13	RM 34.92	55908	10-yr	2932.8	581.93	576.09	2.02	1.43	21.28	7.97	254.13	1592.75	4.98	1.85	5.84	5.84
Richland/McKenzie County	D13	RM 34.73	55605	10-yr	2932.8	581.87	575.89	1.59	1.35	11.37	6.26	414.63	1004.38	4.17	2.29	5.98	5.98
Richland/McKenzie County	D13	RM 34.54	55297	10-yr	2932.8	581.78	575.79	1.58	1.34	12.26	7.62	394.66	1013.49	3.63	2.24	5.99	5.99
Richland/McKenzie County	D13	RM 34.36	55008	10-yr	2932.8	581.74	575.75	1.4	1.05	8.4	4.03	323.48	1136.99	5.15	2.45	5.99	5.99
Richland/McKenzie County	D13	RM 34.17	54708	10-yr	2932.8	581.7	575.49	1.24	0.9	7.13	3.55	380.95	1420.14	4.65	2.3	6.21	6.21
Richland/McKenzie County	D13	RM 33.94	54408	10-yr	2932.8	581.68	575.34	1.15	0.85	5.82	3.42	374.48	1238.63	4.77	2.79	6.34	6.34
Richland/McKenzie County	D13	RM 33.76	54079	10-yr	2932.8	581.63	575.12	1.3	1.01	7.68	4.7	286.39	1060.35	4.94	2.98	6.51	6.51
Richland/McKenzie County	D13	RM 33.6	53799	10-yr	2932.8	581.59	574.88	1.24	0.96	7.53	4.92	376.74	1095.62	4.57	2.96	6.71	6.71
Richland/McKenzie County	D13	RM 33.42	53508	10-yr	2932.8	581.53	574.61	1.38	1	7.96	4.32	262.09	1325.48	5.75	3.08	6.92	6.92
Richland/McKenzie County	D13	RM 33.23	53208	10-yr	2932.8	581.5	574.45	1.34	0.99	7.49	3.46	209.05	1574.37	6.27	2.86	7.05	7.05
Richland/McKenzie County	D13	RM 33.04	52908	10-yr	2932.8	581.42	574.3	1.61	1.14	10.63	3.88	193.34	1497.99	6.79	2.44	7.12	7.12
Richland/McKenzie County	D13	RM 32.86	52608	10-yr	2932.8	581.3	574.18	1.93	1.2	15.7	4.98	209.27	1563.35	6.29	1.96	7.12	7.12
Richland/McKenzie County	D13	RM 32.67	52308	10-yr	2932.8	581.24	574.18	1.9	0.98	15.3	5.31	188.53	1550.52	6.1	2.08	7.06	7.06
Richland/McKenzie County	D13	RM 32.48	52008	10-yr	2932.8	581.13	574.04	2.01	1.05	17.49	5.94	196.91	1448.9	5.81	1.92	7.09	7.09
Richland/McKenzie County	D13	RM 32.29	51709	10-yr	2932.8	581.09	574.04	1.7	0.98	12.24	5.38	224.23	1145.06	6.05	2.62	7.05	7.05
Richland/McKenzie County	D13	RM 32.11	51423	10-yr	2932.8	581.03	573.94	1.67	1.09	11.62	4.22	220.08	1175.57	6.34	2.28	7.09	7.09
Richland/McKenzie County	D13	RM 31.92	51108	10-yr	2932.8	580.97	573.85	1.66	0.98	11.95	5.44	211.85	1232.57	5.58	2.5	7.12	7.12
Richland/McKenzie County	D13	RM 31.73	50809	10-yr	2932.8	580.93	573.72	1.43	0.89	9.05	3.94	261.37	1455.87	6.37	2.75	7.21	7.21
Richland/McKenzie County	D13	RM 31.51	50462	10-yr	2932.8	580.7	573.24	2.33	1.28	21.48	7.75	162.22	1260.62	6.35	2.24	7.46	7.46
Richland/McKenzie County	D13	RM 31.35	50208	10-yr	2932.8	580.53	573.24	2.61	1.58	29.81	14.24	169.04	826.04	5.53	2.59	7.29	7.29
Richland/McKenzie County	D13	RM 31.22	50009	10-yr	2932.8	580.39	573.24	2.7	1.81	31.04	14.34	149.68	613.27	6.09	2.75	7.15	7.15
Richland/McKenzie County	D13	RM 31.12	49859	10-yr	2932.8	580.3	573.24	2.48	2.45	36.05	33.74	196.27	298.22	5.99	5.61	7.06	7.06
Richland/McKenzie County	D13	RM 30.97	49608	10-yr	2932.8	580.29	573.24	1.94	1.83	15.58	10.73	225.84	734.78	6.63	4.54	7.05	7.05
Richland/McKenzie County	D13	RM 30.79	49308	10-yr	2932.8	580.09	573.24	2.42	1.99	25.06	13.02	199.27	704.26	5.89	3.03	6.85	6.85
Richland/McKenzie County	D13	RM 30.6	49009	10-yr	2932.8	579.93	573.24	2.57	1.83	28.62	13.66	187.26	772.05	5.65	2.66	6.68	6.68
Richland/McKenzie County	D13	RM 30.41	48706	10-yr	2932.8	579.83	573.15	2.3	1.62	23.24	10.5	212.3	839.17	5.55	2.48	6.68	6.68
Richland/McKenzie County	D13	RM 30.22	48403	10-yr	2932.8	579.73	573.15	2.19	1.47	20.23	7.1	199.03	1247.13	6.12	2.11	6.58	6.58
Richland/McKenzie County	D13	RM 30.03	48102	10-yr	2932.8	579.75	573.15	1.43	1.02	8.82	3.85	315.48	1254.9	5.9	2.5	6.6	6.6

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	10-yr	2932.8	579.72	573.15	1.32	0.92	7.65	3.68	376.84	1249.12	5.37	2.55	6.57	6.57
Richland/McKenzie County	D13	RM 29.66	47508	10-yr	2932.8	579.63	573.11	1.53	1	9.38	4.66	393.01	1380.75	4.34	2.12	6.52	6.52
Richland/McKenzie County	D13	RM 29.48	47209	10-yr	2932.8	579.58	573.11	1.45	0.98	8.89	4.46	346.87	1415.77	5.21	2.58	6.47	6.47
Richland/McKenzie County	D13	RM 29.28	46894	10-yr	2932.8	579.54	572.98	1.3	1.02	7.73	5.08	401.07	918.71	4.82	3.15	6.56	6.56
Richland/McKenzie County	D13	RM 29.1	46608	10-yr	2932.8	579.48	572.94	1.63	1.06	11.6	6.61	169.86	931.27	5.57	3.14	6.54	6.54
Richland/McKenzie County	D13	RM 28.92	46308	10-yr	2932.8	579.4	572.85	1.74	1.19	12.92	5.94	146.69	965.65	6.08	2.74	6.55	6.55
Richland/McKenzie County	D13	RM 28.73	46008	10-yr	2932.8	579.37	572.67	1.52	1	9.92	4.42	152.03	1261.94	5.82	2.55	6.7	6.7
Richland/McKenzie County	D13	RM 28.54	45708	10-yr	2932.8	579.33	572.67	1.41	0.93	8.41	3.54	201.29	1402.73	5.4	2.24	6.66	6.66
Richland/McKenzie County	D13	RM 28.36	45419	10-yr	2932.8	579.29	572.48	1.33	0.9	7.59	3.17	233.95	1361.78	5.82	2.4	6.81	6.81
Richland/McKenzie County	D13	RM 28.15	45071	10-yr	2932.8	579.23	572.25	1.21	1.04	6.39	3.49	429.8	980.54	5.44	2.95	6.98	6.98
Richland/McKenzie County	D13	RM 27.98	44808	10-yr	2932.8	579.08	572.04	1.88	1.44	14.84	4.71	236.34	1109.91	6.28	1.96	7.04	7.04
Richland/McKenzie County	D13	RM 27.8	44508	10-yr	2932.8	579.03	571.87	1.79	1.4	13.06	4.75	226.85	909.95	6.91	2.47	7.16	7.16
Richland/McKenzie County	D14	RM 27.61	44208	10-yr	2932.8	578.97	571.87	1.78	1.34	13.2	4.29	246.37	1181.44	6.36	2.04	7.1	7.1
Richland/McKenzie County	D14	RM 27.43	43916	10-yr	2932.8	578.94	571.87	1.58	1.13	10.2	3.28	261.74	1765.87	6.7	2.12	7.07	7.07
Richland/McKenzie County	D14	RM 27.23	43608	10-yr	2932.8	578.93	571.87	1.25	0.88	6.38	2.03	310.87	2003.65	6.95	2.18	7.06	7.06
Richland/McKenzie County	D14	RM 27.04	43305	10-yr	2932.8	578.87	571.87	1.48	0.94	9.14	2.69	277.5	1938.48	6.4	1.84	7	7
Richland/McKenzie County	D14	RM 26.86	43008	10-yr	2932.8	578.79	571.87	1.71	1.02	12.09	3.08	229.41	1953.45	6.63	1.66	6.92	6.92
Richland/McKenzie County	D14	RM 26.67	42708	10-yr	2932.8	578.75	571.87	1.57	0.95	10.11	2.86	252.42	1853.09	6.61	1.85	6.88	6.88
Richland/McKenzie County	D14	RM 26.48	42408	10-yr	2932.8	578.63	571.87	1.93	1.15	15.51	4.24	209.83	1551.13	6.46	1.73	6.76	6.76
Richland/McKenzie County	D14	RM 26.29	42108	10-yr	2932.8	578.53	571.87	2.04	1.32	17.39	4.79	205.84	1306.88	6.35	1.72	6.66	6.66
Richland/McKenzie County	D14	RM 26.11	41808	10-yr	2932.8	578.48	571.87	1.76	1.27	12.97	3.68	249.58	1321.43	6.31	1.77	6.61	6.61
Richland/McKenzie County	D14	RM 25.92	41508	10-yr	2932.8	578.46	571.87	1.48	1.14	9.13	2.8	305.76	1393.79	6.29	1.91	6.59	6.59
Richland/McKenzie County	D14	RM 25.73	41208	10-yr	2932.8	578.42	571.74	1.43	1.15	8.51	2.66	309.7	1295.39	6.46	2	6.68	6.68
Richland/McKenzie County	D14	RM 25.55	40918	10-yr	2932.8	578.36	571.74	1.51	1.19	10.03	3.76	346.01	1305.69	5.41	2.01	6.62	6.62
Richland/McKenzie County	D14	RM 25.37	40619	10-yr	2932.8	578.3	571.74	1.53	1.24	10.5	4.34	353.9	1573.1	5.21	2.14	6.56	6.56
Richland/McKenzie County	D14	RM 25.17	40310	10-yr	2932.8	578.21	571.74	1.65	1.35	12.29	6.03	361.09	1078.3	4.73	2.31	6.47	6.47
Richland/McKenzie County	D14	RM 24.99	40008	10-yr	2932.8	578.18	571.74	1.35	1.14	7.93	4.28	384.4	1038.72	5.48	2.95	6.44	6.44
Richland/McKenzie County	D14	RM 24.8	39703	10-yr	2932.8	578.15	571.71	1.18	1.07	6.46	3.98	400.67	857.34	6.14	3.77	6.44	6.44
Richland/McKenzie County	D14	RM 24.62	39408	10-yr	2932.8	578.05	571.64	1.63	1.43	11.5	6.62	278.78	744.75	5.75	3.29	6.41	6.41
Richland/McKenzie County	D14	RM 24.45	39139	10-yr	2932.8	577.89	571.64	2.02	1.89	17.27	11.12	239.98	602.06	6.02	3.86	6.25	6.25
Richland/McKenzie County	D14	RM 24.24	38801	10-yr	2932.8	577.8	571.58	2	1.78	17.04	10.96	237.24	554.9	6.01	3.85	6.22	6.22
Richland/McKenzie County	D14	RM 24.05	38506	10-yr	2932.8	577.74	571.48	1.83	1.74	14.27	9.76	264.93	594.5	6.01	4.09	6.26	6.26
Richland/McKenzie County	D14	RM 23.87	38210	10-yr	2932.8	577.74	571.28	1.4	1.34	8.17	5.28	334.4	872.01	6.26	4.03	6.46	6.46
Richland/McKenzie County	D14	RM 23.66	37912	10-yr	2932.8	577.73	571.21	1.14	1.1	5.58	3.65	442.5	1089.9	5.79	3.77	6.51	6.51
Richland/McKenzie County	D14	RM 23.48	37610	10-yr	2932.8	577.69	571.12	1.22	1.12	6.82	4.21	347.97	1063.62	4.97	3.07	6.57	6.57
Richland/McKenzie County	D14	RM 23.29	37312	10-yr	2932.8	577.63	570.86	1.36	1.14	8.53	4.61	313.75	1371.42	4.87	2.61	6.77	6.77
Richland/McKenzie County	D14	RM 23.1	37006	10-yr	2932.8	577.59	570.82	1.36	1.04	8.43	3.92	254.67	1422.63	5.65	2.6	6.77	6.77
Richland/McKenzie County	D14	RM 22.92	36721	10-yr	2932.8	577.54	570.8	1.46	1.03	9.36	3.68	214.08	1848.54	5.58	2.16	6.74	6.74
Richland/McKenzie County	D14	RM 22.72	36402	10-yr	2932.8	577.44	570.81	1.82	1.14	13.87	4.26	178.19	1941.77	6.25	1.88	6.63	6.63
Richland/McKenzie County	D14	RM 22.54	36108	10-yr	2932.8	577.38	570.76	1.58	1.04	10.77	2.78	276.8	2215.15	6.06	1.55	6.62	6.62
Richland/McKenzie County	D14	RM 22.35	35808	10-yr	2932.8	577.34	570.74	1.47	1.02	9.28	2.69	308.52	2147.45	5.86	1.68	6.6	6.6
Richland/McKenzie County	D14	RM 22.17	35508	10-yr	2932.8	577.3	570.68	1.42	1.01	8.42	1.89	303.06	2566.02	6.43	1.43	6.62	6.62
Richland/McKenzie County	D14	RM 22.02	35264	10-yr	2932.8	577.29	570.68	1.22	0.91	6.16	1.43	354.21	2424.91	6.5	1.49	6.61	6.61
Richland/McKenzie County	D14	RM 21.8	34901	10-yr	2932.8	577.23	570.69	1.33	1.04	7.9	2.18	401.14	2050.96	5.26	1.43	6.54	6.54
Richland/McKenzie County	D14	RM 21.61	34626	10-yr	2932.8	577.19	570.67	1.32	1.17	8.01	2.79	468.94	1585.15	4.68	1.62	6.52	6.52
Richland/McKenzie County	D14	RM 21.34	34140	10-yr	2932.8	577.16	570.67	1.14	0.9	5.59	1.81	289.68	1894.51	5.82	1.86	6.49	6.49
Richland/McKenzie County	D14	RM 21.25	33973	10-yr	2932.8	577.13	570.67	1.39	0.96	8.47	2.31	204.54	2293.3	5.31	1.42	6.46	6.46
Richland/McKenzie County	D14	RM 21.06	33672	10-yr	2932.8	577.12	570.6	1.09	0.7	5.25	1.67	267.5	2662.39	5.43	1.71	6.52	6.52
Richland/McKenzie County	D14	RM 20.9	33400	10-yr	2932.8	577.1	570.58	1.15	0.72	6.01	1.91	251.38	2774.84	4.95	1.55	6.52	6.52
Richland/McKenzie County	D14	RM 20.71	33101	10-yr	2932.8	577.04	570.53	1.37	0.77	8.52	2.29	247.47	2870.7	5.2	1.38	6.51	6.51
Richland/McKenzie County	D14	RM 20.52	32800	10-yr	2932.8	577.01	570.52	1.28	0.76	7.11	1.68	280.27	3286.82	5.6	1.31	6.49	6.49
Richland/McKenzie County	D14	RM 20.34	32500	10-yr	2932.8	576.97	570.52	1.32	0.81	7.55	1.74	256.92	3130.69	5.7	1.3	6.45	6.45
Richland/McKenzie County	D14	RM 20.15	32200	10-yr	2932.8	576.92	570.52	1.45	0.87	10.56	2.23	231.21	3043.68	5.86	1.22	6.4	6.4
Richland/McKenzie County	D14	RM 19.96	31900	10-yr	2932.8	576.67	570.52	2.31	1.24	22.88	4.12	189.46	2376.7	5.85	1.03	6.15	6.15
Richland/McKenzie County	D14	RM 19.77	31600	10-yr	2932.8	576.71	570.5	1.41	0.89	8.54	1.85	332.93	3171.18	5.68	1.22	6.21	6.21
Richland/McKenzie County	D14	RM 19.59	31297	10-yr	2932.8	576.67	570.45	1.33	0.83	7.77	2.09	334.34	2685.53	5.38	1.43	6.22	6.22
Richland/McKenzie County	D14	RM 19.4	30995	10-yr	2932.8	576.62	570.45	1.46	0.79	9.55	2.07	284.81	3611.66	5.18	1.11	6.17	6.17
Richland/McKenzie County	D14	RM 19.21	30710	10-yr	2932.8	576.61	570.38	1.05	0.62	4.7	1.15	380.6	3753.69	5.8	1.41	6.23	6.23
Richland/McKenzie County	D14	RM 19.03	30402	10-yr	2932.8	576.58	570.38	1.07	0.69	4.93	1.26	428.38	3779.08	5.15	1.3	6.2	6.2
Richland/McKenzie County	D14	RM 18.83	30086	10-yr	2932.8	576.55	570.38	1.05	0.67	4.74	1.69	505.09	3935.8	4.24	1.49	6.17	6.17
Richland/McKenzie County	D14	RM 18.66	29802	10-yr	2932.8	576.52	570.38	1.1	0.69	5.62	2.12	455.27	4238.3	4.23	1.57	6.14	6.14

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	10-yr	2932.8	576.43	570.36	1.51	0.92	10.46	2.89	299.05	4164	4.73	1.28	6.07	6.07
Richland/McKenzie County	D14	RM 18.28	29197	10-yr	2932.8	576.33	570.36	1.65	1.09	12.05	2.87	299.23	3649.86	5.4	1.27	5.97	5.97
Richland/McKenzie County	D14	RM 17.89	28624	10-yr	2932.8	576.31	570.33	1	0.79	4.29	1.75	468.41	3004.52	5.85	2.37	5.98	5.98
Richland/McKenzie County	D14	RM 17.56	27975	10-yr	2932.8	576.19	570.29	1.37	1.23	8.12	5	460.6	1634.17	4.54	2.79	5.9	5.9
Richland/McKenzie County	D14	RM 17.36	27539	10-yr	2932.8	575.92	570.31	2.16	2.06	20.56	12.59	254.84	971.45	5.31	3.24	5.61	5.61
Richland/McKenzie County	D14	RM 17.1	27113	10-yr	2932.8	575.82	570.28	1.83	1.71	14.84	10.02	298.39	937.64	5.31	3.58	5.54	5.54
Richland/McKenzie County	D14	RM 16.74	26537	10-yr	2932.8	575.76	570.14	1.33	1.19	7.76	4.99	406.85	956.48	5.27	3.38	5.62	5.62
Richland/McKenzie County	D14	RM 16.35	25925	10-yr	2932.8	575.69	569.46	1.29	1.02	7.09	3.67	345.73	1055.26	6.02	3.1	6.23	6.23
Richland/McKenzie County	D14	RM 16.17	25629	10-yr	2932.8	575.66	569.2	1.2	0.92	6.39	3.61	377.41	1067.19	5.98	3.37	6.46	6.46
Richland/McKenzie County	D14	RM 15.95	25324	10-yr	2932.8	575.65	568.99	0.95	0.81	3.74	2.5	457.34	924.4	6.46	4.3	6.66	6.66
Richland/McKenzie County	D14	RM 15.75	25032	10-yr	2932.8	575.62	568.85	1.06	0.99	4.76	3.4	462.46	798.04	5.89	4.2	6.77	6.77
Richland/McKenzie County	D14	RM 15.56	24777	10-yr	2932.8	575.49	568.85	1.67	1.66	11.81	10.82	291.53	370.26	6.01	5.51	6.64	6.64
Richland/McKenzie County	D14	RM 15.34	24438	10-yr	2932.8	575.41	568.79	1.74	1.63	12.65	7.51	261.89	534.74	6.38	3.76	6.62	6.62
Richland/McKenzie County	D14	RM 15.16	24144	10-yr	2932.8	575.36	568.75	1.7	1.55	12.08	7.76	267.44	528.07	6.36	4.05	6.61	6.61
Richland/McKenzie County	D14	RM 14.98	23841	10-yr	2932.8	575.28	568.76	1.79	1.58	15.07	9	254.68	505.28	6.27	3.72	6.52	6.52
Richland/McKenzie County	D14	RM 14.79	23543	10-yr	2932.8	575.21	568.72	1.75	1.54	12.98	8.65	286.13	533.26	5.7	3.76	6.49	6.49
Richland/McKenzie County	D14	RM 14.61	23241	10-yr	2932.8	575.15	568.7	1.69	1.48	11.97	7.65	274.36	598.41	6.17	3.92	6.45	6.45
Richland/McKenzie County	D14	RM 14.42	22940	10-yr	2932.8	575.13	568.69	1.4	1.27	8.25	5.79	328.42	1165.48	6.24	4.36	6.44	6.44
Richland/McKenzie County	D14	RM 14.23	22647	10-yr	2932.8	575.13	568.67	1.07	0.98	4.8	3.51	444.61	1420.78	6.09	4.45	6.46	6.46
Richland/McKenzie County	D14	RM 14.05	22341	10-yr	2932.8	575.12	568.68	0.91	0.86	5.02	4.09	601.92	1270.3	5.26	4.27	6.44	6.44
Richland/McKenzie County	D14	RM 13.88	22040	10-yr	2932.8	575.07	568.67	1	0.96	5.01	4.04	682.22	919.02	4.25	3.42	6.4	6.4
Richland/McKenzie County	D14	RM 13.7	21728	10-yr	2932.8	575	568.65	1.27	1.26	6.94	6.84	502.19	587.28	4.6	4.54	6.35	6.35
Richland/McKenzie County	D14	RM 13.51	21429	10-yr	2932.8	574.95	568.63	1.29	1.26	7.08	6.57	409.72	486.77	5.53	5.13	6.32	6.32
Richland/McKenzie County	D15	RM 13.31	21145	10-yr	2932.8	574.93	568.51	1.15	1.15	5.77	5.58	457.14	499.79	5.56	5.39	6.42	6.42
Richland/McKenzie County	D15	RM 13.12	20858	10-yr	2932.8	574.86	568.39	1.38	1.38	8.04	7.77	344.8	375.57	6.16	5.96	6.47	6.47
Richland/McKenzie County	D15	RM 12.9	20507	10-yr	2932.8	574.77	568.39	1.59	1.58	10.73	10.24	303.98	368.25	6.06	5.78	6.38	6.38
Richland/McKenzie County	D15	RM 12.73	20241	10-yr	2932.8	574.72	568.35	1.6	1.6	10.78	10.63	297.97	324.41	6.16	6.07	6.37	6.37
Richland/McKenzie County	D15	RM 12.56	19961	10-yr	2932.8	574.7	568.34	1.4	1.37	8.26	6.08	337.44	667.83	6.19	4.54	6.36	6.36
Richland/McKenzie County	D15	RM 12.38	19686	10-yr	2932.8	574.69	568.23	1.13	1.1	5.47	4.3	425.61	663.52	6.05	4.74	6.46	6.46
Richland/McKenzie County	D15	RM 12.21	19384	10-yr	2932.8	574.66	568.17	1.16	1.07	5.81	4.83	513.36	742.13	4.81	3.99	6.49	6.49
Richland/McKenzie County	D15	RM 11.99	19084	10-yr	2932.8	574.63	568.16	1.1	1.02	5.34	4.03	592.13	904.83	4.45	3.34	6.47	6.47
Richland/McKenzie County	D15	RM 11.53	18484	10-yr	2932.8	574.54	568.11	1.19	1	4.53	3.68	692.86	1177.74	3.39	2.74	6.43	6.43
Richland/McKenzie County	D15	RM 11.34	18216	10-yr	2932.8	574.48	568.06	1.09	0.99	20.96	17.96	710.89	1093.94	3.42	2.93	6.42	6.42
Richland/McKenzie County	D15	RM 11.17	17885	10-yr	2932.8	574.24	567.88	1.26	1.2	22.93	21.14	644.88	757.05	3.49	3.22	6.36	6.36
Richland/McKenzie County	D15	RM 10.97	17584	10-yr	2932.8	574.16	567.8	1.19	1.13	5.31	4.96	687.73	834.23	3.53	3.29	6.36	6.36
Richland/McKenzie County	D15	RM 10.75	17284	10-yr	2932.8	574.13	567.79	1.06	1.01	4.04	3.59	709.57	887.5	3.86	3.43	6.34	6.34
Richland/McKenzie County	D15	RM 10.53	16964	10-yr	2932.8	574.07	567.73	1.23	1.16	5.46	4.67	641.5	1005.6	3.68	3.14	6.34	6.34
Richland/McKenzie County	D15	RM 10.35	16670	10-yr	2932.8	574.01	567.73	1.3	1.17	7.46	5.73	517.24	1262.88	4.21	3.22	6.28	6.28
Richland/McKenzie County	D15	RM 10.15	16384	10-yr	2932.8	573.97	567.73	1.36	1.01	7.83	4.61	251.85	1335.71	5.94	3.47	6.24	6.24
Richland/McKenzie County	D15	RM 9.94	16084	10-yr	2932.8	573.95	567.73	1.09	0.9	5.1	3.63	272.39	1589.94	5.75	4.08	6.22	6.22
Richland/McKenzie County	D15	RM 9.76	15797	10-yr	2932.8	573.9	567.65	1.22	0.96	6.25	4.34	352.04	1639.65	5.36	3.72	6.25	6.25
Richland/McKenzie County	D15	RM 9.57	15487	10-yr	2932.8	573.84	567.58	1.41	1.03	8.44	4.51	245.67	1377.82	6.05	3.22	6.26	6.26
Richland/McKenzie County	D15	RM 9.37	15187	10-yr	2932.8	573.76	567.58	1.63	1.23	11.35	7.43	203.96	1202.85	5.98	3.89	6.18	6.18
Richland/McKenzie County	D15	RM 9.24	14963	10-yr	2932.8	573.54	567.5	2.23	2.16	21.78	18.9	234.33	766.97	5.56	4.83	6.04	6.04
Richland/McKenzie County	D15	RM 9.1	14741	10-yr	2932.8	573.44	567.39	2.27	2.15	22.93	18.44	231.83	598.97	5.5	4.42	6.05	6.05
Richland/McKenzie County	D15	RM 9.03	14639	10-yr	2932.8	573.39	567.4	2.27	2.2	23.04	19.02	248.61	495.27	5.16	4.26	5.99	5.99
Richland/McKenzie County	D15	RM 8.82	14300	10-yr	2932.8	573.42	567.41	1.37	1.28	8.18	5.41	381.12	1092.38	5.54	3.65	6.01	6.01
Richland/McKenzie County	D15	RM 8.61	13963	10-yr	2932.8	573.36	567.39	1.5	1.21	9.82	4.82	313.8	1437.08	5.45	2.66	5.97	5.97
Richland/McKenzie County	D15	RM 8.44	13687	10-yr	2932.8	573.29	567.32	1.65	1.19	11.75	5.1	258.5	1284.52	5.72	2.46	5.97	5.97
Richland/McKenzie County	D15	RM 8.24	13387	10-yr	2932.8	573.21	567.32	1.74	1.18	13.04	6.96	229.73	897.23	5.73	3.02	5.89	5.89
Richland/McKenzie County	D15	RM 8.05	13080	10-yr	2932.8	573.15	567.05	1.63	1.22	11.36	6.21	266.23	814.05	5.85	3.18	6.1	6.1
Richland/McKenzie County	D15	RM 7.87	12786	10-yr	2932.8	573.05	567.05	1.83	1.36	14.38	8.31	229.92	729.91	5.76	3.31	6	6
Richland/McKenzie County	D15	RM 7.69	12506	10-yr	2932.8	573	567.05	1.66	1.36	11.95	8.07	266.56	560.27	5.73	3.86	5.95	5.95
Richland/McKenzie County	D15	RM 7.48	12179	10-yr	2932.8	572.97	566.95	1.38	1.38	8.16	7.99	361.54	370.09	5.86	5.75	6.02	6.02
Richland/McKenzie County	D16	RM 7.3	11891	10-yr	2932.8	572.89	566.76	1.55	1.55	10.22	10.15	336.71	338.78	5.63	5.6	6.13	6.13
Richland/McKenzie County	D16	RM 7.14	11639	10-yr	2932.8	572.84	566.76	1.6	1.53	11.4	10.01	324.06	414.95	5.25	4.62	6.08	6.08
Richland/McKenzie County	D16	RM 6.94	11319	10-yr	2932.8	572.78	566.76	1.55	1.35	10.28	7.23	297.15	565.68	5.83	4.09	6.02	6.02
Richland/McKenzie County	D16	RM 6.77	11043	10-yr	2932.8	572.76	566.76	1.35	1.15	7.96	5.44	349.25	773.23	5.52	3.76	6	6
Richland/McKenzie County	D16	RM 6.58	10733	10-yr	2932.8	572.72	566.59	1.28	1.03	7.11	4.24	342.3	945.17	5.75	3.4	6.13	6.13
Richland/McKenzie County	D16	RM 6.38	10417	10-yr	2932.8	572.57	566.59	2.02	1.23	17.6	6.43	182.43	1245.74	5.75	2.07	5.98	5.98
Richland/McKenzie County	D16	RM 6.21	10138	10-yr	2932.8	572.52	566.44	1.74	1.05	12.98	5.18	217.11	1220.94	5.81	2.29	6.08	6.08

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	10-yr	2932.8	572.51	566.17	1.17	0.86	5.92	2.92	412.46	1255.71	5.55	2.72	6.34	6.34
Richland/McKenzie County	D16	RM 5.83	9551	10-yr	2932.8	572.5	565.96	0.97	0.74	3.99	2.02	480.72	1348.28	5.84	2.94	6.54	6.54
Richland/McKenzie County	D16	RM 5.67	9297	10-yr	2932.8	572.47	565.96	1.13	0.8	5.55	2.89	342.04	1374.42	5.73	2.95	6.51	6.51
Richland/McKenzie County	D16	RM 5.43	8926	10-yr	2932.8	572.39	565.96	1.46	1.09	9.57	4.97	269.4	1318.73	5.12	2.63	6.43	6.43
Richland/McKenzie County	D16	RM 5.25	8623	10-yr	2932.8	572.16	565.96	2.18	1.56	20.27	8.51	206.77	906.14	5.93	2.46	6.2	6.2
Richland/McKenzie County	D16	RM 5.06	8331	10-yr	2932.8	572.16	565.82	1.59	1.29	10.85	7.12	289.25	779.83	5.89	3.85	6.34	6.34
Richland/McKenzie County	D16	RM 4.87	8029	10-yr	2932.8	572.14	565.67	1.3	1.15	7.35	5.42	335.83	858.84	5.59	4.1	6.47	6.47
Richland/McKenzie County	D16	RM 4.71	7757	10-yr	2932.8	572.09	565.54	1.49	1.2	9.38	5.94	253.03	791.29	6.14	3.85	6.55	6.55
Richland/McKenzie County	D16	RM 4.53	7456	10-yr	2932.8	571.97	565.54	1.91	1.37	15.44	7.53	199	1486.45	6.18	2.97	6.43	6.43
Richland/McKenzie County	D16	RM 4.34	7156	10-yr	2932.8	571.91	565.54	1.75	1.32	15.11	8.55	216.45	1707.25	6.04	3.38	6.37	6.37
Richland/McKenzie County	D16	RM 4.17	6884	10-yr	2932.8	571.83	565.54	1.78	1.32	13.48	7.05	225.83	1675.91	6.03	3.11	6.29	6.29
Richland/McKenzie County	D16	RM 3.96	6550	10-yr	2932.8	571.81	565.54	1.41	1.08	8.49	4.89	216.6	1834.46	6	3.43	6.27	6.27
Richland/McKenzie County	D16	RM 3.78	6249	10-yr	2932.8	571.76	565.54	1.56	1.12	10.67	5.73	196.52	1816.96	5.43	2.88	6.22	6.22
Richland/McKenzie County	D16	RM 3.55	5904	10-yr	2932.8	571.7	565.54	1.5	1.14	9.53	5.48	206.04	1798.93	5.97	3.4	6.16	6.16
Richland/McKenzie County	D16	RM 3.38	5657	10-yr	2932.8	571.6	565.53	1.85	1.37	14.7	7.83	171.27	1842.51	5.82	3.06	6.07	6.07
Richland/McKenzie County	D16	RM 3.2	5363	10-yr	2932.8	571.51	565.54	1.94	1.58	16.96	9.15	168.06	1783.65	5.1	2.71	5.97	5.97
Richland/McKenzie County	D16	RM 3.01	5062	10-yr	2932.8	571.45	565.54	1.7	1.37	12.8	7.7	310	1626.33	5.28	3.14	5.91	5.91
Richland/McKenzie County	D16	RM 2.82	4763	10-yr	2932.8	571.39	565.46	1.51	1.31	10.72	7.82	423.69	1765.79	4.43	3.22	5.93	5.93

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	20% - 5yr	827	1281.57	1278.12	2.45	2.16	32.52	20.72	107.66	208.2	2.96	1.87	3.45	3.45
Sweet Grass County	A1	RM 478.10	225378	20% - 5yr	827	1281.12	1277.66	3.15	2.86	59.59	44.55	110.98	198.17	2.12	1.59	3.46	3.46
Sweet Grass County	A1	RM 478.00	224862	20% - 5yr	827	1280.64	1277.97	3.05	2.86	59.32	50.13	137.08	236.75	1.77	1.5	2.67	2.67
Sweet Grass County	A1	RM 477.91	224362	20% - 5yr	827	1280.07	1277.65	3.45	2.89	66.47	45.59	84.69	251.45	2.09	1.43	2.41	2.41
Sweet Grass County	A1	RM 477.81	223862	20% - 5yr	827	1279.72	1276.96	2.97	2.55	39.18	31.09	120.12	250.66	1.78	1.41	2.76	2.76
Sweet Grass County	A1	RM 477.72	223354	20% - 5yr	827	1279.31	1276.32	2.59	2.38	45.95	33.58	178.54	346.58	1.42	1.03	2.99	2.99
Sweet Grass County	A1	RM 477.63	222892	20% - 5yr	827	1279.22	1275.76	1.51	1.43	14.37	11.11	246.2	488.1	1.82	1.4	3.46	3.46
Sweet Grass County	A1	RM 477.49	222220	20% - 5yr	827	1279.03	1276.07	1.59	1.5	13.86	10.16	256.97	674	1.52	1.11	2.96	2.96
Sweet Grass County	A1	RM 477.40	221702	20% - 5yr	827	1278.97	1275.47	1.21	0.94	8.66	5.1	242.4	841.09	2.25	1.32	3.51	3.51
Sweet Grass County	A1	RM 477.31	221259	20% - 5yr	827	1278.55	1275.74	2.76	1.92	44.49	15.23	121.77	686.97	2.3	0.78	2.8	2.8
Sweet Grass County	A1	RM 477.21	220767	20% - 5yr	827	1278.38	1275.28	2.4	1.73	32.43	11.17	126.43	718.9	2.57	0.88	3.09	3.09
Sweet Grass County	A1	RM 477.11	220252	20% - 5yr	827	1278.03	1274.86	2.71	1.87	45.95	19.82	147.43	724.48	1.89	0.81	3.17	3.17
Sweet Grass County	A1	RM 477.04	219860	20% - 5yr	827	1277.75	1275.13	2.76	1.82	46.19	18.65	131.95	726.55	2.03	0.82	2.61	2.61
Sweet Grass County	A1	RM 476.95	219422	20% - 5yr	827	1277.25	1274.55	3.05	2.28	60.71	32.94	153.51	520.1	1.64	0.89	2.7	2.7
Sweet Grass County	A1	RM 476.84	218828	20% - 5yr	827	1276.9	1273.95	2.5	2.01	38.74	19.81	134.66	481.12	1.96	0.99	2.95	2.95
Sweet Grass County	A1	RM 476.75	218345	20% - 5yr	827	1276.64	1273.54	2.36	1.93	30.64	17.22	172.58	552.31	1.92	1.07	3.1	3.1
Sweet Grass County	A1	RM 476.66	217855	20% - 5yr	827	1276.31	1273.45	2.58	1.98	36.9	16.4	160.17	739.35	1.89	0.84	2.86	2.86
Sweet Grass County	A1	RM 476.57	217396	20% - 5yr	827	1275.88	1273.09	3.1	2.03	56.07	22	98.93	789.54	2.32	0.91	2.79	2.79
Sweet Grass County	A1	RM 476.47	216861	20% - 5yr	827	1275.51	1273.04	2.87	2.22	50.61	26.24	126.17	525.92	1.95	1.02	2.47	2.47
Sweet Grass County	A1	RM 476.38	216362	20% - 5yr	827	1275.18	1272.1	2.81	2.03	45.85	19.81	105.41	562.37	2.36	1.02	3.08	3.08
Sweet Grass County	A1	RM 476.28	215816	20% - 5yr	827	1274.62	1271.85	3.32	2.97	66.25	47.51	100.3	247.31	2.13	1.52	2.76	2.76
Sweet Grass County	A1	RM 476.15	215126	20% - 5yr	827	1274.01	1271.76	2.99	2.59	57.55	42.43	133.16	269.32	1.7	1.25	2.25	2.25
Sweet Grass County	A1	RM 476.01	214437	20% - 5yr	827	1273.66	1270.96	2.31	2.18	32.35	27.99	146.45	247.12	2.06	1.78	2.7	2.7
Sweet Grass County	A1	RM 475.91	213787	20% - 5yr	827	1273.26	1270.35	2.45	2.32	36.17	31.41	160.05	197.35	2.08	1.81	2.91	2.91
Sweet Grass County	A1	RM 475.76	213072	20% - 5yr	827	1272.67	1270.22	2.86	2.51	50.8	31.42	146.41	278.96	1.91	1.18	2.45	2.45
Sweet Grass County	A1	RM 475.63	212347	20% - 5yr	827	1272.37	1269.34	2.2	1.98	29.12	20.66	173.18	277.2	2.13	1.5	3.02	3.02
Sweet Grass County	A1	RM 475.47	211539	20% - 5yr	827	1271.88	1268.97	2.59	2.57	37.14	34.25	144.1	157.96	2.21	2.04	2.9	2.9
Sweet Grass County	A1	RM 475.35	210875	20% - 5yr	827	1271.19	1268.88	3.29	3.27	64.96	60.16	118.5	128.86	2.12	1.96	2.3	2.3
Sweet Grass County	A1	RM 475.24	210333	20% - 5yr	827	1271.19	1267.53	2.12	1.98	23.45	15.41	118.16	247.05	3.26	2.13	3.66	3.66
Sweet Grass County	A2	RM 475.12	209673	20% - 5yr	827	1270.15	1267.9	4.17	3.9	110.57	101.41	108.95	129.6	1.78	1.64	2.24	2.24
Sweet Grass County	A2	RM 475.00	209034	20% - 5yr	827	1269.64	1266.93	2.87	2.87	51.96	51.96	154.87	154.87	1.86	1.86	2.7	2.7
Sweet Grass County	A2	RM 474.87	208359	20% - 5yr	827	1269.45	1266.75	2.17	1.95	26.5	21.83	78.97	204.09	2.63	2.13	2.7	2.7
Sweet Grass County	A2	RM 474.76	207797	20% - 5yr	827	1268.92	1266.42	3.2	2.62	60.03	36.72	77.15	226.02	2.33	1.4	2.5	2.5
Sweet Grass County	A2	RM 474.67	207305	20% - 5yr	827	1268.44	1266.29	3.32	2.77	66.77	47.82	65.84	208.94	2.11	1.48	2.15	2.15
Sweet Grass County	A2	RM 474.54	206635	20% - 5yr	827	1268.16	1264.92	2.33	2.09	31.26	22.34	128.44	229.5	2.42	1.73	3.24	3.24
Sweet Grass County	A2	RM 474.43	205945	20% - 5yr	827	1267.81	1265.16	2.61	2.19	39.12	21.91	89.64	276.92	2.47	1.36	2.65	2.65
Sweet Grass County	A2	RM 474.30	205321	20% - 5yr	827	1267.55	1264.46	2.35	1.79	31.42	12.87	132	451.2	2.51	1.02	3.09	3.09
Sweet Grass County	A2	RM 474.21	204877	20% - 5yr	827	1267.13	1264.22	3.04	2.41	52.34	18.44	102.78	386.4	2.55	0.89	2.91	2.91
Sweet Grass County	A2	RM 474.12	204378	20% - 5yr	827	1267	1263.24	2.34	1.73	31.75	13.94	140.42	464.33	2.36	1.03	3.76	3.76
Sweet Grass County	A2	RM 474.01	203787	20% - 5yr	827	1266.53	1263.55	2.85	2.28	49.68	24.56	138.78	368.37	2.01	0.99	2.98	2.98
Sweet Grass County	A2	RM 473.87	203072	20% - 5yr	827	1266.08	1263.52	2.82	2.27	45.02	18.55	99.62	416.59	2.24	0.92	2.56	2.56
Sweet Grass County	A2	RM 473.74	202395	20% - 5yr	827	1265.82	1263.06	2.3	1.77	30.76	11.54	120.68	676.28	2.31	0.86	2.76	2.76
Sweet Grass County	A2	RM 473.62	201781	20% - 5yr	827	1265.29	1262.63	2.85	2.3	51.07	18.14	149	547.11	1.85	0.66	2.66	2.66
Sweet Grass County	A2	RM 473.50	201110	20% - 5yr	827	1264.84	1261.83	2.49	2.34	38.89	21.45	174.8	343.33	1.88	1.03	3.01	3.01
Sweet Grass County	A2	RM 473.36	200362	20% - 5yr	827	1264.57	1261.08	2.23	2.11	27.45	14.7	132.78	265.43	2.76	1.47	3.49	3.49
Sweet Grass County	A2	RM 473.27	199862	20% - 5yr	827	1264.19	1260.81	2.86	2.73	46.16	25.28	112.78	224.93	2.55	1.39	3.38	3.38
Sweet Grass County	A2	RM 473.17	199362	20% - 5yr	827	1264.02	1260.56	2.56	2.49	34.66	22.02	102.94	167.73	3.13	1.98	3.46	3.46
Sweet Grass County	A2	RM 473.08	198879	20% - 5yr	827	1263.63	1260.56	3.09	3	53.44	37.28	102.16	151.59	2.61	1.82	3.07	3.07
Sweet Grass County	A2	RM 472.98	198340	20% - 5yr	827	1263.45	1260.21	2.58	2.43	37.16	24.83	120.55	193.89	2.63	1.75	3.25	3.25
Sweet Grass County	A2	RM 472.89	197862	20% - 5yr	827	1262.97	1260.5	3.29	2.69	63.66	39.02	102.65	224.41	2.24	1.37	2.47	2.47
Sweet Grass County	A2	RM 472.79	197362	20% - 5yr	827	1262.7	1259.98	2.7	2.35	43.9	28.26	136.27	261.18	2.1	1.35	2.72	2.72
Sweet Grass County	A2	RM 472.70	196862	20% - 5yr	827	1262.19	1259.35	3.12	2.51	59.72	34.34	123.76	289.06	1.99	1.14	2.84	2.84
Sweet Grass County	A2	RM 472.60	196360	20% - 5yr	827	1262.01	1259.01	2.21	1.99	30.92	24.75	181.89	364.07	1.81	1.45	2.99	2.99
Sweet Grass County	A2	RM 472.50	195816	20% - 5yr	827	1261.66	1258.53	2.36	2.02	35.38	24.35	177.8	334.92	1.78	1.22	3.14	3.14
Sweet Grass County	A2	RM 472.41	195349	20% - 5yr	827	1261.34	1258.52	2.4	2.16	36.97	31.24	188.81	260.45	1.74	1.47	2.82	2.82
Sweet Grass County	A2	RM 472.31	194860	20% - 5yr	827	1261.13	1258.34	2.21	1.87	28.25	17.5	148.33	300.94	2.38	1.47	2.8	2.8
Sweet Grass County	A2	RM 472.22	194356	20% - 5yr	827	1260.93	1257.3	2.36	1.9	27.75	11.16	115.58	391.82	2.82	1.11	3.63	3.63
Sweet Grass County	A2	RM 472.09	193660	20% - 5yr	827	1260.09	1257.45	3.77	3.33	83.26	45.83	87.67	194.6	2.37	1.28	2.64	2.64
Sweet Grass County	A2	RM 471.95	192935	20% - 5yr	827	1260.06	1256.05	2.27	1.7	26.92	11.14	103.53	367.27	3.27	1.33	4.01	4.01
Sweet Grass County	A2	RM 471.86	192442	20% - 5yr	827	1259.57	1256.23	3.34	2.41	60.94	28.01	76.52	264.24	2.88	1.3	3.34	3.34
Sweet Grass County	A2	RM 471.75	191870	20% - 5yr	827	1259.44	1256.47	2.38	1.9	32.57	19.42	134.52	300.85	2.43	1.45	2.97	2.97

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	20% - 5yr	827	1258.77	1256.54	3.41	2.89	72.39	38.48	124.48	284.67	1.89	1	2.23	2.23
Sweet Grass County	A2	RM 471.52	190686	20% - 5yr	827	1258.57	1255.75	2.32	1.75	30.88	11.83	127.76	527.77	2.45	0.93	2.83	2.83
Sweet Grass County	A2	RM 471.38	189910	20% - 5yr	827	1257.86	1255.44	3.09	2.43	65	30.49	149.61	506.07	1.43	0.67	2.42	2.42
Sweet Grass County	A2	RM 471.28	189362	20% - 5yr	827	1257.3	1254.65	2.39	2.09	41.71	29.86	226.49	466.26	1.19	0.85	2.65	2.65
Sweet Grass County	A2	RM 471.18	188875	20% - 5yr	827	1256.92	1254.2	2.42	1.95	31.22	20.03	155.22	428.01	1.55	0.99	2.72	2.72
Sweet Grass County	A2	RM 471.06	188150	20% - 5yr	827	1256.53	1253.95	2.22	1.59	32.3	16.66	140.6	625.5	1.62	0.83	2.58	2.58
Sweet Grass County	A2	RM 470.94	187526	20% - 5yr	827	1256.09	1253.58	2.56	1.96	37.65	18.58	106.03	450.56	2.01	0.99	2.51	2.51
Sweet Grass County	A2	RM 470.84	186938	20% - 5yr	827	1255.76	1252.88	2.37	1.82	36.56	21.75	157.17	482.63	1.69	1	2.88	2.88
Sweet Grass County	A2	RM 470.73	186362	20% - 5yr	827	1255.54	1253.49	1.68	1.66	19.38	16.15	188.98	434.7	1.42	1.18	2.48	2.48
Sweet Grass County	A2	RM 470.65	185977	20% - 5yr	827	1255.29	1252.18	2.1	1.91	27.22	17.83	198.69	368.11	1.94	1.27	3.11	3.11
Sweet Grass County	A2	RM 470.56	185491	20% - 5yr	827	1255.07	1252.52	2.13	1.84	27.88	14.9	189.32	577.14	1.96	1.04	2.56	2.56
Sweet Grass County	A2	RM 470.44	184875	20% - 5yr	827	1254.96	1251.39	1.74	1.43	16.49	9.03	158.35	375.05	2.84	1.54	3.57	3.57
Sweet Grass County	A2	RM 470.35	184363	20% - 5yr	827	1254.18	1251.52	3.65	3.41	81.74	51.58	113.84	195.05	1.97	1.24	2.66	2.66
Sweet Grass County	A2	RM 470.23	183828	20% - 5yr	827	1253.89	1251.51	2.58	2.33	42.79	32.54	180.8	270.43	1.71	1.31	2.38	2.38
Sweet Grass County	A2	RM 470.13	183304	20% - 5yr	827	1253.59	1249.86	2.34	2.09	34.54	26.01	162.28	284.37	1.86	1.39	3.73	3.73
Sweet Grass County	A2	RM 470.05	182914	20% - 5yr	827	1253.43	1250.59	2.06	1.84	26.52	20.15	175.23	315.19	1.88	1.43	2.84	2.84
Sweet Grass County	A2	RM 469.93	182267	20% - 5yr	827	1252.74	1249.62	3.17	2.91	58.93	40.93	105.49	178.42	2.29	1.59	3.12	3.12
Sweet Grass County	A2	RM 469.85	181860	20% - 5yr	827	1252.27	1249.59	3.48	3.07	70.68	36.11	95.42	227.51	2.33	1.19	2.68	2.68
Sweet Grass County	A2	RM 469.75	181348	20% - 5yr	827	1252.25	1248.77	2.23	1.93	27.77	12.74	116.21	349.86	2.69	1.22	3.48	3.48
Sweet Grass County	A2	RM 469.68	180952	20% - 5yr	827	1251.93	1249.31	2.7	2.33	43.05	19.21	135.73	361.73	2.21	0.98	2.61	2.61
Sweet Grass County	A2	RM 469.58	180427	20% - 5yr	827	1251.91	1247.94	1.85	1.45	17.92	8.67	130.56	369.79	3.21	1.54	3.97	3.97
Sweet Grass County	A2	RM 469.47	179860	20% - 5yr	827	1251.61	1247.85	2.58	1.9	33.37	13.72	93.72	344.23	3.12	1.26	3.76	3.76
Sweet Grass County	A2	RM 469.39	179400	20% - 5yr	827	1251.33	1248.45	2.83	2.27	46.69	25.98	118.53	285.36	2.3	1.27	2.88	2.88
Sweet Grass County	A2	RM 469.30	178975	20% - 5yr	827	1251.29	1247.55	2.15	1.68	24.16	11.68	106.16	316.12	3.29	1.56	3.75	3.75
Sweet Grass County	A2	RM 469.21	178467	20% - 5yr	827	1250.45	1248.31	3.93	3.45	95.66	56.04	104.96	213.44	1.92	1.12	2.15	2.15
Sweet Grass County	A2	RM 469.09	177862	20% - 5yr	827	1250.41	1247.12	2	1.48	23.64	11.85	118.23	505.83	2.22	1.11	3.29	3.29
Sweet Grass County	A2	RM 469.00	177350	20% - 5yr	827	1249.83	1247.58	3.31	2.41	68.58	28.47	89.39	441.3	1.89	0.78	2.25	2.25
Sweet Grass County	A2	RM 468.90	176865	20% - 5yr	827	1249.34	1246.48	2.28	1.95	26.9	16.02	157.49	384.7	1.86	1.1	2.86	2.86
Sweet Grass County	A2	RM 468.80	176341	20% - 5yr	827	1249.08	1246.11	2.37	1.98	34.05	18.46	135.91	376.27	2.07	1.11	2.96	2.96
Sweet Grass County	A2	RM 468.71	175823	20% - 5yr	827	1248.67	1246.41	2.65	2.34	46.79	33.55	145.19	365.6	1.54	1.1	2.26	2.26
Sweet Grass County	A2	RM 468.57	175192	20% - 5yr	827	1248.48	1245.17	1.77	1.57	19.1	10.44	178.13	678	2.03	1.1	3.31	3.31
Sweet Grass County	A2	RM 468.42	174099	20% - 5yr	827	1247.79	1244.97	2.62	2.31	43.61	30.53	168.48	393.14	1.79	1.25	2.82	2.82
Sweet Grass County	A3	RM 468.25	173324	20% - 5yr	827	1247.64	1242.97	1.9	1.47	18.94	7.62	128.44	548.07	3.22	1.28	4.66	4.66
Sweet Grass County	A3	RM 468.16	172855	20% - 5yr	827	1247.46	1243.58	2.29	1.7	29.22	13.25	119.05	543.2	2.67	1.2	3.87	3.87
Sweet Grass County	A3	RM 468.07	172364	20% - 5yr	827	1247.4	1243.89	1.81	1.37	18.2	9.2	136.65	607.27	2.66	1.34	3.51	3.51
Sweet Grass County	A3	RM 467.97	171839	20% - 5yr	827	1246.7	1244.32	3.7	2.89	86.22	43.55	92.44	391.95	1.88	0.93	2.38	2.38
Sweet Grass County	A3	RM 467.87	171312	20% - 5yr	827	1246.42	1243.46	2.21	2.05	29.37	19.01	159.56	404.87	2.13	1.37	2.96	2.96
Sweet Grass County	A3	RM 467.78	170840	20% - 5yr	827	1245.94	1243.74	3.05	2.71	58.57	38.99	100.58	249.84	1.84	1.22	2.2	2.2
Sweet Grass County	A3	RM 467.69	170376	20% - 5yr	827	1245.67	1242.96	2.55	2.21	39.36	23.55	113.71	304.05	2.08	1.23	2.71	2.71
Sweet Grass County	A3	RM 467.55	169614	20% - 5yr	827	1245.26	1242.1	2.21	1.94	31.47	21.12	133.85	367.26	1.74	1.16	3.16	3.16
Sweet Grass County	A3	RM 467.41	168870	20% - 5yr	827	1245.09	1241.15	1.79	1.3	17.51	7.13	132.96	580.15	2.87	1.16	3.94	3.94
Sweet Grass County	A3	RM 467.30	168362	20% - 5yr	827	1244.35	1242.15	3.79	2.98	87.26	32.66	89.79	362.32	2.07	0.77	2.19	2.19
Sweet Grass County	A3	RM 467.16	167641	20% - 5yr	827	1244.14	1240.78	1.97	1.45	22.64	7.89	158.91	752.3	2.3	0.8	3.36	3.36
Sweet Grass County	A3	RM 467.00	166780	20% - 5yr	827	1243.62	1240.48	2.64	1.98	43.11	16.59	139.91	567.57	1.96	0.75	3.14	3.14
Sweet Grass County	A3	RM 466.83	165902	20% - 5yr	827	1243.14	1239.84	2.57	1.78	37.47	14.03	111.13	501.87	2.52	0.93	3.3	3.3
Sweet Grass County	A3	RM 466.73	165364	20% - 5yr	827	1242.87	1239.81	2.58	1.94	37.96	14.19	115.43	463.65	2.5	0.93	3.07	3.07
Sweet Grass County	A3	RM 466.64	164858	20% - 5yr	827	1242.4	1239.36	3.23	2.51	54.86	20.42	94.69	426.44	2.37	0.88	3.04	3.04
Sweet Grass County	A3	RM 466.49	164108	20% - 5yr	827	1242	1239.67	2.73	1.81	44.76	19.82	107.44	587.61	2.09	0.92	2.33	2.33
Sweet Grass County	A3	RM 466.25	162845	20% - 5yr	827	1240.8	1238.71	3.32	2.73	67.36	33.68	78.03	300.79	2.07	1.01	2.09	2.09
Sweet Grass County	A3	RM 465.79	160351	20% - 5yr	827	1239.64	1236.48	2.21	1.31	28	10.47	106.55	694.87	2.51	0.91	3.16	3.16
Sweet Grass County	A3	RM 465.01	155919	20% - 5yr	827	1237.47	1234.44	2.85	2.53	48.18	33.01	127.66	215.04	2.22	1.52	3.03	3.03
Sweet Grass County	A3	RM 464.68	154254	20% - 5yr	827	1236.52	1233.35	2.4	2.13	35.52	19.79	171.17	369.37	1.96	1.09	3.17	3.17
Sweet Grass County	A3	RM 464.48	153160	20% - 5yr	827	1235.96	1232.71	2.21	1.82	30.67	17.01	183.52	468.72	1.86	1.03	3.25	3.25
Sweet Grass County	A3	RM 464.33	152378	20% - 5yr	827	1235.56	1232.61	2.19	1.76	29.7	16.5	182.89	439.74	1.93	1.07	2.95	2.95
Sweet Grass County	A3	RM 464.16	151621	20% - 5yr	827	1235.1	1232.45	2.44	1.94	36.81	18.37	157.74	443.43	1.93	0.96	2.65	2.65
Sweet Grass County	A3	RM 464.04	150961	20% - 5yr	827	1234.9	1231.48	2.13	1.49	24.57	10.3	118.4	469.95	2.93	1.21	3.42	3.42
Sweet Grass County	A3	RM 463.88	150174	20% - 5yr	827	1234.24	1231.85	3.15	2.65	62.3	31.6	134	406.76	1.84	0.93	2.39	2.39
Sweet Grass County	A3	RM 463.78	149616	20% - 5yr	827	1233.91	1230.54	2.55	2.12	39.58	25.17	149.18	427.54	2.06	1.31	3.37	3.37
Sweet Grass County	A3	RM 463.67	149069	20% - 5yr	827	1233.55	1230.86	2.68	2.01	43.95	26.02	136.27	474.01	1.99	1.18	2.69	2.69
Sweet Grass County	A3	RM 463.59	148630	20% - 5yr	827	1233.34	1230.39	2.44	1.8	34.52	19.29	134.78	610.76	2.33	1.3	2.95	2.95
Sweet Grass County	A3	RM 463.49	148111	20% - 5yr	827	1232.68	1229.73	3.37	2.87	69.29	36.28	117.4	521.89	2.03	1.06	2.95	2.95

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	20% - 5yr	827	1232.23	1229.72	2.38	1.84	36.59	20.56	178.51	938.12	1.71	0.96	2.52	2.52
Sweet Grass County	A3	RM 463.20	146616	20% - 5yr	827	1231.83	1228.95	2.34	1.64	34.11	18.01	107.65	1287.21	1.92	0.99	2.87	2.87
Sweet Grass County	A3	RM 463.06	145881	20% - 5yr	827	1231.5	1228.89	1.97	1.18	25.58	12.98	147.76	1468.09	1.62	0.82	2.6	2.6
Sweet Grass County	A4	RM 462.79	144435	20% - 5yr	827	1231.32	1228.25	1.17	0.65	7.98	4.63	133.61	1414.28	2.36	1.35	3.07	3.07
Sweet Grass County	A4	RM 462.16	141146	20% - 5yr	827	1229.17	1226.15	3.01	2.11	54.86	21.94	106.85	494.21	2.11	0.83	3.01	3.01
Sweet Grass County	A4	RM 461.97	140135	20% - 5yr	827	1228.63	1226.06	2.32	1.42	33.98	17.55	120.82	727.01	1.83	0.94	2.57	2.57
Sweet Grass County	A4	RM 461.71	138705	20% - 5yr	827	1227.06	1224.75	3.57	2.99	85.42	61.02	99.83	302.21	1.52	1.08	2.31	2.31
Sweet Grass County	A4	RM 461.52	137683	20% - 5yr	827	1226.54	1222.31	2.18	1.67	23.99	10.62	77.1	310.08	3.75	1.59	4.23	4.23
Sweet Grass County	A4	RM 461.33	136718	20% - 5yr	827	1226.31	1223.38	2.01	1.55	24.27	12.67	124.34	599.82	2.1	1.09	2.93	2.93
Sweet Grass County	A4	RM 461.14	135736	20% - 5yr	827	1225.54	1222.44	2.95	2.52	50.37	19.36	115.58	371.86	2.37	0.9	3.1	3.1
Sweet Grass County	A4	RM 460.99	134951	20% - 5yr	827	1225.11	1221.98	2.72	2.3	42.53	24.89	121.6	254.07	2.42	1.41	3.13	3.13
Sweet Grass County	A4	RM 460.85	134214	20% - 5yr	827	1223.94	1222.07	3.94	3.92	98.94	89.58	132.47	147.08	1.59	1.43	1.88	1.88
Sweet Grass County	A4	RM 460.74	133616	20% - 5yr	827	1223.74	1220.27	2.45	2.38	32.94	25.89	120.51	158.46	2.79	2.19	3.47	3.47
Sweet Grass County	A4	RM 460.63	133067	20% - 5yr	827	1223.75	1218.9	1.75	1.73	14.39	11.9	104.13	128.26	4.54	3.73	4.85	4.85
Sweet Grass County	A4	RM 460.50	132281	20% - 5yr	827	1223.27	1221.12	3	2.57	58.78	38.82	149.97	319.49	1.65	1.09	2.15	2.15
Sweet Grass County	A4	RM 460.38	131785	20% - 5yr	827	1222.91	1220.5	2.52	2.21	37.49	21.75	138.49	379.56	1.7	0.99	2.42	2.42
Sweet Grass County	A4	RM 460.29	131287	20% - 5yr	827	1222.43	1219.97	2.73	2.67	48.32	45.78	133.15	195.01	1.68	1.59	2.46	2.46
Sweet Grass County	A4	RM 460.19	130793	20% - 5yr	827	1222.14	1219.38	2.49	2.29	37.37	27.87	116.4	264.48	2.08	1.55	2.76	2.76
Sweet Grass County	A4	RM 460.08	130210	20% - 5yr	827	1221.78	1218.23	2.57	2.56	37.71	33.64	129.01	145.85	2.49	2.22	3.55	3.55
Sweet Grass County	A4	RM 459.99	129763	20% - 5yr	827	1221.49	1218.01	2.82	2.81	43.41	37.16	103.6	122.95	2.83	2.42	3.48	3.48
Sweet Grass County	A4	RM 459.90	129246	20% - 5yr	827	1221.33	1217.62	2.53	2.47	34.04	23.83	106.21	188.58	3.07	2.14	3.71	3.71
Sweet Grass County	A4	RM 459.81	128792	20% - 5yr	827	1220.75	1218.15	3.51	3.48	71.28	63.62	99.54	131.44	2.37	2.11	2.6	2.6
Sweet Grass County	A4	RM 459.72	128310	20% - 5yr	906.3	1220.61	1217.31	2.71	2.44	41.15	22.95	126.79	266.19	2.59	1.44	3.3	3.3
Sweet Grass County	A4	RM 459.62	127798	20% - 5yr	906.3	1220.34	1217.46	2.75	2.42	44.4	29.92	128.42	246.81	2.24	1.51	2.88	2.88
Sweet Grass County	A5	RM 459.53	127324	20% - 5yr	906.3	1219.71	1217.26	3.3	3.3	68.97	68.97	153.54	153.54	1.79	1.79	2.45	2.45
Sweet Grass County	A5	RM 459.44	126881	20% - 5yr	906.3	1219.44	1216.93	2.64	2.63	43.64	40.56	182.53	197.66	1.88	1.74	2.51	2.51
Sweet Grass County	A5	RM 459.31	126192	20% - 5yr	906.3	1219.04	1215.66	2.55	2.46	37.85	35.11	147.8	206.22	2.38	2.21	3.38	3.38
Sweet Grass County	A5	RM 459.24	125848	20% - 5yr	906.3	1218.76	1215.69	2.81	2.71	46.83	41.18	145.55	292.69	2.2	1.93	3.07	3.07
Sweet Grass County	A5	RM 459.16	125420	20% - 5yr	906.3	1218.18	1215.82	3.34	3.34	71.5	71.5	157.81	163.77	1.72	1.72	2.36	2.36
Sweet Grass County	A5	RM 459.02	124624	20% - 5yr	906.3	1217.82	1214.8	2.23	2.22	30.2	27.21	199.47	253.28	2.04	1.83	3.02	3.02
Sweet Grass County	A5	RM 458.79	123371	20% - 5yr	906.3	1217.01	1214.02	2.73	2.73	43.95	41.61	148.45	156.98	2.24	2.12	2.99	2.99
Sweet Grass County	A5	RM 458.48	121727	20% - 5yr	906.3	1215.95	1213.35	2.47	2.35	39.6	36.61	153.64	263.84	1.65	1.53	2.6	2.6
Sweet Grass County	A5	RM 458.36	121100	20% - 5yr	906.3	1214.86	1212.73	3.8	3.48	94.35	72.81	113.65	204.79	1.65	1.27	2.13	2.13
Sweet Grass County	A5	RM 458.25	120543	20% - 5yr	906.3	1214.63	1211.35	2.33	2.05	30.98	22.91	122.03	238.76	2.51	1.85	3.28	3.28
Sweet Grass County	A5	RM 458.13	119849	20% - 5yr	906.3	1214.22	1211.21	2.62	2.33	40.54	30.27	130.52	234.91	2.23	1.65	3.01	3.01
Sweet Grass County	A5	RM 458.03	119256	20% - 5yr	906.3	1214.06	1210.09	2.19	2.03	24.92	18.6	119.98	184.22	3.26	2.43	3.98	3.98
Sweet Grass County	A5	RM 457.87	118444	20% - 5yr	906.3	1213.86	1209.57	2.23	2.21	24.56	21.2	104.9	123.17	3.87	3.34	4.29	4.29
Sweet Grass County	A5	RM 457.76	117858	20% - 5yr	906.3	1213.64	1210.24	2.46	2.45	33.6	31.4	136.39	146.49	2.7	2.52	3.4	3.4
Sweet Grass County	A5	RM 457.66	117350	20% - 5yr	906.3	1213.38	1210.03	2.62	2.6	38.52	34.17	132.62	150.8	2.61	2.31	3.35	3.35
Sweet Grass County	A5	RM 457.54	116694	20% - 5yr	906.3	1213.01	1209.93	2.76	2.7	43.43	33.04	131.05	177.03	2.49	1.9	3.07	3.07
Sweet Grass County	A5	RM 457.35	115703	20% - 5yr	906.3	1211.71	1209.69	3.78	3.78	95.11	95.11	153.53	153.53	1.56	1.56	2.02	2.02
Sweet Grass County	A5	RM 457.20	114921	20% - 5yr	906.3	1211.47	1208.7	2.14	2.14	27.32	27.32	195.33	195.33	2.17	2.17	2.77	2.77
Sweet Grass County	A5	RM 457.02	113974	20% - 5yr	906.3	1210.65	1208.04	3.26	2.92	63.19	42.88	102.81	208.49	2.2	1.49	2.61	2.61
Sweet Grass County	A5	RM 456.84	113009	20% - 5yr	906.3	1210.23	1206.55	2.56	2.55	34.99	32.25	117.03	127.55	3.02	2.79	3.68	3.68
Sweet Grass County	A5	RM 456.68	112164	20% - 5yr	906.3	1209.55	1206.59	3.3	3.3	62.68	60.85	113.4	117	2.42	2.35	2.96	2.96
Sweet Grass County	A5	RM 456.55	111455	20% - 5yr	906.3	1209.22	1206.19	2.67	2.66	40.86	39.7	139.98	144.33	2.42	2.36	3.04	3.04
Sweet Grass County	A5	RM 456.43	110857	20% - 5yr	906.3	1208.98	1205.33	2.6	2.6	35.62	33.51	108.84	116.11	3.2	3	3.65	3.65
Sweet Grass County	A6	RM 456.29	110121	20% - 5yr	906.3	1208.56	1205.45	2.94	2.91	44.88	37.17	117.66	144.2	2.61	2.16	3.1	3.1
Sweet Grass County	A6	RM 456.18	109508	20% - 5yr	906.3	1208.15	1205.45	2.99	2.99	53.07	51.15	138.79	144.03	2.18	2.11	2.7	2.7
Sweet Grass County	A6	RM 456.03	108721	20% - 5yr	906.3	1207.58	1204.59	2.77	2.75	48.07	43.53	175.62	195.46	1.86	1.69	2.99	2.99
Sweet Grass County	A6	RM 455.84	107742	20% - 5yr	906.3	1207.08	1204.05	2.33	2.24	30.13	27.69	182.97	210.35	2.09	1.93	3.04	3.04
Sweet Grass County	A6	RM 455.70	106976	20% - 5yr	906.3	1206.82	1203.14	2.26	2.26	26.06	26.06	137.09	221.45	2.92	2.92	3.69	3.69
Sweet Grass County	A6	RM 455.56	106256	20% - 5yr	906.3	1206.41	1203.35	2.81	2.75	42.02	37.27	119.56	246.58	2.68	2.38	3.06	3.06
Sweet Grass County	A6	RM 455.39	105360	20% - 5yr	906.3	1206.17	1202.74	2.2	2.11	26.7	18.96	151.06	311.09	2.71	1.92	3.43	3.43
Sweet Grass County	A6	RM 455.26	104667	20% - 5yr	906.3	1205.05	1202.83	4.14	4.04	107.27	84.28	119.44	172.62	1.83	1.43	2.22	2.22
Sweet Grass County	A6	RM 455.09	103771	20% - 5yr	906.3	1204.87	1201.58	2.06	1.91	23.59	17.87	157.28	230.09	2.73	2.06	3.29	3.29
Sweet Grass County	A6	RM 454.95	103072	20% - 5yr	906.3	1204.25	1201.94	3.05	2.97	62.3	60.04	178.95	208.65	1.52	1.46	2.3	2.3
Sweet Grass County	A6	RM 454.82	102364	20% - 5yr	906.3	1203.79	1200.61	2.32	2.24	33.97	31.54	177.74	232.44	1.88	1.74	3.18	3.18
Sweet Grass County	A6	RM 454.72	101863	20% - 5yr	906.3	1203.18	1200.47	3.06	3.06	52.7	52.7	181.06	181.06	1.63	1.63	2.71	2.71
Sweet Grass County	A6	RM 454.64	101419	20% - 5yr	906.3	1203.01	1199.69	2.38	2.38	32.29	32.29	172.9	172.9	2.2	2.2	3.32	3.32
Sweet Grass County	A6	RM 454.53	100846	20% - 5yr	906.3	1202.59	1199.59	2.87	2.82	44.95	39.28	119.65	140.68	2.62	2.29	3	3

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	20% - 5yr	906.3	1202.33	1199	2.84	2.77	44.5	36.07	114.04	145.56	2.77	2.24	3.33	3.33
Sweet Grass County	A6	RM 454.29	99597	20% - 5yr	906.3	1202.03	1198.71	2.67	2.47	38.83	28.7	112.96	172.61	2.89	2.12	3.31	3.31
Sweet Grass County	A6	RM 454.15	98861	20% - 5yr	906.3	1201.71	1198.68	2.59	2.57	35.95	30.47	135.96	162.45	2.57	2.17	3.04	3.04
Sweet Grass County	A6	RM 454.00	98105	20% - 5yr	906.3	1201.3	1198.53	2.67	2.67	37.29	37.29	178.54	178.54	1.9	1.9	2.77	2.77
Sweet Grass County	A6	RM 453.89	97523	20% - 5yr	906.3	1200.9	1198.31	2.74	2.68	42.66	40.47	176.58	193.04	1.84	1.75	2.59	2.59
Sweet Grass County	A6	RM 453.78	96929	20% - 5yr	906.3	1200.76	1197.07	2.09	2.09	23.91	22.5	152.92	162.74	2.83	2.66	3.69	3.69
Sweet Grass County	A6	RM 453.67	96361	20% - 5yr	906.3	1200.24	1197.77	3.04	2.93	54.71	39.45	151.58	221.17	1.93	1.4	2.48	2.48
Sweet Grass County	A6	RM 453.58	95863	20% - 5yr	906.3	1200.22	1196.37	2.03	2.02	21.1	20.67	182.6	186.83	2.88	2.82	3.85	3.85
Sweet Grass County	A6	RM 453.48	95355	20% - 5yr	906.3	1199.7	1196.86	3.17	3.16	55.54	52.14	117.83	125.74	2.43	2.28	2.84	2.84
Sweet Grass County	A6	RM 453.35	94633	20% - 5yr	906.3	1199.2	1196.43	3.07	3.04	52.46	47.42	133.91	170.53	2.2	1.99	2.76	2.76
Sweet Grass County	A7	RM 453.23	93994	20% - 5yr	906.3	1198.72	1196.41	3.04	2.8	52.79	47.01	112.32	198.16	1.83	1.63	2.31	2.31
Sweet Grass County	A7	RM 453.11	93361	20% - 5yr	906.3	1198.47	1195.68	2.28	2.25	28.85	27.73	179.82	195.09	2.15	2.07	2.78	2.78
Sweet Grass County	A7	RM 453.01	92863	20% - 5yr	906.3	1197.96	1195.38	3.07	2.94	53.16	47.06	138.3	170.7	2.04	1.8	2.58	2.58
Sweet Grass County	A7	RM 452.91	92363	20% - 5yr	906.3	1197.79	1194.85	2.54	2.32	33.6	27.05	116.26	216.06	2.26	1.82	2.94	2.94
Sweet Grass County	A7	RM 452.82	91863	20% - 5yr	906.3	1197.56	1194.65	2.47	2.33	35.19	31.68	111.14	180.53	2.39	2.15	2.91	2.91
Sweet Grass County	A7	RM 452.72	91363	20% - 5yr	906.3	1197.51	1193.29	1.86	1.83	17.78	15.32	144.32	170.63	3.37	2.9	4.21	4.21
Sweet Grass County	A7	RM 452.64	90932	20% - 5yr	906.3	1197.27	1194.02	2.47	2.12	33.94	22.75	133.5	277.09	2.63	1.77	3.25	3.25
Sweet Grass County	A7	RM 452.53	90362	20% - 5yr	906.3	1196.8	1193.87	3.07	2.85	51.37	38.94	111.15	165.74	2.53	1.92	2.94	2.94
Sweet Grass County	A7	RM 452.43	89864	20% - 5yr	906.3	1196.5	1193.52	3.06	2.85	50.6	39.07	109.63	160.75	2.57	1.98	2.97	2.97
Sweet Grass County	A7	RM 452.33	89331	20% - 5yr	906.3	1196.2	1193.16	2.88	2.81	43.83	37.43	134.45	162.92	2.32	1.98	3.04	3.04
Sweet Grass County	A7	RM 452.25	88863	20% - 5yr	906.3	1195.95	1192.91	2.8	2.74	41.93	38.44	138.6	154.7	2.33	2.14	3.03	3.03
Sweet Grass County	A7	RM 452.16	88399	20% - 5yr	906.3	1195.62	1192.68	2.98	2.67	48.42	32.08	119.78	206.84	2.48	1.64	2.95	2.95
Sweet Grass County	A7	RM 452.06	87882	20% - 5yr	906.3	1195.39	1192.4	2.74	2.45	41.61	28.32	119.94	203.37	2.68	1.82	2.99	2.99
Sweet Grass County	A7	RM 451.96	87394	20% - 5yr	906.3	1195.05	1191.9	2.97	2.67	50.85	32.66	124.53	222.51	2.37	1.53	3.15	3.15
Sweet Grass County	A7	RM 451.86	86835	20% - 5yr	906.3	1194.78	1191.79	2.77	2.37	40.69	25.96	120.81	235.09	2.56	1.63	2.98	2.98
Sweet Grass County	A7	RM 451.75	86230	20% - 5yr	906.3	1194.5	1191.43	2.62	2.62	37.27	37.27	131.27	131.27	2.63	2.63	3.07	3.07
Sweet Grass County	A7	RM 451.61	85483	20% - 5yr	906.3	1194.19	1190.7	2.49	2.49	35.56	35.54	149.38	149.44	2.44	2.44	3.49	3.49
Sweet Grass County	A7	RM 451.49	84861	20% - 5yr	906.3	1193.59	1191.07	3.24	3.13	58.4	53.72	121.16	138.18	2.27	2.1	2.52	2.52
Sweet Grass County	A7	RM 451.34	84113	20% - 5yr	906.3	1193.51	1190.06	2.03	2.02	22.1	21.15	150.96	158.26	2.96	2.83	3.45	3.45
Sweet Grass County	A7	RM 451.20	83363	20% - 5yr	906.3	1192.93	1189.8	3.11	3.11	52.96	51.73	103.86	106.31	2.8	2.74	3.14	3.14
Sweet Grass County	A7	RM 451.10	82863	20% - 5yr	906.3	1192.76	1189.79	2.65	2.65	39.18	37.83	133.83	138.66	2.56	2.47	2.98	2.98
Sweet Grass County	A7	RM 451.00	82325	20% - 5yr	906.3	1192.55	1189.55	2.53	2.35	36.43	31.13	118.3	180.42	2.5	2.13	3	3
Sweet Grass County	A7	RM 450.86	81602	20% - 5yr	906.3	1192.34	1188.29	2.08	1.89	43.58	27.71	89.84	195.12	3.96	2.45	4.04	4.04
Sweet Grass County	A7	RM 450.73	80923	20% - 5yr	906.3	1191.45	1188.46	3.65	3.43	75.01	58.3	92.35	130.65	2.62	2.02	2.99	2.99
Sweet Grass County	A7	RM 450.63	80374	20% - 5yr	906.3	1191.18	1188.16	2.94	2.91	49.91	47.7	131.03	138.25	2.35	2.25	3.03	3.03
Sweet Grass County	A7	RM 450.53	79863	20% - 5yr	906.3	1190.95	1187.88	2.62	2.62	36.96	35.6	148.62	154.6	2.32	2.24	3.08	3.08
Sweet Grass County	A7	RM 450.43	79300	20% - 5yr	906.3	1190.69	1187.72	2.61	2.44	35.82	30.98	128.91	193.34	2.22	1.92	2.97	2.97
Sweet Grass County	A7	RM 450.34	78849	20% - 5yr	957.2	1190.34	1188.05	2.85	2.65	48.39	42.24	123.71	214.13	1.94	1.69	2.29	2.29
Sweet Grass County	A7	RM 450.23	78298	20% - 5yr	957.2	1190.22	1186.92	1.96	1.92	21.27	16.7	194.9	253.3	2.5	1.96	3.3	3.3
Sweet Grass County	A7	RM 450.14	77822	20% - 5yr	957.2	1189.93	1186.4	2.48	2.38	35.03	22.25	151.82	253.89	2.53	1.59	3.53	3.53
Sweet Grass County	A7	RM 450.05	77362	20% - 5yr	957.2	1189.34	1187.2	3.38	3.35	69.51	59.2	138.78	166.54	2.04	1.73	2.14	2.14
Sweet Grass County	A7	RM 449.96	76841	20% - 5yr	957.2	1189.12	1186.28	2.75	2.47	41.92	24.98	126.68	257.25	2.69	1.6	2.83	2.83
Sweet Grass County	A7	RM 449.86	76356	20% - 5yr	957.2	1188.85	1185.58	2.86	2.52	43.51	22.15	107.74	258.05	3.05	1.55	3.27	3.27
Sweet Grass County	A7	RM 449.77	75860	20% - 5yr	957.2	1188.54	1185.68	2.98	2.66	44.46	40.27	166.41	215.68	1.84	1.67	2.86	2.86
Sweet Grass County	A7	RM 449.68	75373	20% - 5yr	957.2	1188.18	1185.9	2.7	2.56	47.87	44.01	214.21	249.56	1.62	1.5	2.28	2.28
Sweet Grass County	A7	RM 449.59	74904	20% - 5yr	957.2	1188.09	1184.15	2.18	1.93	24.24	13.07	111.06	263.46	3.55	1.88	3.95	3.95
Sweet Grass County	A7	RM 449.48	74351	20% - 5yr	957.2	1187.64	1184.86	3.17	2.75	61.33	38.54	114.49	272.39	2.03	1.28	2.79	2.79
Sweet Grass County	A7	RM 449.37	73741	20% - 5yr	957.2	1187.52	1184.73	1.87	1.76	21.55	15.3	210.16	453.39	1.96	1.39	2.78	2.78
Sweet Grass County	A7	RM 449.26	73165	20% - 5yr	957.2	1187.39	1184.33	1.87	1.18	17.97	8.42	128.66	799.88	2.5	1.15	3.06	3.06
Sweet Grass County	A7	RM 449.10	72364	20% - 5yr	957.2	1186.6	1183.97	3.61	2.07	74.54	23.69	86.24	722.06	2.54	0.78	2.64	2.64
Sweet Grass County	A7	RM 449.00	71858	20% - 5yr	957.2	1185.99	1183.97	3.69	2.56	87.15	45.32	109.85	411.59	1.78	0.91	2.02	2.02
Sweet Grass County	A7	RM 448.88	71223	20% - 5yr	957.2	1185.48	1183.11	2.36	2.18	37.49	28.01	227.59	425.44	1.51	1.13	2.36	2.36
Sweet Grass County	A7	RM 448.76	70537	20% - 5yr	957.2	1185.37	1182.01	1.31	1.26	11.17	10.61	311.26	485.65	1.65	1.57	3.35	3.35
Sweet Grass County	A7	RM 448.55	69424	20% - 5yr	957.2	1185.09	1181.8	1.78	1.63	17.28	11.75	154.14	306.11	2.82	1.92	3.29	3.29
Sweet Grass County	A7	RM 448.41	68815	20% - 5yr	957.2	1184.27	1181.16	3.73	3.67	61.12	53.32	106.7	125.5	2.39	2.08	3.1	3.1
Sweet Grass County	A7	RM 448.32	68353	20% - 5yr	957.2	1184.28	1179.91	1.94	1.94	18.53	18.53	125.73	136.78	3.93	3.93	4.37	4.37
Sweet Grass County	A7	RM 448.23	67851	20% - 5yr	957.2	1184.03	1179.82	2.45	2.45	29.81	29.81	102.33	102.33	3.82	3.82	4.21	4.21
Sweet Grass County	A7	RM 448.07	67043	20% - 5yr	957.2	1183.67	1180.7	2.71	2.61	42.51	29.71	147.59	301.2	2.38	1.66	2.97	2.97
Sweet Grass County	A7	RM 447.94	66348	20% - 5yr	957.2	1183.37	1180.22	2.61	2.17	36.83	15.13	123.05	372.95	2.9	1.19	3.15	3.15
Sweet Grass County	A7	RM 447.85	65863	20% - 5yr	957.2	1182.93	1180.39	3.16	2.75	58.67	31.34	131.26	290.42	2.25	1.2	2.54	2.54
Sweet Grass County	A7	RM 447.75	65363	20% - 5yr	957.2	1182.87	1179.55	2.28	1.98	25.83	12	143.08	362.35	2.88	1.33	3.32	3.32

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	20% - 5yr	957.2	1182.57	1179.59	2.73	2.24	40.88	15.07	121.32	415.97	2.81	1.03	2.98	2.98
Sweet Grass County	A7	RM 447.56	64365	20% - 5yr	957.2	1182.1	1179.67	3.25	2.47	64.51	31.29	136.14	395.76	2.02	0.98	2.43	2.43
Sweet Grass County	A7	RM 447.49	64001	20% - 5yr	957.2	1181.98	1179.82	2.44	1.99	36.09	21.25	193.72	427.76	1.91	1.13	2.16	2.16
Sweet Grass County	A7	RM 447.39	63473	20% - 5yr	957.2	1181.37	1178.85	3.49	2.54	68.99	26.72	90.56	435.61	2.25	0.87	2.52	2.52
Sweet Grass County	A7	RM 447.27	62880	20% - 5yr	957.2	1181.05	1178.26	2.87	2.18	48.62	21.72	103.11	446.09	2.23	0.98	2.79	2.79
Sweet Grass County	A7	RM 447.17	62358	20% - 5yr	957.2	1180.74	1177.92	2.77	1.83	45.83	20.9	110.83	539.93	2.14	0.97	2.82	2.82
Sweet Grass County	A7	RM 447.08	61863	20% - 5yr	957.2	1180.31	1177.91	2.93	1.9	55.51	30.37	100.31	542.79	1.7	0.93	2.4	2.4
Sweet Grass County	A7	RM 446.98	61358	20% - 5yr	957.2	1179.8	1177.28	3.05	2.04	52.6	21.8	94.6	513.3	2.22	0.91	2.52	2.52
Sweet Grass County	A7	RM 446.89	60841	20% - 5yr	957.2	1179.38	1176.94	3.28	2.15	63.85	27.03	78.55	477.42	2.21	0.93	2.44	2.44
Sweet Grass County	A7	RM 446.80	60396	20% - 5yr	957.2	1179.22	1175.92	2.47	1.72	34.72	16.96	94.81	519.84	2.54	1.22	3.31	3.31
Sweet Grass County	A7	RM 446.70	59903	20% - 5yr	957.2	1178.91	1176.22	3.08	2.11	53.63	24.85	65.84	423.32	2.65	1.18	2.69	2.69
Sweet Grass County	A7	RM 446.60	59371	20% - 5yr	957.2	1178.5	1175.91	3.17	2.32	55.6	25.89	76.67	400.22	2.34	1.07	2.6	2.6
Sweet Grass County	A7	RM 446.51	58868	20% - 5yr	957.2	1178.29	1175.24	2.62	2.25	40.07	23.69	117.12	321.66	2.31	1.36	3.04	3.04
Sweet Grass County	A7	RM 446.41	58363	20% - 5yr	957.2	1178.1	1174.39	2.25	1.96	26.74	17.29	142.36	298.31	2.56	1.66	3.71	3.71
Sweet Grass County	A7	RM 446.30	57762	20% - 5yr	957.2	1177.74	1174.85	2.72	2.5	40.46	28.03	123.97	234.49	2.35	1.63	2.89	2.89
Sweet Grass County	A7	RM 446.22	57365	20% - 5yr	957.2	1177.3	1174.39	3.16	3.14	56.01	51.9	127.79	138.75	2.37	2.19	2.91	2.91
Sweet Grass County	A7	RM 446.12	56852	20% - 5yr	957.2	1177.05	1174.04	2.83	2.8	43.28	37.91	140.06	161.25	2.41	2.12	3.01	3.01
Sweet Grass County	A7	RM 446.02	56303	20% - 5yr	957.2	1176.87	1173.3	2.61	2.4	34.92	21.27	97.9	361.95	3.5	2.1	3.57	3.57
Sweet Grass County	A7	RM 445.94	55871	20% - 5yr	957.2	1176.2	1173.6	3.88	3.64	87.92	71.39	93.97	152.56	2.33	1.88	2.6	2.6
Sweet Grass County	A7	RM 445.82	55236	20% - 5yr	957.2	1176.02	1173.05	2.31	2.22	32.97	27.67	207.1	262.29	1.96	1.65	2.98	2.98
Sweet Grass County	A7	RM 445.71	54753	20% - 5yr	957.2	1175.86	1172.38	2.1	2.06	22.12	20.48	207.46	229.59	2.18	2.02	3.48	3.48
Sweet Grass County	A7	RM 445.60	54202	20% - 5yr	957.2	1175.65	1172.32	2.2	2.15	25.45	21.4	188.04	231.12	2.3	1.93	3.33	3.33
Sweet Grass County	A7	RM 445.46	53453	20% - 5yr	957.2	1175.12	1171.04	2.94	2.77	44.07	31.19	129.78	199.61	2.45	1.73	4.08	4.08
Sweet Grass County	A7	RM 445.36	52888	20% - 5yr	957.2	1174.9	1170.25	2.74	2.3	40.53	23.17	104.7	254.27	2.96	1.68	4.65	4.65
Sweet Grass County	A7	RM 445.26	52344	20% - 5yr	957.2	1174.34	1171.35	3.43	3.17	67	47.14	105.25	170.93	2.51	1.77	2.99	2.99
Sweet Grass County	A7	RM 445.17	51873	20% - 5yr	957.2	1173.72	1171.83	3.71	3.54	86.79	74.68	135.24	172.68	1.82	1.56	1.89	1.89
Sweet Grass County	A7	RM 445.07	51376	20% - 5yr	957.2	1173.71	1170.28	2.15	2.03	26.81	17.28	181.57	342.38	2.39	1.54	3.43	3.43
Sweet Grass County	A7	RM 444.97	50844	20% - 5yr	957.2	1173.24	1170.19	2.91	2.89	46.42	36.63	146.91	188.21	2.24	1.76	3.05	3.05
Sweet Grass County	A7	RM 444.88	50352	20% - 5yr	957.2	1172.97	1170.05	2.78	2.69	42.8	30.8	143.24	207.12	2.39	1.72	2.92	2.92
Sweet Grass County	A7	RM 444.79	49860	20% - 5yr	957.2	1172.56	1169.94	3.1	2.75	56.01	35.54	130.9	238.86	2.29	1.46	2.62	2.62
Sweet Grass County	A7	RM 444.69	49316	20% - 5yr	957.2	1172.25	1169.55	2.65	2.65	33.62	33.62	234.7	234.7	1.54	1.54	2.7	2.7
Sweet Grass County	A7	RM 444.60	48863	20% - 5yr	957.2	1172.18	1167.23	2.3	2	24.93	13.2	87.08	228	4.64	2.38	4.95	4.95
Sweet Grass County	A7	RM 444.50	48367	20% - 5yr	957.2	1172.03	1169.73	0.92	2.04	13.19	13.55	150.72	548.32	0.85	0.88	3.36	3.36
Sweet Grass County	A7	RM 444.41	47863	20% - 5yr	957.2	1171.87	1168.6	2.23	1.84	26.19	10.83	129.86	569.04	2.7	1.11	3.27	3.27
Sweet Grass County	A7	RM 444.30	47336	20% - 5yr	957.2	1171.79	1168.26	1.83	1.44	17.48	7.85	167.8	680.97	2.87	1.28	3.53	3.53
Sweet Grass County	A7	RM 444.20	46789	20% - 5yr	957.2	1171.03	1167.97	3.64	3.35	75.95	37.74	105.1	321.6	2.47	1.22	3.06	3.06
Sweet Grass County	A7	RM 444.12	46346	20% - 5yr	957.2	1170.74	1167.62	3.35	3.07	61.65	39.09	99.5	175.63	2.83	1.78	3.12	3.12
Sweet Grass County	A7	RM 444.02	45829	20% - 5yr	957.2	1170.56	1167.57	2.77	2.62	38.16	25.97	143.97	225.22	2.39	1.62	2.99	2.99
Sweet Grass County	A7	RM 443.91	45243	20% - 5yr	957.2	1170.25	1167.08	2.73	2.53	43.63	22.03	151.63	329.95	2.28	1.15	3.17	3.17
Sweet Grass County	A7	RM 443.84	44853	20% - 5yr	957.2	1169.66	1167.23	3.41	3.39	76.16	64.01	173.65	208.06	1.62	1.36	2.43	2.43
Sweet Grass County	A7	RM 443.75	44415	20% - 5yr	957.2	1169.46	1166.67	2.53	2.52	38.63	36.53	183.65	267.09	2.06	1.95	2.79	2.79
Sweet Grass County	A7	RM 443.64	43870	20% - 5yr	957.2	1169.19	1166.09	2.6	2.06	38.84	16.64	110.6	638.77	2.43	1.03	3.1	3.1
Sweet Grass County	A7	RM 443.53	43290	20% - 5yr	957.2	1169.02	1165.72	2.36	2.01	29.79	14.1	87.56	664.33	3.01	1.41	3.3	3.3
Sweet Grass County	A8	RM 443.45	42860	20% - 5yr	957.2	1168.61	1165.25	2.91	2.88	46.71	41.36	134.68	380.77	2.44	2.16	3.36	3.36
Sweet Grass County	A8	RM 443.35	42363	20% - 5yr	957.2	1167.99	1164.95	3.65	3.42	76.07	52.48	101.61	303.52	2.5	1.71	3.04	3.04
Sweet Grass County	A8	RM 443.25	41863	20% - 5yr	957.2	1167.86	1165.05	2.7	2.36	41.97	24.9	127.8	422.8	2.41	1.43	2.81	2.81
Sweet Grass County	A8	RM 443.16	41342	20% - 5yr	957.2	1167.61	1165.43	2.5	1.97	39.52	24.75	152.02	516.73	1.82	1.14	2.17	2.17
Sweet Grass County	A8	RM 443.07	40863	20% - 5yr	957.2	1167.19	1164.49	2.76	2.02	47.19	22.94	139	621.4	1.92	0.93	2.71	2.71
Sweet Grass County	A8	RM 442.97	40345	20% - 5yr	957.2	1166.91	1164.28	2.38	1.72	31.68	20.81	160.7	522.76	1.86	1.22	2.63	2.63
Sweet Grass County	A8	RM 442.88	39863	20% - 5yr	957.2	1166.71	1164.06	2.02	1.64	24.7	18.21	177.36	547.54	1.79	1.32	2.66	2.66
Sweet Grass County	A8	RM 442.78	39363	20% - 5yr	957.2	1165.97	1164.18	3.36	3.04	77.54	51.58	131.77	400.28	1.4	0.93	2.11	2.11
Sweet Grass County	A8	RM 442.68	38840	20% - 5yr	957.2	1165.59	1162.8	2.56	2.02	32.61	17.86	117.57	454.03	1.96	1.07	2.79	2.79
Sweet Grass County	A8	RM 442.60	38390	20% - 5yr	957.2	1165.53	1162.57	1.66	1.42	16.43	11.14	157.4	463.7	2.14	1.45	2.96	2.96
Sweet Grass County	A8	RM 442.50	37863	20% - 5yr	957.2	1165.16	1162.29	2.77	2.14	39.19	19.26	95.22	396.61	2.3	1.13	2.88	2.88
Sweet Grass County	A8	RM 442.42	37461	20% - 5yr	957.2	1164.89	1162.07	2.91	2.26	38.74	21.58	121.06	415.4	1.84	1.02	2.83	2.83
Sweet Grass County	A8	RM 442.32	36914	20% - 5yr	957.2	1164.56	1161.85	2.84	2.21	47.99	26.56	105.61	374.46	2.17	1.2	2.71	2.71
Sweet Grass County	A8	RM 442.24	36451	20% - 5yr	957.2	1164.3	1161.75	2.57	2.32	35.44	27.45	123.96	289.31	1.85	1.43	2.55	2.55
Sweet Grass County	A8	RM 442.12	35820	20% - 5yr	957.2	1164.01	1161.12	2.48	2.13	31.06	21.64	121.73	323.6	2.09	1.45	2.9	2.9
Sweet Grass County	A8	RM 442.03	35367	20% - 5yr	957.2	1163.75	1161.18	2.55	2.26	40.01	26.72	123.16	335	1.95	1.3	2.57	2.57
Sweet Grass County	A8	RM 441.95	34945	20% - 5yr	957.2	1163.67	1160.28	1.94	1.55	21.56	12.05	133.67	495.71	2.51	1.38	3.39	3.39
Sweet Grass County	A8	RM 441.84	34360	20% - 5yr	957.2	1163.2	1160.33	2.72	2.23	38.42	20.64	186.27	451.43	1.77	0.95	2.88	2.88

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	20% - 5yr	957.2	1162.88	1160.06	2.72	2.17	40.16	20.37	171.23	450.34	1.93	0.98	2.82	2.82
Sweet Grass County	A8	RM 441.65	33357	20% - 5yr	957.2	1162.75	1159.78	2.12	1.57	24.9	10.51	173.57	659.58	2.39	1	2.97	2.97
Sweet Grass County	A8	RM 441.53	32732	20% - 5yr	957.2	1162.38	1159.44	2.58	1.91	39.02	16.18	151.99	538.46	2.26	0.93	2.94	2.94
Sweet Grass County	A8	RM 441.47	32366	20% - 5yr	957.2	1162.28	1158.95	2.3	1.57	29.34	11.34	138.98	621.32	2.69	1.03	3.32	3.32
Sweet Grass County	A8	RM 441.38	31928	20% - 5yr	957.2	1162.29	1158.24	1.52	0.98	12.44	6.08	153.74	904.68	2.97	1.45	4.05	4.05
Sweet Grass County	A8	RM 441.27	31350	20% - 5yr	957.2	1161.6	1158.76	3.61	2.71	75.89	27.09	96.01	454.43	2.33	0.83	2.84	2.84
Sweet Grass County	A8	RM 441.18	30882	20% - 5yr	957.2	1161.53	1158.5	2.45	1.58	32.05	9.9	125.73	861.88	2.41	0.74	3.03	3.03
Sweet Grass County	A8	RM 441.07	30295	20% - 5yr	957.2	1161.37	1158.19	2.14	1.44	26.07	8.74	149.54	875.97	2.48	0.83	3.18	3.18
Sweet Grass County	A8	RM 441.00	29913	20% - 5yr	957.2	1161.28	1157.63	2.03	1.32	23.38	8.7	146.59	895.28	2.49	0.92	3.65	3.65
Sweet Grass County	A8	RM 440.80	28852	20% - 5yr	957.2	1160.29	1157.49	3.65	3.18	72.7	37	103.86	252.69	2.34	1.19	2.8	2.8
Sweet Grass County	A8	RM 440.60	27841	20% - 5yr	957.2	1159.48	1157.2	3.04	2.55	57.46	28.8	121.05	410.82	1.91	0.95	2.28	2.28
Sweet Grass County	A8	RM 440.51	27361	20% - 5yr	957.2	1159.04	1156.41	3.04	2.43	55.93	34.95	109.89	306.53	2.07	1.29	2.63	2.63
Sweet Grass County	A8	RM 440.42	26862	20% - 5yr	957.2	1158.39	1156.26	3.53	2.85	79.04	46.08	88.63	318.64	1.81	1.05	2.13	2.13
Sweet Grass County	A8	RM 440.30	26223	20% - 5yr	957.2	1158.31	1155.63	1.77	1.43	19.1	12.24	96.77	513.81	2.04	1.3	2.68	2.68
Sweet Grass County	A8	RM 440.17	25466	20% - 5yr	957.2	1158.03	1154.7	2.45	1.72	33.29	17.13	64.56	402.05	2.79	1.39	3.33	3.33
Sweet Grass County	A8	RM 440.06	24863	20% - 5yr	957.2	1157.78	1153.97	2.27	1.91	27.96	16.17	130.38	304.91	2.85	1.64	3.8	3.8
Sweet Grass County	A8	RM 439.96	24366	20% - 5yr	957.2	1157.52	1154.18	2.69	2.24	38.61	20.35	95.63	272.64	3	1.58	3.33	3.33
Sweet Grass County	A8	RM 439.87	23863	20% - 5yr	957.2	1157.28	1153.59	2.7	2.21	36.13	14.47	103.39	329	3.31	1.32	3.69	3.69
Sweet Grass County	A8	RM 439.77	23365	20% - 5yr	957.2	1157.09	1153.6	2.69	2.42	36.83	19.91	124.68	265.69	2.79	1.5	3.49	3.49
Sweet Grass County	A8	RM 439.68	22863	20% - 5yr	957.2	1156.77	1153.45	2.9	2.85	42.2	33.28	134.86	174.82	2.44	1.92	3.33	3.33
Sweet Grass County	A8	RM 439.58	22363	20% - 5yr	957.2	1156.68	1153.39	2.32	1.79	28.71	8.09	150.28	724.19	2.62	0.74	3.28	3.28
Sweet Grass County	A8	RM 439.49	21863	20% - 5yr	957.2	1156.55	1152.86	2.25	1.56	26	6.26	116.13	753.6	3.41	0.81	3.69	3.69
Sweet Grass County	A8	RM 439.39	21363	20% - 5yr	957.2	1156.42	1153.06	2.25	1.57	27.12	8.12	131.98	709.1	2.92	0.86	3.36	3.36
Sweet Grass County	A8	RM 439.30	20863	20% - 5yr	957.2	1156	1152.92	3.02	2.34	49.13	13.89	110.38	538.3	2.71	0.76	3.08	3.08
Sweet Grass County	A8	RM 439.20	20353	20% - 5yr	957.2	1155.31	1152.64	3.76	3.69	76.62	61.39	111.19	142.52	2.27	1.82	2.67	2.67
Sweet Grass County	A8	RM 439.11	19864	20% - 5yr	957.2	1155.3	1152.34	2.57	2.09	36.54	14.94	98.01	436.77	2.69	1.1	2.96	2.96
Sweet Grass County	A8	RM 439.01	19360	20% - 5yr	957.2	1154.68	1152.4	3.39	3.16	65.22	35.95	124.95	301.55	1.83	1.01	2.28	2.28
Sweet Grass County	A8	RM 438.91	18848	20% - 5yr	957.2	1154.47	1151.92	2.6	2.2	37.32	21.35	121.85	358.8	2.12	1.21	2.56	2.56
Sweet Grass County	A8	RM 438.82	18363	20% - 5yr	957.2	1154.22	1151.23	2.56	2.17	38.08	24.06	117.28	302.31	2.31	1.46	2.99	2.99
Sweet Grass County	A8	RM 438.73	17853	20% - 5yr	957.2	1153.79	1151.37	2.92	2.48	46.1	30.01	124.01	340.53	1.74	1.13	2.42	2.42
Sweet Grass County	A8	RM 438.63	17363	20% - 5yr	957.2	1153.65	1150.74	2.27	1.81	29.35	18.46	100.37	341.41	2.46	1.55	2.91	2.91
Sweet Grass County	A8	RM 438.54	16863	20% - 5yr	957.2	1153.51	1150.59	2.13	1.82	25.11	18.49	104.11	265.4	2.73	1.98	2.92	2.92
Sweet Grass County	A8	RM 438.43	16307	20% - 5yr	957.2	1153.32	1149.52	2.07	2.07	23.28	23.28	158.78	200.19	2.91	2.91	3.8	3.8
Sweet Grass County	A9	RM 438.36	15889	20% - 5yr	957.2	1153.2	1149.4	2.13	2.09	20.47	19.01	187.56	206.51	2.38	2.21	3.8	3.8
Sweet Grass County	A9	RM 438.26	15363	20% - 5yr	957.2	1152.69	1149.84	3.21	2.88	56.66	38.43	114.71	200.19	2.45	1.66	2.85	2.85
Sweet Grass County	A9	RM 438.16	14863	20% - 5yr	957.2	1152.47	1149.31	2.83	2.32	41.73	16.77	119.57	380.88	2.71	1.09	3.16	3.16
Sweet Grass County	A9	RM 438.07	14394	20% - 5yr	957.2	1152.2	1149.19	2.91	2.21	48.58	19.5	127.6	448.12	2.42	0.96	3	3
Sweet Grass County	A9	RM 437.96	13827	20% - 5yr	957.2	1151.95	1149.19	2.7	1.89	40	14.37	119.22	635.38	2.23	0.8	2.76	2.76
Sweet Grass County	A9	RM 437.88	13363	20% - 5yr	957.2	1151.71	1148.94	2.81	1.92	41.69	14.95	106.46	651.59	2.19	0.78	2.77	2.77
Sweet Grass County	A9	RM 437.78	12844	20% - 5yr	957.2	1151.41	1148.72	2.86	1.97	44.9	17.62	99.49	586.26	2.27	0.88	2.69	2.69
Sweet Grass County	A9	RM 437.69	12354	20% - 5yr	957.2	1151.27	1148.45	2.08	1.59	26.41	14.15	146.84	568.68	2.03	1.09	2.82	2.82
Sweet Grass County	A9	RM 437.59	11863	20% - 5yr	957.2	1150.96	1148.76	2.37	1.92	37.22	20.02	150.92	589.74	1.58	0.85	2.55	2.55
Sweet Grass County	A9	RM 437.50	11362	20% - 5yr	957.2	1150.75	1148.29	2.01	1.65	25.71	15.51	189.26	548.79	1.75	1.06	2.46	2.46
Sweet Grass County	A9	RM 437.41	10902	20% - 5yr	957.2	1150.46	1148.26	2.3	1.85	34.82	19.46	175.96	575.05	1.61	0.9	2.2	2.2
Sweet Grass County	A9	RM 437.31	10361	20% - 5yr	957.2	1150.07	1147.37	2.54	1.88	40.08	18.62	147.93	577.57	1.89	0.88	2.7	2.7
Sweet Grass County	A9	RM 437.20	9764	20% - 5yr	957.2	1149.72	1147.02	2.67	1.83	37.93	16.61	108.25	566.67	2.12	0.92	2.7	2.7
Sweet Grass County	A9	RM 437.08	9128	20% - 5yr	957.2	1149.3	1146.9	2.54	2.06	38.08	20.8	188.75	506.42	1.68	0.92	2.4	2.4
Sweet Grass County	A9	RM 436.95	8363	20% - 5yr	957.2	1149.11	1145.32	2.15	1.4	17.9	8.46	106.12	627.91	2.39	1.1	3.8	3.8
Sweet Grass County	A9	RM 436.83	7805	20% - 5yr	957.2	1149	1145.93	1.59	1.29	16.44	9.8	154.6	753.27	1.65	0.98	3.06	3.06
Sweet Grass County	A9	RM 436.75	6857	20% - 5yr	957.2	1148.45	1145.61	3.11	1.76	56.79	16.31	67	838.57	2.29	0.65	2.84	2.84
Sweet Grass County	A9	RM 436.66	6193	20% - 5yr	957.2	1147.99	1145.68	2.79	1.86	47.62	17.33	97.51	745.56	1.95	0.71	2.3	2.3
Sweet Grass County	A9	RM 436.56	5280	20% - 5yr	957.2	1147.5	1144.44	3.08	1.81	45.76	15.65	58.58	632.26	2.6	0.84	3.05	3.05
Sweet Grass County	A9	RM 436.40	4576	20% - 5yr	957.2	1147.3	1144.05	2.42	1.52	32.35	12.44	57.78	656.73	2.83	1.04	3.25	3.25
Sweet Grass County	A9	RM 436.29	3787	20% - 5yr	957.2	1146.78	1144.44	2.8	2.34	48.89	33.48	98.93	496.06	1.9	1.29	2.34	2.34
Sweet Grass County	A9	RM 436.16	3087	20% - 5yr	957.2	1146.09	1143.57	3.06	2.53	58.12	34.55	107.65	445.99	1.91	1.13	2.52	2.52
Sweet Grass County	A9	RM 436.07	2676	20% - 5yr	957.2	1145.87	1143.09	2.6	2.05	36.79	23.01	102.06	671.78	1.94	1.2	2.78	2.78
Sweet Grass County	A9	RM 435.98	2200	20% - 5yr	957.2	1145.53	1142.85	2.83	2.12	48.34	22.78	72.86	651.67	2.12	0.98	2.68	2.68
Sweet Grass County	A9	RM 435.88	1580	20% - 5yr	957.2	1145.09	1142.56	2.35	2.1	38.29	28.52	83.08	493.1	1.4	1.03	2.52	2.52
Sweet Grass County	A9	RM 435.73	890	20% - 5yr	957.2	1144.76	1141.99	2.14	1.78	27.57	17.6	77.25	448.71	2.15	1.34	2.77	2.77
Sweet Grass County	A9	RM 435.62	104	20% - 5yr	957.2	1144.2	1141.54	2.77	2.23	48.85	34.26	127.13	361.7	1.81	1.26	2.67	2.67

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	20% - 5yr	957.2	1144.03	1140.73	1.49	1.37	13.55	10.82	150.42	426.21	2.05	1.64	3.34	3.34
Stillwater County	A9	RM 435.38	231282.1	20% - 5yr	957.2	1143.8	1139.61	1.66	1.5	15.53	7.82	196.96	492.02	2.58	1.3	4.19	4.19
Stillwater County	A9	RM 435.25	230611.3	20% - 5yr	957.2	1143.23	1138.48	3.05	2.91	51.42	31.32	115.77	200.64	2.7	1.64	4.75	4.75
Stillwater County	A9	RM 435.16	230122.9	20% - 5yr	957.2	1142.95	1138.39	3	2.7	50.05	23.81	117.41	280.05	2.67	1.27	4.56	4.56
Stillwater County	A9	RM 435.07	229649	20% - 5yr	957.2	1142.71	1137.85	2.97	2.53	47.32	16.36	103.49	366.39	3	1.03	4.86	4.86
Stillwater County	A9	RM 434.97	229153	20% - 5yr	957.2	1142.43	1137.87	3.04	2.7	49.99	28.64	104	214.14	2.89	1.66	4.56	4.56
Stillwater County	A9	RM 434.84	228443.5	20% - 5yr	957.2	1142.09	1137	2.98	2.71	47.27	31.04	100.62	177.62	3.03	1.99	5.09	5.09
Stillwater County	A9	RM 434.73	227855.5	20% - 5yr	957.2	1141.8	1135.61	3.02	2.81	45.31	24.25	82.1	168.09	3.82	2.03	6.19	6.19
Stillwater County	A9	RM 434.63	227328.2	20% - 5yr	957.2	1141.61	1135.42	2.96	2.92	44.11	31.63	89.98	127.99	3.59	2.57	6.19	6.19
Stillwater County	A9	RM 434.57	227011.2	20% - 5yr	957.2	1141.47	1136.35	2.98	2.95	47.08	43.46	103.39	113.3	3.1	2.86	5.12	5.12
Stillwater County	A9	RM 434.53	226817.6	20% - 5yr	957.2	1141.32	1136.73	3.11	3.09	54.04	51.7	117.59	123.74	2.62	2.5	4.59	4.59
Stillwater County	A10	RM 434.49	226573.3	20% - 5yr	957.2	1141.25	1137.23	2.79	2.73	42.85	37.73	124.38	145.18	2.74	2.41	4.02	4.02
Stillwater County	A10	RM 434.42	226233.2	20% - 5yr	957.2	1141.09	1137.1	2.72	2.68	41.85	30.1	138.09	228.12	2.54	1.83	3.99	3.99
Stillwater County	A10	RM 434.37	225940.2	20% - 5yr	957.2	1140.86	1136.51	2.94	2.91	48.3	37.69	123.34	159.82	2.63	2.06	4.35	4.35
Stillwater County	A10	RM 434.24	225278.2	20% - 5yr	957.2	1140.58	1136.56	2.72	2.59	40.78	36.18	115.13	149.87	2.77	2.46	4.02	4.02
Stillwater County	A10	RM 434.15	224819.6	20% - 5yr	957.2	1140.37	1137.06	2.57	2.36	38.93	30.22	156.01	232.17	2.25	1.75	3.31	3.31
Stillwater County	A10	RM 434.07	224366.5	20% - 5yr	957.2	1139.95	1136.55	3.08	2.73	57.69	45.89	113.33	213.2	2.05	1.64	3.55	3.55
Stillwater County	A10	RM 433.98	223883.5	20% - 5yr	957.2	1139.79	1136.28	2.25	2.17	30.43	26.87	136.82	237.56	2.1	1.86	3.51	3.51
Stillwater County	A10	RM 433.87	223309.3	20% - 5yr	957.2	1139.54	1135.82	2.43	2.25	33.25	27.78	107.35	198.11	2.58	2.15	3.72	3.72
Stillwater County	A10	RM 433.78	222850	20% - 5yr	957.2	1139.3	1135.54	2.43	2.32	34.88	17.73	174.42	363.55	2.24	1.14	3.76	3.76
Stillwater County	A10	RM 433.66	222201.9	20% - 5yr	957.2	1138.93	1135.16	2.63	2.46	38.94	17.98	142.22	331.68	2.54	1.17	3.77	3.77
Stillwater County	A10	RM 433.54	221596.6	20% - 5yr	957.2	1138.54	1135.33	2.86	2.81	46.35	39.13	132.28	199.46	2.52	2.12	3.21	3.21
Stillwater County	A10	RM 433.42	220956.2	20% - 5yr	957.2	1138.12	1134.88	2.98	2.89	50.27	33.44	127.34	198.38	2.51	1.67	3.24	3.24
Stillwater County	A10	RM 433.31	220362.5	20% - 5yr	957.2	1137.83	1134.67	2.49	2.36	38.87	21.6	202.72	390.04	1.87	1.04	3.16	3.16
Stillwater County	A10	RM 433.20	219758.6	20% - 5yr	957.2	1137.65	1134.17	1.95	1.6	23.2	13.39	148.63	509.51	2.04	1.18	3.48	3.48
Stillwater County	A10	RM 433.09	219185.2	20% - 5yr	957.2	1137.35	1133.45	2.22	2.15	28.28	16.77	178.75	313.08	2.41	1.42	3.9	3.9
Stillwater County	A10	RM 432.97	218599.7	20% - 5yr	957.2	1137.02	1133.57	2.57	2.43	37.68	20.73	149.19	293.78	2.45	1.34	3.45	3.45
Stillwater County	A10	RM 432.84	217905.9	20% - 5yr	957.2	1136.74	1132.7	2.46	2.29	33.31	22.59	136.55	225.15	2.73	1.85	4.04	4.04
Stillwater County	A10	RM 432.69	217146.9	20% - 5yr	957.2	1136.26	1131.51	3.03	2.79	46.95	28.1	89.81	166.45	3.45	2.06	4.75	4.75
Stillwater County	A10	RM 432.60	216656.8	20% - 5yr	957.2	1136.08	1132.1	2.86	2.67	42.68	29.51	102	170.05	3.25	2.23	3.98	3.98
Stillwater County	A10	RM 432.45	215889.7	20% - 5yr	957.2	1135.77	1132.07	2.69	2.61	40.55	27.14	135.05	245.62	2.62	1.75	3.7	3.7
Stillwater County	A10	RM 432.35	215361.3	20% - 5yr	957.2	1135.58	1132.33	2.44	2.26	34.01	15.33	157.86	419.52	2.46	1.11	3.25	3.25
Stillwater County	A10	RM 432.20	214585.3	20% - 5yr	985.6	1135	1131.29	3.02	2.95	50.88	36.3	124.51	178.35	2.62	1.87	3.71	3.71
Stillwater County	A10	RM 432.10	214039.1	20% - 5yr	985.6	1134.76	1130.7	2.8	2.34	43.45	21.04	124.1	392.03	2.69	1.31	4.06	4.06
Stillwater County	A10	RM 432.02	213606.1	20% - 5yr	985.6	1134.66	1130.52	2.3	2.12	30.06	16.37	161.07	397.67	2.49	1.36	4.14	4.14
Stillwater County	A10	RM 431.87	212811.5	20% - 5yr	985.6	1134.29	1129.24	2.37	2.16	34.79	21.64	201.77	380.51	1.93	1.2	5.05	5.05
Stillwater County	A10	RM 431.74	212127.4	20% - 5yr	985.6	1134.11	1129.66	1.99	1.38	22.21	14.85	161.11	410.4	2.61	1.74	4.45	4.45
Stillwater County	A10	RM 431.60	211373.6	20% - 5yr	985.6	1133.6	1129.96	2.78	2.69	43.22	34.83	133.63	172.99	2.62	2.11	3.64	3.64
Stillwater County	A10	RM 431.49	210820.2	20% - 5yr	985.6	1133.34	1129.62	2.73	2.61	41.33	29.88	131.51	193	2.71	1.96	3.71	3.71
Stillwater County	A10	RM 431.41	210365.9	20% - 5yr	985.6	1133.03	1129.57	2.92	2.87	47.94	37.47	129.54	169.24	2.59	2.03	3.46	3.46
Stillwater County	A10	RM 431.28	209716.5	20% - 5yr	985.6	1132.7	1129.79	2.69	2.62	42.85	31.57	163.74	229.66	2.22	1.64	2.91	2.91
Stillwater County	A10	RM 431.14	208918.5	20% - 5yr	985.6	1132.32	1129.82	2.19	2.38	30.03	30.49	130.7	216.56	1.88	1.92	3.57	3.57
Stillwater County	A10	RM 431.03	208358.8	20% - 5yr	985.6	1131.93	1128.56	2.51	2.63	40.6	43.18	126.55	205.82	1.71	1.82	3.37	3.37
Stillwater County	A10	RM 430.93	207821.9	20% - 5yr	985.6	1131.7	1128.76	2.33	2.07	33.63	24.44	126.38	338.54	1.92	1.4	2.94	2.94
Stillwater County	A10	RM 430.83	207325.6	20% - 5yr	985.6	1131.42	1127.66	2.35	2.21	32.84	29	158.61	230.19	2.18	1.93	3.76	3.76
Stillwater County	A10	RM 430.70	206629.1	20% - 5yr	985.6	1131.3	1126.9	1.82	1.72	17.99	12.93	150.14	280.38	2.83	2.05	4.4	4.4
Stillwater County	A10	RM 430.59	206064.9	20% - 5yr	985.6	1131.15	1127.2	2.02	1.79	21.58	10.08	134.54	385.2	3.05	1.43	3.95	3.95
Stillwater County	A10	RM 430.51	205629.5	20% - 5yr	985.6	1130.79	1126.28	2.84	2.66	42.84	25.88	105.87	199.56	3.07	1.85	4.51	4.51
Stillwater County	A10	RM 430.43	205204.2	20% - 5yr	985.6	1130.55	1126.08	2.99	2.8	46.88	25.66	97.86	201.49	3.2	1.75	4.47	4.47
Stillwater County	A10	RM 430.34	204728.4	20% - 5yr	985.6	1130.27	1126.07	3.12	2.81	51.91	21.12	101.34	287.87	3	1.22	4.2	4.2
Stillwater County	A11	RM 430.23	204119.7	20% - 5yr	985.6	1130.19	1126.63	2.2	1.83	27.13	11.07	168.42	589.82	2.56	1.04	3.56	3.56
Stillwater County	A11	RM 430.12	203479.6	20% - 5yr	985.6	1129.93	1126.96	2.46	2.06	34.87	13.45	110.91	516.94	2.41	0.93	3.4	3.4
Stillwater County	A11	RM 430.04	202968.2	20% - 5yr	985.6	1129.66	1127.24	2.54	2.36	38.54	23.58	112.13	314.75	2.18	1.33	3.02	3.02
Stillwater County	A11	RM 429.95	202589.5	20% - 5yr	985.6	1129.45	1126.33	2.34	2.22	33.68	21.63	141.51	353.26	1.96	1.25	3.12	3.12
Stillwater County	A11	RM 429.88	202224.7	20% - 5yr	985.6	1129.3	1125.62	2.15	1.99	19.89	13.51	224.95	524.45	1.39	0.94	3.68	3.68
Stillwater County	A11	RM 429.78	201933.6	20% - 5yr	985.6	1129.06	1123.72	2.46	2.12	23.5	13.66	171.74	483.94	1.66	0.96	5.34	5.34
Stillwater County	A11	RM 429.69	201539.9	20% - 5yr	985.6	1128.59	1123.39	3.24	2.65	59.15	34.63	89.65	248.71	2.57	1.5	5.2	5.2
Stillwater County	A11	RM 429.58	200961.9	20% - 5yr	985.6	1128.33	1124.69	2.65	1.95	41.15	21.73	116.91	443.99	2.16	1.14	3.64	3.64
Stillwater County	A11	RM 429.38	200210.8	20% - 5yr	985.6	1127.89	1125.15	2.08	1.8	27.14	16.71	184.21	475.61	1.87	1.15	3.46	3.46
Stillwater County	A11	RM 429.28	199644.1	20% - 5yr	985.6	1127.6	1123.59	2.26	1.91	30.8	16.74	147.91	456.08	2.09	1.13	4.01	4.01

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	20% - 5yr	985.6	1127.39	1124.66	1.93	1.79	23.73	15.69	144.13	465.39	1.78	1.18	3.48	3.48
Stillwater County	A11	RM 429.10	198708.6	20% - 5yr	985.6	1127.01	1124.26	2.48	2.35	38.44	24.19	87.17	354.85	1.88	1.18	3.43	3.43
Stillwater County	A11	RM 429.00	198203.8	20% - 5yr	985.6	1126.79	1123.47	2.11	2	29.14	21.72	124.1	399.42	1.65	1.23	3.31	3.31
Stillwater County	A11	RM 428.89	197650.5	20% - 5yr	985.6	1126.58	1121.26	2.25	1.91	28.5	16.7	150.22	342.43	2.58	1.51	5.32	5.32
Stillwater County	A11	RM 428.81	197194.1	20% - 5yr	985.6	1126.37	1121.47	2.56	2	35.11	16.38	98.5	353.37	2.99	1.39	4.9	4.9
Stillwater County	A11	RM 428.66	196404.4	20% - 5yr	985.6	1126.15	1122.31	2.02	1.84	24.46	12.2	204.39	574.63	2.12	1.05	3.84	3.84
Stillwater County	A11	RM 428.52	195702.6	20% - 5yr	985.6	1125.75	1122.1	2.37	2.21	34.48	16.64	205.5	561.87	1.99	0.96	3.65	3.65
Stillwater County	A11	RM 428.44	195293.8	20% - 5yr	985.6	1125.46	1121.18	2.66	2.46	40.14	16.22	146.38	405.32	2.5	1.01	4.28	4.28
Stillwater County	A11	RM 428.39	195075.5	20% - 5yr	985.6	1125.19	1120.72	3.1	2.9	54.19	20.03	122.37	358.44	2.57	0.95	4.47	4.47
Stillwater County	A11	RM 428.33	194724.6	20% - 5yr	985.6	1124.98	1121.22	3.01	2.91	51.82	26.12	133.12	298.92	2.45	1.23	3.76	3.76
Stillwater County	A11	RM 428.28	194450.8	20% - 5yr	985.6	1124.81	1121.2	2.97	2.76	51.54	25.37	142.66	316.9	2.29	1.13	3.61	3.61
Stillwater County	A11	RM 428.23	194235.2	20% - 5yr	985.6	1124.68	1120.74	2.9	2.63	48.67	24.16	141.68	321.32	2.35	1.16	3.94	3.94
Stillwater County	A11	RM 428.20	194033.4	20% - 5yr	985.6	1124.59	1120.37	2.84	2.54	44.53	19.91	119.91	320.81	2.72	1.21	4.22	4.22
Stillwater County	A11	RM 428.15	193779.9	20% - 5yr	985.6	1124.5	1120.23	2.7	2.32	39.52	16.26	114.51	361.77	2.87	1.17	4.27	4.27
Stillwater County	A11	RM 428.09	193436.6	20% - 5yr	985.6	1124.36	1119.9	2.61	2.17	38.17	17.37	118.55	381.73	2.64	1.19	4.46	4.46
Stillwater County	A11	RM 428.05	193246.1	20% - 5yr	985.6	1124.23	1120.1	2.72	2.28	42.18	18.92	124.71	391.65	2.48	1.1	4.13	4.13
Stillwater County	A11	RM 428.00	192989.8	20% - 5yr	985.6	1124.13	1120.28	2.57	2.09	37.03	15.33	126.35	443.97	2.58	1.06	3.85	3.85
Stillwater County	A11	RM 427.95	192728.8	20% - 5yr	985.6	1124.04	1119.57	2.44	1.93	33.19	12.71	131.09	521.4	2.68	1.02	4.47	4.47
Stillwater County	A11	RM 427.88	192333.2	20% - 5yr	985.6	1123.64	1119.27	3.15	2.78	54.09	24.77	100.7	309.75	2.83	1.29	4.37	4.37
Stillwater County	A11	RM 427.83	192088.8	20% - 5yr	985.6	1123.44	1119.18	3.25	3.03	58.48	30.81	102.59	331.2	2.72	1.43	4.26	4.26
Stillwater County	A11	RM 427.76	191724.1	20% - 5yr	985.6	1123.15	1119.07	3.37	3.08	62.78	43.76	101.84	169.68	2.71	1.88	4.08	4.08
Stillwater County	A11	RM 427.65	191155.9	20% - 5yr	985.6	1123.1	1118.58	2.29	1.84	28.1	11.3	139.89	622.93	2.96	1.19	4.52	4.52
Stillwater County	A11	RM 427.53	190509.6	20% - 5yr	985.6	1122.76	1117.37	2.77	2.22	39.21	16.91	96.38	343.08	3.5	1.49	5.39	5.39
Stillwater County	A11	RM 427.41	189886.1	20% - 5yr	985.6	1122.55	1118.73	2.65	2.36	36.98	20.93	115.41	234.43	3.15	1.78	3.82	3.82
Stillwater County	A11	RM 427.29	189253.3	20% - 5yr	985.6	1122.26	1119.12	2.63	2.46	41.71	31.05	175.33	255.76	2.1	1.57	3.14	3.14
Stillwater County	A11	RM 427.17	188639.5	20% - 5yr	985.6	1121.98	1118.44	2.32	2.05	32.58	21.02	197.68	358.03	2.07	1.34	3.54	3.54
Stillwater County	A11	RM 427.09	188179.7	20% - 5yr	985.6	1121.59	1118.34	2.86	2.45	45.94	24.28	125.94	290.26	2.62	1.38	3.25	3.25
Stillwater County	A11	RM 427.00	187745.4	20% - 5yr	985.6	1121.45	1117.71	2.5	2.02	35.66	22.01	141.45	321.49	2.45	1.52	3.74	3.74
Stillwater County	A11	RM 426.92	187309.3	20% - 5yr	985.6	1121.21	1117.32	2.47	2.27	38.03	28.91	203.56	300.01	1.9	1.45	3.89	3.89
Stillwater County	A11	RM 426.86	186960.4	20% - 5yr	985.6	1121.04	1116.77	2.3	2.16	32.35	27.39	209.6	269.76	1.99	1.69	4.27	4.27
Stillwater County	A11	RM 426.75	186401.3	20% - 5yr	985.6	1120.72	1116.11	2.45	2.2	36.09	29.18	181.34	260.86	2.12	1.72	4.61	4.61
Stillwater County	A11	RM 426.67	185983.5	20% - 5yr	985.6	1120.52	1115.84	2.47	2.36	33.16	25.7	138.91	189.21	2.85	2.21	4.68	4.68
Stillwater County	A11	RM 426.59	185580.4	20% - 5yr	985.6	1120.21	1115.47	2.95	2.86	45.73	39.9	105.69	125.14	3.14	2.75	4.74	4.74
Stillwater County	A11	RM 426.52	185166.5	20% - 5yr	985.6	1120.05	1115.54	2.85	2.85	42.19	42.19	106.6	106.6	3.25	3.25	4.51	4.51
Stillwater County	A11	RM 426.43	184738.3	20% - 5yr	985.6	1119.88	1115.89	2.82	2.8	42.25	40.81	113.94	119.19	3.06	2.96	3.99	3.99
Stillwater County	A11	RM 426.32	184158.4	20% - 5yr	985.6	1119.65	1116.39	2.69	2.69	39.61	39.61	132.86	132.86	2.76	2.76	3.26	3.26
Stillwater County	A11	RM 426.20	183517.2	20% - 5yr	985.6	1119.31	1116.07	2.55	2.54	41.32	40.27	214.66	221.29	1.8	1.75	3.24	3.24
Stillwater County	A11	RM 426.11	183030.7	20% - 5yr	985.6	1119.06	1115.37	2.25	2.22	28.21	27.25	267.46	299.11	1.63	1.58	3.69	3.69
Stillwater County	A11	RM 426.00	182442.5	20% - 5yr	985.6	1118.79	1115.74	2.17	2.02	29.26	26.76	225.93	299.01	1.92	1.76	3.05	3.05
Stillwater County	A11	RM 425.89	181895	20% - 5yr	985.6	1118.5	1115.1	2.3	2.27	30.96	26.34	185.01	234.49	2.31	1.97	3.4	3.4
Stillwater County	A11	RM 425.72	181043.5	20% - 5yr	985.6	1118.05	1113.77	2.58	2.54	37.42	32.94	148.8	186.66	2.57	2.26	4.28	4.28
Stillwater County	A11	RM 425.58	180310.5	20% - 5yr	985.6	1117.6	1112.19	2.99	2.88	46.11	34.1	98.64	147.15	3.33	2.46	5.41	5.41
Stillwater County	A11	RM 425.46	179669.9	20% - 5yr	985.6	1117.23	1112.78	3.21	2.95	54.19	40.4	94.49	168.14	3.15	2.35	4.45	4.45
Stillwater County	A11	RM 425.34	179022.4	20% - 5yr	985.6	1117.13	1113.64	2.31	2.11	29.64	22.75	135.6	226.33	2.69	2.06	3.49	3.49
Stillwater County	A11	RM 425.24	178485.9	20% - 5yr	985.6	1116.84	1114.19	2.55	2.23	39.24	28.97	126.45	371.11	2.07	1.53	2.7	2.7
Stillwater County	A11	RM 425.18	178205.8	20% - 5yr	985.6	1116.58	1113.81	2.74	2.52	45.94	38.37	126.2	232.26	2.01	1.68	3.27	3.27
Stillwater County	A11	RM 425.11	177826.8	20% - 5yr	985.6	1116.27	1113.29	2.55	2.68	39.95	35.9	120.66	205.17	1.99	1.79	3.98	3.98
Stillwater County	A11	RM 425.04	177454.7	20% - 5yr	985.6	1116.12	1112.86	2.53	2.28	36.77	31.33	106.76	212.14	2.39	2.04	3.65	3.65
Stillwater County	A11	RM 424.97	177098.9	20% - 5yr	985.6	1115.79	1113.11	2.87	2.64	49.18	39.88	106.81	212.16	2.17	1.76	2.78	2.78
Stillwater County	A11	RM 424.89	176675.9	20% - 5yr	985.6	1115.64	1112.27	2.14	2.03	28	20.88	136.62	320.62	2.02	1.51	4.84	4.84
Stillwater County	A11	RM 424.81	176242.8	20% - 5yr	985.6	1115.22	1112.25	2.69	2.61	46.4	43	119.91	254.78	1.73	1.61	3.22	3.22
Stillwater County	A11	RM 424.70	175789.3	20% - 5yr	985.6	1115.08	1111.91	2.11	1.96	26.46	22.36	161.26	329.23	2.18	1.84	3.17	3.17
Stillwater County	A11	RM 424.58	175159.4	20% - 5yr	985.6	1114.8	1111.34	2.34	2.04	32.93	24.25	129.82	309.97	2.12	1.56	3.46	3.46
Stillwater County	A11	RM 424.51	174723.2	20% - 5yr	985.6	1114.6	1110.93	2.16	1.9	29.87	21.31	140.84	416.68	1.74	1.24	3.67	3.67
Stillwater County	A11	RM 424.38	174051	20% - 5yr	985.6	1114.17	1110.98	2.47	2.24	38	23.89	125.92	372.09	1.89	1.18	3.19	3.19
Stillwater County	A11	RM 424.30	173607.9	20% - 5yr	985.6	1113.95	1110.75	2.22	1.98	33.3	20.04	158.86	557.3	1.49	0.9	3.2	3.2
Stillwater County	A11	RM 424.21	173153.7	20% - 5yr	985.6	1113.69	1110.74	2.05	1.77	27.5	15.9	187.85	599.77	1.61	0.93	2.95	2.95
Stillwater County	A11	RM 424.13	172713.5	20% - 5yr	985.6	1113.42	1110.43	2.35	1.63	35.08	17.44	92.09	678.08	1.8	0.89	3.07	3.07
Stillwater County	A11	RM 424.05	172309.3	20% - 5yr	985.6	1113.19	1110.18	1.85	1.55	23.03	13.31	155.09	739.64	1.49	0.86	3.01	3.01
Stillwater County	A11	RM 423.98	171892.1	20% - 5yr	985.6	1113.1	1110.15	1.6	1.3	15.92	9.76	251.57	650.26	1.9	1.17	2.95	2.95

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	20% - 5yr	985.6	1112.84	1109.55	2.27	1.76	31.03	15.59	156.27	534.49	2.1	1.05	3.29	3.29
Stillwater County	A11	RM 423.84	171147.5	20% - 5yr	985.6	1112.68	1109.08	2.37	1.77	31.91	12.04	126.64	598.71	2.48	0.93	3.6	3.6
Stillwater County	A11	RM 423.74	170686.3	20% - 5yr	985.6	1112.64	1108.91	1.74	1.22	16.87	7.88	124.2	658.12	2.65	1.23	3.73	3.73
Stillwater County	A11	RM 423.69	170436.3	20% - 5yr	985.6	1112.43	1108.49	2.45	1.77	33.06	14.63	87.35	462.6	2.75	1.21	3.94	3.94
Stillwater County	A11	RM 423.57	169782.9	20% - 5yr	985.6	1112.22	1108.2	2.13	1.94	24.97	15.9	158.77	293.68	2.72	1.73	4.02	4.02
Stillwater County	A11	RM 423.47	169296.5	20% - 5yr	985.6	1111.83	1107.67	2.85	2.78	44.03	30.81	120.43	267.42	2.87	2.01	4.16	4.16
Stillwater County	A11	RM 423.39	168860.7	20% - 5yr	985.6	1111.49	1107.7	3.17	3.09	53.95	43.29	104.67	189.01	2.96	2.38	3.79	3.79
Stillwater County	A11	RM 423.27	168178	20% - 5yr	985.6	1111.06	1107.36	3.19	3.17	56.91	47.17	118.03	143.43	2.62	2.17	3.7	3.7
Stillwater County	A12	RM 423.17	167687.7	20% - 5yr	985.6	1110.87	1107.46	2.68	2.54	41.6	26.28	153.25	260.16	2.37	1.49	3.41	3.41
Stillwater County	A12	RM 423.08	167239.6	20% - 5yr	985.6	1110.61	1107.21	2.79	2.43	45.15	26.38	128.88	297.87	2.34	1.36	3.4	3.4
Stillwater County	A12	RM 423.01	166844.5	20% - 5yr	985.6	1110.33	1106.84	2.79	2.5	47.88	29.47	139.37	328	1.95	1.2	3.49	3.49
Stillwater County	A12	RM 422.91	166338	20% - 5yr	985.6	1110.01	1106.54	2.79	2.43	44.23	24.49	110.54	292.25	2.5	1.39	3.47	3.47
Stillwater County	A12	RM 422.80	165757.6	20% - 5yr	985.6	1109.71	1106.83	2.63	2.46	40.84	30.59	145.03	275.31	2.23	1.67	2.88	2.88
Stillwater County	A12	RM 422.70	165279.2	20% - 5yr	985.6	1109.6	1105.79	2.05	1.74	25.54	17.9	201.02	390.82	2.06	1.45	3.8	3.8
Stillwater County	A12	RM 422.63	164895.4	20% - 5yr	985.6	1109.46	1105.43	2.04	1.66	25.43	15.26	178.5	488.45	2.03	1.22	4.03	4.03
Stillwater County	A12	RM 422.53	164348.1	20% - 5yr	985.6	1109.17	1104.76	2.25	1.99	30.28	17.95	166.67	388.75	2.16	1.27	4.41	4.41
Stillwater County	A12	RM 422.39	163609.2	20% - 5yr	985.6	1108.74	1104.22	2.62	2.5	37.62	23.94	131.78	243.76	2.79	1.77	4.52	4.52
Stillwater County	A12	RM 422.30	163120.4	20% - 5yr	985.6	1108.4	1104.18	2.98	2.9	47.18	39.18	108.62	161.4	3.03	2.52	4.22	4.22
Stillwater County	A12	RM 422.19	162534.3	20% - 5yr	985.6	1108.21	1103.72	2.65	2.63	37.42	33.04	121.51	138.78	3.06	2.7	4.49	4.49
Stillwater County	A12	RM 422.08	161934.5	20% - 5yr	985.6	1107.76	1104.18	3.15	3.15	54.31	52.71	111.36	114.77	2.81	2.73	3.58	3.58
Stillwater County	A12	RM 421.98	161402.1	20% - 5yr	985.6	1107.65	1103.86	2.47	2.45	33.29	28.36	142.02	167.9	2.81	2.39	3.79	3.79
Stillwater County	A12	RM 421.90	161037.7	20% - 5yr	985.6	1107.52	1103.14	2.41	2.41	33.34	33.34	166.67	166.67	2.45	2.45	4.38	4.38
Stillwater County	A12	RM 421.86	160799.3	20% - 5yr	985.6	1107.4	1102.54	2.43	2.43	35.38	35.34	192.91	193.09	2.11	2.1	4.86	4.86
Stillwater County	A12	RM 421.81	160535.9	20% - 5yr	985.6	1107.26	1102.38	2.39	2.39	35.59	35.59	219.09	219.09	1.88	1.88	4.88	4.88
Stillwater County	A12	RM 421.77	160279.4	20% - 5yr	985.6	1107.05	1102.41	2.6	2.53	41.73	36.98	181.33	223.46	1.97	1.75	4.64	4.64
Stillwater County	A12	RM 421.69	159875.5	20% - 5yr	985.6	1106.92	1102.56	2.36	2.2	29.67	15.37	129.79	281.76	3.08	1.59	4.36	4.36
Stillwater County	A12	RM 421.60	159411.4	20% - 5yr	985.6	1106.61	1103.26	2.84	2.62	46.11	31.19	130.92	225.93	2.45	1.67	3.35	3.35
Stillwater County	A12	RM 421.53	159038	20% - 5yr	985.6	1106.28	1102.81	3.09	2.91	56.45	42.43	132.48	204.02	2.21	1.66	3.47	3.47
Stillwater County	A12	RM 421.45	158590.5	20% - 5yr	985.6	1106.11	1103.26	2.5	2.25	37.04	26.62	153.08	286.28	2.18	1.57	2.85	2.85
Stillwater County	A12	RM 421.32	157930.2	20% - 5yr	985.6	1105.72	1102.82	2.54	2.35	41.77	34.92	96.48	294.28	1.7	1.43	2.9	2.9
Stillwater County	A12	RM 421.24	157513	20% - 5yr	985.6	1105.4	1103.05	2.38	2.28	39.26	32.85	126.06	372.34	1.38	1.16	2.92	2.92
Stillwater County	A12	RM 421.13	156951.5	20% - 5yr	985.6	1105.16	1100.38	2.18	1.91	30.32	23.85	118.47	367.78	1.78	1.4	4.78	4.78
Stillwater County	A12	RM 421.05	156536.5	20% - 5yr	985.6	1105.03	1102.11	1.85	1.71	21.92	17.69	100.82	408.29	1.76	1.42	2.92	2.92
Stillwater County	A12	RM 420.94	155960.1	20% - 5yr	985.6	1104.8	1101.68	1.84	1.76	19.36	17.34	213.29	267.73	2.46	2.21	3.12	3.12
Stillwater County	A12	RM 420.85	155473.6	20% - 5yr	985.6	1104.17	1100.98	3.37	2.78	68.47	38.52	133.04	312.24	2.07	1.17	3.19	3.19
Stillwater County	A12	RM 420.75	154957.2	20% - 5yr	985.6	1103.96	1099.95	2.56	2.19	38.24	19.12	153.55	389.21	2.31	1.16	4.01	4.01
Stillwater County	A12	RM 420.66	154483	20% - 5yr	985.6	1103.81	1099.89	2.27	1.81	28.99	15.32	159.16	404.41	2.58	1.36	3.92	3.92
Stillwater County	A12	RM 420.58	154037.5	20% - 5yr	985.6	1103.47	1100.13	2.84	2.24	44.81	23.76	122.24	311.15	2.67	1.41	3.34	3.34
Stillwater County	A12	RM 420.52	153691.5	20% - 5yr	985.6	1103.31	1099.7	2.77	2.24	43.01	28.08	128.18	262.44	2.57	1.68	3.61	3.61
Stillwater County	A12	RM 420.46	153398	20% - 5yr	985.6	1103.11	1099.36	2.84	2.41	45.82	32.94	131.43	227.13	2.5	1.8	3.75	3.75
Stillwater County	A12	RM 420.38	152998.3	20% - 5yr	985.6	1102.97	1099.19	2.45	2.06	35.8	22.01	173.82	359.95	2.17	1.33	3.78	3.78
Stillwater County	A12	RM 420.30	152566.4	20% - 5yr	985.6	1102.87	1099.43	1.91	1.55	22.17	13.52	228.37	509.18	2.05	1.25	3.44	3.44
Stillwater County	A12	RM 420.21	152106.2	20% - 5yr	985.6	1102.64	1098.69	2.11	1.77	28.65	21.45	237.54	428.02	1.73	1.3	3.95	3.95
Stillwater County	A12	RM 420.15	151738.6	20% - 5yr	985.6	1102.5	1098.38	1.99	1.91	18.35	12.91	259.98	389.39	1.89	1.33	4.12	4.12
Stillwater County	A12	RM 420.08	151399.3	20% - 5yr	985.6	1102.38	1097.97	2.06	2	24.34	19.32	195.47	255.37	2.43	1.93	4.41	4.41
Stillwater County	A12	RM 420.03	151123.2	20% - 5yr	985.6	1102.23	1097.96	2.32	2.09	29.11	16.82	142.3	280.23	2.92	1.68	4.27	4.27
Stillwater County	A12	RM 419.96	150779.4	20% - 5yr	985.6	1101.96	1098.1	2.8	2.47	43.3	19.41	128.1	329.38	2.7	1.21	3.86	3.86
Stillwater County	A12	RM 419.91	150511.3	20% - 5yr	985.6	1101.76	1097.83	3.01	2.73	47.77	23.54	102.65	258	3.15	1.54	3.93	3.93
Stillwater County	A12	RM 419.85	150192.4	20% - 5yr	985.6	1101.44	1097.85	3.39	3.1	63.49	33.6	105.62	245.52	2.72	1.44	3.59	3.59
Stillwater County	A12	RM 419.78	149807.6	20% - 5yr	985.6	1101.33	1097.13	2.93	2.39	45.28	19.01	104.04	314.11	3.14	1.31	4.2	4.2
Stillwater County	A12	RM 419.70	149371.5	20% - 5yr	985.6	1101.11	1097.73	2.87	2.6	46.91	25.17	135.99	283.37	2.49	1.34	3.38	3.38
Stillwater County	A12	RM 419.63	149047.6	20% - 5yr	985.6	1101.01	1097.92	2.5	2.33	36.17	22.83	166.92	286.52	2.34	1.48	3.08	3.08
Stillwater County	A12	RM 419.53	148495.9	20% - 5yr	985.6	1100.61	1097.22	2.89	2.42	51.78	33.09	135.53	329.05	1.93	1.24	3.39	3.39
Stillwater County	A12	RM 419.46	148117.9	20% - 5yr	985.6	1100.38	1097.34	2.52	2.2	39.4	24.15	133.31	377.47	1.94	1.19	3.3	3.3
Stillwater County	A12	RM 419.38	147728.5	20% - 5yr	985.6	1100.15	1097.36	2.28	1.97	33.46	25.1	148.92	391.98	1.7	1.28	2.79	2.79
Stillwater County	A12	RM 419.31	147342.9	20% - 5yr	985.6	1100.05	1096.9	1.75	1.62	17.83	14.57	114.45	320.99	2.31	1.89	3.15	3.15
Stillwater County	A12	RM 419.19	146720.3	20% - 5yr	985.6	1099.94	1096.42	1.46	1.62	12.33	14.07	106.51	227.91	2.41	2.75	5.54	5.54
Stillwater County	A12	RM 419.10	146243.9	20% - 5yr	985.6	1099.84	1095.09	1.82	1.72	16.99	11.51	156.37	267.09	3.42	2.31	4.75	4.75
Stillwater County	A12	RM 419.03	145859.8	20% - 5yr	985.6	1099.58	1095.88	2.51	2.46	36.6	28.73	168.08	232.06	2.33	1.83	3.7	3.7
Stillwater County	A12	RM 418.95	145435.3	20% - 5yr	985.6	1099.38	1095.15	2.41	2.31	35.56	26.77	204.65	294.04	1.98	1.49	4.22	4.22

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	20% - 5yr	985.6	1099.01	1094.92	2.46	2.29	38.52	26.06	220.28	365.44	1.79	1.21	4.09	4.09
Stillwater County	A12	RM 418.57	143452.8	20% - 5yr	985.6	1098	1095.1	2.77	2.46	47.12	27.15	133.59	353.79	1.98	1.15	2.89	2.89
Stillwater County	A12	RM 418.49	143008.1	20% - 5yr	985.6	1097.9	1094.94	1.99	1.53	23.76	11.03	169.36	702.3	2.14	1	2.96	2.96
Stillwater County	A12	RM 418.25	141740.8	20% - 5yr	985.6	1097.18	1093.71	2.07	1.6	27.7	20.52	176.44	537.43	1.7	1.26	3.47	3.47
Stillwater County	A12	RM 418.08	140894.8	20% - 5yr	985.6	1096.84	1092.65	2.11	1.82	26.46	18.57	139.46	353.52	2.18	1.53	4.18	4.18
Stillwater County	A12	RM 417.89	139893.7	20% - 5yr	985.6	1096.11	1092.75	2.98	2.69	50.81	31.95	128.08	298.05	2.44	1.53	3.36	3.36
Stillwater County	A12	RM 417.79	139376.4	20% - 5yr	985.6	1095.84	1091.64	2.78	2.36	45.74	27.99	133.32	309.01	2.21	1.35	4.2	4.2
Stillwater County	A12	RM 417.65	138633.4	20% - 5yr	985.6	1095.3	1091.57	3.13	2.69	53.43	28	93.48	264.57	2.8	1.47	3.73	3.73
Stillwater County	A12	RM 417.54	138089.5	20% - 5yr	985.6	1094.87	1091.15	3.39	2.94	62.43	38.86	85.52	187.27	2.88	1.79	3.72	3.72
Stillwater County	A12	RM 417.40	137321.3	20% - 5yr	1132.8	1094.54	1091.71	2.7	2.32	43.56	29.44	125.54	341.33	2.13	1.44	2.83	2.83
Stillwater County	A12	RM 417.30	136818.2	20% - 5yr	1132.8	1094.19	1091.51	2.59	2.44	41.38	35.46	199.65	300.29	1.94	1.66	2.68	2.68
Stillwater County	A13	RM 417.09	135706	20% - 5yr	1132.8	1093.52	1090.35	2.94	2.71	52.35	38.54	187.24	279.3	2.03	1.5	3.17	3.17
Stillwater County	A13	RM 417.01	135303.6	20% - 5yr	1132.8	1093.39	1090	2.27	2.16	31.75	29.06	247.9	316.83	1.98	1.81	3.39	3.39
Stillwater County	A13	RM 416.85	134457.6	20% - 5yr	1132.8	1092.83	1089.62	2.42	2.2	33.42	23.09	184.2	299.55	2.49	1.72	3.21	3.21
Stillwater County	A13	RM 416.73	133843.5	20% - 5yr	1132.8	1092.41	1089.6	2.72	2.5	45.57	32.68	212.04	325.34	1.94	1.39	2.81	2.81
Stillwater County	A13	RM 416.63	133286.1	20% - 5yr	1132.8	1092.05	1089.3	2.69	2.41	45.09	35.83	124.69	311.58	1.89	1.51	2.75	2.75
Stillwater County	A13	RM 416.52	132717.9	20% - 5yr	1132.8	1091.75	1089.09	2.46	1.93	38.92	27.05	104.23	497.54	1.7	1.18	2.66	2.66
Stillwater County	A13	RM 416.43	132250.3	20% - 5yr	1132.8	1091.39	1088.74	2.32	2.03	35.45	24.85	113.14	504.06	1.58	1.11	2.65	2.65
Stillwater County	A13	RM 416.33	131707.5	20% - 5yr	1132.8	1091.12	1088.02	2.14	1.87	29.59	23.17	131.03	463.78	1.67	1.31	3.1	3.1
Stillwater County	A13	RM 416.22	131140.9	20% - 5yr	1132.8	1090.69	1087.56	2.88	2.26	48.21	30.7	84.28	338.05	2.33	1.48	3.13	3.13
Stillwater County	A13	RM 416.13	130626.3	20% - 5yr	1132.8	1090.35	1086.65	2.71	2.27	42.81	29.92	144.69	309.92	2.3	1.61	3.7	3.7
Stillwater County	A13	RM 416.04	130164.9	20% - 5yr	1132.8	1089.92	1085.03	3.17	2.41	57.79	32.35	121.39	349.37	2.41	1.35	4.89	4.89
Stillwater County	A13	RM 415.96	129734.7	20% - 5yr	1132.8	1089.77	1085.48	2.61	1.89	38.74	19.92	130.53	482.96	2.47	1.27	4.29	4.29
Stillwater County	A13	RM 415.90	129423.4	20% - 5yr	1132.8	1089.65	1085.77	2.14	1.62	27.17	14.2	158.6	675.88	2.17	1.13	3.88	3.88
Stillwater County	A13	RM 415.83	129071.6	20% - 5yr	1132.8	1089.53	1085.89	1.97	1.51	22.5	12.1	152.97	585.54	2.37	1.28	4.2	4.2
Stillwater County	A13	RM 415.74	128639.5	20% - 5yr	1132.8	1089.28	1084.72	2.47	1.9	32.89	15.16	148.31	530.42	2.9	1.33	4.55	4.55
Stillwater County	A13	RM 415.72	128521.2	20% - 5yr	1132.8	1089.13	1084.8	2.82	2.19	42.79	21.36	127.86	447.61	2.96	1.47	4.32	4.32
Stillwater County	A13	RM 415.65	128106.2	20% - 5yr	1132.8	1088.83	1083.7	3.07	2.56	52.66	31.98	134.83	328	2.61	1.59	5.13	5.13
Stillwater County	A13	RM 415.59	127828.3	20% - 5yr	1132.8	1088.44	1083.61	3.52	3.34	70.55	53.15	129.37	195.83	2.47	1.86	4.83	4.83
Stillwater County	A13	RM 415.55	127620.5	20% - 5yr	1132.8	1088.52	1082.84	2.39	2.39	28.85	28.73	131.6	132.12	3.6	3.59	5.67	5.67
Stillwater County	A13	RM 415.50	127340.9	20% - 5yr	1132.8	1088.38	1083.14	2.55	2.55	34.75	34.75	147.93	147.93	3	3	5.24	5.24
Stillwater County	A13	RM 415.45	127087.4	20% - 5yr	1132.8	1088.01	1083.18	3.19	3.17	57.48	49.21	140.05	175.34	2.54	2.17	4.83	4.83
Stillwater County	A13	RM 415.34	126499.1	20% - 5yr	1132.8	1087.75	1084.45	2.88	2.68	47.84	35.41	129.4	313.02	2.37	1.76	3.3	3.3
Stillwater County	A13	RM 415.25	126040.7	20% - 5yr	1132.8	1087.48	1082.42	2.91	2.55	47.54	29.12	122.75	302.57	2.6	1.6	5.06	5.06
Stillwater County	A13	RM 415.18	125663.1	20% - 5yr	1132.8	1087.32	1083.81	2.68	2.52	39.94	32.87	134.59	207.94	2.64	2.18	3.5	3.5
Stillwater County	A13	RM 414.97	124585.1	20% - 5yr	1132.8	1086.47	1082.64	3.13	2.71	56.5	32.66	121.02	307.65	2.4	1.39	3.83	3.83
Stillwater County	A13	RM 414.88	124110.1	20% - 5yr	1132.8	1086.14	1083.02	3.06	2.76	54.02	35.59	123.69	267.51	2.39	1.57	3.12	3.12
Stillwater County	A13	RM 414.71	123222	20% - 5yr	1132.8	1085.67	1080.88	2.67	2.65	39.86	35.44	161.59	183.54	2.62	2.33	4.79	4.79
Stillwater County	A13	RM 414.57	122473.6	20% - 5yr	1132.8	1085.15	1081.21	3.03	2.95	51.66	37.08	145.39	229.22	2.56	1.84	3.94	3.94
Stillwater County	A13	RM 414.43	121696.6	20% - 5yr	1132.8	1084.69	1080.49	2.86	2.53	47.79	26.9	169.83	452.12	2.28	1.28	4.2	4.2
Stillwater County	A13	RM 414.21	120527.7	20% - 5yr	1132.8	1083.95	1080.81	2.57	2.42	42.18	30.45	217.75	419.95	1.75	1.27	3.14	3.14
Stillwater County	A13	RM 413.90	118914.7	20% - 5yr	1132.8	1082.6	1079.28	3.08	2.63	55.25	27.13	153.87	381.57	2.3	1.13	3.31	3.31
Stillwater County	A13	RM 413.65	117570.4	20% - 5yr	1132.8	1081.95	1078.15	2.61	1.64	38.06	18.02	140.19	553.17	2.64	1.25	3.8	3.8
Stillwater County	A14	RM 413.44	116446.3	20% - 5yr	1132.8	1081.19	1076.4	3.06	2.69	52.44	23.09	141.84	690.3	2.58	1.13	4.79	4.79
Stillwater County	A14	RM 413.27	115556.7	20% - 5yr	1132.8	1080.71	1077.8	2.71	1.77	44.87	21.44	175.78	676.55	1.98	0.95	2.91	2.91
Stillwater County	A14	RM 413.11	114697.4	20% - 5yr	1132.8	1080.14	1077.12	2.61	2.38	41.53	24.84	195	657.72	2.03	1.22	3.02	3.02
Stillwater County	A14	RM 412.99	114113.2	20% - 5yr	1132.8	1079.74	1076.41	2.73	1.97	45.69	19.69	183.85	761.6	1.97	0.85	3.33	3.33
Stillwater County	A14	RM 412.88	113533.6	20% - 5yr	1132.8	1079.35	1076.03	2.8	2.32	44.68	23.04	141.9	525.68	2.48	1.28	3.32	3.32
Stillwater County	A14	RM 412.73	112742.6	20% - 5yr	1132.8	1078.83	1074.72	2.87	2.17	49.61	25.48	170.42	555.38	2.08	1.06	4.11	4.11
Stillwater County	A14	RM 412.59	112005.5	20% - 5yr	1132.8	1078.28	1074.72	2.79	2.19	47.96	32.06	195.37	496.62	1.94	1.29	3.56	3.56
Stillwater County	A14	RM 412.49	111442.5	20% - 5yr	1132.8	1078.11	1074.54	2.16	1.88	27.55	18.39	189.08	536.31	2.22	1.48	3.57	3.57
Stillwater County	A14	RM 412.31	110522	20% - 5yr	1132.8	1077.76	1072.96	2.31	2.02	27.63	13.67	144.87	444.86	3.32	1.63	4.79	4.79
Stillwater County	A14	RM 412.19	109955.3	20% - 5yr	1132.8	1077.02	1071.57	3.76	3.61	76.69	44.26	103.46	189.17	2.9	1.66	5.45	5.45
Stillwater County	A14	RM 412.05	109175.2	20% - 5yr	1132.8	1076.6	1072.08	3.26	3.06	56.45	34.82	112.26	196.21	3.06	1.88	4.52	4.52
Stillwater County	A14	RM 411.92	108510.2	20% - 5yr	1132.8	1076.34	1072.88	2.85	2.85	44.29	43.77	141.78	143.47	2.81	2.77	3.46	3.46
Stillwater County	A14	RM 411.81	107950.5	20% - 5yr	1132.8	1075.89	1070.62	3.22	3.22	57.48	57.48	129.52	132.65	2.71	2.71	5.27	5.27
Stillwater County	A14	RM 411.71	107391.9	20% - 5yr	1132.8	1075.66	1070.83	2.92	2.91	44.25	43.3	118.73	133.43	3.27	3.2	4.83	4.83
Stillwater County	A14	RM 411.58	106721	20% - 5yr	1132.8	1075.38	1071.65	2.76	2.76	42.73	42.73	159.34	199.8	2.58	2.58	3.73	3.73
Stillwater County	A14	RM 411.47	106133.7	20% - 5yr	1132.8	1074.99	1071.87	2.96	2.7	50.39	30.81	155.42	287.85	2.41	1.47	3.12	3.12
Stillwater County	A14	RM 411.32	105338.4	20% - 5yr	1132.8	1074.46	1069.29	2.97	2.74	50.95	41.04	158.36	217.8	2.36	1.9	5.17	5.17

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	20% - 5yr	1132.8	1073.65	1067.92	3.42	2.87	63.34	31.9	110.97	271.39	2.89	1.45	5.72	5.72
Stillwater County	A14	RM 411.00	103638.4	20% - 5yr	1132.8	1073.25	1069.6	3.01	2.38	52.55	34.07	139.82	315.06	2.33	1.51	3.65	3.65
Stillwater County	A14	RM 410.85	102835.8	20% - 5yr	1132.8	1072.77	1069.92	2.56	2.17	42.41	29.51	83.64	445.48	1.69	1.17	2.85	2.85
Stillwater County	A14	RM 410.74	102286.3	20% - 5yr	1132.8	1072.32	1068.99	2.73	2.12	45.57	28.92	71.87	424.76	2	1.26	3.33	3.33
Stillwater County	A14	RM 410.63	101668.3	20% - 5yr	1132.8	1071.99	1068.37	2.58	1.85	38.99	20.24	83.38	575.26	2.27	1.17	3.62	3.62
Stillwater County	A14	RM 410.52	101115.7	20% - 5yr	1132.8	1071.66	1067.81	2.51	2.09	36.18	22.17	123.09	403.72	2.44	1.49	3.85	3.85
Stillwater County	A14	RM 410.42	100568.4	20% - 5yr	1132.8	1071.15	1066.66	2.76	2.82	48.8	49	148.42	228.52	1.76	1.77	4.49	4.49
Stillwater County	A14	RM 410.33	100099.2	20% - 5yr	1132.8	1070.93	1066.6	2.42	2.25	34.13	25.63	198.78	358.46	2.3	1.73	4.33	4.33
Stillwater County	A14	RM 410.22	99589.26	20% - 5yr	1132.8	1070.47	1066.94	3.03	2.73	52.84	32.73	150.24	498.21	2.42	1.5	3.53	3.53
Stillwater County	A14	RM 410.12	99057.4	20% - 5yr	1132.8	1070.11	1065.8	2.95	2.57	52.66	42.11	172.96	432	2.05	1.64	4.31	4.31
Stillwater County	A14	RM 410.03	98630.66	20% - 5yr	1132.8	1069.77	1065.33	2.82	2.51	50.26	41.29	204.3	363.55	1.82	1.5	4.44	4.44
Stillwater County	A14	RM 409.99	98385.41	20% - 5yr	1132.8	1069.54	1065.38	2.9	2.56	53.17	41.56	200.61	380.29	1.81	1.41	4.16	4.16
Stillwater County	A14	RM 409.94	98072.09	20% - 5yr	1132.8	1069.34	1065.51	2.66	2.25	42.9	26.88	196.52	521.02	2.05	1.28	3.83	3.83
Stillwater County	A14	RM 409.87	97717.24	20% - 5yr	1132.8	1069.32	1065.52	2.01	1.52	21.63	11.41	163.9	873.07	2.97	1.56	3.8	3.8
Stillwater County	A14	RM 409.76	97130.84	20% - 5yr	1132.8	1068.98	1065.37	2.68	2.09	40.06	18.54	146.34	541.46	2.6	1.2	3.61	3.61
Stillwater County	A14	RM 409.60	96278.7	20% - 5yr	1132.8	1068.06	1064.65	3.55	2.93	79.65	47.38	164.47	364.73	1.8	1.07	3.4	3.4
Stillwater County	A14	RM 409.43	95381.62	20% - 5yr	1132.8	1067.45	1063.55	2.83	2.06	45.73	20.84	131.51	747.9	2.46	1.12	3.91	3.91
Stillwater County	A14	RM 409.24	94405.29	20% - 5yr	1132.8	1066.75	1064.55	2.28	1.93	37.01	24.3	145.07	842.65	1.25	0.82	2.53	2.53
Stillwater County	A14	RM 409.15	93912.54	20% - 5yr	1132.8	1066.38	1064.27	1.79	1.78	22.25	15.78	165.46	664.92	1.34	0.95	4.31	4.31
Stillwater County	A14	RM 408.99	93008.08	20% - 5yr	1132.8	1065.53	1063.94	2.28	2.74	38.45	36.95	154.28	380.48	1.13	1.09	2.99	2.99
Stillwater County	A14	RM 408.84	92229.27	20% - 5yr	1132.8	1065.06	1062.1	2.51	2.46	42.26	33.8	147.09	374.99	1.52	1.23	2.96	2.96
Stillwater County	A14	RM 408.63	91072.98	20% - 5yr	1132.8	1064.28	1061.85	2.18	2.11	32.66	29.32	209.36	433.69	1.42	1.27	2.7	2.7
Stillwater County	A14	RM 408.41	89726.16	20% - 5yr	1132.8	1063.76	1059.04	2.32	2.03	28.13	18.71	105.18	258.18	3.27	2.16	4.72	4.72
Stillwater County	A14	RM 408.26	88966.66	20% - 5yr	1132.8	1063.47	1058.13	2.5	2.24	32.38	19.33	130.93	255.98	3.32	1.98	5.34	5.34
Stillwater County	A14	RM 408.10	88091.52	20% - 5yr	1132.8	1062.84	1057.78	3.35	3.19	57.38	49.06	98.26	121.5	3.41	2.93	5.06	5.06
Stillwater County	A14	RM 408.02	87720.33	20% - 5yr	1132.8	1062.76	1058.61	2.91	2.74	44.65	26.94	123.95	220.27	3.11	1.88	4.15	4.15
Stillwater County	A14	RM 407.83	86708.48	20% - 5yr	1132.8	1062.17	1058.65	2.79	2.68	49.69	39.08	156.94	303.84	1.76	1.39	3.52	3.52
Stillwater County	A14	RM 407.71	86078.99	20% - 5yr	1132.8	1061.77	1057.9	2.89	2.59	47.46	25.86	117.12	320.54	2.5	1.36	3.87	3.87
Stillwater County	A14	RM 407.61	85508.29	20% - 5yr	1132.8	1061.52	1058.36	2.42	2.25	36.94	25.42	170.29	397.03	1.84	1.27	3.16	3.16
Stillwater County	A14	RM 407.50	84909.3	20% - 5yr	1132.8	1061.23	1058.55	2.41	2.15	37.58	29.15	178.34	406.46	1.66	1.3	3.16	3.16
Stillwater County	A14	RM 407.41	84433.26	20% - 5yr	1132.8	1061.01	1057.85	2.43	1.93	36.09	22.51	122.26	468.68	2	1.25	3.35	3.35
Stillwater County	A14	RM 407.36	84180.66	20% - 5yr	1132.8	1060.8	1057.59	2.79	2.07	45.44	25.26	101.23	429.59	2.29	1.27	3.21	3.21
Stillwater County	A14	RM 407.29	83775.88	20% - 5yr	1132.8	1060.41	1057.08	2.39	2.54	35.96	29.38	139.47	295.75	1.84	1.51	3.59	3.59
Stillwater County	A14	RM 407.13	82954.84	20% - 5yr	1132.8	1060.02	1056.27	2.2	2.19	30.47	29.52	277.18	288.14	1.85	1.8	3.75	3.75
Stillwater County	A14	RM 406.98	82156.72	20% - 5yr	1132.8	1059.77	1056.37	2.02	1.97	22.41	20.47	198.03	225.6	2.79	2.56	3.4	3.4
Stillwater County	A14	RM 406.86	81532.92	20% - 5yr	1132.8	1059.09	1055.69	3.44	3.33	64.36	56.24	113.95	136.11	2.86	2.5	3.4	3.4
Stillwater County	A14	RM 406.77	81053.3	20% - 5yr	1132.8	1058.85	1053.84	3.22	2.95	55.16	34.9	111.58	199.77	3.05	1.92	5.01	5.01
Stillwater County	A14	RM 406.64	80405.13	20% - 5yr	1132.8	1058.61	1054.89	2.77	2.6	41.5	33.4	137.79	187.28	2.89	2.33	3.72	3.72
Stillwater County	A14	RM 406.48	79524.79	20% - 5yr	1132.8	1058.07	1054.8	2.89	2.51	50.76	31.19	192.5	390.86	1.88	1.15	3.27	3.27
Stillwater County	A14	RM 406.25	78337.26	20% - 5yr	1132.8	1057.35	1054.03	2.75	2.42	42.27	22.33	140.64	338.67	2.63	1.38	3.32	3.32
Stillwater County	A14	RM 406.08	77409.13	20% - 5yr	1132.8	1056.8	1052.87	2.95	2.42	49.14	21.15	131.25	445.97	2.55	1.09	3.93	3.93
Stillwater County	A14	RM 405.93	76624.91	20% - 5yr	1132.8	1056.18	1052.64	3.24	3.08	56.34	43.53	114.34	158.38	2.99	2.32	3.54	3.54
Stillwater County	A14	RM 405.81	75994.44	20% - 5yr	1132.8	1055.9	1051.93	2.94	2.83	47.2	42.98	133.87	182.84	2.81	2.57	3.97	3.97
Stillwater County	A15	RM 405.77	75764.36	20% - 5yr	1132.8	1055.65	1052.63	3.26	3.04	61.77	53.3	142.49	186.58	2.31	2	3.02	3.02
Stillwater County	A15	RM 405.67	75185.26	20% - 5yr	1132.8	1055.32	1052.06	2.93	2.51	49.57	37.03	82.19	253.8	2.38	1.78	3.25	3.25
Stillwater County	A15	RM 405.61	74883.52	20% - 5yr	1132.8	1055.07	1051.81	3.33	2.53	61.53	35.66	69.55	309.65	2.68	1.56	3.26	3.26
Stillwater County	A15	RM 405.52	74415.92	20% - 5yr	1132.8	1054.56	1051.43	3.83	2.75	81.88	40.25	52.24	363.93	2.66	1.3	3.13	3.13
Stillwater County	A15	RM 405.45	74031.34	20% - 5yr	1132.8	1054.5	1051.1	2.95	1.89	46.45	27.68	57.4	399.7	2.98	1.78	3.4	3.4
Stillwater County	A15	RM 405.34	73437.72	20% - 5yr	1132.8	1054.06	1050.67	2.96	2.5	47.76	24.85	116.05	372.68	2.81	1.46	3.39	3.39
Stillwater County	A15	RM 405.18	72616.33	20% - 5yr	1132.8	1053.49	1049.45	3.33	2.8	58.31	29.62	94.83	293.46	3.19	1.61	4.04	4.04
Stillwater County	A15	RM 405.09	72171.48	20% - 5yr	1132.8	1053.39	1049.09	2.71	2.42	38.76	25.35	115.98	230.77	3.11	2.03	4.3	4.3
Stillwater County	A15	RM 405.02	71774.52	20% - 5yr	1132.8	1053.01	1048.59	3.38	3	59.43	39.28	88.03	175.01	3.27	2.15	4.42	4.42
Stillwater County	A15	RM 404.97	71526.86	20% - 5yr	1132.8	1052.99	1048.35	2.86	2.51	42.88	28.68	105.86	273.13	3.16	2.11	4.64	4.64
Stillwater County	A15	RM 404.90	71150.58	20% - 5yr	1132.8	1052.82	1048.99	2.89	2.58	44.06	28.46	104.62	291.62	3.09	1.99	3.83	3.83
Stillwater County	A15	RM 404.84	70801.47	20% - 5yr	1132.8	1052.76	1049.19	2.52	2.26	33.74	15.34	118	492.61	3.05	1.38	3.57	3.57
Stillwater County	A15	RM 404.77	70415.17	20% - 5yr	1132.8	1052.53	1048.51	2.97	2.48	45.79	17.27	86.33	501.85	3.32	1.23	4.02	4.02
Stillwater County	A15	RM 404.59	69477.61	20% - 5yr	1132.8	1051.9	1047.56	3.37	3.33	60.38	46.07	108.62	144.84	3.09	2.35	4.34	4.34
Stillwater County	A15	RM 404.54	69214.33	20% - 5yr	1132.8	1051.81	1047.65	3.1	2.98	51.84	36.46	124.02	185.9	2.92	2.04	4.16	4.16
Stillwater County	A15	RM 404.35	68254.38	20% - 5yr	1132.8	1051.3	1048.18	2.73	2.71	44.21	35.03	142.88	240.71	2.17	1.74	3.53	3.53
Stillwater County	A15	RM 404.10	66934.17	20% - 5yr	1132.8	1050.56	1047.61	2.65	2.53	40.23	36.75	122.46	236.27	2.44	2.23	2.95	2.95

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	20% - 5yr	1132.8	1050.18	1045.27	2.73	2.34	41.46	27.14	113.06	407.68	2.65	1.73	4.91	4.91
Stillwater County	A15	RM 403.85	65604.39	20% - 5yr	1132.8	1049.76	1044.79	3.36	2.77	58.69	37.6	78.25	334.64	3.32	2.11	4.97	4.97
Stillwater County	A15	RM 403.75	65058.55	20% - 5yr	1132.8	1049.22	1046.13	3.69	3.3	77.86	55.67	100.9	204.87	2.46	1.75	3.09	3.09
Stillwater County	A15	RM 403.69	64721.22	20% - 5yr	1132.8	1049.14	1046.02	2.69	2.55	42.99	39.01	133.52	296.15	2.2	2	3.12	3.12
Stillwater County	A15	RM 403.62	64341.29	20% - 5yr	1132.8	1048.8	1045.75	3.03	2.86	58.06	52.94	91.32	282.4	1.79	1.65	3.05	3.05
Stillwater County	A15	RM 403.55	63997.04	20% - 5yr	1132.8	1048.59	1045.95	2.68	2.41	45.37	31.56	116.64	406.78	1.83	1.27	2.63	2.63
Stillwater County	A15	RM 403.38	62985.06	20% - 5yr	1132.8	1048.19	1043.43	2.16	1.95	27.04	20.63	194.4	326.21	2.34	1.78	4.76	4.76
Stillwater County	A15	RM 403.24	62260	20% - 5yr	1132.8	1047.88	1043.43	2.33	2.32	29.25	26.05	166.09	203.19	2.93	2.61	4.45	4.45
Stillwater County	A15	RM 403.15	61770.95	20% - 5yr	1132.8	1047.45	1042.51	3.08	3	51.94	42.11	130.41	169.34	2.81	2.28	4.94	4.94
Stillwater County	A15	RM 403.05	61263.44	20% - 5yr	1132.8	1047.19	1043.23	2.95	2.93	48.28	40.42	144.91	182.81	2.65	2.22	3.95	3.95
Stillwater County	A15	RM 402.97	60777.65	20% - 5yr	1132.8	1046.97	1043.89	2.65	2.61	40.82	36.22	184.09	222.04	2.32	2.06	3.08	3.08
Stillwater County	A15	RM 402.83	60113.9	20% - 5yr	1132.8	1046.42	1043.49	2.86	2.86	53.96	53.82	246.02	379.01	1.61	1.6	2.93	2.93
Stillwater County	A15	RM 402.68	59309.8	20% - 5yr	1132.8	1045.85	1042.55	2.48	2.35	38.18	29.05	233.24	571.91	1.93	1.47	3.3	3.3
Stillwater County	A15	RM 402.53	58529.61	20% - 5yr	1132.8	1045.54	1040.51	2.54	1.87	32.44	9.67	118.18	689.41	3.58	1.07	5.03	5.03
Stillwater County	A15	RM 402.37	57665.93	20% - 5yr	1132.8	1044.97	1041.09	3.04	2.5	60.05	35.66	211.18	538.16	1.67	0.99	3.88	3.88
Stillwater County	A15	RM 402.24	56987.42	20% - 5yr	1132.8	1044.78	1040.75	1.95	1.54	22.81	12.05	251.16	767.78	2.09	1.11	4.03	4.03
Stillwater County	A15	RM 402.07	56034.67	20% - 5yr	1132.8	1044.24	1041.1	2.53	2	39.38	25	203.81	450.85	1.97	1.25	3.14	3.14
Stillwater County	A15	RM 401.87	54972.92	20% - 5yr	1132.8	1043.48	1040.1	2.91	2.21	48.79	24.85	149.26	424.65	2.37	1.21	3.38	3.38
Stillwater County	A15	RM 401.69	54002.29	20% - 5yr	1132.8	1043.25	1038.43	1.92	1.76	21.37	13.25	233.18	441.66	2.35	1.46	4.82	4.82
Stillwater County	A15	RM 401.55	53267.48	20% - 5yr	1132.8	1042.56	1036.56	3.45	3.09	57.12	26.1	74.51	193.37	4.19	1.9	6	6
Stillwater County	A15	RM 401.41	52506.25	20% - 5yr	1132.8	1042.41	1037.91	2.66	2.31	38.21	23.49	134.93	317.62	2.88	1.77	4.5	4.5
Stillwater County	A15	RM 401.31	51997.63	20% - 5yr	1132.8	1042	1038.08	3.15	2.77	54.29	34.6	118.65	231	2.77	1.77	3.92	3.92
Stillwater County	A15	RM 401.17	51259.17	20% - 5yr	1132.8	1041.55	1037.38	3.01	2.91	50.92	42.78	144.88	178.8	2.58	2.17	4.17	4.17
Stillwater County	A15	RM 401.03	50507.04	20% - 5yr	1132.8	1041.18	1036.56	2.9	2.67	44.65	28.93	124.33	211.47	3.09	2.01	4.62	4.62
Stillwater County	A15	RM 400.90	49826.69	20% - 5yr	1132.8	1040.67	1036.25	3.24	3.04	60.49	46.98	142.87	206.29	2.41	1.88	4.42	4.42
Stillwater County	A15	RM 400.74	49002.09	20% - 5yr	1132.8	1040.13	1037.21	3.13	2.42	55.64	32.91	111.11	317.9	2.51	1.47	2.92	2.92
Stillwater County	A15	RM 400.61	48243.95	20% - 5yr	1132.8	1039.8	1035.99	2.48	2.14	36.48	25.28	144.57	345.8	2.22	1.53	3.81	3.81
Stillwater County	A15	RM 400.50	47710.55	20% - 5yr	1132.8	1039.48	1035.67	2.48	2.39	36.26	33.89	149.09	222.43	2.27	2.13	3.81	3.81
Stillwater County	A15	RM 400.42	47243.72	20% - 5yr	1132.8	1039.15	1034.87	2.87	2.7	45.14	32.37	103.81	209.65	2.8	2	4.28	4.28
Stillwater County	A15	RM 400.34	46832.6	20% - 5yr	1132.8	1038.98	1034.91	2.78	2.58	41.1	31.28	95.8	187.59	3.06	2.34	4.07	4.07
Stillwater County	A15	RM 400.25	46335.82	20% - 5yr	1132.8	1038.83	1035.01	2.59	2.32	36.01	20.52	107.05	288.56	2.98	1.69	3.82	3.82
Stillwater County	A15	RM 400.18	45999.89	20% - 5yr	1132.8	1038.66	1034.98	2.7	2.44	40.14	22.38	113.33	300.11	2.78	1.55	3.68	3.68
Stillwater County	A15	RM 400.13	45714.33	20% - 5yr	1132.8	1038.54	1035.2	2.69	2.31	39.5	23.39	122.23	296.79	2.8	1.65	3.34	3.34
Stillwater County	A15	RM 400.11	45623.77	20% - 5yr	1132.8	1038.44	1035.11	2.84	2.42	45.81	28.15	129.42	301.98	2.54	1.55	3.33	3.33
Stillwater County	A15	RM 400.09	45529.19	20% - 5yr	1132.8	1038.25	1035.05	3.23	2.81	61.27	40.73	127.36	268.73	2.26	1.5	3.2	3.2
Stillwater County	A15	RM 400.03	45177.97	20% - 5yr	1132.8	1038.01	1034.82	3.03	2.74	54.21	45.65	136.11	221.41	2.22	1.87	3.19	3.19
Stillwater County	A15	RM 399.95	44761.86	20% - 5yr	1132.8	1037.84	1033.69	2.63	2.63	37.47	37.37	149.76	150.17	2.88	2.87	4.15	4.15
Stillwater County	A16	RM 399.85	44225.61	20% - 5yr	1132.8	1037.44	1033.63	3.03	3.03	51.78	51.78	144.29	144.29	2.59	2.59	3.81	3.81
Stillwater County	A16	RM 399.74	43664.16	20% - 5yr	1132.8	1037.18	1033.48	2.65	2.65	41.38	41.28	188.16	188.58	2.27	2.27	3.7	3.7
Stillwater County	A16	RM 399.62	43026.17	20% - 5yr	1132.8	1036.79	1033.67	2.62	2.62	42.1	42.1	216.98	216.98	1.99	1.99	3.12	3.12
Stillwater County	A16	RM 399.50	42404.94	20% - 5yr	1132.8	1036.51	1031.89	2.48	2.44	33.89	27.63	166.86	208.34	2.74	2.23	4.62	4.62
Stillwater County	A16	RM 399.39	41801.43	20% - 5yr	1132.8	1036.18	1031.8	2.71	2.66	40.66	37.75	155.12	170.43	2.69	2.5	4.38	4.38
Stillwater County	A16	RM 399.30	41294.57	20% - 5yr	1132.8	1035.83	1031.14	2.97	2.83	49.71	40.13	144.65	192.66	2.58	2.08	4.69	4.69
Stillwater County	A16	RM 399.19	40736.83	20% - 5yr	1132.8	1035.29	1031.46	3.38	3.22	64.91	43.59	133.83	210.55	2.49	1.67	3.83	3.83
Stillwater County	A16	RM 399.09	40202.15	20% - 5yr	1132.8	1035.07	1031.09	2.93	2.63	46.4	29.63	128.56	234.6	2.88	1.84	3.98	3.98
Stillwater County	A16	RM 399.00	39710.39	20% - 5yr	1132.8	1034.89	1031.41	2.64	2.14	39.62	24.84	144.06	337.81	2.51	1.57	3.48	3.48
Stillwater County	A16	RM 398.91	39231.58	20% - 5yr	1132.8	1034.59	1031.73	2.67	2.25	45.64	29.23	180.15	449.62	1.75	1.12	2.86	2.86
Stillwater County	A16	RM 398.80	38666.26	20% - 5yr	1132.8	1034.17	1031.55	2.61	2.14	42.81	28.94	188.5	425.89	1.83	1.24	2.62	2.62
Stillwater County	A16	RM 398.73	38275.64	20% - 5yr	1132.8	1033.88	1030.78	2.59	2.19	36.93	25.3	202.5	425.6	1.78	1.21	3.1	3.1
Stillwater County	A16	RM 398.62	37715.08	20% - 5yr	1132.8	1033.55	1030.19	2.44	2.14	32.6	24.28	190.34	386.49	1.84	1.37	3.36	3.36
Stillwater County	A16	RM 398.51	37115.9	20% - 5yr	1132.8	1033.16	1030.68	2.48	2.27	38.8	26.51	212.01	396.64	1.84	1.26	2.5	2.5
Stillwater County	A16	RM 398.40	36522.49	20% - 5yr	1132.8	1032.96	1028.27	2.11	1.86	23.88	17.09	187.76	399.35	2.13	1.53	4.69	4.69
Stillwater County	A16	RM 398.29	35952.65	20% - 5yr	1132.8	1032.56	1027.62	2.51	2.38	39.51	28.13	240.18	359.03	1.87	1.33	4.94	4.94
Stillwater County	A16	RM 398.17	35320.39	20% - 5yr	1132.8	1032.36	1028.88	2.01	1.96	23.29	19.1	231.9	290.93	2.42	1.98	3.48	3.48
Stillwater County	A16	RM 398.04	34597.07	20% - 5yr	1132.8	1032.04	1027.24	2.18	2.14	34.15	29.25	254.74	327.61	2.04	1.74	4.8	4.8
Stillwater County	A16	RM 397.95	34133.39	20% - 5yr	1132.8	1031.65	1027.15	2.6	2.56	42.46	39.89	235.59	255.36	1.84	1.73	4.5	4.5
Stillwater County	A16	RM 397.81	33366.95	20% - 5yr	1132.8	1031.31	1027.05	2.18	2.13	28.17	25.65	237.14	282.75	2.18	1.99	4.26	4.26
Stillwater County	A16	RM 397.68	32754.86	20% - 5yr	1132.8	1031.08	1026.97	2.21	2.13	27.14	22.72	191.65	286.87	2.66	2.23	4.11	4.11
Stillwater County	A16	RM 397.56	32104.4	20% - 5yr	1132.8	1030.55	1026.76	3.07	2.96	52.16	48.09	134.18	205.9	2.72	2.52	3.79	3.79
Stillwater County	A16	RM 397.40	31237.31	20% - 5yr	1132.8	1030.09	1026.27	2.79	2.54	45.29	35.35	173.87	616.79	2.29	1.79	3.82	3.82

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

20% - 5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	20% - 5yr	1132.8	1029.46	1025.84	2.34	1.94	35.05	21.8	262.28	878.53	1.74	1.08	3.62	3.62
Stillwater County	A16	RM 396.97	29050.44	20% - 5yr	1132.8	1029	1025.61	1.99	1.55	24.58	12.88	279.17	968.35	1.92	1.01	3.39	3.39
Stillwater County	A16	RM 396.71	27639.86	20% - 5yr	1132.8	1028.26	1022.48	2.74	1.9	40.18	13.29	127.32	671.81	3.02	0.99	5.78	5.78
Stillwater County	A16	RM 396.62	27103.31	20% - 5yr	1132.8	1027.96	1022.36	3	2.22	45.49	13.41	99.6	541.77	3.6	1.05	5.6	5.6
Stillwater County	A16	RM 396.52	26616.35	20% - 5yr	1132.8	1027.7	1023.41	3.17	2.17	52.69	15.42	105.11	564.49	3.18	0.92	4.29	4.29
Stillwater County	A16	RM 396.29	25423.1	20% - 5yr	1132.8	1027.28	1023.53	2.36	1.79	32.81	15.01	185.94	618.23	2.24	1.02	3.75	3.75
Stillwater County	A16	RM 396.14	24635.78	20% - 5yr	1132.8	1026.59	1022.46	3.19	2.65	58.52	31.73	128.89	417.84	2.4	1.3	4.13	4.13
Stillwater County	A16	RM 396.03	24026.24	20% - 5yr	1132.8	1026.44	1024.1	2.14	1.78	28.12	16.72	186.24	594.25	1.97	1.17	2.34	2.34
Stillwater County	A16	RM 395.89	23301.08	20% - 5yr	1132.8	1025.93	1022.79	2.67	2.04	45.67	23.87	149.68	678	1.73	0.9	3.14	3.14
Stillwater County	A16	RM 395.73	22420.29	20% - 5yr	1132.8	1025.56	1022.66	1.48	1.3	14.1	9.65	184.96	871.77	1.73	1.18	2.9	2.9
Stillwater County	A16	RM 395.64	21923.33	20% - 5yr	1132.8	1025.32	1022.13	2	1.53	24.77	12.05	144.5	932.64	1.93	0.94	3.5	3.5
Stillwater County	A16	RM 395.57	21526.11	20% - 5yr	1132.8	1024.9	1021.61	2.87	1.93	47.74	18.89	77.69	910.81	2.37	0.93	3.29	3.29
Stillwater County	A16	RM 395.48	21053.74	20% - 5yr	1132.8	1024.52	1021.89	2.61	2.14	44.72	27.72	111.12	710.81	1.62	1	2.63	2.63
Stillwater County	A16	RM 395.36	20532.68	20% - 5yr	1132.8	1024.25	1021.53	2.16	1.84	29.09	16.46	131.81	761.19	1.9	1.07	2.72	2.72
Stillwater County	A16	RM 394.98	18666.37	20% - 5yr	1132.8	1023.61	1020.31	2.65	2.15	41.9	23.66	102.07	455.58	2.15	1.21	3.3	3.3
Stillwater County	A16	RM 394.80	17678.79	20% - 5yr	1132.8	1023.24	1019.23	2.47	2.15	38.58	25.86	140.3	439.37	1.79	1.2	4.01	4.01
Stillwater County	A16	RM 394.65	16921.48	20% - 5yr	1132.8	1022.8	1019.93	2.19	2.12	30.46	25.83	158.07	371.43	1.8	1.53	3.8	3.8
Stillwater County	A16	RM 394.59	16622.61	20% - 5yr	1132.8	1022.42	1019.92	2.36	2.35	37.7	33.39	150.32	373.4	1.48	1.31	2.85	2.85
Stillwater County	A16	RM 394.53	16295.21	20% - 5yr	1132.8	1022.14	1019.83	2.27	2.15	35.13	30.58	149.42	423.56	1.46	1.27	3.13	3.13
Stillwater County	A16	RM 394.20	14503.23	20% - 5yr	1132.8	1020.97	1016.38	2.55	2.2	38.08	24.74	149.53	352.39	2.25	1.46	4.59	4.59
Stillwater County	A16	RM 394.12	14088.57	20% - 5yr	1132.8	1020.61	1016.74	2.92	2.53	50.32	31.89	146.05	319.95	2.21	1.4	3.87	3.87
Stillwater County	A16	RM 393.99	13393.6	20% - 5yr	1132.8	1020.26	1017.11	2.46	1.97	37.11	22.7	117.87	479.41	1.96	1.2	3.15	3.15
Stillwater County	A16	RM 393.85	12650.05	20% - 5yr	1132.8	1019.76	1016.49	2.36	2.03	36.94	26.58	176.53	495.13	1.57	1.13	3.27	3.27
Stillwater County	A16	RM 393.59	11240.84	20% - 5yr	1132.8	1019.22	1015.45	1.7	1.45	18.01	10.51	272.1	701.41	1.92	1.12	3.77	3.77
Stillwater County	A16	RM 393.27	9813.245	20% - 5yr	1132.8	1018.21	1013.32	2.9	2.66	56.79	46.27	213.07	354.39	1.47	1.2	4.89	4.89
Stillwater County	A16	RM 393.10	8870.543	20% - 5yr	1132.8	1017.58	1013.34	2	1.89	27.67	24.26	338.36	491.21	1.39	1.22	4.24	4.24
Stillwater County	A16	RM 392.95	8114.595	20% - 5yr	1132.8	1016.75	1014.13	2.75	2.65	51.32	46.78	268.37	323.28	1.45	1.32	2.62	2.62
Stillwater County	A16	RM 392.69	6912.838	20% - 5yr	1132.8	1016.2	1012.43	1.89	1.7	22.07	16.43	189.99	579.77	1.96	1.46	3.77	3.77
Stillwater County	A16	RM 392.44	5710.825	20% - 5yr	1132.8	1015.64	1011.68	2.4	1.93	33.02	15.96	135.28	848.88	2.43	1.17	3.96	3.96
Stillwater County	A17	RM 392.20	4388.056	20% - 5yr	1132.8	1014.58	1010.8	3.09	2.58	60.02	32.4	192.12	444.49	1.83	0.99	3.78	3.78
Stillwater County	A17	RM 392.00	3345.174	20% - 5yr	1132.8	1014	1009.53	2.55	2.12	37.52	22.22	163.35	379.05	2.39	1.41	4.47	4.47
Stillwater County	A17	RM 391.84	2491.214	20% - 5yr	1132.8	1013.69	1010.51	2.12	1.81	27.84	16.08	153.95	567.72	1.9	1.1	3.28	3.28
Stillwater County	A17	RM 391.68	1656.536	20% - 5yr	1132.8	1013.36	1010.5	1.77	1.58	21.32	16.27	255.36	641.31	1.47	1.12	2.86	2.86
Stillwater County	A17	RM 391.58	1120.168	20% - 5yr	1132.8	1013.09	1009.55	1.88	1.59	23.9	15.76	361.31	730.39	1.48	0.97	3.54	3.54
Stillwater County	A17	RM 391.46	505.9	20% - 5yr	1132.8	1012.81	1009.4	1.9	1.49	23.05	12.76	297.18	779.55	1.77	0.98	3.41	3.41

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	5-yr	1132.67	1012.41	1008.74	2.22	1.65	29.27	12.6	207.95	728.79	2.19	0.94	3.66	3.66
Yellowstone County	A17	RM 391.14	149661.4	5-yr	1132.67	1011.99	1007.82	2.27	1.52	37.41	18.03	203.89	721.01	2.15	1.03	4.17	4.17
Yellowstone County	A17	RM 390.83	149168.3	5-yr	1132.67	1010.87	1007.89	2.47	2.1	43.07	27.42	254	571.26	1.58	1.01	2.98	2.98
Yellowstone County	A17	RM 390.51	148644.1	5-yr	1132.67	1010.1	1006	1.67	1.46	24.97	9.77	202.13	827.18	2.4	0.94	4.1	4.1
Yellowstone County	A17	RM 390.34	148387.5	5-yr	1132.67	1009.68	1005.26	2.29	1.85	44.18	20.67	154.71	530.24	2.47	1.15	4.42	4.42
Yellowstone County	A17	RM 390.13	148054.9	5-yr	1132.67	1009.03	1005.54	2.61	2.15	47.88	23.19	143.81	437.79	2.48	1.2	3.49	3.49
Yellowstone County	A17	RM 389.96	147776.4	5-yr	1132.67	1008.69	1004.81	2.06	1.77	27.68	13.88	174.72	580.31	2.2	1.1	3.88	3.88
Yellowstone County	A17	RM 389.76	147468.2	5-yr	1132.67	1008.44	1004.52	1.47	1.27	19.19	9.07	298.48	781.75	2.43	1.14	3.92	3.92
Yellowstone County	A17	RM 389.55	147162.3	5-yr	1132.67	1007.92	1003.2	1.95	1.74	49.78	30.93	311.31	591.9	1.78	1.1	4.72	4.72
Yellowstone County	A17	RM 389.31	146731.1	5-yr	1132.67	1007.21	1003.49	1.94	1.82	23.77	16.15	256.17	405.89	2.26	1.53	3.72	3.72
Yellowstone County	A17	RM 389.08	146349	5-yr	1132.67	1006.64	1001.61	1.82	1.64	46.77	33.23	296.31	534.76	1.82	1.29	5.02	5.02
Yellowstone County	A17	RM 388.92	146095.5	5-yr	1132.67	1006.19	1002.49	1.92	1.67	22.73	16.52	266.3	490.45	2.08	1.51	3.7	3.7
Yellowstone County	A17	RM 388.79	145883.6	5-yr	1132.67	1005.97	1002.14	2.03	1.52	23.86	11.09	163.16	808.84	3.06	1.41	3.83	3.83
Yellowstone County	A17	RM 388.61	145594.9	5-yr	1132.67	1005.46	1000.48	2.74	2.08	50.92	25.39	137.15	778.7	2.64	1.31	4.98	4.98
Yellowstone County	A17	RM 388.58	145547	5-yr	1132.67	1005.39	1000.28	2.45	1.96	54.89	28.76	151.34	952.04	2.65	1.38	5.11	5.11
Yellowstone County	A17	RM 388.36	145196.7	5-yr	1132.67	1004.81	1001.21	2.42	1.88	37.74	16.11	159.1	631.08	2.51	1.07	3.6	3.6
Yellowstone County	A17	RM 388.22	144960.1	5-yr	1132.67	1004.3	1000.23	2.77	2.03	52.3	23.09	160.52	700.63	1.83	0.81	4.07	4.07
Yellowstone County	A17	RM 388.09	144745.8	5-yr	1132.67	1003.74	999.87	2.37	1.91	40.43	25.59	229.39	644.65	1.48	0.94	3.87	3.87
Yellowstone County	A17	RM 387.91	144452	5-yr	1132.67	1003.09	999.77	1.52	1.72	22.49	22.78	355.48	578.31	1.21	1.22	3.32	3.32
Yellowstone County	A17	RM 387.79	144255.2	5-yr	1132.67	1002.99	999.17	1.18	1.15	6.4	6.59	469.51	819.19	1.48	1.52	3.82	3.82
Yellowstone County	A17	RM 387.59	143932.9	5-yr	1132.67	1002.7	998.1	1.17	1.17	35.92	35.92	875.3	976.01	1.11	1.11	4.6	4.6
Yellowstone County	A17	RM 387.36	143562.1	5-yr	1132.67	1001.63	997.78	2.02	2.02	22.14	22.14	475.2	502.54	1.18	1.18	3.85	3.85
Yellowstone County	A17	RM 387.24	143353.9	5-yr	1132.67	1001.3	997.71	1.89	1.89	19.69	19.69	417.6	421.55	1.43	1.43	3.59	3.59
Yellowstone County	A17	RM 387.04	143026.2	5-yr	1132.67	1000.63	996.49	2.26	2.21	29.8	27.1	380.64	455.54	1.29	1.17	4.14	4.14
Yellowstone County	A17	RM 386.86	142750.4	5-yr	1132.67	1000.1	997.01	1.81	1.73	34.21	27.62	352.61	509.17	1.74	1.4	3.09	3.09
Yellowstone County	A17	RM 386.74	142538.5	5-yr	1132.67	999.7	996.31	1.83	1.77	28.65	25.1	348.55	432.34	1.69	1.48	3.39	3.39
Yellowstone County	A17	RM 386.61	142318.4	5-yr	1132.67	999.12	995.9	2.55	2.42	43.67	32.93	183.48	297.72	2.18	1.65	3.22	3.22
Yellowstone County	A17	RM 386.47	142095.8	5-yr	1132.67	998.76	995.18	2.42	2.04	36.42	20.41	165.93	498.75	2.33	1.31	3.58	3.58
Yellowstone County	A17	RM 386.33	141875.1	5-yr	1132.67	998.28	994.36	2.79	2.16	44.33	22.5	147.41	434.3	2.37	1.2	3.92	3.92
Yellowstone County	A17	RM 386.17	141622.7	5-yr	1132.67	997.76	993.9	2.62	2.39	46.72	33.36	192.45	326.67	2.03	1.45	3.86	3.86
Yellowstone County	A17	RM 386.08	141479.6	5-yr	1132.67	997.38	994.12	2.69	2.41	57.44	35.5	175.82	1067.72	2.22	1.37	3.26	3.26
Yellowstone County	A17	RM 386.03	141389.2	5-yr	1132.67	997.09	993.82	2.8	2.6	50.22	37.29	205.2	882.47	1.87	1.39	3.27	3.27
Yellowstone County	A17	RM 385.96	141289.2	5-yr	1132.67	997.05	993.01	2.07	1.96	24.03	18.59	224.1	1212.2	2.36	1.83	4.04	4.04
Yellowstone County	A17	RM 385.91	141204.9	5-yr	1132.67	996.99	992.33	1.93	1.88	20.88	18.7	255.62	1200.29	2.16	1.94	4.66	4.66
Yellowstone County	A17	RM 385.84	141096	5-yr	1132.67	997.02	990.57	1.1	1.09	8.59	8.15	340.18	1354.88	3.03	2.88	6.45	6.45
Yellowstone County	A17	RM 385.79	141006	5-yr	1132.67	996.72	992.48	2.41	2.39	28.09	21.3	154.84	1502.06	3.04	2.3	4.24	4.24
Yellowstone County	A18	RM 385.69	140846.5	5-yr	1132.67	996.51	992.9	2.42	2.24	42.19	23.38	207.26	1501.56	2.24	1.24	3.61	3.61
Yellowstone County	A18	RM 385.60	140705.5	5-yr	1132.67	996.16	992.71	2.58	2.39	52.88	32.53	197.54	1287.64	2.19	1.34	3.45	3.45
Yellowstone County	A18	RM 385.50	140538.8	5-yr	1132.67	995.93	990.71	2.43	2.23	31.07	15.79	152.15	1463.86	3.04	1.54	5.22	5.22
Yellowstone County	A18	RM 385.39	140367.1	5-yr	1132.67	995.71	992.41	2.46	2.23	31.84	19.17	201.59	1468.63	2.24	1.35	3.3	3.3
Yellowstone County	A18	RM 385.30	140231.3	5-yr	1132.67	995.39	992.53	2.61	2.44	55.97	38.07	237.83	378.17	1.8	1.23	2.86	2.86
Yellowstone County	A18	RM 385.23	140108.3	5-yr	1132.67	995.13	992.01	2.24	2.03	42.17	31.17	225.53	1244.59	1.81	1.34	3.12	3.12
Yellowstone County	A18	RM 385.12	139921.2	5-yr	1132.67	994.3	991.37	3.03	2.95	66.3	57.19	193.72	385.36	1.58	1.37	2.93	2.93
Yellowstone County	A18	RM 384.93	139688.7	5-yr	1132.67	993.96	991.06	2.08	1.92	27.27	21.57	213.65	485.21	1.95	1.54	2.9	2.9
Yellowstone County	A18	RM 384.75	139352.1	5-yr	1132.67	992.92	989.77	3.42	2.91	89.73	51.89	114.32	404.32	2.02	1.17	3.15	3.15
Yellowstone County	A18	RM 384.63	139146.9	5-yr	1132.67	992.54	989.58	1.88	1.7	25.47	21.55	177.24	759.91	1.38	1.17	2.96	2.96
Yellowstone County	A18	RM 384.48	138904.5	5-yr	1132.67	992.16	989.55	1.61	1.7	19.94	19.19	176.34	469.72	1.67	1.61	2.81	2.81
Yellowstone County	A18	RM 384.34	138682.4	5-yr	1132.67	991.83	988.23	1.77	1.89	37.39	21.28	162.03	725.59	2.27	1.29	3.6	3.6
Yellowstone County	A18	RM 384.26	138551.1	5-yr	1132.67	991.51	987.34	2.9	2.04	41.36	18.4	96.52	622.89	2.51	1.11	4.17	4.17
Yellowstone County	A18	RM 384.15	138370.3	5-yr	1132.67	990.83	987.39	3.58	3.07	96.76	49.13	77.71	361.02	2.42	1.22	3.44	3.44
Yellowstone County	A18	RM 384.06	138235.3	5-yr	1132.67	990.67	987.31	2.67	1.85	43.74	22.61	84.01	663.36	2.36	1.21	3.36	3.36
Yellowstone County	A18	RM 383.96	138072.3	5-yr	1132.67	990.23	987.67	2.45	2.26	44.08	35.51	136.93	585.07	1.31	1.05	2.56	2.56
Yellowstone County	A18	RM 383.86	137914.6	5-yr	1132.67	990.03	987.24	1.78	1.65	19.66	16.4	153.56	536.15	1.9	1.59	2.79	2.79
Yellowstone County	A18	RM 383.75	137749.9	5-yr	1132.67	989.75	986.55	1.66	1.89	22.16	19.52	199.77	583.86	1.43	1.26	3.27	3.27
Yellowstone County	A18	RM 383.62	137544.5	5-yr	1132.67	989.54	986.32	1.59	1.52	16.38	12.28	173.48	744.25	1.68	1.26	3.92	3.92
Yellowstone County	A18	RM 383.54	137415.7	5-yr	1132.67	989.46	984.41	1.42	1.29	12.34	8.97	392.45	752	1.95	1.42	5.05	5.05
Yellowstone County	B1	RM 383.39	137175.7	5-yr	1489.47	989.01	984.98	2.36	2.34	25.5	23.99	375.88	402.6	1.68	1.58	4.03	4.03
Yellowstone County	B1	RM 383.31	137040.5	5-yr	1489.47	988.84	984.86	2.14	1.89	25.04	19.6	429.55	637.78	1.58	1.23	3.98	3.98
Yellowstone County	B1	RM 383.16	136817.2	5-yr	1489.47	988.6	984.9	1.74	1.5	12.82	11.93	668.67	881.83	1.21	1.13	3.7	3.7
Yellowstone County	B1	RM 382.88	136371.1	5-yr	1489.47	988.11	983.64	1.77	1.59	15.3	13.18	593.57	812.41	1.34	1.15	4.47	4.47
Yellowstone County	B1	RM 382.61	135921.1	5-yr	1489.47	987.56	982.68	2.24	1.84	28.35	12.63	196.01	575.55	3.17	1.41	4.88	4.88

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	5-yr	1489.47	987.17	981.56	2.79	2	40.9	15.04	132.26	566.58	3.58	1.31	5.61	5.61
Yellowstone County	B1	RM 382.28	135389.1	5-yr	1489.47	987.01	981.45	2.29	1.62	30.25	9.51	139.32	757.71	3.88	1.21	5.56	5.56
Yellowstone County	B1	RM 382.11	135122	5-yr	1489.47	986.52	980.52	2.94	2.29	50.19	14.79	132.61	613.05	3.63	1.06	6	6
Yellowstone County	B1	RM 381.93	134829.3	5-yr	1489.47	986.11	981.3	2.53	2.37	59.69	30	182.96	399.13	3.15	1.58	4.81	4.81
Yellowstone County	B1	RM 381.79	134602.8	5-yr	1489.47	985.68	981.63	2.75	2.5	43.73	17.5	167.03	470.17	3.19	1.27	4.05	4.05
Yellowstone County	B1	RM 381.69	134426.2	5-yr	1489.47	985.63	981.06	1.99	1.76	26.02	14.19	207.55	450.55	3.45	1.88	4.57	4.57
Yellowstone County	B1	RM 381.58	134232.5	5-yr	1489.47	985.48	981.02	1.92	1.73	23.06	15.08	271.39	480.37	2.75	1.79	4.46	4.46
Yellowstone County	B1	RM 381.47	134047.3	5-yr	1489.47	985.28	980.95	1.75	1.64	41.33	28.38	333.31	543.04	2.44	1.67	4.33	4.33
Yellowstone County	B1	RM 381.35	133871.9	5-yr	1489.47	984.94	980.79	1.74	1.66	46.86	35.26	362.24	525.7	2.27	1.71	4.15	4.15
Yellowstone County	B1	RM 381.22	133659.2	5-yr	1489.47	984.3	979.74	1.98	1.98	66.82	64.84	415.12	428.22	1.81	1.76	4.56	4.56
Yellowstone County	B1	RM 381.11	133491.4	5-yr	1489.47	983.72	979.61	2.32	2.19	57.28	39.06	231.18	425.25	2.35	1.6	4.11	4.11
Yellowstone County	B1	RM 381.00	133302.9	5-yr	1489.47	983.12	978.23	2.95	2.7	48.82	32.59	182.41	339.59	2.44	1.62	4.89	4.89
Yellowstone County	B1	RM 380.92	133180	5-yr	1489.47	982.98	976.97	2.63	2.22	44.81	22.72	150.1	414.03	3.21	1.62	6.01	6.01
Yellowstone County	B1	RM 380.81	132986.3	5-yr	1489.47	982.65	978.55	2.69	2.28	42.96	21.34	191.62	510.72	2.59	1.28	4.1	4.1
Yellowstone County	B1	RM 380.69	132800.2	5-yr	1489.47	982.47	978.53	2.19	1.76	27.34	16.3	263.52	625.59	2.27	1.35	3.94	3.94
Yellowstone County	B1	RM 380.57	132628.6	5-yr	1489.47	982.26	978.7	2.05	1.73	35.07	14.28	227.81	836.34	2.53	1.03	3.56	3.56
Yellowstone County	B1	RM 380.48	132470	5-yr	1489.47	982.03	978.24	2.17	1.69	34.26	10.78	199.41	1015.07	2.77	0.87	3.79	3.79
Yellowstone County	B1	RM 380.34	132222.4	5-yr	1489.47	981.55	977.37	2.67	2.02	42.15	14.96	201.7	893.48	2.33	0.83	4.18	4.18
Yellowstone County	B1	RM 380.22	132032.4	5-yr	1489.47	981.3	977.02	2.54	1.76	36.3	12.01	171.98	933.12	2.74	0.91	4.28	4.28
Yellowstone County	B1	RM 380.11	131847.7	5-yr	1489.47	981.03	976.29	2.58	2.02	43.21	18.92	180.88	676.64	2.49	1.09	4.74	4.74
Yellowstone County	B1	RM 380.01	131671.4	5-yr	1489.47	980.75	976.21	2.58	1.89	45.32	17.71	165.71	745.64	2.71	1.06	4.54	4.54
Yellowstone County	B1	RM 379.92	131538.8	5-yr	1489.47	980.44	976.69	2.81	2.11	45.35	17.98	189.82	796.35	2.24	0.89	3.75	3.75
Yellowstone County	B1	RM 379.84	131406.9	5-yr	1489.47	980.39	975.94	1.73	1.39	19.05	10.21	413.01	1158.52	1.84	0.99	4.45	4.45
Yellowstone County	B1	RM 379.75	131265.1	5-yr	1489.47	980.22	974.98	1.79	1.4	23.22	11.57	370.16	1248.69	1.97	0.98	5.24	5.24
Yellowstone County	B1	RM 379.65	131104.3	5-yr	1489.47	980.1	975.6	1.51	1.07	14.22	7.89	379.39	1392.17	1.97	1.09	4.5	4.5
Yellowstone County	B1	RM 379.56	130964.3	5-yr	1489.47	980.01	975.94	1.47	1.08	13.54	6.42	313.71	1306.54	2.23	1.05	4.07	4.07
Yellowstone County	B1	RM 379.46	130794	5-yr	1489.47	979.89	974.74	1.6	1.14	14.76	7.38	292.36	1172.32	2.23	1.11	5.15	5.15
Yellowstone County	B1	RM 379.36	130642.3	5-yr	1489.47	979.77	975.71	1.66	1.14	22.1	9.62	246.24	996.77	3.03	1.32	4.06	4.06
Yellowstone County	B1	RM 379.27	130496.2	5-yr	1489.47	979.44	974.66	2.59	1.6	58.83	23.33	164.33	839.02	2.81	1.11	4.78	4.78
Yellowstone County	B1	RM 379.17	130345.7	5-yr	1489.47	978.93	973.93	3.09	2.11	63.9	19.06	154.92	820.39	2.89	0.86	5	5
Yellowstone County	B1	RM 379.04	130142	5-yr	1489.47	978.66	974.79	2.58	1.7	37.99	15.6	203.31	878.03	2.42	1	3.87	3.87
Yellowstone County	B1	RM 378.97	130026.7	5-yr	1489.47	978.44	974.64	2.62	1.89	40.11	17.7	231.03	799.51	2.23	0.98	3.8	3.8
Yellowstone County	B1	RM 378.86	129850.9	5-yr	1489.47	978.04	974.4	2.71	2.02	48.63	21.53	244.22	799.04	2.09	0.92	3.64	3.64
Yellowstone County	B1	RM 378.76	129682.3	5-yr	1489.47	977.69	974.17	2.61	2.05	41.59	18.48	266.27	796.67	2.05	0.91	3.52	3.52
Yellowstone County	B1	RM 378.67	129541.3	5-yr	1489.47	977.41	973.97	2.63	1.87	37.79	18.26	254.82	871.56	2	0.97	3.44	3.44
Yellowstone County	B1	RM 378.61	129443.1	5-yr	1489.47	977.23	973.83	2.5	1.74	53.56	24.58	210.25	1061.86	1.99	0.91	3.4	3.4
Yellowstone County	B1	RM 378.52	129297.7	5-yr	1489.47	976.99	973.62	1.95	1.6	21.7	15.18	534.55	1038.7	1.33	0.93	3.37	3.37
Yellowstone County	B1	RM 378.46	129200.8	5-yr	1489.47	976.9	973.48	1.58	1.42	17.54	12.62	598.92	958.04	1.52	1.09	3.42	3.42
Yellowstone County	B1	RM 378.40	129112.2	5-yr	1489.47	976.72	973.41	1.64	1.54	48.67	34.59	603.09	933.6	1.46	1.04	3.31	3.31
Yellowstone County	B1	RM 378.29	128929.4	5-yr	1489.47	976.53	972.93	1.29	1.18	12.62	8.47	564.58	940.29	2	1.35	3.6	3.6
Yellowstone County	B1	RM 378.13	128673.7	5-yr	1489.47	976.15	971.4	2.17	2.01	19.81	12.94	358.96	599.37	1.89	1.24	4.75	4.75
Yellowstone County	B1	RM 378.07	128569	5-yr	1489.47	976.07	970.46	2.08	1.8	17.87	10.92	301.73	586.03	2.31	1.41	5.61	5.61
Yellowstone County	B1	RM 377.96	128380.3	5-yr	1489.47	975.75	968.85	2.68	2.43	39.37	13.54	110.8	365.69	4.94	1.67	6.9	6.9
Yellowstone County	B1	RM 377.87	128244.4	5-yr	1489.47	975.6	970.56	2.6	2.32	51.48	23.11	223.61	672.79	2.49	1.11	5.04	5.04
Yellowstone County	B1	RM 377.79	128118	5-yr	1489.47	975.37	970.94	2.55	2.29	31.61	20.71	320.42	616.88	1.76	1.15	4.43	4.43
Yellowstone County	B1	RM 377.69	127964.3	5-yr	1489.47	975.17	969.86	2.26	1.89	26.6	14.1	327.8	940.62	1.93	1.02	5.31	5.31
Yellowstone County	B1	RM 377.61	127824.8	5-yr	1489.47	974.74	970.53	2.9	2.6	45.69	30.01	241.6	431.11	2.03	1.33	4.21	4.21
Yellowstone County	B1	RM 377.55	127735.1	5-yr	1489.47	974.66	970.41	2.41	2.14	28.86	19.45	309.33	547.77	1.92	1.29	4.25	4.25
Yellowstone County	B1	RM 377.48	127618.1	5-yr	1489.47	974.48	970.26	2.36	2.1	27.69	19.59	364.39	705.67	1.63	1.15	4.22	4.22
Yellowstone County	B1	RM 377.39	127466.6	5-yr	1489.47	974.16	969.73	2.53	2.17	31.45	21.06	325.22	597.65	1.72	1.15	4.43	4.43
Yellowstone County	B1	RM 377.34	127391.5	5-yr	1489.47	973.92	969.95	2.67	2.44	71.22	40.28	277.8	559.41	1.93	1.09	3.97	3.97
Yellowstone County	B1	RM 377.25	127241.9	5-yr	1489.47	973.76	970.26	1.91	1.77	22.15	13.66	392.19	704.08	1.94	1.19	3.49	3.49
Yellowstone County	B1	RM 377.16	127097.7	5-yr	1489.47	973.57	969.82	1.92	1.74	24.88	16.32	408.42	786.92	1.66	1.09	3.75	3.75
Yellowstone County	B1	RM 377.08	126969	5-yr	1489.47	973.52	969	1.45	1.27	11.88	6.18	416.98	1004.99	2.27	1.18	4.52	4.52
Yellowstone County	B1	RM 377.04	126900.8	5-yr	1489.47	973.4	968.6	1.65	1.51	49.66	27.92	545.74	1115.56	1.58	0.88	4.8	4.8
Yellowstone County	B1	RM 376.98	126797.5	5-yr	1489.47	973.13	969.02	1.99	1.86	18.5	11.85	506.97	858.09	1.46	0.93	4.11	4.11
Yellowstone County	B1	RM 376.92	126710.1	5-yr	1489.47	973.03	969.01	1.63	1.51	39.94	22.98	492.95	951.16	1.81	1.04	4.02	4.02
Yellowstone County	B1	RM 376.84	126584.2	5-yr	1489.47	972.91	967.73	1.36	1.27	16.47	9.7	447.21	975.02	2.06	1.21	5.17	5.17
Yellowstone County	B1	RM 376.75	126442.1	5-yr	1489.47	972.77	967.82	1.42	1.37	22.07	14.01	399.14	762.93	2.27	1.44	4.95	4.95
Yellowstone County	B1	RM 376.67	126309	5-yr	1489.47	972.55	967.23	1.78	1.71	36.73	23.31	312.78	593.07	2.36	1.49	5.32	5.32
Yellowstone County	B1	RM 376.58	126174.1	5-yr	1489.47	972.23	966.82	2.04	1.92	46.9	29.13	323.91	575.99	2.17	1.34	5.41	5.41

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	5-yr	1489.47	971.91	966.77	2.4	2.29	42.44	35.84	261.79	346.04	2.28	1.93	5.14	5.14
Yellowstone County	B1	RM 376.42	125918.5	5-yr	1489.47	971.72	967.68	2.25	2.23	29.85	25.81	255.24	305.53	2.6	2.24	4.04	4.04
Yellowstone County	B1	RM 376.35	125809.8	5-yr	1489.47	971.63	966.71	2.14	1.91	24.88	8.2	224.71	789.72	3.02	0.99	4.92	4.92
Yellowstone County	B1	RM 376.28	125697	5-yr	1489.47	971.3	966.28	2.85	2.62	47.74	32.02	210.95	356.38	2.39	1.6	5.02	5.02
Yellowstone County	B1	RM 376.20	125565.9	5-yr	1489.47	971.07	966.16	2.63	2.32	43.31	23.09	247.44	563.92	2.15	1.14	4.91	4.91
Yellowstone County	B1	RM 376.10	125404.8	5-yr	1489.47	970.85	966.61	2.28	1.83	31.63	17.6	266.24	747.75	1.96	1.09	4.24	4.24
Yellowstone County	B1	RM 376.00	125250.5	5-yr	1489.47	970.54	967.42	2.42	1.82	37.82	15.11	241.01	946.91	2.17	0.87	3.12	3.12
Yellowstone County	B1	RM 375.88	125055.1	5-yr	1489.47	970.3	966.01	2.18	1.49	32.16	12.58	184.42	947.82	2.69	1.05	4.29	4.29
Yellowstone County	B1	RM 375.78	124897.3	5-yr	1489.47	970.12	965.37	2.13	1.54	30.14	14.9	186.16	754.11	2.59	1.28	4.75	4.75
Yellowstone County	B1	RM 375.67	124708.2	5-yr	1489.47	969.9	965.8	2.15	1.78	30.39	17.83	223.1	608.2	2.34	1.37	4.1	4.1
Yellowstone County	B1	RM 375.58	124564.2	5-yr	1489.47	969.65	966.54	2.34	1.98	35.22	20.96	223.91	551.35	2.29	1.36	3.11	3.11
Yellowstone County	B1	RM 375.23	124013.6	5-yr	1489.47	968.96	965.23	2.21	1.72	31.42	14.26	225.22	754.65	2.52	1.15	3.73	3.73
Yellowstone County	B1	RM 375.10	123799.5	5-yr	1489.47	968.35	963.88	3.21	2.3	71.31	23.9	126	623.15	3.11	1.04	4.47	4.47
Yellowstone County	B1	RM 374.97	123580.4	5-yr	1489.47	968.09	963.97	2.47	1.84	48.89	18.74	136.58	737.66	2.95	1.12	4.12	4.12
Yellowstone County	B1	RM 374.83	123365.5	5-yr	1489.47	967.83	963.52	2.21	1.65	30.89	14.35	130	717.55	2.78	1.29	4.31	4.31
Yellowstone County	B1	RM 374.73	123195.7	5-yr	1489.47	967.74	963.36	1.69	1.34	16.14	7.75	143.09	911.97	2.86	1.37	4.38	4.38
Yellowstone County	B1	RM 374.61	123010.3	5-yr	1489.47	967.5	963.49	2.13	1.75	34.49	17.81	158.79	652.2	2.86	1.48	4.01	4.01
Yellowstone County	B1	RM 374.53	122875.3	5-yr	1543.27	967.28	963.14	2.33	2	36.05	20.21	186.24	513.23	2.69	1.51	4.14	4.14
Yellowstone County	B1	RM 374.44	122726.7	5-yr	1543.27	966.94	963.04	2.83	2.23	56.02	22.72	124.56	519.82	3.29	1.33	3.9	3.9
Yellowstone County	B1	RM 374.32	122535.1	5-yr	1543.27	966.73	962.82	2.17	1.98	38.59	24.29	189.34	510.14	2.43	1.53	3.91	3.91
Yellowstone County	B1	RM 374.22	122379	5-yr	1543.27	966.5	960.92	2.46	1.74	36.32	14.26	134.27	715.06	3.16	1.24	5.58	5.58
Yellowstone County	B1	RM 374.13	122231.1	5-yr	1543.27	966.31	960.11	2.62	1.8	38.2	15.46	134.13	753.29	2.81	1.14	6.2	6.2
Yellowstone County	B1	RM 373.97	121972.4	5-yr	1543.27	966.09	958.8	2	1.7	25.03	14.43	222.66	573.08	2.75	1.58	7.29	7.29
Yellowstone County	B1	RM 373.88	121829.3	5-yr	1543.27	965.87	962.21	2.3	1.92	38.65	17.4	190.45	660.16	2.72	1.22	3.66	3.66
Yellowstone County	B1	RM 373.79	121688.7	5-yr	1543.27	965.66	961.66	2.26	1.82	42.53	19.72	187.88	750.78	2.64	1.22	4	4
Yellowstone County	B1	RM 373.69	121523.5	5-yr	1543.27	965.36	961.11	2.37	1.94	37.57	19.23	198.81	704.74	2.37	1.21	4.25	4.25
Yellowstone County	B1	RM 373.56	121314.3	5-yr	1543.27	964.74	959.37	3.1	2.25	56.98	37.07	180.05	455.66	2.34	1.52	5.37	5.37
Yellowstone County	B1	RM 373.39	121015.9	5-yr	1543.27	964.1	958.78	2.89	2.24	50.22	28.57	182.06	473.23	2.56	1.46	5.32	5.32
Yellowstone County	B1	RM 373.26	120802.3	5-yr	1543.27	964.04	960.81	1.42	0.98	13.55	11.67	354.21	1026.16	1.81	1.56	3.23	3.23
Yellowstone County	B1	RM 373.09	120539.5	5-yr	1543.27	963.73	959.94	1.93	1.42	24.49	21.85	295.51	701.16	1.81	1.61	3.79	3.79
Yellowstone County	B1	RM 372.99	120365.2	5-yr	1543.27	963.4	959.69	2.03	1.64	39.57	32.89	318.36	682.81	1.65	1.37	3.71	3.71
Yellowstone County	B1	RM 372.82	120107.7	5-yr	1543.27	963	959.03	1.81	1.38	20.76	18.86	402.91	831.37	1.48	1.34	3.97	3.97
Yellowstone County	B1	RM 372.72	119922.5	5-yr	1543.27	962.8	958.92	1.64	1.34	26.31	25.77	362.99	780.87	1.51	1.48	3.88	3.88
Yellowstone County	B1	RM 372.65	119797.7	5-yr	1543.27	962.73	957.32	1.22	0.88	10.78	10.82	373.45	1130.93	1.54	1.54	5.41	5.41
Yellowstone County	B1	RM 372.58	119676.6	5-yr	1543.27	962.67	958.2	1.09	0.89	7.77	7.39	411.67	1103.96	1.65	1.58	4.47	4.47
Yellowstone County	B1	RM 372.41	119395.9	5-yr	1543.27	962.57	958.82	1.24	0.91	8.37	6.72	440.51	1185.9	1.78	1.43	3.75	3.75
Yellowstone County	B1	RM 372.32	119268.8	5-yr	1543.27	962.5	957.24	1.08	1.06	16.56	12.76	407.79	993.7	1.91	1.47	5.26	5.26
Yellowstone County	B1	RM 372.20	119079.1	5-yr	1543.27	962.27	956.93	1.36	1.19	31.29	25.42	416.93	915.47	1.75	1.42	5.34	5.34
Yellowstone County	B1	RM 372.08	118886.4	5-yr	1543.27	961.95	956.2	1.43	1.25	32.15	26.89	391.68	786.99	1.89	1.57	5.75	5.75
Yellowstone County	B1	RM 371.94	118669.8	5-yr	1543.27	961.45	957.58	1.68	1.77	34.99	31.74	395.5	535.02	1.8	1.63	3.87	3.87
Yellowstone County	B1	RM 371.83	118490.4	5-yr	1543.27	961.25	957.52	1.54	1.5	21.12	17.42	392.71	613.71	2.03	1.67	3.73	3.73
Yellowstone County	B1	RM 371.74	118350.7	5-yr	1543.27	961.03	957.48	1.87	1.66	24.24	17.53	386.04	658.26	1.95	1.41	3.55	3.55
Yellowstone County	B1	RM 371.62	118155.6	5-yr	1543.27	960.78	956.41	2.04	1.57	29.42	12.97	220.59	743.49	2.99	1.32	4.37	4.37
Yellowstone County	B1	RM 371.53	118001.4	5-yr	1543.27	960.49	955.99	2.43	1.99	36.73	16.75	234.21	678.69	2.5	1.14	4.5	4.5
Yellowstone County	B1	RM 371.43	117839.2	5-yr	1543.27	960.07	955.47	2.66	2.24	78.26	44.15	242.09	562.64	2.17	1.22	4.6	4.6
Yellowstone County	B1	RM 371.37	117745.1	5-yr	1543.27	959.86	955.72	2.56	2.25	31.04	19.29	290.82	555.17	1.98	1.23	4.14	4.14
Yellowstone County	B1	RM 371.32	117662.6	5-yr	1543.27	959.75	956.41	2.3	1.98	47	28.48	299.65	597	2.15	1.31	3.34	3.34
Yellowstone County	B1	RM 371.25	117560.3	5-yr	1543.27	959.58	955.99	2.12	1.89	29.89	20.67	370.7	625.95	1.91	1.32	3.59	3.59
Yellowstone County	B1	RM 371.21	117499	5-yr	1543.27	959.49	955.72	2.08	1.86	29.13	21.1	354.23	581.53	1.97	1.43	3.77	3.77
Yellowstone County	B1	RM 371.12	117353.9	5-yr	1543.27	959.31	955.54	1.97	1.76	24.47	17.04	347.11	677.3	2.16	1.5	3.77	3.77
Yellowstone County	B1	RM 371.04	117225.1	5-yr	1543.27	958.64	954.84	3.41	3.41	65.34	63.66	218.8	225	2.07	2.01	3.8	3.8
Yellowstone County	B1	RM 370.94	117054.9	5-yr	1543.27	958.6	955.57	2.06	1.76	30.16	22.99	239	732.03	2.29	1.74	3.03	3.03
Yellowstone County	B1	RM 370.85	116910.9	5-yr	1543.27	958.44	954.47	1.99	1.62	26.99	14.73	215.12	863.6	2.46	1.34	3.97	3.97
Yellowstone County	B1	RM 370.77	116793.6	5-yr	1543.27	958.34	953.84	1.9	1.47	20.42	11.49	219.64	871.63	2.4	1.35	4.5	4.5
Yellowstone County	B1	RM 370.72	116711.6	5-yr	1543.27	958.28	953.13	1.9	1.3	22.51	10.09	164.95	935.2	2.94	1.31	5.15	5.15
Yellowstone County	B1	RM 370.70	116669.2	5-yr	1543.27	958.23	953.05	2.01	1.23	21.23	11.06	193.95	934.36	2.57	1.34	5.18	5.18
Yellowstone County	B1	RM 370.63	116558.9	5-yr	1543.27	958.13	953.42	1.94	1.15	30.06	12.35	179.49	1015.73	3.22	1.32	4.71	4.71
Yellowstone County	B1	RM 370.56	116440.6	5-yr	1543.27	957.94	953.34	2.23	1.53	23.22	7.61	178.1	887.48	3.47	1.13	4.6	4.6
Yellowstone County	B1	RM 370.44	116241.1	5-yr	1543.27	957.72	952.03	2.53	1.66	40.75	12.07	133.88	818.98	3.87	1.14	5.69	5.69
Yellowstone County	B1	RM 370.34	116071.6	5-yr	1543.27	957.39	949.79	2.89	2.1	55.62	12.2	118.14	800.3	4.24	0.92	7.6	7.6
Yellowstone County	B1	RM 370.24	115908.6	5-yr	1543.27	957.27	950.22	2.62	1.76	41.52	11.2	117.55	736.58	4.45	1.19	7.05	7.05

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	5-yr	1543.27	957.05	952.12	2.55	1.93	42.94	17.27	159.31	588.51	3.39	1.36	4.93	4.93
Yellowstone County	B1	RM 370.00	115535.2	5-yr	1543.27	956.77	952.2	2.33	2.1	62.33	43.64	255.24	487.02	2.16	1.51	4.57	4.57
Yellowstone County	B1	RM 369.89	115356.1	5-yr	1543.27	956.43	953.15	2.19	2.03	23.45	18.96	400.12	561.29	1.67	1.35	3.28	3.28
Yellowstone County	B1	RM 369.77	115164.3	5-yr	1543.27	956.18	952.34	2.02	1.92	21.84	17.83	471.94	613.44	1.6	1.31	3.84	3.84
Yellowstone County	B1	RM 369.64	114965.6	5-yr	1543.27	955.85	951.9	2	1.87	30.09	23.07	500.53	818.37	1.47	1.13	3.95	3.95
Yellowstone County	B1	RM 369.54	114789.5	5-yr	1543.27	955.51	952.38	2.01	1.83	26.64	20.43	486.47	1037.03	1.48	1.14	3.13	3.13
Yellowstone County	B1	RM 369.45	114650.1	5-yr	1543.27	955.34	951	1.73	1.53	21.85	17.07	463.94	1492.37	1.66	1.3	4.34	4.34
Yellowstone County	B1	RM 369.32	114431.1	5-yr	1543.27	955.09	951.1	1.68	1.33	21.25	11.67	374.41	2039.16	2.19	1.2	3.99	3.99
Yellowstone County	B1	RM 369.17	114210.5	5-yr	1543.27	954.84	949.85	1.97	1.61	35.14	16.53	193.12	1887.54	2.73	1.28	4.99	4.99
Yellowstone County	B1	RM 369.06	114022.4	5-yr	1543.27	954.26	949.89	3.07	2.28	54.51	18.12	136.04	1793.7	3.21	1.06	4.37	4.37
Yellowstone County	B1	RM 368.96	113871.2	5-yr	1543.27	954.13	949.68	2.51	1.99	39.98	19.46	168.1	1674.68	2.98	1.45	4.45	4.45
Yellowstone County	B1	RM 368.88	113745.9	5-yr	1543.27	953.97	948.77	2.37	1.91	35.38	15.21	214.15	1902.05	2.52	1.08	5.2	5.2
Yellowstone County	B1	RM 368.82	113641	5-yr	1543.27	953.75	948.47	2.41	2.13	47.39	28.39	291.98	1793.13	1.89	1.13	5.28	5.28
Yellowstone County	B1	RM 368.72	113477.3	5-yr	1543.27	953.49	948.45	1.96	1.71	33.06	22.35	343.24	1813.02	1.98	1.34	5.04	5.04
Yellowstone County	B1	RM 368.63	113328.9	5-yr	1543.27	953.28	947.82	1.93	1.62	28.62	15.75	296.38	1932.29	2.2	1.21	5.46	5.46
Yellowstone County	B1	RM 368.54	113195.6	5-yr	1543.27	953.06	947.51	2.1	1.68	29.4	13.98	268.46	1918.45	2.51	1.19	5.55	5.55
Yellowstone County	B1	RM 368.44	113035.8	5-yr	1543.27	952.7	947.4	2.44	1.99	70.79	35.4	255.24	1827.22	2.22	1.11	5.3	5.3
Yellowstone County	B1	RM 368.35	112878.7	5-yr	1543.27	952.66	946.64	1.55	1.37	14.52	6.16	283.07	1329.24	3.45	1.46	6.02	6.02
Yellowstone County	B1	RM 368.26	112737.6	5-yr	1543.27	952.41	946.23	2.22	1.83	76.56	29.22	226.27	1187.21	2.86	1.08	6.18	6.18
Yellowstone County	B1	RM 368.18	112604.7	5-yr	1543.27	952.01	947.11	2.74	2.34	46.02	14.72	160.23	1207.36	3.43	1.09	4.9	4.9
Yellowstone County	B2	RM 368.09	112456.7	5-yr	1543.27	951.78	947.7	2.77	2.56	53.48	29.88	153.97	734.93	3.42	1.9	4.08	4.08
Yellowstone County	B2	RM 368.00	112314.4	5-yr	1543.27	951.73	947.56	2.18	1.79	27.1	9.6	197.45	1711.01	3.41	1.21	4.17	4.17
Yellowstone County	B2	RM 367.86	112104.7	5-yr	1543.27	951.34	946.1	2.73	2.4	48.61	18.11	172.31	1073.83	3.22	1.19	5.24	5.24
Yellowstone County	B2	RM 367.79	111989.2	5-yr	1543.27	951.18	945.04	2.53	2.11	57.79	20.05	203.42	1076.8	2.88	1	6.14	6.14
Yellowstone County	B2	RM 367.72	111876.5	5-yr	1543.27	951	945.45	2.6	2.04	37.67	11.31	149.5	1150.92	3.74	1.12	5.55	5.55
Yellowstone County	B2	RM 367.64	111739.2	5-yr	1543.27	950.8	945.68	2.77	2.03	52.61	11.65	139.18	1101.85	3.69	0.81	5.12	5.12
Yellowstone County	B2	RM 367.50	111519.9	5-yr	1543.27	950.38	945.21	3.01	2.46	57.3	12.77	125.94	880.96	3.94	0.87	5.17	5.17
Yellowstone County	B2	RM 367.40	111357.1	5-yr	1543.27	950.18	944.36	2.98	2.36	50.82	13.03	112.74	746.56	4.19	1.06	5.82	5.82
Yellowstone County	B2	RM 367.31	111214.8	5-yr	1543.27	950.02	945.36	2.83	2.24	40.57	12.96	144.65	649.16	3.54	1.13	4.66	4.66
Yellowstone County	B2	RM 367.19	110992.7	5-yr	1543.27	949.83	945.91	2.35	2.05	32.31	15.23	244.42	703.85	2.59	1.21	3.92	3.92
Yellowstone County	B2	RM 367.11	110813.5	5-yr	1543.27	949.6	945.17	2.27	1.89	32.45	15.63	295.2	789.1	2.21	1.06	4.43	4.43
Yellowstone County	B2	RM 367.03	110669.4	5-yr	1543.27	949.52	945.89	1.76	1.5	16.63	12.09	398.64	674.63	2.1	1.52	3.63	3.63
Yellowstone County	B2	RM 366.95	110543	5-yr	1543.27	949.45	945.34	1.29	1.18	21.24	15.37	559.32	902.33	2.05	1.48	4.11	4.11
Yellowstone County	B2	RM 366.84	110376	5-yr	1543.27	949.31	944.61	1.17	1.11	17.65	10.94	595.62	1041.48	2.19	1.35	4.7	4.7
Yellowstone County	B2	RM 366.78	110300.8	5-yr	1543.27	949.23	943.84	1.23	1.1	19.96	10.12	558.66	1267.03	2.19	1.11	5.39	5.39
Yellowstone County	B2	RM 366.73	110074.8	5-yr	1543.27	948.92	943.42	1.6	1.51	29.94	15.89	433.31	920.24	2.2	1.16	5.5	5.5
Yellowstone County	B2	RM 366.68	109931.6	5-yr	1543.27	948.65	942.77	1.93	1.79	37.09	17.52	297.62	693.02	2.65	1.25	5.88	5.88
Yellowstone County	B2	RM 366.53	109747.6	5-yr	1543.27	948.24	940.86	2.65	2.46	35.61	12.31	161.58	511.85	3.58	1.22	7.38	7.38
Yellowstone County	B2	RM 366.38	109510.8	5-yr	1543.27	947.98	941.55	2.54	2.38	54.67	25.33	152.02	354.03	3.97	1.83	6.43	6.43
Yellowstone County	B2	RM 366.27	109345.5	5-yr	1543.27	947.89	942.72	2.01	2.01	25.63	19.61	225.14	319.86	3.4	2.6	5.17	5.17
Yellowstone County	B2	RM 366.15	109158.9	5-yr	1543.27	947.66	941.59	2.06	2.05	52	44.55	291.15	341.88	2.57	2.2	6.07	6.07
Yellowstone County	B2	RM 366.04	108972.6	5-yr	1543.27	947.36	941.41	2.29	2.28	18.5	17.38	310.09	331.04	2.17	2.04	5.95	5.95
Yellowstone County	B2	RM 365.94	108818.8	5-yr	1543.27	947.28	940.93	2.04	2.04	15.12	14.15	358.79	384.33	2.11	1.97	6.35	6.35
Yellowstone County	B2	RM 365.83	108647.5	5-yr	1543.27	947.06	939.93	1.99	1.92	68.63	48.39	329.53	593.05	2.34	1.64	7.13	7.13
Yellowstone County	B2	RM 365.75	108521.3	5-yr	1543.27	946.74	941.33	2	1.85	56.56	35.99	262.86	518.13	2.54	1.61	5.41	5.41
Yellowstone County	B2	RM 365.71	108446.5	5-yr	1543.27	946.54	941.83	2.2	2.07	51.07	34	233.81	381.97	2.94	1.95	4.71	4.71
Yellowstone County	B2	RM 365.64	108343.5	5-yr	1543.27	946.35	942.19	2.11	1.98	49.24	35.21	292.52	447.93	2.43	1.74	4.16	4.16
Yellowstone County	B2	RM 365.57	108220.5	5-yr	1543.27	946.05	942.08	2.35	2.21	48.2	34.9	250.77	375.08	2.58	1.86	3.97	3.97
Yellowstone County	B2	RM 365.51	108118.9	5-yr	1543.27	945.82	941.87	2.38	2.27	58.04	43.74	265.34	374.23	2.42	1.82	3.95	3.95
Yellowstone County	B2	RM 365.46	108042.9	5-yr	1543.27	945.73	941.73	1.98	1.92	35.97	28.73	317.69	413.55	2.43	1.95	4	4
Yellowstone County	B2	RM 365.41	107956.5	5-yr	1543.27	945.63	941.46	1.86	1.83	30.01	25.63	318.36	380.06	2.6	2.22	4.17	4.17
Yellowstone County	B2	RM 365.37	107905.7	5-yr	1543.27	945.58	940.74	1.87	1.86	21.07	20.22	307.3	321.23	2.69	2.58	4.84	4.84
Yellowstone County	B2	RM 365.31	107792.4	5-yr	1543.27	945.42	939.27	2.13	2.09	26.23	23.28	256.94	296.45	2.8	2.49	6.16	6.16
Yellowstone County	B2	RM 365.27	107727.9	5-yr	1543.27	945.29	939.34	2.36	2.35	36.46	32.82	251.42	281.73	2.6	2.34	5.95	5.95
Yellowstone County	B2	RM 365.23	107674.2	5-yr	1543.27	945.16	939.52	2.58	2.57	31.91	30.03	230.94	246.73	2.59	2.44	5.64	5.64
Yellowstone County	B2	RM 365.19	107603	5-yr	1543.27	945.09	939.93	2.45	2.45	32.24	31.88	231.76	234.48	2.72	2.69	5.16	5.16
Yellowstone County	B2	RM 365.15	107534.7	5-yr	1543.27	945.04	939.68	2.29	2.25	29.48	26.03	212.21	245.64	3.16	2.79	5.36	5.36
Yellowstone County	B2	RM 365.10	107466	5-yr	1543.27	944.91	938.61	2.53	2.53	35.55	35.42	185.1	185.79	3.3	3.28	6.3	6.3
Yellowstone County	B2	RM 365.06	107396.2	5-yr	1543.27	944.84	939.07	2.48	2.46	37.46	29.51	170.56	218.33	3.65	2.87	5.77	5.77
Yellowstone County	B2	RM 365.01	107325.8	5-yr	1543.27	944.82	939.22	2.23	2.22	34.26	30.93	174.31	194.43	3.96	3.58	5.6	5.6
Yellowstone County	B2	RM 364.99	107287.5	5-yr	1543.27	944.72	939.27	2.44	2.41	40.64	34.97	168.05	198.47	3.76	3.23	5.45	5.45

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	5-yr	1543.27	944.47	937.97	2.72	2.69	36.66	31.53	150.65	177.32	3.77	3.23	6.5	6.5
Yellowstone County	B2	RM 364.81	106996.1	5-yr	1543.27	944.43	938.93	2.29	2.1	26.98	18.17	202.13	396.95	3.28	2.2	5.5	5.5
Yellowstone County	B2	RM 364.74	106893.3	5-yr	1543.27	944.28	938.94	2.49	2.34	34.77	16.29	164.71	381.18	3.73	1.74	5.34	5.34
Yellowstone County	B2	RM 364.64	106739.2	5-yr	1543.27	944.01	939.09	2.94	2.49	41.13	18.39	120.08	370.39	4.23	1.88	4.92	4.92
Yellowstone County	B2	RM 364.61	106686.8	5-yr	1543.27	944	939.21	2.67	2.51	35.2	19.1	150.37	298.82	3.82	2.06	4.79	4.79
Yellowstone County	B2	RM 364.60	106666.6	5-yr	1543.27	943.91	939.26	2.9	2.75	40.99	21.78	133.67	268.39	3.96	2.09	4.65	4.65
Yellowstone County	B2	RM 364.53	106558.4	5-yr	1543.27	943.86	939.11	2.63	2.63	34.16	34.1	154.86	155.14	3.79	3.79	4.74	4.74
Yellowstone County	B2	RM 364.49	106490.3	5-yr	1543.27	943.79	939.24	2.61	2.55	34.43	25.22	159.61	224.71	3.69	2.7	4.55	4.55
Yellowstone County	B2	RM 364.43	106394	5-yr	1543.27	943.7	939.13	2.61	2.59	34.77	29.4	158.59	188.88	3.73	3.15	4.57	4.57
Yellowstone County	B2	RM 364.37	106296.4	5-yr	1543.27	943.63	938.98	2.54	2.25	31.99	14.98	146.91	364.37	4.06	1.88	4.65	4.65
Yellowstone County	B2	RM 364.32	106215.1	5-yr	1543.27	943.54	938.52	2.57	2.31	47.08	23.63	152.95	345.39	3.87	1.93	5.02	5.02
Yellowstone County	B2	RM 364.29	106172.9	5-yr	1543.27	943.58	938.13	2.05	2.03	34.18	31.8	190.54	356.48	3.94	3.66	5.45	5.45
Yellowstone County	B2	RM 364.26	106126.6	5-yr	1543.27	943.34	937.7	2.76	2.53	49.85	34.91	141.94	297.12	3.87	2.7	5.64	5.64
Yellowstone County	B2	RM 364.22	106055.2	5-yr	1543.27	943.22	938.15	2.84	2.84	52.79	52.79	133.81	198.89	4.06	4.06	5.07	5.07
Yellowstone County	B2	RM 364.14	105927.3	5-yr	1543.27	942.92	938.12	3.18	2.89	60.47	39.58	122.59	211.03	3.87	2.53	4.8	4.8
Yellowstone County	B2	RM 364.06	105809.9	5-yr	1543.27	942.84	938.22	2.72	2.48	51.79	30.06	152.93	301.08	3.64	2.11	4.62	4.62
Yellowstone County	B2	RM 363.96	105648.3	5-yr	1543.27	942.72	938.28	2.14	1.95	34.49	22.54	247.66	466.1	2.86	1.86	4.44	4.44
Yellowstone County	B2	RM 363.85	105472.4	5-yr	1543.27	942.44	936.25	2.58	2.26	33.45	21.46	150.12	295.99	3.68	2.35	6.19	6.19
Yellowstone County	B2	RM 363.76	105316.8	5-yr	1543.27	942.31	937.03	2.42	2.2	40.92	27.74	146.42	267.99	3.86	2.62	5.28	5.28
Yellowstone County	B2	RM 363.63	105118.1	5-yr	1543.27	942.09	937.93	2.05	2.03	38.49	33.89	326.34	373.83	2.31	2.03	4.16	4.16
Yellowstone County	B2	RM 363.52	104943.9	5-yr	1543.27	941.78	937.54	1.93	1.86	43.27	35.42	372.3	475.12	2.13	1.75	4.24	4.24
Yellowstone County	B2	RM 363.46	104841.5	5-yr	1543.27	941.65	937.16	1.74	1.57	29.67	17	330.96	690.14	2.62	1.5	4.49	4.49
Yellowstone County	B2	RM 363.33	104622.9	5-yr	1543.27	941.33	936.36	1.85	1.5	43.95	24.52	299.42	820.75	2.46	1.37	4.97	4.97
Yellowstone County	B2	RM 363.20	104414.5	5-yr	1543.27	940.97	936.48	2.01	1.53	32.6	14.56	282.91	990.87	2.49	1.11	4.49	4.49
Yellowstone County	B2	RM 363.10	104256.4	5-yr	1543.27	940.7	936.25	2.16	1.68	37.41	19.4	274.06	748.64	2.37	1.23	4.45	4.45
Yellowstone County	B2	RM 363.03	104144.8	5-yr	1543.27	940.55	936.22	2.1	1.62	30.4	13.96	283.1	866.05	2.41	1.1	4.33	4.33
Yellowstone County	B2	RM 362.86	103869.6	5-yr	1543.27	940.4	934.32	1.47	1.16	13.08	7.47	405.06	973.68	2.39	1.36	6.08	6.08
Yellowstone County	B2	RM 362.74	103671.4	5-yr	1543.27	940.17	934.52	1.93	1.55	23.53	13.14	370.86	887.35	2.02	1.12	5.65	5.65
Yellowstone County	B2	RM 362.63	103493.2	5-yr	1543.27	939.87	934.5	1.95	1.61	44.47	26.76	386.76	845.23	1.89	1.14	5.37	5.37
Yellowstone County	B2	RM 362.52	103330.7	5-yr	1543.27	939.42	934.5	2.01	1.81	52.24	33.54	425.76	759.12	1.75	1.12	4.92	4.92
Yellowstone County	B2	RM 362.43	103185.5	5-yr	1543.27	939.21	934.1	1.89	1.73	16.7	11.72	437.91	733.06	1.84	1.29	5.11	5.11
Yellowstone County	B2	RM 362.36	103070.8	5-yr	1543.27	939.1	932.98	1.93	1.8	15.15	13.43	402.7	496.8	1.95	1.73	6.12	6.12
Yellowstone County	B2	RM 362.27	102929.3	5-yr	1543.27	938.93	932.93	2.21	2.2	23.29	19.88	195.09	229.66	3.58	3.05	6	6
Yellowstone County	B2	RM 362.20	102813.3	5-yr	1543.27	938.43	933.37	3.44	3.42	60.63	53.02	110.64	127.32	4.06	3.54	5.06	5.06
Yellowstone County	B2	RM 362.13	102693.1	5-yr	1543.27	938.24	933.47	3.39	3.32	57.7	39.03	124.81	189.76	3.64	2.45	4.78	4.78
Yellowstone County	B3	RM 362.05	102570.9	5-yr	1543.27	938.16	933.85	2.89	2.89	43.84	43.84	180.44	180.44	2.96	2.96	4.31	4.31
Yellowstone County	B3	RM 362.00	102488.8	5-yr	1543.27	938.14	934.11	2.38	2.38	34.7	34.7	242.76	262.45	2.67	2.67	4.03	4.03
Yellowstone County	B3	RM 361.93	102368.8	5-yr	1543.27	938.02	934.31	2.05	2.05	30.02	29.97	367.46	368	2.04	2.04	3.71	3.71
Yellowstone County	B3	RM 361.86	102261.1	5-yr	1543.27	937.65	934.36	2.59	2.56	59.7	55.21	339.97	376.37	1.73	1.6	3.29	3.29
Yellowstone County	B3	RM 361.78	102138.9	5-yr	1543.27	937.48	933.72	2.11	2.09	24.41	22.79	398.88	432	1.83	1.71	3.76	3.76
Yellowstone County	B3	RM 361.68	101970.2	5-yr	1543.27	937.24	933.64	1.97	1.93	29.62	27.1	425.22	479.54	1.82	1.67	3.6	3.6
Yellowstone County	B3	RM 361.65	101918.4	5-yr	1543.27	937.2	933.71	1.74	1.7	23.97	21.13	403.7	473.39	2.17	1.91	3.49	3.49
Yellowstone County	B3	RM 361.61	101855.6	5-yr	1543.27	937.05	932.7	2.09	1.98	29.13	24.08	329.65	435.53	2.18	1.81	4.35	4.35
Yellowstone County	B3	RM 361.56	101767.4	5-yr	1543.27	936.92	930.29	2.18	2.05	27.72	21.07	266.97	385.62	2.59	1.97	6.63	6.63
Yellowstone County	B3	RM 361.48	101644.6	5-yr	1543.27	936.76	929.97	2.37	2.12	36.74	22.45	180.14	567.46	3.27	1.99	6.79	6.79
Yellowstone County	B3	RM 361.42	101546.2	5-yr	1543.27	936.48	932.36	2.9	2.42	43.05	20.65	179.23	795.57	2.72	1.3	4.12	4.12
Yellowstone County	B3	RM 361.37	101468.9	5-yr	1543.27	936.37	932.21	2.81	2.31	42.23	15.52	168.78	752.81	3.1	1.13	4.16	4.16
Yellowstone County	B3	RM 361.33	101409.4	5-yr	1543.27	936.01	932.02	3.52	2.99	66.76	23.35	151.06	555.99	2.81	0.98	3.99	3.99
Yellowstone County	B3	RM 361.29	101346	5-yr	1543.27	935.95	930.51	3.32	2.15	60.52	18.34	135.37	839.74	2.94	0.89	5.44	5.44
Yellowstone County	B3	RM 361.25	101284.9	5-yr	1543.27	935.85	928.42	3.32	2.03	56.82	16.4	108.57	839.51	3.38	0.96	7.43	7.43
Yellowstone County	B3	RM 361.21	101251.*	5-yr	1116.6	935.53	927.55	2.46	1.88	60.67	19.14	108.17	620.42	3.87	1.21	7.98	7.98
Yellowstone County	B3	RM 361.21	101217.5	5-yr	1543.27	935.87	926.68	2.46	1.68	30.94	9.29	113.48	1000.35	4.71	1.4	9.19	9.19
Yellowstone County	B3	RM 361.18	101167.2	5-yr	1543.27	935.84	928.03	2.39	1.51	27.33	8.28	128.45	1031.35	4.25	1.28	7.81	7.81
Yellowstone County	B3	RM 361.16	101134.2	5-yr	1543.27	935.83	928.92	2.22	1.6	26.06	11.51	199.88	1138.5	3.09	1.36	6.91	6.91
Yellowstone County	B3	RM 361.09	101028.7	5-yr	1543.27	935.78	931.28	1.8	1.31	20.31	12.62	342.37	1413	1.84	1.15	4.5	4.5
Yellowstone County	B3	RM 361.01	100891.3	5-yr	1543.27	935.47	931.55	2.27	1.71	34.62	16.41	328.06	1168.45	1.75	0.83	3.92	3.92
Yellowstone County	B3	RM 360.92	100756	5-yr	1543.27	935.34	931.05	1.38	1.06	22.8	14.5	445.71	1488.54	1.54	0.98	4.29	4.29
Yellowstone County	B3	RM 360.81	100570.1	5-yr	1543.27	934.72	929.52	2.32	1.91	67.62	45.95	415.27	897.31	1.34	0.91	5.2	5.2
Yellowstone County	B3	RM 360.69	100383.5	5-yr	1543.27	934.65	930.6	1.04	0.8	9.61	6.61	334.08	1429.22	2.15	1.48	4.76	4.76
Yellowstone County	B3	RM 360.59	100227.2	5-yr	1543.27	934.48	930.53	1.79	1.11	19.34	8.76	265.5	1578.08	2.11	0.96	4.27	4.27
Yellowstone County	B3	RM 360.50	100081	5-yr	1543.27	934.27	930.55	2.1	1.29	29.67	10.63	204.27	1342.01	2.7	0.96	3.72	3.72

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	5-yr	1543.27	934.08	929.97	2.34	1.36	33.65	11.7	184.6	1191.61	2.75	0.95	4.11	4.11
Yellowstone County	B3	RM 360.36	99862.66	5-yr	1543.27	933.98	929.68	2.16	1.35	26.16	11.31	233.17	1104.5	2.4	1.03	4.3	4.3
Yellowstone County	B3	RM 360.27	99717.18	5-yr	1543.27	933.7	929.52	2.66	1.56	41.29	14.39	149.73	1015.47	2.81	0.98	4.18	4.18
Yellowstone County	B3	RM 360.18	99578.06	5-yr	1543.27	933.46	929.32	2.73	1.61	48.13	14.36	134.65	948.19	3.45	1.01	4.14	4.14
Yellowstone County	B3	RM 360.11	99458.59	5-yr	1543.27	933.36	929.38	2.51	1.58	35.02	9.57	148.51	1242.22	2.88	0.79	3.98	3.98
Yellowstone County	B3	RM 360.03	99328	5-yr	1557.43	933.26	929.58	2.11	1.32	34.9	10.3	168.97	1455.89	2.89	0.85	3.68	3.68
Yellowstone County	B3	RM 359.96	99226.54	5-yr	1557.43	933.15	929.2	2.15	1.22	30.09	9.21	163.81	1399.52	2.99	0.91	3.95	3.95
Yellowstone County	B3	RM 359.88	99098.18	5-yr	1557.43	933.01	927.78	2.3	1.23	29.77	8.47	143.87	1322.31	3.38	0.96	5.23	5.23
Yellowstone County	B3	RM 359.78	98940.52	5-yr	1557.43	932.92	928.1	2.13	1.16	32.33	8.86	149.24	1405.21	3.52	0.96	4.82	4.82
Yellowstone County	B3	RM 359.70	98813.18	5-yr	1557.43	932.52	928.32	2.95	1.94	71	17.25	141.07	1125.28	3.17	0.77	4.2	4.2
Yellowstone County	B3	RM 359.61	98663.44	5-yr	1557.43	932.38	928.8	2.08	1.79	32.08	12.07	318.49	1103.75	2.27	0.85	3.58	3.58
Yellowstone County	B3	RM 359.50	98492.66	5-yr	1557.43	932.14	928.22	2.16	1.72	28.06	10.14	311.74	1295.9	2.15	0.78	3.92	3.92
Yellowstone County	B3	RM 359.38	98291.15	5-yr	1557.43	931.83	927.09	1.95	1.66	43.29	19.05	373.1	1324.96	1.75	0.77	4.74	4.74
Yellowstone County	B3	RM 359.26	98107.42	5-yr	1557.43	931.37	927.71	2.19	1.86	32.61	20.53	388.6	879.58	1.67	1.05	3.66	3.66
Yellowstone County	B3	RM 359.18	97966.53	5-yr	1557.43	931.16	927.28	2.09	1.57	27.81	13.74	299.78	1077.16	2.09	1.03	3.88	3.88
Yellowstone County	B3	RM 359.10	97841.82	5-yr	1557.43	931	926.69	1.96	1.48	25.3	13.64	371.51	1243.99	1.76	0.95	4.31	4.31
Yellowstone County	B3	RM 359.01	97692.75	5-yr	1557.43	930.84	925.91	1.66	1.15	25.79	13.6	328.08	1475.5	1.92	1.01	4.93	4.93
Yellowstone County	B3	RM 358.90	97524.59	5-yr	1557.43	930.39	926.77	2.52	1.65	44.74	14.49	209.92	1210.13	2.42	0.78	3.62	3.62
Yellowstone County	B3	RM 358.81	97374.99	5-yr	1557.43	930.13	926.37	2.54	1.65	34.5	10.79	219.53	1280.49	2.42	0.76	3.76	3.76
Yellowstone County	B3	RM 358.74	97267.71	5-yr	1557.43	929.89	925.53	2.81	1.66	62.97	20.63	165.81	1187.01	2.55	0.83	4.36	4.36
Yellowstone County	B3	RM 358.67	97155.8	5-yr	1557.43	929.83	925.59	1.96	1.53	23.25	12.07	275.77	1097.34	2	1.04	4.24	4.24
Yellowstone County	B3	RM 358.61	97062.24	5-yr	1557.43	929.75	925.74	1.57	1.38	20.87	11.23	389.08	1321.69	1.89	1.02	4.01	4.01
Yellowstone County	B3	RM 358.56	96985.92	5-yr	1557.43	929.68	926.2	1.44	1.31	15.73	9.12	423.81	1324.08	1.92	1.12	5.09	5.09
Yellowstone County	B3	RM 358.50	96888.4	5-yr	1557.43	929.61	925.64	1.34	1.2	12.42	8.86	531.23	1344.66	1.68	1.2	3.97	3.97
Yellowstone County	B3	RM 358.43	96788.43	5-yr	1557.43	929.55	925.27	1.12	1.11	13.15	10.41	646.51	1356.46	1.65	1.31	4.28	4.28
Yellowstone County	B3	RM 358.30	96638.82	5-yr	1557.43	929.49	924.7	0.98	0.92	8.35	6.78	685.97	1229.99	2.2	1.78	4.79	4.79
Yellowstone County	B3	RM 358.24	96561.93	5-yr	1557.43	929.44	923.57	1.12	1.05	10.19	8.11	644.54	1219.82	2.03	1.61	5.87	5.87
Yellowstone County	B3	RM 358.20	96500.79	5-yr	1557.43	929.38	922.99	1.26	1.2	11.74	9.48	619.17	895.47	1.9	1.53	6.39	6.39
Yellowstone County	B3	RM 358.14	96404.93	5-yr	1557.43	929.32	922.57	1.31	1.19	11.03	8.15	543.26	1064.74	2.07	1.53	6.75	6.75
Yellowstone County	B3	RM 358.12	96368.05	5-yr	1557.43	929.3	922.78	1.39	1.1	12.34	6.97	348.57	1131.74	2.66	1.5	6.52	6.52
Yellowstone County	B3	RM 358.04	96244.75	5-yr	1557.43	929.13	923.22	2.09	1.47	36.88	12.42	162.23	995.29	3.45	1.16	5.91	5.91
Yellowstone County	B3	RM 358.00	96168.44	5-yr	1557.43	928.94	923.39	2.73	1.63	50.89	15.01	101.88	1021.32	3.66	1.07	5.55	5.55
Yellowstone County	B3	RM 357.93	96065.49	5-yr	1557.43	928.71	923.1	3.04	1.92	42.1	12.26	106.83	905.48	3.38	0.98	5.61	5.61
Yellowstone County	B3	RM 357.88	95975.44	5-yr	1557.43	928.71	923.91	2.31	1.68	33.94	12.59	153.56	1099.16	3.16	1.17	4.8	4.8
Yellowstone County	B3	RM 357.82	95884.99	5-yr	1557.43	928.68	924.01	1.87	1.54	21.88	11.12	193.1	738.03	3.21	1.63	4.67	4.67
Yellowstone County	B3	RM 357.78	95821.69	5-yr	1557.43	928.63	924.08	1.71	1.65	23.89	14.34	257.57	586.68	2.68	1.61	4.55	4.55
Yellowstone County	B3	RM 357.69	95683.91	5-yr	1557.43	928.44	923.81	2	1.89	22.53	13.21	293.16	536.52	2.63	1.54	4.63	4.63
Yellowstone County	B4	RM 357.62	95571.15	5-yr	1557.43	928.19	921.84	2.45	2.38	38.82	27.57	251.34	367.69	2.51	1.78	6.36	6.36
Yellowstone County	B4	RM 357.56	95469.4	5-yr	1557.43	928.14	918.46	2.05	1.98	28.49	17.45	225.69	385.74	3.34	2.04	9.68	9.68
Yellowstone County	B4	RM 357.48	95351.48	5-yr	1557.43	927.82	922.69	2.73	2.61	43.26	31.13	198.2	331.56	2.86	2.06	5.13	5.13
Yellowstone County	B4	RM 357.44	95275.91	5-yr	1557.43	927.68	922.22	2.78	2.7	46.81	32.77	195.56	470.35	2.86	2	5.46	5.46
Yellowstone County	B4	RM 357.34	95127.12	5-yr	1557.43	927.47	923.1	2.7	2.55	42.58	29.28	181.36	419.29	3.15	2.16	4.37	4.37
Yellowstone County	B4	RM 357.23	94939.75	5-yr	1557.43	927.26	920.81	2.65	2.35	43.44	24.14	142.86	441.5	3.96	2.19	6.45	6.45
Yellowstone County	B4	RM 357.13	94789.23	5-yr	1557.43	927.07	921.26	2.8	2.39	40.76	17.8	138.44	448.45	3.47	1.51	5.81	5.81
Yellowstone County	B4	RM 357.01	94595.53	5-yr	1557.43	926.98	921.72	2.22	1.69	24.47	12.96	184.94	511.99	3.52	1.86	5.26	5.26
Yellowstone County	B4	RM 356.90	94412.13	5-yr	1557.43	926.81	921.02	2.25	1.82	27.11	15.29	234.16	691.8	2.8	1.58	5.79	5.79
Yellowstone County	B4	RM 356.81	94272.48	5-yr	1557.43	926.67	919.95	2.23	1.76	29.44	18.33	233.74	604.36	2.66	1.65	6.72	6.72
Yellowstone County	B4	RM 356.73	94148.77	5-yr	1557.43	926.56	921.15	2.02	1.7	24.46	14.76	299.9	675.61	2.27	1.37	5.41	5.41
Yellowstone County	B4	RM 356.66	94030.68	5-yr	1557.43	926.45	921.75	1.95	1.62	21.58	11.36	300.18	766.23	2.43	1.28	4.7	4.7
Yellowstone County	B4	RM 356.59	93912.76	5-yr	1557.43	926.36	921.88	1.84	1.46	23.32	8.76	252.57	1034.96	2.95	1.11	4.48	4.48
Yellowstone County	B4	RM 356.50	93782.14	5-yr	1557.43	926.2	921.75	2.2	1.62	33.87	9.42	153.48	1014.54	3.53	0.97	4.45	4.45
Yellowstone County	B4	RM 356.44	93670.16	5-yr	1557.43	926.02	921.33	2.5	1.87	31.73	8.14	135.34	945.22	3.46	0.88	4.69	4.69
Yellowstone County	B4	RM 356.35	93525.27	5-yr	1557.43	925.81	919.71	2.71	2.02	52.41	12.98	115.19	814.06	3.87	0.95	6.1	6.1
Yellowstone County	B4	RM 356.26	93386.36	5-yr	1557.43	925.7	919.77	2.53	1.73	27.59	9.16	125.06	702.62	4.05	1.34	5.93	5.93
Yellowstone County	B4	RM 356.18	93264.31	5-yr	1557.43	925.64	919.95	2.31	1.69	33.39	11.08	128.37	683.82	4.08	1.34	5.69	5.69
Yellowstone County	B4	RM 356.11	93150.71	5-yr	1557.43	925.57	920.24	2	1.49	34.13	13.22	179.29	719.76	3.78	1.45	5.33	5.33
Yellowstone County	B4	RM 356.04	93034.25	5-yr	1557.43	925.36	920.36	2.33	1.82	50.62	19.07	172.97	668.24	3.41	1.28	5	5
Yellowstone County	B4	RM 355.97	92927.46	5-yr	1557.43	925.1	920.09	2.68	2.03	52.83	18.65	153.43	665.88	3.28	1.15	5.01	5.01
Yellowstone County	B4	RM 355.91	92825.82	5-yr	1557.43	925.06	919.82	2.29	1.53	25.8	9.82	153.74	781.31	3.51	1.33	5.24	5.24
Yellowstone County	B4	RM 355.82	92688.73	5-yr	1557.43	924.17	919.51	3.36	2.66	67.86	20.77	150.88	659.93	2.92	0.89	4.66	4.66
Yellowstone County	B4	RM 355.66	92419.94	5-yr	1557.43	923.9	919.8	2.95	2.38	43.1	17.79	139.95	521.16	3.05	1.26	4.1	4.1

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	5-yr	1557.43	923.83	919.42	2.7	2.08	37.74	16.48	148.04	559.63	3.06	1.34	4.41	4.41
Yellowstone County	B4	RM 355.49	92159.95	5-yr	1557.43	923.6	918.52	2.44	2.11	60.28	27.33	140.13	541.71	3	1.36	5.08	5.08
Yellowstone County	B4	RM 355.43	92061.2	5-yr	1557.43	923.4	918.67	2.41	2.09	58.1	21.5	134.53	624.18	3.23	1.19	4.73	4.73
Yellowstone County	B4	RM 355.41	92020.68	5-yr	1557.43	923.37	919.02	2.04	1.91	55.74	23.74	159.6	728.16	2.84	1.21	4.35	4.35
Yellowstone County	B4	RM 355.38	91976.12	5-yr	1557.43	923.19	919.25	2.6	2.11	56.38	20.38	125.74	645.88	3.18	1.14	3.94	3.94
Yellowstone County	B4	RM 355.35	91933.98	5-yr	1557.43	923.16	919.21	2.53	1.91	37.28	14	109.82	635.13	3.45	1.28	3.95	3.95
Yellowstone County	B4	RM 355.32	91885.87	5-yr	1557.43	923.08	919.16	2.63	1.98	40.33	15.55	106.99	615.2	3.35	1.28	3.92	3.92
Yellowstone County	B4	RM 355.29	91828.99	5-yr	1557.43	923.01	918.93	2.66	2	38.82	15.75	102.07	569.21	3.41	1.37	4.48	4.48
Yellowstone County	B4	RM 355.23	91732.97	5-yr	1557.43	922.9	918.68	2.59	2.03	43.33	13.86	101.24	697.57	3.48	1.1	4.46	4.46
Yellowstone County	B4	RM 355.14	91596.1	5-yr	1557.43	922.79	918.52	2.32	1.59	30.21	9.92	118.27	888.3	3.4	1.1	4.27	4.27
Yellowstone County	B4	RM 354.94	91268.08	5-yr	1557.43	922.08	917.25	2.86	2.26	79.9	29.77	166.68	613.92	3.02	1.12	4.83	4.83
Yellowstone County	B4	RM 354.86	91153.59	5-yr	1557.43	922	917.03	2.34	1.48	47.17	14.71	125.07	948.73	3.78	1.17	4.97	4.97
Yellowstone County	B4	RM 354.80	91056.05	5-yr	1557.43	921.71	915.66	2.87	1.8	69.82	18.1	117.76	1129.29	3.54	0.91	6.05	6.05
Yellowstone County	B4	RM 354.70	90880.27	5-yr	1557.43	921.4	915.38	2.58	1.78	57.76	21.03	141.95	968.81	2.91	1.05	6.02	6.02
Yellowstone County	B4	RM 354.61	90744.35	5-yr	1557.43	921.18	917.13	2.49	1.52	33.17	12.38	185.98	1184.78	2.39	0.89	4.05	4.05
Yellowstone County	B4	RM 354.53	90609.24	5-yr	1557.43	921.07	916.52	2.04	1.36	24.85	10.15	238.89	1122.13	2.5	1.02	4.55	4.55
Yellowstone County	B4	RM 354.45	90486.63	5-yr	1557.43	920.92	915.87	2.23	1.36	31.06	12.97	199.43	1175.88	2.41	1	5.05	5.05
Yellowstone County	B4	RM 354.39	90385.43	5-yr	1557.43	920.67	915.24	2.71	1.6	43.86	15.9	161.49	1143.52	2.52	0.91	5.43	5.43
Yellowstone County	B4	RM 354.33	90291.31	5-yr	1557.43	920.61	915.37	2.29	1.21	29.17	11.44	150.25	1315.6	2.66	1.04	5.24	5.24
Yellowstone County	B4	RM 354.23	90133.96	5-yr	1557.43	920.35	915.46	2.62	1.32	39.89	10.88	114.4	1319.92	3.35	0.91	4.89	4.89
Yellowstone County	B4	RM 354.13	89983.48	5-yr	1557.43	920.25	914.94	2.16	1.12	32.41	8.98	130.25	1426.4	3.53	0.97	5.31	5.31
Yellowstone County	B4	RM 354.00	89778.46	5-yr	1557.43	920.11	916.2	1.99	1.04	27.61	8.69	157.28	1655.05	2.89	0.91	3.91	3.91
Yellowstone County	B5	RM 353.90	89604.28	5-yr	1557.43	919.99	917.06	1.74	1.02	22.3	9.77	242.01	1565.87	2.23	0.98	3.09	3.09
Yellowstone County	B5	RM 353.80	89446.75	5-yr	1656.54	919.83	916.36	1.82	1.16	29.16	11.75	300.35	1695.92	2.1	0.84	3.47	3.47
Yellowstone County	B5	RM 353.70	89288.94	5-yr	1656.54	919.68	915.92	1.46	1	23.63	11.28	390.13	1769.4	1.98	0.94	3.76	3.76
Yellowstone County	B5	RM 353.65	89204.58	5-yr	1656.54	919.55	915.49	1.37	0.98	24.01	12.18	403.56	1724.1	1.96	0.99	4.06	4.06
Yellowstone County	B5	RM 353.56	89077.56	5-yr	1656.54	919.4	914.2	1.47	1.02	25.04	11.87	363.58	1536.21	2.23	1.05	5.2	5.2
Yellowstone County	B5	RM 353.50	88982.39	5-yr	1656.54	919.32	914.58	1.41	0.97	21.37	8.9	305.93	1416.15	2.91	1.21	4.74	4.74
Yellowstone County	B5	RM 353.41	88846.15	5-yr	1656.54	919.14	914.41	1.71	1.17	28.41	10.8	230.28	1309.19	2.87	1.08	4.73	4.73
Yellowstone County	B5	RM 353.32	88709.14	5-yr	1656.54	918.91	913.6	2.17	1.39	35.67	12.48	194.16	1139.19	3	1.04	5.31	5.31
Yellowstone County	B5	RM 353.25	88587.13	5-yr	1656.54	918.63	912.76	2.68	1.67	46.9	14.61	160.68	1062.67	3.01	0.93	5.87	5.87
Yellowstone County	B5	RM 353.15	88438.48	5-yr	1656.54	918.31	912.71	2.86	2.07	51.69	23.25	207.59	827.9	2.15	0.97	5.6	5.6
Yellowstone County	B5	RM 353.08	88321.13	5-yr	1656.54	918.12	912.99	2.64	1.92	44.02	19.32	197.65	827.66	2.38	1.04	5.13	5.13
Yellowstone County	B5	RM 353.01	88210.34	5-yr	1656.54	917.98	913.13	2.23	1.76	37.7	18.86	249.61	856.91	2.2	1.1	4.85	4.85
Yellowstone County	B5	RM 352.94	88090.6	5-yr	1656.54	917.88	912.5	2.01	1.55	28.48	13.21	174.83	774.66	2.99	1.38	5.38	5.38
Yellowstone County	B5	RM 352.86	87957.76	5-yr	1656.54	917.71	913.38	2.29	1.77	42.56	15.74	126.34	886.35	3.2	1.18	4.33	4.33
Yellowstone County	B5	RM 352.79	87857.09	5-yr	1656.54	917.45	913.06	2.92	2.03	40.3	15.4	107.18	724.14	2.98	1.13	4.39	4.39
Yellowstone County	B5	RM 352.72	87748.15	5-yr	1656.54	917.29	911.97	3.02	2	68.99	18.18	89.21	891.35	3.81	0.99	5.32	5.32
Yellowstone County	B5	RM 352.68	87677.1	5-yr	1656.54	917.15	912.27	2.6	2.09	65.59	27.62	236.93	1016.07	2.31	0.96	4.88	4.88
Yellowstone County	B5	RM 352.64	87605.18	5-yr	1656.54	916.9	911.68	2.84	1.99	57.47	21.26	185.31	827.7	2.82	1.03	5.22	5.22
Yellowstone County	B5	RM 352.54	87461.4	5-yr	1656.54	916.82	912.57	2.11	1.62	28.87	12.51	265.45	1025.83	2.55	1.1	4.25	4.25
Yellowstone County	B5	RM 352.47	87340.46	5-yr	1656.54	916.7	912.2	2.06	1.42	27.29	13.05	229.98	1479.65	2.26	1.08	4.5	4.5
Yellowstone County	B5	RM 352.39	87216.99	5-yr	1656.54	916.39	912.01	2.72	1.94	44.83	24.68	179.25	895.4	2.07	1.14	5.2	5.2
Yellowstone County	B5	RM 352.31	87079.16	5-yr	1656.54	916.07	910.66	2.79	1.97	59.31	30.38	180.99	870	2	1.02	5.41	5.41
Yellowstone County	B5	RM 352.23	86961.03	5-yr	1656.54	915.94	911.35	1.86	1.45	24.18	19.02	250.16	1022.05	1.65	1.3	4.59	4.59
Yellowstone County	B5	RM 352.18	86873.5	5-yr	1656.54	915.83	911.21	1.96	1.59	24.56	18.21	218.15	1000.66	2.12	1.57	4.62	4.62
Yellowstone County	B5	RM 352.09	86723.6	5-yr	1656.54	915.65	912.18	2.17	1.66	31.57	14.82	173.36	1147.84	2.3	1.08	3.47	3.47
Yellowstone County	B5	RM 351.99	86568.41	5-yr	1656.54	915.25	912.6	2.97	2.16	51.07	21.23	144.54	867.87	2.23	0.93	2.67	2.67
Yellowstone County	B5	RM 351.93	86466.74	5-yr	1656.54	915.14	911.69	2.41	1.71	36.81	18.47	170.37	1118.9	1.92	0.96	3.45	3.45
Yellowstone County	B5	RM 351.88	86386.8	5-yr	1656.54	915.06	911.38	1.76	1.39	25.82	19.44	188.73	1222.41	1.66	1.25	3.68	3.68
Yellowstone County	B5	RM 351.81	86277.68	5-yr	1656.54	914.96	910.99	1.53	1.23	18.09	15.74	236.17	1349.86	1.52	1.32	3.97	3.97
Yellowstone County	B5	RM 351.74	86159.62	5-yr	1656.54	914.63	911.37	1.64	1.58	22.83	19.27	238.1	1042.12	1.34	1.13	3.8	3.8
Yellowstone County	B5	RM 351.67	86034.59	5-yr	1656.54	914.36	911.31	1.83	1.61	26.93	19.61	199.09	892.3	1.64	1.2	3.98	3.98
Yellowstone County	B5	RM 351.58	85891.33	5-yr	1656.54	914.15	911.47	1.51	1.58	18.9	15.64	234.12	834.49	1.58	1.31	4.06	4.06
Yellowstone County	B5	RM 351.52	85811.35	5-yr	1656.54	914.01	911.37	1.84	1.74	22.02	17.74	248.4	795	1.53	1.23	3.29	3.29
Yellowstone County	B5	RM 351.47	85728.2	5-yr	1656.54	913.91	911.17	1.81	1.64	19.52	14.91	189.07	718.24	1.94	1.49	3.37	3.37
Yellowstone County	B5	RM 351.40	85601.48	5-yr	1656.54	913.78	910.26	1.96	1.62	23.38	14.79	145.51	1034.52	1.97	1.24	3.87	3.87
Yellowstone County	B5	RM 351.34	85482.66	5-yr	1656.54	913.67	909.98	1.39	1.43	27.11	14.37	144.13	1145.8	2.21	1.17	3.7	3.7
Yellowstone County	B5	RM 351.25	85342.53	5-yr	1656.54	913.55	909.91	1.43	1.28	16.1	11.93	260.31	1147.16	1.61	1.19	3.67	3.67
Yellowstone County	B5	RM 351.21	85257.19	5-yr	1656.54	913.46	909.48	1.7	1.31	20.32	11.92	194.77	1208.99	1.79	1.05	3.98	3.98
Yellowstone County	B5	RM 351.12	85127.55	5-yr	1656.54	913.37	909.49	1.69	1.32	18.5	11.22	171.32	1079.3	1.93	1.16	3.88	3.88

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	5-yr	1656.54	913.24	908.79	1.99	1.39	24.35	11.43	125.05	963.31	2.66	1.23	4.45	4.45
Yellowstone County	B5	RM 350.90	84769.91	5-yr	1656.54	913.19	909.27	1.47	1.13	14.56	6.37	97.63	1094.18	3.12	1.34	3.92	3.92
Yellowstone County	B5	RM 350.75	84536.19	5-yr	1656.54	913.04	909.72	1.26	1.45	25.24	18.46	257.53	803.64	1.94	1.42	3.66	3.66
Yellowstone County	B5	RM 350.66	84383.33	5-yr	1656.54	912.83	909.32	1.81	1.69	32.72	17.31	158.03	769.61	2.42	1.28	3.51	3.51
Yellowstone County	B5	RM 350.57	84244.69	5-yr	1656.54	912.56	908.48	1.97	1.8	42.34	19.36	151.03	784.69	2.58	1.17	4.08	4.08
Yellowstone County	B5	RM 350.50	84128.62	5-yr	1656.54	912.31	908.49	2.17	1.95	45.77	21.38	154.26	753.84	2.43	1.13	3.82	3.82
Yellowstone County	B5	RM 350.40	83974.24	5-yr	1656.54	912.13	908.73	1.61	1.61	22.21	15.58	310.63	836.89	1.75	1.23	3.4	3.4
Yellowstone County	B5	RM 350.33	83868.06	5-yr	1656.54	912.01	908.17	1.61	1.51	18.86	13.59	326.14	865.44	1.76	1.26	3.84	3.84
Yellowstone County	B5	RM 350.23	83712.91	5-yr	1656.54	911.78	907.61	1.84	1.62	26.85	17.01	300.7	948.61	1.75	1.11	4.17	4.17
Yellowstone County	B5	RM 350.14	83563.43	5-yr	1656.54	911.6	907.94	1.67	1.47	22.7	13.82	300.22	1063.21	1.83	1.11	3.66	3.66
Yellowstone County	B5	RM 350.06	83419.86	5-yr	1656.54	911.39	907.84	1.57	1.43	24.33	14.66	342.99	1151.01	1.76	1.06	3.55	3.55
Yellowstone County	B5	RM 349.94	83229.4	5-yr	1656.54	911.15	906.93	1.68	1.43	24.04	13.26	277.57	1236.43	1.98	1.09	4.22	4.22
Yellowstone County	B5	RM 349.83	83071.99	5-yr	1656.54	911.03	907.36	1.55	1.17	13.32	5.71	370.02	1260.56	2.65	1.13	3.67	3.67
Yellowstone County	B5	RM 349.68	82904.73	5-yr	1656.54	910.82	906.92	1.99	1.5	30.59	15.08	344.6	1183.04	2.16	1.06	3.9	3.9
Yellowstone County	B5	RM 349.54	82632.78	5-yr	1656.54	910.43	906.29	1.94	1.7	25.42	15.79	449.31	885.73	1.83	1.13	4.14	4.14
Yellowstone County	B5	RM 349.33	82276.28	5-yr	1656.54	910.16	906.45	1.2	1.15	13.41	10.94	350.96	914.44	1.94	1.59	3.71	3.71
Yellowstone County	B5	RM 349.19	82046.53	5-yr	1656.54	909.83	905.16	2.01	1.47	25.44	12.96	282.01	1152.6	2.03	1.03	4.67	4.67
Yellowstone County	B5	RM 349.04	81800.47	5-yr	1749.98	909.64	904.5	1.58	1.28	16.17	9.14	345.54	1439.91	2.21	1.25	5.14	5.14
Yellowstone County	B5	RM 348.89	81574.02	5-yr	1749.98	909.51	904.75	1.23	1.1	16.87	10	550.23	1470.45	2.42	1.43	4.76	4.76
Yellowstone County	B5	RM 348.77	81370.46	5-yr	1749.98	909.34	905.09	1.37	1.17	22.93	11.97	459.73	1490.57	2.51	1.31	4.25	4.25
Yellowstone County	B5	RM 348.64	81138.52	5-yr	1749.98	909.13	903.35	1.69	1.25	17.18	6.69	294.99	1285.54	3.13	1.21	5.78	5.78
Yellowstone County	B5	RM 348.52	80960.09	5-yr	1749.98	908.93	902.88	2.1	1.53	35.86	11.32	206.15	1085.88	3.52	1.1	6.05	6.05
Yellowstone County	B5	RM 348.38	80737.31	5-yr	1749.98	908.5	902.85	2.67	2.11	52.51	14.89	186.66	880.84	3.35	0.94	5.65	5.65
Yellowstone County	B5	RM 348.26	80551.51	5-yr	1749.98	908.21	902.73	2.64	2.07	59.79	17.91	167.61	813.03	3.5	1.04	5.48	5.48
Yellowstone County	B5	RM 348.09	80276.34	5-yr	1749.98	907.85	901.64	2.5	1.83	42.21	15.39	171.66	763.24	3.46	1.26	6.21	6.21
Yellowstone County	B5	RM 347.95	80055.79	5-yr	1749.98	907.64	902.96	2.42	1.88	29.23	12.01	165.09	723.48	3.69	1.52	4.68	4.68
Yellowstone County	B5	RM 347.82	79844.2	5-yr	1749.98	907.48	902.93	2.13	1.78	38.91	17.79	180.88	639.97	3.37	1.54	4.55	4.55
Yellowstone County	B5	RM 347.77	79751.93	5-yr	1749.98	907.37	902.38	2.19	1.67	41.95	15.38	178.59	844.85	3.38	1.24	4.99	4.99
Yellowstone County	B5	RM 347.70	79643.98	5-yr	1749.98	907.22	901.91	2.21	1.61	42.33	14.29	182.31	982.14	3.28	1.1	5.31	5.31
Yellowstone County	B5	RM 347.61	79501.64	5-yr	1749.98	907.17	902.2	1.8	1.16	16.64	8.19	192.93	878.51	3.61	1.78	4.97	4.97
Yellowstone County	B5	RM 347.51	79347.38	5-yr	1749.98	906.82	900.54	2.91	1.94	40.02	15.01	112.36	622.62	4.38	1.63	6.28	6.28
Yellowstone County	B5	RM 347.42	79196.21	5-yr	1749.98	906.73	900.73	2.44	1.91	56.59	26.72	144.06	693.89	3.86	1.82	6	6
Yellowstone County	B5	RM 347.35	79079.87	5-yr	1749.98	906.8	900.77	1.22	1.22	6.98	6.97	498.29	916.97	2.87	2.87	6.03	6.03
Yellowstone County	B5	RM 347.23	78895.71	5-yr	1749.98	906.72	900.89	1.32	1.31	10.85	10.37	508.59	1055.47	2.61	2.49	5.83	5.83
Yellowstone County	B5	RM 347.13	78732.21	5-yr	1749.98	906.61	900.98	1.43	1.41	23.75	19.68	440.45	1053.51	2.76	2.29	5.63	5.63
Yellowstone County	B5	RM 346.93	78400.21	5-yr	1749.98	906.09	900.98	1.7	1.63	58.03	47.56	464.92	776.25	2.17	1.78	5.11	5.11
Yellowstone County	B5	RM 346.80	78193.27	5-yr	1749.98	905.46	900.02	1.93	1.7	54.82	37.63	454.17	805.18	1.91	1.31	5.44	5.44
Yellowstone County	B5	RM 346.64	77938.83	5-yr	1749.98	905.18	900.47	1.9	1.43	19.49	9.46	246.85	810.33	3.18	1.54	4.71	4.71
Yellowstone County	B5	RM 346.49	77706.6	5-yr	1749.98	904.91	900.21	2.37	1.66	34.72	12	176.44	934.92	3.35	1.15	4.7	4.7
Yellowstone County	B6	RM 346.35	77480.6	5-yr	1749.98	904.7	900.33	2.16	1.53	33.95	12.47	214.48	989.7	3.22	1.18	4.37	4.37
Yellowstone County	B6	RM 346.23	77285.9	5-yr	1749.98	904.39	900.11	2.56	1.77	34.83	10.35	177.09	972.87	3.45	1.02	4.28	4.28
Yellowstone County	B6	RM 346.11	77095.33	5-yr	1749.98	904.19	899.75	2.46	1.8	43.9	18.57	182.04	735.19	3.42	1.44	4.44	4.44
Yellowstone County	B6	RM 346.00	76926.16	5-yr	1749.98	904.01	899.8	2.39	1.79	34.5	14.52	177.75	772.14	3.57	1.5	4.21	4.21
Yellowstone County	B6	RM 345.90	76766.95	5-yr	1749.98	903.75	899.51	2.64	1.96	47.73	21.41	179.39	664.84	3.35	1.5	4.24	4.24
Yellowstone County	B6	RM 345.80	76608.55	5-yr	1749.98	903.61	899.04	2.34	1.79	32.9	14.28	197.75	710.59	3.43	1.49	4.71	4.71
Yellowstone County	B6	RM 345.73	76484.99	5-yr	1749.98	903.41	899.01	2.56	1.97	39.82	15.75	198.03	961.98	3.06	1.21	4.51	4.51
Yellowstone County	B6	RM 345.67	76386.71	5-yr	1749.98	903.38	899.1	2.13	1.59	26.82	11.68	212.06	747.78	3.39	1.47	4.48	4.48
Yellowstone County	B6	RM 345.60	76268.76	5-yr	1749.98	903.28	899.22	2.08	1.58	29.64	15.8	235.37	687.92	3.03	1.61	4.38	4.38
Yellowstone County	B6	RM 345.50	76118.1	5-yr	1749.98	903.13	899.07	1.79	1.56	36.34	24.54	280.8	626.93	2.66	1.79	4.23	4.23
Yellowstone County	B6	RM 345.37	75909.53	5-yr	1749.98	902.7	897.51	2.2	2.04	40.63	23.77	315.87	593.54	2.48	1.45	5.19	5.19
Yellowstone County	B6	RM 345.27	75751.01	5-yr	1749.98	902.45	898.15	2.33	1.9	34.56	15.61	252.44	731.14	2.85	1.28	4.3	4.3
Yellowstone County	B6	RM 345.07	75427.56	5-yr	1749.98	902.2	897.07	2.01	1.56	22.51	7.97	241.2	1087.58	3.36	1.18	5.13	5.13
Yellowstone County	B6	RM 344.90	75166.64	5-yr	1749.98	902.09	897.3	1.7	1.34	16.95	6.91	294.53	993.79	3.23	1.31	4.79	4.79
Yellowstone County	B6	RM 344.75	74927.69	5-yr	1749.98	901.86	896.02	2.02	1.6	33.05	12.61	234.08	849.41	3.39	1.28	5.84	5.84
Yellowstone County	B6	RM 344.64	74743.45	5-yr	1749.98	901.5	895.93	2.69	2.11	39.42	11.46	158.71	730.41	3.92	1.14	5.57	5.57
Yellowstone County	B6	RM 344.53	74576.12	5-yr	1749.98	901.32	895.39	2.57	1.94	57.36	19.7	162.09	752.07	3.62	1.24	5.93	5.93
Yellowstone County	B6	RM 344.43	74405.67	5-yr	1749.98	901.18	896.11	2.34	1.63	25.52	8.33	179.26	988.78	3.45	1.12	5.07	5.07
Yellowstone County	B6	RM 344.29	74192.79	5-yr	1749.98	901.03	895.87	2.21	1.59	29.82	9.16	179.75	984.78	3.64	1.12	5.16	5.16
Yellowstone County	B6	RM 344.13	73931.76	5-yr	1749.98	900.78	895.4	2.36	1.75	32.78	11.5	157.02	711.17	4.01	1.4	5.38	5.38
Yellowstone County	B6	RM 343.87	73520.95	5-yr	1749.98	900.54	895.23	1.87	1.48	18.78	7.33	287.43	997.67	3.04	1.18	5.31	5.31
Yellowstone County	B6	RM 343.80	73403.19	5-yr	1749.98	900.49	894.69	1.5	1.2	25.76	11.32	356.81	1166.29	2.86	1.25	5.8	5.8

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	5-yr	1749.98	900.21	894.63	1.57	1.38	38.81	19.63	395.26	976.18	2.58	1.3	5.58	5.58
Yellowstone County	B6	RM 343.55	72997.33	5-yr	1749.98	899.94	894.63	1.63	1.45	36.82	17.76	370.13	909.33	2.76	1.32	5.31	5.31
Yellowstone County	B6	RM 343.45	72840.49	5-yr	1749.98	899.7	894.78	1.73	1.61	34.94	17.71	401.44	871.1	2.46	1.25	4.92	4.92
Yellowstone County	B6	RM 343.37	72718.86	5-yr	1749.98	899.43	894.5	2.03	1.84	50.57	23.52	327.99	808.41	2.54	1.17	4.93	4.93
Yellowstone County	B6	RM 343.29	72586.22	5-yr	1749.98	899.22	894.28	1.98	1.67	39.2	18.32	279.44	762.51	2.95	1.37	4.94	4.94
Yellowstone County	B6	RM 343.21	72458.03	5-yr	1749.98	899.03	893.99	1.8	1.54	47.86	28.9	356.64	749.07	2.52	1.51	5.04	5.04
Yellowstone County	B6	RM 343.14	72328.78	5-yr	1749.98	898.75	893.94	1.75	1.52	51.85	35.21	432.35	798.84	2.13	1.44	4.81	4.81
Yellowstone County	B6	RM 343.04	72174.44	5-yr	1749.98	898.58	894.12	1.53	1.31	16.38	11.06	485.74	883.7	2.24	1.51	4.46	4.46
Yellowstone County	B6	RM 342.96	72046.7	5-yr	1749.98	898.44	894.17	1.5	1.31	35.22	22.76	506.31	986.57	2.1	1.35	4.27	4.27
Yellowstone County	B6	RM 342.87	71890.42	5-yr	1749.98	898.1	893.92	1.58	1.4	47.25	29.94	540.97	1075.92	1.84	1.16	4.18	4.18
Yellowstone County	B6	RM 342.78	71759.64	5-yr	1749.98	897.93	893.85	1.56	1.32	13.55	8.48	518.18	1160.95	1.85	1.16	4.08	4.08
Yellowstone County	B6	RM 342.71	71649.64	5-yr	1749.98	897.86	893.88	1.52	1.27	12.16	7.46	525.26	1346.23	1.74	1.07	3.98	3.98
Yellowstone County	B6	RM 342.64	71534.72	5-yr	1749.98	897.74	893.45	1.33	1.21	30.2	20.39	689.29	1540.89	1.73	1.17	4.29	4.29
Yellowstone County	B6	RM 342.59	71441.82	5-yr	1749.98	897.54	893.13	1.39	1.34	34.66	25.29	689.34	1673.76	1.7	1.24	4.41	4.41
Yellowstone County	B6	RM 342.49	71299.94	5-yr	1749.98	897.34	892.73	1.25	1.19	22.34	12.58	666.08	1834	2.08	1.17	4.61	4.61
Yellowstone County	B6	RM 342.40	71182.23	5-yr	1749.98	897.26	892.4	1.06	1	15.77	8.27	600.2	1940.33	2.67	1.39	4.86	4.86
Yellowstone County	B6	RM 342.29	70973.95	5-yr	1749.98	897.06	891.26	1.4	1.28	23.46	11.06	481.3	1753.8	2.5	1.17	5.8	5.8
Yellowstone County	B6	RM 342.17	70788.09	5-yr	1749.98	896.66	891.21	2.08	1.92	55.86	27.24	378.35	1205.38	2.16	1.05	5.45	5.45
Yellowstone County	B6	RM 342.09	70668.79	5-yr	1749.98	896.45	892.22	1.82	1.68	38.95	17.88	377.67	1147.36	2.49	1.14	4.23	4.23
Yellowstone County	B6	RM 341.96	70472.35	5-yr	1749.98	896.28	891.5	1.61	1.49	13.69	8.13	500.69	1282.77	2.1	1.24	4.78	4.78
Yellowstone County	B6	RM 341.82	70207.79	5-yr	1749.98	896.13	890.89	1.29	1.22	16.75	11.58	578.27	909.42	2.29	1.58	5.24	5.24
Yellowstone County	B6	RM 341.68	69974.03	5-yr	1749.98	895.92	890.38	1.43	1.35	21.97	15.44	478.12	755.44	2.49	1.75	5.54	5.54
Yellowstone County	B6	RM 341.57	69788.71	5-yr	1749.98	895.67	889.58	1.93	1.87	16.38	13.88	429.39	528.89	2.09	1.77	6.09	6.09
Yellowstone County	B6	RM 341.47	69629.19	5-yr	1749.98	895.5	889.76	1.74	1.68	46.97	34.95	395.38	610.82	2.48	1.84	5.74	5.74
Yellowstone County	B6	RM 341.32	69391.37	5-yr	1749.98	895.01	890.36	1.81	1.72	46.47	33.36	400.85	599.96	2.36	1.69	4.65	4.65
Yellowstone County	B6	RM 341.24	69252.71	5-yr	1749.98	894.9	890.28	1.61	1.47	15.54	10.61	396.74	679.3	2.57	1.76	4.62	4.62
Yellowstone County	B6	RM 341.11	69044.61	5-yr	1749.98	894.63	890	2.04	1.7	33.57	19.84	324.51	702.17	2.49	1.47	4.63	4.63
Yellowstone County	B6	RM 340.94	68773.18	5-yr	1749.98	894.29	889.22	2.05	1.52	31.83	13.7	280.24	992.29	2.77	1.19	5.07	5.07
Yellowstone County	B6	RM 340.81	68556.42	5-yr	1749.98	894.17	889.05	1.51	1.08	19.8	10.18	315.44	1074.51	2.95	1.51	5.12	5.12
Yellowstone County	B6	RM 340.65	68325.7	5-yr	1749.98	893.95	888.87	2.04	1.28	20.41	8.2	204.11	965.37	3.54	1.42	5.08	5.08
Yellowstone County	B6	RM 340.52	68126.27	5-yr	1749.98	893.72	887.3	2.48	1.5	41.68	11.12	130.27	965.74	4.57	1.21	6.42	6.42
Yellowstone County	B6	RM 340.40	67936.51	5-yr	1749.98	893.6	886.73	2.1	1.38	37.18	13.59	170.6	853.27	4.09	1.48	6.87	6.87
Yellowstone County	B7	RM 340.26	67715.84	5-yr	1749.98	893.35	887.99	1.98	1.56	46.36	25.22	251.36	649.95	3.18	1.72	5.36	5.36
Yellowstone County	B7	RM 340.16	67550.99	5-yr	1749.98	893.06	888.43	1.92	1.6	56.11	34.93	313.23	661.51	2.66	1.65	4.63	4.63
Yellowstone County	B7	RM 340.06	67387.35	5-yr	1749.98	892.79	888.74	1.82	1.63	36.96	28.23	315.76	505.47	2.79	2.13	4.05	4.05
Yellowstone County	B7	RM 339.96	67234.59	5-yr	1749.98	892.53	888.85	2.07	2	25.81	16.69	359.82	580.44	2.33	1.51	3.68	3.68
Yellowstone County	B7	RM 339.88	67094.07	5-yr	1749.98	892.37	888.78	1.83	1.76	38.09	32.67	445.51	549.54	2.11	1.81	3.59	3.59
Yellowstone County	B7	RM 339.79	66960.51	5-yr	1749.98	892.05	888.98	2.13	2.13	31.41	31.41	501.17	501.17	1.64	1.64	3.07	3.07
Yellowstone County	B7	RM 339.72	66843.76	5-yr	1749.98	891.89	888.72	1.88	1.83	23.35	21.45	510.3	576.81	1.8	1.66	3.17	3.17
Yellowstone County	B7	RM 339.66	66753.41	5-yr	1749.98	891.83	887.9	1.62	1.57	16.59	14.09	523.57	654.9	2.04	1.74	3.93	3.93
Yellowstone County	B7	RM 339.52	66527.74	5-yr	1749.98	891.66	887.31	1.77	1.45	17.26	10.35	312.36	870.06	2.9	1.74	4.35	4.35
Yellowstone County	B7	RM 339.37	66324.85	5-yr	1749.98	891.46	887.17	1.98	1.55	39.1	19.29	232.31	904.42	3.13	1.54	4.29	4.29
Yellowstone County	B7	RM 339.24	66108.49	5-yr	1749.98	891	886.45	2.65	2.12	37.33	21.15	218.09	649.94	2.61	1.48	4.55	4.55
Yellowstone County	B7	RM 339.13	65940.41	5-yr	1749.98	890.77	885.31	2.72	1.92	46.95	23.31	143.26	623.28	3.19	1.58	5.46	5.46
Yellowstone County	B7	RM 339.02	65745.93	5-yr	1749.98	890.43	886.09	2.75	2.22	40.55	20.24	184.17	576.92	2.84	1.42	4.34	4.34
Yellowstone County	B7	RM 338.94	65621.59	5-yr	1749.98	890.35	886.36	2.28	1.75	27.87	15.11	223.57	717.42	2.61	1.41	3.99	3.99
Yellowstone County	B7	RM 338.83	65433.26	5-yr	1749.98	890.16	886.37	2.05	1.67	31.75	17.07	223.48	753.53	2.65	1.42	4.14	4.14
Yellowstone County	B7	RM 338.72	65256.88	5-yr	1749.98	889.94	886.18	2.05	1.77	33.96	20.4	204.78	580.86	2.9	1.74	4.14	4.14
Yellowstone County	B7	RM 338.62	65095.08	5-yr	1749.98	889.62	886.28	2.59	2.14	37.8	20.51	178	582.23	2.75	1.49	4	4
Yellowstone County	B7	RM 338.49	64891.36	5-yr	1749.98	889.43	885.05	2.33	1.84	30.15	17.17	172.83	625.47	2.88	1.64	4.38	4.38
Yellowstone County	B7	RM 338.40	64742.15	5-yr	1749.98	889.41	884.28	1.63	1.33	14.17	9.71	165.54	846.3	3.01	2.05	5.13	5.13
Yellowstone County	B7	RM 338.29	64577.05	5-yr	1749.98	889.28	884.18	2.02	1.49	22.02	9.79	123.01	868.91	3.37	1.49	5.1	5.1
Yellowstone County	B7	RM 338.19	64384.71	5-yr	1749.98	889.22	885.23	1.37	1.14	12.12	8.36	393.33	941.93	2.39	1.65	3.99	3.99
Yellowstone County	B7	RM 338.06	64164.59	5-yr	1749.98	889.13	884.64	1.44	1.03	13.17	7.15	284.25	1096.72	2.91	1.58	4.49	4.49
Yellowstone County	B7	RM 337.91	63921.69	5-yr	1749.98	888.95	884.16	1.88	1.2	17.66	7.99	205.66	1136.83	3.18	1.44	4.79	4.79
Yellowstone County	B7	RM 337.83	63789.53	5-yr	1749.98	888.63	882.72	2.73	1.84	44.88	16.02	177.77	844.04	3.18	1.13	5.91	5.91
Yellowstone County	B7	RM 337.75	63667.96	5-yr	1749.98	888.3	881.69	3.19	2.14	55.07	19.11	142.71	695.76	3.42	1.18	6.61	6.61
Yellowstone County	B7	RM 337.68	63550.4	5-yr	1749.98	888.15	882.49	2.89	2.2	52.03	18.88	161.63	627.34	3.5	1.27	5.66	5.66
Yellowstone County	B7	RM 337.58	63396.62	5-yr	1749.98	887.93	883.62	2.87	2.17	43.78	18.28	188.83	660.96	2.92	1.22	4.31	4.31
Yellowstone County	B7	RM 337.47	63212.44	5-yr	1749.98	887.77	883.31	2.46	1.79	37.86	15.72	178.17	764.89	3.08	1.28	4.46	4.46
Yellowstone County	B7	RM 337.38	63064.58	5-yr	1749.98	887.54	883.29	2.67	1.79	36.81	14.54	174.31	839.62	2.96	1.16	4.25	4.25

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	5-yr	1749.98	887.53	883.15	1.78	1.19	16.09	7.26	210.07	1097.87	2.97	1.34	4.38	4.38
Yellowstone County	B7	RM 337.16	62717.85	5-yr	1749.98	887.47	882.57	1.36	1.05	10.37	6.06	395.77	1101.5	2.59	1.51	4.9	4.9
Yellowstone County	B7	RM 337.04	62524.52	5-yr	1749.98	887.4	879.61	1.53	1.03	12.02	4.69	153.49	980.02	4.48	1.74	7.79	7.79
Yellowstone County	B7	RM 336.96	62390.64	5-yr	1749.98	887.33	880.21	1.69	1.21	21.18	9.08	185.39	880.82	3.89	1.65	7.12	7.12
Yellowstone County	B7	RM 336.87	62246.97	5-yr	1749.98	887.2	881.41	2	1.35	22.69	9.06	156.27	815.73	4.04	1.6	5.79	5.79
Yellowstone County	B7	RM 336.80	62131.42	5-yr	1749.98	887.14	881.33	1.93	1.34	30.37	13.32	162.29	878.34	3.67	1.6	5.81	5.81
Yellowstone County	B7	RM 336.72	62005.73	5-yr	1749.98	886.88	881.38	2.5	1.75	48.74	16.33	136.15	828.66	3.87	1.29	5.5	5.5
Yellowstone County	B7	RM 336.66	61902.64	5-yr	1749.98	886.39	881.45	3.5	2.69	84.41	26.21	115.39	582.97	3.61	1.11	4.94	4.94
Yellowstone County	B7	RM 336.59	61800.43	5-yr	1749.98	886.36	880.66	2.67	2.09	52.95	20.5	135.93	545.19	3.99	1.54	5.7	5.7
Yellowstone County	B7	RM 336.52	61689.55	5-yr	1749.98	886.22	881.76	2.62	1.97	44.37	18.1	145.49	645.43	3.37	1.38	4.46	4.46
Yellowstone County	B7	RM 336.46	61580.5	5-yr	1749.98	886.11	882.13	2.42	1.9	43.78	17.51	158.54	734.1	3.15	1.26	3.98	3.98
Yellowstone County	B7	RM 336.40	61491.01	5-yr	1749.98	885.98	882.03	2.44	1.81	44.97	15.7	162.53	874.93	3.18	1.11	3.95	3.95
Yellowstone County	B7	RM 336.34	61394.22	5-yr	1749.98	885.84	881.93	2.47	1.66	40.93	16.99	163.69	867.29	3.03	1.25	3.91	3.91
Yellowstone County	B7	RM 336.27	61278.9	5-yr	1749.98	885.71	881.67	2.36	1.54	36.96	15.01	169.82	956.83	3.03	1.23	4.04	4.04
Yellowstone County	B7	RM 336.19	61159.07	5-yr	1749.98	885.53	882.11	2.42	1.71	32.2	14.37	211.78	1017.72	2.3	1.02	3.42	3.42
Yellowstone County	B7	RM 336.09	60993.57	5-yr	1749.98	885.39	882.16	1.82	1.3	21.7	12.3	319.78	1114.43	2.19	1.24	3.23	3.23
Yellowstone County	B7	RM 335.98	60812.26	5-yr	1749.98	885.24	881.93	1.36	1.23	24	18.31	436.1	1145.02	1.78	1.36	3.51	3.51
Yellowstone County	B7	RM 335.89	60669.74	5-yr	1749.98	885.06	880.16	1.57	1.42	14.11	12.04	681.41	1248.05	1.53	1.3	4.9	4.9
Yellowstone County	B7	RM 335.77	60465.85	5-yr	1749.98	884.74	880.49	1.55	1.5	41.64	37.22	828.13	1356.71	1.29	1.16	4.25	4.25
Yellowstone County	B7	RM 335.68	60324.8	5-yr	1749.98	884.43	880.65	1.77	1.68	14.99	12.5	799.17	1318.87	1.21	1.01	3.78	3.78
Yellowstone County	B7	RM 335.59	60183.7	5-yr	1749.98	884.24	880.3	1.78	1.7	14.78	11.86	878.49	1448.18	1.11	0.89	3.94	3.94
Yellowstone County	B7	RM 335.51	60046.12	5-yr	1749.98	884.07	880.03	1.73	1.66	13.47	9.77	853.62	1830.61	1.18	0.85	4.04	4.04
Yellowstone County	B7	RM 335.41	59899.97	5-yr	1749.98	883.98	879.45	1.27	1.13	11	8.35	895.49	2185.98	1.47	1.12	4.53	4.53
Yellowstone County	B7	RM 335.36	59814.82	5-yr	1749.98	883.98	878.65	0.92	0.8	4.98	3.57	896.25	2517.63	2.02	1.44	5.33	5.33
Yellowstone County	B7	RM 335.12	59393.71	5-yr	1749.98	883.77	878.54	1.59	0.95	14.29	5.32	331.77	2670.46	2.62	0.97	5.23	5.23
Yellowstone County	B7	RM 335.03	59228.59	5-yr	1749.98	883.44	876.8	2.72	1.39	50.4	12.16	149.35	2095.76	3.1	0.75	6.64	6.64
Yellowstone County	B7	RM 334.91	59041.32	5-yr	1749.98	883.24	878.31	2.14	1.17	33.68	10.7	229.84	1975.07	2.56	0.81	4.93	4.93
Yellowstone County	B7	RM 334.85	58937.73	5-yr	1749.98	883.08	878.66	2.19	1.18	37.01	11.17	224.38	2009.17	2.58	0.78	4.42	4.42
Yellowstone County	B7	RM 334.73	58737.5	5-yr	1749.98	882.52	879.52	2.99	1.84	55.39	19.73	192.06	1114.09	2.47	0.88	3.14	3.14
Yellowstone County	B7	RM 334.63	58573.32	5-yr	1749.98	882.35	878.31	2.46	1.51	34.68	14.4	187.59	1336.3	2.44	1.01	4.04	4.04
Yellowstone County	B7	RM 334.54	58424.99	5-yr	1749.98	882.34	877.09	1.18	1.11	15.3	8.27	150.89	1160.62	2.75	1.48	5.25	5.25
Yellowstone County	B7	RM 334.22	57821.07	5-yr	1749.98	882.03	875.76	1.85	1.24	15.11	5.66	194.72	1094.92	3.7	1.38	6.27	6.27
Yellowstone County	B7	RM 334.09	57621.62	5-yr	1749.98	881.76	875.55	2.76	1.9	62.3	22.37	118.34	852.61	3.47	1.24	6.21	6.21
Yellowstone County	B7	RM 333.98	57440.64	5-yr	1749.98	881.64	875.46	2.24	1.64	26.04	11.48	140.01	593.11	4.31	1.9	6.18	6.18
Yellowstone County	B7	RM 333.83	57207.78	5-yr	1749.98	881.45	875.4	2.31	1.91	35.76	18.82	154.65	515.37	3.65	1.91	6.05	6.05
Yellowstone County	B7	RM 333.69	56989.22	5-yr	1749.98	881.25	873.45	1.77	1.68	34	24.08	337.33	556.24	2.86	2.03	7.8	7.8
Yellowstone County	B7	RM 333.54	56738.21	5-yr	1749.98	881.1	874.22	1.24	1.13	18.08	10.9	409.8	1014.76	3.28	1.97	6.88	6.88
Yellowstone County	B7	RM 333.42	56552.03	5-yr	1749.98	880.93	873.42	1.44	1.36	27.58	18.64	425.49	1027.77	2.73	1.84	7.51	7.51
Yellowstone County	B7	RM 333.30	56351.75	5-yr	1749.98	880.59	875.65	1.7	1.64	50.79	38.66	449.89	666.95	2.24	1.7	4.94	4.94
Yellowstone County	B7	RM 333.19	56177.76	5-yr	1749.98	880.15	875.72	2	1.92	43.74	34.88	383.64	551.69	2.24	1.78	4.43	4.43
Yellowstone County	B7	RM 333.09	56027.56	5-yr	1749.98	879.99	875.59	1.77	1.62	18.26	13.54	419.91	1013.79	2.3	1.7	4.4	4.4
Yellowstone County	B7	RM 332.99	55855.76	5-yr	1749.98	879.76	873.86	1.88	1.65	47.38	30.1	383.73	1345.48	2.27	1.44	5.9	5.9
Yellowstone County	B7	RM 332.88	55687.68	5-yr	1749.98	879.61	874.43	1.59	1.42	16.56	9.42	408.14	1417.79	2.44	1.38	5.18	5.18
Yellowstone County	B7	RM 332.77	55504.73	5-yr	1749.98	879.54	875.49	1.36	1.11	10.95	5.77	376.01	1839.03	2.96	1.56	4.05	4.05
Yellowstone County	B7	RM 332.66	55333.33	5-yr	1749.98	879.44	874.96	1.5	1.18	16.55	8.01	334.36	1727.35	2.97	1.43	4.48	4.48
Yellowstone County	B7	RM 332.56	55182.74	5-yr	1749.98	879.35	874.54	1.53	1.2	16.07	6.44	311.47	1814.72	3.31	1.32	4.81	4.81
Yellowstone County	B7	RM 332.47	55059.84	5-yr	1749.98	879.31	873.95	1.43	1.09	15.19	5.61	281.2	1977.8	3.57	1.31	5.36	5.36
Yellowstone County	B7	RM 332.38	54913.1	5-yr	1749.98	879.02	873.16	2.42	1.8	40.31	9.62	159.26	1673.59	4.17	0.98	5.86	5.86
Yellowstone County	B7	RM 332.33	54822.67	5-yr	1749.98	878.94	872.5	2.26	1.65	53.06	12.26	184.23	1969.39	3.72	0.86	6.44	6.44
Yellowstone County	B7	RM 332.21	54626.48	5-yr	1749.98	878.77	873.4	2.2	1.53	28.05	5.79	173.61	1950.21	4.04	0.83	5.37	5.37
Yellowstone County	B7	RM 332.17	54575.38	5-yr	1749.98	878.71	872.76	2.31	1.48	29.97	4.87	144.82	2368.76	4.44	0.71	5.95	5.95
Yellowstone County	B7	RM 332.08	54422.01	5-yr	1749.98	878.59	873.77	2.26	1.63	33.8	6.56	154.46	2240.99	4.02	0.77	4.82	4.82
Yellowstone County	B7	RM 331.96	54224.76	5-yr	1749.98	878.42	873.18	1.96	1.43	38.01	9.58	205.02	2136.3	3.37	0.84	5.24	5.24
Yellowstone County	B7	RM 331.85	54057.19	5-yr	1749.98	878.14	873.16	2.1	1.75	59.72	16.9	249.54	1660.18	3.15	0.89	4.98	4.98
Yellowstone County	B7	RM 331.74	53882.8	5-yr	1749.98	877.64	872.62	2.89	2.22	54.41	14.7	148.67	826.69	3.84	1.03	5.02	5.02
Yellowstone County	B8	RM 331.66	53744.64	5-yr	1749.98	877.56	871.68	2.27	1.93	40.45	14.53	219.53	754.82	3.36	1.2	5.88	5.88
Yellowstone County	B8	RM 331.55	53575.67	5-yr	1749.98	877.36	872.61	2.35	1.9	38.54	16.14	192.55	674.6	3.27	1.37	4.75	4.75
Yellowstone County	B8	RM 331.41	53354.89	5-yr	1749.98	877.12	872.56	2.29	1.74	37.55	15.88	218.29	809.49	2.96	1.24	4.56	4.56
Yellowstone County	B8	RM 331.32	53209.79	5-yr	1749.98	876.93	871.92	2.07	1.49	31.9	15.14	274.42	1037.89	2.39	1.13	5.01	5.01
Yellowstone County	B8	RM 331.23	53053.99	5-yr	1749.98	876.75	871.53	1.81	1.42	25.11	14.08	372.84	1048.19	2.1	1.17	5.22	5.22
Yellowstone County	B8	RM 331.14	52919.44	5-yr	1749.98	876.65	871.72	1.54	1.33	18.96	12.66	309.55	788.56	2.51	1.67	4.93	4.93

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	5-yr	1749.98	876.55	871.29	1.62	1.4	19.76	9.85	305.99	882.09	2.85	1.41	5.26	5.26
Yellowstone County	B8	RM 331.01	52700.37	5-yr	1749.98	876.46	871.8	1.63	1.35	20.84	11.71	299.67	830.63	2.81	1.57	4.66	4.66
Yellowstone County	B8	RM 330.93	52576.5	5-yr	1749.98	876.36	871.67	1.66	1.45	21.45	9.48	249.85	924.1	3.3	1.45	4.69	4.69
Yellowstone County	B8	RM 330.83	52418.21	5-yr	1749.98	876.14	870.75	2.32	1.77	29.99	8.32	141.44	939.47	4.13	1.13	5.39	5.39
Yellowstone County	B8	RM 330.77	52321.13	5-yr	1749.98	876.06	870.68	2.23	1.6	32.06	9.66	173.78	1284.38	3.49	1.05	5.38	5.38
Yellowstone County	B8	RM 330.68	52174.9	5-yr	1749.98	875.75	870.33	2.87	2.15	43.93	9.41	129.15	1176.16	3.88	0.83	5.42	5.42
Yellowstone County	B8	RM 330.58	52000.46	5-yr	1749.98	875.59	869.72	2.68	2.1	52.59	14.84	117.52	888.37	4.15	1.16	5.86	5.86
Yellowstone County	B8	RM 330.48	51852.83	5-yr	1749.98	875.4	868.81	2.76	1.98	51.57	11.39	105.27	954.5	4.5	0.98	6.59	6.59
Yellowstone County	B8	RM 330.39	51701.57	5-yr	1749.98	875.26	869.32	2.62	1.78	35.75	7.89	133.31	1191.52	3.77	0.83	5.94	5.94
Yellowstone County	B8	RM 330.32	51592.04	5-yr	1749.98	875.14	869.57	2.67	1.88	35.5	7.54	135.54	1133.63	3.88	0.82	5.57	5.57
Yellowstone County	B8	RM 330.25	51473.55	5-yr	1749.98	875.06	868.38	2.52	1.78	34.74	9.48	144.61	1014.1	3.59	0.97	6.67	6.67
Yellowstone County	B8	RM 330.17	51344.77	5-yr	1749.98	874.91	869.9	2.54	1.84	35.98	9.97	151.46	1006.11	3.44	0.95	5.01	5.01
Yellowstone County	B8	RM 330.10	51243.99	5-yr	1749.98	874.76	870.02	2.55	1.91	39.69	13.37	185.69	888.67	3.07	1.03	4.74	4.74
Yellowstone County	B8	RM 330.05	51150.67	5-yr	1749.98	874.73	869.94	1.93	1.48	24.11	10.36	298.36	1149.74	2.43	1.04	4.79	4.79
Yellowstone County	B8	RM 329.95	50995.78	5-yr	1749.98	874.58	869.67	1.81	1.48	23.86	11.2	398.92	1101.49	2.29	1.07	4.91	4.91
Yellowstone County	B8	RM 329.86	50853.11	5-yr	1749.98	874.45	869.99	1.62	1.32	23.79	12.33	433.83	1160.93	2.21	1.14	4.46	4.46
Yellowstone County	B8	RM 329.75	50682.47	5-yr	1749.98	874.25	869.45	1.38	1.17	30.85	18.67	575.71	1427.27	1.91	1.15	4.8	4.8
Yellowstone County	B8	RM 329.66	50540.7	5-yr	1749.98	873.93	869.45	1.68	1.44	37.76	22.59	540.23	1207.89	1.69	1.01	4.48	4.48
Yellowstone County	B8	RM 329.57	50390.78	5-yr	1749.98	873.69	869.17	1.74	1.47	19.38	12.47	517.4	1067.28	1.75	1.12	4.52	4.52
Yellowstone County	B8	RM 329.49	50267.58	5-yr	1749.98	873.53	869.52	1.81	1.45	21.2	12.07	462.66	1155.32	1.84	1.04	4.01	4.01
Yellowstone County	B8	RM 329.43	50165.22	5-yr	1749.98	873.49	869.82	1.41	1.22	12.23	7.6	541.17	1056.27	2.2	1.36	3.67	3.67
Yellowstone County	B8	RM 329.37	50053.96	5-yr	1749.98	873.44	869.58	1.35	1.1	11.22	7.15	447.42	1068.76	2.34	1.49	3.86	3.86
Yellowstone County	B8	RM 329.31	49969.13	5-yr	1749.98	873.38	869.66	1.46	1.14	16.61	9.74	378.18	1151.69	2.27	1.33	3.72	3.72
Yellowstone County	B8	RM 329.26	49883.05	5-yr	1749.98	873.31	868.74	1.5	1.18	13.78	7.54	376.88	1195.76	2.27	1.24	4.57	4.57
Yellowstone County	B8	RM 329.20	49785.51	5-yr	1749.98	873.22	868.71	1.61	1.32	16.52	9.55	397.53	1096.96	2.11	1.22	4.51	4.51
Yellowstone County	B8	RM 329.15	49699.71	5-yr	1922.71	873.15	868.64	1.51	1.25	20.62	11.22	463.75	1234.45	2.28	1.24	4.51	4.51
Yellowstone County	B8	RM 329.08	49597.49	5-yr	1922.71	873.06	869.34	1.4	1.15	19.77	11.45	471.31	1273.74	2.27	1.32	3.72	3.72
Yellowstone County	B8	RM 328.96	49388.08	5-yr	1922.71	872.91	868.99	1.59	1.12	18.18	8.59	305.29	1410.23	2.59	1.22	3.92	3.92
Yellowstone County	B8	RM 328.85	49197.37	5-yr	1922.71	872.73	866.79	1.86	1.41	14.53	8.4	472.18	1351.08	1.75	1.01	5.94	5.94
Yellowstone County	B8	RM 328.75	49036.09	5-yr	1922.71	872.7	866.93	1.29	0.95	9.63	6.75	420.76	1428.81	2.03	1.41	5.77	5.77
Yellowstone County	B8	RM 328.68	48920.76	5-yr	1922.71	872.58	867.09	1.66	1.13	18.4	8.55	303.39	1456.38	2.52	1.16	5.49	5.49
Yellowstone County	B8	RM 328.60	48788.86	5-yr	1922.71	872.39	866.36	2.23	1.38	24.8	7.57	196.12	1414.11	3.28	0.98	6.03	6.03
Yellowstone County	B8	RM 328.52	48664.7	5-yr	1922.71	872.37	867.75	1.84	1.18	18.83	7.93	167.5	1416.21	2.97	1.24	4.62	4.62
Yellowstone County	B8	RM 328.44	48539.46	5-yr	1922.71	872.21	867.34	2.27	1.37	34.07	9.52	137.67	1265.15	4.04	1.11	4.87	4.87
Yellowstone County	B8	RM 328.36	48405.85	5-yr	1922.71	871.98	867.12	2.77	1.67	36.62	11.02	131.83	1029.66	3.79	1.12	4.86	4.86
Yellowstone County	B8	RM 328.28	48276.93	5-yr	1922.71	871.9	867.73	2.19	1.81	40	15.4	191.33	824.95	3.36	1.29	4.79	4.79
Yellowstone County	B8	RM 328.16	48097.58	5-yr	1922.71	871.69	866.7	2.06	1.74	37.91	17.52	224.09	858.88	2.79	1.29	4.99	4.99
Yellowstone County	B8	RM 328.05	47914.16	5-yr	1922.71	871.51	866.62	1.86	1.56	27.57	13.66	264.18	896.33	2.78	1.38	4.89	4.89
Yellowstone County	B8	RM 327.93	47729.4	5-yr	1922.71	871.27	865.67	2.15	1.75	25.2	11.92	299.55	894.1	2.6	1.23	5.6	5.6
Yellowstone County	B8	RM 327.88	47641.03	5-yr	1922.71	871.13	866	2.37	1.78	35.35	16.08	246.29	863.84	2.75	1.25	5.13	5.13
Yellowstone County	B8	RM 327.81	47525.32	5-yr	1922.71	871.02	866.29	2.42	1.72	28.49	11.11	182.24	820.71	3.51	1.36	4.73	4.73
Yellowstone County	B8	RM 327.75	47432.57	5-yr	1922.71	870.75	865.09	3.05	2.06	41.82	12.25	134.59	788.52	4.06	1.18	5.66	5.66
Yellowstone County	B8	RM 327.69	47341.24	5-yr	1922.71	870.51	864.48	3.63	2.28	54.76	20.34	108.07	589.48	3.89	1.43	6.03	6.03
Yellowstone County	B8	RM 327.62	47227.31	5-yr	1922.71	870.46	863.86	3.08	2.13	47.53	19.52	128.31	719.6	3.68	1.5	6.6	6.6
Yellowstone County	B8	RM 327.56	47124.87	5-yr	1922.71	870.46	864.46	2.52	1.83	31.77	14.76	158.59	807.49	3.22	1.49	6	6
Yellowstone County	B8	RM 327.51	47053.82	5-yr	1922.71	870.45	865.84	1.99	1.58	23.43	16	309.8	853.13	2.08	1.42	4.61	4.61
Yellowstone County	B8	RM 327.44	46933.28	5-yr	1922.71	870.43	866.93	1.16	1.2	9.61	8.28	389.03	879.73	2.12	1.82	3.81	3.81
Yellowstone County	B8	RM 327.37	46817.72	5-yr	1922.71	870.31	866.26	1.72	1.46	20.84	12.39	342.21	936.62	2.37	1.41	4.05	4.05
Yellowstone County	B8	RM 327.29	46687.12	5-yr	1922.71	870.23	866.04	1.69	1.36	18	10.01	304.2	1010.35	2.52	1.4	4.19	4.19
Yellowstone County	B8	RM 327.23	46600.07	5-yr	1922.71	870.15	866.25	1.8	1.39	19.81	10.47	287.86	1046.28	2.5	1.32	4.3	4.3
Yellowstone County	B8	RM 327.16	46485.25	5-yr	1922.71	870.01	865.67	2	1.48	27.7	13.27	271.45	1108.68	2.56	1.23	4.34	4.34
Yellowstone County	B8	RM 327.08	46360.36	5-yr	1922.71	869.95	864.94	1.68	1.27	17.73	9.36	266.92	1136.38	2.97	1.57	5.01	5.01
Yellowstone County	B8	RM 327.00	46240.1	5-yr	1922.71	869.86	864.56	1.76	1.45	23.88	13.06	227.91	780.11	3.74	2.05	5.3	5.3
Yellowstone County	B8	RM 326.94	46091.8	5-yr	1922.71	869.78	864.04	1.81	1.37	16.19	8.15	223.67	742.05	3.76	1.9	5.74	5.74
Yellowstone County	B8	RM 326.88	46003.77	5-yr	1922.71	869.68	864.08	2.13	1.57	30.16	14.45	170.66	722.56	3.54	1.7	5.6	5.6
Yellowstone County	B8	RM 326.82	45901.15	5-yr	1922.71	869.6	864.18	2.11	1.57	28.33	17.05	201.73	746.92	2.72	1.64	5.42	5.42
Yellowstone County	B8	RM 326.78	45830.7	5-yr	1922.71	869.53	864.46	2.18	1.54	25.56	15.06	163.64	727.37	2.91	1.72	5.07	5.07
Yellowstone County	B8	RM 326.70	45707.6	5-yr	1922.71	869.47	864.66	1.89	1.42	16.9	12.39	263.98	758.73	2.44	1.79	4.81	4.81
Yellowstone County	B8	RM 326.64	45589.72	5-yr	1922.71	869.37	864.92	1.59	1.5	44.16	34.64	430.35	807.46	2.03	1.59	4.45	4.45
Yellowstone County	B8	RM 326.55	45430.24	5-yr	1922.71	869.16	864.83	1.84	1.6	19.87	12.56	350.63	738.59	2.59	1.64	4.33	4.33
Yellowstone County	B8	RM 326.45	45281.78	5-yr	1922.71	869.06	864.12	1.84	1.62	20.61	13.54	337.7	686.89	2.64	1.73	4.94	4.94

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	5-yr	1922.71	869.04	864.32	1.52	1.38	13.82	10.39	432.08	736.71	2.52	1.89	4.72	4.72
Yellowstone County	B8	RM 326.35	45106.57	5-yr	1922.71	869.01	864.43	1.33	1.15	10.34	6.91	483.02	889.29	2.82	1.88	4.58	4.58
Yellowstone County	B8	RM 326.28	45022.31	5-yr	1922.71	869	864.61	1.12	0.98	6.74	4.28	548.28	1078.07	3.45	2.19	4.39	4.39
Yellowstone County	B8	RM 326.07	44588.61	5-yr	1922.71	868.77	862.39	1.69	1.55	10.05	8.01	704.79	1313.6	1.57	1.25	6.38	6.38
Yellowstone County	B8	RM 326.00	44481.07	5-yr	1922.71	868.71	861.24	1.61	1.48	9.11	7.42	749.01	1424.86	1.55	1.26	7.47	7.47
Yellowstone County	B8	RM 325.94	44379.11	5-yr	1922.71	868.65	861.85	1.31	1.23	30.82	24.03	804.62	1535.57	1.73	1.35	6.8	6.8
Yellowstone County	B8	RM 325.89	44304.17	5-yr	1922.71	868.52	863	1.24	1.17	29.08	23.35	830.1	1309.62	1.76	1.41	5.52	5.52
Yellowstone County	B8	RM 325.86	44262.16	5-yr	1922.71	868.48	863.76	1.27	1.16	7.18	5.77	812.98	1127.4	1.83	1.46	4.72	4.72
Yellowstone County	B8	RM 325.81	44176.46	5-yr	1922.71	868.45	863.1	1.26	1.13	7.25	6.13	846.42	1172.03	1.72	1.45	5.35	5.35
Yellowstone County	B8	RM 325.76	44089.5	5-yr	1922.71	868.4	862.66	1.14	1.05	23.04	17.95	832.93	1283.01	1.89	1.47	5.74	5.74
Yellowstone County	B8	RM 325.69	43989.97	5-yr	1922.71	868.32	862.55	1.24	1.01	7.87	4.71	624.8	1413.62	2.35	1.4	5.77	5.77
Yellowstone County	B8	RM 325.58	43809.68	5-yr	1922.71	868.23	862.61	1.23	0.99	23.86	12.82	476.8	1281.91	2.84	1.52	5.62	5.62
Yellowstone County	B8	RM 325.50	43680.96	5-yr	1922.71	868.08	862.6	1.42	1.17	29.27	14.7	434.18	1171.76	2.82	1.4	5.48	5.48
Yellowstone County	B8	RM 325.43	43556.76	5-yr	1922.71	867.95	860.89	1.43	1.17	31.34	15.72	386.54	1078.87	3.05	1.52	7.06	7.06
Yellowstone County	B8	RM 325.37	43461.41	5-yr	1922.71	867.87	861.36	1.36	1.12	27.79	13.58	344.28	1078.62	3.26	1.59	6.51	6.51
Yellowstone County	B8	RM 325.30	43343.13	5-yr	1922.71	867.73	861.56	1.68	1.27	25.94	10.95	266.34	994.88	3.61	1.52	6.17	6.17
Yellowstone County	B8	RM 325.21	43210.67	5-yr	1922.71	867.58	861.34	1.99	1.45	25.32	9.95	203.8	814.65	4.16	1.62	6.24	6.24
Yellowstone County	B8	RM 325.13	43078.9	5-yr	1922.71	867.43	861.36	2.31	1.59	35.13	11.47	149.08	772.38	4.83	1.56	6.07	6.07
Yellowstone County	B8	RM 325.06	42966.54	5-yr	1922.71	867.08	860.78	3.12	2.25	62.16	16.69	122.56	695.41	4.63	1.23	6.3	6.3
Yellowstone County	B8	RM 324.99	42864.51	5-yr	1922.71	866.99	861.24	2.83	1.9	55.06	17.89	134.83	732.02	4.29	1.38	5.75	5.75
Yellowstone County	B8	RM 324.91	42729.7	5-yr	1922.71	866.8	860.76	2.82	1.91	55.82	18.18	132.44	684.77	4.54	1.47	6.04	6.04
Yellowstone County	B8	RM 324.81	42573.19	5-yr	1922.71	866.61	860.39	2.78	2.02	57	19.42	140.01	631.41	4.45	1.51	6.22	6.22
Yellowstone County	B8	RM 324.73	42451.12	5-yr	1922.71	866.51	861.59	2.48	1.84	41.07	17.51	179.41	643.65	3.82	1.62	4.92	4.92
Yellowstone County	B8	RM 324.65	42323.44	5-yr	1922.71	866.45	861.99	1.84	1.53	37.73	22.46	300.92	714.71	2.95	1.75	4.46	4.46
Yellowstone County	B8	RM 324.56	42178.25	5-yr	1922.71	866.31	861.76	1.87	1.5	15.24	11.62	404.18	784.96	2.15	1.64	4.55	4.55
Yellowstone County	B8	RM 324.48	42039.74	5-yr	1922.71	866.17	861.58	1.68	1.46	42.53	29.58	477.36	887.46	2.14	1.48	4.59	4.59
Yellowstone County	B8	RM 324.42	41946.09	5-yr	1922.71	866.06	861.04	1.41	1.22	27.08	17.36	478.13	948.49	2.6	1.67	5.02	5.02
Yellowstone County	B8	RM 324.34	41812.99	5-yr	1922.71	865.83	861.07	1.74	1.37	46.11	25.44	378.78	1011.21	2.51	1.39	4.76	4.76
Yellowstone County	B8	RM 324.28	41712.42	5-yr	1922.71	865.63	859.64	1.78	1.44	50.2	27.66	364.85	1025.66	2.37	1.31	5.99	5.99
Yellowstone County	B8	RM 324.20	41597.64	5-yr	1922.71	865.55	860.59	1.07	0.99	17.31	13.4	671.1	1038.16	2.41	1.86	4.96	4.96
Yellowstone County	B8	RM 324.16	41526.97	5-yr	1922.71	865.44	861.07	1.46	1.34	11.75	9.01	664.49	984.02	1.9	1.46	4.37	4.37
Yellowstone County	B8	RM 324.10	41434.55	5-yr	1922.71	865.39	860.81	1.26	1.2	22.72	16.37	690.43	1063.16	2.15	1.55	4.57	4.57
Yellowstone County	B8	RM 324.04	41346.42	5-yr	1922.71	865.32	860.39	1.16	1.1	14.96	10.03	627.46	1145.33	2.36	1.57	4.93	4.93
Yellowstone County	B8	RM 323.97	41219.29	5-yr	1922.71	865.24	860.64	1.1	1.03	13.66	9.36	573.41	1126.46	2.42	1.65	4.6	4.6
Yellowstone County	B8	RM 323.83	40977.08	5-yr	1922.71	865.13	860.31	1.21	0.97	10.81	6.09	453.38	1198.49	2.94	1.65	4.82	4.82
Yellowstone County	B8	RM 323.71	40786.71	5-yr	1922.71	864.94	858.49	1.94	1.32	23.47	9.1	220.76	1024.38	3.68	1.42	6.45	6.45
Yellowstone County	B8	RM 323.60	40615.85	5-yr	1922.71	864.93	858.06	1.5	1.08	13.9	5.22	121.53	1041.76	4.59	1.71	6.87	6.87
Yellowstone County	B8	RM 323.55	40536.83	5-yr	1922.71	864.54	857.58	3.11	1.89	61.98	17.8	114.19	867.53	4.11	1.17	6.96	6.96
Yellowstone County	B8	RM 323.49	40429.96	5-yr	1922.71	864.39	858.37	3.01	1.86	54.79	15.91	119.05	851.6	4.2	1.21	6.02	6.02
Yellowstone County	B8	RM 323.41	40309.21	5-yr	1922.71	864.27	859.41	2.74	1.85	56.22	16.57	135.74	943.76	3.76	1.1	4.86	4.86
Yellowstone County	B8	RM 323.33	40186.15	5-yr	1922.71	864.19	859.58	2.27	1.51	29.33	10.75	175.88	1015.01	3.45	1.26	4.61	4.61
Yellowstone County	B8	RM 323.27	40082.34	5-yr	1922.71	864.08	859.66	2.29	1.51	33.84	13.4	188.89	966.81	3.33	1.31	4.42	4.42
Yellowstone County	B8	RM 323.21	39985.33	5-yr	1922.71	863.97	859.54	2.27	1.49	34.67	15.57	211.15	962.45	2.99	1.34	4.43	4.43
Yellowstone County	B8	RM 323.16	39899.29	5-yr	1922.71	863.93	859.55	1.73	1.27	30.31	16.7	276.01	1014.51	2.71	1.49	4.38	4.38
Yellowstone County	B8	RM 323.06	39735.77	5-yr	1922.71	863.65	858.56	1.69	1.54	37.66	18.95	311.52	1267.16	2.39	1.2	5.09	5.09
Yellowstone County	B8	RM 322.93	39531.81	5-yr	1922.71	863.41	859.35	1.61	1.32	25.78	12.65	322.23	1187.63	2.64	1.29	4.06	4.06
Yellowstone County	B8	RM 322.79	39301.41	5-yr	1922.71	863.18	858.62	1.9	1.33	24.48	10.36	220.82	1072.52	3.2	1.35	4.56	4.56
Yellowstone County	B8	RM 322.69	39142.64	5-yr	1922.71	863.06	857.47	2.03	1.39	20.82	9.41	200.75	958.51	3.36	1.52	5.59	5.59
Yellowstone County	B8	RM 322.58	38982.22	5-yr	1922.71	862.54	856.56	3.47	2.6	74.62	26.45	115.15	608.77	3.45	1.22	5.98	5.98
Yellowstone County	B9	RM 322.51	38859.49	5-yr	1922.71	862.47	858.28	2.68	2.09	45.57	17.93	162.56	718.55	3.27	1.28	4.19	4.19
Yellowstone County	B9	RM 322.41	38696.02	5-yr	1922.71	862.36	857.62	1.59	1.61	31.99	22.92	452.79	815.94	2.12	1.52	4.75	4.75
Yellowstone County	B9	RM 322.34	38586.33	5-yr	1922.71	862.25	857.65	1.31	1.34	21.02	16.73	589.28	932.1	1.98	1.57	4.61	4.61
Yellowstone County	B9	RM 322.23	38396.25	5-yr	1922.71	862.1	857.13	1.03	1.07	17.11	13.75	754.03	1127.56	1.99	1.6	4.97	4.97
Yellowstone County	B9	RM 322.13	38239.27	5-yr	1922.71	861.95	857.1	0.93	1.02	18.6	16.38	880.14	1167.93	1.83	1.61	4.85	4.85
Yellowstone County	B9	RM 322.03	38090.48	5-yr	1922.71	861.57	856.15	1.25	1.43	49.26	48.49	957.28	1089.64	1.25	1.23	5.42	5.42
Yellowstone County	B9	RM 321.91	37898.13	5-yr	1922.71	861.26	856.85	1.83	1.83	10.6	10.6	771	771	1.36	1.36	4.41	4.41
Yellowstone County	B9	RM 321.82	37758.36	5-yr	1922.71	861.23	856.34	1.42	1.42	6.83	6.83	748.66	748.66	1.81	1.81	4.9	4.9
Yellowstone County	B9	RM 321.70	37567.01	5-yr	1922.71	861.11	855.27	1.28	1.27	26.41	24.98	809.07	860.12	1.86	1.76	5.85	5.85
Yellowstone County	B9	RM 321.60	37414.63	5-yr	1922.71	861.02	854.48	1.01	1.01	10.92	10.36	754.99	802.66	2.51	2.38	6.55	6.55
Yellowstone County	B9	RM 321.48	37188.51	5-yr	1922.71	860.8	855.03	1.49	1.44	26.59	24.38	545.31	632.53	2.31	2.12	5.78	5.78
Yellowstone County	B9	RM 321.38	37016.94	5-yr	1922.71	860.5	854.75	1.85	1.76	34.79	30.26	471.21	585.05	2.15	1.87	5.75	5.75

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	5-yr	1922.71	860.38	855.3	1.51	1.39	16.61	9.46	458.77	893.05	2.73	1.55	5.08	5.08
Yellowstone County	B9	RM 321.13	36652.19	5-yr	1922.71	860.28	854.69	1.43	1.06	21.13	10.08	274.03	1165.6	3.53	1.66	5.59	5.59
Yellowstone County	B9	RM 321.05	36531.25	5-yr	1922.71	860.17	855.36	1.76	1.2	15.91	5.14	188.88	1204.5	4.18	1.33	4.81	4.81
Yellowstone County	B9	RM 321.00	36446.98	5-yr	1922.71	860.07	855.12	2.21	1.46	33.55	9.3	134.73	1194.78	4.08	1.11	4.95	4.95
Yellowstone County	B9	RM 320.71	36404.1*	5-yr	1404.9	859.47	855.12	2.38	1.83	27.41	11.11	133.88	547.83	3.51	1.4	4.36	4.36
Yellowstone County	B9	RM 320.62	36361.3*	5-yr	1404.9	859.41	855.12	2.48	1.88	29.22	12.25	137.03	539.53	3.36	1.38	4.3	4.3
Yellowstone County	B9	RM 320.92	36318.56	5-yr	1922.71	859.86	855.12	2.6	1.75	52.7	13.48	134.56	1376.9	3.84	0.96	4.74	4.74
Yellowstone County	B9	RM 320.44	36258.3*	5-yr	1404.9	859.3	855.19	2.46	1.99	27.92	12.49	147.88	547.16	3.24	1.43	4.11	4.11
Yellowstone County	B9	RM 320.38	36198.1*	5-yr	1404.9	859.26	855.26	2.32	1.81	25.39	10.39	155.98	611.62	3.31	1.34	4	4
Yellowstone County	B9	RM 320.80	36137.92	5-yr	1922.71	859.71	855.33	2.22	1.43	35.34	9.37	157.17	1560.29	3.88	1.01	4.38	4.38
Yellowstone County	B9	RM 320.71	35990.21	5-yr	1922.71	859.68	854.38	1.46	1.11	18.57	6.18	275.47	1659.51	3.73	1.22	5.3	5.3
Yellowstone County	B9	RM 320.54	35839.45	5-yr	1922.71	859.58	853.99	1.57	1.14	18.26	7.5	324.02	1571.24	3.17	1.29	5.59	5.59
Yellowstone County	B9	RM 320.44	35717.45	5-yr	1922.71	859.52	854.32	1.5	1.04	13.69	5.93	334.82	1631.11	3.02	1.3	5.2	5.2
Yellowstone County	B9	RM 320.62	35556.9	5-yr	1922.71	859.44	854.17	1.48	1.09	22.54	9.97	265.5	1451.91	3.23	1.41	5.27	5.27
Yellowstone County	B9	RM 320.38	35461.42	5-yr	1922.71	859.32	854.17	1.87	1.21	20.55	7.06	196.57	1331.45	4.07	1.37	5.15	5.15
Yellowstone County	B9	RM 320.32	35359.13	5-yr	1922.71	859.13	854.57	2.5	1.6	40.95	10.91	139.82	1188.7	4.29	1.11	4.56	4.56
Yellowstone County	B9	RM 320.25	35241.01	5-yr	1922.71	858.58	854.29	3.73	2.55	90.35	22.44	110.54	804.43	3.88	0.94	4.29	4.29
Yellowstone County	B9	RM 320.20	35163.52	5-yr	1922.71	858.45	854.2	3.39	2.48	93.91	30.26	133.74	734.97	3.34	1.05	4.25	4.25
Yellowstone County	B9	RM 320.14	35071.29	5-yr	1922.71	858.19	854.32	3.33	2.58	77.37	28.05	160.07	689.56	3.03	1.08	3.86	3.86
Yellowstone County	B9	RM 320.01	34865.89	5-yr	1922.71	857.79	854.42	2.76	2.57	37.96	22.57	122.19	536.01	2.36	1.39	3.43	3.43
Yellowstone County	B9	RM 319.91	34707.77	5-yr	1922.71	857.75	854.66	1.58	1.85	17.46	11.5	143.33	696.02	2.48	1.62	4.17	4.17
Yellowstone County	B9	RM 319.86	34625.68	5-yr	1922.71	857.72	854.6	1.4	1.66	17.44	11.18	153.63	797.98	2.37	1.51	4.16	4.16
Yellowstone County	B9	RM 319.78	34508.06	5-yr	1922.71	857.6	854.51	2.21	1.89	33.84	17.06	109.85	747.73	2.83	1.4	4.08	4.08
Yellowstone County	B9	RM 319.73	34426.63	5-yr	1922.71	857.35	854.69	3.04	1.71	49.96	29.01	156.77	824.78	2.35	1.36	3.88	3.88
Yellowstone County	B9	RM 319.66	34314.84	5-yr	1922.71	857.29	854.51	2.12	1.66	23.45	13.47	158.66	888.89	2.27	1.3	3.86	3.86
Yellowstone County	B9	RM 319.57	34163.05	5-yr	1922.71	857.15	853.93	2.06	1.75	20.47	12.98	198.21	738.6	2.35	1.49	3.81	3.81
Yellowstone County	B9	RM 319.44	33955.96	5-yr	1922.71	857.05	853.14	1.9	1.67	24.54	16.25	153.57	666.57	2.64	1.73	3.92	3.92
Yellowstone County	B9	RM 319.39	33872.4	5-yr	1922.71	856.99	852.65	2.08	1.65	21.73	11.67	137.96	796.84	2.77	1.46	4.34	4.34
Yellowstone County	B9	RM 319.34	33786.83	5-yr	1922.71	856.95	852.83	1.93	1.48	18.17	10.77	178.14	797.66	2.76	1.62	4.12	4.12
Yellowstone County	B9	RM 319.22	33580.15	5-yr	1922.71	856.9	851.79	1.95	1.27	16.89	7.55	80.63	880.18	3.97	1.71	5.11	5.11
Yellowstone County	B9	RM 319.17	33497.33	5-yr	1922.71	856.89	851.64	1.5	1.23	12.4	6.57	121.71	1028.78	3.18	1.65	5.25	5.25
Yellowstone County	B9	RM 319.09	33368.53	5-yr	1922.71	856.62	851.25	2.48	2.1	42.66	15	134.44	739.98	3.6	1.24	5.38	5.38
Yellowstone County	B9	RM 319.04	33287.21	5-yr	1922.71	856.37	851.49	3.1	2.4	62.61	19.73	112.5	666.33	3.93	1.2	4.88	4.88
Yellowstone County	B9	RM 318.96	33153.16	5-yr	1922.71	856.21	851.64	2.73	2.23	56	20.85	155.86	659.03	3.55	1.31	4.56	4.56
Yellowstone County	B9	RM 318.91	33065.54	5-yr	1922.71	856.1	851.86	2.43	2.14	56.33	25.15	189.28	638.45	3.18	1.41	4.25	4.25
Yellowstone County	B9	RM 318.82	32939.33	5-yr	1922.71	855.84	851.86	2.81	2.23	38.14	16.59	157.68	567.42	3.53	1.52	3.99	3.99
Yellowstone County	B9	RM 318.74	32833.24	5-yr	1922.71	855.84	851.86	2.13	1.82	30.15	15.34	183.62	759.38	3.42	1.72	3.98	3.98
Yellowstone County	B9	RM 318.62	32649.76	5-yr	1922.71	855.68	850.67	1.75	1.65	30.83	18.93	316.37	746.08	2.55	1.56	5.01	5.01
Yellowstone County	B9	RM 318.42	32315.28	5-yr	1922.71	855.28	850.15	1.98	1.88	23.07	16.46	347	521.94	2.76	1.96	5.13	5.13
Yellowstone County	B9	RM 318.17	31866.42	5-yr	1922.71	854.89	849.17	2.16	1.62	30.33	12.12	210.67	800.4	3.76	1.48	5.72	5.72
Yellowstone County	B9	RM 317.97	31551.39	5-yr	1922.71	854.6	848.35	2.29	1.94	22.85	10.41	235.45	637.29	3.46	1.56	6.25	6.25
Yellowstone County	B10	RM 317.87	31388.76	5-yr	1922.71	854.31	848.78	2.88	2.17	44.85	14.64	163.46	735.61	3.76	1.2	5.54	5.54
Yellowstone County	B10	RM 317.78	31248.07	5-yr	1922.71	854.3	848.75	2.35	1.57	29.2	9.63	143.48	853.27	4.42	1.43	5.55	5.55
Yellowstone County	B10	RM 317.70	31120.75	5-yr	1922.71	854.3	848.56	1.83	1.38	18.38	9.59	171.76	905.86	3.82	1.96	5.74	5.74
Yellowstone County	B10	RM 317.61	30982.56	5-yr	1922.71	854.22	848.29	1.89	1.37	18.26	8.44	194.61	866.98	3.57	1.62	5.93	5.93
Yellowstone County	B10	RM 317.53	30849.94	5-yr	1922.71	854.19	848.5	1.51	1.3	13.2	7.51	343.68	872.46	3.03	1.71	5.68	5.68
Yellowstone County	B10	RM 317.45	30723.4	5-yr	1922.71	854.1	848.47	1.61	1.37	16.75	9.94	369.09	944.82	2.57	1.51	5.63	5.63
Yellowstone County	B10	RM 317.37	30601.88	5-yr	1922.71	854.04	848.17	1.42	1.23	17.02	11.14	370.72	1114.71	2.52	1.64	5.88	5.88
Yellowstone County	B10	RM 317.30	30483.81	5-yr	1922.71	853.95	848.41	1.63	1.29	14.53	7.68	273.41	1229.67	3.22	1.68	5.54	5.54
Yellowstone County	B10	RM 317.19	30302.33	5-yr	1922.71	853.85	848.84	1.87	1.3	18.08	7.01	161.14	1101.02	4.54	1.73	5.01	5.01
Yellowstone County	B10	RM 317.05	30079.26	5-yr	1922.71	853.61	848.38	2.33	1.91	25.3	13.79	159.02	401.5	4.66	2.51	5.23	5.23
Yellowstone County	B10	RM 316.93	29889.26	5-yr	1922.71	853.35	847.25	2.73	2.29	42.88	15.53	150.35	520.4	4.55	1.61	6.1	6.1
Yellowstone County	B10	RM 316.79	29668.4	5-yr	1922.71	853.17	847.89	2.59	2.15	39.67	15.39	146.89	487.75	4.8	1.83	5.28	5.28
Yellowstone County	B10	RM 316.66	29466.39	5-yr	1922.71	853.02	847.86	2.48	2.1	33.53	15.86	162.64	424.65	4.62	2.16	5.16	5.16
Yellowstone County	B10	RM 316.58	29329.04	5-yr	1922.71	852.91	847.74	2.43	1.85	43.28	19.73	174.26	564.88	4.25	1.92	5.17	5.17
Yellowstone County	B10	RM 316.51	29227.18	5-yr	1922.71	852.77	847.41	2.54	1.9	41.42	17.75	183.91	624.02	3.83	1.62	5.36	5.36
Yellowstone County	B10	RM 316.43	29091.4	5-yr	1922.71	852.63	847.41	2.32	1.76	45.31	22.1	239.44	719.26	3.15	1.52	5.22	5.22
Yellowstone County	B10	RM 316.33	28935.99	5-yr	1922.71	852.37	847.74	2.25	1.81	50.11	30.04	285.49	653.87	2.73	1.62	4.63	4.63
Yellowstone County	B10	RM 316.24	28786.65	5-yr	1922.71	852.14	847.5	1.89	1.75	44.02	30.12	356.2	634.47	2.53	1.73	4.65	4.65
Yellowstone County	B10	RM 316.14	28628.02	5-yr	1922.71	851.93	846.92	1.83	1.57	31.12	18.51	330.46	685.63	3.02	1.79	5.01	5.01
Yellowstone County	B10	RM 316.05	28475.44	5-yr	1922.71	851.67	846.73	2.12	1.88	42.68	21.38	295.19	691.21	2.97	1.48	4.94	4.94

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	5-yr	1922.71	851.56	846.43	2.06	1.76	19.86	11.51	302.06	646.57	2.92	1.69	5.13	5.13
Yellowstone County	B10	RM 315.84	28140.65	5-yr	1922.71	851.21	846.58	2.7	2.16	53.83	20.76	169.09	654.23	3.58	1.36	4.63	4.63
Yellowstone County	B10	RM 315.71	27926.69	5-yr	1922.71	850.96	846.34	2.6	1.96	29.38	10.56	203.22	985.86	3.07	1.09	4.62	4.62
Yellowstone County	B10	RM 315.58	27720.72	5-yr	1922.71	850.93	846.16	1.77	1.37	24.94	11.77	151.21	1004.79	3.56	1.64	4.78	4.78
Yellowstone County	B10	RM 315.44	27505.06	5-yr	1922.71	850.71	846.09	2.2	1.45	27.88	8.35	151.94	1196.66	4.14	1.22	4.61	4.61
Yellowstone County	B10	RM 315.30	27283.58	5-yr	1922.71	850.63	844.45	1.48	1.07	15.41	7.49	317.48	1390.3	2.7	1.3	6.18	6.18
Yellowstone County	B10	RM 315.18	27097.16	5-yr	1922.71	850.58	844.72	1.18	0.96	8.24	5.2	454	1416.94	2.26	1.42	5.86	5.86
Yellowstone County	B10	RM 315.01	26818.99	5-yr	1922.71	850.43	844.66	1.45	1.16	16.57	9.07	475.74	1275.25	2.4	1.3	5.77	5.77
Yellowstone County	B10	RM 314.85	26559.67	5-yr	1922.71	850.1	844.84	2.28	1.64	34.99	8.51	167.2	1169.91	4.24	1	5.26	5.26
Yellowstone County	B10	RM 314.69	26324.37	5-yr	1922.71	849.82	844.24	2.52	1.92	39.36	10.49	173.06	965.85	3.98	1.04	5.59	5.59
Yellowstone County	B10	RM 314.57	26132.54	5-yr	1922.71	849.55	844.63	2.75	2.01	48.3	14.77	147.42	731.47	4.35	1.31	4.92	4.92
Yellowstone County	B10	RM 314.46	25963.96	5-yr	1922.71	849.44	844.48	2.34	1.88	38.52	12.42	201.13	864.16	3.73	1.19	4.96	4.96
Yellowstone County	B10	RM 314.35	25782.69	5-yr	1922.71	849.18	844.51	2.28	2.19	56.74	36.63	266.99	439.7	3.11	2	4.67	4.67
Yellowstone County	B10	RM 314.24	25607.48	5-yr	1922.71	849.01	844.14	2.23	2.07	19.06	9.8	278.11	598.04	3.07	1.56	4.87	4.87
Yellowstone County	B10	RM 314.15	25461.23	5-yr	1922.71	848.87	844.05	2.17	2.02	55.41	34.92	305.19	542.22	2.81	1.76	4.81	4.81
Yellowstone County	B10	RM 314.06	25326.45	5-yr	1922.71	848.83	843.63	1.58	1.48	11.4	6.39	455.22	907.07	2.65	1.48	5.2	5.2
Yellowstone County	B10	RM 313.98	25189.4	5-yr	1922.71	848.75	843.05	1.43	1.27	24.6	15.71	559.69	1041.24	2.3	1.46	5.71	5.71
Yellowstone County	B10	RM 313.83	24942.42	5-yr	1922.71	848.58	843.2	1.36	1.31	14.77	9.78	476.29	760.45	2.94	1.94	5.38	5.38
Yellowstone County	B10	RM 313.72	24768.08	5-yr	1922.71	848.45	842.35	1.61	1.35	16.2	7.58	330.48	887.98	3.45	1.6	6.11	6.11
Yellowstone County	B10	RM 313.66	24671.51	5-yr	1922.71	848.37	843.14	1.78	1.43	17.87	8.05	286.85	853.01	3.53	1.58	5.24	5.24
Yellowstone County	B10	RM 313.57	24513.04	5-yr	1922.71	848.29	842.47	1.77	1.43	18.53	9.18	303.74	815.59	3.36	1.65	5.82	5.82
Yellowstone County	B10	RM 313.47	24364.02	5-yr	1922.71	848.21	841.55	1.75	1.49	17.6	9.13	283.74	667.97	3.76	1.93	6.66	6.66
Yellowstone County	B10	RM 313.33	24143.26	5-yr	1922.71	847.91	842.65	2.39	1.97	45.26	19.04	184.13	554.65	4.23	1.76	5.26	5.26
Yellowstone County	B10	RM 313.18	23899.74	5-yr	1922.71	847.2	842.19	3.31	3.01	96.61	43.34	162.35	410.68	3.52	1.56	5.01	5.01
Yellowstone County	B10	RM 313.07	23728.15	5-yr	1922.71	846.94	842.62	3.03	2.8	50.02	29.06	161.69	306.38	3.88	2.24	4.32	4.32
Yellowstone County	B10	RM 312.98	23590.93	5-yr	1922.71	846.9	842.5	2.54	2.32	30.95	18.93	190.61	429.06	3.76	2.29	4.4	4.4
Yellowstone County	B10	RM 312.90	23455.11	5-yr	1922.71	846.84	842.38	2.17	1.98	35.99	22.7	201.38	413.6	3.74	2.35	4.46	4.46
Yellowstone County	B10	RM 312.75	23227.05	5-yr	1922.71	846.62	841.71	2.24	1.86	29.52	15.16	223.26	616.78	3.29	1.67	4.91	4.91
Yellowstone County	B10	RM 312.65	23058.61	5-yr	1922.71	846.5	841.61	2	1.7	25.92	14.62	272.96	708.14	2.85	1.6	4.89	4.89
Yellowstone County	B10	RM 312.53	22873.59	5-yr	1922.71	846.43	841.37	1.78	1.38	13.83	6.66	237.29	748.76	3.89	1.86	5.06	5.06
Yellowstone County	B10	RM 312.49	22797.96	5-yr	1922.71	846.35	841.34	2.06	1.56	23.41	10.24	202	730.57	3.9	1.69	5.01	5.01
Yellowstone County	B10	RM 312.39	22646.67	5-yr	1922.71	846.2	840.85	2.42	1.72	36.08	16.09	149.33	695.39	3.67	1.61	5.35	5.35
Yellowstone County	B10	RM 312.33	22536.68	5-yr	1922.71	846.02	840.82	2.7	1.88	44.88	19.08	139.06	643.69	3.8	1.59	5.2	5.2
Yellowstone County	B10	RM 312.22	22360.55	5-yr	1922.71	845.97	840.91	2.16	1.66	30.44	13.4	127.28	629.43	4.26	1.84	5.05	5.05
Yellowstone County	B10	RM 312.13	22230.65	5-yr	1922.71	845.93	840.94	1.6	1.39	17.82	11.7	350.27	669.07	3.16	2.07	4.98	4.98
Yellowstone County	B10	RM 312.04	22082.88	5-yr	1922.71	845.8	840.82	1.76	1.55	22.71	14.47	346.94	671.74	2.92	1.85	4.98	4.98
Yellowstone County	B10	RM 311.95	21934.61	5-yr	1922.71	845.66	840.79	1.83	1.6	23.4	13.78	350.23	703.9	2.91	1.71	4.87	4.87
Yellowstone County	B10	RM 311.89	21840.24	5-yr	1922.71	845.59	840.76	1.75	1.53	25.14	14.27	325.27	681.51	3.26	1.84	4.83	4.83
Yellowstone County	B10	RM 311.77	21651.91	5-yr	1922.71	845.45	840.18	1.86	1.54	23.05	8.46	226	786.51	4.38	1.59	5.27	5.27
Yellowstone County	B10	RM 311.69	21530.39	5-yr	1922.71	845.27	839.85	2.38	1.68	35.56	9.53	150.68	914.46	4.8	1.25	5.43	5.43
Yellowstone County	B10	RM 311.58	21350.77	5-yr	1922.71	845.14	839.63	2.32	1.59	34.99	10.51	171.57	983.11	4.18	1.23	5.51	5.51
Yellowstone County	B10	RM 311.48	21191.11	5-yr	1922.71	845.05	839.42	2.05	1.45	24.78	8.79	228.87	1065.38	3.56	1.25	5.63	5.63
Yellowstone County	B10	RM 311.37	21010.53	5-yr	1922.71	844.96	839.18	1.7	1.25	19.62	8.77	336.84	1165.42	2.98	1.32	5.79	5.79
Yellowstone County	B10	RM 311.27	20852.82	5-yr	1922.71	844.86	838.96	1.71	1.23	20.09	8.92	321.98	1151.43	3.08	1.36	5.9	5.9
Yellowstone County	B10	RM 311.19	20716.8	5-yr	1922.71	844.79	838.84	1.69	1.15	18.46	7.01	247.96	1118.11	3.99	1.49	5.95	5.95
Yellowstone County	B10	RM 311.09	20559.11	5-yr	1922.71	844.45	839.14	2.73	1.77	43.03	10.95	144.57	990.51	4.39	1.09	5.31	5.31
Yellowstone County	B10	RM 310.97	20364.78	5-yr	1922.71	844.33	839.45	2.39	1.62	35.01	10.72	171.34	937.58	4.25	1.28	4.88	4.88
Yellowstone County	B10	RM 310.87	20211.96	5-yr	1922.71	844.2	839.02	2.35	1.69	33.5	10.16	190.23	970.62	4.02	1.2	5.18	5.18
Yellowstone County	B10	RM 310.76	20019.23	5-yr	1922.71	843.8	839.18	3.04	2.32	50.13	13.62	142.62	738.53	4.24	1.12	4.62	4.62
Yellowstone County	B11	RM 310.67	19877.9	5-yr	1922.71	843.7	839.11	2.63	1.97	55.65	16.98	174.84	848.23	3.82	1.15	4.58	4.58
Yellowstone County	B11	RM 310.57	19727.96	5-yr	1922.71	843.51	839.08	2.46	1.81	50.61	16.85	193.78	873.24	3.7	1.22	4.42	4.42
Yellowstone County	B11	RM 310.48	19578.86	5-yr	1922.71	843.34	838.96	2.32	1.66	38.9	13.14	209.18	963.02	3.58	1.2	4.38	4.38
Yellowstone County	B11	RM 310.39	19437.53	5-yr	1922.71	843.29	838.54	1.96	1.42	17.44	7.85	261.91	918.54	3.29	1.47	4.76	4.76
Yellowstone County	B11	RM 310.31	19317.45	5-yr	1922.71	843.22	838.23	1.91	1.5	16.45	8.71	351.46	920.83	2.63	1.39	4.99	4.99
Yellowstone County	B11	RM 310.24	19187.47	5-yr	1922.71	843.15	838.23	1.53	1.31	36.43	21.62	461.89	1031.64	2.4	1.42	4.92	4.92
Yellowstone County	B11	RM 310.16	19069.04	5-yr	1922.71	842.97	837.93	1.43	1.33	34.07	25.18	562.18	883.45	2.23	1.64	5.04	5.04
Yellowstone County	B11	RM 310.09	18955.28	5-yr	1922.71	842.87	837.93	1.53	1.27	9.73	6.86	554.38	1006.64	2.13	1.5	4.94	4.94
Yellowstone County	B11	RM 309.97	18765.62	5-yr	1922.71	842.81	837.59	1.09	0.99	14	9.03	601.54	1064.53	2.83	1.82	5.22	5.22
Yellowstone County	B11	RM 309.90	18643.48	5-yr	1922.71	842.74	837.5	1.3	1.15	7.19	5.29	624.79	997.97	2.29	1.68	5.24	5.24
Yellowstone County	B11	RM 309.82	18525.48	5-yr	1922.71	842.68	837.5	1.21	1.15	25.03	19.99	696.82	1002.38	2.1	1.68	5.18	5.18
Yellowstone County	B11	RM 309.73	18379.74	5-yr	1922.71	842.54	837.35	1.08	1.05	18.43	14.88	800.95	1035.09	2.21	1.78	5.19	5.19

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	5-yr	1922.71	842.47	837.38	0.89	0.87	11.37	10.17	876.25	1007.39	2.45	2.19	5.09	5.09
Yellowstone County	B11	RM 309.52	18029.98	5-yr	1922.71	842.31	836.68	1.08	1.07	17.92	16.77	816.46	888.01	2.16	2.02	5.63	5.63
Yellowstone County	B11	RM 309.39	17824.11	5-yr	1922.71	842.22	836.74	0.88	0.88	9.15	9.15	763.31	763.31	2.85	2.85	5.48	5.48
Yellowstone County	B11	RM 309.22	17557.23	5-yr	1922.71	842.06	836.07	1.44	1.33	12.36	8.96	334.06	511.01	3.93	2.84	6	6
Yellowstone County	B11	RM 309.06	17331.95	5-yr	1922.71	841.83	835.79	2.06	1.71	47.53	23.13	191.22	514.41	4.57	2.19	6.04	6.04
Yellowstone County	B11	RM 308.94	17142.36	5-yr	1922.71	841.14	835.4	3.48	2.79	77.79	27.01	121.56	477.04	4.29	1.45	5.74	5.74
Yellowstone County	B11	RM 308.83	16971.41	5-yr	1922.71	841.12	836.04	2.47	1.97	42.95	18.23	158.5	516.23	4.51	1.89	5.08	5.08
Yellowstone County	B11	RM 308.71	16778.65	5-yr	1922.71	841.07	835.91	1.92	1.58	16.58	8.77	251.14	616.72	3.75	1.97	5.16	5.16
Yellowstone County	B11	RM 308.62	16631.4	5-yr	1922.71	840.98	835.85	1.79	1.46	43.25	24.34	300.08	740.76	3.18	1.78	5.13	5.13
Yellowstone County	B11	RM 308.55	16518.64	5-yr	1922.71	840.8	835.85	1.79	1.52	43.75	25.35	368.88	822.47	2.66	1.53	4.95	4.95
Yellowstone County	B11	RM 308.43	16328.3	5-yr	1922.71	840.51	834.51	1.62	1.4	40.4	24.28	419.62	898.31	2.57	1.53	5.99	5.99
Yellowstone County	B11	RM 308.35	16192.95	5-yr	1922.71	840.35	834.88	1.53	1.27	24.88	13.46	402.97	993.63	2.84	1.52	5.47	5.47
Yellowstone County	B11	RM 308.24	16015.46	5-yr	1922.71	840.25	834.63	1.43	1.1	13.6	7.34	363.15	995.55	3.26	1.75	5.62	5.62
Yellowstone County	B11	RM 308.12	15826.82	5-yr	1922.71	840.19	834.63	1.34	1.07	11.46	6.12	382.83	1095.09	3.37	1.79	5.55	5.55
Yellowstone County	B11	RM 308.02	15675.58	5-yr	1922.71	840.12	834.76	1.44	1.15	10.25	4.65	303.73	903.25	4.16	1.87	5.37	5.37
Yellowstone County	B11	RM 307.88	15434.86	5-yr	1922.71	839.72	834.45	3	2.06	56.41	16.74	112.95	741.86	4.36	1.26	5.27	5.27
Yellowstone County	B11	RM 307.77	15261.75	5-yr	1922.71	839.34	834.45	3.22	2.58	74.22	26.83	128.06	555.08	3.8	1.34	4.89	4.89
Yellowstone County	B11	RM 307.68	15125.28	5-yr	1922.71	839.21	834.85	2.66	2.09	48.47	19.83	158.24	591.5	3.85	1.55	4.36	4.36
Yellowstone County	B11	RM 307.60	14980.1	5-yr	1922.71	839.19	834.36	1.85	1.67	19.68	11.11	272.33	552.5	3.72	2.09	4.83	4.83
Yellowstone County	B11	RM 307.52	14873.7	5-yr	1922.71	839.02	834.12	2.24	1.96	31.05	15.71	253.7	599.67	3.29	1.65	4.91	4.91
Yellowstone County	B11	RM 307.46	14779.11	5-yr	1922.71	838.89	833.6	2.22	1.98	59.49	35.96	312.3	603.31	2.68	1.61	5.29	5.29
Yellowstone County	B11	RM 307.39	14664.34	5-yr	1922.71	838.76	833.63	2.17	1.9	17.43	11.76	365.3	645.11	2.34	1.57	5.13	5.13
Yellowstone County	B11	RM 307.30	14517.89	5-yr	1922.71	838.59	833.81	2.06	1.88	54.16	39.03	406.97	671.7	2.12	1.52	4.77	4.77
Yellowstone County	B11	RM 307.22	14385.45	5-yr	1922.71	838.29	833.87	2	1.84	42.12	29.66	396.39	679.8	2.24	1.57	4.42	4.42
Yellowstone County	B11	RM 307.14	14262.57	5-yr	1922.71	838.14	833.51	1.87	1.66	29.26	17.1	334.95	708.64	2.81	1.63	4.63	4.63
Yellowstone County	B11	RM 307.08	14166.72	5-yr	1922.71	838.09	833.11	1.69	1.5	16.94	10.66	348.63	690.81	2.97	1.86	4.98	4.98
Yellowstone County	B11	RM 307.01	14050.92	5-yr	1922.71	838.01	832.65	1.75	1.56	14.71	9.99	372.69	700.77	2.6	1.76	5.36	5.36
Yellowstone County	B11	RM 306.95	13949.23	5-yr	1922.71	837.9	832.35	1.94	1.58	23.57	15.22	324.62	731.54	2.59	1.66	5.56	5.56
Yellowstone County	B11	RM 306.90	13869.87	5-yr	1922.71	837.82	832.56	1.96	1.61	26.15	18.65	347.97	658.78	2.56	1.82	5.26	5.26
Yellowstone County	B11	RM 306.82	13726.64	5-yr	1922.71	837.7	832.62	1.84	1.52	22.83	14.62	361.62	742.2	2.68	1.71	5.08	5.08
Yellowstone County	B11	RM 306.72	13574.53	5-yr	1922.71	837.54	831.8	2.1	1.55	27.41	12.1	222.2	863.96	3.3	1.44	5.74	5.74
Yellowstone County	B11	RM 306.62	13414.11	5-yr	1922.71	837.35	832.77	2.26	1.79	40.25	16.85	214.71	816.79	3.18	1.32	4.57	4.57
Yellowstone County	B11	RM 306.52	13251.36	5-yr	1922.71	836.95	832.87	2.98	2.23	47.29	14.49	148.09	760.6	3.76	1.13	4.08	4.08
Yellowstone County	B11	RM 306.42	13099.73	5-yr	1922.71	836.61	832.74	3.4	2.61	61.75	21.88	131.22	607.22	3.5	1.21	3.87	3.87
Yellowstone County	B11	RM 306.34	12958.96	5-yr	1922.71	836.59	832.84	2.27	1.86	34.14	15.28	236.52	792.12	2.95	1.31	3.76	3.76
Yellowstone County	B11	RM 306.25	12825.95	5-yr	1922.71	836.4	832.35	2.3	1.99	34.8	18.15	310.88	805.2	2.31	1.2	4.06	4.06
Yellowstone County	B11	RM 306.16	12673.7	5-yr	1922.71	836.2	832.41	2.24	1.94	30.7	16.76	295.96	731.23	2.49	1.35	3.79	3.79
Yellowstone County	B11	RM 306.11	12592.39	5-yr	1922.71	836.09	832.17	2.28	1.95	39.78	20.36	253.48	692.72	2.8	1.42	3.92	3.92
Yellowstone County	B11	RM 306.03	12457.47	5-yr	1922.71	835.95	831.25	2.03	1.75	26.98	16.08	352.43	847.47	2.2	1.3	4.7	4.7
Yellowstone County	B11	RM 305.93	12317.98	5-yr	1922.71	835.71	831.25	2.22	2	34.31	24.1	336.28	666.72	2.07	1.44	4.46	4.46
Yellowstone County	B11	RM 305.84	12159.82	5-yr	1922.71	835.49	831.1	2.26	2.01	33.73	22.74	253.57	555.16	2.58	1.72	4.39	4.39
Yellowstone County	B11	RM 305.74	11989.73	5-yr	1922.71	835.23	830.64	2.42	2.06	40.95	19	192.85	605.16	3.37	1.54	4.59	4.59
Yellowstone County	B11	RM 305.67	11883.31	5-yr	1922.71	835.04	830.43	2.71	2.15	44.31	17.65	159.06	660.6	3.47	1.36	4.61	4.61
Yellowstone County	B11	RM 305.60	11764.11	5-yr	1922.71	835	830.18	1.96	1.87	22.14	12.18	149.23	747.13	2.99	1.62	4.82	4.82
Yellowstone County	B11	RM 305.52	11651.48	5-yr	1922.71	834.87	830.18	2.29	1.8	30.99	14.88	151.14	800.73	2.83	1.34	4.69	4.69
Yellowstone County	B11	RM 305.44	11514.64	5-yr	1922.71	834.81	830.43	1.84	1.34	15.81	10.03	156.36	760.42	3	1.88	4.38	4.38
Yellowstone County	B11	RM 305.40	11441.77	5-yr	1922.71	834.69	830.61	1.89	1.67	14.44	12.14	237.88	604.64	2.27	1.91	4.08	4.08
Yellowstone County	B11	RM 305.32	11312.15	5-yr	1922.71	834.59	830.61	2.04	1.61	25.85	12.11	143.57	950.69	3.17	1.46	3.98	3.98
Yellowstone County	B11	RM 305.24	11186.22	5-yr	1922.71	834.59	830.43	1.22	1.06	10.65	6.82	156.34	1285.84	2.68	1.69	4.16	4.16
Yellowstone County	B11	RM 305.06	10905.09	5-yr	1922.71	834.51	830.15	1.21	0.92	7.09	5.33	302.98	1205.57	2.31	1.72	4.35	4.35
Yellowstone County	B11	RM 304.71	10460.6	5-yr	1922.71	834.37	828.96	1.27	1.16	10.97	8.14	393.19	894.03	2.51	1.85	5.41	5.41
Yellowstone County	B11	RM 304.62	10332.33	5-yr	1922.71	834.35	829.09	1.14	1.02	7.61	4.8	206.16	782.75	3.85	2.4	5.26	5.26
Yellowstone County	B11	RM 304.50	10132.63	5-yr	1922.71	834.08	829.09	2.32	2.05	45.6	20.24	122.37	505.92	4.28	1.86	4.99	4.99
Yellowstone County	B11	RM 304.42	10011.11	5-yr	1922.71	833.99	829.18	1.99	1.85	33.19	15.34	151.58	568.29	4.01	1.83	4.81	4.81
Yellowstone County	B11	RM 304.34	9873.393	5-yr	1922.71	833.89	828.78	1.95	1.8	18.99	10.8	263.04	514.87	3.67	2.08	5.11	5.11
Yellowstone County	B11	RM 304.25	9735.197	5-yr	1922.71	833.72	828.39	2.29	1.98	35.79	15.67	199.61	550.89	4.08	1.76	5.33	5.33
Yellowstone County	B11	RM 304.18	9615.178	5-yr	1922.71	833.63	828.54	2.26	1.99	23.13	10.98	215.7	534.39	3.85	1.81	5.09	5.09
Yellowstone County	B11	RM 304.09	9478.266	5-yr	1922.71	833.5	828.6	2.38	2.09	35.8	15.81	182.44	493	4.29	1.87	4.9	4.9
Yellowstone County	B11	RM 304.00	9326.206	5-yr	1922.71	833.41	828.39	2.21	1.82	33.32	12.43	190.72	702.2	4.37	1.61	5.02	5.02
Yellowstone County	B11	RM 303.91	9177.479	5-yr	1922.71	833.35	828.14	1.92	1.42	27.63	11.18	215.99	920.2	4.15	1.66	5.2	5.2
Yellowstone County	B11	RM 303.78	8973.508	5-yr	1922.71	833.08	827.93	2.42	1.78	34.33	9.95	159.45	826.78	4.62	1.31	5.15	5.15

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	5-yr	1922.71	832.92	827.9	2.36	1.78	42.17	14.78	170.19	735.37	4.26	1.47	5.02	5.02
Yellowstone County	B11	RM 303.55	8608.195	5-yr	1922.71	832.81	827.65	2.14	1.73	20.5	7.58	248.13	908.39	3.43	1.25	5.16	5.16
Yellowstone County	B11	RM 303.43	8422.329	5-yr	1922.71	832.72	827.87	1.74	1.49	34.56	14.97	329.42	1011.46	2.98	1.28	4.85	4.85
Yellowstone County	B11	RM 303.34	8276.308	5-yr	1922.71	832.67	826.92	1.43	1.17	11.63	6.35	324.67	827.5	3.65	1.98	5.75	5.75
Yellowstone County	B11	RM 303.26	8138.725	5-yr	1922.71	832.48	826.98	1.95	1.8	43.32	19.84	303.86	749.12	3.17	1.44	5.5	5.5
Yellowstone County	B11	RM 303.18	8018.762	5-yr	1922.71	832.29	826.22	1.99	1.85	49.09	23.01	307.6	729.09	3.07	1.42	6.07	6.07
Yellowstone County	B11	RM 303.09	7876.674	5-yr	1922.71	832.04	825.43	1.98	1.87	47.87	23.35	336.59	752.53	2.83	1.37	6.62	6.62
Yellowstone County	B11	RM 302.99	7711.603	5-yr	1922.71	831.84	826.22	1.76	1.53	33.97	17.99	336.71	800.14	2.98	1.57	5.62	5.62
Yellowstone County	B11	RM 302.89	7556.419	5-yr	1922.71	831.6	825.73	1.98	1.79	39.28	21.73	289.36	604.67	3.24	1.77	5.87	5.87
Yellowstone County	B11	RM 302.81	7423.411	5-yr	1922.71	831.38	825.86	2.27	2.1	41.76	19.56	210.19	503.21	3.95	1.82	5.52	5.52
Yellowstone County	B11	RM 302.70	7257.14	5-yr	1922.71	831.25	826.01	2.21	1.97	27.38	12.03	184.02	484.02	4.63	2.01	5.24	5.24
Yellowstone County	B12	RM 302.56	7050.708	5-yr	1922.71	830.84	825.25	2.98	2.72	56.42	29.58	170.25	364.89	3.75	1.94	5.59	5.59
Yellowstone County	B12	RM 302.49	6918.549	5-yr	1922.71	830.71	825.92	2.76	2.55	43.92	23.82	169.7	344.7	4.06	2.19	4.79	4.79
Yellowstone County	B12	RM 302.41	6794.522	5-yr	1922.71	830.64	825.64	2.62	2.16	30.74	14.18	161.6	492.31	3.96	1.81	4.99	4.99
Yellowstone County	B12	RM 302.34	6674.634	5-yr	1922.71	830.54	825.76	2.45	2.03	43.24	22.6	213.01	574.86	3.32	1.72	4.77	4.77
Yellowstone County	B12	RM 302.22	6485.378	5-yr	1922.71	830.43	825.76	1.87	1.61	23.37	14.89	235.89	615.84	3.08	1.94	4.67	4.67
Yellowstone County	B12	RM 302.14	6360.047	5-yr	1922.71	830.18	825.76	2.52	2	41.39	21.14	177.85	562.02	3.38	1.71	4.42	4.42
Yellowstone County	B12	RM 302.08	6267.13	5-yr	1922.71	830.11	825.79	2.28	2	23.04	12.93	263.33	609.99	2.82	1.57	4.32	4.32
Yellowstone County	B12	RM 301.98	6100.949	5-yr	1922.71	830.05	825.34	1.83	1.61	23.41	11.57	256.8	705.51	3.45	1.69	4.71	4.71
Yellowstone County	B12	RM 301.88	5944.005	5-yr	1922.71	829.94	824.7	1.79	1.5	20.29	9.91	307.5	873.23	3.04	1.47	5.25	5.25
Yellowstone County	B12	RM 301.79	5801.18	5-yr	1922.71	829.88	824.36	1.64	1.41	12.8	7.86	369.92	798.35	2.81	1.71	5.52	5.52
Yellowstone County	B12	RM 301.72	5685.105	5-yr	1922.71	829.81	824.85	1.71	1.51	19.05	12.2	328.47	676.3	2.95	1.88	4.96	4.96
Yellowstone County	B12	RM 301.65	5569.191	5-yr	1922.71	829.68	824.61	1.92	1.7	26.57	15.57	311.48	702.91	2.76	1.61	5.08	5.08
Yellowstone County	B12	RM 301.59	5465.51	5-yr	1922.71	829.55	824.42	2	1.85	30.49	18.63	318.53	650.55	2.63	1.6	5.13	5.13
Yellowstone County	B12	RM 301.53	5366.723	5-yr	1922.71	829.45	824.12	1.81	1.73	33.67	22.74	362.47	656.23	2.52	1.69	5.33	5.33
Yellowstone County	B12	RM 301.47	5270.902	5-yr	1922.71	829.32	824.12	1.85	1.73	32.56	21.06	351.38	663.81	2.6	1.67	5.2	5.2
Yellowstone County	B12	RM 301.39	5140.04	5-yr	1922.71	829.26	824.36	1.44	1.29	18.83	12.23	345.85	752.13	3.07	1.98	4.9	4.9
Yellowstone County	B12	RM 301.33	5044.575	5-yr	1922.71	829.18	824.12	1.59	1.36	16.78	8.75	329.55	843.35	3.25	1.68	5.06	5.06
Yellowstone County	B12	RM 301.24	4906.408	5-yr	1922.71	829.08	823.87	1.75	1.49	18.34	10.13	310.78	803.17	3.13	1.72	5.2	5.2
Yellowstone County	B12	RM 301.18	4802.631	5-yr	1922.71	828.95	823.17	2	1.75	25.36	15.33	312.68	683.11	2.68	1.61	5.78	5.78
Yellowstone County	B12	RM 301.12	4698.913	5-yr	1922.71	828.82	823.81	2.1	1.95	27.13	16.96	308.25	552.5	2.88	1.79	5	5
Yellowstone County	B12	RM 301.07	4611.142	5-yr	1922.71	828.76	824	1.97	1.8	22.79	12.53	284.39	594.23	3.29	1.79	4.77	4.77
Yellowstone County	B12	RM 301.02	4531.484	5-yr	1922.71	828.69	823.81	2.07	1.89	18.79	10.82	260.38	521.62	3.41	1.95	4.88	4.88
Yellowstone County	B12	RM 300.97	4453.011	5-yr	1922.71	828.53	823.9	2.53	2.28	27.93	15.71	196.12	416.35	3.63	2.03	4.62	4.62
Yellowstone County	B12	RM 300.89	4332.618	5-yr	1922.71	828.39	823.66	2.59	2.39	45.39	25.76	198.89	419.98	3.39	1.92	4.73	4.73
Yellowstone County	B12	RM 300.83	4232.362	5-yr	1922.71	828.2	823.78	2.79	2.47	50.14	28.31	174.59	418.06	3.32	1.86	4.42	4.42
Yellowstone County	B12	RM 300.77	4151.049	5-yr	1922.71	828.11	823.75	2.56	2.33	47.99	32.75	175.52	348.65	3.5	2.37	4.36	4.36
Yellowstone County	B12	RM 300.69	4011.358	5-yr	1922.71	828.04	823.63	2.18	1.83	23.06	12.46	205.63	532.03	3.68	1.97	4.41	4.41
Yellowstone County	B12	RM 300.55	3793.957	5-yr	1922.71	827.92	822.93	1.87	1.57	25.77	15.66	263.47	658.72	3.08	1.86	4.99	4.99
Yellowstone County	B12	RM 300.45	3633.035	5-yr	1922.71	827.77	822.53	1.51	1.5	29.39	20.46	335.99	715.46	2.59	1.79	5.23	5.23
Yellowstone County	B12	RM 300.35	3461.833	5-yr	1922.71	827.51	822.66	2.02	1.61	16.33	10.37	389.33	830.8	2.28	1.44	4.86	4.86
Yellowstone County	B12	RM 300.24	3286.175	5-yr	1922.71	827.31	822.47	1.94	1.7	47.6	33.39	421.27	752.76	2.15	1.5	4.84	4.84
Yellowstone County	B12	RM 300.15	3141.724	5-yr	1922.71	826.99	822.47	1.85	1.71	43.93	34.48	481.67	697.16	2.06	1.61	4.52	4.52
Yellowstone County	B12	RM 300.10	3054.752	5-yr	1922.71	826.87	822.35	1.97	1.7	13.81	11.03	455.2	721.08	1.96	1.56	4.52	4.52
Yellowstone County	B12	RM 300.00	2887.728	5-yr	1922.71	826.69	821.22	1.82	1.74	43.57	37.84	453.15	600.04	2.12	1.84	5.47	5.47
Yellowstone County	B12	RM 299.91	2736.431	5-yr	1922.71	826.52	821.5	1.75	1.67	20.42	15.62	350.2	610.93	2.47	1.88	5.02	5.02
Yellowstone County	B12	RM 299.83	2614.069	5-yr	1922.71	826.33	821.41	1.81	1.9	32.76	28.06	388.69	591.13	2.01	1.72	4.93	4.93
Yellowstone County	B12	RM 299.72	2484.158	5-yr	1922.71	826.17	820.89	1.83	1.74	28.38	21.85	406.32	561.61	2.56	1.96	5.29	5.29
Yellowstone County	B12	RM 299.59	2312.328	5-yr	1922.71	825.9	821.13	2.37	1.85	30.94	14.84	220.11	715.45	3.06	1.45	4.77	4.77
Yellowstone County	B12	RM 299.48	2160.343	5-yr	1922.71	825.66	821.13	2.87	1.99	37.09	13.65	138.95	736.8	3.63	1.31	4.53	4.53
Yellowstone County	B12	RM 299.38	1995.229	5-yr	1922.71	825.54	821.13	2.43	1.72	54.94	23.02	134.58	762.73	3.55	1.47	4.41	4.41
Yellowstone County	B12	RM 299.31	1874.433	5-yr	1922.71	825.26	821.22	2.81	2.04	37.35	14.28	140.94	722.34	3.45	1.3	4.04	4.04
Yellowstone County	B12	RM 299.22	1738.666	5-yr	1922.71	825.11	821.16	2.83	1.89	45.18	14.39	128.24	921.96	3.6	1.12	3.94	3.94
Yellowstone County	B12	RM 299.15	1613.992	5-yr	1922.71	825.05	820.95	2.32	1.46	28.99	11	154.73	1201.19	3.39	1.27	4.1	4.1
Yellowstone County	B12	RM 299.06	1473.748	5-yr	1922.71	825.01	820.64	1.94	1.17	25.44	8.73	116.53	1295.16	3.84	1.28	4.37	4.37
Yellowstone County	B12	RM 298.99	1360.532	5-yr	1922.71	824.93	820.46	2	1.28	29.21	9.73	101.69	1236.9	3.8	1.22	4.47	4.47
Yellowstone County	B12	RM 298.93	1269.876	5-yr	1922.71	824.86	820.46	1.99	1.28	28.14	9.47	108.07	1279.34	3.61	1.18	4.4	4.4
Yellowstone County	B12	RM 298.88	1195.725	5-yr	1922.71	824.79	820.43	2	1.27	26.75	9.36	118.75	1278.55	3.5	1.19	4.36	4.36
Yellowstone County	B12	RM 298.82	1096.849	5-yr	1922.71	824.62	820.58	2.46	1.47	32.58	12.73	153.69	1154.7	2.95	1.13	4.03	4.03
Yellowstone County	B12	RM 298.77	1018.392	5-yr	1922.71	824.55	820.4	2.22	1.39	27.65	11.61	184.22	1150.67	2.9	1.2	4.15	4.15
Yellowstone County	B12	RM 298.67	854.844	5-yr	1922.71	824.47	819.39	1.92	1.34	15.77	9.31	244.95	1070.22	2.3	1.34	5.08	5.08

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	5-yr	1922.71	824.39	819.55	1.62	1.37	19.01	10.6	271.67	1158.12	2.2	1.21	4.85	4.85
Yellowstone County	B12	RM 298.49	579.164	5-yr	1922.71	824.3	819.27	1.75	1.23	14.21	6.64	214.03	1192.43	2.85	1.31	5.03	5.03
Yellowstone County	B12	RM 298.42	469.573	5-yr	1922.71	824.22	819.27	1.81	1.23	23.76	9.42	176.57	1227.44	3.28	1.27	4.95	4.95
Yellowstone County	B12	RM 298.35	368.049	5-yr	1922.71	824.1	819.97	2.13	1.33	25.34	8.25	147.33	1187.37	3.8	1.22	4.13	4.13
Yellowstone County	B12	RM 298.30	290.003	5-yr	1922.71	824.08	819.82	1.81	1.13	15.63	7.15	197.73	1148.09	3.27	1.48	4.26	4.26
Yellowstone County	B12	RM 298.26	211.35	5-yr	1922.71	824.03	819.82	1.81	1.27	20.15	9.81	220.14	1074.42	2.94	1.41	4.21	4.21
Yellowstone County	B12	RM 298.19	83.499	5-yr	1922.71	823.92	819.49	2.02	1.45	18.99	9.55	184.95	900.87	2.97	1.47	4.43	4.43

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	5-yr	2200.2	823.77	820.43	1.74	1.32	16.2	7.34	197.15	1386.65	3.05	1.37	3.34	3.34
Treasure County	C1	RM 297.89	61639	5-yr	2200.2	823.6	820.07	1.68	1.43	15.85	11.82	362.24	863.9	2.44	1.81	3.54	3.54
Treasure County	C1	RM 297.76	61392	5-yr	2200.2	823.43	819.93	1.76	1.55	20	15.4	331	746.32	2.51	1.93	3.5	3.5
Treasure County	C1	RM 297.62	61179	5-yr	2200.2	823.35	819.69	1.5	1.27	11.71	8.04	290.46	1203.33	2.73	1.86	3.66	3.66
Treasure County	C1	RM 297.5	60985	5-yr	2200.2	823.15	819.39	2.27	1.55	26.4	10.59	159.01	1321.3	3.46	1.37	3.75	3.75
Treasure County	C1	RM 297.36	60767	5-yr	2200.2	822.99	819.14	2.17	1.5	24.45	10.42	169.82	1126.15	3.3	1.39	3.85	3.85
Treasure County	C1	RM 297.22	60535	5-yr	2200.2	822.86	819	1.96	1.44	19.86	8.64	149.14	1058.03	3.36	1.44	3.86	3.86
Treasure County	C1	RM 297.08	60314	5-yr	2200.2	822.72	818.76	1.97	1.36	19.9	8.28	194.31	1279.4	3.47	1.43	3.95	3.95
Treasure County	C1	RM 296.94	60093	5-yr	2200.2	822.56	818.42	2.12	1.42	22.91	9.01	177.08	1379.88	3.44	1.34	4.14	4.14
Treasure County	C1	RM 296.79	59847	5-yr	2200.2	822.49	817.97	1.5	1.22	11.64	5.9	246.81	1070.4	3.34	1.68	4.52	4.52
Treasure County	C1	RM 296.64	59608	5-yr	2200.2	822.42	817.9	1.58	1.19	12.61	6.09	177.49	1089.61	3.57	1.7	4.52	4.52
Treasure County	C1	RM 296.51	59386	5-yr	2200.2	822.37	817.8	1.28	1.12	8.31	5.32	477.13	1066.33	3.44	2.19	4.56	4.56
Treasure County	C1	RM 296.33	59113	5-yr	2200.2	822.27	817.52	1.46	1.22	10.24	6.1	335.57	1018.38	4.19	2.48	4.75	4.75
Treasure County	C1	RM 296.16	58839	5-yr	2200.2	821.05	817.46	4.64	4.02	111.26	53.49	137.2	343.88	3.35	1.59	3.59	3.59
Treasure County	C1	RM 296.01	58583	5-yr	2200.2	821.05	817.45	2.65	2.41	37.42	21.14	259.68	621.34	3.13	1.76	3.6	3.6
Treasure County	C1	RM 295.83	58296	5-yr	2200.2	820.89	817.4	1.82	1.82	16.11	15.82	615.99	629.27	1.96	1.92	3.49	3.49
Treasure County	C1	RM 295.66	58032	5-yr	2200.2	820.57	817.27	2.11	2.11	20.18	20.18	549.67	549.67	1.9	1.9	3.3	3.3
Treasure County	C1	RM 295.52	57800	5-yr	2200.2	820.48	816.19	1.5	1.5	11.04	11.04	637.78	637.78	2.3	2.3	4.3	4.3
Treasure County	C1	RM 295.31	57474	5-yr	2200.2	820.38	815.61	1.34	1.28	8.4	7.43	554.61	688.6	2.83	2.5	4.77	4.77
Treasure County	C1	RM 295.13	57174	5-yr	2200.2	820.21	815.57	1.69	1.45	15.69	8.18	360.88	990.21	3.32	1.72	4.64	4.64
Treasure County	C1	RM 294.94	56877	5-yr	2200.2	819.73	815.46	2.86	2.32	40.06	15.99	189.73	719.57	3.65	1.44	4.28	4.28
Treasure County	C1	RM 294.76	56587	5-yr	2200.2	819.52	815.45	2.42	2.02	28.85	10.92	255.86	887.15	3.28	1.23	4.06	4.06
Treasure County	C1	RM 294.55	56261	5-yr	2200.2	819.29	815.36	2.31	1.81	27.15	11.37	194.7	840.91	3.48	1.44	3.93	3.93
Treasure County	C1	RM 294.38	55980	5-yr	2200.2	819.11	815.07	2.03	1.7	22.17	10.18	227.09	949.2	2.99	1.36	4.05	4.05
Treasure County	C1	RM 294.21	55714	5-yr	2200.2	818.83	814.88	2.44	1.83	30.48	9.23	200.79	1381	3.45	1.03	3.95	3.95
Treasure County	C1	RM 294.02	55401	5-yr	2200.2	818.59	814.59	2.25	1.78	24.35	9.49	231.94	1428.41	2.9	1.12	4	4
Treasure County	C1	RM 293.83	55100	5-yr	2200.2	818.42	814.3	1.98	1.52	18.31	7.67	274.8	1625.11	2.75	1.15	4.11	4.11
Treasure County	C1	RM 293.63	54777	5-yr	2200.2	818.28	813.55	1.72	1.32	13.58	4.29	326.94	1776.67	3.75	1.17	4.73	4.73
Treasure County	C1	RM 293.43	54432	5-yr	2200.2	817.99	813.29	2.39	1.38	27.83	6.65	202.13	1822.89	4.01	0.94	4.7	4.7
Treasure County	C1	RM 293.26	54152	5-yr	2200.2	817.81	813.24	2.32	1.23	25.39	8.56	247.33	1918.35	3.09	1.03	4.58	4.58
Treasure County	C1	RM 293.07	53839	5-yr	2200.2	817.59	813.24	2.22	1.05	26.22	8.94	241.79	2073.86	3.07	1.04	4.36	4.36
Treasure County	C1	RM 292.83	53458	5-yr	2200.2	817.51	813.1	1.37	0.86	10.04	3.92	380.97	2342.78	3.1	1.21	4.41	4.41
Treasure County	C1	RM 292.6	53082	5-yr	2200.2	817.29	812.6	1.93	1.33	18.14	4.81	238.91	1670.01	4.02	1.06	4.69	4.69
Treasure County	C2	RM 292.32	52612	5-yr	2200.2	817.09	811.76	2.04	1.22	18.57	5.21	207.17	1673.48	4.09	1.13	5.33	5.33
Treasure County	C2	RM 292.09	52256	5-yr	2200.2	816.94	811.6	2.11	1.39	19.83	5.67	174.28	1312.61	4.3	1.21	5.34	5.34
Treasure County	C2	RM 291.9	51956	5-yr	2200.2	816.82	811.55	1.89	1.32	17.96	6.64	240.72	1261.04	3.62	1.32	5.27	5.27
Treasure County	C2	RM 291.71	51639	5-yr	2200.2	816.23	811.5	2.95	2.41	65.98	41.31	243.13	540.85	2.71	1.69	4.73	4.73
Treasure County	C2	RM 291.52	51333	5-yr	2200.2	815.98	811.46	2.29	1.67	25.71	11.14	214.15	798.17	3.96	1.7	4.52	4.52
Treasure County	C2	RM 291.33	51042	5-yr	2200.2	815.73	811.46	2.41	1.99	29.69	13.83	231.85	695.09	3.45	1.59	4.27	4.27
Treasure County	C2	RM 291.15	50747	5-yr	2200.2	815.68	811.4	1.62	1.39	12.82	6.91	297.47	777.04	3.9	2.08	4.28	4.28
Treasure County	C2	RM 290.94	50437	5-yr	2200.2	815.54	811.31	1.82	1.26	17	8.97	259.99	994.33	3.36	1.76	4.22	4.22
Treasure County	C2	RM 290.78	50179	5-yr	2200.2	815.42	810.97	1.57	1.2	12.6	8.22	393.13	981.21	2.87	1.86	4.45	4.45
Treasure County	C2	RM 290.6	49891	5-yr	2200.2	815.34	810.54	1.33	1.21	9	7.07	473.72	677.63	3.42	2.69	4.8	4.8
Treasure County	C2	RM 290.43	49607	5-yr	2200.2	815.11	810.13	2.02	1.71	20.19	12.01	273.61	713.42	3.49	2.06	4.98	4.98
Treasure County	C2	RM 290.23	49287	5-yr	2200.2	814.54	810.07	3.13	2.45	47.28	17.85	153.75	577.91	4.17	1.55	4.47	4.47
Treasure County	C2	RM 290.04	48976	5-yr	2200.2	814.45	810.04	2.2	1.79	23.15	10.98	209.93	729.34	4.23	1.99	4.4	4.4
Treasure County	C2	RM 289.85	48667	5-yr	2200.2	814.34	809.87	1.71	1.45	15.15	8.87	359.02	1093.06	3.15	1.84	4.46	4.46
Treasure County	C2	RM 289.67	48372	5-yr	2200.2	814.15	809.87	1.77	1.48	15.99	6.72	397.84	1372.71	3.03	1.27	4.29	4.29
Treasure County	C2	RM 289.46	48067	5-yr	2200.2	814.06	809.56	1.5	1.16	10.5	5.13	411.53	1177.77	3.31	1.6	4.5	4.5
Treasure County	C2	RM 289.27	47769	5-yr	2200.2	813.83	809.32	2.01	1.57	20.98	9.16	320.68	1000.8	3.24	1.4	4.51	4.51
Treasure County	C2	RM 289.11	47515	5-yr	2200.2	813.67	809	2.08	1.51	20.45	7.43	228.59	938.71	4.3	1.55	4.67	4.67
Treasure County	C2	RM 288.94	47232	5-yr	2200.2	813.44	808.59	2.41	1.64	27.12	8.75	186.31	927.93	4.55	1.44	4.85	4.85
Treasure County	C2	RM 288.76	46939	5-yr	2200.2	813.32	808.33	2.11	1.31	21.49	8.12	217.33	1096.02	4.16	1.55	4.99	4.99
Treasure County	C2	RM 288.55	46613	5-yr	2200.2	812.94	808.24	2.64	1.9	35.7	11.71	224.01	1030.6	3.49	1.13	4.69	4.69
Treasure County	C2	RM 288.36	46302	5-yr	2200.2	812.86	807.91	1.95	1.39	17.45	5.31	219.5	1105.78	4.78	1.43	4.95	4.95
Treasure County	C2	RM 288.18	46008	5-yr	2200.2	812.69	807.77	2.13	1.47	22.29	7.3	244.55	1574.41	3.87	1.25	4.92	4.92
Treasure County	C2	RM 287.99	45713	5-yr	2200.2	812.58	807.58	1.9	1.34	16.76	6.27	240.48	1789.66	3.91	1.45	5	5
Treasure County	C2	RM 287.81	45421	5-yr	2200.2	812.48	807.25	1.75	1.32	14.72	6.4	229.88	1129.72	4.15	1.79	5.23	5.23
Treasure County	C2	RM 287.62	45112	5-yr	2200.2	812.18	807.19	2.61	1.64	31.71	10.09	137.89	933.09	4.61	1.44	4.99	4.99
Treasure County	C2	RM 287.42	44789	5-yr	2200.2	811.97	807.15	2.53	1.6	30.27	10.93	159.83	883.54	4.39	1.56	4.82	4.82

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	5-yr	2200.2	811.92	806.81	1.52	1.27	12.02	7.68	420.05	1431.3	3.27	2.08	5.11	5.11
Treasure County	C2	RM 287.06	44222	5-yr	2200.2	811.85	806.77	1.29	1.18	9.07	6.92	515.12	1869.51	3.17	2.41	5.08	5.08
Treasure County	C2	RM 286.9	43958	5-yr	2200.2	811.73	806.52	1.65	1.35	12.75	7.13	277.39	1935.21	4.46	2.48	5.2	5.2
Treasure County	C2	RM 286.72	43671	5-yr	2200.2	810.59	806.4	4.49	3.59	99.24	27.65	122.22	671.15	3.86	1.07	4.19	4.19
Treasure County	C3	RM 286.58	43448	5-yr	2200.2	810.64	806.32	2.95	2.25	41.72	13.79	169.59	1135.43	4.18	1.36	4.32	4.32
Treasure County	C3	RM 286.51	43344	5-yr	2200.2	810.63	806.32	2.52	1.84	30.49	9.78	193.91	1334.33	4.17	1.32	4.31	4.31
Treasure County	C3	RM 286.46	43257	5-yr	2200.2	810.52	806.25	2.64	1.96	33.83	9.22	196.94	1556.4	3.99	1.08	4.27	4.27
Treasure County	C3	RM 286.37	43117	5-yr	2200.2	810.55	806.17	1.88	1.21	18.29	8.47	295.42	1590.2	3.31	1.52	4.39	4.39
Treasure County	C3	RM 286.26	42931	5-yr	2200.2	810.21	806.17	2.62	1.84	62.98	18.08	218.11	1617.79	3.16	0.9	4.05	4.05
Treasure County	C3	RM 286.06	42624	5-yr	2200.2	810.02	806.08	1.8	1.21	16.83	5.63	354.48	1901.78	3.08	1.02	3.94	3.94
Treasure County	C3	RM 285.81	42213	5-yr	2200.2	809.79	805.78	1.92	1.03	16.93	6.12	220.59	2751.9	2.49	0.89	4.01	4.01
Treasure County	C3	RM 285.56	41812	5-yr	2200.2	809.61	805.34	1.7	0.91	13.99	3.22	236.88	3033.57	4.01	0.92	4.27	4.27
Treasure County	C3	RM 285.23	41280	5-yr	2200.2	809.37	805.17	1.98	0.91	20.52	5.21	152.4	3184.35	3.28	0.81	4.2	4.2
Treasure County	C3	RM 284.69	40395	5-yr	2200.2	808.83	804.85	2.5	1.56	34.74	8.84	159.53	2101.53	2.68	0.67	3.98	3.98
Treasure County	C3	RM 284.26	39705	5-yr	2200.2	808.47	804.6	1.74	1.4	16.59	6.01	348.37	1505.02	2.89	1.05	3.87	3.87
Treasure County	C3	RM 283.96	39199	5-yr	2200.2	808.17	804.3	1.97	1.29	20.57	6.98	244.86	2180.14	3.08	1.03	3.87	3.87
Treasure County	C3	RM 283.69	38766	5-yr	2200.2	807.98	803.9	1.85	1.09	17.07	4.46	188.19	2448.27	3.73	0.96	4.08	4.08
Treasure County	C3	RM 283.35	38229	5-yr	2200.2	807.82	803.42	1.57	0.92	12.62	4.65	282.34	2255.52	3.26	1.19	4.39	4.39
Treasure County	C3	RM 283.05	37749	5-yr	2200.2	807.44	803.32	2.36	1.28	28.7	7.34	193.51	2190.69	3.34	0.84	4.12	4.12
Treasure County	C3	RM 282.78	37306	5-yr	2200.2	807.17	803.11	1.97	1.12	18.57	6.17	256.9	2248.57	2.9	0.95	4.06	4.06
Treasure County	C3	RM 282.56	36942	5-yr	2200.2	807.05	802.83	1.46	0.87	11.37	4.01	280.88	2717.76	2.85	0.99	4.22	4.22
Treasure County	C3	RM 282.31	36546	5-yr	2200.2	806.89	802.74	1.69	0.8	14.24	3.81	187.32	2889.05	3.73	0.97	4.16	4.16
Treasure County	C3	RM 282.09	36195	5-yr	2200.2	806.69	802.56	2.14	0.97	24.34	7.25	181.69	2607.55	3.09	0.91	4.13	4.13
Treasure County	C4	RM 281.73	35619	5-yr	2200.2	806.43	801.74	1.64	1.03	12.5	4.49	426.6	2330.72	2.57	0.91	4.69	4.69
Treasure County	C4	RM 281.35	35005	5-yr	2200.2	806.27	801.53	1.41	0.84	9.56	2.46	316.27	2447.78	4.22	1.08	4.74	4.74
Treasure County	C4	RM 281.03	34521	5-yr	2200.2	806.04	801.19	2	1.03	19.54	4.99	226.39	2295.53	4.01	1.01	4.85	4.85
Treasure County	C4	RM 280.73	34051	5-yr	2200.2	805.91	800.82	1.36	0.94	8.34	4.43	693.36	2435.96	2.06	1.09	5.09	5.09
Treasure County	C4	RM 280.5	33687	5-yr	2200.2	805.78	800.66	1.24	0.9	7.62	4.54	756.46	2313.22	2.12	1.26	5.12	5.12
Treasure County	C4	RM 280.27	33304	5-yr	2200.2	805.67	800.31	1.11	0.83	6.93	4.42	759.73	2203.55	2.39	1.52	5.36	5.36
Treasure County	C4	RM 279.95	32800	5-yr	2200.2	805.54	800.08	1.17	0.79	7.87	4.03	503.81	2328.76	3.25	1.65	5.46	5.46
Treasure County	C4	RM 279.6	32231	5-yr	2200.2	805.18	799.98	2.13	1.29	20.3	9.38	304.47	1278.24	2.91	1.33	5.2	5.2
Treasure County	C4	RM 279.33	31805	5-yr	2200.2	804.62	799.98	2.75	2.06	37.46	16.27	244.79	805.94	3.08	1.32	4.64	4.64
Treasure County	C4	RM 279.14	31495	5-yr	2200.2	804.47	799.96	2.15	1.54	21.53	8.47	237.29	1068.21	3.72	1.45	4.51	4.51
Treasure County	C4	RM 278.96	31209	5-yr	2200.2	804.41	799.87	1.54	1.3	12.11	5.37	367.55	1644.58	3.62	1.6	4.55	4.55
Treasure County	C4	RM 278.76	30894	5-yr	2200.2	804.27	799.6	1.64	1.39	13.36	6.03	423.03	1704.2	2.92	1.31	4.68	4.68
Treasure County	C4	RM 278.56	30571	5-yr	2200.2	804.07	799.53	1.86	1.4	18.2	7.41	336.63	1560.31	3.15	1.27	4.55	4.55
Treasure County	C4	RM 278.37	30259	5-yr	2200.2	803.98	799.26	1.49	1.21	10.91	3.84	369.33	1807.16	3.86	1.35	4.72	4.72
Treasure County	C5	RM 278.16	29915	5-yr	2200.2	803.62	798.81	2.49	1.95	29.86	7.38	207.39	1281.35	4.09	1	4.8	4.8
Treasure County	C5	RM 277.99	29648	5-yr	2200.2	803.29	798.77	2.81	2.26	38.49	10.57	189.7	898.56	4.01	1.08	4.52	4.52
Treasure County	C5	RM 277.8	29336	5-yr	2200.2	803.07	798.74	2.53	2.15	31.14	10.51	212.34	763.48	4.01	1.34	4.33	4.33
Treasure County	C5	RM 277.61	29041	5-yr	2200.2	802.85	798.72	2.47	2	29.78	8.64	215.86	964.46	3.97	1.14	4.13	4.13
Treasure County	C5	RM 277.43	28747	5-yr	2200.2	802.72	798.48	2.02	1.69	20.81	7.52	306.39	1056.5	3.45	1.23	4.23	4.23
Treasure County	C5	RM 277.22	28415	5-yr	2200.2	802.46	798.47	2.08	1.96	19.65	10.27	424.17	876.72	2.47	1.28	3.99	3.99
Treasure County	C5	RM 277.04	28123	5-yr	2200.2	802.28	798.4	1.89	1.71	15.1	9.38	459.83	836.6	2.49	1.54	3.88	3.88
Treasure County	C5	RM 276.81	27791	5-yr	2200.2	802.18	797.8	1.5	1.25	11.24	4.95	376.57	1077.25	3.71	1.63	4.38	4.38
Treasure County	C5	RM 276.63	27499	5-yr	2200.2	801.9	797.4	2.3	1.71	26.38	9.2	234.28	994.27	3.74	1.29	4.5	4.5
Treasure County	C5	RM 276.4	27133	5-yr	2200.2	801.68	797.1	2.17	1.54	22.89	8.16	239.33	1056.59	3.83	1.35	4.58	4.58
Treasure County	C5	RM 276.19	26801	5-yr	2200.2	801.51	796.87	2.15	1.61	22.63	9.73	186.26	809.14	3.97	1.69	4.64	4.64
Treasure County	C5	RM 276.01	26502	5-yr	2200.2	801.3	796.74	2.33	1.74	25.99	7.33	157.96	1075.27	4.25	1.17	4.57	4.57
Treasure County	C5	RM 275.81	26193	5-yr	2200.2	801.2	796.61	1.96	1.48	18.7	5.17	179.56	1373.04	4.04	1.1	4.58	4.58
Treasure County	C5	RM 275.63	25896	5-yr	2200.2	801.03	796.49	2.22	1.47	23.55	6.01	134.65	1405.94	4.28	1.07	4.54	4.54
Treasure County	C5	RM 275.45	25606	5-yr	2200.2	800.96	796.37	1.72	1.34	14.53	4.83	153.92	1294.34	3.88	1.27	4.58	4.58
Treasure County	C5	RM 275.26	25299	5-yr	2200.2	800.75	796.16	1.93	1.61	17.69	6.67	251.91	842.81	4.35	1.62	4.58	4.58
Treasure County	C5	RM 275.09	25033	5-yr	2200.2	800.45	796.13	2.54	2.13	30.92	12.66	199.32	683.53	4.18	1.69	4.32	4.32
Treasure County	C6	RM 274.89	24716	5-yr	2200.2	800.3	796.04	2.2	1.51	23.75	9.61	228	1662.44	3.86	1.55	4.26	4.26
Treasure County	C6	RM 274.72	24440	5-yr	2200.2	799.72	796.04	3.18	2.5	53.87	23.81	214.5	1378.15	3.03	1.33	3.68	3.68
Treasure County	C6	RM 274.55	24165	5-yr	2200.2	799.6	795.79	1.96	1.36	22.6	8.64	294.37	2592.24	2.68	1.02	3.81	3.81
Treasure County	C6	RM 274.38	23892	5-yr	2200.2	799.41	795.55	1.96	1.23	20.19	6.13	227.73	2817.52	3.19	0.96	3.86	3.86
Treasure County	C6	RM 274.13	23491	5-yr	2200.2	799.2	795.16	1.99	1.28	21.68	7.74	223.98	2613.81	2.77	0.98	4.04	4.04
Treasure County	C6	RM 273.83	22999	5-yr	2200.2	799.02	794.46	1.73	1.04	14.9	3.48	184.07	3402.35	3.76	0.86	4.56	4.56

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	5-yr	2200.2	798.76	794.04	2.24	1.17	23.18	4.73	178.91	3298.18	3.47	0.7	4.72	4.72
Treasure County	C6	RM 273.35	22238	5-yr	2200.2	798.57	794.04	1.94	0.94	17.98	5.63	230.93	3819.64	2.77	0.86	4.54	4.54
Treasure County	C6	RM 273.15	21916	5-yr	2200.2	798.43	793.92	1.73	0.85	15.15	5.49	266.7	3807.45	2.78	0.99	4.51	4.51
Treasure County	C6	RM 272.83	21397	5-yr	2200.2	798.27	793.79	1.59	0.78	11.69	3.98	263.82	3833.45	3.19	1.07	4.48	4.48
Treasure County	C6	RM 272.5	20872	5-yr	2200.2	798	793.46	2.08	0.99	23	6.93	228.86	3824.39	2.83	0.84	4.55	4.55
Treasure County	C6	RM 272.19	20368	5-yr	2200.2	797.62	793.34	2.2	1.17	23.58	5.89	247.19	3437.01	3.29	0.81	4.29	4.29
Treasure County	C6	RM 271.91	19902	5-yr	2200.2	797.4	793.18	2.04	1.23	20.77	5.94	227	2881.11	3.67	1.04	4.22	4.22
Treasure County	C6	RM 271.68	19534	5-yr	2200.2	797.04	792.81	2.58	1.83	34.3	11.59	191.59	1781.31	3.4	1.14	4.23	4.23
Treasure County	C6	RM 271.41	19102	5-yr	2200.2	797	792.54	1.35	0.94	9.57	4.06	302.07	2628.56	3.13	1.32	4.46	4.46
Treasure County	C6	RM 271.06	18548	5-yr	2200.2	796.55	792.18	2.66	1.93	36.77	11.18	172.16	1502.87	3.29	0.98	4.37	4.37
Treasure County	C6	RM 270.64	17870	5-yr	2200.2	796.34	792.05	1.54	1.01	12.66	4.55	234.57	2253.03	3.01	1.07	4.29	4.29
Treasure County	C6	RM 270.05	16897	5-yr	2200.2	796.02	791.48	2	1.02	18.05	5.14	174.24	2359.28	3.4	0.95	4.54	4.54
Treasure County	C6	RM 269.75	16413	5-yr	2200.2	795.68	791.35	2.25	1.37	25.94	7.48	223.63	1791.72	3.44	0.98	4.33	4.33
Treasure County	C6	RM 269.47	15967	5-yr	2200.2	795.33	791.23	2.39	1.89	28.69	8.11	208.51	1876.77	3.68	1.03	4.1	4.1
Treasure County	C7	RM 269.27	15645	5-yr	2200.2	795.22	791.23	1.84	1.4	16.95	6.32	279.64	2192.86	3.4	1.26	3.99	3.99
Treasure County	C7	RM 269.06	15308	5-yr	2200.2	795.12	791.01	1.48	1.08	11.56	3.87	197.37	2470.19	3.11	1.02	4.1	4.1
Treasure County	C7	RM 268.83	14957	5-yr	2200.2	795.04	790.6	1	0.76	5.44	2.43	267.05	2555.32	2.86	1.26	4.44	4.44
Treasure County	C7	RM 268.55	14516	5-yr	2200.2	794.93	790.17	1.37	0.82	9.22	2.83	224.66	2836.56	3.82	1.16	4.76	4.76
Treasure County	C7	RM 268.2	13976	5-yr	2200.2	794.68	789.62	1.96	1	18.93	4.65	234.34	2861.71	3.86	0.94	5.05	5.05
Treasure County	C7	RM 267.87	13439	5-yr	2200.2	794.27	789.53	2.4	1.22	26.01	6.33	227.32	2470.82	3.52	0.85	4.74	4.74
Treasure County	C7	RM 267.53	12884	5-yr	2200.2	793.65	789.5	2.77	1.63	39.6	12.85	241.38	1483.47	2.84	0.91	4.15	4.15
Treasure County	C7	RM 267.14	12253	5-yr	2200.2	793.47	789.26	1.69	1.07	14.16	5.02	227.28	1796.11	3.28	1.15	4.21	4.21
Treasure County	C7	RM 266.8	11700	5-yr	2200.2	793.29	789.2	1.77	1.14	16.21	4.62	214.75	2058.72	3.33	0.94	4.09	4.09
Treasure County	C7	RM 266.41	11078	5-yr	2200.2	793.05	789.14	2.09	1.18	23.4	7.22	159.05	2066.61	2.98	0.9	3.91	3.91
Treasure County	C7	RM 266.11	10593	5-yr	2200.2	792.81	788.83	1.89	1.22	19.39	6.87	259.43	1800.35	2.86	1	3.98	3.98
Treasure County	C7	RM 265.92	10283	5-yr	2200.2	792.69	788.65	1.64	1.15	12.22	6.49	341.35	1572.37	2.31	1.22	4.04	4.04
Treasure County	C7	RM 265.68	9915	5-yr	2200.2	792.44	788.21	2.17	1.54	22.9	8.16	180	1011.35	4.03	1.42	4.23	4.23
Treasure County	C7	RM 265.52	9650	5-yr	2200.2	792.29	788.07	2.24	1.54	26	9.64	160.45	1452.26	3.31	1.21	4.21	4.21
Treasure County	C7	RM 265.34	9362	5-yr	2200.2	792.05	788.07	2.14	1.48	24.93	9.03	178.87	1460.33	2.86	1.02	3.98	3.98
Treasure County	C7	RM 265.16	9071	5-yr	2200.2	791.86	787.95	1.72	1.44	17.83	7.45	297.09	1488.88	2.48	1.03	3.92	3.92
Treasure County	C7	RM 264.98	8775	5-yr	2200.2	791.66	787.59	1.89	1.53	13.95	8.32	450.21	1523.17	1.59	0.94	4.07	4.07
Treasure County	C7	RM 264.81	8508	5-yr	2200.2	791.56	787.35	1.16	1.07	10.26	6.33	649.62	1754.06	1.9	1.17	4.21	4.21
Treasure County	C7	RM 264.64	8216	5-yr	2200.2	791.44	787.22	1.23	1.11	9.78	5.88	651.42	1747.24	1.89	1.14	4.22	4.22
Treasure County	C7	RM 264.39	7803	5-yr	2200.2	791.2	786.86	1.68	1.41	16.56	6.96	343.32	1435.85	2.6	1.08	4.35	4.35
Treasure County	C7	RM 264.15	7406	5-yr	2200.2	791.1	786.6	1.38	1.04	10.11	4.8	202.21	1637	2.75	1.29	4.5	4.5
Treasure County	C7	RM 263.97	7116	5-yr	2200.2	790.99	786.49	1.61	1.19	12.48	5	179.44	1140.96	4.11	1.62	4.5	4.5
Treasure County	C7	RM 263.79	6834	5-yr	2200.2	790.81	786.49	2.08	1.39	20.92	6.77	204.2	1589.22	3.15	1	4.32	4.32
Treasure County	C7	RM 263.6	6534	5-yr	2200.2	790.65	786.37	1.89	1.23	18.13	7.76	204.36	1257.24	3.55	1.5	4.28	4.28
Treasure County	C7	RM 263.39	6194	5-yr	2200.2	790.51	786.25	1.46	1.23	11.08	5.32	455.48	1458.85	2.98	1.42	4.26	4.26
Treasure County	C7	RM 263.19	5862	5-yr	2200.2	790.23	786	2.03	1.41	23.07	9.05	333.53	1776.57	2.65	1.03	4.23	4.23
Treasure County	C7	RM 262.95	5479	5-yr	2200.2	789.97	785.85	1.88	1.42	14.78	6.88	400.03	1293.08	2.59	1.2	4.12	4.12
Treasure County	C7	RM 262.78	5206	5-yr	2200.2	789.85	785.76	1.62	1.21	14.01	6.94	440.96	1999.07	2.34	1.15	4.09	4.09
Treasure County	C7	RM 262.58	4883	5-yr	2200.2	789.73	785.64	1.21	0.91	9.61	5.63	620.82	2131.61	2.38	1.39	4.09	4.09
Treasure County	C7	RM 262.42	4613	5-yr	2200.2	789.66	785.54	1.07	0.77	6.46	3.56	655.56	2170.43	2.47	1.36	4.12	4.12
Treasure County	C7	RM 262.24	4323	5-yr	2200.2	789.59	785.43	0.96	0.81	5.31	3.3	839.62	1966.57	2.61	1.62	4.17	4.17
Treasure County	C7	RM 261.95	3917	5-yr	2200.2	789.46	785.28	1.21	1.05	8.18	5.86	654.59	1248.11	2.68	1.92	4.19	4.19
Treasure County	C7	RM 261.7	3519	5-yr	2200.2	789.23	784.87	1.35	1.35	27.54	23.61	605.89	806.79	2.69	2.3	4.36	4.36
Treasure County	C7	RM 261.53	3256	5-yr	2200.2	788.87	784.51	1.53	1.45	34.82	31.11	623.93	815.4	2.24	2	4.36	4.36
Treasure County	C7	RM 261.35	2959	5-yr	2200.2	788.76	784.33	1.2	1.14	7.09	4.17	580.98	1047.12	3.13	1.84	4.42	4.42
Treasure County	C7	RM 261.2	2720	5-yr	2200.2	788.63	784.14	1.39	1.34	27.45	16.26	545.92	963.84	2.88	1.7	4.48	4.48
Treasure County	C7	RM 261.03	2441	5-yr	2200.2	788.51	783.66	1.38	1.25	9.3	4.62	401.64	907.08	3.94	1.94	4.85	4.85
Treasure County	C7	RM 260.84	2142	5-yr	2200.2	788.39	783.41	1.6	1.35	12.6	5.63	341.22	931.7	3.94	1.75	4.98	4.98
Treasure County	C7	RM 260.66	1863	5-yr	2200.2	788.3	783.29	1.61	1.22	12.31	5.65	351.21	1085.3	3.66	1.67	5	5
Treasure County	C8	RM 259.9	634	5-yr	2200.2	787.16	782.46	3.24	2.48	50.25	20.16	151.91	539.81	4.21	1.67	4.7	4.7
Treasure County	C8	RM 259.72	347	5-yr	2200.2	786.91	782.45	2.87	2.22	39.93	16.68	179.25	589.69	4.06	1.68	4.46	4.46
Treasure County	C8	RM 259.55	68	5-yr	2200.2	786.85	782.2	1.94	1.94	16.04	16.01	399.72	400.33	2.84	2.84	4.65	4.65

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	5-yr	2203.1	786.85	782.19	2.29	2.06	24.01	18.91	221.77	323.26	4.2	3.3	4.66	4.66
Rosebud County	C8	RM 259.41	87598	5-yr	2203.1	786.62	781.96	2.39	2.34	29.46	20.87	209.35	302.01	4.4	3.11	4.66	4.66
Rosebud County	C8	RM 259.22	87292	5-yr	2203.1	786.51	781.55	2.07	1.81	20.19	15.78	233.09	357.19	4.38	3.41	4.96	4.96
Rosebud County	C8	RM 259.04	87004	5-yr	2203.1	786.32	781	2.22	1.97	26.31	13.5	209.97	498.43	4.44	2.24	5.32	5.32
Rosebud County	C8	RM 258.85	86696	5-yr	2203.1	786.14	780.9	2.16	1.89	20.23	11.39	288.74	618.04	3.38	1.89	5.24	5.24
Rosebud County	C8	RM 258.66	86399	5-yr	2203.1	785.93	780.78	2.34	1.92	25.05	7.72	183.46	773.66	4.89	1.48	5.15	5.15
Rosebud County	C8	RM 258.47	86098	5-yr	2203.1	785.73	780.65	2.42	1.93	27.72	10.17	202.53	780.95	4.02	1.46	5.08	5.08
Rosebud County	C8	RM 258.28	85798	5-yr	2203.1	785.58	780.53	2.19	1.64	22.41	10.57	222.43	768.63	3.73	1.75	5.05	5.05
Rosebud County	C8	RM 258.1	85498	5-yr	2203.1	785.37	780.14	2.3	1.81	24.42	10.42	180.25	773.31	4.73	1.99	5.23	5.23
Rosebud County	C8	RM 257.91	85200	5-yr	2203.1	785.21	780.14	2.21	1.75	24.59	11.16	224.43	1015.61	3.67	1.65	5.07	5.07
Rosebud County	C8	RM 257.71	84875	5-yr	2203.1	784.96	780.14	2.34	1.7	28.57	13.1	219.86	895.38	3.24	1.47	4.82	4.82
Rosebud County	C8	RM 257.54	84597	5-yr	2203.1	784.79	780.17	2.17	1.49	22.27	8.72	209	1087.3	3.76	1.45	4.62	4.62
Rosebud County	C8	RM 257.36	84298	5-yr	2203.1	784.65	780.05	2.06	1.34	20.55	8.12	188.65	1139.26	3.66	1.45	4.6	4.6
Rosebud County	C8	RM 257.16	83984	5-yr	2203.1	784.61	780	1.33	0.98	8.3	3.34	305.45	1281.97	4.36	1.75	4.61	4.61
Rosebud County	C8	RM 256.87	83608	5-yr	2203.1	784.22	779.89	2.63	1.86	33.15	10.66	181.39	936.32	3.98	1.27	4.33	4.33
Rosebud County	C8	RM 256.65	83257	5-yr	2203.1	784.19	779.82	1.71	1.26	14.26	5.17	171.34	1241.99	4.04	1.44	4.37	4.37
Rosebud County	C8	RM 256.45	82941	5-yr	2203.1	783.98	779.67	2.01	1.52	19.47	7.51	222.18	1247.78	4.15	1.59	4.31	4.31
Rosebud County	C8	RM 256.26	82630	5-yr	2203.1	783.78	779.58	1.83	1.44	30.8	21.31	369.93	1214.29	2.79	1.92	4.2	4.2
Rosebud County	C8	RM 256.1	82375	5-yr	2203.1	783.63	779.42	1.52	1.52	10.5	10.47	578	935.34	2.51	2.5	4.21	4.21
Rosebud County	C8	RM 255.91	82077	5-yr	2203.1	783.57	779.09	1.26	1.24	7.09	5.44	591.1	1439.93	2.96	2.26	4.48	4.48
Rosebud County	C8	RM 255.7	81747	5-yr	2203.1	783.36	778.73	1.87	1.59	16.83	6.63	306.33	1426.91	3.74	1.46	4.63	4.63
Rosebud County	C8	RM 255.51	81446	5-yr	2203.1	783.18	778.49	2.01	1.58	20.15	8.98	269.19	847.65	3.73	1.65	4.69	4.69
Rosebud County	C8	RM 255.31	81125	5-yr	2203.1	783.01	778.36	1.95	1.54	22.97	10.08	242.95	784.55	4.19	1.83	4.65	4.65
Rosebud County	C8	RM 255.14	80856	5-yr	2203.1	782.8	778.24	2.23	1.75	23.58	8.84	210.87	782.65	4.34	1.61	4.56	4.56
Rosebud County	C8	RM 254.95	80554	5-yr	2203.1	782.58	778.12	2.36	1.92	26.65	10.68	205.86	679.36	4.26	1.69	4.46	4.46
Rosebud County	C8	RM 254.76	80251	5-yr	2203.1	782.41	778	2.24	1.79	23.98	9.57	218.15	733.76	4.25	1.68	4.41	4.41
Rosebud County	C8	RM 254.58	79960	5-yr	2203.1	782.25	777.88	2.19	1.9	22.96	8.29	229.98	770.04	4.24	1.52	4.37	4.37
Rosebud County	C8	RM 254.39	79658	5-yr	2203.1	782.18	777.41	1.75	1.45	14.71	5.91	296.93	960.39	4.1	1.64	4.77	4.77
Rosebud County	C8	RM 254.2	79359	5-yr	2203.1	781.93	777.39	2.21	1.92	24.44	10.27	269.75	755.53	3.62	1.52	4.54	4.54
Rosebud County	C8	RM 254.01	79052	5-yr	2203.1	781.74	776.82	2.23	1.86	22.71	7.71	209.61	761.89	4.6	1.56	4.92	4.92
Rosebud County	C9	RM 253.82	78779	5-yr	2203.1	781.57	776.24	2.27	1.79	28.18	9.72	246.29	973.09	3.71	1.26	5.33	5.33
Rosebud County	C9	RM 253.63	78478	5-yr	2203.1	781.2	776.12	2.54	1.79	63.88	20.44	179.09	994.12	3.93	1.24	5.08	5.08
Rosebud County	C9	RM 253.45	78178	5-yr	2203.1	780.94	775.97	2.3	1.37	24.55	8.53	172.93	1341.03	3.83	1.31	4.97	4.97
Rosebud County	C9	RM 253.26	77879	5-yr	2203.1	780.85	775.72	1.76	1.04	12.47	4.67	240.93	1424.2	4.02	1.49	5.13	5.13
Rosebud County	C9	RM 253.07	77578	5-yr	2203.1	780.58	775.57	2.46	1.41	26.71	8.31	189.43	1380.66	3.7	1.13	5.01	5.01
Rosebud County	C9	RM 252.88	77278	5-yr	2203.1	780.46	775.45	1.98	1.29	19.8	5.82	221.89	1657.29	3.55	1.03	5.01	5.01
Rosebud County	C9	RM 252.69	76962	5-yr	2203.1	780.39	775.33	1.48	0.86	10.95	3.44	260.67	2353.65	3.76	1.16	5.06	5.06
Rosebud County	C9	RM 252.49	76646	5-yr	2203.1	780.06	775.36	2.6	1.32	30.64	6	161.39	2959.66	3.77	0.73	4.7	4.7
Rosebud County	C9	RM 252.24	76252	5-yr	2203.1	779.88	775.4	2.11	1.06	23.32	5.5	167.1	3219.07	3.45	0.8	4.48	4.48
Rosebud County	C9	RM 252.01	75885	5-yr	2203.1	779.7	775.39	1.75	0.95	22.6	6.07	252.1	3420.15	3.19	0.85	4.31	4.31
Rosebud County	C9	RM 251.7	75438	5-yr	2203.1	779.56	775.01	1.3	0.84	7.03	3.09	601.23	3099.23	2.25	0.99	4.55	4.55
Rosebud County	C9	RM 251.49	75098	5-yr	2203.1	779.44	775.02	1.26	0.83	9.48	5.19	716.44	3217.91	1.71	0.94	4.42	4.42
Rosebud County	C9	RM 251.23	74691	5-yr	2203.1	779.19	775.05	1.49	1.02	10.27	4.34	742.09	3229.33	1.72	0.72	4.14	4.14
Rosebud County	C9	RM 251.01	74322	5-yr	2203.1	779.03	774.84	1.42	0.89	7.66	3.1	590.56	3264.23	2.06	0.83	4.19	4.19
Rosebud County	C9	RM 250.79	73973	5-yr	2203.1	778.92	774.42	1.41	0.85	9.06	2.94	417.99	3097.95	2.77	0.9	4.5	4.5
Rosebud County	C9	RM 250.6	73678	5-yr	2203.1	778.78	774.17	1.54	0.98	20.8	7.23	376.03	2656.04	2.53	0.87	4.61	4.61
Rosebud County	C9	RM 250.37	73306	5-yr	2203.1	778.47	774.05	2.08	1.12	19.4	4.99	233.23	2152.38	3.56	0.91	4.42	4.42
Rosebud County	C9	RM 250.17	72982	5-yr	2203.1	778.27	773.93	2.32	1.13	27.53	8.8	214.36	2186.58	2.89	0.91	4.34	4.34
Rosebud County	C9	RM 249.95	72617	5-yr	2203.1	778.03	773.83	2.13	1.25	22.73	6.98	226.06	1661.53	3.48	1.06	4.2	4.2
Rosebud County	C9	RM 249.73	72253	5-yr	2203.1	777.82	773.71	2.04	1.19	21.12	6.52	273.96	2264.61	3.07	0.95	4.11	4.11
Rosebud County	C9	RM 249.53	71936	5-yr	2203.1	777.75	773.38	1.44	0.88	10.16	3.34	362.14	2457.12	3.38	1.11	4.37	4.37
Rosebud County	C9	RM 249.31	71579	5-yr	2203.1	777.52	773.14	1.87	1.26	20.41	7.19	363.92	2812.2	2.57	0.9	4.38	4.38
Rosebud County	C9	RM 249.13	71274	5-yr	2203.1	777.36	772.84	1.72	1	15.07	4.43	301.13	2840.83	3.48	1.01	4.52	4.52
Rosebud County	C9	RM 248.94	70978	5-yr	2203.1	777.08	772.56	2.39	1.2	27.86	6.66	199.55	2841.58	3.52	0.84	4.52	4.52
Rosebud County	C9	RM 248.76	70681	5-yr	2203.1	777.07	772.32	1.25	0.8	8.3	2.87	424.32	2584.79	3.35	1.15	4.75	4.75
Rosebud County	C9	RM 248.53	70312	5-yr	2203.1	777.01	772.17	1.31	0.63	7.77	2.49	164.13	3122.01	3.95	1.26	4.84	4.84
Rosebud County	C9	RM 248.31	69962	5-yr	2203.1	776.86	772.04	1.65	0.83	13.78	4.2	277.15	2684.76	3.29	1	4.82	4.82
Rosebud County	C9	RM 248.08	69603	5-yr	2203.1	776.68	771.92	1.95	0.85	16.52	3.87	211.49	2973.92	3.81	0.89	4.76	4.76
Rosebud County	C9	RM 247.88	69253	5-yr	2203.1	776.55	771.92	1.67	0.91	22.99	7.79	348.22	2915.89	2.48	0.83	4.63	4.63
Rosebud County	C9	RM 247.64	68836	5-yr	2203.1	776.28	771.95	1.68	1	14.96	4.83	416.51	2608.04	2.62	0.84	4.33	4.33

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	5-yr	2203.1	776.15	771.87	1.45	0.8	10.13	2.58	282.84	3056.76	3.84	0.97	4.28	4.28
Rosebud County	C9	RM 247.11	67963	5-yr	2203.1	775.86	771.45	2.42	1.29	29.73	7.83	199.91	2206.21	3.27	0.86	4.41	4.41
Rosebud County	C9	RM 246.83	67502	5-yr	2203.1	775.7	770.97	1.88	1.04	18.59	4.68	194.9	2582.99	4.14	1.03	4.73	4.73
Rosebud County	C9	RM 246.52	67019	5-yr	2203.1	775.56	770.61	1.71	1.08	13.84	4.04	225.63	2814.67	4.33	1.25	4.95	4.95
Rosebud County	C9	RM 246.22	66538	5-yr	2203.1	774.54	770.53	3.84	2.76	80.34	24.92	207.79	1173.06	2.58	0.79	4.01	4.01
Rosebud County	C9	RM 245.94	66068	5-yr	2203.1	774.19	770.29	1.99	1.62	21.89	11.73	296.78	994.1	2.65	1.41	3.9	3.9
Rosebud County	C9	RM 245.66	65624	5-yr	2203.1	774.06	769.81	1.49	0.91	11.83	3.86	197.09	1886.62	4.02	1.29	4.82	4.82
Rosebud County	C9	RM 245.4	65205	5-yr	2203.1	773.87	769.59	1.74	1.33	13.95	5.4	352.06	1852.12	2.34	0.9	4.71	4.71
Rosebud County	C9	RM 245.15	64804	5-yr	2203.1	773.53	769.41	1.72	1.68	41.07	16.14	305.95	1804.14	2.06	0.8	4.37	4.37
Rosebud County	C9	RM 244.89	64387	5-yr	2203.1	772.87	769.41	2.62	2.1	36.2	13.07	188.71	965.22	3.16	1.13	3.84	3.84
Rosebud County	C9	RM 244.7	64085	5-yr	2203.1	772.88	769.37	1.32	1.11	8.93	5.32	221.01	1358.59	2.94	1.75	3.97	3.97
Rosebud County	C9	RM 244.51	63776	5-yr	2203.1	772.82	769.35	1.15	0.96	7.96	4.46	264.12	1721.71	2.95	1.65	3.91	3.91
Rosebud County	C9	RM 244.33	63499	5-yr	2203.1	772.78	769.16	0.58	0.71	5.81	3.95	274.46	2261.09	2.75	1.87	4.35	4.35
Rosebud County	C9	RM 244.14	63224	5-yr	2203.1	772.74	768.52	0.99	0.75	5.04	2.46	208.4	2164.28	3.46	1.67	4.31	4.31
Rosebud County	C9	RM 243.96	62927	5-yr	2203.1	772.67	768.13	1.32	0.85	8.7	3.33	176.71	1981.22	3.67	1.4	4.54	4.54
Rosebud County	C9	RM 243.77	62617	5-yr	2203.1	772.65	767.57	0.85	0.6	3.4	1.6	160.76	1719.49	4.59	2.14	5.08	5.08
Rosebud County	C9	RM 243.59	62327	5-yr	2203.1	772.57	766.98	1.44	0.83	11.03	2.96	122.45	2360.5	5.19	1.35	5.59	5.59
Rosebud County	C9	RM 243.39	62012	5-yr	2203.1	772.34	766.86	2.15	1.2	21.56	4.52	156.08	2387.34	4.6	0.94	5.48	5.48
Rosebud County	C9	RM 243.21	61718	5-yr	2203.1	772.22	766.74	1.98	1.17	17.73	3.91	203.35	1810.77	4.96	1.08	5.48	5.48
Rosebud County	C10	RM 243.03	61422	5-yr	2203.1	771.9	766.73	2.73	1.46	36.28	8.48	173.72	1646.02	4	0.92	5.17	5.17
Rosebud County	C10	RM 242.84	61125	5-yr	2203.1	771.43	766.76	3.15	2.14	48.3	10.79	171.49	1223.32	3.83	0.84	4.67	4.67
Rosebud County	C10	RM 242.65	60825	5-yr	2203.1	771.24	766.76	2.54	1.77	31.52	8.78	204.13	1131.76	4.01	1.1	4.48	4.48
Rosebud County	C10	RM 242.47	60527	5-yr	2203.1	771.12	766.77	2.11	1.49	21.47	6.77	241.01	1152.33	4.08	1.28	4.35	4.35
Rosebud County	C10	RM 242.29	60239	5-yr	2203.1	771	766.64	1.89	1.4	17.77	6.68	282.31	1078.71	3.91	1.46	4.36	4.36
Rosebud County	C10	RM 242.1	59939	5-yr	2203.1	770.79	766.29	2.11	1.53	23.37	9.15	280	1363.84	3.47	1.35	4.5	4.5
Rosebud County	C10	RM 241.9	59618	5-yr	2203.1	770.62	765.95	2	1.37	18.84	5.82	249.51	1912.99	4.06	1.24	4.67	4.67
Rosebud County	C10	RM 241.72	59324	5-yr	2203.1	770.55	765.5	1.65	1.1	12.88	3.95	289.97	1579.63	4.17	1.27	5.05	5.05
Rosebud County	C10	RM 241.53	59025	5-yr	2203.1	770.16	765.17	2.73	1.83	39.63	7.26	160	1455.56	4.6	0.83	4.99	4.99
Rosebud County	C10	RM 241.34	58725	5-yr	2203.1	769.99	765.02	2.45	1.42	28.04	5.87	177.78	1717.75	4.38	0.9	4.97	4.97
Rosebud County	C10	RM 241.16	58424	5-yr	2203.1	769.92	764.97	1.9	1.12	17	4.71	171.92	1730.69	4.15	1.13	4.95	4.95
Rosebud County	C10	RM 240.97	58132	5-yr	2203.1	769.81	764.83	1.8	1.11	15.23	4.37	189.7	1608.5	4.38	1.24	4.98	4.98
Rosebud County	C10	RM 240.78	57818	5-yr	2203.1	769.77	764.56	1.41	0.83	9.12	3.12	159.68	1617.94	4.88	1.64	5.21	5.21
Rosebud County	C10	RM 240.56	57467	5-yr	2203.1	769.68	764.28	1.49	0.87	14.72	5.19	212.38	1625.05	4.49	1.57	5.4	5.4
Rosebud County	C10	RM 240.41	57228	5-yr	2203.1	769.62	763.91	1.37	0.83	10.57	3.63	216.4	1559.12	5.04	1.71	5.71	5.71
Rosebud County	C10	RM 240.22	56944	5-yr	2203.1	769.44	763.51	2.01	1.11	18.22	6.08	157.35	1100.1	5.61	1.81	5.93	5.93
Rosebud County	C10	RM 240.09	56741	5-yr	2203.1	769.19	763.47	2.77	1.38	27.21	8.46	120.86	994.99	5.31	1.6	5.72	5.72
Rosebud County	C10	RM 239.97	56546	5-yr	2203.1	769.15	763.47	2.27	1.33	29.91	10.25	155.75	954.04	5.16	1.73	5.68	5.68
Rosebud County	C10	RM 239.86	56371	5-yr	2203.1	769.09	763.25	2.01	1.33	19.67	7.05	205.85	996.35	4.66	1.66	5.84	5.84
Rosebud County	C10	RM 239.68	56093	5-yr	2203.1	768.88	763.02	2.37	1.42	20.36	6.95	172.44	1118.74	4.71	1.57	5.86	5.86
Rosebud County	C10	RM 239.56	55888	5-yr	2203.1	767.89	763.1	4.49	3.35	77.67	14.38	116.93	882.86	4.07	0.74	4.79	4.79
Rosebud County	C10	RM 239.41	55655	5-yr	2203.1	767.82	763.17	3.48	2.85	46.22	12.91	144.11	659.32	4.3	1.17	4.65	4.65
Rosebud County	C10	RM 239.25	55398	5-yr	2203.1	767.55	763.17	3.27	2.65	54.98	14	164.41	834.41	4	1	4.38	4.38
Rosebud County	C10	RM 239.07	55108	5-yr	2203.1	767.49	763.2	2.33	1.8	21.11	9.9	219.55	803.03	3.97	1.84	4.29	4.29
Rosebud County	C10	RM 238.89	54826	5-yr	2203.1	767.2	763.23	2.74	2.24	29.63	18.15	191.74	422.74	3.83	2.32	3.98	3.98
Rosebud County	C10	RM 238.73	54570	5-yr	2203.1	767.01	763.38	2.6	2.31	27.52	16.82	242.11	454.5	3.44	2.09	3.63	3.63
Rosebud County	C10	RM 238.51	54223	5-yr	2203.1	766.92	762.88	1.64	1.49	15.06	12.11	435.56	660.25	2.79	2.24	4.04	4.04
Rosebud County	C10	RM 238.33	53926	5-yr	2203.1	766.73	762.37	1.84	1.58	16.77	8.97	306.34	733.54	3.65	1.94	4.36	4.36
Rosebud County	C10	RM 238.14	53626	5-yr	2203.1	766.48	762.25	2.31	1.61	26.17	10.54	214.01	881.98	3.86	1.55	4.23	4.23
Rosebud County	C10	RM 237.95	53321	5-yr	2203.1	766.31	762.09	2.21	1.38	23.82	7.56	189.37	1413.23	3.98	1.26	4.22	4.22
Rosebud County	C10	RM 237.77	53027	5-yr	2203.1	766.22	761.85	1.72	1.2	14.34	4.82	294.75	1693.82	3.87	1.3	4.37	4.37
Rosebud County	C10	RM 237.56	52703	5-yr	2203.1	766.12	761.46	1.53	1.07	11.7	4.98	410.69	1809.99	3.2	1.35	4.66	4.66
Rosebud County	C10	RM 237.36	52386	5-yr	2203.1	766.04	761.22	1.33	0.92	8.83	4.3	443.16	1937.31	3.33	1.61	4.82	4.82
Rosebud County	C10	RM 237.15	52029	5-yr	2203.1	765.95	760.88	1.36	0.94	9.12	4.03	385.86	2102.99	3.76	1.65	5.07	5.07
Rosebud County	C10	RM 236.99	51756	5-yr	2203.1	765.7	760.22	2.25	1.47	18.02	5.15	177.1	1416.07	5.16	1.45	5.48	5.48
Rosebud County	C10	RM 236.83	51500	5-yr	2203.1	765.41	760.07	2.82	2.02	29.96	9.55	167.82	1399.08	4.46	1.4	5.34	5.34
Rosebud County	C10	RM 236.66	51221	5-yr	2203.1	765.35	760.07	2.32	1.91	19.61	10.17	188.3	873.22	4.82	2.47	5.28	5.28
Rosebud County	C10	RM 236.47	50924	5-yr	2203.1	765.23	759.94	2.26	1.96	18.47	8.96	193.41	495.81	4.94	2.37	5.29	5.29
Rosebud County	C11	RM 236.29	50623	5-yr	2203.1	765.13	760	2.17	1.89	17.43	9.77	211.22	446.92	4.68	2.6	5.13	5.13
Rosebud County	C11	RM 236.1	50327	5-yr	2203.1	764.92	760	2.46	2.18	23.06	13.9	206.87	399.11	4.23	2.53	4.92	4.92
Rosebud County	C11	RM 235.91	50024	5-yr	2203.1	764.57	760	2.91	2.41	40.48	19.25	170.49	455.75	4.28	2.01	4.57	4.57

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	5-yr	2203.1	764.52	760.15	2.04	1.85	20.22	16.8	243.8	375.24	3.84	3.18	4.37	4.37
Rosebud County	C11	RM 235.57	49480	5-yr	2203.1	764.42	760.02	1.8	1.8	16.03	12.86	318.23	406.55	3.84	3.07	4.4	4.4
Rosebud County	C11	RM 235.36	49133	5-yr	2203.1	764.23	759.74	1.89	1.87	14.67	12.32	428.22	532.84	2.72	2.28	4.49	4.49
Rosebud County	C11	RM 235.17	48830	5-yr	2203.1	764.07	759.55	1.83	1.78	15.15	11.19	455.8	665.23	2.63	1.94	4.52	4.52
Rosebud County	C11	RM 235	48571	5-yr	2203.1	763.95	759.29	1.75	1.61	14.7	8.53	320.92	694.26	3.86	2.22	4.66	4.66
Rosebud County	C11	RM 234.82	48271	5-yr	2203.1	763.42	759.21	3.07	2.53	47.5	22.67	190.08	509.4	3.6	1.71	4.21	4.21
Rosebud County	C11	RM 234.63	47978	5-yr	2203.1	763.26	759.21	2.34	1.87	27.06	14.08	238.2	707.48	3.56	1.84	4.05	4.05
Rosebud County	C11	RM 234.45	47692	5-yr	2203.1	763.08	759.12	2.12	1.82	22.44	11.27	283.79	713.59	3.38	1.7	3.96	3.96
Rosebud County	C11	RM 234.2	47305	5-yr	2203.1	762.96	758.6	1.58	1.41	10	6.86	503.82	925.68	2.47	1.69	4.36	4.36
Rosebud County	C11	RM 234.01	47006	5-yr	2203.1	762.9	758.27	1.12	0.99	5.34	4.21	818.93	1380	2.3	1.81	4.63	4.63
Rosebud County	C11	RM 233.84	46737	5-yr	2203.1	762.81	758.12	1.27	1.14	8.4	5.68	571.22	979.16	2.92	1.97	4.69	4.69
Rosebud County	C11	RM 233.61	46365	5-yr	2203.1	762.68	757.67	1.5	1.25	10.28	4.03	302.81	962.77	4.69	1.84	5.01	5.01
Rosebud County	C11	RM 233.35	45943	5-yr	2203.1	762.46	757.03	2.09	1.38	20.8	6.41	214.65	1237.85	4.22	1.29	5.43	5.43
Rosebud County	C11	RM 233.13	45584	5-yr	2203.1	762.25	756.45	2.13	1.7	20.57	4.95	206.27	1112.68	4.9	1.16	5.8	5.8
Rosebud County	C11	RM 232.94	45281	5-yr	2203.1	761.99	756.15	2.55	2.07	29.46	6.92	169.36	926.62	4.99	1.15	5.84	5.84
Rosebud County	C11	RM 232.75	44978	5-yr	2203.1	761.93	756.03	2.04	1.69	18.69	6.77	204.13	713.77	5.13	1.83	5.9	5.9
Rosebud County	C11	RM 232.56	44674	5-yr	2203.1	761.8	755.79	2.05	1.79	19.79	5.87	241.18	1142.12	4.4	1.28	6.01	6.01
Rosebud County	C11	RM 232.37	44366	5-yr	2203.1	761.52	755.72	2.47	1.94	29.44	10.28	206.42	1136.96	4.14	1.42	5.8	5.8
Rosebud County	C11	RM 232.19	44074	5-yr	2203.1	761.38	755.67	2.26	1.74	23.83	8.11	204.06	835.3	4.53	1.52	5.71	5.71
Rosebud County	C11	RM 232.01	43791	5-yr	2203.1	761.2	755.65	2.27	1.73	25.06	8.46	232.27	1029.31	4	1.33	5.55	5.55
Rosebud County	C11	RM 231.81	43473	5-yr	2203.1	760.97	755.6	2.43	1.55	28.35	11.44	201.55	925.29	3.86	1.54	5.37	5.37
Rosebud County	C11	RM 231.62	43160	5-yr	2203.1	760.71	755.57	2.47	1.75	25.17	9.34	230.71	1209.31	3.53	1.29	5.14	5.14
Rosebud County	C11	RM 231.42	42835	5-yr	2203.1	760.67	755.45	1.74	1.1	13.91	4.19	229.33	1456.8	4.83	1.44	5.22	5.22
Rosebud County	C11	RM 231.22	42522	5-yr	2203.1	760.55	755.45	1.96	1.05	17.2	5.22	204	1644.22	4.3	1.28	5.1	5.1
Rosebud County	C11	RM 230.99	42160	5-yr	2203.1	759.98	755.45	3.18	1.86	49.92	11.33	154.03	1365.14	3.91	0.87	4.53	4.53
Rosebud County	C11	RM 230.79	41841	5-yr	2203.1	759.83	755.43	2.38	1.59	27.37	7.82	202.2	1259.85	4.12	1.16	4.4	4.4
Rosebud County	C11	RM 230.53	41415	5-yr	2203.1	759.73	755.17	1.61	1.31	13.17	7.26	299.61	1085.6	3.15	1.72	4.56	4.56
Rosebud County	C11	RM 230.29	41045	5-yr	2203.1	759.51	755.15	1.98	1.51	18.73	9.75	234.51	1123.61	3.54	1.83	4.36	4.36
Rosebud County	C11	RM 230.06	40676	5-yr	2203.1	759.31	754.81	1.88	1.53	18.89	10	287.36	1007.19	3.04	1.6	4.5	4.5
Rosebud County	C11	RM 229.81	40276	5-yr	2203.1	759.16	754.74	1.61	1.13	13.04	5.24	320.68	1772.34	3.59	1.43	4.42	4.42
Rosebud County	C11	RM 229.6	39937	5-yr	2203.1	758.94	754.58	1.95	1.28	16.34	7.6	410.2	1846.93	2.37	1.09	4.36	4.36
Rosebud County	C11	RM 229.4	39596	5-yr	2203.1	758.79	754.34	1.76	1.28	15.67	4.81	283.63	1678.46	3.79	1.15	4.45	4.45
Rosebud County	C11	RM 229.2	39273	5-yr	2203.1	758.43	754.15	2.62	1.9	35.58	11.84	214.46	1191.5	3.3	1.09	4.28	4.28
Rosebud County	C11	RM 229.02	38994	5-yr	2203.1	758.21	754.12	2.45	1.59	30.75	10.88	211.31	1255.85	3.39	1.19	4.09	4.09
Rosebud County	C11	RM 228.82	38676	5-yr	2203.1	758.04	753.8	2.02	1.43	20.92	8.53	271.56	1173.67	3.37	1.36	4.24	4.24
Rosebud County	C11	RM 228.64	38383	5-yr	2203.1	757.91	753.73	1.91	1.26	18.7	7.39	224.38	1345.19	3.45	1.35	4.22	4.22
Rosebud County	C11	RM 228.46	38093	5-yr	2203.1	757.83	753.53	1.47	0.96	10.98	4.98	301.72	1519.04	3.51	1.58	4.3	4.3
Rosebud County	C11	RM 228.26	37771	5-yr	2203.1	757.77	753.35	1.33	0.76	8.9	3.94	273.91	1832.2	3.66	1.61	4.42	4.42
Rosebud County	C11	RM 228.03	37408	5-yr	2203.1	757.63	753.16	1.73	0.86	14.77	5.16	233.4	2008.51	3.78	1.3	4.47	4.47
Rosebud County	C11	RM 227.74	36949	5-yr	2203.1	757.43	752.95	2	1.14	19.43	5.36	167.04	1791.19	4	1.08	4.48	4.48
Rosebud County	C11	RM 227.49	36537	5-yr	2203.1	757.29	752.83	1.93	1.05	18.21	5.91	175.55	1691.04	3.95	1.26	4.46	4.46
Rosebud County	C11	RM 227.2	36062	5-yr	2203.1	757.15	752.41	1.81	1.11	16.19	5.93	180.83	1581.89	3.87	1.4	4.74	4.74
Rosebud County	C11	RM 226.98	35709	5-yr	2203.1	756.72	752.31	2.65	1.63	36.12	13.61	211.99	1067.54	3.38	1.26	4.41	4.41
Rosebud County	C11	RM 226.79	35400	5-yr	2203.1	756.55	752.25	2.01	1.39	22.55	11.29	268.83	910.58	3.49	1.73	4.3	4.3
Rosebud County	C11	RM 226.56	35065	5-yr	2203.1	756.42	751.83	1.61	1.24	15.21	9.75	338.41	792.27	3.52	2.25	4.59	4.59
Rosebud County	C11	RM 226.36	34743	5-yr	2203.1	756.13	751.68	2.09	1.81	24.39	14.56	301.75	610.24	3.37	2	4.45	4.45
Rosebud County	C11	RM 226.2	34476	5-yr	2203.1	756.05	751.25	1.6	1.37	13	7.23	424.72	933.22	3.1	1.72	4.8	4.8
Rosebud County	C11	RM 226.01	34177	5-yr	2203.1	755.9	750.81	1.79	1.32	15.35	5.19	284.2	1454.23	4.07	1.36	5.09	5.09
Rosebud County	C11	RM 225.83	33884	5-yr	2203.1	755.63	750.59	2.51	1.43	29.59	7.96	159.74	1346	4.46	1.18	5.04	5.04
Rosebud County	C11	RM 225.64	33580	5-yr	2203.1	755.55	750.56	1.84	1.25	16.83	5.89	293.96	1562.09	3.7	1.28	4.99	4.99
Rosebud County	C11	RM 225.45	33275	5-yr	2203.1	755.45	750.31	1.62	1.34	12.73	4.87	332.17	1411.75	4	1.52	5.14	5.14
Rosebud County	C11	RM 225.26	32969	5-yr	2203.1	755.3	750.25	1.82	1.53	16.03	6.7	291.78	1547.68	4.05	1.68	5.05	5.05
Rosebud County	C11	RM 225.16	32805	5-yr	2203.1	755.13	750.19	2.21	1.99	23.24	11.07	224.54	1119.72	4.38	2.06	4.94	4.94
Rosebud County	C11	RM 225.06	32646	5-yr	2203.1	754.7	750.15	3.22	3.07	47.7	15.81	168.92	550.92	4.04	1.33	4.55	4.55
Rosebud County	C12	RM 224.89	32368	5-yr	2203.1	754.7	750.09	2.09	2	20.92	11.38	249.97	800.87	4.19	2.27	4.61	4.61
Rosebud County	C12	RM 224.71	32083	5-yr	2203.1	754.55	750.04	2	1.94	17.71	13.08	391.89	551.69	2.8	2.06	4.51	4.51
Rosebud County	C12	RM 224.53	31796	5-yr	2203.1	754.36	749.96	2.02	2.01	15.72	14.21	412.22	638.04	2.65	2.39	4.4	4.4
Rosebud County	C12	RM 224.34	31486	5-yr	2203.1	754.18	750.03	1.8	1.7	18.57	14.22	473.86	847.2	2.36	1.8	4.15	4.15
Rosebud County	C12	RM 224.16	31195	5-yr	2203.1	754.01	749.78	1.82	1.52	15.92	6.89	263.29	1402.48	3.65	1.57	4.33	4.33
Rosebud County	C12	RM 223.96	30878	5-yr	2203.1	753.83	749.48	2.11	1.56	21.61	7.25	179.51	1291.6	3.99	1.33	4.45	4.45

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	5-yr	2203.1	753.62	749.18	2.35	1.77	28.08	8.83	162.95	1346.71	3.53	1.1	4.44	4.44
Rosebud County	C12	RM 223.55	30235	5-yr	2203.1	753.47	748.87	2	1.51	19.05	5.35	229.9	1420.79	4.31	1.2	4.6	4.6
Rosebud County	C12	RM 223.37	29952	5-yr	2203.1	753.24	748.72	2.32	1.59	25.74	5.82	208.3	1456.08	4.27	0.95	4.52	4.52
Rosebud County	C12	RM 223.2	29681	5-yr	2203.1	753.09	748.51	2.25	1.49	23.9	4.72	209.66	1731.16	4.39	0.85	4.58	4.58
Rosebud County	C12	RM 223.02	29391	5-yr	2203.1	753.04	748.51	1.71	1.03	14.24	4.21	265.78	1839.7	3.99	1.17	4.53	4.53
Rosebud County	C12	RM 222.82	29071	5-yr	2203.1	752.93	748.5	1.7	1.05	14.08	4.57	268.13	2012.4	4.03	1.3	4.43	4.43
Rosebud County	C12	RM 222.64	28787	5-yr	2203.1	752.82	748.46	1.79	1.03	15.48	5.98	236.97	1612.28	4.11	1.58	4.36	4.36
Rosebud County	C12	RM 222.45	28479	5-yr	2203.1	752.72	748.44	1.69	0.99	14.2	6.2	281.49	1520.67	3.69	1.6	4.28	4.28
Rosebud County	C12	RM 222.22	28128	5-yr	2203.1	752.56	748.15	1.44	0.96	33.1	12.98	260.12	1465.4	4.14	1.61	4.41	4.41
Rosebud County	C12	RM 222.01	27784	5-yr	2203.1	752.42	747.57	1.33	0.86	8.88	3.82	372.22	1825.57	3.78	1.61	4.85	4.85
Rosebud County	C12	RM 221.77	27401	5-yr	2203.1	752.37	747.18	0.9	0.67	5.02	3.11	725.95	2307.35	2.93	1.81	5.19	5.19
Rosebud County	C12	RM 221.55	27042	5-yr	2203.1	752.31	747.07	0.8	0.61	4.52	2.89	807.88	2768.85	2.89	1.84	5.24	5.24
Rosebud County	C12	RM 221.34	26708	5-yr	2203.1	752.26	746.94	0.89	0.64	4.35	2.8	648.68	2680.06	3.17	2.03	5.32	5.32
Rosebud County	C12	RM 221.15	26406	5-yr	2203.1	752.15	746.7	1.44	0.94	9.35	3.77	265.14	2116.4	5.02	2	5.45	5.45
Rosebud County	C12	RM 220.96	26081	5-yr	2203.1	751.52	746.66	3.44	2.28	56.69	16.79	138.36	1120.07	4.23	1.22	4.86	4.86
Rosebud County	C12	RM 220.77	25779	5-yr	2203.1	751.11	746.73	3.31	3.02	53.14	23.51	163.4	412.34	4.04	1.77	4.38	4.38
Rosebud County	C12	RM 220.6	25513	5-yr	2203.1	751.14	746.72	2.03	1.8	19.89	9.27	256.78	639.71	4.14	1.92	4.42	4.42
Rosebud County	C12	RM 220.4	25183	5-yr	2203.1	751	746.88	1.84	1.47	15.65	8.65	395.04	1166.74	2.78	1.52	4.12	4.12
Rosebud County	C12	RM 220.23	24914	5-yr	2203.1	750.94	746.8	1.33	1.11	7.32	5.28	635.17	1300.21	2.4	1.72	4.14	4.14
Rosebud County	C12	RM 220.02	24578	5-yr	2203.1	750.83	746.54	1.26	1.13	7.67	6.06	792.77	1166.11	2.12	1.67	4.29	4.29
Rosebud County	C12	RM 219.83	24268	5-yr	2203.1	750.76	746.18	1.07	0.99	5.69	4.94	775.68	1083.58	2.56	2.22	4.58	4.58
Rosebud County	C12	RM 219.63	23947	5-yr	2203.1	750.62	745.79	1.38	1.27	9.97	8.13	587.54	806.6	2.65	2.16	4.83	4.83
Rosebud County	C12	RM 219.47	23683	5-yr	2203.1	750.52	745.56	1.48	1.24	11.06	6.38	380.14	825.9	3.74	2.15	4.96	4.96
Rosebud County	C12	RM 219.29	23386	5-yr	2203.1	750.21	745.27	2.4	1.69	27.93	11.53	208.04	786.46	4.07	1.66	4.94	4.94
Rosebud County	C12	RM 219.11	23085	5-yr	2203.1	750.03	745.15	2.36	1.63	26.93	10.92	176.7	842.08	4.08	1.63	4.88	4.88
Rosebud County	C12	RM 218.92	22783	5-yr	2203.1	749.89	745.15	2	1.4	19.77	9.15	229.91	968.74	3.55	1.63	4.74	4.74
Rosebud County	C12	RM 218.73	22473	5-yr	2203.1	749.72	745.06	1.97	1.33	18.42	7.48	226.8	949.02	4.33	1.74	4.66	4.66
Rosebud County	C12	RM 218.54	22180	5-yr	2203.1	749.61	744.99	1.86	1.39	16.8	8.91	274.48	754.78	3.97	2.11	4.62	4.62
Rosebud County	C12	RM 218.38	21902	5-yr	2203.1	749.5	744.43	1.86	1.34	16.15	7.72	234.82	762.63	4.54	2.16	5.07	5.07
Rosebud County	C12	RM 218.18	21580	5-yr	2203.1	749.26	743.9	2.37	1.48	26.43	10.18	182.74	885.86	4.42	1.68	5.36	5.36
Rosebud County	C12	RM 217.99	21276	5-yr	2203.1	749.09	743.66	2.27	1.51	25.2	8.77	211.96	1066.06	3.99	1.37	5.43	5.43
Rosebud County	C12	RM 217.81	20981	5-yr	2203.1	749.05	743.51	1.59	1.23	11.32	3.15	293.45	1481.87	4.54	1.25	5.54	5.54
Rosebud County	C12	RM 217.64	20702	5-yr	2203.1	748.7	743.41	2.65	1.91	33.27	7.13	176.29	1307.72	4.41	0.93	5.29	5.29
Rosebud County	C12	RM 217.45	20392	5-yr	2203.1	748.46	743.29	2.64	1.74	33.72	7.4	184.69	1441.17	4.08	0.88	5.17	5.17
Rosebud County	C12	RM 217.25	20070	5-yr	2203.1	748.41	743.29	1.95	1.18	17.47	4.08	191.77	1714.48	4.74	1.09	5.12	5.12
Rosebud County	C12	RM 217	19662	5-yr	2203.1	748.11	743.25	2.37	1.49	26.83	6.71	192.47	1404.94	4.27	1.05	4.86	4.86
Rosebud County	C12	RM 216.77	19300	5-yr	2203.1	747.88	743.25	2.35	1.47	27.8	7.66	217.02	1512.61	3.63	0.99	4.63	4.63
Rosebud County	C12	RM 216.53	18912	5-yr	2203.1	747.72	743.3	1.87	1.09	17.78	6.02	273.83	1712.04	3.53	1.18	4.42	4.42
Rosebud County	C12	RM 216.27	18500	5-yr	2203.1	747.58	743.24	1.59	1.01	13.12	5.82	358.3	1497.16	3.29	1.45	4.34	4.34
Rosebud County	C12	RM 215.98	18038	5-yr	2203.1	747.46	743.12	1.45	0.89	10.53	4.92	273.73	1487.41	3.56	1.66	4.34	4.34
Rosebud County	C12	RM 215.68	17550	5-yr	2203.1	747.31	742.31	1.54	1.02	10.91	3.73	269.37	1342.08	4.71	1.61	5	5
Rosebud County	C12	RM 215.41	17101	5-yr	2203.1	747.13	741.82	1.91	1.26	17.09	6.94	218.66	987.61	4.44	1.79	5.31	5.31
Rosebud County	C12	RM 215.21	16781	5-yr	2203.1	746.75	741.65	2.78	1.82	36.85	12.45	159.7	958.74	4.29	1.43	5.1	5.1
Rosebud County	C12	RM 215.02	16479	5-yr	2203.1	746.38	741.68	3.06	2.21	44.6	14.9	146.57	703.72	4.35	1.43	4.7	4.7
Rosebud County	C13	RM 214.86	16220	5-yr	2203.1	746.42	741.64	1.84	1.52	15.85	7.58	252.91	760.12	4.57	2.17	4.78	4.78
Rosebud County	C13	RM 214.65	15883	5-yr	2203.1	746.27	741.6	1.83	1.74	15.1	9.54	399.8	678.26	3	1.89	4.67	4.67
Rosebud County	C13	RM 214.46	15577	5-yr	2203.1	746.14	741.6	1.73	1.44	11.52	6.91	459.78	1148.42	2.65	1.58	4.54	4.54
Rosebud County	C13	RM 214.27	15282	5-yr	2203.1	746.04	741.59	1.55	1.3	10.04	5.39	505.93	1205.84	2.64	1.41	4.45	4.45
Rosebud County	C13	RM 214.07	14957	5-yr	2203.1	745.93	741.54	1.38	1.1	12.64	6.41	425.03	1309.66	3.41	1.72	4.39	4.39
Rosebud County	C13	RM 213.9	14672	5-yr	2203.1	745.78	741.37	1.64	1.45	13.55	7.53	363.41	789.67	3.5	1.94	4.41	4.41
Rosebud County	C13	RM 213.7	14343	5-yr	2203.1	745.51	740.88	2.17	1.9	22.46	10.54	232.58	1119.21	4.27	1.99	4.63	4.63
Rosebud County	C13	RM 213.54	14083	5-yr	2203.1	745.22	740.59	2.63	2.08	32.97	11.38	191.86	1689.35	4.22	1.44	4.63	4.63
Rosebud County	C13	RM 213.36	13792	5-yr	2203.1	745.09	740.39	2.2	1.8	23.8	10.21	243.77	1797.48	3.84	1.63	4.7	4.7
Rosebud County	C13	RM 213.16	13475	5-yr	2203.1	744.84	740.27	2.43	1.66	28.72	12.12	208.8	1646.05	3.65	1.52	4.57	4.57
Rosebud County	C13	RM 212.99	13200	5-yr	2203.1	744.7	740.31	2.16	1.71	21.01	8.42	212.05	1759.46	3.41	1.35	4.39	4.39
Rosebud County	C13	RM 212.79	12880	5-yr	2203.1	744.52	740.19	2.19	1.35	23.15	6.7	178.07	2303.25	4.13	1.18	4.33	4.33
Rosebud County	C13	RM 212.6	12572	5-yr	2203.1	744.38	739.79	1.93	1.23	17.73	5.18	240.96	2659.92	4.27	1.24	4.59	4.59
Rosebud County	C13	RM 212.42	12284	5-yr	2203.1	744.15	739.58	2.33	1.39	27.77	7.46	211.17	2548.26	3.91	1.04	4.57	4.57
Rosebud County	C13	RM 212.23	11983	5-yr	2203.1	744.03	739.17	1.97	1.26	19.27	5.52	257.92	2466.91	3.8	1.08	4.86	4.86
Rosebud County	C13	RM 212.05	11688	5-yr	2203.1	743.85	738.83	2.08	1.42	20.43	4.79	227.15	2288.44	4.34	1	5.02	5.02

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	5-yr	2203.1	743.64	738.79	2.25	1.62	25.24	7.99	250.92	1787.32	3.7	1.16	4.85	4.85
Rosebud County	C13	RM 211.65	11066	5-yr	2203.1	743.44	738.58	2.2	1.51	23.76	8.17	248.86	1406.83	3.76	1.28	4.86	4.86
Rosebud County	C13	RM 211.44	10724	5-yr	2203.1	743.28	738.38	2.13	1.27	22.11	9.48	199.53	1428.79	4.01	1.71	4.9	4.9
Rosebud County	C13	RM 211.21	10353	5-yr	2203.1	743.16	737.87	1.9	1.2	15.68	6.83	207.36	1458.6	4.01	1.74	5.29	5.29
Rosebud County	C13	RM 210.96	9946	5-yr	2203.1	742.83	737.72	2.53	1.52	31.32	11.79	169.56	987.18	3.96	1.47	5.11	5.11
Rosebud County	C13	RM 210.75	9612	5-yr	2203.1	742.76	737.48	1.89	1.18	17.02	6.78	191.27	1091.77	4.35	1.71	5.28	5.28
Rosebud County	C13	RM 210.57	9317	5-yr	2203.1	742.68	737.5	1.68	1.13	13.34	5.13	244	1185.41	4.32	1.65	5.18	5.18
Rosebud County	C13	RM 210.36	8986	5-yr	2203.1	742.4	737.54	2.36	1.49	27.18	10.27	194.77	992.2	3.98	1.49	4.86	4.86
Rosebud County	C13	RM 210.16	8674	5-yr	2203.1	742.18	737.53	2.21	1.7	25.3	10.71	288.05	991.98	3.27	1.37	4.65	4.65
Rosebud County	C13	RM 209.98	8382	5-yr	2203.1	742.16	737.25	1.43	1.09	9.76	4.59	306.92	1084.05	4.24	1.98	4.91	4.91
Rosebud County	C13	RM 209.8	8091	5-yr	2203.1	742.07	736.96	1.64	1.12	12.21	5.05	218.68	1125.32	4.97	2.04	5.11	5.11
Rosebud County	C13	RM 209.6	7774	5-yr	2203.1	741.89	736.72	2.1	1.15	20.33	6.6	179.37	1520.85	4.76	1.52	5.17	5.17
Rosebud County	C13	RM 209.41	7482	5-yr	2203.1	741.81	736.53	1.78	1.09	15.05	5.85	238.7	1577.42	4.27	1.64	5.28	5.28
Rosebud County	C13	RM 209.21	7161	5-yr	2203.1	741.58	736.29	2.22	1.48	23.3	8.22	197.21	1100.72	4.35	1.51	5.29	5.29
Rosebud County	C13	RM 209.03	6871	5-yr	2203.1	741.4	736.14	2.32	1.49	25.49	9	185.84	1025.99	4.41	1.53	5.26	5.26
Rosebud County	C13	RM 208.85	6571	5-yr	2203.1	741.32	736.03	1.89	1.28	16.81	7.18	229.12	1046.06	4.42	1.86	5.29	5.29
Rosebud County	C13	RM 208.65	6257	5-yr	2203.1	741.22	735.74	1.84	1.27	16.35	7.52	218.32	1012.01	4.18	1.9	5.48	5.48
Rosebud County	C13	RM 208.46	5945	5-yr	2203.1	740.96	735.69	2.31	1.92	25.67	13.36	204.27	835.4	3.62	1.86	5.27	5.27
Rosebud County	C13	RM 208.29	5682	5-yr	2203.1	740.23	735.63	3.71	3.28	66.79	41.97	116.29	264.21	4.12	2.54	4.6	4.6
Rosebud County	C14	RM 208.1	5374	5-yr	2203.1	740.11	735.61	2.5	2.24	29.77	12.97	201.37	531.22	4.3	1.85	4.5	4.5
Rosebud County	C14	RM 207.91	5064	5-yr	2203.1	739.93	735.56	2.23	1.76	25.02	11.18	293.26	969.81	3.17	1.4	4.37	4.37
Rosebud County	C14	RM 207.72	4766	5-yr	2203.1	739.71	735.52	2.07	1.66	19.99	9.73	400.47	1253.37	2.47	1.19	4.19	4.19
Rosebud County	C14	RM 207.53	4450	5-yr	2203.1	739.59	735.35	1.52	1.2	13.04	6.5	466.87	1380.19	2.8	1.39	4.24	4.24
Rosebud County	C14	RM 207.33	4123	5-yr	2203.1	739.36	735.27	1.94	1.33	19.16	7.67	282.48	1207.19	3.46	1.38	4.09	4.09
Rosebud County	C14	RM 207.15	3851	5-yr	2203.1	739.25	735.14	1.74	1.23	15.15	5.79	310.78	1447.55	3.52	1.34	4.11	4.11
Rosebud County	C14	RM 206.99	3599	5-yr	2203.1	739.16	734.95	1.65	1.07	14.22	5.56	327.09	1678.81	3.26	1.27	4.21	4.21
Rosebud County	C14	RM 206.81	3315	5-yr	2203.1	739.06	734.49	1.64	0.97	13.46	4.39	257.4	1884.53	3.74	1.21	4.57	4.57
Rosebud County	C14	RM 206.61	2997	5-yr	2203.1	738.94	733.91	1.76	0.92	14.71	4.46	197.48	2401.65	4.29	1.28	5.03	5.03
Rosebud County	C14	RM 206.43	2701	5-yr	2203.1	738.88	733.52	1.58	0.89	12.74	5.23	244.31	2766.61	3.52	1.43	5.36	5.36
Rosebud County	C14	RM 206.21	2350	5-yr	2203.1	738.78	733.38	1.56	0.95	12.15	4.72	253.17	2675	3.74	1.44	5.4	5.4
Rosebud County	C14	RM 205.97	1963	5-yr	2203.1	738.69	732.73	1.46	0.83	9.53	3.05	223.85	2553.55	5.18	1.63	5.96	5.96
Rosebud County	C14	RM 205.72	1563	5-yr	2203.1	738.08	732.73	3.58	1.64	77.25	12.79	94.98	1974.03	4.8	0.76	5.35	5.35
Rosebud County	C14	RM 205.49	1198	5-yr	2203.1	737.68	732.63	2.6	1.62	43.18	9.22	187.25	1759.91	3.94	0.83	5.05	5.05
Rosebud County	C14	RM 205.3	907	5-yr	2203.1	737.37	732.76	2.47	1.43	33.04	10.8	246.92	1729.92	2.87	0.93	4.61	4.61
Rosebud County	C14	RM 205.11	594	5-yr	2203.1	737.21	732.8	1.99	1	19.25	6.21	191.76	1783.74	4.02	1.28	4.41	4.41
Rosebud County	C14	RM 204.9	243	5-yr	2203.1	736.86	732.63	2.46	1.39	30.96	7.67	224.67	1992.91	3.4	0.83	4.23	4.23

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	5-yr	2203.1	736.86	732.67	2.86	1.55	42.34	8.6	191.4	2118.1	3.35	0.67	4.19	4.19
Custer County	C14	RM 204.43	73135	5-yr	2203.1	736.79	732.44	1.88	0.99	18.25	5.44	266.74	2236.44	3.38	1	4.35	4.35
Custer County	C14	RM 204.22	72808	5-yr	2203.1	736.6	732.3	1.99	1.08	20.86	6.92	262.16	1987.99	3.11	1.03	4.3	4.3
Custer County	C14	RM 204	72454	5-yr	2203.1	736.42	731.9	1.84	1.16	16.32	4.27	261.19	1794.72	4.07	1.06	4.52	4.52
Custer County	C14	RM 203.82	72156	5-yr	2203.1	736.23	731.14	2.21	1.08	24	5.73	197.43	2234.63	3.88	0.91	5.09	5.09
Custer County	C14	RM 203.65	71895	5-yr	2203.1	736.11	730.95	2.08	0.88	21.06	6.07	162.5	2214.34	3.99	1.13	5.16	5.16
Custer County	C14	RM 203.5	71641	5-yr	2203.1	736.03	730.78	1.65	0.8	13.42	4.22	195.78	2269.94	3.94	1.22	5.25	5.25
Custer County	C14	RM 203.3	71324	5-yr	2203.1	735.96	730.79	1.51	0.79	10.82	3.39	161.79	2104.43	4.32	1.32	5.17	5.17
Custer County	C14	RM 203.1	71035	5-yr	2203.1	735.78	730.79	2.03	1.02	20.39	6.04	184.4	1957.55	3.8	1.11	4.99	4.99
Custer County	C14	RM 202.9	70718	5-yr	2203.1	735.66	730.67	1.88	1.12	19.15	6.84	247.7	1929.25	2.88	1.02	4.99	4.99
Custer County	C14	RM 202.71	70415	5-yr	2203.1	735.37	730.64	2.23	1.36	25.42	6.35	231.08	1893.81	3.48	0.86	4.73	4.73
Custer County	C14	RM 202.51	70088	5-yr	2203.1	734.95	730.68	2.85	1.8	40.24	8.61	152.2	1515.98	3.84	0.81	4.27	4.27
Custer County	C14	RM 202.34	69815	5-yr	2203.1	734.83	730.63	1.93	1.32	19.72	5.94	321.87	1775.78	3.15	0.94	4.2	4.2
Custer County	C14	RM 202.13	69483	5-yr	2203.1	734.68	730.54	1.77	1.09	15.74	5.53	282.19	1814.38	3.68	1.28	4.14	4.14
Custer County	C14	RM 201.97	69219	5-yr	2203.1	734.48	730.01	2.03	1.46	20.86	7.41	264.21	1197.73	3.59	1.26	4.47	4.47
Custer County	C14	RM 201.75	68884	5-yr	2203.1	734.43	729.45	1.43	1.14	9.51	3.25	306.87	1245.94	4.61	1.56	4.99	4.99
Custer County	C14	RM 201.57	68612	5-yr	2203.1	734.3	729.37	1.75	1.31	16.52	7.39	362.67	1284.54	2.95	1.31	4.93	4.93
Custer County	C14	RM 201.38	68299	5-yr	2203.1	733.96	729.23	2.21	1.62	28.01	12.84	356.04	1225.21	2.45	1.11	4.73	4.73
Custer County	C14	RM 201.23	68055	5-yr	2203.1	733.77	729.13	1.93	1.38	20.86	10.81	369.58	1161.18	2.66	1.37	4.63	4.63
Custer County	C14	RM 201.06	67778	5-yr	2203.1	733.74	729.03	1.25	1	8.1	4.72	262.3	1228.87	3.38	1.95	4.71	4.71
Custer County	C14	RM 200.85	67439	5-yr	2203.1	733.23	729.05	3.26	2.53	52.1	18.66	114.21	630.42	3.97	1.38	4.18	4.18
Custer County	C14	RM 200.64	67103	5-yr	2203.1	733.16	728.97	2	1.55	19.31	10.04	216.06	702.87	4.05	2.09	4.19	4.19
Custer County	C14	RM 200.48	66842	5-yr	2203.1	733.09	728.8	1.54	1.36	12.26	8.56	307.41	686.13	3.4	2.36	4.29	4.29
Custer County	C14	RM 200.27	66515	5-yr	2203.1	732.94	728.63	1.64	1.38	13.63	9.26	359.69	665.05	3.56	2.41	4.31	4.31
Custer County	C14	RM 200.05	66162	5-yr	2203.1	732.75	728.3	1.8	1.59	16.86	13.56	388.18	566.7	3.05	2.44	4.45	4.45
Custer County	C14	RM 199.9	65916	5-yr	2203.1	732.68	727.78	1.51	1.49	11.34	10.27	381.62	430.59	3.8	3.44	4.9	4.9
Custer County	C14	RM 199.71	65614	5-yr	2203.1	732.37	727.34	2.33	2.21	23.43	17.4	260.33	375.51	3.59	2.65	5.03	5.03
Custer County	C14	RM 199.53	65326	5-yr	2203.1	732.3	727.34	1.85	1.78	15.93	7.76	259.62	561.18	4.57	2.21	4.96	4.96
Custer County	C14	RM 199.38	65076	5-yr	2203.1	732.19	727.34	1.88	1.78	16.83	8.39	364.29	876.21	3.2	1.59	4.85	4.85
Custer County	C14	RM 199.18	64754	5-yr	2203.1	731.99	727.64	1.88	1.67	17.18	9.27	456.73	1020.15	2.49	1.33	4.35	4.35
Custer County	C14	RM 199.04	64535	5-yr	2203.1	731.9	727.64	1.61	1.36	12.75	6.61	419.11	1020.98	3.11	1.61	4.26	4.26
Custer County	C14	RM 198.77	64102	5-yr	2203.1	731.68	727.28	1.82	1.56	16.12	8.04	294.95	934.32	3.99	1.98	4.4	4.4
Custer County	C14	RM 198.57	63773	5-yr	2203.1	731.3	726.99	2.6	2.27	32.62	12.49	204.81	630.14	4.07	1.55	4.31	4.31
Custer County	C14	RM 198.4	63505	5-yr	2203.1	731.1	726.86	2.56	2.04	31.9	13.83	199.72	751.2	3.96	1.7	4.24	4.24
Custer County	C14	RM 198.22	63215	5-yr	2203.1	730.86	726.57	2.58	1.82	32.68	16.03	190.38	826.21	3.85	1.87	4.29	4.29
Custer County	C14	RM 198.04	62923	5-yr	2203.1	730.7	726.32	2.2	1.68	23.82	9.32	227.09	867.91	3.9	1.51	4.38	4.38
Custer County	C14	RM 197.84	62611	5-yr	2203.1	730.62	726.04	1.62	1.41	13.24	4.89	351.59	1203.59	3.55	1.3	4.58	4.58
Custer County	C14	RM 197.65	62306	5-yr	2203.1	730.48	725.69	1.81	1.31	13.94	5.03	317.01	1415.75	3.33	1.19	4.79	4.79
Custer County	C14	RM 197.47	62013	5-yr	2203.1	730.46	725.29	1.3	0.85	7.6	2.45	295.97	1630.91	4.97	1.59	5.17	5.17
Custer County	C14	RM 197.27	61686	5-yr	2203.1	730.36	724.81	1.72	0.9	14.07	5.16	211.6	1618.64	4.3	1.56	5.55	5.55
Custer County	C14	RM 197.07	61373	5-yr	2203.1	730.27	724.81	1.78	1.07	14.98	4.56	204.54	1556.17	4.42	1.32	5.45	5.45
Custer County	C14	RM 196.91	61115	5-yr	2203.1	730.26	724.81	1.3	0.69	7.99	3.87	222.51	1490.89	4.45	2.13	5.45	5.45
Custer County	C14	RM 196.73	60815	5-yr	2203.1	730.21	724.76	1.31	0.73	8	3.7	241.21	1435.88	4.6	2.11	5.45	5.45
Custer County	C14	RM 196.54	60518	5-yr	2203.1	730.14	724.67	1.45	0.89	10.13	4.62	270.26	1765.91	4.09	1.85	5.47	5.47
Custer County	C14	RM 196.33	60178	5-yr	2203.1	730.07	724.57	1.46	1.01	9.76	4.27	247.23	1661.51	4.82	2.09	5.5	5.5
Custer County	C14	RM 196.17	59915	5-yr	2203.1	730.01	724.51	1.52	1.2	10.5	6.24	191.57	1291.56	4.97	2.94	5.5	5.5
Custer County	C15	RM 195.98	59615	5-yr	2203.1	728.75	724.52	4.63	4.48	108.31	82.56	132.07	187.62	3.59	2.73	4.23	4.23
Custer County	C15	RM 195.81	59337	5-yr	2203.1	728.65	724.33	3.13	3.09	47.33	40.83	168.88	238	4.16	3.58	4.32	4.32
Custer County	C15	RM 195.61	59020	5-yr	2203.1	728.54	724.24	2.3	2.24	25.49	18.38	230.07	434.11	4.15	2.98	4.3	4.3
Custer County	C15	RM 195.43	58727	5-yr	2203.1	728.34	724.22	2.22	2.11	25.77	18.02	305.61	546.55	3.22	2.24	4.12	4.12
Custer County	C15	RM 195.23	58415	5-yr	2203.1	728.21	723.93	1.75	1.72	16.15	13.44	391.55	545.77	3.21	2.66	4.28	4.28
Custer County	C15	RM 195.04	58114	5-yr	2203.1	727.98	723.54	2.09	1.9	22.1	15.5	269.46	472.34	3.5	2.45	4.44	4.44
Custer County	C15	RM 194.86	57824	5-yr	2203.1	727.79	722.93	2.2	1.79	23.57	13.23	209.77	713.01	4.03	2.24	4.86	4.86
Custer County	C15	RM 194.67	57521	5-yr	2203.1	727.61	722.75	2.14	1.92	21.22	9.41	217.41	817.32	4.66	2.04	4.86	4.86
Custer County	C15	RM 194.49	57231	5-yr	2203.1	727.5	722.53	2	1.67	18.56	8.93	232.49	735.3	4.58	2.19	4.97	4.97
Custer County	C15	RM 194.32	56946	5-yr	2203.1	727.3	722.5	2.24	1.87	22.86	11.74	259.82	632.66	3.66	1.87	4.8	4.8
Custer County	C15	RM 194.13	56643	5-yr	2203.1	727.08	722.5	2.3	2.09	26.32	16.5	251.13	458.3	3.75	2.34	4.57	4.57
Custer County	C15	RM 193.93	56331	5-yr	2203.1	726.93	722.31	2.04	1.89	19.89	14.15	247.7	411.67	4.26	3.02	4.62	4.62
Custer County	C15	RM 193.74	56024	5-yr	2203.1	726.75	722.23	2.15	1.93	21.9	11.2	229.04	630.1	4.37	2.21	4.52	4.52
Custer County	C15	RM 193.55	55708	5-yr	2203.1	726.54	722.13	2.31	1.99	25.39	11.47	216.2	587.83	4.26	1.9	4.41	4.41

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	5-yr	2203.1	726.33	722.13	2.4	2.01	28.09	11.95	219.51	656.49	4.02	1.7	4.2	4.2
Custer County	C15	RM 193.2	55158	5-yr	2203.1	726.26	722.13	1.88	1.57	17.17	8.52	280.04	731.66	3.99	1.97	4.13	4.13
Custer County	C15	RM 193	54825	5-yr	2203.1	726.11	721.84	1.89	1.55	17.44	9.17	281.95	695.54	3.97	2.08	4.27	4.27
Custer County	C15	RM 192.81	54525	5-yr	2203.1	725.94	721.37	2.1	1.56	20.81	8.48	207.4	804.81	4.4	1.78	4.57	4.57
Custer County	C15	RM 192.63	54247	5-yr	2203.1	725.77	721.01	2.17	1.71	22.16	8.39	216.5	768.23	4.49	1.68	4.76	4.76
Custer County	C15	RM 192.44	53935	5-yr	2205.9	725.67	721.01	1.87	1.49	16.53	7.78	241	733.25	4.32	2.02	4.66	4.66
Custer County	C16	RM 192.26	53653	5-yr	2205.9	725.45	721.01	2.2	1.98	23.11	12.21	227.85	494.25	4.29	2.25	4.44	4.44
Custer County	C16	RM 192.05	53309	5-yr	2205.9	724.81	721.11	3.31	3.07	55.84	35.13	186.81	326.5	3.51	2.2	3.7	3.7
Custer County	C16	RM 191.74	52809	5-yr	2205.9	724.56	721.1	1.86	1.8	17.88	16.09	448.45	519.42	2.62	2.36	3.46	3.46
Custer County	C16	RM 191.35	52181	5-yr	2205.9	724.1	721.02	1.77	1.74	14.74	14.13	673.57	717.36	1.84	1.77	3.08	3.08
Custer County	C16	RM 191.12	51812	5-yr	2205.9	723.9	720.51	1.45	1.45	9.96	9.94	737.5	738.9	2.07	2.06	3.39	3.39
Custer County	C16	RM 190.87	51406	5-yr	2205.9	723.74	719.89	1.28	1.27	8.5	7.82	816.07	899.47	2.1	1.93	3.85	3.85
Custer County	C16	RM 190.54	50885	5-yr	2205.9	723.6	719.15	1	0.97	6.23	5	789.45	1185.46	2.77	2.22	4.45	4.45
Custer County	C16	RM 190.29	50477	5-yr	2205.9	723.01	718.45	2.93	2.4	41.72	15.61	179.8	652.9	4.06	1.5	4.56	4.56
Custer County	C16	RM 190.1	50176	5-yr	2205.9	722.73	718.43	2.7	2.46	36.8	21.58	226	884.62	3.57	2.09	4.3	4.3
Custer County	C16	RM 189.85	49765	5-yr	2205.9	722.54	718.13	1.93	1.87	19.35	17.97	334.92	1009.75	3.33	3.09	4.41	4.41
Custer County	C16	RM 189.65	49458	5-yr	2205.9	722.31	718.1	2.11	1.74	20.49	10.12	340.01	1606.8	2.93	1.44	4.21	4.21
Custer County	C16	RM 189.43	49103	5-yr	2205.9	721.81	718.09	2.68	2.44	38.34	24.37	269.54	734.72	3	1.9	3.72	3.72
Custer County	C16	RM 189.22	48763	5-yr	2205.9	721.83	717.93	1.35	1.26	9.19	5.07	452.17	1179.83	3.59	1.97	3.9	3.9
Custer County	C16	RM 188.91	48267	5-yr	2205.9	721.63	717.54	1.58	1.4	12.03	6.49	472.67	1324.65	2.89	1.55	4.09	4.09
Custer County	C16	RM 188.66	47869	5-yr	2205.9	721.27	716.75	2.38	1.62	26.92	7.48	195.28	1227.29	4.35	1.19	4.52	4.52
Custer County	C16	RM 188.51	47622	5-yr	2205.9	721.11	716.72	2.34	1.64	26.82	8.67	217.17	1060.47	3.97	1.27	4.39	4.39
Custer County	C16	RM 188.32	47314	5-yr	2205.9	721.02	716.79	1.85	1.53	17.57	8.32	151.69	818.97	3.79	1.76	4.23	4.23
Custer County	C16	RM 188.14	47024	5-yr	2205.9	720.85	716.93	1.34	1.47	7.44	7.96	474.59	999.66	1.41	1.51	3.92	3.92
Custer County	C16	RM 187.98	46768	5-yr	2205.9	720.76	716.91	1.62	1.26	13.36	7.63	222.44	875.62	3.53	2	3.85	3.85
Custer County	C16	RM 187.78	46440	5-yr	2205.9	720.68	716.69	1.4	1.17	10.47	5.83	251.06	1025.74	3.32	1.84	3.99	3.99
Custer County	C16	RM 187.55	46083	5-yr	2205.9	720.43	716.04	2.06	1.33	20.73	8.12	224.37	1076.16	3.97	1.54	4.39	4.39
Custer County	C16	RM 187.35	45750	5-yr	2205.9	719.95	715.34	2.87	2.08	40.22	13.03	182.36	914.9	3.99	1.28	4.61	4.61
Custer County	C16	RM 187.14	45421	5-yr	2205.9	719.85	715.3	2.07	1.53	21.18	9.5	259.08	1189.04	3.82	1.7	4.55	4.55
Custer County	C16	RM 187.01	45211	5-yr	2205.9	719.8	715.3	1.75	1.35	14.86	6.91	300.38	1075.6	3.98	1.84	4.5	4.5
Custer County	C16	RM 186.84	44930	5-yr	2205.9	719.66	715.03	1.87	1.38	17.39	7.38	294.8	1028.03	3.72	1.56	4.63	4.63
Custer County	C16	RM 186.62	44553	5-yr	2205.9	719.22	714.75	2.69	2.28	34.43	11.31	188.38	700.09	4.23	1.38	4.47	4.47
Custer County	C16	RM 186.46	44311	5-yr	2205.9	718.97	714.53	2.81	2.14	38.68	15.68	185.86	648.69	3.97	1.59	4.44	4.44
Custer County	C16	RM 186.26	43996	5-yr	2205.9	718.7	714.27	2.64	2.38	33.86	19.78	205.3	397.7	4.01	2.33	4.43	4.43
Custer County	C16	RM 186.1	43730	5-yr	2205.9	718.62	713.9	1.99	1.93	19.61	15.2	293.04	398.56	3.77	2.91	4.72	4.72
Custer County	C16	RM 185.91	43424	5-yr	2234.8	718.44	713.84	2	1.93	18.27	15.08	388.45	491.26	2.86	2.36	4.6	4.6
Custer County	C16	RM 185.71	43110	5-yr	2234.8	717.81	713.84	3.09	2.95	37.91	25.88	325.31	503.11	2.22	1.51	3.97	3.97
Custer County	C16	RM 185.52	42808	5-yr	2234.8	717.8	713.71	1.73	1.61	15.29	10.76	365.42	572.67	3.48	2.45	4.09	4.09
Custer County	C16	RM 185.34	42508	5-yr	2234.8	717.58	713.28	1.98	1.95	16.38	15.3	511.67	630.59	2.2	2.06	4.3	4.3
Custer County	C16	RM 185.16	42219	5-yr	2234.8	717.52	712.93	1.43	1.21	10.4	7.13	419.95	1261.66	3.52	2.41	4.59	4.59
Custer County	C17	RM 184.95	41881	5-yr	2234.8	717.29	712.72	1.93	1.66	19.29	12.38	288.84	1077.53	3.89	2.49	4.57	4.57
Custer County	C17	RM 184.78	41621	5-yr	2234.8	717.01	712.51	2.46	2.09	29.26	13.87	214.3	732.85	4.12	1.93	4.5	4.5
Custer County	C17	RM 184.59	41311	5-yr	2234.8	716.74	711.96	2.6	2.39	31.9	25.06	194.4	358.15	4.35	3.41	4.78	4.78
Custer County	C17	RM 184.4	41010	5-yr	2234.8	716.66	711.62	2.01	1.99	18.74	17.05	242.39	309.59	4.59	4.17	5.04	5.04
Custer County	C17	RM 184.23	40728	5-yr	2234.8	716.44	711.31	2.33	2.3	26.41	24.08	237.08	464.26	4.04	3.67	5.13	5.13
Custer County	C17	RM 184.1	40517	5-yr	2234.8	716.23	711.39	2.54	2.38	30.6	20.75	203.14	643.74	4.28	2.91	4.84	4.84
Custer County	C17	RM 184.03	40407	5-yr	2234.8	716.2	711.49	2.32	2.26	25.52	18.36	222.73	448.24	4.32	3.09	4.71	4.71
Custer County	C17	RM 183.83	40098	5-yr	2234.8	716.04	711.42	2.2	2.17	22.83	20.06	232.99	648.61	4.36	3.82	4.62	4.62
Custer County	C17	RM 183.65	39806	5-yr	2234.8	715.84	711.39	2.31	2.28	25.42	19.96	223.79	358.17	4.31	3.37	4.45	4.45
Custer County	C17	RM 183.47	39513	5-yr	2234.8	715.54	711.39	2.64	2.62	33.97	28.6	209.74	338.93	4.03	3.38	4.15	4.15
Custer County	C17	RM 183.28	39210	5-yr	2234.8	715.43	711.31	2.08	1.95	20.9	12.72	263.55	566.62	4.03	2.44	4.12	4.12
Custer County	C17	RM 183.09	38909	5-yr	2234.8	715.25	711.04	2.18	1.67	23.2	11.15	235.99	851.6	4.02	1.91	4.21	4.21
Custer County	C17	RM 182.94	38660	5-yr	2234.8	715.14	710.66	2.01	1.78	19.18	9.38	244.12	597.91	4.34	2.1	4.48	4.48
Custer County	C17	RM 182.72	38316	5-yr	2234.8	714.96	710.1	2.09	1.81	21.04	11.12	250.1	574.86	4.09	2.15	4.86	4.86
Custer County	C17	RM 182.54	38020	5-yr	2234.8	714.49	710.12	2.99	2.49	43.23	25.8	173.67	366.86	4.13	2.45	4.37	4.37
Custer County	C17	RM 182.34	37706	5-yr	2234.8	714.3	710.27	2.42	2.2	29.35	18.99	240.92	434.45	3.63	2.34	4.03	4.03
Custer County	C17	RM 182.15	37402	5-yr	2234.8	714.09	710.26	2.3	2.12	26.3	17.23	248.66	432.98	3.72	2.43	3.83	3.83
Custer County	C17	RM 181.97	37127	5-yr	2234.8	713.92	710.26	2.12	2.02	22.8	16.02	291.12	449.02	3.52	2.46	3.66	3.66
Custer County	C17	RM 181.78	36815	5-yr	2234.8	713.67	710.09	2.19	2.01	22	13.65	364.69	717.74	2.67	1.65	3.58	3.58
Custer County	C17	RM 181.59	36505	5-yr	2234.8	713.33	709.76	2.39	2.24	25.98	19.95	364.71	520.35	2.51	1.92	3.57	3.57

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	5-yr	2234.8	713.04	709.37	2.26	1.94	26.42	17.3	276.63	528.27	3.34	2.18	3.67	3.67
Custer County	C17	RM 181.23	35925	5-yr	2234.8	712.74	709.36	2.61	2.35	35.78	26.04	247.28	416.04	3.14	2.28	3.38	3.38
Custer County	C17	RM 181.03	35607	5-yr	2234.2	712.58	709.02	1.92	1.87	19.18	16.7	353.78	458.42	3.23	2.82	3.56	3.56
Custer County	C17	RM 180.83	35292	5-yr	2234.2	712.45	708.68	1.69	1.54	15.07	11.04	362.09	688.34	3.16	2.31	3.77	3.77
Custer County	C17	RM 180.66	35006	5-yr	2234.2	712.25	708.22	1.9	1.81	18.46	15.51	342.47	432.46	3.4	2.86	4.03	4.03
Custer County	C18	RM 180.46	34700	5-yr	2234.2	712.06	708.05	2.01	1.83	19.85	14.55	281.53	431.01	3.88	2.84	4.01	4.01
Custer County	C18	RM 180.29	34421	5-yr	2234.2	711.79	707.79	2.43	2.1	29.78	14.65	243.73	614.25	3.54	1.73	4	4
Custer County	C18	RM 180.08	34086	5-yr	2234.2	711.6	707.53	2.13	1.9	22.3	13.42	253.58	500.01	3.92	2.35	4.07	4.07
Custer County	C18	RM 179.9	33807	5-yr	2234.2	711.44	707.32	2.08	1.89	21.42	14.45	266.08	477.27	3.74	2.52	4.12	4.12
Custer County	C18	RM 179.73	33525	5-yr	2234.2	711.14	706.89	2.43	2.27	29.99	23.47	256.8	370.46	3.52	2.75	4.25	4.25
Custer County	C18	RM 179.54	33218	5-yr	2234.2	710.87	706.7	2.34	2.29	29.38	24.7	312.1	382.75	3.04	2.55	4.17	4.17
Custer County	C18	RM 179.35	32914	5-yr	2234.2	710.7	706.45	2.03	1.89	20.46	14.27	292.41	456.04	3.72	2.59	4.25	4.25
Custer County	C18	RM 179.16	32611	5-yr	2234.2	710.43	706.29	2.34	2.28	27.12	21.05	237.48	314.71	4.02	3.11	4.14	4.14
Custer County	C18	RM 178.99	32337	5-yr	2234.2	710.28	706.07	2.18	2.11	23.06	19.47	254.29	321.69	4.02	3.39	4.21	4.21
Custer County	C18	RM 178.79	32025	5-yr	2234.2	710.07	705.9	2.26	2.18	24.92	22.49	251.59	294.95	3.91	3.53	4.17	4.17
Custer County	C18	RM 178.61	31730	5-yr	2234.2	709.89	705.59	2.18	2.14	23.16	20.95	259.81	423.9	3.94	3.56	4.3	4.3
Custer County	C18	RM 178.43	31434	5-yr	2234.2	709.72	705.25	2.17	2.17	22.73	22.37	249.19	270.31	4.12	4.06	4.47	4.47
Custer County	C18	RM 178.23	31114	5-yr	2234.2	709.54	704.7	2.18	2.18	22.96	22.53	249.24	254.55	4.11	4.03	4.84	4.84
Custer County	C18	RM 178.06	30848	5-yr	2234.2	709.35	704.57	2.3	2.2	25.12	19.09	219.45	306.14	4.37	3.31	4.78	4.78
Custer County	C18	RM 177.88	30549	5-yr	2234.2	709.14	704.57	2.38	2.28	27.5	20.48	229.01	325.05	4.06	3.02	4.57	4.57
Custer County	C18	RM 177.66	30211	5-yr	2251.2	708.63	704.57	3.03	2.94	45.37	36.79	192.49	246.43	3.84	3.1	4.07	4.07
Custer County	C18	RM 177.49	29932	5-yr	2251.2	708.47	704.47	2.46	2.46	29.92	28.18	236.92	252.54	3.86	3.63	4	4
Custer County	C19	RM 177.3	29625	5-yr	2251.2	708.31	704.46	2.09	2.09	22.07	21.55	302.23	335.76	3.56	3.48	3.85	3.85
Custer County	C19	RM 177.11	29314	5-yr	2251.2	707.98	704.46	2.43	2.39	25.65	22.12	361.06	426.61	2.56	2.21	3.52	3.52
Custer County	C19	RM 176.93	29040	5-yr	2251.2	707.83	704.42	1.94	1.86	17.39	15.33	416.42	496.78	2.76	2.43	3.41	3.41
Custer County	C19	RM 176.74	28720	5-yr	2251.2	707.66	704.21	1.79	1.7	16.84	13.63	341.78	573.01	3.14	2.55	3.45	3.45
Custer County	C19	RM 176.53	28384	5-yr	2251.2	707.4	703.63	2.01	1.92	22.68	20.5	344.95	495.73	2.61	2.37	3.77	3.77
Custer County	C19	RM 176.36	28109	5-yr	2251.2	707.17	703.08	2.03	1.98	21.2	18.12	324.02	391.22	3.4	2.9	4.09	4.09
Custer County	C19	RM 176.18	27824	5-yr	2251.2	706.5	702.71	3.33	3.19	57.13	43.02	199.69	310.51	3.36	2.52	3.79	3.79
Custer County	C19	RM 176	27527	5-yr	2251.2	706.33	702.51	2.42	2.31	29.87	25.05	259.98	353.48	3.5	2.93	3.82	3.82
Custer County	C19	RM 175.81	27227	5-yr	2251.2	706.1	702.24	2.27	2.21	26.64	23.31	297.33	351.92	3.31	2.9	3.86	3.86
Custer County	C19	RM 175.62	26928	5-yr	2251.2	705.81	701.81	2.46	2.24	30.47	22.93	234.72	405.49	3.62	2.71	4	4
Custer County	C19	RM 175.43	26622	5-yr	2251.2	705.43	701.81	2.76	2.13	39.66	30.9	214.93	416.33	3.28	2.54	3.62	3.62
Custer County	C19	RM 175.25	26325	5-yr	2251.2	705.08	701.72	2.67	2.45	37.3	29.46	212.23	379.7	3.21	2.53	3.36	3.36
Custer County	C19	RM 175.08	26048	5-yr	2251.2	704.87	701.63	2.13	2.12	24.26	23.7	357.35	367.53	2.96	2.89	3.24	3.24
Custer County	C19	RM 174.9	25768	5-yr	2251.2	704.56	701.31	2.32	2.32	29.22	29.18	337.01	337.47	2.88	2.87	3.25	3.25
Custer County	C19	RM 174.69	25444	5-yr	2251.2	704.2	700.82	2.34	2.32	30.15	28.5	351.06	381.07	2.74	2.59	3.38	3.38
Custer County	C19	RM 174.49	25112	5-yr	2251.2	703.81	700.04	2.47	2.45	31.84	27.62	279.46	326.26	3.25	2.82	3.77	3.77
Custer County	C19	RM 174.32	24844	5-yr	2251.2	703.42	699.39	2.83	2.8	40.46	32.47	222.49	281.3	3.57	2.86	4.03	4.03
Custer County	C19	RM 174.13	24549	5-yr	2251.2	703.3	698.84	2.19	2.17	22.96	17.9	244.91	318.87	4.19	3.26	4.46	4.46
Custer County	C19	RM 173.94	24238	5-yr	2251.2	703.03	698.14	2.45	2.4	29.5	19.82	239.34	364.34	3.84	2.57	4.89	4.89
Custer County	C19	RM 173.75	23939	5-yr	2251.2	702.65	697.92	2.9	2.57	39.87	21.19	172.39	381.72	4.33	2.29	4.73	4.73
Custer County	C19	RM 173.57	23651	5-yr	2251.2	702.5	697.83	2.45	2.41	28.17	19.61	208.71	306.08	4.4	3.06	4.67	4.67
Custer County	C19	RM 173.39	23352	5-yr	2251.2	702.14	697.83	2.83	2.81	39.24	33.83	202.19	237.04	3.93	3.38	4.31	4.31
Custer County	C19	RM 173.2	23054	5-yr	2251.2	701.9	697.72	2.61	2.42	33.86	28.41	226.21	298.92	3.72	3.12	4.18	4.18
Custer County	C19	RM 173.02	22756	5-yr	2251.2	701.66	697.29	2.45	2.36	29.83	20.66	244.03	374.08	3.75	2.59	4.37	4.37
Custer County	C19	RM 172.82	22437	5-yr	2251.2	701.48	696.82	1.95	1.94	20.8	19.68	414.44	441.49	2.79	2.63	4.66	4.66
Custer County	C19	RM 172.67	22200	5-yr	2251.2	701.24	696.52	2.09	2.08	24.72	24.12	421.93	436.21	2.54	2.48	4.72	4.72
Custer County	C19	RM 172.49	21903	5-yr	2251.2	701	696.23	2.02	2.01	21.69	21.16	365.62	377.36	3.04	2.97	4.77	4.77
Custer County	C19	RM 172.29	21585	5-yr	2251.2	700.71	695.79	2.34	2.28	26.12	20.13	226.44	446.63	4.23	3.25	4.92	4.92
Custer County	C19	RM 172.12	21325	5-yr	2251.2	700.07	695.81	3.44	3.44	63.12	60.72	215.65	224.67	3.03	2.92	4.26	4.26
Custer County	C19	RM 171.89	20942	5-yr	2251.2	699.83	695.57	2.45	2.4	29.09	24.13	228.36	281.46	4.02	3.33	4.26	4.26
Custer County	C19	RM 171.71	20638	5-yr	2251.2	699.51	695.49	2.66	2.6	35.62	30.12	231.98	282.25	3.63	3.07	4.02	4.02
Custer County	C19	RM 171.52	20341	5-yr	2251.2	699.3	695.3	2.37	2.33	27.69	24.67	249.92	286.06	3.79	3.38	4	4
Custer County	C19	RM 171.34	20043	5-yr	2251.2	699.02	695.11	2.51	2.5	31.5	29.94	244.86	259.16	3.66	3.48	3.91	3.91
Custer County	C19	RM 171.15	19745	5-yr	2251.2	698.79	694.86	2.39	2.39	28.41	27.99	249.21	253.07	3.77	3.72	3.94	3.94
Custer County	C19	RM 170.96	19437	5-yr	2251.2	698.58	694.67	2.3	2.29	26.3	25.06	261.69	275.47	3.74	3.56	3.91	3.91
Custer County	C19	RM 170.78	19143	5-yr	2251.2	698.34	694.2	2.38	2.34	27.94	23.84	245.9	294.17	3.83	3.27	4.14	4.14
Custer County	C19	RM 170.58	18838	5-yr	2251.2	698.04	693.91	2.55	2.5	32.83	29.44	245.35	280.58	3.58	3.21	4.13	4.13
Custer County	C19	RM 170.4	18543	5-yr	2251.2	697.87	693.9	2.2	2.2	24.03	23.52	269.24	275.84	3.79	3.71	3.97	3.97

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	5-yr	2251.2	697.69	693.7	2.15	2.15	22.85	21.68	272.95	288.93	3.83	3.63	3.99	3.99
Custer County	C19	RM 170.03	17941	5-yr	2251.2	697.41	693.31	2.42	2.42	28.74	28.48	237.13	239.36	3.92	3.88	4.1	4.1
Custer County	C19	RM 169.84	17641	5-yr	2251.2	697.17	692.78	2.5	2.5	29.86	29.77	214.51	215.09	4.2	4.19	4.39	4.39
Custer County	C19	RM 169.65	17341	5-yr	2251.2	696.9	692.47	2.62	2.62	32.81	32.34	203.7	206.88	4.22	4.16	4.43	4.43
Custer County	C19	RM 169.47	17041	5-yr	2251.2	696.6	692.17	2.76	2.67	37.01	30.96	199.81	250.15	4.03	3.37	4.43	4.43
Custer County	C19	RM 169.28	16732	5-yr	2251.2	696.37	692	2.56	2.47	31.61	24.72	214.83	287.01	4.07	3.17	4.37	4.37
Custer County	C19	RM 169.09	16441	5-yr	2251.2	696.13	691.96	2.54	2.53	31.52	30.82	225.9	250.83	3.92	3.84	4.17	4.17
Custer County	C19	RM 168.91	16152	5-yr	2251.2	695.87	691.93	2.58	2.57	33.03	31.16	230.07	244.91	3.79	3.57	3.94	3.94
Custer County	C19	RM 168.72	15846	5-yr	2251.2	695.71	691.82	2.15	2.15	23	22.88	279.42	280.82	3.74	3.73	3.89	3.89
Custer County	C19	RM 168.51	15500	5-yr	2251.2	695.49	691.6	2.13	2.1	23.07	21.45	296.39	326.23	3.54	3.29	3.89	3.89
Custer County	C19	RM 168.35	15241	5-yr	2251.2	695.22	691.48	2.41	2.3	29.67	25.19	269.29	335.06	3.44	2.92	3.74	3.74
Custer County	C19	RM 168.15	14931	5-yr	2251.2	694.85	691.2	2.67	2.55	36.47	27.99	239.95	333.02	3.46	2.65	3.65	3.65
Custer County	C19	RM 167.97	14639	5-yr	2251.2	694.64	690.59	2.37	2.37	27.8	27.64	247.71	249.15	3.83	3.81	4.05	4.05
Custer County	C19	RM 167.79	14340	5-yr	2251.2	694.41	690.5	2.37	2.36	27.74	27.08	249.29	342.98	3.81	3.72	3.91	3.91
Custer County	C19	RM 167.61	14054	5-yr	2251.2	694.09	690.42	2.63	2.61	35.09	33.48	244.84	258.6	3.5	3.34	3.67	3.67
Custer County	C19	RM 167.41	13735	5-yr	2251.2	693.84	690.14	2.4	2.22	29.17	20.15	264.94	420.69	3.48	2.41	3.69	3.69
Custer County	C19	RM 167.22	13433	5-yr	2251.2	693.64	689.79	2.2	2.16	24.15	19.84	276.96	345	3.68	3.02	3.85	3.85
Custer County	C19	RM 167.04	13143	5-yr	2251.2	693.46	689.14	2.16	2.07	22.72	18.71	256.62	327.77	4.02	3.32	4.32	4.32
Custer County	C19	RM 166.85	12847	5-yr	2251.2	693.11	688.98	2.65	2.51	35.61	28.4	240.01	332.88	3.49	2.78	4.13	4.13
Custer County	C19	RM 166.67	12552	5-yr	2251.2	692.89	688.84	2.38	2.37	28.16	26.5	252.35	269.85	3.74	3.52	4.05	4.05
Custer County	C19	RM 166.52	12319	5-yr	2251.2	692.8	688.64	2.02	2.01	19.77	18.49	278.87	299.96	4	3.74	4.16	4.16
Custer County	C19	RM 166.31	11978	5-yr	2251.2	692.54	688.02	2.29	2.24	24.46	19.13	249.27	326.09	3.94	3.08	4.52	4.52
Custer County	C20	RM 166.2	11806	5-yr	2254	692.41	687.4	2.36	2.29	26.71	20.15	229.93	315.8	4.15	3.12	5.01	5.01
Custer County	C20	RM 166.06	11569	5-yr	2254	692.17	687.38	2.55	2.52	32.57	25.82	239.53	307.81	3.68	2.91	4.79	4.79
Custer County	C20	RM 165.92	11350	5-yr	2254	691.91	687.38	2.71	2.65	36.96	27.73	229.54	314.42	3.62	2.7	4.53	4.53
Custer County	C20	RM 165.73	11039	5-yr	2254	691.73	687.26	2.27	2.25	25.59	22.78	264.5	300.28	3.75	3.34	4.47	4.47
Custer County	C20	RM 165.55	10750	5-yr	2254	691.53	687.11	2.24	2.21	24.92	23.18	270.57	294.66	3.72	3.46	4.42	4.42
Custer County	C20	RM 165.35	10440	5-yr	2254	691.31	686.75	2.23	2.19	24.91	21.97	278.73	323.15	3.61	3.18	4.56	4.56
Custer County	C20	RM 165.17	10140	5-yr	2254	691.12	686.41	2.22	2.12	23.97	20.54	247.1	311.09	4	3.42	4.71	4.71
Custer County	C20	RM 165.01	9883	5-yr	2254	690.95	686.16	2.23	2.18	24.4	19.76	262.27	332.75	3.85	3.11	4.79	4.79
Custer County	C20	RM 164.81	9577	5-yr	2254	690.77	686.04	2.13	2.04	22.78	18.09	284.46	378.73	3.68	2.91	4.73	4.73
Custer County	C20	RM 164.61	9252	5-yr	2254	690.63	685.8	1.84	1.71	14.66	11.25	374.21	537.79	3.21	2.45	4.83	4.83
Custer County	C20	RM 164.42	8945	5-yr	2254	690.48	685.78	1.85	1.85	14.51	14.36	416.56	426.74	2.92	2.89	4.7	4.7
Custer County	C20	RM 164.23	8641	5-yr	2254	690.34	685.85	1.68	1.67	15.96	15.82	452.11	465.05	2.97	2.95	4.49	4.49
Custer County	C20	RM 164.06	8372	5-yr	2254	690.21	685.64	1.74	1.63	14.35	10.83	294.56	434.15	4.35	3.28	4.57	4.57
Custer County	C20	RM 163.85	8031	5-yr	2254	690.05	685	1.91	1.89	17.38	13.76	277.99	355.66	4.24	3.35	5.05	5.05
Custer County	C20	RM 163.67	7743	5-yr	2254	689.82	684.45	2.3	2.3	23.86	23.29	191.84	197.24	5.1	4.98	5.37	5.37
Custer County	C20	RM 163.48	7449	5-yr	2254	689.53	684.13	2.75	2.73	34.02	32.28	162.29	172.09	5.05	4.79	5.4	5.4
Custer County	C20	RM 163.3	7150	5-yr	2254	689.43	684.13	2.29	2.24	23.98	21.81	204.93	230.35	4.79	4.36	5.3	5.3
Custer County	C20	RM 163.12	6859	5-yr	2254	689.36	683.91	1.89	1.82	17.01	14.24	267.05	337.36	4.4	3.68	5.45	5.45
Custer County	C20	RM 162.94	6583	5-yr	2254	689.15	683.78	2.25	2.11	23.15	15.46	204.74	333.51	4.84	3.21	5.37	5.37
Custer County	C20	RM 162.74	6254	5-yr	2254	688.76	683.77	2.88	2.73	39.25	25.48	177.33	292.84	4.38	2.82	4.99	4.99
Custer County	C20	RM 162.55	5957	5-yr	2254	688.53	683.96	2.57	2.56	34.52	32.37	231.24	248.12	3.79	3.55	4.57	4.57
Custer County	C20	RM 162.34	5620	5-yr	2254	688.41	683.92	1.94	1.91	18.57	16.86	304.55	342.09	3.8	3.45	4.49	4.49
Custer County	C20	RM 162.18	5352	5-yr	2254	688.28	683.41	1.75	1.74	24.37	23.91	354.23	362.25	3.64	3.58	4.87	4.87
Custer County	C20	RM 162.03	5111	5-yr	2254	688.18	683.26	1.64	1.64	12.83	12.66	322.26	342.84	4.27	4.22	4.92	4.92
Custer County	C20	RM 161.81	4770	5-yr	2254	687.75	682.63	2.76	2.71	35.2	29.65	174.77	211.68	4.67	3.92	5.12	5.12
Custer County	C20	RM 161.62	4470	5-yr	2254	687.4	682.53	3	2.99	42.66	41.59	174.2	315.06	4.32	4.21	4.87	4.87
Custer County	C20	RM 161.43	4159	5-yr	2254	687.2	682.63	2.61	2.54	32.56	24.75	206.33	280.1	4.18	3.17	4.57	4.57
Custer County	C20	RM 161.24	3859	5-yr	2254	686.9	682.51	2.76	2.62	36.82	25.98	199.39	301.95	4.05	2.85	4.39	4.39
Custer County	C20	RM 161.06	3559	5-yr	2254	686.69	682.38	2.51	2.41	30.52	21.4	218.97	328.81	4.08	2.85	4.31	4.31
Custer County	C20	RM 160.87	3258	5-yr	2254	686.31	682.24	2.85	2.8	40.01	32.47	204.8	258.13	3.85	3.12	4.07	4.07
Custer County	C20	RM 160.68	2952	5-yr	2254	686.15	682.11	2.3	2.29	26.03	24.07	252.16	274.38	3.88	3.59	4.04	4.04
Custer County	C20	RM 160.5	2662	5-yr	2254	685.96	681.85	2.2	2.2	24.88	24.14	302.73	312.55	3.39	3.28	4.11	4.11
Custer County	C20	RM 160.31	2364	5-yr	2254	685.76	681.58	2.08	2.04	22.3	19.57	321.4	375.75	3.35	2.94	4.18	4.18
Custer County	C20	RM 160.12	2063	5-yr	2254	685.58	681.02	2.07	2	21.07	18.43	277.19	331.76	3.88	3.39	4.56	4.56
Custer County	C20	RM 159.93	1758	5-yr	2254	685.28	680.9	2.39	2.35	29.89	26.82	292.2	332.93	3.21	2.88	4.38	4.38
Custer County	C20	RM 159.75	1459	5-yr	2254	685.03	680.88	2.36	2.34	27.61	25.68	251.96	278.21	3.78	3.52	4.15	4.15
Custer County	C20	RM 159.55	1151	5-yr	2254	684.83	680.74	2.25	2.23	24.95	23.59	261.92	281.12	3.82	3.61	4.09	4.09
Custer County	C20	RM 159.38	876	5-yr	2254	684.59	680.37	2.44	2.35	28.84	22.54	229.23	305.57	4.01	3.14	4.22	4.22

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	5-yr	2254	684.4	679.77	2.3	2.3	26.03	25.67	236.5	240.06	4.14	4.08	4.63	4.63
Custer County	C20	RM 158.98	229	5-yr	2254	684.12	679.44	2.47	2.44	29.3	27.17	217.29	238.23	4.18	3.88	4.68	4.68

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	5-yr	2256.9	684.12	679.22	2.42	2.36	27.6	23.38	214.16	259.66	4.35	3.68	4.9	4.9
Prairie County	C21	RM 158.55	61087	5-yr	2256.9	684.01	678.98	2.1	2.1	20.34	19.94	226.29	231.38	4.74	4.65	5.03	5.03
Prairie County	C21	RM 158.36	60787	5-yr	2256.9	683.88	678.83	2.03	2.03	19.37	18.64	249.45	284.66	4.45	4.29	5.05	5.05
Prairie County	C21	RM 158.17	60481	5-yr	2256.9	683.72	678.35	2.09	2.06	22.77	20.3	253.18	292.72	4.24	3.78	5.37	5.37
Prairie County	C21	RM 157.98	60173	5-yr	2256.9	683.41	678.22	2.49	2.45	30.53	26.45	231.17	279.26	3.9	3.37	5.19	5.19
Prairie County	C21	RM 157.78	59862	5-yr	2256.9	683.16	678.23	2.55	2.42	30.74	22.95	201.99	296.38	4.33	3.22	4.93	4.93
Prairie County	C21	RM 157.6	59561	5-yr	2256.9	683.06	678.14	2.12	2.05	20.94	16.69	233.85	305.66	4.53	3.6	4.91	4.91
Prairie County	C21	RM 157.38	59209	5-yr	2256.9	682.91	677.81	1.96	1.84	18.93	15.3	288.08	397.09	3.84	3.1	5.1	5.1
Prairie County	C21	RM 157.18	58885	5-yr	2256.9	682.76	677.42	1.98	1.71	18.35	10.96	235.66	508.25	4.51	2.68	5.34	5.34
Prairie County	C21	RM 156.99	58595	5-yr	2256.9	682.5	677.32	2.5	2.02	29.01	15.79	173.83	450.78	4.61	2.48	5.19	5.19
Prairie County	C21	RM 156.8	58287	5-yr	2256.9	682.06	677.32	3.16	2.56	47.99	29.08	149.83	348.14	4.23	2.53	4.74	4.74
Prairie County	C21	RM 156.62	57990	5-yr	2256.9	681.97	677.29	2.29	2.18	25.06	20.09	207.6	302.02	4.28	3.43	4.68	4.68
Prairie County	C21	RM 156.42	57683	5-yr	2256.9	681.85	677.21	1.97	1.9	18.7	15.46	271.12	343.89	4.19	3.45	4.64	4.64
Prairie County	C21	RM 156.24	57378	5-yr	2256.9	681.57	676.91	2.38	2.29	28.07	23.42	245.34	308.34	3.83	3.19	4.66	4.66
Prairie County	C21	RM 156.04	57069	5-yr	2256.9	681.41	676.56	2.17	2.1	22	17.18	226.07	302.15	4.57	3.56	4.85	4.85
Prairie County	C21	RM 155.85	56762	5-yr	2256.9	681.16	676.11	2.48	2.34	28.94	20.05	204.32	316.19	4.42	3.04	5.05	5.05
Prairie County	C21	RM 155.66	56455	5-yr	2256.9	680.76	675.96	2.97	2.71	42.16	25.66	177.08	326.76	4.23	2.55	4.8	4.8
Prairie County	C21	RM 155.47	56151	5-yr	2256.9	680.63	675.89	2.27	2.15	25.51	18.53	257.44	378.8	3.82	2.77	4.74	4.74
Prairie County	C21	RM 155.27	55835	5-yr	2256.9	680.44	675.92	2.11	2.11	22.99	21.94	317.77	334.01	3.36	3.21	4.52	4.52
Prairie County	C21	RM 155.08	55530	5-yr	2256.9	680.2	675.95	2.19	2.17	24.35	22.87	296.49	317.71	3.48	3.27	4.25	4.25
Prairie County	C21	RM 154.88	55209	5-yr	2256.9	680.01	675.64	2.08	2.07	21.12	20.93	300.68	303.33	3.62	3.59	4.37	4.37
Prairie County	C21	RM 154.69	54901	5-yr	2256.9	679.7	675.39	2.43	2.41	29.97	28.19	264.93	288.94	3.5	3.29	4.31	4.31
Prairie County	C21	RM 154.5	54588	5-yr	2256.9	679.44	675.02	2.37	2.35	28.16	26.86	257.32	272.35	3.69	3.52	4.42	4.42
Prairie County	C21	RM 154.3	54273	5-yr	2256.9	679.24	674.8	2.22	2.21	24.68	24.11	277.5	284.99	3.66	3.58	4.44	4.44
Prairie County	C21	RM 154.1	53959	5-yr	2256.9	678.98	674.67	2.34	2.31	27.51	24.85	269.5	302.06	3.58	3.23	4.31	4.31
Prairie County	C21	RM 153.91	53650	5-yr	2256.9	678.8	674.51	2.15	2.14	22.51	20.98	260.55	281.75	4.02	3.74	4.29	4.29
Prairie County	C21	RM 153.72	53338	5-yr	2256.9	678.56	674.06	2.35	2.22	26.53	18.05	225.99	357.61	4.19	2.84	4.5	4.5
Prairie County	C21	RM 153.52	53023	5-yr	2256.9	678.16	673.78	2.85	2.63	40.58	32.37	206.24	294.57	3.66	2.91	4.38	4.38
Prairie County	C21	RM 153.32	52704	5-yr	2256.9	677.86	673.64	2.58	2.57	33.64	31.42	249.02	271.86	3.52	3.28	4.22	4.22
Prairie County	C21	RM 153.12	52380	5-yr	2256.9	677.67	673.43	2.18	2.17	23.5	22.26	270.43	313.68	3.82	3.62	4.24	4.24
Prairie County	C21	RM 152.92	52065	5-yr	2256.9	677.48	672.88	2.15	2.15	22.3	20.75	270.54	365.35	3.87	3.6	4.6	4.6
Prairie County	C21	RM 152.73	51762	5-yr	2256.9	677.29	672.27	2.18	2.15	23.3	20.13	271.58	320.01	3.8	3.28	5.02	5.02
Prairie County	C21	RM 152.54	51463	5-yr	2256.9	677.09	671.85	2.23	2.18	24.05	20.03	251.98	311.24	4.01	3.33	5.24	5.24
Prairie County	C21	RM 152.35	51157	5-yr	2256.9	676.94	671.41	2.14	2.14	21.39	20.73	229.76	237.73	4.59	4.44	5.53	5.53
Prairie County	C21	RM 152.16	50852	5-yr	2256.9	676.79	671.23	2.06	2.03	20.57	18.18	268.26	309.56	4.07	3.59	5.56	5.56
Prairie County	C21	RM 151.97	50546	5-yr	2256.9	676.66	670.99	1.99	1.86	16.25	13.65	284.09	376.14	3.85	3.23	5.67	5.67
Prairie County	C21	RM 151.77	50227	5-yr	2256.9	676.55	670.87	1.96	1.73	17.3	11.29	204.89	394.5	5.11	3.31	5.68	5.68
Prairie County	C21	RM 151.59	49936	5-yr	2256.9	676.19	670.75	2.83	2.54	37.06	22.5	152.18	310.89	4.77	2.86	5.44	5.44
Prairie County	C21	RM 151.38	49599	5-yr	2256.9	676.02	670.9	2.39	2.25	26.43	21.06	199.41	294.06	4.65	3.69	5.12	5.12
Prairie County	C21	RM 151.19	49287	5-yr	2256.9	675.89	670.96	2.16	2.14	21.59	18.77	226.6	263.83	4.61	4	4.93	4.93
Prairie County	C21	RM 151.01	49012	5-yr	2256.9	675.77	670.91	2	2	20.48	20.19	288.53	308.93	3.91	3.85	4.86	4.86
Prairie County	C21	RM 150.81	48683	5-yr	2256.9	675.66	670.79	1.69	1.69	12.33	12.21	428.22	433.27	3.12	3.09	4.87	4.87
Prairie County	C21	RM 150.63	48400	5-yr	2469.2	675.56	670.45	1.65	1.63	12.21	11.65	405.47	431.92	3.67	3.5	5.11	5.11
Prairie County	C21	RM 150.44	48094	5-yr	2469.2	675.36	669.86	2.06	1.97	19.44	17.06	273.64	331.2	4.31	3.78	5.5	5.5
Prairie County	C21	RM 150.25	47780	5-yr	2469.2	674.86	669.38	3.06	2.95	49.82	38.48	166.06	228.96	4.82	3.71	5.48	5.48
Prairie County	C21	RM 150.05	47474	5-yr	2469.2	674.76	669.21	2.4	2.39	25.94	24.34	204.16	218.67	5.04	4.73	5.55	5.55
Prairie County	C21	RM 149.87	47178	5-yr	2469.2	674.62	669.02	2.21	2.17	23.69	20.17	269.57	324	4.13	3.5	5.6	5.6
Prairie County	C21	RM 149.66	46846	5-yr	2469.2	674.5	668.97	1.9	1.87	15.76	14.09	331.18	379.19	3.9	3.48	5.53	5.53
Prairie County	C21	RM 149.48	46551	5-yr	2469.2	674.2	668.91	2.47	2.39	30.07	24.6	261.52	420.64	3.81	3.11	5.29	5.29
Prairie County	C21	RM 149.27	46219	5-yr	2469.2	673.98	668.94	2.43	2.07	27.96	15.14	208.49	651.51	4.17	2.24	5.04	5.04
Prairie County	D1	RM 149.08	45914	5-yr	2469.2	673.78	668.95	2.28	2.21	24.87	17.86	254.75	370.04	4.22	3.03	4.83	4.83
Prairie County	D1	RM 148.89	45608	5-yr	2472.1	673.69	668.96	1.86	1.85	16.48	16.01	314.73	417.69	4.23	4.11	4.73	4.73
Prairie County	D1	RM 148.7	45301	5-yr	2472.1	673.54	668.73	1.9	1.89	17.94	16.89	347.94	373.19	3.72	3.51	4.81	4.81
Prairie County	D1	RM 148.5	44987	5-yr	2472.1	673.29	668.42	2.29	2.09	24.51	18.54	235.13	350.48	4.47	3.37	4.87	4.87
Prairie County	D1	RM 148.3	44667	5-yr	2472.1	672.96	668.01	2.73	2.5	34.8	24.24	193.35	311.47	4.58	3.17	4.95	4.95
Prairie County	D1	RM 148.11	44353	5-yr	2472.1	672.81	667.73	2.35	2.26	25.78	21.84	230.09	291.27	4.53	3.83	5.08	5.08
Prairie County	D1	RM 147.93	44062	5-yr	2472.1	672.7	667.4	2.04	2.03	20.27	19.61	306.12	317.89	3.96	3.83	5.3	5.3
Prairie County	D1	RM 147.74	43761	5-yr	2472.1	672.56	667.21	2.04	1.88	20.73	16.28	251.8	396.16	4.26	3.33	5.35	5.35
Prairie County	D1	RM 147.55	43454	5-yr	2472.1	672.35	666.79	2.3	2.07	24.27	17.95	197.26	341.69	4.75	3.49	5.56	5.56
Prairie County	D1	RM 147.34	43128	5-yr	2472.1	672.14	666.46	2.5	2.22	28.54	19.32	173.71	338.19	4.93	3.3	5.67	5.67

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	5-yr	2472.1	671.93	666.42	2.57	2.29	30.78	21.51	178.57	337.03	4.62	3.2	5.51	5.51
Prairie County	D1	RM 146.96	42505	5-yr	2472.1	671.65	666.49	2.68	2.61	32.85	28.03	187.33	228.06	4.88	4.16	5.16	5.16
Prairie County	D1	RM 146.77	42199	5-yr	2472.1	671.52	666.48	2.32	2.31	24.7	24.52	224.67	226.12	4.75	4.72	5.04	5.04
Prairie County	D1	RM 146.58	41899	5-yr	2472.1	671.45	666.59	1.89	1.89	16.86	16.67	296.32	299.89	4.41	4.37	4.86	4.86
Prairie County	D1	RM 146.32	41487	5-yr	2472.1	671.21	666.62	2.1	2.08	20.86	19.77	325.06	345.25	3.63	3.44	4.59	4.59
Prairie County	D1	RM 146	40968	5-yr	2472.1	670.86	666.48	2.2	2.19	24.67	23.67	277.27	290.74	4.04	3.88	4.38	4.38
Prairie County	D1	RM 145.65	40420	5-yr	2472.1	670.48	665.52	2.33	2.31	27.38	24.69	247.14	276.75	4.29	3.86	4.96	4.96
Prairie County	D1	RM 145.36	39958	5-yr	2472.1	670.21	664.91	2.19	2.16	24.45	22.24	264.9	297.02	4.24	3.86	5.3	5.3
Prairie County	D1	RM 145.13	39579	5-yr	2472.1	670.03	664.58	2.06	2.04	20.87	19.33	266.31	290.05	4.51	4.17	5.45	5.45
Prairie County	D1	RM 144.92	39251	5-yr	2472.1	669.87	664.24	2.04	2.02	21.29	19.36	272.39	302.02	4.45	4.05	5.63	5.63
Prairie County	D1	RM 144.73	38942	5-yr	2472.1	669.69	663.99	2.15	2.11	23.63	20.14	264.25	319.08	4.33	3.68	5.7	5.7
Prairie County	D1	RM 144.56	38672	5-yr	2472.1	669.45	664.1	2.38	2.33	27.76	24.41	265.15	309.72	3.89	3.42	5.35	5.35
Prairie County	D1	RM 144.33	38305	5-yr	2472.1	669.22	664.19	2.34	2.25	25.6	20.31	232.15	308.19	4.5	3.57	5.03	5.03
Prairie County	D1	RM 144.13	37987	5-yr	2472.1	669.12	664.33	2	1.96	18.61	16.58	271.37	311.87	4.54	4.05	4.79	4.79
Prairie County	D1	RM 143.91	37637	5-yr	2472.1	669	663.96	1.85	1.72	16.12	11.43	299.48	466.95	4.37	3.09	5.04	5.04
Prairie County	D1	RM 143.71	37320	5-yr	2472.1	668.64	663.43	2.64	2.46	32.01	21.79	191.54	309.84	4.8	3.24	5.21	5.21
Prairie County	D1	RM 143.45	36908	5-yr	2472.1	668.2	663.01	3	2.89	41.96	33.32	179.26	236.73	4.56	3.61	5.19	5.19
Prairie County	D1	RM 143.21	36511	5-yr	2472.1	668.03	662.92	2.35	2.33	25.41	23.75	224.58	242.2	4.69	4.38	5.11	5.11
Prairie County	D1	RM 142.97	36139	5-yr	2472.1	667.86	662.7	2.22	2.2	22.5	21.19	232.06	248.29	4.8	4.52	5.16	5.16
Prairie County	D1	RM 142.71	35717	5-yr	2472.1	667.37	662.52	2.95	2.95	41.13	40.84	191.22	192.61	4.38	4.35	4.85	4.85
Prairie County	D1	RM 142.46	35322	5-yr	2472.1	667.22	662.36	2.22	2.2	23.35	19.98	254.79	301.02	4.36	3.73	4.86	4.86
Prairie County	D1	RM 142.23	34952	5-yr	2472.1	666.97	662.21	2.35	2.3	25.87	22.42	237.35	279.85	4.43	3.83	4.76	4.76
Prairie County	D1	RM 142.02	34614	5-yr	2472.1	666.75	662.21	2.33	2.22	27.16	22.49	269.68	363.42	3.7	3.06	4.54	4.54
Prairie County	D1	RM 141.8	34258	5-yr	2472.1	666.66	662.01	1.68	1.68	13.84	13.63	393.92	400.91	3.73	3.68	4.65	4.65
Prairie County	D1	RM 141.6	33942	5-yr	2472.1	666.42	661.72	2.1	2.1	19.09	18.96	362.66	365.07	3.24	3.22	4.7	4.7
Prairie County	D1	RM 141.42	33642	5-yr	2472.1	666.34	661.32	1.66	1.65	10.76	10.65	455.56	460.43	3.28	3.25	5.02	5.02
Prairie County	D1	RM 141.22	33325	5-yr	2472.1	666.22	660.91	1.74	1.74	14.31	14.12	326.47	330.85	4.35	4.3	5.31	5.31
Prairie County	D1	RM 141.02	33011	5-yr	2472.1	665.88	660.58	2.55	2.54	29.41	27.87	194.42	206.04	4.99	4.73	5.3	5.3
Prairie County	D1	RM 140.84	32709	5-yr	2472.1	665.78	660.35	2.21	2.2	22.55	22.17	241.98	246.29	4.63	4.56	5.43	5.43
Prairie County	D1	RM 140.64	32394	5-yr	2472.1	665.67	660.07	2.01	2	17.9	17.07	239.49	252.63	5.14	4.9	5.6	5.6
Prairie County	D1	RM 140.44	32074	5-yr	2472.1	665.46	659.63	2.31	2.29	24.3	22.86	225.88	241.83	4.74	4.46	5.83	5.83
Prairie County	D1	RM 140.23	31738	5-yr	2472.1	665.15	659.62	2.66	2.65	32.77	31.22	207.01	218.19	4.48	4.28	5.53	5.53
Prairie County	D1	RM 140.03	31420	5-yr	2472.1	665.05	659.59	2.15	2.15	21.37	21.13	253.77	256.52	4.53	4.49	5.46	5.46
Prairie County	D1	RM 139.84	31118	5-yr	2472.1	664.94	659.19	1.92	1.89	17.83	16.52	309.19	340.43	4.14	3.84	5.75	5.75
Prairie County	D1	RM 139.64	30801	5-yr	2472.1	664.77	658.96	2.1	1.98	19.65	14.32	222.13	328.76	5.22	3.8	5.81	5.81
Prairie County	D1	RM 139.44	30466	5-yr	2472.1	664.64	658.72	2.04	1.96	18.99	14.83	250.57	336.95	4.81	3.75	5.92	5.92
Prairie County	D1	RM 139.23	30138	5-yr	2472.1	664.49	658.34	2.1	2.09	22.42	21.69	219.78	227.92	5.36	5.19	6.15	6.15
Prairie County	D1	RM 139.02	29799	5-yr	2472.1	664.12	658.14	2.72	2.68	40.41	35.89	179.74	205.72	5.05	4.48	5.98	5.98
Prairie County	D1	RM 138.81	29470	5-yr	2472.1	664.07	658.11	2	1.97	19.99	18.29	219.94	245.04	5.62	5.13	5.96	5.96
Prairie County	D1	RM 138.62	29157	5-yr	2472.1	663.93	657.94	2.11	2.06	19.63	17.31	216.79	254.18	5.37	4.73	5.99	5.99
Prairie County	D1	RM 138.41	28823	5-yr	2472.1	663.7	657.82	2.39	2.33	28.15	25.43	202.45	230.77	5.09	4.6	5.88	5.88
Prairie County	D1	RM 138.22	28519	5-yr	2472.1	663.53	657.8	2.4	2.37	25.66	23.13	198.68	223.2	5.18	4.68	5.73	5.73
Prairie County	D1	RM 138.02	28200	5-yr	2472.1	663.5	657.74	1.81	1.79	15.37	14.64	246.99	261.45	5.53	5.28	5.76	5.76
Prairie County	D1	RM 137.82	27874	5-yr	2472.1	663.37	656.95	1.92	1.9	18.06	16.31	263.32	295.8	4.88	4.4	6.42	6.42
Prairie County	D1	RM 137.62	27552	5-yr	2472.1	663.23	656.75	2.02	1.77	20.42	13.92	234.81	475.66	4.88	3.31	6.48	6.48
Prairie County	D1	RM 137.42	27247	5-yr	2472.1	662.98	656.66	2.37	2.31	27.79	21.25	204.7	277.13	5.06	3.86	6.32	6.32
Prairie County	D1	RM 137.24	26944	5-yr	2472.1	662.82	656.66	2.34	2.32	27.69	25.92	205.46	248.78	5.14	4.81	6.16	6.16
Prairie County	D1	RM 137.04	26627	5-yr	2477.7	662.61	656.5	2.4	2.39	29.13	27.17	208.71	224.91	4.94	4.61	6.11	6.11
Prairie County	D2	RM 136.84	26475	5-yr	2477.7	662.58	656.46	2.16	2.16	21.95	21.76	207.19	209.08	5.53	5.48	6.12	6.12
Prairie County	D2	RM 136.44	26317	5-yr	2477.7	662.55	656.37	1.94	1.93	18.2	17.65	228.7	236.24	5.59	5.43	6.18	6.18
Prairie County	D2	RM 136.23	26001	5-yr	2477.7	662.4	656.19	2.09	2.08	20.23	17.94	246.47	280.45	4.8	4.26	6.21	6.21
Prairie County	D2	RM 136.04	25673	5-yr	2477.7	662.25	656.01	2.16	2.15	19.93	18.42	211.82	231.4	5.4	4.99	6.23	6.23
Prairie County	D2	RM 135.85	25337	5-yr	2477.7	662.01	655.93	2.49	2.49	27.51	27.02	186.08	189.3	5.34	5.26	6.08	6.08
Prairie County	D2	RM 135.66	25033	5-yr	2477.7	661.89	655.91	2.31	2.3	23.56	22.8	202.14	220.78	5.31	5.15	5.98	5.98
Prairie County	D2	RM 135.46	24715	5-yr	2477.7	661.73	655.86	2.32	2.3	28.59	25.79	199.11	222.85	5.36	4.84	5.87	5.87
Prairie County	D2	RM 135.24	24417	5-yr	2477.7	661.66	655.68	1.92	1.91	19.14	17.83	229.44	247.32	5.62	5.24	5.98	5.98
Prairie County	D2	RM 135	24090	5-yr	2477.7	661.5	655.56	2.05	2.03	21.22	19.49	246.98	271.68	4.88	4.48	5.94	5.94
Prairie County	D2	RM 134.78	23742	5-yr	2477.7	661.35	655.36	2.06	2.05	21.17	19.73	223.84	252.18	5.38	5.01	5.99	5.99
Prairie County	D2	RM 134.58	23351	5-yr	2477.7	661.04	655.29	2.47	2.46	32.54	30.73	189.75	214.02	5.27	4.98	5.75	5.75
Prairie County	D2	RM 134.39	23000	5-yr	2477.7	660.84	655.24	2.36	2.31	29.7	26.75	216.99	246.51	4.83	4.34	5.6	5.6

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	5-yr	2477.7	660.7	655.11	2.11	2.03	20.96	18.13	263.97	581.8	4.41	3.81	5.59	5.59
Prairie County	D2	RM 133.99	22372	5-yr	2477.7	660.57	654.97	2.03	2	18.56	16.16	264.94	310.8	4.59	3.99	5.6	5.6
Prairie County	D2	RM 133.79	22053	5-yr	2477.7	660.35	655	2.33	2.24	25	19.62	226.1	301.29	4.68	3.66	5.35	5.35
Prairie County	D2	RM 133.59	21733	5-yr	2477.7	660.2	654.96	2.19	2.17	22.37	20.52	247	272.01	4.57	4.19	5.24	5.24
Prairie County	D2	RM 133.41	21417	5-yr	2477.7	660.08	654.78	2.05	2.02	19.28	17.04	254.87	293.13	4.74	4.18	5.3	5.3
Prairie County	D2	RM 133.21	21104	5-yr	2477.7	659.89	654.64	2.25	2.19	23.21	19.99	229.84	281.14	4.77	4.1	5.25	5.25
Prairie County	D2	RM 133.02	20811	5-yr	2477.7	659.75	654.53	2.16	2.13	21.66	18.9	246.2	294.07	4.64	4.04	5.22	5.22
Prairie County	D2	RM 132.83	20491	5-yr	2477.7	659.6	654.29	2.14	2.06	21.53	17.82	262.67	331.95	4.37	3.62	5.31	5.31
Prairie County	D2	RM 132.63	20184	5-yr	2477.7	659.46	654.04	2.08	1.93	20.41	15.04	254.86	396.82	4.41	3.24	5.42	5.42
Prairie County	D2	RM 132.42	19875	5-yr	2477.7	659.27	653.98	2.25	2.14	23.09	18.43	221.68	301.27	4.83	3.85	5.29	5.29
Prairie County	D2	RM 132.23	19553	5-yr	2477.7	659.19	653.88	1.91	1.81	16.48	12.95	257.21	355.43	4.91	3.86	5.31	5.31
Prairie County	D2	RM 132.02	19225	5-yr	2477.7	658.96	653.63	2.24	2.18	23.5	19.37	246.18	309.16	4.48	3.68	5.33	5.33
Prairie County	D2	RM 131.81	18910	5-yr	2477.7	658.74	653.37	2.4	2.32	26.8	21.33	226.33	295.68	4.55	3.61	5.37	5.37
Prairie County	D2	RM 131.58	18573	5-yr	2477.7	658.64	653.02	2.02	1.97	18.37	15.83	238.03	299.38	5.13	4.41	5.62	5.62
Prairie County	D2	RM 131.38	18237	5-yr	2477.7	658.49	652.75	2.16	2.06	20.85	18.33	212.37	265.19	5.16	4.54	5.74	5.74
Prairie County	D2	RM 131.18	17875	5-yr	2477.7	658.22	652.49	2.45	2.43	27.6	24.5	209.79	239.4	4.8	4.26	5.73	5.73
Prairie County	D2	RM 130.98	17548	5-yr	2477.7	658.02	652.34	2.5	2.42	28.15	24.71	197.09	233.03	5	4.39	5.68	5.68
Prairie County	D2	RM 130.78	17227	5-yr	2477.7	657.89	652.27	2.28	2.2	23.46	16.47	216.24	331.43	5.01	3.5	5.62	5.62
Prairie County	D2	RM 130.59	16914	5-yr	2477.7	657.81	652.16	1.96	1.91	17.05	14.37	239.07	292.7	5.27	4.43	5.65	5.65
Prairie County	D2	RM 130.39	16588	5-yr	2477.7	657.62	651.95	2.24	2.24	22.51	22.23	212.42	214.97	5.2	5.14	5.67	5.67
Prairie County	D2	RM 130.19	16280	5-yr	2477.7	657.44	651.81	2.33	2.33	24.94	24.73	219.91	225.8	4.83	4.79	5.63	5.63
Prairie County	D2	RM 130	15965	5-yr	2477.7	657.34	651.57	2.07	2.07	19.54	19.4	244.24	254.99	4.9	4.86	5.77	5.77
Prairie County	D2	RM 129.81	15649	5-yr	2477.7	657.23	651.47	2	1.99	17.82	16.64	235.14	262.47	5.26	4.91	5.76	5.76
Prairie County	D2	RM 129.62	15337	5-yr	2477.7	657.04	651.34	2.27	2.17	23.31	16.57	216.64	321.72	5	3.54	5.7	5.7
Prairie County	D2	RM 129.43	15031	5-yr	2477.7	656.92	651.21	2.12	2.1	20.04	18.54	227.37	247.92	5.15	4.76	5.71	5.71
Prairie County	D2	RM 129.24	14724	5-yr	2506	656.72	651.06	2.35	2.33	25.26	23.52	222.31	263.93	4.8	4.47	5.66	5.66
Prairie County	D2	RM 129.04	14417	5-yr	2506	656.51	651.06	2.49	2.46	28.37	26.15	209.54	271.94	4.8	4.43	5.45	5.45
Prairie County	D2	RM 128.82	14112	5-yr	2506	656.31	651.05	2.51	2.49	28.87	27.65	209.12	273.39	4.77	4.58	5.26	5.26
Prairie County	D2	RM 128.62	13798	5-yr	2506	656.18	651.08	2.26	2.26	23.31	22.88	228.13	328.39	4.86	4.77	5.1	5.1
Prairie County	D2	RM 128.41	13446	5-yr	2506	656.03	651.07	2.14	2.12	21.29	19.11	255.09	287.22	4.59	4.11	4.96	4.96
Prairie County	D2	RM 128.21	13125	5-yr	2506	655.86	650.98	2.2	2.11	22.45	17.15	246.55	340.28	4.59	3.49	4.88	4.88
Prairie County	D2	RM 127.98	12790	5-yr	2506	655.7	650.84	2.16	2.15	21.51	21.21	250.67	298.5	4.64	4.58	4.86	4.86
Prairie County	D2	RM 127.75	12473	5-yr	2506	655.59	650.59	1.95	1.95	17.87	17.7	287.96	290.6	4.46	4.43	5	5
Prairie County	D2	RM 127.55	12112	5-yr	2506	655.44	650.35	1.94	1.91	17.62	15.06	287.38	343.39	4.48	3.83	5.09	5.09
Prairie County	D2	RM 127.27	11729	5-yr	2506	655.28	649.95	1.96	1.95	17.82	16.58	277.2	299.8	4.61	4.29	5.33	5.33
Prairie County	D2	RM 126.97	11415	5-yr	2506	655.05	649.68	2.32	2.3	24.79	22.54	226.77	252.21	4.75	4.32	5.37	5.37
Prairie County	D2	RM 126.71	10962	5-yr	2506	654.81	649.49	2.31	2.31	24.23	23.44	218.29	236.8	4.96	4.81	5.32	5.32
Prairie County	D2	RM 126.43	10478	5-yr	2506	654.68	649.32	1.87	1.86	15.94	15.51	275.96	284.18	4.86	4.73	5.36	5.36
Prairie County	D2	RM 126.42	10074	5-yr	2506	654.44	649.05	2.21	2.19	22.81	20.32	249.83	284	4.53	4.04	5.39	5.39
Prairie County	D2	RM 126.41	9625	5-yr	2506	654.18	648.27	2.32	2.26	24.38	18.92	220.07	291.89	4.89	3.79	5.9	5.9
Prairie County	D3	RM 126.38	9533	5-yr	2506	654.12	648.27	2.35	2.3	25.06	19.56	220.07	289.23	4.84	3.77	5.85	5.85
Prairie County	D3	RM 126.22	9286	5-yr	2506	654.04	648.8	2.1	2.1	20.09	19.94	246.62	254.92	4.84	4.81	5.24	5.24
Prairie County	D3	RM 126.03	8974	5-yr	2506	653.93	648.71	1.97	1.96	17.9	17.25	269.32	281.64	4.71	4.55	5.22	5.22
Prairie County	D3	RM 125.82	8648	5-yr	2506	653.8	648.36	1.98	1.98	18.42	18.17	282.4	292.49	4.48	4.42	5.44	5.44
Prairie County	D3	RM 125.63	8335	5-yr	2506	653.68	648.12	1.95	1.92	17.19	16.18	259.94	280.14	4.94	4.65	5.56	5.56
Prairie County	D3	RM 125.43	8020	5-yr	2506	653.51	647.8	2.18	2.07	21.06	16.92	217.06	288.42	5.24	4.2	5.71	5.71
Prairie County	D3	RM 125.24	7711	5-yr	2506	653.42	647.26	1.98	1.92	16.97	13.16	226.37	304.81	5.55	4.29	6.16	6.16
Prairie County	D3	RM 125.05	7403	5-yr	2506	653.28	647.23	2.13	2.05	19.86	14.28	209.96	307.23	5.56	3.98	6.05	6.05
Prairie County	D3	RM 124.83	7059	5-yr	2506	653.18	647.25	1.99	1.95	17.55	15.81	237.41	290.02	5.29	4.77	5.93	5.93
Prairie County	D3	RM 124.62	6712	5-yr	2506	653.06	647.25	1.97	1.95	17.61	15.99	257.84	287.02	4.93	4.47	5.81	5.81
Prairie County	D3	RM 124.41	6375	5-yr	2506	652.83	647.27	2.33	2.23	24.87	13.1	221.62	578.42	4.82	2.52	5.56	5.56
Prairie County	D3	RM 124.15	5960	5-yr	2506	652.57	647.27	2.4	2.31	26.95	18.1	232.47	437.89	4.47	2.99	5.3	5.3
Prairie County	D3	RM 123.94	5627	5-yr	2506	652.21	647.27	2.8	2.59	37.02	19.68	199.91	414.69	4.42	2.33	4.94	4.94
Prairie County	D3	RM 123.74	5312	5-yr	2506	651.96	647.25	2.73	2.56	35.08	21.85	206.88	357.43	4.41	2.73	4.71	4.71
Prairie County	D3	RM 123.56	5014	5-yr	2506	651.98	647.24	1.73	1.64	13.88	8.87	311.23	520.27	4.62	2.95	4.74	4.74
Prairie County	D3	RM 123.24	4500	5-yr	2506	651.8	647.19	1.17	1.17	17.35	17.3	909.4	912.53	2.36	2.35	4.61	4.61
Prairie County	D3	RM 122.99	4116	5-yr	2506	651.62	646.67	1.34	1.31	8.4	7.86	527.26	578.82	3.53	3.3	4.95	4.95
Prairie County	D3	RM 122.76	3746	5-yr	2506	651.48	646.22	1.61	1.6	12.24	11.69	362.48	381	4.3	4.11	5.26	5.26
Prairie County	D3	RM 122.55	3414	5-yr	2506	651.26	645.7	2.1	2.1	20.08	19.63	242.74	248.74	4.91	4.81	5.56	5.56
Prairie County	D3	RM 122.3	3012	5-yr	2506	650.96	645.57	2.46	2.45	27.82	25.55	214.39	234.94	4.75	4.36	5.39	5.39

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	5-yr	2506	650.78	645.49	2.32	2.29	24.74	22.47	240.65	267.89	4.49	4.08	5.29	5.29
Prairie County	D3	RM 121.88	2338	5-yr	2506	650.63	645.42	2.21	2.18	22.24	20.38	244.44	270.67	4.63	4.24	5.21	5.21
Prairie County	D3	RM 121.66	1982	5-yr	2506	650.4	645.3	2.36	2.33	25.22	23.3	226.93	248.37	4.68	4.32	5.1	5.1
Prairie County	D3	RM 121.46	1651	5-yr	2506	650.23	645.06	2.29	2.27	24.63	23.32	243.93	261.46	4.47	4.23	5.17	5.17
Prairie County	D3	RM 121.24	1304	5-yr	2506	650	644.99	2.36	2.28	26.6	23.61	247.35	290.85	4.25	3.77	5.01	5.01
Prairie County	D3	RM 121.02	957	5-yr	2506	649.82	644.88	2.2	2.13	23.35	21.55	259.65	331.29	4.33	4	4.94	4.94
Prairie County	D3	RM 120.84	660	5-yr	2506	649.65	644.78	2.19	2.18	25.15	23.88	255.32	270.1	4.47	4.25	4.87	4.87
Prairie County	D3	RM 120.64	350	5-yr	2506	649.5	644.42	2.17	2.16	21.59	21.11	244.23	249.93	4.73	4.63	5.08	5.08

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	5-yr	2506.37	649.48	643.94	2.07	1.98	19.92	18.02	254.01	332.49	4.62	4.18	5.54	5.54
Dawson County	D3	RM 120.28	90838.07	5-yr	2506.37	649.41	643.78	2.12	2.02	20.51	15.95	233.12	330.39	4.83	3.75	5.63	5.63
Dawson County	D3	RM 120.18	90675.23	5-yr	2506.37	649.33	643.7	2.15	2.06	20.69	17.9	213.48	273.44	5.12	4.45	5.63	5.63
Dawson County	D3	RM 120.00	90388.96	5-yr	2506.37	649.23	643.56	2.08	2.02	19.19	16.96	226.64	265.51	5.28	4.67	5.66	5.66
Dawson County	D3	RM 119.84	90136.35	5-yr	2506.37	649.09	643.44	2.22	2.18	21.91	18.67	213.73	256.92	5.25	4.48	5.65	5.65
Dawson County	D3	RM 119.68	89873.82	5-yr	2506.37	648.9	643.31	2.48	2.4	27.32	24.14	189.21	223.32	5.28	4.67	5.58	5.58
Dawson County	D3	RM 119.53	89627.16	5-yr	2506.37	648.8	643.2	2.32	2.31	23.79	22.64	204.32	215.68	5.29	5.04	5.61	5.61
Dawson County	D3	RM 119.39	89404.11	5-yr	2506.37	648.74	643.09	2.1	2.06	19.67	18.55	231.36	249.8	5.14	4.87	5.65	5.65
Dawson County	D3	RM 119.26	89201.38	5-yr	2506.37	648.68	642.99	1.99	1.94	18.16	15.89	263.7	311.18	4.75	4.16	5.69	5.69
Dawson County	D3	RM 119.12	88969.13	5-yr	2506.37	648.47	642.87	2.43	2.26	26.33	17.92	193.4	364.19	5.23	3.54	5.59	5.59
Dawson County	D3	RM 119.00	88780.83	5-yr	2506.37	648.38	642.78	2.35	2.22	24.77	18.13	199.46	298.05	5.17	3.78	5.6	5.6
Dawson County	D3	RM 118.85	88537.07	5-yr	2506.37	648.32	642.66	2.05	1.97	19.14	15.93	241.51	315.89	4.89	4.07	5.66	5.66
Dawson County	D3	RM 118.72	88336.12	5-yr	2506.37	648.28	642.56	1.89	1.77	15.77	12.55	237.19	339.43	5.32	4.24	5.71	5.71
Dawson County	D3	RM 118.60	88130.39	5-yr	2506.37	648.14	642.46	2.14	2.05	20.46	15.61	220.72	308.75	5.17	3.95	5.68	5.68
Dawson County	D3	RM 118.47	87924.15	5-yr	2506.37	648	642.37	2.37	2.25	25.82	20.29	211.72	297.76	4.75	3.74	5.63	5.63
Dawson County	D3	RM 118.34	87719.85	5-yr	2506.37	647.77	642.27	2.68	2.59	34.66	29.49	214.06	273.37	4.14	3.54	5.5	5.5
Dawson County	D3	RM 118.21	87507.02	5-yr	2506.37	647.64	642.16	2.56	2.4	29.19	19.05	175.82	303.61	5.3	3.44	5.48	5.48
Dawson County	D3	RM 118.07	87276.02	5-yr	2517.7	647.6	642.05	2.01	2	19.41	18.51	297.49	313.61	4.2	4.01	5.55	5.55
Dawson County	D4	RM 117.90	87004.77	5-yr	2517.7	647.53	641.92	1.85	1.66	15.8	12.66	234.19	398.44	4.76	3.8	5.61	5.61
Dawson County	D4	RM 117.77	86795.88	5-yr	2517.7	647.47	641.81	1.82	1.55	15.33	10.59	217.15	505.53	4.68	3.2	5.65	5.65
Dawson County	D4	RM 117.62	86560.03	5-yr	2517.7	647.39	641.7	1.77	1.59	14.16	9.05	247.32	501.21	5.03	3.21	5.69	5.69
Dawson County	D4	RM 117.46	86294.2	5-yr	2517.7	647.18	641.57	2.36	2.08	25.14	16.26	183	376.22	5.01	3.22	5.6	5.6
Dawson County	D4	RM 117.33	86073.88	5-yr	2517.7	646.91	641.46	2.87	2.49	36.71	21.33	137.01	330.18	5.38	3.06	5.45	5.45
Dawson County	D4	RM 117.16	85808.16	5-yr	2517.7	646.86	641.33	2.24	2.02	22.29	14.75	182.25	357.47	5.3	3.49	5.53	5.53
Dawson County	D4	RM 117.03	85604.68	5-yr	2517.7	646.81	641.3	1.92	1.84	17.12	14.5	243.69	358.81	4.67	3.96	5.51	5.51
Dawson County	D4	RM 116.87	85336.88	5-yr	2517.7	646.74	641.29	1.78	1.51	14.44	8.88	238.63	565.72	4.79	2.94	5.46	5.46
Dawson County	D4	RM 116.69	85043.25	5-yr	2517.7	646.61	641.44	1.9	1.68	17.4	10.97	279.08	576.65	4.14	2.6	5.17	5.17
Dawson County	D4	RM 116.56	84823.15	5-yr	2517.7	646.45	641.34	2.17	1.88	22.82	13.77	234.35	540.44	4.13	2.48	5.11	5.11
Dawson County	D4	RM 116.39	84558.58	5-yr	2517.7	646.37	641.21	1.81	1.64	15.3	10.91	269.92	481.89	4.48	3.19	5.16	5.16
Dawson County	D4	RM 116.22	84287.19	5-yr	2517.7	646.23	641	1.95	1.77	17.39	10.52	259.34	486.99	4.83	2.93	5.23	5.23
Dawson County	D4	RM 116.05	84007.59	5-yr	2517.7	646.05	640.84	2.28	1.9	23.67	11.71	213.93	553.72	4.85	2.4	5.2	5.2
Dawson County	D4	RM 115.87	83722.29	5-yr	2517.7	645.86	640.8	2.4	2.01	27.02	14.75	214.27	507.51	4.52	2.46	5.06	5.06
Dawson County	D4	RM 115.73	83500.35	5-yr	2517.7	645.79	640.69	2.02	1.72	20.31	11.73	310.77	690.66	3.68	2.12	5.09	5.09
Dawson County	D4	RM 115.61	83294.37	5-yr	2517.7	645.74	640.59	1.64	1.51	13.19	8.71	385.01	659.2	3.85	2.54	5.14	5.14
Dawson County	D4	RM 115.45	83034.82	5-yr	2517.7	645.65	640.37	1.61	1.43	13.08	9.23	407.6	706.94	3.54	2.49	5.28	5.28
Dawson County	D4	RM 115.29	82782.88	5-yr	2517.7	645.5	640.34	1.83	1.73	16.14	12.48	319.39	458.58	4.1	3.16	5.16	5.16
Dawson County	D4	RM 115.09	82480.02	5-yr	2517.7	645.43	640.2	1.6	1.47	11.71	5.95	324	718.03	4.7	2.38	5.24	5.24
Dawson County	D4	RM 114.96	82177.99	5-yr	2517.7	645.27	640	1.95	1.78	17.41	9.99	260.73	518.86	4.77	2.72	5.27	5.27
Dawson County	D4	RM 114.74	81836.48	5-yr	2517.7	644.83	639.98	2.92	2.6	39.36	24.16	179.76	339.53	4.67	2.85	4.85	4.85
Dawson County	D4	RM 114.58	81577.9	5-yr	2517.7	644.84	639.46	2.02	1.86	18.43	15.55	195.77	351.47	5	4.2	5.38	5.38
Dawson County	D4	RM 114.42	81309.47	5-yr	2517.7	644.68	639.33	2.11	2.07	20.75	17.67	257.79	311.21	4.59	3.9	5.36	5.36
Dawson County	D4	RM 114.28	81078.59	5-yr	2517.7	644.48	639.21	2.44	2.36	27.26	21.06	213.07	286.59	4.81	3.72	5.27	5.27
Dawson County	D4	RM 114.11	80813.63	5-yr	2517.7	644.28	639.2	2.55	2.47	30.06	22.91	210.21	286.18	4.68	3.56	5.08	5.08
Dawson County	D4	RM 113.97	80580.15	5-yr	2517.7	644.11	639.45	2.58	2.48	31.72	22.2	225.76	344.46	4.29	3	4.66	4.66
Dawson County	D4	RM 113.79	80292.13	5-yr	2517.7	643.97	639.45	2.36	2.05	26.59	18.69	201.08	416.48	4.19	2.95	4.52	4.52
Dawson County	D4	RM 113.60	79987.05	5-yr	2517.7	643.95	639.2	1.58	1.41	11.56	9.28	179.84	495.66	4.6	3.67	4.75	4.75
Dawson County	D4	RM 113.43	79712.89	5-yr	2517.7	643.81	638.73	1.92	1.66	16.67	9.96	173.8	518.44	4.95	2.93	5.09	5.09
Dawson County	D4	RM 113.24	79405.49	5-yr	2517.7	643.5	638.43	2.68	2.33	32.71	21.08	130.78	342.58	4.96	3.16	5.06	5.06
Dawson County	D4	RM 113.08	79152.39	5-yr	2517.7	643.34	638.37	2.53	2.26	29.39	21.76	138.2	313.03	4.86	3.56	4.97	4.97
Dawson County	D4	RM 112.94	78925.1	5-yr	2517.7	643.32	638.26	1.85	1.72	15.85	13.56	194.62	369.32	4.67	3.97	5.06	5.06
Dawson County	D4	RM 112.74	78585.88	5-yr	2517.7	643.13	638.09	2.06	1.93	20.15	16.24	237.95	377.04	4.3	3.46	5.04	5.04
Dawson County	D4	RM 112.59	78355.25	5-yr	2517.7	642.98	637.98	2.17	1.97	23.11	19.24	271.99	394.33	3.9	3.24	5	5
Dawson County	D4	RM 112.37	78008.78	5-yr	2517.7	642.94	637.88	1.54	1.4	10.98	8.94	206.92	556.72	4.58	3.7	5.06	5.06
Dawson County	D4	RM 112.19	77721.27	5-yr	2517.7	642.78	637.59	1.92	1.8	17.09	13.67	213.8	375.88	4.65	3.72	5.18	5.18
Dawson County	D4	RM 111.89	77240.22	5-yr	2517.7	642.47	637.16	2.24	2.19	23.09	18.8	235.68	297.3	4.75	3.86	5.31	5.31
Dawson County	D4	RM 111.42	76486.24	5-yr	2517.7	642.18	636.91	1.93	1.88	17.39	14.87	287.11	345.47	4.52	3.87	5.27	5.27
Dawson County	D4	RM 111.26	76213.83	5-yr	2517.7	642.1	636.66	1.77	1.73	14.91	13.16	329.26	383.61	4.29	3.79	5.44	5.44
Dawson County	D4	RM 111.09	75911.9	5-yr	2517.7	641.82	636.51	2.36	2.35	26.22	23.6	240.23	306.84	4.44	3.99	5.31	5.31
Dawson County	D4	RM 110.95	75678.54	5-yr	2517.7	641.6	636.4	2.63	2.59	31.49	27.37	194.97	229.13	4.89	4.25	5.2	5.2
Dawson County	D4	RM 110.78	75415.61	5-yr	2517.7	641.35	636.27	2.83	2.82	36.78	34.69	186.03	197.88	4.78	4.51	5.07	5.07

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	5-yr	2517.7	641.21	636.09	2.27	2.26	23.95	22.9	240.69	252.76	4.6	4.41	5.12	5.12
Dawson County	D4	RM 110.39	74780.03	5-yr	2517.7	641.14	635.96	1.91	1.87	17.15	15.16	293.1	340.73	4.46	3.95	5.18	5.18
Dawson County	D4	RM 110.17	74428.56	5-yr	2517.7	640.93	635.79	2.08	2.02	21.57	19.44	321.63	370.38	3.72	3.36	5.14	5.14
Dawson County	D4	RM 109.95	74074.87	5-yr	2517.7	640.79	635.62	1.9	1.85	17.04	14.18	297.98	369.79	4.41	3.67	5.17	5.17
Dawson County	D4	RM 109.75	73741.09	5-yr	2517.7	640.62	635.46	2.03	1.98	19.35	16.61	272.8	328.71	4.5	3.87	5.16	5.16
Dawson County	D4	RM 109.54	73418.83	5-yr	2517.7	640.5	635.3	1.93	1.73	17.39	10.38	287.56	548.79	4.46	2.65	5.2	5.2
Dawson County	D4	RM 109.37	73150.54	5-yr	2517.7	640.33	635.17	2.21	1.93	22.52	14.43	224.7	434.33	4.7	3.01	5.16	5.16
Dawson County	D4	RM 109.19	72864.56	5-yr	2517.7	640.17	635.03	2.21	2.1	22.53	16.74	238.65	343.59	4.7	3.49	5.14	5.14
Dawson County	D4	RM 109.04	72628	5-yr	2517.7	639.89	634.92	2.71	2.58	33.72	23.52	194.23	296.24	4.74	3.3	4.98	4.98
Dawson County	D4	RM 108.86	72339.73	5-yr	2517.7	639.87	634.77	1.92	1.87	17.51	16.48	287.17	353.09	4.23	3.99	5.09	5.09
Dawson County	D4	RM 108.70	72072.36	5-yr	2517.7	639.78	634.65	1.78	1.73	14.88	13.93	291.61	353.74	4.39	4.12	5.14	5.14
Dawson County	D4	RM 108.55	71827.97	5-yr	2517.7	639.7	634.53	1.73	1.73	14.36	14.16	343.64	348.62	4.22	4.17	5.17	5.17
Dawson County	D4	RM 108.40	71587.18	5-yr	2517.7	639.52	634.41	2.09	2.08	16.72	16.49	363.68	369.56	3.31	3.27	5.11	5.11
Dawson County	D4	RM 108.25	71345.86	5-yr	2517.7	639.42	634.29	1.97	1.96	16.77	16.13	361.89	377.89	3.52	3.39	5.12	5.12
Dawson County	D4	RM 108.12	71131.88	5-yr	2517.7	639.32	634.19	1.94	1.89	17.73	14.87	289.42	355.98	4.45	3.74	5.14	5.14
Dawson County	D4	RM 107.98	70905.01	5-yr	2517.7	639.15	634.08	2.25	2.22	23.66	20.8	245.46	283.8	4.55	4	5.07	5.07
Dawson County	D4	RM 107.82	70651.22	5-yr	2517.7	638.95	633.95	2.43	2.36	27.79	20.79	231.93	321.77	4.43	3.32	5	5
Dawson County	D4	RM 107.68	70418.24	5-yr	2517.7	638.78	633.84	2.51	2.41	29.39	23.76	219.72	286.45	4.5	3.65	4.94	4.94
Dawson County	D4	RM 107.50	70132.11	5-yr	2517.7	638.64	633.17	2.31	2.18	25.08	18.83	239.71	344.46	4.44	3.36	5.47	5.47
Dawson County	D4	RM 107.31	69834.56	5-yr	2517.7	638.44	633.23	2.35	2.27	26.65	22.97	264.38	317.93	4.02	3.48	5.21	5.21
Dawson County	D4	RM 107.13	69541.52	5-yr	2517.7	638.26	633.98	2.18	2.11	24.12	21.66	322.33	377.4	3.52	3.17	4.28	4.28
Dawson County	D5	RM 106.98	69305.02	5-yr	2523.36	638.18	634.16	1.77	1.73	16.29	15.56	421.85	463.04	3.29	3.16	4.02	4.02
Dawson County	D5	RM 106.85	69065.27	5-yr	2523.36	638.07	633.6	1.71	1.68	15.19	14.4	412.29	485.19	3.26	3.1	4.47	4.47
Dawson County	D5	RM 106.65	68764.02	5-yr	2523.36	637.84	632.98	2.04	1.98	19.15	18.19	360.27	428.86	3.11	2.97	4.86	4.86
Dawson County	D5	RM 106.47	68475.87	5-yr	2523.36	637.66	632.51	2.06	1.74	21.4	13.29	307.26	668.28	3.55	2.2	5.15	5.15
Dawson County	D5	RM 106.28	68173.97	5-yr	2523.36	637.31	631.71	2.64	2.22	33.23	20.11	204.05	445.81	4.21	2.56	5.6	5.6
Dawson County	D5	RM 106.10	67879.83	5-yr	2523.36	637.11	631.29	2.54	2.03	31.55	19.05	206.53	528.45	3.88	2.35	5.82	5.82
Dawson County	D5	RM 105.89	67550.49	5-yr	2523.36	636.91	631.76	2.25	1.9	25.17	16.46	226.74	538.88	3.76	2.47	5.15	5.15
Dawson County	D5	RM 105.74	67300.35	5-yr	2523.36	636.77	632.3	2.15	1.58	22.92	13.37	203.14	724.17	3.78	2.21	4.47	4.47
Dawson County	D5	RM 105.54	66973.54	5-yr	2523.36	636.48	632.17	2.49	1.93	31.08	17.8	147.79	649.04	3.63	2.08	4.31	4.31
Dawson County	D5	RM 105.30	66609.03	5-yr	2523.36	636.34	632.29	1.6	1.41	13.74	10.94	219.79	759.67	2.95	2.35	4.22	4.22
Dawson County	D5	RM 105.06	66212.24	5-yr	2523.36	636.18	631.19	1.77	1.66	16.88	14.49	181.11	872.27	2.95	2.54	4.99	4.99
Dawson County	D5	RM 104.89	65945.5	5-yr	2523.36	635.97	631.5	1.94	1.73	20.9	17.5	205.87	847.7	2.66	2.24	4.55	4.55
Dawson County	D5	RM 104.77	65742.33	5-yr	2523.36	635.84	631.67	2.04	1.63	21.1	11.98	125.62	907.16	3.51	2	5.13	5.13
Dawson County	D5	RM 104.64	65530.83	5-yr	2523.36	635.76	632.1	1.72	1.41	15.31	9.69	172.34	1037.31	3.27	2.05	4.8	4.8
Dawson County	D5	RM 104.43	65180.62	5-yr	2523.36	635.68	631.56	1.2	1.04	8.16	6.35	361.11	1261.51	2.46	1.92	4.89	4.89
Dawson County	D5	RM 104.26	64906.83	5-yr	2523.36	635.6	631.59	1.14	1	6.98	5.32	218.58	1152.13	2.87	2.19	4.96	4.96
Dawson County	D5	RM 104.10	64643.2	5-yr	2523.36	635.49	630.81	1.43	1.26	10.45	4.94	150.64	1223.33	3.46	1.64	5.05	5.05
Dawson County	D5	RM 103.95	64410.06	5-yr	2523.36	635.44	631.24	1.52	1.12	12.01	5.19	185.01	1608.5	3.24	1.4	5.62	5.62
Dawson County	D5	RM 103.68	63957.56	5-yr	2523.36	635.34	629.68	1.62	0.99	13.12	5.06	188.7	1813.73	3.63	1.4	5.9	5.9
Dawson County	D5	RM 103.48	63615.6	5-yr	2523.36	635.24	630.4	1.77	1.14	15.21	4.91	152.55	1729.53	4	1.28	5.73	5.73
Dawson County	D5	RM 103.26	63259.44	5-yr	2523.36	635.17	630.13	1.61	1.06	12.58	4.76	173.17	1554	4.06	1.53	5.76	5.76
Dawson County	D5	RM 102.58	62131.5	5-yr	2523.36	634.99	629.72	1.47	1.18	10.41	5.9	178.73	925.86	4.05	2.31	5.31	5.31
Dawson County	D5	RM 102.44	61920.83	5-yr	2523.36	634.85	629.74	1.9	1.54	17.39	8.58	255.44	824.15	4.02	1.99	5.11	5.11
Dawson County	D5	RM 102.31	61720.14	5-yr	2523.36	634.71	629.03	2.25	1.71	24.28	11.61	200.53	755.57	4.08	1.95	5.68	5.68
Dawson County	D5	RM 102.15	61456.58	5-yr	2523.36	634.59	629.39	2.13	1.71	21.52	10.91	201.3	678.94	4.27	2.17	5.2	5.2
Dawson County	D5	RM 102.00	61217.89	5-yr	2523.36	634.5	629.48	1.86	1.55	17.08	10.1	267.9	730	3.75	2.23	5.02	5.02
Dawson County	D5	RM 101.84	60967.97	5-yr	2523.36	634.44	629.23	1.67	1.16	13.54	8.14	155.67	921.18	3.91	2.36	5.21	5.21
Dawson County	D5	RM 101.60	60582.61	5-yr	2523.36	634.29	628.87	1.5	1.36	11.03	9.01	336.08	612.39	3.81	3.12	5.42	5.42
Dawson County	D5	RM 101.45	60336.09	5-yr	2523.36	634.09	629.16	2.07	1.82	20.26	11.21	251.39	576.23	4.33	2.4	4.93	4.93
Dawson County	D5	RM 101.25	60019.5	5-yr	2523.36	633.86	627.81	2.35	2.11	25.78	10.9	209.15	623.37	4.52	1.92	6.05	6.05
Dawson County	D5	RM 101.09	59759.25	5-yr	2523.36	633.74	627.99	2.27	1.86	24.15	9.13	216.65	817.24	4.38	1.66	5.75	5.75
Dawson County	D5	RM 100.88	59426.42	5-yr	2523.36	633.6	627.86	2.14	1.72	21.19	9.99	196.58	680.28	4.57	2.16	5.74	5.74
Dawson County	D5	RM 100.67	59075.4	5-yr	2523.36	633.4	627.1	2.41	1.73	26.09	9.77	151.88	771.1	5.05	1.9	6.3	6.3
Dawson County	D5	RM 100.46	58743.44	5-yr	2523.36	633.34	627.92	1.78	1.28	14.63	6.88	202.94	918.2	4.56	2.15	5.42	5.42
Dawson County	D5	RM 100.25	58401.49	5-yr	2523.36	633.11	627.57	2.2	1.71	22.42	11.19	196.17	690.09	4.55	2.27	5.54	5.54
Dawson County	D5	RM 100.05	58077.55	5-yr	2523.36	632.97	626.86	2.14	1.78	21.15	12.78	176.97	507.72	4.62	2.79	6.11	6.11
Dawson County	D5	RM 99.87	57778.81	5-yr	2523.36	632.74	626.4	2.21	2.18	24.12	21.65	301.61	341.38	3.77	3.39	6.34	6.34
Dawson County	D5	RM 99.68	57474.16	5-yr	2523.36	632.59	626.29	2.16	2	21.53	14.81	246.92	396.78	4.6	3.18	6.3	6.3
Dawson County	D5	RM 99.49	57160.47	5-yr	2523.36	632.33	626.53	2.49	2.25	28.98	16.67	218.38	431.19	4.51	2.6	5.8	5.8

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	5-yr	2523.36	632.19	627.26	2.22	1.97	23.44	12.59	267.93	584.16	4.17	2.25	4.93	4.93
Dawson County	D5	RM 99.13	56566.63	5-yr	2523.36	632.07	626.77	2	1.7	19.31	10.58	293.66	666.75	4.09	2.24	5.3	5.3
Dawson County	D5	RM 98.92	56243.98	5-yr	2523.36	631.92	626.63	1.92	1.74	18.3	10.61	339.1	669.5	3.73	2.17	5.29	5.29
Dawson County	D5	RM 98.71	55911.87	5-yr	2523.36	631.7	626.34	2.07	1.77	21.57	9.49	322.21	904.45	3.59	1.58	5.36	5.36
Dawson County	D5	RM 98.57	55680.2	5-yr	2523.36	631.58	626.1	2.02	1.45	20.4	8.65	297.01	1117.15	3.68	1.56	5.48	5.48
Dawson County	D5	RM 98.35	55325.95	5-yr	2523.36	631.29	625.91	2.36	1.72	26.08	8.75	216.82	987.56	4.44	1.49	5.38	5.38
Dawson County	D5	RM 98.19	55066.09	5-yr	2523.36	631.09	624.42	2.51	1.81	28.56	8.52	184	949.83	4.91	1.47	6.67	6.67
Dawson County	D5	RM 97.99	54752.97	5-yr	2523.36	630.89	625.04	2.45	2.09	28.67	16.47	236.53	502.53	4.18	2.4	5.85	5.85
Dawson County	D5	RM 97.84	54493.48	5-yr	2523.36	630.77	625.39	2.15	1.95	22.53	12.8	292.51	579.19	3.94	2.24	5.38	5.38
Dawson County	D5	RM 97.68	54241.32	5-yr	2523.36	630.62	624.99	2.11	1.79	22.93	15.74	340.05	627.74	3.32	2.28	5.63	5.63
Dawson County	D5	RM 97.48	53918.21	5-yr	2523.36	630.43	624.81	1.94	1.61	15.5	10.36	386.73	1171.34	2.37	1.58	5.62	5.62
Dawson County	D5	RM 97.28	53585.68	5-yr	2523.36	630.22	625.86	1.85	1.51	17.9	9.08	328.8	1192.31	3.18	1.61	4.77	4.77
Dawson County	D5	RM 97.08	53263.89	5-yr	2523.36	629.93	625.27	2.32	2	26.43	13.07	209.17	665.44	3.82	1.9	4.66	4.66
Dawson County	D5	RM 96.94	53030.11	5-yr	2523.36	629.72	623.97	2.53	2.07	31.92	13.53	199.17	781.15	3.68	1.56	5.75	5.75
Dawson County	D5	RM 96.77	52762.2	5-yr	2523.36	629.51	623.51	2.42	2.1	29.41	15.13	202.34	741.73	3.63	1.87	6	6
Dawson County	D5	RM 96.55	52403.59	5-yr	2523.36	629.21	624.57	2.65	1.84	34.34	13.12	160.42	948.53	3.9	1.5	4.64	4.64
Dawson County	D5	RM 96.35	52079.12	5-yr	2523.36	629.21	625.39	1.12	1.17	6.95	6.45	290.07	1138.47	2.67	2.48	5.74	5.74
Dawson County	D5	RM 96.17	51777.74	5-yr	2523.36	628.95	624.71	2.14	1.95	23.57	16.56	130.42	607.07	3.32	2.35	4.57	4.57
Dawson County	D5	RM 96.00	51500.38	5-yr	2523.36	628.75	624.3	2.15	1.9	23.67	14.06	122.42	656.16	3.41	2.03	4.45	4.45
Dawson County	D5	RM 95.79	51156.87	5-yr	2523.36	628.63	624.35	1.51	1.38	12.47	6.5	284.94	1136.63	3.09	1.61	4.38	4.38
Dawson County	D5	RM 95.60	50859.75	5-yr	2523.36	628.51	622.97	1.58	1.25	13.08	7.09	251.15	1151.71	3.23	1.75	5.54	5.54
Dawson County	D5	RM 95.40	50547.92	5-yr	2523.36	628.4	623.13	1.44	1.13	10.42	5.57	377.96	1156.72	3.59	1.92	5.27	5.27
Dawson County	D5	RM 95.21	50245.97	5-yr	2523.36	628.27	622.21	1.82	1.15	15.66	6.06	217.6	1296.55	4.37	1.69	6.06	6.06
Dawson County	D5	RM 95.04	49971.19	5-yr	2523.36	628.11	621.68	2.26	1.38	24.86	8.72	174.46	1307.04	4	1.4	6.43	6.43
Dawson County	D5	RM 94.88	49717.07	5-yr	2523.36	628.01	621.44	2.08	1.12	20.55	8.48	152.89	1416.61	4.29	1.76	6.57	6.57
Dawson County	D5	RM 94.71	49446.9	5-yr	2523.36	627.96	621.69	1.4	0.92	9.6	4.48	234.28	1495.53	3.94	1.83	6.27	6.27
Dawson County	D5	RM 94.58	49286.95	5-yr	2523.36	627.95	618.6	0.92	0.73	3.68	1.33	456.42	1744.56	5.7	2.06	9.35	9.35
Dawson County	D5	RM 94.57	49255.56	5-yr	2523.36	627.91	618.63	1.24	1.01	6.75	1.92	360.59	1617.13	5.45	1.55	9.28	9.28
Dawson County	D5	RM 94.52	49157.18	5-yr	2523.36	627.81	620.89	1.8	1.24	15.26	4.06	287.23	1735.28	4.44	1.17	6.91	6.91
Dawson County	D6	RM 94.42	48998.19	5-yr	2532.14	627.58	621.76	2.48	1.84	29.2	7.69	219.93	1218.91	4.31	1.13	5.82	5.82
Dawson County	D6	RM 94.30	48806.79	5-yr	2532.14	627.44	621.22	2.38	1.87	28.86	9.53	291.47	1188.53	3.45	1.14	6.22	6.22
Dawson County	D6	RM 94.20	48653.06	5-yr	2532.14	627.35	621.41	2.26	1.59	25.25	6.86	261.89	1495.2	3.93	1.07	5.94	5.94
Dawson County	D6	RM 94.08	48445.46	5-yr	2532.14	627.33	622.37	1.71	1.29	14.01	4.31	338.75	1533.67	4.16	1.28	4.96	4.96
Dawson County	D6	RM 93.96	48246.42	5-yr	2532.14	627.22	621.88	1.88	1.37	17.42	6.32	331.74	1353.5	3.78	1.37	5.34	5.34
Dawson County	D6	RM 93.83	48030.25	5-yr	2532.14	627.07	620.28	2.15	1.38	21.63	6.93	237.8	1306.75	4.4	1.41	6.79	6.79
Dawson County	D6	RM 93.68	47782.89	5-yr	2532.14	626.73	620.19	2.79	2.28	36.12	11.76	191.53	754.44	4.57	1.49	6.54	6.54
Dawson County	D6	RM 93.57	47606.95	5-yr	2532.14	626.45	620.08	3.13	2.63	46.65	21.83	184.03	483.44	4.27	1.99	6.36	6.36
Dawson County	D6	RM 93.53	47552.11	5-yr	2532.14	626.41	620.21	3.04	2.66	43.17	20.55	184.33	449.73	4.44	2.11	6.19	6.19
Dawson County	D6	RM 93.47	47460.74	5-yr	2532.14	626.33	618.63	2.95	2.67	40.75	21.22	189.97	408.56	4.46	2.32	7.71	7.71
Dawson County	D6	RM 93.43	47382.46	5-yr	2532.14	626.3	619.44	2.8	2.58	36.2	19.94	191.32	382.32	4.68	2.57	6.86	6.86
Dawson County	D6	RM 93.36	47287.92	5-yr	2532.14	626.3	620.47	2.45	2.21	27.6	16.74	213.34	401.59	4.77	2.88	5.83	5.83
Dawson County	D6	RM 93.25	47111.44	5-yr	2532.14	626.12	621.12	2.65	2.37	35.22	19.56	228.84	477.51	4.03	2.24	5	5
Dawson County	D6	RM 93.05	46807.77	5-yr	2532.14	626.01	621.74	2.06	1.69	20.76	9.68	283.11	815.7	3.95	1.84	4.27	4.27
Dawson County	D6	RM 92.93	46606.31	5-yr	2532.14	625.87	621.34	2.15	1.72	23.39	11.06	305.87	875.52	3.56	1.68	4.53	4.53
Dawson County	D6	RM 92.83	46460.06	5-yr	2532.14	625.75	621.02	2.21	1.83	22.07	12.42	357.35	825.09	2.99	1.68	4.73	4.73
Dawson County	D6	RM 92.71	46261.84	5-yr	2532.14	625.68	620.37	1.86	1.29	15.67	7.4	359.38	1313.39	3.18	1.5	5.31	5.31
Dawson County	D6	RM 92.59	46079.79	5-yr	2532.14	625.6	620.95	1.81	1.33	16.68	6.98	320.98	1184.06	3.87	1.61	4.65	4.65
Dawson County	D6	RM 92.50	45933.81	5-yr	2532.14	625.44	620.75	2.13	1.83	22.96	8.58	325.4	1054.23	3.53	1.32	4.69	4.69
Dawson County	D6	RM 92.39	45753.94	5-yr	2532.14	625.31	620.58	2.18	1.99	23.56	14.39	299.01	552.52	3.77	2.3	4.73	4.73
Dawson County	D6	RM 92.29	45591.17	5-yr	2532.14	625.22	620.64	2.14	1.85	22.57	11.05	295.64	732.81	3.82	1.87	4.58	4.58
Dawson County	D6	RM 92.18	45414.13	5-yr	2532.14	625.17	620.23	1.82	1.63	16.41	9.2	358.66	741.29	3.75	2.1	4.94	4.94
Dawson County	D6	RM 92.06	45238.47	5-yr	2532.14	625.09	620.12	1.84	1.55	16.94	9.47	354.46	811.15	3.62	2.02	4.97	4.97
Dawson County	D6	RM 91.99	45117.89	5-yr	2532.14	625.07	619.81	1.54	1.36	12.3	7.59	390.42	912.41	3.31	2.05	5.26	5.26
Dawson County	D6	RM 91.85	44886.16	5-yr	2532.14	625.02	619.7	1.39	1.14	10.6	6.33	238.98	915.78	4.05	2.42	5.32	5.32
Dawson County	D6	RM 91.77	44752.88	5-yr	2532.14	624.96	619.28	1.53	1.31	15.03	10.04	224.91	771.44	3.75	2.51	5.68	5.68
Dawson County	D6	RM 91.61	44507.01	5-yr	2532.14	624.8	619	1.89	1.48	16.48	6.43	148.19	1077.65	4.63	1.8	5.8	5.8
Dawson County	D6	RM 91.45	44219.47	5-yr	2532.14	624.69	618.66	1.94	1.7	18.28	7	189.07	869.32	4.49	1.72	6.03	6.03
Dawson County	D6	RM 91.31	43987.79	5-yr	2532.14	624.47	618.98	2.22	1.94	23.6	8.76	271.16	854.78	4.12	1.53	5.49	5.49
Dawson County	D6	RM 91.11	43666.49	5-yr	2532.14	624.26	618.54	2.36	1.97	25.48	10.07	219.42	682.32	4.76	1.88	5.72	5.72
Dawson County	D6	RM 90.97	43442.55	5-yr	2532.14	624.11	618.3	2.44	2.01	27.65	9.95	224.14	779.95	4.49	1.62	5.81	5.81

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	5-yr	2532.14	623.91	618.97	2.25	1.81	30.63	10.38	268.72	1205.04	4.03	1.36	4.94	4.94
Dawson County	D6	RM 90.59	42823.65	5-yr	2532.14	623.86	618.64	1.74	1.18	14.46	5.66	232.7	1394.27	4.2	1.64	5.22	5.22
Dawson County	D6	RM 90.43	42564.46	5-yr	2532.14	623.52	618.18	2.61	2.02	32.99	10.81	208.77	952.5	4.01	1.32	5.34	5.34
Dawson County	D6	RM 90.29	42331.05	5-yr	2532.14	623.41	618.21	2.24	1.64	23.88	7.62	236.08	1148.14	4.22	1.34	5.2	5.2
Dawson County	D6	RM 90.16	42118.24	5-yr	2532.14	623.27	618.54	2.29	1.72	24.89	8.69	229.61	1020.33	4.21	1.47	4.73	4.73
Dawson County	D6	RM 89.96	41795.66	5-yr	2532.14	623.15	618.08	1.88	1.61	17.43	8.39	346.39	959.99	3.75	1.81	5.07	5.07
Dawson County	D6	RM 89.83	41589.45	5-yr	2532.14	622.82	617.17	2.71	2.23	35.06	14.71	211.95	641.54	4.21	1.77	5.65	5.65
Dawson County	D6	RM 89.65	41302.33	5-yr	2532.14	622.61	618.15	2.53	2.23	31.56	14.1	251.93	661.44	3.83	1.72	4.46	4.46
Dawson County	D6	RM 89.46	41003.8	5-yr	2532.14	622.44	617.56	2.29	2.08	24.52	12.72	236.74	516.99	4.55	2.36	4.88	4.88
Dawson County	D6	RM 89.29	40732.3	5-yr	2532.14	622.42	617.42	1.71	1.47	13.81	10.04	253.25	582.39	4.33	3.14	5	5
Dawson County	D6	RM 89.13	40476.68	5-yr	2532.14	622.22	617.29	2.16	1.96	21.88	14.53	231.92	439.86	4.43	2.94	4.93	4.93
Dawson County	D6	RM 88.96	40193.97	5-yr	2537.52	622.09	617.14	2.16	1.93	21.19	13.47	186.73	425.77	4.88	3.08	4.95	4.95
Dawson County	D7	RM 88.77	39887.75	5-yr	2537.52	621.9	616.98	2.23	1.99	23.74	14.76	260.04	556.38	4.17	2.59	4.92	4.92
Dawson County	D7	RM 88.58	39581.56	5-yr	2537.52	621.58	616.82	2.7	2.24	33.83	13.97	185.88	599.57	4.69	1.91	4.76	4.76
Dawson County	D7	RM 88.44	39345.29	5-yr	2537.52	621.39	616.7	2.75	2.42	35	19.22	181.67	453.21	4.68	2.54	4.69	4.69
Dawson County	D7	RM 88.25	39047.22	5-yr	2537.52	621.26	616.54	2.31	2.05	25.51	16.8	221.53	455.23	4.24	2.78	4.72	4.72
Dawson County	D7	RM 88.06	38736.32	5-yr	2537.52	621.11	616.38	2.04	1.91	20.26	14.07	305.89	482.81	3.99	2.77	4.73	4.73
Dawson County	D7	RM 87.87	38426.68	5-yr	2537.52	621.02	616.22	1.64	1.46	13.97	10.82	429.53	680.19	3.3	2.56	4.8	4.8
Dawson County	D7	RM 87.70	38161.81	5-yr	2537.52	620.94	616.08	1.69	1.27	13.12	6.19	181.73	929.66	4.85	2.24	4.86	4.86
Dawson County	D7	RM 87.52	37862.82	5-yr	2537.52	620.89	615.92	1.4	1.27	9.71	7.27	308.23	728.12	3.76	2.8	4.97	4.97
Dawson County	D7	RM 87.34	37574.69	5-yr	2537.52	620.67	615.85	2.09	1.78	21.56	12.03	253.88	667.92	3.86	2.14	4.82	4.82
Dawson County	D7	RM 87.17	37307.08	5-yr	2537.52	620.45	615.82	2.44	2.04	27.74	14.64	162.99	523.15	4.55	2.38	4.64	4.64
Dawson County	D7	RM 87.00	37023.47	5-yr	2537.52	620.32	615.79	2.1	1.97	21.87	16.22	241.45	454.01	3.84	2.84	4.53	4.53
Dawson County	D7	RM 86.82	36748.51	5-yr	2537.52	620.15	615.76	2.18	2.02	23.32	18.1	210.89	409.69	3.97	3.06	4.39	4.39
Dawson County	D7	RM 86.67	36501.76	5-yr	2537.52	619.9	615.73	2.68	2.28	34.85	22.42	151.27	425.08	4.16	2.62	4.17	4.17
Dawson County	D7	RM 86.52	36253.46	5-yr	2537.52	619.79	615.7	2.03	1.75	20.29	12.99	250.55	590.8	3.84	2.46	4.1	4.1
Dawson County	D7	RM 86.39	36046.31	5-yr	2537.52	619.66	615.59	2.21	1.73	24.19	15.05	147.45	626.28	3.82	2.34	4.07	4.07
Dawson County	D7	RM 86.24	35796.38	5-yr	2537.52	619.61	615.46	1.43	1.31	9.86	8.43	166.41	560.29	4.09	3.45	4.16	4.16
Dawson County	D7	RM 86.08	35541.56	5-yr	2537.52	619.28	615.48	2.55	2.3	33.04	22.28	160.1	466.09	3.55	2.36	3.8	3.8
Dawson County	D7	RM 85.91	35282.1	5-yr	2537.52	619.11	615.5	2.23	1.92	25.12	14.26	191.42	664.99	3.52	1.99	3.61	3.61
Dawson County	D7	RM 85.78	35075.01	5-yr	2537.52	619.13	614.9	1.28	1.2	8.5	6.98	288.53	991.63	3.31	2.71	4.23	4.23
Dawson County	D7	RM 85.59	34774.5	5-yr	2537.52	619.05	614.32	1.54	1.21	10.9	6.07	184.84	802.96	4.7	2.6	4.73	4.73
Dawson County	D7	RM 85.39	34449.3	5-yr	2537.52	618.84	614.15	2.1	1.81	20.93	11.66	219.47	591.1	4.29	2.38	4.69	4.69
Dawson County	D7	RM 85.23	34186.4	5-yr	2537.52	618.58	614.01	2.69	2.16	33.93	15.47	157.48	573.49	4.56	2.05	4.57	4.57
Dawson County	D7	RM 85.04	33863.7	5-yr	2537.52	618.51	613.84	1.92	1.65	18.33	12.66	265.03	588.4	3.8	2.61	4.66	4.66
Dawson County	D7	RM 84.89	33626.36	5-yr	2537.52	618.42	613.92	1.67	1.61	14.03	12.81	413.04	475.03	3.63	3.32	4.5	4.5
Dawson County	D7	RM 84.72	33349.5	5-yr	2537.52	618.26	613.77	1.86	1.85	17.05	16.7	353.9	363.96	3.85	3.77	4.49	4.49
Dawson County	D7	RM 84.57	33104.21	5-yr	2537.52	618.11	613.45	2.04	2.02	19.79	18.93	294.82	311.49	4.22	4.04	4.66	4.66
Dawson County	D7	RM 84.41	32856.7	5-yr	2537.52	618	613.32	1.98	1.94	19	17.66	312.69	345.93	4.06	3.78	4.68	4.68
Dawson County	D7	RM 84.22	32552.24	5-yr	2537.52	617.88	613.16	1.88	1.69	17.01	11.32	261.68	580.32	4.11	2.71	4.73	4.73
Dawson County	D7	RM 84.05	32270.74	5-yr	2537.52	617.72	613.14	2.1	1.84	20.79	10.92	206.16	602.22	4.37	2.29	4.58	4.58
Dawson County	D7	RM 83.89	32017.88	5-yr	2537.52	617.51	613.11	2.36	2.04	26.47	13.21	191.2	578.23	4.33	2.15	4.41	4.41
Dawson County	D7	RM 83.73	31759.16	5-yr	2537.52	617.42	613.07	1.97	1.65	19.07	11.8	240.43	646.54	3.94	2.43	4.35	4.35
Dawson County	D7	RM 83.53	31426.04	5-yr	2537.52	617.35	613.01	1.52	1.33	11.28	6.82	304.34	796.2	3.97	2.39	4.33	4.33
Dawson County	D7	RM 83.39	31213.34	5-yr	2537.52	617.27	612.95	1.71	1.43	14.09	8.05	189.12	762.57	4.11	2.33	4.31	4.31
Dawson County	D7	RM 83.21	30910.79	5-yr	2537.52	617.19	612.91	1.56	1.29	11.63	7.45	170.07	732.31	4.24	2.69	4.41	4.41
Dawson County	D7	RM 83.05	30660.14	5-yr	2537.52	617.11	612.78	1.44	1.24	9.99	6.03	229.1	811.56	4.15	2.52	4.66	4.66
Dawson County	D7	RM 82.94	30491.79	5-yr	2537.52	617.06	612.69	1.49	1.29	10.69	6.17	219.21	832.02	4.11	2.36	4.67	4.67
Dawson County	D7	RM 82.81	30280.45	5-yr	2537.52	616.96	612.58	1.64	1.39	13.21	7.06	178.49	865.49	3.96	2.11	4.81	4.81
Dawson County	D7	RM 82.68	30058.39	5-yr	2537.52	616.89	612.34	1.76	1.34	14.44	6.19	152.77	986.49	4.54	1.92	4.79	4.79
Dawson County	D7	RM 82.51	29786.14	5-yr	2537.52	616.87	612.1	1.28	1.01	7.68	3.46	229.35	1264.89	4.44	1.98	5.02	5.02
Dawson County	D7	RM 82.33	29497.12	5-yr	2537.52	616.82	611.87	1.34	0.9	8.42	3.8	246.87	1386.22	4.59	2.04	5.07	5.07
Dawson County	D7	RM 82.22	29323.27	5-yr	2537.52	616.75	611.66	1.59	0.93	11.66	4.6	193.52	1504.47	4.73	1.85	5.1	5.1
Dawson County	D7	RM 82.06	29049.94	5-yr	2537.52	616.71	611.37	1.45	0.87	9.55	3.37	202.97	1677.72	5	1.73	5.34	5.34
Dawson County	D7	RM 81.91	28820.21	5-yr	2537.52	616.68	611.21	1.47	0.86	9.56	2.79	191.58	1915.88	5.34	1.53	5.46	5.46
Dawson County	D7	RM 81.71	28446.75	5-yr	2537.52	616.63	611.02	1.23	0.84	6.63	1.75	220.81	2133.53	5.41	1.42	5.61	5.61
Dawson County	D7	RM 81.49	28026.4	5-yr	2537.52	616.37	610.8	2.27	1.53	22.67	5	165.37	2071.1	5.56	1.2	5.57	5.57
Dawson County	D7	RM 81.31	27735.46	5-yr	2540.36	615.56	610.65	3.92	3.46	70.71	20.44	131.98	539.03	4.83	1.36	4.91	4.91
Dawson County	D8	RM 81.10	27398.33	5-yr	2540.36	615.31	610.47	3.23	2.59	48.21	16.63	160.09	625.32	4.74	1.61	4.84	4.84
Dawson County	D8	RM 80.94	27148.21	5-yr	2540.36	615.28	610.34	2.38	2.14	26.04	10.14	225.85	687.03	4.68	1.81	4.94	4.94

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	5-yr	2540.36	615.26	610.19	1.86	1.39	15.66	5.08	181.68	1328.23	5.06	1.6	5.06	5.06
Dawson County	D8	RM 80.64	26669.58	5-yr	2540.36	615.16	610.09	1.95	1.49	17.3	4.75	209.02	1350.64	4.84	1.31	5.07	5.07
Dawson County	D8	RM 80.45	26373.01	5-yr	2540.36	615.17	609.94	1.35	0.96	8.31	2.73	122.91	2020.88	5.09	1.61	5.23	5.23
Dawson County	D8	RM 80.17	25926.88	5-yr	2540.36	615.03	609.71	1.93	1.32	16.56	4.97	146.98	1250.02	5.31	1.54	5.32	5.32
Dawson County	D8	RM 79.91	25496.94	5-yr	2540.36	614.93	609.42	1.47	1.2	10	3.03	362.06	1527.35	4.6	1.38	5.51	5.51
Dawson County	D8	RM 79.43	24626.85	5-yr	2540.36	614.67	609.14	1.71	1.44	13.09	4.99	289.02	921.05	5.03	1.91	5.53	5.53
Dawson County	D8	RM 79.23	24229.4	5-yr	2540.36	614.22	608.87	2.83	2.63	36.3	13.37	173.46	523.61	5.14	1.84	5.35	5.35
Dawson County	D8	RM 78.27	22640.58	5-yr	2540.36	613.41	608.6	2.11	1.58	21.26	9.86	226.68	817.11	4.29	1.96	4.81	4.81
Dawson County	D8	RM 78.12	22398.86	5-yr	2540.36	613.34	608.48	1.92	1.56	17.55	8.26	222.94	805.18	4.32	2.02	4.87	4.87
Dawson County	D8	RM 77.97	22135.34	5-yr	2540.36	613.22	608.34	2.04	1.63	19.32	8.74	214.67	744.19	4.65	2.09	4.88	4.88
Dawson County	D8	RM 77.79	21831.85	5-yr	2540.36	613.13	608.18	1.73	1.54	15.09	10.08	332.54	688.42	3.59	2.39	4.95	4.95
Dawson County	D8	RM 77.57	21474.71	5-yr	2540.36	612.92	608	2.04	1.86	19.4	10.79	250.08	542.93	4.54	2.52	4.92	4.92
Dawson County	D8	RM 77.38	21170.35	5-yr	2540.36	612.72	607.84	2.3	2.01	24.59	12.19	215.18	556.06	4.61	2.28	4.88	4.88
Dawson County	D8	RM 77.13	20780.17	5-yr	2540.36	612.68	607.63	1.64	1.34	12.52	7.31	188.55	699.95	4.67	2.7	5.05	5.05
Dawson County	D8	RM 77.00	20442.34	5-yr	2540.36	612.56	607.46	1.98	1.49	17.77	8.93	131.83	691.5	5.09	2.46	5.1	5.1
Dawson County	D8	RM 76.90	20124.49	5-yr	2540.36	612.48	607.29	1.82	1.54	14.98	8.99	153.24	547.1	5.18	3.02	5.19	5.19
Dawson County	D8	RM 76.76	19785.25	5-yr	2540.36	612.43	607.12	1.47	1.33	9.82	6	269.03	651.49	4.87	2.97	5.31	5.31
Dawson County	D8	RM 76.63	19501.04	5-yr	2540.36	612.35	606.97	1.61	1.45	12.26	6.95	246.86	708.44	4.4	2.47	5.38	5.38
Dawson County	D8	RM 76.37	19137.53	5-yr	2540.36	612.17	606.78	1.87	1.66	15.89	7.65	272.76	650.3	4.9	2.35	5.39	5.39
Dawson County	D8	RM 76.22	18884.28	5-yr	2540.36	612.06	606.65	1.95	1.7	17.2	6.96	253.7	735.21	5.03	2.03	5.41	5.41
Dawson County	D8	RM 76.00	18519.22	5-yr	2540.36	611.83	606.61	2.29	1.95	23.93	7.82	225.2	833.03	4.82	1.56	5.22	5.22
Dawson County	D8	RM 75.75	18119.45	5-yr	2540.36	611.53	606.58	2.54	2.17	29.75	11.11	209.51	680.16	4.66	1.72	4.95	4.95
Dawson County	D8	RM 75.56	17818.36	5-yr	2540.36	611.43	606.75	2.05	1.74	20.52	8.26	303.99	919.04	3.96	1.59	4.69	4.69
Dawson County	D8	RM 75.31	17411.3	5-yr	2540.36	611.27	606.34	1.94	1.63	17.69	6.23	263.12	993.47	4.46	1.57	4.93	4.93
Dawson County	D8	RM 75.13	17092.44	5-yr	2540.36	611.15	606.17	1.85	1.48	16.33	6.21	306.22	1055.83	4.27	1.62	4.98	4.98
Dawson County	D8	RM 74.90	16719.46	5-yr	2540.36	610.8	605.98	2.51	1.98	29.96	9.39	224.87	955.92	4.32	1.34	4.83	4.83
Dawson County	D8	RM 74.65	16308.2	5-yr	2540.36	610.67	605.91	1.96	1.56	18.34	6.15	267.86	1143.48	4.28	1.43	4.76	4.76
Dawson County	D8	RM 74.37	15846.14	5-yr	2540.36	610.4	605.85	2.22	1.82	24.22	11.3	221.55	768.05	3.92	1.82	4.55	4.55
Dawson County	D8	RM 74.13	15464.97	5-yr	2540.36	610.22	605.82	1.97	1.67	18.85	9.95	235.57	722.8	4.02	2.11	4.4	4.4
Dawson County	D8	RM 73.91	15098.01	5-yr	2540.36	610.08	605.99	1.7	1.41	14.48	7.05	283.69	1012.73	3.66	1.78	4.09	4.09
Dawson County	D8	RM 73.71	14783.86	5-yr	2540.36	609.96	605.87	1.63	1.41	13.26	6.42	292.2	1042.4	3.71	1.79	4.1	4.1
Dawson County	D8	RM 73.53	14496.67	5-yr	2540.36	609.86	605.72	1.66	1.33	13.5	5.15	249.62	1747.77	3.87	1.47	4.14	4.14
Dawson County	D8	RM 73.29	14096.19	5-yr	2540.36	609.38	605.51	2.81	2.35	39.08	17.44	198.62	646.97	3.77	1.67	3.87	3.87
Dawson County	D8	RM 73.07	13729.79	5-yr	2540.36	608.75	605.52	3.23	2.95	54.75	34.41	196.15	432.25	3.17	1.99	3.5	3.5
Dawson County	D8	RM 72.83	13354.45	5-yr	2540.36	608.4	604.9	2.42	2.17	30.33	18.28	264.25	595.63	3.26	1.97	3.5	3.5
Dawson County	D8	RM 72.62	13000.82	5-yr	2540.36	608.14	604.4	2.19	1.98	24.41	15.56	295.23	573.62	3.5	2.24	3.74	3.74
Dawson County	D8	RM 72.37	12609.05	5-yr	2540.36	607.8	603.89	2.4	1.99	28.75	16.34	228.58	605.4	3.72	2.11	3.91	3.91
Dawson County	D8	RM 72.16	12261.75	5-yr	2540.36	607.54	603.69	2.3	2.07	26.61	16.88	286.3	578.13	3.57	2.27	3.85	3.85
Dawson County	D8	RM 71.92	11875.08	5-yr	2540.36	607.36	603.18	1.87	1.75	17.59	11.9	345.16	590.03	3.64	2.47	4.18	4.18
Dawson County	D8	RM 71.69	11512.65	5-yr	2540.36	607.14	602.95	2.03	1.82	20.27	11.95	303.44	623.67	3.8	2.24	4.19	4.19
Dawson County	D8	RM 71.49	11192.6	5-yr	2540.36	606.96	602.03	2.13	1.81	21.04	9.94	237.66	646.55	4.6	2.17	4.93	4.93
Dawson County	D8	RM 71.31	10913.3	5-yr	2540.36	606.83	601.99	2.11	1.74	20.87	9.41	244.59	730.94	4.45	2	4.84	4.84
Dawson County	D9	RM 71.10	10567.75	5-yr	2543.19	606.73	602.11	1.78	1.53	15.34	9.13	197.48	686.68	4.11	2.43	4.63	4.63
Dawson County	D9	RM 70.91	10267.7	5-yr	2543.19	606.57	602.05	2.09	1.68	20.63	8.68	126.11	873.67	4.44	1.84	4.52	4.52
Dawson County	D9	RM 70.72	9968.939	5-yr	2543.19	606.44	601.91	2.07	1.56	20.22	7.41	153.19	1118.44	4.52	1.61	4.53	4.53
Dawson County	D9	RM 70.50	9603.574	5-yr	2543.19	606.32	601.9	1.78	1.55	15.35	10.16	251.24	618.14	4.02	2.66	4.41	4.41
Dawson County	D9	RM 70.27	9238.535	5-yr	2543.19	606.01	601.31	2.32	2.07	25.44	13.16	236.79	541.01	4.38	2.27	4.7	4.7
Dawson County	D9	RM 70.08	8928.013	5-yr	2543.19	605.87	600.85	2.19	1.83	22.35	10.17	234.44	679.1	4.53	2.05	5.02	5.02
Dawson County	D9	RM 69.79	8464.726	5-yr	2543.19	605.72	600.61	1.89	1.5	16.49	7.02	248.41	861.32	4.65	1.97	5.11	5.11
Dawson County	D9	RM 69.50	7983.226	5-yr	2543.19	605.58	600.56	1.85	1.38	16.09	5.45	237.14	1219.44	4.51	1.51	5.02	5.02
Dawson County	D9	RM 69.26	7575.04	5-yr	2543.19	605.43	600.35	1.88	1.33	16.39	5.73	245.78	1189.11	4.62	1.61	5.09	5.09
Dawson County	D9	RM 69.03	7206.967	5-yr	2543.19	605.34	599.95	1.73	1.28	13.56	5.75	236.36	937.45	5.03	2.12	5.39	5.39
Dawson County	D9	RM 68.82	6851.789	5-yr	2543.19	605.12	599.77	2.13	1.71	20.85	8.6	217.59	760.62	4.8	1.96	5.36	5.36
Dawson County	D9	RM 68.60	6509.797	5-yr	2543.19	604.8	599.59	2.59	2.39	30.23	18.38	189.13	347.86	5.09	3.07	5.21	5.21
Dawson County	D9	RM 68.39	6158.879	5-yr	2543.19	604.65	599.51	2.29	2.17	24.5	18.2	241.73	350.03	4.52	3.35	5.14	5.14
Dawson County	D9	RM 68.11	5709.195	5-yr	2543.19	604.43	599.37	2.14	2.01	21.56	16.01	262.72	384.35	4.42	3.29	5.06	5.06
Dawson County	D9	RM 67.86	5308.187	5-yr	2543.19	604.23	599.17	2.32	2.02	24.67	17.04	130.41	379.68	4.89	3.31	5.06	5.06
Dawson County	D10	RM 67.57	4859.184	5-yr	2548.85	604.03	598.93	2.05	1.89	19.29	14.29	240.29	383.91	4.75	3.52	5.1	5.1
Dawson County	D10	RM 67.37	4523.862	5-yr	2548.85	603.92	598.75	1.95	1.7	17.46	10.76	224.36	526.13	4.75	2.92	5.17	5.17
Dawson County	D10	RM 67.15	4175.103	5-yr	2548.85	603.55	598.47	2.79	2.3	35.5	15.65	158.11	522.54	4.86	2.12	5.08	5.08

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	5-yr	2548.85	603.45	598.2	2.18	1.64	22.34	9.69	211.57	824.64	4.38	1.89	5.25	5.25
Dawson County	D10	RM 66.74	3505.323	5-yr	2548.85	603.27	598.12	2.21	1.76	22.09	11.09	189.78	583.56	5.02	2.49	5.15	5.15
Dawson County	D10	RM 66.52	3142.889	5-yr	2548.85	603.08	598.26	2.17	1.91	22.01	11.52	249	567.24	4.5	2.35	4.82	4.82
Dawson County	D10	RM 66.28	2774.58	5-yr	2548.85	602.7	598.21	2.74	2.42	35.78	23.17	206.17	382.29	4.24	2.75	4.49	4.49
Dawson County	D10	RM 66.11	2492.331	5-yr	2548.85	602.58	597.8	2.23	2.04	24.16	17.1	269.84	436.55	4.04	2.87	4.78	4.78
Dawson County	D10	RM 65.90	2160.839	5-yr	2548.85	602.46	597.33	2.02	1.71	19.09	10.38	227.64	607.18	4.53	2.45	5.13	5.13
Dawson County	D10	RM 65.75	1926.044	5-yr	2548.85	602.35	597.2	2.01	1.75	19.6	13.75	203.78	510.28	4.08	2.85	5.14	5.14
Dawson County	D10	RM 65.60	1669.095	5-yr	2548.85	602.18	597.07	2.3	1.73	24.25	10.38	140.14	716.26	4.88	2.05	5.11	5.11
Dawson County	D10	RM 65.42	1386.836	5-yr	2548.85	602.11	596.92	1.74	1.52	14.03	8.4	247.82	594.23	4.73	2.81	5.19	5.19
Dawson County	D10	RM 65.23	1090.639	5-yr	2548.85	601.98	596.91	1.9	1.56	17.95	8.78	263.18	933.7	3.7	1.8	5.07	5.07
Dawson County	D10	RM 64.96	634.963	5-yr	2548.85	601.84	597.09	1.66	1.15	13.13	5.4	270.22	1529.88	4.22	1.73	4.75	4.75

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	5-yr	2548.5	601.7	596.42	1.26	0.91	7.87	2.77	398.12	2146.03	3.74	1.31	5.28	5.28
Richland/McKenzie County	D10	RM 64.32	103200	5-yr	2548.5	601.58	596.33	1.71	0.97	13.77	4.2	232.97	1981.44	4.41	1.33	5.25	5.25
Richland/McKenzie County	D10	RM 64.12	102900	5-yr	2548.5	601.54	596.18	1.39	0.96	9.33	3.43	281.09	1817.23	4	1.46	5.36	5.36
Richland/McKenzie County	D10	RM 63.92	102601	5-yr	2548.5	601.49	596.08	1.34	0.82	8.78	3.5	273.38	2035.06	3.87	1.53	5.41	5.41
Richland/McKenzie County	D10	RM 63.74	102302	5-yr	2548.5	601.43	595.94	1.41	0.9	9.5	3.27	254.65	1953	4.28	1.46	5.49	5.49
Richland/McKenzie County	D10	RM 63.55	101998	5-yr	2548.5	601.37	595.79	1.49	0.86	9.97	3.07	210.56	1911.18	5.11	1.56	5.58	5.58
Richland/McKenzie County	D10	RM 63.34	101671	5-yr	2548.5	601.31	595.21	1.49	0.83	10.5	4.08	241.49	1939.81	4.36	1.68	6.1	6.1
Richland/McKenzie County	D10	RM 63.08	101293	5-yr	2548.5	600.85	595.12	2.94	1.53	40.36	10.96	159.68	1491.36	4.57	1.22	5.73	5.73
Richland/McKenzie County	D10	RM 62.96	101094	5-yr	2548.5	600.67	595.12	2.95	1.7	50.07	14.2	149.74	1096.08	4.93	1.37	5.55	5.55
Richland/McKenzie County	D10	RM 62.83	100882	5-yr	2548.5	600.51	595.12	2.78	1.74	39.07	10.87	161.51	1058.19	5.07	1.38	5.39	5.39
Richland/McKenzie County	D10	RM 62.64	100582	5-yr	2548.5	600.4	595.12	2.37	1.57	25.53	8.53	189.94	984.68	4.99	1.65	5.28	5.28
Richland/McKenzie County	D10	RM 62.46	100282	5-yr	2548.5	599.95	595.1	3.19	2.36	47.69	19.8	160.77	585.6	4.51	1.85	4.85	4.85
Richland/McKenzie County	D10	RM 62.27	99977	5-yr	2548.5	600	594.91	1.76	1.48	14.65	7.8	303.33	733.71	4.45	2.34	5.09	5.09
Richland/McKenzie County	D10	RM 62.1	99691	5-yr	2548.5	599.92	594.75	1.63	1.32	12.57	6.68	274.06	1002.81	3.65	1.93	5.17	5.17
Richland/McKenzie County	D10	RM 61.91	99377	5-yr	2548.5	599.76	594.51	1.85	1.3	15.87	7.41	164.84	1049.57	4.05	1.87	5.25	5.25
Richland/McKenzie County	D10	RM 61.72	99082	5-yr	2548.5	599.61	594.36	1.98	1.5	18.26	7.26	127.17	945.78	4.62	1.8	5.25	5.25
Richland/McKenzie County	D10	RM 61.54	98782	5-yr	2548.5	599.34	594.36	2.29	2.01	23.66	11.82	230.57	571.98	4.47	2.21	4.98	4.98
Richland/McKenzie County	D10	RM 61.35	98482	5-yr	2548.5	599.17	594.26	2.31	1.95	25.1	11.58	215	638.96	4.48	2.05	4.91	4.91
Richland/McKenzie County	D10	RM 61.16	98182	5-yr	2548.5	599.12	594.17	1.74	1.39	14.57	8.87	248.77	966.68	4.11	2.49	4.95	4.95
Richland/McKenzie County	D10	RM 60.99	97906	5-yr	2548.5	598.99	594.02	1.91	1.4	17.02	5.89	216.72	1167.19	4.55	1.56	4.97	4.97
Richland/McKenzie County	D10	RM 60.79	97582	5-yr	2548.5	598.86	593.78	1.95	1.32	18.78	7.13	224.25	1459.65	3.82	1.44	5.08	5.08
Richland/McKenzie County	D10	RM 60.64	97339	5-yr	2548.5	598.85	593.58	1.22	0.92	7.43	3.67	266.24	1835.38	3.62	1.77	5.27	5.27
Richland/McKenzie County	D10	RM 60.42	96982	5-yr	2548.5	598.71	593.38	1.67	1.25	12.93	4.33	215.62	1834.75	4.39	1.45	5.33	5.33
Richland/McKenzie County	D10	RM 60.25	96700	5-yr	2548.5	598.56	593.24	2.14	1.43	22.67	6.51	192.38	2298.43	3.78	1.07	5.32	5.32
Richland/McKenzie County	D10	RM 60.04	96365	5-yr	2548.5	598.4	593.14	1.97	1.19	20.22	6.2	227.05	2194.59	3.23	0.98	5.26	5.26
Richland/McKenzie County	D10	RM 59.86	96088	5-yr	2548.5	598.3	592.99	1.92	0.95	16.98	3.96	171.55	2424.41	4.84	1.11	5.31	5.31
Richland/McKenzie County	D10	RM 59.65	95769	5-yr	2548.5	598.27	592.85	1.48	0.8	10.37	3.21	207.22	2405.87	4.37	1.33	5.42	5.42
Richland/McKenzie County	D10	RM 59.5	95530	5-yr	2548.5	598.18	592.75	1.62	0.96	12.83	3.94	206.9	2179.24	4.01	1.21	5.43	5.43
Richland/McKenzie County	D10	RM 59.29	95183	5-yr	2548.5	598.08	592.55	1.51	1	10.98	3.28	232.08	2120.43	4.1	1.21	5.53	5.53
Richland/McKenzie County	D10	RM 59.07	94797	5-yr	2548.5	598	592.36	1.36	0.97	9.79	3.22	408.43	2193.85	3.87	1.26	5.64	5.64
Richland/McKenzie County	D10	RM 58.93	94582	5-yr	2548.5	597.87	592.31	1.72	1.13	14.29	4.16	328.36	2105.32	4.14	1.19	5.56	5.56
Richland/McKenzie County	D10	RM 58.75	94282	5-yr	2548.5	597.75	592.28	1.86	1.24	15.32	3.98	264.72	1987.91	4.82	1.24	5.47	5.47
Richland/McKenzie County	D10	RM 58.56	93982	5-yr	2548.5	597.23	592.22	3.2	2.3	47.38	11.03	157.23	1023.06	4.74	1.08	5.01	5.01
Richland/McKenzie County	D10	RM 58.37	93682	5-yr	2548.5	596.97	592.22	2.99	2.58	42.1	12.62	186.39	747.64	4.47	1.32	4.75	4.75
Richland/McKenzie County	D10	RM 58.19	93382	5-yr	2548.5	596.97	592.22	2	1.6	18.57	8.39	254.64	984.17	4.58	2.05	4.75	4.75
Richland/McKenzie County	D10	RM 58.01	93086	5-yr	2548.5	596.7	592.14	2.44	2.27	28.26	17.93	236.1	413.34	4.31	2.72	4.56	4.56
Richland/McKenzie County	D10	RM 57.82	92782	5-yr	2548.5	596.63	592.11	1.79	1.66	16.2	10.96	308.1	717.82	3.58	2.42	4.52	4.52
Richland/McKenzie County	D10	RM 57.63	92482	5-yr	2548.5	596.43	592.11	2.3	1.76	25.77	11.4	160.84	825.04	4.02	1.76	4.32	4.32
Richland/McKenzie County	D10	RM 57.46	92205	5-yr	2548.5	596.35	591.95	1.69	1.23	13.76	6.57	192.28	1062.04	4.11	1.95	4.4	4.4
Richland/McKenzie County	D10	RM 57.26	91882	5-yr	2548.5	596.05	591.9	2.21	1.91	24.94	14.41	136.34	670.78	3.48	1.99	4.15	4.15
Richland/McKenzie County	D10	RM 57.07	91583	5-yr	2548.5	595.97	591.73	1.81	1.45	15.94	9.36	137.25	957.27	4	2.32	4.24	4.24
Richland/McKenzie County	D10	RM 56.87	91253	5-yr	2548.5	595.81	591.49	1.57	1.35	12.53	9.57	186.15	736.42	3.51	2.67	4.38	4.38
Richland/McKenzie County	D10	RM 56.68	90943	5-yr	2548.5	595.74	591.12	1.32	1.27	9.08	7.52	299.58	739.49	3.3	2.73	4.62	4.62
Richland/McKenzie County	D10	RM 56.54	90682	5-yr	2551.3	595.52	590.76	1.69	1.96	16.47	16.84	216.66	452.86	2.82	2.87	4.8	4.8
Richland/McKenzie County	D10	RM 56.35	90387	5-yr	2551.3	595.4	590.46	1.74	1.76	15.2	15.18	174.85	407.68	3.59	3.56	4.94	4.94
Richland/McKenzie County	D11	RM 56.16	90086	5-yr	2551.3	595.04	590.11	2.56	2.54	30.84	24.62	220.12	279.78	4.52	3.59	4.93	4.93
Richland/McKenzie County	D11	RM 55.96	89768	5-yr	2551.3	594.87	589.96	2.4	2.19	26.57	17.77	222.74	382.38	4.66	3.11	4.91	4.91
Richland/McKenzie County	D11	RM 55.78	89479	5-yr	2551.3	594.77	589.96	2.15	1.7	21.6	11.19	216.81	668.54	4.5	2.32	4.81	4.81
Richland/McKenzie County	D11	RM 55.61	89193	5-yr	2551.3	594.62	589.98	2.17	1.76	22.28	10.41	222.22	738.96	4.41	2.05	4.64	4.64
Richland/McKenzie County	D11	RM 55.41	88882	5-yr	2551.3	594.45	589.76	2.2	1.62	23.34	10.52	203.81	999.75	4.16	1.87	4.69	4.69
Richland/McKenzie County	D11	RM 55.23	88582	5-yr	2551.3	594.32	589.53	2.01	1.53	18.74	8.94	238.9	844.95	4.58	2.16	4.79	4.79
Richland/McKenzie County	D11	RM 55.04	88282	5-yr	2551.3	594.13	589.39	2.18	1.67	22.99	12.97	252.08	716.9	4.08	2.29	4.74	4.74
Richland/McKenzie County	D11	RM 54.86	87996	5-yr	2551.3	593.78	589.33	2.74	2.27	38.14	20.73	222.81	615.93	3.54	1.91	4.45	4.45
Richland/McKenzie County	D11	RM 54.69	87715	5-yr	2551.3	593.73	589.23	1.89	1.57	17.53	11.91	188.11	680.42	3.86	2.6	4.5	4.5
Richland/McKenzie County	D11	RM 54.48	87382	5-yr	2551.3	593.62	589.15	1.68	1.25	13.83	7.03	179.29	1231.48	3.97	2	4.47	4.47
Richland/McKenzie County	D11	RM 54.32	87122	5-yr	2551.3	593.52	589	1.76	1.17	14.64	5.88	159.94	1748	4.37	1.72	4.52	4.52
Richland/McKenzie County	D11	RM 54.1	86783	5-yr	2551.3	593.41	588.83	1.57	1.21	11.65	5.86	202.24	1206.98	4.42	2.2	4.58	4.58
Richland/McKenzie County	D11	RM 53.92	86482	5-yr	2551.3	593.34	588.68	1.44	1.11	10.17	4.84	255.08	1438.88	3.95	1.85	4.66	4.66
Richland/McKenzie County	D11	RM 53.73	86182	5-yr	2551.3	593.24	588.51	1.68	1.2	13.27	5.31	196.75	1984.29	4.52	1.78	4.73	4.73
Richland/McKenzie County	D11	RM 53.55	85882	5-yr	2551.3	593.12	588.37	1.7	1.29	13.67	4.83	181.72	1488.19	4.4	1.54	4.75	4.75
Richland/McKenzie County	D11	RM 53.36	85582	5-yr	2551.3	592.95	588.01	1.86	1.43	17.03	5.07	166.55	1683.01	3.89	1.14	4.94	4.94

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	5-yr	2551.3	592.65	587.56	2.53	1.78	29.69	6.77	205.16	1379.95	4.62	1.05	5.09	5.09
Richland/McKenzie County	D11	RM 52.98	84982	5-yr	2551.3	592.28	587.56	2.86	1.88	43.81	13.54	271.44	2195.84	3	0.92	4.72	4.72
Richland/McKenzie County	D11	RM 52.79	84682	5-yr	2551.3	592.04	587.56	2.18	1.51	26.1	11.06	386.82	2058.99	2.76	1.16	4.48	4.48
Richland/McKenzie County	D11	RM 52.61	84390	5-yr	2551.3	591.93	587.43	1.6	1.41	13.16	5.96	450.01	1904.35	3.42	1.54	4.5	4.5
Richland/McKenzie County	D11	RM 52.42	84082	5-yr	2551.3	591.84	587.28	1.47	1.09	11.49	5.32	409.98	2141.65	3	1.38	4.56	4.56
Richland/McKenzie County	D11	RM 52.24	83798	5-yr	2551.3	591.75	587.28	1.57	0.91	12.3	5.15	227.41	2899.62	3.67	1.52	4.47	4.47
Richland/McKenzie County	D11	RM 52.01	83423	5-yr	2551.3	591.53	587.23	2.05	1.36	20.4	4.86	124.91	2697.87	4.09	0.95	4.3	4.3
Richland/McKenzie County	D11	RM 51.87	83182	5-yr	2551.3	591.44	587.16	1.61	1.08	14.15	4.91	156.7	2918.68	2.88	0.98	4.28	4.28
Richland/McKenzie County	D11	RM 51.69	82882	5-yr	2551.3	591.33	587.16	1.47	0.93	10.79	3.52	149.78	2952.62	3.4	1.09	4.17	4.17
Richland/McKenzie County	D11	RM 51.51	82585	5-yr	2551.3	591.24	587.16	1.63	1.15	14.22	5.34	149.84	2396.23	3.07	1.13	4.08	4.08
Richland/McKenzie County	D11	RM 51.32	82274	5-yr	2551.3	591.18	587.16	1.42	0.96	10.77	3.98	173.83	2891.9	3.01	1.09	4.02	4.02
Richland/McKenzie County	D11	RM 51.13	81982	5-yr	2551.3	591.12	587.13	1.48	0.94	10.84	2.85	164.49	2755.29	3.81	0.98	4.01	4.01
Richland/McKenzie County	D11	RM 50.95	81682	5-yr	2551.3	591.04	587.08	1.34	0.78	8.98	2.39	144.96	3337.63	3.74	0.98	3.96	3.96
Richland/McKenzie County	D11	RM 50.76	81378	5-yr	2551.3	590.98	586.89	1.24	0.64	7.81	2.64	174.41	3333.47	3.59	1.19	4.09	4.09
Richland/McKenzie County	D11	RM 50.56	81065	5-yr	2551.3	590.79	586.37	1.68	0.96	13.44	3	171.61	2866.25	4.29	0.94	4.42	4.42
Richland/McKenzie County	D11	RM 50.39	80787	5-yr	2551.3	590.74	585.7	1.54	0.88	10.77	2.42	196.96	2683.06	4.93	1.09	5.04	5.04
Richland/McKenzie County	D11	RM 50.21	80482	5-yr	2551.3	590.65	585.55	1.46	0.98	10.12	2.83	234.94	2140.31	4.38	1.22	5.1	5.1
Richland/McKenzie County	D11	RM 50.02	80182	5-yr	2557	590.49	585.55	1.81	1.32	15.57	4.78	197.51	1499.4	4.3	1.29	4.94	4.94
Richland/McKenzie County	D12	RM 49.82	79860	5-yr	2557	590.1	585.55	2.67	2.18	33.76	12.76	211.09	724.54	4.33	1.62	4.55	4.55
Richland/McKenzie County	D12	RM 49.65	79582	5-yr	2557	589.81	585.55	2.83	2.39	38.79	17.45	213.94	609.31	4.02	1.8	4.26	4.26
Richland/McKenzie County	D12	RM 49.5	79348	5-yr	2557	589.92	585.49	1.41	1.24	9.4	4.28	355.91	1283.51	4.33	1.97	4.47	4.47
Richland/McKenzie County	D12	RM 49.26	78981	5-yr	2557	589.83	585.29	1.69	1.24	13.62	6.16	137.44	1100.57	4.32	1.92	4.54	4.54
Richland/McKenzie County	D12	RM 49.08	78682	5-yr	2557	589.69	585.11	1.83	1.37	15.98	7.41	156.64	962.61	4.31	1.98	4.65	4.65
Richland/McKenzie County	D12	RM 48.87	78351	5-yr	2557	589.57	584.96	1.8	1.49	15.36	5.31	209.35	1526.96	4.34	1.49	4.61	4.61
Richland/McKenzie County	D12	RM 48.7	78082	5-yr	2557	589.48	584.86	1.71	1.42	14.8	5.53	252.25	1455.27	3.59	1.32	4.62	4.62
Richland/McKenzie County	D12	RM 48.52	77782	5-yr	2557	589.47	584.74	1.1	0.94	6.11	3.1	473.03	1529.46	3.52	1.78	4.73	4.73
Richland/McKenzie County	D12	RM 48.33	77482	5-yr	2557	589.41	584.51	1.18	0.99	7.47	4.36	513.98	1524.32	2.92	1.69	4.9	4.9
Richland/McKenzie County	D12	RM 48.15	77182	5-yr	2557	589.3	584.24	1.44	0.93	9.38	5.05	497.96	1704.02	3.01	1.61	5.06	5.06
Richland/McKenzie County	D12	RM 47.97	76887	5-yr	2557	589.27	584.09	1.09	0.8	4.68	2.86	601.73	2160.29	2.68	1.63	5.18	5.18
Richland/McKenzie County	D12	RM 47.76	76570	5-yr	2557	589.23	583.86	1.02	0.83	4.79	2.71	565.5	1993.7	3.01	1.7	5.37	5.37
Richland/McKenzie County	D12	RM 47.59	76293	5-yr	2557	589.16	583.71	1.16	0.89	6.38	2.64	391.27	2017.04	3.73	1.53	5.45	5.45
Richland/McKenzie County	D12	RM 47.4	75982	5-yr	2557	589.06	583.42	1.56	0.97	10.99	3.49	196.88	1942.4	4.57	1.44	5.64	5.64
Richland/McKenzie County	D12	RM 47.12	75521	5-yr	2557	588.86	583.04	1.84	1.19	14.71	3.41	234.72	1745.7	5.56	1.27	5.82	5.82
Richland/McKenzie County	D12	RM 47	75323	5-yr	2557	588.46	583.04	3.06	1.99	42.78	8.47	162.2	1361.04	4.84	0.94	5.42	5.42
Richland/McKenzie County	D12	RM 46.85	75082	5-yr	2557	588.31	583.04	2.78	2.09	35.5	7.96	184.53	1150.97	4.81	1.06	5.27	5.27
Richland/McKenzie County	D12	RM 46.67	74782	5-yr	2557	588.08	583.04	2.77	2.32	34.91	10.64	185.83	750.62	4.88	1.47	5.04	5.04
Richland/McKenzie County	D12	RM 46.47	74459	5-yr	2557	588.06	583.04	1.86	1.71	16.24	7.31	312.11	764.12	4.38	1.96	5.02	5.02
Richland/McKenzie County	D12	RM 46.3	74186	5-yr	2557	587.92	583.04	1.95	1.79	15.82	8.7	421.1	863.82	3.1	1.69	4.88	4.88
Richland/McKenzie County	D12	RM 46.14	73920	5-yr	2557	587.82	583.04	1.74	1.6	12.98	8.06	454.59	806.98	3.19	1.97	4.78	4.78
Richland/McKenzie County	D12	RM 45.9	73546	5-yr	2557	587.68	582.97	1.75	1.39	14.94	6.94	339.6	1034.57	3.84	1.78	4.71	4.71
Richland/McKenzie County	D12	RM 45.75	73307	5-yr	2557	587.5	582.88	2.07	1.68	19.84	8.86	351.5	1071.47	3.21	1.43	4.62	4.62
Richland/McKenzie County	D12	RM 45.54	72980	5-yr	2557	587.4	582.55	1.63	1.37	13.09	5.94	382.5	1129.88	3.84	1.73	4.85	4.85
Richland/McKenzie County	D12	RM 45.29	72680	5-yr	2557	587.26	582.25	1.79	1.42	15.88	6.01	347.33	1562.93	3.79	1.42	5.01	5.01
Richland/McKenzie County	D12	RM 45.09	72380	5-yr	2557	587.14	582.08	1.84	1.34	15.58	4.26	267.36	1755.66	4.66	1.26	5.06	5.06
Richland/McKenzie County	D12	RM 44.91	72080	5-yr	2557	587.05	582.01	1.75	1.25	14.45	4.75	283.48	1580.35	4.44	1.45	5.04	5.04
Richland/McKenzie County	D12	RM 44.72	71783	5-yr	2557	586.84	581.97	2.25	1.49	23.61	7.36	208.81	1425.91	4.55	1.4	4.87	4.87
Richland/McKenzie County	D12	RM 44.53	71483	5-yr	2557	586.61	581.82	2.56	1.65	31.08	10.83	177.29	1056.07	4.34	1.49	4.79	4.79
Richland/McKenzie County	D12	RM 44.34	71183	5-yr	2557	586.27	581.8	2.8	2.04	39.31	16.53	198.47	946.12	3.69	1.53	4.47	4.47
Richland/McKenzie County	D12	RM 44.17	70899	5-yr	2557	586.3	581.79	1.53	1.23	11.03	5.09	301.73	1330.02	4.44	2.03	4.51	4.51
Richland/McKenzie County	D12	RM 43.97	70594	5-yr	2557	586.25	581.73	1.3	1.01	8.52	3.96	326.68	1893.96	3.67	1.69	4.52	4.52
Richland/McKenzie County	D12	RM 43.74	70230	5-yr	2557	586.13	581.66	1.44	1.3	10.55	5.78	163.85	1168.43	3.52	1.91	4.47	4.47
Richland/McKenzie County	D12	RM 43.59	69983	5-yr	2557	586.04	581.56	1.43	0.89	9.96	3.41	143.76	2370.83	3.61	1.21	4.48	4.48
Richland/McKenzie County	D12	RM 43.4	69684	5-yr	2557	585.96	581.49	1.44	0.88	10.22	3.15	150.64	2513.35	3.82	1.16	4.47	4.47
Richland/McKenzie County	D12	RM 43.03	69084	5-yr	2557	585.84	581.37	1.44	0.77	10.54	2.89	131.62	3424.9	3.59	0.97	4.47	4.47
Richland/McKenzie County	D12	RM 42.66	68489	5-yr	2557	585.76	581.18	1.55	0.81	11.82	2.96	115.82	3271.79	3.93	0.96	4.58	4.58
Richland/McKenzie County	D12	RM 42.29	67889	5-yr	2557	585.69	580.87	1.15	0.73	6.27	1.75	281.47	3288.35	4.23	1.17	4.82	4.82
Richland/McKenzie County	D12	RM 42.08	67558	5-yr	2557	585.65	580.61	1.33	0.72	8.18	2.11	180.64	3041.35	4.78	1.22	5.04	5.04
Richland/McKenzie County	D12	RM 41.89	67260	5-yr	2557	585.56	580.31	1.42	0.81	9.32	2.47	292.42	2627.74	4.67	1.23	5.25	5.25
Richland/McKenzie County	D12	RM 41.75	67037	5-yr	2557	585.48	579.99	1.54	0.97	11.62	3.04	337.38	2567.17	3.98	1.03	5.49	5.49
Richland/McKenzie County	D12	RM 41.54	66695	5-yr	2557	585.32	579.72	1.94	1.03	16.64	4.14	196.39	1913.4	5.28	1.29	5.6	5.6
Richland/McKenzie County	D12	RM 41.34	66361	5-yr	2557	585.18	579.43	2.02	1.21	19.2	5.68	218.95	1653.86	4.38	1.28	5.75	5.75

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	5-yr	2557	585.05	579.08	2.08	1.25	19.75	5.3	195.81	1567.83	4.95	1.31	5.97	5.97
Richland/McKenzie County	D12	RM 40.99	65802	5-yr	2557	584.95	578.99	1.97	1.09	17.78	4.53	203.5	1935.88	4.81	1.21	5.96	5.96
Richland/McKenzie County	D12	RM 40.8	65502	5-yr	2557	584.8	578.97	1.95	1.43	18.03	5.25	273.63	1564.91	4.26	1.23	5.83	5.83
Richland/McKenzie County	D12	RM 40.62	65205	5-yr	2557	584.75	578.92	1.46	1.03	10.63	3.59	375.4	2436.53	3.78	1.26	5.83	5.83
Richland/McKenzie County	D12	RM 40.24	64602	5-yr	2557	584.58	578.6	1.39	0.91	9.09	3.24	507.11	2509.22	3.23	1.14	5.98	5.98
Richland/McKenzie County	D12	RM 40	64219	5-yr	2557	584.41	578.56	1.74	1.04	14.43	3.58	309.03	2378.4	4.24	1.04	5.85	5.85
Richland/McKenzie County	D12	RM 39.87	64002	5-yr	2557	584.28	578.55	2.04	1.13	18.77	4.2	222	2060.12	4.97	1.1	5.73	5.73
Richland/McKenzie County	D12	RM 39.68	63702	5-yr	2557	584.16	578.45	2.06	1.29	19.99	5.1	241.95	1886.89	4.37	1.1	5.71	5.71
Richland/McKenzie County	D12	RM 39.5	63402	5-yr	2557	584	578.35	2.2	1.36	23.18	6.36	226.39	1961.73	4.16	1.12	5.65	5.65
Richland/McKenzie County	D12	RM 39.31	63102	5-yr	2557	583.91	578.31	1.91	1.23	16.94	6.06	227.2	1803.63	4.44	1.57	5.6	5.6
Richland/McKenzie County	D12	RM 39.13	62802	5-yr	2557	583.8	578.2	1.86	1.25	16.77	5.97	286.11	1660.39	4.05	1.43	5.6	5.6
Richland/McKenzie County	D12	RM 38.94	62501	5-yr	2557	583.71	578.12	1.74	1.06	14.25	4.54	264.19	1920.61	4.37	1.38	5.59	5.59
Richland/McKenzie County	D12	RM 38.76	62201	5-yr	2557	583.62	578.03	1.7	1.05	13.08	3.64	245.72	2071.04	4.93	1.35	5.59	5.59
Richland/McKenzie County	D12	RM 38.57	61901	5-yr	2557	583.53	577.87	1.84	1.04	16.38	5.94	236.46	1943.92	4.04	1.45	5.66	5.66
Richland/McKenzie County	D12	RM 38.38	61601	5-yr	2557	583.52	577.84	1.07	0.64	5.53	2.61	268.55	2230.98	4.12	1.93	5.68	5.68
Richland/McKenzie County	D12	RM 38.2	61301	5-yr	2557	583.46	577.82	1.25	0.73	7.08	2.75	244.45	2217.39	4.94	1.9	5.64	5.64
Richland/McKenzie County	D12	RM 38.01	61008	5-yr	2557	583.41	577.81	1.3	0.87	8.41	4.51	307.49	1449.83	3.82	2.03	5.6	5.6
Richland/McKenzie County	D12	RM 37.84	60708	5-yr	2557	583.32	577.71	1.48	1.09	11.77	5.87	335.25	1242.6	3.83	1.89	5.61	5.61
Richland/McKenzie County	D12	RM 37.65	60408	5-yr	2557	583.3	577.66	0.97	0.79	4.7	3.25	565.55	1248.6	3.75	2.58	5.64	5.64
Richland/McKenzie County	D12	RM 37.5	60107	5-yr	2557	583.26	577.54	0.96	0.9	4.71	3.79	561.58	1125.66	3.28	2.64	5.72	5.72
Richland/McKenzie County	D12	RM 37.35	59808	5-yr	2557	583.17	577.37	1.1	0.94	6.99	4.13	427.63	1268.25	3.65	2.15	5.8	5.8
Richland/McKenzie County	D12	RM 37.16	59508	5-yr	2557	583.05	577.24	1.6	1.15	12.05	6.77	280.03	1041.95	3.82	2.13	5.81	5.81
Richland/McKenzie County	D12	RM 36.97	59208	5-yr	2557	582.96	576.96	1.77	1.28	13.94	8.14	222.26	934.82	3.7	2.14	6	6
Richland/McKenzie County	D12	RM 36.78	58908	5-yr	2557	582.88	576.87	1.65	1.23	12	6.41	217.29	1127.29	4.56	2.42	6.01	6.01
Richland/McKenzie County	D12	RM 36.6	58608	5-yr	2557	582.79	576.66	1.72	1.4	13.02	7.85	182.19	1768.79	5.49	3.25	6.13	6.13
Richland/McKenzie County	D12	RM 36.38	58263	5-yr	2561.5	582.67	576.49	1.73	1.73	13.41	12.96	290.42	1458.52	5.1	4.93	6.18	6.18
Richland/McKenzie County	D13	RM 36.23	58011	5-yr	2561.5	582.46	576.43	2.27	2.03	22.52	11.79	198.97	1307.6	5.59	2.89	6.03	6.03
Richland/McKenzie County	D13	RM 36.04	57708	5-yr	2561.5	582.25	576.42	2.56	1.89	30.1	13.42	193.99	1252.3	4.85	2.13	5.83	5.83
Richland/McKenzie County	D13	RM 35.85	57408	5-yr	2561.5	582.15	576.41	2.16	1.61	20.03	11.81	278.03	1078.34	3.94	2.31	5.74	5.74
Richland/McKenzie County	D13	RM 35.66	57108	5-yr	2561.5	582.14	576.36	1.5	1.21	9.98	5.63	327.66	1327.1	4.61	2.59	5.78	5.78
Richland/McKenzie County	D13	RM 35.48	56810	5-yr	2561.5	581.95	576.3	2.13	1.51	20.59	8.24	189.87	1278.59	4.95	1.96	5.65	5.65
Richland/McKenzie County	D13	RM 35.29	56508	5-yr	2561.5	581.84	576.19	2.07	1.55	20.45	9.95	216.77	1107.94	4.23	2.03	5.65	5.65
Richland/McKenzie County	D13	RM 35.1	56208	5-yr	2561.5	581.72	576.07	1.86	1.45	15.51	7.16	244.46	968.87	5.17	2.35	5.65	5.65
Richland/McKenzie County	D13	RM 34.92	55908	5-yr	2561.5	581.59	576.09	1.96	1.49	20.32	9.66	254.13	933.61	4.64	2.19	5.5	5.5
Richland/McKenzie County	D13	RM 34.73	55605	5-yr	2561.5	581.53	575.89	1.53	1.36	10.78	7.19	414.63	768.7	3.83	2.55	5.64	5.64
Richland/McKenzie County	D13	RM 34.54	55297	5-yr	2561.5	581.43	575.79	1.56	1.36	11.68	8.49	394.66	797.85	3.28	2.38	5.64	5.64
Richland/McKenzie County	D13	RM 34.36	55008	5-yr	2561.5	581.39	575.75	1.35	1.06	7.92	4.22	323.48	951.77	4.8	2.54	5.64	5.64
Richland/McKenzie County	D13	RM 34.17	54708	5-yr	2561.5	581.35	575.49	1.21	0.92	6.93	3.87	380.95	1212.46	4.3	2.39	5.86	5.86
Richland/McKenzie County	D13	RM 33.94	54408	5-yr	2561.5	581.32	575.34	1.11	0.85	5.56	3.12	374.48	1223.75	4.42	2.47	5.98	5.98
Richland/McKenzie County	D13	RM 33.76	54079	5-yr	2561.5	581.27	575.12	1.26	1	7.37	4.37	286.39	1022.01	4.58	2.68	6.15	6.15
Richland/McKenzie County	D13	RM 33.6	53799	5-yr	2561.5	581.23	574.88	1.2	0.95	7.19	4.73	376.74	976.57	4.22	2.75	6.35	6.35
Richland/McKenzie County	D13	RM 33.42	53508	5-yr	2561.5	581.18	574.61	1.31	0.98	7.37	3.85	262.09	1125.8	5.39	2.78	6.57	6.57
Richland/McKenzie County	D13	RM 33.23	53208	5-yr	2561.5	581.15	574.45	1.28	0.98	6.99	3.83	209.05	1043.21	5.91	3.21	6.7	6.7
Richland/McKenzie County	D13	RM 33.04	52908	5-yr	2561.5	581.07	574.3	1.53	1.14	9.77	4.47	193.34	1080.98	6.43	2.9	6.77	6.77
Richland/McKenzie County	D13	RM 32.86	52608	5-yr	2561.5	580.95	574.18	1.85	1.23	14.62	6.02	209.27	1180.94	5.94	2.4	6.77	6.77
Richland/McKenzie County	D13	RM 32.67	52308	5-yr	2561.5	580.88	574.18	1.87	1.05	15.12	6.1	188.53	1387.74	5.74	2.28	6.7	6.7
Richland/McKenzie County	D13	RM 32.48	52008	5-yr	2561.5	580.76	574.04	2	1.14	17.68	6.12	196.91	1333.36	5.44	1.84	6.72	6.72
Richland/McKenzie County	D13	RM 32.29	51709	5-yr	2561.5	580.72	574.04	1.65	1	11.88	5	224.23	1121.83	5.68	2.36	6.68	6.68
Richland/McKenzie County	D13	RM 32.11	51423	5-yr	2561.5	580.66	573.94	1.61	1.14	11.01	3.77	220.08	1112.4	5.97	2.02	6.72	6.72
Richland/McKenzie County	D13	RM 31.92	51108	5-yr	2561.5	580.6	573.85	1.65	1.01	12.08	5.04	211.85	1185.67	5.2	2.14	6.75	6.75
Richland/McKenzie County	D13	RM 31.73	50809	5-yr	2561.5	580.56	573.72	1.38	0.9	8.51	3.56	261.37	1147.81	6	2.48	6.84	6.84
Richland/McKenzie County	D13	RM 31.51	50462	5-yr	2561.5	580.32	573.24	2.28	1.34	20.89	7.34	162.22	1004.17	5.97	2.06	7.08	7.08
Richland/McKenzie County	D13	RM 31.35	50208	5-yr	2561.5	580.14	573.24	2.56	1.62	29.39	12.89	169.04	714.56	5.14	2.21	6.9	6.9
Richland/McKenzie County	D13	RM 31.22	50009	5-yr	2561.5	580.02	573.24	2.61	1.82	29.68	13.39	149.68	557.72	5.71	2.52	6.78	6.78
Richland/McKenzie County	D13	RM 31.12	49859	5-yr	2561.5	579.95	573.24	2.3	2.28	31.75	29.79	196.27	212.37	5.64	5.3	6.71	6.71
Richland/McKenzie County	D13	RM 30.97	49608	5-yr	2561.5	579.94	573.24	1.8	1.74	13.61	9.32	225.84	601.08	6.28	4.27	6.7	6.7
Richland/McKenzie County	D13	RM 30.79	49308	5-yr	2561.5	579.75	573.24	2.27	1.96	22.61	11.11	199.27	681.56	5.55	2.7	6.51	6.51
Richland/McKenzie County	D13	RM 30.6	49009	5-yr	2561.5	579.57	573.24	2.45	1.84	26.69	11.9	187.26	764.05	5.3	2.33	6.33	6.33
Richland/McKenzie County	D13	RM 30.41	48706	5-yr	2561.5	579.47	573.15	2.2	1.65	21.36	9.16	212.3	812.67	5.2	2.2	6.32	6.32
Richland/McKenzie County	D13	RM 30.22	48403	5-yr	2561.5	579.37	573.15	2.1	1.55	19.08	6.11	199.03	1212.95	5.76	1.81	6.22	6.22
Richland/McKenzie County	D13	RM 30.03	48102	5-yr	2561.5	579.39	573.15	1.37	1.04	8.26	3.62	315.48	1152.46	5.53	2.36	6.24	6.24

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	5-yr	2561.5	579.35	573.15	1.27	0.94	7.27	3.27	376.84	1227.96	5	2.22	6.2	6.2
Richland/McKenzie County	D13	RM 29.66	47508	5-yr	2561.5	579.26	573.11	1.52	1.06	8.93	4.18	393.01	1327.13	3.96	1.83	6.15	6.15
Richland/McKenzie County	D13	RM 29.48	47209	5-yr	2561.5	579.21	573.11	1.41	1	8.39	3.9	346.87	1379.67	4.84	2.22	6.1	6.1
Richland/McKenzie County	D13	RM 29.28	46894	5-yr	2561.5	579.17	572.98	1.25	1.01	7.37	4.8	401.07	878.2	4.45	2.89	6.19	6.19
Richland/McKenzie County	D13	RM 29.1	46608	5-yr	2561.5	579.11	572.94	1.57	1.04	10.98	6.94	169.86	757.98	5.2	3.25	6.17	6.17
Richland/McKenzie County	D13	RM 28.92	46308	5-yr	2561.5	579.02	572.85	1.68	1.2	12.31	5.37	146.69	875.29	5.7	2.44	6.17	6.17
Richland/McKenzie County	D13	RM 28.73	46008	5-yr	2561.5	578.99	572.67	1.48	1.01	9.63	4.82	152.03	1005.46	5.44	2.68	6.32	6.32
Richland/McKenzie County	D13	RM 28.54	45708	5-yr	2561.5	578.95	572.67	1.39	0.96	8.29	4.23	201.29	1097.26	5.02	2.53	6.28	6.28
Richland/McKenzie County	D13	RM 28.36	45419	5-yr	2561.5	578.91	572.48	1.28	0.92	7.18	3.8	233.95	1116.05	5.44	2.85	6.43	6.43
Richland/McKenzie County	D13	RM 28.15	45071	5-yr	2561.5	578.86	572.25	1.15	1.03	5.91	4.18	429.8	836.65	5.06	3.56	6.61	6.61
Richland/McKenzie County	D13	RM 27.98	44808	5-yr	2561.5	578.71	572.04	1.78	1.48	13.52	6.4	236.34	645.16	5.91	2.77	6.67	6.67
Richland/McKenzie County	D13	RM 27.8	44508	5-yr	2561.5	578.66	571.87	1.68	1.4	11.64	5.4	226.85	610.63	6.54	3	6.79	6.79
Richland/McKenzie County	D14	RM 27.61	44208	5-yr	2561.5	578.6	571.87	1.68	1.38	12.01	4.76	246.37	787.19	6	2.35	6.73	6.73
Richland/McKenzie County	D14	RM 27.43	43916	5-yr	2561.5	578.57	571.87	1.49	1.17	9.28	3.2	261.74	1176.11	6.33	2.16	6.7	6.7
Richland/McKenzie County	D14	RM 27.23	43608	5-yr	2561.5	578.57	571.87	1.19	0.9	5.87	2.06	310.87	1242.99	6.58	2.28	6.7	6.7
Richland/McKenzie County	D14	RM 27.04	43305	5-yr	2561.5	578.5	571.87	1.42	1	8.64	2.74	277.5	1371.13	6.03	1.87	6.63	6.63
Richland/McKenzie County	D14	RM 26.86	43008	5-yr	2561.5	578.42	571.87	1.65	1.11	11.48	3.13	229.41	1375.04	6.26	1.68	6.55	6.55
Richland/McKenzie County	D14	RM 26.67	42708	5-yr	2561.5	578.38	571.87	1.5	1.03	9.48	2.57	252.42	1486.34	6.25	1.67	6.51	6.51
Richland/McKenzie County	D14	RM 26.48	42408	5-yr	2561.5	578.26	571.87	1.86	1.25	14.71	4.03	209.83	1247.09	6.09	1.64	6.39	6.39
Richland/McKenzie County	D14	RM 26.29	42108	5-yr	2561.5	578.16	571.87	1.95	1.4	16.22	5.22	205.84	963.79	5.99	1.9	6.29	6.29
Richland/McKenzie County	D14	RM 26.11	41808	5-yr	2561.5	578.12	571.87	1.67	1.34	11.89	4.19	249.58	923.53	5.95	2.07	6.25	6.25
Richland/McKenzie County	D14	RM 25.92	41508	5-yr	2561.5	578.1	571.87	1.39	1.21	8.25	2.74	305.76	1087.71	5.94	1.95	6.23	6.23
Richland/McKenzie County	D14	RM 25.73	41208	5-yr	2561.5	578.06	571.74	1.34	1.21	7.63	2.97	309.7	901.01	6.1	2.36	6.32	6.32
Richland/McKenzie County	D14	RM 25.55	40918	5-yr	2561.5	578	571.74	1.44	1.24	9.36	3.79	346.01	1018.85	5.05	2.03	6.26	6.26
Richland/McKenzie County	D14	RM 25.37	40619	5-yr	2561.5	577.94	571.74	1.47	1.29	9.84	4	353.9	1014.15	4.86	1.96	6.2	6.2
Richland/McKenzie County	D14	RM 25.17	40310	5-yr	2561.5	577.85	571.74	1.59	1.39	11.23	5.28	361.09	932.2	4.37	2.04	6.11	6.11
Richland/McKenzie County	D14	RM 24.99	40008	5-yr	2561.5	577.82	571.74	1.28	1.12	7.1	4.12	384.4	797.3	5.12	2.96	6.08	6.08
Richland/McKenzie County	D14	RM 24.8	39703	5-yr	2561.5	577.8	571.71	1.09	1.03	5.67	3.4	400.09	737.28	5.8	3.47	6.09	6.09
Richland/McKenzie County	D14	RM 24.62	39408	5-yr	2561.5	577.7	571.64	1.53	1.38	10.34	6.29	278.78	565.43	5.4	3.27	6.06	6.06
Richland/McKenzie County	D14	RM 24.45	39139	5-yr	2561.5	577.57	571.64	1.87	1.8	15.1	10.35	239.98	379.5	5.7	3.89	5.93	5.93
Richland/McKenzie County	D14	RM 24.24	38801	5-yr	2561.5	577.48	571.58	1.86	1.69	14.96	9.75	237.24	415.48	5.69	3.7	5.9	5.9
Richland/McKenzie County	D14	RM 24.05	38506	5-yr	2561.5	577.42	571.48	1.69	1.64	12.41	9.12	264.93	385.29	5.69	4.16	5.94	5.94
Richland/McKenzie County	D14	RM 23.87	38210	5-yr	2561.5	577.42	571.28	1.29	1.26	7.07	5.45	334.4	476.09	5.94	4.57	6.14	6.14
Richland/McKenzie County	D14	RM 23.66	37912	5-yr	2561.5	577.41	571.21	1.06	1.04	4.88	3.71	442.5	691.77	5.48	4.16	6.2	6.2
Richland/McKenzie County	D14	RM 23.48	37610	5-yr	2561.5	577.37	571.12	1.15	1.08	6.15	4.32	347.97	727.89	4.65	3.26	6.25	6.25
Richland/McKenzie County	D14	RM 23.29	37312	5-yr	2561.5	577.32	570.86	1.29	1.13	7.72	4.44	313.75	926.9	4.55	2.6	6.46	6.46
Richland/McKenzie County	D14	RM 23.1	37006	5-yr	2561.5	577.27	570.82	1.29	1.02	7.64	3.97	254.67	984.23	5.34	2.75	6.45	6.45
Richland/McKenzie County	D14	RM 22.92	36721	5-yr	2561.5	577.22	570.8	1.41	1.04	8.81	3.49	214.08	1308.43	5.26	2.05	6.42	6.42
Richland/McKenzie County	D14	RM 22.72	36402	5-yr	2561.5	577.12	570.81	1.75	1.17	13.15	4.64	178.19	1127.62	5.93	2.06	6.31	6.31
Richland/McKenzie County	D14	RM 22.54	36108	5-yr	2561.5	577.07	570.76	1.5	1.12	9.84	3.68	276.8	1209.94	5.75	2.13	6.31	6.31
Richland/McKenzie County	D14	RM 22.35	35808	5-yr	2561.5	577.03	570.74	1.41	1.11	8.61	4.18	308.52	1282.03	5.55	2.67	6.29	6.29
Richland/McKenzie County	D14	RM 22.17	35508	5-yr	2561.5	576.99	570.68	1.35	1.12	7.67	3.58	303.06	1473.91	6.11	2.83	6.31	6.31
Richland/McKenzie County	D14	RM 22.02	35264	5-yr	2561.5	576.98	570.68	1.15	1.01	5.54	3.06	354.21	1512.21	6.18	3.39	6.3	6.3
Richland/McKenzie County	D14	RM 21.8	34901	5-yr	2561.5	576.92	570.69	1.27	1.14	7.28	5.09	400.84	1370.3	4.95	3.44	6.23	6.23
Richland/McKenzie County	D14	RM 21.61	34626	5-yr	2561.5	576.88	570.67	1.24	1.18	7.28	5.45	468.94	752.36	4.37	3.26	6.21	6.21
Richland/McKenzie County	D14	RM 21.34	34140	5-yr	2561.5	576.85	570.67	1.08	0.9	5.13	3.03	289.68	943.9	5.51	3.22	6.18	6.18
Richland/McKenzie County	D14	RM 21.25	33973	5-yr	2561.5	576.81	570.67	1.36	1.03	8.26	4.21	204.34	1398.25	4.99	2.51	6.14	6.14
Richland/McKenzie County	D14	RM 21.06	33672	5-yr	2561.5	576.79	570.6	1.13	0.88	5.72	2.87	267.5	2254.32	5.1	2.55	6.19	6.19
Richland/McKenzie County	D14	RM 20.9	33400	5-yr	2561.5	576.76	570.58	1.21	0.95	6.86	3.39	251.38	2375.02	4.61	2.25	6.18	6.18
Richland/McKenzie County	D14	RM 20.71	33101	5-yr	2561.5	576.69	570.53	1.45	1.05	9.65	4.36	247.47	2341.13	4.85	2.17	6.16	6.16
Richland/McKenzie County	D14	RM 20.52	32800	5-yr	2561.5	576.66	570.52	1.28	0.97	7.26	3	280.27	2196.07	5.25	2.15	6.14	6.14
Richland/McKenzie County	D14	RM 20.34	32500	5-yr	2561.5	576.62	570.52	1.31	1	7.63	3.3	256.92	2096.86	5.35	2.3	6.1	6.1
Richland/McKenzie County	D14	RM 20.15	32200	5-yr	2561.5	576.56	570.52	1.44	1.11	10.61	3.75	231.21	2063.04	5.5	1.92	6.04	6.04
Richland/McKenzie County	D14	RM 19.96	31900	5-yr	2561.5	576.3	570.52	2.29	1.59	23	6.99	189.46	1527.15	5.48	1.64	5.78	5.78
Richland/McKenzie County	D14	RM 19.77	31600	5-yr	2561.5	576.34	570.5	1.39	1.07	8.44	2.91	332.93	1955.41	5.31	1.82	5.84	5.84
Richland/McKenzie County	D14	RM 19.59	31297	5-yr	2561.5	576.3	570.45	1.31	0.96	7.69	2.78	334.34	2015.01	5.01	1.8	5.85	5.85
Richland/McKenzie County	D14	RM 19.4	30995	5-yr	2561.5	576.23	570.45	1.47	0.96	9.93	3.33	284.81	1847.47	4.79	1.59	5.78	5.78
Richland/McKenzie County	D14	RM 19.21	30710	5-yr	2561.5	576.23	570.38	1.04	0.73	4.72	1.98	380.6	2335.85	5.41	2.25	5.85	5.85
Richland/McKenzie County	D14	RM 19.03	30402	5-yr	2561.5	576.19	570.38	1.06	0.8	4.92	2.37	428.38	1849.11	4.76	2.28	5.81	5.81
Richland/McKenzie County	D14	RM 18.83	30086	5-yr	2561.5	576.16	570.38	1.07	0.78	4.92	2.6	505.09	2625.12	3.84	2.02	5.78	5.78
Richland/McKenzie County	D14	RM 18.66	29802	5-yr	2561.5	576.12	570.38	1.13	0.79	5.88	3.26	455.27	2826.15	3.83	2.1	5.74	5.74

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	5-yr	2561.5	576.02	570.36	1.52	1.05	10.94	5.06	299.05	1891.79	4.32	1.97	5.66	5.66
Richland/McKenzie County	D14	RM 18.28	29197	5-yr	2561.5	575.9	570.36	1.67	1.37	12.55	4.05	299.23	2162.47	4.98	1.59	5.54	5.54
Richland/McKenzie County	D14	RM 17.89	28624	5-yr	2561.5	575.89	570.33	0.98	0.86	4.21	1.92	468.41	1942.12	5.43	2.46	5.56	5.56
Richland/McKenzie County	D14	RM 17.56	27975	5-yr	2561.5	575.77	570.29	1.33	1.23	7.57	5.95	460.6	806.57	4.12	3.23	5.48	5.48
Richland/McKenzie County	D14	RM 17.36	27539	5-yr	2561.5	575.52	570.31	2.04	2.03	18.99	14.41	254.84	449.32	4.91	3.72	5.21	5.21
Richland/McKenzie County	D14	RM 17.1	27113	5-yr	2561.5	575.41	570.28	1.74	1.68	13.81	9.47	298.39	507.65	4.9	3.35	5.13	5.13
Richland/McKenzie County	D14	RM 16.74	26537	5-yr	2561.5	575.34	570.14	1.28	1.19	7.33	4.5	406.85	725.84	4.86	2.98	5.2	5.2
Richland/McKenzie County	D14	RM 16.35	25925	5-yr	2561.5	575.27	569.46	1.24	1.03	6.68	3.31	345.23	899.14	5.61	2.76	5.81	5.81
Richland/McKenzie County	D14	RM 16.17	25629	5-yr	2561.5	575.24	569.2	1.15	0.91	6.01	3.29	377.41	926.27	5.56	3.03	6.04	6.04
Richland/McKenzie County	D14	RM 15.95	25324	5-yr	2561.5	575.23	568.99	0.9	0.79	3.41	2.35	457.34	784.78	6.04	4.15	6.24	6.24
Richland/McKenzie County	D14	RM 15.75	25032	5-yr	2561.5	575.2	568.85	1	0.95	4.35	3.76	462.46	572.19	5.47	4.73	6.35	6.35
Richland/McKenzie County	D14	RM 15.56	24777	5-yr	2561.5	575.09	568.85	1.57	1.56	10.6	10.11	291.53	306.22	5.6	5.35	6.24	6.24
Richland/McKenzie County	D14	RM 15.34	24438	5-yr	2561.5	575.01	568.79	1.63	1.57	11.33	8.06	261.89	385.32	5.98	4.23	6.22	6.22
Richland/McKenzie County	D14	RM 15.16	24144	5-yr	2561.5	574.96	568.75	1.59	1.5	10.85	7.48	267.44	419.63	5.96	4.08	6.21	6.21
Richland/McKenzie County	D14	RM 14.98	23841	5-yr	2561.5	574.88	568.76	1.69	1.53	13.62	8.93	254.68	436.49	5.87	3.83	6.12	6.12
Richland/McKenzie County	D14	RM 14.79	23543	5-yr	2561.5	574.81	568.72	1.66	1.5	11.72	8.1	285.73	469.57	5.31	3.64	6.09	6.09
Richland/McKenzie County	D14	RM 14.61	23241	5-yr	2561.5	574.76	568.7	1.59	1.43	10.85	6.95	274.36	486.77	5.78	3.68	6.06	6.06
Richland/McKenzie County	D14	RM 14.42	22940	5-yr	2561.5	574.74	568.69	1.32	1.22	7.45	5.14	328.42	626.79	5.84	4.01	6.05	6.05
Richland/McKenzie County	D14	RM 14.23	22647	5-yr	2561.5	574.73	568.67	1	0.94	4.33	3.22	444.61	885.87	5.7	4.22	6.06	6.06
Richland/McKenzie County	D14	RM 14.05	22341	5-yr	2561.5	574.72	568.68	0.87	0.82	4.65	3.8	601.92	1190.45	4.86	3.97	6.04	6.04
Richland/McKenzie County	D14	RM 13.88	22040	5-yr	2561.5	574.67	568.67	0.97	0.94	4.6	3.89	682.22	856.84	3.85	3.24	6	6
Richland/McKenzie County	D14	RM 13.7	21728	5-yr	2561.5	574.6	568.65	1.21	1.21	6.21	6.13	502.19	577.29	4.2	4.16	5.95	5.95
Richland/McKenzie County	D14	RM 13.51	21429	5-yr	2561.5	574.56	568.63	1.21	1.19	6.37	5.92	409.72	471.64	5.14	4.78	5.93	5.93
Richland/McKenzie County	D15	RM 13.31	21145	5-yr	2561.5	574.54	568.51	1.08	1.08	5.18	5.04	457.14	490.56	5.16	5.03	6.03	6.03
Richland/McKenzie County	D15	RM 13.12	20858	5-yr	2561.5	574.48	568.39	1.29	1.29	7.13	7.02	344.8	365.68	5.77	5.68	6.09	6.09
Richland/McKenzie County	D15	RM 12.9	20507	5-yr	2561.5	574.39	568.39	1.48	1.48	9.52	9.22	303.98	345.17	5.68	5.5	6	6
Richland/McKenzie County	D15	RM 12.73	20241	5-yr	2561.5	574.35	568.35	1.49	1.49	9.53	9.47	297.97	315.2	5.78	5.75	6	6
Richland/McKenzie County	D15	RM 12.56	19961	5-yr	2561.5	574.32	568.34	1.3	1.3	7.31	6.53	337.44	439.06	5.82	5.19	5.98	5.98
Richland/McKenzie County	D15	RM 12.38	19686	5-yr	2561.5	574.32	568.23	1.06	1.04	4.87	3.88	425.2	558.3	5.68	4.52	6.09	6.09
Richland/McKenzie County	D15	RM 12.21	19384	5-yr	2561.5	574.28	568.17	1.11	1.03	5.19	4.29	513.27	731.4	4.43	3.66	6.11	6.11
Richland/McKenzie County	D15	RM 11.99	19084	5-yr	2561.5	574.25	568.16	1.06	1	4.81	3.65	592.13	830.09	4.07	3.08	6.09	6.09
Richland/McKenzie County	D15	RM 11.53	18484	5-yr	2561.5	574.16	568.11	1.18	1	5.25	3.74	531.19	909.49	3.96	2.81	6.05	6.05
Richland/McKenzie County	D15	RM 11.34	18216	5-yr	2561.5	574.1	568.06	1.1	0.99	19.51	15.88	638.5	935.45	3.39	2.75	6.04	6.04
Richland/McKenzie County	D15	RM 11.17	17885	5-yr	2561.5	573.86	567.88	1.25	1.19	23.03	21.04	639.39	749.9	3.13	2.86	5.98	5.98
Richland/McKenzie County	D15	RM 10.97	17584	5-yr	2561.5	573.77	567.8	1.16	1.11	5.61	5.09	584.06	680.23	3.75	3.4	5.97	5.97
Richland/McKenzie County	D15	RM 10.75	17284	5-yr	2561.5	573.75	567.79	1.03	0.99	3.65	3.33	695.46	798.79	3.55	3.24	5.96	5.96
Richland/McKenzie County	D15	RM 10.53	16964	5-yr	2561.5	573.68	567.73	1.2	1.15	5.3	4.61	590.31	716.09	3.59	3.12	5.95	5.95
Richland/McKenzie County	D15	RM 10.35	16670	5-yr	2561.5	573.63	567.73	1.26	1.15	6.9	5.6	517.02	763.17	3.83	3.1	5.9	5.9
Richland/McKenzie County	D15	RM 10.15	16384	5-yr	2561.5	573.59	567.73	1.3	0.99	7.32	4.26	251.85	812.75	5.56	3.21	5.86	5.86
Richland/McKenzie County	D15	RM 9.94	16084	5-yr	2561.5	573.57	567.73	1.05	0.87	4.88	3.38	272.39	818.79	5.36	3.71	5.84	5.84
Richland/McKenzie County	D15	RM 9.76	15797	5-yr	2561.5	573.52	567.65	1.17	0.94	5.83	3.92	352.04	960.71	4.98	3.34	5.87	5.87
Richland/McKenzie County	D15	RM 9.57	15487	5-yr	2561.5	573.46	567.58	1.35	1.02	7.9	4.06	245.67	985.28	5.67	2.9	5.88	5.88
Richland/McKenzie County	D15	RM 9.37	15187	5-yr	2561.5	573.39	567.58	1.55	1.19	10.47	6.62	203.96	628.2	5.6	3.52	5.81	5.81
Richland/McKenzie County	D15	RM 9.24	14963	5-yr	2561.5	573.19	567.5	2.09	2.03	19.45	16.78	234.33	373.24	5.21	4.5	5.69	5.69
Richland/McKenzie County	D15	RM 9.1	14741	5-yr	2561.5	573.09	567.39	2.13	2.03	20.41	16.64	231.83	460.43	5.16	4.2	5.7	5.7
Richland/McKenzie County	D15	RM 9.03	14639	5-yr	2561.5	573.04	567.4	2.13	2.08	20.73	18.23	248.61	312.25	4.81	4.23	5.64	5.64
Richland/McKenzie County	D15	RM 8.82	14300	5-yr	2561.5	573.07	567.41	1.29	1.24	7.42	4.75	381.12	664.81	5.18	3.3	5.66	5.66
Richland/McKenzie County	D15	RM 8.61	13963	5-yr	2561.5	573	567.39	1.44	1.21	9.19	4.49	313.8	924.48	5.09	2.48	5.61	5.61
Richland/McKenzie County	D15	RM 8.44	13687	5-yr	2561.5	572.93	567.32	1.58	1.2	11.02	4.93	258.5	947.98	5.36	2.38	5.61	5.61
Richland/McKenzie County	D15	RM 8.24	13387	5-yr	2561.5	572.85	567.32	1.67	1.17	12.35	6.24	229.73	857.17	5.37	2.68	5.53	5.53
Richland/McKenzie County	D15	RM 8.05	13080	5-yr	2561.5	572.79	567.05	1.55	1.2	10.52	5.45	266.23	787.81	5.49	2.83	5.74	5.74
Richland/McKenzie County	D15	RM 7.87	12786	5-yr	2561.5	572.7	567.05	1.74	1.33	13.34	7.35	229.92	704.44	5.4	2.96	5.65	5.65
Richland/McKenzie County	D15	RM 7.69	12506	5-yr	2561.5	572.65	567.05	1.57	1.3	10.89	7.14	266.56	558.97	5.37	3.51	5.6	5.6
Richland/McKenzie County	D15	RM 7.48	12179	5-yr	2561.5	572.61	566.95	1.28	1.28	7.2	7.06	361.54	368.9	5.51	5.42	5.66	5.66
Richland/McKenzie County	D16	RM 7.3	11891	5-yr	2561.5	572.55	566.76	1.44	1.44	8.99	8.95	336.41	337.76	5.29	5.27	5.79	5.79
Richland/McKenzie County	D16	RM 7.14	11639	5-yr	2561.5	572.49	566.76	1.51	1.44	10.37	9.06	324.06	413.72	4.91	4.29	5.73	5.73
Richland/McKenzie County	D16	RM 6.94	11319	5-yr	2561.5	572.44	566.76	1.45	1.28	9.25	6.41	297.15	526.25	5.49	3.79	5.68	5.68
Richland/McKenzie County	D16	RM 6.77	11043	5-yr	2561.5	572.41	566.76	1.28	1.1	7.27	4.84	349.25	676.55	5.18	3.43	5.65	5.65
Richland/McKenzie County	D16	RM 6.58	10733	5-yr	2561.5	572.37	566.59	1.22	1	6.57	3.76	342.3	836.44	5.41	3.07	5.78	5.78
Richland/McKenzie County	D16	RM 6.38	10417	5-yr	2561.5	572.21	566.59	1.99	1.28	17.43	6.49	182.43	1014	5.39	1.98	5.62	5.62
Richland/McKenzie County	D16	RM 6.21	10138	5-yr	2561.5	572.16	566.44	1.7	1.07	12.71	5.19	217.11	1086.47	5.46	2.2	5.72	5.72

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	5-yr	2561.5	572.16	566.17	1.11	0.86	5.53	2.94	412.46	1088.74	5.19	2.75	5.99	5.99
Richland/McKenzie County	D16	RM 5.83	9551	5-yr	2561.5	572.15	565.96	0.91	0.73	3.66	1.99	480.72	1185.34	5.48	2.96	6.19	6.19
Richland/McKenzie County	D16	RM 5.67	9297	5-yr	2561.5	572.12	565.96	1.08	0.8	5.17	2.53	341.83	1331.34	5.38	2.59	6.16	6.16
Richland/McKenzie County	D16	RM 5.43	8926	5-yr	2561.5	572.04	565.96	1.39	1.09	8.92	4.94	269.18	1090.59	4.77	2.61	6.08	6.08
Richland/McKenzie County	D16	RM 5.25	8623	5-yr	2561.5	571.82	565.96	2.07	1.58	18.61	7.52	206.77	764.95	5.59	2.23	5.86	5.86
Richland/McKenzie County	D16	RM 5.06	8331	5-yr	2561.5	571.82	565.82	1.49	1.23	9.74	6.69	289.25	627.82	5.55	3.8	6	6
Richland/McKenzie County	D16	RM 4.87	8029	5-yr	2561.5	571.8	565.67	1.23	1.1	6.77	4.9	335.62	680.76	5.25	3.78	6.13	6.13
Richland/McKenzie County	D16	RM 4.71	7757	5-yr	2561.5	571.75	565.54	1.41	1.15	8.54	5.22	252.33	706.92	5.82	3.52	6.21	6.21
Richland/McKenzie County	D16	RM 4.53	7456	5-yr	2561.5	571.63	565.54	1.82	1.35	14.24	6.9	199	1278.6	5.84	2.79	6.09	6.09
Richland/McKenzie County	D16	RM 4.34	7156	5-yr	2561.5	571.57	565.54	1.67	1.28	13.9	7.64	215.85	1283.79	5.72	3.11	6.03	6.03
Richland/McKenzie County	D16	RM 4.17	6884	5-yr	2561.5	571.5	565.54	1.69	1.29	12.36	6.18	225.3	1286.94	5.71	2.82	5.96	5.96
Richland/McKenzie County	D16	RM 3.96	6550	5-yr	2561.5	571.48	565.54	1.33	1.05	7.73	4.26	216.6	1468.87	5.67	3.1	5.94	5.94
Richland/McKenzie County	D16	RM 3.78	6249	5-yr	2561.5	571.42	565.54	1.49	1.1	10.04	5.09	196.52	1627.7	5.09	2.55	5.88	5.88
Richland/McKenzie County	D16	RM 3.55	5904	5-yr	2561.5	571.37	565.54	1.41	1.11	8.68	4.83	206.04	1741.98	5.64	3.11	5.83	5.83
Richland/McKenzie County	D16	RM 3.38	5657	5-yr	2561.5	571.28	565.53	1.75	1.34	13.4	6.79	171.27	1771.63	5.49	2.75	5.75	5.75
Richland/McKenzie County	D16	RM 3.2	5363	5-yr	2561.5	571.19	565.54	1.83	1.55	15.46	9.07	168.06	1382.88	4.77	2.77	5.65	5.65
Richland/McKenzie County	D16	RM 3.01	5062	5-yr	2561.5	571.13	565.54	1.6	1.32	11.6	6.92	310	1067.03	4.96	2.92	5.59	5.59
Richland/McKenzie County	D16	RM 2.82	4763	5-yr	2561.5	571.07	565.46	1.44	1.27	9.93	7.16	423.69	1037.6	4.11	2.95	5.61	5.61

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	50% - 2yr	659.9	1281.28	1278.12	2.2	2.01	26.99	18.83	105.7	174	2.73	1.89	3.16	3.16
Sweet Grass County	A1	RM 478.10	225378	50% - 2yr	659.9	1280.86	1277.66	2.94	2.68	51.71	36.25	97.22	167.96	2.16	1.51	3.2	3.2
Sweet Grass County	A1	RM 478.00	224862	50% - 2yr	659.9	1280.42	1277.97	2.85	2.67	53.88	44.75	136.48	192.61	1.56	1.29	2.45	2.45
Sweet Grass County	A1	RM 477.91	224362	50% - 2yr	659.9	1279.84	1277.65	3.22	2.72	59.59	41.5	83.65	209.74	1.89	1.31	2.19	2.19
Sweet Grass County	A1	RM 477.81	223862	50% - 2yr	659.9	1279.49	1276.96	2.8	2.39	37.66	28.29	105.43	215.76	1.79	1.34	2.53	2.53
Sweet Grass County	A1	RM 477.72	223354	50% - 2yr	659.9	1279.04	1276.32	2.63	2.49	48.66	36.18	156.97	276.18	1.32	0.98	2.72	2.72
Sweet Grass County	A1	RM 477.63	222892	50% - 2yr	659.9	1278.96	1275.76	1.42	1.36	13.05	11.33	232.02	340.2	1.67	1.44	3.2	3.2
Sweet Grass County	A1	RM 477.49	222220	50% - 2yr	659.9	1278.74	1276.07	1.58	1.52	13.5	13.31	255.59	457.03	1.23	1.22	2.67	2.67
Sweet Grass County	A1	RM 477.40	221702	50% - 2yr	659.9	1278.68	1275.47	1.14	0.95	7.95	5.06	242.4	722.84	1.96	1.24	3.21	3.21
Sweet Grass County	A1	RM 477.31	221259	50% - 2yr	659.9	1278.32	1275.74	2.49	2.03	37.5	17.73	121.2	426.5	2.08	0.98	2.57	2.57
Sweet Grass County	A1	RM 477.21	220767	50% - 2yr	659.9	1278.15	1275.28	2.14	1.74	26.55	12.39	126.43	469.38	2.35	1.09	2.87	2.87
Sweet Grass County	A1	RM 477.11	220252	50% - 2yr	659.9	1277.82	1274.86	2.49	1.95	40.19	19.09	145.52	535.55	1.7	0.8	2.96	2.96
Sweet Grass County	A1	RM 477.04	219860	50% - 2yr	659.9	1277.51	1275.13	2.6	1.96	42.81	19.75	131.76	530.34	1.79	0.83	2.38	2.38
Sweet Grass County	A1	RM 476.95	219422	50% - 2yr	659.9	1277.03	1274.55	2.87	2.32	54.71	33.59	140.23	357.59	1.55	0.96	2.48	2.48
Sweet Grass County	A1	RM 476.84	218828	50% - 2yr	659.9	1276.67	1273.95	2.34	1.99	35.22	23.47	134.19	316.16	1.73	1.15	2.72	2.72
Sweet Grass County	A1	RM 476.75	218345	50% - 2yr	659.9	1276.39	1273.54	2.22	1.95	27.35	16.24	172.19	415.59	1.68	0.99	2.86	2.86
Sweet Grass County	A1	RM 476.66	217855	50% - 2yr	659.9	1276.08	1273.45	2.4	2.07	32.58	18.48	158.19	485.51	1.68	0.95	2.62	2.62
Sweet Grass County	A1	RM 476.57	217396	50% - 2yr	659.9	1275.66	1273.09	2.87	2.08	49.52	20.32	98.93	623.11	2.1	0.86	2.58	2.58
Sweet Grass County	A1	RM 476.47	216861	50% - 2yr	659.9	1275.27	1273.04	2.71	2.23	47.12	29.52	126.17	368.65	1.72	1.08	2.24	2.24
Sweet Grass County	A1	RM 476.38	216362	50% - 2yr	659.9	1274.92	1272.1	2.67	2.09	42.82	20.72	104.61	386.75	2.12	1.02	2.82	2.82
Sweet Grass County	A1	RM 476.28	215816	50% - 2yr	659.9	1274.42	1271.85	3.03	2.71	56.63	40.75	99.59	214.68	1.95	1.4	2.56	2.56
Sweet Grass County	A1	RM 476.15	215126	50% - 2yr	659.9	1273.75	1271.76	2.88	2.58	56.27	44.06	131.77	236.24	1.45	1.14	1.99	1.99
Sweet Grass County	A1	RM 476.01	214437	50% - 2yr	659.9	1273.37	1270.96	2.17	2.05	29.43	26.12	138.88	224.07	1.89	1.67	2.42	2.42
Sweet Grass County	A1	RM 475.91	213787	50% - 2yr	659.9	1273	1270.35	2.23	2.15	31.3	27.72	157.7	187.15	1.85	1.64	2.66	2.66
Sweet Grass County	A1	RM 475.76	213072	50% - 2yr	659.9	1272.4	1270.22	2.7	2.51	47.45	35.37	144.93	213.38	1.66	1.23	2.18	2.18
Sweet Grass County	A1	RM 475.63	212347	50% - 2yr	659.9	1272.05	1269.34	2.09	1.97	27.55	21.98	171.39	230.82	1.82	1.45	2.7	2.7
Sweet Grass County	A1	RM 475.47	211539	50% - 2yr	659.9	1271.54	1268.97	2.44	2.44	33.33	32.32	143.69	148.27	1.88	1.82	2.57	2.57
Sweet Grass County	A1	RM 475.35	210875	50% - 2yr	659.9	1270.83	1268.88	3.14	3.14	61.6	61.6	112.04	112.04	1.88	1.88	1.95	1.95
Sweet Grass County	A1	RM 475.24	210333	50% - 2yr	659.9	1270.84	1267.53	1.91	1.87	19.71	14.88	115.83	192.4	2.97	2.23	3.31	3.31
Sweet Grass County	A2	RM 475.12	209673	50% - 2yr	659.9	1269.9	1267.9	3.86	3.65	98.81	91.29	105.79	123.42	1.58	1.47	2	2
Sweet Grass County	A2	RM 475.00	209034	50% - 2yr	659.9	1269.38	1266.93	2.65	2.65	45.41	45.41	146.93	146.93	1.7	1.7	2.45	2.45
Sweet Grass County	A2	RM 474.87	208359	50% - 2yr	659.9	1269.19	1266.75	2	1.77	23.36	18.69	78.03	197.61	2.39	1.88	2.44	2.44
Sweet Grass County	A2	RM 474.76	207797	50% - 2yr	659.9	1268.71	1266.42	2.9	2.43	50.56	31.29	75.61	205.63	2.16	1.32	2.29	2.29
Sweet Grass County	A2	RM 474.67	207305	50% - 2yr	659.9	1268.19	1266.29	3.22	2.66	65.63	45.12	65.84	201.2	1.86	1.26	1.9	1.9
Sweet Grass County	A2	RM 474.54	206635	50% - 2yr	659.9	1267.89	1264.92	2.18	1.97	28.41	19.82	127.83	222.84	2.16	1.51	2.97	2.97
Sweet Grass County	A2	RM 474.43	205945	50% - 2yr	659.9	1267.52	1265.16	2.5	2.13	37.28	25.27	89.64	212.15	2.18	1.46	2.36	2.36
Sweet Grass County	A2	RM 474.30	205321	50% - 2yr	659.9	1267.25	1264.46	2.22	1.93	29	13.29	130.37	335.01	2.23	1.02	2.78	2.78
Sweet Grass County	A2	RM 474.21	204877	50% - 2yr	659.9	1266.87	1264.22	2.78	2.54	45.13	19.82	102.12	258.43	2.3	1.01	2.65	2.65
Sweet Grass County	A2	RM 474.12	204378	50% - 2yr	659.9	1266.73	1263.24	2.17	1.8	28.02	13.46	133.98	349.89	2.2	1.05	3.49	3.49
Sweet Grass County	A2	RM 474.01	203787	50% - 2yr	659.9	1266.31	1263.55	2.58	2.25	42.4	24.23	138.78	288.18	1.79	1.02	2.77	2.77
Sweet Grass County	A2	RM 473.87	203072	50% - 2yr	659.9	1265.85	1263.52	2.65	2.27	41.12	24.65	98.3	240.84	2.04	1.22	2.33	2.33
Sweet Grass County	A2	RM 473.74	202395	50% - 2yr	659.9	1265.56	1263.06	2.23	1.97	29.58	10.61	114.41	474.54	2.17	0.77	2.5	2.5
Sweet Grass County	A2	RM 473.62	201781	50% - 2yr	659.9	1265.03	1262.63	2.73	2.58	48.14	29.43	141.93	248.48	1.69	1.03	2.41	2.41
Sweet Grass County	A2	RM 473.50	201110	50% - 2yr	659.9	1264.49	1261.83	2.47	2.45	41.06	37.51	174.52	193.28	1.53	1.39	2.66	2.66
Sweet Grass County	A2	RM 473.36	200362	50% - 2yr	659.9	1264.2	1261.08	2.06	2.02	24.4	22.09	130.22	147.25	2.45	2.22	3.12	3.12
Sweet Grass County	A2	RM 473.27	199862	50% - 2yr	659.9	1263.84	1260.81	2.66	2.66	41.6	41.58	110.25	110.31	2.25	2.25	3.03	3.03
Sweet Grass County	A2	RM 473.17	199362	50% - 2yr	659.9	1263.69	1260.56	2.29	2.29	28.62	28.62	101.19	101.19	2.85	2.85	3.13	3.13
Sweet Grass County	A2	RM 473.08	198879	50% - 2yr	659.9	1263.35	1260.56	2.76	2.75	44.17	39.1	100.35	114.01	2.38	2.1	2.79	2.79
Sweet Grass County	A2	RM 472.98	198340	50% - 2yr	659.9	1263.18	1260.21	2.32	2.26	30.91	24.13	118.73	156.5	2.39	1.87	2.97	2.97
Sweet Grass County	A2	RM 472.89	197862	50% - 2yr	659.9	1262.72	1260.5	3.03	2.6	55.84	36.87	100.55	189.6	2.03	1.34	2.22	2.22
Sweet Grass County	A2	RM 472.79	197362	50% - 2yr	659.9	1262.43	1259.98	2.53	2.29	40.19	29.09	134.6	215.41	1.85	1.34	2.44	2.44
Sweet Grass County	A2	RM 472.70	196862	50% - 2yr	659.9	1261.95	1259.35	2.89	2.45	51.83	33.04	112.55	218.97	1.93	1.23	2.6	2.6
Sweet Grass County	A2	RM 472.60	196360	50% - 2yr	659.9	1261.75	1259.01	2.1	1.92	29.02	25.49	177.58	300.98	1.59	1.39	2.73	2.73
Sweet Grass County	A2	RM 472.50	195816	50% - 2yr	659.9	1261.35	1258.53	2.35	2.07	35.54	25.62	152.76	256.06	1.73	1.24	2.83	2.83
Sweet Grass County	A2	RM 472.41	195349	50% - 2yr	659.9	1261.02	1258.52	2.35	2.15	37.13	33.11	179.57	228.41	1.5	1.34	2.5	2.5
Sweet Grass County	A2	RM 472.31	194860	50% - 2yr	659.9	1260.79	1258.34	2.1	1.86	26.8	20.05	146.62	229.87	2.06	1.54	2.45	2.45
Sweet Grass County	A2	RM 472.22	194356	50% - 2yr	659.9	1260.58	1257.3	2.22	1.99	24.9	14.93	115.23	226.52	2.47	1.47	3.28	3.28
Sweet Grass County	A2	RM 472.09	193660	50% - 2yr	659.9	1259.77	1257.45	3.57	3.36	76.73	51.31	83.18	137.64	2.17	1.43	2.32	2.32
Sweet Grass County	A2	RM 471.95	192935	50% - 2yr	659.9	1259.73	1256.05	2.08	1.74	23.43	11.98	103.46	257.15	2.93	1.48	3.68	3.68
Sweet Grass County	A2	RM 471.86	192442	50% - 2yr	659.9	1259.31	1256.23	3	2.34	49.7	25.89	71.43	195.51	2.81	1.44	3.08	3.08
Sweet Grass County	A2	RM 471.75	191870	50% - 2yr	659.9	1259.17	1256.47	2.19	1.85	28.72	16.75	134.52	283.38	2.15	1.26	2.7	2.7

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	50% - 2yr	659.9	1258.56	1256.54	3.11	2.84	62.54	38.85	124.35	222.32	1.69	1.05	2.03	2.03
Sweet Grass County	A2	RM 471.52	190686	50% - 2yr	659.9	1258.35	1255.75	2.1	1.72	26.19	13.71	127.55	334.16	2.23	1.16	2.6	2.6
Sweet Grass County	A2	RM 471.38	189910	50% - 2yr	659.9	1257.7	1255.44	2.79	2.46	54.8	29.81	147.03	380.33	1.3	0.7	2.26	2.26
Sweet Grass County	A2	RM 471.28	189362	50% - 2yr	659.9	1257.09	1254.65	2.42	2.13	42.89	31.37	195.14	367.81	1.15	0.84	2.44	2.44
Sweet Grass County	A2	RM 471.18	188875	50% - 2yr	659.9	1256.73	1254.2	2.27	1.89	27.15	18.59	151.57	366.64	1.39	0.95	2.53	2.53
Sweet Grass County	A2	RM 471.06	188150	50% - 2yr	659.9	1256.31	1253.95	2.17	1.65	31.97	17.08	135.7	515.17	1.46	0.78	2.36	2.36
Sweet Grass County	A2	RM 470.94	187526	50% - 2yr	659.9	1255.88	1253.58	2.37	1.92	33.27	18.65	104.76	338.01	1.82	1.02	2.31	2.31
Sweet Grass County	A2	RM 470.84	186938	50% - 2yr	659.9	1255.54	1252.88	2.25	1.82	34.38	21.68	156.12	401.22	1.48	0.93	2.66	2.66
Sweet Grass County	A2	RM 470.73	186362	50% - 2yr	659.9	1255.27	1253.49	1.6	1.7	18.94	17.21	188.81	381.57	1.14	1.03	2.2	2.2
Sweet Grass County	A2	RM 470.65	185977	50% - 2yr	659.9	1255.03	1252.18	1.95	1.86	24.55	19.19	197.59	287.95	1.7	1.33	2.85	2.85
Sweet Grass County	A2	RM 470.56	185491	50% - 2yr	659.9	1254.75	1252.52	2.11	2.02	28.99	18.25	188.84	361.46	1.65	1.03	2.24	2.24
Sweet Grass County	A2	RM 470.44	184875	50% - 2yr	659.9	1254.63	1251.39	1.62	1.44	15.01	7.55	158.35	364.91	2.52	1.25	3.25	3.25
Sweet Grass County	A2	RM 470.35	184363	50% - 2yr	659.9	1254	1251.52	3.22	3.13	65.4	47.3	112.14	160.28	1.82	1.32	2.48	2.48
Sweet Grass County	A2	RM 470.23	183828	50% - 2yr	659.9	1253.68	1251.51	2.38	2.21	37.83	29.11	178.29	253.48	1.52	1.18	2.17	2.17
Sweet Grass County	A2	RM 470.13	183304	50% - 2yr	659.9	1253.34	1249.86	2.25	2.04	33.4	24.1	162.19	281.02	1.61	1.15	3.48	3.48
Sweet Grass County	A2	RM 470.05	182914	50% - 2yr	659.9	1253.12	1250.59	2.09	1.88	28.89	21.02	175.02	308.11	1.57	1.14	2.53	2.53
Sweet Grass County	A2	RM 469.93	182267	50% - 2yr	659.9	1252.44	1249.62	2.94	2.79	52.83	42.53	103.67	144.84	2.03	1.64	2.82	2.82
Sweet Grass County	A2	RM 469.85	181860	50% - 2yr	659.9	1251.99	1249.59	3.22	3	62.35	44.02	92.51	147.38	2.11	1.49	2.4	2.4
Sweet Grass County	A2	RM 469.75	181348	50% - 2yr	659.9	1251.93	1248.77	2.07	1.94	24.92	17.45	116.18	205.56	2.37	1.65	3.16	3.16
Sweet Grass County	A2	RM 469.68	180952	50% - 2yr	659.9	1251.61	1249.31	2.57	2.5	41.05	30.09	134.71	189.96	1.9	1.39	2.29	2.29
Sweet Grass County	A2	RM 469.58	180427	50% - 2yr	659.9	1251.58	1247.94	1.7	1.45	15.61	7.49	128.76	327.21	2.92	1.39	3.64	3.64
Sweet Grass County	A2	RM 469.47	179860	50% - 2yr	659.9	1251.32	1247.85	2.36	1.95	28.49	12.17	92.89	282.5	2.85	1.2	3.46	3.46
Sweet Grass County	A2	RM 469.39	179400	50% - 2yr	659.9	1251.02	1248.45	2.69	2.34	43.79	25.12	114.12	237.88	2.07	1.19	2.57	2.57
Sweet Grass County	A2	RM 469.30	178975	50% - 2yr	659.9	1250.98	1247.55	1.99	1.66	21.44	9.7	106.14	300.1	2.97	1.32	3.43	3.43
Sweet Grass County	A2	RM 469.21	178467	50% - 2yr	659.9	1250.25	1248.31	3.59	3.31	82.18	52.96	102.44	176.49	1.75	1.13	1.94	1.94
Sweet Grass County	A2	RM 469.09	177862	50% - 2yr	659.9	1250.25	1247.12	1.81	1.38	19.89	9.45	118.23	493.03	2.05	0.97	3.13	3.13
Sweet Grass County	A2	RM 469.00	177350	50% - 2yr	659.9	1249.58	1247.58	3.34	2.7	73.08	36.02	89.39	322.45	1.64	0.81	2.01	2.01
Sweet Grass County	A2	RM 468.90	176865	50% - 2yr	659.9	1249.11	1246.48	2.13	1.89	23.58	17.28	153.86	286.69	1.67	1.22	2.63	2.63
Sweet Grass County	A2	RM 468.80	176341	50% - 2yr	659.9	1248.87	1246.11	2.14	1.88	28.62	18.02	134.86	299.17	1.88	1.18	2.76	2.76
Sweet Grass County	A2	RM 468.71	175823	50% - 2yr	659.9	1248.43	1246.41	2.58	2.31	46.75	38.89	142.65	269.87	1.32	1.1	2.03	2.03
Sweet Grass County	A2	RM 468.57	175192	50% - 2yr	659.9	1248.22	1245.17	1.64	1.57	17.16	12.33	174.59	452.7	1.81	1.3	3.05	3.05
Sweet Grass County	A2	RM 468.42	174099	50% - 2yr	659.9	1247.52	1244.97	2.5	2.29	41.68	32.93	167.36	287.07	1.53	1.21	2.55	2.55
Sweet Grass County	A3	RM 468.25	173324	50% - 2yr	659.9	1247.4	1242.97	1.67	1.42	14.97	6.57	127.42	463.78	3.01	1.31	4.42	4.42
Sweet Grass County	A3	RM 468.16	172855	50% - 2yr	659.9	1247.23	1243.58	2.07	1.65	24.63	11.29	119.05	492.22	2.44	1.11	3.64	3.64
Sweet Grass County	A3	RM 468.07	172364	50% - 2yr	659.9	1247.15	1243.89	1.7	1.33	16.6	7.86	136.65	559.07	2.42	1.14	3.26	3.26
Sweet Grass County	A3	RM 467.97	171839	50% - 2yr	659.9	1246.52	1244.32	3.42	2.8	75.01	40.7	89.71	306.63	1.75	0.94	2.2	2.2
Sweet Grass County	A3	RM 467.87	171312	50% - 2yr	659.9	1246.18	1243.46	2.02	1.94	25.44	19.98	157.98	296.65	1.91	1.5	2.72	2.72
Sweet Grass County	A3	RM 467.78	170840	50% - 2yr	659.9	1245.73	1243.74	2.78	2.52	50.62	40.22	100.02	199.85	1.64	1.31	2	2
Sweet Grass County	A3	RM 467.69	170376	50% - 2yr	659.9	1245.46	1242.96	2.35	2.08	34.54	23.42	112.99	249.99	1.89	1.27	2.5	2.5
Sweet Grass County	A3	RM 467.55	169614	50% - 2yr	659.9	1244.99	1242.1	2.2	1.98	32.71	25.35	132.69	292.18	1.48	1.14	2.89	2.89
Sweet Grass County	A3	RM 467.41	168870	50% - 2yr	659.9	1244.81	1241.15	1.68	1.35	15.66	5.85	129.81	496.7	2.67	0.99	3.67	3.67
Sweet Grass County	A3	RM 467.30	168362	50% - 2yr	659.9	1244.05	1242.15	3.71	3.29	87.4	51.38	88.94	191.71	1.79	1.05	1.9	1.9
Sweet Grass County	A3	RM 467.16	167641	50% - 2yr	659.9	1243.89	1240.78	1.84	1.58	20.44	8.76	154.89	475.29	2.1	0.9	3.11	3.11
Sweet Grass County	A3	RM 467.00	166780	50% - 2yr	659.9	1243.36	1240.48	2.54	2.2	41.04	19.62	133.4	356.67	1.79	0.85	2.88	2.88
Sweet Grass County	A3	RM 466.83	165902	50% - 2yr	659.9	1242.86	1239.84	2.44	1.9	35.15	14.99	110.89	366.79	2.24	0.95	3.01	3.01
Sweet Grass County	A3	RM 466.73	165364	50% - 2yr	659.9	1242.6	1239.81	2.39	2.05	33.68	15.21	115.05	320.01	2.23	1.01	2.8	2.8
Sweet Grass County	A3	RM 466.64	164858	50% - 2yr	659.9	1242.18	1239.36	2.95	2.51	47.84	22.26	86.59	276.6	2.37	1.1	2.81	2.81
Sweet Grass County	A3	RM 466.49	164108	50% - 2yr	659.9	1241.75	1239.67	2.61	1.91	42.8	19.96	106.95	479.54	1.85	0.86	2.09	2.09
Sweet Grass County	A3	RM 466.25	162845	50% - 2yr	659.9	1240.61	1238.71	3.03	2.61	57.95	37.08	78.03	214.38	1.89	1.18	1.9	1.9
Sweet Grass County	A3	RM 465.79	160351	50% - 2yr	659.9	1239.36	1236.48	2.15	1.43	27.36	10.72	104.39	530.57	2.27	0.87	2.87	2.87
Sweet Grass County	A3	RM 465.01	155919	50% - 2yr	659.9	1237.2	1234.44	2.62	2.43	41.84	30.42	122.45	184.36	2.03	1.47	2.76	2.76
Sweet Grass County	A3	RM 464.68	154254	50% - 2yr	659.9	1236.29	1233.35	2.2	2.07	30.63	19.91	165.63	275.46	1.8	1.16	2.94	2.94
Sweet Grass County	A3	RM 464.48	153160	50% - 2yr	659.9	1235.73	1232.71	2.08	1.82	28.18	17.23	180.26	382.59	1.66	1.01	3.02	3.02
Sweet Grass County	A3	RM 464.33	152378	50% - 2yr	659.9	1235.34	1232.61	2.01	1.71	26.17	19.25	181.82	307.37	1.71	1.25	2.73	2.73
Sweet Grass County	A3	RM 464.16	151621	50% - 2yr	659.9	1234.81	1232.45	2.4	2.07	37.43	22.72	156.1	317.25	1.66	1	2.36	2.36
Sweet Grass County	A3	RM 464.04	150961	50% - 2yr	659.9	1234.61	1231.48	1.98	1.53	21.64	9.42	114.64	371.5	2.73	1.17	3.13	3.13
Sweet Grass County	A3	RM 463.88	150174	50% - 2yr	659.9	1234	1231.85	2.92	2.65	55.17	39.17	129.12	209.33	1.68	1.19	2.16	2.16
Sweet Grass County	A3	RM 463.78	149616	50% - 2yr	659.9	1233.68	1230.54	2.33	2.03	34.13	21.7	147.67	402.25	1.86	1.18	3.14	3.14
Sweet Grass County	A3	RM 463.67	149069	50% - 2yr	659.9	1233.24	1230.86	2.65	2.11	44.84	27.04	131.55	411.99	1.75	1.06	2.38	2.38
Sweet Grass County	A3	RM 463.59	148630	50% - 2yr	659.9	1233.02	1230.39	2.31	1.87	32.47	18.13	132.49	413.47	2.05	1.14	2.63	2.63
Sweet Grass County	A3	RM 463.49	148111	50% - 2yr	659.9	1232.48	1229.73	3.01	2.74	55.48	37.31	107.3	289.44	2.01	1.34	2.75	2.75

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	50% - 2yr	659.9	1232.06	1229.72	2.18	1.76	31.45	18.77	175.63	737.6	1.56	0.93	2.34	2.34
Sweet Grass County	A3	RM 463.20	146616	50% - 2yr	659.9	1231.67	1228.95	2.17	1.54	29.89	15.16	104.04	1007.95	1.83	0.91	2.72	2.72
Sweet Grass County	A3	RM 463.06	145881	50% - 2yr	659.9	1231.28	1228.89	2.03	1.26	28.26	13.3	146.16	1264.32	1.42	0.67	2.39	2.39
Sweet Grass County	A4	RM 462.79	144435	50% - 2yr	659.9	1231.05	1228.25	1.18	0.65	8.49	4.46	133.61	1408.41	2.09	1.08	2.8	2.8
Sweet Grass County	A4	RM 462.16	141146	50% - 2yr	659.9	1229.05	1226.15	2.64	1.94	42.86	17.57	106.85	437.2	1.99	0.81	2.9	2.9
Sweet Grass County	A4	RM 461.97	140135	50% - 2yr	659.9	1228.46	1226.06	2.3	1.54	34.34	16.39	120.82	707.65	1.66	0.79	2.4	2.4
Sweet Grass County	A4	RM 461.71	138705	50% - 2yr	659.9	1226.92	1224.75	3.29	2.74	74.36	51.84	97.7	291.88	1.41	0.98	2.16	2.16
Sweet Grass County	A4	RM 461.52	137683	50% - 2yr	659.9	1226.27	1222.31	1.96	1.58	19.73	9.54	75.11	251.38	3.57	1.66	3.96	3.96
Sweet Grass County	A4	RM 461.33	136718	50% - 2yr	659.9	1225.98	1223.38	2.03	1.74	25.98	12.03	121.7	525.67	1.82	0.84	2.61	2.61
Sweet Grass County	A4	RM 461.14	135736	50% - 2yr	659.9	1225.26	1222.44	2.71	2.55	43.91	30.71	111.97	172.59	2.15	1.5	2.82	2.82
Sweet Grass County	A4	RM 460.99	134951	50% - 2yr	659.9	1224.83	1221.98	2.49	2.24	37.02	24.08	121.6	211.58	2.14	1.39	2.85	2.85
Sweet Grass County	A4	RM 460.85	134214	50% - 2yr	659.9	1223.71	1222.07	3.68	3.68	90.48	90.48	130.01	130.01	1.38	1.38	1.64	1.64
Sweet Grass County	A4	RM 460.74	133616	50% - 2yr	659.9	1223.5	1220.27	2.14	2.12	25.88	23.69	119.57	132.31	2.57	2.35	3.23	3.23
Sweet Grass County	A4	RM 460.63	133067	50% - 2yr	659.9	1223.51	1218.9	1.47	1.47	10.35	9.77	102.73	109.62	4.36	4.11	4.61	4.61
Sweet Grass County	A4	RM 460.50	132281	50% - 2yr	659.9	1223.08	1221.12	2.77	2.45	51.99	36.36	148.49	272.57	1.47	1.03	1.96	1.96
Sweet Grass County	A4	RM 460.38	131785	50% - 2yr	659.9	1222.66	1220.5	2.46	2.24	36.21	27.22	137.84	269.27	1.46	1.1	2.17	2.17
Sweet Grass County	A4	RM 460.29	131287	50% - 2yr	659.9	1222.14	1219.97	2.66	2.59	48.45	46.38	129.26	185.91	1.43	1.37	2.17	2.17
Sweet Grass County	A4	RM 460.19	130793	50% - 2yr	659.9	1221.74	1219.38	2.51	2.37	40.58	35.57	113.39	212.74	1.73	1.51	2.35	2.35
Sweet Grass County	A4	RM 460.08	130210	50% - 2yr	659.9	1221.4	1218.23	2.42	2.42	34.33	34.33	121	121	2.26	2.26	3.17	3.17
Sweet Grass County	A4	RM 459.99	129763	50% - 2yr	659.9	1221.15	1218.01	2.56	2.56	36.94	36.94	101.61	101.61	2.54	2.54	3.14	3.14
Sweet Grass County	A4	RM 459.90	129246	50% - 2yr	659.9	1221.01	1217.62	2.25	2.24	27.16	25	99.33	116.68	2.96	2.72	3.4	3.4
Sweet Grass County	A4	RM 459.81	128792	50% - 2yr	659.9	1220.58	1218.15	3.01	3.01	53.64	51.07	98.48	104.68	2.22	2.12	2.43	2.43
Sweet Grass County	A4	RM 459.72	128310	50% - 2yr	725	1220.45	1217.31	2.36	2.36	32.01	30.34	126.44	228.35	2.43	2.3	3.14	3.14
Sweet Grass County	A4	RM 459.62	127798	50% - 2yr	725	1220.02	1217.46	2.86	2.74	50.65	41.61	128.42	229.83	1.92	1.58	2.55	2.55
Sweet Grass County	A5	RM 459.53	127324	50% - 2yr	725	1219.48	1217.26	3.03	3.03	60.49	60.49	151.36	151.36	1.58	1.58	2.22	2.22
Sweet Grass County	A5	RM 459.44	126881	50% - 2yr	725	1219.16	1216.93	2.49	2.49	40.74	40.41	181.05	182.57	1.61	1.6	2.23	2.23
Sweet Grass County	A5	RM 459.31	126192	50% - 2yr	725	1218.76	1215.66	2.31	2.24	32.23	30.56	146.92	174.18	2.12	2.01	3.1	3.1
Sweet Grass County	A5	RM 459.24	125848	50% - 2yr	725	1218.51	1215.69	2.54	2.48	39.85	37.28	144.11	158.89	1.97	1.84	2.82	2.82
Sweet Grass County	A5	RM 459.16	125420	50% - 2yr	725	1217.95	1215.82	3.09	3.09	64.14	64.14	156.6	156.6	1.5	1.5	2.13	2.13
Sweet Grass County	A5	RM 459.02	124624	50% - 2yr	725	1217.52	1214.8	2.09	2.09	27.76	27.76	196.99	210.16	1.76	1.76	2.72	2.72
Sweet Grass County	A5	RM 458.79	123371	50% - 2yr	725	1216.76	1214.02	2.46	2.46	36.93	36.93	146.16	146.16	2.02	2.02	2.74	2.74
Sweet Grass County	A5	RM 458.48	121727	50% - 2yr	725	1215.71	1213.35	2.37	2.22	37.26	33.2	141.43	243.41	1.55	1.38	2.36	2.36
Sweet Grass County	A5	RM 458.36	121100	50% - 2yr	725	1214.66	1212.73	3.57	3.29	86.68	68.44	112.26	190.76	1.47	1.16	1.93	1.93
Sweet Grass County	A5	RM 458.25	120543	50% - 2yr	725	1214.31	1211.35	2.26	1.96	29.56	20.36	114.3	228.33	2.36	1.62	2.97	2.97
Sweet Grass County	A5	RM 458.13	119849	50% - 2yr	725	1213.79	1211.21	2.74	2.49	47.48	35.81	129.65	213.74	1.81	1.36	2.58	2.58
Sweet Grass County	A5	RM 458.03	119256	50% - 2yr	725	1213.68	1210.09	1.99	1.9	20.95	16.65	109.94	152.53	3.15	2.5	3.59	3.59
Sweet Grass County	A5	RM 457.87	118444	50% - 2yr	725	1213.53	1209.57	1.95	1.95	19.32	18.69	103.52	107.13	3.58	3.47	3.96	3.96
Sweet Grass County	A5	RM 457.76	117858	50% - 2yr	725	1213.32	1210.24	2.23	2.23	28.61	28.61	134.1	134.1	2.42	2.42	3.08	3.08
Sweet Grass County	A5	RM 457.66	117350	50% - 2yr	725	1213.08	1210.03	2.37	2.37	32.66	32.55	131.31	131.74	2.33	2.32	3.05	3.05
Sweet Grass County	A5	RM 457.54	116694	50% - 2yr	725	1212.74	1209.93	2.49	2.48	36.52	34.31	130.9	139.66	2.23	2.09	2.8	2.8
Sweet Grass County	A5	RM 457.35	115703	50% - 2yr	725	1211.49	1209.69	3.53	3.53	86.88	86.88	151.99	151.99	1.35	1.35	1.8	1.8
Sweet Grass County	A5	RM 457.20	114921	50% - 2yr	725	1211.22	1208.7	1.94	1.94	23.26	23.26	194.26	194.26	1.93	1.93	2.52	2.52
Sweet Grass County	A5	RM 457.02	113974	50% - 2yr	725	1210.25	1208.04	3.39	3.06	72.04	54.04	99.14	169.4	1.87	1.4	2.21	2.21
Sweet Grass County	A5	RM 456.84	113009	50% - 2yr	725	1209.87	1206.55	2.32	2.32	29.84	29.84	114.3	114.3	2.73	2.73	3.32	3.32
Sweet Grass County	A5	RM 456.68	112164	50% - 2yr	725	1209.22	1206.59	3.04	3.04	55.48	55.48	111.67	111.67	2.13	2.13	2.64	2.64
Sweet Grass County	A5	RM 456.55	111455	50% - 2yr	725	1208.84	1206.19	2.53	2.53	38.67	38.67	138.26	138.26	2.07	2.07	2.66	2.66
Sweet Grass County	A5	RM 456.43	110857	50% - 2yr	725	1208.62	1205.33	2.34	2.34	29.49	29.49	105.15	105.15	2.95	2.95	3.29	3.29
Sweet Grass County	A6	RM 456.29	110121	50% - 2yr	725	1208.24	1205.45	2.68	2.68	38.83	38.07	112.84	115.13	2.4	2.35	2.78	2.78
Sweet Grass County	A6	RM 456.18	109508	50% - 2yr	725	1207.84	1205.45	2.78	2.78	46.76	46.76	127.92	127.92	2.04	2.04	2.39	2.39
Sweet Grass County	A6	RM 456.03	108721	50% - 2yr	725	1207.27	1204.59	2.63	2.63	44.48	44.46	159.08	159.17	1.73	1.73	2.68	2.68
Sweet Grass County	A6	RM 455.84	107742	50% - 2yr	725	1206.69	1204.05	2.29	2.22	30.2	28.55	178.2	196.15	1.76	1.66	2.65	2.65
Sweet Grass County	A6	RM 455.70	106976	50% - 2yr	725	1206.46	1203.14	2.06	2.06	21.99	21.99	126.75	195.4	2.78	2.78	3.32	3.32
Sweet Grass County	A6	RM 455.56	106256	50% - 2yr	725	1206.09	1203.35	2.57	2.54	36.15	33.1	119.1	210.28	2.37	2.17	2.74	2.74
Sweet Grass County	A6	RM 455.39	105360	50% - 2yr	725	1205.84	1202.74	2.02	2.02	23.36	20.98	148.04	238.67	2.43	2.18	3.1	3.1
Sweet Grass County	A6	RM 455.26	104667	50% - 2yr	725	1204.77	1202.83	3.92	3.91	100.74	95.05	117.43	139.53	1.57	1.49	1.94	1.94
Sweet Grass County	A6	RM 455.09	103771	50% - 2yr	725	1204.62	1201.58	1.83	1.73	19.13	15.68	155.39	204.73	2.5	2.05	3.03	3.03
Sweet Grass County	A6	RM 454.95	103072	50% - 2yr	725	1204.03	1201.94	2.86	2.79	57.54	55.78	177.49	204.7	1.31	1.27	2.08	2.08
Sweet Grass County	A6	RM 454.82	102364	50% - 2yr	725	1203.5	1200.61	2.18	2.14	31.71	30.49	176.89	220.88	1.6	1.53	2.89	2.89
Sweet Grass County	A6	RM 454.72	101863	50% - 2yr	725	1202.8	1200.47	3.12	3.12	58.22	58.22	144.39	144.39	1.61	1.61	2.33	2.33
Sweet Grass County	A6	RM 454.64	101419	50% - 2yr	725	1202.65	1199.69	2.27	2.27	29.99	29.99	160.27	160.27	1.99	1.99	2.95	2.95
Sweet Grass County	A6	RM 454.53	100846	50% - 2yr	725	1202.25	1199.59	2.65	2.63	39.72	34.19	118.64	138.87	2.3	1.98	2.67	2.67

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	50% - 2yr	725	1202.01	1199	2.58	2.56	37.83	33.15	111.39	128.6	2.51	2.2	3.02	3.02
Sweet Grass County	A6	RM 454.29	99597	50% - 2yr	725	1201.72	1198.71	2.43	2.29	33.05	25.45	112.08	158.26	2.61	2	3.01	3.01
Sweet Grass County	A6	RM 454.15	98861	50% - 2yr	725	1201.44	1198.68	2.32	2.32	29.71	28.58	134.73	140.36	2.31	2.23	2.76	2.76
Sweet Grass County	A6	RM 454.00	98105	50% - 2yr	725	1201.03	1198.53	2.47	2.47	32.68	32.68	169.43	169.43	1.73	1.73	2.5	2.5
Sweet Grass County	A6	RM 453.89	97523	50% - 2yr	725	1200.56	1198.31	2.7	2.65	42.22	40.23	174.41	188.03	1.53	1.46	2.25	2.25
Sweet Grass County	A6	RM 453.78	96929	50% - 2yr	725	1200.45	1197.07	1.88	1.88	19.95	19.95	149.15	149.15	2.58	2.58	3.37	3.37
Sweet Grass County	A6	RM 453.67	96361	50% - 2yr	725	1199.89	1197.77	2.99	2.95	55.12	52.46	151.58	162.91	1.58	1.51	2.13	2.13
Sweet Grass County	A6	RM 453.58	95863	50% - 2yr	725	1199.88	1196.37	1.84	1.84	17.96	17.69	182.34	184.78	2.54	2.5	3.51	3.51
Sweet Grass County	A6	RM 453.48	95355	50% - 2yr	725	1199.43	1196.86	2.85	2.85	46.32	46.32	116.56	116.56	2.18	2.18	2.57	2.57
Sweet Grass County	A6	RM 453.35	94633	50% - 2yr	725	1198.97	1196.43	2.73	2.73	42.48	40.52	133.58	140.25	1.99	1.89	2.54	2.54
Sweet Grass County	A7	RM 453.23	93994	50% - 2yr	725	1198.43	1196.41	3	2.73	53.41	46.07	108.24	192.5	1.6	1.38	2.01	2.01
Sweet Grass County	A7	RM 453.11	93361	50% - 2yr	725	1198.17	1195.68	2.11	2.09	26	25.35	170.82	181.94	1.96	1.91	2.48	2.48
Sweet Grass County	A7	RM 453.01	92863	50% - 2yr	725	1197.67	1195.38	2.89	2.79	50.22	43.21	130.32	161.87	1.87	1.61	2.29	2.29
Sweet Grass County	A7	RM 452.91	92363	50% - 2yr	725	1197.45	1194.85	2.47	2.25	32.81	26.66	113.04	200.37	1.98	1.61	2.6	2.6
Sweet Grass County	A7	RM 452.82	91863	50% - 2yr	725	1197.2	1194.65	2.39	2.23	34.27	30.05	106.14	173.83	2.13	1.87	2.55	2.55
Sweet Grass County	A7	RM 452.72	91363	50% - 2yr	725	1197.16	1193.29	1.66	1.65	14.52	13.57	141.87	152.71	3.09	2.88	3.87	3.87
Sweet Grass County	A7	RM 452.64	90932	50% - 2yr	725	1196.93	1194.02	2.3	2.09	30.92	21.6	133.5	216.54	2.3	1.6	2.91	2.91
Sweet Grass County	A7	RM 452.53	90362	50% - 2yr	725	1196.49	1193.87	2.84	2.7	45.51	35.98	109.12	149.96	2.27	1.79	2.62	2.62
Sweet Grass County	A7	RM 452.43	89864	50% - 2yr	725	1196.18	1193.52	2.83	2.69	45.01	35.22	107.9	150.47	2.29	1.79	2.66	2.66
Sweet Grass County	A7	RM 452.33	89331	50% - 2yr	725	1195.88	1193.16	2.68	2.64	38.7	35.98	133.25	146.22	2.02	1.88	2.72	2.72
Sweet Grass County	A7	RM 452.25	88863	50% - 2yr	725	1195.63	1192.91	2.6	2.56	37.13	35.03	135.16	145.24	2.06	1.95	2.72	2.72
Sweet Grass County	A7	RM 452.16	88399	50% - 2yr	725	1195.32	1192.68	2.75	2.57	42.67	32.32	117.44	167.87	2.21	1.68	2.64	2.64
Sweet Grass County	A7	RM 452.06	87882	50% - 2yr	725	1195.09	1192.4	2.5	2.33	36.16	26.22	119.01	179.61	2.39	1.73	2.69	2.69
Sweet Grass County	A7	RM 451.96	87394	50% - 2yr	725	1194.73	1191.9	2.78	2.61	46.6	36.6	121.91	167.79	2.1	1.65	2.83	2.83
Sweet Grass County	A7	RM 451.86	86835	50% - 2yr	725	1194.43	1191.79	2.62	2.35	37.78	27.31	118.47	188.79	2.26	1.63	2.64	2.64
Sweet Grass County	A7	RM 451.75	86230	50% - 2yr	725	1194.17	1191.43	2.4	2.4	32.3	32.3	129.78	129.78	2.33	2.33	2.74	2.74
Sweet Grass County	A7	RM 451.61	85483	50% - 2yr	725	1193.85	1190.7	2.32	2.32	32.17	32.17	147.02	147.02	2.13	2.13	3.15	3.15
Sweet Grass County	A7	RM 451.49	84861	50% - 2yr	725	1193.22	1191.07	3.1	3.01	55.74	52.28	118.61	131.15	1.95	1.83	2.15	2.15
Sweet Grass County	A7	RM 451.34	84113	50% - 2yr	725	1193.12	1190.06	1.87	1.87	19.62	19.62	150.35	150.35	2.58	2.58	3.06	3.06
Sweet Grass County	A7	RM 451.20	83363	50% - 2yr	725	1192.61	1189.8	2.81	2.81	44.83	44.83	102.96	102.96	2.51	2.51	2.82	2.82
Sweet Grass County	A7	RM 451.10	82863	50% - 2yr	725	1192.42	1189.79	2.44	2.44	34.62	34.62	131.3	131.3	2.26	2.26	2.64	2.64
Sweet Grass County	A7	RM 451.00	82325	50% - 2yr	725	1192.17	1189.55	2.43	2.27	35.27	30.6	117.6	172.3	2.14	1.85	2.62	2.62
Sweet Grass County	A7	RM 450.86	81602	50% - 2yr	725	1191.94	1188.29	1.95	1.79	39.61	25.26	89	180.51	3.6	2.24	3.65	3.65
Sweet Grass County	A7	RM 450.73	80923	50% - 2yr	725	1191.17	1188.46	3.31	3.16	63.48	52.11	90.58	117.68	2.38	1.95	2.71	2.71
Sweet Grass County	A7	RM 450.63	80374	50% - 2yr	725	1190.91	1188.16	2.66	2.65	42.26	40.9	127.03	131.77	2.14	2.08	2.75	2.75
Sweet Grass County	A7	RM 450.53	79863	50% - 2yr	725	1190.69	1187.88	2.37	2.37	30.79	30.79	146.73	146.73	2.09	2.09	2.81	2.81
Sweet Grass County	A7	RM 450.43	79300	50% - 2yr	725	1190.43	1187.72	2.41	2.25	31.29	27.53	125.46	181.69	2.02	1.78	2.71	2.71
Sweet Grass County	A7	RM 450.34	78849	50% - 2yr	767.5	1190.01	1188.05	2.83	2.62	50.08	43.59	121.99	206.01	1.64	1.42	1.96	1.96
Sweet Grass County	A7	RM 450.23	78298	50% - 2yr	767.5	1189.89	1186.92	1.81	1.81	18.89	18.71	193.91	195.81	2.18	2.16	2.97	2.97
Sweet Grass County	A7	RM 450.14	77822	50% - 2yr	767.5	1189.62	1186.4	2.28	2.26	30.82	27.51	151.15	171.07	2.23	1.98	3.22	3.22
Sweet Grass County	A7	RM 450.05	77362	50% - 2yr	767.5	1189.05	1187.2	3.16	3.16	63.56	63.56	137.9	137.9	1.76	1.76	1.85	1.85
Sweet Grass County	A7	RM 449.96	76841	50% - 2yr	767.5	1188.83	1186.28	2.49	2.35	35.75	26.16	125.85	196.17	2.42	1.77	2.54	2.54
Sweet Grass County	A7	RM 449.86	76356	50% - 2yr	767.5	1188.62	1185.58	2.5	2.32	34	22.03	106.99	185.18	2.84	1.84	3.04	3.04
Sweet Grass County	A7	RM 449.77	75860	50% - 2yr	767.5	1188.31	1185.68	2.75	2.48	37.22	34.56	164.81	205.82	1.62	1.51	2.62	2.62
Sweet Grass County	A7	RM 449.68	75373	50% - 2yr	767.5	1187.89	1185.9	2.64	2.53	48.15	45.4	207.76	233.04	1.38	1.3	1.99	1.99
Sweet Grass County	A7	RM 449.59	74904	50% - 2yr	767.5	1187.84	1184.15	1.91	1.75	18.97	13.13	108.95	191.12	3.36	2.3	3.7	3.7
Sweet Grass County	A7	RM 449.48	74351	50% - 2yr	767.5	1187.39	1184.86	3.05	2.68	57.12	38.19	103.65	216.58	1.98	1.32	2.54	2.54
Sweet Grass County	A7	RM 449.37	73741	50% - 2yr	767.5	1187.27	1184.73	1.72	1.67	19.14	16.95	209.82	353.56	1.72	1.52	2.53	2.53
Sweet Grass County	A7	RM 449.26	73165	50% - 2yr	767.5	1187.12	1184.33	1.85	1.22	17.55	7.77	126.7	709.46	2.26	0.99	2.78	2.78
Sweet Grass County	A7	RM 449.10	72364	50% - 2yr	767.5	1186.39	1183.97	3.32	2.16	64.21	23.8	85.12	543.59	2.36	0.85	2.43	2.43
Sweet Grass County	A7	RM 449.00	71858	50% - 2yr	767.5	1185.78	1183.97	3.56	2.56	81.29	43.26	98.8	324.9	1.76	0.92	1.82	1.82
Sweet Grass County	A7	RM 448.88	71223	50% - 2yr	767.5	1185.19	1183.11	2.4	2.27	40.72	34.42	213.41	335.81	1.31	1.11	2.08	2.08
Sweet Grass County	A7	RM 448.76	70537	50% - 2yr	767.5	1184.98	1182.01	1.41	1.33	13.93	12.73	293.36	467.45	1.35	1.23	2.97	2.97
Sweet Grass County	A7	RM 448.55	69424	50% - 2yr	767.5	1184.66	1181.8	1.73	1.63	17.28	14.68	153.67	231.59	2.4	2.03	2.86	2.86
Sweet Grass County	A7	RM 448.41	68815	50% - 2yr	767.5	1183.89	1181.16	3.49	3.47	65.4	61.23	85.31	91.91	2.58	2.41	2.73	2.73
Sweet Grass County	A7	RM 448.32	68353	50% - 2yr	767.5	1183.91	1179.91	1.71	1.71	14.85	14.85	122.81	127.92	3.65	3.65	4	4
Sweet Grass County	A7	RM 448.23	67851	50% - 2yr	767.5	1183.72	1179.82	2.14	2.14	23.25	23.25	100.54	100.54	3.57	3.57	3.9	3.9
Sweet Grass County	A7	RM 448.07	67043	50% - 2yr	767.5	1183.37	1180.7	2.49	2.48	36.92	32.04	142.65	205.97	2.16	1.87	2.67	2.67
Sweet Grass County	A7	RM 447.94	66348	50% - 2yr	767.5	1183.1	1180.22	2.35	2.14	30.65	18.56	121.6	246.04	2.66	1.61	2.88	2.88
Sweet Grass County	A7	RM 447.85	65863	50% - 2yr	767.5	1182.67	1180.39	2.94	2.92	52.88	48.89	129.79	188.88	2.01	1.85	2.28	2.28
Sweet Grass County	A7	RM 447.75	65363	50% - 2yr	767.5	1182.62	1179.55	2.04	2.04	21.07	21.07	140.92	247.16	2.67	2.67	3.07	3.07

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	50% - 2yr	767.5	1182.37	1179.59	2.41	2.32	32.67	19.21	121.32	298.93	2.61	1.53	2.78	2.78
Sweet Grass County	A7	RM 447.56	64365	50% - 2yr	767.5	1181.9	1179.67	3.04	2.74	57.72	37.71	133.03	296.01	1.87	1.22	2.23	2.23
Sweet Grass County	A7	RM 447.49	64001	50% - 2yr	767.5	1181.75	1179.82	2.32	2.12	33.79	22.36	193.48	349.78	1.68	1.11	1.93	1.93
Sweet Grass County	A7	RM 447.39	63473	50% - 2yr	767.5	1181.16	1178.85	3.27	2.55	62.16	32.24	89.38	282.83	2.06	1.07	2.31	2.31
Sweet Grass County	A7	RM 447.27	62880	50% - 2yr	767.5	1180.86	1178.26	2.62	2.13	41.32	20.17	100.42	355.91	2.1	1.01	2.6	2.6
Sweet Grass County	A7	RM 447.17	62358	50% - 2yr	767.5	1180.55	1177.92	2.6	1.81	41.69	17.84	109.46	504.78	1.98	0.84	2.63	2.63
Sweet Grass County	A7	RM 447.08	61863	50% - 2yr	767.5	1180.09	1177.91	2.87	1.96	55.4	31.27	98.93	463.28	1.5	0.85	2.17	2.17
Sweet Grass County	A7	RM 446.98	61358	50% - 2yr	767.5	1179.58	1177.28	2.85	2.08	47.49	21.76	93.42	398.69	2.03	0.93	2.3	2.3
Sweet Grass County	A7	RM 446.89	60841	50% - 2yr	767.5	1179.16	1176.94	3.1	2.17	58.67	29.81	77.81	347.74	2.01	1.02	2.22	2.22
Sweet Grass County	A7	RM 446.80	60396	50% - 2yr	767.5	1179.01	1175.92	2.32	1.64	31.12	16.07	92.17	397.15	2.39	1.22	3.09	3.09
Sweet Grass County	A7	RM 446.70	59903	50% - 2yr	767.5	1178.66	1176.22	3.01	2.11	52.99	25.36	65.84	347.09	2.39	1.11	2.44	2.44
Sweet Grass County	A7	RM 446.60	59371	50% - 2yr	767.5	1178.21	1175.91	3.11	2.43	55.08	29.84	76.08	285.32	2.07	1.11	2.3	2.3
Sweet Grass County	A7	RM 446.51	58868	50% - 2yr	767.5	1177.95	1175.24	2.57	2.27	40.59	29.98	115.16	233.39	2.01	1.48	2.71	2.71
Sweet Grass County	A7	RM 446.41	58363	50% - 2yr	767.5	1177.77	1174.39	2.15	1.94	25.02	16.64	137.68	257.51	2.31	1.54	3.37	3.37
Sweet Grass County	A7	RM 446.30	57762	50% - 2yr	767.5	1177.38	1174.85	2.66	2.48	39.82	33.67	123.97	183.32	1.99	1.69	2.53	2.53
Sweet Grass County	A7	RM 446.22	57365	50% - 2yr	767.5	1176.99	1174.39	2.92	2.92	49.54	48.78	126.27	128.31	2.08	2.05	2.59	2.59
Sweet Grass County	A7	RM 446.12	56852	50% - 2yr	767.5	1176.71	1174.04	2.64	2.64	38.88	38.28	139.25	141.36	2.09	2.06	2.67	2.67
Sweet Grass County	A7	RM 446.02	56303	50% - 2yr	767.5	1176.55	1173.3	2.32	2.21	28.45	23.6	97.68	197.05	3.19	2.63	3.26	3.26
Sweet Grass County	A7	RM 445.94	55871	50% - 2yr	767.5	1175.99	1173.6	3.48	3.27	72.89	62.58	93.76	129.23	2.12	1.81	2.39	2.39
Sweet Grass County	A7	RM 445.82	55236	50% - 2yr	767.5	1175.7	1173.05	2.24	2.19	32.61	28.67	204.94	240.5	1.66	1.46	2.65	2.65
Sweet Grass County	A7	RM 445.71	54753	50% - 2yr	767.5	1175.52	1172.38	1.99	1.97	19.8	19.09	206.53	217.45	1.86	1.79	3.14	3.14
Sweet Grass County	A7	RM 445.60	54202	50% - 2yr	767.5	1175.31	1172.32	2.08	2.06	23.04	21	184.12	203.83	2.01	1.83	2.99	2.99
Sweet Grass County	A7	RM 445.46	53453	50% - 2yr	767.5	1174.8	1171.04	2.74	2.66	38.29	31.51	128.34	162.58	2.16	1.77	3.76	3.76
Sweet Grass County	A7	RM 445.36	52888	50% - 2yr	767.5	1174.57	1170.25	2.58	2.26	36.84	21.6	101.62	218.99	2.72	1.58	4.32	4.32
Sweet Grass County	A7	RM 445.26	52344	50% - 2yr	767.5	1174.11	1171.35	3.07	2.88	54.91	41.35	104.37	153.11	2.31	1.74	2.77	2.77
Sweet Grass County	A7	RM 445.17	51873	50% - 2yr	767.5	1173.45	1171.83	3.52	3.42	82.63	73.32	134.18	162.15	1.56	1.38	1.61	1.61
Sweet Grass County	A7	RM 445.07	51376	50% - 2yr	767.5	1173.39	1170.28	2.02	1.99	24.83	20.44	181.12	226.14	2.07	1.71	3.11	3.11
Sweet Grass County	A7	RM 444.97	50844	50% - 2yr	767.5	1172.95	1170.19	2.68	2.68	40.46	40.46	145.29	145.29	1.97	1.97	2.77	2.77
Sweet Grass County	A7	RM 444.88	50352	50% - 2yr	767.5	1172.69	1170.05	2.53	2.49	36.58	32.43	141.98	162.89	2.13	1.89	2.64	2.64
Sweet Grass County	A7	RM 444.79	49860	50% - 2yr	767.5	1172.31	1169.94	2.82	2.61	48.02	35.62	129.96	192.34	2.06	1.53	2.37	2.37
Sweet Grass County	A7	RM 444.69	49316	50% - 2yr	767.5	1172	1169.55	2.49	2.49	34.36	34.36	181.42	181.42	1.7	1.7	2.44	2.44
Sweet Grass County	A7	RM 444.60	48863	50% - 2yr	767.5	1171.97	1167.23	1.94	1.74	17.97	10.93	86.34	193.65	4.48	2.66	4.74	4.74
Sweet Grass County	A7	RM 444.50	48367	50% - 2yr	767.5	1171.6	1169.73	0.76	2.44	13.51	27.12	109.41	227.97	0.68	1.38	2.93	2.93
Sweet Grass County	A7	RM 444.41	47863	50% - 2yr	767.5	1171.5	1168.6	2.18	2.01	25.85	15.69	129.69	269.09	2.34	1.42	2.9	2.9
Sweet Grass County	A7	RM 444.30	47336	50% - 2yr	767.5	1171.4	1168.26	1.81	1.62	17.77	7.41	164.08	570.96	2.54	1.05	3.14	3.14
Sweet Grass County	A7	RM 444.20	46789	50% - 2yr	767.5	1170.72	1167.97	3.36	3.33	67.02	57.96	103.12	126.73	2.21	1.91	2.76	2.76
Sweet Grass County	A7	RM 444.12	46346	50% - 2yr	767.5	1170.48	1167.62	2.97	2.83	49.82	38.12	98.56	137.01	2.6	1.98	2.86	2.86
Sweet Grass County	A7	RM 444.02	45829	50% - 2yr	767.5	1170.3	1167.57	2.5	2.46	31.64	24.67	141.89	185.62	2.16	1.68	2.73	2.73
Sweet Grass County	A7	RM 443.91	45243	50% - 2yr	767.5	1170	1167.08	2.48	2.44	37.43	28.01	150.53	205.11	2.05	1.53	2.92	2.92
Sweet Grass County	A7	RM 443.84	44853	50% - 2yr	767.5	1169.42	1167.23	3.2	3.2	70.73	70.73	172.43	172.43	1.39	1.39	2.19	2.19
Sweet Grass County	A7	RM 443.75	44415	50% - 2yr	767.5	1169.2	1166.67	2.32	2.32	33.95	33.95	182.55	216.62	1.81	1.81	2.53	2.53
Sweet Grass County	A7	RM 443.64	43870	50% - 2yr	767.5	1168.84	1166.09	2.61	2.23	41.19	25.21	110.59	299.45	2.08	1.27	2.75	2.75
Sweet Grass County	A7	RM 443.53	43290	50% - 2yr	767.5	1168.65	1165.72	2.28	1.98	29.01	21.64	87.24	236.38	2.65	1.96	2.93	2.93
Sweet Grass County	A8	RM 443.45	42860	50% - 2yr	767.5	1168.31	1165.25	2.67	2.67	40.37	39.24	127.33	150.22	2.26	2.2	3.06	3.06
Sweet Grass County	A8	RM 443.35	42363	50% - 2yr	767.5	1167.81	1164.95	3.19	3.05	59.67	42.59	101.54	199.62	2.32	1.65	2.86	2.86
Sweet Grass County	A8	RM 443.25	41863	50% - 2yr	767.5	1167.66	1165.05	2.42	2.16	34.7	23.36	127.59	326.17	2.22	1.49	2.62	2.62
Sweet Grass County	A8	RM 443.16	41342	50% - 2yr	767.5	1167.41	1165.43	2.31	1.88	34.81	24.05	150.95	418.49	1.63	1.13	1.98	1.98
Sweet Grass County	A8	RM 443.07	40863	50% - 2yr	767.5	1166.99	1164.49	2.6	2.02	43.54	24.25	139	399.63	1.71	0.95	2.5	2.5
Sweet Grass County	A8	RM 442.97	40345	50% - 2yr	767.5	1166.71	1164.28	2.21	1.64	27.52	18.16	159.83	466.85	1.67	1.1	2.43	2.43
Sweet Grass County	A8	RM 442.88	39863	50% - 2yr	767.5	1166.51	1164.06	1.88	1.54	21.83	16.04	177.36	490.52	1.58	1.17	2.46	2.46
Sweet Grass County	A8	RM 442.78	39363	50% - 2yr	767.5	1165.82	1164.18	3.07	2.87	66.58	46.86	127.68	340.47	1.29	0.91	1.97	1.97
Sweet Grass County	A8	RM 442.68	38840	50% - 2yr	767.5	1165.48	1162.8	2.24	1.78	24.75	14.09	117.57	411.27	1.85	1.05	2.68	2.68
Sweet Grass County	A8	RM 442.60	38390	50% - 2yr	767.5	1165.44	1162.57	1.41	1.21	11.97	8.25	157.4	447.24	2.06	1.42	2.87	2.87
Sweet Grass County	A8	RM 442.50	37863	50% - 2yr	767.5	1165.04	1162.29	2.72	2.24	38.8	25.33	91.87	295.07	2.26	1.47	2.75	2.75
Sweet Grass County	A8	RM 442.42	37461	50% - 2yr	767.5	1164.67	1162.07	3.13	2.61	43.04	25.46	121.03	349.99	1.62	0.95	2.6	2.6
Sweet Grass County	A8	RM 442.32	36914	50% - 2yr	767.5	1164.31	1161.85	2.88	2.39	51.02	27.75	102.88	325.56	1.97	1.07	2.46	2.46
Sweet Grass County	A8	RM 442.24	36451	50% - 2yr	767.5	1164.06	1161.75	2.43	2.19	32.06	27.26	121.58	249.57	1.65	1.4	2.31	2.31
Sweet Grass County	A8	RM 442.12	35820	50% - 2yr	767.5	1163.77	1161.12	2.34	2.01	27.64	21.06	120.27	275.21	1.88	1.43	2.65	2.65
Sweet Grass County	A8	RM 442.03	35367	50% - 2yr	767.5	1163.48	1161.18	2.46	2.21	39.04	30.71	122.76	265.39	1.69	1.33	2.31	2.31
Sweet Grass County	A8	RM 441.95	34945	50% - 2yr	767.5	1163.42	1160.28	1.71	1.49	17.31	11.16	133.23	371.84	2.27	1.44	3.14	3.14
Sweet Grass County	A8	RM 441.84	34360	50% - 2yr	767.5	1162.96	1160.33	2.61	2.3	34.68	22.01	186.14	343.47	1.53	0.97	2.63	2.63

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	50% - 2yr	767.5	1162.63	1160.06	2.54	2.22	35.3	22.75	171.23	317.4	1.69	1.09	2.58	2.58
Sweet Grass County	A8	RM 441.65	33357	50% - 2yr	767.5	1162.49	1159.78	2	1.63	22.8	10.31	173.13	511.11	2.13	0.96	2.71	2.71
Sweet Grass County	A8	RM 441.53	32732	50% - 2yr	767.5	1162.14	1159.44	2.38	1.96	34.26	16.23	148.89	400.9	2.07	0.98	2.7	2.7
Sweet Grass County	A8	RM 441.47	32366	50% - 2yr	767.5	1162.04	1158.95	2.12	1.67	25.65	11.52	138.91	459.11	2.45	1.1	3.08	3.08
Sweet Grass County	A8	RM 441.38	31928	50% - 2yr	767.5	1162.04	1158.24	1.44	0.95	11.45	5.19	153.74	818.17	2.72	1.23	3.8	3.8
Sweet Grass County	A8	RM 441.27	31350	50% - 2yr	767.5	1161.44	1158.76	3.25	2.61	62.59	24.98	94.24	344.8	2.22	0.88	2.69	2.69
Sweet Grass County	A8	RM 441.18	30882	50% - 2yr	767.5	1161.32	1158.5	2.38	1.74	30.85	8.84	125.73	703.23	2.2	0.63	2.82	2.82
Sweet Grass County	A8	RM 441.07	30295	50% - 2yr	767.5	1161.12	1158.19	2.13	1.62	26.75	7.62	149.54	749.47	2.23	0.63	2.93	2.93
Sweet Grass County	A8	RM 441.00	29913	50% - 2yr	767.5	1160.99	1157.63	2.1	1.53	26.05	8.14	146.59	735.99	2.2	0.68	3.36	3.36
Sweet Grass County	A8	RM 440.80	28852	50% - 2yr	767.5	1160.1	1157.49	3.26	2.95	58.99	36.18	103.86	197.07	2.15	1.32	2.61	2.61
Sweet Grass County	A8	RM 440.60	27841	50% - 2yr	767.5	1159.27	1157.2	2.88	2.53	53.46	32.68	121.05	296.05	1.7	1.04	2.07	2.07
Sweet Grass County	A8	RM 440.51	27361	50% - 2yr	767.5	1158.86	1156.41	2.76	2.24	47.3	30.1	107.74	279.25	1.94	1.23	2.45	2.45
Sweet Grass County	A8	RM 440.42	26862	50% - 2yr	767.5	1158.21	1156.26	3.37	2.73	74.2	44.46	88.4	287.63	1.63	0.98	1.95	1.95
Sweet Grass County	A8	RM 440.30	26223	50% - 2yr	767.5	1158.06	1155.63	1.74	1.41	19.12	12.01	94.63	475.15	1.83	1.15	2.43	2.43
Sweet Grass County	A8	RM 440.17	25466	50% - 2yr	767.5	1157.66	1154.7	2.68	1.87	41.81	19.39	64.56	378.38	2.42	1.08	2.96	2.96
Sweet Grass County	A8	RM 440.06	24863	50% - 2yr	767.5	1157.42	1153.97	2.18	1.94	26.95	15.79	129.99	271.07	2.5	1.46	3.44	3.44
Sweet Grass County	A8	RM 439.96	24366	50% - 2yr	767.5	1157.14	1154.18	2.58	2.25	36.99	24.19	94.87	197.4	2.65	1.73	2.96	2.96
Sweet Grass County	A8	RM 439.87	23863	50% - 2yr	767.5	1156.95	1153.59	2.45	2.22	30.46	17.09	103.39	206.91	2.98	1.67	3.37	3.37
Sweet Grass County	A8	RM 439.77	23365	50% - 2yr	767.5	1156.76	1153.6	2.48	2.37	31.99	23.36	124.68	180.59	2.46	1.79	3.16	3.16
Sweet Grass County	A8	RM 439.68	22863	50% - 2yr	767.5	1156.49	1153.45	2.62	2.6	35.82	32.92	126.47	138.51	2.32	2.13	3.05	3.05
Sweet Grass County	A8	RM 439.58	22363	50% - 2yr	767.5	1156.37	1153.39	2.16	2	25.58	19.34	150.28	217.66	2.32	1.76	2.98	2.98
Sweet Grass County	A8	RM 439.49	21863	50% - 2yr	767.5	1156.24	1152.86	2.09	1.83	23.16	7.26	116.13	433.42	3.1	0.97	3.38	3.38
Sweet Grass County	A8	RM 439.39	21363	50% - 2yr	767.5	1156.07	1153.06	2.23	1.94	27.62	9.99	131.4	429.89	2.57	0.92	3.01	3.01
Sweet Grass County	A8	RM 439.30	20863	50% - 2yr	767.5	1155.63	1152.92	2.95	2.8	48.57	28.31	110.38	201.74	2.34	1.36	2.71	2.71
Sweet Grass County	A8	RM 439.20	20353	50% - 2yr	767.5	1155.11	1152.64	3.31	3.27	60.59	56.41	109.76	119.87	2.1	1.96	2.47	2.47
Sweet Grass County	A8	RM 439.11	19864	50% - 2yr	767.5	1155.03	1152.34	2.41	2.08	33.44	20.7	98.01	247.18	2.42	1.49	2.69	2.69
Sweet Grass County	A8	RM 439.01	19360	50% - 2yr	767.5	1154.48	1152.4	3.08	2.97	54.73	50.8	124.22	168.9	1.64	1.53	2.08	2.08
Sweet Grass County	A8	RM 438.91	18848	50% - 2yr	767.5	1154.23	1151.92	2.46	2.14	33.86	23.17	121.85	277.96	1.88	1.29	2.32	2.32
Sweet Grass County	A8	RM 438.82	18363	50% - 2yr	767.5	1154	1151.23	2.33	2.01	32.42	22.35	115.65	259.86	2.13	1.47	2.77	2.77
Sweet Grass County	A8	RM 438.73	17853	50% - 2yr	767.5	1153.52	1151.37	2.9	2.52	45.66	32.69	120.73	280.16	1.52	1.09	2.15	2.15
Sweet Grass County	A8	RM 438.63	17363	50% - 2yr	767.5	1153.31	1150.74	2.34	1.85	32.8	18.95	100.37	337.24	2.13	1.23	2.57	2.57
Sweet Grass County	A8	RM 438.54	16863	50% - 2yr	767.5	1153.16	1150.59	2.04	1.76	24.16	17.55	103.82	254.47	2.39	1.72	2.57	2.57
Sweet Grass County	A8	RM 438.43	16307	50% - 2yr	767.5	1153.01	1149.52	1.86	1.86	19.47	19.47	158.09	174.8	2.61	2.61	3.49	3.49
Sweet Grass County	A9	RM 438.36	15889	50% - 2yr	767.5	1152.88	1149.4	1.98	1.96	17.21	16.21	187.42	201.54	2.06	1.95	3.48	3.48
Sweet Grass County	A9	RM 438.26	15363	50% - 2yr	767.5	1152.44	1149.84	2.9	2.66	47.72	37.78	113.66	164.1	2.22	1.76	2.6	2.6
Sweet Grass County	A9	RM 438.16	14863	50% - 2yr	767.5	1152.24	1149.31	2.52	2.21	33.84	18.9	117.83	246.64	2.52	1.41	2.93	2.93
Sweet Grass County	A9	RM 438.07	14394	50% - 2yr	767.5	1152	1149.19	2.6	2.18	39.88	18.43	125.56	340.09	2.25	1.04	2.8	2.8
Sweet Grass County	A9	RM 437.96	13827	50% - 2yr	767.5	1151.74	1149.19	2.51	1.95	35.53	14.67	117.95	468.29	2.04	0.84	2.55	2.55
Sweet Grass County	A9	RM 437.88	13363	50% - 2yr	767.5	1151.47	1148.94	2.68	2.04	39	18.29	103.17	408.96	2.03	0.95	2.53	2.53
Sweet Grass County	A9	RM 437.78	12844	50% - 2yr	767.5	1151.21	1148.72	2.61	1.99	38.11	16.77	98.68	451.13	2.08	0.91	2.49	2.49
Sweet Grass County	A9	RM 437.69	12354	50% - 2yr	767.5	1151.08	1148.45	1.88	1.53	22.16	12.96	146.31	480.44	1.85	1.08	2.63	2.63
Sweet Grass County	A9	RM 437.59	11863	50% - 2yr	767.5	1150.77	1148.76	2.21	1.91	33.67	22.24	147.83	430	1.41	0.93	2.36	2.36
Sweet Grass County	A9	RM 437.50	11362	50% - 2yr	767.5	1150.56	1148.29	1.85	1.58	22.56	14.89	185.42	460.08	1.6	1.06	2.27	2.27
Sweet Grass County	A9	RM 437.41	10902	50% - 2yr	767.5	1150.26	1148.26	2.17	1.83	32.27	19.94	175.96	477.39	1.42	0.88	2.01	2.01
Sweet Grass County	A9	RM 437.31	10361	50% - 2yr	767.5	1149.87	1147.37	2.39	1.89	36.91	20.42	147.56	433.38	1.69	0.94	2.49	2.49
Sweet Grass County	A9	RM 437.20	9764	50% - 2yr	767.5	1149.5	1147.02	2.52	1.86	34.75	15.76	104.85	462.53	1.97	0.89	2.49	2.49
Sweet Grass County	A9	RM 437.08	9128	50% - 2yr	767.5	1149.11	1146.9	2.37	2.05	33.67	20.53	187.25	409.98	1.5	0.91	2.21	2.21
Sweet Grass County	A9	RM 436.95	8363	50% - 2yr	767.5	1148.93	1145.32	2.01	1.33	15.55	7.76	102.38	517.28	2.28	1.11	3.61	3.61
Sweet Grass County	A9	RM 436.83	7805	50% - 2yr	767.5	1148.79	1145.93	1.5	1.4	15.29	10.4	154.13	686.67	1.45	0.99	2.86	2.86
Sweet Grass County	A9	RM 436.75	6857	50% - 2yr	767.5	1148.28	1145.61	2.87	1.88	49.52	13.57	66.32	703.87	2.14	0.58	2.67	2.67
Sweet Grass County	A9	RM 436.66	6193	50% - 2yr	767.5	1147.83	1145.68	2.63	1.86	43.52	18.17	97.51	562.74	1.79	0.75	2.14	2.14
Sweet Grass County	A9	RM 436.56	5280	50% - 2yr	767.5	1147.29	1144.44	2.99	1.84	50.14	16.48	50.6	483.21	2.79	0.86	2.85	2.85
Sweet Grass County	A9	RM 436.40	4576	50% - 2yr	767.5	1147.07	1144.05	2.45	1.52	33.42	12.73	54.37	539.82	2.77	1	3.03	3.03
Sweet Grass County	A9	RM 436.29	3787	50% - 2yr	767.5	1146.62	1144.44	2.57	2.14	42.24	28.62	96.73	402.56	1.78	1.2	2.18	2.18
Sweet Grass County	A9	RM 436.16	3087	50% - 2yr	767.5	1145.9	1143.57	2.94	2.48	55.64	36.47	107.65	351.72	1.72	1.13	2.33	2.33
Sweet Grass County	A9	RM 436.07	2676	50% - 2yr	767.5	1145.65	1143.09	2.54	1.98	35.22	21.91	101.64	438.65	1.73	1.07	2.56	2.56
Sweet Grass County	A9	RM 435.98	2200	50% - 2yr	767.5	1145.32	1142.85	2.7	2.09	44.73	25.19	69.34	389.4	2.01	1.11	2.47	2.47
Sweet Grass County	A9	RM 435.88	1580	50% - 2yr	767.5	1144.82	1142.56	2.61	2.21	46.03	29.77	63.83	381.99	1.5	0.96	2.26	2.26
Sweet Grass County	A9	RM 435.73	890	50% - 2yr	767.5	1144.49	1141.99	2.02	1.74	25.58	18.23	75.93	347.56	1.92	1.34	2.5	2.5
Sweet Grass County	A9	RM 435.62	104	50% - 2yr	767.5	1143.91	1141.54	2.63	2.29	46.54	33.6	125.3	307.29	1.53	1.1	2.37	2.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	50% - 2yr	767.5	1143.65	1140.73	1.51	1.42	14.62	12.11	147.36	381.99	1.7	1.42	2.96	2.96
Stillwater County	A9	RM 435.38	231282.1	50% - 2yr	767.5	1143.38	1139.61	1.62	1.55	15.59	13.48	196.03	262.59	2.17	1.88	3.77	3.77
Stillwater County	A9	RM 435.25	230611.3	50% - 2yr	767.5	1142.84	1138.48	2.86	2.83	46.62	42.58	108.68	120.3	2.47	2.25	4.35	4.35
Stillwater County	A9	RM 435.16	230122.9	50% - 2yr	767.5	1142.56	1138.39	2.84	2.78	45.41	32.4	106.21	152.04	2.54	1.81	4.17	4.17
Stillwater County	A9	RM 435.07	229649	50% - 2yr	767.5	1142.32	1137.85	2.81	2.66	43.49	27.75	99.48	166.32	2.73	1.74	4.47	4.47
Stillwater County	A9	RM 434.97	229153	50% - 2yr	767.5	1142.03	1137.87	2.88	2.75	46.81	33.78	102.28	152.29	2.54	1.83	4.16	4.16
Stillwater County	A9	RM 434.84	228443.5	50% - 2yr	767.5	1141.66	1137	2.83	2.7	44.53	33.89	97.25	138.4	2.7	2.05	4.66	4.66
Stillwater County	A9	RM 434.73	227855.5	50% - 2yr	767.5	1141.44	1135.61	2.69	2.64	36.61	27.83	79.09	106.7	3.6	2.73	5.83	5.83
Stillwater County	A9	RM 434.63	227328.2	50% - 2yr	767.5	1141.28	1135.42	2.61	2.6	35.34	33.06	88.27	94.76	3.33	3.11	5.86	5.86
Stillwater County	A9	RM 434.57	227011.2	50% - 2yr	767.5	1141.15	1136.35	2.67	2.66	39.02	37.06	102.04	107.9	2.81	2.67	4.8	4.8
Stillwater County	A9	RM 434.53	226817.6	50% - 2yr	767.5	1140.99	1136.73	2.85	2.84	46.89	45.35	114.38	118.54	2.36	2.28	4.26	4.26
Stillwater County	A10	RM 434.49	226573.3	50% - 2yr	767.5	1140.91	1137.23	2.56	2.53	37.45	34.21	122.93	136.19	2.44	2.22	3.68	3.68
Stillwater County	A10	RM 434.42	226233.2	50% - 2yr	767.5	1140.75	1137.1	2.53	2.52	37.7	37.07	136.73	139.08	2.22	2.19	3.65	3.65
Stillwater County	A10	RM 434.37	225940.2	50% - 2yr	767.5	1140.54	1136.51	2.68	2.68	41.42	40.93	120.25	121.66	2.38	2.36	4.03	4.03
Stillwater County	A10	RM 434.24	225278.2	50% - 2yr	767.5	1140.27	1136.56	2.48	2.37	34.96	31.41	113.58	144.11	2.5	2.25	3.71	3.71
Stillwater County	A10	RM 434.15	224819.6	50% - 2yr	767.5	1140.03	1137.06	2.47	2.31	37.6	31.81	154.15	202.7	1.93	1.64	2.97	2.97
Stillwater County	A10	RM 434.07	224366.5	50% - 2yr	767.5	1139.64	1136.55	2.68	2.61	44.6	41.24	104.48	164.99	1.91	1.78	3.24	3.24
Stillwater County	A10	RM 433.98	223883.5	50% - 2yr	767.5	1139.47	1136.28	2.15	2.08	28.99	26.38	133.32	220.28	1.83	1.68	3.19	3.19
Stillwater County	A10	RM 433.87	223309.3	50% - 2yr	767.5	1139.22	1135.82	2.29	2.1	30.59	26.15	105.9	186.7	2.29	1.96	3.4	3.4
Stillwater County	A10	RM 433.78	222850	50% - 2yr	767.5	1138.96	1135.54	2.31	2.31	32.92	32.5	172.6	174.86	1.93	1.9	3.42	3.42
Stillwater County	A10	RM 433.66	222201.9	50% - 2yr	767.5	1138.6	1135.16	2.44	2.44	34.89	34.89	139.68	139.68	2.25	2.25	3.44	3.44
Stillwater County	A10	RM 433.54	221596.6	50% - 2yr	767.5	1138.23	1135.33	2.61	2.6	40.08	37.33	129.22	139.71	2.27	2.11	2.9	2.9
Stillwater County	A10	RM 433.42	220956.2	50% - 2yr	767.5	1137.88	1134.88	2.65	2.63	40.58	35.5	123.17	142.06	2.35	2.06	2.99	2.99
Stillwater County	A10	RM 433.31	220362.5	50% - 2yr	767.5	1137.57	1134.67	2.35	2.32	36.14	32.93	200.85	223.97	1.62	1.48	2.9	2.9
Stillwater County	A10	RM 433.20	219758.6	50% - 2yr	767.5	1137.29	1134.17	1.97	1.69	25.24	18.28	148.63	373.62	1.68	1.22	3.12	3.12
Stillwater County	A10	RM 433.09	219185.2	50% - 2yr	767.5	1137	1133.45	2.09	2.09	26.35	26.35	176.91	176.91	2.08	2.08	3.55	3.55
Stillwater County	A10	RM 432.97	218599.7	50% - 2yr	767.5	1136.64	1133.57	2.45	2.4	35.99	34.01	146.58	160.38	2.11	2	3.07	3.07
Stillwater County	A10	RM 432.84	217905.9	50% - 2yr	767.5	1136.34	1132.7	2.33	2.23	31.43	28.29	134.43	161.45	2.37	2.13	3.64	3.64
Stillwater County	A10	RM 432.69	217146.9	50% - 2yr	767.5	1135.92	1131.51	2.72	2.61	38.96	30.88	88.96	118.13	3.14	2.49	4.41	4.41
Stillwater County	A10	RM 432.60	216656.8	50% - 2yr	767.5	1135.76	1132.1	2.56	2.48	35.57	26.54	101.81	143.23	2.93	2.18	3.66	3.66
Stillwater County	A10	RM 432.45	215889.7	50% - 2yr	767.5	1135.45	1132.07	2.47	2.46	35.37	33.82	132.52	165.81	2.34	2.24	3.38	3.38
Stillwater County	A10	RM 432.35	215361.3	50% - 2yr	767.5	1135.24	1132.33	2.28	2.25	31.07	27.92	155.43	203.93	2.16	1.94	2.9	2.9
Stillwater County	A10	RM 432.20	214585.3	50% - 2yr	790.1	1134.72	1131.29	2.71	2.7	42.61	41.05	123.92	129.09	2.35	2.27	3.43	3.43
Stillwater County	A10	RM 432.10	214039.1	50% - 2yr	790.1	1134.47	1130.7	2.55	2.28	37.43	24.22	124.1	280.08	2.41	1.56	3.77	3.77
Stillwater County	A10	RM 432.02	213606.1	50% - 2yr	790.1	1134.36	1130.52	2.13	2.03	26.73	22.68	160.09	220.38	2.21	1.88	3.84	3.84
Stillwater County	A10	RM 431.87	212811.5	50% - 2yr	790.1	1133.94	1129.24	2.34	2.22	34.33	28	173.9	233.7	1.87	1.52	4.7	4.7
Stillwater County	A10	RM 431.74	212127.4	50% - 2yr	790.1	1133.75	1129.66	1.91	1.37	21.46	14.48	160.72	378.7	2.26	1.52	4.09	4.09
Stillwater County	A10	RM 431.60	211373.6	50% - 2yr	790.1	1133.28	1129.96	2.55	2.5	37.74	33.92	132.28	150.88	2.33	2.1	3.32	3.32
Stillwater County	A10	RM 431.49	210820.2	50% - 2yr	790.1	1133.03	1129.62	2.49	2.44	35.42	30.55	129.51	153.78	2.44	2.1	3.41	3.41
Stillwater County	A10	RM 431.41	210365.9	50% - 2yr	790.1	1132.77	1129.57	2.62	2.6	39.74	37.25	128.63	138.33	2.34	2.2	3.2	3.2
Stillwater County	A10	RM 431.28	209716.5	50% - 2yr	790.1	1132.43	1129.79	2.46	2.45	37.2	33.25	162.91	183.38	1.97	1.76	2.64	2.64
Stillwater County	A10	RM 431.14	208918.5	50% - 2yr	790.1	1132.05	1129.82	1.99	2.2	25.75	28.29	128.46	198.52	1.64	1.81	3.3	3.3
Stillwater County	A10	RM 431.03	208358.8	50% - 2yr	790.1	1131.67	1128.56	2.35	2.46	36.87	39.37	120	196.71	1.53	1.63	3.11	3.11
Stillwater County	A10	RM 430.93	207821.9	50% - 2yr	790.1	1131.35	1128.76	2.32	2.16	35.49	28.81	124.57	280.85	1.6	1.31	2.59	2.59
Stillwater County	A10	RM 430.83	207325.6	50% - 2yr	790.1	1131.06	1127.66	2.28	2.15	32.3	30	152.64	207.69	1.89	1.77	3.4	3.4
Stillwater County	A10	RM 430.70	206629.1	50% - 2yr	790.1	1130.92	1126.9	1.71	1.63	16.32	14.51	149.67	219.79	2.46	2.21	4.02	4.02
Stillwater County	A10	RM 430.59	206064.9	50% - 2yr	790.1	1130.77	1127.2	1.9	1.76	19.99	16.64	134.48	201.75	2.66	2.23	3.57	3.57
Stillwater County	A10	RM 430.51	205629.5	50% - 2yr	790.1	1130.46	1126.28	2.58	2.48	36.56	31.06	104.09	134.35	2.78	2.37	4.18	4.18
Stillwater County	A10	RM 430.43	205204.2	50% - 2yr	790.1	1130.26	1126.08	2.65	2.56	37.91	33.82	96.88	117.44	2.94	2.63	4.18	4.18
Stillwater County	A10	RM 430.34	204728.4	50% - 2yr	790.1	1130.03	1126.07	2.74	2.63	41.09	29.74	100.06	148.05	2.8	2.03	3.96	3.96
Stillwater County	A11	RM 430.23	204119.7	50% - 2yr	790.1	1129.91	1126.63	2.03	1.89	24.03	12.58	167.61	365.35	2.3	1.2	3.28	3.28
Stillwater County	A11	RM 430.12	203479.6	50% - 2yr	790.1	1129.65	1126.96	2.32	2.15	32.11	17.51	109.04	311.13	2.17	1.18	3.12	3.12
Stillwater County	A11	RM 430.04	202968.2	50% - 2yr	790.1	1129.39	1127.24	2.32	2.28	33.57	25.63	111.64	236.7	1.92	1.46	2.75	2.75
Stillwater County	A11	RM 429.95	202589.5	50% - 2yr	790.1	1129.16	1126.33	2.18	2.19	30.85	26.96	140.15	244.03	1.69	1.48	2.83	2.83
Stillwater County	A11	RM 429.88	202224.7	50% - 2yr	790.1	1128.97	1125.62	2.17	2.13	25.89	22.44	147.7	251.64	1.7	1.47	3.35	3.35
Stillwater County	A11	RM 429.78	201933.6	50% - 2yr	790.1	1128.72	1123.72	2.46	2.27	27.34	21.11	126.02	241.32	1.88	1.44	5	5
Stillwater County	A11	RM 429.69	201539.9	50% - 2yr	790.1	1128.38	1123.39	2.9	2.43	48.51	33.29	88.73	199.81	2.38	1.63	4.98	4.98
Stillwater County	A11	RM 429.58	200961.9	50% - 2yr	790.1	1128.11	1124.69	2.46	1.9	36.44	21.42	116.69	365.42	1.94	1.14	3.42	3.42
Stillwater County	A11	RM 429.38	200210.8	50% - 2yr	790.1	1127.64	1125.15	1.95	1.78	24.8	18.47	183.9	365.93	1.62	1.21	3.21	3.21
Stillwater County	A11	RM 429.28	199644.1	50% - 2yr	790.1	1127.35	1123.59	2.12	1.9	28.3	18.86	147.44	340.52	1.84	1.22	3.75	3.75

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	50% - 2yr	790.1	1127.11	1124.66	1.82	1.82	22.24	16.75	143.17	380.2	1.51	1.14	3.2	3.2
Stillwater County	A11	RM 429.10	198708.6	50% - 2yr	790.1	1126.75	1124.26	2.26	2.29	33.39	29.14	85.18	238.26	1.66	1.45	3.17	3.17
Stillwater County	A11	RM 429.00	198203.8	50% - 2yr	790.1	1126.49	1123.47	1.96	2.04	26.55	25.34	121.87	294.26	1.37	1.32	3.02	3.02
Stillwater County	A11	RM 428.89	197650.5	50% - 2yr	790.1	1126.28	1121.26	2.11	1.84	25.95	18.19	149.71	267.36	2.29	1.6	5.02	5.02
Stillwater County	A11	RM 428.81	197194.1	50% - 2yr	790.1	1126.06	1121.47	2.42	2	32.45	16.9	97.99	280.68	2.7	1.41	4.59	4.59
Stillwater County	A11	RM 428.66	196404.4	50% - 2yr	790.1	1125.84	1122.31	1.92	1.89	22.68	19.81	187.58	271.85	1.98	1.73	3.53	3.53
Stillwater County	A11	RM 428.52	195702.6	50% - 2yr	790.1	1125.41	1122.1	2.33	2.32	35.11	29.03	200.12	261.23	1.69	1.4	3.31	3.31
Stillwater County	A11	RM 428.44	195293.8	50% - 2yr	790.1	1125.13	1121.18	2.48	2.46	36.28	33.6	142.83	155.76	2.23	2.06	3.95	3.95
Stillwater County	A11	RM 428.39	195075.5	50% - 2yr	790.1	1124.91	1120.72	2.82	2.81	46.58	43.63	122.26	131.06	2.29	2.14	4.19	4.19
Stillwater County	A11	RM 428.33	194724.6	50% - 2yr	790.1	1124.71	1121.22	2.72	2.72	43.4	43.4	129.31	129.31	2.25	2.25	3.49	3.49
Stillwater County	A11	RM 428.28	194450.8	50% - 2yr	790.1	1124.53	1121.2	2.75	2.72	45.64	35.59	138.7	180.14	2.07	1.61	3.33	3.33
Stillwater County	A11	RM 428.23	194235.2	50% - 2yr	790.1	1124.39	1120.74	2.69	2.63	43.62	31.62	140.27	198.68	2.09	1.51	3.65	3.65
Stillwater County	A11	RM 428.20	194033.4	50% - 2yr	790.1	1124.3	1120.37	2.61	2.47	38.85	25.85	119.27	196.84	2.45	1.63	3.93	3.93
Stillwater County	A11	RM 428.15	193779.9	50% - 2yr	790.1	1124.22	1120.23	2.49	2.28	34.92	23.02	114.51	203.98	2.58	1.7	3.99	3.99
Stillwater County	A11	RM 428.09	193436.6	50% - 2yr	790.1	1124.06	1119.9	2.48	2.26	35.76	20.57	116.96	258.56	2.36	1.35	4.16	4.16
Stillwater County	A11	RM 428.05	193246.1	50% - 2yr	790.1	1123.9	1120.1	2.66	2.4	42.2	29.54	122.97	216.6	2.18	1.52	3.8	3.8
Stillwater County	A11	RM 428.00	192989.8	50% - 2yr	790.1	1123.78	1120.28	2.52	2.22	37.24	23.98	125.26	246.76	2.25	1.44	3.5	3.5
Stillwater County	A11	RM 427.95	192728.8	50% - 2yr	790.1	1123.66	1119.57	2.46	2.23	35.32	21.98	131.09	253.81	2.3	1.42	4.09	4.09
Stillwater County	A11	RM 427.88	192333.2	50% - 2yr	790.1	1123.31	1119.27	2.92	2.75	48.2	34.69	99.22	156.62	2.55	1.84	4.04	4.04
Stillwater County	A11	RM 427.83	192088.8	50% - 2yr	790.1	1123.15	1119.18	2.97	2.84	50.11	41.87	99.32	215.03	2.51	2.1	3.97	3.97
Stillwater County	A11	RM 427.76	191724.1	50% - 2yr	790.1	1122.81	1119.07	3.19	3	58.79	39.28	101.84	166.48	2.38	1.58	3.74	3.74
Stillwater County	A11	RM 427.65	191155.9	50% - 2yr	790.1	1122.75	1118.58	2.11	1.9	24.94	15.82	139.73	417.2	2.61	1.66	4.17	4.17
Stillwater County	A11	RM 427.53	190509.6	50% - 2yr	790.1	1122.47	1117.37	2.49	2.14	32.15	16.47	93.61	256.08	3.3	1.67	5.1	5.1
Stillwater County	A11	RM 427.41	189886.1	50% - 2yr	790.1	1122.29	1118.73	2.34	2.19	29.61	19.09	113.95	191.25	2.93	1.89	3.56	3.56
Stillwater County	A11	RM 427.29	189253.3	50% - 2yr	790.1	1121.99	1119.12	2.45	2.36	37.64	30.01	174.2	228.01	1.84	1.47	2.87	2.87
Stillwater County	A11	RM 427.17	188639.5	50% - 2yr	790.1	1121.65	1118.44	2.25	2.11	32.18	24.58	196.11	278.05	1.76	1.35	3.21	3.21
Stillwater County	A11	RM 427.09	188179.7	50% - 2yr	790.1	1121.3	1118.34	2.62	2.38	39.84	27	124.84	207.72	2.35	1.6	2.96	2.96
Stillwater County	A11	RM 427.00	187745.4	50% - 2yr	790.1	1121.15	1117.71	2.34	1.99	32.41	21.89	138.31	266.19	2.2	1.49	3.44	3.44
Stillwater County	A11	RM 426.92	187309.3	50% - 2yr	790.1	1120.86	1117.32	2.41	2.3	38.08	36.05	196.15	223.9	1.62	1.54	3.54	3.54
Stillwater County	A11	RM 426.86	186960.4	50% - 2yr	790.1	1120.67	1116.77	2.25	2.15	31.8	29.92	187.25	212.73	1.83	1.73	3.9	3.9
Stillwater County	A11	RM 426.75	186401.3	50% - 2yr	790.1	1120.33	1116.11	2.4	2.24	35.64	30.99	163.41	210.18	1.93	1.68	4.22	4.22
Stillwater County	A11	RM 426.67	185983.5	50% - 2yr	790.1	1120.15	1115.84	2.29	2.25	29.88	25.64	137.96	164.42	2.49	2.14	4.3	4.3
Stillwater County	A11	RM 426.59	185580.4	50% - 2yr	790.1	1119.89	1115.47	2.63	2.58	37.77	34.42	104.84	117.39	2.85	2.6	4.42	4.42
Stillwater County	A11	RM 426.52	185166.5	50% - 2yr	790.1	1119.76	1115.54	2.51	2.51	33.67	33.67	105.02	105.02	3	3	4.21	4.21
Stillwater County	A11	RM 426.43	184738.3	50% - 2yr	790.1	1119.61	1115.89	2.48	2.47	33.63	32.53	112.47	117.14	2.82	2.73	3.71	3.71
Stillwater County	A11	RM 426.32	184158.4	50% - 2yr	790.1	1119.41	1116.39	2.36	2.36	31.41	31.41	131.81	131.81	2.54	2.54	3.02	3.02
Stillwater County	A11	RM 426.20	183517.2	50% - 2yr	790.1	1119.07	1116.07	2.37	2.37	37.35	36.79	212.42	216.31	1.57	1.54	3	3
Stillwater County	A11	RM 426.11	183030.7	50% - 2yr	790.1	1118.77	1115.37	2.18	2.17	28.77	27.45	245.01	275.96	1.48	1.41	3.4	3.4
Stillwater County	A11	RM 426.00	182442.5	50% - 2yr	790.1	1118.45	1115.74	2.12	1.99	29.13	26.77	217.48	271.31	1.66	1.52	2.71	2.71
Stillwater County	A11	RM 425.89	181895	50% - 2yr	790.1	1118.15	1115.1	2.18	2.17	29.04	28.33	182.69	191.45	1.99	1.94	3.05	3.05
Stillwater County	A11	RM 425.72	181043.5	50% - 2yr	790.1	1117.7	1113.77	2.4	2.4	33.97	32.66	147.36	160.9	2.23	2.15	3.93	3.93
Stillwater County	A11	RM 425.58	180310.5	50% - 2yr	790.1	1117.33	1112.19	2.61	2.58	36.32	29.94	98.53	126.17	3.06	2.52	5.14	5.14
Stillwater County	A11	RM 425.46	179669.9	50% - 2yr	790.1	1116.98	1112.78	2.87	2.86	44.45	40.29	93.51	147.89	2.94	2.66	4.2	4.2
Stillwater County	A11	RM 425.34	179022.4	50% - 2yr	790.1	1116.9	1113.64	2.05	1.9	23.87	19.31	134.07	207.13	2.48	2.01	3.26	3.26
Stillwater County	A11	RM 425.24	178485.9	50% - 2yr	790.1	1116.57	1114.19	2.49	2.16	39.21	29.27	126.28	324.3	1.8	1.35	2.43	2.43
Stillwater County	A11	RM 425.18	178205.8	50% - 2yr	790.1	1116.3	1113.81	2.66	2.42	45.04	37.11	124.05	224.48	1.76	1.45	2.99	2.99
Stillwater County	A11	RM 425.11	177826.8	50% - 2yr	790.1	1116.01	1113.29	2.3	2.47	33.88	35.53	119.3	173.63	1.75	1.84	3.72	3.72
Stillwater County	A11	RM 425.04	177454.7	50% - 2yr	790.1	1115.86	1112.86	2.29	2.08	31.31	26.39	104.81	206.47	2.18	1.84	3.39	3.39
Stillwater County	A11	RM 424.97	177098.9	50% - 2yr	790.1	1115.55	1113.11	2.65	2.42	43.35	36.25	106.7	201	1.94	1.62	2.54	2.54
Stillwater County	A11	RM 424.89	176675.9	50% - 2yr	790.1	1115.39	1112.27	1.97	1.95	24.7	19.75	136.62	287.02	1.76	1.41	4.58	4.58
Stillwater County	A11	RM 424.81	176242.8	50% - 2yr	790.1	1114.98	1112.25	2.52	2.44	41.81	38.04	112.86	238.79	1.59	1.45	2.98	2.98
Stillwater County	A11	RM 424.70	175789.3	50% - 2yr	790.1	1114.84	1111.91	1.95	1.8	23.42	19.97	161.15	313.1	1.94	1.65	2.93	2.93
Stillwater County	A11	RM 424.58	175159.4	50% - 2yr	790.1	1114.58	1111.34	2.08	1.88	26.88	20.89	128.09	279.9	1.93	1.5	3.24	3.24
Stillwater County	A11	RM 424.51	174723.2	50% - 2yr	790.1	1114.38	1110.93	2.01	1.84	27.07	20.04	139.67	377.75	1.53	1.14	3.45	3.45
Stillwater County	A11	RM 424.38	174051	50% - 2yr	790.1	1114.01	1110.98	2.21	2.03	30.95	24.36	122.19	278.39	1.78	1.4	3.03	3.03
Stillwater County	A11	RM 424.30	173607.9	50% - 2yr	790.1	1113.72	1110.75	2.21	2.24	34.02	23.47	149.61	415.6	1.34	0.93	2.97	2.97
Stillwater County	A11	RM 424.21	173153.7	50% - 2yr	790.1	1113.46	1110.74	1.92	1.78	25.55	19.8	187.16	411.9	1.39	1.07	2.72	2.72
Stillwater County	A11	RM 424.13	172713.5	50% - 2yr	790.1	1113.17	1110.43	2.24	1.72	31.91	16.99	81.35	488.22	1.77	0.94	2.82	2.82
Stillwater County	A11	RM 424.05	172309.3	50% - 2yr	790.1	1112.92	1110.18	1.9	1.7	24.88	14.54	137.93	571.49	1.39	0.81	2.74	2.74
Stillwater County	A11	RM 423.98	171892.1	50% - 2yr	790.1	1112.83	1110.15	1.55	1.34	15.6	9.56	243.23	569.96	1.69	1.04	2.68	2.68

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	50% - 2yr	790.1	1112.52	1109.55	2.31	1.96	33.9	17.71	154.56	432.25	1.79	0.93	2.97	2.97
Stillwater County	A11	RM 423.84	171147.5	50% - 2yr	790.1	1112.33	1109.08	2.39	1.97	33.84	16.77	121.81	431.73	2.21	1.1	3.25	3.25
Stillwater County	A11	RM 423.74	170686.3	50% - 2yr	790.1	1112.26	1108.91	1.78	1.36	18.57	9.67	123.75	543.96	2.28	1.18	3.35	3.35
Stillwater County	A11	RM 423.69	170436.3	50% - 2yr	790.1	1112.02	1108.49	2.47	2.04	34.62	18.26	82	342.47	2.51	1.31	3.53	3.53
Stillwater County	A11	RM 423.57	169782.9	50% - 2yr	790.1	1111.81	1108.2	2.05	1.94	24.28	19.45	156.04	216.7	2.35	1.88	3.61	3.61
Stillwater County	A11	RM 423.47	169296.5	50% - 2yr	790.1	1111.47	1107.67	2.61	2.6	38.02	35.77	115.92	150.54	2.61	2.46	3.8	3.8
Stillwater County	A11	RM 423.39	168860.7	50% - 2yr	790.1	1111.19	1107.7	2.83	2.81	44.22	38.66	102.45	158.67	2.73	2.38	3.49	3.49
Stillwater County	A11	RM 423.27	168178	50% - 2yr	790.1	1110.82	1107.36	2.81	2.81	45.68	45.68	117.31	117.31	2.39	2.39	3.46	3.46
Stillwater County	A12	RM 423.17	167687.7	50% - 2yr	790.1	1110.62	1107.46	2.42	2.38	34.93	26.64	151.73	202.87	2.15	1.64	3.16	3.16
Stillwater County	A12	RM 423.08	167239.6	50% - 2yr	790.1	1110.36	1107.21	2.59	2.34	40.27	25.57	126	249.91	2.13	1.35	3.15	3.15
Stillwater County	A12	RM 423.01	166844.5	50% - 2yr	790.1	1110.04	1106.84	2.71	2.53	46.7	33.93	129.63	239.11	1.8	1.31	3.2	3.2
Stillwater County	A12	RM 422.91	166338	50% - 2yr	790.1	1109.75	1106.54	2.54	2.35	37.81	25.57	110	220.63	2.25	1.53	3.21	3.21
Stillwater County	A12	RM 422.80	165757.6	50% - 2yr	790.1	1109.47	1106.83	2.39	2.26	34.82	30	143.65	234.77	2.01	1.73	2.64	2.64
Stillwater County	A12	RM 422.70	165279.2	50% - 2yr	790.1	1109.33	1105.79	1.93	1.68	23.57	18.63	198.54	326.87	1.81	1.44	3.53	3.53
Stillwater County	A12	RM 422.63	164895.4	50% - 2yr	790.1	1109.14	1105.43	2.05	1.78	26.87	19.66	176.71	373.01	1.73	1.27	3.71	3.71
Stillwater County	A12	RM 422.53	164348.1	50% - 2yr	790.1	1108.78	1104.76	2.31	2.14	33.8	25.47	163.88	273.38	1.8	1.35	4.02	4.02
Stillwater County	A12	RM 422.39	163609.2	50% - 2yr	790.1	1108.34	1104.22	2.49	2.43	35.53	29.19	128.68	170.53	2.45	2.01	4.12	4.12
Stillwater County	A12	RM 422.30	163120.4	50% - 2yr	790.1	1108.04	1104.18	2.72	2.7	40.93	37.57	108	138.64	2.69	2.47	3.86	3.86
Stillwater County	A12	RM 422.19	162534.3	50% - 2yr	790.1	1107.86	1103.72	2.4	2.4	31.39	30.51	116.28	119.77	2.83	2.75	4.14	4.14
Stillwater County	A12	RM 422.08	161934.5	50% - 2yr	790.1	1107.5	1104.18	2.79	2.79	43.47	43.47	107.87	107.87	2.63	2.63	3.32	3.32
Stillwater County	A12	RM 421.98	161402.1	50% - 2yr	790.1	1107.39	1103.86	2.19	2.19	27.03	26.65	142.02	144.11	2.54	2.51	3.53	3.53
Stillwater County	A12	RM 421.90	161037.7	50% - 2yr	790.1	1107.26	1103.14	2.16	2.16	27.71	27.71	165.56	165.56	2.21	2.21	4.12	4.12
Stillwater County	A12	RM 421.86	160799.3	50% - 2yr	790.1	1107.14	1102.54	2.22	2.22	31.01	31.01	191.44	191.44	1.86	1.86	4.6	4.6
Stillwater County	A12	RM 421.81	160535.9	50% - 2yr	790.1	1106.98	1102.38	2.25	2.25	33.3	33.3	215.99	215.99	1.62	1.62	4.6	4.6
Stillwater County	A12	RM 421.77	160279.4	50% - 2yr	790.1	1106.74	1102.41	2.5	2.44	40.48	37.88	180.29	206.96	1.66	1.56	4.33	4.33
Stillwater County	A12	RM 421.69	159875.5	50% - 2yr	790.1	1106.63	1102.56	2.11	2.03	24.29	20.08	128.95	167.34	2.81	2.33	4.07	4.07
Stillwater County	A12	RM 421.60	159411.4	50% - 2yr	790.1	1106.35	1103.26	2.57	2.41	39.2	34.43	130.46	168.5	2.2	1.94	3.09	3.09
Stillwater County	A12	RM 421.53	159038	50% - 2yr	790.1	1106.06	1102.81	2.77	2.63	46.2	39.95	126.54	166.25	2.09	1.81	3.25	3.25
Stillwater County	A12	RM 421.45	158590.5	50% - 2yr	790.1	1105.89	1103.26	2.29	2.08	32.22	24.23	150.77	253.14	1.99	1.5	2.63	2.63
Stillwater County	A12	RM 421.32	157930.2	50% - 2yr	790.1	1105.52	1102.82	2.3	2.17	35.36	29.99	94.06	276.82	1.54	1.31	2.7	2.7
Stillwater County	A12	RM 421.24	157513	50% - 2yr	790.1	1105.17	1103.05	2.22	2.26	36.16	33.4	125.23	325.74	1.16	1.08	2.69	2.69
Stillwater County	A12	RM 421.13	156951.5	50% - 2yr	790.1	1104.89	1100.38	2.12	1.88	29.87	23.33	115.15	343.8	1.57	1.22	4.51	4.51
Stillwater County	A12	RM 421.05	156536.5	50% - 2yr	790.1	1104.72	1102.11	1.89	1.73	23.99	20.06	97	360.39	1.52	1.27	2.61	2.61
Stillwater County	A12	RM 420.94	155960.1	50% - 2yr	790.1	1104.5	1101.68	1.69	1.63	17	15.54	213.29	255.01	2.16	1.98	2.82	2.82
Stillwater County	A12	RM 420.85	155473.6	50% - 2yr	790.1	1103.86	1100.98	3.26	2.89	66.48	43.48	125.9	229.03	1.87	1.22	2.88	2.88
Stillwater County	A12	RM 420.75	154957.2	50% - 2yr	790.1	1103.64	1099.95	2.43	2.23	35.51	25.32	145.9	236.39	2.1	1.5	3.69	3.69
Stillwater County	A12	RM 420.66	154483	50% - 2yr	790.1	1103.47	1099.89	2.15	1.89	27.14	14.72	156.45	337.49	2.29	1.24	3.58	3.58
Stillwater County	A12	RM 420.58	154037.5	50% - 2yr	790.1	1103.16	1100.13	2.64	2.24	40.17	22.81	119.46	257.49	2.41	1.37	3.02	3.02
Stillwater County	A12	RM 420.52	153691.5	50% - 2yr	790.1	1102.99	1099.7	2.58	2.18	38.78	25.91	124	232.13	2.34	1.56	3.29	3.29
Stillwater County	A12	RM 420.46	153398	50% - 2yr	790.1	1102.82	1099.36	2.62	2.3	40.22	29.19	127.34	207.78	2.28	1.65	3.46	3.46
Stillwater County	A12	RM 420.38	152998.3	50% - 2yr	790.1	1102.66	1099.19	2.3	2.03	32.52	25.51	164.17	250.65	1.98	1.55	3.47	3.47
Stillwater County	A12	RM 420.30	152566.4	50% - 2yr	790.1	1102.52	1099.43	1.88	1.62	22.73	17.97	226.79	359.32	1.72	1.36	3.09	3.09
Stillwater County	A12	RM 420.21	152106.2	50% - 2yr	790.1	1102.24	1098.69	2.19	1.86	30.18	25.72	181.19	274.24	1.82	1.55	3.55	3.55
Stillwater County	A12	RM 420.15	151738.6	50% - 2yr	790.1	1102.11	1098.38	1.98	1.96	19.19	17.72	222.22	243.59	1.79	1.65	3.73	3.73
Stillwater County	A12	RM 420.08	151399.3	50% - 2yr	790.1	1101.99	1097.97	1.97	1.95	23.39	21.46	193.29	212.42	2.08	1.91	4.02	4.02
Stillwater County	A12	RM 420.03	151123.2	50% - 2yr	790.1	1101.86	1097.96	2.16	2.07	26.41	19.02	141.5	207.38	2.56	1.84	3.9	3.9
Stillwater County	A12	RM 419.96	150779.4	50% - 2yr	790.1	1101.59	1098.1	2.63	2.59	39.58	28.68	121.92	182.4	2.46	1.78	3.49	3.49
Stillwater County	A12	RM 419.91	150511.3	50% - 2yr	790.1	1101.44	1097.83	2.71	2.64	39.84	26.65	101.41	173.13	2.87	1.91	3.61	3.61
Stillwater County	A12	RM 419.85	150192.4	50% - 2yr	790.1	1101.18	1097.85	3.01	2.91	51.49	40.05	104.4	139.59	2.5	1.95	3.33	3.33
Stillwater County	A12	RM 419.78	149807.6	50% - 2yr	790.1	1101.08	1097.13	2.59	2.3	36.2	17.82	103.02	239.67	2.92	1.43	3.95	3.95
Stillwater County	A12	RM 419.70	149371.5	50% - 2yr	790.1	1100.89	1097.73	2.53	2.42	37.34	26.92	133.95	195.82	2.31	1.67	3.16	3.16
Stillwater County	A12	RM 419.63	149047.6	50% - 2yr	790.1	1100.8	1097.92	2.21	2.13	29.05	22.5	165.6	222.04	2.15	1.67	2.88	2.88
Stillwater County	A12	RM 419.53	148495.9	50% - 2yr	790.1	1100.37	1097.22	2.81	2.39	49.98	31.79	126.41	286.08	1.81	1.16	3.14	3.14
Stillwater County	A12	RM 419.46	148117.9	50% - 2yr	790.1	1100.12	1097.34	2.38	2.17	36.53	26.1	132.97	301.68	1.69	1.21	3.04	3.04
Stillwater County	A12	RM 419.38	147728.5	50% - 2yr	790.1	1099.82	1097.36	2.44	2.08	39.31	27.41	128.49	338.78	1.61	1.12	2.46	2.46
Stillwater County	A12	RM 419.31	147342.9	50% - 2yr	790.1	1099.74	1096.9	1.64	1.55	16.53	14.56	114.45	290.34	1.99	1.76	2.84	2.84
Stillwater County	A12	RM 419.19	146720.3	50% - 2yr	790.1	1099.64	1096.42	1.32	1.46	10.35	11.87	102.65	220.7	2.18	2.51	5.24	5.24
Stillwater County	A12	RM 419.10	146243.9	50% - 2yr	790.1	1099.56	1095.09	1.6	1.56	13.53	11.51	156.37	198.12	3.13	2.66	4.47	4.47
Stillwater County	A12	RM 419.03	145859.8	50% - 2yr	790.1	1099.33	1095.88	2.26	2.25	30.56	28.66	165.07	186.25	2.12	1.99	3.45	3.45
Stillwater County	A12	RM 418.95	145435.3	50% - 2yr	790.1	1099.12	1095.15	2.24	2.21	31.96	26.76	202	251.07	1.75	1.46	3.97	3.97

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	50% - 2yr	790.1	1098.75	1094.92	2.32	2.26	34.99	26.95	201.43	276.06	1.68	1.29	3.83	3.83
Stillwater County	A12	RM 418.57	143452.8	50% - 2yr	790.1	1097.78	1095.1	2.53	2.35	40.41	28.45	131.15	266.28	1.8	1.28	2.68	2.68
Stillwater County	A12	RM 418.49	143008.1	50% - 2yr	790.1	1097.66	1094.94	1.89	1.55	22.11	12.02	169.36	505.82	1.91	1.04	2.72	2.72
Stillwater County	A12	RM 418.25	141740.8	50% - 2yr	790.1	1096.95	1093.71	1.96	1.57	26.08	19.09	175.64	499.8	1.48	1.08	3.24	3.24
Stillwater County	A12	RM 418.08	140894.8	50% - 2yr	790.1	1096.56	1092.65	2.07	1.76	26.55	19.07	139.46	328.05	1.9	1.37	3.9	3.9
Stillwater County	A12	RM 417.89	139893.7	50% - 2yr	790.1	1095.85	1092.75	2.74	2.57	44.48	30.92	127.83	229.56	2.18	1.52	3.1	3.1
Stillwater County	A12	RM 417.79	139376.4	50% - 2yr	790.1	1095.53	1091.64	2.72	2.42	45.64	29.95	128.59	253.44	1.97	1.29	3.88	3.88
Stillwater County	A12	RM 417.65	138633.4	50% - 2yr	790.1	1095	1091.57	2.91	2.66	48.21	29.22	93.45	203.37	2.5	1.51	3.43	3.43
Stillwater County	A12	RM 417.54	138089.5	50% - 2yr	790.1	1094.65	1091.15	3.03	2.68	50.91	32.68	84.44	171.04	2.69	1.72	3.5	3.5
Stillwater County	A12	RM 417.40	137321.3	50% - 2yr	911.9	1094.28	1091.71	2.6	2.25	41.51	28.61	118.52	296.31	1.99	1.37	2.57	2.57
Stillwater County	A12	RM 417.30	136818.2	50% - 2yr	911.9	1093.94	1091.51	2.43	2.3	38.15	33.38	198.27	280.47	1.7	1.49	2.43	2.43
Stillwater County	A13	RM 417.09	135706	50% - 2yr	911.9	1093.28	1090.35	2.72	2.7	46.47	43.02	183.65	240.59	1.83	1.69	2.93	2.93
Stillwater County	A13	RM 417.01	135303.6	50% - 2yr	911.9	1093.12	1090	2.15	2.15	29.65	29.65	244.73	292.26	1.73	1.73	3.12	3.12
Stillwater County	A13	RM 416.85	134457.6	50% - 2yr	911.9	1092.59	1089.62	2.18	2.04	27.77	21.06	183.07	260.57	2.26	1.72	2.97	2.97
Stillwater County	A13	RM 416.73	133843.5	50% - 2yr	911.9	1092.2	1089.6	2.47	2.34	38.87	30.26	210.17	286.09	1.75	1.36	2.6	2.6
Stillwater County	A13	RM 416.63	133286.1	50% - 2yr	911.9	1091.86	1089.3	2.44	2.21	38.08	30.19	121.47	296.12	1.75	1.39	2.56	2.56
Stillwater County	A13	RM 416.52	132717.9	50% - 2yr	911.9	1091.55	1089.09	2.29	1.85	35.22	25.14	104.23	459.92	1.5	1.07	2.46	2.46
Stillwater County	A13	RM 416.43	132250.3	50% - 2yr	911.9	1091.16	1088.74	2.17	2	32.72	26.1	111.92	415.94	1.37	1.09	2.42	2.42
Stillwater County	A13	RM 416.33	131707.5	50% - 2yr	911.9	1090.86	1088.02	2.09	1.86	29.81	24.07	129.1	424.44	1.43	1.16	2.84	2.84
Stillwater County	A13	RM 416.22	131140.9	50% - 2yr	911.9	1090.4	1087.56	2.72	2.23	44.91	29.23	83.9	306.11	2.05	1.34	2.84	2.84
Stillwater County	A13	RM 416.13	130626.3	50% - 2yr	911.9	1090.09	1086.65	2.52	2.16	38.16	27.26	141.65	282.9	2.08	1.49	3.44	3.44
Stillwater County	A13	RM 416.04	130164.9	50% - 2yr	911.9	1089.61	1085.03	3.08	2.48	56.55	30.72	119.33	317.56	2.14	1.16	4.58	4.58
Stillwater County	A13	RM 415.96	129734.7	50% - 2yr	911.9	1089.42	1085.48	2.59	1.98	39.4	23.97	123.79	336.91	2.25	1.36	3.94	3.94
Stillwater County	A13	RM 415.90	129423.4	50% - 2yr	911.9	1089.26	1085.77	2.21	1.79	30.66	23.49	153.95	383.06	1.84	1.41	3.49	3.49
Stillwater County	A13	RM 415.83	129071.6	50% - 2yr	911.9	1089.11	1085.89	1.98	1.71	24.17	16.58	151.48	392.94	1.97	1.36	3.78	3.78
Stillwater County	A13	RM 415.74	128639.5	50% - 2yr	911.9	1088.84	1084.72	2.39	2.06	32.08	21.25	143.56	262.07	2.56	1.7	4.12	4.12
Stillwater County	A13	RM 415.72	128521.2	50% - 2yr	911.9	1088.7	1084.8	2.71	2.32	41.17	25.8	125.37	245.29	2.59	1.62	3.9	3.9
Stillwater County	A13	RM 415.65	128106.2	50% - 2yr	911.9	1088.39	1083.7	2.98	2.63	49.87	35.01	116.15	192.28	2.57	1.8	4.69	4.69
Stillwater County	A13	RM 415.59	127828.3	50% - 2yr	911.9	1088.08	1083.61	3.29	3.23	61.64	52.27	111.18	134.22	2.49	2.11	4.47	4.47
Stillwater County	A13	RM 415.55	127620.5	50% - 2yr	911.9	1088.16	1082.84	2.14	2.14	23.73	23.73	129.78	129.78	3.29	3.29	5.31	5.31
Stillwater County	A13	RM 415.50	127340.9	50% - 2yr	911.9	1088.02	1083.14	2.33	2.33	29.98	29.98	145.46	145.46	2.69	2.69	4.88	4.88
Stillwater County	A13	RM 415.45	127087.4	50% - 2yr	911.9	1087.72	1083.18	2.87	2.87	46.74	46.6	124.87	128.2	2.54	2.53	4.54	4.54
Stillwater County	A13	RM 415.34	126499.1	50% - 2yr	911.9	1087.43	1084.45	2.73	2.58	44.85	38.62	127.1	245.22	2.09	1.8	2.98	2.98
Stillwater County	A13	RM 415.25	126040.7	50% - 2yr	911.9	1087.15	1082.42	2.74	2.52	43.62	30.16	118.76	223.9	2.35	1.63	4.72	4.72
Stillwater County	A13	RM 415.18	125663.1	50% - 2yr	911.9	1086.98	1083.81	2.5	2.38	36.31	31.32	132.52	189.13	2.35	2.03	3.17	3.17
Stillwater County	A13	RM 414.97	124585.1	50% - 2yr	911.9	1086.16	1082.64	2.98	2.69	52.1	40.27	112.58	194.5	2.25	1.74	3.52	3.52
Stillwater County	A13	RM 414.88	124110.1	50% - 2yr	911.9	1085.81	1083.02	2.94	2.69	51.82	42.27	120.95	196.2	2.11	1.73	2.79	2.79
Stillwater County	A13	RM 414.71	123222	50% - 2yr	911.9	1085.35	1080.88	2.44	2.44	34.7	33.67	159.65	164.72	2.34	2.27	4.47	4.47
Stillwater County	A13	RM 414.57	122473.6	50% - 2yr	911.9	1084.89	1081.21	2.71	2.7	42.69	39.97	142.98	154.01	2.35	2.2	3.68	3.68
Stillwater County	A13	RM 414.43	121696.6	50% - 2yr	911.9	1084.46	1080.49	2.59	2.44	40.41	23.74	167.19	305.26	2.09	1.23	3.97	3.97
Stillwater County	A13	RM 414.21	120527.7	50% - 2yr	911.9	1083.68	1080.81	2.45	2.37	40.42	37.36	215.14	283.77	1.5	1.39	2.87	2.87
Stillwater County	A13	RM 413.90	118914.7	50% - 2yr	911.9	1082.47	1079.28	2.7	2.62	43.05	33.28	151.99	303.63	2.2	1.7	3.19	3.19
Stillwater County	A13	RM 413.65	117570.4	50% - 2yr	911.9	1081.61	1078.15	2.81	2.69	45.71	30.47	137.48	464.28	2.35	1.57	3.46	3.46
Stillwater County	A14	RM 413.44	116446.3	50% - 2yr	911.9	1081.03	1076.4	2.64	2.46	39.64	21.02	139.27	530.09	2.47	1.31	4.63	4.63
Stillwater County	A14	RM 413.27	115556.7	50% - 2yr	911.9	1080.48	1077.8	2.72	2.22	46.97	28.27	173.34	554.64	1.77	1.06	2.68	2.68
Stillwater County	A14	RM 413.11	114697.4	50% - 2yr	911.9	1079.96	1077.12	2.32	2.18	33.69	24.87	193.76	516.06	1.87	1.38	2.84	2.84
Stillwater County	A14	RM 412.99	114113.2	50% - 2yr	911.9	1079.47	1076.41	2.7	2.48	46.71	28.6	180.75	575.5	1.74	1.06	3.06	3.06
Stillwater County	A14	RM 412.88	113533.6	50% - 2yr	911.9	1079.11	1076.03	2.59	2.25	39.31	21.61	140.06	427.71	2.28	1.25	3.08	3.08
Stillwater County	A14	RM 412.73	112742.6	50% - 2yr	911.9	1078.61	1074.72	2.65	2.16	43.98	22.85	168.64	488.21	1.88	0.98	3.89	3.89
Stillwater County	A14	RM 412.59	112005.5	50% - 2yr	911.9	1077.97	1074.72	2.75	2.3	49.2	31.41	191.69	415.15	1.66	1.06	3.25	3.25
Stillwater County	A14	RM 412.49	111442.5	50% - 2yr	911.9	1077.68	1074.54	2.26	2.03	32.33	24.72	189	356.5	1.79	1.37	3.14	3.14
Stillwater County	A14	RM 412.31	110522	50% - 2yr	911.9	1077.32	1072.96	2.17	2.08	25.52	18.06	144.71	236.96	2.89	2.04	4.36	4.36
Stillwater County	A14	RM 412.19	109955.3	50% - 2yr	911.9	1076.66	1071.57	3.45	3.44	67.1	57.34	101.14	119.25	2.61	2.22	5.09	5.09
Stillwater County	A14	RM 412.05	109175.2	50% - 2yr	911.9	1076.25	1072.08	2.99	2.93	49.1	40.53	110.52	137.17	2.75	2.27	4.17	4.17
Stillwater County	A14	RM 411.92	108510.2	50% - 2yr	911.9	1075.97	1072.88	2.63	2.63	39.35	39.35	138.99	138.99	2.49	2.49	3.09	3.09
Stillwater County	A14	RM 411.81	107950.5	50% - 2yr	911.9	1075.55	1070.62	2.96	2.96	50.23	50.23	127.01	127.01	2.43	2.43	4.93	4.93
Stillwater County	A14	RM 411.71	107391.9	50% - 2yr	911.9	1075.35	1070.83	2.59	2.59	35.94	35.64	117.23	125.04	3	2.98	4.52	4.52
Stillwater County	A14	RM 411.58	106721	50% - 2yr	911.9	1075.08	1071.65	2.51	2.51	36.39	36.39	155.41	163.43	2.34	2.34	3.43	3.43
Stillwater County	A14	RM 411.47	106133.7	50% - 2yr	911.9	1074.67	1071.87	2.79	2.7	46.61	33.68	152.44	219.42	2.13	1.54	2.8	2.8
Stillwater County	A14	RM 411.32	105338.4	50% - 2yr	911.9	1074.1	1069.29	2.82	2.66	48.2	41.93	154.41	191.31	2.06	1.79	4.81	4.81

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	50% - 2yr	911.9	1073.4	1067.92	3.04	2.73	51.19	29.98	108.46	211.34	2.71	1.58	5.48	5.48
Stillwater County	A14	RM 411.00	103638.4	50% - 2yr	911.9	1073.03	1069.6	2.71	2.23	44.05	29.9	137.92	282.25	2.14	1.45	3.43	3.43
Stillwater County	A14	RM 410.85	102835.8	50% - 2yr	911.9	1072.54	1069.92	2.3	2.13	36.05	27.35	83.64	387.3	1.46	1.1	2.62	2.62
Stillwater County	A14	RM 410.74	102286.3	50% - 2yr	911.9	1072.12	1068.99	2.53	2.02	40.41	27	69.86	367.64	1.85	1.23	3.13	3.13
Stillwater County	A14	RM 410.63	101668.3	50% - 2yr	911.9	1071.7	1068.37	2.65	1.95	43.09	21.24	82.88	475.74	2	0.98	3.33	3.33
Stillwater County	A14	RM 410.52	101115.7	50% - 2yr	911.9	1071.38	1067.81	2.38	2.05	33.61	21.15	122	325.81	2.18	1.37	3.57	3.57
Stillwater County	A14	RM 410.42	100568.4	50% - 2yr	911.9	1070.88	1066.66	2.6	2.67	45.39	46.95	145.75	217.51	1.52	1.57	4.22	4.22
Stillwater County	A14	RM 410.33	100099.2	50% - 2yr	911.9	1070.64	1066.6	2.25	2.14	30.78	25.68	198.78	287.46	2.02	1.68	4.04	4.04
Stillwater County	A14	RM 410.22	99589.26	50% - 2yr	911.9	1070.23	1066.94	2.74	2.57	44.5	30.32	148.51	262.02	2.21	1.51	3.29	3.29
Stillwater County	A14	RM 410.12	99057.4	50% - 2yr	911.9	1069.87	1065.8	2.71	2.4	46.47	38.52	171.91	285.95	1.82	1.51	4.07	4.07
Stillwater County	A14	RM 410.03	98630.66	50% - 2yr	911.9	1069.53	1065.33	2.63	2.4	45.82	40.82	203.05	288.01	1.59	1.41	4.2	4.2
Stillwater County	A14	RM 409.99	98385.41	50% - 2yr	911.9	1069.26	1065.38	2.77	2.52	49.95	40.51	184.93	292.9	1.67	1.35	3.88	3.88
Stillwater County	A14	RM 409.94	98072.09	50% - 2yr	911.9	1069.04	1065.51	2.55	2.28	41.1	29.41	192.09	371.72	1.79	1.28	3.53	3.53
Stillwater County	A14	RM 409.87	97717.24	50% - 2yr	911.9	1069.03	1065.52	1.82	1.45	18.33	12.73	161.23	424.7	2.73	1.89	3.51	3.51
Stillwater County	A14	RM 409.76	97130.84	50% - 2yr	911.9	1068.73	1065.37	2.43	2.03	33.98	21.99	144.59	316.18	2.38	1.54	3.36	3.36
Stillwater County	A14	RM 409.60	96278.7	50% - 2yr	911.9	1067.82	1064.65	3.36	2.94	74.34	50.17	160.61	287.21	1.6	1.08	3.17	3.17
Stillwater County	A14	RM 409.43	95381.62	50% - 2yr	911.9	1067.25	1063.55	2.59	2	38.91	16.86	127.03	686.24	2.34	1.01	3.71	3.71
Stillwater County	A14	RM 409.24	94405.29	50% - 2yr	911.9	1066.5	1064.55	2.36	2.13	40.74	27.85	125.92	585.68	1.18	0.81	2.28	2.28
Stillwater County	A14	RM 409.15	93912.54	50% - 2yr	911.9	1066.09	1064.27	1.68	1.98	20.45	16.53	148.57	477.8	1.19	0.97	4.01	4.01
Stillwater County	A14	RM 408.99	93008.08	50% - 2yr	911.9	1065.31	1063.94	2.1	2.68	33.9	38.66	142.99	300.4	0.99	1.13	2.77	2.77
Stillwater County	A14	RM 408.84	92229.27	50% - 2yr	911.9	1064.92	1062.1	2.25	2.23	34.65	29.79	141.52	329.29	1.43	1.24	2.82	2.82
Stillwater County	A14	RM 408.63	91072.98	50% - 2yr	911.9	1063.93	1061.85	2.26	2.31	38.37	36.91	205.65	388.77	1.09	1.05	2.35	2.35
Stillwater County	A14	RM 408.41	89726.16	50% - 2yr	911.9	1063.35	1059.04	2.21	1.96	26.38	19.76	102.52	211.9	2.93	2.19	4.31	4.31
Stillwater County	A14	RM 408.26	88966.66	50% - 2yr	911.9	1063.07	1058.13	2.35	2.2	29.34	19.68	126.65	204.24	3.03	2.03	4.94	4.94
Stillwater County	A14	RM 408.10	88091.52	50% - 2yr	911.9	1062.58	1057.78	2.93	2.81	44.96	40.02	97.53	114.76	3.17	2.83	4.8	4.8
Stillwater County	A14	RM 408.02	87720.33	50% - 2yr	911.9	1062.5	1058.61	2.56	2.48	35.46	31.21	121.51	143.28	2.91	2.56	3.89	3.89
Stillwater County	A14	RM 407.83	86708.48	50% - 2yr	911.9	1061.92	1058.65	2.64	2.56	45.71	41.09	146.72	242.64	1.63	1.47	3.27	3.27
Stillwater County	A14	RM 407.71	86078.99	50% - 2yr	911.9	1061.56	1057.9	2.57	2.39	38.57	27.45	116.48	231.81	2.31	1.65	3.66	3.66
Stillwater County	A14	RM 407.61	85508.29	50% - 2yr	911.9	1061.32	1058.36	2.21	2.15	31.88	22.98	170	359.6	1.64	1.18	2.96	2.96
Stillwater County	A14	RM 407.50	84909.3	50% - 2yr	911.9	1061	1058.55	2.29	2.08	35.53	28.7	177.66	373.95	1.45	1.17	2.94	2.94
Stillwater County	A14	RM 407.41	84433.26	50% - 2yr	911.9	1060.74	1057.85	2.39	1.95	36.71	23.73	122.12	415.52	1.73	1.12	3.08	3.08
Stillwater County	A14	RM 407.36	84180.66	50% - 2yr	911.9	1060.49	1057.59	2.8	2.15	47.83	28.38	98.64	351.51	2.03	1.21	2.9	2.9
Stillwater County	A14	RM 407.29	83775.88	50% - 2yr	911.9	1060.13	1057.08	2.25	2.43	32.49	33.7	126.45	207.06	1.74	1.81	3.31	3.31
Stillwater County	A14	RM 407.13	82954.84	50% - 2yr	911.9	1059.66	1056.27	2.2	2.2	32.67	32.15	275.08	280.46	1.5	1.48	3.39	3.39
Stillwater County	A14	RM 406.98	82156.72	50% - 2yr	911.9	1059.38	1056.37	1.89	1.86	20.51	19.51	196.68	212.17	2.43	2.32	3.01	3.01
Stillwater County	A14	RM 406.86	81532.92	50% - 2yr	911.9	1058.81	1055.69	3.08	3.01	53.41	48.28	112.82	128.61	2.6	2.35	3.12	3.12
Stillwater County	A14	RM 406.77	81053.3	50% - 2yr	911.9	1058.58	1053.84	2.87	2.71	45.14	33.4	110.35	162.03	2.81	2.08	4.74	4.74
Stillwater County	A14	RM 406.64	80405.13	50% - 2yr	911.9	1058.37	1054.89	2.46	2.33	33.48	26.53	136.69	184.79	2.67	2.12	3.48	3.48
Stillwater County	A14	RM 406.48	79524.79	50% - 2yr	911.9	1057.79	1054.8	2.76	2.52	48.44	38.24	189	280.04	1.64	1.29	2.99	2.99
Stillwater County	A14	RM 406.25	78337.26	50% - 2yr	911.9	1057.04	1054.03	2.58	2.39	38.67	27.91	138.45	225.04	2.36	1.7	3.01	3.01
Stillwater County	A14	RM 406.08	77409.13	50% - 2yr	911.9	1056.4	1052.87	2.93	2.65	50.16	35.01	122.47	213.37	2.31	1.61	3.52	3.52
Stillwater County	A14	RM 405.93	76624.91	50% - 2yr	911.9	1055.91	1052.64	2.89	2.79	46.23	38.88	114.34	142.7	2.72	2.29	3.27	3.27
Stillwater County	A14	RM 405.81	75994.44	50% - 2yr	911.9	1055.65	1051.93	2.6	2.52	38.08	34.95	133.87	153.37	2.57	2.36	3.72	3.72
Stillwater County	A15	RM 405.77	75764.36	50% - 2yr	911.9	1055.43	1052.63	2.92	2.74	51.29	44.87	141.66	180.44	2.1	1.84	2.8	2.8
Stillwater County	A15	RM 405.67	75185.26	50% - 2yr	911.9	1055.07	1052.06	2.75	2.33	45.32	33.31	82.19	248.68	2.13	1.57	3.01	3.01
Stillwater County	A15	RM 405.61	74883.52	50% - 2yr	911.9	1054.84	1051.81	3.04	2.38	52.82	29.24	69.55	301.18	2.45	1.36	3.03	3.03
Stillwater County	A15	RM 405.52	74415.92	50% - 2yr	911.9	1054.27	1051.43	3.75	2.83	81.36	38.86	52.24	311.46	2.37	1.13	2.84	2.84
Stillwater County	A15	RM 405.45	74031.34	50% - 2yr	911.9	1054.17	1051.1	2.92	1.86	47.27	26.25	57.4	375.58	2.66	1.48	3.08	3.08
Stillwater County	A15	RM 405.34	73437.72	50% - 2yr	911.9	1053.73	1050.67	2.82	2.5	45.11	27.35	116.05	274.55	2.48	1.51	3.06	3.06
Stillwater County	A15	RM 405.18	72616.33	50% - 2yr	911.9	1053.13	1049.45	3.2	2.84	55.54	29.92	92.99	234.75	2.89	1.55	3.68	3.68
Stillwater County	A15	RM 405.09	72171.48	50% - 2yr	911.9	1053.01	1049.09	2.59	2.34	36.89	26.46	115.98	199.38	2.73	1.96	3.93	3.93
Stillwater County	A15	RM 405.02	71774.52	50% - 2yr	911.9	1052.68	1048.59	3.12	2.82	52.64	38.17	88.03	152.23	2.94	2.12	4.09	4.09
Stillwater County	A15	RM 404.97	71526.86	50% - 2yr	911.9	1052.64	1048.35	2.67	2.39	38.86	27.01	105.86	216.23	2.81	1.95	4.29	4.29
Stillwater County	A15	RM 404.90	71150.58	50% - 2yr	911.9	1052.46	1048.99	2.74	2.47	41.29	30.64	103.91	190.96	2.75	2.03	3.46	3.46
Stillwater County	A15	RM 404.84	70801.47	50% - 2yr	911.9	1052.38	1049.19	2.38	2.22	31.43	25.83	117.61	216.2	2.68	2.2	3.19	3.19
Stillwater County	A15	RM 404.77	70415.17	50% - 2yr	911.9	1052.11	1048.51	2.88	2.57	44.76	30.42	85.28	232.78	2.94	1.98	3.6	3.6
Stillwater County	A15	RM 404.59	69477.61	50% - 2yr	911.9	1051.6	1047.56	3	3	49.17	49.17	107.56	107.56	2.83	2.83	4.04	4.04
Stillwater County	A15	RM 404.54	69214.33	50% - 2yr	911.9	1051.51	1047.65	2.79	2.76	43.3	34.58	121.35	154.62	2.69	2.14	3.86	3.86
Stillwater County	A15	RM 404.35	68254.38	50% - 2yr	911.9	1051	1048.18	2.52	2.57	39.36	38.41	138.52	186.06	1.93	1.9	3.22	3.22
Stillwater County	A15	RM 404.10	66934.17	50% - 2yr	911.9	1050.27	1047.61	2.46	2.34	36.01	32.83	121.21	208.19	2.17	1.98	2.66	2.66

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	50% - 2yr	911.9	1049.82	1045.27	2.68	2.32	41.63	29.87	110.03	255.83	2.36	1.69	4.55	4.55
Stillwater County	A15	RM 403.85	65604.39	50% - 2yr	911.9	1049.47	1044.79	3.03	2.56	48.94	32.01	77.27	244.02	3.08	2	4.68	4.68
Stillwater County	A15	RM 403.75	65058.55	50% - 2yr	911.9	1049.01	1046.13	3.3	3.01	64.14	45.86	100.66	188.47	2.25	1.61	2.88	2.88
Stillwater County	A15	RM 403.69	64721.22	50% - 2yr	911.9	1048.91	1046.02	2.45	2.32	36.91	33.17	132.37	250.95	1.99	1.79	2.89	2.89
Stillwater County	A15	RM 403.62	64341.29	50% - 2yr	911.9	1048.56	1045.75	2.84	2.68	53.34	48.2	90.32	255.06	1.58	1.43	2.81	2.81
Stillwater County	A15	RM 403.55	63997.04	50% - 2yr	911.9	1048.24	1045.95	2.71	2.54	49.29	42.31	115.84	296.4	1.5	1.29	2.29	2.29
Stillwater County	A15	RM 403.38	62985.06	50% - 2yr	911.9	1047.78	1043.43	2.14	1.98	27.11	22.09	173.55	258.49	2.19	1.78	4.35	4.35
Stillwater County	A15	RM 403.24	62260	50% - 2yr	911.9	1047.52	1043.43	2.13	2.13	25.3	25.3	161.81	161.81	2.65	2.65	4.09	4.09
Stillwater County	A15	RM 403.15	61770.95	50% - 2yr	911.9	1047.16	1042.51	2.77	2.76	43.36	38.19	128.01	146.56	2.57	2.26	4.65	4.65
Stillwater County	A15	RM 403.05	61263.44	50% - 2yr	911.9	1046.92	1043.23	2.63	2.63	39.56	39.33	141.44	142.79	2.45	2.44	3.69	3.69
Stillwater County	A15	RM 402.97	60777.65	50% - 2yr	911.9	1046.73	1043.89	2.38	2.37	33.62	31.45	174.44	189.52	2.19	2.05	2.84	2.84
Stillwater County	A15	RM 402.83	60113.9	50% - 2yr	911.9	1046.18	1043.49	2.7	2.7	49.65	49.65	235.55	328.82	1.44	1.44	2.69	2.69
Stillwater County	A15	RM 402.68	59309.8	50% - 2yr	911.9	1045.57	1042.55	2.35	2.27	35.64	31.63	229.44	408.94	1.68	1.49	3.02	3.02
Stillwater County	A15	RM 402.53	58529.61	50% - 2yr	911.9	1045.31	1040.51	2.23	1.84	25.39	9.84	116.64	484.92	3.4	1.32	4.8	4.8
Stillwater County	A15	RM 402.37	57665.93	50% - 2yr	911.9	1044.76	1041.09	2.85	2.49	54.98	36.74	209.26	429.19	1.47	0.98	3.67	3.67
Stillwater County	A15	RM 402.24	56987.42	50% - 2yr	911.9	1044.54	1040.75	1.82	1.56	20.89	12.25	250.74	624.24	1.85	1.09	3.79	3.79
Stillwater County	A15	RM 402.07	56034.67	50% - 2yr	911.9	1044	1041.1	2.36	1.96	35.76	25.97	203.17	369.12	1.73	1.26	2.9	2.9
Stillwater County	A15	RM 401.87	54972.92	50% - 2yr	911.9	1043.06	1040.1	2.99	2.53	53.63	28.96	138.74	316.57	2.11	1.14	2.96	2.96
Stillwater County	A15	RM 401.69	54002.29	50% - 2yr	911.9	1042.8	1038.43	1.93	1.85	21.77	18.2	199.63	259.49	2.27	1.9	4.37	4.37
Stillwater County	A15	RM 401.55	53267.48	50% - 2yr	911.9	1042.26	1036.56	3.04	2.86	45.37	29.48	73.98	125.76	3.92	2.54	5.7	5.7
Stillwater County	A15	RM 401.41	52506.25	50% - 2yr	911.9	1042.08	1037.91	2.48	2.23	34.45	24.21	131.22	256.31	2.63	1.85	4.17	4.17
Stillwater County	A15	RM 401.31	51997.63	50% - 2yr	911.9	1041.67	1038.08	2.98	2.72	50.61	33.08	118.02	208.6	2.45	1.61	3.59	3.59
Stillwater County	A15	RM 401.17	51259.17	50% - 2yr	911.9	1041.23	1037.38	2.78	2.72	45.41	42.25	144.14	158.62	2.27	2.11	3.85	3.85
Stillwater County	A15	RM 401.03	50507.04	50% - 2yr	911.9	1040.88	1036.56	2.6	2.46	36.93	29	123.59	167.37	2.81	2.21	4.32	4.32
Stillwater County	A15	RM 400.90	49826.69	50% - 2yr	911.9	1040.42	1036.25	2.92	2.79	50.28	40.42	139.98	187.77	2.21	1.79	4.17	4.17
Stillwater County	A15	RM 400.74	49002.09	50% - 2yr	911.9	1039.89	1037.21	2.9	2.3	49.47	31.15	110.03	277.4	2.29	1.43	2.68	2.68
Stillwater County	A15	RM 400.61	48243.95	50% - 2yr	911.9	1039.47	1035.99	2.49	2.17	38.77	26.41	144.24	326.21	1.9	1.29	3.48	3.48
Stillwater County	A15	RM 400.50	47710.55	50% - 2yr	911.9	1039.15	1035.67	2.33	2.28	33.74	31.97	148.97	217.17	1.94	1.85	3.48	3.48
Stillwater County	A15	RM 400.42	47243.72	50% - 2yr	911.9	1038.83	1034.87	2.63	2.54	39.31	32.85	103.7	172.94	2.49	2.08	3.96	3.96
Stillwater County	A15	RM 400.34	46832.6	50% - 2yr	911.9	1038.68	1034.91	2.52	2.35	34.56	29.04	93.52	161.86	2.84	2.4	3.77	3.77
Stillwater County	A15	RM 400.25	46335.82	50% - 2yr	911.9	1038.54	1035.01	2.34	2.17	30.37	24.69	105.18	188.44	2.74	2.23	3.53	3.53
Stillwater County	A15	RM 400.18	45999.89	50% - 2yr	911.9	1038.38	1034.98	2.47	2.33	34.65	27.77	111.81	192.63	2.53	2.03	3.4	3.4
Stillwater County	A15	RM 400.13	45714.33	50% - 2yr	911.9	1038.26	1035.2	2.48	2.2	34.88	23.69	121.27	241.38	2.54	1.72	3.06	3.06
Stillwater County	A15	RM 400.11	45623.77	50% - 2yr	911.9	1038.15	1035.11	2.67	2.35	41.97	28.2	128.01	254.4	2.28	1.52	3.04	3.04
Stillwater County	A15	RM 400.09	45529.19	50% - 2yr	911.9	1037.95	1035.05	3.1	2.77	59.13	43.4	125.89	226.28	1.99	1.45	2.9	2.9
Stillwater County	A15	RM 400.03	45177.97	50% - 2yr	911.9	1037.65	1034.82	3.02	2.73	57.07	47.41	133.92	213.4	1.88	1.56	2.83	2.83
Stillwater County	A15	RM 399.95	44761.86	50% - 2yr	911.9	1037.49	1033.69	2.4	2.4	32.62	32.62	149.13	149.13	2.54	2.54	3.8	3.8
Stillwater County	A16	RM 399.85	44225.61	50% - 2yr	911.9	1037.11	1033.63	2.8	2.8	45.91	45.91	143.46	143.46	2.27	2.27	3.48	3.48
Stillwater County	A16	RM 399.74	43664.16	50% - 2yr	911.9	1036.87	1033.48	2.43	2.43	34.73	34.73	164.13	164.13	2.28	2.28	3.39	3.39
Stillwater County	A16	RM 399.62	43026.17	50% - 2yr	911.9	1036.45	1033.67	2.54	2.54	41.84	41.84	215.63	215.63	1.67	1.67	2.78	2.78
Stillwater County	A16	RM 399.50	42404.94	50% - 2yr	911.9	1036.17	1031.89	2.28	2.28	29.71	29.71	164.34	164.34	2.44	2.44	4.28	4.28
Stillwater County	A16	RM 399.39	41801.43	50% - 2yr	911.9	1035.86	1031.8	2.47	2.45	35.22	33.24	153.17	164.18	2.4	2.27	4.06	4.06
Stillwater County	A16	RM 399.30	41294.57	50% - 2yr	911.9	1035.52	1031.14	2.76	2.67	44.47	37.3	143.08	178.41	2.29	1.92	4.38	4.38
Stillwater County	A16	RM 399.19	40736.83	50% - 2yr	911.9	1035.06	1031.46	3.02	2.96	53.5	44.7	132.95	162.88	2.26	1.89	3.59	3.59
Stillwater County	A16	RM 399.09	40202.15	50% - 2yr	911.9	1034.85	1031.09	2.58	2.37	36.79	25.55	127.78	206.28	2.69	1.86	3.76	3.76
Stillwater County	A16	RM 399.00	39710.39	50% - 2yr	911.9	1034.69	1031.41	2.36	1.96	32.28	21.51	143.27	301.87	2.32	1.54	3.28	3.28
Stillwater County	A16	RM 398.91	39231.58	50% - 2yr	911.9	1034.38	1031.73	2.49	2.19	41.28	28.69	178.42	384.58	1.56	1.08	2.65	2.65
Stillwater County	A16	RM 398.80	38666.26	50% - 2yr	911.9	1033.94	1031.55	2.47	2.08	40.01	28.95	186.81	373.27	1.62	1.17	2.39	2.39
Stillwater County	A16	RM 398.73	38275.64	50% - 2yr	911.9	1033.64	1030.78	2.45	2.15	34.54	24.91	194.17	365.22	1.61	1.16	2.86	2.86
Stillwater County	A16	RM 398.62	37715.08	50% - 2yr	911.9	1033.31	1030.19	2.27	2.05	30.7	22.75	174.38	340.11	1.77	1.31	3.12	3.12
Stillwater County	A16	RM 398.51	37115.9	50% - 2yr	911.9	1032.89	1030.68	2.38	2.26	37.67	31.18	211.91	309.74	1.57	1.3	2.23	2.23
Stillwater County	A16	RM 398.40	36522.49	50% - 2yr	911.9	1032.66	1028.27	2	1.84	22.99	16.57	178.75	355.95	1.94	1.4	4.39	4.39
Stillwater County	A16	RM 398.29	35952.65	50% - 2yr	911.9	1032.26	1027.62	2.39	2.37	36.78	30.9	222.94	268.06	1.71	1.44	4.64	4.64
Stillwater County	A16	RM 398.17	35320.39	50% - 2yr	911.9	1032.08	1028.88	1.84	1.83	20.25	18.05	229.73	259.58	2.15	1.92	3.2	3.2
Stillwater County	A16	RM 398.04	34597.07	50% - 2yr	911.9	1031.74	1027.24	2.06	2.05	31.62	30.04	253.55	274.24	1.75	1.66	4.5	4.5
Stillwater County	A16	RM 397.95	34133.39	50% - 2yr	911.9	1031.34	1027.15	2.48	2.46	39.58	38.29	211.29	220.51	1.74	1.68	4.19	4.19
Stillwater County	A16	RM 397.81	33366.95	50% - 2yr	911.9	1030.97	1027.05	2.08	2.05	27.14	25.99	236	262.77	1.85	1.77	3.92	3.92
Stillwater County	A16	RM 397.68	32754.86	50% - 2yr	911.9	1030.74	1026.97	2.04	2.01	24.24	22.07	189.47	227.28	2.35	2.14	3.77	3.77
Stillwater County	A16	RM 397.56	32104.4	50% - 2yr	911.9	1030.29	1026.76	2.75	2.66	42.94	40.27	133	179.68	2.47	2.33	3.53	3.53
Stillwater County	A16	RM 397.40	31237.31	50% - 2yr	911.9	1029.85	1026.27	2.51	2.34	38	30.27	171.4	562.25	2.09	1.66	3.58	3.58

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

50% - 2yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	50% - 2yr	911.9	1029.22	1025.84	2.23	1.96	32.4	20.5	242.95	775.21	1.63	1.03	3.38	3.38
Stillwater County	A16	RM 396.97	29050.44	50% - 2yr	911.9	1028.73	1025.61	1.91	1.63	23.72	14.37	275.82	776.69	1.67	1.01	3.12	3.12
Stillwater County	A16	RM 396.71	27639.86	50% - 2yr	911.9	1027.95	1022.48	2.64	2.64	37.32	37.32	115.31	413.19	3	3	5.47	5.47
Stillwater County	A16	RM 396.62	27103.31	50% - 2yr	911.9	1027.73	1022.36	2.71	2.7	37.95	34.74	99.48	313.26	3.38	3.09	5.37	5.37
Stillwater County	A16	RM 396.52	26616.35	50% - 2yr	911.9	1027.45	1023.41	2.95	2.95	46.45	45.74	102.85	379.03	3.01	2.96	4.04	4.04
Stillwater County	A16	RM 396.29	25423.1	50% - 2yr	911.9	1027.01	1023.53	2.28	2	31.67	21.91	181.82	389.04	2.01	1.4	3.48	3.48
Stillwater County	A16	RM 396.14	24635.78	50% - 2yr	911.9	1026.5	1022.46	2.7	2.29	42.43	25.18	128.56	362.25	2.31	1.37	4.04	4.04
Stillwater County	A16	RM 396.03	24026.24	50% - 2yr	911.9	1026.24	1024.1	2.31	1.97	33.65	21.53	181.17	494.04	1.82	1.16	2.14	2.14
Stillwater County	A16	RM 395.89	23301.08	50% - 2yr	911.9	1025.71	1022.79	2.61	2.08	44.3	25.66	135.71	511.54	1.67	0.97	2.92	2.92
Stillwater County	A16	RM 395.73	22420.29	50% - 2yr	911.9	1025.35	1022.66	1.36	1.25	12.31	9.23	182.1	746.22	1.55	1.16	2.69	2.69
Stillwater County	A16	RM 395.64	21923.33	50% - 2yr	911.9	1025.11	1022.13	1.84	1.54	21.77	11.5	143.67	773.23	1.73	0.91	3.29	3.29
Stillwater County	A16	RM 395.57	21526.11	50% - 2yr	911.9	1024.71	1021.61	2.72	1.9	43.76	18.36	76.94	758.47	2.2	0.92	3.1	3.1
Stillwater County	A16	RM 395.48	21053.74	50% - 2yr	911.9	1024.3	1021.89	2.53	2.13	43.78	29.89	109.16	583.97	1.43	0.98	2.41	2.41
Stillwater County	A16	RM 395.36	20532.68	50% - 2yr	911.9	1024.02	1021.53	2.01	1.8	26.08	17.55	131.1	579.45	1.69	1.13	2.49	2.49
Stillwater County	A16	RM 394.98	18666.37	50% - 2yr	911.9	1023.36	1020.31	2.57	2.12	39.77	22.95	93.6	356.95	2.09	1.2	3.05	3.05
Stillwater County	A16	RM 394.80	17678.79	50% - 2yr	911.9	1022.98	1019.23	2.34	2.13	35.71	26.51	131.82	351.35	1.64	1.22	3.75	3.75
Stillwater County	A16	RM 394.65	16921.48	50% - 2yr	911.9	1022.57	1019.93	2.06	1.98	27.56	25.23	149.6	311.79	1.67	1.52	3.57	3.57
Stillwater County	A16	RM 394.59	16622.61	50% - 2yr	911.9	1022.2	1019.92	2.33	2.22	36.42	31.03	127.22	318.05	1.52	1.29	2.63	2.63
Stillwater County	A16	RM 394.53	16295.21	50% - 2yr	911.9	1021.91	1019.83	2.23	2.09	34.84	29.87	139.49	389.01	1.33	1.14	2.9	2.9
Stillwater County	A16	RM 394.20	14503.23	50% - 2yr	911.9	1020.73	1016.38	2.41	2.1	35.47	24.17	149.05	316.18	2.01	1.37	4.35	4.35
Stillwater County	A16	RM 394.12	14088.57	50% - 2yr	911.9	1020.4	1016.74	2.67	2.35	43.16	29.31	142.1	276.95	2.06	1.4	3.66	3.66
Stillwater County	A16	RM 393.99	13393.6	50% - 2yr	911.9	1020.04	1017.11	2.36	1.9	35.1	21.85	111.92	417.72	1.84	1.15	2.93	2.93
Stillwater County	A16	RM 393.85	12650.05	50% - 2yr	911.9	1019.54	1016.49	2.18	1.99	33.02	24.66	174.58	447.76	1.37	1.02	3.05	3.05
Stillwater County	A16	RM 393.59	11240.84	50% - 2yr	911.9	1018.98	1015.45	1.59	1.43	16.34	11.09	268.89	552.1	1.7	1.16	3.53	3.53
Stillwater County	A16	RM 393.27	9813.245	50% - 2yr	911.9	1017.94	1013.32	2.96	2.65	57.52	42.58	164.41	287.04	1.62	1.2	4.62	4.62
Stillwater County	A16	RM 393.10	8870.543	50% - 2yr	911.9	1017.34	1013.34	1.97	1.86	27.07	22.86	297.57	436.12	1.33	1.12	4	4
Stillwater County	A16	RM 392.95	8114.595	50% - 2yr	911.9	1016.56	1014.13	2.55	2.48	45.89	42.71	258.36	301.56	1.31	1.22	2.42	2.42
Stillwater County	A16	RM 392.69	6912.838	50% - 2yr	911.9	1015.94	1012.43	1.82	1.65	21.36	16.98	188.26	453.49	1.71	1.36	3.51	3.51
Stillwater County	A16	RM 392.44	5710.825	50% - 2yr	911.9	1015.36	1011.68	2.28	1.97	30.84	17.02	133.41	682.66	2.18	1.2	3.68	3.68
Stillwater County	A17	RM 392.20	4388.056	50% - 2yr	911.9	1014.31	1010.8	2.94	2.66	54.92	38.4	170.84	276.79	1.77	1.24	3.51	3.51
Stillwater County	A17	RM 392.00	3345.174	50% - 2yr	911.9	1013.79	1009.53	2.31	1.98	31.62	21.33	160.65	309.88	2.21	1.49	4.26	4.26
Stillwater County	A17	RM 391.84	2491.214	50% - 2yr	911.9	1013.48	1010.51	1.92	1.77	23.8	15.11	152.11	472.71	1.72	1.09	3.07	3.07
Stillwater County	A17	RM 391.68	1656.536	50% - 2yr	911.9	1013.14	1010.5	1.67	1.57	20.01	15.52	255.06	599.97	1.25	0.97	2.64	2.64
Stillwater County	A17	RM 391.58	1120.168	50% - 2yr	911.9	1012.86	1009.55	1.81	1.62	22.47	16.2	319.6	549.98	1.42	1.03	3.31	3.31
Stillwater County	A17	RM 391.46	505.9	50% - 2yr	911.9	1012.58	1009.4	1.81	1.53	21.61	12.88	291.68	641.8	1.56	0.93	3.18	3.18

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	2-yr	911.8	1012.19	1008.74	2.04	1.65	25.35	12.79	206.49	548.35	2	1.01	3.45	3.45
Yellowstone County	A17	RM 391.14	149661.4	2-yr	911.8	1011.78	1007.82	2.1	1.51	32.68	15.98	202.84	634.89	1.95	0.95	3.96	3.96
Yellowstone County	A17	RM 390.83	149168.3	2-yr	911.8	1010.63	1007.89	2.37	2.13	41.75	32.24	247.93	434.55	1.38	1.07	2.74	2.74
Yellowstone County	A17	RM 390.51	148644.1	2-yr	911.8	1009.83	1006	1.56	1.49	22.08	13.75	199.89	457.09	2.16	1.34	3.83	3.83
Yellowstone County	A17	RM 390.34	148387.5	2-yr	911.8	1009.42	1005.26	2.15	1.87	40.42	21.9	153.84	405.93	2.22	1.2	4.16	4.16
Yellowstone County	A17	RM 390.13	148054.9	2-yr	911.8	1008.78	1005.54	2.41	2.1	41.68	22.55	143.11	356.12	2.25	1.22	3.24	3.24
Yellowstone County	A17	RM 389.96	147776.4	2-yr	911.8	1008.43	1004.81	1.94	1.73	25.1	18.51	173.09	364.41	1.96	1.44	3.62	3.62
Yellowstone County	A17	RM 389.76	147468.2	2-yr	911.8	1008.17	1004.52	1.38	1.28	17.47	9.92	297.03	579.89	2.17	1.23	3.65	3.65
Yellowstone County	A17	RM 389.55	147162.3	2-yr	911.8	1007.64	1003.2	1.9	1.79	47.68	33.38	278.59	430.49	1.69	1.18	4.44	4.44
Yellowstone County	A17	RM 389.31	146731.1	2-yr	911.8	1006.98	1003.49	1.75	1.69	19.97	15.67	254.38	336.6	2.04	1.6	3.49	3.49
Yellowstone County	A17	RM 389.08	146349	2-yr	911.8	1006.37	1001.61	1.8	1.64	46.98	33.11	283.51	483.84	1.64	1.15	4.76	4.76
Yellowstone County	A17	RM 388.92	146095.5	2-yr	911.8	1005.87	1002.49	1.86	1.69	22.65	16.54	265.13	427.3	1.77	1.29	3.38	3.38
Yellowstone County	A17	RM 388.79	145883.6	2-yr	911.8	1005.66	1002.14	1.88	1.52	21	11.32	162.52	622.52	2.76	1.48	3.52	3.52
Yellowstone County	A17	RM 388.61	145594.9	2-yr	911.8	1005.18	1000.48	2.56	2.09	44.17	25.73	134.28	422.5	2.4	1.39	4.7	4.7
Yellowstone County	A17	RM 388.58	145547	2-yr	911.8	1005.12	1000.28	2.29	1.91	43.87	26.28	144.54	473.95	2.49	1.49	4.84	4.84
Yellowstone County	A17	RM 388.36	145196.7	2-yr	911.8	1004.62	1001.21	2.18	1.78	31.01	17.33	156.77	398.95	2.35	1.32	3.41	3.41
Yellowstone County	A17	RM 388.22	144960.1	2-yr	911.8	1004.1	1000.23	2.72	2.13	48.8	20	141.1	563.99	1.86	0.76	3.87	3.87
Yellowstone County	A17	RM 388.09	144745.8	2-yr	911.8	1003.55	999.87	2.29	1.9	38.91	26.12	227.95	552.66	1.3	0.87	3.68	3.68
Yellowstone County	A17	RM 387.91	144452	2-yr	911.8	1002.86	999.77	1.43	1.65	20.03	24.35	333.82	433.07	1.05	1.28	3.09	3.09
Yellowstone County	A17	RM 387.79	144255.2	2-yr	911.8	1002.77	999.17	1.1	1.07	6.22	6.17	377.78	688.36	1.59	1.58	3.6	3.6
Yellowstone County	A17	RM 387.59	143932.9	2-yr	911.8	1002.49	998.1	1.15	1.15	35.16	35.16	809.65	897.88	0.98	0.98	4.39	4.39
Yellowstone County	A17	RM 387.36	143562.1	2-yr	911.8	1001.39	997.78	1.97	1.97	22.8	22.8	370.11	375.77	1.25	1.25	3.61	3.61
Yellowstone County	A17	RM 387.24	143353.9	2-yr	911.8	1001.09	997.71	1.77	1.77	18.68	18.68	370.28	370.28	1.39	1.39	3.38	3.38
Yellowstone County	A17	RM 387.04	143026.2	2-yr	911.8	1000.33	996.49	2.33	2.3	34.4	32.24	316.25	345.46	1.22	1.15	3.84	3.84
Yellowstone County	A17	RM 386.86	142750.4	2-yr	911.8	999.8	997.01	1.76	1.72	27.42	24.05	317.67	374.69	1.61	1.42	2.79	2.79
Yellowstone County	A17	RM 386.74	142538.5	2-yr	911.8	999.41	996.31	1.79	1.74	27.22	25.15	336.23	388.07	1.46	1.35	3.1	3.1
Yellowstone County	A17	RM 386.61	142318.4	2-yr	911.8	998.85	995.9	2.37	2.29	38.54	32.65	181.2	244.69	1.94	1.65	2.95	2.95
Yellowstone County	A17	RM 386.47	142095.8	2-yr	911.8	998.47	995.18	2.29	2.05	33.39	21.21	161.33	390.61	2.11	1.34	3.29	3.29
Yellowstone County	A17	RM 386.33	141875.1	2-yr	911.8	998.01	994.36	2.63	2.19	40.41	21.32	135.74	343.75	2.29	1.21	3.65	3.65
Yellowstone County	A17	RM 386.17	141622.7	2-yr	911.8	997.51	993.9	2.47	2.29	42.7	32.18	187.44	288.32	1.83	1.38	3.61	3.61
Yellowstone County	A17	RM 386.08	141479.6	2-yr	911.8	997.14	994.12	2.49	2.32	50.01	34.12	174.55	532.91	2	1.36	3.02	3.02
Yellowstone County	A17	RM 386.03	141389.2	2-yr	911.8	996.76	993.82	2.84	2.72	55.34	41.85	200.38	457.03	1.57	1.19	2.94	2.94
Yellowstone County	A17	RM 385.96	141289.2	2-yr	911.8	996.72	993.01	1.96	1.9	22.72	19.11	218.16	746.1	2.09	1.76	3.71	3.71
Yellowstone County	A17	RM 385.91	141204.9	2-yr	911.8	996.64	992.33	1.86	1.82	20.59	19.57	243.61	886.4	1.91	1.82	4.31	4.31
Yellowstone County	A17	RM 385.84	141096	2-yr	911.8	996.67	990.57	1	1	7.17	7.17	336.72	1039.16	2.72	2.72	6.1	6.1
Yellowstone County	A17	RM 385.79	141006	2-yr	911.8	996.43	992.48	2.14	2.14	23.04	23.04	149.63	1209.95	2.85	2.85	3.95	3.95
Yellowstone County	A18	RM 385.69	140846.5	2-yr	911.8	996.2	992.9	2.27	2.26	38.07	29.07	204.15	1059.01	1.96	1.5	3.3	3.3
Yellowstone County	A18	RM 385.60	140705.5	2-yr	911.8	995.87	992.71	2.42	2.39	47.29	35.73	178.04	883.03	2.11	1.59	3.16	3.16
Yellowstone County	A18	RM 385.50	140538.8	2-yr	911.8	995.68	990.71	2.14	2.09	24.84	16.12	150.49	933.9	2.82	1.83	4.97	4.97
Yellowstone County	A18	RM 385.39	140367.1	2-yr	911.8	995.47	992.41	2.24	2.12	27.63	19.04	190.53	1049.12	2.12	1.46	3.06	3.06
Yellowstone County	A18	RM 385.30	140231.3	2-yr	911.8	995.17	992.53	2.42	2.35	48.21	40.37	234.69	289.96	1.6	1.34	2.64	2.64
Yellowstone County	A18	RM 385.23	140108.3	2-yr	911.8	994.88	992.01	2.09	1.97	38.18	31.21	224.58	756.48	1.57	1.29	2.87	2.87
Yellowstone County	A18	RM 385.12	139921.2	2-yr	911.8	994.07	991.37	2.88	2.82	60.06	52.35	175.87	337.69	1.5	1.31	2.7	2.7
Yellowstone County	A18	RM 384.93	139688.7	2-yr	911.8	993.71	991.06	1.95	1.82	25.01	20.82	210.3	440.16	1.73	1.44	2.65	2.65
Yellowstone County	A18	RM 384.75	139352.1	2-yr	911.8	992.78	989.77	3.05	2.62	72.45	46.32	112.61	350.05	1.91	1.22	3.01	3.01
Yellowstone County	A18	RM 384.63	139146.9	2-yr	911.8	992.31	989.58	1.85	1.69	26.19	22.12	173.81	659.55	1.18	1	2.73	2.73
Yellowstone County	A18	RM 384.48	138904.5	2-yr	911.8	991.89	989.55	1.59	1.64	19.15	18.77	167.93	434.41	1.47	1.44	2.54	2.54
Yellowstone County	A18	RM 384.34	138682.4	2-yr	911.8	991.54	988.23	1.69	1.84	33.63	27.53	155.39	381.15	2.07	1.7	3.31	3.31
Yellowstone County	A18	RM 384.26	138551.1	2-yr	911.8	991.22	987.34	2.76	2.14	42.94	17.65	82.43	508.04	2.62	1.07	3.88	3.88
Yellowstone County	A18	RM 384.15	138370.3	2-yr	911.8	990.66	987.39	3.17	2.82	76.8	44.01	77.01	305.27	2.28	1.3	3.27	3.27
Yellowstone County	A18	RM 384.06	138235.3	2-yr	911.8	990.5	987.31	2.46	1.72	37.8	19.52	82.97	595.32	2.22	1.14	3.19	3.19
Yellowstone County	A18	RM 383.96	138072.3	2-yr	911.8	990	987.67	2.45	2.3	46.49	38.97	135.28	537.21	1.09	0.91	2.33	2.33
Yellowstone County	A18	RM 383.86	137914.6	2-yr	911.8	989.79	987.24	1.64	1.55	17.3	15.82	151.63	463.81	1.69	1.54	2.55	2.55
Yellowstone County	A18	RM 383.75	137749.9	2-yr	911.8	989.49	986.55	1.56	1.86	20.67	21.53	186.4	450.33	1.26	1.31	3.01	3.01
Yellowstone County	A18	RM 383.62	137544.5	2-yr	911.8	989.26	986.32	1.5	1.51	15.41	13.23	163.93	581.6	1.5	1.29	3.64	3.64
Yellowstone County	A18	RM 383.54	137415.7	2-yr	911.8	989.18	984.41	1.35	1.28	11.64	9.14	386.16	656.49	1.7	1.34	4.77	4.77
Yellowstone County	B1	RM 383.39	137175.7	2-yr	1209.13	988.77	984.98	2.19	2.19	26.7	26.04	287.98	295.61	1.92	1.87	3.79	3.79
Yellowstone County	B1	RM 383.31	137040.5	2-yr	1209.13	988.58	984.86	2.06	1.9	24.76	18.46	372.34	551.19	1.55	1.16	3.72	3.72
Yellowstone County	B1	RM 383.16	136817.2	2-yr	1209.13	988.31	984.9	1.83	1.59	14.03	11.86	516.82	729.32	1.23	1.04	3.41	3.41
Yellowstone County	B1	RM 382.88	136371.1	2-yr	1209.13	987.74	983.64	1.92	1.78	20.23	15.95	409.97	577.29	1.49	1.18	4.1	4.1
Yellowstone County	B1	RM 382.61	135921.1	2-yr	1209.13	987.18	982.68	2.14	1.95	26.82	15.13	195.83	395.47	2.78	1.57	4.5	4.5

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	2-yr	1209.13	986.78	981.56	2.63	2.08	37.48	20.79	131.22	324.87	3.22	1.79	5.22	5.22
Yellowstone County	B1	RM 382.28	135389.1	2-yr	1209.13	986.57	981.45	2.3	1.86	30.86	12.36	138.35	469.55	3.46	1.38	5.12	5.12
Yellowstone County	B1	RM 382.11	135122	2-yr	1209.13	986.08	980.52	2.83	2.62	47.45	23.58	131.55	289.21	3.22	1.6	5.56	5.56
Yellowstone County	B1	RM 381.93	134829.3	2-yr	1209.13	985.62	981.3	2.48	2.47	57.12	46.49	178.29	220.88	2.73	2.22	4.32	4.32
Yellowstone County	B1	RM 381.79	134602.8	2-yr	1209.13	985.09	981.63	2.77	2.77	46.33	46.33	164.21	164.21	2.65	2.65	3.46	3.46
Yellowstone County	B1	RM 381.69	134426.2	2-yr	1209.13	984.99	981.06	2.06	2.01	27.36	18.99	199.87	295.45	2.94	2.03	3.93	3.93
Yellowstone County	B1	RM 381.58	134232.5	2-yr	1209.13	984.7	981.02	2.25	2.2	34.21	29.29	268.19	321.38	2	1.71	3.68	3.68
Yellowstone County	B1	RM 381.47	134047.3	2-yr	1209.13	984.4	980.95	2.15	2.1	36.53	32.67	242.93	278.48	2.31	2.06	3.45	3.45
Yellowstone County	B1	RM 381.35	133871.9	2-yr	1209.13	984.11	980.79	2.15	2.12	37.17	34.23	252.74	279.26	2.22	2.04	3.32	3.32
Yellowstone County	B1	RM 381.22	133659.2	2-yr	1209.13	983.69	979.74	2.21	2.21	40	40	279.75	279.75	1.95	1.95	3.95	3.95
Yellowstone County	B1	RM 381.11	133491.4	2-yr	1209.13	983.34	979.61	2.31	2.24	45.18	38.75	192.63	263.41	2.39	2.05	3.73	3.73
Yellowstone County	B1	RM 381.00	133302.9	2-yr	1209.13	982.86	978.23	2.73	2.56	43.67	34.88	180.07	268.52	2.2	1.76	4.63	4.63
Yellowstone County	B1	RM 380.92	133180	2-yr	1209.13	982.71	976.97	2.45	2.12	38.74	21.93	147.8	339.41	2.99	1.68	5.74	5.74
Yellowstone County	B1	RM 380.81	132986.3	2-yr	1209.13	982.41	978.55	2.48	2.2	36.53	21.96	190.12	386.21	2.37	1.42	3.86	3.86
Yellowstone County	B1	RM 380.69	132800.2	2-yr	1209.13	982.22	978.53	2.07	1.74	24.74	14.98	262.13	567.06	2.03	1.23	3.69	3.69
Yellowstone County	B1	RM 380.57	132628.6	2-yr	1209.13	982.02	978.7	1.93	1.75	30.74	17	224.32	539.2	2.32	1.28	3.31	3.31
Yellowstone County	B1	RM 380.48	132470	2-yr	1209.13	981.79	978.24	2.04	1.79	30.27	12.9	197.14	620.88	2.56	1.09	3.55	3.55
Yellowstone County	B1	RM 380.34	132222.4	2-yr	1209.13	981.33	977.37	2.51	2.08	38.34	18.59	199.03	562	2.13	1.04	3.96	3.96
Yellowstone County	B1	RM 380.22	132032.4	2-yr	1209.13	981.07	977.02	2.39	1.85	32.93	12.55	171.58	681.79	2.52	0.96	4.05	4.05
Yellowstone County	B1	RM 380.11	131847.7	2-yr	1209.13	980.8	976.29	2.45	2	39.61	19.98	176.55	516.24	2.32	1.17	4.51	4.51
Yellowstone County	B1	RM 380.01	131671.4	2-yr	1209.13	980.52	976.21	2.45	1.9	40.12	16.99	162.14	592.59	2.54	1.07	4.31	4.31
Yellowstone County	B1	RM 379.92	131538.8	2-yr	1209.13	980.23	976.69	2.64	2.17	41.15	18.33	186.43	604.62	2.07	0.92	3.54	3.54
Yellowstone County	B1	RM 379.84	131406.9	2-yr	1209.13	980.17	975.94	1.64	1.39	17.45	10.87	396.68	887.29	1.7	1.06	4.23	4.23
Yellowstone County	B1	RM 379.75	131265.1	2-yr	1209.13	980	974.98	1.7	1.41	21.38	12.68	367.95	953.64	1.77	1.05	5.02	5.02
Yellowstone County	B1	RM 379.65	131104.3	2-yr	1209.13	979.86	975.6	1.49	1.1	14.4	8.22	379.17	1171.2	1.73	0.99	4.26	4.26
Yellowstone County	B1	RM 379.56	130964.3	2-yr	1209.13	979.76	975.94	1.42	1.13	13.19	6.55	313.71	1094.41	1.97	0.98	3.82	3.82
Yellowstone County	B1	RM 379.46	130794	2-yr	1209.13	979.62	974.74	1.56	1.21	14.52	6.7	284.11	1077.66	2.02	0.93	4.88	4.88
Yellowstone County	B1	RM 379.36	130642.3	2-yr	1209.13	979.51	975.71	1.58	1.16	20.15	8.05	244.34	939.84	2.79	1.11	3.8	3.8
Yellowstone County	B1	RM 379.27	130496.2	2-yr	1209.13	979.12	974.66	2.61	1.8	61.3	22.85	163.34	717.95	2.51	0.93	4.46	4.46
Yellowstone County	B1	RM 379.17	130345.7	2-yr	1209.13	978.7	973.93	2.83	2.26	52.07	16.67	152.43	617.93	2.7	0.86	4.77	4.77
Yellowstone County	B1	RM 379.04	130142	2-yr	1209.13	978.41	974.79	2.47	1.8	35.52	15.65	203.31	767.14	2.17	0.96	3.62	3.62
Yellowstone County	B1	RM 378.97	130026.7	2-yr	1209.13	978.19	974.64	2.48	1.96	37.01	18.46	228.44	615.01	2.01	1	3.55	3.55
Yellowstone County	B1	RM 378.86	129850.9	2-yr	1209.13	977.83	974.4	2.5	2.08	42.87	20.92	240.11	625.21	1.91	0.93	3.43	3.43
Yellowstone County	B1	RM 378.76	129682.3	2-yr	1209.13	977.47	974.17	2.41	2.1	36.84	17.85	263.3	668.54	1.86	0.9	3.3	3.3
Yellowstone County	B1	RM 378.67	129541.3	2-yr	1209.13	977.2	973.97	2.46	1.89	35.58	17.82	237.32	686.41	1.93	0.97	3.23	3.23
Yellowstone County	B1	RM 378.61	129443.1	2-yr	1209.13	976.97	973.83	2.58	1.89	50.29	23.53	200.13	780.66	1.83	0.86	3.14	3.14
Yellowstone County	B1	RM 378.52	129297.7	2-yr	1209.13	976.71	973.62	2	1.76	23.44	17.84	472.73	771.83	1.21	0.92	3.09	3.09
Yellowstone County	B1	RM 378.46	129200.8	2-yr	1209.13	976.61	973.48	1.6	1.5	17.89	14.98	546.09	707.23	1.36	1.14	3.13	3.13
Yellowstone County	B1	RM 378.40	129112.2	2-yr	1209.13	976.4	973.41	1.71	1.67	46.9	40.74	519.92	621.14	1.34	1.17	2.99	2.99
Yellowstone County	B1	RM 378.29	128929.4	2-yr	1209.13	976.18	972.93	1.28	1.23	12.92	10.63	545.96	692.47	1.72	1.42	3.25	3.25
Yellowstone County	B1	RM 378.13	128673.7	2-yr	1209.13	975.8	971.4	2.11	2.06	22.44	18.29	268.01	337.61	2.14	1.74	4.4	4.4
Yellowstone County	B1	RM 378.07	128569	2-yr	1209.13	975.72	970.46	1.98	1.83	18.63	12.93	236.18	373.3	2.55	1.77	5.26	5.26
Yellowstone County	B1	RM 377.96	128380.3	2-yr	1209.13	975.51	968.85	2.31	2.21	28.94	16.92	108.93	196.69	4.78	2.78	6.66	6.66
Yellowstone County	B1	RM 377.87	128244.4	2-yr	1209.13	975.36	970.56	2.37	2.24	44.47	31.71	223.61	378.83	2.24	1.6	4.8	4.8
Yellowstone County	B1	RM 377.79	128118	2-yr	1209.13	975.08	970.94	2.49	2.35	30.69	25.17	288.24	407.14	1.65	1.36	4.14	4.14
Yellowstone County	B1	RM 377.69	127964.3	2-yr	1209.13	974.88	969.86	2.16	1.95	26.51	18.51	281.27	533.1	1.94	1.35	5.02	5.02
Yellowstone County	B1	RM 377.61	127824.8	2-yr	1209.13	974.49	970.53	2.72	2.53	41.11	31.48	232	336.95	1.85	1.42	3.96	3.96
Yellowstone County	B1	RM 377.55	127735.1	2-yr	1209.13	974.4	970.41	2.27	2.11	28.06	21.04	272.23	403.72	1.91	1.43	3.99	3.99
Yellowstone County	B1	RM 377.48	127618.1	2-yr	1209.13	974.21	970.26	2.28	2.11	29.72	24.27	303.04	443.66	1.67	1.37	3.95	3.95
Yellowstone County	B1	RM 377.39	127466.6	2-yr	1209.13	973.86	969.73	2.49	2.29	35.47	24.48	268.45	438.56	1.75	1.21	4.13	4.13
Yellowstone County	B1	RM 377.34	127391.5	2-yr	1209.13	973.66	969.95	2.53	2.42	51.73	41.68	250.35	331.2	1.87	1.51	3.71	3.71
Yellowstone County	B1	RM 377.25	127241.9	2-yr	1209.13	973.51	970.26	1.79	1.72	20.07	16.8	379.4	477.09	1.76	1.47	3.25	3.25
Yellowstone County	B1	RM 377.16	127097.7	2-yr	1209.13	973.29	969.82	1.91	1.83	26	21.07	397.84	577.09	1.41	1.15	3.47	3.47
Yellowstone County	B1	RM 377.08	126969	2-yr	1209.13	973.23	969	1.37	1.29	11.08	7.77	398.94	641.32	2.07	1.46	4.23	4.23
Yellowstone County	B1	RM 377.04	126900.8	2-yr	1209.13	973.09	968.6	1.7	1.66	44.13	34.31	442.79	588.31	1.59	1.24	4.49	4.49
Yellowstone County	B1	RM 376.98	126797.5	2-yr	1209.13	972.84	969.02	2	1.97	17.45	16.03	440.34	486.24	1.37	1.26	3.82	3.82
Yellowstone County	B1	RM 376.92	126710.1	2-yr	1209.13	972.73	969.01	1.62	1.59	41.31	35.03	485.55	584.45	1.53	1.3	3.72	3.72
Yellowstone County	B1	RM 376.84	126584.2	2-yr	1209.13	972.57	967.73	1.33	1.32	16.58	13.75	440	625.6	1.76	1.46	4.84	4.84
Yellowstone County	B1	RM 376.75	126442.1	2-yr	1209.13	972.42	967.82	1.39	1.39	21.25	17.65	388.87	532.82	1.98	1.64	4.6	4.6
Yellowstone County	B1	RM 376.67	126309	2-yr	1209.13	972.2	967.23	1.72	1.69	30.65	24.79	274.88	385.17	2.31	1.87	4.97	4.97
Yellowstone County	B1	RM 376.58	126174.1	2-yr	1209.13	971.93	966.82	1.95	1.89	41.78	37.3	308.1	365.23	1.96	1.75	5.11	5.11

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	2-yr	1209.13	971.62	966.77	2.25	2.18	38.54	33.91	258.97	313.27	2.02	1.77	4.85	4.85
Yellowstone County	B1	RM 376.42	125918.5	2-yr	1209.13	971.44	967.68	2.04	2.04	25.41	24.84	253.9	259.81	2.33	2.28	3.76	3.76
Yellowstone County	B1	RM 376.35	125809.8	2-yr	1209.13	971.36	966.71	1.94	1.88	21.01	17.64	224.08	277.39	2.76	2.31	4.65	4.65
Yellowstone County	B1	RM 376.28	125697	2-yr	1209.13	971.06	966.28	2.61	2.45	40.35	29.58	202.59	300.42	2.24	1.64	4.78	4.78
Yellowstone County	B1	RM 376.20	125565.9	2-yr	1209.13	970.85	966.16	2.42	2.23	36.99	26.11	235.65	379.09	2.03	1.43	4.69	4.69
Yellowstone County	B1	RM 376.10	125404.8	2-yr	1209.13	970.62	966.61	2.17	1.84	29.75	17.41	254.03	618.14	1.82	1.06	4.01	4.01
Yellowstone County	B1	RM 376.00	125250.5	2-yr	1209.13	970.28	967.42	2.35	1.99	36.63	17.28	239.89	667.78	1.93	0.91	2.86	2.86
Yellowstone County	B1	RM 375.88	125055.1	2-yr	1209.13	970.03	966.01	2.1	1.57	30.17	13.35	181.86	707.4	2.45	1.09	4.02	4.02
Yellowstone County	B1	RM 375.78	124897.3	2-yr	1209.13	969.85	965.37	2.04	1.57	28.31	13.6	180.7	672.57	2.39	1.15	4.48	4.48
Yellowstone County	B1	RM 375.67	124708.2	2-yr	1209.13	969.62	965.8	2.06	1.75	28.56	20.01	221.43	472.61	2.08	1.46	3.82	3.82
Yellowstone County	B1	RM 375.58	124564.2	2-yr	1209.13	969.38	966.54	2.21	1.95	32.29	23.04	222.37	428.9	2.03	1.45	2.84	2.84
Yellowstone County	B1	RM 375.23	124013.6	2-yr	1209.13	968.66	965.23	2.17	1.8	28.11	14.79	212.78	541.85	2.36	1.24	3.43	3.43
Yellowstone County	B1	RM 375.10	123799.5	2-yr	1209.13	968.1	963.88	3.01	2.38	63.89	23.75	125.71	479.13	2.87	1.06	4.22	4.22
Yellowstone County	B1	RM 374.97	123580.4	2-yr	1209.13	967.81	963.97	2.4	1.91	47.46	20.5	131.36	534.11	2.78	1.19	3.84	3.84
Yellowstone County	B1	RM 374.83	123365.5	2-yr	1209.13	967.54	963.52	2.14	1.65	29.73	16.4	125.69	527.28	2.59	1.42	4.02	4.02
Yellowstone County	B1	RM 374.73	123195.7	2-yr	1209.13	967.44	963.36	1.63	1.34	15.45	8.55	142.6	720.4	2.57	1.42	4.08	4.08
Yellowstone County	B1	RM 374.61	123010.3	2-yr	1209.13	967.2	963.49	2.06	1.72	31.77	19.35	155.25	448.39	2.62	1.6	3.71	3.71
Yellowstone County	B1	RM 374.53	122875.3	2-yr	1254.44	966.99	963.14	2.22	1.93	32.2	21.94	183.53	390.17	2.44	1.66	3.85	3.85
Yellowstone County	B1	RM 374.44	122726.7	2-yr	1254.44	966.69	963.04	2.6	2.16	47.44	23.2	123.42	386.74	3.07	1.5	3.65	3.65
Yellowstone County	B1	RM 374.32	122535.1	2-yr	1254.44	966.48	962.82	2.07	1.9	35.1	23.34	187.44	450.21	2.2	1.46	3.66	3.66
Yellowstone County	B1	RM 374.22	122379	2-yr	1254.44	966.23	960.92	2.34	1.76	34	14.18	134.27	590.52	2.9	1.21	5.31	5.31
Yellowstone County	B1	RM 374.13	122231.1	2-yr	1254.44	966.03	960.11	2.56	1.9	37.15	16.6	128.05	560.44	2.65	1.18	5.92	5.92
Yellowstone County	B1	RM 373.97	121972.4	2-yr	1254.44	965.82	958.8	1.84	1.64	21.67	14.18	221.97	471.27	2.49	1.63	7.02	7.02
Yellowstone County	B1	RM 373.88	121829.3	2-yr	1254.44	965.6	962.21	2.15	1.9	34.56	19.53	189.79	474.1	2.47	1.39	3.39	3.39
Yellowstone County	B1	RM 373.79	121688.7	2-yr	1254.44	965.39	961.66	2.16	1.85	38.95	20.62	185.66	583.23	2.4	1.27	3.73	3.73
Yellowstone County	B1	RM 373.69	121523.5	2-yr	1254.44	965.09	961.11	2.24	1.96	34.69	21.08	196.21	511.34	2.13	1.29	3.98	3.98
Yellowstone County	B1	RM 373.56	121314.3	2-yr	1254.44	964.48	959.37	2.92	2.19	52.69	34.7	178.54	414.88	2.1	1.38	5.11	5.11
Yellowstone County	B1	RM 373.39	121015.9	2-yr	1254.44	963.88	958.78	2.62	2.1	42.27	29.51	180.06	362.16	2.37	1.65	5.1	5.1
Yellowstone County	B1	RM 373.26	120802.3	2-yr	1254.44	963.79	960.81	1.35	0.94	12.21	11.13	344.24	921.32	1.61	1.47	2.98	2.98
Yellowstone County	B1	RM 373.09	120539.5	2-yr	1254.44	963.47	959.94	1.85	1.37	23.59	21.31	292.28	666.17	1.57	1.42	3.53	3.53
Yellowstone County	B1	RM 372.99	120365.2	2-yr	1254.44	963.14	959.69	1.91	1.61	36.57	33.85	275.33	518.16	1.63	1.5	3.45	3.45
Yellowstone County	B1	RM 372.82	120107.7	2-yr	1254.44	962.73	959.03	1.78	1.38	21.66	20.04	344.41	688.19	1.43	1.32	3.7	3.7
Yellowstone County	B1	RM 372.72	119922.5	2-yr	1254.44	962.5	958.92	1.68	1.33	27.36	26.91	311.06	663.27	1.44	1.42	3.58	3.58
Yellowstone County	B1	RM 372.65	119797.7	2-yr	1254.44	962.42	957.32	1.24	0.88	11.48	11.24	305.59	945.53	1.55	1.51	5.1	5.1
Yellowstone County	B1	RM 372.58	119676.6	2-yr	1254.44	962.36	958.2	1.11	0.88	8.11	7.46	344.66	949.03	1.63	1.5	4.16	4.16
Yellowstone County	B1	RM 372.41	119395.9	2-yr	1254.44	962.24	958.82	1.22	0.92	8.87	7.62	392.71	954.48	1.66	1.42	3.42	3.42
Yellowstone County	B1	RM 372.32	119268.8	2-yr	1254.44	962.17	957.24	1.09	1.08	15.85	12.29	362.37	829.48	1.8	1.4	4.93	4.93
Yellowstone County	B1	RM 372.20	119079.1	2-yr	1254.44	961.92	956.93	1.47	1.24	33.63	25.93	346.7	757.98	1.73	1.33	4.99	4.99
Yellowstone County	B1	RM 372.08	118886.4	2-yr	1254.44	961.6	956.2	1.55	1.27	30.54	21.72	292.21	656.72	2.12	1.5	5.4	5.4
Yellowstone County	B1	RM 371.94	118669.8	2-yr	1254.44	961.17	957.58	1.62	1.7	30.87	29.34	365.03	466.19	1.67	1.58	3.59	3.59
Yellowstone County	B1	RM 371.83	118490.4	2-yr	1254.44	960.97	957.52	1.46	1.45	19.33	16.94	385.08	552.4	1.78	1.57	3.45	3.45
Yellowstone County	B1	RM 371.74	118350.7	2-yr	1254.44	960.73	957.48	1.82	1.68	23.92	19.68	382.92	546.43	1.66	1.37	3.25	3.25
Yellowstone County	B1	RM 371.62	118155.6	2-yr	1254.44	960.48	956.41	1.91	1.58	26.84	15.17	220.27	520.6	2.69	1.52	4.07	4.07
Yellowstone County	B1	RM 371.53	118001.4	2-yr	1254.44	960.19	955.99	2.3	2.04	33.86	21.04	232.5	444.49	2.22	1.38	4.2	4.2
Yellowstone County	B1	RM 371.43	117839.2	2-yr	1254.44	959.78	955.47	2.58	2.28	64.09	38.69	205.13	406.27	2.24	1.35	4.31	4.31
Yellowstone County	B1	RM 371.37	117745.1	2-yr	1254.44	959.61	955.72	2.41	2.22	26.45	19.36	282.95	431.87	1.79	1.31	3.89	3.89
Yellowstone County	B1	RM 371.32	117662.6	2-yr	1254.44	959.5	956.41	2.14	1.94	41.53	27.71	297.31	502.17	1.93	1.29	3.09	3.09
Yellowstone County	B1	RM 371.25	117560.3	2-yr	1254.44	959.32	955.99	2.01	1.87	28.19	22.01	369.13	521.04	1.66	1.29	3.33	3.33
Yellowstone County	B1	RM 371.21	117499	2-yr	1254.44	959.23	955.72	1.97	1.83	27.41	21.34	352.53	513.53	1.71	1.34	3.51	3.51
Yellowstone County	B1	RM 371.12	117353.9	2-yr	1254.44	959.04	955.54	1.87	1.73	22.46	16.46	342.34	610.74	1.91	1.4	3.5	3.5
Yellowstone County	B1	RM 371.04	117225.1	2-yr	1254.44	958.54	954.84	2.91	2.9	48.99	48.19	210.56	214.26	2.05	2.02	3.7	3.7
Yellowstone County	B1	RM 370.94	117054.9	2-yr	1254.44	958.5	955.57	1.77	1.52	22.36	17.47	238.29	700.41	2.2	1.71	2.93	2.93
Yellowstone County	B1	RM 370.85	116910.9	2-yr	1254.44	958.38	954.47	1.68	1.38	19.15	10.55	213.51	834	2.42	1.33	3.91	3.91
Yellowstone County	B1	RM 370.77	116793.6	2-yr	1254.44	957.93	953.84	2.81	2.51	47.05	30.18	212.77	638.68	2.05	1.31	4.09	4.09
Yellowstone County	B1	RM 370.72	116711.6	2-yr	1254.44	958.01	953.13	1.86	1.31	21.78	10.04	159.32	767.87	2.76	1.27	4.88	4.88
Yellowstone County	B1	RM 370.70	116669.2	2-yr	1254.44	957.95	953.05	1.98	1.26	21.29	10.34	189.12	872.18	2.35	1.14	4.9	4.9
Yellowstone County	B1	RM 370.63	116558.9	2-yr	1254.44	957.7	953.42	2.3	1.84	42.91	16.49	176.94	790.79	2.84	1.09	4.28	4.28
Yellowstone County	B1	RM 370.56	116440.6	2-yr	1254.44	957.6	953.34	2.15	1.73	21.52	8.91	177.46	596.08	3.15	1.3	4.26	4.26
Yellowstone County	B1	RM 370.44	116241.1	2-yr	1254.44	957.31	952.03	2.58	2.07	43.65	20.39	133.43	489.14	3.47	1.61	5.28	5.28
Yellowstone County	B1	RM 370.34	116071.6	2-yr	1254.44	957.08	949.79	2.62	2.3	46.87	19.64	118.14	515.1	3.93	1.63	7.29	7.29
Yellowstone County	B1	RM 370.24	115908.6	2-yr	1254.44	956.93	950.22	2.48	1.98	37.79	11.34	117.11	592.64	4.13	1.23	6.71	6.71

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	2-yr	1254.44	956.75	952.12	2.36	1.94	35.91	17.95	155	408.38	3.17	1.59	4.63	4.63
Yellowstone County	B1	RM 370.00	115535.2	2-yr	1254.44	956.49	952.2	2.25	2.04	48.63	37.13	231.98	387.68	2.08	1.59	4.29	4.29
Yellowstone County	B1	RM 369.89	115356.1	2-yr	1254.44	956.19	953.15	2.08	1.97	21.5	18.28	363.76	471.35	1.59	1.35	3.04	3.04
Yellowstone County	B1	RM 369.77	115164.3	2-yr	1254.44	955.95	952.34	1.9	1.84	20.69	18.67	419.56	481.95	1.56	1.41	3.61	3.61
Yellowstone County	B1	RM 369.64	114965.6	2-yr	1254.44	955.62	951.9	1.93	1.85	28.23	23.78	451.7	607.07	1.38	1.17	3.72	3.72
Yellowstone County	B1	RM 369.54	114789.5	2-yr	1254.44	955.26	952.38	1.97	1.85	26.56	21.7	437.29	867.35	1.38	1.13	2.88	2.88
Yellowstone County	B1	RM 369.45	114650.1	2-yr	1254.44	955.07	951	1.68	1.53	21.75	19.64	444.94	1091.32	1.45	1.31	4.07	4.07
Yellowstone County	B1	RM 369.32	114431.1	2-yr	1254.44	954.8	951.1	1.61	1.37	20.15	13.03	372.43	1813.39	1.91	1.23	3.7	3.7
Yellowstone County	B1	RM 369.17	114210.5	2-yr	1254.44	954.5	949.85	1.97	1.72	34.4	17.19	185.42	1711.49	2.5	1.25	4.65	4.65
Yellowstone County	B1	RM 369.06	114022.4	2-yr	1254.44	953.99	949.89	2.84	2.38	46.82	18.24	133.73	1557.73	2.99	1.16	4.1	4.1
Yellowstone County	B1	RM 368.96	113871.2	2-yr	1254.44	953.87	949.68	2.31	1.94	33.88	17.74	166.45	1579.38	2.74	1.43	4.19	4.19
Yellowstone County	B1	RM 368.88	113745.9	2-yr	1254.44	953.71	948.77	2.2	1.94	31.41	17.89	213.55	1621.04	2.27	1.29	4.94	4.94
Yellowstone County	B1	RM 368.82	113641	2-yr	1254.44	953.46	948.47	2.35	2.2	45.97	33.22	267.51	1461.96	1.76	1.27	4.99	4.99
Yellowstone County	B1	RM 368.72	113477.3	2-yr	1254.44	953.18	948.45	1.93	1.76	33.36	23.42	309.42	1606.85	1.87	1.31	4.73	4.73
Yellowstone County	B1	RM 368.63	113328.9	2-yr	1254.44	952.95	947.82	1.93	1.73	27.78	17.8	282.47	1689.96	1.97	1.26	5.13	5.13
Yellowstone County	B1	RM 368.54	113195.6	2-yr	1254.44	952.73	947.51	2.03	1.78	28.15	17.01	265.79	1622.17	2.2	1.33	5.22	5.22
Yellowstone County	B1	RM 368.44	113035.8	2-yr	1254.44	952.21	947.4	2.71	2.47	82.31	56.27	232.2	1047.15	1.91	1.31	4.81	4.81
Yellowstone County	B1	RM 368.35	112878.7	2-yr	1254.44	952.22	946.64	1.47	1.44	13.35	8.68	280.48	705.17	3.04	1.97	5.58	5.58
Yellowstone County	B1	RM 368.26	112737.6	2-yr	1254.44	951.92	946.23	2.28	2.17	69.51	37.75	195.43	679.95	2.79	1.51	5.69	5.69
Yellowstone County	B1	RM 368.18	112604.7	2-yr	1254.44	951.59	947.11	2.59	2.53	42.04	27.76	158.46	481.96	3.06	2.01	4.48	4.48
Yellowstone County	B2	RM 368.09	112456.7	2-yr	1254.44	951.38	947.7	2.59	2.45	45.92	40.23	151.27	352.89	3.07	2.69	3.68	3.68
Yellowstone County	B2	RM 368.00	112314.4	2-yr	1254.44	951.29	947.56	2.12	2	26.01	15.19	196.09	568.62	3	1.75	3.73	3.73
Yellowstone County	B2	RM 367.86	112104.7	2-yr	1254.44	950.94	946.1	2.57	2.52	40.29	28.98	166.56	352.27	2.92	2.1	4.84	4.84
Yellowstone County	B2	RM 367.79	111989.2	2-yr	1254.44	950.76	945.04	2.47	2.39	51.31	34.49	188.09	292.29	2.68	1.8	5.72	5.72
Yellowstone County	B2	RM 367.72	111876.5	2-yr	1254.44	950.61	945.45	2.44	2.26	34.49	16.3	149.5	399.89	3.36	1.58	5.16	5.16
Yellowstone County	B2	RM 367.64	111739.2	2-yr	1254.44	950.38	945.68	2.67	2.45	49.31	23.88	136.9	318.26	3.33	1.61	4.7	4.7
Yellowstone County	B2	RM 367.50	111519.9	2-yr	1254.44	950.04	945.21	2.73	2.56	47.34	26.8	124.42	238.54	3.65	2.05	4.83	4.83
Yellowstone County	B2	RM 367.40	111357.1	2-yr	1254.44	949.86	944.36	2.72	2.38	42.17	20.47	111.56	300.34	3.91	1.88	5.5	5.5
Yellowstone County	B2	RM 367.31	111214.8	2-yr	1254.44	949.72	945.36	2.6	2.29	34.6	16.87	143.73	345.3	3.26	1.59	4.36	4.36
Yellowstone County	B2	RM 367.19	110992.7	2-yr	1254.44	949.52	945.91	2.21	2.06	29.8	22.64	242.96	384.73	2.28	1.73	3.61	3.61
Yellowstone County	B2	RM 367.11	110813.5	2-yr	1254.44	949.19	945.17	2.33	2.17	36.56	25.58	294.69	458.84	1.8	1.26	4.02	4.02
Yellowstone County	B2	RM 367.03	110669.4	2-yr	1254.44	949.05	945.89	1.86	1.69	20.33	15.66	357.04	523.64	1.84	1.42	3.16	3.16
Yellowstone County	B2	RM 366.95	110543	2-yr	1254.44	948.93	945.34	1.42	1.34	25.34	21.7	505.16	639.23	1.71	1.46	3.59	3.59
Yellowstone County	B2	RM 366.84	110376	2-yr	1254.44	948.7	944.61	1.32	1.32	22.42	22.39	562.77	563.37	1.69	1.68	4.09	4.09
Yellowstone County	B2	RM 366.78	110300.8	2-yr	1254.44	948.59	943.84	1.42	1.42	21.56	20.39	476.71	505.81	1.85	1.75	4.75	4.75
Yellowstone County	B2	RM 366.73	110074.8	2-yr	1254.44	948.29	943.42	1.75	1.75	21.95	21.95	299.34	299.34	2.4	2.4	4.87	4.87
Yellowstone County	B2	RM 366.68	109931.6	2-yr	1254.44	948.11	942.77	1.95	1.94	27.11	26.27	233.93	242.74	2.75	2.66	5.34	5.34
Yellowstone County	B2	RM 366.53	109747.6	2-yr	1254.44	947.8	940.86	2.47	2.46	31.21	28.59	149.06	163.2	3.41	3.12	6.94	6.94
Yellowstone County	B2	RM 366.38	109510.8	2-yr	1254.44	947.56	941.55	2.32	2.31	45.85	42.58	148.44	160.76	3.64	3.38	6.01	6.01
Yellowstone County	B2	RM 366.27	109345.5	2-yr	1254.44	947.47	942.72	1.87	1.87	22.42	22.42	222.08	225.29	3.02	3.02	4.75	4.75
Yellowstone County	B2	RM 366.15	109158.9	2-yr	1254.44	947.2	941.59	2.03	2.03	49.22	49.22	277.69	277.69	2.22	2.22	5.61	5.61
Yellowstone County	B2	RM 366.04	108972.6	2-yr	1254.44	946.9	941.41	2.27	2.27	21.34	21.34	214.01	214.01	2.59	2.59	5.49	5.49
Yellowstone County	B2	RM 365.94	108818.8	2-yr	1254.44	946.8	940.93	2.11	2.11	17.15	17.15	263.88	263.88	2.26	2.26	5.87	5.87
Yellowstone County	B2	RM 365.83	108647.5	2-yr	1254.44	946.57	939.93	2.05	2.04	64.89	59.38	288.02	316.45	2.13	1.95	6.64	6.64
Yellowstone County	B2	RM 365.75	108521.3	2-yr	1254.44	946.22	941.33	2.16	2.08	53.86	39.29	224.89	348.68	2.37	1.73	4.89	4.89
Yellowstone County	B2	RM 365.71	108446.5	2-yr	1254.44	946.09	941.83	2.12	2.06	37.61	32.57	208.03	249.6	2.82	2.44	4.26	4.26
Yellowstone County	B2	RM 365.64	108343.5	2-yr	1254.44	945.92	942.19	2.11	2.04	45.58	38.22	269.1	336.51	2.18	1.83	3.73	3.73
Yellowstone County	B2	RM 365.57	108220.5	2-yr	1254.44	945.57	942.08	2.36	2.3	51.23	43.61	248.05	300.61	2.13	1.81	3.49	3.49
Yellowstone County	B2	RM 365.51	108118.9	2-yr	1254.44	945.34	941.87	2.38	2.34	45.92	42.54	226.38	250.42	2.31	2.14	3.47	3.47
Yellowstone County	B2	RM 365.46	108042.9	2-yr	1254.44	945.29	941.73	1.96	1.94	26.97	25.45	274.26	294.24	2.33	2.2	3.56	3.56
Yellowstone County	B2	RM 365.41	107956.5	2-yr	1254.44	945.21	941.46	1.8	1.8	26.01	25.84	298	300.06	2.34	2.32	3.75	3.75
Yellowstone County	B2	RM 365.37	107905.7	2-yr	1254.44	945.15	940.74	1.8	1.8	20.45	20.45	303.92	303.92	2.29	2.29	4.41	4.41
Yellowstone County	B2	RM 365.31	107792.4	2-yr	1254.44	944.99	939.27	2.05	2.03	25.33	23.43	248.2	270.89	2.46	2.28	5.72	5.72
Yellowstone County	B2	RM 365.27	107727.9	2-yr	1254.44	944.83	939.34	2.33	2.33	37.58	37.38	248.95	250.36	2.16	2.15	5.49	5.49
Yellowstone County	B2	RM 365.23	107674.2	2-yr	1254.44	944.68	939.52	2.56	2.56	31.42	31.42	220.52	220.52	2.22	2.22	5.16	5.16
Yellowstone County	B2	RM 365.19	107603	2-yr	1254.44	944.61	939.93	2.41	2.41	31.87	31.87	225.71	225.71	2.3	2.3	4.68	4.68
Yellowstone County	B2	RM 365.15	107534.7	2-yr	1254.44	944.55	939.68	2.21	2.21	28.86	27.22	211.55	224.88	2.68	2.53	4.87	4.87
Yellowstone County	B2	RM 365.10	107466	2-yr	1254.44	944.43	938.61	2.4	2.4	32.35	32.35	179.73	179.73	2.91	2.91	5.82	5.82
Yellowstone County	B2	RM 365.06	107396.2	2-yr	1254.44	944.36	939.07	2.32	2.32	34.22	34.16	169.42	169.64	3.19	3.19	5.29	5.29
Yellowstone County	B2	RM 365.01	107325.8	2-yr	1254.44	944.33	939.22	2.07	2.07	30.46	29.81	173.51	177.4	3.49	3.42	5.11	5.11
Yellowstone County	B2	RM 364.99	107287.5	2-yr	1254.44	944.24	939.27	2.27	2.27	34.79	32.63	162.94	173.87	3.39	3.18	4.97	4.97

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	2-yr	1254.44	944.02	937.97	2.51	2.51	32.19	32.19	143.96	143.96	3.47	3.47	6.05	6.05
Yellowstone County	B2	RM 364.81	106996.1	2-yr	1254.44	943.95	938.93	2.21	2.17	26.31	19.29	197.82	275.87	2.86	2.1	5.02	5.02
Yellowstone County	B2	RM 364.74	106893.3	2-yr	1254.44	943.82	938.94	2.33	2.32	31.71	28.24	164.71	185.43	3.27	2.91	4.88	4.88
Yellowstone County	B2	RM 364.64	106739.2	2-yr	1254.44	943.54	939.09	2.76	2.63	37.68	18.04	120.08	266.59	3.76	1.79	4.45	4.45
Yellowstone County	B2	RM 364.61	106686.8	2-yr	1254.44	943.54	939.21	2.47	2.46	30.8	25.53	141.28	171.24	3.59	2.97	4.33	4.33
Yellowstone County	B2	RM 364.60	106666.6	2-yr	1254.44	943.47	939.26	2.67	2.66	36.1	33.99	133.63	142.6	3.52	3.31	4.21	4.21
Yellowstone County	B2	RM 364.53	106558.4	2-yr	1254.44	943.41	939.11	2.41	2.41	29.73	29.73	149.94	149.94	3.46	3.46	4.3	4.3
Yellowstone County	B2	RM 364.49	106490.3	2-yr	1254.44	943.34	939.24	2.42	2.41	30.38	27.94	157.12	171.57	3.3	3.03	4.1	4.1
Yellowstone County	B2	RM 364.43	106394	2-yr	1254.44	943.26	939.13	2.41	2.41	30.1	30.1	155.69	155.69	3.35	3.35	4.13	4.13
Yellowstone County	B2	RM 364.37	106296.4	2-yr	1254.44	943.18	938.98	2.36	2.29	28.41	18.14	146.2	237.58	3.63	2.3	4.2	4.2
Yellowstone County	B2	RM 364.32	106215.1	2-yr	1254.44	943.09	938.52	2.39	2.36	40.01	26.93	149.67	226.95	3.5	2.35	4.57	4.57
Yellowstone County	B2	RM 364.29	106172.9	2-yr	1254.44	943.13	938.13	1.88	1.87	29.29	28.15	188.68	243.09	3.52	3.39	5	5
Yellowstone County	B2	RM 364.26	106126.6	2-yr	1254.44	942.92	937.7	2.53	2.41	40.88	31.66	139.21	202.42	3.53	2.73	5.22	5.22
Yellowstone County	B2	RM 364.22	106055.2	2-yr	1254.44	942.83	938.15	2.55	2.55	40.81	40.81	130.77	188.68	3.76	3.76	4.68	4.68
Yellowstone County	B2	RM 364.14	105927.3	2-yr	1254.44	942.59	938.12	2.85	2.67	48.16	37.35	121.04	169.05	3.58	2.78	4.47	4.47
Yellowstone County	B2	RM 364.06	105809.9	2-yr	1254.44	942.5	938.22	2.46	2.36	42.12	27.88	150.68	239.62	3.36	2.22	4.28	4.28
Yellowstone County	B2	RM 363.96	105648.3	2-yr	1254.44	942.38	938.28	2	1.91	29.43	20.79	242.23	362.59	2.57	1.81	4.1	4.1
Yellowstone County	B2	RM 363.85	105472.4	2-yr	1254.44	942.14	936.25	2.32	2.08	27.77	19.18	149.96	258.73	3.39	2.33	5.89	5.89
Yellowstone County	B2	RM 363.76	105316.8	2-yr	1254.44	942.03	937.03	2.15	1.99	32.76	22.62	145.54	253.07	3.6	2.49	5	5
Yellowstone County	B2	RM 363.63	105118.1	2-yr	1254.44	941.82	937.93	1.88	1.88	32.21	32.21	320.54	320.54	2.08	2.08	3.89	3.89
Yellowstone County	B2	RM 363.52	104943.9	2-yr	1254.44	941.52	937.54	1.79	1.77	39.01	35.23	370.91	417.89	1.88	1.7	3.98	3.98
Yellowstone County	B2	RM 363.46	104841.5	2-yr	1254.44	941.39	937.16	1.59	1.51	25.8	18	330.93	534.24	2.36	1.64	4.23	4.23
Yellowstone County	B2	RM 363.33	104622.9	2-yr	1254.44	941.06	936.36	1.77	1.51	39.91	22.23	291.69	673.31	2.25	1.25	4.7	4.7
Yellowstone County	B2	RM 363.20	104414.5	2-yr	1254.44	940.7	936.48	1.9	1.6	30.04	14.6	281.71	793.75	2.23	1.08	4.22	4.22
Yellowstone County	B2	RM 363.10	104256.4	2-yr	1254.44	940.44	936.25	2.02	1.69	32.95	19.05	271.98	605.4	2.13	1.23	4.19	4.19
Yellowstone County	B2	RM 363.03	104144.8	2-yr	1254.44	940.29	936.22	1.96	1.66	26.77	13.41	268.16	666.49	2.27	1.14	4.07	4.07
Yellowstone County	B2	RM 362.86	103869.6	2-yr	1254.44	940.14	934.32	1.38	1.16	11.72	6.67	405.06	892.92	2.13	1.21	5.82	5.82
Yellowstone County	B2	RM 362.74	103671.4	2-yr	1254.44	939.89	934.52	1.87	1.64	23.02	13.23	370.29	762.18	1.75	1	5.37	5.37
Yellowstone County	B2	RM 362.63	103493.2	2-yr	1254.44	939.5	934.5	2.08	1.89	50.01	31.38	366.54	661.74	1.6	1	5	5
Yellowstone County	B2	RM 362.52	103330.7	2-yr	1254.44	938.99	934.5	2.16	2.1	47.35	39.61	333.4	412.63	1.73	1.45	4.49	4.49
Yellowstone County	B2	RM 362.43	103185.5	2-yr	1254.44	938.75	934.1	2.05	2.01	17.77	15.47	390.58	493.5	1.56	1.36	4.65	4.65
Yellowstone County	B2	RM 362.36	103070.8	2-yr	1254.44	938.64	932.98	1.99	1.91	18.09	16.38	302.39	354.18	2.05	1.86	5.66	5.66
Yellowstone County	B2	RM 362.27	102929.3	2-yr	1254.44	938.53	932.93	2.02	2.02	19.44	19.44	194.32	194.32	3.19	3.19	5.6	5.6
Yellowstone County	B2	RM 362.20	102813.3	2-yr	1254.44	938.15	933.37	3	3	46.9	46.9	110.12	110.12	3.8	3.8	4.78	4.78
Yellowstone County	B2	RM 362.13	102693.1	2-yr	1254.44	938	933.47	2.96	2.95	45.04	39.83	124.64	141.53	3.4	3	4.53	4.53
Yellowstone County	B3	RM 362.05	102570.9	2-yr	1254.44	937.91	933.85	2.57	2.57	35.24	35.24	179.35	179.35	2.72	2.72	4.06	4.06
Yellowstone County	B3	RM 362.00	102488.8	2-yr	1254.44	937.88	934.11	2.15	2.15	28.78	28.78	241.03	256.57	2.43	2.43	3.77	3.77
Yellowstone County	B3	RM 361.93	102368.8	2-yr	1254.44	937.74	934.31	1.94	1.94	28.01	28.01	366.67	366.67	1.76	1.76	3.43	3.43
Yellowstone County	B3	RM 361.86	102261.1	2-yr	1254.44	937.37	934.36	2.5	2.48	50.1	47.47	291.5	311.43	1.71	1.62	3.01	3.01
Yellowstone County	B3	RM 361.78	102138.9	2-yr	1254.44	937.21	933.72	2	2	22.44	21.61	372.06	387.36	1.69	1.62	3.49	3.49
Yellowstone County	B3	RM 361.68	101970.2	2-yr	1254.44	936.95	933.64	1.92	1.9	29.99	27.67	415.07	457.32	1.57	1.45	3.31	3.31
Yellowstone County	B3	RM 361.65	101918.4	2-yr	1254.44	936.9	933.71	1.65	1.63	22.97	21.69	403.14	435	1.87	1.77	3.19	3.19
Yellowstone County	B3	RM 361.61	101855.6	2-yr	1254.44	936.75	932.7	1.98	1.9	27.57	25	327.53	383.32	1.89	1.72	4.05	4.05
Yellowstone County	B3	RM 361.56	101767.4	2-yr	1254.44	936.63	930.29	2.01	1.93	24.54	21.12	264.7	325.98	2.32	2	6.34	6.34
Yellowstone County	B3	RM 361.48	101644.6	2-yr	1254.44	936.48	929.97	2.17	1.98	30.98	21.48	178.78	420.48	3.01	2.08	6.51	6.51
Yellowstone County	B3	RM 361.42	101546.2	2-yr	1254.44	936.15	932.36	2.84	2.57	43.02	19.87	168.66	690.11	2.55	1.18	3.79	3.79
Yellowstone County	B3	RM 361.37	101468.9	2-yr	1254.44	936.07	932.21	2.64	2.46	37.77	14.47	161.36	523.71	2.93	1.12	3.86	3.86
Yellowstone County	B3	RM 361.33	101409.4	2-yr	1254.44	935.82	932.02	3.12	2.88	53.49	26.48	149.51	353.4	2.66	1.31	3.8	3.8
Yellowstone County	B3	RM 361.29	101346	2-yr	1254.44	935.72	930.51	3.1	2.27	53.53	17.09	132.11	650.07	2.78	0.88	5.21	5.21
Yellowstone County	B3	RM 361.25	101284.9	2-yr	1254.44	935.64	928.42	3.07	2.07	49.47	14.07	106.72	703.25	3.23	0.9	7.22	7.22
Yellowstone County	B3	RM 361.21	101251.*	2-yr	1254.44	935.64	927.55	2.62	1.92	69.03	20.34	113.06	763.22	3.81	1.11	8.09	8.09
Yellowstone County	B3	RM 361.21	101217.5	2-yr	1254.44	935.68	926.68	2.16	1.56	24.06	7.67	113.06	858.87	4.54	1.43	9	9
Yellowstone County	B3	RM 361.18	101167.2	2-yr	1254.44	935.65	928.03	2.14	1.44	22.26	6.24	127.59	973.63	4.09	1.14	7.62	7.62
Yellowstone County	B3	RM 361.16	101134.2	2-yr	1254.44	935.64	928.92	1.99	1.5	21.22	8.72	192.82	1024.21	3.01	1.23	6.72	6.72
Yellowstone County	B3	RM 361.09	101028.7	2-yr	1254.44	935.59	931.28	1.71	1.27	19.03	11.85	337.02	1141.26	1.68	1.04	4.31	4.31
Yellowstone County	B3	RM 361.01	100891.3	2-yr	1254.44	935.28	931.55	2.18	1.74	32.39	17.64	309.67	831.98	1.65	0.9	3.73	3.73
Yellowstone County	B3	RM 360.92	100756	2-yr	1254.44	935.13	931.05	1.36	1.07	21.8	14.46	414.37	1227.83	1.44	0.96	4.08	4.08
Yellowstone County	B3	RM 360.81	100570.1	2-yr	1254.44	934.44	929.52	2.49	2.11	73.63	45.57	318.69	670.12	1.43	0.89	4.92	4.92
Yellowstone County	B3	RM 360.69	100383.5	2-yr	1254.44	934.43	930.6	0.99	0.76	8.09	5.53	322.27	1238.01	2	1.37	4.54	4.54
Yellowstone County	B3	RM 360.59	100227.2	2-yr	1254.44	934.24	930.53	1.79	1.18	20.38	9.17	255.42	1305.15	1.95	0.88	4.03	4.03
Yellowstone County	B3	RM 360.50	100081	2-yr	1254.44	934.01	930.55	2.06	1.39	29.35	10.47	201.79	1080.53	2.48	0.87	3.46	3.46

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	2-yr	1254.44	933.84	929.97	2.24	1.44	31.71	11.04	181.5	981.04	2.55	0.88	3.87	3.87
Yellowstone County	B3	RM 360.36	99862.66	2-yr	1254.44	933.73	929.68	2.07	1.38	24.08	12.18	231.53	831.12	2.17	1.09	4.05	4.05
Yellowstone County	B3	RM 360.27	99717.18	2-yr	1254.44	933.46	929.52	2.52	1.63	38.32	14.93	149.73	772.13	2.56	1	3.94	3.94
Yellowstone County	B3	RM 360.18	99578.06	2-yr	1254.44	933.26	929.32	2.47	1.58	40.07	13.39	134.3	737.08	3.25	1.07	3.94	3.94
Yellowstone County	B3	RM 360.11	99458.59	2-yr	1254.44	933.15	929.38	2.34	1.67	31.32	10.47	148.51	839.4	2.67	0.89	3.77	3.77
Yellowstone County	B3	RM 360.03	99328	2-yr	1265.76	933.03	929.58	2.04	1.44	33.09	8.71	168.42	1288.63	2.67	0.7	3.45	3.45
Yellowstone County	B3	RM 359.96	99226.54	2-yr	1265.76	932.92	929.2	2.08	1.3	28.92	8.44	163.76	1210.06	2.76	0.8	3.72	3.72
Yellowstone County	B3	RM 359.88	99098.18	2-yr	1265.76	932.79	927.78	2.18	1.29	26.42	7.04	142.78	1165.19	3.18	0.84	5.01	5.01
Yellowstone County	B3	RM 359.78	98940.52	2-yr	1265.76	932.68	928.1	2.05	1.23	30.27	7.76	148.39	1228.53	3.3	0.84	4.58	4.58
Yellowstone County	B3	RM 359.70	98813.18	2-yr	1265.76	932.27	928.32	2.88	2.22	67.53	16.62	139.2	830.21	2.95	0.72	3.95	3.95
Yellowstone County	B3	RM 359.61	98663.44	2-yr	1265.76	932.14	928.8	1.93	1.83	28.71	17.18	318.49	632.78	2.04	1.22	3.34	3.34
Yellowstone County	B3	RM 359.50	98492.66	2-yr	1265.76	931.9	928.22	2.03	1.83	25.14	12.09	291.06	779.05	2.06	0.99	3.68	3.68
Yellowstone County	B3	RM 359.38	98291.15	2-yr	1265.76	931.58	927.09	1.95	1.8	39.76	24.29	345.17	772.02	1.64	1	4.49	4.49
Yellowstone County	B3	RM 359.26	98107.42	2-yr	1265.76	931.16	927.71	2.07	1.84	30.05	21.33	372.98	683.78	1.52	1.08	3.45	3.45
Yellowstone County	B3	RM 359.18	97966.53	2-yr	1265.76	930.94	927.28	1.98	1.57	25.59	14.06	293.9	862.98	1.91	1.05	3.66	3.66
Yellowstone County	B3	RM 359.10	97841.82	2-yr	1265.76	930.77	926.69	1.91	1.54	25.05	15.51	363.21	946.21	1.56	0.97	4.08	4.08
Yellowstone County	B3	RM 359.01	97692.75	2-yr	1265.76	930.58	925.91	1.64	1.21	25.78	15.94	316.14	1031.78	1.73	1.07	4.67	4.67
Yellowstone County	B3	RM 358.90	97524.59	2-yr	1265.76	930.11	926.77	2.5	1.88	40.18	16.49	188.94	685.41	2.39	0.98	3.34	3.34
Yellowstone County	B3	RM 358.81	97374.99	2-yr	1265.76	929.88	926.37	2.42	1.84	33.27	11.75	209.02	867.39	2.29	0.81	3.51	3.51
Yellowstone County	B3	RM 358.74	97267.71	2-yr	1265.76	929.63	925.53	2.7	1.83	59.13	23.14	164.79	821.48	2.3	0.9	4.1	4.1
Yellowstone County	B3	RM 358.67	97155.8	2-yr	1265.76	929.55	925.59	1.85	1.59	21.75	14.33	272.93	793.16	1.75	1.15	3.96	3.96
Yellowstone County	B3	RM 358.61	97062.24	2-yr	1265.76	929.45	925.74	1.51	1.47	19.77	14.16	385.88	918.58	1.61	1.15	3.71	3.71
Yellowstone County	B3	RM 358.56	96985.92	2-yr	1265.76	929.39	926.2	1.38	1.35	14.51	9.94	365.35	873.88	1.92	1.32	4.8	4.8
Yellowstone County	B3	RM 358.50	96888.4	2-yr	1265.76	929.32	925.64	1.33	1.26	12.19	9.02	457.46	1039.96	1.63	1.21	3.68	3.68
Yellowstone County	B3	RM 358.43	96788.43	2-yr	1265.76	929.25	925.27	1.1	1.13	13.46	10.77	572.34	1172.64	1.55	1.24	3.98	3.98
Yellowstone County	B3	RM 358.30	96638.82	2-yr	1265.76	929.19	924.7	0.93	0.89	7.77	6.66	681.88	1137.67	1.92	1.64	4.49	4.49
Yellowstone County	B3	RM 358.24	96561.93	2-yr	1265.76	929.14	923.57	1.09	1.04	10.06	8.55	644.31	1106.33	1.73	1.47	5.57	5.57
Yellowstone County	B3	RM 358.20	96500.79	2-yr	1265.76	929.08	922.99	1.23	1.2	11.85	10.38	617.97	778.78	1.6	1.4	6.09	6.09
Yellowstone County	B3	RM 358.14	96404.93	2-yr	1265.76	929.01	922.57	1.27	1.2	11	8.52	542.79	804.8	1.76	1.36	6.44	6.44
Yellowstone County	B3	RM 358.12	96368.05	2-yr	1265.76	928.98	922.78	1.32	1.12	11.56	6.75	348.07	951.54	2.36	1.37	6.2	6.2
Yellowstone County	B3	RM 358.04	96244.75	2-yr	1265.76	928.81	923.22	2	1.58	34.87	14.21	162.23	697.81	3.13	1.27	5.59	5.59
Yellowstone County	B3	RM 358.00	96168.44	2-yr	1265.76	928.59	923.39	2.69	1.82	50.84	18.7	101.88	612.81	3.32	1.21	5.2	5.2
Yellowstone County	B3	RM 357.93	96065.49	2-yr	1265.76	928.35	923.1	2.97	2.23	40	16.17	106.83	477.51	3.02	1.21	5.25	5.25
Yellowstone County	B3	RM 357.88	95975.44	2-yr	1265.76	928.35	923.91	2.24	1.83	32.92	15.51	152.37	613.92	2.82	1.33	4.44	4.44
Yellowstone County	B3	RM 357.82	95884.99	2-yr	1265.76	928.32	924.01	1.77	1.55	20.35	11.73	193.1	544.47	2.85	1.64	4.31	4.31
Yellowstone County	B3	RM 357.78	95821.69	2-yr	1265.76	928.26	924.08	1.63	1.64	22.81	20.85	257.11	363.56	2.32	2.12	4.18	4.18
Yellowstone County	B3	RM 357.69	95683.91	2-yr	1265.76	928.07	923.81	1.91	1.9	21.61	20.72	292.59	306.08	2.27	2.17	4.26	4.26
Yellowstone County	B4	RM 357.62	95571.15	2-yr	1265.76	927.82	921.84	2.35	2.35	37.04	35.59	249.04	259.75	2.16	2.07	5.98	5.98
Yellowstone County	B4	RM 357.56	95469.4	2-yr	1265.76	927.77	918.46	1.88	1.87	24.98	22.86	225.69	249.48	2.97	2.72	9.31	9.31
Yellowstone County	B4	RM 357.48	95351.48	2-yr	1265.76	927.47	922.69	2.54	2.51	38.74	34.86	197.08	222.61	2.53	2.27	4.78	4.78
Yellowstone County	B4	RM 357.44	95275.91	2-yr	1265.76	927.34	922.22	2.57	2.56	41	38.33	194.25	261.2	2.54	2.37	5.12	5.12
Yellowstone County	B4	RM 357.34	95127.12	2-yr	1265.76	927.14	923.1	2.46	2.4	35.35	28.1	179.3	280.8	2.86	2.27	4.04	4.04
Yellowstone County	B4	RM 357.23	94939.75	2-yr	1265.76	926.95	920.81	2.38	2.2	35.6	20.48	142.56	347.94	3.67	2.1	6.14	6.14
Yellowstone County	B4	RM 357.13	94789.23	2-yr	1265.76	926.76	921.26	2.59	2.33	35.48	24.27	136.76	261.58	3.2	2.18	5.5	5.5
Yellowstone County	B4	RM 357.01	94595.53	2-yr	1265.76	926.67	921.72	2.02	1.63	20.9	11.11	182.75	448.3	3.26	1.73	4.95	4.95
Yellowstone County	B4	RM 356.90	94412.13	2-yr	1265.76	926.51	921.02	2.09	1.81	24.12	14.17	233.79	475.93	2.5	1.47	5.49	5.49
Yellowstone County	B4	RM 356.81	94272.48	2-yr	1265.76	926.36	919.95	2.09	1.74	26.8	17.94	232.15	459.85	2.37	1.58	6.41	6.41
Yellowstone County	B4	RM 356.73	94148.77	2-yr	1265.76	926.23	921.15	1.96	1.75	24.26	17.53	299.9	517.11	1.94	1.4	5.08	5.08
Yellowstone County	B4	RM 356.66	94030.68	2-yr	1265.76	926.1	921.75	1.86	1.68	20.47	14.52	299.51	508.4	2.09	1.49	4.35	4.35
Yellowstone County	B4	RM 356.59	93912.76	2-yr	1265.76	926.01	921.88	1.73	1.54	21.22	13.23	251.06	503.12	2.62	1.64	4.13	4.13
Yellowstone County	B4	RM 356.50	93782.14	2-yr	1265.76	925.85	921.75	2.04	1.77	30.12	14.49	153.48	470.78	3.18	1.52	4.1	4.1
Yellowstone County	B4	RM 356.44	93670.16	2-yr	1265.76	925.68	921.33	2.32	2.02	28.2	13.62	135.34	416.01	3.12	1.51	4.35	4.35
Yellowstone County	B4	RM 356.35	93525.27	2-yr	1265.76	925.48	919.71	2.51	2.16	44.45	17.66	112.46	407.87	3.63	1.43	5.77	5.77
Yellowstone County	B4	RM 356.26	93386.36	2-yr	1265.76	925.39	919.77	2.32	1.79	23.32	8.57	125.06	515.68	3.74	1.37	5.62	5.62
Yellowstone County	B4	RM 356.18	93264.31	2-yr	1265.76	925.32	919.95	2.17	1.78	29.1	9.54	126.82	572.94	3.82	1.24	5.37	5.37
Yellowstone County	B4	RM 356.11	93150.71	2-yr	1265.76	925.25	920.24	1.91	1.53	31.79	11.5	178.64	661.78	3.48	1.25	5.01	5.01
Yellowstone County	B4	RM 356.04	93034.25	2-yr	1265.76	925.04	920.36	2.23	1.9	47.78	20.91	172.54	493.38	3.1	1.35	4.68	4.68
Yellowstone County	B4	RM 355.97	92927.46	2-yr	1265.76	924.76	920.09	2.61	2.2	50.36	21.9	151.59	446.2	2.98	1.29	4.67	4.67
Yellowstone County	B4	RM 355.91	92825.82	2-yr	1265.76	924.7	919.82	2.27	1.66	26.18	9.63	152.06	651.92	3.2	1.17	4.88	4.88
Yellowstone County	B4	RM 355.82	92688.73	2-yr	1265.76	923.87	919.51	3.15	2.94	58.62	30.76	148.32	309.07	2.67	1.39	4.36	4.36
Yellowstone County	B4	RM 355.66	92419.94	2-yr	1265.76	923.61	919.8	2.78	2.38	38.24	21.79	139.95	339.36	2.75	1.57	3.81	3.81

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	2-yr	1265.76	923.53	919.42	2.59	2.13	34.2	16.32	148.04	452.18	2.75	1.31	4.11	4.11
Yellowstone County	B4	RM 355.49	92159.95	2-yr	1265.76	923.28	918.52	2.4	2.14	55.64	30.91	135.18	382.25	2.79	1.55	4.76	4.76
Yellowstone County	B4	RM 355.43	92061.2	2-yr	1265.76	923.09	918.67	2.26	2.17	52.74	25.91	134.53	407.35	2.92	1.43	4.42	4.42
Yellowstone County	B4	RM 355.41	92020.68	2-yr	1265.76	923.03	919.02	2.01	2.03	55.18	29.01	157.04	494.63	2.55	1.34	4.01	4.01
Yellowstone County	B4	RM 355.38	91976.12	2-yr	1265.76	922.87	919.25	2.53	2.2	55.33	28.49	125.74	392.63	2.85	1.47	3.62	3.62
Yellowstone County	B4	RM 355.35	91933.98	2-yr	1265.76	922.84	919.21	2.4	1.97	34.6	15.95	109.82	449.15	3.13	1.43	3.63	3.63
Yellowstone County	B4	RM 355.32	91885.87	2-yr	1265.76	922.79	919.16	2.38	1.97	33.68	17.58	106.44	402.54	3.07	1.59	3.63	3.63
Yellowstone County	B4	RM 355.29	91828.99	2-yr	1265.76	922.69	918.93	2.56	2.03	36.59	17.34	100.65	422.93	3.14	1.48	4.16	4.16
Yellowstone County	B4	RM 355.23	91732.97	2-yr	1265.76	922.57	918.68	2.48	2.16	40.07	19.09	100.32	389.4	3.18	1.51	4.13	4.13
Yellowstone County	B4	RM 355.14	91596.1	2-yr	1265.76	922.46	918.52	2.23	1.72	28.8	10.83	117.92	640.9	3.08	1.15	3.94	3.94
Yellowstone County	B4	RM 354.94	91268.08	2-yr	1265.76	921.83	917.25	2.6	2.26	63.15	29.79	161.36	415.46	2.87	1.35	4.58	4.58
Yellowstone County	B4	RM 354.86	91153.59	2-yr	1265.76	921.76	917.03	2.1	1.48	38.91	13.14	125.07	737.59	3.55	1.19	4.73	4.73
Yellowstone County	B4	RM 354.80	91056.05	2-yr	1265.76	921.45	915.66	2.76	1.92	62.69	18.28	114.75	701.64	3.38	0.98	5.79	5.79
Yellowstone County	B4	RM 354.70	90880.27	2-yr	1265.76	921.18	915.38	2.53	1.76	49.71	20.28	132.96	618.72	2.87	1.17	5.8	5.8
Yellowstone County	B4	RM 354.61	90744.35	2-yr	1265.76	921.01	917.13	2.25	1.49	27.76	11.06	181.93	967.14	2.28	0.91	3.88	3.88
Yellowstone County	B4	RM 354.53	90609.24	2-yr	1265.76	920.9	916.52	1.88	1.32	21.66	8.41	238.66	1060.35	2.33	0.9	4.38	4.38
Yellowstone County	B4	RM 354.45	90486.63	2-yr	1265.76	920.74	915.87	2.16	1.35	29.6	11.15	194.05	1109.7	2.29	0.86	4.87	4.87
Yellowstone County	B4	RM 354.39	90385.43	2-yr	1265.76	920.49	915.24	2.58	1.59	40.64	14.41	160.73	1025.09	2.36	0.83	5.25	5.25
Yellowstone County	B4	RM 354.33	90291.31	2-yr	1265.76	920.42	915.37	2.25	1.2	28.5	9.78	146.7	1279.55	2.54	0.87	5.05	5.05
Yellowstone County	B4	RM 354.23	90133.96	2-yr	1265.76	920.18	915.46	2.49	1.32	36.13	9.07	113.89	1215.96	3.2	0.8	4.72	4.72
Yellowstone County	B4	RM 354.13	89983.48	2-yr	1265.76	920.08	914.94	2.04	1.09	28.88	7.47	129.57	1337.42	3.38	0.87	5.14	5.14
Yellowstone County	B4	RM 354.00	89778.46	2-yr	1265.76	919.94	916.2	1.93	1.03	25.94	7.81	156.3	1501.43	2.74	0.82	3.74	3.74
Yellowstone County	B5	RM 353.90	89604.28	2-yr	1265.76	919.82	917.06	1.67	0.99	20.63	8.86	239.8	1427.95	2.08	0.89	2.92	2.92
Yellowstone County	B5	RM 353.80	89446.75	2-yr	1347.88	919.63	916.36	1.8	1.2	29.27	12.1	299.03	1430.02	1.91	0.79	3.27	3.27
Yellowstone County	B5	RM 353.70	89288.94	2-yr	1347.88	919.46	915.92	1.48	1.03	23.29	11.03	373.26	1502.68	1.84	0.87	3.54	3.54
Yellowstone County	B5	RM 353.65	89204.58	2-yr	1347.88	919.33	915.49	1.38	1.01	24.54	11.98	397	1557.26	1.77	0.86	3.84	3.84
Yellowstone County	B5	RM 353.56	89077.56	2-yr	1347.88	919.15	914.2	1.47	1.08	26.11	11.75	362.06	1401.92	2	0.89	4.95	4.95
Yellowstone County	B5	RM 353.50	88982.39	2-yr	1347.88	919.07	914.58	1.36	0.98	20.15	8.09	304.42	1280.94	2.68	1.07	4.49	4.49
Yellowstone County	B5	RM 353.41	88846.15	2-yr	1347.88	918.88	914.41	1.68	1.2	28	12.44	229.39	974.2	2.62	1.16	4.47	4.47
Yellowstone County	B5	RM 353.32	88709.14	2-yr	1347.88	918.64	913.6	2.12	1.5	35.05	11.79	194.16	982.73	2.73	0.91	5.04	5.04
Yellowstone County	B5	RM 353.25	88587.13	2-yr	1347.88	918.38	912.76	2.5	1.77	41.97	14.03	160.68	824.25	2.77	0.92	5.62	5.62
Yellowstone County	B5	RM 353.15	88438.48	2-yr	1347.88	918.07	912.71	2.74	2.12	47.12	24.62	183.69	560	2.17	1.14	5.36	5.36
Yellowstone County	B5	RM 353.08	88321.13	2-yr	1347.88	917.88	912.99	2.53	1.97	41.86	20.6	197.52	651.22	2.13	1.05	4.89	4.89
Yellowstone County	B5	RM 353.01	88210.34	2-yr	1347.88	917.73	913.13	2.12	1.8	35.16	19.85	249.46	679.76	1.95	1.1	4.6	4.6
Yellowstone County	B5	RM 352.94	88090.6	2-yr	1347.88	917.63	912.5	1.86	1.52	24.95	13.27	174.29	609.73	2.74	1.46	5.13	5.13
Yellowstone County	B5	RM 352.86	87957.76	2-yr	1347.88	917.44	913.38	2.33	1.79	38.01	15.46	114.97	575.32	3.23	1.31	4.06	4.06
Yellowstone County	B5	RM 352.79	87857.09	2-yr	1347.88	917.23	913.06	2.76	2.01	37.65	14.83	100.45	582.31	2.95	1.15	4.17	4.17
Yellowstone County	B5	RM 352.72	87748.15	2-yr	1347.88	916.99	911.97	3.05	2.19	69.25	19.36	87.33	642.64	3.6	0.99	5.02	5.02
Yellowstone County	B5	RM 352.68	87677.1	2-yr	1347.88	916.85	912.27	2.64	2.28	59.45	27.12	209.12	750.16	2.31	1.04	4.58	4.58
Yellowstone County	B5	RM 352.64	87605.18	2-yr	1347.88	916.71	911.68	2.59	1.96	46.96	17.78	181.84	685.99	2.68	1	5.03	5.03
Yellowstone County	B5	RM 352.54	87461.4	2-yr	1347.88	916.62	912.57	1.96	1.58	25.2	11.85	264.41	802.78	2.36	1.1	4.05	4.05
Yellowstone County	B5	RM 352.47	87340.46	2-yr	1347.88	916.48	912.2	2	1.41	26.38	13.24	229.28	1000.45	2.05	1.03	4.28	4.28
Yellowstone County	B5	RM 352.39	87216.99	2-yr	1347.88	916.2	912.01	2.55	1.87	40.08	23.11	177.79	703.76	1.89	1.09	5.01	5.01
Yellowstone County	B5	RM 352.31	87079.16	2-yr	1347.88	915.84	910.66	2.76	2.01	58.91	30.77	165.08	677.39	1.95	1.02	5.18	5.18
Yellowstone County	B5	RM 352.23	86961.03	2-yr	1347.88	915.72	911.35	1.75	1.4	21.58	16.99	237.91	931.17	1.51	1.19	4.37	4.37
Yellowstone County	B5	RM 352.18	86873.5	2-yr	1347.88	915.63	911.21	1.8	1.48	20.89	15.52	216.33	940.84	1.94	1.44	4.42	4.42
Yellowstone County	B5	RM 352.09	86723.6	2-yr	1347.88	915.44	912.18	2.03	1.63	28.28	14.86	171.92	886.09	2.12	1.11	3.26	3.26
Yellowstone County	B5	RM 351.99	86568.41	2-yr	1347.88	915.07	912.6	2.76	2.13	45.17	20.92	142.91	693.44	2.08	0.96	2.49	2.49
Yellowstone County	B5	RM 351.93	86466.74	2-yr	1347.88	914.95	911.69	2.28	1.69	33.89	19.06	167.78	879.66	1.76	0.99	3.26	3.26
Yellowstone County	B5	RM 351.88	86386.8	2-yr	1347.88	914.87	911.38	1.69	1.33	24.15	18.25	184.11	971.99	1.51	1.14	3.49	3.49
Yellowstone County	B5	RM 351.81	86277.68	2-yr	1347.88	914.76	910.99	1.45	1.18	17.27	15.12	228.26	1083.72	1.37	1.2	3.77	3.77
Yellowstone County	B5	RM 351.74	86159.62	2-yr	1347.88	914.41	911.37	1.67	1.56	24.63	19.21	193.71	871.17	1.41	1.1	3.58	3.58
Yellowstone County	B5	RM 351.67	86034.59	2-yr	1347.88	914.14	911.31	1.71	1.6	25.09	18.93	197.31	807.58	1.43	1.08	3.76	3.76
Yellowstone County	B5	RM 351.58	85891.33	2-yr	1347.88	913.92	911.47	1.36	1.55	16.38	14.56	231.79	733.38	1.36	1.21	3.83	3.83
Yellowstone County	B5	RM 351.52	85811.35	2-yr	1347.88	913.77	911.37	1.72	1.74	20.43	17.31	244.11	713.86	1.31	1.11	3.05	3.05
Yellowstone County	B5	RM 351.47	85728.2	2-yr	1347.88	913.68	911.17	1.68	1.57	17.55	13.75	182.79	654.3	1.77	1.39	3.14	3.14
Yellowstone County	B5	RM 351.40	85601.48	2-yr	1347.88	913.53	910.26	1.99	1.58	23.5	15.04	117.77	722.77	2.16	1.38	3.62	3.62
Yellowstone County	B5	RM 351.34	85482.66	2-yr	1347.88	913.43	909.98	1.34	1.45	26.89	14.41	138.55	913.42	2.05	1.1	3.46	3.46
Yellowstone County	B5	RM 351.25	85342.53	2-yr	1347.88	913.3	909.91	1.37	1.31	15.43	11.77	248.94	950.66	1.42	1.09	3.41	3.41
Yellowstone County	B5	RM 351.21	85257.19	2-yr	1347.88	913.19	909.48	1.66	1.39	19.75	12.01	185.1	989.66	1.61	0.98	3.71	3.71
Yellowstone County	B5	RM 351.12	85127.55	2-yr	1347.88	913.11	909.49	1.66	1.37	18.01	10.48	151.29	898.99	1.89	1.09	3.62	3.62

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	2-yr	1347.88	912.98	908.79	1.92	1.41	22.89	11.52	124.14	795.52	2.42	1.2	4.19	4.19
Yellowstone County	B5	RM 350.90	84769.91	2-yr	1347.88	912.92	909.27	1.42	1.11	13.69	6.7	97.05	872.9	2.87	1.39	3.65	3.65
Yellowstone County	B5	RM 350.75	84536.19	2-yr	1347.88	912.76	909.72	1.25	1.46	24.48	17.76	248.84	739.66	1.72	1.25	3.38	3.38
Yellowstone County	B5	RM 350.66	84383.33	2-yr	1347.88	912.54	909.32	1.91	1.71	29.31	16	143.65	610.69	2.37	1.29	3.22	3.22
Yellowstone County	B5	RM 350.57	84244.69	2-yr	1347.88	912.29	908.48	1.81	1.84	36.71	19	150.05	610.43	2.33	1.2	3.81	3.81
Yellowstone County	B5	RM 350.50	84128.62	2-yr	1347.88	912.07	908.49	2	1.96	38.8	21.09	152.1	573.93	2.22	1.2	3.58	3.58
Yellowstone County	B5	RM 350.40	83974.24	2-yr	1347.88	911.89	908.73	1.48	1.58	19.29	15.84	303.74	668.42	1.56	1.28	3.16	3.16
Yellowstone County	B5	RM 350.33	83868.06	2-yr	1347.88	911.78	908.17	1.5	1.49	16.42	12.47	322.69	771.41	1.54	1.17	3.61	3.61
Yellowstone County	B5	RM 350.23	83712.91	2-yr	1347.88	911.55	907.61	1.77	1.64	25.01	15.76	275.24	798.7	1.67	1.05	3.94	3.94
Yellowstone County	B5	RM 350.14	83563.43	2-yr	1347.88	911.37	907.94	1.57	1.49	19.88	12.15	295.59	934.14	1.63	1	3.43	3.43
Yellowstone County	B5	RM 350.06	83419.86	2-yr	1347.88	911.16	907.84	1.48	1.44	22.12	15.36	339.58	876.62	1.55	1.08	3.32	3.32
Yellowstone County	B5	RM 349.94	83229.4	2-yr	1347.88	910.9	906.93	1.62	1.45	23.21	13.84	271.66	897.52	1.78	1.06	3.97	3.97
Yellowstone County	B5	RM 349.83	83071.99	2-yr	1347.88	910.8	907.36	1.43	1.18	11.62	5.31	370.02	1037.2	2.41	1.1	3.44	3.44
Yellowstone County	B5	RM 349.68	82904.73	2-yr	1347.88	910.59	906.92	1.9	1.53	27.96	14.65	341.26	915.28	1.94	1.02	3.67	3.67
Yellowstone County	B5	RM 349.54	82632.78	2-yr	1347.88	910.19	906.29	1.82	1.7	23.15	17.87	436.26	632.71	1.64	1.27	3.9	3.9
Yellowstone County	B5	RM 349.33	82276.28	2-yr	1347.88	909.92	906.45	1.1	1.09	11.56	10.53	349.93	800.71	1.71	1.56	3.47	3.47
Yellowstone County	B5	RM 349.19	82046.53	2-yr	1347.88	909.59	905.16	1.92	1.53	24.3	14.26	281.11	872.24	1.79	1.05	4.43	4.43
Yellowstone County	B5	RM 349.04	81800.47	2-yr	1427.17	909.38	904.5	1.5	1.3	15.35	9.33	345.54	1009.06	1.94	1.18	4.88	4.88
Yellowstone County	B5	RM 348.89	81574.02	2-yr	1427.17	909.23	904.75	1.17	1.1	15.89	10.45	550.14	988.73	2.14	1.41	4.48	4.48
Yellowstone County	B5	RM 348.77	81370.46	2-yr	1427.17	909.03	905.09	1.35	1.22	22.81	12.75	448.95	996.74	2.26	1.26	3.94	3.94
Yellowstone County	B5	RM 348.64	81138.52	2-yr	1427.17	908.81	903.35	1.65	1.38	16.87	6.51	294.57	1014.91	2.81	1.08	5.46	5.46
Yellowstone County	B5	RM 348.52	80960.09	2-yr	1427.17	908.58	902.88	2.09	1.77	35.37	12.6	203.08	732.76	3.21	1.13	5.7	5.7
Yellowstone County	B5	RM 348.38	80737.31	2-yr	1427.17	908.18	902.85	2.48	2.27	46.61	23.43	186.37	413.75	3.04	1.52	5.33	5.33
Yellowstone County	B5	RM 348.26	80551.51	2-yr	1427.17	907.89	902.73	2.51	2.14	51.34	23.15	162.6	453.16	3.28	1.47	5.16	5.16
Yellowstone County	B5	RM 348.09	80276.34	2-yr	1427.17	907.51	901.64	2.43	1.92	40.94	17.11	170.77	568.36	3.14	1.31	5.87	5.87
Yellowstone County	B5	RM 347.95	80055.79	2-yr	1427.17	907.32	902.96	2.25	1.87	26	13.44	165.09	507.3	3.38	1.75	4.36	4.36
Yellowstone County	B5	RM 347.82	79844.2	2-yr	1427.17	907.16	902.93	2.02	1.79	33.98	15.85	176.74	547.85	3.12	1.45	4.23	4.23
Yellowstone County	B5	RM 347.77	79751.93	2-yr	1427.17	907.05	902.38	2.06	1.73	38.62	18.23	178.59	570.31	3.07	1.45	4.67	4.67
Yellowstone County	B5	RM 347.70	79643.98	2-yr	1427.17	906.9	901.91	2.1	1.7	38.9	17.7	180.7	620.89	2.98	1.35	4.99	4.99
Yellowstone County	B5	RM 347.61	79501.64	2-yr	1427.17	906.85	902.2	1.7	1.16	15.11	6.8	192.93	833.28	3.28	1.48	4.65	4.65
Yellowstone County	B5	RM 347.51	79347.38	2-yr	1427.17	906.55	900.54	2.63	1.89	33.35	11.44	112.11	556	4.12	1.4	6.01	6.01
Yellowstone County	B5	RM 347.42	79196.21	2-yr	1427.17	906.46	900.73	2.23	1.82	48.18	20.81	142.77	569.63	3.63	1.56	5.73	5.73
Yellowstone County	B5	RM 347.35	79079.87	2-yr	1427.17	906.52	900.77	1.1	1.1	5.48	5.48	497.57	604.27	2.6	2.59	5.75	5.75
Yellowstone County	B5	RM 347.23	78895.71	2-yr	1427.17	906.45	900.89	1.2	1.2	9.23	9.05	507.1	691.97	2.35	2.3	5.56	5.56
Yellowstone County	B5	RM 347.13	78732.21	2-yr	1427.17	906.35	900.98	1.29	1.28	19.91	18.68	439.75	697	2.51	2.35	5.37	5.37
Yellowstone County	B5	RM 346.93	78400.21	2-yr	1427.17	905.85	900.98	1.57	1.52	51.31	41.8	464.22	614.54	1.94	1.58	4.87	4.87
Yellowstone County	B5	RM 346.80	78193.27	2-yr	1427.17	905.15	900.02	1.9	1.77	56.56	45.29	453.5	641.69	1.6	1.28	5.13	5.13
Yellowstone County	B5	RM 346.64	77938.83	2-yr	1427.17	904.86	900.47	1.78	1.45	17.73	8.73	246.44	709.19	2.86	1.41	4.39	4.39
Yellowstone County	B5	RM 346.49	77706.6	2-yr	1427.17	904.58	900.21	2.26	1.83	32.49	12.19	176.17	702.71	3.02	1.12	4.37	4.37
Yellowstone County	B6	RM 346.35	77480.6	2-yr	1427.17	904.34	900.33	2.09	1.74	32.79	11.55	214.25	827.42	2.87	1.01	4.01	4.01
Yellowstone County	B6	RM 346.23	77285.9	2-yr	1427.17	904.03	900.11	2.46	2.03	32.72	11.87	176.76	630.44	3.09	1.12	3.92	3.92
Yellowstone County	B6	RM 346.11	77095.33	2-yr	1427.17	903.82	899.75	2.36	1.93	40.85	18.52	179.78	578.52	3.08	1.4	4.07	4.07
Yellowstone County	B6	RM 346.00	76926.16	2-yr	1427.17	903.65	899.8	2.25	1.85	31.44	16.64	177.06	453.48	3.22	1.7	3.85	3.85
Yellowstone County	B6	RM 345.90	76766.95	2-yr	1427.17	903.4	899.51	2.46	2.02	41.45	20.61	177.53	469.13	3.04	1.51	3.89	3.89
Yellowstone County	B6	RM 345.80	76608.55	2-yr	1427.17	903.27	899.04	2.16	1.84	28.52	15.45	196	459.67	3.12	1.69	4.37	4.37
Yellowstone County	B6	RM 345.73	76484.99	2-yr	1427.17	903.05	899.01	2.45	2.16	37.16	19.79	195.8	470.04	2.73	1.46	4.15	4.15
Yellowstone County	B6	RM 345.67	76386.71	2-yr	1427.17	903.01	899.1	2.02	1.68	24.84	11.18	211.33	620.08	3.03	1.37	4.11	4.11
Yellowstone County	B6	RM 345.60	76268.76	2-yr	1427.17	902.9	899.22	2.01	1.67	28.83	14.56	234.87	638.03	2.65	1.34	4	4
Yellowstone County	B6	RM 345.50	76118.1	2-yr	1427.17	902.75	899.07	1.81	1.61	29.21	17.54	248.16	573.4	2.59	1.55	3.85	3.85
Yellowstone County	B6	RM 345.37	75909.53	2-yr	1427.17	902.38	897.51	2.08	2.04	35.56	27.85	307.8	402.57	2.23	1.74	4.87	4.87
Yellowstone County	B6	RM 345.27	75751.01	2-yr	1427.17	902.13	898.15	2.19	1.99	31.79	17.02	252.12	530.01	2.54	1.35	3.98	3.98
Yellowstone County	B6	RM 345.07	75427.56	2-yr	1427.17	901.87	897.07	1.91	1.69	20.97	9.08	241.2	725.35	3.03	1.3	4.8	4.8
Yellowstone County	B6	RM 344.90	75166.64	2-yr	1427.17	901.74	897.3	1.62	1.43	16.03	7.84	294.53	707.45	2.88	1.41	4.44	4.44
Yellowstone County	B6	RM 344.75	74927.69	2-yr	1427.17	901.51	896.02	1.92	1.69	30.13	15.62	231.67	533.29	3.07	1.58	5.49	5.49
Yellowstone County	B6	RM 344.64	74743.45	2-yr	1427.17	901.2	895.93	2.42	2.15	32.88	15.24	158.71	395.74	3.63	1.68	5.27	5.27
Yellowstone County	B6	RM 344.53	74576.12	2-yr	1427.17	901.02	895.39	2.41	2	50.73	20.73	160.53	523.9	3.35	1.36	5.63	5.63
Yellowstone County	B6	RM 344.43	74405.67	2-yr	1427.17	900.88	896.11	2.2	1.71	22.45	8.03	177.26	734.45	3.18	1.14	4.77	4.77
Yellowstone County	B6	RM 344.29	74192.79	2-yr	1427.17	900.74	895.87	2.07	1.69	26.6	9.45	178.31	705.56	3.38	1.2	4.87	4.87
Yellowstone County	B6	RM 344.13	73931.76	2-yr	1427.17	900.51	895.4	2.18	1.76	28.55	9.09	157.02	682.29	3.75	1.19	5.11	5.11
Yellowstone County	B6	RM 343.87	73520.95	2-yr	1427.17	900.29	895.23	1.71	1.44	16.05	8.96	287.43	639.42	2.79	1.55	5.06	5.06
Yellowstone County	B6	RM 343.80	73403.19	2-yr	1427.17	900.23	894.69	1.42	1.21	23.97	11.58	356.81	943.66	2.6	1.25	5.54	5.54

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	2-yr	1427.17	899.94	894.63	1.5	1.4	36.67	21.74	394.91	749.97	2.31	1.36	5.31	5.31
Yellowstone County	B6	RM 343.55	72997.33	2-yr	1427.17	899.67	894.63	1.53	1.46	33.36	18.82	365.6	691.6	2.52	1.41	5.04	5.04
Yellowstone County	B6	RM 343.45	72840.49	2-yr	1427.17	899.44	894.78	1.6	1.58	30.47	28.49	389.69	423.98	2.27	2.12	4.66	4.66
Yellowstone County	B6	RM 343.37	72718.86	2-yr	1427.17	899.19	894.5	1.89	1.86	44.7	28.44	325.06	522.19	2.32	1.47	4.69	4.69
Yellowstone County	B6	RM 343.29	72586.22	2-yr	1427.17	898.98	894.28	1.83	1.64	34.23	15.2	278.95	723.41	2.72	1.2	4.7	4.7
Yellowstone County	B6	RM 343.21	72458.03	2-yr	1427.17	898.81	893.99	1.66	1.47	41.98	25.33	356.32	703.68	2.29	1.38	4.82	4.82
Yellowstone County	B6	RM 343.14	72328.78	2-yr	1427.17	898.53	893.94	1.62	1.45	46.51	31.52	431.98	759.71	1.91	1.29	4.59	4.59
Yellowstone County	B6	RM 343.04	72174.44	2-yr	1427.17	898.36	894.12	1.4	1.23	14.14	10.14	485.63	797.85	2.03	1.45	4.24	4.24
Yellowstone County	B6	RM 342.96	72046.7	2-yr	1427.17	898.23	894.17	1.4	1.25	31.48	22.9	503.3	829.33	1.89	1.38	4.06	4.06
Yellowstone County	B6	RM 342.87	71890.42	2-yr	1427.17	897.87	893.92	1.53	1.39	45.25	32.97	535.66	866.85	1.63	1.19	3.95	3.95
Yellowstone County	B6	RM 342.78	71759.64	2-yr	1427.17	897.7	893.85	1.49	1.32	12.4	8.49	491.34	919.82	1.72	1.17	3.85	3.85
Yellowstone County	B6	RM 342.71	71649.64	2-yr	1427.17	897.62	893.88	1.48	1.31	10.64	6.97	525.07	1133.31	1.51	0.99	3.74	3.74
Yellowstone County	B6	RM 342.64	71534.72	2-yr	1427.17	897.49	893.45	1.33	1.24	31.63	21.95	688.9	1376.25	1.49	1.03	4.04	4.04
Yellowstone County	B6	RM 342.59	71441.82	2-yr	1427.17	897.26	893.13	1.4	1.37	35.83	31.57	669.04	1140.56	1.46	1.29	4.13	4.13
Yellowstone County	B6	RM 342.49	71299.94	2-yr	1427.17	897.05	892.73	1.2	1.2	20.26	19.92	638.3	1018.8	1.87	1.83	4.32	4.32
Yellowstone County	B6	RM 342.40	71182.23	2-yr	1427.17	896.97	892.4	1	0.98	14.19	9.31	590	1347.75	2.41	1.58	4.57	4.57
Yellowstone County	B6	RM 342.29	70973.95	2-yr	1427.17	896.76	891.26	1.34	1.31	22.49	14.94	480	957.16	2.2	1.46	5.5	5.5
Yellowstone County	B6	RM 342.17	70788.09	2-yr	1427.17	896.3	891.21	2.09	2.08	57.72	49.63	368.86	499.52	1.85	1.59	5.09	5.09
Yellowstone County	B6	RM 342.09	70668.79	2-yr	1427.17	896.13	892.22	1.73	1.72	28.15	22.82	334.02	455.3	2.47	2	3.91	3.91
Yellowstone County	B6	RM 341.96	70472.35	2-yr	1427.17	895.99	891.5	1.55	1.48	11.7	9.99	490.83	846.97	1.84	1.57	4.49	4.49
Yellowstone County	B6	RM 341.82	70207.79	2-yr	1427.17	895.83	890.89	1.23	1.21	15.6	12.91	572.54	707.74	2.01	1.66	4.94	4.94
Yellowstone County	B6	RM 341.68	69974.03	2-yr	1427.17	895.61	890.38	1.35	1.32	20.13	15.83	472.8	626.16	2.21	1.74	5.23	5.23
Yellowstone County	B6	RM 341.57	69788.71	2-yr	1427.17	895.37	889.58	1.84	1.82	13.3	11.72	421.95	485.76	1.83	1.61	5.79	5.79
Yellowstone County	B6	RM 341.47	69629.19	2-yr	1427.17	895.22	889.76	1.61	1.59	41.89	35.59	382.82	474.97	2.27	1.93	5.46	5.46
Yellowstone County	B6	RM 341.32	69391.37	2-yr	1427.17	894.75	890.36	1.69	1.65	40.79	33.31	391.91	495.97	2.14	1.75	4.38	4.38
Yellowstone County	B6	RM 341.24	69252.71	2-yr	1427.17	894.63	890.28	1.49	1.38	13.81	10.74	396.74	575.73	2.3	1.79	4.35	4.35
Yellowstone County	B6	RM 341.11	69044.61	2-yr	1427.17	894.37	890	1.9	1.66	29.61	18.77	323.2	605.3	2.24	1.42	4.37	4.37
Yellowstone County	B6	RM 340.94	68773.18	2-yr	1427.17	894.02	889.22	1.94	1.58	29.47	13.06	280.24	837.69	2.49	1.11	4.8	4.8
Yellowstone County	B6	RM 340.81	68556.42	2-yr	1427.17	893.88	889.05	1.46	1.08	19.08	9.54	315.36	998.29	2.66	1.32	4.83	4.83
Yellowstone County	B6	RM 340.65	68325.7	2-yr	1427.17	893.66	888.87	1.93	1.3	18.36	6.85	203.77	908.04	3.25	1.21	4.79	4.79
Yellowstone County	B6	RM 340.52	68126.27	2-yr	1427.17	893.43	887.3	2.34	1.6	37.8	8.41	129.79	938.7	4.3	0.95	6.13	6.13
Yellowstone County	B6	RM 340.40	67936.51	2-yr	1427.17	893.31	886.73	1.98	1.4	34.06	10.84	170.6	850.78	3.8	1.2	6.58	6.58
Yellowstone County	B7	RM 340.26	67715.84	2-yr	1427.17	893.07	887.99	1.83	1.51	41.1	21.09	250.68	633.48	2.91	1.49	5.08	5.08
Yellowstone County	B7	RM 340.16	67550.99	2-yr	1427.17	892.78	888.43	1.81	1.57	51.93	30.2	312.66	656.93	2.39	1.38	4.35	4.35
Yellowstone County	B7	RM 340.06	67387.35	2-yr	1427.17	892.53	888.74	1.65	1.49	31.74	27.05	315.76	443.78	2.52	2.15	3.79	3.79
Yellowstone County	B7	RM 339.96	67234.59	2-yr	1427.17	892.29	888.85	1.9	1.9	22.4	21.18	358.71	379.96	2.09	1.98	3.44	3.44
Yellowstone County	B7	RM 339.88	67094.07	2-yr	1427.17	892.12	888.78	1.71	1.67	34.2	29.84	441.35	524.06	1.87	1.63	3.34	3.34
Yellowstone County	B7	RM 339.79	66960.51	2-yr	1427.17	891.77	888.98	2.09	2.09	29.6	29.6	485.77	485.77	1.41	1.41	2.79	2.79
Yellowstone County	B7	RM 339.72	66843.76	2-yr	1427.17	891.59	888.72	1.85	1.81	22.77	21.6	492.01	530.64	1.56	1.48	2.87	2.87
Yellowstone County	B7	RM 339.66	66753.41	2-yr	1427.17	891.52	887.9	1.57	1.55	16.06	14.2	505.52	580.43	1.8	1.59	3.62	3.62
Yellowstone County	B7	RM 339.52	66527.74	2-yr	1427.17	891.35	887.31	1.65	1.42	15.47	9.46	312.36	649.62	2.59	1.58	4.04	4.04
Yellowstone County	B7	RM 339.37	66324.85	2-yr	1427.17	891.14	887.17	1.89	1.58	36.3	17.44	230.72	687.07	2.83	1.36	3.97	3.97
Yellowstone County	B7	RM 339.24	66108.49	2-yr	1427.17	890.7	886.45	2.49	2.13	33.5	20.9	215.93	471.79	2.33	1.45	4.25	4.25
Yellowstone County	B7	RM 339.13	65940.41	2-yr	1427.17	890.45	885.31	2.59	1.93	43.52	22.39	142.99	500.69	2.88	1.48	5.14	5.14
Yellowstone County	B7	RM 339.02	65745.93	2-yr	1427.17	890.15	886.09	2.51	2.19	35.56	20.65	176.16	417.53	2.69	1.56	4.06	4.06
Yellowstone County	B7	RM 338.94	65621.59	2-yr	1427.17	890.06	886.36	2.14	1.77	24.78	14.16	223.57	608.64	2.31	1.32	3.7	3.7
Yellowstone County	B7	RM 338.83	65433.26	2-yr	1427.17	889.86	886.37	1.95	1.68	29.25	17.63	222	603.99	2.36	1.43	3.84	3.84
Yellowstone County	B7	RM 338.72	65256.88	2-yr	1427.17	889.65	886.18	1.9	1.72	29.92	18.66	203.32	504.58	2.63	1.64	3.85	3.85
Yellowstone County	B7	RM 338.62	65095.08	2-yr	1427.17	889.35	886.28	2.39	2.12	32.95	17.73	175.17	507.01	2.53	1.36	3.73	3.73
Yellowstone County	B7	RM 338.49	64891.36	2-yr	1427.17	889.16	885.05	2.21	1.81	27.68	14.39	169.34	588.41	2.66	1.38	4.11	4.11
Yellowstone County	B7	RM 338.40	64742.15	2-yr	1427.17	889.13	884.28	1.56	1.25	13.48	9.05	165.27	640.48	2.73	1.82	4.85	4.85
Yellowstone County	B7	RM 338.29	64577.05	2-yr	1427.17	888.99	884.18	1.93	1.48	20.74	9.54	122.92	681.74	3.08	1.41	4.81	4.81
Yellowstone County	B7	RM 338.19	64384.71	2-yr	1427.17	888.92	885.23	1.32	1.14	11.75	7.77	392.21	906.18	2.1	1.39	3.69	3.69
Yellowstone County	B7	RM 338.06	64164.59	2-yr	1427.17	888.81	884.64	1.41	1.04	12.93	6.78	284.25	1016.5	2.59	1.36	4.17	4.17
Yellowstone County	B7	RM 337.91	63921.69	2-yr	1427.17	888.63	884.16	1.81	1.25	16.61	6.72	204.02	1027.99	2.89	1.17	4.47	4.47
Yellowstone County	B7	RM 337.83	63789.53	2-yr	1427.17	888.3	882.72	2.64	2.04	43.19	15.8	177.4	673.37	2.85	1.04	5.58	5.58
Yellowstone County	B7	RM 337.75	63667.96	2-yr	1427.17	888	881.69	2.99	2.24	49.17	18.21	142.17	551.16	3.14	1.15	6.31	6.31
Yellowstone County	B7	RM 337.68	63550.4	2-yr	1427.17	887.88	882.49	2.64	2.23	44.53	17.94	161.63	491.72	3.23	1.3	5.39	5.39
Yellowstone County	B7	RM 337.58	63396.62	2-yr	1427.17	887.67	883.62	2.65	2.19	38.61	18.87	185.77	493.26	2.7	1.32	4.05	4.05
Yellowstone County	B7	RM 337.47	63212.44	2-yr	1427.17	887.49	883.31	2.32	1.78	34.23	18.08	177.53	539.52	2.81	1.49	4.18	4.18
Yellowstone County	B7	RM 337.38	63064.58	2-yr	1427.17	887.24	883.29	2.56	1.88	36.89	14.79	162.12	660.98	2.88	1.15	3.95	3.95

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	2-yr	1427.17	887.22	883.15	1.74	1.25	16.2	6.58	202.4	1014.86	2.77	1.12	4.07	4.07
Yellowstone County	B7	RM 337.16	62717.85	2-yr	1427.17	887.15	882.57	1.35	1.08	10.67	5.66	394.49	1090.3	2.28	1.21	4.58	4.58
Yellowstone County	B7	RM 337.04	62524.52	2-yr	1427.17	887.09	879.61	1.47	1.02	11.11	3.84	152.72	966.98	4.18	1.44	7.48	7.48
Yellowstone County	B7	RM 336.96	62390.64	2-yr	1427.17	887	880.21	1.66	1.22	20.98	7.96	184.97	866.16	3.57	1.35	6.79	6.79
Yellowstone County	B7	RM 336.87	62246.97	2-yr	1427.17	886.87	881.41	1.96	1.39	22.29	7.67	155.95	811.06	3.71	1.27	5.46	5.46
Yellowstone County	B7	RM 336.80	62131.42	2-yr	1427.17	886.79	881.33	1.94	1.39	31.86	12.31	162.29	834	3.33	1.28	5.46	5.46
Yellowstone County	B7	RM 336.72	62005.73	2-yr	1427.17	886.53	881.38	2.42	1.88	47.11	15.83	135.98	668.92	3.52	1.18	5.15	5.15
Yellowstone County	B7	RM 336.66	61902.64	2-yr	1427.17	886.11	881.45	3.22	2.83	70.3	26.3	113.13	398.41	3.4	1.27	4.66	4.66
Yellowstone County	B7	RM 336.59	61800.43	2-yr	1427.17	886.1	880.66	2.41	2.04	43.52	16.86	135.03	484.07	3.75	1.45	5.44	5.44
Yellowstone County	B7	RM 336.52	61689.55	2-yr	1427.17	885.97	881.76	2.39	1.93	37.47	17.31	144.99	510.69	3.13	1.45	4.21	4.21
Yellowstone County	B7	RM 336.46	61580.5	2-yr	1427.17	885.86	882.13	2.23	1.91	35.88	14.18	154.58	636.99	2.98	1.17	3.73	3.73
Yellowstone County	B7	RM 336.40	61491.01	2-yr	1427.17	885.74	882.03	2.25	1.83	38.07	13.68	160.77	728.78	2.98	1.07	3.71	3.71
Yellowstone County	B7	RM 336.34	61394.22	2-yr	1427.17	885.62	881.93	2.29	1.64	35.42	14.02	163.06	782.62	2.81	1.11	3.69	3.69
Yellowstone County	B7	RM 336.27	61278.9	2-yr	1427.17	885.5	881.67	2.16	1.51	31.25	11.97	168.97	877.71	2.84	1.09	3.83	3.83
Yellowstone County	B7	RM 336.19	61159.07	2-yr	1427.17	885.32	882.11	2.26	1.71	28.55	16.16	211.66	961.3	2.09	1.18	3.21	3.21
Yellowstone County	B7	RM 336.09	60993.57	2-yr	1427.17	885.18	882.16	1.7	1.27	19.67	10.86	319.78	1050.89	1.98	1.09	3.02	3.02
Yellowstone County	B7	RM 335.98	60812.26	2-yr	1427.17	885.01	881.93	1.32	1.2	23.16	16.9	429.53	1088.21	1.58	1.15	3.28	3.28
Yellowstone County	B7	RM 335.89	60669.74	2-yr	1427.17	884.83	880.16	1.51	1.39	15.36	11.97	549.32	1007.68	1.64	1.27	4.67	4.67
Yellowstone County	B7	RM 335.77	60465.85	2-yr	1427.17	884.51	880.49	1.56	1.51	35.26	30.8	711.8	1044.4	1.25	1.09	4.02	4.02
Yellowstone County	B7	RM 335.68	60324.8	2-yr	1427.17	884.22	880.65	1.74	1.69	15.55	13.17	647.32	965.68	1.26	1.07	3.57	3.57
Yellowstone County	B7	RM 335.59	60183.7	2-yr	1427.17	884.02	880.3	1.8	1.77	14.77	12.79	716.88	1028.88	1.11	0.96	3.72	3.72
Yellowstone County	B7	RM 335.51	60046.12	2-yr	1427.17	883.86	880.03	1.69	1.68	13.62	12.9	668.23	1118.29	1.26	1.2	3.83	3.83
Yellowstone County	B7	RM 335.41	59899.97	2-yr	1427.17	883.78	879.45	1.22	1.13	10.15	7.93	874.97	1624.44	1.29	1.01	4.33	4.33
Yellowstone County	B7	RM 335.36	59814.82	2-yr	1427.17	883.77	878.65	0.85	0.76	4.35	2.99	885.35	2318.82	1.83	1.26	5.12	5.12
Yellowstone County	B7	RM 335.12	59393.71	2-yr	1427.17	883.56	878.54	1.49	0.96	12.89	4.73	326.26	2238.82	2.46	0.9	5.02	5.02
Yellowstone County	B7	RM 335.03	59228.59	2-yr	1427.17	883.24	876.8	2.59	1.51	46.29	11.43	148.81	1478.28	2.91	0.72	6.44	6.44
Yellowstone County	B7	RM 334.91	59041.32	2-yr	1427.17	883	878.31	2.13	1.3	34.63	10.6	227.5	1562.7	2.34	0.72	4.7	4.7
Yellowstone County	B7	RM 334.85	58937.73	2-yr	1427.17	882.83	878.66	2.16	1.35	37.55	11.75	224.38	1522.5	2.33	0.73	4.17	4.17
Yellowstone County	B7	RM 334.73	58737.5	2-yr	1427.17	882.27	879.52	2.84	1.97	51.04	22.59	191.28	758.85	2.23	0.99	2.89	2.89
Yellowstone County	B7	RM 334.63	58573.32	2-yr	1427.17	882.03	878.31	2.49	1.68	37.31	18.43	187.59	916.67	2.12	1.05	3.72	3.72
Yellowstone County	B7	RM 334.54	58424.99	2-yr	1427.17	882.01	877.09	1.23	1.13	17.52	10.01	136.85	899.73	2.69	1.53	4.92	4.92
Yellowstone County	B7	RM 334.22	57821.07	2-yr	1427.17	881.71	875.76	1.73	1.26	13.25	6.5	190.56	693.03	3.45	1.69	5.95	5.95
Yellowstone County	B7	RM 334.09	57621.62	2-yr	1427.17	881.37	875.55	2.84	2.09	60.26	25.17	110.83	555.28	3.29	1.37	5.82	5.82
Yellowstone County	B7	RM 333.98	57440.64	2-yr	1427.17	881.31	875.46	2.03	1.58	21.89	11.84	139.1	439.88	4	2.17	5.85	5.85
Yellowstone County	B7	RM 333.83	57207.78	2-yr	1427.17	881.14	875.4	2.1	1.81	28.56	17.94	150.56	391.82	3.44	2.16	5.74	5.74
Yellowstone County	B7	RM 333.69	56989.22	2-yr	1427.17	880.96	873.45	1.62	1.57	29.26	23.96	336.52	459.16	2.58	2.12	7.51	7.51
Yellowstone County	B7	RM 333.54	56738.21	2-yr	1427.17	880.82	874.22	1.13	1.07	15.55	9.92	409.78	847.53	3	1.91	6.6	6.6
Yellowstone County	B7	RM 333.42	56552.03	2-yr	1427.17	880.66	873.42	1.34	1.29	24.64	17.62	424.16	878.19	2.47	1.76	7.24	7.24
Yellowstone County	B7	RM 333.30	56351.75	2-yr	1427.17	880.31	875.65	1.61	1.59	47.25	39.21	447.01	576.99	1.98	1.64	4.66	4.66
Yellowstone County	B7	RM 333.19	56177.76	2-yr	1427.17	879.85	875.72	1.9	1.87	40.76	33.03	373.4	506.17	2.01	1.62	4.13	4.13
Yellowstone County	B7	RM 333.09	56027.56	2-yr	1427.17	879.69	875.59	1.67	1.57	17.68	14.36	391.34	770.43	2.15	1.75	4.1	4.1
Yellowstone County	B7	RM 332.99	55855.76	2-yr	1427.17	879.45	873.86	1.8	1.65	45.36	37.24	380.69	942.9	1.97	1.61	5.59	5.59
Yellowstone County	B7	RM 332.88	55687.68	2-yr	1427.17	879.26	874.43	1.57	1.51	16.12	10.13	401.67	997.27	2.13	1.34	4.83	4.83
Yellowstone County	B7	RM 332.77	55504.73	2-yr	1427.17	879.18	875.49	1.35	1.18	11.24	5.36	376.01	1377.36	2.6	1.24	3.69	3.69
Yellowstone County	B7	RM 332.66	55333.33	2-yr	1427.17	879.07	874.96	1.5	1.27	17.36	8.4	333.89	1318.01	2.6	1.25	4.11	4.11
Yellowstone County	B7	RM 332.56	55182.74	2-yr	1427.17	878.98	874.54	1.46	1.3	15.3	7.14	310.89	1381.66	2.94	1.37	4.44	4.44
Yellowstone County	B7	RM 332.47	55059.84	2-yr	1427.17	878.93	873.95	1.39	1.19	14.72	6.98	279.51	1407.71	3.2	1.51	4.98	4.98
Yellowstone County	B7	RM 332.38	54913.1	2-yr	1427.17	878.65	873.16	2.27	2	36.23	14.52	158.76	782.36	3.82	1.51	5.49	5.49
Yellowstone County	B7	RM 332.33	54822.67	2-yr	1427.17	878.55	872.5	2.23	1.95	49.77	20.56	177.26	882.61	3.47	1.43	6.05	6.05
Yellowstone County	B7	RM 332.21	54626.48	2-yr	1427.17	878.37	873.4	2.13	1.95	27.23	9.1	173.61	754.24	3.64	1.21	4.97	4.97
Yellowstone County	B7	RM 332.17	54575.38	2-yr	1427.17	878.29	872.76	2.29	1.98	29.5	7.85	139.16	1105.5	4.2	1.1	5.53	5.53
Yellowstone County	B7	RM 332.08	54422.01	2-yr	1427.17	878.18	873.77	2.24	1.91	32.92	12.83	152.74	1104.99	3.65	1.41	4.41	4.41
Yellowstone County	B7	RM 331.96	54224.76	2-yr	1427.17	877.99	873.18	2.04	1.82	35.15	13.07	188.2	1182.94	3.22	1.19	4.81	4.81
Yellowstone County	B7	RM 331.85	54057.19	2-yr	1427.17	877.75	873.16	2.05	1.95	55.35	33.71	238.38	434.93	2.89	1.76	4.59	4.59
Yellowstone County	B7	RM 331.74	53882.8	2-yr	1427.17	877.33	872.62	2.61	2.3	44.91	24.5	147.62	363.31	3.55	1.94	4.71	4.71
Yellowstone County	B8	RM 331.66	53744.64	2-yr	1427.17	877.25	871.68	2.09	1.94	34.65	20.44	218.13	407.52	3.07	1.81	5.57	5.57
Yellowstone County	B8	RM 331.55	53575.67	2-yr	1427.17	877.03	872.61	2.23	1.91	35.15	21.2	189.74	414.09	2.99	1.8	4.42	4.42
Yellowstone County	B8	RM 331.41	53354.89	2-yr	1427.17	876.76	872.56	2.22	1.86	36.75	20.15	217.82	539.87	2.61	1.42	4.2	4.2
Yellowstone County	B8	RM 331.32	53209.79	2-yr	1427.17	876.58	871.92	2.13	1.64	28.41	14.1	217.6	673.67	2.61	1.29	4.66	4.66
Yellowstone County	B8	RM 331.23	53053.99	2-yr	1427.17	876.41	871.53	1.83	1.58	26.46	16.22	367.98	827.71	1.78	1.09	4.88	4.88
Yellowstone County	B8	RM 331.14	52919.44	2-yr	1427.17	876.29	871.72	1.53	1.35	19.26	14.73	299.92	627.7	2.22	1.69	4.57	4.57

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydraulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	2-yr	1427.17	876.19	871.29	1.54	1.44	18.54	12.89	305.35	574.45	2.49	1.73	4.9	4.9
Yellowstone County	B8	RM 331.01	52700.37	2-yr	1427.17	876.09	871.8	1.58	1.4	20.44	12.9	299.42	668.29	2.44	1.54	4.29	4.29
Yellowstone County	B8	RM 330.93	52576.5	2-yr	1427.17	875.98	871.67	1.58	1.48	19.73	12.8	245.8	583.57	2.97	1.92	4.31	4.31
Yellowstone County	B8	RM 330.83	52418.21	2-yr	1427.17	875.77	870.75	2.15	1.87	26.42	16.03	141.13	395.02	3.77	2.28	5.02	5.02
Yellowstone County	B8	RM 330.77	52321.13	2-yr	1427.17	875.67	870.68	2.2	1.98	30.09	10.44	167.28	715.34	3.23	1.12	4.99	4.99
Yellowstone County	B8	RM 330.68	52174.9	2-yr	1427.17	875.44	870.33	2.59	2.28	36.47	16.35	128.67	458.21	3.58	1.6	5.11	5.11
Yellowstone County	B8	RM 330.58	52000.46	2-yr	1427.17	875.26	869.72	2.56	2.1	47.77	22.02	116.25	427.25	3.87	1.77	5.54	5.54
Yellowstone County	B8	RM 330.48	51852.83	2-yr	1427.17	875.09	868.81	2.58	2.02	45.4	18.43	104.52	420.22	4.23	1.69	6.28	6.28
Yellowstone County	B8	RM 330.39	51701.57	2-yr	1427.17	874.95	869.32	2.49	2	32.59	11.87	132.38	564.35	3.48	1.26	5.63	5.63
Yellowstone County	B8	RM 330.32	51592.04	2-yr	1427.17	874.85	869.57	2.45	2.05	30.65	10.82	134.91	548.31	3.61	1.27	5.28	5.28
Yellowstone County	B8	RM 330.25	51473.55	2-yr	1427.17	874.76	868.38	2.41	1.96	32.03	11.22	139.18	610.49	3.43	1.19	6.38	6.38
Yellowstone County	B8	RM 330.17	51344.77	2-yr	1427.17	874.62	869.9	2.41	2	33.13	13.11	151.04	574.55	3.15	1.24	4.72	4.72
Yellowstone County	B8	RM 330.10	51243.99	2-yr	1427.17	874.49	870.02	2.37	2	35.23	14.07	184.62	634.77	2.82	1.12	4.47	4.47
Yellowstone County	B8	RM 330.05	51150.67	2-yr	1427.17	874.44	869.94	1.87	1.6	23.57	11.31	297.95	870.32	2.15	1.03	4.5	4.5
Yellowstone County	B8	RM 329.95	50995.78	2-yr	1427.17	874.27	869.67	1.77	1.63	23.57	12.83	390.04	794.57	2.03	1.11	4.6	4.6
Yellowstone County	B8	RM 329.86	50853.11	2-yr	1427.17	874.14	869.99	1.62	1.44	19.24	9.7	386.56	916.68	2.16	1.08	4.15	4.15
Yellowstone County	B8	RM 329.75	50682.47	2-yr	1427.17	873.96	869.45	1.43	1.25	29.71	15.56	509.85	1284.89	1.85	0.96	4.51	4.51
Yellowstone County	B8	RM 329.66	50540.7	2-yr	1427.17	873.67	869.45	1.7	1.52	32.02	18.92	442.61	899.57	1.77	1.04	4.22	4.22
Yellowstone County	B8	RM 329.57	50390.78	2-yr	1427.17	873.45	869.17	1.69	1.5	19.04	12.23	494.79	939.21	1.59	1.02	4.28	4.28
Yellowstone County	B8	RM 329.49	50267.58	2-yr	1427.17	873.29	869.52	1.74	1.5	20.25	12.91	439.14	886.68	1.68	1.07	3.77	3.77
Yellowstone County	B8	RM 329.43	50165.22	2-yr	1427.17	873.25	869.82	1.31	1.18	10.83	7.28	528.11	893.42	2.01	1.35	3.43	3.43
Yellowstone County	B8	RM 329.37	50053.96	2-yr	1427.17	873.2	869.58	1.26	1.07	10.13	6.37	446.87	1015.66	2.1	1.32	3.62	3.62
Yellowstone County	B8	RM 329.31	49969.13	2-yr	1427.17	873.13	869.66	1.37	1.13	14.86	8.57	374.62	1067.45	2.05	1.18	3.47	3.47
Yellowstone County	B8	RM 329.26	49883.05	2-yr	1427.17	873.07	868.74	1.4	1.18	12.46	7.21	376.71	1035.46	2.03	1.17	4.33	4.33
Yellowstone County	B8	RM 329.20	49785.51	2-yr	1427.17	872.97	868.71	1.51	1.32	15.12	9.33	397.53	943.08	1.87	1.15	4.26	4.26
Yellowstone County	B8	RM 329.15	49699.71	2-yr	1571.59	872.9	868.64	1.41	1.24	18.55	11.96	463.75	965.71	2.04	1.32	4.26	4.26
Yellowstone County	B8	RM 329.08	49597.49	2-yr	1571.59	872.81	869.34	1.31	1.13	18.04	11.35	471.03	1086.08	2.03	1.28	3.47	3.47
Yellowstone County	B8	RM 328.96	49388.08	2-yr	1571.59	872.65	868.99	1.53	1.15	17.42	8.43	304.93	1214.24	2.34	1.13	3.66	3.66
Yellowstone County	B8	RM 328.85	49197.37	2-yr	1571.59	872.45	866.79	1.86	1.54	12.45	7.46	464.77	1134.01	1.5	0.9	5.66	5.66
Yellowstone County	B8	RM 328.75	49036.09	2-yr	1571.59	872.42	866.93	1.3	0.96	9.16	6.06	401	1345.4	1.85	1.22	5.49	5.49
Yellowstone County	B8	RM 328.68	48920.76	2-yr	1571.59	872.3	867.09	1.65	1.21	18.88	8.44	302.92	1302.5	2.23	0.99	5.21	5.21
Yellowstone County	B8	RM 328.60	48788.86	2-yr	1571.59	872.09	866.36	2.16	1.53	23.49	8.21	195.02	993.92	3.01	1.04	5.73	5.73
Yellowstone County	B8	RM 328.52	48664.7	2-yr	1571.59	872.07	867.75	1.83	1.27	19.19	7.13	166.31	1349	2.68	0.99	4.32	4.32
Yellowstone County	B8	RM 328.44	48539.46	2-yr	1571.59	871.88	867.34	2.25	1.54	34.41	8.79	137.54	1090.09	3.72	0.94	4.54	4.54
Yellowstone County	B8	RM 328.36	48405.85	2-yr	1571.59	871.66	867.12	2.66	1.84	34.2	10.31	131.77	828.25	3.47	1.03	4.54	4.54
Yellowstone County	B8	RM 328.28	48276.93	2-yr	1571.59	871.6	867.73	2.01	1.86	34.53	15.96	190.57	596.2	3.07	1.42	4.49	4.49
Yellowstone County	B8	RM 328.16	48097.58	2-yr	1571.59	871.39	866.7	1.95	1.79	34.44	19.54	222.34	618.16	2.51	1.42	4.69	4.69
Yellowstone County	B8	RM 328.05	47914.16	2-yr	1571.59	871.2	866.62	1.75	1.59	25.23	15.12	263.5	664.04	2.48	1.49	4.58	4.58
Yellowstone County	B8	RM 327.93	47729.4	2-yr	1571.59	870.97	865.67	2.02	1.79	23.41	15.37	295.26	573.52	2.33	1.53	5.3	5.3
Yellowstone County	B8	RM 327.88	47641.03	2-yr	1571.59	870.81	866	2.29	1.86	34.22	18.44	246.29	643.82	2.43	1.31	4.81	4.81
Yellowstone County	B8	RM 327.81	47525.32	2-yr	1571.59	870.71	866.29	2.25	1.77	25.13	10.85	181.55	642.22	3.21	1.38	4.42	4.42
Yellowstone County	B8	RM 327.75	47432.57	2-yr	1571.59	870.47	865.09	2.8	2.11	35.55	12.13	134.59	579	3.78	1.28	5.38	5.38
Yellowstone County	B8	RM 327.69	47341.24	2-yr	1571.59	870.26	864.48	3.31	2.22	45.08	17.85	107.87	494.47	3.65	1.43	5.78	5.78
Yellowstone County	B8	RM 327.62	47227.31	2-yr	1571.59	870.21	863.86	2.85	2.06	41.56	18.02	127.85	622.37	3.44	1.48	6.35	6.35
Yellowstone County	B8	RM 327.56	47124.87	2-yr	1571.59	870.19	864.46	2.35	1.78	28.95	14.5	155.04	685.92	3.03	1.51	5.73	5.73
Yellowstone County	B8	RM 327.51	47053.82	2-yr	1571.59	870.16	865.84	1.92	1.59	22.67	16.18	301.33	744.39	1.85	1.32	4.32	4.32
Yellowstone County	B8	RM 327.44	46933.28	2-yr	1571.59	870.15	866.93	1.05	1.15	8.31	7.84	387.86	785.77	1.84	1.73	3.53	3.53
Yellowstone County	B8	RM 327.37	46817.72	2-yr	1571.59	870.03	866.26	1.61	1.46	18.75	11.77	339.9	811.93	2.11	1.32	3.77	3.77
Yellowstone County	B8	RM 327.29	46687.12	2-yr	1571.59	869.95	866.04	1.59	1.37	16.37	9.54	303.08	875.91	2.25	1.31	3.91	3.91
Yellowstone County	B8	RM 327.23	46600.07	2-yr	1571.59	869.87	866.25	1.7	1.45	18.32	9.13	286.26	980.15	2.22	1.11	4.02	4.02
Yellowstone County	B8	RM 327.16	46485.25	2-yr	1571.59	869.73	865.67	1.89	1.56	25.62	12.3	271.45	939.2	2.28	1.09	4.06	4.06
Yellowstone County	B8	RM 327.08	46360.36	2-yr	1571.59	869.66	864.94	1.59	1.27	16.26	8	264.83	1065.84	2.71	1.33	4.72	4.72
Yellowstone County	B8	RM 327.00	46240.1	2-yr	1571.59	869.59	864.56	1.59	1.36	19.78	10.28	227.85	756.83	3.47	1.81	5.03	5.03
Yellowstone County	B8	RM 326.94	46091.8	2-yr	1571.59	869.52	864.04	1.62	1.29	13.36	6.76	223.67	687.62	3.5	1.77	5.48	5.48
Yellowstone County	B8	RM 326.88	46003.77	2-yr	1571.59	869.41	864.08	1.98	1.52	26.75	11.99	170.44	704.5	3.28	1.47	5.33	5.33
Yellowstone County	B8	RM 326.82	45901.15	2-yr	1571.59	869.32	864.18	2.01	1.53	26.76	15.24	201.73	733.46	2.45	1.4	5.14	5.14
Yellowstone County	B8	RM 326.78	45830.7	2-yr	1571.59	869.26	864.46	2.1	1.49	24.65	13.57	163.64	722.74	2.64	1.46	4.8	4.8
Yellowstone County	B8	RM 326.70	45707.6	2-yr	1571.59	869.19	864.66	1.8	1.37	15.18	11.01	259.53	718.67	2.2	1.59	4.53	4.53
Yellowstone County	B8	RM 326.64	45589.72	2-yr	1571.59	869.08	864.92	1.55	1.5	43.32	33.22	425.42	780.01	1.76	1.35	4.16	4.16
Yellowstone County	B8	RM 326.55	45430.24	2-yr	1571.59	868.88	864.83	1.71	1.56	17.74	12.62	347.86	609.44	2.33	1.66	4.05	4.05
Yellowstone County	B8	RM 326.45	45281.78	2-yr	1571.59	868.77	864.12	1.71	1.57	18.04	11.75	333.19	643.23	2.39	1.56	4.65	4.65

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	2-yr	1571.59	868.75	864.32	1.42	1.32	12.57	9.84	432.08	680.19	2.24	1.75	4.43	4.43
Yellowstone County	B8	RM 326.35	45106.57	2-yr	1571.59	868.72	864.43	1.23	1.1	9.15	6.17	483.02	834.4	2.54	1.71	4.29	4.29
Yellowstone County	B8	RM 326.28	45022.31	2-yr	1571.59	868.72	864.61	1.02	0.92	5.72	3.56	548.28	962.41	3.17	1.97	4.11	4.11
Yellowstone County	B8	RM 326.07	44588.61	2-yr	1571.59	868.48	862.39	1.72	1.63	8.9	6.98	624.65	911.3	1.45	1.13	6.09	6.09
Yellowstone County	B8	RM 326.00	44481.07	2-yr	1571.59	868.42	861.24	1.65	1.55	7.64	6.23	693.96	1099.7	1.36	1.11	7.18	7.18
Yellowstone County	B8	RM 325.94	44379.11	2-yr	1571.59	868.36	861.85	1.31	1.26	31.05	23.83	734.19	1338.6	1.59	1.22	6.51	6.51
Yellowstone County	B8	RM 325.89	44304.17	2-yr	1571.59	868.21	863	1.26	1.21	30.53	23.32	766.48	1156.35	1.58	1.21	5.21	5.21
Yellowstone County	B8	RM 325.86	44262.16	2-yr	1571.59	868.18	863.76	1.25	1.19	6.11	4.81	778.23	1049.37	1.6	1.26	4.42	4.42
Yellowstone County	B8	RM 325.81	44176.46	2-yr	1571.59	868.14	863.1	1.27	1.16	6.23	4.99	794.93	1115.69	1.52	1.21	5.04	5.04
Yellowstone County	B8	RM 325.76	44089.5	2-yr	1571.59	868.09	862.66	1.14	1.07	22.14	16.6	742.43	1127.95	1.8	1.34	5.43	5.43
Yellowstone County	B8	RM 325.69	43989.97	2-yr	1571.59	868.02	862.55	1.19	1.05	6.93	4.03	623.87	1318.84	2.05	1.19	5.47	5.47
Yellowstone County	B8	RM 325.58	43809.68	2-yr	1571.59	867.94	862.61	1.18	1	22.65	11.91	476.8	1183.61	2.54	1.33	5.33	5.33
Yellowstone County	B8	RM 325.50	43680.96	2-yr	1571.59	867.77	862.6	1.38	1.22	28.62	13.34	434.18	1112.36	2.51	1.15	5.17	5.17
Yellowstone County	B8	RM 325.43	43556.76	2-yr	1571.59	867.62	860.89	1.39	1.21	30.85	14.83	386.24	995.41	2.73	1.3	6.73	6.73
Yellowstone County	B8	RM 325.37	43461.41	2-yr	1571.59	867.53	861.36	1.35	1.16	28.34	13.04	343.6	1009.37	2.93	1.34	6.17	6.17
Yellowstone County	B8	RM 325.30	43343.13	2-yr	1571.59	867.38	861.56	1.65	1.35	25.83	9.85	265.92	940.15	3.26	1.24	5.82	5.82
Yellowstone County	B8	RM 325.21	43210.67	2-yr	1571.59	867.24	861.34	1.89	1.5	23.39	8.27	203.26	780.45	3.83	1.34	5.9	5.9
Yellowstone County	B8	RM 325.13	43078.9	2-yr	1571.59	867.08	861.36	2.2	1.67	32.48	9.13	148.76	750.91	4.49	1.25	5.72	5.72
Yellowstone County	B8	RM 325.06	42966.54	2-yr	1571.59	866.79	860.78	2.85	2.35	52.37	14.34	121.93	565.61	4.36	1.18	6.01	6.01
Yellowstone County	B8	RM 324.99	42864.51	2-yr	1571.59	866.68	861.24	2.68	1.98	50.4	14.72	134.46	684.28	4	1.16	5.44	5.44
Yellowstone County	B8	RM 324.91	42729.7	2-yr	1571.59	866.53	860.76	2.6	1.92	48.08	14.08	131.99	657.09	4.28	1.25	5.77	5.77
Yellowstone County	B8	RM 324.81	42573.19	2-yr	1571.59	866.36	860.39	2.52	1.96	46.5	14.91	137.51	586.84	4.28	1.37	5.97	5.97
Yellowstone County	B8	RM 324.73	42451.12	2-yr	1571.59	866.27	861.59	2.27	1.77	35	13.59	179.14	642.16	3.58	1.38	4.68	4.68
Yellowstone County	B8	RM 324.65	42323.44	2-yr	1571.59	866.21	861.99	1.72	1.46	33.72	18.95	300.92	710.62	2.71	1.52	4.22	4.22
Yellowstone County	B8	RM 324.56	42178.25	2-yr	1571.59	866.07	861.76	1.77	1.43	12.57	9.23	402.16	778.65	1.92	1.41	4.31	4.31
Yellowstone County	B8	RM 324.48	42039.74	2-yr	1571.59	865.93	861.58	1.61	1.42	40.5	26.79	477.36	881.93	1.9	1.25	4.35	4.35
Yellowstone County	B8	RM 324.42	41946.09	2-yr	1571.59	865.82	861.04	1.31	1.16	24.15	14.81	478.13	936.26	2.36	1.45	4.78	4.78
Yellowstone County	B8	RM 324.34	41812.99	2-yr	1571.59	865.58	861.07	1.66	1.36	43.62	22.95	378.78	971.33	2.27	1.19	4.51	4.51
Yellowstone County	B8	RM 324.28	41712.42	2-yr	1571.59	865.34	859.64	1.79	1.5	52.92	27.59	364.04	965.55	2.09	1.09	5.7	5.7
Yellowstone County	B8	RM 324.20	41597.64	2-yr	1571.59	865.25	860.59	1.04	0.97	16.76	12.5	666.54	1026.24	2.13	1.59	4.66	4.66
Yellowstone County	B8	RM 324.16	41526.97	2-yr	1571.59	865.15	861.07	1.42	1.36	10.27	9.04	664.36	820.85	1.6	1.41	4.08	4.08
Yellowstone County	B8	RM 324.10	41434.55	2-yr	1571.59	865.08	860.81	1.22	1.21	22.44	17.81	686.06	884.69	1.86	1.47	4.27	4.27
Yellowstone County	B8	RM 324.04	41346.42	2-yr	1571.59	865.01	860.39	1.13	1.1	13.94	10.07	604.9	942.02	2.13	1.53	4.62	4.62
Yellowstone County	B8	RM 323.97	41219.29	2-yr	1571.59	864.93	860.64	1.09	1.04	13.94	9.55	573.41	1055.46	2.1	1.43	4.29	4.29
Yellowstone County	B8	RM 323.83	40977.08	2-yr	1571.59	864.8	860.31	1.17	0.98	10.42	5.66	452.94	1128.85	2.61	1.42	4.49	4.49
Yellowstone County	B8	RM 323.71	40786.71	2-yr	1571.59	864.6	858.49	1.86	1.38	22.18	8.3	219.74	907.35	3.36	1.25	6.11	6.11
Yellowstone County	B8	RM 323.60	40615.85	2-yr	1571.59	864.6	858.06	1.41	1.07	12.58	5.25	121.13	828.27	4.27	1.77	6.54	6.54
Yellowstone County	B8	RM 323.55	40536.83	2-yr	1571.59	864.23	857.58	2.92	2.05	55.52	15.61	113.65	718.25	3.81	1.07	6.65	6.65
Yellowstone County	B8	RM 323.49	40429.96	2-yr	1571.59	864.1	858.37	2.78	1.96	47.45	13.71	118.37	710	3.93	1.13	5.73	5.73
Yellowstone County	B8	RM 323.41	40309.21	2-yr	1571.59	863.98	859.41	2.53	1.93	48.32	18.27	135.11	620.33	3.49	1.32	4.57	4.57
Yellowstone County	B8	RM 323.33	40186.15	2-yr	1571.59	863.9	859.58	2.12	1.57	26.21	10.1	175.42	825.8	3.17	1.21	4.32	4.32
Yellowstone County	B8	RM 323.27	40082.34	2-yr	1571.59	863.8	859.66	2.15	1.56	30.59	11.72	188.66	863.33	3.05	1.16	4.14	4.14
Yellowstone County	B8	RM 323.21	39985.33	2-yr	1571.59	863.69	859.54	2.15	1.53	31.98	14.19	210.79	854.04	2.71	1.2	4.15	4.15
Yellowstone County	B8	RM 323.16	39899.29	2-yr	1571.59	863.62	859.55	1.69	1.3	29.84	14.96	275.85	1001.06	2.41	1.21	4.07	4.07
Yellowstone County	B8	RM 323.06	39735.77	2-yr	1571.59	863.32	858.56	1.66	1.6	35.69	24.43	300.2	841.18	2.15	1.47	4.76	4.76
Yellowstone County	B8	RM 322.93	39531.81	2-yr	1571.59	863.08	859.35	1.58	1.39	23.28	12.92	302.93	846.9	2.47	1.36	3.73	3.73
Yellowstone County	B8	RM 322.79	39301.41	2-yr	1571.59	862.86	858.62	1.81	1.41	22.97	10.13	220.72	878.46	2.88	1.27	4.24	4.24
Yellowstone County	B8	RM 322.69	39142.64	2-yr	1571.59	862.74	857.47	1.91	1.42	19.11	8.79	200.75	792.36	3.04	1.4	5.27	5.27
Yellowstone County	B8	RM 322.58	38982.22	2-yr	1571.59	862.25	856.56	3.26	2.64	65.91	29.4	113.51	417.28	3.21	1.43	5.69	5.69
Yellowstone County	B9	RM 322.51	38859.49	2-yr	1571.59	862.18	858.28	2.52	2.11	38.55	18.66	157.91	503.13	3.07	1.48	3.9	3.9
Yellowstone County	B9	RM 322.41	38696.02	2-yr	1571.59	862.08	857.62	1.53	1.56	27.16	23.76	416.46	570.3	2.01	1.76	4.47	4.47
Yellowstone County	B9	RM 322.34	38586.33	2-yr	1571.59	861.99	857.65	1.26	1.3	17.8	14.84	543.08	794.32	1.87	1.56	4.34	4.34
Yellowstone County	B9	RM 322.23	38396.25	2-yr	1571.59	861.84	857.13	0.98	1.03	15.59	13.47	727.87	982.9	1.8	1.55	4.71	4.71
Yellowstone County	B9	RM 322.13	38239.27	2-yr	1571.59	861.68	857.1	0.89	1	17.38	15.48	853.49	1095.48	1.61	1.43	4.58	4.58
Yellowstone County	B9	RM 322.03	38090.48	2-yr	1571.59	861.23	856.15	1.35	1.56	55.02	55.31	785.18	874.03	1.14	1.15	5.08	5.08
Yellowstone County	B9	RM 321.91	37898.13	2-yr	1571.59	860.94	856.85	1.87	1.87	11	11	548.15	548.15	1.53	1.53	4.09	4.09
Yellowstone County	B9	RM 321.82	37758.36	2-yr	1571.59	860.93	856.34	1.36	1.36	6.47	6.47	619.28	619.28	1.86	1.86	4.6	4.6
Yellowstone County	B9	RM 321.70	37567.01	2-yr	1571.59	860.82	855.27	1.24	1.24	25.67	25.67	783.75	783.75	1.61	1.61	5.55	5.55
Yellowstone County	B9	RM 321.60	37414.63	2-yr	1571.59	860.73	854.48	0.94	0.94	9.25	8.86	736.33	770.83	2.27	2.17	6.25	6.25
Yellowstone County	B9	RM 321.48	37188.51	2-yr	1571.59	860.51	855.03	1.4	1.36	24.59	22.36	543.36	627.63	2.03	1.84	5.49	5.49
Yellowstone County	B9	RM 321.38	37016.94	2-yr	1571.59	860.2	854.75	1.77	1.7	32.17	28.38	456.86	546.95	1.92	1.69	5.45	5.45

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	2-yr	1571.59	860.09	855.3	1.4	1.36	14.49	10.99	455.12	621.36	2.45	1.86	4.79	4.79
Yellowstone County	B9	RM 321.13	36652.19	2-yr	1571.59	859.98	854.69	1.35	1.03	19.55	10.94	273.54	923.28	3.23	1.79	5.29	5.29
Yellowstone County	B9	RM 321.05	36531.25	2-yr	1571.59	859.88	855.36	1.65	1.22	14.06	5.23	188.88	900.19	3.89	1.43	4.52	4.52
Yellowstone County	B9	RM 321.00	36446.98	2-yr	1571.59	859.75	855.12	2.17	1.62	32.84	8.99	132.6	945.58	3.82	1.02	4.64	4.64
Yellowstone County	B9	RM 320.71	36404.1*	2-yr	1571.59	859.65	855.12	2.46	1.78	28.2	8.2	138.25	865.33	3.57	1.02	4.53	4.53
Yellowstone County	B9	RM 320.62	36361.3*	2-yr	1571.59	859.59	855.12	2.55	1.82	29.44	9.13	143.76	841.34	3.38	1.03	4.48	4.48
Yellowstone County	B9	RM 320.92	36318.56	2-yr	1571.59	859.54	855.12	2.57	2.02	50.16	14.78	131.96	834.67	3.59	1.04	4.42	4.42
Yellowstone County	B9	RM 320.44	36258.3*	2-yr	1571.59	859.47	855.19	2.54	1.93	28.8	9.75	152.7	794.91	3.31	1.1	4.28	4.28
Yellowstone County	B9	RM 320.38	36198.1*	2-yr	1571.59	859.44	855.26	2.39	1.77	26.32	9.24	160.31	818.01	3.39	1.18	4.18	4.18
Yellowstone County	B9	RM 320.80	36137.92	2-yr	1571.59	859.43	855.33	2.13	1.57	33.57	9.61	157.14	1100.49	3.6	1.01	4.1	4.1
Yellowstone County	B9	RM 320.71	35990.21	2-yr	1571.59	859.39	854.38	1.39	1.16	17.3	5.76	274.88	1312.35	3.45	1.13	5.01	5.01
Yellowstone County	B9	RM 320.54	35839.45	2-yr	1571.59	859.29	853.99	1.51	1.18	17.27	7.36	323.78	1206.29	2.88	1.21	5.3	5.3
Yellowstone County	B9	RM 320.44	35717.45	2-yr	1571.59	859.22	854.32	1.48	1.11	13.72	5.35	334.82	1461.94	2.72	1.05	4.9	4.9
Yellowstone County	B9	RM 320.62	35556.9	2-yr	1571.59	859.13	854.17	1.47	1.13	22.6	9.33	260.73	1275.55	2.98	1.21	4.96	4.96
Yellowstone County	B9	RM 320.38	35461.42	2-yr	1571.59	859.02	854.17	1.78	1.25	19.04	6.64	196.57	1056.03	3.77	1.29	4.84	4.84
Yellowstone County	B9	RM 320.32	35359.13	2-yr	1571.59	858.83	854.57	2.38	1.74	37.62	10.23	139.08	848.02	4.01	1.06	4.26	4.26
Yellowstone County	B9	RM 320.25	35241.01	2-yr	1571.59	858.23	854.29	3.67	3	88.4	26.26	109.52	506.6	3.56	1.03	3.94	3.94
Yellowstone County	B9	RM 320.20	35163.52	2-yr	1571.59	858.07	854.2	3.5	2.92	86.19	29.89	122.18	488.39	3.25	1.1	3.86	3.86
Yellowstone County	B9	RM 320.14	35071.29	2-yr	1571.59	857.87	854.32	3.24	2.79	72.56	33.09	157.09	452.99	2.76	1.25	3.54	3.54
Yellowstone County	B9	RM 320.01	34865.89	2-yr	1571.59	857.48	854.42	2.6	2.57	33.07	27.41	121.47	356.42	2.07	1.71	3.13	3.13
Yellowstone County	B9	RM 319.91	34707.77	2-yr	1571.59	857.44	854.66	1.43	1.81	14.63	12.23	140.26	498.48	2.22	1.84	3.86	3.86
Yellowstone County	B9	RM 319.86	34625.68	2-yr	1571.59	857.4	854.6	1.29	1.67	14.95	11.43	151.79	616.22	2.09	1.58	3.84	3.84
Yellowstone County	B9	RM 319.78	34508.06	2-yr	1571.59	857.26	854.51	2.16	1.93	31.07	19.28	106.69	521.31	2.57	1.58	3.74	3.74
Yellowstone County	B9	RM 319.73	34426.63	2-yr	1571.59	857.09	854.69	2.75	1.69	41.49	29.15	155.66	631.83	2.1	1.48	3.62	3.62
Yellowstone County	B9	RM 319.66	34314.84	2-yr	1571.59	856.98	854.51	2.1	1.73	23.62	15.59	154.94	688.53	2	1.32	3.55	3.55
Yellowstone County	B9	RM 319.57	34163.05	2-yr	1571.59	856.83	853.93	1.99	1.81	19.03	12.81	196.81	633.58	2.04	1.37	3.49	3.49
Yellowstone County	B9	RM 319.44	33955.96	2-yr	1571.59	856.72	853.14	1.86	1.67	24.64	16.8	153.57	604.87	2.31	1.55	3.58	3.58
Yellowstone County	B9	RM 319.39	33872.4	2-yr	1571.59	856.63	852.65	2.07	1.73	21.47	13.03	137.96	628.6	2.42	1.45	3.99	3.99
Yellowstone County	B9	RM 319.34	33786.83	2-yr	1571.59	856.59	852.83	1.92	1.53	18.14	10.9	178.14	715.69	2.41	1.43	3.76	3.76
Yellowstone County	B9	RM 319.22	33580.15	2-yr	1571.59	856.53	851.79	1.94	1.3	16.81	8.28	80.63	704.26	3.6	1.72	4.74	4.74
Yellowstone County	B9	RM 319.17	33497.33	2-yr	1571.59	856.52	851.64	1.47	1.28	12.3	7.11	121.6	810.82	2.81	1.59	4.87	4.87
Yellowstone County	B9	RM 319.09	33368.53	2-yr	1571.59	856.24	851.25	2.36	2.21	38.86	22.58	132.23	380.55	3.28	1.87	5	5
Yellowstone County	B9	RM 319.04	33287.21	2-yr	1571.59	856.01	851.49	2.96	2.5	57.91	32.02	111.75	323.87	3.59	1.94	4.52	4.52
Yellowstone County	B9	RM 318.96	33153.16	2-yr	1571.59	855.86	851.64	2.53	2.3	48.93	27.89	155.03	376.38	3.22	1.82	4.21	4.21
Yellowstone County	B9	RM 318.91	33065.54	2-yr	1571.59	855.73	851.86	2.41	2.19	50.4	32.11	179.23	379.18	2.98	1.89	3.88	3.88
Yellowstone County	B9	RM 318.82	32939.33	2-yr	1571.59	855.52	851.86	2.61	2.22	34.22	19.29	154.05	386.25	3.28	1.84	3.67	3.67
Yellowstone County	B9	RM 318.74	32833.24	2-yr	1571.59	855.51	851.86	1.98	1.78	26.44	16.3	181.91	574.83	3.12	1.91	3.65	3.65
Yellowstone County	B9	RM 318.62	32649.76	2-yr	1571.59	855.33	850.67	1.7	1.68	30.4	24.55	316.37	525.6	2.2	1.77	4.66	4.66
Yellowstone County	B9	RM 318.42	32315.28	2-yr	1571.59	854.92	850.15	1.88	1.85	21.6	18.12	344.62	421.11	2.41	2.02	4.77	4.77
Yellowstone County	B9	RM 318.17	31866.42	2-yr	1571.59	854.52	849.17	2.04	1.68	26.76	13.42	207.89	549.96	3.43	1.7	5.34	5.34
Yellowstone County	B9	RM 317.97	31551.39	2-yr	1571.59	854.26	848.35	2.11	1.96	19.38	10.6	229.91	463.19	3.2	1.73	5.91	5.91
Yellowstone County	B10	RM 317.87	31388.76	2-yr	1571.59	853.97	848.78	2.71	2.35	40.5	15.85	159.97	498.06	3.5	1.35	5.2	5.2
Yellowstone County	B10	RM 317.78	31248.07	2-yr	1571.59	853.95	848.75	2.21	1.67	26.68	9.04	143.27	693.19	4.08	1.36	5.2	5.2
Yellowstone County	B10	RM 317.70	31120.75	2-yr	1571.59	853.94	848.56	1.8	1.37	18.25	9.5	171.2	823.95	3.47	1.78	5.37	5.37
Yellowstone County	B10	RM 317.61	30982.56	2-yr	1571.59	853.84	848.29	1.88	1.42	18.54	9.01	194.24	723.94	3.2	1.53	5.56	5.56
Yellowstone County	B10	RM 317.53	30849.94	2-yr	1571.59	853.81	848.5	1.44	1.32	12.42	8.38	342.21	665.88	2.66	1.79	5.31	5.31
Yellowstone County	B10	RM 317.45	30723.4	2-yr	1571.59	853.71	848.47	1.6	1.49	17.43	11.04	368.42	771.67	2.17	1.37	5.24	5.24
Yellowstone County	B10	RM 317.37	30601.88	2-yr	1571.59	853.62	848.17	1.43	1.33	18.44	12.08	367.74	865.75	2.12	1.38	5.46	5.46
Yellowstone County	B10	RM 317.30	30483.81	2-yr	1571.59	853.52	848.41	1.61	1.37	14.81	8.64	272.82	709.57	2.8	1.62	5.11	5.11
Yellowstone County	B10	RM 317.19	30302.33	2-yr	1571.59	853.4	848.84	1.84	1.42	18.12	6.41	160.55	905.9	4.11	1.43	4.57	4.57
Yellowstone County	B10	RM 317.05	30079.26	2-yr	1571.59	853.21	848.38	2.14	1.84	21.95	12.5	158.61	355.12	4.27	2.41	4.83	4.83
Yellowstone County	B10	RM 316.93	29889.26	2-yr	1571.59	852.99	847.25	2.46	2.23	35.75	18.83	149.96	322.85	4.2	2.18	5.73	5.73
Yellowstone County	B10	RM 316.79	29668.4	2-yr	1571.59	852.83	847.89	2.34	2.11	32.7	15.16	146.12	363.97	4.48	2.05	4.93	4.93
Yellowstone County	B10	RM 316.66	29466.39	2-yr	1571.59	852.7	847.86	2.21	2	26.91	13.41	162.12	370.54	4.31	2.12	4.84	4.84
Yellowstone County	B10	RM 316.58	29329.04	2-yr	1571.59	852.59	847.74	2.21	1.81	36.39	14.98	173.26	540.03	3.95	1.61	4.85	4.85
Yellowstone County	B10	RM 316.51	29227.18	2-yr	1571.59	852.46	847.41	2.33	1.89	34.98	14.69	182.02	561.41	3.56	1.48	5.06	5.06
Yellowstone County	B10	RM 316.43	29091.4	2-yr	1571.59	852.32	847.41	2.17	1.77	40.82	20.69	238.72	620.09	2.85	1.43	4.92	4.92
Yellowstone County	B10	RM 316.33	28935.99	2-yr	1571.59	852.05	847.74	2.17	1.84	48.43	28.35	284.16	609.64	2.41	1.4	4.31	4.31
Yellowstone County	B10	RM 316.24	28786.65	2-yr	1571.59	851.79	847.5	1.84	1.76	42.42	32.43	347.41	522.12	2.24	1.71	4.29	4.29
Yellowstone County	B10	RM 316.14	28628.02	2-yr	1571.59	851.58	846.92	1.73	1.57	27.82	19.04	321.79	535.83	2.74	1.87	4.66	4.66
Yellowstone County	B10	RM 316.05	28475.44	2-yr	1571.59	851.32	846.73	2	1.89	38.93	27.54	292.9	445.36	2.65	1.87	4.59	4.59

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	2-yr	1571.59	851.21	846.43	1.95	1.77	17.54	11.46	297.4	520.44	2.62	1.71	4.79	4.79
Yellowstone County	B10	RM 315.84	28140.65	2-yr	1571.59	850.87	846.58	2.57	2.26	46.65	21.56	164.22	455.95	3.34	1.53	4.28	4.28
Yellowstone County	B10	RM 315.71	27926.69	2-yr	1571.59	850.63	846.34	2.47	2.14	26.34	13.1	199.06	531.08	2.8	1.38	4.29	4.29
Yellowstone County	B10	RM 315.58	27720.72	2-yr	1571.59	850.58	846.16	1.87	1.41	23.15	9.62	140.49	941.09	3.47	1.41	4.43	4.43
Yellowstone County	B10	RM 315.44	27505.06	2-yr	1571.59	850.39	846.09	2.08	1.57	25.05	7.76	150.81	951.6	3.85	1.17	4.29	4.29
Yellowstone County	B10	RM 315.30	27283.58	2-yr	1571.59	850.29	844.45	1.48	1.16	16.03	7.48	317.48	1238.63	2.36	1.09	5.84	5.84
Yellowstone County	B10	RM 315.18	27097.16	2-yr	1571.59	850.22	844.72	1.19	1.03	8.88	5.71	453.77	1251.97	1.91	1.22	5.5	5.5
Yellowstone County	B10	RM 315.01	26818.99	2-yr	1571.59	850.03	844.66	1.49	1.29	18.37	11.68	473.16	958.2	2.01	1.27	5.36	5.36
Yellowstone County	B10	RM 314.85	26559.67	2-yr	1571.59	849.68	844.84	2.18	1.9	32.61	14.81	165.9	482.12	3.85	1.72	4.84	4.84
Yellowstone County	B10	RM 314.69	26324.37	2-yr	1571.59	849.39	844.24	2.43	2.24	36.62	16.92	170.23	426.88	3.61	1.64	5.15	5.15
Yellowstone County	B10	RM 314.57	26132.54	2-yr	1571.59	849.13	844.63	2.62	2.26	41.99	16.06	142.13	451.88	4.08	1.54	4.5	4.5
Yellowstone County	B10	RM 314.46	25963.96	2-yr	1571.59	849.01	844.48	2.25	2.04	37.08	21.29	200.8	410.09	3.31	1.88	4.53	4.53
Yellowstone County	B10	RM 314.35	25782.69	2-yr	1571.59	848.78	844.51	2.15	2.13	42.69	35.69	242.27	294.13	3.01	2.51	4.27	4.27
Yellowstone County	B10	RM 314.24	25607.48	2-yr	1571.59	848.63	844.14	2.08	2.05	17.1	13.4	255.46	334.06	2.95	2.3	4.49	4.49
Yellowstone County	B10	RM 314.15	25461.23	2-yr	1571.59	848.48	844.05	2.11	2.06	52.56	37.91	297.5	428.04	2.49	1.79	4.42	4.42
Yellowstone County	B10	RM 314.06	25326.45	2-yr	1571.59	848.44	843.63	1.52	1.5	10.22	9.08	435.09	517.88	2.37	2.11	4.81	4.81
Yellowstone County	B10	RM 313.98	25189.4	2-yr	1571.59	848.34	843.05	1.47	1.4	26.09	18.19	541.23	826.26	1.95	1.36	5.3	5.3
Yellowstone County	B10	RM 313.83	24942.42	2-yr	1571.59	848.14	843.2	1.32	1.31	14.53	13.28	474.17	522.38	2.51	2.3	4.94	4.94
Yellowstone County	B10	RM 313.72	24768.08	2-yr	1571.59	848.01	842.35	1.55	1.43	15.76	10.6	330.35	545.82	3.01	2.01	5.66	5.66
Yellowstone County	B10	RM 313.66	24671.51	2-yr	1571.59	847.92	843.14	1.73	1.55	17.68	9.65	286.85	608.96	3.08	1.67	4.78	4.78
Yellowstone County	B10	RM 313.57	24513.04	2-yr	1571.59	847.82	842.47	1.74	1.57	18.91	10.59	303.47	620.48	2.89	1.61	5.35	5.35
Yellowstone County	B10	RM 313.47	24364.02	2-yr	1571.59	847.73	841.55	1.68	1.6	16.95	8.94	283.57	573.28	3.29	1.72	6.18	6.18
Yellowstone County	B10	RM 313.33	24143.26	2-yr	1571.59	847.45	842.65	2.24	2.08	38.25	21.16	178.24	353.86	3.9	2.14	4.8	4.8
Yellowstone County	B10	RM 313.18	23899.74	2-yr	1571.59	846.83	842.19	3.06	2.99	80.48	59.18	158.39	222.14	3.24	2.36	4.64	4.64
Yellowstone County	B10	RM 313.07	23728.15	2-yr	1571.59	846.61	842.62	2.72	2.62	40.39	28.76	160.29	236.26	3.59	2.54	3.99	3.99
Yellowstone County	B10	RM 312.98	23590.93	2-yr	1571.59	846.56	842.5	2.31	2.18	26.06	19.01	189.66	340.26	3.44	2.5	4.07	4.07
Yellowstone County	B10	RM 312.90	23455.11	2-yr	1571.59	846.5	842.38	1.99	1.86	29.88	22.04	198.41	333.5	3.45	2.54	4.13	4.13
Yellowstone County	B10	RM 312.75	23227.05	2-yr	1571.59	846.28	841.71	2.1	1.86	26.75	15.46	222.1	495.97	2.97	1.7	4.57	4.57
Yellowstone County	B10	RM 312.65	23058.61	2-yr	1571.59	846.15	841.61	1.91	1.73	24.37	15.92	271.99	557.76	2.51	1.63	4.54	4.54
Yellowstone County	B10	RM 312.53	22873.59	2-yr	1571.59	846.08	841.37	1.64	1.37	11.88	5.98	236.73	645.24	3.55	1.77	4.71	4.71
Yellowstone County	B10	RM 312.49	22797.96	2-yr	1571.59	846.01	841.34	1.92	1.57	20.61	9.47	201.04	615.27	3.57	1.63	4.67	4.67
Yellowstone County	B10	RM 312.39	22646.67	2-yr	1571.59	845.85	840.85	2.31	1.76	32.9	15.64	148.04	568.95	3.34	1.57	5	5
Yellowstone County	B10	RM 312.33	22536.68	2-yr	1571.59	845.67	840.82	2.57	1.92	41.56	19.62	138.55	510.17	3.46	1.61	4.85	4.85
Yellowstone County	B10	RM 312.22	22360.55	2-yr	1571.59	845.6	840.91	2.06	1.64	27.54	13.95	125.99	487.25	3.94	1.96	4.69	4.69
Yellowstone County	B10	RM 312.13	22230.65	2-yr	1571.59	845.57	840.94	1.5	1.35	15.95	12.06	348.29	547.54	2.82	2.13	4.62	4.62
Yellowstone County	B10	RM 312.04	22082.88	2-yr	1571.59	845.44	840.82	1.66	1.52	20.73	16.05	344.21	518.37	2.58	1.99	4.62	4.62
Yellowstone County	B10	RM 311.95	21934.61	2-yr	1571.59	845.3	840.79	1.73	1.62	21.54	14.58	348.24	561.03	2.56	1.73	4.51	4.51
Yellowstone County	B10	RM 311.89	21840.24	2-yr	1571.59	845.23	840.76	1.63	1.51	22.56	16.24	323.27	497.87	2.92	2.1	4.47	4.47
Yellowstone County	B10	RM 311.77	21651.91	2-yr	1571.59	845.11	840.18	1.68	1.53	19.19	10.55	225.16	464.69	4.05	2.21	4.92	4.92
Yellowstone County	B10	RM 311.69	21530.39	2-yr	1571.59	844.93	839.85	2.19	1.79	30.89	12.48	150.56	496.82	4.47	1.77	5.09	5.09
Yellowstone County	B10	RM 311.58	21350.77	2-yr	1571.59	844.8	839.63	2.2	1.71	32.12	10.69	171.57	731.47	3.83	1.26	5.16	5.16
Yellowstone County	B10	RM 311.48	21191.11	2-yr	1571.59	844.7	839.42	1.97	1.56	23.38	9.96	228.05	745.35	3.22	1.36	5.28	5.28
Yellowstone County	B10	RM 311.37	21010.53	2-yr	1571.59	844.59	839.18	1.68	1.38	19.79	9.3	334.75	926.2	2.63	1.23	5.42	5.42
Yellowstone County	B10	RM 311.27	20852.82	2-yr	1571.59	844.47	838.96	1.7	1.39	20.66	9.29	320.61	939	2.7	1.2	5.5	5.5
Yellowstone County	B10	RM 311.19	20716.8	2-yr	1571.59	844.39	838.84	1.64	1.26	18	6.47	247.77	976.55	3.6	1.27	5.55	5.55
Yellowstone County	B10	RM 311.09	20559.11	2-yr	1571.59	844.07	839.14	2.57	2.03	39.24	13.82	144.57	556.32	4.01	1.39	4.93	4.93
Yellowstone County	B10	RM 310.97	20364.78	2-yr	1571.59	843.94	839.45	2.27	1.83	31.24	10.54	168.62	656.3	3.93	1.31	4.49	4.49
Yellowstone County	B10	RM 310.87	20211.96	2-yr	1571.59	843.82	839.02	2.22	1.89	29.5	10.25	187.18	654.48	3.7	1.27	4.8	4.8
Yellowstone County	B10	RM 310.76	20019.23	2-yr	1571.59	843.49	839.18	2.76	2.47	41.31	15.36	140.69	438.49	3.98	1.45	4.31	4.31
Yellowstone County	B11	RM 310.67	19877.9	2-yr	1571.59	843.38	839.11	2.44	2.07	47.22	18.94	172.08	536.98	3.57	1.41	4.27	4.27
Yellowstone County	B11	RM 310.57	19727.96	2-yr	1571.59	843.2	839.08	2.29	1.9	44.53	16.63	192.39	652.52	3.41	1.26	4.12	4.12
Yellowstone County	B11	RM 310.48	19578.86	2-yr	1571.59	843.05	838.96	2.15	1.74	34.11	13.53	208.35	695.14	3.3	1.3	4.08	4.08
Yellowstone County	B11	RM 310.39	19437.53	2-yr	1571.59	843	838.54	1.81	1.42	15.05	7.63	256.14	717.89	3.07	1.55	4.46	4.46
Yellowstone County	B11	RM 310.31	19317.45	2-yr	1571.59	842.93	838.23	1.8	1.53	14.06	8.88	349.78	696.44	2.34	1.48	4.7	4.7
Yellowstone County	B11	RM 310.24	19187.47	2-yr	1571.59	842.83	838.23	1.5	1.37	36.45	21.52	461.56	934.61	2.09	1.23	4.6	4.6
Yellowstone County	B11	RM 310.16	19069.04	2-yr	1571.59	842.65	837.93	1.39	1.33	30.23	23.67	520.38	731.83	2.07	1.62	4.72	4.72
Yellowstone County	B11	RM 310.09	18955.28	2-yr	1571.59	842.55	837.93	1.48	1.3	8.13	6.13	535.36	850.55	1.89	1.42	4.63	4.63
Yellowstone County	B11	RM 309.97	18765.62	2-yr	1571.59	842.5	837.59	1.01	0.97	12.5	8.94	599.6	900.54	2.53	1.8	4.91	4.91
Yellowstone County	B11	RM 309.90	18643.48	2-yr	1571.59	842.43	837.5	1.24	1.14	5.85	4.49	624.45	908.74	1.98	1.52	4.93	4.93
Yellowstone County	B11	RM 309.82	18525.48	2-yr	1571.59	842.36	837.5	1.19	1.14	25.29	21	696.33	926.54	1.79	1.48	4.86	4.86
Yellowstone County	B11	RM 309.73	18379.74	2-yr	1571.59	842.19	837.35	1.05	1.05	18.61	17.02	799.94	880.36	1.87	1.71	4.85	4.85

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	2-yr	1571.59	842.12	837.38	0.85	0.85	11.08	10.03	875.85	976.72	2.1	1.9	4.74	4.74
Yellowstone County	B11	RM 309.52	18029.98	2-yr	1571.59	841.92	836.68	1.09	1.08	19.17	18.15	816.37	865.54	1.77	1.68	5.24	5.24
Yellowstone County	B11	RM 309.39	17824.11	2-yr	1571.59	841.82	836.74	0.84	0.84	8.7	8.7	761.93	761.93	2.45	2.45	5.08	5.08
Yellowstone County	B11	RM 309.22	17557.23	2-yr	1571.59	841.67	836.07	1.32	1.25	10.7	8.2	333.44	465.61	3.55	2.71	5.6	5.6
Yellowstone County	B11	RM 309.06	17331.95	2-yr	1571.59	841.45	835.79	1.89	1.65	41.04	21.17	190.74	444.76	4.21	2.14	5.66	5.66
Yellowstone County	B11	RM 308.94	17142.36	2-yr	1571.59	840.86	835.4	3.15	2.77	64.83	24.87	121.56	378.15	4.01	1.5	5.46	5.46
Yellowstone County	B11	RM 308.83	16971.41	2-yr	1571.59	840.82	836.04	2.26	1.91	36.52	13.99	157.98	514.73	4.23	1.6	4.79	4.79
Yellowstone County	B11	RM 308.71	16778.65	2-yr	1571.59	840.78	835.91	1.75	1.52	13.75	6.83	251.14	607.12	3.46	1.71	4.87	4.87
Yellowstone County	B11	RM 308.62	16631.4	2-yr	1571.59	840.69	835.85	1.69	1.43	39.97	20.94	300.08	732.22	2.88	1.5	4.83	4.83
Yellowstone County	B11	RM 308.55	16518.64	2-yr	1571.59	840.49	835.85	1.74	1.55	42.17	23.55	365.06	767.63	2.37	1.32	4.64	4.64
Yellowstone County	B11	RM 308.43	16328.3	2-yr	1571.59	840.15	834.51	1.62	1.47	41.21	23.78	407.05	814.87	2.29	1.31	5.64	5.64
Yellowstone County	B11	RM 308.35	16192.95	2-yr	1571.59	839.98	834.88	1.52	1.35	24.83	13.19	395.37	875.26	2.52	1.33	5.1	5.1
Yellowstone County	B11	RM 308.24	16015.46	2-yr	1571.59	839.87	834.63	1.39	1.14	13.28	7.08	362.57	901.44	2.89	1.53	5.24	5.24
Yellowstone County	B11	RM 308.12	15826.82	2-yr	1571.59	839.8	834.63	1.28	1.09	10.94	6.19	382.4	857.79	2.99	1.68	5.17	5.17
Yellowstone County	B11	RM 308.02	15675.58	2-yr	1571.59	839.75	834.76	1.33	1.16	8.92	3.94	303.47	813.7	3.79	1.66	4.99	4.99
Yellowstone County	B11	RM 307.88	15434.86	2-yr	1571.59	839.35	834.45	2.85	2.29	51.97	18.58	112.47	492.08	4.01	1.4	4.9	4.9
Yellowstone County	B11	RM 307.77	15261.75	2-yr	1571.59	839.03	834.45	2.95	2.63	62.54	31.11	126.86	347.51	3.52	1.72	4.58	4.58
Yellowstone County	B11	RM 307.68	15125.28	2-yr	1571.59	838.91	834.85	2.42	2.04	41.11	21.02	157.89	427.12	3.56	1.8	4.06	4.06
Yellowstone County	B11	RM 307.60	14980.1	2-yr	1571.59	838.89	834.36	1.67	1.57	15.92	9.39	268.83	489.95	3.48	2.04	4.53	4.53
Yellowstone County	B11	RM 307.52	14873.7	2-yr	1571.59	838.75	834.12	2.03	1.91	26.4	14.28	253.53	511.05	3.02	1.62	4.63	4.63
Yellowstone County	B11	RM 307.46	14779.11	2-yr	1571.59	838.61	833.6	2.07	1.95	53.18	33.25	309.73	536.44	2.42	1.5	5.01	5.01
Yellowstone County	B11	RM 307.39	14664.34	2-yr	1571.59	838.48	833.63	2.05	1.87	14.25	9.74	358.47	587.76	2.1	1.43	4.85	4.85
Yellowstone County	B11	RM 307.30	14517.89	2-yr	1571.59	838.31	833.81	1.99	1.87	51.41	38.53	401.15	603.73	1.87	1.39	4.5	4.5
Yellowstone County	B11	RM 307.22	14385.45	2-yr	1571.59	838	833.87	1.92	1.82	38.75	29.44	387.8	581.54	1.99	1.51	4.13	4.13
Yellowstone County	B11	RM 307.14	14262.57	2-yr	1571.59	837.84	833.51	1.78	1.65	27.32	16.84	334.62	619.9	2.51	1.54	4.34	4.34
Yellowstone County	B11	RM 307.08	14166.72	2-yr	1571.59	837.79	833.11	1.58	1.43	15.27	10.72	348.63	587.19	2.67	1.87	4.68	4.68
Yellowstone County	B11	RM 307.01	14050.92	2-yr	1571.59	837.71	832.65	1.65	1.52	12.84	9.27	371.52	622.54	2.31	1.66	5.06	5.06
Yellowstone County	B11	RM 306.95	13949.23	2-yr	1571.59	837.61	832.35	1.84	1.56	21.87	14.35	324.04	671.64	2.3	1.5	5.26	5.26
Yellowstone County	B11	RM 306.90	13869.87	2-yr	1571.59	837.52	832.56	1.85	1.56	23.82	16.75	336.93	614.65	2.34	1.64	4.96	4.96
Yellowstone County	B11	RM 306.82	13726.64	2-yr	1571.59	837.39	832.62	1.74	1.5	21.2	13.46	359.86	694.43	2.38	1.51	4.77	4.77
Yellowstone County	B11	RM 306.72	13574.53	2-yr	1571.59	837.22	831.8	2.02	1.6	25.78	11.28	221.55	760.7	2.99	1.29	5.42	5.42
Yellowstone County	B11	RM 306.62	13414.11	2-yr	1571.59	837.01	832.77	2.21	1.9	39.07	18.28	212.67	621.93	2.87	1.33	4.23	4.23
Yellowstone County	B11	RM 306.52	13251.36	2-yr	1571.59	836.66	832.87	2.75	2.31	41.26	16.51	147.26	495.02	3.49	1.37	3.79	3.79
Yellowstone County	B11	RM 306.42	13099.73	2-yr	1571.59	836.34	832.74	3.15	2.64	54.1	24.6	130.16	408.42	3.26	1.46	3.59	3.59
Yellowstone County	B11	RM 306.34	12958.96	2-yr	1571.59	836.31	832.84	2.13	1.87	30.2	16.7	234.33	570.23	2.69	1.48	3.47	3.47
Yellowstone County	B11	RM 306.25	12825.95	2-yr	1571.59	836.11	832.35	2.2	2.05	32.75	23.11	307.04	532.42	2.04	1.44	3.76	3.76
Yellowstone County	B11	RM 306.16	12673.7	2-yr	1571.59	835.9	832.41	2.12	1.94	27.9	20.13	284.3	492.77	2.29	1.65	3.49	3.49
Yellowstone County	B11	RM 306.11	12592.39	2-yr	1571.59	835.8	832.17	2.12	1.91	33.45	22.05	237.42	466.73	2.7	1.77	3.64	3.64
Yellowstone County	B11	RM 306.03	12457.47	2-yr	1571.59	835.66	831.25	1.94	1.77	25.29	17.87	348.37	654.46	1.93	1.36	4.41	4.41
Yellowstone County	B11	RM 305.93	12317.98	2-yr	1571.59	835.39	831.25	2.2	2.04	34.05	26.89	324.07	538.56	1.82	1.43	4.14	4.14
Yellowstone County	B11	RM 305.84	12159.82	2-yr	1571.59	835.15	831.1	2.2	2	32.36	24.06	247.24	463.21	2.3	1.7	4.05	4.05
Yellowstone County	B11	RM 305.74	11989.73	2-yr	1571.59	834.9	830.64	2.28	2.04	35.97	22.17	189.79	408.78	3.09	1.89	4.26	4.26
Yellowstone County	B11	RM 305.67	11883.31	2-yr	1571.59	834.71	830.43	2.57	2.17	40.01	22.8	156.26	401.77	3.2	1.8	4.28	4.28
Yellowstone County	B11	RM 305.60	11764.11	2-yr	1571.59	834.68	830.18	1.81	1.83	19.38	13.93	146.1	555.16	2.73	1.93	4.49	4.49
Yellowstone County	B11	RM 305.52	11651.48	2-yr	1571.59	834.52	830.18	2.25	1.89	30.84	18.27	148.3	563.61	2.53	1.48	4.33	4.33
Yellowstone County	B11	RM 305.44	11514.64	2-yr	1571.59	834.45	830.43	1.77	1.33	14.53	9.59	153.79	670.55	2.7	1.76	4.03	4.03
Yellowstone County	B11	RM 305.40	11441.77	2-yr	1571.59	834.34	830.61	1.85	1.63	13.14	12.53	230.45	507.89	1.99	1.9	3.73	3.73
Yellowstone County	B11	RM 305.32	11312.15	2-yr	1571.59	834.21	830.61	2.06	1.72	26.36	13.43	139.96	684.07	2.86	1.44	3.6	3.6
Yellowstone County	B11	RM 305.24	11186.22	2-yr	1571.59	834.21	830.43	1.26	1.09	11.62	7.74	145.92	1053.66	2.46	1.61	3.78	3.78
Yellowstone County	B11	RM 305.06	10905.09	2-yr	1571.59	834.1	830.15	1.3	0.99	7.84	5.58	297.99	1164.63	1.93	1.37	3.94	3.94
Yellowstone County	B11	RM 304.71	10460.6	2-yr	1571.59	833.93	828.96	1.27	1.21	11.42	9.64	389.42	737.25	2.09	1.76	4.96	4.96
Yellowstone County	B11	RM 304.62	10332.33	2-yr	1571.59	833.9	829.09	1.08	1.02	7.13	4.72	205.64	691.22	3.42	2.24	4.82	4.82
Yellowstone County	B11	RM 304.50	10132.63	2-yr	1571.59	833.62	829.09	2.26	2.12	44.94	24.13	121.96	365.46	3.84	2.03	4.54	4.54
Yellowstone County	B11	RM 304.42	10011.11	2-yr	1571.59	833.54	829.18	1.96	1.88	29.66	18.14	144.38	369.67	3.74	2.26	4.36	4.36
Yellowstone County	B11	RM 304.34	9873.393	2-yr	1571.59	833.46	828.78	1.83	1.76	16.66	12.52	260.31	363.85	3.28	2.46	4.68	4.68
Yellowstone County	B11	RM 304.25	9735.197	2-yr	1571.59	833.3	828.39	2.13	2.02	32.06	19.29	199.26	355.81	3.66	2.18	4.91	4.91
Yellowstone County	B11	RM 304.18	9615.178	2-yr	1571.59	833.21	828.54	2.1	2.01	19.85	12.97	214.07	348.01	3.46	2.25	4.68	4.68
Yellowstone County	B11	RM 304.09	9478.266	2-yr	1571.59	833.1	828.6	2.18	2.08	30.48	19.5	181.34	303.96	3.91	2.49	4.5	4.5
Yellowstone County	B11	RM 304.00	9326.206	2-yr	1571.59	833	828.39	2.05	1.9	29.16	12.79	189.92	477.71	3.99	1.73	4.62	4.62
Yellowstone County	B11	RM 303.91	9177.479	2-yr	1571.59	832.92	828.14	1.85	1.54	26.15	9.74	213.16	737.52	3.78	1.4	4.78	4.78
Yellowstone County	B11	RM 303.78	8973.508	2-yr	1571.59	832.69	827.93	2.26	1.95	28.18	9.76	155.19	547.42	4.35	1.47	4.76	4.76

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	2-yr	1571.59	832.53	827.9	2.23	1.84	38.98	16.5	169.78	526.16	3.88	1.62	4.63	4.63
Yellowstone County	B11	RM 303.55	8608.195	2-yr	1571.59	832.43	827.65	2.02	1.8	17.68	11.52	247.92	458.31	3.05	1.97	4.78	4.78
Yellowstone County	B11	RM 303.43	8422.329	2-yr	1571.59	832.3	827.87	1.77	1.68	37.59	23.83	328.91	578.24	2.56	1.61	4.43	4.43
Yellowstone County	B11	RM 303.34	8276.308	2-yr	1571.59	832.25	826.92	1.39	1.19	11.11	6.27	320.09	719.01	3.28	1.84	5.32	5.32
Yellowstone County	B11	RM 303.26	8138.725	2-yr	1571.59	832.06	826.98	1.88	1.86	41.53	34.45	299.54	364.92	2.79	2.31	5.08	5.08
Yellowstone County	B11	RM 303.18	8018.762	2-yr	1571.59	831.84	826.22	1.95	1.93	49	41.75	303.57	359.97	2.66	2.26	5.62	5.62
Yellowstone County	B11	RM 303.09	7876.674	2-yr	1571.59	831.61	825.43	1.94	1.93	39.12	33.75	286.94	335.09	2.82	2.43	6.18	6.18
Yellowstone County	B11	RM 302.99	7711.603	2-yr	1571.59	831.37	826.22	1.83	1.76	39.22	22.42	334.8	623.18	2.52	1.43	5.15	5.15
Yellowstone County	B11	RM 302.89	7556.419	2-yr	1571.59	831.13	825.73	1.93	1.88	36.69	29.87	275.63	352.76	2.92	2.36	5.39	5.39
Yellowstone County	B11	RM 302.81	7423.411	2-yr	1571.59	830.94	825.86	2.11	2.09	31.99	27.9	193.17	225.5	3.84	3.34	5.09	5.09
Yellowstone County	B11	RM 302.70	7257.14	2-yr	1571.59	830.84	826.01	2.01	1.95	23.23	15.36	183.46	289.36	4.23	2.78	4.83	4.83
Yellowstone County	B12	RM 302.56	7050.708	2-yr	1571.59	830.49	825.25	2.7	2.6	41.78	29.42	163.86	244.13	3.54	2.47	5.25	5.25
Yellowstone County	B12	RM 302.49	6918.549	2-yr	1571.59	830.39	825.92	2.46	2.37	35.05	25.63	168.81	241.82	3.77	2.75	4.48	4.48
Yellowstone County	B12	RM 302.41	6794.522	2-yr	1571.59	830.31	825.64	2.41	2.08	26.15	14.7	161.6	372.53	3.63	2.02	4.67	4.67
Yellowstone County	B12	RM 302.34	6674.634	2-yr	1571.59	830.22	825.76	2.26	1.99	36.68	23.2	210.31	419.23	3.04	1.91	4.45	4.45
Yellowstone County	B12	RM 302.22	6485.378	2-yr	1571.59	830.11	825.76	1.73	1.54	20.68	15.55	235.44	497.01	2.76	2.06	4.34	4.34
Yellowstone County	B12	RM 302.14	6360.047	2-yr	1571.59	829.86	825.76	2.37	1.96	37.13	21.34	176.65	455.39	3.08	1.76	4.1	4.1
Yellowstone County	B12	RM 302.08	6267.13	2-yr	1571.59	829.79	825.79	2.13	1.94	19.74	15.78	259.48	399.47	2.54	2.03	4	4
Yellowstone County	B12	RM 301.98	6100.949	2-yr	1571.59	829.73	825.34	1.68	1.56	19.75	12.94	253.59	485.92	3.18	2.07	4.4	4.4
Yellowstone County	B12	RM 301.88	5944.005	2-yr	1571.59	829.63	824.7	1.68	1.52	18.44	10.36	307.13	680.78	2.73	1.52	4.93	4.93
Yellowstone County	B12	RM 301.79	5801.18	2-yr	1571.59	829.57	824.36	1.55	1.4	11.15	7.05	369.6	716.24	2.49	1.57	5.21	5.21
Yellowstone County	B12	RM 301.72	5685.105	2-yr	1571.59	829.5	824.85	1.58	1.47	16.94	11.01	328.16	626.26	2.64	1.71	4.65	4.65
Yellowstone County	B12	RM 301.65	5569.191	2-yr	1571.59	829.37	824.61	1.8	1.7	24.05	15.41	310.9	591.3	2.46	1.57	4.76	4.76
Yellowstone County	B12	RM 301.59	5465.51	2-yr	1571.59	829.23	824.42	1.88	1.85	28.14	20.3	318.51	511	2.32	1.66	4.81	4.81
Yellowstone County	B12	RM 301.53	5366.723	2-yr	1571.59	829.12	824.12	1.73	1.74	31.98	24.42	361.4	543.1	2.19	1.67	5	5
Yellowstone County	B12	RM 301.47	5270.902	2-yr	1571.59	828.98	824.12	1.78	1.74	31.37	23.09	350	544.27	2.27	1.66	4.86	4.86
Yellowstone County	B12	RM 301.39	5140.04	2-yr	1571.59	828.91	824.36	1.37	1.26	17.55	12.76	344.49	631.07	2.73	1.98	4.55	4.55
Yellowstone County	B12	RM 301.33	5044.575	2-yr	1571.59	828.83	824.12	1.5	1.37	15.47	9.33	329.34	660.51	2.9	1.74	4.71	4.71
Yellowstone County	B12	RM 301.24	4906.408	2-yr	1571.59	828.72	823.87	1.66	1.49	17.19	10.65	310.62	648.39	2.78	1.71	4.85	4.85
Yellowstone County	B12	RM 301.18	4802.631	2-yr	1571.59	828.59	823.17	1.93	1.78	24.34	18.7	310.59	493.95	2.34	1.79	5.42	5.42
Yellowstone County	B12	RM 301.12	4698.913	2-yr	1571.59	828.46	823.81	1.97	1.91	24.97	21.58	308.11	378.33	2.53	2.18	4.65	4.65
Yellowstone County	B12	RM 301.07	4611.142	2-yr	1571.59	828.41	824	1.83	1.76	20.33	14.78	284.26	418.52	2.94	2.13	4.41	4.41
Yellowstone County	B12	RM 301.02	4531.484	2-yr	1571.59	828.35	823.81	1.9	1.81	15.66	11.87	259.78	373.65	3.07	2.33	4.53	4.53
Yellowstone County	B12	RM 300.97	4453.011	2-yr	1571.59	828.21	823.9	2.3	2.14	23.12	17.36	196	296.29	3.31	2.48	4.3	4.3
Yellowstone County	B12	RM 300.89	4332.618	2-yr	1571.59	828.08	823.66	2.36	2.28	38.85	27.8	198.89	313.09	3.08	2.2	4.42	4.42
Yellowstone County	B12	RM 300.83	4232.362	2-yr	1571.59	827.89	823.78	2.59	2.39	43.51	28.07	172.46	336.29	3.05	1.96	4.11	4.11
Yellowstone County	B12	RM 300.77	4151.049	2-yr	1571.59	827.82	823.75	2.33	2.16	40.14	28.26	174.2	321.8	3.23	2.26	4.07	4.07
Yellowstone County	B12	RM 300.69	4011.358	2-yr	1571.59	827.75	823.63	1.98	1.74	19.14	11.29	205.31	454.19	3.39	1.99	4.12	4.12
Yellowstone County	B12	RM 300.55	3793.957	2-yr	1571.59	827.62	822.93	1.74	1.52	22.88	13.71	262.96	624.32	2.79	1.66	4.7	4.7
Yellowstone County	B12	RM 300.45	3633.035	2-yr	1571.59	827.47	822.53	1.41	1.46	26.73	19.4	335.99	651.68	2.29	1.66	4.93	4.93
Yellowstone County	B12	RM 300.35	3461.833	2-yr	1571.59	827.23	822.66	1.93	1.62	13.3	8.87	387.66	729.01	2	1.33	4.57	4.57
Yellowstone County	B12	RM 300.24	3286.175	2-yr	1571.59	827.02	822.47	1.88	1.7	46.69	33.75	417.8	683.91	1.88	1.35	4.55	4.55
Yellowstone County	B12	RM 300.15	3141.724	2-yr	1571.59	826.67	822.47	1.8	1.71	41.81	36.07	464.92	592.06	1.81	1.56	4.2	4.2
Yellowstone County	B12	RM 300.10	3054.752	2-yr	1571.59	826.54	822.35	1.96	1.73	13.88	10.97	377.75	578.35	2	1.57	4.19	4.19
Yellowstone County	B12	RM 300.00	2887.728	2-yr	1571.59	826.37	821.22	1.77	1.7	38.62	34.03	416.12	530.69	1.98	1.74	5.15	5.15
Yellowstone County	B12	RM 299.91	2736.431	2-yr	1571.59	826.2	821.5	1.66	1.62	19.32	16.36	349.85	532.67	2.15	1.82	4.7	4.7
Yellowstone County	B12	RM 299.83	2614.069	2-yr	1571.59	825.98	821.41	1.8	1.9	31.19	29.76	364.15	487.37	1.78	1.69	4.58	4.58
Yellowstone County	B12	RM 299.72	2484.158	2-yr	1571.59	825.85	820.89	1.71	1.66	21.93	18.77	374.7	452.87	2.44	2.09	4.97	4.97
Yellowstone County	B12	RM 299.59	2312.328	2-yr	1571.59	825.62	821.13	2.18	1.83	26.87	14.98	218.95	556.33	2.79	1.54	4.49	4.49
Yellowstone County	B12	RM 299.48	2160.343	2-yr	1571.59	825.37	821.13	2.69	2.03	32.86	14.02	138.69	551.36	3.34	1.41	4.24	4.24
Yellowstone County	B12	RM 299.38	1995.229	2-yr	1571.59	825.22	821.13	2.44	1.77	53.56	21.2	130.8	683.23	3.33	1.3	4.09	4.09
Yellowstone County	B12	RM 299.31	1874.433	2-yr	1571.59	825	821.22	2.62	2.02	33.14	15.14	137.52	527.28	3.27	1.48	3.78	3.78
Yellowstone County	B12	RM 299.22	1738.666	2-yr	1571.59	824.84	821.16	2.68	1.93	40.83	16.32	126.77	626.29	3.37	1.32	3.68	3.68
Yellowstone County	B12	RM 299.15	1613.992	2-yr	1571.59	824.78	820.95	2.19	1.48	26.45	10.23	154.47	1038.64	3.13	1.2	3.83	3.83
Yellowstone County	B12	RM 299.06	1473.748	2-yr	1571.59	824.73	820.64	1.91	1.2	24.7	8.33	115.41	1111.01	3.59	1.18	4.09	4.09
Yellowstone County	B12	RM 298.99	1360.532	2-yr	1571.59	824.63	820.46	2.03	1.35	29.64	9.6	100.06	1044.88	3.57	1.12	4.17	4.17
Yellowstone County	B12	RM 298.93	1269.876	2-yr	1571.59	824.56	820.46	1.97	1.36	26.96	9.54	106.1	999.72	3.38	1.16	4.1	4.1
Yellowstone County	B12	RM 298.88	1195.725	2-yr	1571.59	824.5	820.43	1.92	1.34	24.7	9.03	117.8	1021.03	3.24	1.15	4.07	4.07
Yellowstone County	B12	RM 298.82	1096.849	2-yr	1571.59	824.33	820.58	2.38	1.57	31.35	12.63	150.94	931.52	2.71	1.07	3.74	3.74
Yellowstone County	B12	RM 298.77	1018.392	2-yr	1571.59	824.26	820.4	2.1	1.45	25.46	11.29	183.64	942.58	2.62	1.15	3.86	3.86
Yellowstone County	B12	RM 298.67	854.844	2-yr	1571.59	824.17	819.39	1.89	1.37	14.92	10	235.1	830.25	2.09	1.38	4.78	4.78

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	2-yr	1571.59	824.08	819.55	1.6	1.44	18.83	13.34	267.8	810.36	1.91	1.34	4.53	4.53
Yellowstone County	B12	RM 298.49	579.164	2-yr	1571.59	823.99	819.27	1.68	1.28	12.87	6.83	214.03	921.71	2.54	1.33	4.72	4.72
Yellowstone County	B12	RM 298.42	469.573	2-yr	1571.59	823.91	819.27	1.75	1.31	22.95	9.03	176.57	1047.56	2.96	1.14	4.64	4.64
Yellowstone County	B12	RM 298.35	368.049	2-yr	1571.59	823.78	819.97	2.04	1.45	23.91	7.74	147.3	975.83	3.49	1.11	3.81	3.81
Yellowstone County	B12	RM 298.30	290.003	2-yr	1571.59	823.77	819.82	1.76	1.18	14.75	5.91	197.73	1140.49	2.95	1.17	3.94	3.94
Yellowstone County	B12	RM 298.26	211.35	2-yr	1571.59	823.71	819.82	1.75	1.34	19.43	8.52	219.28	1032.81	2.63	1.14	3.89	3.89
Yellowstone County	B12	RM 298.19	83.499	2-yr	1571.59	823.59	819.49	1.94	1.5	17.62	8.36	180.09	821.25	2.72	1.27	4.11	4.11

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	2-yr	1750	823.45	820.43	1.62	1.31	14.52	8.03	194.98	1018.76	2.77	1.51	3.02	3.02
Treasure County	C1	RM 297.89	61639	2-yr	1750	823.29	820.07	1.57	1.36	14.39	10.95	358.91	801.33	2.14	1.63	3.22	3.22
Treasure County	C1	RM 297.76	61392	2-yr	1750	823.11	819.93	1.64	1.47	17.94	13.57	331	718.72	2.19	1.65	3.19	3.19
Treasure County	C1	RM 297.62	61179	2-yr	1750	823.03	819.69	1.41	1.23	10.31	7.86	290.46	1086.75	2.4	1.83	3.34	3.34
Treasure County	C1	RM 297.5	60985	2-yr	1750	822.81	819.39	2.17	1.63	24.8	11.34	159.01	1147.09	3.13	1.42	3.42	3.42
Treasure County	C1	RM 297.36	60767	2-yr	1750	822.63	819.14	2.1	1.63	23.78	12.91	169.82	1029.49	2.95	1.59	3.49	3.49
Treasure County	C1	RM 297.22	60535	2-yr	1750	822.48	819	1.93	1.62	20.12	13.12	149.14	918.04	2.98	1.92	3.48	3.48
Treasure County	C1	RM 297.08	60314	2-yr	1750	822.31	818.76	1.96	1.64	20.33	13.84	193.53	959.54	3.08	2.08	3.55	3.55
Treasure County	C1	RM 296.94	60093	2-yr	1750	822.08	818.42	2.24	1.91	26.93	15.05	177.08	961.78	2.96	1.64	3.66	3.66
Treasure County	C1	RM 296.79	59847	2-yr	1750	822.02	817.97	1.46	1.32	11.55	7.56	246.81	837.26	2.87	1.87	4.05	4.05
Treasure County	C1	RM 296.64	59608	2-yr	1750	821.94	817.9	1.57	1.36	12.83	7.66	174.92	983.82	3.13	1.85	4.04	4.04
Treasure County	C1	RM 296.51	59386	2-yr	1750	821.88	817.8	1.23	1.19	8.15	6.59	477.13	904.85	2.95	2.38	4.08	4.08
Treasure County	C1	RM 296.33	59113	2-yr	1750	821.78	817.52	1.4	1.35	9.85	7.78	335.42	951.38	3.7	2.91	4.26	4.26
Treasure County	C1	RM 296.16	58839	2-yr	1750	820.79	817.46	4.09	3.84	88.75	69.88	136.91	224.79	3.1	2.42	3.33	3.33
Treasure County	C1	RM 296.01	58583	2-yr	1750	820.7	817.45	2.43	2.43	32.54	32.46	258.83	501.71	2.79	2.78	3.25	3.25
Treasure County	C1	RM 295.83	58296	2-yr	1750	820.5	817.4	1.79	1.79	16.03	15.88	537.53	543.1	1.81	1.8	3.1	3.1
Treasure County	C1	RM 295.66	58032	2-yr	1750	820.15	817.27	2.14	2.14	19.72	19.72	480.94	480.94	1.7	1.7	2.88	2.88
Treasure County	C1	RM 295.52	57800	2-yr	1750	820.07	816.19	1.45	1.45	9.85	9.85	571.22	571.22	2.11	2.11	3.88	3.88
Treasure County	C1	RM 295.31	57474	2-yr	1750	819.97	815.61	1.25	1.21	6.94	6.07	540.53	664.97	2.49	2.17	4.36	4.36
Treasure County	C1	RM 295.13	57174	2-yr	1750	819.81	815.57	1.58	1.48	13.65	8.17	358.73	761.84	2.94	1.75	4.24	4.24
Treasure County	C1	RM 294.94	56877	2-yr	1750	819.39	815.46	2.59	2.34	33.55	16.12	188.7	484.14	3.32	1.58	3.94	3.94
Treasure County	C1	RM 294.76	56587	2-yr	1750	819.19	815.45	2.18	2	24.2	16.05	249.97	484.5	3.02	2	3.74	3.74
Treasure County	C1	RM 294.55	56261	2-yr	1750	818.97	815.36	2.11	1.78	23.39	13.61	191.82	565.27	3.21	1.86	3.61	3.61
Treasure County	C1	RM 294.38	55980	2-yr	1750	818.8	815.07	1.85	1.72	19	13.23	226.42	670.02	2.68	1.86	3.73	3.73
Treasure County	C1	RM 294.21	55714	2-yr	1750	818.56	814.88	2.17	1.8	24.61	12.71	199.25	730.8	3.21	1.65	3.68	3.68
Treasure County	C1	RM 294.02	55401	2-yr	1750	818.36	814.59	2	1.77	19.09	12.19	231.68	1033.23	2.66	1.69	3.77	3.77
Treasure County	C1	RM 293.83	55100	2-yr	1750	818.21	814.3	1.76	1.56	14.18	11.71	274.57	1223.16	2.55	2.1	3.9	3.9
Treasure County	C1	RM 293.63	54777	2-yr	1750	818.1	813.55	1.5	1.5	10.47	9.42	325.08	1450.47	3.59	3.23	4.55	4.55
Treasure County	C1	RM 293.43	54432	2-yr	1750	817.8	813.29	2.24	2.03	24.68	10.31	200.84	1483.32	3.84	1.59	4.51	4.51
Treasure County	C1	RM 293.26	54152	2-yr	1750	817.51	813.24	2.47	2.09	28.73	12.29	246.95	1644.34	2.79	1.18	4.27	4.27
Treasure County	C1	RM 293.07	53839	2-yr	1750	817.22	813.24	2.31	1.55	29.63	13.14	241.79	1615.56	2.69	1.19	3.98	3.98
Treasure County	C1	RM 292.83	53458	2-yr	1750	817.1	813.1	1.39	1.16	10.47	5.85	379.62	1709.73	2.7	1.51	4	4
Treasure County	C1	RM 292.6	53082	2-yr	1750	816.9	812.6	1.78	1.44	15.82	7.98	238.86	783.8	3.63	1.83	4.3	4.3
Treasure County	C2	RM 292.32	52612	2-yr	1750	816.7	811.76	1.89	1.29	15.96	7.62	207.17	773.52	3.7	1.75	4.94	4.94
Treasure County	C2	RM 292.09	52256	2-yr	1750	816.57	811.6	1.89	1.42	16.11	8.62	173.57	592.26	3.95	2.08	4.97	4.97
Treasure County	C2	RM 291.9	51956	2-yr	1750	816.4	811.55	1.91	1.56	19.05	10.98	238.1	891.27	3.25	1.85	4.85	4.85
Treasure County	C2	RM 291.71	51639	2-yr	1750	815.82	811.5	2.81	2.42	63.15	51.28	241.03	385.53	2.32	1.88	4.32	4.32
Treasure County	C2	RM 291.52	51333	2-yr	1750	815.56	811.46	2.12	1.67	22.71	12.41	213.09	555.41	3.56	1.93	4.09	4.09
Treasure County	C2	RM 291.33	51042	2-yr	1750	815.31	811.46	2.23	2.01	26.63	16.88	230.2	452.14	3.05	1.92	3.85	3.85
Treasure County	C2	RM 291.15	50747	2-yr	1750	815.25	811.4	1.48	1.32	11.15	8.05	294.94	533.13	3.5	2.52	3.85	3.85
Treasure County	C2	RM 290.94	50437	2-yr	1750	815.08	811.31	1.77	1.32	16.96	8.98	259.99	865.57	2.91	1.53	3.77	3.77
Treasure County	C2	RM 290.78	50179	2-yr	1750	814.95	810.97	1.55	1.26	12.09	8.15	389.31	854.33	2.42	1.63	3.98	3.98
Treasure County	C2	RM 290.6	49891	2-yr	1750	814.87	810.54	1.23	1.15	8.1	6.95	473.72	599.68	2.95	2.54	4.33	4.33
Treasure County	C2	RM 290.43	49607	2-yr	1750	814.64	810.13	1.91	1.74	18.28	11.38	273.61	538.23	3.02	1.86	4.51	4.51
Treasure County	C2	RM 290.23	49287	2-yr	1750	814.13	810.07	2.85	2.51	40.25	20.03	151.14	369.32	3.83	1.89	4.06	4.06
Treasure County	C2	RM 290.04	48976	2-yr	1750	814.04	810.04	1.98	1.74	19.36	10.74	209.47	477.75	3.83	2.11	4	4
Treasure County	C2	RM 289.85	48667	2-yr	1750	813.92	809.87	1.6	1.47	13.78	11.35	358.57	640.27	2.73	2.25	4.04	4.04
Treasure County	C2	RM 289.67	48372	2-yr	1750	813.73	809.87	1.68	1.63	14.15	10.8	397.01	654.82	2.61	1.99	3.86	3.86
Treasure County	C2	RM 289.46	48067	2-yr	1750	813.62	809.56	1.45	1.33	10.74	7.69	376.48	1003.61	3.15	2.25	4.06	4.06
Treasure County	C2	RM 289.27	47769	2-yr	1750	813.39	809.32	1.91	1.7	19.99	10.82	318.9	688.18	2.82	1.52	4.07	4.07
Treasure County	C2	RM 289.11	47515	2-yr	1750	813.23	809	1.94	1.67	18.51	7.5	228.59	708.63	3.86	1.55	4.23	4.23
Treasure County	C2	RM 288.94	47232	2-yr	1750	813.03	808.59	2.2	1.77	23.22	8.07	182.57	683.57	4.22	1.45	4.44	4.44
Treasure County	C2	RM 288.76	46939	2-yr	1750	812.9	808.33	1.97	1.41	19.3	6.84	217.33	965	3.74	1.31	4.57	4.57
Treasure County	C2	RM 288.55	46613	2-yr	1750	812.52	808.24	2.5	2.24	33.27	14.05	223.57	609.6	3.07	1.28	4.27	4.27
Treasure County	C2	RM 288.36	46302	2-yr	1750	812.44	807.91	1.78	1.48	14.93	5.13	218.64	795.19	4.38	1.49	4.54	4.54
Treasure County	C2	RM 288.18	46008	2-yr	1750	812.28	807.77	1.96	1.62	19.5	8.72	242.65	697.33	3.5	1.55	4.52	4.52
Treasure County	C2	RM 287.99	45713	2-yr	1750	812.16	807.58	1.81	1.46	15.18	5.72	236.26	1532.41	3.56	1.33	4.58	4.58
Treasure County	C2	RM 287.81	45421	2-yr	1750	812.06	807.25	1.64	1.34	13.43	5.92	229.88	798.69	3.73	1.63	4.81	4.81
Treasure County	C2	RM 287.62	45112	2-yr	1750	811.72	807.19	2.56	1.89	31.59	8.41	136.93	847.23	4.19	1.09	4.54	4.54
Treasure County	C2	RM 287.42	44789	2-yr	1750	811.51	807.15	2.42	1.78	28.59	9.73	158.79	739.79	3.95	1.33	4.36	4.36

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	2-yr	1750	811.45	806.81	1.45	1.29	11.59	7.2	420.05	783.5	2.8	1.73	4.64	4.64
Treasure County	C2	RM 287.06	44222	2-yr	1750	811.37	806.77	1.24	1.17	8.63	6.88	513.87	720.3	2.69	2.14	4.6	4.6
Treasure County	C2	RM 286.9	43958	2-yr	1750	811.24	806.52	1.55	1.42	11.76	7.43	277.39	867.87	3.97	2.5	4.72	4.72
Treasure County	C2	RM 286.72	43671	2-yr	1750	810.39	806.4	3.82	3.39	73.17	29.8	122.22	348.87	3.66	1.48	3.99	3.99
Treasure County	C3	RM 286.58	43448	2-yr	1750	810.39	806.32	2.56	2.16	32.15	12.82	169.59	669.99	3.92	1.55	4.07	4.07
Treasure County	C3	RM 286.51	43344	2-yr	1750	810.37	806.32	2.2	1.77	23.81	10.04	193.91	815.41	3.91	1.63	4.05	4.05
Treasure County	C3	RM 286.46	43257	2-yr	1750	810.3	806.25	2.28	1.91	25.61	13.38	196.41	641.57	3.78	1.97	4.05	4.05
Treasure County	C3	RM 286.37	43117	2-yr	1750	810.3	806.17	1.71	1.22	15.54	10.07	295.42	1530.03	3.05	1.97	4.13	4.13
Treasure County	C3	RM 286.26	42931	2-yr	1750	809.98	806.17	2.37	1.92	51.58	21.95	215.68	1055.56	2.96	1.25	3.82	3.82
Treasure County	C3	RM 286.06	42624	2-yr	1750	809.83	806.08	1.61	1.25	13.58	5.97	354.28	1533.35	2.89	1.26	3.75	3.75
Treasure County	C3	RM 285.81	42213	2-yr	1750	809.59	805.78	1.94	1.28	17.2	6.94	216.66	2346.21	2.33	0.93	3.8	3.8
Treasure County	C3	RM 285.56	41812	2-yr	1750	809.41	805.34	1.61	1.09	12.74	3.28	234.98	2501.61	3.84	0.98	4.07	4.07
Treasure County	C3	RM 285.23	41280	2-yr	1750	809.15	805.17	1.93	1.05	19.8	5.28	152.05	2565.28	3.07	0.8	3.98	3.98
Treasure County	C3	RM 284.69	40395	2-yr	1750	808.52	804.85	2.43	1.97	34.17	13.29	156.49	1093.51	2.41	0.92	3.67	3.67
Treasure County	C3	RM 284.26	39705	2-yr	1750	808.2	804.6	1.56	1.37	13.65	8.11	347.96	817.39	2.62	1.56	3.6	3.6
Treasure County	C3	RM 283.96	39199	2-yr	1750	807.91	804.3	1.82	1.32	18.03	6.39	241.22	1493.31	2.87	1	3.61	3.61
Treasure County	C3	RM 283.69	38766	2-yr	1750	807.73	803.9	1.72	1.12	14.94	4.41	184.33	1826.86	3.56	1.04	3.83	3.83
Treasure County	C3	RM 283.35	38229	2-yr	1750	807.57	803.42	1.49	0.91	11.26	3.92	274.43	2022.94	3.11	1.07	4.15	4.15
Treasure County	C3	RM 283.05	37749	2-yr	1750	807.19	803.32	2.24	1.4	26.35	5.92	189.28	1916.25	3.17	0.7	3.87	3.87
Treasure County	C3	RM 282.78	37306	2-yr	1750	806.92	803.11	1.87	1.17	16.48	5.37	256.27	1934.26	2.67	0.86	3.81	3.81
Treasure County	C3	RM 282.56	36942	2-yr	1750	806.8	802.83	1.38	0.89	10.26	3.63	280.21	2285.54	2.61	0.91	3.97	3.97
Treasure County	C3	RM 282.31	36546	2-yr	1750	806.65	802.74	1.56	0.82	12.48	3.51	187.32	2296.66	3.49	0.96	3.91	3.91
Treasure County	C3	RM 282.09	36195	2-yr	1750	806.42	802.56	2.13	1.07	24.94	7.11	181.69	2167.11	2.81	0.79	3.85	3.85
Treasure County	C4	RM 281.73	35619	2-yr	1750	806.1	801.74	1.66	1.19	12.37	4.67	422.85	1732.47	2.25	0.85	4.36	4.36
Treasure County	C4	RM 281.35	35005	2-yr	1750	805.94	801.53	1.33	0.93	8.61	1.99	310.05	2061.74	3.97	0.91	4.41	4.41
Treasure County	C4	RM 281.03	34521	2-yr	1750	805.69	801.19	1.95	1.23	18.55	4.07	209.92	1801.95	3.95	0.85	4.49	4.49
Treasure County	C4	RM 280.73	34051	2-yr	1750	805.53	800.82	1.42	1.11	7.33	3.49	690.99	2101.92	1.7	0.8	4.72	4.72
Treasure County	C4	RM 280.5	33687	2-yr	1750	805.4	800.66	1.27	1.03	6.59	3.46	756.46	2035.76	1.73	0.91	4.74	4.74
Treasure County	C4	RM 280.27	33304	2-yr	1750	805.29	800.31	1.1	0.89	5.98	3.45	759.73	1972.38	2	1.15	4.97	4.97
Treasure County	C4	RM 279.95	32800	2-yr	1750	805.15	800.08	1.13	0.82	7.13	3.29	503.81	2038.02	2.86	1.31	5.07	5.07
Treasure County	C4	RM 279.6	32231	2-yr	1750	804.76	799.98	2.13	1.47	18.62	8.15	304.31	1099.97	2.49	1.08	4.78	4.78
Treasure County	C4	RM 279.33	31805	2-yr	1750	804.19	799.98	2.64	2.29	34.3	17.34	244.79	573.81	2.65	1.33	4.21	4.21
Treasure County	C4	RM 279.14	31495	2-yr	1750	804.03	799.96	2.02	1.68	19.1	9.07	236.37	672.5	3.3	1.55	4.07	4.07
Treasure County	C4	RM 278.96	31209	2-yr	1750	803.97	799.87	1.43	1.33	10.25	6.22	367.49	681.35	3.18	1.93	4.11	4.11
Treasure County	C4	RM 278.76	30894	2-yr	1750	803.83	799.6	1.56	1.48	12.68	9.5	408.32	669.84	2.57	1.92	4.23	4.23
Treasure County	C4	RM 278.56	30571	2-yr	1750	803.6	799.53	1.81	1.59	18.2	11.55	336.45	835.21	2.68	1.69	4.07	4.07
Treasure County	C4	RM 278.37	30259	2-yr	1750	803.5	799.26	1.4	1.38	10.03	8.6	365.09	775.09	3.42	2.93	4.24	4.24
Treasure County	C5	RM 278.16	29915	2-yr	1750	803.16	798.81	2.3	2.15	25.44	15.51	206.93	426.06	3.64	2.21	4.35	4.35
Treasure County	C5	RM 277.99	29648	2-yr	1750	802.87	798.77	2.56	2.46	32.83	18	186.48	358.77	3.65	1.98	4.1	4.1
Treasure County	C5	RM 277.8	29336	2-yr	1750	802.66	798.74	2.27	2.19	25.94	15.86	209.37	358.59	3.66	2.23	3.92	3.92
Treasure County	C5	RM 277.61	29041	2-yr	1750	802.46	798.72	2.22	2.02	24.84	13.55	214.24	443.43	3.61	1.96	3.74	3.74
Treasure County	C5	RM 277.43	28747	2-yr	1750	802.32	798.48	1.85	1.74	18.29	10.82	305.15	557.15	3.07	1.8	3.84	3.84
Treasure County	C5	RM 277.22	28415	2-yr	1750	802.06	798.47	1.98	1.96	17	15.23	395.7	447.83	2.23	1.99	3.59	3.59
Treasure County	C5	RM 277.04	28123	2-yr	1750	801.88	798.4	1.79	1.71	14.3	11.69	402.64	523.22	2.41	1.96	3.48	3.48
Treasure County	C5	RM 276.81	27791	2-yr	1750	801.79	797.8	1.4	1.36	10.11	6.65	376.57	941.49	3.31	2.18	3.99	3.99
Treasure County	C5	RM 276.63	27499	2-yr	1750	801.51	797.4	2.17	1.83	24.19	9.48	234.28	732.59	3.34	1.3	4.1	4.1
Treasure County	C5	RM 276.4	27133	2-yr	1750	801.27	797.1	2.07	1.77	21.33	8.42	239.33	829.57	3.41	1.34	4.17	4.17
Treasure County	C5	RM 276.19	26801	2-yr	1750	801.09	796.87	2.03	1.72	20.76	10.66	183.9	640.3	3.6	1.83	4.22	4.22
Treasure County	C5	RM 276.01	26502	2-yr	1750	800.9	796.74	2.15	1.84	22.83	12.37	154.9	452.45	3.92	2.1	4.16	4.16
Treasure County	C5	RM 275.81	26193	2-yr	1750	800.78	796.61	1.83	1.6	16.83	8.11	179.56	674.19	3.62	1.73	4.17	4.17
Treasure County	C5	RM 275.63	25896	2-yr	1750	800.61	796.49	2.1	1.66	21.75	9.49	134.59	704.25	3.86	1.65	4.11	4.11
Treasure County	C5	RM 275.45	25606	2-yr	1750	800.52	796.37	1.63	1.43	13.68	10.73	153.92	559.69	3.44	2.67	4.15	4.15
Treasure County	C5	RM 275.26	25299	2-yr	1750	800.35	796.16	1.76	1.7	15.06	7.57	251.91	750.93	3.95	1.97	4.18	4.18
Treasure County	C5	RM 275.09	25033	2-yr	1750	800.09	796.13	2.28	2.11	25.66	10.47	199.32	536.19	3.82	1.54	3.96	3.96
Treasure County	C6	RM 274.89	24716	2-yr	1750	799.93	796.04	2.03	1.54	20.85	8.59	227.19	1487.37	3.51	1.44	3.9	3.9
Treasure County	C6	RM 274.72	24440	2-yr	1750	799.49	796.04	2.74	2.34	41.18	22.51	214.36	1141.05	2.8	1.52	3.45	3.45
Treasure County	C6	RM 274.55	24165	2-yr	1750	799.34	795.79	1.79	1.38	19.34	9.64	293.83	2028.28	2.42	1.2	3.55	3.55
Treasure County	C6	RM 274.38	23892	2-yr	1750	799.16	795.55	1.8	1.27	17.36	5.94	223.93	2268	2.99	1.01	3.61	3.61
Treasure County	C6	RM 274.13	23491	2-yr	1750	798.95	795.16	1.85	1.3	19.24	7.66	221.16	2155.18	2.56	1.01	3.8	3.8
Treasure County	C6	RM 273.83	22999	2-yr	1750	798.78	794.46	1.58	1.07	12.61	3.8	183.35	2387.56	3.54	1.05	4.32	4.32

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	2-yr	1750	798.53	794.04	2.08	1.3	20.63	4.25	174.02	2554.43	3.34	0.68	4.5	4.5
Treasure County	C6	RM 273.35	22238	2-yr	1750	798.34	794.04	1.92	1.01	17.43	5.03	230.93	3293.3	2.54	0.72	4.3	4.3
Treasure County	C6	RM 273.15	21916	2-yr	1750	798.2	793.92	1.65	0.86	13.9	4.71	264.38	3378.66	2.57	0.86	4.28	4.28
Treasure County	C6	RM 272.83	21397	2-yr	1750	798.04	793.79	1.5	0.79	10.36	3.18	259.69	3545.35	3.01	0.91	4.24	4.24
Treasure County	C6	RM 272.5	20872	2-yr	1750	797.71	793.46	2.14	1.16	24.27	6.65	226.22	3295.92	2.56	0.69	4.25	4.25
Treasure County	C6	RM 272.19	20368	2-yr	1750	797.28	793.34	2.14	1.42	23.08	6.7	241.87	2180.47	3.02	0.87	3.95	3.95
Treasure County	C6	RM 271.91	19902	2-yr	1750	797.06	793.18	1.87	1.33	18	6.77	226.22	1796.7	3.34	1.25	3.88	3.88
Treasure County	C6	RM 271.68	19534	2-yr	1750	796.73	792.81	2.34	1.82	28.96	14.28	188.37	1070.2	3.15	1.55	3.93	3.93
Treasure County	C6	RM 271.41	19102	2-yr	1750	796.67	792.54	1.25	0.96	8.56	3.87	299.69	1936.8	2.83	1.27	4.14	4.14
Treasure County	C6	RM 271.06	18548	2-yr	1750	796.25	792.18	2.41	2.02	30.99	11.96	167.08	769.04	3.09	1.18	4.08	4.08
Treasure County	C6	RM 270.64	17870	2-yr	1750	796.05	792.05	1.44	1.06	11.38	4.61	227.42	1481.76	2.8	1.12	4	4
Treasure County	C6	RM 270.05	16897	2-yr	1750	795.67	791.48	2.02	1.22	18.12	5.07	173.66	1698.3	3.06	0.84	4.19	4.19
Treasure County	C6	RM 269.75	16413	2-yr	1750	795.33	791.35	2.12	1.52	23.91	8.9	222.78	1008.23	3.1	1.14	3.98	3.98
Treasure County	C6	RM 269.47	15967	2-yr	1750	795.02	791.23	2.13	1.88	23.32	12.78	206.16	934.06	3.41	1.86	3.79	3.79
Treasure County	C7	RM 269.27	15645	2-yr	1750	794.91	791.23	1.67	1.42	14.67	6.12	270.02	1691.47	3.2	1.32	3.68	3.68
Treasure County	C7	RM 269.06	15308	2-yr	1750	794.8	791.01	1.38	1.17	10.49	4.53	196.33	1641.91	2.81	1.19	3.79	3.79
Treasure County	C7	RM 268.83	14957	2-yr	1750	794.72	790.6	0.94	0.78	5.01	2.71	266.17	1838.42	2.55	1.36	4.12	4.12
Treasure County	C7	RM 268.55	14516	2-yr	1750	794.61	790.17	1.27	0.89	8.17	2.49	224.21	2337.59	3.5	1.06	4.44	4.44
Treasure County	C7	RM 268.2	13976	2-yr	1750	794.35	789.62	1.86	1.16	17.65	4.15	234.34	2188.02	3.53	0.82	4.73	4.73
Treasure County	C7	RM 267.87	13439	2-yr	1750	793.97	789.53	2.2	1.42	22.3	5.52	221.27	1554.33	3.31	0.81	4.44	4.44
Treasure County	C7	RM 267.53	12884	2-yr	1750	793.44	789.5	2.47	1.62	32.08	12.48	238.59	1054.01	2.65	1.02	3.94	3.94
Treasure County	C7	RM 267.14	12253	2-yr	1750	793.26	789.26	1.5	1.07	11.18	5.54	227.15	1250.31	3.07	1.51	4	4
Treasure County	C7	RM 266.8	11700	2-yr	1750	793.12	789.2	1.53	1.07	12.27	4.22	214.75	1747.94	3.16	1.08	3.92	3.92
Treasure County	C7	RM 266.41	11078	2-yr	1750	792.83	789.14	2.1	1.34	24.19	7.96	157	1576.05	2.81	0.91	3.7	3.7
Treasure County	C7	RM 266.11	10593	2-yr	1750	792.54	788.83	1.89	1.47	20.11	8.74	259.01	1309.69	2.59	1.12	3.71	3.71
Treasure County	C7	RM 265.92	10283	2-yr	1750	792.35	788.65	1.83	1.52	13.88	9.86	340.86	1128.55	1.98	1.4	3.71	3.71
Treasure County	C7	RM 265.68	9915	2-yr	1750	792.12	788.21	2.04	1.66	20.84	11.24	179.75	652.24	3.71	1.98	3.91	3.91
Treasure County	C7	RM 265.52	9650	2-yr	1750	791.97	788.07	2.08	1.55	23.11	11.27	157.35	826.71	3.06	1.48	3.9	3.9
Treasure County	C7	RM 265.34	9362	2-yr	1750	791.73	788.07	2.02	1.61	23.02	10.06	175.99	979.2	2.58	1.11	3.66	3.66
Treasure County	C7	RM 265.16	9071	2-yr	1750	791.54	787.95	1.61	1.52	15.66	9.92	287.04	818.34	2.24	1.41	3.59	3.59
Treasure County	C7	RM 264.98	8775	2-yr	1750	791.31	787.59	1.96	1.71	14.53	10.8	342.56	829.62	1.67	1.23	3.72	3.72
Treasure County	C7	RM 264.81	8508	2-yr	1750	791.23	787.35	1.13	1.14	9.18	7.03	626.76	1235.5	1.63	1.24	3.88	3.88
Treasure County	C7	RM 264.64	8216	2-yr	1750	791.1	787.22	1.2	1.17	8.25	7.15	649.63	1112.64	1.55	1.35	3.88	3.88
Treasure County	C7	RM 264.39	7803	2-yr	1750	790.87	786.86	1.57	1.46	14.41	9.99	343.25	775.99	2.26	1.56	4.01	4.01
Treasure County	C7	RM 264.15	7406	2-yr	1750	790.75	786.6	1.34	1.09	9.54	5.31	202.21	1233.74	2.4	1.32	4.15	4.15
Treasure County	C7	RM 263.97	7116	2-yr	1750	790.65	786.49	1.5	1.14	11.07	6.33	176.66	746.41	3.83	2.16	4.16	4.16
Treasure County	C7	RM 263.79	6834	2-yr	1750	790.46	786.49	2	1.58	19.48	8.04	198.08	957.97	2.89	1.18	3.97	3.97
Treasure County	C7	RM 263.6	6534	2-yr	1750	790.3	786.37	1.78	1.24	16.58	7.48	203.63	992.59	3.22	1.44	3.93	3.93
Treasure County	C7	RM 263.39	6194	2-yr	1750	790.17	786.25	1.34	1.22	9.62	5.72	448.01	1071.47	2.68	1.59	3.92	3.92
Treasure County	C7	RM 263.19	5862	2-yr	1750	789.89	786	1.94	1.56	22.01	10.32	333.45	1302.62	2.3	1.07	3.88	3.88
Treasure County	C7	RM 262.95	5479	2-yr	1750	789.62	785.85	1.79	1.49	12.15	6.9	391.83	905.53	2.29	1.29	3.77	3.77
Treasure County	C7	RM 262.78	5206	2-yr	1750	789.49	785.76	1.59	1.32	12.76	7.26	440.96	1357.91	1.98	1.12	3.73	3.73
Treasure County	C7	RM 262.58	4883	2-yr	1750	789.35	785.64	1.21	0.98	9.7	5.51	620.06	1880.94	2	1.13	3.71	3.71
Treasure County	C7	RM 262.42	4613	2-yr	1750	789.26	785.54	1.06	0.85	6.11	3.25	655.56	1934.5	2.07	1.1	3.72	3.72
Treasure County	C7	RM 262.24	4323	2-yr	1750	789.19	785.43	0.93	0.85	5.16	3.14	839.62	1787.02	2.21	1.34	3.77	3.77
Treasure County	C7	RM 261.95	3917	2-yr	1750	789.05	785.28	1.16	1.06	7.12	4.87	654.59	1123.58	2.27	1.55	3.77	3.77
Treasure County	C7	RM 261.7	3519	2-yr	1750	788.82	784.87	1.27	1.27	25.63	25.49	602.97	606.43	2.28	2.27	3.95	3.95
Treasure County	C7	RM 261.53	3256	2-yr	1750	788.38	784.51	1.57	1.51	35.73	30.87	584.48	710.66	1.88	1.63	3.88	3.88
Treasure County	C7	RM 261.35	2959	2-yr	1750	788.27	784.33	1.14	1.14	6.14	6.14	580.77	581.14	2.65	2.65	3.94	3.94
Treasure County	C7	RM 261.2	2720	2-yr	1750	788.13	784.14	1.35	1.35	27.27	27.2	545.92	547.32	2.38	2.38	3.99	3.99
Treasure County	C7	RM 261.03	2441	2-yr	1750	788.01	783.66	1.26	1.24	7.92	6.23	400.47	519.78	3.45	2.71	4.35	4.35
Treasure County	C7	RM 260.84	2142	2-yr	1750	787.9	783.41	1.48	1.4	11.25	6.32	341.22	647.3	3.45	1.93	4.48	4.48
Treasure County	C7	RM 260.66	1863	2-yr	1750	787.79	783.29	1.55	1.35	11.3	5.22	348.95	892.43	3.17	1.46	4.5	4.5
Treasure County	C8	RM 259.9	634	2-yr	1750	786.67	782.46	3.01	2.63	44.9	22.03	147.96	356.75	3.83	1.86	4.22	4.22
Treasure County	C8	RM 259.72	347	2-yr	1750	786.44	782.45	2.64	2.36	34.95	17.89	174.59	396.38	3.68	1.87	3.98	3.98
Treasure County	C8	RM 259.55	68	2-yr	1750	786.35	782.2	1.86	1.86	13.5	13.5	387.04	387.09	2.43	2.43	4.15	4.15

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	2-yr	1752.8	786.35	782.19	2.08	1.92	20.39	16.9	217.95	292.12	3.77	3.12	4.16	4.16
Rosebud County	C8	RM 259.41	87598	2-yr	1752.8	786.16	781.96	2.13	2.13	24	24	207.47	207.47	3.97	3.97	4.2	4.2
Rosebud County	C8	RM 259.22	87292	2-yr	1752.8	786.04	781.55	1.87	1.67	16.83	12.83	233.09	354	3.91	2.97	4.49	4.49
Rosebud County	C8	RM 259.04	87004	2-yr	1752.8	785.87	781	2	1.91	21.82	13.55	208.16	371.89	4.02	2.47	4.87	4.87
Rosebud County	C8	RM 258.85	86696	2-yr	1752.8	785.69	780.9	2.01	1.88	16.76	12.47	288.59	428.95	2.93	2.17	4.79	4.79
Rosebud County	C8	RM 258.66	86399	2-yr	1752.8	785.51	780.78	2.09	2	20.52	10.16	182.92	432.51	4.49	2.2	4.73	4.73
Rosebud County	C8	RM 258.47	86098	2-yr	1752.8	785.32	780.65	2.21	2.02	23.63	11.99	201.55	475.54	3.63	1.83	4.67	4.67
Rosebud County	C8	RM 258.28	85798	2-yr	1752.8	785.17	780.53	2.02	1.62	19.26	11.93	222.43	529.66	3.32	2.05	4.64	4.64
Rosebud County	C8	RM 258.1	85498	2-yr	1752.8	784.99	780.14	2.05	1.76	19.87	11.35	179.48	566.71	4.37	2.47	4.85	4.85
Rosebud County	C8	RM 257.91	85200	2-yr	1752.8	784.83	780.14	2.05	1.84	21.91	11.88	222.25	651.91	3.32	1.78	4.69	4.69
Rosebud County	C8	RM 257.71	84875	2-yr	1752.8	784.55	780.14	2.25	1.88	27.67	16.47	219.37	650.95	2.83	1.67	4.41	4.41
Rosebud County	C8	RM 257.54	84597	2-yr	1752.8	784.36	780.17	2.06	1.61	20.43	9.86	208.84	722.7	3.34	1.59	4.19	4.19
Rosebud County	C8	RM 257.36	84298	2-yr	1752.8	784.2	780.05	1.99	1.47	19.64	8.47	188.65	871.66	3.22	1.39	4.15	4.15
Rosebud County	C8	RM 257.16	83984	2-yr	1752.8	784.17	780	1.23	1	7.35	3.68	305.45	916.13	3.92	1.96	4.17	4.17
Rosebud County	C8	RM 256.87	83608	2-yr	1752.8	783.81	779.89	2.43	1.99	28.93	13.62	179.06	519.94	3.62	1.69	3.92	3.92
Rosebud County	C8	RM 256.65	83257	2-yr	1752.8	783.75	779.82	1.63	1.37	13.29	5.64	171.34	846.74	3.6	1.51	3.93	3.93
Rosebud County	C8	RM 256.45	82941	2-yr	1752.8	783.57	779.67	1.84	1.59	16.76	7.42	222.18	671.45	3.74	1.64	3.9	3.9
Rosebud County	C8	RM 256.26	82630	2-yr	1752.8	783.35	779.58	1.8	1.47	29.99	19.49	359.1	757.29	2.43	1.58	3.77	3.77
Rosebud County	C8	RM 256.1	82375	2-yr	1752.8	783.2	779.42	1.45	1.45	9.91	9.89	532.68	533.31	2.28	2.27	3.78	3.78
Rosebud County	C8	RM 255.91	82077	2-yr	1752.8	783.13	779.09	1.17	1.17	6.13	6.11	568.96	570.28	2.62	2.62	4.04	4.04
Rosebud County	C8	RM 255.7	81747	2-yr	1752.8	782.94	778.73	1.71	1.63	14.46	10.39	306.33	451.8	3.32	2.38	4.21	4.21
Rosebud County	C8	RM 255.51	81446	2-yr	1752.8	782.74	778.49	1.94	1.8	19.27	12.48	258.36	625.75	3.43	2.21	4.25	4.25
Rosebud County	C8	RM 255.31	81125	2-yr	1752.8	782.57	778.36	1.85	1.6	20.88	10.28	240.4	649.65	3.79	1.86	4.21	4.21
Rosebud County	C8	RM 255.14	80856	2-yr	1752.8	782.38	778.24	2.05	1.8	20.56	9.91	210.34	534.46	3.94	1.88	4.14	4.14
Rosebud County	C8	RM 254.95	80554	2-yr	1752.8	782.18	778.12	2.15	1.94	22.71	12.3	205.86	496.64	3.87	2.08	4.06	4.06
Rosebud County	C8	RM 254.76	80251	2-yr	1752.8	782.03	778	2.03	1.79	20.32	10.28	218.09	538.61	3.86	1.94	4.03	4.03
Rosebud County	C8	RM 254.58	79960	2-yr	1752.8	781.89	777.88	1.94	1.82	18.45	13.42	229.98	393.81	3.88	2.81	4.01	4.01
Rosebud County	C8	RM 254.39	79658	2-yr	1752.8	781.81	777.41	1.57	1.46	12.17	7.77	295.88	667.33	3.74	2.39	4.4	4.4
Rosebud County	C8	RM 254.2	79359	2-yr	1752.8	781.6	777.39	1.96	1.89	19.97	13.39	269.75	497.49	3.29	2.2	4.21	4.21
Rosebud County	C8	RM 254.01	79052	2-yr	1752.8	781.45	776.82	1.92	1.8	17.38	8.99	207.85	562.7	4.35	2.24	4.63	4.63
Rosebud County	C9	RM 253.82	78779	2-yr	1752.8	781.3	776.24	2.02	1.79	22.28	12.67	243.62	654.41	3.47	1.96	5.06	5.06
Rosebud County	C9	RM 253.63	78478	2-yr	1752.8	780.97	776.12	2.3	1.84	49.76	21.62	173.15	787.2	3.84	1.65	4.85	4.85
Rosebud County	C9	RM 253.45	78178	2-yr	1752.8	780.59	775.97	2.53	1.92	29.51	11.62	172.38	993.02	3.49	1.35	4.62	4.62
Rosebud County	C9	RM 253.26	77879	2-yr	1752.8	780.55	775.72	1.7	1.14	11.54	4.15	239.39	1344.36	3.74	1.33	4.83	4.83
Rosebud County	C9	RM 253.07	77578	2-yr	1752.8	780.32	775.57	2.25	1.47	22.9	6.71	183.94	1232.65	3.55	1.02	4.75	4.75
Rosebud County	C9	RM 252.88	77278	2-yr	1752.8	780.21	775.45	1.8	1.29	16.84	5.88	221.89	1199.94	3.3	1.14	4.76	4.76
Rosebud County	C9	RM 252.69	76962	2-yr	1752.8	780.15	775.33	1.31	0.83	8.73	3.08	260.67	1727.12	3.52	1.23	4.82	4.82
Rosebud County	C9	RM 252.49	76646	2-yr	1752.8	779.86	775.36	2.33	1.39	25.18	5.1	157.87	2470.14	3.66	0.73	4.5	4.5
Rosebud County	C9	RM 252.24	76252	2-yr	1752.8	779.7	775.4	1.94	1.09	20.13	4.53	167.1	2904.26	3.27	0.72	4.3	4.3
Rosebud County	C9	RM 252.01	75885	2-yr	1752.8	779.5	775.39	1.72	1.05	22.53	5.67	252.1	2702.49	2.99	0.74	4.11	4.11
Rosebud County	C9	RM 251.7	75438	2-yr	1752.8	779.36	775.01	1.23	0.9	6.67	2.5	525.34	2619.75	2.36	0.88	4.35	4.35
Rosebud County	C9	RM 251.49	75098	2-yr	1752.8	779.21	775.02	1.35	0.94	9.82	4.94	696.02	2972.01	1.53	0.77	4.19	4.19
Rosebud County	C9	RM 251.23	74691	2-yr	1752.8	778.91	775.05	1.55	1.29	10.52	5.11	656.74	2057.13	1.65	0.8	3.86	3.86
Rosebud County	C9	RM 251.01	74322	2-yr	1752.8	778.76	774.84	1.4	1.05	6.87	3.22	549.41	2122.62	1.93	0.9	3.92	3.92
Rosebud County	C9	RM 250.79	73973	2-yr	1752.8	778.66	774.42	1.31	0.94	7.9	3.19	397.32	2003.47	2.64	1.06	4.24	4.24
Rosebud County	C9	RM 250.6	73678	2-yr	1752.8	778.5	774.17	1.49	1.1	20.26	10.83	375.4	1478.51	2.26	1.2	4.33	4.33
Rosebud County	C9	RM 250.37	73306	2-yr	1752.8	778.21	774.05	1.92	1.23	16.37	5.63	232.86	1331.79	3.3	1.13	4.16	4.16
Rosebud County	C9	RM 250.17	72982	2-yr	1752.8	777.98	773.93	2.26	1.29	26.24	11.61	214.22	1360.11	2.6	1.14	4.05	4.05
Rosebud County	C9	RM 249.95	72617	2-yr	1752.8	777.77	773.83	1.91	1.24	18.52	7.04	226.06	1159.56	3.22	1.22	3.94	3.94
Rosebud County	C9	RM 249.73	72253	2-yr	1752.8	777.58	773.71	1.86	1.23	17.64	7	273.96	1429.15	2.82	1.12	3.87	3.87
Rosebud County	C9	RM 249.53	71936	2-yr	1752.8	777.51	773.38	1.3	0.89	8.45	3.23	356.89	1814.88	3.19	1.22	4.13	4.13
Rosebud County	C9	RM 249.31	71579	2-yr	1752.8	777.31	773.14	1.69	1.29	17.18	7.06	362.01	2275.37	2.36	0.97	4.17	4.17
Rosebud County	C9	RM 249.13	71274	2-yr	1752.8	777.18	772.84	1.51	0.98	11.81	3.71	299.11	2495	3.31	1.03	4.34	4.34
Rosebud County	C9	RM 248.94	70978	2-yr	1752.8	776.95	772.56	2.07	1.15	21.14	4.98	197.5	2601.38	3.43	0.8	4.39	4.39
Rosebud County	C9	RM 248.76	70681	2-yr	1752.8	776.94	772.32	1.08	0.73	6.21	2.23	424.32	2316.64	3.22	1.15	4.62	4.62
Rosebud County	C9	RM 248.53	70312	2-yr	1752.8	776.89	772.17	1.16	0.6	6.19	2	162.38	3069.03	3.88	1.24	4.72	4.72
Rosebud County	C9	RM 248.31	69962	2-yr	1752.8	776.75	772.04	1.57	0.91	12.46	3.81	277.15	2640.81	3.18	0.96	4.71	4.71
Rosebud County	C9	RM 248.08	69603	2-yr	1752.8	776.55	771.92	1.9	1	15.64	3.68	211.49	2832.57	3.67	0.86	4.63	4.63
Rosebud County	C9	RM 247.88	69253	2-yr	1752.8	776.33	771.92	1.86	1.21	29.44	10.68	348.22	2604.16	2.26	0.82	4.41	4.41
Rosebud County	C9	RM 247.64	68836	2-yr	1752.8	775.99	771.95	1.69	1.31	15.18	6.25	413.41	2229.15	2.36	0.97	4.04	4.04

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	2-yr	1752.8	775.85	771.87	1.38	0.92	9.34	3.16	282.39	2536.84	3.55	1.2	3.98	3.98
Rosebud County	C9	RM 247.11	67963	2-yr	1752.8	775.53	771.45	2.38	1.52	29.62	8.52	199.91	1639.72	2.94	0.84	4.08	4.08
Rosebud County	C9	RM 246.83	67502	2-yr	1752.8	775.34	770.97	1.82	1.21	18.07	4.63	194.9	1954.33	3.78	0.96	4.37	4.37
Rosebud County	C9	RM 246.52	67019	2-yr	1752.8	775.2	770.61	1.6	1.19	12.51	3.23	225.63	2422.19	3.97	1.02	4.59	4.59
Rosebud County	C9	RM 246.22	66538	2-yr	1752.8	774.28	770.53	3.54	2.98	70.53	30.79	205.27	665.23	2.34	1.01	3.75	3.75
Rosebud County	C9	RM 245.94	66068	2-yr	1752.8	773.93	770.29	1.79	1.54	18.28	11.92	295.62	753.88	2.4	1.56	3.64	3.64
Rosebud County	C9	RM 245.66	65624	2-yr	1752.8	773.64	769.81	1.89	1.24	19.55	6.42	194.15	1426.54	3.66	1.18	4.4	4.4
Rosebud County	C9	RM 245.4	65205	2-yr	1752.8	773.43	769.59	1.71	1.63	13.92	8.77	323.73	848.83	2.1	1.31	4.27	4.27
Rosebud County	C9	RM 245.15	64804	2-yr	1752.8	772.96	769.41	2.13	2.25	39.05	26.72	213.36	503.81	2.3	1.56	3.8	3.8
Rosebud County	C9	RM 244.89	64387	2-yr	1752.8	772.51	769.41	2.36	2.09	30.38	21.31	184.28	418.51	2.86	2	3.48	3.48
Rosebud County	C9	RM 244.7	64085	2-yr	1752.8	772.5	769.37	1.24	1.1	8.02	5.48	217.01	895.6	2.61	1.78	3.59	3.59
Rosebud County	C9	RM 244.51	63776	2-yr	1752.8	772.43	769.35	1.07	0.99	7.26	4.31	263.32	1240.77	2.57	1.53	3.52	3.52
Rosebud County	C9	RM 244.33	63499	2-yr	1752.8	772.4	769.16	0.49	0.69	4.36	3.93	273.71	1276.96	2.38	2.14	3.97	3.97
Rosebud County	C9	RM 244.14	63224	2-yr	1752.8	772.36	768.52	0.95	0.76	4.76	2.66	208.4	1517.43	3.07	1.7	3.93	3.93
Rosebud County	C9	RM 243.96	62927	2-yr	1752.8	772.28	768.13	1.27	0.92	8.36	3.82	176.18	1489.86	3.29	1.5	4.15	4.15
Rosebud County	C9	RM 243.77	62617	2-yr	1752.8	772.26	767.57	0.81	0.58	3.1	1.64	160.76	1443.95	4.2	2.19	4.69	4.69
Rosebud County	C9	RM 243.59	62327	2-yr	1752.8	772.18	766.98	1.37	0.93	10.32	3.46	122.45	1630.77	4.79	1.56	5.2	5.2
Rosebud County	C9	RM 243.39	62012	2-yr	1752.8	771.95	766.86	2.06	1.53	20.34	6.78	155.03	1066.6	4.23	1.39	5.09	5.09
Rosebud County	C9	RM 243.21	61718	2-yr	1752.8	771.83	766.74	1.84	1.49	15.73	4.64	203.35	1396.23	4.58	1.33	5.09	5.09
Rosebud County	C10	RM 243.03	61422	2-yr	1752.8	771.43	766.73	2.76	2.21	38.78	13.65	172.69	832.27	3.56	1.23	4.7	4.7
Rosebud County	C10	RM 242.84	61125	2-yr	1752.8	771.02	766.76	2.93	2.55	43.05	17.33	168.31	504.86	3.49	1.39	4.26	4.26
Rosebud County	C10	RM 242.65	60825	2-yr	1752.8	770.83	766.76	2.35	2.08	27.31	12.63	203.39	566.25	3.62	1.66	4.07	4.07
Rosebud County	C10	RM 242.47	60527	2-yr	1752.8	770.7	766.77	1.95	1.68	18.75	7.02	241.01	891.99	3.67	1.37	3.93	3.93
Rosebud County	C10	RM 242.29	60239	2-yr	1752.8	770.59	766.64	1.74	1.5	15.22	6.02	282.2	847.3	3.51	1.38	3.95	3.95
Rosebud County	C10	RM 242.1	59939	2-yr	1752.8	770.38	766.29	1.99	1.68	21.6	9.37	278.55	832.87	3.07	1.32	4.09	4.09
Rosebud County	C10	RM 241.9	59618	2-yr	1752.8	770.2	765.95	1.87	1.5	17.12	5.77	246.14	995.48	3.69	1.23	4.25	4.25
Rosebud County	C10	RM 241.72	59324	2-yr	1752.8	770.13	765.5	1.54	1.24	11.61	5.64	289.97	972.48	3.74	1.81	4.63	4.63
Rosebud County	C10	RM 241.53	59025	2-yr	1752.8	769.79	765.17	2.47	2.03	33.48	14.14	160	550.26	4.22	1.76	4.62	4.62
Rosebud County	C10	RM 241.34	58725	2-yr	1752.8	769.6	765.02	2.3	1.74	25.37	11.28	177.75	868.72	3.99	1.76	4.58	4.58
Rosebud County	C10	RM 241.16	58424	2-yr	1752.8	769.5	764.97	1.9	1.4	17.34	9.24	171.92	1023.11	3.73	1.97	4.53	4.53
Rosebud County	C10	RM 240.97	58132	2-yr	1752.8	769.38	764.83	1.75	1.33	14.93	7.65	189.7	1038.44	3.94	2.01	4.55	4.55
Rosebud County	C10	RM 240.78	57818	2-yr	1752.8	769.33	764.56	1.41	0.97	9.32	4.07	159.68	1430.49	4.43	1.91	4.77	4.77
Rosebud County	C10	RM 240.56	57467	2-yr	1752.8	769.2	764.28	1.56	1.06	16.74	5.61	212.38	1509.48	4.01	1.33	4.92	4.92
Rosebud County	C10	RM 240.41	57228	2-yr	1752.8	769.14	763.91	1.36	0.93	10.72	3.35	216.4	1474.64	4.55	1.41	5.23	5.23
Rosebud County	C10	RM 240.22	56944	2-yr	1752.8	768.95	763.51	1.95	1.2	17.73	4.84	157.35	1078.17	5.12	1.35	5.44	5.44
Rosebud County	C10	RM 240.09	56741	2-yr	1752.8	768.67	763.47	2.74	1.61	27.66	6.99	120.64	926.03	4.79	1.17	5.2	5.2
Rosebud County	C10	RM 239.97	56546	2-yr	1752.8	768.62	763.47	2.23	1.5	29.89	8.72	155.75	882.1	4.63	1.33	5.15	5.15
Rosebud County	C10	RM 239.86	56371	2-yr	1752.8	768.55	763.25	1.99	1.59	20.17	6.74	205.85	930.65	4.12	1.37	5.3	5.3
Rosebud County	C10	RM 239.68	56093	2-yr	1752.8	768.29	763.02	2.42	2.14	21.39	10.8	172.44	1065.04	4.12	2.05	5.27	5.27
Rosebud County	C10	RM 239.56	55888	2-yr	1752.8	767.49	763.1	4.08	4.08	66.05	66.05	114.44	286.37	3.75	3.75	4.39	4.39
Rosebud County	C10	RM 239.41	55655	2-yr	1752.8	767.44	763.17	3.09	3	37.35	19.7	141.43	318.15	4	2.08	4.27	4.27
Rosebud County	C10	RM 239.25	55398	2-yr	1752.8	767.19	763.17	2.93	2.93	45.33	45.3	162.5	292.86	3.69	3.68	4.02	4.02
Rosebud County	C10	RM 239.07	55108	2-yr	1752.8	767.11	763.2	2.13	1.86	18.19	10.73	219.55	689.89	3.59	2.1	3.91	3.91
Rosebud County	C10	RM 238.89	54826	2-yr	1752.8	766.88	763.23	2.41	2.04	23.65	16.92	191.61	344.17	3.51	2.49	3.65	3.65
Rosebud County	C10	RM 238.73	54570	2-yr	1752.8	766.72	763.38	2.26	2.1	21.51	15.32	241.46	371.23	3.16	2.24	3.34	3.34
Rosebud County	C10	RM 238.51	54223	2-yr	1752.8	766.57	762.88	1.65	1.65	14.85	14.85	433.58	584.58	2.45	2.45	3.69	3.69
Rosebud County	C10	RM 238.33	53926	2-yr	1752.8	766.4	762.37	1.72	1.68	14.86	10.29	305.41	563.86	3.33	2.3	4.03	4.03
Rosebud County	C10	RM 238.14	53626	2-yr	1752.8	766.11	762.25	2.28	1.95	26.48	11.35	214.01	739.41	3.48	1.49	3.86	3.86
Rosebud County	C10	RM 237.95	53321	2-yr	1752.8	765.82	762.09	2.47	2.12	30.88	12.28	188.8	903.28	3.5	1.39	3.73	3.73
Rosebud County	C10	RM 237.77	53027	2-yr	1752.8	765.76	761.85	1.65	1.47	13.54	7.04	293.65	1095.2	3.42	1.78	3.91	3.91
Rosebud County	C10	RM 237.56	52703	2-yr	1752.8	765.64	761.46	1.55	1.39	11.85	6.55	409.85	1415.95	2.72	1.5	4.18	4.18
Rosebud County	C10	RM 237.36	52386	2-yr	1752.8	765.53	761.22	1.37	1.2	9.56	5.44	442.33	1550.04	2.82	1.6	4.31	4.31
Rosebud County	C10	RM 237.15	52029	2-yr	1752.8	765.41	760.88	1.38	1.23	9.88	5.62	383.23	1347.72	3.25	1.84	4.53	4.53
Rosebud County	C10	RM 236.99	51756	2-yr	1752.8	765.17	760.22	2.12	1.95	16.65	7.24	176.49	1000.69	4.65	2	4.95	4.95
Rosebud County	C10	RM 236.83	51500	2-yr	1752.8	764.91	760.07	2.62	2.42	26.89	10.86	167.82	798.35	3.96	1.58	4.84	4.84
Rosebud County	C10	RM 236.66	51221	2-yr	1752.8	764.85	760.07	2.11	1.88	16.84	8.42	185.33	700.46	4.39	2.17	4.78	4.78
Rosebud County	C10	RM 236.47	50924	2-yr	1752.8	764.75	759.94	2.02	1.89	15.25	9.26	193.25	344.17	4.47	2.69	4.81	4.81
Rosebud County	C11	RM 236.29	50623	2-yr	1752.8	764.65	760	1.96	1.83	14.65	8.37	211.22	402.4	4.2	2.38	4.65	4.65
Rosebud County	C11	RM 236.1	50327	2-yr	1752.8	764.46	760	2.22	2.1	19.56	12.71	206.87	342.92	3.78	2.44	4.46	4.46
Rosebud County	C11	RM 235.91	50024	2-yr	1752.8	764.14	760	2.64	2.41	34.49	16.64	170.49	396.28	3.84	1.83	4.14	4.14

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	2-yr	1752.8	764.07	760.15	1.87	1.71	17.42	14.17	243.33	372.12	3.4	2.76	3.92	3.92
Rosebud County	C11	RM 235.57	49480	2-yr	1752.8	763.97	760.02	1.62	1.62	13.52	13.49	318.19	318.95	3.39	3.39	3.95	3.95
Rosebud County	C11	RM 235.36	49133	2-yr	1752.8	763.78	759.74	1.79	1.79	13.06	13.06	390.53	390.53	2.5	2.5	4.04	4.04
Rosebud County	C11	RM 235.17	48830	2-yr	1752.8	763.61	759.55	1.76	1.75	12.78	12.33	454.81	486.17	2.18	2.11	4.06	4.06
Rosebud County	C11	RM 235	48571	2-yr	1752.8	763.51	759.29	1.59	1.53	12.33	9.18	319.86	465.43	3.43	2.54	4.22	4.22
Rosebud County	C11	RM 234.82	48271	2-yr	1752.8	763.01	759.21	2.84	2.6	42.32	21.71	190.08	413.61	3.2	1.63	3.8	3.8
Rosebud County	C11	RM 234.63	47978	2-yr	1752.8	762.82	759.21	2.22	1.92	25.19	13.3	238.2	583.85	3.12	1.64	3.61	3.61
Rosebud County	C11	RM 234.45	47692	2-yr	1752.8	762.63	759.12	2	1.83	20.53	15.27	283.36	452.91	2.93	2.18	3.51	3.51
Rosebud County	C11	RM 234.2	47305	2-yr	1752.8	762.47	758.6	1.57	1.45	12.24	9.99	377.25	545.88	2.73	2.22	3.87	3.87
Rosebud County	C11	RM 234.01	47006	2-yr	1752.8	762.41	758.27	1.14	1.04	4.81	4.47	758.13	953.37	1.96	1.82	4.14	4.14
Rosebud County	C11	RM 233.84	46737	2-yr	1752.8	762.32	758.12	1.22	1.14	7.54	6.86	550.22	669.07	2.53	2.3	4.2	4.2
Rosebud County	C11	RM 233.61	46365	2-yr	1752.8	762.21	757.67	1.35	1.22	8.64	6.02	302.81	495.86	4.22	2.94	4.54	4.54
Rosebud County	C11	RM 233.35	45943	2-yr	1752.8	761.98	757.03	1.97	1.56	19.26	11.07	214.65	558.68	3.75	2.14	4.95	4.95
Rosebud County	C11	RM 233.13	45584	2-yr	1752.8	761.81	756.45	1.91	1.9	17.08	15.37	206.27	364.29	4.46	4.01	5.36	5.36
Rosebud County	C11	RM 232.94	45281	2-yr	1752.8	761.59	756.15	2.25	2.23	23.68	19.64	169.36	353.95	4.59	3.79	5.44	5.44
Rosebud County	C11	RM 232.75	44978	2-yr	1752.8	761.53	756.03	1.8	1.68	14.98	8.11	203.58	493.77	4.74	2.54	5.5	5.5
Rosebud County	C11	RM 232.56	44674	2-yr	1752.8	761.42	755.79	1.8	1.77	15.85	12.4	240.67	558.7	4.03	3.13	5.63	5.63
Rosebud County	C11	RM 232.37	44366	2-yr	1752.8	761.15	755.72	2.25	2.23	25.24	19.1	206.42	732.94	3.77	2.84	5.43	5.43
Rosebud County	C11	RM 232.19	44074	2-yr	1752.8	761.01	755.67	2.06	2.03	20.42	14.78	203.49	482.22	4.18	3	5.34	5.34
Rosebud County	C11	RM 232.01	43791	2-yr	1752.8	760.85	755.65	2.06	2.02	21.33	13.76	229.65	788.74	3.69	2.37	5.2	5.2
Rosebud County	C11	RM 231.81	43473	2-yr	1752.8	760.55	755.6	2.41	2.02	28.49	16.12	199.52	667.55	3.49	1.95	4.95	4.95
Rosebud County	C11	RM 231.62	43160	2-yr	1752.8	760.35	755.57	2.27	1.82	20.78	10.05	228.53	629.27	3.2	1.53	4.78	4.78
Rosebud County	C11	RM 231.42	42835	2-yr	1752.8	760.31	755.45	1.58	1.15	11.68	3.41	228.01	1179.14	4.5	1.29	4.86	4.86
Rosebud County	C11	RM 231.22	42522	2-yr	1752.8	760.15	755.45	1.93	1.23	16.79	4.77	203.54	1528.21	3.91	1.09	4.7	4.7
Rosebud County	C11	RM 230.99	42160	2-yr	1752.8	759.63	755.45	2.95	2.14	44.26	14.27	153.53	724.73	3.57	1.13	4.18	4.18
Rosebud County	C11	RM 230.79	41841	2-yr	1752.8	759.51	755.43	2.12	1.62	22.19	10.46	202.16	674.89	3.8	1.78	4.08	4.08
Rosebud County	C11	RM 230.53	41415	2-yr	1752.8	759.4	755.17	1.47	1.28	11.14	6.47	296.06	834.25	2.85	1.65	4.23	4.23
Rosebud County	C11	RM 230.29	41045	2-yr	1752.8	759.2	755.15	1.79	1.44	15.38	7.85	233.98	931.57	3.25	1.64	4.05	4.05
Rosebud County	C11	RM 230.06	40676	2-yr	1752.8	759.01	754.81	1.72	1.59	16.32	11.37	286.46	699.81	2.75	1.91	4.2	4.2
Rosebud County	C11	RM 229.81	40276	2-yr	1752.8	758.85	754.74	1.51	1.35	11.83	6.28	320.68	1522.63	3.29	1.74	4.11	4.11
Rosebud County	C11	RM 229.6	39937	2-yr	1752.8	758.59	754.58	1.99	1.77	17.56	12.45	364.32	1539.06	2.28	1.61	4.01	4.01
Rosebud County	C11	RM 229.4	39596	2-yr	1752.8	758.45	754.34	1.62	1.43	13.68	8.77	283.63	1059.04	3.46	2.21	4.11	4.11
Rosebud County	C11	RM 229.2	39273	2-yr	1752.8	758.12	754.15	2.39	2.02	30.71	15.86	214.46	798.78	2.99	1.53	3.97	3.97
Rosebud County	C11	RM 229.02	38994	2-yr	1752.8	757.89	754.12	2.28	1.73	27.67	13.71	211.1	953.66	3.07	1.51	3.77	3.77
Rosebud County	C11	RM 228.82	38676	2-yr	1752.8	757.72	753.8	1.86	1.49	18.25	9.49	268.73	925.39	3.08	1.59	3.92	3.92
Rosebud County	C11	RM 228.64	38383	2-yr	1752.8	757.59	753.73	1.74	1.31	15.99	9.53	224.38	875.24	3.13	1.85	3.9	3.9
Rosebud County	C11	RM 228.46	38093	2-yr	1752.8	757.52	753.53	1.34	0.95	9.37	5.33	301.72	1171.55	3.2	1.81	3.99	3.99
Rosebud County	C11	RM 228.26	37771	2-yr	1752.8	757.45	753.35	1.24	0.8	7.93	4.18	273.91	1578.14	3.35	1.75	4.1	4.1
Rosebud County	C11	RM 228.03	37408	2-yr	1752.8	757.3	753.16	1.66	0.94	14.12	4.98	233.16	1714.12	3.45	1.2	4.14	4.14
Rosebud County	C11	RM 227.74	36949	2-yr	1752.8	757.09	752.95	1.91	1.3	18.36	4.59	167.04	1504.56	3.66	0.9	4.14	4.14
Rosebud County	C11	RM 227.49	36537	2-yr	1752.8	756.92	752.83	1.9	1.18	18.25	4.69	175.55	1634.84	3.59	0.91	4.09	4.09
Rosebud County	C11	RM 227.2	36062	2-yr	1752.8	756.77	752.41	1.74	1.22	15.42	4.63	180.83	1391.06	3.49	1.03	4.36	4.36
Rosebud County	C11	RM 226.98	35709	2-yr	1752.8	756.31	752.31	2.57	1.86	35.28	12.91	211.61	868.83	2.99	1.08	4	4
Rosebud County	C11	RM 226.79	35400	2-yr	1752.8	756.13	752.25	1.93	1.45	20.88	10.04	268.83	825.47	3.07	1.47	3.88	3.88
Rosebud County	C11	RM 226.56	35065	2-yr	1752.8	756	751.83	1.51	1.2	13.51	8.46	338.41	752.27	3.1	1.93	4.17	4.17
Rosebud County	C11	RM 226.36	34743	2-yr	1752.8	755.75	751.68	1.88	1.71	20.28	15.75	300.5	441.85	3	2.32	4.07	4.07
Rosebud County	C11	RM 226.2	34476	2-yr	1752.8	755.65	751.25	1.48	1.37	10.96	10.17	424.72	640.19	2.7	2.51	4.4	4.4
Rosebud County	C11	RM 226.01	34177	2-yr	1752.8	755.51	750.81	1.64	1.48	12.89	7.18	284.2	1070.25	3.68	2.04	4.7	4.7
Rosebud County	C11	RM 225.83	33884	2-yr	1752.8	755.13	750.59	2.62	2.19	33.61	19.01	159.21	534.73	3.98	2.22	4.54	4.54
Rosebud County	C11	RM 225.64	33580	2-yr	1752.8	755.05	750.56	1.79	1.54	16.86	10.62	293.96	911.5	3.21	2.01	4.49	4.49
Rosebud County	C11	RM 225.45	33275	2-yr	1752.8	754.95	750.31	1.5	1.47	11.5	8.4	331.77	828	3.51	2.55	4.64	4.64
Rosebud County	C11	RM 225.26	32969	2-yr	1752.8	754.81	750.25	1.68	1.61	14.31	9.89	291.78	856.94	3.56	2.45	4.56	4.56
Rosebud County	C11	RM 225.16	32805	2-yr	1752.8	754.67	750.19	1.99	1.93	19.51	14.34	224.54	490.84	3.91	2.86	4.48	4.48
Rosebud County	C11	RM 225.06	32646	2-yr	1752.8	754.33	750.15	2.83	2.81	37.45	34.81	167.07	180.85	3.71	3.45	4.18	4.18
Rosebud County	C12	RM 224.89	32368	2-yr	1752.8	754.31	750.09	1.84	1.83	16.81	13.1	249.96	513.99	3.8	2.95	4.22	4.22
Rosebud County	C12	RM 224.71	32083	2-yr	1752.8	754.16	750.04	1.85	1.85	15.39	15.05	361.83	370.21	2.61	2.55	4.12	4.12
Rosebud County	C12	RM 224.53	31796	2-yr	1752.8	753.99	749.96	1.86	1.86	13.07	12.9	379.14	560.35	2.49	2.46	4.03	4.03
Rosebud County	C12	RM 224.34	31486	2-yr	1752.8	753.8	750.03	1.73	1.68	16.5	14.85	469.99	704.46	2	1.8	3.77	3.77
Rosebud County	C12	RM 224.16	31195	2-yr	1752.8	753.65	749.78	1.64	1.52	13.09	8.86	261.98	964.35	3.31	2.23	3.97	3.97
Rosebud County	C12	RM 223.96	30878	2-yr	1752.8	753.47	749.48	1.93	1.69	18.73	9	179.51	902.08	3.63	1.73	4.09	4.09

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	2-yr	1752.8	753.25	749.18	2.18	1.93	25	12.26	162.95	698.65	3.16	1.53	4.07	4.07
Rosebud County	C12	RM 223.55	30235	2-yr	1752.8	753.12	748.87	1.81	1.59	15.97	7.18	229.9	824.68	3.96	1.77	4.25	4.25
Rosebud County	C12	RM 223.37	29952	2-yr	1752.8	752.92	748.72	2.09	1.84	21.42	10.18	208.3	946.22	3.94	1.86	4.2	4.2
Rosebud County	C12	RM 223.2	29681	2-yr	1752.8	752.78	748.51	2.01	1.74	19.55	5.87	209.66	1019.96	4.08	1.21	4.27	4.27
Rosebud County	C12	RM 223.02	29391	2-yr	1752.8	752.69	748.51	1.74	1.39	15.1	4.76	264.18	1462.92	3.66	1.14	4.18	4.18
Rosebud County	C12	RM 222.82	29071	2-yr	1752.8	752.56	748.5	1.7	1.32	14.55	4.66	268.13	1351	3.66	1.16	4.06	4.06
Rosebud County	C12	RM 222.64	28787	2-yr	1752.8	752.45	748.46	1.76	1.13	15.36	5.07	236.97	1359.96	3.74	1.22	3.99	3.99
Rosebud County	C12	RM 222.45	28479	2-yr	1752.8	752.33	748.44	1.64	1.03	13.86	5.24	281.49	1371.94	3.31	1.24	3.89	3.89
Rosebud County	C12	RM 222.22	28128	2-yr	1752.8	752.14	748.15	1.48	1.03	36.06	12.06	256.52	1362.08	3.77	1.25	3.99	3.99
Rosebud County	C12	RM 222.01	27784	2-yr	1752.8	751.99	747.57	1.29	0.92	8.48	3.24	372.22	1502.09	3.35	1.27	4.42	4.42
Rosebud County	C12	RM 221.77	27401	2-yr	1752.8	751.94	747.18	0.89	0.7	4.68	2.82	725.95	1858.6	2.5	1.5	4.76	4.76
Rosebud County	C12	RM 221.55	27042	2-yr	1752.8	751.87	747.07	0.82	0.68	4.44	3.01	807.88	2738.23	2.45	1.66	4.8	4.8
Rosebud County	C12	RM 221.34	26708	2-yr	1752.8	751.81	746.94	0.93	0.78	4.52	3.11	648.68	2663.29	2.72	1.86	4.86	4.86
Rosebud County	C12	RM 221.15	26406	2-yr	1752.8	751.69	746.7	1.41	1.19	9.21	4.56	265.14	2099.29	4.55	2.23	4.99	4.99
Rosebud County	C12	RM 220.96	26081	2-yr	1752.8	751.07	746.66	3.26	2.88	52.86	30.22	137.78	506.65	3.8	2.14	4.41	4.41
Rosebud County	C12	RM 220.77	25779	2-yr	1752.8	750.74	746.73	2.92	2.88	42.67	35.76	163.23	217.7	3.68	3.07	4.01	4.01
Rosebud County	C12	RM 220.6	25513	2-yr	1752.8	750.75	746.72	1.81	1.73	16.15	10.39	250.76	411.2	3.84	2.46	4.03	4.03
Rosebud County	C12	RM 220.4	25183	2-yr	1752.8	750.58	746.88	1.81	1.65	14.1	9.56	390.41	1012.65	2.39	1.61	3.7	3.7
Rosebud County	C12	RM 220.23	24914	2-yr	1752.8	750.51	746.8	1.34	1.22	6.6	5.04	615.17	1268.07	2.03	1.55	3.71	3.71
Rosebud County	C12	RM 220.02	24578	2-yr	1752.8	750.39	746.54	1.3	1.22	7.07	5.37	767.37	1096.69	1.74	1.31	3.85	3.85
Rosebud County	C12	RM 219.83	24268	2-yr	1752.8	750.32	746.18	1.04	0.98	4.88	4.19	766.7	1051	2.15	1.84	4.14	4.14
Rosebud County	C12	RM 219.63	23947	2-yr	1752.8	750.18	745.79	1.33	1.26	8.28	6.52	584.04	793.92	2.22	1.75	4.39	4.39
Rosebud County	C12	RM 219.47	23683	2-yr	1752.8	750.09	745.56	1.37	1.23	9.38	5.11	378.97	791.96	3.33	1.8	4.53	4.53
Rosebud County	C12	RM 219.29	23386	2-yr	1752.8	749.81	745.27	2.22	1.76	24.52	8.91	206.06	747.28	3.7	1.33	4.54	4.54
Rosebud County	C12	RM 219.11	23085	2-yr	1752.8	749.62	745.15	2.2	1.69	24.39	9.71	176.7	724.52	3.67	1.44	4.47	4.47
Rosebud County	C12	RM 218.92	22783	2-yr	1752.8	749.46	745.15	1.92	1.47	18.52	8.51	229.91	836.77	3.12	1.42	4.31	4.31
Rosebud County	C12	RM 218.73	22473	2-yr	1752.8	749.31	745.06	1.8	1.35	15.86	6.86	226.8	770.85	3.92	1.68	4.25	4.25
Rosebud County	C12	RM 218.54	22180	2-yr	1752.8	749.2	744.99	1.7	1.37	14.64	7.13	274.48	738.63	3.57	1.74	4.21	4.21
Rosebud County	C12	RM 218.38	21902	2-yr	1752.8	749.1	744.43	1.7	1.31	13.82	6.03	234.82	746.24	4.13	1.79	4.67	4.67
Rosebud County	C12	RM 218.18	21580	2-yr	1752.8	748.86	743.9	2.19	1.52	23.38	8.86	182.5	763.54	4.03	1.51	4.96	4.96
Rosebud County	C12	RM 217.99	21276	2-yr	1752.8	748.69	743.66	2.12	1.6	22.62	11.9	211.96	717.39	3.59	1.87	5.03	5.03
Rosebud County	C12	RM 217.81	20981	2-yr	1752.8	748.65	743.51	1.44	1.37	9.48	5.56	293.41	696.42	4.14	2.41	5.14	5.14
Rosebud County	C12	RM 217.64	20702	2-yr	1752.8	748.34	743.41	2.41	2.06	28.11	10.27	176.29	609.47	4.05	1.46	4.93	4.93
Rosebud County	C12	RM 217.45	20392	2-yr	1752.8	748.11	743.29	2.41	1.87	28.95	10.84	184.69	680.97	3.73	1.38	4.82	4.82
Rosebud County	C12	RM 217.25	20070	2-yr	1752.8	748.05	743.29	1.79	1.28	15.24	4.49	191.77	1101.46	4.38	1.27	4.76	4.76
Rosebud County	C12	RM 217	19662	2-yr	1752.8	747.78	743.25	2.17	1.64	23.07	6.64	191.33	987.14	3.96	1.13	4.53	4.53
Rosebud County	C12	RM 216.77	19300	2-yr	1752.8	747.53	743.25	2.22	1.63	25.73	8.94	217.02	955.18	3.28	1.13	4.28	4.28
Rosebud County	C12	RM 216.53	18912	2-yr	1752.8	747.35	743.3	1.8	1.19	17.1	6.44	273.31	1255.65	3.16	1.18	4.05	4.05
Rosebud County	C12	RM 216.27	18500	2-yr	1752.8	747.17	743.24	1.55	1.1	13.08	5.56	357.69	1306.47	2.89	1.22	3.94	3.94
Rosebud County	C12	RM 215.98	18038	2-yr	1752.8	747.03	743.12	1.39	0.93	10.22	5.1	273.73	1209.36	3.13	1.56	3.91	3.91
Rosebud County	C12	RM 215.68	17550	2-yr	1752.8	746.89	742.31	1.42	1.06	9.59	3.42	269.37	1085.9	4.29	1.53	4.58	4.58
Rosebud County	C12	RM 215.41	17101	2-yr	1752.8	746.69	741.82	1.81	1.32	15.92	5.57	217.98	952.72	4.03	1.39	4.87	4.87
Rosebud County	C12	RM 215.21	16781	2-yr	1752.8	746.3	741.65	2.68	2.07	35.48	11.78	159.44	683.25	3.84	1.26	4.65	4.65
Rosebud County	C12	RM 215.02	16479	2-yr	1752.8	745.98	741.68	2.79	2.29	38.25	16.49	146.57	457.85	3.95	1.68	4.3	4.3
Rosebud County	C13	RM 214.86	16220	2-yr	1752.8	746.01	741.64	1.64	1.47	12.93	6.93	252.91	538.86	4.16	2.21	4.37	4.37
Rosebud County	C13	RM 214.65	15883	2-yr	1752.8	745.87	741.6	1.69	1.69	12.1	12.1	398.5	452.72	2.61	2.61	4.27	4.27
Rosebud County	C13	RM 214.46	15577	2-yr	1752.8	745.73	741.6	1.69	1.65	11.13	8.53	401.04	806.33	2.58	1.97	4.13	4.13
Rosebud County	C13	RM 214.27	15282	2-yr	1752.8	745.62	741.59	1.56	1.56	9.8	9.8	469.53	721.23	2.39	2.39	4.03	4.03
Rosebud County	C13	RM 214.07	14957	2-yr	1752.8	745.49	741.54	1.37	1.3	13.16	9.38	425.03	1039.97	2.97	2.11	3.95	3.95
Rosebud County	C13	RM 213.9	14672	2-yr	1752.8	745.33	741.37	1.58	1.58	12.93	12.78	360.62	496.66	3.08	3.05	3.96	3.96
Rosebud County	C13	RM 213.7	14343	2-yr	1752.8	745.11	740.88	1.93	1.84	18.35	10.5	232.5	947.78	3.88	2.21	4.23	4.23
Rosebud County	C13	RM 213.54	14083	2-yr	1752.8	744.86	740.59	2.35	2.19	27.12	12.18	189.15	1175.64	3.91	1.74	4.27	4.27
Rosebud County	C13	RM 213.36	13792	2-yr	1752.8	744.73	740.39	2	1.93	20.26	17.73	238.36	1441.7	3.56	3.11	4.34	4.34
Rosebud County	C13	RM 213.16	13475	2-yr	1752.8	744.48	740.27	2.25	1.76	25.3	17.12	208.17	1180.48	3.3	2.21	4.21	4.21
Rosebud County	C13	RM 212.99	13200	2-yr	1752.8	744.34	740.31	2.03	1.69	18.23	12.2	208.9	1010.75	3.09	2.05	4.03	4.03
Rosebud County	C13	RM 212.79	12880	2-yr	1752.8	744.14	740.19	2.09	1.59	21.74	8.13	178.07	1670.74	3.75	1.39	3.95	3.95
Rosebud County	C13	RM 212.6	12572	2-yr	1752.8	744.01	739.79	1.8	1.42	15.82	5.12	239.87	2201.02	3.92	1.26	4.22	4.22
Rosebud County	C13	RM 212.42	12284	2-yr	1752.8	743.78	739.58	2.21	1.68	25.07	7.92	206.26	1720.8	3.62	1.13	4.2	4.2
Rosebud County	C13	RM 212.23	11983	2-yr	1752.8	743.62	739.17	1.95	1.65	19.48	5.86	256.73	1948.26	3.41	1.02	4.45	4.45
Rosebud County	C13	RM 212.05	11688	2-yr	1752.8	743.47	738.83	1.91	1.66	17.73	5.64	223.92	1351.24	4.02	1.27	4.64	4.64

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	2-yr	1752.8	743.28	738.79	2.05	1.83	21.53	10.29	243.43	829.53	3.45	1.64	4.49	4.49
Rosebud County	C13	RM 211.65	11066	2-yr	1752.8	743.09	738.58	2.01	1.68	20.61	9.59	248.52	794.26	3.41	1.57	4.5	4.5
Rosebud County	C13	RM 211.44	10724	2-yr	1752.8	742.88	738.38	2.11	1.55	22.4	9.72	199.53	1033.58	3.62	1.56	4.5	4.5
Rosebud County	C13	RM 211.21	10353	2-yr	1752.8	742.77	737.87	1.76	1.22	13.43	5.45	207.36	1103.79	3.62	1.46	4.9	4.9
Rosebud County	C13	RM 210.96	9946	2-yr	1752.8	742.44	737.72	2.38	1.57	28.66	11.87	169.56	764.05	3.57	1.46	4.72	4.72
Rosebud County	C13	RM 210.75	9612	2-yr	1752.8	742.36	737.48	1.78	1.19	15.48	6.94	191.27	839.88	3.95	1.75	4.88	4.88
Rosebud County	C13	RM 210.57	9317	2-yr	1752.8	742.28	737.5	1.57	1.15	11.86	4.7	243.44	984.27	3.93	1.54	4.78	4.78
Rosebud County	C13	RM 210.36	8986	2-yr	1752.8	742.01	737.54	2.22	1.57	24.88	9.51	194.77	820.41	3.59	1.36	4.47	4.47
Rosebud County	C13	RM 210.16	8674	2-yr	1752.8	741.79	737.53	2.04	1.77	22.65	13.37	287.39	584.96	2.88	1.69	4.26	4.26
Rosebud County	C13	RM 209.98	8382	2-yr	1752.8	741.76	737.25	1.31	1.08	8.4	3.99	305.33	920.77	3.86	1.82	4.51	4.51
Rosebud County	C13	RM 209.8	8091	2-yr	1752.8	741.68	736.96	1.49	1.09	10.3	4.03	218.68	933.39	4.58	1.78	4.72	4.72
Rosebud County	C13	RM 209.6	7774	2-yr	1752.8	741.48	736.72	2	1.24	18.91	5.19	179.37	1247.55	4.36	1.18	4.76	4.76
Rosebud County	C13	RM 209.41	7482	2-yr	1752.8	741.4	736.53	1.72	1.16	14.46	4.74	236.96	1235.39	3.88	1.26	4.87	4.87
Rosebud County	C13	RM 209.21	7161	2-yr	1752.8	741.15	736.29	2.16	1.64	22.7	6.34	194.7	979.52	3.97	1.09	4.86	4.86
Rosebud County	C13	RM 209.03	6871	2-yr	1752.8	740.95	736.14	2.26	1.67	25.01	7.18	185.34	956.19	3.96	1.12	4.81	4.81
Rosebud County	C13	RM 208.85	6571	2-yr	1752.8	740.86	736.03	1.8	1.33	15.76	6.08	229.12	885	3.96	1.51	4.83	4.83
Rosebud County	C13	RM 208.65	6257	2-yr	1752.8	740.75	735.74	1.77	1.33	15.64	8.12	217.8	756.08	3.72	1.91	5.01	5.01
Rosebud County	C13	RM 208.46	5945	2-yr	1752.8	740.49	735.69	2.18	1.87	22.95	16.01	203.8	457.78	3.16	2.19	4.8	4.8
Rosebud County	C13	RM 208.29	5682	2-yr	1752.8	739.91	735.63	3.24	2.94	52.45	35.94	116.17	232.09	3.81	2.57	4.28	4.28
Rosebud County	C14	RM 208.1	5374	2-yr	1752.8	739.81	735.61	2.16	2.06	22.8	13.79	200.67	354.46	4.01	2.4	4.2	4.2
Rosebud County	C14	RM 207.91	5064	2-yr	1752.8	739.63	735.56	2.03	1.75	20.52	9.51	291.74	770.6	2.89	1.33	4.07	4.07
Rosebud County	C14	RM 207.72	4766	2-yr	1752.8	739.43	735.52	1.91	1.65	17.62	9.34	353.65	874.12	2.5	1.31	3.91	3.91
Rosebud County	C14	RM 207.53	4450	2-yr	1752.8	739.32	735.35	1.39	1.16	11.21	5.98	462.57	1111.3	2.56	1.36	3.97	3.97
Rosebud County	C14	RM 207.33	4123	2-yr	1752.8	739.11	735.27	1.75	1.28	15.96	6.12	282.48	1121.36	3.21	1.23	3.84	3.84
Rosebud County	C14	RM 207.15	3851	2-yr	1752.8	739.01	735.14	1.56	1.17	12.23	5.12	310.19	1137.85	3.29	1.37	3.87	3.87
Rosebud County	C14	RM 206.99	3599	2-yr	1752.8	738.93	734.95	1.52	1.06	12.22	5.37	327.09	1471.27	3.03	1.33	3.98	3.98
Rosebud County	C14	RM 206.81	3315	2-yr	1752.8	738.83	734.49	1.53	1.02	11.89	3.88	257.4	1787.14	3.51	1.13	4.34	4.34
Rosebud County	C14	RM 206.61	2997	2-yr	1752.8	738.73	733.91	1.59	0.87	12.19	3.3	197.48	2362.11	4.08	1.09	4.82	4.82
Rosebud County	C14	RM 206.43	2701	2-yr	1752.8	738.67	733.52	1.43	0.83	10.65	3.97	244.31	2739.86	3.31	1.22	5.15	5.15
Rosebud County	C14	RM 206.21	2350	2-yr	1752.8	738.58	733.38	1.38	0.87	9.57	3.64	253.17	2240.66	3.55	1.33	5.2	5.2
Rosebud County	C14	RM 205.97	1963	2-yr	1752.8	738.52	732.73	1.26	0.74	7.19	2.13	223.85	2493.61	5	1.46	5.79	5.79
Rosebud County	C14	RM 205.72	1563	2-yr	1752.8	737.66	732.73	3.88	2.62	93.7	12.42	94.98	1344.79	4.38	0.56	4.93	4.93
Rosebud County	C14	RM 205.49	1198	2-yr	1752.8	737.43	732.63	2.38	1.76	37.09	9.23	187.25	1197.36	3.69	0.91	4.8	4.8
Rosebud County	C14	RM 205.3	907	2-yr	1752.8	737.1	732.76	2.42	1.57	32.75	9.69	244.05	1498.18	2.63	0.77	4.34	4.34
Rosebud County	C14	RM 205.11	594	2-yr	1752.8	736.96	732.8	1.84	0.98	16.84	5.13	191.23	1630.78	3.78	1.14	4.16	4.16
Rosebud County	C14	RM 204.9	243	2-yr	1752.8	736.63	732.63	2.28	1.51	27.31	5.6	224.24	1869.62	3.17	0.64	4	4

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	2-yr	1752.8	736.63	732.67	2.71	1.8	38.76	7.44	190.81	1640.15	3.12	0.59	3.96	3.96
Custer County	C14	RM 204.43	73135	2-yr	1752.8	736.54	732.44	1.8	1.04	17.13	4.43	266.63	2158.83	3.14	0.8	4.1	4.1
Custer County	C14	RM 204.22	72808	2-yr	1752.8	736.33	732.3	1.95	1.17	20.74	6.57	262.16	1802.78	2.84	0.9	4.03	4.03
Custer County	C14	RM 204	72454	2-yr	1752.8	736.19	731.9	1.6	1.11	12.58	4.2	261.19	1235.29	3.84	1.27	4.29	4.29
Custer County	C14	RM 203.82	72156	2-yr	1752.8	735.95	731.14	2.18	1.3	24.02	5.61	196.88	1844.61	3.62	0.83	4.81	4.81
Custer County	C14	RM 203.65	71895	2-yr	1752.8	735.81	730.95	2.11	0.94	22.34	5.43	162.5	2114.32	3.69	0.88	4.86	4.86
Custer County	C14	RM 203.5	71641	2-yr	1752.8	735.74	730.78	1.64	0.84	13.51	4.26	195.78	2105.95	3.65	1.13	4.96	4.96
Custer County	C14	RM 203.3	71324	2-yr	1752.8	735.67	730.79	1.43	0.83	10	3.63	161.79	1893.46	4.03	1.43	4.88	4.88
Custer County	C14	RM 203.1	71035	2-yr	1752.8	735.48	730.79	1.98	1.18	20.09	6.78	184.4	1867.76	3.5	1.16	4.69	4.69
Custer County	C14	RM 202.9	70718	2-yr	1752.8	735.31	730.67	1.91	1.36	20.67	9.32	247.7	1476.54	2.54	1.13	4.64	4.64
Custer County	C14	RM 202.71	70415	2-yr	1752.8	735.02	730.64	2.14	1.58	24.2	10.62	230.57	1001.27	3.13	1.36	4.38	4.38
Custer County	C14	RM 202.51	70088	2-yr	1752.8	734.61	730.68	2.65	1.92	35.76	13.41	152.2	703.84	3.5	1.29	3.93	3.93
Custer County	C14	RM 202.34	69815	2-yr	1752.8	734.48	730.63	1.81	1.48	17.98	7.68	321.87	995.88	2.81	1.19	3.85	3.85
Custer County	C14	RM 202.13	69483	2-yr	1752.8	734.33	730.54	1.67	1.18	14.41	5.68	282.19	1456.67	3.33	1.3	3.79	3.79
Custer County	C14	RM 201.97	69219	2-yr	1752.8	734.16	730.01	1.85	1.49	17.74	7.92	264.21	813.78	3.27	1.45	4.15	4.15
Custer County	C14	RM 201.75	68884	2-yr	1752.8	734.12	729.45	1.27	1.11	7.62	2.95	306.43	957.9	4.3	1.65	4.67	4.67
Custer County	C14	RM 201.57	68612	2-yr	1752.8	733.99	729.37	1.65	1.31	15.15	7.67	362.67	1008.96	2.63	1.32	4.62	4.62
Custer County	C14	RM 201.38	68299	2-yr	1752.8	733.56	729.23	2.31	2.07	31.32	18.56	319.54	852.67	2.3	1.35	4.33	4.33
Custer County	C14	RM 201.23	68055	2-yr	1752.8	733.33	729.13	1.94	1.51	22.2	13.09	369.58	885.83	2.23	1.31	4.2	4.2
Custer County	C14	RM 201.06	67778	2-yr	1752.8	733.29	729.03	1.23	1.02	8.12	4.99	262.3	999.19	2.93	1.79	4.26	4.26
Custer County	C14	RM 200.85	67439	2-yr	1752.8	732.79	729.05	3.04	2.69	47.24	27.38	113.62	324.25	3.54	2.01	3.74	3.74
Custer County	C14	RM 200.64	67103	2-yr	1752.8	732.71	728.97	1.86	1.57	17.39	8.79	215.06	629.06	3.61	1.81	3.74	3.74
Custer County	C14	RM 200.48	66842	2-yr	1752.8	732.64	728.8	1.44	1.33	11.18	8.05	307.11	624.54	2.95	2.11	3.84	3.84
Custer County	C14	RM 200.27	66515	2-yr	1752.8	732.48	728.63	1.54	1.35	12.47	8.15	359.69	643.72	3.09	2.02	3.85	3.85
Custer County	C14	RM 200.05	66162	2-yr	1752.8	732.27	728.3	1.72	1.57	15.98	12.43	387.66	558.8	2.57	2	3.97	3.97
Custer County	C14	RM 199.9	65916	2-yr	1752.8	732.2	727.78	1.38	1.37	9.86	9.34	381.62	407.57	3.32	3.15	4.42	4.42
Custer County	C14	RM 199.71	65614	2-yr	1752.8	731.92	727.34	2.14	2.09	19.29	15.36	253.46	327.79	3.23	2.56	4.58	4.58
Custer County	C14	RM 199.53	65326	2-yr	1752.8	731.86	727.34	1.63	1.63	12.82	12.81	258.94	272.37	4.15	4.14	4.52	4.52
Custer County	C14	RM 199.38	65076	2-yr	1752.8	731.74	727.34	1.74	1.74	14.09	14.07	363.75	379.13	2.76	2.76	4.4	4.4
Custer County	C14	RM 199.18	64754	2-yr	1752.8	731.51	727.64	1.89	1.89	16.7	16.46	408.48	523.88	2.27	2.23	3.87	3.87
Custer County	C14	RM 199.04	64535	2-yr	1752.8	731.42	727.64	1.59	1.55	11.84	9.72	419.11	811.25	2.62	2.15	3.78	3.78
Custer County	C14	RM 198.77	64102	2-yr	1752.8	731.21	727.28	1.69	1.68	14.47	13.26	294.95	552.7	3.52	3.22	3.93	3.93
Custer County	C14	RM 198.57	63773	2-yr	1752.8	730.87	726.99	2.34	2.33	27.55	25.81	204.81	277.89	3.65	3.42	3.88	3.88
Custer County	C14	RM 198.4	63505	2-yr	1752.8	730.67	726.86	2.35	2.13	28.12	19.54	199.39	451.07	3.53	2.45	3.81	3.81
Custer County	C14	RM 198.22	63215	2-yr	1752.8	730.41	726.57	2.42	1.84	30.13	16.28	190.38	521.86	3.41	1.83	3.85	3.85
Custer County	C14	RM 198.04	62923	2-yr	1752.8	730.26	726.32	2.02	1.69	20.76	14.12	226.79	441.73	3.46	2.34	3.94	3.94
Custer County	C14	RM 197.84	62611	2-yr	1752.8	730.16	726.04	1.49	1.47	11.76	9.72	351.59	464.55	3.1	2.56	4.12	4.12
Custer County	C14	RM 197.65	62306	2-yr	1752.8	730	725.69	1.76	1.63	14.19	7.77	285.23	844.2	3.19	1.73	4.31	4.31
Custer County	C14	RM 197.47	62013	2-yr	1752.8	729.98	725.29	1.22	1.03	7.01	2.95	295.36	1366.3	4.5	1.88	4.69	4.69
Custer County	C14	RM 197.27	61686	2-yr	1752.8	729.83	724.81	1.84	1.23	16.68	6.72	210.9	1383.92	3.78	1.51	5.02	5.02
Custer County	C14	RM 197.07	61373	2-yr	1752.8	729.71	724.81	1.81	1.42	16.21	6.23	203.84	1077.37	3.88	1.47	4.9	4.9
Custer County	C14	RM 196.91	61115	2-yr	1752.8	729.67	724.81	1.48	0.96	10.74	5.72	222.11	1304.5	3.87	2.04	4.86	4.86
Custer County	C14	RM 196.73	60815	2-yr	1752.8	729.61	724.76	1.36	0.84	8.96	4.57	240.7	1227.89	4.02	2.04	4.85	4.85
Custer County	C14	RM 196.54	60518	2-yr	1752.8	729.53	724.67	1.46	0.96	10.9	5.6	270.26	1040.14	3.48	1.77	4.86	4.86
Custer County	C14	RM 196.33	60178	2-yr	1752.8	729.45	724.57	1.4	1.06	9.34	5.26	247.07	755.73	4.21	2.36	4.88	4.88
Custer County	C14	RM 196.17	59915	2-yr	1752.8	729.4	724.51	1.42	1.21	9.54	6.66	191.57	834.36	4.36	3.04	4.89	4.89
Custer County	C15	RM 195.98	59615	2-yr	1755.6	728.36	724.52	4.14	4.1	90.3	81.01	131.87	150.18	3.21	2.87	3.84	3.84
Custer County	C15	RM 195.81	59337	2-yr	1755.6	728.23	724.33	2.78	2.77	38.61	36.11	168.27	185.07	3.75	3.5	3.9	3.9
Custer County	C15	RM 195.61	59020	2-yr	1755.6	728.11	724.24	2.06	2.05	21.08	19.96	229.89	270.46	3.72	3.52	3.87	3.87
Custer County	C15	RM 195.43	58727	2-yr	1755.6	727.89	724.22	2.08	2.08	23.67	23.64	305.61	385.45	2.77	2.76	3.67	3.67
Custer County	C15	RM 195.23	58415	2-yr	1755.6	727.74	723.93	1.63	1.63	13.98	13.91	390.43	427.63	2.75	2.74	3.81	3.81
Custer County	C15	RM 195.04	58114	2-yr	1755.6	727.51	723.54	1.96	1.87	20.51	17.3	269.22	396.1	3.03	2.55	3.97	3.97
Custer County	C15	RM 194.86	57824	2-yr	1755.6	727.29	722.93	2.1	1.89	22.37	14.84	209.22	438.84	3.55	2.34	4.36	4.36
Custer County	C15	RM 194.67	57521	2-yr	1755.6	727.14	722.75	1.92	1.9	17.73	15.67	217.41	396.66	4.19	3.7	4.39	4.39
Custer County	C15	RM 194.49	57231	2-yr	1755.6	727.03	722.53	1.83	1.79	16.15	11.69	232.1	700.99	4.12	2.97	4.5	4.5
Custer County	C15	RM 194.32	56946	2-yr	1755.6	726.82	722.5	2.13	2.1	20.73	14.45	259.82	550.12	3.17	2.2	4.32	4.32
Custer County	C15	RM 194.13	56643	2-yr	1755.6	726.6	722.5	2.13	2.12	23.65	19.53	250.64	355.38	3.28	2.7	4.1	4.1
Custer County	C15	RM 193.93	56331	2-yr	1755.6	726.46	722.31	1.85	1.78	17.01	13.03	247.7	341.19	3.79	2.9	4.15	4.15
Custer County	C15	RM 193.74	56024	2-yr	1755.6	726.29	722.23	1.95	1.89	18.68	12.19	228.53	384.12	3.92	2.54	4.06	4.06
Custer County	C15	RM 193.55	55708	2-yr	1755.6	726.08	722.13	2.12	2	22.25	12.26	215.76	420.73	3.81	2.08	3.95	3.95

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	2-yr	1755.6	725.86	722.13	2.24	2.13	25.39	12.85	219.08	460.63	3.56	1.79	3.74	3.74
Custer County	C15	RM 193.2	55158	2-yr	1755.6	725.79	722.13	1.74	1.59	15.38	8.97	278.27	536.24	3.53	2.05	3.66	3.66
Custer County	C15	RM 193	54825	2-yr	1755.6	725.63	721.84	1.75	1.58	15.55	8.8	281.95	569.16	3.49	1.97	3.79	3.79
Custer County	C15	RM 192.81	54525	2-yr	1755.6	725.46	721.37	1.97	1.63	19.09	8.58	207.4	614.3	3.92	1.75	4.09	4.09
Custer County	C15	RM 192.63	54247	2-yr	1755.6	725.3	721.01	1.98	1.76	19.02	8.96	215.59	527.97	4.04	1.89	4.29	4.29
Custer County	C15	RM 192.44	53935	2-yr	1755.6	725.21	721.01	1.72	1.5	14.62	8.61	240.38	557.51	3.87	2.27	4.2	4.2
Custer County	C16	RM 192.26	53653	2-yr	1755.6	725.02	721.01	1.97	1.88	19.13	15.24	227.09	330.5	3.87	3.08	4.01	4.01
Custer County	C16	RM 192.05	53309	2-yr	1755.6	724.48	721.11	2.94	2.84	45.36	36.58	186.81	259.8	3.18	2.56	3.37	3.37
Custer County	C16	RM 191.74	52809	2-yr	1755.6	724.19	721.1	1.72	1.72	16.5	16.5	407.24	448.75	2.5	2.5	3.09	3.09
Custer County	C16	RM 191.35	52181	2-yr	1755.6	723.69	721.02	1.73	1.71	18.07	17.2	512.86	544.76	1.98	1.88	2.67	2.67
Custer County	C16	RM 191.12	51812	2-yr	1755.6	723.47	720.51	1.42	1.42	10.69	10.69	598.12	598.12	2.07	2.07	2.96	2.96
Custer County	C16	RM 190.87	51406	2-yr	1755.6	723.29	719.89	1.28	1.28	8.47	8.34	726.78	738.5	1.88	1.85	3.4	3.4
Custer County	C16	RM 190.54	50885	2-yr	1755.6	723.14	719.15	0.97	0.97	5.74	5.72	788.96	838.08	2.3	2.3	3.99	3.99
Custer County	C16	RM 190.29	50477	2-yr	1755.6	722.62	718.45	2.64	2.46	34.91	21.54	179.27	375.01	3.67	2.25	4.17	4.17
Custer County	C16	RM 190.1	50176	2-yr	1755.6	722.36	718.43	2.43	2.42	30.92	29.05	225.2	400.74	3.2	3.01	3.93	3.93
Custer County	C16	RM 189.85	49765	2-yr	1755.6	722.16	718.13	1.75	1.7	16.43	15.34	334.23	621.23	2.95	2.76	4.03	4.03
Custer County	C16	RM 189.65	49458	2-yr	1755.6	721.91	718.1	2	1.85	20.93	11.88	290.46	882.95	2.98	1.69	3.81	3.81
Custer County	C16	RM 189.43	49103	2-yr	1755.6	721.45	718.09	2.47	2.46	34	33.16	269.12	517.85	2.64	2.58	3.36	3.36
Custer County	C16	RM 189.22	48763	2-yr	1755.6	721.45	717.93	1.21	1.21	7.68	7.68	451.5	746.19	3.21	3.21	3.52	3.52
Custer County	C16	RM 188.91	48267	2-yr	1755.6	721.25	717.54	1.48	1.48	10.08	10.07	472.32	867.32	2.51	2.51	3.71	3.71
Custer County	C16	RM 188.66	47869	2-yr	1755.6	720.88	716.75	2.27	2.27	25.24	22.96	194.68	858.82	3.97	3.6	4.13	4.13
Custer County	C16	RM 188.51	47622	2-yr	1755.6	720.71	716.72	2.27	2.24	25.98	23.04	216.9	773.39	3.57	3.16	3.99	3.99
Custer County	C16	RM 188.32	47314	2-yr	1755.6	720.61	716.79	1.73	1.51	15.95	11.2	151.36	535.89	3.39	2.35	3.82	3.82
Custer County	C16	RM 188.14	47024	2-yr	1755.6	720.44	716.93	1.4	1.6	7.77	9.68	347.14	716.98	1.43	1.79	3.51	3.51
Custer County	C16	RM 187.98	46768	2-yr	1755.6	720.35	716.91	1.51	1.26	12.06	6.55	221.98	828.74	3.12	1.69	3.44	3.44
Custer County	C16	RM 187.78	46440	2-yr	1755.6	720.27	716.69	1.31	1.17	9.2	5.71	251.06	836.59	2.9	1.8	3.58	3.58
Custer County	C16	RM 187.55	46083	2-yr	1755.6	719.98	716.04	2.05	1.57	21.41	7.98	224.37	1047.14	3.52	1.3	3.94	3.94
Custer County	C16	RM 187.35	45750	2-yr	1755.6	719.55	715.34	2.65	2.33	35.45	13.86	180.82	593.06	3.61	1.4	4.21	4.21
Custer County	C16	RM 187.14	45421	2-yr	1755.6	719.42	715.3	1.93	1.58	19.21	9.46	258.53	724.97	3.39	1.66	4.12	4.12
Custer County	C16	RM 187.01	45211	2-yr	1755.6	719.36	715.3	1.62	1.4	13.22	6.99	299.85	715.83	3.55	1.87	4.06	4.06
Custer County	C16	RM 186.84	44930	2-yr	1755.6	719.2	715.03	1.8	1.63	16.86	10.51	294.31	791.98	3.26	2.02	4.17	4.17
Custer County	C16	RM 186.62	44553	2-yr	1755.6	718.81	714.75	2.43	2.33	29.09	14.89	188.38	385.85	3.82	1.95	4.06	4.06
Custer County	C16	RM 186.46	44311	2-yr	1755.6	718.53	714.53	2.65	2.47	35.58	23.85	184.96	466.41	3.54	2.36	4	4
Custer County	C16	RM 186.26	43996	2-yr	1755.6	718.29	714.27	2.37	2.32	28.44	22.3	205.3	322.29	3.59	2.81	4.02	4.02
Custer County	C16	RM 186.1	43730	2-yr	1755.6	718.2	713.9	1.79	1.79	16.4	16.4	290.74	323.88	3.38	3.38	4.3	4.3
Custer County	C16	RM 185.91	43424	2-yr	1795	718	713.84	1.91	1.91	16	16	382.66	417.18	2.46	2.46	4.16	4.16
Custer County	C16	RM 185.71	43110	2-yr	1795	717.36	713.84	3.05	3.05	43.02	42.72	246.76	264.41	2.39	2.37	3.52	3.52
Custer County	C16	RM 185.52	42808	2-yr	1795	717.34	713.71	1.62	1.56	13.93	11.14	364.52	475.44	3.03	2.42	3.63	3.63
Custer County	C16	RM 185.34	42508	2-yr	1795	717.08	713.28	2	2	17.21	17.03	433.28	485.85	2.07	2.05	3.8	3.8
Custer County	C16	RM 185.16	42219	2-yr	1795	716.99	712.93	1.42	1.41	10.84	9.56	419.95	1096.07	3	2.64	4.06	4.06
Custer County	C17	RM 184.95	41881	2-yr	1795	716.77	712.72	1.82	1.68	17.92	11.33	288.11	793.78	3.38	2.13	4.05	4.05
Custer County	C17	RM 184.78	41621	2-yr	1795	716.49	712.51	2.3	2.13	26.74	16.12	213.67	469.74	3.61	2.16	3.98	3.98
Custer County	C17	RM 184.59	41311	2-yr	1795	716.24	711.96	2.38	2.24	27.7	21.28	193.82	304.3	3.87	2.96	4.28	4.28
Custer County	C17	RM 184.4	41010	2-yr	1795	716.17	711.62	1.81	1.8	15.82	15.29	242.39	277.94	4.09	3.95	4.54	4.54
Custer County	C17	RM 184.23	40728	2-yr	1795	715.95	711.31	2.13	2.12	22.99	21.57	236.41	279.54	3.56	3.34	4.64	4.64
Custer County	C17	RM 184.1	40517	2-yr	1795	715.76	711.39	2.31	2.23	26.28	20.95	203.14	521.33	3.81	3.05	4.37	4.37
Custer County	C17	RM 184.03	40407	2-yr	1795	715.73	711.49	2.09	2.07	21.59	19.81	221.85	294.52	3.86	3.54	4.24	4.24
Custer County	C17	RM 183.83	40098	2-yr	1795	715.58	711.42	1.98	1.97	19.13	17.67	231.96	470.62	3.92	3.61	4.16	4.16
Custer County	C17	RM 183.65	39806	2-yr	1795	715.4	711.39	2.07	2.07	21.15	20.71	223.2	278.91	3.88	3.8	4.01	4.01
Custer County	C17	RM 183.47	39513	2-yr	1795	715.13	711.39	2.36	2.36	28.05	28.05	208.69	265.24	3.64	3.64	3.74	3.74
Custer County	C17	RM 183.28	39210	2-yr	1795	715.01	711.31	1.88	1.88	17.81	17.31	263.39	414.17	3.62	3.52	3.7	3.7
Custer County	C17	RM 183.09	38909	2-yr	1795	714.81	711.04	2.07	1.85	21.52	15.55	235.5	625.47	3.59	2.58	3.77	3.77
Custer County	C17	RM 182.94	38660	2-yr	1795	714.7	710.66	1.89	1.89	17.47	17.17	243.58	394.12	3.91	3.84	4.04	4.04
Custer County	C17	RM 182.72	38316	2-yr	1795	714.51	710.1	1.96	1.91	19.28	17.46	250.1	413.75	3.64	3.3	4.41	4.41
Custer County	C17	RM 182.54	38020	2-yr	1795	714.1	710.12	2.72	2.48	36.88	25.72	173.67	329.69	3.74	2.59	3.98	3.98
Custer County	C17	RM 182.34	37706	2-yr	1795	713.91	710.27	2.2	2.09	25.34	18.68	240.69	360.47	3.24	2.39	3.64	3.64
Custer County	C17	RM 182.15	37402	2-yr	1795	713.7	710.26	2.08	1.98	22.37	18.12	248.66	336.23	3.34	2.7	3.44	3.44
Custer County	C17	RM 181.97	37127	2-yr	1795	713.54	710.26	1.92	1.87	19.4	16.71	288.46	352.49	3.17	2.73	3.28	3.28
Custer County	C17	RM 181.78	36815	2-yr	1795	713.29	710.09	2.05	1.98	22.66	18.72	307.52	400.14	2.75	2.27	3.2	3.2
Custer County	C17	RM 181.59	36505	2-yr	1795	712.94	709.76	2.27	2.18	25.36	21.68	321.44	397.49	2.42	2.07	3.18	3.18

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	2-yr	1795	712.65	709.37	2.1	1.88	23.72	16.2	276.24	474.6	2.95	2.01	3.28	3.28
Custer County	C17	RM 181.23	35925	2-yr	1795	712.34	709.36	2.47	2.28	33.66	25.32	246.65	382.05	2.74	2.06	2.98	2.98
Custer County	C17	RM 181.03	35607	2-yr	1795.3	712.16	709.02	1.78	1.75	17.29	16.26	352.9	416.48	2.82	2.65	3.14	3.14
Custer County	C17	RM 180.83	35292	2-yr	1795.3	712	708.68	1.61	1.54	14.35	12.48	362.09	566.87	2.71	2.36	3.32	3.32
Custer County	C17	RM 180.66	35006	2-yr	1795.3	711.81	708.22	1.76	1.71	16.69	14.06	342.47	420.59	2.96	2.49	3.59	3.59
Custer County	C18	RM 180.46	34700	2-yr	1795.3	711.63	708.05	1.84	1.73	17.27	12.43	281.53	419.63	3.44	2.47	3.58	3.58
Custer County	C18	RM 180.29	34421	2-yr	1795.3	711.34	707.79	2.3	2.16	27.88	19.83	243.3	391.24	3.1	2.2	3.55	3.55
Custer County	C18	RM 180.08	34086	2-yr	1795.3	711.14	707.53	1.98	1.87	19.91	14.8	252.56	403.05	3.48	2.58	3.61	3.61
Custer County	C18	RM 179.9	33807	2-yr	1795.3	710.98	707.32	1.95	1.82	19.61	15.37	265.36	398.58	3.29	2.58	3.66	3.66
Custer County	C18	RM 179.73	33525	2-yr	1795.3	710.69	706.89	2.26	2.16	27.01	23.13	256.8	320.49	3.07	2.63	3.8	3.8
Custer County	C18	RM 179.54	33218	2-yr	1795.3	710.39	706.7	2.25	2.23	27.53	25.69	310.9	343.86	2.57	2.39	3.69	3.69
Custer County	C18	RM 179.35	32914	2-yr	1795.3	710.2	706.45	1.9	1.86	18.82	17.29	292.41	344.28	3.22	2.96	3.75	3.75
Custer County	C18	RM 179.16	32611	2-yr	1795.3	709.95	706.29	2.14	2.14	23.71	23.65	237.48	253.7	3.53	3.53	3.66	3.66
Custer County	C18	RM 178.99	32337	2-yr	1795.3	709.79	706.07	2	1.97	20.23	18.26	254.08	285.47	3.53	3.19	3.72	3.72
Custer County	C18	RM 178.79	32025	2-yr	1795.3	709.58	705.9	2.08	2.03	22.1	19.93	251.59	286.56	3.42	3.08	3.68	3.68
Custer County	C18	RM 178.61	31730	2-yr	1795.3	709.4	705.59	2	1.99	20.49	19.2	259.81	402.53	3.45	3.23	3.81	3.81
Custer County	C18	RM 178.43	31434	2-yr	1795.3	709.23	705.25	1.98	1.98	19.64	19.55	248.32	249.41	3.65	3.64	3.98	3.98
Custer County	C18	RM 178.23	31114	2-yr	1795.3	709.05	704.7	1.99	1.99	19.77	19.59	247.76	250.13	3.65	3.62	4.35	4.35
Custer County	C18	RM 178.06	30848	2-yr	1795.3	708.88	704.57	2.09	2.06	21.51	17.09	219.45	282.45	3.9	3.09	4.31	4.31
Custer County	C18	RM 177.88	30549	2-yr	1795.3	708.68	704.57	2.17	2.13	23.73	20.13	229.01	276.36	3.6	3.05	4.11	4.11
Custer County	C18	RM 177.66	30211	2-yr	1803.8	708.23	704.57	2.72	2.72	37.92	37.92	190.64	223.51	3.47	3.47	3.66	3.66
Custer County	C18	RM 177.49	29932	2-yr	1803.8	708.07	704.47	2.2	2.2	24.78	24.78	236.3	236.3	3.47	3.47	3.6	3.6
Custer County	C19	RM 177.3	29625	2-yr	1803.8	707.91	704.46	1.89	1.89	18.7	18.68	301.8	302.12	3.17	3.16	3.45	3.45
Custer County	C19	RM 177.11	29314	2-yr	1803.8	707.58	704.46	2.25	2.25	27.18	27.04	293.13	303.37	2.73	2.72	3.12	3.12
Custer County	C19	RM 176.93	29040	2-yr	1803.8	707.42	704.42	1.81	1.81	17.67	17.67	360.95	409.93	2.75	2.75	3	3
Custer County	C19	RM 176.74	28720	2-yr	1803.8	707.25	704.21	1.67	1.62	15.3	13.01	340.85	512.98	2.73	2.32	3.04	3.04
Custer County	C19	RM 176.53	28384	2-yr	1803.8	706.95	703.63	1.93	1.88	22.24	20.99	343.97	466.23	2.17	2.05	3.32	3.32
Custer County	C19	RM 176.36	28109	2-yr	1803.8	706.72	703.08	1.88	1.88	19.04	18.36	323.45	357.09	2.96	2.85	3.64	3.64
Custer County	C19	RM 176.18	27824	2-yr	1803.8	706.13	702.71	3.01	2.96	48.66	40.7	199.69	244	2.99	2.5	3.42	3.42
Custer County	C19	RM 176	27527	2-yr	1803.8	705.94	702.51	2.21	2.13	25.78	22.05	259.98	338.01	3.1	2.65	3.43	3.43
Custer County	C19	RM 175.81	27227	2-yr	1803.8	705.7	702.24	2.07	2.04	23.22	20.7	297.33	339.46	2.92	2.6	3.46	3.46
Custer County	C19	RM 175.62	26928	2-yr	1803.8	705.42	701.81	2.26	2.09	26.69	19.92	234.72	360.27	3.23	2.4	3.61	3.61
Custer County	C19	RM 175.43	26622	2-yr	1803.8	705.05	701.81	2.56	2.01	35.38	27.04	214.68	407.92	2.9	2.2	3.24	3.24
Custer County	C19	RM 175.25	26325	2-yr	1803.8	704.7	701.72	2.43	2.28	32.09	27.52	211.98	328.27	2.83	2.43	2.98	2.98
Custer County	C19	RM 175.08	26048	2-yr	1803.8	704.48	701.63	1.96	1.96	21.69	21.32	357.35	364.19	2.57	2.53	2.85	2.85
Custer County	C19	RM 174.9	25768	2-yr	1803.8	704.16	701.31	2.16	2.16	26.45	26.45	336	336	2.49	2.49	2.85	2.85
Custer County	C19	RM 174.69	25444	2-yr	1803.8	703.75	700.82	2.24	2.23	29.35	28.88	350.21	359.47	2.3	2.26	2.93	2.93
Custer County	C19	RM 174.49	25112	2-yr	1803.8	703.33	700.04	2.33	2.32	29.73	29.16	279.46	285.43	2.77	2.72	3.29	3.29
Custer County	C19	RM 174.32	24844	2-yr	1803.8	702.95	699.39	2.62	2.61	36.22	35.67	222.41	226.03	3.1	3.05	3.56	3.56
Custer County	C19	RM 174.13	24549	2-yr	1803.8	702.82	698.84	1.98	1.98	19.55	19.47	243.86	244.88	3.73	3.72	3.98	3.98
Custer County	C19	RM 173.94	24238	2-yr	1803.8	702.56	698.14	2.23	2.23	25.56	25.38	237.73	239.45	3.4	3.38	4.42	4.42
Custer County	C19	RM 173.75	23939	2-yr	1803.8	702.18	697.92	2.7	2.68	35.91	32.41	172.39	298.46	3.86	3.48	4.26	4.26
Custer County	C19	RM 173.57	23651	2-yr	1803.8	702.05	697.83	2.19	2.19	23.23	23.23	207.73	210.84	3.97	3.97	4.22	4.22
Custer County	C19	RM 173.39	23352	2-yr	1803.8	701.74	697.83	2.53	2.53	32.25	32.25	199.98	206.04	3.57	3.57	3.91	3.91
Custer County	C19	RM 173.2	23054	2-yr	1803.8	701.48	697.72	2.41	2.4	30.02	28.7	225.36	271.56	3.32	3.17	3.76	3.76
Custer County	C19	RM 173.02	22756	2-yr	1803.8	701.26	697.29	2.2	2.18	24.99	22.52	244.03	273.8	3.35	3.02	3.97	3.97
Custer County	C19	RM 172.82	22437	2-yr	1803.8	701.06	696.82	1.85	1.84	19.72	19.3	414.44	423.53	2.36	2.31	4.24	4.24
Custer County	C19	RM 172.67	22200	2-yr	1803.8	700.76	696.52	2.07	2.06	25.8	25.26	413.83	424.3	2.1	2.06	4.24	4.24
Custer County	C19	RM 172.49	21903	2-yr	1803.8	700.49	696.23	1.94	1.94	20.69	20.27	335.34	343.49	2.77	2.71	4.26	4.26
Custer County	C19	RM 172.29	21585	2-yr	1803.8	700.24	695.79	2.12	2.11	22.24	20.48	226.44	317.19	3.76	3.46	4.45	4.45
Custer County	C19	RM 172.12	21325	2-yr	1803.8	699.62	695.81	3.24	3.24	58.76	58.76	213.99	213.99	2.6	2.6	3.81	3.81
Custer County	C19	RM 171.89	20942	2-yr	1803.8	699.36	695.57	2.22	2.22	25.04	24	228.36	239.39	3.55	3.4	3.79	3.79
Custer County	C19	RM 171.71	20638	2-yr	1803.8	699.04	695.49	2.45	2.43	31.62	29.72	231.79	249.05	3.17	2.98	3.55	3.55
Custer County	C19	RM 171.52	20341	2-yr	1803.8	698.83	695.3	2.17	2.16	24.41	22.84	249.92	268.66	3.32	3.11	3.53	3.53
Custer County	C19	RM 171.34	20043	2-yr	1803.8	698.55	695.11	2.31	2.31	27.94	27.28	243.88	249.84	3.2	3.12	3.44	3.44
Custer County	C19	RM 171.15	19745	2-yr	1803.8	698.32	694.86	2.2	2.2	24.96	24.96	248.54	248.54	3.31	3.31	3.46	3.46
Custer County	C19	RM 170.96	19437	2-yr	1803.8	698.1	694.67	2.12	2.12	23.27	23.25	261.02	261.21	3.27	3.26	3.43	3.43
Custer County	C19	RM 170.78	19143	2-yr	1803.8	697.86	694.2	2.19	2.18	24.63	23.21	245.37	260.91	3.36	3.17	3.66	3.66
Custer County	C19	RM 170.58	18838	2-yr	1803.8	697.55	693.91	2.38	2.36	29.99	27.38	245.35	271.57	3.09	2.82	3.64	3.64
Custer County	C19	RM 170.4	18543	2-yr	1803.8	697.36	693.9	2.04	2.04	21.57	21.31	269.24	272.74	3.28	3.25	3.46	3.46

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	2-yr	1803.8	697.18	693.7	1.99	1.99	20.56	20.38	272.95	275.36	3.31	3.29	3.48	3.48
Custer County	C19	RM 170.03	17941	2-yr	1803.8	696.9	693.31	2.23	2.23	25.43	25.35	236.26	236.95	3.42	3.41	3.59	3.59
Custer County	C19	RM 169.84	17641	2-yr	1803.8	696.68	692.78	2.26	2.26	25.55	25.55	213.33	213.33	3.73	3.73	3.9	3.9
Custer County	C19	RM 169.65	17341	2-yr	1803.8	696.43	692.47	2.36	2.36	27.74	27.71	203.23	203.45	3.76	3.75	3.96	3.96
Custer County	C19	RM 169.47	17041	2-yr	1803.8	696.14	692.17	2.51	2.46	31.97	28.38	199.81	231.32	3.57	3.17	3.97	3.97
Custer County	C19	RM 169.28	16732	2-yr	1803.8	695.91	692	2.32	2.3	27.14	23.41	214.83	252.73	3.61	3.11	3.91	3.91
Custer County	C19	RM 169.09	16441	2-yr	1803.8	695.68	691.96	2.3	2.3	26.92	26.58	225.9	243.35	3.47	3.43	3.72	3.72
Custer County	C19	RM 168.91	16152	2-yr	1803.8	695.43	691.93	2.34	2.34	28.34	27.95	230.07	233.46	3.35	3.3	3.5	3.5
Custer County	C19	RM 168.72	15846	2-yr	1803.8	695.26	691.82	1.96	1.96	19.85	19.83	278.15	278.39	3.31	3.31	3.44	3.44
Custer County	C19	RM 168.51	15500	2-yr	1803.8	695.04	691.6	1.97	1.95	20.57	19.12	296.39	323.14	3.08	2.86	3.44	3.44
Custer County	C19	RM 168.35	15241	2-yr	1803.8	694.77	691.48	2.23	2.18	26.65	23.09	268.44	319.2	3	2.6	3.29	3.29
Custer County	C19	RM 168.15	14931	2-yr	1803.8	694.39	691.2	2.5	2.45	33.3	26.81	239.29	304.08	3.01	2.42	3.19	3.19
Custer County	C19	RM 167.97	14639	2-yr	1803.8	694.18	690.59	2.16	2.16	23.94	23.94	245.84	245.84	3.4	3.4	3.59	3.59
Custer County	C19	RM 167.79	14340	2-yr	1803.8	693.96	690.5	2.15	2.15	23.92	23.65	249.29	303.5	3.36	3.32	3.46	3.46
Custer County	C19	RM 167.61	14054	2-yr	1803.8	693.65	690.42	2.41	2.41	30.92	29.98	244.2	252.21	3.06	2.97	3.23	3.23
Custer County	C19	RM 167.41	13735	2-yr	1803.8	693.37	690.14	2.24	2.17	26.72	22.49	264.94	327.28	3.01	2.54	3.23	3.23
Custer County	C19	RM 167.22	13433	2-yr	1803.8	693.16	689.79	2.03	2.02	21.52	20.31	276.95	294.67	3.21	3.03	3.37	3.37
Custer County	C19	RM 167.04	13143	2-yr	1803.8	692.99	689.14	1.97	1.92	19.63	17.33	256.36	298.52	3.55	3.14	3.85	3.85
Custer County	C19	RM 166.85	12847	2-yr	1803.8	692.63	688.98	2.49	2.42	33	26.45	240.01	308.94	3.01	2.41	3.65	3.65
Custer County	C19	RM 166.67	12552	2-yr	1803.8	692.4	688.84	2.19	2.19	25.07	24.91	252.28	253.94	3.26	3.24	3.56	3.56
Custer County	C19	RM 166.52	12319	2-yr	1803.8	692.31	688.64	1.85	1.85	17.3	17.26	278.87	279.56	3.5	3.5	3.66	3.66
Custer County	C19	RM 166.31	11978	2-yr	1803.8	692.06	688.02	2.09	2.09	20.95	20.47	249.27	263.71	3.46	3.38	4.04	4.04
Custer County	C20	RM 166.2	11806	2-yr	1806.6	691.94	687.4	2.14	2.14	22.87	21.72	229.53	249.07	3.68	3.49	4.54	4.54
Custer County	C20	RM 166.06	11569	2-yr	1806.6	691.71	687.38	2.35	2.35	28.79	28.41	238.72	241.95	3.22	3.18	4.33	4.33
Custer County	C20	RM 165.92	11350	2-yr	1806.6	691.45	687.38	2.5	2.5	32.88	32.13	229.18	234.73	3.16	3.08	4.07	4.07
Custer County	C20	RM 165.73	11039	2-yr	1806.6	691.24	687.26	2.09	2.09	22.71	22.56	264.5	272.13	3.27	3.25	3.98	3.98
Custer County	C20	RM 165.55	10750	2-yr	1806.6	691.04	687.11	2.06	2.06	22.13	22.13	267.55	281.09	3.27	3.27	3.93	3.93
Custer County	C20	RM 165.35	10440	2-yr	1806.6	690.81	686.75	2.08	2.08	22.83	22.54	277.38	294.89	3.13	3.09	4.06	4.06
Custer County	C20	RM 165.17	10140	2-yr	1806.6	690.61	686.41	2.06	1.98	21.55	18.93	247.1	297.64	3.49	3.06	4.2	4.2
Custer County	C20	RM 165.01	9883	2-yr	1806.6	690.44	686.16	2.07	2.06	22.03	20.88	262.27	277.52	3.33	3.16	4.28	4.28
Custer County	C20	RM 164.81	9577	2-yr	1806.6	690.24	686.04	2.01	1.98	21.35	18.36	283.83	336.39	3.15	2.71	4.2	4.2
Custer County	C20	RM 164.61	9252	2-yr	1806.6	690.08	685.8	1.8	1.73	13.3	11.78	359.57	427.16	2.76	2.45	4.27	4.27
Custer County	C20	RM 164.42	8945	2-yr	1806.6	689.9	685.78	1.84	1.83	15.18	15.08	355.87	358.42	2.77	2.75	4.12	4.12
Custer County	C20	RM 164.23	8641	2-yr	1806.6	689.74	685.85	1.68	1.68	15.31	15.24	452.11	454.11	2.38	2.37	3.89	3.89
Custer County	C20	RM 164.06	8372	2-yr	1806.6	689.61	685.64	1.63	1.6	13.21	10.09	293.99	403.63	3.76	2.87	3.97	3.97
Custer County	C20	RM 163.85	8031	2-yr	1806.6	689.45	685	1.78	1.78	15.94	15.6	277.99	284.29	3.65	3.57	4.45	4.45
Custer County	C20	RM 163.67	7743	2-yr	1806.6	689.25	684.45	2.08	2.08	20.21	19.88	191.39	194.88	4.54	4.47	4.8	4.8
Custer County	C20	RM 163.48	7449	2-yr	1806.6	688.99	684.13	2.46	2.46	28.34	27.69	161.89	166.04	4.53	4.42	4.86	4.86
Custer County	C20	RM 163.3	7150	2-yr	1806.6	688.89	684.13	2.07	2.05	20.48	18.87	204.93	224.98	4.25	3.92	4.76	4.76
Custer County	C20	RM 163.12	6859	2-yr	1806.6	688.8	683.91	1.75	1.71	14.89	12.71	267.05	321.9	3.85	3.28	4.89	4.89
Custer County	C20	RM 162.94	6583	2-yr	1806.6	688.62	683.78	2.04	1.99	19.87	15.24	204.74	275.8	4.3	3.29	4.84	4.84
Custer County	C20	RM 162.74	6254	2-yr	1806.6	688.26	683.77	2.62	2.62	33.99	29.46	177.16	205.82	3.88	3.36	4.48	4.48
Custer County	C20	RM 162.55	5957	2-yr	1806.6	688.02	683.96	2.39	2.39	29.98	29.42	231.24	235.76	3.27	3.21	4.06	4.06
Custer County	C20	RM 162.34	5620	2-yr	1806.6	687.87	683.92	1.82	1.81	17.16	15.96	304.37	328.99	3.27	3.03	3.95	3.95
Custer County	C20	RM 162.18	5352	2-yr	1806.6	687.72	683.41	1.66	1.65	23.17	22.84	354.23	359.74	3.08	3.04	4.31	4.31
Custer County	C20	RM 162.03	5111	2-yr	1806.6	687.62	683.26	1.51	1.51	11.29	11.23	322.17	334.85	3.71	3.69	4.36	4.36
Custer County	C20	RM 161.81	4770	2-yr	1806.6	687.25	682.63	2.48	2.46	29.58	27.87	174.77	187	4.16	3.92	4.62	4.62
Custer County	C20	RM 161.62	4470	2-yr	1806.6	686.93	682.53	2.7	2.7	35.85	35.75	173.69	258.72	3.86	3.85	4.4	4.4
Custer County	C20	RM 161.43	4159	2-yr	1806.6	686.72	682.63	2.36	2.35	27.84	26.41	205.99	218.74	3.71	3.52	4.09	4.09
Custer County	C20	RM 161.24	3859	2-yr	1806.6	686.43	682.51	2.51	2.45	31.92	27.02	199.39	243.67	3.58	3.03	3.92	3.92
Custer County	C20	RM 161.06	3559	2-yr	1806.6	686.22	682.38	2.28	2.27	26.26	22.86	218.93	253.81	3.61	3.14	3.84	3.84
Custer County	C20	RM 160.87	3258	2-yr	1806.6	685.87	682.24	2.58	2.58	34.23	32.54	204.8	216.22	3.41	3.24	3.63	3.63
Custer County	C20	RM 160.68	2952	2-yr	1806.6	685.71	682.11	2.09	2.08	22.24	22.01	251.68	254.47	3.44	3.41	3.59	3.59
Custer County	C20	RM 160.5	2662	2-yr	1806.6	685.5	681.85	2.04	2.04	22.36	22.31	302.25	302.9	2.94	2.93	3.65	3.65
Custer County	C20	RM 160.31	2364	2-yr	1806.6	685.29	681.58	1.95	1.94	20.62	18.57	321.4	358.8	2.88	2.59	3.71	3.71
Custer County	C20	RM 160.12	2063	2-yr	1806.6	685.1	681.02	1.91	1.87	18.65	16.23	277.19	327.27	3.4	2.96	4.08	4.08
Custer County	C20	RM 159.93	1758	2-yr	1806.6	684.78	680.9	2.27	2.26	28.59	26.44	291.64	317.34	2.72	2.52	3.88	3.88
Custer County	C20	RM 159.75	1459	2-yr	1806.6	684.52	680.88	2.19	2.18	24.93	23.96	251.96	263.07	3.27	3.14	3.64	3.64
Custer County	C20	RM 159.55	1151	2-yr	1806.6	684.31	680.74	2.09	2.09	22.62	22.18	261.92	267.73	3.3	3.23	3.57	3.57
Custer County	C20	RM 159.38	876	2-yr	1806.6	684.07	680.37	2.25	2.21	25.69	24.03	229.23	250.09	3.49	3.27	3.7	3.7

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	2-yr	1806.6	683.88	679.77	2.11	2.11	22.69	22.52	234.94	236.7	3.64	3.62	4.1	4.1
Custer County	C20	RM 158.98	229	2-yr	1806.6	683.61	679.44	2.26	2.25	25.56	24.53	216.69	227.61	3.68	3.53	4.17	4.17

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	2-yr	1809.4	683.61	679.22	2.2	2.19	23.93	21.22	214.16	242.64	3.84	3.4	4.39	4.39
Prairie County	C21	RM 158.55	61087	2-yr	1809.4	683.5	678.98	1.89	1.89	17.06	16.87	225.86	228.59	4.24	4.19	4.52	4.52
Prairie County	C21	RM 158.36	60787	2-yr	1809.4	683.38	678.83	1.84	1.84	16.5	16.41	248.89	250.16	3.96	3.94	4.55	4.55
Prairie County	C21	RM 158.17	60481	2-yr	1809.4	683.22	678.35	1.91	1.9	19.79	18.14	253.18	278.37	3.74	3.42	4.86	4.86
Prairie County	C21	RM 157.98	60173	2-yr	1809.4	682.92	678.22	2.3	2.29	27.15	24.36	231.17	259.22	3.4	3.05	4.7	4.7
Prairie County	C21	RM 157.78	59862	2-yr	1809.4	682.67	678.23	2.33	2.28	26.73	20.03	201.99	276.98	3.84	2.86	4.44	4.44
Prairie County	C21	RM 157.6	59561	2-yr	1809.4	682.56	678.14	1.92	1.9	17.79	15.2	233.85	277.19	4.03	3.44	4.42	4.42
Prairie County	C21	RM 157.38	59209	2-yr	1809.4	682.41	677.81	1.82	1.74	17.16	14.87	288.08	359.16	3.34	2.89	4.6	4.6
Prairie County	C21	RM 157.18	58885	2-yr	1809.4	682.25	677.42	1.83	1.69	16.35	9.21	235.66	488.01	4.01	2.24	4.83	4.83
Prairie County	C21	RM 156.99	58595	2-yr	1809.4	682.01	677.32	2.32	2.02	26.05	13.25	173.83	433.57	4.11	2.07	4.69	4.69
Prairie County	C21	RM 156.8	58287	2-yr	1809.4	681.57	677.32	2.97	2.54	44	25.26	149.83	336.32	3.74	2.12	4.25	4.25
Prairie County	C21	RM 156.62	57990	2-yr	1809.4	681.47	677.29	2.1	2.03	21.96	19.04	207.6	272.33	3.78	3.27	4.18	4.18
Prairie County	C21	RM 156.42	57683	2-yr	1809.4	681.34	677.21	1.81	1.79	16.42	13.67	271.12	331.85	3.68	3.05	4.13	4.13
Prairie County	C21	RM 156.24	57378	2-yr	1809.4	681.07	676.91	2.21	2.17	25.29	21.7	245.34	292.36	3.33	2.85	4.16	4.16
Prairie County	C21	RM 156.04	57069	2-yr	1809.4	680.92	676.56	1.96	1.93	18.59	16.05	225.3	265.79	4.09	3.52	4.36	4.36
Prairie County	C21	RM 155.85	56762	2-yr	1809.4	680.69	676.11	2.24	2.19	24.46	19.55	203.43	261.62	3.97	3.16	4.58	4.58
Prairie County	C21	RM 155.66	56455	2-yr	1809.4	680.33	675.96	2.68	2.57	35.48	24.28	176.21	271.47	3.82	2.59	4.37	4.37
Prairie County	C21	RM 155.47	56151	2-yr	1809.4	680.19	675.89	2.08	2.05	22.3	19.43	257.44	323	3.37	2.94	4.3	4.3
Prairie County	C21	RM 155.27	55835	2-yr	1809.4	679.98	675.92	1.96	1.96	20.83	20.67	317.77	320.46	2.9	2.88	4.06	4.06
Prairie County	C21	RM 155.08	55530	2-yr	1809.4	679.74	675.95	2.02	2.02	21.89	21.58	296.49	301.1	3.01	2.97	3.79	3.79
Prairie County	C21	RM 154.88	55209	2-yr	1809.4	679.54	675.64	1.91	1.91	18.46	18.41	300.68	301.55	3.15	3.14	3.9	3.9
Prairie County	C21	RM 154.69	54901	2-yr	1809.4	679.23	675.39	2.25	2.24	26.9	26.26	264.93	272.34	3.04	2.96	3.84	3.84
Prairie County	C21	RM 154.5	54588	2-yr	1809.4	678.98	675.02	2.18	2.18	24.94	24.12	257.32	267.21	3.22	3.11	3.96	3.96
Prairie County	C21	RM 154.3	54273	2-yr	1809.4	678.76	674.8	2.05	2.04	22.03	21.68	277.5	282.25	3.18	3.13	3.96	3.96
Prairie County	C21	RM 154.1	53959	2-yr	1809.4	678.49	674.67	2.17	2.16	24.94	24.19	269.5	278.81	3.09	3	3.82	3.82
Prairie County	C21	RM 153.91	53650	2-yr	1809.4	678.31	674.51	1.97	1.96	19.63	19.24	260.55	266.54	3.53	3.46	3.8	3.8
Prairie County	C21	RM 153.72	53338	2-yr	1809.4	678.08	674.06	2.15	2.1	23.06	19.03	225.99	281.88	3.71	3.06	4.02	4.02
Prairie County	C21	RM 153.52	53023	2-yr	1809.4	677.67	673.78	2.67	2.52	37.57	30.25	206.24	281.75	3.18	2.55	3.89	3.89
Prairie County	C21	RM 153.32	52704	2-yr	1809.4	677.35	673.64	2.42	2.42	31.04	31.04	245.91	245.91	3.05	3.05	3.71	3.71
Prairie County	C21	RM 153.12	52380	2-yr	1809.4	677.14	673.43	2.04	2.03	21.52	20.86	270.43	291.38	3.28	3.18	3.71	3.71
Prairie County	C21	RM 152.92	52065	2-yr	1809.4	676.94	672.88	2.01	2.01	20	20	269.3	318.57	3.34	3.34	4.06	4.06
Prairie County	C21	RM 152.73	51762	2-yr	1809.4	676.73	672.27	2.06	2.06	21.48	21.47	271.2	275.63	3.25	3.24	4.46	4.46
Prairie County	C21	RM 152.54	51463	2-yr	1809.4	676.52	671.85	2.09	2.08	21.79	20.61	251.7	267.11	3.44	3.25	4.67	4.67
Prairie County	C21	RM 152.35	51157	2-yr	1809.4	676.37	671.41	1.96	1.96	18.66	18.62	229.06	229.57	4.04	4.03	4.96	4.96
Prairie County	C21	RM 152.16	50852	2-yr	1809.4	676.22	671.23	1.93	1.92	18.96	18.39	267.75	277.15	3.5	3.39	4.99	4.99
Prairie County	C21	RM 151.97	50546	2-yr	1809.4	676.07	670.99	1.91	1.82	15.25	12.56	266.5	348.26	3.48	2.86	5.08	5.08
Prairie County	C21	RM 151.77	50227	2-yr	1809.4	675.95	670.87	1.85	1.69	16.03	10.07	204.89	381.35	4.51	2.81	5.08	5.08
Prairie County	C21	RM 151.59	49936	2-yr	1809.4	675.61	670.75	2.65	2.47	33.8	26.41	151.23	223.97	4.22	3.27	4.86	4.86
Prairie County	C21	RM 151.38	49599	2-yr	1809.4	675.43	670.9	2.21	2.13	23.73	19.96	199.41	249.54	4.06	3.4	4.53	4.53
Prairie County	C21	RM 151.19	49287	2-yr	1809.4	675.3	670.96	1.99	1.99	19.18	19.16	226.41	226.71	4.02	4.02	4.34	4.34
Prairie County	C21	RM 151.01	49012	2-yr	1809.4	675.16	670.91	1.9	1.9	19.11	19.11	287.02	293.4	3.31	3.31	4.25	4.25
Prairie County	C21	RM 150.81	48683	2-yr	1809.4	675.01	670.79	1.7	1.7	12.83	12.75	381.44	384.09	2.79	2.77	4.22	4.22
Prairie County	C21	RM 150.63	48400	2-yr	1928.4	674.91	670.45	1.55	1.54	12.19	11.61	360.92	382	3.44	3.28	4.46	4.46
Prairie County	C21	RM 150.44	48094	2-yr	1928.4	674.71	669.86	1.91	1.85	16.75	14.59	273.64	325.96	3.67	3.19	4.85	4.85
Prairie County	C21	RM 150.25	47780	2-yr	1928.4	674.29	669.38	2.73	2.71	41.22	33.75	165.88	204.55	4.26	3.47	4.91	4.91
Prairie County	C21	RM 150.05	47474	2-yr	1928.4	674.19	669.21	2.11	2.11	20.86	20.78	202.98	203.84	4.5	4.48	4.98	4.98
Prairie County	C21	RM 149.87	47178	2-yr	1928.4	674.05	669.02	2.01	2.01	20.59	19.78	269.57	281.08	3.55	3.41	5.03	5.03
Prairie County	C21	RM 149.66	46846	2-yr	1928.4	673.92	668.97	1.75	1.75	12.79	12.79	330.35	356.98	3.33	3.33	4.95	4.95
Prairie County	C21	RM 149.48	46551	2-yr	1928.4	673.64	668.91	2.26	2.23	26.7	25.18	261.51	369.23	3.25	3.07	4.73	4.73
Prairie County	C21	RM 149.27	46219	2-yr	1928.4	673.38	668.94	2.31	2.11	26.13	18.57	208.49	464.76	3.57	2.52	4.44	4.44
Prairie County	D1	RM 149.08	45914	2-yr	1928.4	673.19	668.95	2.08	2.08	21.74	19.86	254.51	279.31	3.64	3.32	4.24	4.24
Prairie County	D1	RM 148.89	45608	2-yr	1931.2	673.09	668.96	1.69	1.69	14.35	14.3	314.28	323.24	3.63	3.62	4.13	4.13
Prairie County	D1	RM 148.7	45301	2-yr	1931.2	672.93	668.73	1.78	1.78	15.87	15.58	347.86	355.12	3.12	3.06	4.2	4.2
Prairie County	D1	RM 148.5	44987	2-yr	1931.2	672.69	668.42	2.1	1.99	21.68	15.87	235.13	344.56	3.87	2.82	4.27	4.27
Prairie County	D1	RM 148.3	44667	2-yr	1931.2	672.39	668.01	2.46	2.35	29.53	23.47	193.31	258.35	4.01	3.18	4.38	4.38
Prairie County	D1	RM 148.11	44353	2-yr	1931.2	672.24	667.73	2.11	2.07	21.78	19.47	230.09	264.46	3.95	3.53	4.51	4.51
Prairie County	D1	RM 147.93	44062	2-yr	1931.2	672.11	667.4	1.87	1.87	17.98	17.75	306.12	310.48	3.37	3.33	4.71	4.71
Prairie County	D1	RM 147.74	43761	2-yr	1931.2	671.95	667.21	1.93	1.79	19.61	15.11	251.64	385.72	3.65	2.8	4.74	4.74
Prairie County	D1	RM 147.55	43454	2-yr	1931.2	671.75	666.79	2.13	1.95	21.78	15.95	193.54	322.11	4.23	3.07	4.96	4.96
Prairie County	D1	RM 147.34	43128	2-yr	1931.2	671.53	666.46	2.32	2.1	25.67	18.26	172.9	301.05	4.35	3.06	5.07	5.07

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	2-yr	1931.2	671.3	666.42	2.43	2.21	28.88	20.61	178.57	309.08	4	2.83	4.88	4.88
Prairie County	D1	RM 146.96	42505	2-yr	1931.2	671.07	666.49	2.39	2.36	27.19	24.48	187.33	211.61	4.3	3.87	4.58	4.58
Prairie County	D1	RM 146.77	42199	2-yr	1931.2	670.95	666.48	2.06	2.06	20.34	20.27	223.35	224.07	4.2	4.19	4.47	4.47
Prairie County	D1	RM 146.58	41899	2-yr	1931.2	670.86	666.59	1.7	1.7	14.36	14.35	295.99	296.4	3.83	3.82	4.27	4.27
Prairie County	D1	RM 146.32	41487	2-yr	1931.2	670.61	666.62	1.96	1.96	18.17	18.03	325	327.78	3.03	3	3.99	3.99
Prairie County	D1	RM 146	40968	2-yr	1931.2	670.26	666.48	2.02	2.02	21.91	21.49	277.17	282.89	3.44	3.38	3.78	3.78
Prairie County	D1	RM 145.65	40420	2-yr	1931.2	669.88	665.52	2.12	2.12	23.72	23.67	246.97	247.52	3.69	3.68	4.36	4.36
Prairie County	D1	RM 145.36	39958	2-yr	1931.2	669.6	664.91	2	1.98	21.48	20.49	264.9	280.69	3.64	3.47	4.69	4.69
Prairie County	D1	RM 145.13	39579	2-yr	1931.2	669.42	664.58	1.86	1.86	17.92	17.7	266.31	269.74	3.9	3.85	4.84	4.84
Prairie County	D1	RM 144.92	39251	2-yr	1931.2	669.26	664.24	1.84	1.84	18.23	18.13	271.69	273.29	3.85	3.83	5.02	5.02
Prairie County	D1	RM 144.73	38942	2-yr	1931.2	669.08	663.99	1.96	1.95	20.59	19.13	263.54	285.83	3.73	3.46	5.09	5.09
Prairie County	D1	RM 144.56	38672	2-yr	1931.2	668.83	664.1	2.22	2.21	25.69	23.73	265.15	288.59	3.27	3.02	4.73	4.73
Prairie County	D1	RM 144.33	38305	2-yr	1931.2	668.59	664.19	2.15	2.13	22.65	18.99	232.15	280.27	3.87	3.24	4.4	4.4
Prairie County	D1	RM 144.13	37987	2-yr	1931.2	668.47	664.33	1.82	1.81	16.31	15.26	271.37	292.54	3.9	3.65	4.14	4.14
Prairie County	D1	RM 143.91	37637	2-yr	1931.2	668.34	663.96	1.73	1.69	14.98	11.42	299.48	418.52	3.71	2.82	4.38	4.38
Prairie County	D1	RM 143.71	37320	2-yr	1931.2	668.01	663.43	2.41	2.38	28.01	23.47	191.03	268.55	4.18	3.49	4.58	4.58
Prairie County	D1	RM 143.45	36908	2-yr	1931.2	667.59	663.01	2.73	2.7	36.43	30.35	179.26	218.38	3.94	3.28	4.58	4.58
Prairie County	D1	RM 143.21	36511	2-yr	1931.2	667.41	662.92	2.12	2.12	21.72	21.2	224.58	230.3	4.06	3.96	4.49	4.49
Prairie County	D1	RM 142.97	36139	2-yr	1931.2	667.24	662.7	1.99	1.99	19.06	18.64	232.06	237.55	4.18	4.08	4.54	4.54
Prairie County	D1	RM 142.71	35717	2-yr	1931.2	666.79	662.52	2.65	2.65	34.58	34.58	188.36	188.36	3.87	3.87	4.27	4.27
Prairie County	D1	RM 142.46	35322	2-yr	1931.2	666.62	662.36	2.01	2.01	20.11	19.91	254.62	257.29	3.77	3.73	4.26	4.26
Prairie County	D1	RM 142.23	34952	2-yr	1931.2	666.39	662.21	2.12	2.11	22.07	21.78	236.93	255.44	3.85	3.8	4.18	4.18
Prairie County	D1	RM 142.02	34614	2-yr	1931.2	666.13	662.21	2.22	2.15	26.18	23.51	269.68	325.96	3.07	2.76	3.92	3.92
Prairie County	D1	RM 141.8	34258	2-yr	1931.2	665.99	662.01	1.6	1.6	13.22	13.12	393.92	397.1	3.07	3.04	3.98	3.98
Prairie County	D1	RM 141.6	33942	2-yr	1931.2	665.73	661.72	2.05	2.05	20.59	20.56	314.68	315.1	3	2.99	4.01	4.01
Prairie County	D1	RM 141.42	33642	2-yr	1931.2	665.63	661.32	1.61	1.61	12.4	12.32	358.44	360.58	3.35	3.33	4.31	4.31
Prairie County	D1	RM 141.22	33325	2-yr	1931.2	665.51	660.91	1.62	1.62	13.25	13.19	326.47	328	3.64	3.63	4.6	4.6
Prairie County	D1	RM 141.02	33011	2-yr	1931.2	665.21	660.58	2.3	2.3	25.23	24.99	194.42	196.24	4.31	4.27	4.63	4.63
Prairie County	D1	RM 140.84	32709	2-yr	1931.2	665.08	660.35	2.03	2.03	20.08	20.06	241.46	241.74	3.95	3.94	4.73	4.73
Prairie County	D1	RM 140.64	32394	2-yr	1931.2	664.98	660.07	1.81	1.81	15.14	15.05	238.55	239.99	4.46	4.44	4.91	4.91
Prairie County	D1	RM 140.44	32074	2-yr	1931.2	664.77	659.63	2.11	2.11	21.15	21.15	225.59	225.59	4.06	4.06	5.14	5.14
Prairie County	D1	RM 140.23	31738	2-yr	1931.2	664.47	659.62	2.45	2.45	28.92	28.56	207.01	209.53	3.8	3.76	4.85	4.85
Prairie County	D1	RM 140.03	31420	2-yr	1931.2	664.34	659.59	1.99	1.99	19.15	19.15	253.62	253.66	3.83	3.83	4.75	4.75
Prairie County	D1	RM 139.84	31118	2-yr	1931.2	664.2	659.19	1.83	1.82	17.25	16.51	309.19	326.37	3.4	3.26	5.01	5.01
Prairie County	D1	RM 139.64	30801	2-yr	1931.2	664.04	658.96	1.92	1.87	17.33	14.44	222.13	276.29	4.5	3.74	5.08	5.08
Prairie County	D1	RM 139.44	30466	2-yr	1931.2	663.9	658.72	1.89	1.86	17.28	15.85	250.56	278.73	4.07	3.73	5.18	5.18
Prairie County	D1	RM 139.23	30138	2-yr	1931.2	663.76	658.34	1.9	1.9	19.27	19.06	219.78	222.33	4.63	4.58	5.42	5.42
Prairie County	D1	RM 139.02	29799	2-yr	1931.2	663.42	658.14	2.47	2.47	35.2	34.38	179.72	184.26	4.34	4.24	5.28	5.28
Prairie County	D1	RM 138.81	29470	2-yr	1931.2	663.35	658.11	1.79	1.78	16.84	15.63	219	237.43	4.92	4.56	5.24	5.24
Prairie County	D1	RM 138.62	29157	2-yr	1931.2	663.21	657.94	1.91	1.89	16.65	15.17	216.79	241.65	4.65	4.24	5.27	5.27
Prairie County	D1	RM 138.41	28823	2-yr	1931.2	663	657.82	2.17	2.14	24.48	22.6	202.45	222.72	4.39	4.05	5.18	5.18
Prairie County	D1	RM 138.22	28519	2-yr	1931.2	662.84	657.8	2.17	2.16	21.77	20.86	198.68	208.15	4.48	4.29	5.04	5.04
Prairie County	D1	RM 138.02	28200	2-yr	1931.2	662.79	657.74	1.62	1.61	12.94	12.54	246.99	255.84	4.82	4.68	5.05	5.05
Prairie County	D1	RM 137.82	27874	2-yr	1931.2	662.66	656.95	1.76	1.76	15.99	15.49	263.32	272.22	4.17	4.04	5.71	5.71
Prairie County	D1	RM 137.62	27552	2-yr	1931.2	662.48	656.75	1.94	1.79	19.98	12.63	234.81	464.88	4.13	2.59	5.73	5.73
Prairie County	D1	RM 137.42	27247	2-yr	1931.2	662.26	656.66	2.17	2.17	24.23	24.1	203.89	205.01	4.36	4.34	5.6	5.6
Prairie County	D1	RM 137.24	26944	2-yr	1931.2	662.1	656.66	2.13	2.12	24.11	23.31	205.46	212.83	4.42	4.27	5.44	5.44
Prairie County	D1	RM 137.04	26627	2-yr	1934	661.89	656.5	2.2	2.2	25.57	25.35	205.93	207.78	4.28	4.24	5.39	5.39
Prairie County	D2	RM 136.84	26475	2-yr	1934	661.86	656.46	1.94	1.94	18.27	18.27	205.18	205.18	4.86	4.86	5.4	5.4
Prairie County	D2	RM 136.44	26317	2-yr	1934	661.83	656.37	1.74	1.74	15.25	15.19	228.08	228.88	4.88	4.86	5.46	5.46
Prairie County	D2	RM 136.23	26001	2-yr	1934	661.67	656.19	1.93	1.92	17.3	17.21	246.39	247.7	4.08	4.06	5.48	5.48
Prairie County	D2	RM 136.04	25673	2-yr	1934	661.53	656.01	1.95	1.94	16.51	16.11	211.43	216.96	4.7	4.58	5.52	5.52
Prairie County	D2	RM 135.85	25337	2-yr	1934	661.32	655.93	2.23	2.23	23.1	22.97	186.08	187.07	4.66	4.63	5.39	5.39
Prairie County	D2	RM 135.66	25033	2-yr	1934	661.2	655.91	2.07	2.07	19.84	19.63	202.14	204.38	4.63	4.58	5.29	5.29
Prairie County	D2	RM 135.46	24715	2-yr	1934	661.05	655.86	2.07	2.07	23.94	23.58	199.11	202.16	4.68	4.62	5.19	5.19
Prairie County	D2	RM 135.24	24417	2-yr	1934	660.97	655.68	1.71	1.71	15.79	15.7	229.44	230.71	4.94	4.91	5.29	5.29
Prairie County	D2	RM 135	24090	2-yr	1934	660.82	655.56	1.86	1.86	18.41	18.04	246.98	252.41	4.2	4.12	5.26	5.26
Prairie County	D2	RM 134.78	23742	2-yr	1934	660.67	655.36	1.84	1.84	17.65	17.36	223.84	227.62	4.7	4.63	5.31	5.31
Prairie County	D2	RM 134.58	23351	2-yr	1934	660.4	655.29	2.2	2.2	26.87	26.13	189.75	195.62	4.63	4.5	5.11	5.11
Prairie County	D2	RM 134.39	23000	2-yr	1934	660.2	655.24	2.13	2.11	25.36	23.61	216.99	235.33	4.19	3.9	4.96	4.96

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	2-yr	1934	660.04	655.11	1.95	1.91	18.89	16.3	263.97	463.03	3.75	3.23	4.93	4.93
Prairie County	D2	RM 133.99	22372	2-yr	1934	659.91	654.97	1.86	1.85	15.79	14.89	264.94	282.23	3.93	3.7	4.94	4.94
Prairie County	D2	RM 133.79	22053	2-yr	1934	659.7	655	2.12	2.09	21.76	19.33	226.1	258.1	4.03	3.58	4.7	4.7
Prairie County	D2	RM 133.59	21733	2-yr	1934	659.55	654.96	2	1.99	19.56	19.25	246.73	251.29	3.92	3.86	4.59	4.59
Prairie County	D2	RM 133.41	21417	2-yr	1934	659.42	654.78	1.86	1.85	16.7	16.15	254.87	264.45	4.08	3.94	4.64	4.64
Prairie County	D2	RM 133.21	21104	2-yr	1934	659.24	654.64	2.04	2.01	20.01	18.55	229.84	251.6	4.12	3.82	4.6	4.6
Prairie County	D2	RM 133.02	20811	2-yr	1934	659.1	654.53	1.97	1.96	18.88	18.14	246.2	257.01	3.99	3.83	4.57	4.57
Prairie County	D2	RM 132.83	20491	2-yr	1934	658.94	654.29	1.98	1.96	19.57	17.55	262.6	297.48	3.71	3.32	4.64	4.64
Prairie County	D2	RM 132.63	20184	2-yr	1934	658.77	654.04	1.97	1.89	19.37	15.86	254.55	336.81	3.72	3.04	4.73	4.73
Prairie County	D2	RM 132.42	19875	2-yr	1934	658.59	653.98	2.05	1.99	20.28	18.22	221.59	260.28	4.15	3.73	4.61	4.61
Prairie County	D2	RM 132.23	19553	2-yr	1934	658.5	653.88	1.74	1.69	14.48	13.06	257.21	301	4.23	3.81	4.62	4.62
Prairie County	D2	RM 132.02	19225	2-yr	1934	658.28	653.63	2.07	2.07	21.19	19.51	245.25	266.91	3.81	3.5	4.65	4.65
Prairie County	D2	RM 131.81	18910	2-yr	1934	658.05	653.37	2.22	2.21	24.17	21.93	226.33	250.35	3.86	3.5	4.68	4.68
Prairie County	D2	RM 131.58	18573	2-yr	1934	657.94	653.02	1.83	1.82	15.82	14.57	238.03	271.13	4.43	4.07	4.92	4.92
Prairie County	D2	RM 131.38	18237	2-yr	1934	657.79	652.75	1.97	1.89	18.13	16.35	212.37	254	4.46	4.03	5.04	5.04
Prairie County	D2	RM 131.18	17875	2-yr	1934	657.54	652.49	2.24	2.24	24.11	23.86	209.38	211.71	4.13	4.09	5.05	5.05
Prairie County	D2	RM 130.98	17548	2-yr	1934	657.34	652.34	2.26	2.22	24.28	22.58	197.09	216.44	4.32	4.02	5	5
Prairie County	D2	RM 130.78	17227	2-yr	1934	657.2	652.27	2.07	2.06	20.35	18.41	216.24	240.51	4.32	3.9	4.93	4.93
Prairie County	D2	RM 130.59	16914	2-yr	1934	657.11	652.16	1.77	1.76	14.56	13.27	239.07	264.29	4.57	4.16	4.95	4.95
Prairie County	D2	RM 130.39	16588	2-yr	1934	656.94	651.95	2.02	2.02	19	18.99	212.3	212.41	4.52	4.52	4.99	4.99
Prairie County	D2	RM 130.19	16280	2-yr	1934	656.77	651.81	2.12	2.12	21.54	21.54	218.77	218.77	4.18	4.18	4.96	4.96
Prairie County	D2	RM 130	15965	2-yr	1934	656.65	651.57	1.88	1.88	16.83	16.82	242.52	242.71	4.25	4.24	5.08	5.08
Prairie County	D2	RM 129.81	15649	2-yr	1934	656.55	651.47	1.8	1.79	15.01	14.61	235.14	242.64	4.58	4.45	5.08	5.08
Prairie County	D2	RM 129.62	15337	2-yr	1934	656.37	651.34	2.06	2.05	20.1	18.71	216.64	247.65	4.33	4.03	5.03	5.03
Prairie County	D2	RM 129.43	15031	2-yr	1934	656.25	651.21	1.9	1.9	16.92	16.51	227.37	233.31	4.48	4.37	5.04	5.04
Prairie County	D2	RM 129.24	14724	2-yr	1951	656.06	651.06	2.12	2.12	21.64	21.06	222.31	234.82	4.14	4.03	5	5
Prairie County	D2	RM 129.04	14417	2-yr	1951	655.86	651.06	2.24	2.24	24.19	23.19	209.54	246.89	4.15	3.98	4.8	4.8
Prairie County	D2	RM 128.82	14112	2-yr	1951	655.67	651.05	2.26	2.25	24.57	24.07	209.12	258.4	4.13	4.05	4.62	4.62
Prairie County	D2	RM 128.62	13798	2-yr	1951	655.53	651.08	2.03	2.03	19.73	19.65	228.13	296.33	4.21	4.2	4.45	4.45
Prairie County	D2	RM 128.41	13446	2-yr	1951	655.37	651.07	1.94	1.94	18.51	18.35	255.09	257.34	3.93	3.9	4.3	4.3
Prairie County	D2	RM 128.21	13125	2-yr	1951	655.2	650.98	2.01	2	19.78	18.68	246.55	286.08	3.93	3.71	4.22	4.22
Prairie County	D2	RM 127.98	12790	2-yr	1951	655.04	650.84	1.96	1.96	18.64	18.61	250.45	250.76	3.98	3.98	4.2	4.2
Prairie County	D2	RM 127.75	12473	2-yr	1951	654.92	650.59	1.79	1.79	15.84	15.81	287.96	288.44	3.79	3.79	4.33	4.33
Prairie County	D2	RM 127.55	12112	2-yr	1951	654.76	650.35	1.78	1.78	15.77	15.67	287.38	294.75	3.8	3.78	4.41	4.41
Prairie County	D2	RM 127.27	11729	2-yr	1951	654.6	649.95	1.79	1.79	15.73	15.58	277.2	279.93	3.92	3.89	4.65	4.65
Prairie County	D2	RM 126.97	11415	2-yr	1951	654.38	649.68	2.11	2.11	21.46	21.21	226.77	229.55	4.08	4.04	4.7	4.7
Prairie County	D2	RM 126.71	10962	2-yr	1951	654.15	649.49	2.08	2.08	20.55	20.32	218.29	223.98	4.3	4.25	4.66	4.66
Prairie County	D2	RM 126.43	10478	2-yr	1951	654.01	649.32	1.69	1.69	13.72	13.6	275.96	278.47	4.18	4.14	4.69	4.69
Prairie County	D2	RM 126.42	10074	2-yr	1951	653.77	649.05	2.02	2.02	20.15	19.91	249.83	252.9	3.86	3.81	4.72	4.72
Prairie County	D2	RM 126.41	9625	2-yr	1951	653.51	648.27	2.1	2.08	20.9	19.72	220.07	234.71	4.23	3.99	5.24	5.24
Prairie County	D3	RM 126.38	9533	2-yr	1951	653.46	648.27	2.12	2.11	21.53	20.42	220.07	233.29	4.18	3.96	5.19	5.19
Prairie County	D3	RM 126.22	9286	2-yr	1951	653.38	648.8	1.89	1.89	17.12	17.12	244.69	244.69	4.21	4.21	4.58	4.58
Prairie County	D3	RM 126.03	8974	2-yr	1951	653.26	648.71	1.79	1.78	15.55	15.16	269.32	277.3	4.04	3.94	4.55	4.55
Prairie County	D3	RM 125.82	8648	2-yr	1951	653.12	648.36	1.82	1.82	16.35	16.29	281.65	282.68	3.81	3.8	4.76	4.76
Prairie County	D3	RM 125.63	8335	2-yr	1951	653	648.12	1.76	1.75	14.76	13.98	259.94	276.15	4.26	4.04	4.88	4.88
Prairie County	D3	RM 125.43	8020	2-yr	1951	652.85	647.8	1.95	1.9	17.71	15.08	217.06	264.5	4.58	3.89	5.05	5.05
Prairie County	D3	RM 125.24	7711	2-yr	1951	652.77	647.26	1.76	1.74	13.77	12.6	226.37	262.48	4.9	4.48	5.51	5.51
Prairie County	D3	RM 125.05	7403	2-yr	1951	652.64	647.23	1.88	1.86	16.14	14.83	209.96	247.67	4.92	4.52	5.41	5.41
Prairie County	D3	RM 124.83	7059	2-yr	1951	652.55	647.25	1.76	1.75	14.39	13.55	237.41	254.25	4.66	4.39	5.3	5.3
Prairie County	D3	RM 124.62	6712	2-yr	1951	652.43	647.25	1.76	1.76	14.74	14.29	257.84	266.55	4.3	4.17	5.18	5.18
Prairie County	D3	RM 124.41	6375	2-yr	1951	652.22	647.27	2.09	2.08	20.89	19.34	221.62	306.69	4.21	3.9	4.95	4.95
Prairie County	D3	RM 124.15	5960	2-yr	1951	651.96	647.27	2.17	2.16	23.21	21.7	232.47	298.26	3.86	3.61	4.69	4.69
Prairie County	D3	RM 123.94	5627	2-yr	1951	651.62	647.27	2.55	2.55	32.16	30.95	199.91	246.13	3.83	3.68	4.35	4.35
Prairie County	D3	RM 123.74	5312	2-yr	1951	651.37	647.25	2.47	2.47	30.14	30.13	206.43	243.17	3.83	3.83	4.12	4.12
Prairie County	D3	RM 123.56	5014	2-yr	1951	651.36	647.24	1.57	1.57	11.96	11.66	311.18	359.63	4	3.9	4.12	4.12
Prairie County	D3	RM 123.24	4500	2-yr	1951	651.13	647.19	1.24	1.24	19.34	19.3	785.39	787.28	2	2	3.94	3.94
Prairie County	D3	RM 122.99	4116	2-yr	1951	650.94	646.67	1.3	1.29	7.76	7.27	527.26	569.85	2.84	2.66	4.27	4.27
Prairie County	D3	RM 122.76	3746	2-yr	1951	650.8	646.22	1.49	1.49	11.09	11.03	361.31	363.33	3.63	3.62	4.58	4.58
Prairie County	D3	RM 122.55	3414	2-yr	1951	650.6	645.7	1.89	1.89	17.05	16.9	242.74	244.9	4.25	4.22	4.9	4.9
Prairie County	D3	RM 122.3	3012	2-yr	1951	650.33	645.57	2.21	2.21	23.64	23.27	214.39	217.91	4.11	4.05	4.76	4.76

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	2-yr	1951	650.13	645.49	2.11	2.1	21.37	20.75	240.65	248.61	3.85	3.73	4.64	4.64
Prairie County	D3	RM 121.88	2338	2-yr	1951	649.98	645.42	2	2	18.87	17.83	244.35	259.71	3.99	3.76	4.56	4.56
Prairie County	D3	RM 121.66	1982	2-yr	1951	649.77	645.3	2.12	2.12	21.23	20.57	226.93	234.74	4.05	3.92	4.47	4.47
Prairie County	D3	RM 121.46	1651	2-yr	1951	649.59	645.06	2.08	2.07	21.37	20.46	242.91	255.43	3.85	3.69	4.53	4.53
Prairie County	D3	RM 121.24	1304	2-yr	1951	649.36	644.99	2.18	2.13	23.49	21.47	247.35	277.45	3.61	3.3	4.37	4.37
Prairie County	D3	RM 121.02	957	2-yr	1951	649.16	644.88	2.03	1.98	20.46	19.05	259.65	288.47	3.68	3.42	4.28	4.28
Prairie County	D3	RM 120.84	660	2-yr	1951	648.99	644.78	2	2	22.14	21.86	255.32	258.62	3.81	3.77	4.21	4.21
Prairie County	D3	RM 120.64	350	2-yr	1951	648.84	644.42	1.96	1.96	18.58	18.53	244.23	244.78	4.07	4.06	4.42	4.42

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	2-yr	1951.29	648.79	643.94	1.92	1.85	17.99	16.07	254.01	328.3	3.93	3.51	4.85	4.85
Dawson County	D3	RM 120.28	90838.07	2-yr	1951.29	648.72	643.78	1.95	1.9	18.33	16.17	233.12	281.72	4.14	3.65	4.94	4.94
Dawson County	D3	RM 120.18	90675.23	2-yr	1951.29	648.65	643.7	1.95	1.89	17.95	15.93	213.48	261.61	4.44	3.95	4.95	4.95
Dawson County	D3	RM 120.00	90388.96	2-yr	1951.29	648.55	643.56	1.86	1.83	16.1	14.9	226.64	250.57	4.6	4.26	4.98	4.98
Dawson County	D3	RM 119.84	90136.35	2-yr	1951.29	648.42	643.44	1.99	1.96	18.32	17.31	213.73	228.98	4.59	4.34	4.98	4.98
Dawson County	D3	RM 119.68	89873.82	2-yr	1951.29	648.25	643.31	2.22	2.17	22.77	20.17	189.21	219.15	4.63	4.1	4.94	4.94
Dawson County	D3	RM 119.53	89627.16	2-yr	1951.29	648.16	643.2	2.05	2.05	19.55	19.22	204.32	207.81	4.65	4.58	4.96	4.96
Dawson County	D3	RM 119.39	89404.11	2-yr	1951.29	648.09	643.09	1.87	1.85	16.37	15.67	231.36	244.89	4.49	4.32	5.01	5.01
Dawson County	D3	RM 119.26	89201.38	2-yr	1951.29	648.02	642.99	1.8	1.77	15.62	14.5	263.7	289.45	4.1	3.8	5.04	5.04
Dawson County	D3	RM 119.12	88969.13	2-yr	1951.29	647.84	642.87	2.16	2.07	21.78	19.09	193.4	264.99	4.6	4.03	4.97	4.97
Dawson County	D3	RM 119.00	88780.83	2-yr	1951.29	647.76	642.78	2.11	2.03	20.75	17.25	199.46	253.8	4.54	3.78	4.98	4.98
Dawson County	D3	RM 118.85	88537.07	2-yr	1951.29	647.69	642.66	1.85	1.8	16.34	14.51	241.51	286.58	4.26	3.79	5.03	5.03
Dawson County	D3	RM 118.72	88336.12	2-yr	1951.29	647.65	642.56	1.69	1.61	13.19	11.16	237.19	304.65	4.69	3.98	5.08	5.08
Dawson County	D3	RM 118.60	88130.39	2-yr	1951.29	647.53	642.46	1.91	1.86	16.96	14.6	220.72	266.77	4.55	3.93	5.07	5.07
Dawson County	D3	RM 118.47	87924.15	2-yr	1951.29	647.39	642.37	2.14	2.07	22.15	18.53	211.72	270.66	4.14	3.48	5.02	5.02
Dawson County	D3	RM 118.34	87719.85	2-yr	1951.29	647.16	642.27	2.47	2.41	30.94	28.4	214.06	248.17	3.54	3.26	4.9	4.9
Dawson County	D3	RM 118.21	87507.02	2-yr	1951.29	647.05	642.16	2.27	2.2	23.92	20.01	175.82	225.41	4.71	3.94	4.89	4.89
Dawson County	D3	RM 118.07	87276.02	2-yr	1956.95	646.99	642.05	1.83	1.83	16.91	16.64	297.49	302.7	3.59	3.54	4.94	4.94
Dawson County	D4	RM 117.90	87004.77	2-yr	1956.95	646.91	641.92	1.7	1.54	13.97	11.25	234.19	383.04	4.14	3.32	4.99	4.99
Dawson County	D4	RM 117.77	86795.88	2-yr	1956.95	646.84	641.81	1.72	1.5	14.37	9.87	217.15	473.17	4.05	2.76	5.02	5.02
Dawson County	D4	RM 117.62	86560.03	2-yr	1956.95	646.77	641.7	1.63	1.5	12.43	9.27	247.32	397.15	4.41	3.28	5.06	5.06
Dawson County	D4	RM 117.46	86294.2	2-yr	1956.95	646.57	641.57	2.15	1.95	21.76	15.82	183	315.59	4.41	3.18	5	5
Dawson County	D4	RM 117.33	86073.88	2-yr	1956.95	646.34	641.46	2.57	2.32	30.6	20.36	137.01	267.75	4.81	3.14	4.87	4.87
Dawson County	D4	RM 117.16	85808.16	2-yr	1956.95	646.28	641.33	2	1.85	18.45	14.18	182.25	292.7	4.72	3.62	4.95	4.95
Dawson County	D4	RM 117.03	85604.68	2-yr	1956.95	646.23	641.3	1.72	1.67	14.36	12.68	243.69	324.41	4.09	3.62	4.93	4.93
Dawson County	D4	RM 116.87	85336.88	2-yr	1956.95	646.16	641.29	1.64	1.46	12.85	7.91	238.63	518.9	4.2	2.58	4.87	4.87
Dawson County	D4	RM 116.69	85043.25	2-yr	1956.95	646.02	641.44	1.76	1.62	15.72	12.08	279.08	443.56	3.56	2.73	4.58	4.58
Dawson County	D4	RM 116.56	84823.15	2-yr	1956.95	645.85	641.34	2.03	1.87	20.95	14.35	234.35	432.38	3.53	2.42	4.51	4.51
Dawson County	D4	RM 116.39	84558.58	2-yr	1956.95	645.77	641.21	1.66	1.54	13.5	10.28	269.92	429.53	3.88	2.95	4.56	4.56
Dawson County	D4	RM 116.22	84287.19	2-yr	1956.95	645.65	641	1.75	1.67	14.66	11.03	259.34	366.12	4.25	3.2	4.65	4.65
Dawson County	D4	RM 116.05	84007.59	2-yr	1956.95	645.47	640.84	2.07	1.88	20.34	11.32	213.93	438.24	4.27	2.38	4.63	4.63
Dawson County	D4	RM 115.87	83722.29	2-yr	1956.95	645.28	640.8	2.2	1.99	23.77	14.3	214.27	415.1	3.95	2.37	4.48	4.48
Dawson County	D4	RM 115.73	83500.35	2-yr	1956.95	645.18	640.69	1.94	1.79	20.05	12.87	310.77	555.02	3.07	1.97	4.48	4.48
Dawson County	D4	RM 115.61	83294.37	2-yr	1956.95	645.12	640.59	1.53	1.47	12.29	10.58	385.01	477.42	3.23	2.79	4.53	4.53
Dawson County	D4	RM 115.45	83034.82	2-yr	1956.95	645	640.37	1.58	1.46	13.54	10.43	407.6	602.24	2.89	2.22	4.64	4.64
Dawson County	D4	RM 115.29	82782.88	2-yr	1956.95	644.86	640.34	1.71	1.65	14.96	13	319.39	395.03	3.45	3	4.52	4.52
Dawson County	D4	RM 115.09	82480.02	2-yr	1956.95	644.78	640.2	1.46	1.42	10.31	8.76	324	399.3	4.05	3.45	4.59	4.59
Dawson County	D4	RM 114.96	82177.99	2-yr	1956.95	644.63	640	1.78	1.71	15.23	12.37	260.73	340.75	4.13	3.35	4.63	4.63
Dawson County	D4	RM 114.74	81836.48	2-yr	1956.95	644.23	639.98	2.64	2.48	33.79	23.65	179.76	277.17	4.07	2.84	4.25	4.25
Dawson County	D4	RM 114.58	81577.9	2-yr	1956.95	644.22	639.46	1.84	1.69	16.1	13.27	195.77	346.94	4.38	3.59	4.76	4.76
Dawson County	D4	RM 114.42	81309.47	2-yr	1956.95	644.08	639.33	1.91	1.9	17.68	16.18	257.79	283.27	3.98	3.64	4.75	4.75
Dawson County	D4	RM 114.28	81078.59	2-yr	1956.95	643.9	639.21	2.16	2.14	22.36	19.72	213.07	244.97	4.24	3.74	4.69	4.69
Dawson County	D4	RM 114.11	80813.63	2-yr	1956.95	643.73	639.2	2.26	2.23	24.55	22.96	210.21	228.1	4.12	3.85	4.52	4.52
Dawson County	D4	RM 113.97	80580.15	2-yr	1956.95	643.55	639.45	2.31	2.28	26.65	24.48	225.76	249.03	3.74	3.44	4.1	4.1
Dawson County	D4	RM 113.79	80292.13	2-yr	1956.95	643.36	639.45	2.28	2	26.2	17.64	201.08	405.6	3.58	2.41	3.91	3.91
Dawson County	D4	RM 113.60	79987.05	2-yr	1956.95	643.33	639.2	1.48	1.31	10.72	8.34	179.84	488.12	3.98	3.08	4.13	4.13
Dawson County	D4	RM 113.43	79712.89	2-yr	1956.95	643.19	638.73	1.79	1.57	15.25	11.46	173.8	384.95	4.33	3.23	4.47	4.47
Dawson County	D4	RM 113.24	79405.49	2-yr	1956.95	642.89	638.43	2.5	2.19	29.69	21.29	130.78	288.97	4.35	3.09	4.46	4.46
Dawson County	D4	RM 113.08	79152.39	2-yr	1956.95	642.73	638.37	2.34	2.1	26.24	20.05	138.2	289.8	4.25	3.22	4.36	4.36
Dawson County	D4	RM 112.94	78925.1	2-yr	1956.95	642.7	638.26	1.7	1.58	14.1	12.25	194.62	355.19	4.05	3.49	4.44	4.44
Dawson County	D4	RM 112.74	78585.88	2-yr	1956.95	642.5	638.09	1.92	1.81	18.53	15.76	237.95	346.42	3.67	3.12	4.41	4.41
Dawson County	D4	RM 112.59	78355.25	2-yr	1956.95	642.33	637.98	2.06	1.9	22.23	18.97	271.99	372.15	3.25	2.77	4.35	4.35
Dawson County	D4	RM 112.37	78008.78	2-yr	1956.95	642.27	637.88	1.46	1.32	10.45	8.59	206.92	515.35	3.91	3.19	4.39	4.39
Dawson County	D4	RM 112.19	77721.27	2-yr	1956.95	642.12	637.59	1.77	1.68	15.2	13.18	213.8	336.13	3.99	3.46	4.52	4.52
Dawson County	D4	RM 111.89	77240.22	2-yr	1956.95	641.83	637.16	2.02	2.01	19.63	18.62	235.68	250.35	4.11	3.9	4.67	4.67
Dawson County	D4	RM 111.42	76486.24	2-yr	1956.95	641.53	636.91	1.76	1.74	15.15	14.06	287.11	312.24	3.88	3.6	4.62	4.62
Dawson County	D4	RM 111.26	76213.83	2-yr	1956.95	641.44	636.66	1.63	1.62	13.39	12.68	329.26	351.1	3.63	3.44	4.78	4.78
Dawson County	D4	RM 111.09	75911.9	2-yr	1956.95	641.19	636.51	2.14	2.14	22.68	22.68	239.48	242.63	3.82	3.82	4.68	4.68
Dawson County	D4	RM 110.95	75678.54	2-yr	1956.95	641	636.4	2.34	2.32	26	24.75	194.97	206.22	4.29	4.08	4.6	4.6
Dawson County	D4	RM 110.78	75415.61	2-yr	1956.95	640.77	636.27	2.5	2.5	29.96	29.59	186.03	188.32	4.21	4.16	4.5	4.5

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	2-yr	1956.95	640.62	636.09	2.02	2.02	19.89	19.41	240.69	246.96	4.02	3.93	4.53	4.53
Dawson County	D4	RM 110.39	74780.03	2-yr	1956.95	640.55	635.96	1.72	1.71	14.58	13.37	293.1	323.19	3.87	3.55	4.58	4.58
Dawson County	D4	RM 110.17	74428.56	2-yr	1956.95	640.33	635.79	1.94	1.91	19.96	18.65	321.63	351.12	3.12	2.92	4.54	4.54
Dawson County	D4	RM 109.95	74074.87	2-yr	1956.95	640.18	635.62	1.72	1.71	14.72	13.72	297.98	323.02	3.8	3.55	4.55	4.55
Dawson County	D4	RM 109.75	73741.09	2-yr	1956.95	640.01	635.46	1.84	1.81	16.56	14.7	272.8	312.36	3.89	3.46	4.56	4.56
Dawson County	D4	RM 109.54	73418.83	2-yr	1956.95	639.89	635.3	1.76	1.7	15.27	10.15	287.56	450.43	3.84	2.55	4.59	4.59
Dawson County	D4	RM 109.37	73150.54	2-yr	1956.95	639.72	635.17	2.01	1.85	19.55	14.18	224.7	356.67	4.09	2.97	4.55	4.55
Dawson County	D4	RM 109.19	72864.56	2-yr	1956.95	639.58	635.03	1.98	1.93	18.91	16.05	238.65	290.03	4.11	3.49	4.55	4.55
Dawson County	D4	RM 109.04	72628	2-yr	1956.95	639.35	634.92	2.39	2.35	27.5	23.2	194.23	235.64	4.19	3.53	4.43	4.43
Dawson County	D4	RM 108.86	72339.73	2-yr	1956.95	639.29	634.77	1.74	1.7	15.1	14.24	287.17	333.33	3.66	3.46	4.52	4.52
Dawson County	D4	RM 108.70	72072.36	2-yr	1956.95	639.21	634.65	1.61	1.56	12.73	11.91	291.61	350.64	3.82	3.57	4.56	4.56
Dawson County	D4	RM 108.55	71827.97	2-yr	1956.95	639.13	634.53	1.56	1.56	12.21	12.08	343.64	347.06	3.65	3.62	4.6	4.6
Dawson County	D4	RM 108.40	71587.18	2-yr	1956.95	638.95	634.41	1.94	1.93	16.25	16.06	302.06	305.73	3.35	3.31	4.55	4.55
Dawson County	D4	RM 108.25	71345.86	2-yr	1956.95	638.85	634.29	1.83	1.82	14.2	14.02	352.03	357.15	3.04	3	4.56	4.56
Dawson County	D4	RM 108.12	71131.88	2-yr	1956.95	638.77	634.19	1.73	1.72	14.77	13.29	289.42	325.41	3.89	3.51	4.58	4.58
Dawson County	D4	RM 107.98	70905.01	2-yr	1956.95	638.62	634.08	1.98	1.97	19.14	18.18	245.46	260.04	4.02	3.82	4.54	4.54
Dawson County	D4	RM 107.82	70651.22	2-yr	1956.95	638.44	633.95	2.14	2.11	22.43	20.59	231.93	256.35	3.93	3.61	4.49	4.49
Dawson County	D4	RM 107.68	70418.24	2-yr	1956.95	638.29	633.84	2.2	2.14	23.42	20.9	219.72	254.51	4.02	3.6	4.46	4.46
Dawson County	D4	RM 107.50	70132.11	2-yr	1956.95	638.16	633.17	2.03	1.94	19.94	17.03	239.71	295.52	3.97	3.41	4.99	4.99
Dawson County	D4	RM 107.31	69834.56	2-yr	1956.95	637.98	633.23	2.06	2.02	21.47	19.31	264.38	300.13	3.56	3.22	4.75	4.75
Dawson County	D4	RM 107.13	69541.52	2-yr	1956.95	637.81	633.98	1.95	1.9	20.22	18.78	322.33	360.71	3.06	2.85	3.83	3.83
Dawson County	D5	RM 106.98	69305.02	2-yr	1959.78	637.72	634.16	1.6	1.57	13.96	13.57	421.85	453.22	2.83	2.76	3.56	3.56
Dawson County	D5	RM 106.85	69065.27	2-yr	1959.78	637.6	633.6	1.56	1.53	13.22	12.65	412.29	477.93	2.79	2.68	4	4
Dawson County	D5	RM 106.65	68764.02	2-yr	1959.78	637.39	632.98	1.87	1.82	15.97	15.23	355.36	418.76	2.69	2.57	4.41	4.41
Dawson County	D5	RM 106.47	68475.87	2-yr	1959.78	637.21	632.51	1.89	1.7	18.84	11.06	307.26	635.31	3.09	1.81	4.7	4.7
Dawson County	D5	RM 106.28	68173.97	2-yr	1959.78	636.91	631.71	2.32	2.02	26.54	16.58	204.05	407.18	3.81	2.39	5.2	5.2
Dawson County	D5	RM 106.10	67879.83	2-yr	1959.78	636.72	631.29	2.27	1.88	26.17	15.72	206.53	495.7	3.49	2.1	5.43	5.43
Dawson County	D5	RM 105.89	67550.49	2-yr	1959.78	636.53	631.76	2.04	1.74	21.32	13.48	226.74	525.5	3.37	2.14	4.77	4.77
Dawson County	D5	RM 105.74	67300.35	2-yr	1959.78	636.38	632.3	1.96	1.47	19.64	11.72	203.14	655.74	3.4	2.03	4.08	4.08
Dawson County	D5	RM 105.54	66973.54	2-yr	1959.78	636.09	632.17	2.33	1.83	28.28	15.97	147.79	596.54	3.24	1.84	3.92	3.92
Dawson County	D5	RM 105.30	66609.03	2-yr	1959.78	635.94	632.29	1.5	1.32	12.74	9.9	219.79	748.88	2.55	1.98	3.82	3.82
Dawson County	D5	RM 105.06	66212.24	2-yr	1959.78	635.79	631.19	1.62	1.53	14.82	12.79	181.11	831.06	2.56	2.21	4.6	4.6
Dawson County	D5	RM 104.89	65945.5	2-yr	1959.78	635.56	631.5	1.85	1.65	20.17	16.8	205.87	765.17	2.24	1.87	4.13	4.13
Dawson County	D5	RM 104.77	65742.33	2-yr	1959.78	635.4	631.67	1.88	1.59	18.66	10.96	125.62	784.46	3.08	1.81	4.69	4.69
Dawson County	D5	RM 104.64	65530.83	2-yr	1959.78	635.32	632.1	1.58	1.38	13.63	8.48	172.32	920.75	2.83	1.75	4.36	4.36
Dawson County	D5	RM 104.43	65180.62	2-yr	1959.78	635.22	631.56	1.16	1.06	8.29	6.52	361.11	1178.07	2	1.58	4.43	4.43
Dawson County	D5	RM 104.26	64906.83	2-yr	1959.78	635.13	631.59	1.07	0.98	6.62	5.19	218.58	1065.04	2.4	1.89	4.49	4.49
Dawson County	D5	RM 104.10	64643.2	2-yr	1959.78	635.01	630.81	1.29	1.25	8.84	6.01	150.64	766.35	2.98	2.04	4.57	4.57
Dawson County	D5	RM 103.95	64410.06	2-yr	1959.78	634.96	631.24	1.42	1.23	11.02	5.68	185.01	1114.73	2.76	1.43	5.14	5.14
Dawson County	D5	RM 103.68	63957.56	2-yr	1959.78	634.84	629.68	1.56	1.15	12.84	4.69	188.7	1483.24	3.13	1.15	5.4	5.4
Dawson County	D5	RM 103.48	63615.6	2-yr	1959.78	634.73	630.4	1.7	1.32	14.71	6.09	152.55	1033.14	3.49	1.44	5.22	5.22
Dawson County	D5	RM 103.26	63259.44	2-yr	1959.78	634.65	630.13	1.53	1.18	11.84	4.75	173.17	1171.09	3.54	1.42	5.24	5.24
Dawson County	D5	RM 102.58	62131.5	2-yr	1959.78	634.47	629.72	1.37	1.18	9.46	4.97	178.73	890.17	3.53	1.86	4.79	4.79
Dawson County	D5	RM 102.44	61920.83	2-yr	1959.78	634.33	629.74	1.75	1.59	15.6	8.5	255.44	646.67	3.5	1.91	4.59	4.59
Dawson County	D5	RM 102.31	61720.14	2-yr	1959.78	634.18	629.03	2.12	1.81	22.64	10.1	200.53	684.24	3.55	1.59	5.15	5.15
Dawson County	D5	RM 102.15	61456.58	2-yr	1959.78	634.06	629.39	1.96	1.68	19.03	12.22	201.3	483.25	3.74	2.41	4.67	4.67
Dawson County	D5	RM 102.00	61217.89	2-yr	1959.78	633.96	629.48	1.72	1.54	15.47	10.75	267.9	564.59	3.21	2.25	4.48	4.48
Dawson County	D5	RM 101.84	60967.97	2-yr	1959.78	633.87	629.23	1.66	1.19	14.09	7.58	155.67	915.63	3.35	1.8	4.64	4.64
Dawson County	D5	RM 101.60	60582.61	2-yr	1959.78	633.73	628.87	1.41	1.28	10.36	8.42	336.08	581.71	3.25	2.64	4.86	4.86
Dawson County	D5	RM 101.45	60336.09	2-yr	1959.78	633.54	629.16	1.89	1.75	17.56	12.05	251.39	430.82	3.78	2.6	4.38	4.38
Dawson County	D5	RM 101.25	60019.5	2-yr	1959.78	633.34	627.81	2.1	1.99	21.43	17.32	209.15	303.77	4	3.24	5.53	5.53
Dawson County	D5	RM 101.09	59759.25	2-yr	1959.78	633.2	627.99	2.07	1.93	20.97	14.06	216.65	391.71	3.85	2.59	5.21	5.21
Dawson County	D5	RM 100.88	59426.42	2-yr	1959.78	633.06	627.86	1.97	1.67	18.8	11.03	196.58	495.18	4.03	2.37	5.2	5.2
Dawson County	D5	RM 100.67	59075.4	2-yr	1959.78	632.85	627.1	2.25	1.77	23.6	10.97	151.88	528.75	4.5	2.1	5.75	5.75
Dawson County	D5	RM 100.46	58743.44	2-yr	1959.78	632.77	627.92	1.7	1.33	14.03	6.41	202.94	805.58	3.99	1.82	4.85	4.85
Dawson County	D5	RM 100.25	58401.49	2-yr	1959.78	632.56	627.57	2.01	1.71	19.52	10.91	196.17	511.8	4	2.24	4.99	4.99
Dawson County	D5	RM 100.05	58077.55	2-yr	1959.78	632.42	626.86	1.95	1.69	18.29	12.19	176.97	427.81	4.07	2.71	5.56	5.56
Dawson County	D5	RM 99.87	57778.81	2-yr	1959.78	632.22	626.4	2	1.99	20.72	20.23	301.61	310.63	3.25	3.17	5.82	5.82
Dawson County	D5	RM 99.68	57474.16	2-yr	1959.78	632.07	626.29	1.91	1.82	17.51	13.7	246.92	335.69	4.09	3.21	5.78	5.78
Dawson County	D5	RM 99.49	57160.47	2-yr	1959.78	631.85	626.53	2.2	2.1	23.43	16.94	218.38	319.81	4.03	2.92	5.32	5.32

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	2-yr	1959.78	631.71	627.26	1.97	1.88	19.23	13.06	267.93	421.21	3.7	2.52	4.45	4.45
Dawson County	D5	RM 99.13	56566.63	2-yr	1959.78	631.59	626.77	1.8	1.65	16.32	9.13	293.66	585.05	3.62	2.02	4.82	4.82
Dawson County	D5	RM 98.92	56243.98	2-yr	1959.78	631.44	626.63	1.73	1.64	15.58	11.61	339.1	491.27	3.25	2.44	4.81	4.81
Dawson County	D5	RM 98.71	55911.87	2-yr	1959.78	631.23	626.34	1.9	1.79	19.11	12.01	322.21	559.89	3.11	1.96	4.89	4.89
Dawson County	D5	RM 98.57	55680.2	2-yr	1959.78	631.07	626.1	1.96	1.64	20.06	9.05	297.01	932.59	3.17	1.43	4.97	4.97
Dawson County	D5	RM 98.35	55325.95	2-yr	1959.78	630.81	625.91	2.15	1.81	22.5	9.55	216.82	646.98	3.96	1.68	4.9	4.9
Dawson County	D5	RM 98.19	55066.09	2-yr	1959.78	630.65	624.42	2.23	1.88	23.34	9.19	184	593.54	4.46	1.76	6.23	6.23
Dawson County	D5	RM 97.99	54752.97	2-yr	1959.78	630.47	625.04	2.16	1.93	23.05	13.87	236.53	447.7	3.76	2.26	5.43	5.43
Dawson County	D5	RM 97.84	54493.48	2-yr	1959.78	630.36	625.39	1.89	1.8	18.01	12.1	292.51	458.47	3.53	2.37	4.97	4.97
Dawson County	D5	RM 97.68	54241.32	2-yr	1959.78	630.22	624.99	1.9	1.67	19.46	14.07	340.05	560.56	2.91	2.11	5.23	5.23
Dawson County	D5	RM 97.48	53918.21	2-yr	1959.78	629.98	624.81	1.94	1.68	18.59	12.29	303.19	723.35	2.5	1.66	5.17	5.17
Dawson County	D5	RM 97.28	53585.68	2-yr	1959.78	629.77	625.86	1.72	1.58	16.29	9.3	328.8	907.47	2.73	1.56	4.32	4.32
Dawson County	D5	RM 97.08	53263.89	2-yr	1959.78	629.5	625.27	2.09	1.91	22.32	14.55	209.17	463.59	3.39	2.22	4.23	4.23
Dawson County	D5	RM 96.94	53030.11	2-yr	1959.78	629.29	623.97	2.31	2.06	27.66	15.96	199.17	506.82	3.25	1.88	5.32	5.32
Dawson County	D5	RM 96.77	52762.2	2-yr	1959.78	629.09	623.51	2.18	2	24.86	17.61	202.34	430.67	3.21	2.28	5.58	5.58
Dawson County	D5	RM 96.55	52403.59	2-yr	1959.78	628.76	624.57	2.52	1.91	32.33	15.51	160.42	616.88	3.44	1.66	4.19	4.19
Dawson County	D5	RM 96.35	52079.12	2-yr	1959.78	628.74	625.39	1.03	1.09	6.22	6.66	290.07	778.57	2.2	2.37	5.27	5.27
Dawson County	D5	RM 96.17	51777.74	2-yr	1959.78	628.49	624.71	1.95	1.84	20.67	16.8	130.42	453.49	2.86	2.34	4.11	4.11
Dawson County	D5	RM 96.00	51500.38	2-yr	1959.78	628.29	624.3	1.94	1.78	20.09	16.95	122.42	439.93	2.95	2.5	3.99	3.99
Dawson County	D5	RM 95.79	51156.87	2-yr	1959.78	628.15	624.35	1.38	1.39	10.86	8.65	284.94	672.72	2.62	2.09	3.9	3.9
Dawson County	D5	RM 95.60	50859.75	2-yr	1959.78	628.03	622.97	1.5	1.29	11.99	7.06	232.35	868.97	2.98	1.75	5.06	5.06
Dawson County	D5	RM 95.40	50547.92	2-yr	1959.78	627.93	623.13	1.32	1.14	9.22	5.31	377.96	951.9	3.12	1.8	4.8	4.8
Dawson County	D5	RM 95.21	50245.97	2-yr	1959.78	627.8	622.21	1.67	1.21	13.69	5.08	217.6	1121.34	3.9	1.45	5.6	5.6
Dawson County	D5	RM 95.04	49971.19	2-yr	1959.78	627.62	621.68	2.16	1.58	23.57	7.95	173.16	1038.05	3.54	1.19	5.94	5.94
Dawson County	D5	RM 94.88	49717.07	2-yr	1959.78	627.5	621.44	2.04	1.2	20.58	7.91	151.93	1190.73	3.81	1.46	6.06	6.06
Dawson County	D5	RM 94.71	49446.9	2-yr	1959.78	627.44	621.69	1.42	0.99	10.25	4.4	234.28	1358.22	3.42	1.46	5.75	5.75
Dawson County	D5	RM 94.58	49286.95	2-yr	1959.78	627.44	618.6	0.81	0.75	2.97	1.6	456.42	1247.71	5.19	2.79	8.84	8.84
Dawson County	D5	RM 94.57	49255.56	2-yr	1959.78	627.4	618.63	1.09	1.05	5.41	2.59	360.59	790.1	4.95	2.37	8.78	8.78
Dawson County	D5	RM 94.52	49157.18	2-yr	1959.78	627.3	620.89	1.7	1.46	14.07	4.8	286.85	1005.04	3.93	1.33	6.4	6.4
Dawson County	D6	RM 94.42	48998.19	2-yr	1965.17	627.08	621.76	2.31	2.08	26.21	10.17	219.93	639.64	3.82	1.48	5.32	5.32
Dawson County	D6	RM 94.30	48806.79	2-yr	1965.17	626.93	621.22	2.27	2.15	27.5	15.29	287.25	551.36	2.99	1.66	5.71	5.71
Dawson County	D6	RM 94.20	48653.06	2-yr	1965.17	626.82	621.41	2.16	1.92	24.19	10.56	261.89	689.98	3.4	1.48	5.41	5.41
Dawson County	D6	RM 94.08	48445.46	2-yr	1965.17	626.8	622.37	1.58	1.49	12.58	6.52	338.75	704.35	3.63	1.88	4.43	4.43
Dawson County	D6	RM 93.96	48246.42	2-yr	1965.17	626.67	621.88	1.81	1.63	17.02	7.7	331.48	825.88	3.23	1.46	4.79	4.79
Dawson County	D6	RM 93.83	48030.25	2-yr	1965.17	626.49	620.28	2.1	1.72	21.63	7.02	237.8	925.88	3.82	1.24	6.21	6.21
Dawson County	D6	RM 93.68	47782.89	2-yr	1965.17	626.22	620.19	2.5	2.36	30.23	18.01	191.53	343.96	4.06	2.42	6.03	6.03
Dawson County	D6	RM 93.57	47606.95	2-yr	1965.17	625.97	620.08	2.8	2.62	38.62	17.69	184.03	431.18	3.8	1.74	5.89	5.89
Dawson County	D6	RM 93.53	47552.11	2-yr	1965.17	625.95	620.21	2.66	2.55	34.48	22.68	184.33	294.35	3.98	2.62	5.73	5.73
Dawson County	D6	RM 93.47	47460.74	2-yr	1965.17	625.89	618.63	2.57	2.48	31.94	22.06	189.97	286.07	4.02	2.77	7.26	7.26
Dawson County	D6	RM 93.43	47382.46	2-yr	1965.17	625.85	619.44	2.42	2.36	27.81	19.75	190.55	276.41	4.26	3.02	6.41	6.41
Dawson County	D6	RM 93.36	47287.92	2-yr	1965.17	625.85	620.47	2.13	2.02	21.42	12.48	213.34	387.26	4.32	2.51	5.38	5.38
Dawson County	D6	RM 93.25	47111.44	2-yr	1965.17	625.67	621.12	2.37	2.28	29.3	16.83	228.84	418.68	3.58	2.06	4.55	4.55
Dawson County	D6	RM 93.05	46807.77	2-yr	1965.17	625.55	621.74	1.89	1.67	18.13	10.15	283.11	605.11	3.49	1.95	3.81	3.81
Dawson County	D6	RM 92.93	46606.31	2-yr	1965.17	625.39	621.34	2.01	1.77	21.43	11.47	305.78	671.77	3.09	1.65	4.05	4.05
Dawson County	D6	RM 92.83	46460.06	2-yr	1965.17	625.26	621.02	2.13	1.94	21.5	12.89	329.55	621.06	2.72	1.63	4.24	4.24
Dawson County	D6	RM 92.71	46261.84	2-yr	1965.17	625.15	620.37	1.91	1.48	16	6.91	356.81	1158.71	2.67	1.15	4.78	4.78
Dawson County	D6	RM 92.59	46079.79	2-yr	1965.17	625.06	620.95	1.77	1.47	16.68	6.45	320.13	1038	3.34	1.29	4.11	4.11
Dawson County	D6	RM 92.50	45933.81	2-yr	1965.17	624.93	620.75	1.99	1.93	21	15.61	321.51	447.43	3.06	2.27	4.18	4.18
Dawson County	D6	RM 92.39	45753.94	2-yr	1965.17	624.8	620.58	2	1.93	20.77	13.95	299.01	464.66	3.26	2.19	4.22	4.22
Dawson County	D6	RM 92.29	45591.17	2-yr	1965.17	624.7	620.64	1.98	1.88	20.21	13.39	295.01	475.24	3.32	2.2	4.06	4.06
Dawson County	D6	RM 92.18	45414.13	2-yr	1965.17	624.65	620.23	1.68	1.61	14.79	10.24	358.66	546.11	3.22	2.23	4.42	4.42
Dawson County	D6	RM 92.06	45238.47	2-yr	1965.17	624.55	620.12	1.75	1.59	16.25	9.85	354.46	665.47	3.07	1.86	4.43	4.43
Dawson County	D6	RM 91.99	45117.89	2-yr	1965.17	624.52	619.81	1.49	1.39	12.25	8.78	390.42	714.61	2.76	1.98	4.71	4.71
Dawson County	D6	RM 91.85	44886.16	2-yr	1965.17	624.46	619.7	1.31	1.14	9.97	5.98	238.98	823.25	3.49	2.09	4.76	4.76
Dawson County	D6	RM 91.77	44752.88	2-yr	1965.17	624.39	619.28	1.43	1.3	13.99	9.32	224.91	713.34	3.18	2.13	5.11	5.11
Dawson County	D6	RM 91.61	44507.01	2-yr	1965.17	624.24	619	1.74	1.48	14.68	9.38	148.19	510.19	4.07	2.6	5.24	5.24
Dawson County	D6	RM 91.45	44219.47	2-yr	1965.17	624.12	618.66	1.77	1.67	15.91	11.51	189.07	414.4	3.93	2.85	5.46	5.46
Dawson County	D6	RM 91.31	43987.79	2-yr	1965.17	623.94	618.98	2.01	1.99	20.41	15.25	271.16	368.25	3.59	2.68	4.96	4.96
Dawson County	D6	RM 91.11	43666.49	2-yr	1965.17	623.75	618.54	2.09	1.99	20.81	10.59	219.42	455.68	4.25	2.17	5.21	5.21
Dawson County	D6	RM 90.97	43442.55	2-yr	1965.17	623.61	618.3	2.17	2.03	22.84	12.84	224.14	431.04	4	2.25	5.31	5.31

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	2-yr	1965.17	623.41	618.97	2.07	2	26.89	16.4	268.49	470.13	3.53	2.15	4.44	4.44
Dawson County	D6	RM 90.59	42823.65	2-yr	1965.17	623.29	618.64	1.81	1.43	16.35	7.49	232.7	1037.13	3.63	1.66	4.65	4.65
Dawson County	D6	RM 90.43	42564.46	2-yr	1965.17	622.98	618.18	2.43	2.18	30.05	18.78	208.77	414.04	3.47	2.18	4.8	4.8
Dawson County	D6	RM 90.29	42331.05	2-yr	1965.17	622.86	618.21	2.09	1.85	21.86	9.84	236.08	644.53	3.67	1.65	4.65	4.65
Dawson County	D6	RM 90.16	42118.24	2-yr	1965.17	622.72	618.54	2.14	1.85	22.78	12.2	229.61	549.28	3.65	1.96	4.18	4.18
Dawson County	D6	RM 89.96	41795.66	2-yr	1965.17	622.57	618.08	1.76	1.66	16.17	11.44	346.39	551.31	3.18	2.25	4.49	4.49
Dawson County	D6	RM 89.83	41589.45	2-yr	1965.17	622.27	617.17	2.48	2.25	30.58	18.24	211.95	397.52	3.66	2.2	5.1	5.1
Dawson County	D6	RM 89.65	41302.33	2-yr	1965.17	622.05	618.15	2.34	2.23	28.39	22.18	251.93	342.43	3.27	2.57	3.9	3.9
Dawson County	D6	RM 89.46	41003.8	2-yr	1965.17	621.89	617.56	2.04	1.96	20.31	15.97	236.74	318.67	4	3.15	4.33	4.33
Dawson County	D6	RM 89.29	40732.3	2-yr	1965.17	621.84	617.42	1.61	1.4	12.89	8.86	253.25	544.71	3.75	2.57	4.42	4.42
Dawson County	D6	RM 89.13	40476.68	2-yr	1965.17	621.66	617.29	1.94	1.83	18.53	14.45	231.92	356.54	3.88	3.02	4.38	4.38
Dawson County	D6	RM 88.96	40193.97	2-yr	1968.28	621.54	617.14	1.94	1.77	17.85	13.68	186.73	336.86	4.33	3.31	4.4	4.4
Dawson County	D7	RM 88.77	39887.75	2-yr	1968.28	621.36	616.98	2.02	1.9	20.43	15.17	260.04	403.42	3.63	2.69	4.38	4.38
Dawson County	D7	RM 88.58	39581.56	2-yr	1968.28	621.07	616.82	2.42	2.2	28.09	17.65	185.88	345.14	4.18	2.6	4.25	4.25
Dawson County	D7	RM 88.44	39345.29	2-yr	1968.28	620.9	616.7	2.43	2.23	28.33	20.01	181.67	333.34	4.2	2.94	4.2	4.2
Dawson County	D7	RM 88.25	39047.22	2-yr	1968.28	620.76	616.54	2.1	1.9	22.03	16.01	221.53	384.92	3.74	2.71	4.22	4.22
Dawson County	D7	RM 88.06	38736.32	2-yr	1968.28	620.62	616.38	1.81	1.76	16.74	14.36	305.89	373.18	3.5	3.01	4.25	4.25
Dawson County	D7	RM 87.87	38426.68	2-yr	1968.28	620.52	616.22	1.52	1.39	12.63	10.61	429.53	600.17	2.79	2.35	4.3	4.3
Dawson County	D7	RM 87.70	38161.81	2-yr	1968.28	620.42	616.08	1.62	1.24	12.46	6.74	181.73	695	4.33	2.3	4.34	4.34
Dawson County	D7	RM 87.52	37862.82	2-yr	1968.28	620.37	615.92	1.28	1.19	8.56	7.08	308.23	623.44	3.24	2.67	4.45	4.45
Dawson County	D7	RM 87.34	37574.69	2-yr	1968.28	620.16	615.85	1.92	1.74	19.03	13.07	253.88	494.87	3.35	2.29	4.32	4.32
Dawson County	D7	RM 87.17	37307.08	2-yr	1968.28	619.97	615.82	2.18	1.91	23.03	14.75	162.99	398.02	4.07	2.58	4.15	4.15
Dawson County	D7	RM 87.00	37023.47	2-yr	1968.28	619.83	615.79	1.9	1.81	18.59	15.3	241.45	393.74	3.36	2.75	4.05	4.05
Dawson County	D7	RM 86.82	36748.51	2-yr	1968.28	619.67	615.76	1.97	1.84	19.84	16.49	210.89	370.58	3.49	2.89	3.92	3.92
Dawson County	D7	RM 86.67	36501.76	2-yr	1968.28	619.42	615.73	2.5	2.13	31.55	21.18	151.27	380.68	3.68	2.42	3.69	3.69
Dawson County	D7	RM 86.52	36253.46	2-yr	1968.28	619.3	615.7	1.87	1.67	18.03	12.43	250.55	510.8	3.35	2.31	3.61	3.61
Dawson County	D7	RM 86.39	36046.31	2-yr	1968.28	619.15	615.59	2.16	1.7	24.19	14.88	147.45	577.78	3.3	2	3.56	3.56
Dawson County	D7	RM 86.24	35796.38	2-yr	1968.28	619.1	615.46	1.31	1.2	8.68	7.35	166.41	551.95	3.57	2.98	3.64	3.64
Dawson County	D7	RM 86.08	35541.56	2-yr	1968.28	618.77	615.48	2.36	2.22	29.9	23.85	160.1	368.67	3.05	2.4	3.3	3.3
Dawson County	D7	RM 85.91	35282.1	2-yr	1968.28	618.58	615.5	2.1	1.94	23.68	16.01	191.42	504.94	2.99	2.01	3.07	3.07
Dawson County	D7	RM 85.78	35075.01	2-yr	1968.28	618.58	614.9	1.22	1.16	8.2	6.84	288.53	907.17	2.76	2.29	3.68	3.68
Dawson County	D7	RM 85.59	34774.5	2-yr	1968.28	618.49	614.32	1.46	1.18	10.19	5.98	184.84	691.31	4.15	2.42	4.18	4.18
Dawson County	D7	RM 85.39	34449.3	2-yr	1968.28	618.3	614.15	1.94	1.75	18.74	12.66	219.47	445.72	3.74	2.52	4.15	4.15
Dawson County	D7	RM 85.23	34186.4	2-yr	1968.28	618.04	614.01	2.46	2.15	29.58	17.99	157.48	378.08	4.03	2.43	4.03	4.03
Dawson County	D7	RM 85.04	33863.7	2-yr	1968.28	617.94	613.84	1.82	1.62	17.26	11.87	265.03	549.76	3.24	2.22	4.1	4.1
Dawson County	D7	RM 84.89	33626.36	2-yr	1968.28	617.85	613.92	1.54	1.5	12.65	11.67	413.04	464.1	3.06	2.83	3.93	3.93
Dawson County	D7	RM 84.72	33349.5	2-yr	1968.28	617.7	613.77	1.69	1.68	14.84	14.58	353.9	361.95	3.29	3.23	3.93	3.93
Dawson County	D7	RM 84.57	33104.21	2-yr	1968.28	617.56	613.45	1.82	1.8	16.47	16.02	294.82	304.93	3.67	3.58	4.12	4.12
Dawson County	D7	RM 84.41	32856.7	2-yr	1968.28	617.45	613.32	1.78	1.76	16.14	15.02	312.69	341.89	3.51	3.27	4.14	4.14
Dawson County	D7	RM 84.22	32552.24	2-yr	1968.28	617.32	613.16	1.75	1.59	15.57	12.26	261.68	445.09	3.55	2.78	4.17	4.17
Dawson County	D7	RM 84.05	32270.74	2-yr	1968.28	617.16	613.14	1.94	1.73	18.62	14.25	206.16	389.37	3.81	2.92	4.02	4.02
Dawson County	D7	RM 83.89	32017.88	2-yr	1968.28	616.96	613.11	2.16	1.97	23.13	15.77	191.2	389.05	3.78	2.57	3.86	3.86
Dawson County	D7	RM 83.73	31759.16	2-yr	1968.28	616.85	613.07	1.86	1.63	17.9	12.02	240.43	536.02	3.37	2.25	3.77	3.77
Dawson County	D7	RM 83.53	31426.04	2-yr	1968.28	616.76	613.01	1.44	1.31	10.72	7.87	304.34	606.26	3.38	2.47	3.74	3.74
Dawson County	D7	RM 83.39	31213.34	2-yr	1968.28	616.67	612.95	1.63	1.42	13.49	9.31	189.12	575.99	3.51	2.4	3.71	3.71
Dawson County	D7	RM 83.21	30910.79	2-yr	1968.28	616.57	612.91	1.5	1.28	11.3	7.21	170.07	670.79	3.63	2.29	3.79	3.79
Dawson County	D7	RM 83.05	30660.14	2-yr	1968.28	616.49	612.78	1.37	1.23	9.45	6.59	229.1	648.93	3.53	2.47	4.03	4.03
Dawson County	D7	RM 82.94	30491.79	2-yr	1968.28	616.43	612.69	1.39	1.29	9.85	6.84	219.21	630.5	3.49	2.41	4.04	4.04
Dawson County	D7	RM 82.81	30280.45	2-yr	1968.28	616.32	612.58	1.55	1.45	12.47	8.25	178.49	619.03	3.32	2.19	4.17	4.17
Dawson County	D7	RM 82.68	30058.39	2-yr	1968.28	616.24	612.34	1.67	1.43	13.66	7.61	152.77	643.4	3.89	2.14	4.14	4.14
Dawson County	D7	RM 82.51	29786.14	2-yr	1968.28	616.21	612.1	1.2	1.08	7.21	4.3	229.35	814.94	3.78	2.23	4.36	4.36
Dawson County	D7	RM 82.33	29497.12	2-yr	1968.28	616.15	611.87	1.28	0.99	8.06	3.74	246.87	1107.5	3.93	1.79	4.41	4.41
Dawson County	D7	RM 82.22	29323.27	2-yr	1968.28	616.08	611.66	1.58	1.06	12.09	4.54	193.52	1224.78	4.05	1.51	4.42	4.42
Dawson County	D7	RM 82.06	29049.94	2-yr	1968.28	616.02	611.37	1.44	1.01	9.94	3.76	202.97	1218.55	4.32	1.6	4.65	4.65
Dawson County	D7	RM 81.91	28820.21	2-yr	1968.28	615.98	611.21	1.43	1.03	9.5	3.55	191.58	1110.73	4.65	1.71	4.77	4.77
Dawson County	D7	RM 81.71	28446.75	2-yr	1968.28	615.93	611.02	1.18	0.95	6.36	3.4	220.81	824.34	4.71	2.51	4.91	4.91
Dawson County	D7	RM 81.49	28026.4	2-yr	1968.28	615.66	610.8	2.19	1.86	21.98	10.61	165.37	461.32	4.85	2.31	4.86	4.86
Dawson County	D7	RM 81.31	27735.46	2-yr	1968.28	615.02	610.65	3.46	3.36	57.22	42.27	131.98	185.76	4.29	3.15	4.37	4.37
Dawson County	D8	RM 81.10	27398.33	2-yr	1968.28	614.75	610.47	2.9	2.67	40.4	25.62	160.09	279.9	4.18	2.64	4.28	4.28
Dawson County	D8	RM 80.94	27148.21	2-yr	1968.28	614.71	610.34	2.12	2.09	21.62	18.23	225.85	271.96	4.11	3.47	4.36	4.36

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	2-yr	1968.28	614.65	610.19	1.73	1.45	14.14	7.61	181.68	578.04	4.46	2.36	4.46	4.46
Dawson County	D8	RM 80.64	26669.58	2-yr	1968.28	614.56	610.09	1.8	1.64	15.5	9.25	209.02	477.38	4.24	2.51	4.47	4.47
Dawson County	D8	RM 80.45	26373.01	2-yr	1968.28	614.55	609.94	1.35	1.03	8.57	4.51	122.91	1026.45	4.47	2.28	4.61	4.61
Dawson County	D8	RM 80.17	25926.88	2-yr	1968.28	614.4	609.71	1.83	1.41	15.53	7.72	146.98	613.62	4.68	2.27	4.69	4.69
Dawson County	D8	RM 79.91	25496.94	2-yr	1968.28	614.3	609.42	1.36	1.3	8.99	5.59	362.06	613.9	3.98	2.47	4.88	4.88
Dawson County	D8	RM 79.43	24626.85	2-yr	1968.28	614.06	609.14	1.53	1.44	11	7.46	289.02	456.46	4.42	2.99	4.91	4.91
Dawson County	D8	RM 79.23	24229.4	2-yr	1968.28	613.7	608.87	2.45	2.44	28.19	25.59	173.46	192.61	4.62	4.19	4.83	4.83
Dawson County	D8	RM 78.27	22640.58	2-yr	1968.28	612.86	608.6	1.98	1.61	19.58	11.17	226.68	578.5	3.73	2.11	4.26	4.26
Dawson County	D8	RM 78.12	22398.86	2-yr	1968.28	612.78	608.48	1.82	1.55	16.52	11.03	222.94	507.94	3.75	2.49	4.3	4.3
Dawson County	D8	RM 77.97	22135.34	2-yr	1968.28	612.65	608.34	1.88	1.64	17.09	9.59	214.67	525.14	4.09	2.29	4.31	4.31
Dawson County	D8	RM 77.79	21831.85	2-yr	1968.28	612.55	608.18	1.65	1.51	14.56	11.49	332.54	549.26	3.01	2.37	4.37	4.37
Dawson County	D8	RM 77.57	21474.71	2-yr	1968.28	612.35	608	1.85	1.75	16.75	12.9	250.08	368.41	3.97	3.06	4.35	4.35
Dawson County	D8	RM 77.38	21170.35	2-yr	1968.28	612.15	607.84	2.09	1.96	21.14	14.89	215.18	353.34	4.05	2.85	4.32	4.32
Dawson County	D8	RM 77.13	20780.17	2-yr	1968.28	612.09	607.63	1.55	1.3	11.65	7.39	188.55	588.23	4.09	2.57	4.46	4.46
Dawson County	D8	RM 77.00	20442.34	2-yr	1968.28	611.96	607.46	1.88	1.49	16.76	8.52	131.83	598.76	4.49	2.2	4.5	4.5
Dawson County	D8	RM 76.90	20124.49	2-yr	1968.28	611.88	607.29	1.69	1.45	13.36	8.72	153.24	467.07	4.58	2.91	4.59	4.59
Dawson County	D8	RM 76.76	19785.25	2-yr	1968.28	611.83	607.12	1.33	1.24	8.4	6.39	269.03	490.32	4.28	3.24	4.72	4.72
Dawson County	D8	RM 76.63	19501.04	2-yr	1968.28	611.75	606.97	1.48	1.39	10.86	9.31	246.86	436.45	3.81	3.24	4.78	4.78
Dawson County	D8	RM 76.37	19137.53	2-yr	1968.28	611.59	606.78	1.66	1.58	13.03	9.08	272.76	414.18	4.32	3.01	4.82	4.82
Dawson County	D8	RM 76.22	18884.28	2-yr	1968.28	611.5	606.65	1.73	1.67	13.94	9.51	253.7	387.31	4.47	3.05	4.86	4.86
Dawson County	D8	RM 76.00	18519.22	2-yr	1968.28	611.3	606.61	2.02	1.92	19.37	13.8	225.2	336.21	4.29	3.05	4.69	4.69
Dawson County	D8	RM 75.75	18119.45	2-yr	1968.28	611.04	606.58	2.23	2.11	23.98	14.47	209.51	373.58	4.17	2.5	4.46	4.46
Dawson County	D8	RM 75.56	17818.36	2-yr	1968.28	610.92	606.75	1.87	1.8	17.82	12.28	303.99	460.42	3.45	2.37	4.18	4.18
Dawson County	D8	RM 75.31	17411.3	2-yr	1968.28	610.76	606.34	1.74	1.67	14.83	10.18	263.12	433.76	3.96	2.72	4.42	4.42
Dawson County	D8	RM 75.13	17092.44	2-yr	1968.28	610.64	606.17	1.68	1.53	13.96	7.48	306.22	638.33	3.77	2.01	4.47	4.47
Dawson County	D8	RM 74.90	16719.46	2-yr	1968.28	610.34	605.98	2.23	2.04	24.59	13.74	224.87	449.05	3.85	2.14	4.36	4.36
Dawson County	D8	RM 74.65	16308.2	2-yr	1968.28	610.2	605.91	1.76	1.56	15.3	9.79	267.86	517.25	3.81	2.43	4.29	4.29
Dawson County	D8	RM 74.37	15846.14	2-yr	1968.28	609.93	605.85	2.06	1.76	21.74	13.99	221.55	505.6	3.45	2.21	4.08	4.08
Dawson County	D8	RM 74.13	15464.97	2-yr	1968.28	609.74	605.82	1.8	1.6	16.33	11.49	235.57	495.8	3.55	2.49	3.92	3.92
Dawson County	D8	RM 73.91	15098.01	2-yr	1968.28	609.6	605.99	1.57	1.4	12.89	8.13	283.69	701.56	3.18	2.01	3.61	3.61
Dawson County	D8	RM 73.71	14783.86	2-yr	1968.28	609.48	605.87	1.49	1.38	11.66	8.16	292.2	663.88	3.23	2.26	3.61	3.61
Dawson County	D8	RM 73.53	14496.67	2-yr	1968.28	609.37	605.72	1.54	1.39	12.16	6.91	249.62	1184.41	3.38	1.92	3.65	3.65
Dawson County	D8	RM 73.29	14096.19	2-yr	1968.28	608.92	605.51	2.57	2.33	34.3	20.56	198.62	427.16	3.31	1.98	3.41	3.41
Dawson County	D8	RM 73.07	13729.79	2-yr	1968.28	608.31	605.52	2.95	2.83	47.94	39.09	196.15	313	2.72	2.23	3.06	3.06
Dawson County	D8	RM 72.83	13354.45	2-yr	1968.28	607.92	604.9	2.23	2.13	27.26	21.87	264.25	414.28	2.78	2.23	3.02	3.02
Dawson County	D8	RM 72.62	13000.82	2-yr	1968.28	607.64	604.4	2.02	1.91	21.77	16.54	295.23	449.71	3.01	2.29	3.25	3.25
Dawson County	D8	RM 72.37	12609.05	2-yr	1968.28	607.29	603.89	2.25	1.98	26.51	17.15	228.58	481.32	3.2	2.07	3.4	3.4
Dawson County	D8	RM 72.16	12261.75	2-yr	1968.28	607	603.69	2.14	2.02	24.45	18.49	286.3	452.02	3.03	2.3	3.32	3.32
Dawson County	D8	RM 71.92	11875.08	2-yr	1968.28	606.8	603.18	1.73	1.66	15.89	13.33	345.16	456.06	3.09	2.59	3.62	3.62
Dawson County	D8	RM 71.69	11512.65	2-yr	1968.28	606.57	602.95	1.89	1.78	18.54	14.14	303.44	447.55	3.23	2.47	3.63	3.63
Dawson County	D8	RM 71.49	11192.6	2-yr	1968.28	606.41	602.03	1.91	1.77	17.74	11.69	237.66	415.97	4.05	2.67	4.38	4.38
Dawson County	D8	RM 71.31	10913.3	2-yr	1968.28	606.28	601.99	1.91	1.75	17.87	10.51	244.59	491.79	3.9	2.29	4.29	4.29
Dawson County	D9	RM 71.10	10567.75	2-yr	1971.11	606.16	602.11	1.68	1.49	14.38	10.53	197.48	514.06	3.54	2.57	4.06	4.06
Dawson County	D9	RM 70.91	10267.7	2-yr	1971.11	605.98	602.05	1.97	1.72	19.23	12.11	126.11	477.07	3.86	2.4	3.93	3.93
Dawson County	D9	RM 70.72	9968.939	2-yr	1971.11	605.85	601.91	1.93	1.67	18.4	11.29	153.19	509.25	3.93	2.36	3.94	3.94
Dawson County	D9	RM 70.50	9603.574	2-yr	1971.11	605.72	601.9	1.68	1.52	14.4	10.55	251.24	518.47	3.42	2.5	3.81	3.81
Dawson County	D9	RM 70.27	9238.535	2-yr	1971.11	605.43	601.31	2.12	2.01	22.23	16.55	236.79	345.92	3.8	2.83	4.12	4.12
Dawson County	D9	RM 70.08	8928.013	2-yr	1971.11	605.28	600.85	2	1.84	19.49	12.67	234.44	420.34	3.94	2.55	4.43	4.43
Dawson County	D9	RM 69.79	8464.726	2-yr	1971.11	605.12	600.61	1.73	1.5	14.55	9.51	248.41	497.4	4.05	2.64	4.51	4.51
Dawson County	D9	RM 69.50	7983.226	2-yr	1971.11	604.95	600.56	1.76	1.5	15.18	8.1	237.14	637.7	3.89	2.06	4.4	4.4
Dawson County	D9	RM 69.26	7575.04	2-yr	1971.11	604.8	600.35	1.77	1.48	15.31	7.98	245.78	643.03	3.99	2.07	4.45	4.45
Dawson County	D9	RM 69.03	7206.967	2-yr	1971.11	604.7	599.95	1.63	1.32	12.54	6.68	236.36	641.01	4.39	2.33	4.74	4.74
Dawson County	D9	RM 68.82	6851.789	2-yr	1971.11	604.49	599.77	1.96	1.76	18.51	11.2	217.59	446.86	4.17	2.5	4.73	4.73
Dawson County	D9	RM 68.60	6509.797	2-yr	1971.11	604.23	599.59	2.29	2.18	24.52	19.38	189.13	254.07	4.51	3.55	4.64	4.64
Dawson County	D9	RM 68.39	6158.879	2-yr	1971.11	604.07	599.51	2.04	1.99	20.44	17.93	241.73	285.64	3.94	3.46	4.56	4.56
Dawson County	D9	RM 68.11	5709.195	2-yr	1971.11	603.86	599.37	1.92	1.85	18.11	15.57	262.72	321.58	3.85	3.32	4.49	4.49
Dawson County	D9	RM 67.86	5308.187	2-yr	1971.11	603.65	599.17	2.12	1.89	21.46	14.97	130.41	353.44	4.32	2.95	4.49	4.49
Dawson County	D10	RM 67.57	4859.184	2-yr	1973.95	603.47	598.93	1.83	1.71	15.97	12.89	240.29	340.83	4.19	3.38	4.54	4.54
Dawson County	D10	RM 67.37	4523.862	2-yr	1973.95	603.35	598.75	1.8	1.6	15.46	10.86	224.36	420.52	4.18	2.93	4.59	4.59
Dawson County	D10	RM 67.15	4175.103	2-yr	1973.95	603.02	598.47	2.51	2.24	29.99	19.39	158.11	316.96	4.33	2.78	4.54	4.54

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

2-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	2-yr	1973.95	602.89	598.2	2.04	1.67	20.52	11.59	211.57	548.58	3.82	2.15	4.69	4.69
Dawson County	D10	RM 66.74	3505.323	2-yr	1973.95	602.73	598.12	2	1.69	18.83	11.11	189.78	447.1	4.47	2.61	4.6	4.6
Dawson County	D10	RM 66.52	3142.889	2-yr	1973.95	602.56	598.26	1.92	1.78	18.05	14.01	249	358.09	3.98	3.1	4.3	4.3
Dawson County	D10	RM 66.28	2774.58	2-yr	1973.95	602.23	598.21	2.42	2.22	28.99	22.03	206.17	309.11	3.77	2.88	4.02	4.02
Dawson County	D10	RM 66.11	2492.331	2-yr	1973.95	602.11	597.8	1.98	1.86	19.78	15.39	269.84	381.57	3.57	2.78	4.31	4.31
Dawson County	D10	RM 65.90	2160.839	2-yr	1973.95	601.98	597.33	1.82	1.62	16.04	9.95	227.64	485.14	4.06	2.51	4.65	4.65
Dawson County	D10	RM 65.75	1926.044	2-yr	1973.95	601.87	597.2	1.84	1.61	17.16	12.44	203.78	469.95	3.61	2.6	4.67	4.67
Dawson County	D10	RM 65.60	1669.095	2-yr	1973.95	601.71	597.07	2.08	1.66	20.55	10.43	140.14	537.69	4.41	2.21	4.65	4.65
Dawson County	D10	RM 65.42	1386.836	2-yr	1973.95	601.65	596.92	1.53	1.38	11.22	7.77	247.82	486.88	4.27	2.95	4.73	4.73
Dawson County	D10	RM 65.23	1090.639	2-yr	1973.95	601.52	596.91	1.74	1.53	15.83	9.93	263.18	657.1	3.24	2.02	4.61	4.61
Dawson County	D10	RM 64.96	634.963	2-yr	1973.95	601.38	597.09	1.51	1.15	11.29	5.36	270.22	1122.4	3.76	1.79	4.29	4.29

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	2-yr	1973.7	601.23	596.42	1.17	1	7.17	4.19	398.12	1138.66	3.27	1.9	4.81	4.81
Richland/McKenzie County	D10	RM 64.32	103200	2-yr	1973.7	601.1	596.33	1.65	1.17	13.3	4.04	232.97	1530.97	3.92	1.18	4.77	4.77
Richland/McKenzie County	D10	RM 64.12	102900	2-yr	1973.7	601.05	596.18	1.3	1.07	8.53	4.14	281.09	1183.87	3.52	1.7	4.87	4.87
Richland/McKenzie County	D10	RM 63.92	102601	2-yr	1973.7	601	596.08	1.27	0.92	8.24	4.03	273.38	1366.64	3.38	1.64	4.92	4.92
Richland/McKenzie County	D10	RM 63.74	102302	2-yr	1973.7	600.94	595.94	1.34	1.01	8.85	3.54	254.65	1363.36	3.78	1.5	5	5
Richland/McKenzie County	D10	RM 63.55	101998	2-yr	1973.7	600.87	595.79	1.41	0.97	9.25	2.94	210.56	1453.57	4.61	1.45	5.08	5.08
Richland/McKenzie County	D10	RM 63.34	101671	2-yr	1973.7	600.8	595.21	1.44	0.91	10.16	3.62	241.49	1651.38	3.85	1.36	5.59	5.59
Richland/McKenzie County	D10	RM 63.08	101293	2-yr	1973.7	600.31	595.12	2.83	1.91	38.86	11.26	159.68	937.93	4.03	1.15	5.19	5.19
Richland/McKenzie County	D10	RM 62.96	101094	2-yr	1973.7	600.12	595.12	2.8	2.04	46.81	13.25	149	790.53	4.4	1.22	5	5
Richland/McKenzie County	D10	RM 62.83	100882	2-yr	1973.7	599.98	595.12	2.51	1.94	33.17	12.7	161.51	593.44	4.55	1.71	4.86	4.86
Richland/McKenzie County	D10	RM 62.64	100582	2-yr	1973.7	599.87	595.12	2.15	1.65	21.67	8.67	189.94	677.83	4.46	1.76	4.75	4.75
Richland/McKenzie County	D10	RM 62.46	100282	2-yr	1973.7	599.49	595.1	2.83	2.31	38.89	22.16	159.67	371.9	4.08	2.3	4.39	4.39
Richland/McKenzie County	D10	RM 62.27	99977	2-yr	1973.7	599.52	594.91	1.56	1.39	11.89	7.85	302.29	542.86	3.98	2.61	4.61	4.61
Richland/McKenzie County	D10	RM 62.1	99691	2-yr	1973.7	599.42	594.75	1.51	1.33	11.11	6.82	274.06	771.96	3.15	1.93	4.67	4.67
Richland/McKenzie County	D10	RM 61.91	99377	2-yr	1973.7	599.25	594.51	1.76	1.34	14.75	7.32	164.84	851.06	3.54	1.73	4.74	4.74
Richland/McKenzie County	D10	RM 61.72	99082	2-yr	1973.7	599.11	594.36	1.8	1.51	15.74	8.76	127.17	578.93	4.12	2.25	4.75	4.75
Richland/McKenzie County	D10	RM 61.54	98782	2-yr	1973.7	598.9	594.36	2.01	1.85	18.63	13.33	229.9	370.66	4.04	2.87	4.54	4.54
Richland/McKenzie County	D10	RM 61.35	98482	2-yr	1973.7	598.75	594.26	2.05	1.8	20.39	12.91	215	429.63	4.05	2.55	4.49	4.49
Richland/McKenzie County	D10	RM 61.16	98182	2-yr	1973.7	598.68	594.17	1.6	1.29	12.78	8.16	248.77	665.01	3.67	2.33	4.51	4.51
Richland/McKenzie County	D10	RM 60.99	97906	2-yr	1973.7	598.56	594.02	1.7	1.43	13.94	6.28	216.72	749.62	4.12	1.84	4.54	4.54
Richland/McKenzie County	D10	RM 60.79	97582	2-yr	1973.7	598.41	593.78	1.84	1.41	17.5	7.14	224.25	1036.63	3.38	1.37	4.63	4.63
Richland/McKenzie County	D10	RM 60.64	97339	2-yr	1973.7	598.4	593.58	1.13	0.92	6.75	4.16	265.67	1175.91	3.19	1.95	4.82	4.82
Richland/McKenzie County	D10	RM 60.42	96982	2-yr	1973.7	598.28	593.38	1.48	1.24	10.42	5.75	215.62	861.66	3.96	2.17	4.89	4.89
Richland/McKenzie County	D10	RM 60.25	96700	2-yr	1973.7	598.13	593.24	1.95	1.55	19.6	10.59	192.38	761.7	3.35	1.79	4.89	4.89
Richland/McKenzie County	D10	RM 60.04	96365	2-yr	1973.7	597.94	593.14	1.97	1.67	21.37	12.81	226.57	1317.06	2.77	1.65	4.8	4.8
Richland/McKenzie County	D10	RM 59.86	96088	2-yr	1973.7	597.82	592.99	1.91	1.43	17.33	6.47	170.67	1745.25	4.39	1.61	4.83	4.83
Richland/McKenzie County	D10	RM 59.65	95769	2-yr	1973.7	597.75	592.85	1.62	1.28	12.99	5.7	207.22	1781.96	3.85	1.67	4.9	4.9
Richland/McKenzie County	D10	RM 59.5	95530	2-yr	1973.7	597.67	592.75	1.62	1.3	13.34	9.05	206.9	1128.26	3.5	2.36	4.92	4.92
Richland/McKenzie County	D10	RM 59.29	95183	2-yr	1973.7	597.55	592.55	1.49	1.33	11.21	7.56	232.08	998.45	3.56	2.38	5	5
Richland/McKenzie County	D10	RM 59.07	94797	2-yr	1973.7	597.45	592.36	1.32	1.23	9.72	7.5	408.41	967.73	3.33	2.56	5.09	5.09
Richland/McKenzie County	D10	RM 58.93	94582	2-yr	1973.7	597.32	592.31	1.66	1.52	13.9	7.35	327.69	956.82	3.59	1.88	5.01	5.01
Richland/McKenzie County	D10	RM 58.75	94282	2-yr	1973.7	597.2	592.28	1.73	1.59	13.39	7.16	264.72	724.5	4.27	2.27	4.92	4.92
Richland/McKenzie County	D10	RM 58.56	93982	2-yr	1973.7	596.75	592.22	2.89	2.54	40.07	21.35	157.23	415.64	4.25	2.24	4.53	4.53
Richland/McKenzie County	D10	RM 58.37	93682	2-yr	1973.7	596.52	592.22	2.62	2.56	33.49	29.2	186.28	257.76	4.03	3.5	4.3	4.3
Richland/McKenzie County	D10	RM 58.19	93382	2-yr	1973.7	596.45	592.22	1.91	1.91	17.6	17.43	254.42	593.27	4.07	4.03	4.23	4.23
Richland/McKenzie County	D10	RM 58.01	93086	2-yr	1973.7	596.24	592.14	2.17	2.17	23.09	23.09	234.23	298.85	3.89	3.89	4.1	4.1
Richland/McKenzie County	D10	RM 57.82	92782	2-yr	1973.7	596.16	592.11	1.64	1.56	14.2	12.93	307.56	486.09	3.11	2.84	4.05	4.05
Richland/McKenzie County	D10	RM 57.63	92482	2-yr	1973.7	595.94	592.11	2.16	1.81	23.59	14.2	160.84	573.91	3.53	2.11	3.83	3.83
Richland/McKenzie County	D10	RM 57.46	92205	2-yr	1973.7	595.83	591.95	1.67	1.36	14	7.33	192.28	885	3.59	1.87	3.88	3.88
Richland/McKenzie County	D10	RM 57.26	91882	2-yr	1973.7	595.53	591.9	2.06	1.88	22.83	17.11	136.34	478.33	2.96	2.2	3.63	3.63
Richland/McKenzie County	D10	RM 57.07	91583	2-yr	1973.7	595.43	591.73	1.73	1.45	15.3	9.17	136.41	720.05	3.48	2.06	3.7	3.7
Richland/McKenzie County	D10	RM 56.87	91253	2-yr	1973.7	595.26	591.49	1.5	1.31	12.09	9.24	186.15	672.16	2.96	2.25	3.83	3.83
Richland/McKenzie County	D10	RM 56.68	90943	2-yr	1973.7	595.17	591.12	1.21	1.22	8.1	7.44	299.58	645.94	2.73	2.51	4.05	4.05
Richland/McKenzie County	D10	RM 56.54	90682	2-yr	1976.5	594.96	590.76	1.54	1.86	13.4	15.7	216.66	403.29	2.26	2.64	4.24	4.24
Richland/McKenzie County	D10	RM 56.35	90387	2-yr	1976.5	594.85	590.46	1.55	1.61	12.8	13.09	174.85	398.68	3.04	3.09	4.39	4.39
Richland/McKenzie County	D11	RM 56.16	90086	2-yr	1976.5	594.56	590.11	2.22	2.22	24	23.91	218.99	219.81	4.06	4.05	4.45	4.45
Richland/McKenzie County	D11	RM 55.96	89768	2-yr	1976.5	594.41	589.96	2.08	1.95	20.59	16.24	221.45	303.33	4.23	3.33	4.45	4.45
Richland/McKenzie County	D11	RM 55.78	89479	2-yr	1976.5	594.3	589.96	1.92	1.62	17.98	10.32	216.81	537.61	4.03	2.31	4.34	4.34
Richland/McKenzie County	D11	RM 55.61	89193	2-yr	1976.5	594.17	589.98	1.94	1.69	18.3	10.57	222.22	520.57	3.96	2.28	4.19	4.19
Richland/McKenzie County	D11	RM 55.41	88882	2-yr	1976.5	593.98	589.76	2.07	1.62	21.32	10.3	203.81	694	3.7	1.78	4.22	4.22
Richland/McKenzie County	D11	RM 55.23	88582	2-yr	1976.5	593.87	589.53	1.78	1.43	15.2	8.85	237.35	593.2	4.16	2.4	4.34	4.34
Richland/McKenzie County	D11	RM 55.04	88282	2-yr	1976.5	593.7	589.39	1.94	1.56	18.88	11.41	252.08	587.78	3.66	2.2	4.31	4.31
Richland/McKenzie County	D11	RM 54.86	87996	2-yr	1976.5	593.39	589.33	2.47	2.14	32.09	21.71	222.3	444.23	3.15	2.12	4.06	4.06
Richland/McKenzie County	D11	RM 54.69	87715	2-yr	1976.5	593.32	589.23	1.71	1.43	14.88	10.71	187.69	580.66	3.46	2.47	4.09	4.09
Richland/McKenzie County	D11	RM 54.48	87382	2-yr	1976.5	593.2	589.15	1.56	1.18	12.37	7.04	179.29	946.79	3.56	2.01	4.05	4.05
Richland/McKenzie County	D11	RM 54.32	87122	2-yr	1976.5	593.09	589	1.71	1.25	14.3	6.66	159.94	986.34	3.93	1.8	4.09	4.09
Richland/McKenzie County	D11	RM 54.1	86783	2-yr	1976.5	592.99	588.83	1.42	1.15	9.83	5.94	201.2	922.85	4.03	2.41	4.16	4.16
Richland/McKenzie County	D11	RM 53.92	86482	2-yr	1976.5	592.92	588.68	1.33	1.15	8.93	5.94	254.58	1072.36	3.53	2.32	4.24	4.24
Richland/McKenzie County	D11	RM 53.73	86182	2-yr	1976.5	592.83	588.51	1.5	1.16	10.87	5.27	196.75	1230.76	4.11	1.96	4.32	4.32
Richland/McKenzie County	D11	RM 53.55	85882	2-yr	1976.5	592.72	588.37	1.52	1.3	11.18	8.35	181.72	965.46	4	2.97	4.35	4.35
Richland/McKenzie County	D11	RM 53.36	85582	2-yr	1976.5	592.58	588.01	1.63	1.58	13.56	11.53	166.55	909.95	3.52	2.99	4.57	4.57

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	2-yr	1976.5	592.35	587.56	2.18	2.01	22.42	13.29	204.57	797.43	4.34	2.58	4.79	4.79
Richland/McKenzie County	D11	RM 52.98	84982	2-yr	1976.5	591.98	587.56	2.63	2.44	38.21	33.2	271.25	1600.67	2.7	2.36	4.42	4.42
Richland/McKenzie County	D11	RM 52.79	84682	2-yr	1976.5	591.67	587.56	2.13	2.1	26.11	23.7	386.45	1625.21	2.4	2.18	4.11	4.11
Richland/McKenzie County	D11	RM 52.61	84390	2-yr	1976.5	591.6	587.43	1.4	1.34	10.33	8.72	449.8	1404.36	3.09	2.61	4.17	4.17
Richland/McKenzie County	D11	RM 52.42	84082	2-yr	1976.5	591.49	587.28	1.42	1.24	11.3	8.01	409.43	1784.33	2.66	1.87	4.21	4.21
Richland/McKenzie County	D11	RM 52.24	83798	2-yr	1976.5	591.34	587.28	1.78	1.24	16.54	8.53	227.41	2217.06	3.26	1.66	4.06	4.06
Richland/McKenzie County	D11	RM 52.01	83423	2-yr	1976.5	591.12	587.23	1.89	1.61	18	8.17	124.74	1365.76	3.68	1.63	3.89	3.89
Richland/McKenzie County	D11	RM 51.87	83182	2-yr	1976.5	591.02	587.16	1.5	1.24	12.91	7.12	156.22	1289.99	2.47	1.35	3.86	3.86
Richland/McKenzie County	D11	RM 51.69	82882	2-yr	1976.5	590.89	587.16	1.45	1.09	10.7	4.64	148.33	1640.55	3	1.28	3.73	3.73
Richland/McKenzie County	D11	RM 51.51	82585	2-yr	1976.5	590.8	587.16	1.54	1.29	13.21	6.91	149.44	1205.3	2.64	1.36	3.64	3.64
Richland/McKenzie County	D11	RM 51.32	82274	2-yr	1976.5	590.74	587.16	1.36	1.11	10.36	5.07	171.85	1690.68	2.6	1.25	3.58	3.58
Richland/McKenzie County	D11	RM 51.13	81982	2-yr	1976.5	590.66	587.13	1.45	1.23	10.83	5.48	163.64	1287.93	3.37	1.68	3.55	3.55
Richland/McKenzie County	D11	RM 50.95	81682	2-yr	1976.5	590.57	587.08	1.31	1.05	8.97	3.85	144.96	1787.53	3.27	1.38	3.49	3.49
Richland/McKenzie County	D11	RM 50.76	81378	2-yr	1976.5	590.49	586.89	1.25	0.82	8.3	3.75	174.12	2164.99	3.11	1.38	3.6	3.6
Richland/McKenzie County	D11	RM 50.56	81065	2-yr	1976.5	590.26	586.37	1.66	1.39	13.62	5.61	171.61	1253.52	3.77	1.53	3.89	3.89
Richland/McKenzie County	D11	RM 50.39	80787	2-yr	1976.5	590.21	585.7	1.48	1.24	10.32	3.78	196.96	1452.9	4.41	1.59	4.51	4.51
Richland/McKenzie County	D11	RM 50.21	80482	2-yr	1976.5	590.12	585.55	1.39	1.24	9.5	6.06	234.94	1152.51	3.85	2.46	4.57	4.57
Richland/McKenzie County	D11	RM 50.02	80182	2-yr	1976.5	589.96	585.55	1.71	1.61	14.49	11.81	197.51	696.28	3.77	3.04	4.41	4.41
Richland/McKenzie County	D12	RM 49.82	79860	2-yr	1976.5	589.61	585.55	2.42	2.31	28.94	20.14	210.32	390.12	3.85	2.67	4.06	4.06
Richland/McKenzie County	D12	RM 49.65	79582	2-yr	1976.5	589.33	585.55	2.56	2.38	33.25	26.31	213.94	339.52	3.54	2.8	3.78	3.78
Richland/McKenzie County	D12	RM 49.5	79348	2-yr	1976.5	589.42	585.49	1.27	1.22	7.88	6.13	355.15	612.62	3.84	2.99	3.97	3.97
Richland/McKenzie County	D12	RM 49.26	78981	2-yr	1976.5	589.31	585.29	1.63	1.32	13.26	6.98	137.44	838.91	3.79	1.97	4.02	4.02
Richland/McKenzie County	D12	RM 49.08	78682	2-yr	1976.5	589.13	585.11	1.81	1.53	16.35	9.35	156.02	717.2	3.78	2.14	4.09	4.09
Richland/McKenzie County	D12	RM 48.87	78351	2-yr	1976.5	589.03	584.96	1.64	1.49	13.3	8.8	208.47	524.85	3.81	2.53	4.07	4.07
Richland/McKenzie County	D12	RM 48.7	78082	2-yr	1976.5	588.93	584.86	1.58	1.51	13.42	9.8	251.93	600.25	3.04	2.2	4.07	4.07
Richland/McKenzie County	D12	RM 48.52	77782	2-yr	1976.5	588.91	584.74	1.01	0.98	5.53	3.69	473.03	1020.06	2.96	1.97	4.17	4.17
Richland/McKenzie County	D12	RM 48.33	77482	2-yr	1976.5	588.85	584.51	1.15	1.05	7.28	4.82	461.22	1071.94	2.65	1.75	4.34	4.34
Richland/McKenzie County	D12	RM 48.15	77182	2-yr	1976.5	588.74	584.24	1.37	1.03	9.1	5.45	436.02	1135.49	2.83	1.68	4.5	4.5
Richland/McKenzie County	D12	RM 47.97	76887	2-yr	1976.5	588.7	584.09	1.12	0.94	4.19	2.92	572.23	1696.28	2.22	1.55	4.61	4.61
Richland/McKenzie County	D12	RM 47.76	76570	2-yr	1976.5	588.65	583.86	0.99	0.96	4.1	3.12	556.5	1460.5	2.47	1.88	4.79	4.79
Richland/McKenzie County	D12	RM 47.59	76293	2-yr	1976.5	588.59	583.71	1.11	1.05	5.61	3.54	391.27	1343.72	3.16	1.98	4.88	4.88
Richland/McKenzie County	D12	RM 47.4	75982	2-yr	1976.5	588.48	583.42	1.5	1.2	10.45	4.16	196.88	1327.42	3.99	1.57	5.06	5.06
Richland/McKenzie County	D12	RM 47.12	75521	2-yr	1976.5	588.3	583.04	1.67	1.5	12.63	4.54	234.72	973.07	4.99	1.78	5.26	5.26
Richland/McKenzie County	D12	RM 47	75323	2-yr	1976.5	587.93	583.04	2.81	2.57	37.4	13.93	162.2	644.47	4.31	1.59	4.89	4.89
Richland/McKenzie County	D12	RM 46.85	75082	2-yr	1976.5	587.8	583.04	2.47	2.28	29.02	15.22	184.53	413.77	4.3	2.24	4.76	4.76
Richland/McKenzie County	D12	RM 46.67	74782	2-yr	1976.5	587.61	583.04	2.4	2.28	27.09	19.43	185.83	276.92	4.41	3.15	4.57	4.57
Richland/McKenzie County	D12	RM 46.47	74459	2-yr	1976.5	587.58	583.04	1.62	1.59	12.9	11.64	311.67	353.05	3.9	3.51	4.54	4.54
Richland/McKenzie County	D12	RM 46.3	74186	2-yr	1976.5	587.43	583.04	1.79	1.79	13.34	12.08	390.14	432.17	2.83	2.56	4.39	4.39
Richland/McKenzie County	D12	RM 46.14	73920	2-yr	1976.5	587.34	583.04	1.59	1.56	10.96	8.85	426.18	543.09	2.9	2.34	4.3	4.3
Richland/McKenzie County	D12	RM 45.9	73546	2-yr	1976.5	587.21	582.97	1.57	1.36	12.37	8.67	339.6	616.2	3.37	2.36	4.24	4.24
Richland/McKenzie County	D12	RM 45.75	73307	2-yr	1976.5	587.03	582.88	1.92	1.73	16.11	12.3	351.5	545.69	2.74	2.09	4.15	4.15
Richland/McKenzie County	D12	RM 45.54	72980	2-yr	1976.5	586.94	582.55	1.46	1.34	10.89	7.54	382.5	639.08	3.38	2.33	4.39	4.39
Richland/McKenzie County	D12	RM 45.29	72680	2-yr	1976.5	586.81	582.25	1.61	1.44	13.33	8.89	347.33	643.81	3.33	2.22	4.56	4.56
Richland/McKenzie County	D12	RM 45.09	72380	2-yr	1976.5	586.7	582.08	1.63	1.42	12.72	7.07	267.36	951.15	4.22	2.34	4.62	4.62
Richland/McKenzie County	D12	RM 44.91	72080	2-yr	1976.5	586.61	582.01	1.58	1.31	12.06	6.59	283.48	1031.79	4	2.18	4.6	4.6
Richland/McKenzie County	D12	RM 44.72	71783	2-yr	1976.5	586.43	581.97	2	1.54	19.32	8.93	208.71	873.09	4.15	1.9	4.46	4.46
Richland/McKenzie County	D12	RM 44.53	71483	2-yr	1976.5	586.19	581.82	2.35	1.73	27.07	13.05	177.29	812.81	3.93	1.87	4.37	4.37
Richland/McKenzie County	D12	RM 44.34	71183	2-yr	1976.5	585.9	581.8	2.53	2.03	33.22	17.63	197.94	573.67	3.32	1.75	4.1	4.1
Richland/McKenzie County	D12	RM 44.17	70899	2-yr	1976.5	585.92	581.79	1.35	1.16	8.78	5.86	301.73	918.19	4.05	2.7	4.13	4.13
Richland/McKenzie County	D12	RM 43.97	70594	2-yr	1976.5	585.85	581.73	1.29	1.14	8.64	6.66	326.68	1170.97	3.26	2.51	4.12	4.12
Richland/McKenzie County	D12	RM 43.74	70230	2-yr	1976.5	585.72	581.66	1.42	1.4	10.66	8.63	161.44	826.29	3.15	2.54	4.06	4.06
Richland/McKenzie County	D12	RM 43.59	69983	2-yr	1976.5	585.62	581.56	1.36	1.08	9.1	4.4	143.37	1677.56	3.19	1.52	4.06	4.06
Richland/McKenzie County	D12	RM 43.4	69684	2-yr	1976.5	585.52	581.49	1.36	1.11	9.36	4.14	150.64	1812.13	3.39	1.48	4.03	4.03
Richland/McKenzie County	D12	RM 43.03	69084	2-yr	1976.5	585.39	581.37	1.45	1.06	11.09	3.73	131.62	2297.35	3.13	1.04	4.02	4.02
Richland/McKenzie County	D12	RM 42.66	68489	2-yr	1976.5	585.29	581.18	1.5	1.09	11.5	3.51	115.82	2072.44	3.46	1.03	4.11	4.11
Richland/McKenzie County	D12	RM 42.29	67889	2-yr	1976.5	585.23	580.87	1.06	0.83	5.6	2.1	281.47	1891.41	3.77	1.39	4.36	4.36
Richland/McKenzie County	D12	RM 42.08	67558	2-yr	1976.5	585.18	580.61	1.28	0.83	7.73	2.47	180.64	1827.8	4.31	1.36	4.57	4.57
Richland/McKenzie County	D12	RM 41.89	67260	2-yr	1976.5	585.1	580.31	1.33	0.94	8.47	2.7	292.42	1712.57	4.2	1.33	4.79	4.79
Richland/McKenzie County	D12	RM 41.75	67037	2-yr	1976.5	585.02	579.99	1.44	1.15	10.53	4.13	336.62	1349.08	3.53	1.37	5.03	5.03
Richland/McKenzie County	D12	RM 41.54	66695	2-yr	1976.5	584.86	579.72	1.79	1.22	14.7	3.5	196.39	1552.79	4.83	1.13	5.14	5.14
Richland/McKenzie County	D12	RM 41.34	66361	2-yr	1976.5	584.73	579.43	1.86	1.36	16.88	6.49	218.95	1092.58	3.94	1.5	5.3	5.3

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	2-yr	1976.5	584.62	579.08	1.89	1.44	16.82	5.27	195.81	1158.3	4.51	1.39	5.54	5.54
Richland/McKenzie County	D12	RM 40.99	65802	2-yr	1976.5	584.51	578.99	1.81	1.26	15.52	5.27	203.5	1331.66	4.37	1.46	5.52	5.52
Richland/McKenzie County	D12	RM 40.8	65502	2-yr	1976.5	584.4	578.97	1.72	1.55	14.59	9.98	273.63	863.95	3.86	2.62	5.43	5.43
Richland/McKenzie County	D12	RM 40.62	65205	2-yr	1976.5	584.33	578.92	1.34	1.2	9.31	5.71	375.4	1843.06	3.36	2.05	5.41	5.41
Richland/McKenzie County	D12	RM 40.24	64602	2-yr	1976.5	584.13	578.6	1.4	1.34	8.77	6.32	507.11	1585.87	2.78	2	5.53	5.53
Richland/McKenzie County	D12	RM 40	64219	2-yr	1976.5	583.95	578.56	1.68	1.55	13.92	6.96	309.01	1542.9	3.79	1.88	5.39	5.39
Richland/McKenzie County	D12	RM 39.87	64002	2-yr	1976.5	583.8	578.55	1.96	1.77	17.96	8.01	221.48	1190.81	4.51	1.99	5.25	5.25
Richland/McKenzie County	D12	RM 39.68	63702	2-yr	1976.5	583.68	578.45	1.95	1.63	18.62	7.61	241.45	1053.75	3.9	1.58	5.23	5.23
Richland/McKenzie County	D12	RM 39.5	63402	2-yr	1976.5	583.5	578.35	2.11	1.69	22.4	9.54	225.92	870.5	3.66	1.54	5.15	5.15
Richland/McKenzie County	D12	RM 39.31	63102	2-yr	1976.5	583.4	578.31	1.8	1.34	15.57	6.45	227.2	983.04	3.93	1.61	5.09	5.09
Richland/McKenzie County	D12	RM 39.13	62802	2-yr	1976.5	583.29	578.2	1.72	1.35	14.94	7.4	285.41	871.45	3.56	1.75	5.09	5.09
Richland/McKenzie County	D12	RM 38.94	62501	2-yr	1976.5	583.2	578.12	1.61	1.18	12.68	5.24	262.8	1147.77	3.88	1.59	5.08	5.08
Richland/McKenzie County	D12	RM 38.76	62201	2-yr	1976.5	583.11	578.03	1.56	1.19	11.54	3.93	245.7	1171.45	4.42	1.49	5.08	5.08
Richland/McKenzie County	D12	RM 38.57	61901	2-yr	1976.5	582.98	577.87	1.82	1.23	16.9	6.41	236.46	1293.65	3.49	1.31	5.11	5.11
Richland/McKenzie County	D12	RM 38.38	61601	2-yr	1976.5	582.95	577.84	1.11	0.78	5.99	2.84	268.55	1820.3	3.55	1.67	5.11	5.11
Richland/McKenzie County	D12	RM 38.2	61301	2-yr	1976.5	582.89	577.82	1.23	0.8	7.12	3.02	244.45	1842.28	4.37	1.83	5.07	5.07
Richland/McKenzie County	D12	RM 38.01	61008	2-yr	1976.5	582.83	577.81	1.3	0.94	8.87	5.96	307.49	1123.87	3.25	2.16	5.02	5.02
Richland/McKenzie County	D12	RM 37.84	60708	2-yr	1976.5	582.72	577.71	1.47	1.23	11.93	7.14	335.25	954.52	3.23	1.92	5.01	5.01
Richland/McKenzie County	D12	RM 37.65	60408	2-yr	1976.5	582.7	577.66	0.94	0.82	4.69	3.71	563.99	1098.57	3.15	2.49	5.04	5.04
Richland/McKenzie County	D12	RM 37.5	60107	2-yr	1976.5	582.65	577.54	0.94	0.89	4.48	3.65	561.58	1013.9	2.67	2.18	5.11	5.11
Richland/McKenzie County	D12	RM 37.35	59808	2-yr	1976.5	582.55	577.37	1.04	1	6.3	3.91	427.63	1050.17	3.03	1.87	5.18	5.18
Richland/McKenzie County	D12	RM 37.16	59508	2-yr	1976.5	582.43	577.24	1.55	1.24	10.81	5.65	279.19	957.51	3.2	1.66	5.19	5.19
Richland/McKenzie County	D12	RM 36.97	59208	2-yr	1976.5	582.32	576.96	1.72	1.4	12.43	6.6	221.66	874.45	3.07	1.61	5.36	5.36
Richland/McKenzie County	D12	RM 36.78	58908	2-yr	1976.5	582.25	576.87	1.53	1.25	10.36	5.56	217.29	755.52	3.93	2.1	5.38	5.38
Richland/McKenzie County	D12	RM 36.6	58608	2-yr	1976.5	582.17	576.66	1.53	1.33	10.74	6.04	182.19	555.58	4.87	2.69	5.51	5.51
Richland/McKenzie County	D12	RM 36.38	58263	2-yr	1980.8	582.07	576.49	1.51	1.51	10.7	10.66	290.42	296.46	4.51	4.5	5.58	5.58
Richland/McKenzie County	D13	RM 36.23	58011	2-yr	1980.8	581.91	576.43	1.97	1.91	17.51	10.02	197.63	438.69	5.08	2.88	5.48	5.48
Richland/McKenzie County	D13	RM 36.04	57708	2-yr	1980.8	581.69	576.42	2.33	1.95	25.87	11.06	193.45	559.21	4.3	1.81	5.27	5.27
Richland/McKenzie County	D13	RM 35.85	57408	2-yr	1980.8	581.57	576.41	2.03	1.65	17.5	10.17	277.4	619.07	3.37	1.94	5.16	5.16
Richland/McKenzie County	D13	RM 35.66	57108	2-yr	1980.8	581.55	576.36	1.37	1.18	8.37	5.19	327.66	675.31	4.02	2.49	5.19	5.19
Richland/McKenzie County	D13	RM 35.48	56810	2-yr	1980.8	581.37	576.3	2	1.59	18.93	8.41	189.04	646.77	4.39	1.93	5.07	5.07
Richland/McKenzie County	D13	RM 35.29	56508	2-yr	1980.8	581.23	576.19	1.99	1.62	19.85	11.16	216.2	604.83	3.63	2.02	5.04	5.04
Richland/McKenzie County	D13	RM 35.1	56208	2-yr	1980.8	581.13	576.07	1.67	1.42	13.09	7.74	244.46	521.62	4.58	2.67	5.06	5.06
Richland/McKenzie County	D13	RM 34.92	55908	2-yr	1980.8	580.99	576.09	1.82	1.54	17.94	9.57	254.13	600.18	4.04	2.14	4.9	4.9
Richland/McKenzie County	D13	RM 34.73	55605	2-yr	1980.8	580.92	575.89	1.44	1.34	9.76	7.51	414.56	596.68	3.22	2.47	5.03	5.03
Richland/McKenzie County	D13	RM 34.54	55297	2-yr	1980.8	580.8	575.79	1.55	1.41	10.95	8.51	385.89	670.69	2.7	2.1	5.01	5.01
Richland/McKenzie County	D13	RM 34.36	55008	2-yr	1980.8	580.75	575.75	1.25	1.07	7.02	4.04	323.37	779.71	4.17	2.38	5	5
Richland/McKenzie County	D13	RM 34.17	54708	2-yr	1980.8	580.71	575.49	1.15	0.96	6.68	3.67	380.95	1034.91	3.65	2	5.22	5.22
Richland/McKenzie County	D13	RM 33.94	54408	2-yr	1980.8	580.68	575.34	1.05	0.85	5.09	3.55	374.48	905.18	3.77	2.62	5.34	5.34
Richland/McKenzie County	D13	RM 33.76	54079	2-yr	1980.8	580.62	575.12	1.19	1.02	6.91	3.97	286.39	928.65	3.93	2.23	5.5	5.5
Richland/McKenzie County	D13	RM 33.6	53799	2-yr	1980.8	580.58	574.88	1.13	0.95	6.62	4.76	375.9	818.69	3.57	2.55	5.7	5.7
Richland/McKenzie County	D13	RM 33.42	53508	2-yr	1980.8	580.53	574.61	1.2	0.97	6.34	3.53	262.09	782.65	4.74	2.61	5.92	5.92
Richland/McKenzie County	D13	RM 33.23	53208	2-yr	1980.8	580.5	574.45	1.18	0.94	6.15	3.44	209.05	737.34	5.26	2.91	6.05	6.05
Richland/McKenzie County	D13	RM 33.04	52908	2-yr	1980.8	580.43	574.3	1.38	1.11	8.23	3.82	193.34	674.67	5.79	2.66	6.13	6.13
Richland/McKenzie County	D13	RM 32.86	52608	2-yr	1980.8	580.32	574.18	1.68	1.25	12.52	5.31	209.27	715.98	5.31	2.22	6.14	6.14
Richland/McKenzie County	D13	RM 32.67	52308	2-yr	1980.8	580.23	574.18	1.77	1.1	14.13	6.04	188.53	852.36	5.09	2.14	6.05	6.05
Richland/McKenzie County	D13	RM 32.48	52008	2-yr	1980.8	580.11	574.04	1.9	1.28	16.65	5.89	196.62	936.43	4.79	1.66	6.07	6.07
Richland/McKenzie County	D13	RM 32.29	51709	2-yr	1980.8	580.06	574.04	1.56	1.05	10.94	4.4	224.23	957.73	5.02	1.99	6.02	6.02
Richland/McKenzie County	D13	RM 32.11	51423	2-yr	1980.8	580.01	573.94	1.47	1.21	9.59	4.01	220.08	763.96	5.32	2.21	6.07	6.07
Richland/McKenzie County	D13	RM 31.92	51108	2-yr	1980.8	579.92	573.85	1.66	1.18	12.9	4.8	211.85	1148.85	4.52	1.66	6.07	6.07
Richland/McKenzie County	D13	RM 31.73	50809	2-yr	1980.8	579.89	573.72	1.29	0.95	7.57	2.72	261.37	1103.52	5.33	1.89	6.17	6.17
Richland/McKenzie County	D13	RM 31.51	50462	2-yr	1980.8	579.64	573.24	2.18	1.53	19.52	5.63	162.22	866.57	5.29	1.49	6.4	6.4
Richland/McKenzie County	D13	RM 31.35	50208	2-yr	1980.8	579.44	573.24	2.49	1.84	29.37	10.42	169.04	699	4.44	1.54	6.2	6.2
Richland/McKenzie County	D13	RM 31.22	50009	2-yr	1980.8	579.32	573.24	2.48	1.93	27.85	11.02	149.68	528.11	5.01	1.94	6.08	6.08
Richland/McKenzie County	D13	RM 31.12	49859	2-yr	1980.8	579.29	573.24	2.03	2.01	25.57	24.16	196.27	209.5	4.97	4.7	6.05	6.05
Richland/McKenzie County	D13	RM 30.97	49608	2-yr	1980.8	579.27	573.24	1.56	1.56	10.64	9.54	225.84	262.58	5.61	5.02	6.03	6.03
Richland/McKenzie County	D13	RM 30.79	49308	2-yr	1980.8	579.1	573.24	2.02	1.94	18.54	12.82	199.27	303.68	4.9	3.37	5.86	5.86
Richland/McKenzie County	D13	RM 30.6	49009	2-yr	1980.8	578.91	573.24	2.25	1.96	23.58	9.33	187.26	661.38	4.64	1.81	5.67	5.67
Richland/McKenzie County	D13	RM 30.41	48706	2-yr	1980.8	578.8	573.15	2.03	1.78	18.12	8.23	212.3	587.27	4.53	2.04	5.65	5.65
Richland/McKenzie County	D13	RM 30.22	48403	2-yr	1980.8	578.71	573.15	1.91	1.65	16.45	7.51	199.03	793.88	5.1	2.3	5.56	5.56
Richland/McKenzie County	D13	RM 30.03	48102	2-yr	1980.8	578.71	573.15	1.27	1.11	7.41	3.76	315.48	968.1	4.86	2.42	5.56	5.56

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	2-yr	1980.8	578.67	573.15	1.19	1.04	6.73	3.6	376.84	938.57	4.32	2.28	5.52	5.52
Richland/McKenzie County	D13	RM 29.66	47508	2-yr	1980.8	578.56	573.11	1.52	1.28	8.08	3.36	388.82	1142.11	3.3	1.35	5.45	5.45
Richland/McKenzie County	D13	RM 29.48	47209	2-yr	1980.8	578.51	573.11	1.34	1.12	7.6	3.27	346.87	1196.8	4.14	1.76	5.4	5.4
Richland/McKenzie County	D13	RM 29.28	46894	2-yr	1980.8	578.47	572.98	1.2	1.06	7.12	4.41	401.07	843.28	3.74	2.31	5.49	5.49
Richland/McKenzie County	D13	RM 29.1	46608	2-yr	1980.8	578.4	572.94	1.5	1.06	10.54	6.53	169.86	712.53	4.49	2.75	5.46	5.46
Richland/McKenzie County	D13	RM 28.92	46308	2-yr	1980.8	578.3	572.85	1.6	1.23	11.59	6.33	146.69	598.53	4.99	2.68	5.45	5.45
Richland/McKenzie County	D13	RM 28.73	46008	2-yr	1980.8	578.26	572.67	1.43	1.05	9.43	4.58	152.03	836.17	4.72	2.25	5.59	5.59
Richland/McKenzie County	D13	RM 28.54	45708	2-yr	1980.8	578.21	572.67	1.38	1.01	8.49	4.45	201.29	887.93	4.29	2.22	5.54	5.54
Richland/McKenzie County	D13	RM 28.36	45419	2-yr	1980.8	578.17	572.48	1.2	0.94	6.68	3.37	233.95	894.36	4.7	2.35	5.69	5.69
Richland/McKenzie County	D13	RM 28.15	45071	2-yr	1980.8	578.12	572.25	1.06	1	5.24	3.6	428.87	665.24	4.34	2.97	5.87	5.87
Richland/McKenzie County	D13	RM 27.98	44808	2-yr	1980.8	578	572.04	1.6	1.46	11.39	6.53	236.25	457.73	5.2	2.95	5.96	5.96
Richland/McKenzie County	D13	RM 27.8	44508	2-yr	1980.8	577.95	571.87	1.48	1.36	9.47	5.08	226.85	480.99	5.83	3.1	6.08	6.08
Richland/McKenzie County	D14	RM 27.61	44208	2-yr	1980.8	577.9	571.87	1.5	1.37	10.05	5.88	246.37	470.02	5.29	3.07	6.03	6.03
Richland/McKenzie County	D14	RM 27.43	43916	2-yr	1980.8	577.87	571.87	1.33	1.2	7.68	4.02	261.41	709.86	5.63	2.92	6	6
Richland/McKenzie County	D14	RM 27.23	43608	2-yr	1980.8	577.85	571.87	1.07	0.96	4.95	2.33	310.71	825.83	5.87	2.74	5.98	5.98
Richland/McKenzie County	D14	RM 27.04	43305	2-yr	1980.8	577.79	571.87	1.32	1.12	7.73	3.52	277.5	828.22	5.31	2.37	5.92	5.92
Richland/McKenzie County	D14	RM 26.86	43008	2-yr	1980.8	577.71	571.87	1.52	1.25	10.07	4.21	229.41	756.95	5.55	2.29	5.84	5.84
Richland/McKenzie County	D14	RM 26.67	42708	2-yr	1980.8	577.67	571.87	1.38	1.16	8.37	3.98	252.42	794.33	5.53	2.61	5.8	5.8
Richland/McKenzie County	D14	RM 26.48	42408	2-yr	1980.8	577.56	571.87	1.71	1.42	12.86	6.48	209.37	625.26	5.4	2.69	5.69	5.69
Richland/McKenzie County	D14	RM 26.29	42108	2-yr	1980.8	577.47	571.87	1.77	1.53	13.94	8.29	205.84	545.16	5.3	3.12	5.6	5.6
Richland/McKenzie County	D14	RM 26.11	41808	2-yr	1980.8	577.43	571.87	1.5	1.42	9.96	7.08	249.58	426.59	5.26	3.72	5.56	5.56
Richland/McKenzie County	D14	RM 25.92	41508	2-yr	1980.8	577.41	571.87	1.24	1.23	6.78	5.8	305.18	496.94	5.25	4.48	5.54	5.54
Richland/McKenzie County	D14	RM 25.73	41208	2-yr	1980.8	577.37	571.74	1.18	1.18	6.15	5.86	309.7	327.22	5.41	5.16	5.63	5.63
Richland/McKenzie County	D14	RM 25.55	40918	2-yr	1980.8	577.31	571.74	1.31	1.31	8.17	7.65	346.01	427.4	4.35	4.08	5.57	5.57
Richland/McKenzie County	D14	RM 25.37	40619	2-yr	1980.8	577.25	571.74	1.34	1.33	8.65	7.8	353.9	406.05	4.16	3.75	5.51	5.51
Richland/McKenzie County	D14	RM 25.17	40310	2-yr	1980.8	577.15	571.74	1.49	1.44	9.4	7.95	361.09	483.35	3.68	3.1	5.41	5.41
Richland/McKenzie County	D14	RM 24.99	40008	2-yr	1980.8	577.13	571.74	1.16	1.1	5.84	4.57	384.4	576.62	4.43	3.45	5.39	5.39
Richland/McKenzie County	D14	RM 24.8	39703	2-yr	1980.8	577.11	571.71	0.97	0.94	4.56	4.05	398.95	465.31	5.12	4.54	5.4	5.4
Richland/McKenzie County	D14	RM 24.62	39408	2-yr	1980.8	577.02	571.64	1.37	1.31	8.71	6.77	278.78	411.33	4.72	3.68	5.38	5.38
Richland/McKenzie County	D14	RM 24.45	39139	2-yr	1980.8	576.91	571.64	1.64	1.63	12.09	10.89	239.98	268.5	5.04	4.53	5.27	5.27
Richland/McKenzie County	D14	RM 24.24	38801	2-yr	1980.8	576.83	571.58	1.64	1.56	12.09	9.11	237.24	335.86	5.04	3.79	5.25	5.25
Richland/McKenzie County	D14	RM 24.05	38506	2-yr	1980.8	576.78	571.48	1.48	1.48	9.9	8.61	264.93	306.28	5.04	4.38	5.3	5.3
Richland/McKenzie County	D14	RM 23.87	38210	2-yr	1980.8	576.77	571.28	1.12	1.11	5.55	5.25	334.4	355.71	5.29	5	5.49	5.49
Richland/McKenzie County	D14	RM 23.66	37912	2-yr	1980.8	576.75	571.21	0.93	0.93	3.93	3.89	442.5	448.36	4.82	4.77	5.54	5.54
Richland/McKenzie County	D14	RM 23.48	37610	2-yr	1980.8	576.71	571.12	1.05	1.02	5.33	4.85	347.97	550.23	3.99	3.64	5.59	5.59
Richland/McKenzie County	D14	RM 23.29	37312	2-yr	1980.8	576.66	570.86	1.2	1.12	6.7	5.13	313.75	648.19	3.89	2.97	5.8	5.8
Richland/McKenzie County	D14	RM 23.1	37006	2-yr	1980.8	576.61	570.82	1.2	1.01	6.66	3.98	254.67	747.99	4.68	2.77	5.79	5.79
Richland/McKenzie County	D14	RM 22.92	36721	2-yr	1980.8	576.55	570.8	1.35	1.1	8.27	4.54	212.55	749.22	4.62	2.51	5.75	5.75
Richland/McKenzie County	D14	RM 22.72	36402	2-yr	1980.8	576.45	570.81	1.68	1.26	12.62	5.3	178.19	745.94	5.25	2.17	5.64	5.64
Richland/McKenzie County	D14	RM 22.54	36108	2-yr	1980.8	576.41	570.76	1.36	1.14	8.24	4.65	276.8	610.6	5.08	2.84	5.65	5.65
Richland/McKenzie County	D14	RM 22.35	35808	2-yr	1980.8	576.37	570.74	1.27	1.1	7.35	4.34	308.52	628.67	4.89	2.87	5.63	5.63
Richland/McKenzie County	D14	RM 22.17	35508	2-yr	1980.8	576.33	570.68	1.18	1.08	6.15	3.55	303.06	601.02	5.46	3.12	5.65	5.65
Richland/McKenzie County	D14	RM 22.02	35264	2-yr	1980.8	576.32	570.68	1	0.94	4.39	3.04	354.19	573.36	5.53	3.8	5.64	5.64
Richland/McKenzie County	D14	RM 21.8	34901	2-yr	1980.8	576.27	570.69	1.14	1.07	6.18	4.56	400.2	582.75	4.3	3.17	5.58	5.58
Richland/McKenzie County	D14	RM 21.61	34626	2-yr	1980.8	576.22	570.67	1.13	1.11	6.4	5.93	468.94	539.15	3.71	3.44	5.55	5.55
Richland/McKenzie County	D14	RM 21.34	34140	2-yr	1980.8	576.18	570.67	1.01	0.85	4.69	3.07	288.66	763.24	4.86	3.16	5.51	5.51
Richland/McKenzie County	D14	RM 21.25	33973	2-yr	1980.8	576.13	570.67	1.35	1.05	8.34	4.75	203.46	790.22	4.34	2.44	5.46	5.46
Richland/McKenzie County	D14	RM 21.06	33672	2-yr	1980.8	576.11	570.6	1.08	0.89	5.52	3.21	267.25	1392.56	4.43	2.57	5.51	5.51
Richland/McKenzie County	D14	RM 20.9	33400	2-yr	1980.8	576.07	570.58	1.21	1.01	7.17	4.32	250.36	913.55	3.94	2.36	5.49	5.49
Richland/McKenzie County	D14	RM 20.71	33101	2-yr	1980.8	576	570.53	1.4	1.13	9.51	5.18	247.27	978.84	4.16	2.25	5.47	5.47
Richland/McKenzie County	D14	RM 20.52	32800	2-yr	1980.8	575.97	570.52	1.18	1.04	6.53	3.7	280.27	892.47	4.56	2.57	5.44	5.44
Richland/McKenzie County	D14	RM 20.34	32500	2-yr	1980.8	575.92	570.52	1.22	1.06	6.93	4.38	256.92	752.7	4.65	2.93	5.4	5.4
Richland/McKenzie County	D14	RM 20.15	32200	2-yr	1980.8	575.86	570.52	1.33	1.23	9.5	5.88	231.21	736.43	4.8	2.95	5.34	5.34
Richland/McKenzie County	D14	RM 19.96	31900	2-yr	1980.8	575.62	570.52	2.12	1.83	20.74	12.25	189.46	465.16	4.8	2.8	5.1	5.1
Richland/McKenzie County	D14	RM 19.77	31600	2-yr	1980.8	575.64	570.5	1.28	1.22	7.41	4.99	332.93	678.54	4.61	3.1	5.14	5.14
Richland/McKenzie County	D14	RM 19.59	31297	2-yr	1980.8	575.6	570.45	1.24	1.12	7.03	4.09	334.34	853.57	4.31	2.5	5.15	5.15
Richland/McKenzie County	D14	RM 19.4	30995	2-yr	1980.8	575.52	570.45	1.44	1.15	9.96	4.58	284.81	1001.28	4.08	1.86	5.07	5.07
Richland/McKenzie County	D14	RM 19.21	30710	2-yr	1980.8	575.51	570.38	0.98	0.78	4.4	2.26	380.6	1132.74	4.69	2.4	5.13	5.13
Richland/McKenzie County	D14	RM 19.03	30402	2-yr	1980.8	575.47	570.38	1.01	0.86	4.67	2.66	428.38	1085.67	4.04	2.29	5.09	5.09
Richland/McKenzie County	D14	RM 18.83	30086	2-yr	1980.8	575.42	570.38	1.09	0.91	4.95	3.02	504.01	1274	3.12	1.88	5.04	5.04
Richland/McKenzie County	D14	RM 18.66	29802	2-yr	1980.8	575.37	570.38	1.15	0.92	6.06	3.86	455.27	1238.69	3.08	1.95	4.99	4.99

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	2-yr	1980.8	575.25	570.36	1.53	1.21	11.85	6.55	299.05	840.66	3.55	1.94	4.89	4.89
Richland/McKenzie County	D14	RM 18.28	29197	2-yr	1980.8	575.15	570.36	1.55	1.46	11.31	7.93	299.23	472.24	4.22	2.95	4.79	4.79
Richland/McKenzie County	D14	RM 17.89	28624	2-yr	1980.8	575.12	570.33	0.91	0.9	3.75	2.99	468.41	608.67	4.67	3.72	4.79	4.79
Richland/McKenzie County	D14	RM 17.56	27975	2-yr	1980.8	575	570.29	1.27	1.22	6.67	5.73	460.6	563.2	3.35	2.87	4.71	4.71
Richland/McKenzie County	D14	RM 17.36	27539	2-yr	1980.8	574.77	570.31	1.87	1.86	16.7	16.46	254.84	258.72	4.17	4.11	4.46	4.46
Richland/McKenzie County	D14	RM 17.1	27113	2-yr	1980.8	574.65	570.28	1.6	1.6	12.33	11.99	298.39	315.46	4.14	4.03	4.37	4.37
Richland/McKenzie County	D14	RM 16.74	26537	2-yr	1980.8	574.57	570.14	1.19	1.17	6.68	5.78	404.9	476.95	4.1	3.54	4.43	4.43
Richland/McKenzie County	D14	RM 16.35	25925	2-yr	1980.8	574.48	569.46	1.15	1.06	6.05	3.52	344.3	665.32	4.84	2.8	5.02	5.02
Richland/McKenzie County	D14	RM 16.17	25629	2-yr	1980.8	574.45	569.2	1.08	0.94	5.48	2.91	376.99	833.15	4.78	2.52	5.25	5.25
Richland/McKenzie County	D14	RM 15.95	25324	2-yr	1980.8	574.44	568.99	0.81	0.75	2.93	2.02	457.34	733.41	5.25	3.62	5.45	5.45
Richland/McKenzie County	D14	RM 15.75	25032	2-yr	1980.8	574.41	568.85	0.91	0.88	3.79	3.22	461.87	567.53	4.69	3.98	5.56	5.56
Richland/McKenzie County	D14	RM 15.56	24777	2-yr	1980.8	574.32	568.85	1.41	1.41	8.92	8.9	291.53	292.17	4.83	4.82	5.47	5.47
Richland/McKenzie County	D14	RM 15.34	24438	2-yr	1980.8	574.25	568.79	1.45	1.45	9.38	8.64	261.89	284.96	5.21	4.8	5.46	5.46
Richland/McKenzie County	D14	RM 15.16	24144	2-yr	1980.8	574.19	568.75	1.42	1.41	9.05	7.01	266.68	350.21	5.21	4.02	5.44	5.44
Richland/McKenzie County	D14	RM 14.98	23841	2-yr	1980.8	574.12	568.76	1.52	1.47	11.54	7.87	254.68	389.83	5.11	3.47	5.36	5.36
Richland/McKenzie County	D14	RM 14.79	23543	2-yr	1980.8	574.05	568.72	1.52	1.45	9.96	6.85	284.96	437.72	4.56	3.11	5.33	5.33
Richland/McKenzie County	D14	RM 14.61	23241	2-yr	1980.8	574	568.7	1.43	1.38	9.28	6.21	274.36	430.41	5.02	3.34	5.3	5.3
Richland/McKenzie County	D14	RM 14.42	22940	2-yr	1980.8	573.97	568.69	1.19	1.16	6.32	4.29	328.42	531.13	5.08	3.43	5.28	5.28
Richland/McKenzie County	D14	RM 14.23	22647	2-yr	1980.8	573.96	568.67	0.9	0.88	3.7	2.87	444.61	610.3	4.93	3.81	5.29	5.29
Richland/McKenzie County	D14	RM 14.05	22341	2-yr	1980.8	573.94	568.68	0.8	0.78	4.21	3.74	601.92	707.59	4.09	3.62	5.26	5.26
Richland/McKenzie County	D14	RM 13.88	22040	2-yr	1980.8	573.89	568.67	0.95	0.94	4.07	3.87	682.22	757.74	3.07	2.92	5.22	5.22
Richland/McKenzie County	D14	RM 13.7	21728	2-yr	1980.8	573.82	568.65	1.15	1.15	5.19	5.15	502.19	561.7	3.43	3.4	5.17	5.17
Richland/McKenzie County	D14	RM 13.51	21429	2-yr	1980.8	573.78	568.63	1.11	1.1	5.45	5.11	409.72	454.79	4.37	4.09	5.15	5.15
Richland/McKenzie County	D15	RM 13.31	21145	2-yr	1980.8	573.76	568.51	0.99	0.99	4.44	4.36	457.14	476.24	4.39	4.31	5.25	5.25
Richland/McKenzie County	D15	RM 13.12	20858	2-yr	1980.8	573.71	568.39	1.15	1.15	5.95	5.93	344.21	355.15	5.01	4.99	5.32	5.32
Richland/McKenzie County	D15	RM 12.9	20507	2-yr	1980.8	573.63	568.39	1.32	1.32	7.96	7.93	303.98	321.84	4.92	4.9	5.24	5.24
Richland/McKenzie County	D15	RM 12.73	20241	2-yr	1980.8	573.59	568.35	1.32	1.32	7.88	7.88	295.98	304.27	5.06	5.06	5.24	5.24
Richland/McKenzie County	D15	RM 12.56	19961	2-yr	1980.8	573.57	568.34	1.16	1.16	6.05	6.05	336.76	346.45	5.07	5.07	5.23	5.23
Richland/McKenzie County	D15	RM 12.38	19686	2-yr	1980.8	573.55	568.23	0.95	0.95	4.08	4.08	424.15	435.05	4.93	4.93	5.32	5.32
Richland/McKenzie County	D15	RM 12.21	19384	2-yr	1980.8	573.51	568.17	1.05	1.05	4.49	4.49	512.64	643.59	3.67	3.67	5.34	5.34
Richland/McKenzie County	D15	RM 11.99	19084	2-yr	1980.8	573.48	568.16	1.01	1.01	4.09	4.07	592.13	661.87	3.3	3.28	5.32	5.32
Richland/McKenzie County	D15	RM 11.53	18484	2-yr	1980.8	573.38	568.11	1.15	1.08	5.14	3.64	477.86	850.59	3.59	2.53	5.27	5.27
Richland/McKenzie County	D15	RM 11.34	18216	2-yr	1980.8	573.33	568.06	1.11	1.06	12.15	10.03	441.82	710.7	3.99	3.28	5.27	5.27
Richland/McKenzie County	D15	RM 11.17	17885	2-yr	1980.8	573.17	567.88	1.23	1.19	18.13	15.56	496.97	604.29	3.22	2.76	5.29	5.29
Richland/McKenzie County	D15	RM 10.97	17584	2-yr	1980.8	573.1	567.8	1.09	1.06	4.98	4.4	550.62	642.79	3.29	2.91	5.3	5.3
Richland/McKenzie County	D15	RM 10.75	17284	2-yr	1980.8	573.07	567.79	0.95	0.93	3.97	3.41	512.96	613.21	4.06	3.48	5.28	5.28
Richland/McKenzie County	D15	RM 10.53	16964	2-yr	1980.8	573.01	567.73	1.12	1.09	5.31	4.72	482.08	560.68	3.66	3.24	5.28	5.28
Richland/McKenzie County	D15	RM 10.35	16670	2-yr	1980.8	572.96	567.73	1.19	1.12	6.19	5.01	497.79	671.69	3.3	2.66	5.23	5.23
Richland/McKenzie County	D15	RM 10.15	16384	2-yr	1980.8	572.92	567.73	1.19	0.95	6.46	3.95	251.85	704.59	4.88	2.96	5.19	5.19
Richland/McKenzie County	D15	RM 9.94	16084	2-yr	1980.8	572.89	567.73	1	0.82	4.57	2.98	272.39	797.15	4.68	3.04	5.16	5.16
Richland/McKenzie County	D15	RM 9.76	15797	2-yr	1980.8	572.84	567.65	1.08	0.91	5.14	3.2	351.76	841.49	4.31	2.68	5.19	5.19
Richland/McKenzie County	D15	RM 9.57	15487	2-yr	1980.8	572.79	567.58	1.24	1.01	6.93	3.61	245.67	806.06	4.99	2.59	5.21	5.21
Richland/McKenzie County	D15	RM 9.37	15187	2-yr	1980.8	572.72	567.58	1.41	1.14	9	5.29	203.16	601.21	4.95	2.89	5.14	5.14
Richland/McKenzie County	D15	RM 9.24	14963	2-yr	1980.8	572.56	567.5	1.84	1.82	15.78	13.97	234.33	271.9	4.59	4.06	5.06	5.06
Richland/McKenzie County	D15	RM 9.1	14741	2-yr	1980.8	572.47	567.39	1.88	1.83	16.43	13.92	231.83	287.32	4.54	3.84	5.08	5.08
Richland/McKenzie County	D15	RM 9.03	14639	2-yr	1980.8	572.43	567.4	1.9	1.87	17.15	15.82	248.61	283.69	4.19	3.87	5.03	5.03
Richland/McKenzie County	D15	RM 8.82	14300	2-yr	1980.8	572.43	567.41	1.14	1.14	6.07	5.82	381.1	406	4.55	4.36	5.02	5.02
Richland/McKenzie County	D15	RM 8.61	13963	2-yr	1980.8	572.36	567.39	1.3	1.2	7.84	4.92	312.56	598.68	4.48	2.8	4.97	4.97
Richland/McKenzie County	D15	RM 8.44	13687	2-yr	1980.8	572.3	567.32	1.44	1.23	9.6	5.18	258.5	685.83	4.72	2.53	4.98	4.98
Richland/McKenzie County	D15	RM 8.24	13387	2-yr	1980.8	572.21	567.32	1.55	1.18	11.1	5.7	229.35	773.16	4.75	2.41	4.89	4.89
Richland/McKenzie County	D15	RM 8.05	13080	2-yr	1980.8	572.16	567.05	1.41	1.19	9.04	4.15	266.23	765.27	4.86	2.22	5.11	5.11
Richland/McKenzie County	D15	RM 7.87	12786	2-yr	1980.8	572.07	567.05	1.59	1.31	11.58	5.79	229.92	673.55	4.77	2.37	5.02	5.02
Richland/McKenzie County	D15	RM 7.69	12506	2-yr	1980.8	572.02	567.05	1.41	1.23	9.18	5.63	266.56	556.36	4.75	2.9	4.97	4.97
Richland/McKenzie County	D15	RM 7.48	12179	2-yr	1980.8	571.99	566.95	1.12	1.12	5.69	5.62	361.54	366.34	4.89	4.83	5.04	5.04
Richland/McKenzie County	D16	RM 7.3	11891	2-yr	1980.8	571.94	566.76	1.26	1.26	7.09	7.09	335.87	335.96	4.69	4.69	5.18	5.18
Richland/McKenzie County	D16	RM 7.14	11639	2-yr	1980.8	571.88	566.76	1.36	1.3	8.76	7.54	324.06	411.56	4.3	3.7	5.12	5.12
Richland/McKenzie County	D16	RM 6.94	11319	2-yr	1980.8	571.83	566.76	1.29	1.18	7.61	5.03	297.15	522.16	4.88	3.21	5.07	5.07
Richland/McKenzie County	D16	RM 6.77	11043	2-yr	1980.8	571.8	566.76	1.15	1.03	6.15	4.03	349.25	643.58	4.57	2.98	5.04	5.04
Richland/McKenzie County	D16	RM 6.58	10733	2-yr	1980.8	571.76	566.59	1.11	0.96	5.68	3.09	342.3	797.48	4.8	2.59	5.17	5.17
Richland/McKenzie County	D16	RM 6.38	10417	2-yr	1980.8	571.58	566.59	1.93	1.42	17.06	5.58	182.43	909.23	4.77	1.53	4.99	4.99
Richland/McKenzie County	D16	RM 6.21	10138	2-yr	1980.8	571.53	566.44	1.63	1.14	12.09	4.4	217.11	998	4.82	1.73	5.09	5.09

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	2-yr	1980.8	571.53	566.17	1.02	0.85	4.81	2.38	412.46	1032.84	4.57	2.25	5.36	5.36
Richland/McKenzie County	D16	RM 5.83	9551	2-yr	1980.8	571.52	565.96	0.82	0.7	3.08	1.7	480.72	1059.76	4.86	2.66	5.56	5.56
Richland/McKenzie County	D16	RM 5.67	9297	2-yr	1980.8	571.49	565.96	0.98	0.8	4.39	2.33	341.47	997.1	4.76	2.49	5.53	5.53
Richland/McKenzie County	D16	RM 5.43	8926	2-yr	1980.8	571.42	565.96	1.27	1.07	7.79	4.58	268.78	798.39	4.15	2.42	5.46	5.46
Richland/McKenzie County	D16	RM 5.25	8623	2-yr	1980.8	571.23	565.96	1.84	1.54	15.34	8.71	206.77	459.28	5	2.81	5.27	5.27
Richland/McKenzie County	D16	RM 5.06	8331	2-yr	1980.8	571.22	565.82	1.32	1.13	7.94	5.2	289.25	551.18	4.96	3.23	5.4	5.4
Richland/McKenzie County	D16	RM 4.87	8029	2-yr	1980.8	571.2	565.67	1.12	1.01	5.82	4.01	334.32	652.31	4.67	3.2	5.53	5.53
Richland/McKenzie County	D16	RM 4.71	7757	2-yr	1980.8	571.15	565.54	1.27	1.07	7.13	4.2	251.1	616.12	5.25	3.06	5.61	5.61
Richland/McKenzie County	D16	RM 4.53	7456	2-yr	1980.8	571.04	565.54	1.65	1.3	12.1	5.82	198.72	833.67	5.26	2.5	5.5	5.5
Richland/McKenzie County	D16	RM 4.34	7156	2-yr	1980.8	570.99	565.54	1.53	1.22	11.85	5.9	214.79	865.6	5.16	2.54	5.45	5.45
Richland/McKenzie County	D16	RM 4.17	6884	2-yr	1980.8	570.92	565.54	1.52	1.25	10.39	4.7	224.36	968.72	5.16	2.3	5.38	5.38
Richland/McKenzie County	D16	RM 3.96	6550	2-yr	1980.8	570.9	565.54	1.2	1	6.43	3.25	216.6	1150.77	5.09	2.56	5.36	5.36
Richland/McKenzie County	D16	RM 3.78	6249	2-yr	1980.8	570.84	565.54	1.37	1.1	8.85	4.1	196.52	1333.15	4.51	2.07	5.3	5.3
Richland/McKenzie County	D16	RM 3.55	5904	2-yr	1980.8	570.79	565.54	1.27	1.04	7.22	3.97	206.04	1416.76	5.06	2.76	5.25	5.25
Richland/McKenzie County	D16	RM 3.38	5657	2-yr	1980.8	570.71	565.53	1.56	1.3	11.1	5.28	171.27	1464.84	4.93	2.31	5.18	5.18
Richland/McKenzie County	D16	RM 3.2	5363	2-yr	1980.8	570.63	565.54	1.63	1.48	12.79	7.45	167.26	806.88	4.23	2.44	5.09	5.09
Richland/McKenzie County	D16	RM 3.01	5062	2-yr	1980.8	570.57	565.54	1.42	1.26	9.55	5.65	310	713.2	4.4	2.58	5.03	5.03
Richland/McKenzie County	D16	RM 2.82	4763	2-yr	1980.8	570.51	565.46	1.3	1.21	8.6	6.04	423.49	733.96	3.55	2.48	5.05	5.05

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	67% - 1.5yr	582.8	1281.14	1278.12	2.06	1.91	23.98	17.69	104.21	158.8	2.62	1.92	3.02	3.02
Sweet Grass County	A1	RM 478.10	225378	67% - 1.5yr	582.8	1280.75	1277.66	2.78	2.56	46.76	33.29	95.16	157.1	2.09	1.49	3.08	3.08
Sweet Grass County	A1	RM 478.00	224862	67% - 1.5yr	582.8	1280.31	1277.97	2.74	2.58	51.15	42.17	136.14	188.83	1.45	1.19	2.34	2.34
Sweet Grass County	A1	RM 477.91	224362	67% - 1.5yr	582.8	1279.72	1277.65	3.12	2.65	56.73	39.49	83.09	191.11	1.78	1.23	2.06	2.06
Sweet Grass County	A1	RM 477.81	223862	67% - 1.5yr	582.8	1279.34	1276.96	2.79	2.38	38.6	27.78	99.38	199.94	1.74	1.25	2.38	2.38
Sweet Grass County	A1	RM 477.72	223354	67% - 1.5yr	582.8	1278.86	1276.32	2.75	2.63	51.13	39.18	122.36	199.77	1.48	1.13	2.54	2.54
Sweet Grass County	A1	RM 477.63	222892	67% - 1.5yr	582.8	1278.82	1275.76	1.38	1.33	12.51	11.06	216.12	306.76	1.64	1.45	3.06	3.06
Sweet Grass County	A1	RM 477.49	222220	67% - 1.5yr	582.8	1278.58	1276.07	1.62	1.53	14.09	13.73	236.47	415.01	1.17	1.14	2.51	2.51
Sweet Grass County	A1	RM 477.40	221702	67% - 1.5yr	582.8	1278.52	1275.47	1.1	0.95	7.68	5.34	242.4	604.74	1.8	1.25	3.05	3.05
Sweet Grass County	A1	RM 477.31	221259	67% - 1.5yr	582.8	1278.18	1275.74	2.37	2.03	34.77	21.5	120.5	316.93	1.95	1.21	2.43	2.43
Sweet Grass County	A1	RM 477.21	220767	67% - 1.5yr	582.8	1278.02	1275.28	2.01	1.72	23.87	13.63	126.43	374.59	2.21	1.26	2.74	2.74
Sweet Grass County	A1	RM 477.11	220252	67% - 1.5yr	582.8	1277.68	1274.86	2.44	2.03	39.08	23.25	139.94	366.78	1.62	0.96	2.81	2.81
Sweet Grass County	A1	RM 477.04	219860	67% - 1.5yr	582.8	1277.37	1275.13	2.49	2.02	40.45	23.04	131.51	375.31	1.66	0.95	2.24	2.24
Sweet Grass County	A1	RM 476.95	219422	67% - 1.5yr	582.8	1276.9	1274.55	2.79	2.35	51.42	32.72	127.28	288.92	1.57	1	2.35	2.35
Sweet Grass County	A1	RM 476.84	218828	67% - 1.5yr	582.8	1276.54	1273.95	2.27	1.97	33.92	25.19	132.42	269.22	1.62	1.2	2.59	2.59
Sweet Grass County	A1	RM 476.75	218345	67% - 1.5yr	582.8	1276.25	1273.54	2.17	1.98	25.96	16.59	170.41	353.25	1.55	0.99	2.72	2.72
Sweet Grass County	A1	RM 476.66	217855	67% - 1.5yr	582.8	1275.93	1273.45	2.36	2.12	31.5	21.58	156.67	385.62	1.54	1.05	2.47	2.47
Sweet Grass County	A1	RM 476.57	217396	67% - 1.5yr	582.8	1275.52	1273.09	2.79	2.16	46.88	23.66	92.13	444.66	2.1	1.06	2.43	2.43
Sweet Grass County	A1	RM 476.47	216861	67% - 1.5yr	582.8	1275.14	1273.04	2.61	2.22	44.62	30.3	123.26	297.85	1.62	1.11	2.1	2.1
Sweet Grass County	A1	RM 476.38	216362	67% - 1.5yr	582.8	1274.79	1272.1	2.58	2.1	40.47	21.75	102.2	308.9	2.03	1.09	2.69	2.69
Sweet Grass County	A1	RM 476.28	215816	67% - 1.5yr	582.8	1274.31	1271.85	2.89	2.6	52.63	37.12	98.86	201.17	1.85	1.3	2.45	2.45
Sweet Grass County	A1	RM 476.15	215126	67% - 1.5yr	582.8	1273.62	1271.76	2.82	2.56	55.08	44.61	126.86	213.65	1.37	1.11	1.86	1.86
Sweet Grass County	A1	RM 476.01	214437	67% - 1.5yr	582.8	1273.23	1270.96	2.09	1.97	27.83	24.65	136.66	218.35	1.78	1.57	2.28	2.28
Sweet Grass County	A1	RM 475.91	213787	67% - 1.5yr	582.8	1272.87	1270.35	2.13	2.06	29.11	26.12	156.48	181.68	1.73	1.56	2.52	2.52
Sweet Grass County	A1	RM 475.76	213072	67% - 1.5yr	582.8	1272.27	1270.22	2.6	2.47	45.1	35.01	142.86	196.71	1.55	1.2	2.05	2.05
Sweet Grass County	A1	RM 475.63	212347	67% - 1.5yr	582.8	1271.89	1269.34	2.02	1.93	26.48	22.92	170.77	208.21	1.67	1.45	2.55	2.55
Sweet Grass County	A1	RM 475.47	211539	67% - 1.5yr	582.8	1271.38	1268.97	2.35	2.35	32.27	32.27	138.2	138.2	1.79	1.79	2.41	2.41
Sweet Grass County	A1	RM 475.35	210875	67% - 1.5yr	582.8	1270.66	1268.88	3.06	3.06	60.41	60.41	111.56	111.56	1.71	1.71	1.77	1.77
Sweet Grass County	A1	RM 475.24	210333	67% - 1.5yr	582.8	1270.66	1267.53	1.8	1.78	17.67	14.51	113.86	159.01	2.84	2.33	3.13	3.13
Sweet Grass County	A2	RM 475.12	209673	67% - 1.5yr	582.8	1269.77	1267.9	3.73	3.54	94.65	87.22	105.2	122.22	1.46	1.35	1.87	1.87
Sweet Grass County	A2	RM 475.00	209034	67% - 1.5yr	582.8	1269.25	1266.93	2.53	2.53	41.74	41.74	139.15	139.15	1.66	1.66	2.32	2.32
Sweet Grass County	A2	RM 474.87	208359	67% - 1.5yr	582.8	1269.06	1266.75	1.91	1.68	21.6	17.05	78.03	196.96	2.26	1.76	2.31	2.31
Sweet Grass County	A2	RM 474.76	207797	67% - 1.5yr	582.8	1268.61	1266.42	2.74	2.32	45.65	28.32	75	197.49	2.09	1.27	2.2	2.2
Sweet Grass County	A2	RM 474.67	207305	67% - 1.5yr	582.8	1268.06	1266.29	3.21	2.63	66.71	44.48	65.84	197.43	1.73	1.13	1.77	1.77
Sweet Grass County	A2	RM 474.54	206635	67% - 1.5yr	582.8	1267.75	1264.92	2.09	1.91	26.58	18.43	127.52	217.37	2.03	1.4	2.83	2.83
Sweet Grass County	A2	RM 474.43	205945	67% - 1.5yr	582.8	1267.36	1265.16	2.47	2.11	37.53	25.29	89.64	205.2	2.01	1.34	2.2	2.2
Sweet Grass County	A2	RM 474.30	205321	67% - 1.5yr	582.8	1267.07	1264.46	2.14	1.98	27.69	17.71	129.51	221.84	2.08	1.32	2.61	2.61
Sweet Grass County	A2	RM 474.21	204877	67% - 1.5yr	582.8	1266.72	1264.22	2.64	2.57	41.49	26.73	101.62	163.32	2.16	1.39	2.5	2.5
Sweet Grass County	A2	RM 474.12	204378	67% - 1.5yr	582.8	1266.58	1263.24	2.08	1.82	25.56	12.95	124.26	286.66	2.21	1.11	3.34	3.34
Sweet Grass County	A2	RM 474.01	203787	67% - 1.5yr	582.8	1266.2	1263.55	2.45	2.2	39.08	27.32	138.43	225.62	1.68	1.17	2.65	2.65
Sweet Grass County	A2	RM 473.87	203072	67% - 1.5yr	582.8	1265.71	1263.52	2.59	2.23	40.12	26.81	97.67	205.09	1.91	1.27	2.19	2.19
Sweet Grass County	A2	RM 473.74	202395	67% - 1.5yr	582.8	1265.42	1263.06	2.14	2.01	27.93	18.94	113.33	241.84	2.04	1.39	2.36	2.36
Sweet Grass County	A2	RM 473.62	201781	67% - 1.5yr	582.8	1264.92	1262.63	2.59	2.52	44.24	37.3	139.14	171.08	1.6	1.35	2.29	2.29
Sweet Grass County	A2	RM 473.50	201110	67% - 1.5yr	582.8	1264.31	1261.83	2.48	2.48	43.07	41.43	174.38	181.71	1.35	1.3	2.48	2.48
Sweet Grass County	A2	RM 473.36	200362	67% - 1.5yr	582.8	1264.01	1261.08	1.98	1.95	22.89	21.33	128.15	139.69	2.29	2.14	2.93	2.93
Sweet Grass County	A2	RM 473.27	199862	67% - 1.5yr	582.8	1263.66	1260.81	2.55	2.55	39.13	39.13	108.77	108.77	2.1	2.1	2.85	2.85
Sweet Grass County	A2	RM 473.17	199362	67% - 1.5yr	582.8	1263.52	1260.56	2.15	2.15	25.7	25.7	100.24	100.24	2.7	2.7	2.96	2.96
Sweet Grass County	A2	RM 473.08	198879	67% - 1.5yr	582.8	1263.21	1260.56	2.6	2.6	39.82	38.95	99.39	101.66	2.25	2.2	2.65	2.65
Sweet Grass County	A2	RM 472.98	198340	67% - 1.5yr	582.8	1263.03	1260.21	2.18	2.15	27.78	24.57	117.48	134.75	2.27	2.01	2.83	2.83
Sweet Grass County	A2	RM 472.89	197862	67% - 1.5yr	582.8	1262.59	1260.5	2.89	2.53	51.96	34.88	99.76	179.06	1.92	1.29	2.09	2.09
Sweet Grass County	A2	RM 472.79	197362	67% - 1.5yr	582.8	1262.29	1259.98	2.43	2.24	38.04	29.84	133.31	192.09	1.73	1.35	2.31	2.31
Sweet Grass County	A2	RM 472.70	196862	67% - 1.5yr	582.8	1261.83	1259.35	2.74	2.37	47.06	30.55	111.34	205.81	1.84	1.2	2.49	2.49
Sweet Grass County	A2	RM 472.60	196360	67% - 1.5yr	582.8	1261.61	1259.01	2.03	1.87	28.09	24.88	176.23	244.56	1.46	1.3	2.6	2.6
Sweet Grass County	A2	RM 472.50	195816	67% - 1.5yr	582.8	1261.22	1258.53	2.29	2.05	33.94	23.95	144.46	239.53	1.69	1.19	2.69	2.69
Sweet Grass County	A2	RM 472.41	195349	67% - 1.5yr	582.8	1260.86	1258.52	2.33	2.16	38	34.4	178.34	220.57	1.35	1.22	2.34	2.34
Sweet Grass County	A2	RM 472.31	194860	67% - 1.5yr	582.8	1260.6	1258.34	2.07	1.87	26.6	20.11	145.68	218.84	1.88	1.42	2.26	2.26
Sweet Grass County	A2	RM 472.22	194356	67% - 1.5yr	582.8	1260.39	1257.3	2.15	2	23.64	15.82	114.26	190.63	2.3	1.53	3.09	3.09
Sweet Grass County	A2	RM 472.09	193660	67% - 1.5yr	582.8	1259.6	1257.45	3.45	3.31	72.82	58.01	80.64	108.03	2.06	1.63	2.15	2.15
Sweet Grass County	A2	RM 471.95	192935	67% - 1.5yr	582.8	1259.55	1256.05	1.97	1.72	21.53	12.49	103	213.84	2.77	1.59	3.5	3.5
Sweet Grass County	A2	RM 471.86	192442	67% - 1.5yr	582.8	1259.18	1256.23	2.82	2.27	44.25	24.99	70.53	170.36	2.71	1.51	2.94	2.94
Sweet Grass County	A2	RM 471.75	191870	67% - 1.5yr	582.8	1259.02	1256.47	2.11	1.85	27.06	16.56	134.52	256.91	2.01	1.23	2.55	2.55

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	67% - 1.5yr	582.8	1258.45	1256.54	2.95	2.78	57.1	39.51	121.52	188.18	1.61	1.11	1.91	1.91
Sweet Grass County	A2	RM 471.52	190686	67% - 1.5yr	582.8	1258.24	1255.75	1.98	1.67	23.58	13.96	127.43	280.85	2.12	1.25	2.49	2.49
Sweet Grass County	A2	RM 471.38	189910	67% - 1.5yr	582.8	1257.63	1255.44	2.64	2.41	49.86	30.85	145.09	315.95	1.24	0.77	2.19	2.19
Sweet Grass County	A2	RM 471.28	189362	67% - 1.5yr	582.8	1256.98	1254.65	2.42	2.15	43.94	31.78	188.42	345.99	1.08	0.78	2.33	2.33
Sweet Grass County	A2	RM 471.18	188875	67% - 1.5yr	582.8	1256.61	1254.2	2.22	1.89	25.69	18.91	146.79	317.97	1.32	0.97	2.41	2.41
Sweet Grass County	A2	RM 471.06	188150	67% - 1.5yr	582.8	1256.2	1253.95	2.1	1.69	30.31	16.78	129.9	444.07	1.41	0.78	2.25	2.25
Sweet Grass County	A2	RM 470.94	187526	67% - 1.5yr	582.8	1255.79	1253.58	2.27	1.87	30.86	17.67	104.2	314.52	1.74	0.99	2.21	2.21
Sweet Grass County	A2	RM 470.84	186938	67% - 1.5yr	582.8	1255.43	1252.88	2.2	1.82	33.52	21.23	155.68	377.73	1.38	0.87	2.55	2.55
Sweet Grass County	A2	RM 470.73	186362	67% - 1.5yr	582.8	1255.12	1253.49	1.58	1.73	19.05	18.73	182.25	332.5	1.03	1.01	2.05	2.05
Sweet Grass County	A2	RM 470.65	185977	67% - 1.5yr	582.8	1254.9	1252.18	1.87	1.82	23.36	19.82	197.18	259.5	1.57	1.33	2.72	2.72
Sweet Grass County	A2	RM 470.56	185491	67% - 1.5yr	582.8	1254.59	1252.52	2.07	2.06	28.97	24.25	188.27	255.64	1.49	1.25	2.08	2.08
Sweet Grass County	A2	RM 470.44	184875	67% - 1.5yr	582.8	1254.47	1251.39	1.55	1.45	13.98	7.73	158.3	310.93	2.35	1.29	3.08	3.08
Sweet Grass County	A2	RM 470.35	184363	67% - 1.5yr	582.8	1253.91	1251.52	3.01	2.98	58.19	45.63	111.49	144.19	1.73	1.36	2.38	2.38
Sweet Grass County	A2	RM 470.23	183828	67% - 1.5yr	582.8	1253.56	1251.51	2.29	2.17	35.95	29.69	177.9	230.52	1.4	1.17	2.05	2.05
Sweet Grass County	A2	RM 470.13	183304	67% - 1.5yr	582.8	1253.2	1249.86	2.16	2.05	31.81	23.25	161.93	266.94	1.47	1.07	3.34	3.34
Sweet Grass County	A2	RM 470.05	182914	67% - 1.5yr	582.8	1252.95	1250.59	2.07	1.92	29.32	23.48	170.96	264.06	1.44	1.15	2.36	2.36
Sweet Grass County	A2	RM 469.93	182267	67% - 1.5yr	582.8	1252.28	1249.62	2.83	2.72	49.98	43.4	102.86	130.98	1.89	1.64	2.66	2.66
Sweet Grass County	A2	RM 469.85	181860	67% - 1.5yr	582.8	1251.83	1249.59	3.09	2.93	58.52	46.49	90.83	125.26	1.99	1.59	2.24	2.24
Sweet Grass County	A2	RM 469.75	181348	67% - 1.5yr	582.8	1251.76	1248.77	2	1.89	23.65	19.77	115.57	167.37	2.21	1.84	2.99	2.99
Sweet Grass County	A2	RM 469.68	180952	67% - 1.5yr	582.8	1251.42	1249.31	2.52	2.49	40.44	35	132.12	154.14	1.75	1.52	2.11	2.11
Sweet Grass County	A2	RM 469.58	180427	67% - 1.5yr	582.8	1251.4	1247.94	1.62	1.46	14.35	7.29	124.77	279.89	2.83	1.43	3.46	3.46
Sweet Grass County	A2	RM 469.47	179860	67% - 1.5yr	582.8	1251.16	1247.85	2.24	1.95	25.63	12.54	91.12	225	2.74	1.33	3.3	3.3
Sweet Grass County	A2	RM 469.39	179400	67% - 1.5yr	582.8	1250.86	1248.45	2.62	2.38	42.28	26.08	111.1	203.06	1.96	1.21	2.41	2.41
Sweet Grass County	A2	RM 469.30	178975	67% - 1.5yr	582.8	1250.82	1247.55	1.9	1.67	19.8	9.46	105.98	264.42	2.81	1.32	3.27	3.27
Sweet Grass County	A2	RM 469.21	178467	67% - 1.5yr	582.8	1250.2	1248.31	3.26	3.04	68.28	44.83	101.78	169.77	1.72	1.13	1.89	1.89
Sweet Grass County	A2	RM 469.09	177862	67% - 1.5yr	582.8	1250.18	1247.12	1.7	1.32	17.73	8.2	118.23	484.95	1.98	0.91	3.06	3.06
Sweet Grass County	A2	RM 469.00	177350	67% - 1.5yr	582.8	1249.3	1247.58	3.78	3.34	98.33	69.37	85.79	186.47	1.42	1	1.72	1.72
Sweet Grass County	A2	RM 468.90	176865	67% - 1.5yr	582.8	1248.99	1246.48	2.05	1.83	21.68	16.52	152.8	267.17	1.57	1.19	2.52	2.52
Sweet Grass County	A2	RM 468.80	176341	67% - 1.5yr	582.8	1248.78	1246.11	2	1.8	25.6	17.35	134.38	269.05	1.79	1.2	2.66	2.66
Sweet Grass County	A2	RM 468.71	175823	67% - 1.5yr	582.8	1248.3	1246.41	2.59	2.31	48.49	40.29	141.17	251.45	1.2	1	1.9	1.9
Sweet Grass County	A2	RM 468.57	175192	67% - 1.5yr	582.8	1248.09	1245.17	1.59	1.53	16.18	13.28	169.19	354.77	1.73	1.42	2.92	2.92
Sweet Grass County	A2	RM 468.42	174099	67% - 1.5yr	582.8	1247.37	1244.97	2.46	2.29	41.38	32.87	163.83	263.21	1.42	1.13	2.41	2.41
Sweet Grass County	A3	RM 468.25	173324	67% - 1.5yr	582.8	1247.27	1242.97	1.56	1.38	13.13	6.11	126.88	423.35	2.89	1.33	4.29	4.29
Sweet Grass County	A3	RM 468.16	172855	67% - 1.5yr	582.8	1247.11	1243.58	1.96	1.62	22.32	11.16	118.15	440.19	2.34	1.16	3.52	3.52
Sweet Grass County	A3	RM 468.07	172364	67% - 1.5yr	582.8	1247.04	1243.89	1.6	1.31	15.02	7.19	135.84	526.21	2.31	1.1	3.15	3.15
Sweet Grass County	A3	RM 467.97	171839	67% - 1.5yr	582.8	1246.34	1244.32	3.49	2.97	79.05	46.56	83.44	238.23	1.7	0.99	2.03	2.03
Sweet Grass County	A3	RM 467.87	171312	67% - 1.5yr	582.8	1246.06	1243.46	1.92	1.86	23.39	20.88	156.11	231.79	1.8	1.61	2.6	2.6
Sweet Grass County	A3	RM 467.78	170840	67% - 1.5yr	582.8	1245.62	1243.74	2.66	2.43	47.37	38.46	99.66	191.58	1.54	1.25	1.89	1.89
Sweet Grass County	A3	RM 467.69	170376	67% - 1.5yr	582.8	1245.34	1242.96	2.27	2.03	33.08	23.89	112.55	226.57	1.77	1.27	2.38	2.38
Sweet Grass County	A3	RM 467.55	169614	67% - 1.5yr	582.8	1244.84	1242.1	2.16	2	32.49	27.36	128.05	252.56	1.38	1.15	2.73	2.73
Sweet Grass County	A3	RM 467.41	168870	67% - 1.5yr	582.8	1244.66	1241.15	1.61	1.38	14.59	6.51	128.36	375.46	2.54	1.13	3.52	3.52
Sweet Grass County	A3	RM 467.30	168362	67% - 1.5yr	582.8	1243.91	1242.15	3.62	3.3	85.19	55.95	88.55	162.38	1.66	1.09	1.76	1.76
Sweet Grass County	A3	RM 467.16	167641	67% - 1.5yr	582.8	1243.75	1240.78	1.78	1.6	19.41	11.2	153.79	325.05	1.98	1.14	2.97	2.97
Sweet Grass County	A3	RM 467.00	166780	67% - 1.5yr	582.8	1243.22	1240.48	2.45	2.27	38.98	23.57	131.41	255.32	1.68	1.01	2.75	2.75
Sweet Grass County	A3	RM 466.83	165902	67% - 1.5yr	582.8	1242.71	1239.84	2.37	1.98	33.86	14.86	108.85	318.15	2.13	0.93	2.86	2.86
Sweet Grass County	A3	RM 466.73	165364	67% - 1.5yr	582.8	1242.46	1239.81	2.29	2.07	31.62	18.37	114.68	231.73	2.09	1.22	2.65	2.65
Sweet Grass County	A3	RM 466.64	164858	67% - 1.5yr	582.8	1242.08	1239.36	2.75	2.43	42.19	22.44	85.99	232.87	2.28	1.21	2.71	2.71
Sweet Grass County	A3	RM 466.49	164108	67% - 1.5yr	582.8	1241.63	1239.67	2.57	1.93	42.12	21.6	106.52	415.45	1.74	0.89	1.96	1.96
Sweet Grass County	A3	RM 466.25	162845	67% - 1.5yr	582.8	1240.51	1238.71	2.88	2.49	53.27	39.27	78.03	180.96	1.79	1.29	1.8	1.8
Sweet Grass County	A3	RM 465.79	160351	67% - 1.5yr	582.8	1239.21	1236.48	2.11	1.5	26.92	11.38	103.7	440.35	2.14	0.88	2.73	2.73
Sweet Grass County	A3	RM 465.01	155919	67% - 1.5yr	582.8	1237.06	1234.44	2.49	2.35	38.38	28.49	119.98	172.48	1.94	1.44	2.62	2.62
Sweet Grass County	A3	RM 464.68	154254	67% - 1.5yr	582.8	1236.16	1233.35	2.1	2.04	28.46	19.98	164.22	241.84	1.69	1.18	2.82	2.82
Sweet Grass County	A3	RM 464.48	153160	67% - 1.5yr	582.8	1235.6	1232.71	2.01	1.82	26.73	17.45	174.12	333.65	1.59	1.04	2.89	2.89
Sweet Grass County	A3	RM 464.33	152378	67% - 1.5yr	582.8	1235.22	1232.61	1.93	1.66	24.52	18.85	181.2	286.26	1.59	1.22	2.61	2.61
Sweet Grass County	A3	RM 464.16	151621	67% - 1.5yr	582.8	1234.65	1232.45	2.37	2.12	37.69	27.15	154.99	252.55	1.51	1.09	2.2	2.2
Sweet Grass County	A3	RM 464.04	150961	67% - 1.5yr	582.8	1234.46	1231.48	1.89	1.53	20.07	8.91	113.44	333.21	2.6	1.15	2.98	2.98
Sweet Grass County	A3	RM 463.88	150174	67% - 1.5yr	582.8	1233.88	1231.85	2.79	2.59	51.65	40.32	128.74	184.86	1.56	1.22	2.03	2.03
Sweet Grass County	A3	RM 463.78	149616	67% - 1.5yr	582.8	1233.54	1230.54	2.25	2.02	32.48	21.82	146.45	363.92	1.73	1.16	3	3
Sweet Grass County	A3	RM 463.67	149069	67% - 1.5yr	582.8	1233.09	1230.86	2.57	2.16	43.39	26.84	130.46	330.94	1.62	1	2.23	2.23
Sweet Grass County	A3	RM 463.59	148630	67% - 1.5yr	582.8	1232.87	1230.39	2.21	1.88	30.4	20.54	131.19	317.39	1.92	1.3	2.48	2.48
Sweet Grass County	A3	RM 463.49	148111	67% - 1.5yr	582.8	1232.38	1229.73	2.8	2.59	48.36	34.57	105.77	221.31	1.94	1.38	2.65	2.65

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	67% - 1.5yr	582.8	1231.96	1229.72	2.08	1.73	29.29	17.11	174.53	563.68	1.48	0.86	2.25	2.25
Sweet Grass County	A3	RM 463.20	146616	67% - 1.5yr	582.8	1231.57	1228.95	2.11	1.52	28.58	14.13	102.82	838.43	1.75	0.85	2.62	2.62
Sweet Grass County	A3	RM 463.06	145881	67% - 1.5yr	582.8	1231.16	1228.89	2.09	1.34	29.61	12.33	128.71	960.6	1.49	0.62	2.27	2.27
Sweet Grass County	A4	RM 462.79	144435	67% - 1.5yr	582.8	1230.91	1228.25	1.22	0.66	9.17	4.48	133.48	1373.28	1.95	0.94	2.66	2.66
Sweet Grass County	A4	RM 462.16	141146	67% - 1.5yr	582.8	1228.96	1226.15	2.53	1.93	39.84	16.48	105.05	391.47	1.93	0.79	2.8	2.8
Sweet Grass County	A4	RM 461.97	140135	67% - 1.5yr	582.8	1228.36	1226.06	2.23	1.55	33.04	15.16	120.82	680.46	1.56	0.71	2.31	2.31
Sweet Grass County	A4	RM 461.71	138705	67% - 1.5yr	582.8	1226.85	1224.75	3.14	2.6	68.67	46.63	95.37	285.6	1.37	0.93	2.09	2.09
Sweet Grass County	A4	RM 461.52	137683	67% - 1.5yr	582.8	1226.13	1222.31	1.85	1.52	17.67	8.75	73.73	230.33	3.5	1.67	3.82	3.82
Sweet Grass County	A4	RM 461.33	136718	67% - 1.5yr	582.8	1225.82	1223.38	2.02	1.87	26.55	13.15	121.22	436.42	1.67	0.82	2.45	2.45
Sweet Grass County	A4	RM 461.14	135736	67% - 1.5yr	582.8	1225.11	1222.44	2.57	2.47	40.44	31.35	111.2	150.87	2.02	1.57	2.67	2.67
Sweet Grass County	A4	RM 460.99	134951	67% - 1.5yr	582.8	1224.69	1221.98	2.36	2.19	34.21	23.87	121.6	190.71	2	1.39	2.71	2.71
Sweet Grass County	A4	RM 460.85	134214	67% - 1.5yr	582.8	1223.6	1222.07	3.53	3.53	85.09	85.09	128.83	128.83	1.28	1.28	1.53	1.53
Sweet Grass County	A4	RM 460.74	133616	67% - 1.5yr	582.8	1223.37	1220.27	1.99	1.97	22.69	21.42	119.08	127.28	2.46	2.32	3.1	3.1
Sweet Grass County	A4	RM 460.63	133067	67% - 1.5yr	582.8	1223.38	1218.9	1.34	1.34	8.63	8.2	102.24	108.18	4.25	4.04	4.49	4.49
Sweet Grass County	A4	RM 460.50	132281	67% - 1.5yr	582.8	1222.98	1221.12	2.65	2.38	48.38	34.78	147.74	251.94	1.38	1	1.86	1.86
Sweet Grass County	A4	RM 460.38	131785	67% - 1.5yr	582.8	1222.55	1220.5	2.4	2.2	34.73	27.32	137.56	250.67	1.35	1.06	2.05	2.05
Sweet Grass County	A4	RM 460.29	131287	67% - 1.5yr	582.8	1222.01	1219.97	2.6	2.52	47.35	44.8	125.12	181.23	1.35	1.28	2.04	2.04
Sweet Grass County	A4	RM 460.19	130793	67% - 1.5yr	582.8	1221.56	1219.38	2.52	2.38	42.09	37.4	112.08	204.51	1.56	1.39	2.17	2.17
Sweet Grass County	A4	RM 460.08	130210	67% - 1.5yr	582.8	1221.2	1218.23	2.34	2.34	32.92	32.92	119.79	119.79	2.08	2.08	2.98	2.98
Sweet Grass County	A4	RM 459.99	129763	67% - 1.5yr	582.8	1220.96	1218.01	2.43	2.43	34.1	34.1	100.27	100.27	2.39	2.39	2.95	2.95
Sweet Grass County	A4	RM 459.90	129246	67% - 1.5yr	582.8	1220.84	1217.62	2.11	2.11	24.37	23.69	98.38	101.25	2.81	2.73	3.22	3.22
Sweet Grass County	A4	RM 459.81	128792	67% - 1.5yr	582.8	1220.44	1218.15	2.85	2.85	48.74	48.74	97.46	97.46	2.1	2.1	2.29	2.29
Sweet Grass County	A4	RM 459.72	128310	67% - 1.5yr	641.6	1220.31	1217.31	2.22	2.22	28.51	28.46	123.48	181.74	2.34	2.34	3	3
Sweet Grass County	A4	RM 459.62	127798	67% - 1.5yr	641.6	1219.89	1217.46	2.73	2.64	47.26	38.56	127.9	225.69	1.8	1.47	2.43	2.43
Sweet Grass County	A5	RM 459.53	127324	67% - 1.5yr	641.6	1219.37	1217.26	2.88	2.88	55.99	55.99	150.7	150.7	1.48	1.48	2.11	2.11
Sweet Grass County	A5	RM 459.44	126881	67% - 1.5yr	641.6	1219.02	1216.93	2.41	2.41	39.34	39.34	180.7	180.72	1.47	1.47	2.09	2.09
Sweet Grass County	A5	RM 459.31	126192	67% - 1.5yr	641.6	1218.63	1215.66	2.19	2.13	29.55	28.15	146.41	169.83	1.98	1.89	2.96	2.96
Sweet Grass County	A5	RM 459.24	125848	67% - 1.5yr	641.6	1218.38	1215.69	2.41	2.35	36.41	34.08	143.13	157.01	1.85	1.74	2.69	2.69
Sweet Grass County	A5	RM 459.16	125420	67% - 1.5yr	641.6	1217.83	1215.82	2.95	2.95	60.17	60.17	156.04	156.04	1.39	1.39	2.01	2.01
Sweet Grass County	A5	RM 459.02	124624	67% - 1.5yr	641.6	1217.37	1214.8	2.01	2.01	26.59	26.59	195.84	207.33	1.63	1.63	2.57	2.57
Sweet Grass County	A5	RM 458.79	123371	67% - 1.5yr	641.6	1216.63	1214.02	2.33	2.33	33.69	33.69	144.76	144.76	1.9	1.9	2.61	2.61
Sweet Grass County	A5	RM 458.48	121727	67% - 1.5yr	641.6	1215.58	1213.35	2.34	2.16	36.63	31.53	131.87	230.65	1.53	1.31	2.23	2.23
Sweet Grass County	A5	RM 458.36	121100	67% - 1.5yr	641.6	1214.56	1212.73	3.44	3.17	81.82	64.25	111.62	187.31	1.38	1.08	1.83	1.83
Sweet Grass County	A5	RM 458.25	120543	67% - 1.5yr	641.6	1214.18	1211.35	2.18	1.9	28.04	18.77	113.91	227.59	2.23	1.49	2.83	2.83
Sweet Grass County	A5	RM 458.13	119849	67% - 1.5yr	641.6	1213.57	1211.21	2.83	2.61	52.99	41.25	128.71	197.4	1.6	1.25	2.36	2.36
Sweet Grass County	A5	RM 458.03	119256	67% - 1.5yr	641.6	1213.49	1210.09	1.89	1.81	19.1	16.35	106.12	134.79	3.07	2.62	3.4	3.4
Sweet Grass County	A5	RM 457.87	118444	67% - 1.5yr	641.6	1213.35	1209.57	1.82	1.82	16.82	16.59	100.86	102.28	3.5	3.46	3.78	3.78
Sweet Grass County	A5	RM 457.76	117858	67% - 1.5yr	641.6	1213.15	1210.24	2.12	2.12	26.32	26.32	132.91	132.91	2.28	2.28	2.92	2.92
Sweet Grass County	A5	RM 457.66	117350	67% - 1.5yr	641.6	1212.92	1210.03	2.25	2.25	29.92	29.92	129.99	129.99	2.2	2.2	2.9	2.9
Sweet Grass County	A5	RM 457.54	116694	67% - 1.5yr	641.6	1212.6	1209.93	2.35	2.35	33.12	32.51	129.68	132.14	2.11	2.07	2.66	2.66
Sweet Grass County	A5	RM 457.35	115703	67% - 1.5yr	641.6	1211.38	1209.69	3.4	3.4	82.68	82.68	151.35	151.35	1.25	1.25	1.69	1.69
Sweet Grass County	A5	RM 457.20	114921	67% - 1.5yr	641.6	1211.11	1208.7	1.82	1.82	20.88	20.88	193.71	193.71	1.82	1.82	2.41	2.41
Sweet Grass County	A5	RM 457.02	113974	67% - 1.5yr	641.6	1210.04	1208.04	3.51	3.17	79.51	57.46	97.47	165.83	1.69	1.22	2	2
Sweet Grass County	A5	RM 456.84	113009	67% - 1.5yr	641.6	1209.68	1206.55	2.2	2.2	27.36	27.36	113.23	113.23	2.57	2.57	3.13	3.13
Sweet Grass County	A5	RM 456.68	112164	67% - 1.5yr	641.6	1209.07	1206.59	2.91	2.91	51.55	51.55	109.35	109.35	2.02	2.02	2.48	2.48
Sweet Grass County	A5	RM 456.55	111455	67% - 1.5yr	641.6	1208.65	1206.19	2.46	2.46	37.66	37.66	137.42	137.42	1.9	1.9	2.47	2.47
Sweet Grass County	A5	RM 456.43	110857	67% - 1.5yr	641.6	1208.45	1205.33	2.2	2.2	26.47	26.47	103.75	103.75	2.81	2.81	3.12	3.12
Sweet Grass County	A6	RM 456.29	110121	67% - 1.5yr	641.6	1208.09	1205.45	2.53	2.53	35.23	35.23	111.97	111.97	2.27	2.27	2.63	2.63
Sweet Grass County	A6	RM 456.18	109508	67% - 1.5yr	641.6	1207.7	1205.45	2.64	2.64	43.19	43.19	126.58	126.58	1.92	1.92	2.24	2.24
Sweet Grass County	A6	RM 456.03	108721	67% - 1.5yr	641.6	1207.13	1204.59	2.53	2.53	41.77	41.77	153.7	153.7	1.65	1.65	2.54	2.54
Sweet Grass County	A6	RM 455.84	107742	67% - 1.5yr	641.6	1206.5	1204.05	2.28	2.22	30.32	28.65	176.57	193.23	1.58	1.49	2.46	2.46
Sweet Grass County	A6	RM 455.70	106976	67% - 1.5yr	641.6	1206.28	1203.14	1.95	1.95	20.55	20.55	121.78	174.83	2.7	2.7	3.14	3.14
Sweet Grass County	A6	RM 455.56	106256	67% - 1.5yr	641.6	1205.92	1203.35	2.45	2.44	33.47	31	117.97	189.83	2.22	2.06	2.57	2.57
Sweet Grass County	A6	RM 455.39	105360	67% - 1.5yr	641.6	1205.67	1202.74	1.92	1.92	21.59	21.59	146.76	188.42	2.28	2.28	2.93	2.93
Sweet Grass County	A6	RM 455.26	104667	67% - 1.5yr	641.6	1204.64	1202.83	3.78	3.78	96.03	95.07	116.48	131.95	1.46	1.44	1.81	1.81
Sweet Grass County	A6	RM 455.09	103771	67% - 1.5yr	641.6	1204.49	1201.58	1.71	1.63	16.96	13.99	154.43	199.96	2.39	1.97	2.91	2.91
Sweet Grass County	A6	RM 454.95	103072	67% - 1.5yr	641.6	1203.93	1201.94	2.73	2.67	53.9	52.39	177.05	203.26	1.21	1.18	1.99	1.99
Sweet Grass County	A6	RM 454.82	102364	67% - 1.5yr	641.6	1203.35	1200.61	2.14	2.09	31.27	30.03	176.54	219.86	1.46	1.39	2.75	2.75
Sweet Grass County	A6	RM 454.72	101863	67% - 1.5yr	641.6	1202.61	1200.47	3.09	3.09	58.98	58.98	136.54	136.54	1.52	1.52	2.14	2.14
Sweet Grass County	A6	RM 454.64	101419	67% - 1.5yr	641.6	1202.46	1199.69	2.21	2.21	28.99	28.99	151.41	151.41	1.91	1.91	2.77	2.77
Sweet Grass County	A6	RM 454.53	100846	67% - 1.5yr	641.6	1202.08	1199.59	2.53	2.53	37.04	37.04	118.18	118.18	2.14	2.14	2.5	2.5

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	67% - 1.5yr	641.6	1201.85	1199	2.44	2.43	34.43	31.94	109.63	118.69	2.39	2.22	2.86	2.86
Sweet Grass County	A6	RM 454.29	99597	67% - 1.5yr	641.6	1201.57	1198.71	2.3	2.19	30.2	23.1	111.58	155.61	2.46	1.88	2.86	2.86
Sweet Grass County	A6	RM 454.15	98861	67% - 1.5yr	641.6	1201.3	1198.68	2.19	2.19	26.68	25.99	134.11	137.73	2.19	2.13	2.63	2.63
Sweet Grass County	A6	RM 454.00	98105	67% - 1.5yr	641.6	1200.91	1198.53	2.36	2.36	29.94	29.94	166.05	166.05	1.64	1.64	2.38	2.38
Sweet Grass County	A6	RM 453.89	97523	67% - 1.5yr	641.6	1200.39	1198.31	2.69	2.65	42.17	40.17	173.33	185.9	1.37	1.3	2.09	2.09
Sweet Grass County	A6	RM 453.78	96929	67% - 1.5yr	641.6	1200.29	1197.07	1.77	1.77	18	18	147.94	147.94	2.44	2.44	3.22	3.22
Sweet Grass County	A6	RM 453.67	96361	67% - 1.5yr	641.6	1199.72	1197.77	2.98	2.95	56.33	54.48	148.79	156.72	1.43	1.39	1.95	1.95
Sweet Grass County	A6	RM 453.58	95863	67% - 1.5yr	641.6	1199.71	1196.37	1.75	1.75	16.5	16.5	180.34	180.34	2.39	2.39	3.34	3.34
Sweet Grass County	A6	RM 453.48	95355	67% - 1.5yr	641.6	1199.3	1196.86	2.68	2.68	41.81	41.81	115.74	115.74	2.07	2.07	2.43	2.43
Sweet Grass County	A6	RM 453.35	94633	67% - 1.5yr	641.6	1198.87	1196.43	2.55	2.55	37.3	37.01	133.35	134.44	1.89	1.87	2.44	2.44
Sweet Grass County	A7	RM 453.23	93994	67% - 1.5yr	641.6	1198.28	1196.41	2.98	2.69	53.56	45.58	106.88	189.66	1.48	1.26	1.87	1.87
Sweet Grass County	A7	RM 453.11	93361	67% - 1.5yr	641.6	1198.02	1195.68	2.03	2	24.63	23.97	166.08	176.83	1.86	1.81	2.34	2.34
Sweet Grass County	A7	RM 453.01	92863	67% - 1.5yr	641.6	1197.53	1195.38	2.79	2.7	47.6	41	129.3	158.32	1.75	1.5	2.15	2.15
Sweet Grass County	A7	RM 452.91	92363	67% - 1.5yr	641.6	1197.29	1194.85	2.44	2.22	32.35	26.78	110.72	189	1.85	1.53	2.44	2.44
Sweet Grass County	A7	RM 452.82	91863	67% - 1.5yr	641.6	1197.02	1194.65	2.35	2.18	33.84	29.48	105.15	171.23	1.97	1.72	2.37	2.37
Sweet Grass County	A7	RM 452.72	91363	67% - 1.5yr	641.6	1196.99	1193.29	1.55	1.55	12.97	12.43	140.56	147.11	2.94	2.82	3.7	3.7
Sweet Grass County	A7	RM 452.64	90932	67% - 1.5yr	641.6	1196.76	1194.02	2.21	2.04	29.22	23.1	133.5	186.49	2.13	1.68	2.74	2.74
Sweet Grass County	A7	RM 452.53	90362	67% - 1.5yr	641.6	1196.33	1193.87	2.71	2.61	42.42	35.68	108.4	137.64	2.13	1.79	2.47	2.47
Sweet Grass County	A7	RM 452.43	89864	67% - 1.5yr	641.6	1196.02	1193.52	2.72	2.61	42.33	33.5	107.01	144.64	2.15	1.7	2.5	2.5
Sweet Grass County	A7	RM 452.33	89331	67% - 1.5yr	641.6	1195.72	1193.16	2.59	2.55	36.32	33.99	132.4	143.52	1.87	1.75	2.55	2.55
Sweet Grass County	A7	RM 452.25	88863	67% - 1.5yr	641.6	1195.46	1192.91	2.5	2.48	35.01	33.15	131.88	140.52	1.95	1.84	2.55	2.55
Sweet Grass County	A7	RM 452.16	88399	67% - 1.5yr	641.6	1195.16	1192.68	2.63	2.5	39.79	31.49	116.65	156.28	2.07	1.64	2.48	2.48
Sweet Grass County	A7	RM 452.06	87882	67% - 1.5yr	641.6	1194.93	1192.4	2.39	2.26	33.61	25.29	118.43	168.09	2.25	1.69	2.53	2.53
Sweet Grass County	A7	RM 451.96	87394	67% - 1.5yr	641.6	1194.57	1191.9	2.68	2.55	44.12	36.01	120.41	156.27	1.97	1.61	2.67	2.67
Sweet Grass County	A7	RM 451.86	86835	67% - 1.5yr	641.6	1194.26	1191.79	2.52	2.31	35.88	27.91	116.82	168.65	2.12	1.65	2.47	2.47
Sweet Grass County	A7	RM 451.75	86230	67% - 1.5yr	641.6	1194.01	1191.43	2.28	2.28	29.84	29.84	129.01	129.01	2.18	2.18	2.58	2.58
Sweet Grass County	A7	RM 451.61	85483	67% - 1.5yr	641.6	1193.68	1190.7	2.23	2.23	30.45	30.45	145.78	145.78	1.98	1.98	2.98	2.98
Sweet Grass County	A7	RM 451.49	84861	67% - 1.5yr	641.6	1193.04	1191.07	3.03	2.96	55.7	52.19	114.12	125.56	1.84	1.73	1.97	1.97
Sweet Grass County	A7	RM 451.34	84113	67% - 1.5yr	641.6	1192.93	1190.06	1.79	1.79	18.42	18.42	149.67	149.67	2.4	2.4	2.87	2.87
Sweet Grass County	A7	RM 451.20	83363	67% - 1.5yr	641.6	1192.45	1189.8	2.66	2.66	41.01	41.01	102.11	102.11	2.36	2.36	2.65	2.65
Sweet Grass County	A7	RM 451.10	82863	67% - 1.5yr	641.6	1192.26	1189.79	2.33	2.33	31.96	31.96	127.64	127.64	2.16	2.16	2.47	2.47
Sweet Grass County	A7	RM 451.00	82325	67% - 1.5yr	641.6	1191.98	1189.55	2.4	2.24	35.46	30.4	117.21	171.24	1.95	1.67	2.43	2.43
Sweet Grass County	A7	RM 450.86	81602	67% - 1.5yr	641.6	1191.74	1188.29	1.88	1.74	37.66	24.23	88.94	172.34	3.4	2.14	3.44	3.44
Sweet Grass County	A7	RM 450.73	80923	67% - 1.5yr	641.6	1191.03	1188.46	3.13	3.02	57.62	48.2	89.19	112.19	2.27	1.9	2.57	2.57
Sweet Grass County	A7	RM 450.63	80374	67% - 1.5yr	641.6	1190.77	1188.16	2.52	2.51	38.45	37.41	125.09	128.84	2.04	1.98	2.61	2.61
Sweet Grass County	A7	RM 450.53	79863	67% - 1.5yr	641.6	1190.56	1187.88	2.24	2.24	27.73	27.73	145.76	145.76	1.97	1.97	2.68	2.68
Sweet Grass County	A7	RM 450.43	79300	67% - 1.5yr	641.6	1190.31	1187.72	2.29	2.14	28.62	25.26	124.78	178.68	1.9	1.68	2.58	2.58
Sweet Grass County	A7	RM 450.34	78849	67% - 1.5yr	679.2	1189.85	1188.05	2.84	2.62	51.78	44.96	120.83	201.39	1.48	1.29	1.8	1.8
Sweet Grass County	A7	RM 450.23	78298	67% - 1.5yr	679.2	1189.73	1186.92	1.74	1.74	17.67	17.67	192.97	192.97	2.03	2.03	2.8	2.8
Sweet Grass County	A7	RM 450.14	77822	67% - 1.5yr	679.2	1189.47	1186.4	2.17	2.17	28.56	26.87	150.81	160.77	2.08	1.95	3.06	3.06
Sweet Grass County	A7	RM 450.05	77362	67% - 1.5yr	679.2	1188.9	1187.2	3.05	3.05	61.24	61.24	137.44	137.44	1.62	1.62	1.7	1.7
Sweet Grass County	A7	RM 449.96	76841	67% - 1.5yr	679.2	1188.67	1186.28	2.36	2.26	32.73	27.22	125.41	168.42	2.28	1.89	2.39	2.39
Sweet Grass County	A7	RM 449.86	76356	67% - 1.5yr	679.2	1188.49	1185.58	2.32	2.2	29.87	21.48	106.56	160.64	2.72	1.95	2.9	2.9
Sweet Grass County	A7	RM 449.77	75860	67% - 1.5yr	679.2	1188.18	1185.68	2.64	2.39	36.22	33.42	148.09	185.01	1.67	1.54	2.49	2.49
Sweet Grass County	A7	RM 449.68	75373	67% - 1.5yr	679.2	1187.7	1185.9	2.7	2.6	51.96	49.99	198.36	216.48	1.25	1.21	1.8	1.8
Sweet Grass County	A7	RM 449.59	74904	67% - 1.5yr	679.2	1187.68	1184.15	1.79	1.66	16.96	12.98	108.35	168.02	3.22	2.44	3.53	3.53
Sweet Grass County	A7	RM 449.48	74351	67% - 1.5yr	679.2	1187.28	1184.86	2.84	2.58	49.96	35.93	99.68	188.55	1.94	1.4	2.42	2.42
Sweet Grass County	A7	RM 449.37	73741	67% - 1.5yr	679.2	1187.13	1184.73	1.66	1.62	18.2	17.02	209.63	328.2	1.58	1.48	2.4	2.4
Sweet Grass County	A7	RM 449.26	73165	67% - 1.5yr	679.2	1186.96	1184.33	1.87	1.29	17.85	7.2	125.29	684.92	2.12	0.84	2.62	2.62
Sweet Grass County	A7	RM 449.10	72364	67% - 1.5yr	679.2	1186.28	1183.97	3.13	2.17	58.01	24.82	84.51	457.34	2.27	0.95	2.31	2.31
Sweet Grass County	A7	RM 449.00	71858	67% - 1.5yr	679.2	1185.67	1183.97	3.43	2.55	76.35	43.98	96.32	276.65	1.69	0.96	1.71	1.71
Sweet Grass County	A7	RM 448.88	71223	67% - 1.5yr	679.2	1185.02	1183.11	2.49	2.35	43.77	36.84	189.49	292.52	1.29	1.09	1.91	1.91
Sweet Grass County	A7	RM 448.76	70537	67% - 1.5yr	679.2	1184.77	1182.01	1.54	1.41	16.33	13.81	243.15	410.1	1.39	1.18	2.76	2.76
Sweet Grass County	A7	RM 448.55	69424	67% - 1.5yr	679.2	1184.43	1181.8	1.72	1.62	17.68	15.32	153.3	222.7	2.17	1.88	2.63	2.63
Sweet Grass County	A7	RM 448.41	68815	67% - 1.5yr	679.2	1183.7	1181.16	3.34	3.34	62.34	59.88	83.54	87.24	2.43	2.33	2.53	2.53
Sweet Grass County	A7	RM 448.32	68353	67% - 1.5yr	679.2	1183.71	1179.91	1.6	1.6	13.19	13.19	121.08	122.04	3.5	3.5	3.8	3.8
Sweet Grass County	A7	RM 448.23	67851	67% - 1.5yr	679.2	1183.54	1179.82	1.99	1.99	20.43	20.43	99.78	99.78	3.41	3.41	3.72	3.72
Sweet Grass County	A7	RM 448.07	67043	67% - 1.5yr	679.2	1183.2	1180.7	2.39	2.39	34.85	34.54	140.33	169.39	2.02	2.01	2.5	2.5
Sweet Grass County	A7	RM 447.94	66348	67% - 1.5yr	679.2	1182.93	1180.22	2.23	2.12	28.27	16.87	120.84	219.62	2.51	1.49	2.71	2.71
Sweet Grass County	A7	RM 447.85	65863	67% - 1.5yr	679.2	1182.5	1180.39	2.84	2.82	50.37	46.95	128.91	165.44	1.86	1.73	2.12	2.12
Sweet Grass County	A7	RM 447.75	65363	67% - 1.5yr	679.2	1182.46	1179.55	1.92	1.92	19.01	19.01	139.3	191.16	2.54	2.54	2.91	2.91

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	67% - 1.5yr	679.2	1182.23	1179.59	2.26	2.23	29.21	21.33	121.11	229.32	2.48	1.8	2.64	2.64
Sweet Grass County	A7	RM 447.56	64365	67% - 1.5yr	679.2	1181.79	1179.67	2.87	2.65	52.19	36.61	131.32	256.3	1.78	1.25	2.12	2.12
Sweet Grass County	A7	RM 447.49	64001	67% - 1.5yr	679.2	1181.63	1179.82	2.23	2.09	31.8	23.48	193.2	305.56	1.56	1.15	1.81	1.81
Sweet Grass County	A7	RM 447.39	63473	67% - 1.5yr	679.2	1181.05	1178.85	3.11	2.49	57.31	31.92	88.89	249.84	1.97	1.09	2.2	2.2
Sweet Grass County	A7	RM 447.27	62880	67% - 1.5yr	679.2	1180.76	1178.26	2.48	2.07	37.73	21.19	99.84	293.36	2.01	1.12	2.5	2.5
Sweet Grass County	A7	RM 447.17	62358	67% - 1.5yr	679.2	1180.45	1177.92	2.51	1.8	39.22	16.41	107.94	475	1.91	0.79	2.53	2.53
Sweet Grass County	A7	RM 447.08	61863	67% - 1.5yr	679.2	1179.97	1177.91	2.82	1.99	54.9	31.22	98.47	430.88	1.4	0.79	2.06	2.06
Sweet Grass County	A7	RM 446.98	61358	67% - 1.5yr	679.2	1179.48	1177.28	2.75	2.06	44.8	22.98	92.87	333.7	1.93	0.99	2.2	2.2
Sweet Grass County	A7	RM 446.89	60841	67% - 1.5yr	679.2	1179.05	1176.94	3	2.15	56.19	29.61	77.43	316.03	1.9	1	2.11	2.11
Sweet Grass County	A7	RM 446.80	60396	67% - 1.5yr	679.2	1178.9	1175.92	2.22	1.59	28.91	14.85	90.68	373.74	2.32	1.18	2.98	2.98
Sweet Grass County	A7	RM 446.70	59903	67% - 1.5yr	679.2	1178.53	1176.22	2.97	2.09	52.47	24.53	65.84	329.15	2.27	1.03	2.31	2.31
Sweet Grass County	A7	RM 446.60	59371	67% - 1.5yr	679.2	1178.07	1175.91	3.06	2.45	54.26	30.95	75.79	253.81	1.93	1.09	2.16	2.16
Sweet Grass County	A7	RM 446.51	58868	67% - 1.5yr	679.2	1177.79	1175.24	2.54	2.25	40.55	30.48	113.65	218.13	1.87	1.4	2.55	2.55
Sweet Grass County	A7	RM 446.41	58363	67% - 1.5yr	679.2	1177.6	1174.39	2.08	1.91	23.73	17.11	135.29	225.94	2.18	1.58	3.21	3.21
Sweet Grass County	A7	RM 446.30	57762	67% - 1.5yr	679.2	1177.2	1174.85	2.61	2.44	39.15	34.02	123.2	174.71	1.83	1.59	2.35	2.35
Sweet Grass County	A7	RM 446.22	57365	67% - 1.5yr	679.2	1176.83	1174.39	2.8	2.8	46.2	46.2	125.57	125.57	1.93	1.93	2.44	2.44
Sweet Grass County	A7	RM 446.12	56852	67% - 1.5yr	679.2	1176.54	1174.04	2.54	2.54	36.59	36.59	138.83	138.83	1.93	1.93	2.5	2.5
Sweet Grass County	A7	RM 446.02	56303	67% - 1.5yr	679.2	1176.4	1173.3	2.17	2.08	25.33	21.72	97.57	147.97	3.04	2.59	3.1	3.1
Sweet Grass County	A7	RM 445.94	55871	67% - 1.5yr	679.2	1175.88	1173.6	3.27	3.08	65.41	55.92	93.65	128.48	2.01	1.72	2.28	2.28
Sweet Grass County	A7	RM 445.82	55236	67% - 1.5yr	679.2	1175.54	1173.05	2.2	2.17	32.62	29.58	204	229.17	1.5	1.37	2.49	2.49
Sweet Grass County	A7	RM 445.71	54753	67% - 1.5yr	679.2	1175.35	1172.38	1.95	1.93	18.67	18.16	206.24	214.49	1.68	1.64	2.97	2.97
Sweet Grass County	A7	RM 445.60	54202	67% - 1.5yr	679.2	1175.14	1172.32	2.02	2.01	21.88	20.83	182.76	192.31	1.84	1.75	2.81	2.81
Sweet Grass County	A7	RM 445.46	53453	67% - 1.5yr	679.2	1174.63	1171.04	2.66	2.61	35.79	30.06	127.68	155.8	1.99	1.67	3.59	3.59
Sweet Grass County	A7	RM 445.36	52888	67% - 1.5yr	679.2	1174.4	1170.25	2.48	2.23	34.32	21.03	96.64	190.28	2.68	1.63	4.15	4.15
Sweet Grass County	A7	RM 445.26	52344	67% - 1.5yr	679.2	1174.01	1171.35	2.86	2.72	48.43	38.16	103.95	143.53	2.21	1.74	2.66	2.66
Sweet Grass County	A7	RM 445.17	51873	67% - 1.5yr	679.2	1173.3	1171.83	3.47	3.39	82.68	76.84	133.63	152.45	1.42	1.32	1.46	1.46
Sweet Grass County	A7	RM 445.07	51376	67% - 1.5yr	679.2	1173.22	1170.28	1.95	1.93	23.58	21.68	180.52	199.2	1.92	1.77	2.94	2.94
Sweet Grass County	A7	RM 444.97	50844	67% - 1.5yr	679.2	1172.8	1170.19	2.57	2.57	37.82	37.82	144.44	144.44	1.83	1.83	2.61	2.61
Sweet Grass County	A7	RM 444.88	50352	67% - 1.5yr	679.2	1172.54	1170.05	2.42	2.39	33.93	31.61	141.28	153.23	1.98	1.85	2.49	2.49
Sweet Grass County	A7	RM 444.79	49860	67% - 1.5yr	679.2	1172.15	1169.94	2.71	2.56	45.74	36.29	129.2	174.5	1.91	1.52	2.21	2.21
Sweet Grass County	A7	RM 444.69	49316	67% - 1.5yr	679.2	1171.81	1169.55	2.45	2.45	35.89	35.89	162.47	162.47	1.71	1.71	2.26	2.26
Sweet Grass County	A7	RM 444.60	48863	67% - 1.5yr	679.2	1171.81	1167.23	1.79	1.63	15.44	10.23	85.74	175.09	4.34	2.82	4.58	4.58
Sweet Grass County	A7	RM 444.50	48367	67% - 1.5yr	679.2	1171.42	1169.73	0.63	2.46	11.3	28.01	102.05	203.69	0.54	1.35	2.75	2.75
Sweet Grass County	A7	RM 444.41	47863	67% - 1.5yr	679.2	1171.31	1168.6	2.13	2	25.19	20.22	129.44	196.32	2.15	1.73	2.71	2.71
Sweet Grass County	A7	RM 444.30	47336	67% - 1.5yr	679.2	1171.19	1168.26	1.77	1.71	17.26	10.02	162.89	363.59	2.35	1.36	2.93	2.93
Sweet Grass County	A7	RM 444.20	46789	67% - 1.5yr	679.2	1170.57	1167.97	3.2	3.19	61.82	58.11	102.03	108.8	2.08	1.96	2.6	2.6
Sweet Grass County	A7	RM 444.12	46346	67% - 1.5yr	679.2	1170.34	1167.62	2.78	2.68	44.31	36.77	97.95	123.68	2.48	2.05	2.72	2.72
Sweet Grass County	A7	RM 444.02	45829	67% - 1.5yr	679.2	1170.16	1167.57	2.36	2.35	28.5	25.26	140	158.93	2.05	1.82	2.59	2.59
Sweet Grass County	A7	RM 443.91	45243	67% - 1.5yr	679.2	1169.88	1167.08	2.34	2.33	33.84	30.68	150.13	166.15	1.93	1.75	2.8	2.8
Sweet Grass County	A7	RM 443.84	44853	67% - 1.5yr	679.2	1169.3	1167.23	3.1	3.1	68.22	68.22	171.8	171.8	1.28	1.28	2.07	2.07
Sweet Grass County	A7	RM 443.75	44415	67% - 1.5yr	679.2	1169.06	1166.67	2.22	2.22	31.87	31.87	181.97	211.06	1.68	1.68	2.39	2.39
Sweet Grass County	A7	RM 443.64	43870	67% - 1.5yr	679.2	1168.65	1166.09	2.63	2.3	42.91	29.7	108.16	240.28	1.93	1.33	2.55	2.55
Sweet Grass County	A7	RM 443.53	43290	67% - 1.5yr	679.2	1168.47	1165.72	2.16	1.92	26.5	20.97	85.67	194.47	2.52	1.98	2.75	2.75
Sweet Grass County	A8	RM 443.45	42860	67% - 1.5yr	679.2	1168.15	1165.25	2.53	2.53	37.05	37.05	122.71	122.71	2.19	2.19	2.9	2.9
Sweet Grass County	A8	RM 443.35	42363	67% - 1.5yr	679.2	1167.71	1164.95	2.97	2.87	52.43	38.05	101.51	187.16	2.22	1.6	2.76	2.76
Sweet Grass County	A8	RM 443.25	41863	67% - 1.5yr	679.2	1167.56	1165.05	2.29	2.05	31.3	21.44	127.28	291.48	2.12	1.45	2.51	2.51
Sweet Grass County	A8	RM 443.16	41342	67% - 1.5yr	679.2	1167.31	1165.43	2.22	1.83	32.79	23.84	149.97	363.72	1.54	1.12	1.87	1.87
Sweet Grass County	A8	RM 443.07	40863	67% - 1.5yr	679.2	1166.88	1164.49	2.5	2	41.16	23.72	138.95	367.44	1.61	0.92	2.4	2.4
Sweet Grass County	A8	RM 442.97	40345	67% - 1.5yr	679.2	1166.6	1164.28	2.12	1.6	25.41	16.96	159.38	445.88	1.57	1.05	2.33	2.33
Sweet Grass County	A8	RM 442.88	39863	67% - 1.5yr	679.2	1166.41	1164.06	1.78	1.49	19.82	14.75	175.58	461.75	1.5	1.12	2.36	2.36
Sweet Grass County	A8	RM 442.78	39363	67% - 1.5yr	679.2	1165.68	1164.18	3.11	2.95	69.37	51.82	120.89	284.31	1.23	0.92	1.83	1.83
Sweet Grass County	A8	RM 442.68	38840	67% - 1.5yr	679.2	1165.35	1162.8	2.22	1.8	24.22	14.48	115.77	362.5	1.74	1.04	2.55	2.55
Sweet Grass County	A8	RM 442.60	38390	67% - 1.5yr	679.2	1165.3	1162.57	1.36	1.19	11.56	8.13	157.4	424.95	1.92	1.35	2.73	2.73
Sweet Grass County	A8	RM 442.50	37863	67% - 1.5yr	679.2	1164.93	1162.29	2.56	2.14	35.03	23.35	89.94	275	2.2	1.46	2.65	2.65
Sweet Grass County	A8	RM 442.42	37461	67% - 1.5yr	679.2	1164.55	1162.07	3.05	2.61	39.96	24.96	118.91	311.46	1.53	0.95	2.49	2.49
Sweet Grass County	A8	RM 442.32	36914	67% - 1.5yr	679.2	1164.18	1161.85	2.81	2.37	49.23	27.83	101.59	292.28	1.88	1.06	2.34	2.34
Sweet Grass County	A8	RM 442.24	36451	67% - 1.5yr	679.2	1163.94	1161.75	2.37	2.12	31.09	26.33	116.42	236.98	1.6	1.35	2.19	2.19
Sweet Grass County	A8	RM 442.12	35820	67% - 1.5yr	679.2	1163.65	1161.12	2.26	1.94	25.78	19.68	119.66	265.33	1.76	1.34	2.53	2.53
Sweet Grass County	A8	RM 442.03	35367	67% - 1.5yr	679.2	1163.35	1161.18	2.42	2.17	38.76	30.55	121.08	255.03	1.58	1.25	2.18	2.18
Sweet Grass County	A8	RM 441.95	34945	67% - 1.5yr	679.2	1163.29	1160.28	1.63	1.44	15.99	10.97	132.8	327.7	2.14	1.45	3.01	3.01
Sweet Grass County	A8	RM 441.84	34360	67% - 1.5yr	679.2	1162.83	1160.33	2.55	2.34	32.78	22.5	185.46	301.76	1.4	0.96	2.5	2.5

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	67% - 1.5yr	679.2	1162.5	1160.06	2.47	2.21	33.29	25.25	171.23	260.85	1.55	1.18	2.44	2.44
Sweet Grass County	A8	RM 441.65	33357	67% - 1.5yr	679.2	1162.34	1159.78	1.93	1.68	21.65	10.75	172.88	415.2	1.99	0.98	2.56	2.56
Sweet Grass County	A8	RM 441.53	32732	67% - 1.5yr	679.2	1162.01	1159.44	2.26	1.97	31.61	17.58	148.29	319.29	1.95	1.08	2.57	2.57
Sweet Grass County	A8	RM 441.47	32366	67% - 1.5yr	679.2	1161.91	1158.95	2.01	1.66	23.47	11.21	138.85	405.46	2.32	1.1	2.95	2.95
Sweet Grass County	A8	RM 441.38	31928	67% - 1.5yr	679.2	1161.9	1158.24	1.39	0.94	10.85	4.81	153.74	766.09	2.58	1.14	3.66	3.66
Sweet Grass County	A8	RM 441.27	31350	67% - 1.5yr	679.2	1161.31	1158.76	3.16	2.65	60.03	27.56	93.25	273.69	2.12	0.97	2.56	2.56
Sweet Grass County	A8	RM 441.18	30882	67% - 1.5yr	679.2	1161.21	1158.5	2.25	1.82	27.72	9.86	125.6	504.1	2.09	0.74	2.71	2.71
Sweet Grass County	A8	RM 441.07	30295	67% - 1.5yr	679.2	1161	1158.19	2.04	1.74	25.1	7.33	149.54	637.34	2.11	0.61	2.82	2.82
Sweet Grass County	A8	RM 441.00	29913	67% - 1.5yr	679.2	1160.84	1157.63	2.11	1.7	26.9	8.02	146.59	656.23	2.06	0.61	3.21	3.21
Sweet Grass County	A8	RM 440.80	28852	67% - 1.5yr	679.2	1160	1157.49	3.06	2.81	52.51	34.01	103.86	181.47	2.05	1.33	2.51	2.51
Sweet Grass County	A8	RM 440.60	27841	67% - 1.5yr	679.2	1159.15	1157.2	2.81	2.51	52.17	35.08	121.05	256.13	1.58	1.06	1.95	1.95
Sweet Grass County	A8	RM 440.51	27361	67% - 1.5yr	679.2	1158.75	1156.41	2.67	2.17	44.29	27.79	102.58	260.58	1.92	1.2	2.34	2.34
Sweet Grass County	A8	RM 440.42	26862	67% - 1.5yr	679.2	1158.11	1156.26	3.28	2.68	71.74	42.3	88.27	279.9	1.54	0.91	1.85	1.85
Sweet Grass County	A8	RM 440.30	26223	67% - 1.5yr	679.2	1157.95	1155.63	1.72	1.37	18.71	11.44	88.71	441.17	1.84	1.12	2.32	2.32
Sweet Grass County	A8	RM 440.17	25466	67% - 1.5yr	679.2	1157.48	1154.7	2.84	1.98	48.22	21.65	64.45	353.04	2.24	0.97	2.78	2.78
Sweet Grass County	A8	RM 440.06	24863	67% - 1.5yr	679.2	1157.23	1153.97	2.12	1.94	26.11	17.51	129.8	225.82	2.32	1.55	3.26	3.26
Sweet Grass County	A8	RM 439.96	24366	67% - 1.5yr	679.2	1156.95	1154.18	2.52	2.22	36.3	25.2	94.47	178.54	2.47	1.71	2.77	2.77
Sweet Grass County	A8	RM 439.87	23863	67% - 1.5yr	679.2	1156.78	1153.59	2.3	2.14	27.27	21.42	103.29	142.94	2.82	2.22	3.19	3.19
Sweet Grass County	A8	RM 439.77	23365	67% - 1.5yr	679.2	1156.58	1153.6	2.38	2.32	29.77	22.7	124.5	168.23	2.29	1.74	2.99	2.99
Sweet Grass County	A8	RM 439.68	22863	67% - 1.5yr	679.2	1156.32	1153.45	2.5	2.5	33.04	31.68	125.74	131.27	2.16	2.07	2.88	2.88
Sweet Grass County	A8	RM 439.58	22363	67% - 1.5yr	679.2	1156.19	1153.39	2.08	1.96	24.1	20.34	150.21	191.05	2.14	1.81	2.8	2.8
Sweet Grass County	A8	RM 439.49	21863	67% - 1.5yr	679.2	1156.07	1152.86	1.97	1.86	20.89	17.64	116.09	147.01	2.93	2.49	3.2	3.2
Sweet Grass County	A8	RM 439.39	21363	67% - 1.5yr	679.2	1155.88	1153.06	2.15	2.05	26.41	12.72	130.17	287.72	2.41	1.15	2.83	2.83
Sweet Grass County	A8	RM 439.30	20863	67% - 1.5yr	679.2	1155.47	1152.92	2.82	2.78	45.33	33.36	110.07	152.67	2.18	1.6	2.55	2.55
Sweet Grass County	A8	RM 439.20	20353	67% - 1.5yr	679.2	1155	1152.64	3.1	3.06	53.77	50.63	108.85	117.15	2.01	1.89	2.36	2.36
Sweet Grass County	A8	RM 439.11	19864	67% - 1.5yr	679.2	1154.89	1152.34	2.32	2.02	31.67	21.2	98.01	221.17	2.28	1.52	2.55	2.55
Sweet Grass County	A8	RM 439.01	19360	67% - 1.5yr	679.2	1154.38	1152.4	2.93	2.82	49.66	47.39	123.83	163.19	1.54	1.48	1.97	1.97
Sweet Grass County	A8	RM 438.91	18848	67% - 1.5yr	679.2	1154.11	1151.92	2.38	2.08	31.96	23.06	121.73	256.37	1.76	1.27	2.2	2.2
Sweet Grass County	A8	RM 438.82	18363	67% - 1.5yr	679.2	1153.89	1151.23	2.21	1.93	29.62	20.93	114.74	245.53	2.03	1.44	2.66	2.66
Sweet Grass County	A8	RM 438.73	17853	67% - 1.5yr	679.2	1153.41	1151.37	2.84	2.49	44.6	32.02	117.1	262.64	1.44	1.04	2.03	2.03
Sweet Grass County	A8	RM 438.63	17363	67% - 1.5yr	679.2	1153.15	1150.74	2.39	1.89	35.03	20.01	100.37	321.23	1.96	1.12	2.4	2.4
Sweet Grass County	A8	RM 438.54	16863	67% - 1.5yr	679.2	1152.99	1150.59	2.01	1.73	24.08	17.25	103.82	250.24	2.22	1.57	2.4	2.4
Sweet Grass County	A8	RM 438.43	16307	67% - 1.5yr	679.2	1152.84	1149.52	1.76	1.76	17.73	17.73	157.73	167.11	2.45	2.45	3.32	3.32
Sweet Grass County	A9	RM 438.36	15889	67% - 1.5yr	679.2	1152.71	1149.4	1.91	1.89	15.65	14.87	186.43	197.96	1.91	1.81	3.31	3.31
Sweet Grass County	A9	RM 438.26	15363	67% - 1.5yr	679.2	1152.3	1149.84	2.76	2.55	43.92	35.03	113	159.28	2.09	1.67	2.46	2.46
Sweet Grass County	A9	RM 438.16	14863	67% - 1.5yr	679.2	1152.11	1149.31	2.36	2.14	30.19	17.92	117.21	222.12	2.41	1.43	2.8	2.8
Sweet Grass County	A9	RM 438.07	14394	67% - 1.5yr	679.2	1151.88	1149.19	2.45	2.13	35.92	19.43	124.4	273.48	2.16	1.16	2.69	2.69
Sweet Grass County	A9	RM 437.96	13827	67% - 1.5yr	679.2	1151.62	1149.19	2.43	1.98	33.45	16.29	117.26	365.38	1.93	0.94	2.43	2.43
Sweet Grass County	A9	RM 437.88	13363	67% - 1.5yr	679.2	1151.35	1148.94	2.6	2.04	37.27	20.41	100.77	324.27	1.95	1.06	2.41	2.41
Sweet Grass County	A9	RM 437.78	12844	67% - 1.5yr	679.2	1151.1	1148.72	2.46	1.97	34.39	16.96	98.25	354.07	1.99	0.97	2.38	2.38
Sweet Grass County	A9	RM 437.69	12354	67% - 1.5yr	679.2	1150.98	1148.45	1.77	1.49	20.11	12.48	146.03	435.54	1.75	1.08	2.52	2.52
Sweet Grass County	A9	RM 437.59	11863	67% - 1.5yr	679.2	1150.67	1148.76	2.14	1.89	32.03	22.78	146.4	382.42	1.32	0.94	2.26	2.26
Sweet Grass County	A9	RM 437.50	11362	67% - 1.5yr	679.2	1150.46	1148.29	1.76	1.54	20.91	14.29	184.43	427.84	1.5	1.03	2.17	2.17
Sweet Grass County	A9	RM 437.41	10902	67% - 1.5yr	679.2	1150.16	1148.26	2.1	1.83	31	20.22	175.96	432.4	1.31	0.86	1.9	1.9
Sweet Grass County	A9	RM 437.31	10361	67% - 1.5yr	679.2	1149.76	1147.37	2.28	1.86	34.36	19.86	147.38	395.15	1.59	0.92	2.39	2.39
Sweet Grass County	A9	RM 437.20	9764	67% - 1.5yr	679.2	1149.39	1147.02	2.45	1.87	33.48	16.66	103.47	389.94	1.88	0.93	2.37	2.37
Sweet Grass County	A9	RM 437.08	9128	67% - 1.5yr	679.2	1149	1146.9	2.28	2.01	31.58	22.7	184.77	331.34	1.41	1.02	2.1	2.1
Sweet Grass County	A9	RM 436.95	8363	67% - 1.5yr	679.2	1148.82	1145.32	1.95	1.3	14.59	7.14	99.76	489.25	2.24	1.07	3.5	3.5
Sweet Grass County	A9	RM 436.83	7805	67% - 1.5yr	679.2	1148.69	1145.93	1.42	1.37	14.1	10.67	153.75	602.1	1.36	1.03	2.76	2.76
Sweet Grass County	A9	RM 436.75	6857	67% - 1.5yr	679.2	1148.17	1145.61	2.8	2.02	47.78	14.37	65.98	555.86	2.04	0.61	2.55	2.55
Sweet Grass County	A9	RM 436.66	6193	67% - 1.5yr	679.2	1147.73	1145.68	2.51	1.86	40.07	18.76	97.51	467.46	1.7	0.8	2.05	2.05
Sweet Grass County	A9	RM 436.56	5280	67% - 1.5yr	679.2	1147.19	1144.44	2.9	1.83	47.68	16.19	50.6	430.51	2.69	0.86	2.75	2.75
Sweet Grass County	A9	RM 436.40	4576	67% - 1.5yr	679.2	1146.95	1144.05	2.47	1.52	34.09	12.2	52.76	504.18	2.74	0.93	2.91	2.91
Sweet Grass County	A9	RM 436.29	3787	67% - 1.5yr	679.2	1146.51	1144.44	2.53	2.08	41.06	26.62	93.92	349.65	1.72	1.11	2.07	2.07
Sweet Grass County	A9	RM 436.16	3087	67% - 1.5yr	679.2	1145.82	1143.57	2.82	2.38	52.11	33.42	107.65	325.68	1.63	1.05	2.24	2.24
Sweet Grass County	A9	RM 436.07	2676	67% - 1.5yr	679.2	1145.55	1143.09	2.52	1.95	34.27	20.74	101.2	402.65	1.63	0.98	2.45	2.45
Sweet Grass County	A9	RM 435.98	2200	67% - 1.5yr	679.2	1145.23	1142.85	2.59	2.01	41.87	23.63	68.92	347.66	1.93	1.07	2.38	2.38
Sweet Grass County	A9	RM 435.88	1580	67% - 1.5yr	679.2	1144.7	1142.56	2.7	2.23	48.94	30.07	57.12	335.98	1.55	0.94	2.13	2.13
Sweet Grass County	A9	RM 435.73	890	67% - 1.5yr	679.2	1144.38	1141.99	1.95	1.67	24.11	17.49	75.6	327.25	1.82	1.29	2.39	2.39
Sweet Grass County	A9	RM 435.62	104	67% - 1.5yr	679.2	1143.77	1141.54	2.59	2.3	46.21	35.26	124.52	275.76	1.41	1.07	2.24	2.24

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	67% - 1.5yr	679.2	1143.46	1140.73	1.51	1.44	15.24	12.95	146.05	361.05	1.53	1.31	2.77	2.77
Stillwater County	A9	RM 435.38	231282.1	67% - 1.5yr	679.2	1143.16	1139.61	1.6	1.55	15.74	13.7	195.55	256.08	1.96	1.71	3.55	3.55
Stillwater County	A9	RM 435.25	230611.3	67% - 1.5yr	679.2	1142.63	1138.48	2.76	2.75	44.32	42.12	106.3	112.38	2.32	2.2	4.15	4.15
Stillwater County	A9	RM 435.16	230122.9	67% - 1.5yr	679.2	1142.36	1138.39	2.72	2.71	42.48	38.32	102.33	113.89	2.44	2.2	3.97	3.97
Stillwater County	A9	RM 435.07	229649	67% - 1.5yr	679.2	1142.12	1137.85	2.69	2.62	40.77	31.26	97.88	131.51	2.57	1.97	4.27	4.27
Stillwater County	A9	RM 434.97	229153	67% - 1.5yr	679.2	1141.83	1137.87	2.79	2.7	44.61	40.42	99	114.87	2.41	2.19	3.96	3.96
Stillwater County	A9	RM 434.84	228443.5	67% - 1.5yr	679.2	1141.45	1137	2.74	2.64	42.59	35.09	95.69	123.26	2.53	2.09	4.45	4.45
Stillwater County	A9	RM 434.73	227855.5	67% - 1.5yr	679.2	1141.26	1135.61	2.51	2.48	32.14	28.51	77.29	88.23	3.5	3.1	5.65	5.65
Stillwater County	A9	RM 434.63	227328.2	67% - 1.5yr	679.2	1141.12	1135.42	2.44	2.43	31.13	30.04	87.4	90.7	3.19	3.08	5.69	5.69
Stillwater County	A9	RM 434.57	227011.2	67% - 1.5yr	679.2	1140.98	1136.35	2.51	2.51	35.07	33.82	101.36	105.27	2.67	2.57	4.63	4.63
Stillwater County	A9	RM 434.53	226817.6	67% - 1.5yr	679.2	1140.83	1136.73	2.7	2.7	43.24	42.39	113.3	115.64	2.22	2.17	4.1	4.1
Stillwater County	A10	RM 434.49	226573.3	67% - 1.5yr	679.2	1140.75	1137.23	2.43	2.42	34.57	31.82	122.02	133.29	2.29	2.11	3.52	3.52
Stillwater County	A10	RM 434.42	226233.2	67% - 1.5yr	679.2	1140.58	1137.1	2.42	2.42	35.37	35.13	135.84	136.74	2.07	2.05	3.48	3.48
Stillwater County	A10	RM 434.37	225940.2	67% - 1.5yr	679.2	1140.39	1136.51	2.53	2.53	37.55	37.33	118.33	119	2.27	2.26	3.88	3.88
Stillwater County	A10	RM 434.24	225278.2	67% - 1.5yr	679.2	1140.13	1136.56	2.33	2.24	31.5	28.55	112.91	141.2	2.37	2.15	3.57	3.57
Stillwater County	A10	RM 434.15	224819.6	67% - 1.5yr	679.2	1139.88	1137.06	2.38	2.26	36.04	30.51	153.31	198.51	1.79	1.52	2.82	2.82
Stillwater County	A10	RM 434.07	224366.5	67% - 1.5yr	679.2	1139.5	1136.55	2.55	2.51	41.21	38.37	102.93	160.68	1.79	1.68	3.1	3.1
Stillwater County	A10	RM 433.98	223883.5	67% - 1.5yr	679.2	1139.31	1136.28	2.1	2.03	28.4	25.86	131.04	214.47	1.7	1.56	3.03	3.03
Stillwater County	A10	RM 433.87	223309.3	67% - 1.5yr	679.2	1139.06	1135.82	2.19	2.03	28.81	24.58	105.17	183.31	2.14	1.83	3.24	3.24
Stillwater County	A10	RM 433.78	222850	67% - 1.5yr	679.2	1138.79	1135.54	2.24	2.24	31.84	31.84	171.61	171.61	1.77	1.77	3.25	3.25
Stillwater County	A10	RM 433.66	222201.9	67% - 1.5yr	679.2	1138.43	1135.16	2.32	2.32	32.44	32.44	138.36	138.36	2.11	2.11	3.27	3.27
Stillwater County	A10	RM 433.54	221596.6	67% - 1.5yr	679.2	1138.09	1135.33	2.48	2.47	36.7	34.9	128.06	134.98	2.14	2.04	2.75	2.75
Stillwater County	A10	RM 433.42	220956.2	67% - 1.5yr	679.2	1137.76	1134.88	2.47	2.47	35.88	32.97	122.47	133.59	2.25	2.06	2.87	2.87
Stillwater County	A10	RM 433.31	220362.5	67% - 1.5yr	679.2	1137.44	1134.67	2.25	2.24	34.02	31.79	199.26	215.26	1.51	1.41	2.77	2.77
Stillwater County	A10	RM 433.20	219758.6	67% - 1.5yr	679.2	1137.12	1134.17	1.98	1.73	26.24	19.1	148.19	355.62	1.51	1.1	2.95	2.95
Stillwater County	A10	RM 433.09	219185.2	67% - 1.5yr	679.2	1136.82	1133.45	2.02	2.02	25.25	25.25	176.07	176.07	1.91	1.91	3.37	3.37
Stillwater County	A10	RM 432.97	218599.7	67% - 1.5yr	679.2	1136.45	1133.57	2.38	2.34	34.99	33.21	145.37	157.61	1.94	1.84	2.88	2.88
Stillwater County	A10	RM 432.84	217905.9	67% - 1.5yr	679.2	1136.13	1132.7	2.27	2.18	30.7	27.96	133.59	157.09	2.17	1.98	3.43	3.43
Stillwater County	A10	RM 432.69	217146.9	67% - 1.5yr	679.2	1135.75	1131.51	2.55	2.48	34.93	29.42	88.24	108.86	3	2.52	4.23	4.23
Stillwater County	A10	RM 432.60	216656.8	67% - 1.5yr	679.2	1135.59	1132.1	2.41	2.37	32.09	24.17	101.71	137.88	2.77	2.07	3.49	3.49
Stillwater County	A10	RM 432.45	215889.7	67% - 1.5yr	679.2	1135.29	1132.07	2.35	2.34	32.55	31.59	130.84	159.65	2.21	2.15	3.21	3.21
Stillwater County	A10	RM 432.35	215361.3	67% - 1.5yr	679.2	1135.07	1132.33	2.19	2.17	29.37	27.3	154.65	188.53	2	1.86	2.74	2.74
Stillwater County	A10	RM 432.20	214585.3	67% - 1.5yr	700.3	1134.58	1131.29	2.56	2.55	38.67	37.57	123.63	127.49	2.21	2.15	3.29	3.29
Stillwater County	A10	RM 432.10	214039.1	67% - 1.5yr	700.3	1134.34	1130.7	2.42	2.2	34.18	24.01	124.1	255.31	2.27	1.6	3.64	3.64
Stillwater County	A10	RM 432.02	213606.1	67% - 1.5yr	700.3	1134.22	1130.52	2.03	1.94	24.86	21.34	159.62	202.33	2.07	1.78	3.7	3.7
Stillwater County	A10	RM 431.87	212811.5	67% - 1.5yr	700.3	1133.79	1129.24	2.29	2.18	33.48	27.98	170.15	219.26	1.75	1.46	4.54	4.54
Stillwater County	A10	RM 431.74	212127.4	67% - 1.5yr	700.3	1133.57	1129.66	1.88	1.38	21.24	13.93	159.04	369.96	2.1	1.38	3.91	3.91
Stillwater County	A10	RM 431.60	211373.6	67% - 1.5yr	700.3	1133.12	1129.96	2.43	2.4	35.1	32.17	131.59	146.14	2.18	2	3.16	3.16
Stillwater County	A10	RM 431.49	210820.2	67% - 1.5yr	700.3	1132.87	1129.62	2.36	2.33	32.42	29.28	128.51	144.46	2.31	2.08	3.25	3.25
Stillwater County	A10	RM 431.41	210365.9	67% - 1.5yr	700.3	1132.63	1129.57	2.47	2.46	35.94	33.95	128.1	136.19	2.22	2.09	3.06	3.06
Stillwater County	A10	RM 431.28	209716.5	67% - 1.5yr	700.3	1132.3	1129.79	2.34	2.34	34.48	33.95	162.46	165.15	1.84	1.81	2.51	2.51
Stillwater County	A10	RM 431.14	208918.5	67% - 1.5yr	700.3	1131.91	1129.82	1.88	2.1	23.7	27.2	127.25	190.12	1.52	1.75	3.16	3.16
Stillwater County	A10	RM 431.03	208358.8	67% - 1.5yr	700.3	1131.54	1128.56	2.28	2.36	35.16	36.95	113.11	189.34	1.49	1.57	2.98	2.98
Stillwater County	A10	RM 430.93	207821.9	67% - 1.5yr	700.3	1131.19	1128.76	2.33	2.16	36.57	31.04	120.67	254.86	1.49	1.27	2.43	2.43
Stillwater County	A10	RM 430.83	207325.6	67% - 1.5yr	700.3	1130.88	1127.66	2.24	2.13	32.28	30.01	150.8	203.67	1.73	1.62	3.22	3.22
Stillwater County	A10	RM 430.70	206629.1	67% - 1.5yr	700.3	1130.73	1126.9	1.65	1.58	15.57	14.09	148.7	212.84	2.28	2.08	3.83	3.83
Stillwater County	A10	RM 430.59	206064.9	67% - 1.5yr	700.3	1130.57	1127.2	1.84	1.71	19.27	16.06	133.82	197.74	2.48	2.08	3.37	3.37
Stillwater County	A10	RM 430.51	205629.5	67% - 1.5yr	700.3	1130.29	1126.28	2.45	2.37	33.71	29.84	103.46	126.95	2.63	2.33	4.01	4.01
Stillwater County	A10	RM 430.43	205204.2	67% - 1.5yr	700.3	1130.11	1126.08	2.5	2.41	34.08	30.41	96.25	115.91	2.8	2.51	4.03	4.03
Stillwater County	A10	RM 430.34	204728.4	67% - 1.5yr	700.3	1129.89	1126.07	2.56	2.48	36.51	30.72	99.5	124.99	2.68	2.25	3.82	3.82
Stillwater County	A11	RM 430.23	204119.7	67% - 1.5yr	700.3	1129.77	1126.63	1.94	1.88	22.29	13.72	166.53	280.19	2.17	1.33	3.14	3.14
Stillwater County	A11	RM 430.12	203479.6	67% - 1.5yr	700.3	1129.51	1126.96	2.21	2.12	29.67	21.92	108.52	219.13	2.04	1.51	2.98	2.98
Stillwater County	A11	RM 430.04	202968.2	67% - 1.5yr	700.3	1129.25	1127.24	2.21	2.21	30.98	27.05	111.38	202.78	1.79	1.56	2.61	2.61
Stillwater County	A11	RM 429.95	202589.5	67% - 1.5yr	700.3	1129.02	1126.33	2.1	2.14	29.28	27.67	139.55	222.54	1.55	1.47	2.69	2.69
Stillwater County	A11	RM 429.88	202224.7	67% - 1.5yr	700.3	1128.82	1125.62	2.11	2.09	25.27	23.59	141.05	221.01	1.62	1.52	3.2	3.2
Stillwater County	A11	RM 429.78	201933.6	67% - 1.5yr	700.3	1128.58	1123.72	2.4	2.21	26.71	22.83	117.07	198.88	1.86	1.59	4.86	4.86
Stillwater County	A11	RM 429.69	201539.9	67% - 1.5yr	700.3	1128.26	1123.39	2.73	2.31	43.73	30.15	87.33	191.45	2.3	1.58	4.87	4.87
Stillwater County	A11	RM 429.58	200961.9	67% - 1.5yr	700.3	1127.99	1124.69	2.36	1.86	33.98	20.19	116.53	346.49	1.83	1.09	3.3	3.3
Stillwater County	A11	RM 429.38	200210.8	67% - 1.5yr	700.3	1127.52	1125.15	1.88	1.75	23.67	19.24	183.17	326.81	1.51	1.23	3.09	3.09
Stillwater County	A11	RM 429.28	199644.1	67% - 1.5yr	700.3	1127.22	1123.59	2.05	1.87	27.01	19.71	147.21	300.47	1.71	1.25	3.63	3.63

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	67% - 1.5yr	700.3	1126.97	1124.66	1.75	1.83	21.28	17.36	142.69	339.76	1.38	1.13	3.06	3.06
Stillwater County	A11	RM 429.10	198708.6	67% - 1.5yr	700.3	1126.62	1124.26	2.15	2.21	30.67	29.28	84.17	213.62	1.55	1.48	3.04	3.04
Stillwater County	A11	RM 429.00	198203.8	67% - 1.5yr	700.3	1126.34	1123.47	1.88	2.02	25.44	26.34	120.14	267.45	1.24	1.29	2.87	2.87
Stillwater County	A11	RM 428.89	197650.5	67% - 1.5yr	700.3	1126.13	1121.26	2.03	1.8	24.61	17.93	149.46	249.86	2.14	1.56	4.87	4.87
Stillwater County	A11	RM 428.81	197194.1	67% - 1.5yr	700.3	1125.91	1121.47	2.33	1.98	30.63	17.11	97.73	247.91	2.56	1.43	4.44	4.44
Stillwater County	A11	RM 428.66	196404.4	67% - 1.5yr	700.3	1125.69	1122.31	1.85	1.82	21.42	20.24	183.9	220.17	1.86	1.77	3.37	3.37
Stillwater County	A11	RM 428.52	195702.6	67% - 1.5yr	700.3	1125.23	1122.1	2.31	2.31	35.67	35.67	198.25	198.25	1.53	1.53	3.13	3.13
Stillwater County	A11	RM 428.44	195293.8	67% - 1.5yr	700.3	1124.96	1121.18	2.39	2.38	34.34	32.04	140.9	151.64	2.08	1.94	3.78	3.78
Stillwater County	A11	RM 428.39	195075.5	67% - 1.5yr	700.3	1124.75	1120.72	2.69	2.69	42.94	42.49	120.41	121.69	2.17	2.14	4.03	4.03
Stillwater County	A11	RM 428.33	194724.6	67% - 1.5yr	700.3	1124.56	1121.22	2.58	2.58	39.97	39.97	127.97	127.97	2.12	2.12	3.34	3.34
Stillwater County	A11	RM 428.28	194450.8	67% - 1.5yr	700.3	1124.37	1121.2	2.63	2.63	42.46	42.32	134.38	134.82	1.98	1.97	3.17	3.17
Stillwater County	A11	RM 428.23	194235.2	67% - 1.5yr	700.3	1124.24	1120.74	2.58	2.57	41.23	35.21	139.65	164.74	1.94	1.65	3.5	3.5
Stillwater County	A11	RM 428.20	194033.4	67% - 1.5yr	700.3	1124.15	1120.37	2.49	2.39	36.27	28.2	118.94	163.86	2.3	1.79	3.78	3.78
Stillwater County	A11	RM 428.15	193779.9	67% - 1.5yr	700.3	1124.06	1120.23	2.39	2.22	32.46	22.87	111.42	180.28	2.49	1.75	3.83	3.83
Stillwater County	A11	RM 428.09	193436.6	67% - 1.5yr	700.3	1123.9	1119.9	2.39	2.23	33.91	26.14	116.2	184.36	2.22	1.71	4	4
Stillwater County	A11	RM 428.05	193246.1	67% - 1.5yr	700.3	1123.73	1120.1	2.59	2.37	40.91	29.06	122.12	205.09	2.03	1.44	3.63	3.63
Stillwater County	A11	RM 428.00	192989.8	67% - 1.5yr	700.3	1123.6	1120.28	2.48	2.23	36.99	25.36	124.43	220.19	2.09	1.43	3.32	3.32
Stillwater County	A11	RM 427.95	192728.8	67% - 1.5yr	700.3	1123.47	1119.57	2.42	2.26	35.19	24.03	131.04	219.47	2.11	1.44	3.9	3.9
Stillwater County	A11	RM 427.88	192333.2	67% - 1.5yr	700.3	1123.16	1119.27	2.77	2.64	44.24	36.77	98.63	132.28	2.4	2.01	3.89	3.89
Stillwater County	A11	RM 427.83	192088.8	67% - 1.5yr	700.3	1123	1119.18	2.83	2.71	46.15	40.52	98.63	198.06	2.38	2.09	3.82	3.82
Stillwater County	A11	RM 427.76	191724.1	67% - 1.5yr	700.3	1122.64	1119.07	3.09	2.98	56.63	36.85	101.84	164.43	2.21	1.43	3.57	3.57
Stillwater County	A11	RM 427.65	191155.9	67% - 1.5yr	700.3	1122.57	1118.58	2.03	1.88	23.47	15.25	137.77	396.46	2.47	1.61	3.99	3.99
Stillwater County	A11	RM 427.53	190509.6	67% - 1.5yr	700.3	1122.32	1117.37	2.33	2.08	28.68	15.12	92.62	236.31	3.18	1.66	4.94	4.94
Stillwater County	A11	RM 427.41	189886.1	67% - 1.5yr	700.3	1122.16	1118.73	2.18	2.08	26.01	18.61	112.95	166.98	2.82	2.01	3.43	3.43
Stillwater County	A11	RM 427.29	189253.3	67% - 1.5yr	700.3	1121.85	1119.12	2.35	2.29	35.47	29.56	173.65	213.89	1.71	1.43	2.73	2.73
Stillwater County	A11	RM 427.17	188639.5	67% - 1.5yr	700.3	1121.49	1118.44	2.21	2.11	32.01	26.75	194.57	246.36	1.61	1.35	3.05	3.05
Stillwater County	A11	RM 427.09	188179.7	67% - 1.5yr	700.3	1121.15	1118.34	2.49	2.31	36.77	26.2	124.32	191.32	2.21	1.58	2.81	2.81
Stillwater County	A11	RM 427.00	187745.4	67% - 1.5yr	700.3	1121	1117.71	2.22	1.94	29.86	21.62	136.66	238.3	2.08	1.51	3.29	3.29
Stillwater County	A11	RM 426.92	187309.3	67% - 1.5yr	700.3	1120.68	1117.32	2.41	2.3	39.27	37.78	192.43	215.12	1.46	1.41	3.36	3.36
Stillwater County	A11	RM 426.86	186960.4	67% - 1.5yr	700.3	1120.47	1116.77	2.24	2.15	32.15	30.92	176.4	195.1	1.73	1.67	3.7	3.7
Stillwater County	A11	RM 426.75	186401.3	67% - 1.5yr	700.3	1120.12	1116.11	2.37	2.22	34.52	31.16	143.63	175.78	1.98	1.79	4.01	4.01
Stillwater County	A11	RM 426.67	185983.5	67% - 1.5yr	700.3	1119.96	1115.84	2.2	2.18	28.21	25.13	137.36	155.99	2.32	2.06	4.12	4.12
Stillwater County	A11	RM 426.59	185580.4	67% - 1.5yr	700.3	1119.73	1115.47	2.48	2.44	34.03	31.87	104.41	113.26	2.7	2.53	4.26	4.26
Stillwater County	A11	RM 426.52	185166.5	67% - 1.5yr	700.3	1119.6	1115.54	2.34	2.34	29.76	29.76	104.15	104.15	2.87	2.87	4.06	4.06
Stillwater County	A11	RM 426.43	184738.3	67% - 1.5yr	700.3	1119.46	1115.89	2.32	2.3	29.74	28.81	111.95	116.27	2.7	2.61	3.57	3.57
Stillwater County	A11	RM 426.32	184158.4	67% - 1.5yr	700.3	1119.28	1116.39	2.2	2.2	27.77	27.77	131.26	131.26	2.42	2.42	2.89	2.89
Stillwater County	A11	RM 426.20	183517.2	67% - 1.5yr	700.3	1118.94	1116.07	2.29	2.28	35.15	34.67	203.43	206.6	1.5	1.49	2.87	2.87
Stillwater County	A11	RM 426.11	183030.7	67% - 1.5yr	700.3	1118.63	1115.37	2.14	2.14	28.95	27.42	236.42	267.02	1.38	1.31	3.26	3.26
Stillwater County	A11	RM 426.00	182442.5	67% - 1.5yr	700.3	1118.28	1115.74	2.09	1.98	28.95	26.69	207.54	248.71	1.56	1.44	2.54	2.54
Stillwater County	A11	RM 425.89	181895	67% - 1.5yr	700.3	1117.98	1115.1	2.12	2.11	28.22	27.95	181.39	183.57	1.82	1.81	2.88	2.88
Stillwater County	A11	RM 425.72	181043.5	67% - 1.5yr	700.3	1117.5	1113.77	2.33	2.33	32.91	32.73	146.74	152.1	2.05	2.04	3.73	3.73
Stillwater County	A11	RM 425.58	180310.5	67% - 1.5yr	700.3	1117.17	1112.19	2.45	2.43	32.2	29.45	97.16	109.52	2.94	2.69	4.98	4.98
Stillwater County	A11	RM 425.46	179669.9	67% - 1.5yr	700.3	1116.87	1112.78	2.65	2.64	38.15	36.23	93.05	140.42	2.84	2.7	4.09	4.09
Stillwater County	A11	RM 425.34	179022.4	67% - 1.5yr	700.3	1116.78	1113.64	1.92	1.79	21.17	17.18	133.31	202.98	2.38	1.93	3.14	3.14
Stillwater County	A11	RM 425.24	178485.9	67% - 1.5yr	700.3	1116.44	1114.19	2.45	2.12	39.06	28.42	126.14	313.26	1.68	1.22	2.3	2.3
Stillwater County	A11	RM 425.18	178205.8	67% - 1.5yr	700.3	1116.16	1113.81	2.62	2.37	44.73	36.34	122.91	221.55	1.64	1.33	2.85	2.85
Stillwater County	A11	RM 425.11	177826.8	67% - 1.5yr	700.3	1115.88	1113.29	2.17	2.35	30.89	33.2	118.34	168.85	1.63	1.76	3.59	3.59
Stillwater County	A11	RM 425.04	177454.7	67% - 1.5yr	700.3	1115.74	1112.86	2.18	1.98	28.65	23.85	103.79	204.61	2.07	1.73	3.26	3.26
Stillwater County	A11	RM 424.97	177098.9	67% - 1.5yr	700.3	1115.44	1113.11	2.54	2.31	40.63	33.74	106.54	199.62	1.82	1.52	2.43	2.43
Stillwater County	A11	RM 424.89	176675.9	67% - 1.5yr	700.3	1115.26	1112.27	1.87	1.89	22.9	18.87	136.47	273.55	1.63	1.35	4.46	4.46
Stillwater County	A11	RM 424.81	176242.8	67% - 1.5yr	700.3	1114.87	1112.25	2.42	2.35	39.38	35.47	110.65	234.32	1.51	1.36	2.86	2.86
Stillwater County	A11	RM 424.70	175789.3	67% - 1.5yr	700.3	1114.72	1111.91	1.87	1.72	21.98	18.67	160.87	298.1	1.82	1.55	2.81	2.81
Stillwater County	A11	RM 424.58	175159.4	67% - 1.5yr	700.3	1114.47	1111.34	1.98	1.8	24.74	19.62	127.36	268.28	1.83	1.45	3.13	3.13
Stillwater County	A11	RM 424.51	174723.2	67% - 1.5yr	700.3	1114.25	1110.93	1.96	1.82	26.2	20.2	137.3	347.26	1.43	1.11	3.32	3.32
Stillwater County	A11	RM 424.38	174051	67% - 1.5yr	700.3	1113.9	1110.98	2.12	1.94	28.8	23.18	119.13	261.23	1.71	1.38	2.92	2.92
Stillwater County	A11	RM 424.30	173607.9	67% - 1.5yr	700.3	1113.6	1110.75	2.22	2.24	33.76	25.23	128.65	326.02	1.43	1.07	2.85	2.85
Stillwater County	A11	RM 424.21	173153.7	67% - 1.5yr	700.3	1113.34	1110.74	1.88	1.88	25.09	22.22	186.79	372.89	1.27	1.12	2.6	2.6
Stillwater County	A11	RM 424.13	172713.5	67% - 1.5yr	700.3	1113.05	1110.43	2.1	1.72	28.67	17.94	80.05	387.99	1.68	1.05	2.7	2.7
Stillwater County	A11	RM 424.05	172309.3	67% - 1.5yr	700.3	1112.8	1110.18	1.89	1.77	25.01	14.39	132.44	521.16	1.32	0.76	2.62	2.62
Stillwater County	A11	RM 423.98	171892.1	67% - 1.5yr	700.3	1112.7	1110.15	1.53	1.35	15.39	9.7	239.91	520.58	1.58	1	2.55	2.55

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	67% - 1.5yr	700.3	1112.36	1109.55	2.32	2.07	35.12	19.61	153.42	369.61	1.65	0.92	2.81	2.81
Stillwater County	A11	RM 423.84	171147.5	67% - 1.5yr	700.3	1112.16	1109.08	2.38	2.04	34.26	19.07	120.77	363.76	2.06	1.15	3.08	3.08
Stillwater County	A11	RM 423.74	170686.3	67% - 1.5yr	700.3	1112.07	1108.91	1.8	1.42	19.62	10.49	123.52	492.85	2.09	1.12	3.16	3.16
Stillwater County	A11	RM 423.69	170436.3	67% - 1.5yr	700.3	1111.81	1108.49	2.54	2.1	36.44	21.47	73.95	264.39	2.56	1.5	3.32	3.32
Stillwater County	A11	RM 423.57	169782.9	67% - 1.5yr	700.3	1111.61	1108.2	2.01	1.92	23.85	20.13	152.27	196.8	2.2	1.86	3.4	3.4
Stillwater County	A11	RM 423.47	169296.5	67% - 1.5yr	700.3	1111.29	1107.67	2.48	2.48	35.18	34.9	115.24	141.87	2.45	2.43	3.62	3.62
Stillwater County	A11	RM 423.39	168860.7	67% - 1.5yr	700.3	1111.04	1107.7	2.66	2.66	39.69	37.56	101.29	145.46	2.6	2.46	3.34	3.34
Stillwater County	A11	RM 423.27	168178	67% - 1.5yr	700.3	1110.68	1107.36	2.64	2.64	40.97	40.97	116.76	116.76	2.27	2.27	3.32	3.32
Stillwater County	A12	RM 423.17	167687.7	67% - 1.5yr	700.3	1110.49	1107.46	2.29	2.28	31.99	27.92	150.88	173.83	2.02	1.77	3.03	3.03
Stillwater County	A12	RM 423.08	167239.6	67% - 1.5yr	700.3	1110.22	1107.21	2.48	2.29	37.38	26.4	125.17	215.9	2.01	1.42	3.01	3.01
Stillwater County	A12	RM 423.01	166844.5	67% - 1.5yr	700.3	1109.9	1106.84	2.67	2.51	45.68	36.66	122.8	199.1	1.75	1.4	3.06	3.06
Stillwater County	A12	RM 422.91	166338	67% - 1.5yr	700.3	1109.62	1106.54	2.39	2.24	34.3	29.33	109.73	170.96	2.13	1.83	3.08	3.08
Stillwater County	A12	RM 422.80	165757.6	67% - 1.5yr	700.3	1109.35	1106.83	2.26	2.15	31.77	27.54	142.99	228.94	1.9	1.65	2.52	2.52
Stillwater County	A12	RM 422.70	165279.2	67% - 1.5yr	700.3	1109.19	1105.79	1.89	1.71	23.19	20.59	197.69	298.85	1.68	1.5	3.4	3.4
Stillwater County	A12	RM 422.63	164895.4	67% - 1.5yr	700.3	1108.98	1105.43	2.03	1.79	27.17	21.72	175.63	323.8	1.58	1.27	3.55	3.55
Stillwater County	A12	RM 422.53	164348.1	67% - 1.5yr	700.3	1108.57	1104.76	2.37	2.2	36.13	29.92	152.52	224.31	1.72	1.42	3.81	3.81
Stillwater County	A12	RM 422.39	163609.2	67% - 1.5yr	700.3	1108.14	1104.22	2.4	2.37	33.88	30.53	127.76	151.3	2.27	2.04	3.92	3.92
Stillwater County	A12	RM 422.30	163120.4	67% - 1.5yr	700.3	1107.86	1104.18	2.58	2.58	37.87	35.35	107.69	132.35	2.51	2.35	3.68	3.68
Stillwater County	A12	RM 422.19	162534.3	67% - 1.5yr	700.3	1107.69	1103.72	2.26	2.26	28.37	28.37	113.84	113.84	2.72	2.72	3.97	3.97
Stillwater County	A12	RM 422.08	161934.5	67% - 1.5yr	700.3	1107.36	1104.18	2.61	2.61	38.33	38.33	105.57	105.57	2.55	2.55	3.18	3.18
Stillwater County	A12	RM 421.98	161402.1	67% - 1.5yr	700.3	1107.25	1103.86	2.05	2.05	24.11	24.01	142	142.61	2.41	2.4	3.39	3.39
Stillwater County	A12	RM 421.90	161037.7	67% - 1.5yr	700.3	1107.13	1103.14	2.04	2.04	25.05	25.05	165.01	165.01	2.08	2.08	3.99	3.99
Stillwater County	A12	RM 421.86	160799.3	67% - 1.5yr	700.3	1107	1102.54	2.12	2.12	28.91	28.91	190.66	190.66	1.73	1.73	4.46	4.46
Stillwater County	A12	RM 421.81	160535.9	67% - 1.5yr	700.3	1106.83	1102.38	2.19	2.19	32.04	32.04	210.36	210.36	1.52	1.52	4.45	4.45
Stillwater County	A12	RM 421.77	160279.4	67% - 1.5yr	700.3	1106.58	1102.41	2.45	2.41	40.25	38.17	179.77	202.42	1.51	1.44	4.17	4.17
Stillwater County	A12	RM 421.69	159875.5	67% - 1.5yr	700.3	1106.48	1102.56	1.98	1.91	21.77	18.86	128.47	157.52	2.68	2.32	3.92	3.92
Stillwater County	A12	RM 421.60	159411.4	67% - 1.5yr	700.3	1106.21	1103.26	2.44	2.29	35.89	31.67	130.23	166.13	2.08	1.84	2.95	2.95
Stillwater County	A12	RM 421.53	159038	67% - 1.5yr	700.3	1105.96	1102.81	2.6	2.47	41.28	35.89	124.57	161.54	2.01	1.75	3.14	3.14
Stillwater County	A12	RM 421.45	158590.5	67% - 1.5yr	700.3	1105.78	1103.26	2.19	2	29.91	22.77	149.69	243.64	1.89	1.44	2.52	2.52
Stillwater County	A12	RM 421.32	157930.2	67% - 1.5yr	700.3	1105.42	1102.82	2.22	2.09	33.3	27.82	90.21	266.28	1.5	1.26	2.6	2.6
Stillwater County	A12	RM 421.24	157513	67% - 1.5yr	700.3	1105.05	1103.05	2.16	2.24	35.01	34.92	120.48	289.28	1.08	1.08	2.57	2.57
Stillwater County	A12	RM 421.13	156951.5	67% - 1.5yr	700.3	1104.75	1100.38	2.16	1.88	31.06	23.39	105.15	316.98	1.57	1.18	4.37	4.37
Stillwater County	A12	RM 421.05	156536.5	67% - 1.5yr	700.3	1104.56	1102.11	2.01	1.75	27.01	21.04	86.89	338.33	1.52	1.18	2.45	2.45
Stillwater County	A12	RM 420.94	155960.1	67% - 1.5yr	700.3	1104.34	1101.68	1.62	1.57	16.08	14.69	213.29	251.49	2	1.83	2.66	2.66
Stillwater County	A12	RM 420.85	155473.6	67% - 1.5yr	700.3	1103.71	1100.98	3.16	2.89	63.4	42.57	122.39	207.82	1.78	1.19	2.73	2.73
Stillwater County	A12	RM 420.75	154957.2	67% - 1.5yr	700.3	1103.48	1099.95	2.36	2.2	34.26	25.38	144.17	218.3	1.96	1.46	3.53	3.53
Stillwater County	A12	RM 420.66	154483	67% - 1.5yr	700.3	1103.31	1099.89	2.08	1.9	25.76	16.15	154.91	274.09	2.14	1.34	3.42	3.42
Stillwater County	A12	RM 420.58	154037.5	67% - 1.5yr	700.3	1103	1100.13	2.52	2.22	37.22	22.4	118.04	229.29	2.29	1.38	2.87	2.87
Stillwater County	A12	RM 420.52	153691.5	67% - 1.5yr	700.3	1102.84	1099.7	2.48	2.13	36.28	24.91	122.67	216.5	2.21	1.52	3.14	3.14
Stillwater County	A12	RM 420.46	153398	67% - 1.5yr	700.3	1102.67	1099.36	2.5	2.23	37.13	27.04	125.9	199.8	2.16	1.58	3.31	3.31
Stillwater County	A12	RM 420.38	152998.3	67% - 1.5yr	700.3	1102.51	1099.19	2.22	1.98	30.73	24.18	161.67	241.07	1.86	1.46	3.32	3.32
Stillwater County	A12	RM 420.30	152566.4	67% - 1.5yr	700.3	1102.35	1099.43	1.87	1.63	23.13	19.3	225.48	331.17	1.55	1.3	2.92	2.92
Stillwater County	A12	RM 420.21	152106.2	67% - 1.5yr	700.3	1102.04	1098.69	2.2	1.88	31.03	26.12	171.63	257.63	1.71	1.44	3.35	3.35
Stillwater County	A12	RM 420.15	151738.6	67% - 1.5yr	700.3	1101.91	1098.38	1.97	1.96	18.62	17.95	200.27	208.93	1.77	1.71	3.53	3.53
Stillwater County	A12	RM 420.08	151399.3	67% - 1.5yr	700.3	1101.79	1097.97	1.93	1.93	23.32	22.66	192.23	198.24	1.88	1.83	3.82	3.82
Stillwater County	A12	RM 420.03	151123.2	67% - 1.5yr	700.3	1101.66	1097.96	2.09	2.04	25.21	19.52	140.79	186.66	2.38	1.84	3.7	3.7
Stillwater County	A12	RM 419.96	150779.4	67% - 1.5yr	700.3	1101.41	1098.1	2.52	2.52	37.02	34.74	118.97	136.84	2.33	2.19	3.31	3.31
Stillwater County	A12	RM 419.91	150511.3	67% - 1.5yr	700.3	1101.28	1097.83	2.55	2.53	36	31.43	100.7	131.63	2.72	2.38	3.45	3.45
Stillwater County	A12	RM 419.85	150192.4	67% - 1.5yr	700.3	1101.03	1097.85	2.85	2.78	46.88	40.93	103.66	121.86	2.36	2.07	3.18	3.18
Stillwater County	A12	RM 419.78	149807.6	67% - 1.5yr	700.3	1100.93	1097.13	2.43	2.25	32.45	18.54	102.56	195.73	2.78	1.59	3.8	3.8
Stillwater County	A12	RM 419.70	149371.5	67% - 1.5yr	700.3	1100.75	1097.73	2.39	2.32	33.85	30.25	131.24	152.43	2.22	1.98	3.02	3.02
Stillwater County	A12	RM 419.63	149047.6	67% - 1.5yr	700.3	1100.65	1097.92	2.1	2.06	26.92	21.94	164.82	206.4	2.02	1.65	2.73	2.73
Stillwater County	A12	RM 419.53	148495.9	67% - 1.5yr	700.3	1100.23	1097.22	2.69	2.38	46.3	30.8	122.93	254.97	1.73	1.15	3.01	3.01
Stillwater County	A12	RM 419.46	148117.9	67% - 1.5yr	700.3	1099.97	1097.34	2.37	2.19	36.44	25.03	121.96	276.93	1.68	1.16	2.89	2.89
Stillwater County	A12	RM 419.38	147728.5	67% - 1.5yr	700.3	1099.66	1097.36	2.4	2.13	38.79	27.66	123.71	305.92	1.51	1.08	2.3	2.3
Stillwater County	A12	RM 419.31	147342.9	67% - 1.5yr	700.3	1099.58	1096.9	1.61	1.5	16.17	14.09	110.57	280.46	1.9	1.66	2.68	2.68
Stillwater County	A12	RM 419.19	146720.3	67% - 1.5yr	700.3	1099.48	1096.42	1.24	1.38	9.32	10.77	101.91	217.7	2.04	2.37	5.08	5.08
Stillwater County	A12	RM 419.10	146243.9	67% - 1.5yr	700.3	1099.41	1095.09	1.49	1.46	11.88	10.98	156.1	180.07	2.99	2.77	4.32	4.32
Stillwater County	A12	RM 419.03	145859.8	67% - 1.5yr	700.3	1099.2	1095.88	2.13	2.12	27.6	26.87	163.87	176.2	2.01	1.96	3.32	3.32
Stillwater County	A12	RM 418.95	145435.3	67% - 1.5yr	700.3	1098.99	1095.15	2.14	2.13	29.85	27.75	200.48	222.5	1.63	1.52	3.84	3.84

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	67% - 1.5yr	700.3	1098.63	1094.92	2.23	2.2	32.66	27.97	197.66	239.24	1.59	1.36	3.7	3.7
Stillwater County	A12	RM 418.57	143452.8	67% - 1.5yr	700.3	1097.67	1095.1	2.41	2.27	37.42	30	130.14	226.46	1.7	1.37	2.57	2.57
Stillwater County	A12	RM 418.49	143008.1	67% - 1.5yr	700.3	1097.53	1094.94	1.84	1.55	21.39	13.48	169.26	407.33	1.78	1.12	2.59	2.59
Stillwater County	A12	RM 418.25	141740.8	67% - 1.5yr	700.3	1096.82	1093.71	1.93	1.57	25.88	18.97	175.3	479.22	1.35	0.99	3.11	3.11
Stillwater County	A12	RM 418.08	140894.8	67% - 1.5yr	700.3	1096.4	1092.65	2.04	1.76	26.35	18.29	135.13	317.75	1.81	1.25	3.75	3.75
Stillwater County	A12	RM 417.89	139893.7	67% - 1.5yr	700.3	1095.72	1092.75	2.61	2.48	41.2	30.21	127.25	198.41	2.06	1.51	2.97	2.97
Stillwater County	A12	RM 417.79	139376.4	67% - 1.5yr	700.3	1095.35	1091.64	2.72	2.46	46.67	31.02	126.18	234.03	1.83	1.21	3.71	3.71
Stillwater County	A12	RM 417.65	138633.4	67% - 1.5yr	700.3	1094.84	1091.57	2.8	2.6	44.94	31.99	90.81	158.99	2.41	1.72	3.27	3.27
Stillwater County	A12	RM 417.54	138089.5	67% - 1.5yr	700.3	1094.53	1091.15	2.85	2.54	45.47	30.03	83.88	161.26	2.59	1.71	3.38	3.38
Stillwater County	A12	RM 417.40	137321.3	67% - 1.5yr	809.2	1094.16	1091.71	2.52	2.19	39.46	27.24	117.12	284.09	1.89	1.3	2.45	2.45
Stillwater County	A12	RM 417.30	136818.2	67% - 1.5yr	809.2	1093.81	1091.51	2.36	2.24	36.87	32.13	197.55	274.96	1.58	1.37	2.3	2.3
Stillwater County	A13	RM 417.09	135706	67% - 1.5yr	809.2	1093.15	1090.35	2.59	2.59	43.17	41.83	181.76	224.38	1.72	1.66	2.8	2.8
Stillwater County	A13	RM 417.01	135303.6	67% - 1.5yr	809.2	1092.98	1090	2.08	2.08	28.34	28.34	240.85	274.87	1.62	1.62	2.98	2.98
Stillwater County	A13	RM 416.85	134457.6	67% - 1.5yr	809.2	1092.47	1089.62	2.05	1.94	25.01	20.12	182.49	241	2.15	1.73	2.85	2.85
Stillwater County	A13	RM 416.73	133843.5	67% - 1.5yr	809.2	1092.09	1089.6	2.35	2.3	35.94	30.97	209	266.21	1.64	1.42	2.49	2.49
Stillwater County	A13	RM 416.63	133286.1	67% - 1.5yr	809.2	1091.76	1089.3	2.32	2.11	34.97	28.1	119.4	282.92	1.68	1.35	2.46	2.46
Stillwater County	A13	RM 416.52	132717.9	67% - 1.5yr	809.2	1091.45	1089.09	2.19	1.8	32.9	25.27	103.7	414.88	1.4	1.08	2.36	2.36
Stillwater County	A13	RM 416.43	132250.3	67% - 1.5yr	809.2	1091.04	1088.74	2.12	2	32.07	26.55	111.24	389.82	1.25	1.04	2.3	2.3
Stillwater County	A13	RM 416.33	131707.5	67% - 1.5yr	809.2	1090.72	1088.02	2	1.87	28.05	23.3	126.92	396.23	1.31	1.09	2.7	2.7
Stillwater County	A13	RM 416.22	131140.9	67% - 1.5yr	809.2	1090.26	1087.56	2.66	2.21	43.86	29.22	83.07	285.04	1.93	1.28	2.7	2.7
Stillwater County	A13	RM 416.13	130626.3	67% - 1.5yr	809.2	1089.95	1086.65	2.43	2.12	36.25	25.77	139.35	272	1.97	1.41	3.29	3.29
Stillwater County	A13	RM 416.04	130164.9	67% - 1.5yr	809.2	1089.46	1085.03	3	2.51	54.98	29.91	118.1	294.79	2.01	1.09	4.43	4.43
Stillwater County	A13	RM 415.96	129734.7	67% - 1.5yr	809.2	1089.24	1085.48	2.58	2.01	39.85	24.48	119.85	306.89	2.14	1.31	3.76	3.76
Stillwater County	A13	RM 415.90	129423.4	67% - 1.5yr	809.2	1089.07	1085.77	2.17	1.83	30.66	24.41	151.5	331.7	1.67	1.34	3.3	3.3
Stillwater County	A13	RM 415.83	129071.6	67% - 1.5yr	809.2	1088.89	1085.89	2	1.77	25.41	20.76	150.64	316.15	1.77	1.45	3.56	3.56
Stillwater County	A13	RM 415.74	128639.5	67% - 1.5yr	809.2	1088.62	1084.72	2.34	2.08	31.59	22.16	141.24	233.02	2.38	1.67	3.9	3.9
Stillwater County	A13	RM 415.72	128521.2	67% - 1.5yr	809.2	1088.49	1084.8	2.64	2.34	40.07	28.66	124.6	202.74	2.39	1.71	3.69	3.69
Stillwater County	A13	RM 415.65	128106.2	67% - 1.5yr	809.2	1088.15	1083.7	2.94	2.68	49.56	34.69	112.77	179.77	2.4	1.68	4.45	4.45
Stillwater County	A13	RM 415.59	127828.3	67% - 1.5yr	809.2	1087.9	1083.61	3.13	3.09	54.51	49.75	95.46	106.12	2.7	2.46	4.29	4.29
Stillwater County	A13	RM 415.55	127620.5	67% - 1.5yr	809.2	1087.98	1082.84	2.01	2.01	21.27	21.27	128.56	128.56	3.14	3.14	5.13	5.13
Stillwater County	A13	RM 415.50	127340.9	67% - 1.5yr	809.2	1087.84	1083.14	2.21	2.21	27.65	27.65	144.05	144.05	2.54	2.54	4.7	4.7
Stillwater County	A13	RM 415.45	127087.4	67% - 1.5yr	809.2	1087.58	1083.18	2.7	2.7	41.33	41.33	118.61	118.61	2.53	2.53	4.4	4.4
Stillwater County	A13	RM 415.34	126499.1	67% - 1.5yr	809.2	1087.26	1084.45	2.66	2.51	43.56	38.21	125.8	235.06	1.94	1.71	2.81	2.81
Stillwater County	A13	RM 415.25	126040.7	67% - 1.5yr	809.2	1086.98	1082.42	2.64	2.48	41.14	30.97	116.69	194.36	2.23	1.68	4.56	4.56
Stillwater County	A13	RM 415.18	125663.1	67% - 1.5yr	809.2	1086.82	1083.81	2.41	2.3	34.41	29.86	131.47	184.44	2.2	1.91	3.01	3.01
Stillwater County	A13	RM 414.97	124585.1	67% - 1.5yr	809.2	1086	1082.64	2.88	2.62	49.06	37.7	107.79	183.51	2.19	1.69	3.36	3.36
Stillwater County	A13	RM 414.88	124110.1	67% - 1.5yr	809.2	1085.65	1083.02	2.87	2.63	50.65	41.54	119.58	189.58	1.97	1.62	2.63	2.63
Stillwater County	A13	RM 414.71	123222	67% - 1.5yr	809.2	1085.19	1080.88	2.33	2.33	32.25	32.25	158.64	158.64	2.19	2.19	4.31	4.31
Stillwater County	A13	RM 414.57	122473.6	67% - 1.5yr	809.2	1084.76	1081.21	2.56	2.55	38.59	36.57	141.68	150.26	2.23	2.11	3.55	3.55
Stillwater County	A13	RM 414.43	121696.6	67% - 1.5yr	809.2	1084.35	1080.49	2.44	2.37	36.47	27.74	165.43	225.46	1.99	1.52	3.86	3.86
Stillwater County	A13	RM 414.21	120527.7	67% - 1.5yr	809.2	1083.54	1080.81	2.4	2.33	39.93	38.18	214.2	265.15	1.36	1.31	2.73	2.73
Stillwater County	A13	RM 413.90	118914.7	67% - 1.5yr	809.2	1082.29	1079.28	2.61	2.57	40.99	36.07	148.28	231.44	2.08	1.83	3.01	3.01
Stillwater County	A13	RM 413.65	117570.4	67% - 1.5yr	809.2	1081.45	1078.15	2.68	2.63	42.42	33.25	136.33	420.48	2.21	1.73	3.3	3.3
Stillwater County	A14	RM 413.44	116446.3	67% - 1.5yr	809.2	1080.9	1076.4	2.48	2.39	35.43	23.06	137.69	375.31	2.37	1.54	4.5	4.5
Stillwater County	A14	RM 413.27	115556.7	67% - 1.5yr	809.2	1080.34	1077.8	2.65	2.24	45.18	26.81	164.46	512.84	1.72	1.02	2.54	2.54
Stillwater County	A14	RM 413.11	114697.4	67% - 1.5yr	809.2	1079.84	1077.12	2.22	2.12	31.56	26.68	192.95	430.59	1.75	1.48	2.72	2.72
Stillwater County	A14	RM 412.99	114113.2	67% - 1.5yr	809.2	1079.34	1076.41	2.62	2.46	44.85	36.41	178.27	373.04	1.63	1.32	2.93	2.93
Stillwater County	A14	RM 412.88	113533.6	67% - 1.5yr	809.2	1078.99	1076.03	2.46	2.19	35.88	22.07	139.14	362.59	2.17	1.34	2.96	2.96
Stillwater County	A14	RM 412.73	112742.6	67% - 1.5yr	809.2	1078.49	1074.72	2.55	2.16	41.22	22.85	167.57	432.59	1.77	0.98	3.77	3.77
Stillwater County	A14	RM 412.59	112005.5	67% - 1.5yr	809.2	1077.84	1074.72	2.66	2.3	47.03	30.25	189.46	376.57	1.56	1	3.12	3.12
Stillwater County	A14	RM 412.49	111442.5	67% - 1.5yr	809.2	1077.47	1074.54	2.33	2.11	35.81	27.72	188.81	319.79	1.58	1.23	2.93	2.93
Stillwater County	A14	RM 412.31	110522	67% - 1.5yr	809.2	1077.1	1072.96	2.09	2.04	24.3	20.94	144.47	182.79	2.67	2.3	4.14	4.14
Stillwater County	A14	RM 412.19	109955.3	67% - 1.5yr	809.2	1076.48	1071.57	3.29	3.29	62.24	62.24	99.86	99.86	2.46	2.46	4.91	4.91
Stillwater County	A14	RM 412.05	109175.2	67% - 1.5yr	809.2	1076.07	1072.08	2.84	2.81	45.21	40.23	109.45	124.55	2.6	2.31	3.99	3.99
Stillwater County	A14	RM 411.92	108510.2	67% - 1.5yr	809.2	1075.78	1072.88	2.52	2.52	36.95	36.95	137.55	137.55	2.33	2.33	2.9	2.9
Stillwater County	A14	RM 411.81	107950.5	67% - 1.5yr	809.2	1075.38	1070.62	2.83	2.83	46.88	46.88	125.68	125.68	2.28	2.28	4.76	4.76
Stillwater County	A14	RM 411.71	107391.9	67% - 1.5yr	809.2	1075.19	1070.83	2.43	2.43	32.15	32.13	116.45	119.38	2.86	2.86	4.36	4.36
Stillwater County	A14	RM 411.58	106721	67% - 1.5yr	809.2	1074.93	1071.65	2.38	2.38	33.51	33.51	153.34	158.75	2.22	2.22	3.28	3.28
Stillwater County	A14	RM 411.47	106133.7	67% - 1.5yr	809.2	1074.52	1071.87	2.67	2.63	43.64	35.81	150.95	187.3	2	1.64	2.65	2.65
Stillwater County	A14	RM 411.32	105338.4	67% - 1.5yr	809.2	1073.92	1069.29	2.76	2.63	47.32	41.48	152.46	184.95	1.9	1.67	4.63	4.63

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	67% - 1.5yr	809.2	1073.27	1067.92	2.84	2.61	45.15	30.29	107.19	176.98	2.61	1.75	5.35	5.35
Stillwater County	A14	RM 411.00	103638.4	67% - 1.5yr	809.2	1072.92	1069.6	2.55	2.13	39.56	26.91	137.3	273.61	2.04	1.39	3.32	3.32
Stillwater County	A14	RM 410.85	102835.8	67% - 1.5yr	809.2	1072.43	1069.92	2.2	2.1	33.74	26.74	83.55	361.61	1.35	1.07	2.51	2.51
Stillwater County	A14	RM 410.74	102286.3	67% - 1.5yr	809.2	1072.01	1068.99	2.42	1.95	37.26	25.44	68.88	344.89	1.78	1.2	3.02	3.02
Stillwater County	A14	RM 410.63	101668.3	67% - 1.5yr	809.2	1071.56	1068.37	2.65	2	44.06	23.49	82.64	408.68	1.87	0.99	3.19	3.19
Stillwater County	A14	RM 410.52	101115.7	67% - 1.5yr	809.2	1071.24	1067.81	2.29	2.02	31.77	20.35	120.96	304.53	2.06	1.32	3.43	3.43
Stillwater County	A14	RM 410.42	100568.4	67% - 1.5yr	809.2	1070.74	1066.66	2.52	2.59	43.89	45.58	144.38	215.37	1.4	1.45	4.08	4.08
Stillwater County	A14	RM 410.33	100099.2	67% - 1.5yr	809.2	1070.5	1066.6	2.16	2.08	29.09	25.42	198.78	264.37	1.87	1.63	3.9	3.9
Stillwater County	A14	RM 410.22	99589.26	67% - 1.5yr	809.2	1070.11	1066.94	2.58	2.47	40.17	29.27	147.77	218.05	2.1	1.53	3.17	3.17
Stillwater County	A14	RM 410.12	99057.4	67% - 1.5yr	809.2	1069.75	1065.8	2.6	2.31	43.51	35.89	171.44	267.02	1.71	1.41	3.95	3.95
Stillwater County	A14	RM 410.03	98630.66	67% - 1.5yr	809.2	1069.38	1065.33	2.59	2.37	45.54	41.72	202.28	264.54	1.45	1.33	4.05	4.05
Stillwater County	A14	RM 409.99	98385.41	67% - 1.5yr	809.2	1069.11	1065.38	2.72	2.5	47.94	39.04	168.84	254.36	1.67	1.36	3.73	3.73
Stillwater County	A14	RM 409.94	98072.09	67% - 1.5yr	809.2	1068.89	1065.51	2.49	2.29	40.5	31.04	189.84	328.19	1.66	1.27	3.38	3.38
Stillwater County	A14	RM 409.87	97717.24	67% - 1.5yr	809.2	1068.88	1065.52	1.74	1.4	16.97	11.91	159.8	362.42	2.6	1.82	3.36	3.36
Stillwater County	A14	RM 409.76	97130.84	67% - 1.5yr	809.2	1068.59	1065.37	2.3	1.96	30.94	22.38	143.33	261.76	2.27	1.64	3.23	3.23
Stillwater County	A14	RM 409.60	96278.7	67% - 1.5yr	809.2	1067.67	1064.65	3.32	2.98	73.51	53.21	152.29	243.89	1.54	1.11	3.02	3.02
Stillwater County	A14	RM 409.43	95381.62	67% - 1.5yr	809.2	1067.15	1063.55	2.45	1.97	35.24	16.08	124.55	620.21	2.28	1.04	3.6	3.6
Stillwater County	A14	RM 409.24	94405.29	67% - 1.5yr	809.2	1066.37	1064.55	2.4	2.21	42.61	32.01	118.9	468.13	1.12	0.84	2.16	2.16
Stillwater County	A14	RM 409.15	93912.54	67% - 1.5yr	809.2	1065.92	1064.27	1.62	2.07	19.63	18.52	139.01	374.74	1.1	1.04	3.85	3.85
Stillwater County	A14	RM 408.99	93008.08	67% - 1.5yr	809.2	1065.21	1063.94	1.98	2.6	30.93	37.88	138.32	275.17	0.92	1.13	2.67	2.67
Stillwater County	A14	RM 408.84	92229.27	67% - 1.5yr	809.2	1064.86	1062.1	2.07	2.07	29.61	25.93	140.57	319.43	1.39	1.22	2.76	2.76
Stillwater County	A14	RM 408.63	91072.98	67% - 1.5yr	809.2	1063.76	1061.85	2.32	2.43	42.35	43.63	203.59	360.12	0.93	0.95	2.18	2.18
Stillwater County	A14	RM 408.41	89726.16	67% - 1.5yr	809.2	1063.14	1059.04	2.16	1.92	25.52	19.51	100.93	199.54	2.77	2.11	4.1	4.1
Stillwater County	A14	RM 408.26	88966.66	67% - 1.5yr	809.2	1062.88	1058.13	2.23	2.14	27.06	20.93	125.38	170.64	2.87	2.21	4.75	4.75
Stillwater County	A14	RM 408.10	88091.52	67% - 1.5yr	809.2	1062.44	1057.78	2.72	2.62	39.25	35.12	97.16	113.2	3.04	2.73	4.66	4.66
Stillwater County	A14	RM 408.02	87720.33	67% - 1.5yr	809.2	1062.36	1058.61	2.38	2.32	31.09	28.14	120.49	137.46	2.8	2.54	3.75	3.75
Stillwater County	A14	RM 407.83	86708.48	67% - 1.5yr	809.2	1061.79	1058.65	2.56	2.48	43.65	39.5	144.01	234.71	1.53	1.39	3.14	3.14
Stillwater County	A14	RM 407.71	86078.99	67% - 1.5yr	809.2	1061.46	1057.9	2.41	2.25	34.3	26.4	114.7	207.67	2.24	1.73	3.56	3.56
Stillwater County	A14	RM 407.61	85508.29	67% - 1.5yr	809.2	1061.22	1058.36	2.09	2.07	29.08	22.98	169.86	320.93	1.54	1.22	2.86	2.86
Stillwater County	A14	RM 407.50	84909.3	67% - 1.5yr	809.2	1060.9	1058.55	2.21	2.02	33.92	27.6	177.35	364.5	1.35	1.1	2.84	2.84
Stillwater County	A14	RM 407.41	84433.26	67% - 1.5yr	809.2	1060.6	1057.85	2.43	1.97	38.25	24.49	117.32	385.32	1.66	1.07	2.94	2.94
Stillwater County	A14	RM 407.36	84180.66	67% - 1.5yr	809.2	1060.33	1057.59	2.81	2.18	49.02	29.23	97.29	326.88	1.91	1.13	2.74	2.74
Stillwater County	A14	RM 407.29	83775.88	67% - 1.5yr	809.2	1060	1057.08	2.14	2.31	29.68	32.17	121.42	191.26	1.68	1.83	3.18	3.18
Stillwater County	A14	RM 407.13	82954.84	67% - 1.5yr	809.2	1059.48	1056.27	2.22	2.21	34.45	34.07	274.05	277.71	1.33	1.32	3.21	3.21
Stillwater County	A14	RM 406.98	82156.72	67% - 1.5yr	809.2	1059.19	1056.37	1.82	1.8	19.6	18.99	195.93	206.82	2.24	2.18	2.82	2.82
Stillwater County	A14	RM 406.86	81532.92	67% - 1.5yr	809.2	1058.66	1055.69	2.91	2.85	48.29	45.32	112.22	122.5	2.46	2.31	2.97	2.97
Stillwater County	A14	RM 406.77	81053.3	67% - 1.5yr	809.2	1058.44	1053.84	2.7	2.57	40.33	31.07	109.54	151.95	2.69	2.07	4.6	4.6
Stillwater County	A14	RM 406.64	80405.13	67% - 1.5yr	809.2	1058.25	1054.89	2.3	2.2	29.76	23.32	135.74	183.26	2.56	2.01	3.35	3.35
Stillwater County	A14	RM 406.48	79524.79	67% - 1.5yr	809.2	1057.65	1054.8	2.71	2.5	47.28	37.83	185.32	264.89	1.53	1.22	2.85	2.85
Stillwater County	A14	RM 406.25	78337.26	67% - 1.5yr	809.2	1056.85	1054.03	2.52	2.36	37.88	29.06	138	205.3	2.18	1.67	2.82	2.82
Stillwater County	A14	RM 406.08	77409.13	67% - 1.5yr	809.2	1056.22	1052.87	2.82	2.61	47.18	38.01	118.51	173.95	2.21	1.78	3.35	3.35
Stillwater County	A14	RM 405.93	76624.91	67% - 1.5yr	809.2	1055.77	1052.64	2.71	2.63	41.5	35.69	114.34	138.42	2.58	2.22	3.13	3.13
Stillwater County	A14	RM 405.81	75994.44	67% - 1.5yr	809.2	1055.53	1051.93	2.44	2.36	33.92	31.28	133.55	151.72	2.44	2.26	3.6	3.6
Stillwater County	A15	RM 405.77	75764.36	67% - 1.5yr	809.2	1055.32	1052.63	2.75	2.59	46.31	40.82	140.94	176.85	2	1.76	2.69	2.69
Stillwater County	A15	RM 405.67	75185.26	67% - 1.5yr	809.2	1054.94	1052.06	2.68	2.26	43.8	31.82	82.19	245.96	2	1.46	2.88	2.88
Stillwater County	A15	RM 405.61	74883.52	67% - 1.5yr	809.2	1054.73	1051.81	2.86	2.29	47.55	27.05	69.55	280.38	2.34	1.34	2.92	2.92
Stillwater County	A15	RM 405.52	74415.92	67% - 1.5yr	809.2	1054.12	1051.43	3.68	2.85	79.9	40.21	52.24	269.76	2.23	1.11	2.7	2.7
Stillwater County	A15	RM 405.45	74031.34	67% - 1.5yr	809.2	1054	1051.1	2.93	1.86	48.72	25.93	57.4	362.54	2.49	1.32	2.91	2.91
Stillwater County	A15	RM 405.34	73437.72	67% - 1.5yr	809.2	1053.56	1050.67	2.75	2.49	43.96	28.97	116.05	223.63	2.31	1.52	2.89	2.89
Stillwater County	A15	RM 405.18	72616.33	67% - 1.5yr	809.2	1052.95	1049.45	3.1	2.83	52.96	29.49	91.79	204.77	2.74	1.52	3.5	3.5
Stillwater County	A15	RM 405.09	72171.48	67% - 1.5yr	809.2	1052.82	1049.09	2.52	2.3	35.96	25.76	115.98	194.05	2.54	1.82	3.74	3.74
Stillwater County	A15	RM 405.02	71774.52	67% - 1.5yr	809.2	1052.51	1048.59	3	2.72	49.39	36.32	88.03	146.82	2.77	2.02	3.92	3.92
Stillwater County	A15	RM 404.97	71526.86	67% - 1.5yr	809.2	1052.46	1048.35	2.58	2.34	37.08	25.41	105.78	199.55	2.63	1.8	4.11	4.11
Stillwater County	A15	RM 404.90	71150.58	67% - 1.5yr	809.2	1052.26	1048.99	2.68	2.42	40.3	29.8	103.03	181.49	2.57	1.9	3.27	3.27
Stillwater County	A15	RM 404.84	70801.47	67% - 1.5yr	809.2	1052.18	1049.19	2.31	2.17	30.44	25.28	116.85	190.33	2.49	2.07	2.99	2.99
Stillwater County	A15	RM 404.77	70415.17	67% - 1.5yr	809.2	1051.91	1048.51	2.8	2.53	43.11	32.31	84.6	178.43	2.77	2.06	3.4	3.4
Stillwater County	A15	RM 404.59	69477.61	67% - 1.5yr	809.2	1051.45	1047.56	2.81	2.81	44.01	44.01	106.99	106.99	2.69	2.69	3.89	3.89
Stillwater County	A15	RM 404.54	69214.33	67% - 1.5yr	809.2	1051.35	1047.65	2.63	2.62	39.09	35.65	120.51	132.92	2.55	2.33	3.7	3.7
Stillwater County	A15	RM 404.35	68254.38	67% - 1.5yr	809.2	1050.84	1048.18	2.41	2.48	36.83	37.34	136.69	176.74	1.81	1.85	3.07	3.07
Stillwater County	A15	RM 404.10	66934.17	67% - 1.5yr	809.2	1050.09	1047.61	2.4	2.27	35.09	31.83	120.31	200.75	2.02	1.83	2.48	2.48

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	67% - 1.5yr	809.2	1049.65	1045.27	2.54	2.27	37.98	27.86	108.35	228.5	2.23	1.63	4.38	4.38
Stillwater County	A15	RM 403.85	65604.39	67% - 1.5yr	809.2	1049.33	1044.79	2.88	2.45	44.85	29.24	76.72	216.33	2.95	1.91	4.54	4.54
Stillwater County	A15	RM 403.75	65058.55	67% - 1.5yr	809.2	1048.9	1046.13	3.1	2.85	57.46	43.49	100.56	174.75	2.15	1.62	2.77	2.77
Stillwater County	A15	RM 403.69	64721.22	67% - 1.5yr	809.2	1048.8	1046.02	2.33	2.19	33.88	30.27	131.8	242.93	1.88	1.69	2.78	2.78
Stillwater County	A15	RM 403.62	64341.29	67% - 1.5yr	809.2	1048.45	1045.75	2.76	2.58	51.09	45.22	87.77	240.79	1.51	1.34	2.7	2.7
Stillwater County	A15	RM 403.55	63997.04	67% - 1.5yr	809.2	1048.09	1045.95	2.69	2.55	50.58	45.67	115.47	271.92	1.35	1.22	2.14	2.14
Stillwater County	A15	RM 403.38	62985.06	67% - 1.5yr	809.2	1047.59	1043.43	2.1	1.96	26.73	22.29	168.39	240.39	2.06	1.72	4.16	4.16
Stillwater County	A15	RM 403.24	62260	67% - 1.5yr	809.2	1047.34	1043.43	2.03	2.03	23.4	23.4	160.09	160.09	2.49	2.49	3.91	3.91
Stillwater County	A15	RM 403.15	61770.95	67% - 1.5yr	809.2	1047	1042.51	2.62	2.61	39.19	37.2	126.57	133.74	2.44	2.32	4.49	4.49
Stillwater County	A15	RM 403.05	61263.44	67% - 1.5yr	809.2	1046.78	1043.23	2.47	2.47	35.4	35.27	139.2	139.69	2.35	2.34	3.55	3.55
Stillwater County	A15	RM 402.97	60777.65	67% - 1.5yr	809.2	1046.6	1043.89	2.24	2.24	30.23	28.48	170.96	181.94	2.11	1.99	2.71	2.71
Stillwater County	A15	RM 402.83	60113.9	67% - 1.5yr	809.2	1046.06	1043.49	2.6	2.6	47.08	47.08	228.15	307.17	1.36	1.36	2.57	2.57
Stillwater County	A15	RM 402.68	59309.8	67% - 1.5yr	809.2	1045.42	1042.55	2.29	2.23	34.93	31.83	227.41	362.45	1.54	1.41	2.87	2.87
Stillwater County	A15	RM 402.53	58529.61	67% - 1.5yr	809.2	1045.19	1040.51	2.06	1.78	22.1	10.05	116.21	399.97	3.29	1.49	4.68	4.68
Stillwater County	A15	RM 402.37	57665.93	67% - 1.5yr	809.2	1044.66	1041.09	2.74	2.46	52.12	37.53	207.69	376.44	1.38	0.99	3.57	3.57
Stillwater County	A15	RM 402.24	56987.42	67% - 1.5yr	809.2	1044.42	1040.75	1.75	1.54	19.69	13.8	250.53	514.84	1.73	1.21	3.67	3.67
Stillwater County	A15	RM 402.07	56034.67	67% - 1.5yr	809.2	1043.88	1041.1	2.27	1.91	33.79	25.86	202.47	340.83	1.62	1.24	2.78	2.78
Stillwater County	A15	RM 401.87	54972.92	67% - 1.5yr	809.2	1042.85	1040.1	3.01	2.72	56.07	31.2	136.42	276.77	1.94	1.08	2.75	2.75
Stillwater County	A15	RM 401.69	54002.29	67% - 1.5yr	809.2	1042.57	1038.43	1.91	1.85	21.6	18.74	183.28	225.91	2.23	1.94	4.14	4.14
Stillwater County	A15	RM 401.55	53267.48	67% - 1.5yr	809.2	1042.1	1036.56	2.83	2.69	39.78	28.78	73.77	110.38	3.78	2.72	5.54	5.54
Stillwater County	A15	RM 401.41	52506.25	67% - 1.5yr	809.2	1041.9	1037.91	2.4	2.18	32.68	23.06	129.7	241.43	2.49	1.75	3.99	3.99
Stillwater County	A15	RM 401.31	51997.63	67% - 1.5yr	809.2	1041.5	1038.08	2.88	2.68	48.28	35.98	116.88	192.48	2.31	1.72	3.42	3.42
Stillwater County	A15	RM 401.17	51259.17	67% - 1.5yr	809.2	1041.06	1037.38	2.67	2.63	42.92	40	143.46	156.77	2.11	1.96	3.68	3.68
Stillwater County	A15	RM 401.03	50507.04	67% - 1.5yr	809.2	1040.73	1036.56	2.45	2.35	33.3	27.47	123	156.54	2.67	2.2	4.17	4.17
Stillwater County	A15	RM 400.90	49826.69	67% - 1.5yr	809.2	1040.29	1036.25	2.76	2.67	45.79	38.55	138.83	171.06	2.1	1.77	4.04	4.04
Stillwater County	A15	RM 400.74	49002.09	67% - 1.5yr	809.2	1039.78	1037.21	2.75	2.21	45.01	29.31	109.75	259.52	2.18	1.41	2.57	2.57
Stillwater County	A15	RM 400.61	48243.95	67% - 1.5yr	809.2	1039.31	1035.99	2.49	2.17	39.59	28.66	143.7	294.33	1.75	1.26	3.32	3.32
Stillwater County	A15	RM 400.50	47710.55	67% - 1.5yr	809.2	1038.98	1035.67	2.27	2.22	32.79	31.31	148.43	213.75	1.78	1.7	3.31	3.31
Stillwater County	A15	RM 400.42	47243.72	67% - 1.5yr	809.2	1038.67	1034.87	2.5	2.44	36.43	31.26	103.65	166.13	2.33	2	3.8	3.8
Stillwater County	A15	RM 400.34	46832.6	67% - 1.5yr	809.2	1038.53	1034.91	2.38	2.22	31.39	27.5	92.87	152.94	2.71	2.38	3.62	3.62
Stillwater County	A15	RM 400.25	46335.82	67% - 1.5yr	809.2	1038.39	1035.01	2.21	2.06	27.52	23.29	104.2	177.36	2.62	2.22	3.38	3.38
Stillwater County	A15	RM 400.18	45999.89	67% - 1.5yr	809.2	1038.24	1034.98	2.34	2.21	31.47	27.74	111.09	172.02	2.41	2.13	3.26	3.26
Stillwater County	A15	RM 400.13	45714.33	67% - 1.5yr	809.2	1038.12	1035.2	2.37	2.12	32.24	22.18	120.1	229.97	2.42	1.66	2.92	2.92
Stillwater County	A15	RM 400.11	45623.77	67% - 1.5yr	809.2	1038.01	1035.11	2.56	2.28	39.28	27.72	127.08	233.51	2.16	1.52	2.9	2.9
Stillwater County	A15	RM 400.09	45529.19	67% - 1.5yr	809.2	1037.82	1035.05	3	2.69	56.32	44.58	125.24	204.23	1.86	1.47	2.77	2.77
Stillwater County	A15	RM 400.03	45177.97	67% - 1.5yr	809.2	1037.47	1034.82	3.02	2.73	58.73	48.25	133.28	210.43	1.71	1.41	2.65	2.65
Stillwater County	A15	RM 399.95	44761.86	67% - 1.5yr	809.2	1037.33	1033.69	2.28	2.28	29.88	29.88	148.66	148.66	2.39	2.39	3.64	3.64
Stillwater County	A16	RM 399.85	44225.61	67% - 1.5yr	809.2	1036.97	1033.63	2.65	2.65	41.92	41.92	143.11	143.11	2.14	2.14	3.34	3.34
Stillwater County	A16	RM 399.74	43664.16	67% - 1.5yr	809.2	1036.74	1033.48	2.29	2.29	31.35	31.35	162.54	162.54	2.17	2.17	3.26	3.26
Stillwater County	A16	RM 399.62	43026.17	67% - 1.5yr	809.2	1036.29	1033.67	2.5	2.5	42.11	42.11	214.97	214.97	1.51	1.51	2.62	2.62
Stillwater County	A16	RM 399.50	42404.94	67% - 1.5yr	809.2	1036	1031.89	2.17	2.17	27.67	27.67	163.55	163.55	2.28	2.28	4.11	4.11
Stillwater County	A16	RM 399.39	41801.43	67% - 1.5yr	809.2	1035.7	1031.8	2.36	2.34	32.62	31.08	152.15	160.9	2.26	2.15	3.9	3.9
Stillwater County	A16	RM 399.30	41294.57	67% - 1.5yr	809.2	1035.36	1031.14	2.64	2.58	41.75	35.18	142.03	173.9	2.14	1.81	4.22	4.22
Stillwater County	A16	RM 399.19	40736.83	67% - 1.5yr	809.2	1034.93	1031.46	2.84	2.8	48.12	42.74	132.4	151.18	2.15	1.91	3.47	3.47
Stillwater County	A16	RM 399.09	40202.15	67% - 1.5yr	809.2	1034.74	1031.09	2.4	2.24	32.36	23.01	127.37	197.22	2.58	1.84	3.65	3.65
Stillwater County	A16	RM 399.00	39710.39	67% - 1.5yr	809.2	1034.59	1031.41	2.22	1.86	28.98	19.73	142.85	287.93	2.22	1.51	3.18	3.18
Stillwater County	A16	RM 398.91	39231.58	67% - 1.5yr	809.2	1034.28	1031.73	2.38	2.13	38.51	29.95	177.58	333.72	1.46	1.14	2.55	2.55
Stillwater County	A16	RM 398.80	38666.26	67% - 1.5yr	809.2	1033.82	1031.55	2.41	2.05	38.89	27.91	185.29	362.62	1.51	1.09	2.27	2.27
Stillwater County	A16	RM 398.73	38275.64	67% - 1.5yr	809.2	1033.52	1030.78	2.38	2.12	33.78	25.5	185.74	324.52	1.56	1.17	2.73	2.73
Stillwater County	A16	RM 398.62	37715.08	67% - 1.5yr	809.2	1033.2	1030.19	2.17	2	28.82	21.3	170.84	326.13	1.68	1.24	3	3
Stillwater County	A16	RM 398.51	37115.9	67% - 1.5yr	809.2	1032.75	1030.68	2.34	2.24	37.52	32.61	211.85	290.31	1.43	1.25	2.09	2.09
Stillwater County	A16	RM 398.40	36522.49	67% - 1.5yr	809.2	1032.51	1028.27	1.95	1.81	21.99	17.08	170.86	307.1	1.88	1.46	4.24	4.24
Stillwater County	A16	RM 398.29	35952.65	67% - 1.5yr	809.2	1032.13	1027.62	2.31	2.3	35.12	33.75	221.11	230.41	1.59	1.53	4.51	4.51
Stillwater County	A16	RM 398.17	35320.39	67% - 1.5yr	809.2	1031.94	1028.88	1.75	1.74	18.6	17.91	228.69	238.01	2.02	1.95	3.06	3.06
Stillwater County	A16	RM 398.04	34597.07	67% - 1.5yr	809.2	1031.6	1027.24	1.99	1.99	29.99	29.35	252.97	262.91	1.61	1.57	4.36	4.36
Stillwater County	A16	RM 397.95	34133.39	67% - 1.5yr	809.2	1031.2	1027.15	2.39	2.38	37.59	36.69	207.46	214.15	1.63	1.59	4.05	4.05
Stillwater County	A16	RM 397.81	33366.95	67% - 1.5yr	809.2	1030.8	1027.05	2.03	2.01	26.73	25.88	235.44	248.35	1.69	1.63	3.75	3.75
Stillwater County	A16	RM 397.68	32754.86	67% - 1.5yr	809.2	1030.57	1026.97	1.96	1.94	22.86	21.17	188.67	220.45	2.18	2.02	3.6	3.6
Stillwater County	A16	RM 397.56	32104.4	67% - 1.5yr	809.2	1030.15	1026.76	2.59	2.51	38.86	36.52	132.37	169.84	2.34	2.21	3.39	3.39
Stillwater County	A16	RM 397.40	31237.31	67% - 1.5yr	809.2	1029.72	1026.27	2.38	2.25	34.83	29.59	169.94	405.93	1.97	1.68	3.45	3.45

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

67% - 1.5yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	67% - 1.5yr	809.2	1029.08	1025.84	2.17	1.98	31.19	21.09	230.74	656.83	1.58	1.07	3.24	3.24
Stillwater County	A16	RM 396.97	29050.44	67% - 1.5yr	809.2	1028.5	1025.61	1.99	1.82	26.88	19.43	271.03	577.34	1.47	1.06	2.88	2.88
Stillwater County	A16	RM 396.71	27639.86	67% - 1.5yr	809.2	1027.75	1022.48	2.5	2.5	33.26	33.26	105.18	331.11	3.08	3.08	5.27	5.27
Stillwater County	A16	RM 396.62	27103.31	67% - 1.5yr	809.2	1027.56	1022.36	2.53	2.53	33.6	32.71	99.4	238.87	3.22	3.13	5.2	5.2
Stillwater County	A16	RM 396.52	26616.35	67% - 1.5yr	809.2	1027.32	1023.41	2.74	2.74	40.6	40.56	101.93	307.47	2.9	2.9	3.91	3.91
Stillwater County	A16	RM 396.29	25423.1	67% - 1.5yr	809.2	1026.87	1023.53	2.19	1.96	29.99	22.06	180.12	348.61	1.89	1.39	3.34	3.34
Stillwater County	A16	RM 396.14	24635.78	67% - 1.5yr	809.2	1026.39	1022.46	2.53	2.19	37.97	24.72	128.18	315.56	2.21	1.44	3.93	3.93
Stillwater County	A16	RM 396.03	24026.24	67% - 1.5yr	809.2	1026.13	1024.1	2.21	1.92	31.33	21.33	179.01	444.04	1.73	1.18	2.03	2.03
Stillwater County	A16	RM 395.89	23301.08	67% - 1.5yr	809.2	1025.59	1022.79	2.56	2.08	43.03	26.46	130.66	448.4	1.62	1	2.8	2.8
Stillwater County	A16	RM 395.73	22420.29	67% - 1.5yr	809.2	1025.21	1022.66	1.32	1.26	12.05	9.69	181.11	640.15	1.41	1.13	2.55	2.55
Stillwater County	A16	RM 395.64	21923.33	67% - 1.5yr	809.2	1024.94	1022.13	1.82	1.65	21.98	13.45	142.84	621.6	1.57	0.96	3.12	3.12
Stillwater County	A16	RM 395.57	21526.11	67% - 1.5yr	809.2	1024.57	1021.61	2.44	1.98	35.89	15.55	76.39	663.02	2.08	0.9	2.96	2.96
Stillwater County	A16	RM 395.48	21053.74	67% - 1.5yr	809.2	1024.15	1021.89	2.39	2.21	40.21	30.12	108.14	484.09	1.29	0.97	2.26	2.26
Stillwater County	A16	RM 395.36	20532.68	67% - 1.5yr	809.2	1023.88	1021.53	1.88	1.8	23.41	17.87	130.07	482.36	1.56	1.19	2.35	2.35
Stillwater County	A16	RM 394.98	18666.37	67% - 1.5yr	809.2	1023.19	1020.31	2.58	2.17	41.06	24.92	91.5	312.7	1.96	1.19	2.88	2.88
Stillwater County	A16	RM 394.80	17678.79	67% - 1.5yr	809.2	1022.82	1019.23	2.34	2.15	34.24	24.58	105.05	279.61	1.88	1.35	3.59	3.59
Stillwater County	A16	RM 394.65	16921.48	67% - 1.5yr	809.2	1022.44	1019.93	2	1.92	26.42	24.38	145.68	294.41	1.58	1.46	3.43	3.43
Stillwater County	A16	RM 394.59	16622.61	67% - 1.5yr	809.2	1022.09	1019.92	2.23	2.16	33.37	28.87	118.39	286.6	1.52	1.31	2.52	2.52
Stillwater County	A16	RM 394.53	16295.21	67% - 1.5yr	809.2	1021.78	1019.83	2.22	2.08	35.48	30.08	135.26	373.58	1.24	1.05	2.77	2.77
Stillwater County	A16	RM 394.20	14503.23	67% - 1.5yr	809.2	1020.59	1016.38	2.37	2.07	34.68	22.8	143.84	305.65	1.94	1.28	4.21	4.21
Stillwater County	A16	RM 394.12	14088.57	67% - 1.5yr	809.2	1020.3	1016.74	2.53	2.25	39.15	27.16	140.09	261.21	1.99	1.38	3.56	3.56
Stillwater County	A16	RM 393.99	13393.6	67% - 1.5yr	809.2	1019.93	1017.11	2.32	1.86	34.31	21.22	109.5	396.05	1.77	1.1	2.82	2.82
Stillwater County	A16	RM 393.85	12650.05	67% - 1.5yr	809.2	1019.42	1016.49	2.08	2	30.75	24.36	173.46	407.38	1.25	0.99	2.93	2.93
Stillwater County	A16	RM 393.59	11240.84	67% - 1.5yr	809.2	1018.85	1015.45	1.55	1.42	15.7	11.25	261.2	490.76	1.62	1.16	3.4	3.4
Stillwater County	A16	RM 393.27	9813.245	67% - 1.5yr	809.2	1017.77	1013.32	3.06	2.72	59.73	40.05	136.73	252.76	1.75	1.18	4.45	4.45
Stillwater County	A16	RM 393.10	8870.543	67% - 1.5yr	809.2	1017.21	1013.34	1.97	1.86	27.08	22.69	266.95	386.82	1.34	1.12	3.87	3.87
Stillwater County	A16	RM 392.95	8114.595	67% - 1.5yr	809.2	1016.46	1014.13	2.46	2.39	43.16	39.88	247.72	289.49	1.27	1.17	2.33	2.33
Stillwater County	A16	RM 392.69	6912.838	67% - 1.5yr	809.2	1015.81	1012.43	1.79	1.62	21.2	17.49	187.52	416.84	1.59	1.31	3.38	3.38
Stillwater County	A16	RM 392.44	5710.825	67% - 1.5yr	809.2	1015.2	1011.68	2.23	1.98	30.16	19.68	132.22	548.57	2.04	1.33	3.52	3.52
Stillwater County	A17	RM 392.20	4388.056	67% - 1.5yr	809.2	1014.16	1010.8	2.85	2.64	51.67	41.42	157.78	216.58	1.76	1.42	3.36	3.36
Stillwater County	A17	RM 392.00	3345.174	67% - 1.5yr	809.2	1013.67	1009.53	2.19	1.89	28.82	20.14	159.21	289.5	2.11	1.48	4.14	4.14
Stillwater County	A17	RM 391.84	2491.214	67% - 1.5yr	809.2	1013.37	1010.51	1.82	1.73	21.66	16.24	151.16	385.63	1.62	1.22	2.96	2.96
Stillwater County	A17	RM 391.68	1656.536	67% - 1.5yr	809.2	1013.02	1010.5	1.62	1.58	19.35	15.87	254.86	552.53	1.13	0.93	2.52	2.52
Stillwater County	A17	RM 391.58	1120.168	67% - 1.5yr	809.2	1012.73	1009.55	1.78	1.62	21.92	15.99	304.57	500.16	1.36	1	3.18	3.18
Stillwater County	A17	RM 391.46	505.9	67% - 1.5yr	809.2	1012.45	1009.4	1.76	1.55	20.83	13.48	278.74	535.99	1.5	0.97	3.05	3.05

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	1.5-yr	809.2	1012.08	1008.74	1.94	1.63	23.3	13.34	205.63	458.2	1.89	1.08	3.34	3.34
Yellowstone County	A17	RM 391.14	149661.4	1.5-yr	809.2	1011.68	1007.82	2	1.48	29.74	14.53	202.1	599.64	1.86	0.91	3.86	3.86
Yellowstone County	A17	RM 390.83	149168.3	1.5-yr	809.2	1010.51	1007.89	2.33	2.13	42.05	35.15	244.23	387.84	1.28	1.07	2.61	2.61
Yellowstone County	A17	RM 390.51	148644.1	1.5-yr	809.2	1009.68	1006	1.5	1.46	20.54	15.13	198.16	370.24	2.03	1.49	3.68	3.68
Yellowstone County	A17	RM 390.34	148387.5	1.5-yr	809.2	1009.27	1005.26	2.09	1.88	38.83	22.48	150.93	353.08	2.11	1.22	4.01	4.01
Yellowstone County	A17	RM 390.13	148054.9	1.5-yr	809.2	1008.64	1005.54	2.33	2.1	39.03	21.83	139.45	318.24	2.16	1.21	3.1	3.1
Yellowstone County	A17	RM 389.96	147776.4	1.5-yr	809.2	1008.28	1004.81	1.91	1.71	24.23	18.25	169.88	341.31	1.84	1.39	3.47	3.47
Yellowstone County	A17	RM 389.76	147468.2	1.5-yr	809.2	1008.01	1004.52	1.34	1.29	16.78	11.11	296.43	472.15	2.01	1.33	3.49	3.49
Yellowstone County	A17	RM 389.55	147162.3	1.5-yr	809.2	1007.48	1003.2	1.86	1.8	44.2	36.77	259.9	327.15	1.65	1.37	4.28	4.28
Yellowstone County	A17	RM 389.31	146731.1	1.5-yr	809.2	1006.85	1003.49	1.66	1.62	18.31	16.44	253.06	288.83	1.92	1.73	3.36	3.36
Yellowstone County	A17	RM 389.08	146349	1.5-yr	809.2	1006.23	1001.61	1.8	1.65	45.62	30.76	266.75	457.5	1.6	1.07	4.62	4.62
Yellowstone County	A17	RM 388.92	146095.5	1.5-yr	809.2	1005.71	1002.49	1.84	1.71	22.81	16.76	264.52	400.75	1.61	1.18	3.22	3.22
Yellowstone County	A17	RM 388.79	145883.6	1.5-yr	809.2	1005.5	1002.14	1.81	1.51	19.74	11.08	162.18	497.31	2.6	1.45	3.36	3.36
Yellowstone County	A17	RM 388.61	145594.9	1.5-yr	809.2	1005.03	1000.48	2.44	2.04	40.31	28.87	132.57	263.58	2.29	1.63	4.55	4.55
Yellowstone County	A17	RM 388.58	145547	1.5-yr	809.2	1004.98	1000.28	2.19	1.86	39.54	27.07	142.95	356.09	2.38	1.62	4.7	4.7
Yellowstone County	A17	RM 388.36	145196.7	1.5-yr	809.2	1004.51	1001.21	2.06	1.72	27.89	15.96	155.38	371.41	2.26	1.3	3.3	3.3
Yellowstone County	A17	RM 388.22	144960.1	1.5-yr	809.2	1003.99	1000.23	2.64	2.16	46.1	19.36	133.67	482.15	1.86	0.78	3.76	3.76
Yellowstone County	A17	RM 388.09	144745.8	1.5-yr	809.2	1003.46	999.87	2.21	1.87	37.06	26.03	227.27	507.37	1.21	0.85	3.59	3.59
Yellowstone County	A17	RM 387.91	144452	1.5-yr	809.2	1002.72	999.77	1.4	1.63	19.43	24.02	318.85	417.21	0.96	1.19	2.95	2.95
Yellowstone County	A17	RM 387.79	144255.2	1.5-yr	809.2	1002.64	999.17	1.06	1.03	6.32	6.09	330.5	573.03	1.68	1.62	3.47	3.47
Yellowstone County	A17	RM 387.59	143932.9	1.5-yr	809.2	1002.35	998.1	1.18	1.18	35.09	35.09	734.44	791.98	0.93	0.93	4.25	4.25
Yellowstone County	A17	RM 387.36	143562.1	1.5-yr	809.2	1001.27	997.78	1.93	1.93	22.06	22.06	335.15	338.13	1.25	1.25	3.49	3.49
Yellowstone County	A17	RM 387.24	143353.9	1.5-yr	809.2	1000.97	997.71	1.72	1.72	18.28	18.28	350.29	350.29	1.35	1.35	3.26	3.26
Yellowstone County	A17	RM 387.04	143026.2	1.5-yr	809.2	1000.15	996.49	2.4	2.38	37.92	35.8	274.38	294.8	1.22	1.15	3.66	3.66
Yellowstone County	A17	RM 386.86	142750.4	1.5-yr	809.2	999.65	997.01	1.73	1.7	23.92	21.6	301.71	341.38	1.54	1.39	2.64	2.64
Yellowstone County	A17	RM 386.74	142538.5	1.5-yr	809.2	999.27	996.31	1.77	1.73	26.79	24.92	320.97	364.85	1.38	1.28	2.96	2.96
Yellowstone County	A17	RM 386.61	142318.4	1.5-yr	809.2	998.72	995.9	2.28	2.21	36.03	31.21	180.05	233.37	1.81	1.57	2.82	2.82
Yellowstone County	A17	RM 386.47	142095.8	1.5-yr	809.2	998.33	995.18	2.22	2.02	31.89	22.82	160.16	332.77	1.98	1.42	3.15	3.15
Yellowstone County	A17	RM 386.33	141875.1	1.5-yr	809.2	997.87	994.36	2.52	2.17	37.63	20.55	132.69	308.5	2.21	1.21	3.51	3.51
Yellowstone County	A17	RM 386.17	141622.7	1.5-yr	809.2	997.38	993.9	2.38	2.24	40.51	31.07	184.91	273.35	1.72	1.32	3.48	3.48
Yellowstone County	A17	RM 386.08	141479.6	1.5-yr	809.2	997.03	994.12	2.37	2.24	45.67	33.52	173.94	409.7	1.89	1.39	2.91	2.91
Yellowstone County	A17	RM 386.03	141389.2	1.5-yr	809.2	996.59	993.82	2.87	2.81	58.82	43.67	197.93	425.17	1.42	1.05	2.77	2.77
Yellowstone County	A17	RM 385.96	141289.2	1.5-yr	809.2	996.55	993.01	1.91	1.86	22.13	18.84	215.9	670.2	1.93	1.65	3.54	3.54
Yellowstone County	A17	RM 385.91	141204.9	1.5-yr	809.2	996.46	992.33	1.83	1.79	20.52	19.6	239.49	691.61	1.76	1.68	4.13	4.13
Yellowstone County	A17	RM 385.84	141096	1.5-yr	809.2	996.49	990.57	0.95	0.95	6.44	6.44	333.52	852.34	2.56	2.56	5.92	5.92
Yellowstone County	A17	RM 385.79	141006	1.5-yr	809.2	996.28	992.48	2	2	20.79	20.79	146.81	930.01	2.75	2.75	3.8	3.8
Yellowstone County	A18	RM 385.69	140846.5	1.5-yr	809.2	996.04	992.9	2.2	2.2	35.97	35.47	202.52	865.28	1.82	1.79	3.14	3.14
Yellowstone County	A18	RM 385.60	140705.5	1.5-yr	809.2	995.72	992.71	2.31	2.3	43.37	40.27	173.67	582.89	2.02	1.87	3.01	3.01
Yellowstone County	A18	RM 385.50	140538.8	1.5-yr	809.2	995.55	990.71	1.99	1.98	21.93	16.99	148.89	565.59	2.72	2.11	4.84	4.84
Yellowstone County	A18	RM 385.39	140367.1	1.5-yr	809.2	995.36	992.41	2.11	2.03	25.15	19.76	185.91	724.38	2.05	1.61	2.95	2.95
Yellowstone County	A18	RM 385.30	140231.3	1.5-yr	809.2	995.06	992.53	2.3	2.26	44.19	38.7	233.49	272.7	1.5	1.31	2.53	2.53
Yellowstone County	A18	RM 385.23	140108.3	1.5-yr	809.2	994.76	992.01	2.02	1.92	36.73	31.03	224.11	611.84	1.45	1.23	2.75	2.75
Yellowstone County	A18	RM 385.12	139921.2	1.5-yr	809.2	993.96	991.37	2.74	2.71	55.55	51.67	173.38	315.96	1.41	1.32	2.59	2.59
Yellowstone County	A18	RM 384.93	139688.7	1.5-yr	809.2	993.59	991.06	1.88	1.76	23.79	19.8	208.53	427.38	1.62	1.35	2.53	2.53
Yellowstone County	A18	RM 384.75	139352.1	1.5-yr	809.2	992.7	989.77	2.88	2.49	65.39	42.15	111.59	336.12	1.85	1.19	2.93	2.93
Yellowstone County	A18	RM 384.63	139146.9	1.5-yr	809.2	992.19	989.58	1.84	1.7	26.57	22.75	168.23	604.91	1.09	0.94	2.61	2.61
Yellowstone County	A18	RM 384.48	138904.5	1.5-yr	809.2	991.74	989.55	1.61	1.62	19.95	18.94	154.58	409.01	1.44	1.37	2.39	2.39
Yellowstone County	A18	RM 384.34	138682.4	1.5-yr	809.2	991.39	988.23	1.64	1.78	31.37	27.37	151.05	323.69	1.98	1.73	3.16	3.16
Yellowstone County	A18	RM 384.26	138551.1	1.5-yr	809.2	991.08	987.34	2.64	2.16	39.91	18.35	81.45	434.21	2.51	1.15	3.74	3.74
Yellowstone County	A18	RM 384.15	138370.3	1.5-yr	809.2	990.58	987.39	2.97	2.66	67.91	39.57	76.66	292.43	2.21	1.28	3.19	3.19
Yellowstone County	A18	RM 384.06	138235.3	1.5-yr	809.2	990.42	987.31	2.34	1.64	34.31	17.49	82.48	559.77	2.15	1.09	3.11	3.11
Yellowstone County	A18	RM 383.96	138072.3	1.5-yr	809.2	989.87	987.67	2.48	2.35	49.63	42.06	134.42	519.37	0.97	0.82	2.2	2.2
Yellowstone County	A18	RM 383.86	137914.6	1.5-yr	809.2	989.66	987.24	1.59	1.5	16.43	15.24	150.58	451.83	1.57	1.46	2.42	2.42
Yellowstone County	A18	RM 383.75	137749.9	1.5-yr	809.2	989.35	986.55	1.53	1.84	20.25	21.95	175.4	407.98	1.2	1.3	2.87	2.87
Yellowstone County	A18	RM 383.62	137544.5	1.5-yr	809.2	989.11	986.32	1.45	1.52	15.34	13.41	156.56	540.13	1.41	1.23	3.49	3.49
Yellowstone County	A18	RM 383.54	137415.7	1.5-yr	809.2	989.02	984.41	1.33	1.28	11.42	9.38	367.63	596.01	1.63	1.34	4.61	4.61
Yellowstone County	B1	RM 383.39	137175.7	1.5-yr	1077.7	988.63	984.98	2.09	2.09	25.17	25.04	265.2	266.52	1.94	1.93	3.65	3.65
Yellowstone County	B1	RM 383.31	137040.5	1.5-yr	1077.7	988.45	984.86	2.02	1.9	23.9	18.59	356.04	490.96	1.49	1.15	3.59	3.59
Yellowstone County	B1	RM 383.16	136817.2	1.5-yr	1077.7	988.16	984.9	1.86	1.65	14.91	11.89	445.5	648.24	1.27	1.01	3.26	3.26
Yellowstone County	B1	RM 382.88	136371.1	1.5-yr	1077.7	987.53	983.64	1.99	1.9	21.85	17.94	370.04	482.58	1.43	1.18	3.89	3.89
Yellowstone County	B1	RM 382.61	135921.1	1.5-yr	1077.7	986.95	982.68	2.1	1.97	26.23	20.23	192.33	272.52	2.6	2.01	4.27	4.27

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	1.5-yr	1077.7	986.55	981.56	2.58	2.13	36.39	20.56	126.26	289.25	3.1	1.75	4.99	4.99
Yellowstone County	B1	RM 382.28	135389.1	1.5-yr	1077.7	986.31	981.45	2.29	1.99	29.24	12.66	135.79	383.27	3.27	1.41	4.86	4.86
Yellowstone County	B1	RM 382.11	135122	1.5-yr	1077.7	985.88	980.52	2.7	2.6	43.82	33.28	130.01	178.92	3.05	2.32	5.36	5.36
Yellowstone County	B1	RM 381.93	134829.3	1.5-yr	1077.7	985.43	981.3	2.38	2.38	52.1	52.1	175.71	175.71	2.57	2.57	4.13	4.13
Yellowstone County	B1	RM 381.79	134602.8	1.5-yr	1077.7	984.93	981.63	2.64	2.64	42.49	42.49	163.24	163.24	2.5	2.5	3.29	3.29
Yellowstone County	B1	RM 381.69	134426.2	1.5-yr	1077.7	984.82	981.06	1.95	1.94	24.34	20.23	197.34	239.07	2.8	2.33	3.76	3.76
Yellowstone County	B1	RM 381.58	134232.5	1.5-yr	1077.7	984.52	981.02	2.2	2.18	33.4	30.18	266.54	298.68	1.83	1.65	3.5	3.5
Yellowstone County	B1	RM 381.47	134047.3	1.5-yr	1077.7	984.23	980.95	2.08	2.05	33.48	30.09	237.96	268.94	2.18	1.96	3.28	3.28
Yellowstone County	B1	RM 381.35	133871.9	1.5-yr	1077.7	983.94	980.79	2.07	2.05	33.59	31.72	248.17	265.98	2.09	1.97	3.15	3.15
Yellowstone County	B1	RM 381.22	133659.2	1.5-yr	1077.7	983.52	979.74	2.16	2.16	38.01	38.01	276.85	276.85	1.81	1.81	3.78	3.78
Yellowstone County	B1	RM 381.11	133491.4	1.5-yr	1077.7	983.18	979.61	2.22	2.15	41.29	36.68	188.68	246.67	2.28	2.03	3.57	3.57
Yellowstone County	B1	RM 381.00	133302.9	1.5-yr	1077.7	982.71	978.23	2.63	2.48	41.45	33.57	178.81	258.7	2.07	1.68	4.48	4.48
Yellowstone County	B1	RM 380.92	133180	1.5-yr	1077.7	982.56	976.97	2.36	2.06	35.7	20.01	146.58	326.97	2.86	1.6	5.59	5.59
Yellowstone County	B1	RM 380.81	132986.3	1.5-yr	1077.7	982.28	978.55	2.38	2.16	33.75	21.05	189.29	357.26	2.25	1.4	3.73	3.73
Yellowstone County	B1	RM 380.69	132800.2	1.5-yr	1077.7	982.07	978.53	2.02	1.75	23.86	15.07	260.46	515.6	1.9	1.2	3.54	3.54
Yellowstone County	B1	RM 380.57	132628.6	1.5-yr	1077.7	981.87	978.7	1.85	1.71	28.18	21.04	222.34	383.13	2.19	1.64	3.17	3.17
Yellowstone County	B1	RM 380.48	132470	1.5-yr	1077.7	981.66	978.24	1.95	1.76	27.81	16.32	196.06	426.7	2.44	1.43	3.42	3.42
Yellowstone County	B1	RM 380.34	132222.4	1.5-yr	1077.7	981.21	977.37	2.42	2.08	36.26	18.72	197.66	494.08	2.03	1.05	3.84	3.84
Yellowstone County	B1	RM 380.22	132032.4	1.5-yr	1077.7	980.94	977.02	2.31	1.87	31.15	12.78	171.33	585.01	2.4	0.98	3.92	3.92
Yellowstone County	B1	RM 380.11	131847.7	1.5-yr	1077.7	980.67	976.29	2.39	2	37.81	19.38	171.84	467.74	2.25	1.15	4.38	4.38
Yellowstone County	B1	RM 380.01	131671.4	1.5-yr	1077.7	980.39	976.21	2.38	1.91	37.8	16.91	160.7	519.41	2.43	1.09	4.18	4.18
Yellowstone County	B1	RM 379.92	131538.8	1.5-yr	1077.7	980.12	976.69	2.53	2.16	38.57	20.78	184.59	467.35	1.98	1.07	3.43	3.43
Yellowstone County	B1	RM 379.84	131406.9	1.5-yr	1077.7	980.05	975.94	1.58	1.39	16.6	11.43	392.16	768.2	1.6	1.1	4.11	4.11
Yellowstone County	B1	RM 379.75	131265.1	1.5-yr	1077.7	979.87	974.98	1.65	1.42	20.4	13.13	366.51	845.74	1.65	1.06	4.89	4.89
Yellowstone County	B1	RM 379.65	131104.3	1.5-yr	1077.7	979.72	975.6	1.51	1.14	15.19	8.55	377.46	1074.62	1.59	0.9	4.12	4.12
Yellowstone County	B1	RM 379.56	130964.3	1.5-yr	1077.7	979.6	975.94	1.41	1.18	13.39	7.26	313.07	923.58	1.82	0.99	3.66	3.66
Yellowstone County	B1	RM 379.46	130794	1.5-yr	1077.7	979.45	974.74	1.58	1.29	15.01	7.09	256.89	862.51	2.06	0.97	4.71	4.71
Yellowstone County	B1	RM 379.36	130642.3	1.5-yr	1077.7	979.34	975.71	1.55	1.2	19.59	7.98	242.59	834.35	2.64	1.07	3.63	3.63
Yellowstone County	B1	RM 379.27	130496.2	1.5-yr	1077.7	978.91	974.66	2.67	2.03	62.51	24.37	159.9	580.91	2.35	0.91	4.25	4.25
Yellowstone County	B1	RM 379.17	130345.7	1.5-yr	1077.7	978.56	973.93	2.7	2.32	44.4	17.62	149.21	472.99	2.62	1.04	4.63	4.63
Yellowstone County	B1	RM 379.04	130142	1.5-yr	1077.7	978.29	974.79	2.38	1.84	33.63	15.18	201.55	686.12	2.06	0.93	3.5	3.5
Yellowstone County	B1	RM 378.97	130026.7	1.5-yr	1077.7	978.07	974.64	2.39	1.97	35.2	19.06	226.53	529.82	1.9	1.03	3.43	3.43
Yellowstone County	B1	RM 378.86	129850.9	1.5-yr	1077.7	977.71	974.4	2.38	2.06	39.82	25.53	239.51	501.92	1.8	1.15	3.31	3.31
Yellowstone County	B1	RM 378.76	129682.3	1.5-yr	1077.7	977.36	974.17	2.3	2.1	34.16	18.45	261.78	566.21	1.77	0.95	3.19	3.19
Yellowstone County	B1	RM 378.67	129541.3	1.5-yr	1077.7	977.1	973.97	2.35	1.88	33.23	17.38	233.92	614.07	1.85	0.97	3.13	3.13
Yellowstone County	B1	RM 378.61	129443.1	1.5-yr	1077.7	976.86	973.83	2.53	1.92	48.31	24.37	196.26	655.19	1.75	0.88	3.03	3.03
Yellowstone County	B1	RM 378.52	129297.7	1.5-yr	1077.7	976.57	973.62	2.03	1.82	24.62	20.62	439.7	633.24	1.16	0.97	2.95	2.95
Yellowstone County	B1	RM 378.46	129200.8	1.5-yr	1077.7	976.45	973.48	1.61	1.53	18.99	16.51	497.13	608.22	1.33	1.16	2.97	2.97
Yellowstone County	B1	RM 378.40	129112.2	1.5-yr	1077.7	976.23	973.41	1.74	1.71	43.96	40.08	472.75	530.35	1.3	1.19	2.82	2.82
Yellowstone County	B1	RM 378.29	128929.4	1.5-yr	1077.7	976	972.93	1.28	1.25	13.23	11.82	540.28	620.02	1.56	1.39	3.07	3.07
Yellowstone County	B1	RM 378.13	128673.7	1.5-yr	1077.7	975.61	971.4	2.05	2.03	22.35	20.33	247.38	275.32	2.12	1.93	4.21	4.21
Yellowstone County	B1	RM 378.07	128569	1.5-yr	1077.7	975.54	970.46	1.9	1.8	18	12.93	215.86	320.2	2.61	1.87	5.08	5.08
Yellowstone County	B1	RM 377.96	128380.3	1.5-yr	1077.7	975.38	968.85	2.12	2.06	24.28	19.29	107.55	140.03	4.7	3.73	6.53	6.53
Yellowstone County	B1	RM 377.87	128244.4	1.5-yr	1077.7	975.22	970.56	2.26	2.16	41.01	35.18	223.55	302.94	2.1	1.81	4.66	4.66
Yellowstone County	B1	RM 377.79	128118	1.5-yr	1077.7	974.93	970.94	2.44	2.33	29.99	25.77	264.87	351.67	1.64	1.41	3.99	3.99
Yellowstone County	B1	RM 377.69	127964.3	1.5-yr	1077.7	974.74	969.86	2.08	1.94	25.57	18.93	267.34	460.08	1.89	1.4	4.88	4.88
Yellowstone County	B1	RM 377.61	127824.8	1.5-yr	1077.7	974.36	970.53	2.62	2.48	38.63	30.81	227.13	310.22	1.76	1.4	3.83	3.83
Yellowstone County	B1	RM 377.55	127735.1	1.5-yr	1077.7	974.27	970.41	2.18	2.06	26.45	21.31	264.11	356.04	1.83	1.48	3.86	3.86
Yellowstone County	B1	RM 377.48	127618.1	1.5-yr	1077.7	974.06	970.26	2.23	2.09	29.3	24.89	291.76	388.35	1.59	1.35	3.8	3.8
Yellowstone County	B1	RM 377.39	127466.6	1.5-yr	1077.7	973.7	969.73	2.46	2.32	35.69	27.79	258.38	360.75	1.65	1.29	3.97	3.97
Yellowstone County	B1	RM 377.34	127391.5	1.5-yr	1077.7	973.5	969.95	2.47	2.4	47.8	40.98	244.04	298.29	1.76	1.51	3.55	3.55
Yellowstone County	B1	RM 377.25	127241.9	1.5-yr	1077.7	973.34	970.26	1.77	1.72	19.77	17.23	361.66	429.43	1.67	1.46	3.08	3.08
Yellowstone County	B1	RM 377.16	127097.7	1.5-yr	1077.7	973.08	969.82	1.97	1.93	27.73	24.74	352.9	454.45	1.37	1.23	3.26	3.26
Yellowstone County	B1	RM 377.08	126969	1.5-yr	1077.7	973.03	969	1.36	1.31	11.06	9.43	394.51	506.46	1.9	1.62	4.03	4.03
Yellowstone County	B1	RM 377.04	126900.8	1.5-yr	1077.7	972.89	968.6	1.73	1.72	34.52	32	370.84	403.54	1.68	1.56	4.29	4.29
Yellowstone County	B1	RM 376.98	126797.5	1.5-yr	1077.7	972.66	969.02	2.03	2.01	19.74	18.95	346.78	364.17	1.53	1.47	3.64	3.64
Yellowstone County	B1	RM 376.92	126710.1	1.5-yr	1077.7	972.54	969.01	1.65	1.64	42.42	39.87	459.36	491.54	1.42	1.34	3.53	3.53
Yellowstone County	B1	RM 376.84	126584.2	1.5-yr	1077.7	972.36	967.73	1.35	1.36	17.62	16.15	415.68	525.61	1.64	1.51	4.63	4.63
Yellowstone County	B1	RM 376.75	126442.1	1.5-yr	1077.7	972.2	967.82	1.4	1.4	19.54	18.46	354.52	419.45	1.94	1.84	4.38	4.38
Yellowstone County	B1	RM 376.67	126309	1.5-yr	1077.7	972.01	967.23	1.69	1.67	26.81	24.61	252.82	304.83	2.31	2.12	4.78	4.78
Yellowstone County	B1	RM 376.58	126174.1	1.5-yr	1077.7	971.76	966.82	1.91	1.86	37.62	33.68	290.25	339.61	1.91	1.71	4.94	4.94

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	1.5-yr	1077.7	971.46	966.77	2.19	2.12	37.16	33.7	258.43	300.24	1.87	1.69	4.69	4.69
Yellowstone County	B1	RM 376.42	125918.5	1.5-yr	1077.7	971.29	967.68	1.95	1.95	23.61	23.61	253.15	253.15	2.18	2.18	3.61	3.61
Yellowstone County	B1	RM 376.35	125809.8	1.5-yr	1077.7	971.2	966.71	1.83	1.79	19.06	16.81	223.6	260.89	2.61	2.3	4.49	4.49
Yellowstone County	B1	RM 376.28	125697	1.5-yr	1077.7	970.92	966.28	2.49	2.38	37.28	28.47	200.01	278.28	2.13	1.63	4.64	4.64
Yellowstone County	B1	RM 376.20	125565.9	1.5-yr	1077.7	970.72	966.16	2.32	2.18	34.08	25.59	222.5	328.19	2.01	1.51	4.56	4.56
Yellowstone County	B1	RM 376.10	125404.8	1.5-yr	1077.7	970.48	966.61	2.13	1.85	29.08	19.34	245.32	501.02	1.75	1.16	3.87	3.87
Yellowstone County	B1	RM 376.00	125250.5	1.5-yr	1077.7	970.15	967.42	2.28	2	35.22	24.1	239.29	436.55	1.8	1.23	2.73	2.73
Yellowstone County	B1	RM 375.88	125055.1	1.5-yr	1077.7	969.88	966.01	2.06	1.59	28.96	14.47	180.34	580.94	2.33	1.16	3.87	3.87
Yellowstone County	B1	RM 375.78	124897.3	1.5-yr	1077.7	969.7	965.37	2	1.59	27.42	12.88	175.83	623.47	2.31	1.08	4.33	4.33
Yellowstone County	B1	RM 375.67	124708.2	1.5-yr	1077.7	969.48	965.8	2	1.73	27.48	19.45	220.53	452.11	1.94	1.38	3.68	3.68
Yellowstone County	B1	RM 375.58	124564.2	1.5-yr	1077.7	969.21	966.54	2.17	1.95	31.82	22.79	221.47	411.87	1.87	1.34	2.67	2.67
Yellowstone County	B1	RM 375.23	124013.6	1.5-yr	1077.7	968.48	965.23	2.16	1.85	27.57	14.19	190.89	463.35	2.44	1.26	3.25	3.25
Yellowstone County	B1	RM 375.10	123799.5	1.5-yr	1077.7	967.97	963.88	2.89	2.39	59.3	25.88	124.4	375.62	2.76	1.2	4.09	4.09
Yellowstone County	B1	RM 374.97	123580.4	1.5-yr	1077.7	967.66	963.97	2.36	1.93	46.38	20.12	128.69	482.86	2.69	1.16	3.69	3.69
Yellowstone County	B1	RM 374.83	123365.5	1.5-yr	1077.7	967.39	963.52	2.12	1.64	29.5	16.53	123.4	483.34	2.48	1.39	3.87	3.87
Yellowstone County	B1	RM 374.73	123195.7	1.5-yr	1077.7	967.28	963.36	1.61	1.34	15.23	8.75	141.81	655.35	2.43	1.4	3.92	3.92
Yellowstone County	B1	RM 374.61	123010.3	1.5-yr	1077.7	967.04	963.49	2.02	1.7	30.28	18.48	153.49	417.32	2.49	1.52	3.55	3.55
Yellowstone County	B1	RM 374.53	122875.3	1.5-yr	1116.6	966.84	963.14	2.15	1.89	30.58	21.29	182.57	368.54	2.3	1.6	3.7	3.7
Yellowstone County	B1	RM 374.44	122726.7	1.5-yr	1116.6	966.56	963.04	2.48	2.1	43.26	23.2	122.77	335.77	2.95	1.58	3.52	3.52
Yellowstone County	B1	RM 374.32	122535.1	1.5-yr	1116.6	966.33	962.82	2.02	1.87	33.87	24.11	186.16	404.95	2.07	1.47	3.51	3.51
Yellowstone County	B1	RM 374.22	122379	1.5-yr	1116.6	966.09	960.92	2.25	1.76	31.98	14.15	134.27	521.26	2.75	1.22	5.17	5.17
Yellowstone County	B1	RM 374.13	122231.1	1.5-yr	1116.6	965.86	960.11	2.54	1.93	36.79	16.57	119.39	480.86	2.67	1.2	5.75	5.75
Yellowstone County	B1	RM 373.97	121972.4	1.5-yr	1116.6	965.67	958.8	1.77	1.59	20.28	14.42	221.59	420.72	2.35	1.66	6.87	6.87
Yellowstone County	B1	RM 373.88	121829.3	1.5-yr	1116.6	965.45	962.21	2.07	1.88	32.48	20.35	189.42	408.76	2.32	1.45	3.24	3.24
Yellowstone County	B1	RM 373.79	121688.7	1.5-yr	1116.6	965.24	961.66	2.09	1.84	35.86	21.13	183.48	495.52	2.28	1.34	3.58	3.58
Yellowstone County	B1	RM 373.69	121523.5	1.5-yr	1116.6	964.95	961.11	2.14	1.93	32.29	21.76	195.39	436.22	2	1.35	3.84	3.84
Yellowstone County	B1	RM 373.56	121314.3	1.5-yr	1116.6	964.34	959.37	2.84	2.16	50.91	32.66	177.74	408.77	1.97	1.26	4.97	4.97
Yellowstone County	B1	RM 373.39	121015.9	1.5-yr	1116.6	963.76	958.78	2.49	2.01	38.46	26.59	178.98	355.45	2.26	1.56	4.98	4.98
Yellowstone County	B1	RM 373.26	120802.3	1.5-yr	1116.6	963.67	960.81	1.29	0.91	10.98	10.04	335.23	885.85	1.53	1.4	2.86	2.86
Yellowstone County	B1	RM 373.09	120539.5	1.5-yr	1116.6	963.35	959.94	1.79	1.33	22.67	20.5	291.05	653.53	1.46	1.32	3.41	3.41
Yellowstone County	B1	RM 372.99	120365.2	1.5-yr	1116.6	963.02	959.69	1.85	1.55	35.14	32.32	260.69	490.49	1.6	1.47	3.33	3.33
Yellowstone County	B1	RM 372.82	120107.7	1.5-yr	1116.6	962.59	959.03	1.75	1.36	21.47	20.09	333.85	654.99	1.34	1.26	3.56	3.56
Yellowstone County	B1	RM 372.72	119922.5	1.5-yr	1116.6	962.35	958.92	1.68	1.32	27.15	26.33	290.85	627.33	1.39	1.35	3.43	3.43
Yellowstone County	B1	RM 372.65	119797.7	1.5-yr	1116.6	962.27	957.32	1.23	0.86	11.46	10.99	279.73	881.64	1.54	1.47	4.95	4.95
Yellowstone County	B1	RM 372.58	119676.6	1.5-yr	1116.6	962.21	958.2	1.1	0.87	7.99	7.11	327.67	923.08	1.56	1.39	4.01	4.01
Yellowstone County	B1	RM 372.41	119395.9	1.5-yr	1116.6	962.09	958.82	1.21	0.92	8.99	7.76	378.93	901.93	1.56	1.35	3.27	3.27
Yellowstone County	B1	RM 372.32	119268.8	1.5-yr	1116.6	962.01	957.24	1.08	1.08	15.16	11.89	340.91	752.12	1.75	1.37	4.77	4.77
Yellowstone County	B1	RM 372.20	119079.1	1.5-yr	1116.6	961.75	956.93	1.51	1.26	33.95	25.12	317.11	700.57	1.71	1.26	4.82	4.82
Yellowstone County	B1	RM 372.08	118886.4	1.5-yr	1116.6	961.44	956.2	1.55	1.27	29.2	20.7	275.35	600.92	2.08	1.47	5.24	5.24
Yellowstone County	B1	RM 371.94	118669.8	1.5-yr	1116.6	961.03	957.58	1.58	1.66	28.73	28.21	350.35	431.66	1.59	1.56	3.45	3.45
Yellowstone County	B1	RM 371.83	118490.4	1.5-yr	1116.6	960.82	957.52	1.42	1.42	18.44	16.72	380.41	522.6	1.66	1.5	3.3	3.3
Yellowstone County	B1	RM 371.74	118350.7	1.5-yr	1116.6	960.57	957.48	1.81	1.69	24.12	20.39	378.14	514.83	1.52	1.29	3.09	3.09
Yellowstone County	B1	RM 371.62	118155.6	1.5-yr	1116.6	960.32	956.41	1.84	1.56	25.05	15.27	219.51	460.46	2.54	1.55	3.91	3.91
Yellowstone County	B1	RM 371.53	118001.4	1.5-yr	1116.6	960.03	955.99	2.23	2.04	32.44	21.56	231.55	396.97	2.07	1.38	4.04	4.04
Yellowstone County	B1	RM 371.43	117839.2	1.5-yr	1116.6	959.64	955.47	2.48	2.24	56.52	35.26	194.78	358.97	2.22	1.39	4.17	4.17
Yellowstone County	B1	RM 371.37	117745.1	1.5-yr	1116.6	959.49	955.72	2.32	2.17	25.13	19.39	264.44	374.34	1.78	1.38	3.77	3.77
Yellowstone County	B1	RM 371.32	117662.6	1.5-yr	1116.6	959.38	956.41	2.05	1.9	38	27.07	295.28	453.57	1.82	1.3	2.97	2.97
Yellowstone County	B1	RM 371.25	117560.3	1.5-yr	1116.6	959.2	955.99	1.94	1.83	27.12	22.83	368.35	471.96	1.54	1.29	3.21	3.21
Yellowstone County	B1	RM 371.21	117499	1.5-yr	1116.6	959.1	955.72	1.91	1.8	26.31	21.19	351.66	485	1.58	1.28	3.38	3.38
Yellowstone County	B1	RM 371.12	117353.9	1.5-yr	1116.6	958.91	955.54	1.79	1.69	20.81	15.94	330.35	559.54	1.85	1.42	3.37	3.37
Yellowstone County	B1	RM 371.04	117225.1	1.5-yr	1116.6	958.5	954.84	2.63	2.63	40.86	40.33	207.32	210.19	2.04	2.02	3.66	3.66
Yellowstone County	B1	RM 370.94	117054.9	1.5-yr	1116.6	958.46	955.57	1.6	1.38	18.43	14.52	238.04	688.88	2.16	1.71	2.89	2.89
Yellowstone County	B1	RM 370.85	116910.9	1.5-yr	1116.6	958.09	954.47	2.43	2.25	39.96	24.58	204.99	602.96	2.22	1.36	3.62	3.62
Yellowstone County	B1	RM 370.77	116793.6	1.5-yr	1116.6	957.7	953.84	2.84	2.65	49.9	35.15	209.07	563.61	1.86	1.31	3.86	3.86
Yellowstone County	B1	RM 370.72	116711.6	1.5-yr	1116.6	957.76	953.13	2	1.43	24.96	10.36	140.81	667.29	2.86	1.18	4.63	4.63
Yellowstone County	B1	RM 370.70	116669.2	1.5-yr	1116.6	957.67	953.05	2.21	1.46	25.7	10.13	156.42	766.34	2.54	1	4.62	4.62
Yellowstone County	B1	RM 370.63	116558.9	1.5-yr	1116.6	957.45	953.42	2.32	2.03	43.97	20.84	175.02	592.53	2.62	1.24	4.03	4.03
Yellowstone County	B1	RM 370.56	116440.6	1.5-yr	1116.6	957.35	953.34	2.11	1.84	21.87	10.61	168.95	444.09	3.05	1.48	4.01	4.01
Yellowstone County	B1	RM 370.44	116241.1	1.5-yr	1116.6	957.06	952.03	2.52	2.14	42	22.08	132.46	411.5	3.24	1.7	5.03	5.03
Yellowstone County	B1	RM 370.34	116071.6	1.5-yr	1116.6	956.87	949.79	2.49	2.3	38.32	21.07	111.37	399.59	3.95	2.16	7.08	7.08
Yellowstone County	B1	RM 370.24	115908.6	1.5-yr	1116.6	956.74	950.22	2.35	2.05	34.43	12.52	116.78	448.57	3.95	1.43	6.52	6.52

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	1.5-yr	1116.6	956.56	952.12	2.27	1.94	32.96	17.44	152.45	358.43	3.03	1.61	4.44	4.44
Yellowstone County	B1	RM 370.00	115535.2	1.5-yr	1116.6	956.32	952.2	2.23	2.02	39.8	30.05	212.54	349.68	2.09	1.58	4.12	4.12
Yellowstone County	B1	RM 369.89	115356.1	1.5-yr	1116.6	956.06	953.15	2.02	1.93	21.27	19.36	336.68	402.53	1.58	1.44	2.91	2.91
Yellowstone County	B1	RM 369.77	115164.3	1.5-yr	1116.6	955.81	952.34	1.85	1.81	21.02	19.15	387.37	436.53	1.55	1.41	3.47	3.47
Yellowstone County	B1	RM 369.64	114965.6	1.5-yr	1116.6	955.47	951.9	1.93	1.87	28.12	24.39	396.91	501.7	1.41	1.22	3.57	3.57
Yellowstone County	B1	RM 369.54	114789.5	1.5-yr	1116.6	955.12	952.38	1.96	1.86	26.17	23.03	389.07	728.45	1.41	1.24	2.74	2.74
Yellowstone County	B1	RM 369.45	114650.1	1.5-yr	1116.6	954.93	951	1.66	1.52	21.75	19.52	422.26	996.49	1.38	1.24	3.93	3.93
Yellowstone County	B1	RM 369.32	114431.1	1.5-yr	1116.6	954.63	951.1	1.59	1.4	20.14	13.13	371.08	1766.61	1.75	1.14	3.53	3.53
Yellowstone County	B1	RM 369.17	114210.5	1.5-yr	1116.6	954.31	949.85	1.98	1.77	34.12	19.47	180.27	1591.28	2.38	1.35	4.46	4.46
Yellowstone County	B1	RM 369.06	114022.4	1.5-yr	1116.6	953.83	949.89	2.71	2.4	42.78	20.03	132.94	1437.87	2.85	1.33	3.94	3.94
Yellowstone County	B1	RM 368.96	113871.2	1.5-yr	1116.6	953.72	949.68	2.21	1.91	31.06	19.11	165.48	1470.84	2.6	1.6	4.04	4.04
Yellowstone County	B1	RM 368.88	113745.9	1.5-yr	1116.6	953.55	948.77	2.13	1.95	29.94	19.08	213.2	1520.55	2.12	1.35	4.78	4.78
Yellowstone County	B1	RM 368.82	113641	1.5-yr	1116.6	953.29	948.47	2.35	2.22	45.8	34.95	234.2	1364.4	1.83	1.39	4.82	4.82
Yellowstone County	B1	RM 368.72	113477.3	1.5-yr	1116.6	953	948.45	1.92	1.79	33.81	25.01	290.67	1397.57	1.81	1.34	4.55	4.55
Yellowstone County	B1	RM 368.63	113328.9	1.5-yr	1116.6	952.75	947.82	1.95	1.79	28.65	20.4	270.26	1421.48	1.86	1.32	4.93	4.93
Yellowstone County	B1	RM 368.54	113195.6	1.5-yr	1116.6	952.53	947.51	2.01	1.84	28.04	19.8	264.15	1332.78	2.01	1.42	5.02	5.02
Yellowstone County	B1	RM 368.44	113035.8	1.5-yr	1116.6	951.93	947.4	2.86	2.7	81.67	60.83	202.02	524.35	1.9	1.41	4.53	4.53
Yellowstone County	B1	RM 368.35	112878.7	1.5-yr	1116.6	951.98	946.64	1.43	1.42	12.68	11.95	278.49	483.98	2.81	2.65	5.34	5.34
Yellowstone County	B1	RM 368.26	112737.6	1.5-yr	1116.6	951.68	946.23	2.23	2.21	63.49	48.88	186.18	492.26	2.69	2.06	5.45	5.45
Yellowstone County	B1	RM 368.18	112604.7	1.5-yr	1116.6	951.37	947.11	2.48	2.48	39.36	34.42	157.52	295.66	2.85	2.49	4.26	4.26
Yellowstone County	B2	RM 368.09	112456.7	1.5-yr	1116.6	951.16	947.7	2.5	2.38	42.42	37.22	149.8	203.06	2.88	2.53	3.46	3.46
Yellowstone County	B2	RM 368.00	112314.4	1.5-yr	1116.6	951.06	947.56	2.05	2.01	24.79	18.45	195.63	302.66	2.78	2.07	3.5	3.5
Yellowstone County	B2	RM 367.86	112104.7	1.5-yr	1116.6	950.72	946.1	2.48	2.47	37.58	33.73	165.46	191.99	2.72	2.44	4.62	4.62
Yellowstone County	B2	RM 367.79	111989.2	1.5-yr	1116.6	950.54	945.04	2.41	2.39	46.7	39.47	181.07	216.06	2.56	2.16	5.5	5.5
Yellowstone County	B2	RM 367.72	111876.5	1.5-yr	1116.6	950.4	945.45	2.35	2.24	32.5	22.73	149.5	255.43	3.14	2.2	4.95	4.95
Yellowstone County	B2	RM 367.64	111739.2	1.5-yr	1116.6	950.17	945.68	2.57	2.45	45.97	28.44	135.72	234.73	3.15	1.94	4.49	4.49
Yellowstone County	B2	RM 367.50	111519.9	1.5-yr	1116.6	949.87	945.21	2.56	2.46	41.85	28.95	123.62	188.12	3.49	2.41	4.66	4.66
Yellowstone County	B2	RM 367.40	111357.1	1.5-yr	1116.6	949.69	944.36	2.57	2.3	37.69	20.12	110.93	244.46	3.77	2	5.33	5.33
Yellowstone County	B2	RM 367.31	111214.8	1.5-yr	1116.6	949.56	945.36	2.45	2.24	30.98	18.31	143.02	270.93	3.12	1.84	4.2	4.2
Yellowstone County	B2	RM 367.19	110992.7	1.5-yr	1116.6	949.35	945.91	2.14	2.02	28.36	22.92	242.21	322.39	2.12	1.71	3.44	3.44
Yellowstone County	B2	RM 367.11	110813.5	1.5-yr	1116.6	948.96	945.17	2.39	2.3	40.12	36.06	291.34	340.46	1.59	1.43	3.79	3.79
Yellowstone County	B2	RM 367.03	110669.4	1.5-yr	1116.6	948.74	945.89	1.99	1.88	25.06	19.64	327.04	449.49	1.69	1.32	2.85	2.85
Yellowstone County	B2	RM 366.95	110543	1.5-yr	1116.6	948.6	945.34	1.55	1.5	25.01	22.16	435.43	517.28	1.63	1.44	3.26	3.26
Yellowstone County	B2	RM 366.84	110376	1.5-yr	1116.6	948.37	944.61	1.43	1.43	19.95	19.95	489	489	1.59	1.59	3.76	3.76
Yellowstone County	B2	RM 366.78	110300.8	1.5-yr	1116.6	948.27	943.84	1.51	1.51	19.52	19.52	427.16	427.16	1.73	1.73	4.43	4.43
Yellowstone County	B2	RM 366.73	110074.8	1.5-yr	1116.6	947.97	943.42	1.79	1.79	21.92	21.92	287.4	287.4	2.17	2.17	4.55	4.55
Yellowstone County	B2	RM 366.68	109931.6	1.5-yr	1116.6	947.79	942.77	1.96	1.95	25.83	25.23	223.69	229.52	2.55	2.49	5.02	5.02
Yellowstone County	B2	RM 366.53	109747.6	1.5-yr	1116.6	947.5	940.86	2.4	2.4	29.94	29.94	141.89	141.89	3.28	3.28	6.64	6.64
Yellowstone County	B2	RM 366.38	109510.8	1.5-yr	1116.6	947.26	941.55	2.25	2.25	42.52	40.69	144.46	151.07	3.44	3.29	5.71	5.71
Yellowstone County	B2	RM 366.27	109345.5	1.5-yr	1116.6	947.15	942.72	1.86	1.86	22.43	22.43	219.82	219.82	2.73	2.73	4.43	4.43
Yellowstone County	B2	RM 366.15	109158.9	1.5-yr	1116.6	946.85	941.59	2.13	2.13	45.68	45.68	251.59	251.59	2.08	2.08	5.26	5.26
Yellowstone County	B2	RM 366.04	108972.6	1.5-yr	1116.6	946.55	941.41	2.29	2.29	26.65	26.65	165.29	165.29	2.94	2.94	5.14	5.14
Yellowstone County	B2	RM 365.94	108818.8	1.5-yr	1116.6	946.43	940.93	2.17	2.17	23.61	23.61	186.92	186.92	2.76	2.76	5.5	5.5
Yellowstone County	B2	RM 365.83	108647.5	1.5-yr	1116.6	946.22	939.93	2.13	2.13	43.97	43.92	221.62	221.87	2.37	2.36	6.29	6.29
Yellowstone County	B2	RM 365.75	108521.3	1.5-yr	1116.6	945.99	941.33	2.16	2.1	42.4	33.44	198.53	275.32	2.45	1.93	4.66	4.66
Yellowstone County	B2	RM 365.71	108446.5	1.5-yr	1116.6	945.89	941.83	2.03	1.99	33.25	30.6	203.53	227.75	2.68	2.47	4.06	4.06
Yellowstone County	B2	RM 365.64	108343.5	1.5-yr	1116.6	945.72	942.19	2.08	2.03	41.97	35.78	257.78	311.46	2.07	1.77	3.53	3.53
Yellowstone County	B2	RM 365.57	108220.5	1.5-yr	1116.6	945.36	942.08	2.34	2.31	51.28	47.31	246.52	271.87	1.93	1.78	3.28	3.28
Yellowstone County	B2	RM 365.51	108118.9	1.5-yr	1116.6	945.12	941.87	2.34	2.31	42.88	40.68	220.11	236.34	2.16	2.05	3.25	3.25
Yellowstone County	B2	RM 365.46	108042.9	1.5-yr	1116.6	945.07	941.73	1.92	1.91	24.91	24.18	266.26	276.7	2.18	2.12	3.34	3.34
Yellowstone County	B2	RM 365.41	107956.5	1.5-yr	1116.6	944.99	941.46	1.76	1.76	23.94	23.94	288.57	288.57	2.2	2.2	3.53	3.53
Yellowstone County	B2	RM 365.37	107905.7	1.5-yr	1116.6	944.93	940.74	1.77	1.77	20.19	20.19	296.7	296.7	2.12	2.12	4.19	4.19
Yellowstone County	B2	RM 365.31	107792.4	1.5-yr	1116.6	944.77	939.27	2.01	2	24.75	23.81	244.77	255.51	2.27	2.19	5.5	5.5
Yellowstone County	B2	RM 365.27	107727.9	1.5-yr	1116.6	944.59	939.34	2.33	2.33	38.61	38.59	242.73	242.85	1.97	1.97	5.25	5.25
Yellowstone County	B2	RM 365.23	107674.2	1.5-yr	1116.6	944.44	939.52	2.55	2.55	32.9	32.9	203.48	203.48	2.15	2.15	4.92	4.92
Yellowstone County	B2	RM 365.19	107603	1.5-yr	1116.6	944.35	939.93	2.42	2.42	31.48	31.48	218.81	218.81	2.11	2.11	4.42	4.42
Yellowstone County	B2	RM 365.15	107534.7	1.5-yr	1116.6	944.3	939.68	2.18	2.18	28.74	28.74	210.77	210.77	2.43	2.43	4.62	4.62
Yellowstone County	B2	RM 365.10	107466	1.5-yr	1116.6	944.17	938.61	2.34	2.34	31.5	31.5	177.57	177.57	2.68	2.68	5.56	5.56
Yellowstone County	B2	RM 365.06	107396.2	1.5-yr	1116.6	944.1	939.07	2.25	2.25	32.6	32.6	167.83	167.83	2.96	2.96	5.03	5.03
Yellowstone County	B2	RM 365.01	107325.8	1.5-yr	1116.6	944.07	939.22	1.99	1.99	28.59	28.56	172.49	172.64	3.26	3.25	4.85	4.85
Yellowstone County	B2	RM 364.99	107287.5	1.5-yr	1116.6	943.99	939.27	2.19	2.19	31.66	31.66	158.87	158.87	3.21	3.21	4.72	4.72

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	1.5-yr	1116.6	943.78	937.97	2.4	2.4	30.1	30.1	142.89	142.89	3.25	3.25	5.81	5.81
Yellowstone County	B2	RM 364.81	106996.1	1.5-yr	1116.6	943.69	938.93	2.16	2.15	25.6	23.05	191.14	213.07	2.7	2.43	4.76	4.76
Yellowstone County	B2	RM 364.74	106893.3	1.5-yr	1116.6	943.57	938.94	2.24	2.24	29.95	29.81	164.08	164.83	3.03	3.02	4.63	4.63
Yellowstone County	B2	RM 364.64	106739.2	1.5-yr	1116.6	943.31	939.09	2.62	2.6	34.93	29.64	120.02	143.42	3.53	2.99	4.22	4.22
Yellowstone County	B2	RM 364.61	106686.8	1.5-yr	1116.6	943.31	939.21	2.36	2.36	28.47	28.47	139.73	139.73	3.39	3.39	4.1	4.1
Yellowstone County	B2	RM 364.60	106666.6	1.5-yr	1116.6	943.24	939.26	2.54	2.54	33.51	32.77	133.15	136.53	3.3	3.22	3.98	3.98
Yellowstone County	B2	RM 364.53	106558.4	1.5-yr	1116.6	943.17	939.11	2.3	2.3	27.6	27.6	148.28	148.28	3.27	3.27	4.06	4.06
Yellowstone County	B2	RM 364.49	106490.3	1.5-yr	1116.6	943.11	939.24	2.32	2.32	28.55	28.29	156	157.47	3.08	3.05	3.87	3.87
Yellowstone County	B2	RM 364.43	106394	1.5-yr	1116.6	943.02	939.13	2.3	2.3	27.91	27.91	154.16	154.16	3.15	3.15	3.89	3.89
Yellowstone County	B2	RM 364.37	106296.4	1.5-yr	1116.6	942.95	938.98	2.25	2.23	25.91	21.11	145.19	180	3.42	2.78	3.97	3.97
Yellowstone County	B2	RM 364.32	106215.1	1.5-yr	1116.6	942.86	938.52	2.28	2.28	35.59	34.11	147.58	154.09	3.32	3.18	4.34	4.34
Yellowstone County	B2	RM 364.29	106172.9	1.5-yr	1116.6	942.89	938.13	1.8	1.79	26.81	25.98	187.55	213.48	3.31	3.21	4.76	4.76
Yellowstone County	B2	RM 364.26	106126.6	1.5-yr	1116.6	942.71	937.7	2.4	2.32	36.44	30.86	137.68	177.7	3.35	2.83	5.01	5.01
Yellowstone County	B2	RM 364.22	106055.2	1.5-yr	1116.6	942.63	938.15	2.4	2.4	35.76	35.76	129.65	178.67	3.59	3.59	4.48	4.48
Yellowstone County	B2	RM 364.14	105927.3	1.5-yr	1116.6	942.4	938.12	2.69	2.55	42.61	32.98	120.34	165.88	3.42	2.64	4.28	4.28
Yellowstone County	B2	RM 364.06	105809.9	1.5-yr	1116.6	942.32	938.22	2.32	2.27	37.23	28.41	148.84	200.59	3.22	2.45	4.1	4.1
Yellowstone County	B2	RM 363.96	105648.3	1.5-yr	1116.6	942.2	938.28	1.92	1.87	26.57	20.32	238.99	321.39	2.43	1.85	3.92	3.92
Yellowstone County	B2	RM 363.85	105472.4	1.5-yr	1116.6	941.98	936.25	2.19	1.98	25.05	17.99	149.88	243.4	3.24	2.32	5.73	5.73
Yellowstone County	B2	RM 363.76	105316.8	1.5-yr	1116.6	941.88	937.03	2.01	1.89	28.83	19.96	145.06	246.71	3.47	2.4	4.85	4.85
Yellowstone County	B2	RM 363.63	105118.1	1.5-yr	1116.6	941.68	937.93	1.8	1.8	29.76	29.76	318.92	318.92	1.95	1.95	3.75	3.75
Yellowstone County	B2	RM 363.52	104943.9	1.5-yr	1116.6	941.37	937.54	1.74	1.72	37.32	35.16	368.74	395.63	1.74	1.64	3.83	3.83
Yellowstone County	B2	RM 363.46	104841.5	1.5-yr	1116.6	941.23	937.16	1.52	1.48	24.08	18.41	330.86	474.17	2.2	1.68	4.07	4.07
Yellowstone County	B2	RM 363.33	104622.9	1.5-yr	1116.6	940.89	936.36	1.74	1.53	38.08	22.3	284.35	583.65	2.14	1.25	4.53	4.53
Yellowstone County	B2	RM 363.20	104414.5	1.5-yr	1116.6	940.54	936.48	1.85	1.64	28.72	17.05	280.52	606.3	2.08	1.23	4.06	4.06
Yellowstone County	B2	RM 363.10	104256.4	1.5-yr	1116.6	940.27	936.25	1.98	1.72	32.12	22.01	270.6	483.44	1.96	1.35	4.02	4.02
Yellowstone County	B2	RM 363.03	104144.8	1.5-yr	1116.6	940.12	936.22	1.92	1.71	25.6	14.29	255.75	531.79	2.21	1.23	3.9	3.9
Yellowstone County	B2	RM 362.86	103869.6	1.5-yr	1116.6	939.95	934.32	1.36	1.2	11.71	8.04	404.15	695.58	1.94	1.33	5.63	5.63
Yellowstone County	B2	RM 362.74	103671.4	1.5-yr	1116.6	939.67	934.52	1.92	1.79	24.53	17.68	338.6	515.64	1.68	1.21	5.15	5.15
Yellowstone County	B2	RM 362.63	103493.2	1.5-yr	1116.6	939.22	934.5	2.23	2.15	50.38	42.39	310.65	388.54	1.59	1.34	4.72	4.72
Yellowstone County	B2	RM 362.52	103330.7	1.5-yr	1116.6	938.76	934.5	2.19	2.16	42.87	39.23	293.32	325.19	1.73	1.59	4.26	4.26
Yellowstone County	B2	RM 362.43	103185.5	1.5-yr	1116.6	938.52	934.1	2.11	2.09	20.13	18.79	330.41	388.92	1.6	1.5	4.42	4.42
Yellowstone County	B2	RM 362.36	103070.8	1.5-yr	1116.6	938.41	932.98	1.99	1.92	18.94	17.6	273.23	308.71	2.03	1.89	5.43	5.43
Yellowstone County	B2	RM 362.27	102929.3	1.5-yr	1116.6	938.31	932.93	1.93	1.93	17.6	17.6	193.83	193.83	2.99	2.99	5.38	5.38
Yellowstone County	B2	RM 362.20	102813.3	1.5-yr	1116.6	937.99	933.37	2.78	2.78	40.48	40.48	109.33	109.33	3.67	3.67	4.62	4.62
Yellowstone County	B2	RM 362.13	102693.1	1.5-yr	1116.6	937.85	933.47	2.75	2.75	39.47	39.47	124.52	124.52	3.26	3.26	4.38	4.38
Yellowstone County	B3	RM 362.05	102570.9	1.5-yr	1116.6	937.76	933.85	2.42	2.42	31.55	31.55	178.71	178.71	2.58	2.58	3.91	3.91
Yellowstone County	B3	RM 362.00	102488.8	1.5-yr	1116.6	937.72	934.11	2.04	2.04	26.24	26.24	239.64	253.1	2.29	2.29	3.61	3.61
Yellowstone County	B3	RM 361.93	102368.8	1.5-yr	1116.6	937.57	934.31	1.91	1.91	27.77	27.77	359.49	359.49	1.63	1.63	3.26	3.26
Yellowstone County	B3	RM 361.86	102261.1	1.5-yr	1116.6	937.21	934.36	2.44	2.42	44.37	42.48	262.51	276.51	1.74	1.67	2.85	2.85
Yellowstone County	B3	RM 361.78	102138.9	1.5-yr	1116.6	937.07	933.72	1.94	1.94	22.13	21.91	342.84	346.43	1.68	1.67	3.35	3.35
Yellowstone County	B3	RM 361.68	101970.2	1.5-yr	1116.6	936.79	933.64	1.91	1.89	30.7	29.29	410.08	433.65	1.43	1.36	3.15	3.15
Yellowstone County	B3	RM 361.65	101918.4	1.5-yr	1116.6	936.73	933.71	1.61	1.6	22.89	22	402.22	424.22	1.71	1.65	3.02	3.02
Yellowstone County	B3	RM 361.61	101855.6	1.5-yr	1116.6	936.58	932.7	1.94	1.88	27.57	25.31	326.58	374.02	1.73	1.59	3.88	3.88
Yellowstone County	B3	RM 361.56	101767.4	1.5-yr	1116.6	936.46	930.29	1.94	1.87	23.37	20.35	262.51	315.92	2.17	1.89	6.17	6.17
Yellowstone County	B3	RM 361.48	101644.6	1.5-yr	1116.6	936.31	929.97	2.07	1.91	28.36	19.75	177.52	348.22	2.86	1.99	6.34	6.34
Yellowstone County	B3	RM 361.42	101546.2	1.5-yr	1116.6	935.99	932.36	2.74	2.62	41.42	20.62	164.52	381.76	2.46	1.22	3.63	3.63
Yellowstone County	B3	RM 361.37	101468.9	1.5-yr	1116.6	935.93	932.21	2.48	2.42	33.84	23.41	160.41	262.67	2.8	1.94	3.72	3.72
Yellowstone County	B3	RM 361.33	101409.4	1.5-yr	1116.6	935.71	932.02	2.91	2.77	47.48	30.85	148.57	262.23	2.56	1.66	3.69	3.69
Yellowstone County	B3	RM 361.29	101346	1.5-yr	1116.6	935.6	930.51	2.95	2.31	48.97	17.23	130.53	534.89	2.69	0.94	5.09	5.09
Yellowstone County	B3	RM 361.25	101284.9	1.5-yr	1116.6	935.51	928.42	2.94	2.12	45.72	13.67	105.04	574.94	3.15	0.93	7.09	7.09
Yellowstone County	B3	RM 361.21	101251.*	1.5-yr	1116.6	935.53	927.55	2.46	1.88	60.67	19.14	108.17	620.42	3.87	1.21	7.98	7.98
Yellowstone County	B3	RM 361.21	101217.5	1.5-yr	1116.6	935.54	926.68	2.15	1.78	24.02	8.94	112.43	766.02	4.43	1.63	8.86	8.86
Yellowstone County	B3	RM 361.18	101167.2	1.5-yr	1116.6	935.53	928.03	2.03	1.43	19.98	5.22	124.49	940.58	4.07	1.06	7.5	7.5
Yellowstone County	B3	RM 361.16	101134.2	1.5-yr	1116.6	935.53	928.92	1.89	1.48	18.56	6.63	169.83	959.45	3.29	1.17	6.61	6.61
Yellowstone County	B3	RM 361.09	101028.7	1.5-yr	1116.6	935.48	931.28	1.68	1.26	18.61	11.26	332.98	1007.27	1.58	0.96	4.2	4.2
Yellowstone County	B3	RM 361.01	100891.3	1.5-yr	1116.6	935.16	931.55	2.15	1.78	31.41	16.49	290.32	749.92	1.64	0.86	3.61	3.61
Yellowstone County	B3	RM 360.92	100756	1.5-yr	1116.6	935.01	931.05	1.37	1.08	22.36	14.98	385.86	1084.97	1.42	0.95	3.96	3.96
Yellowstone County	B3	RM 360.81	100570.1	1.5-yr	1116.6	934.29	929.52	2.55	2.23	71.34	43.68	278.82	555.3	1.48	0.9	4.77	4.77
Yellowstone County	B3	RM 360.69	100383.5	1.5-yr	1116.6	934.3	930.6	0.98	0.74	7.39	5.02	314.94	1166.18	1.92	1.31	4.41	4.41
Yellowstone County	B3	RM 360.59	100227.2	1.5-yr	1116.6	934.11	930.53	1.78	1.22	20.72	10.09	251.75	1109.31	1.85	0.9	3.9	3.9
Yellowstone County	B3	RM 360.50	100081	1.5-yr	1116.6	933.87	930.55	2.04	1.46	29.17	10.64	200.39	937.91	2.35	0.85	3.32	3.32

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	1.5-yr	1116.6	933.7	929.97	2.18	1.5	30.47	11.25	180.64	834.15	2.42	0.89	3.73	3.73
Yellowstone County	B3	RM 360.36	99862.66	1.5-yr	1116.6	933.59	929.68	2.04	1.41	23.7	11.73	228.34	781.35	2.05	1.01	3.91	3.91
Yellowstone County	B3	RM 360.27	99717.18	1.5-yr	1116.6	933.31	929.52	2.45	1.68	36.74	14.6	149.66	693.16	2.42	0.96	3.79	3.79
Yellowstone County	B3	RM 360.18	99578.06	1.5-yr	1116.6	933.13	929.32	2.35	1.59	36.5	12.59	134.08	656.59	3.13	1.07	3.81	3.81
Yellowstone County	B3	RM 360.11	99458.59	1.5-yr	1116.6	933.02	929.38	2.26	1.71	29.64	12.07	148.51	631.18	2.54	1.04	3.64	3.64
Yellowstone County	B3	RM 360.03	99328	1.5-yr	1127.9	932.89	929.58	1.99	1.55	31.85	10.34	167.38	912.43	2.55	0.83	3.31	3.31
Yellowstone County	B3	RM 359.96	99226.54	1.5-yr	1127.9	932.77	929.2	2.06	1.4	28.09	8.37	162.25	1027.38	2.63	0.78	3.57	3.57
Yellowstone County	B3	RM 359.88	99098.18	1.5-yr	1127.9	932.64	927.78	2.12	1.36	25.45	7.2	142.06	964.87	3.05	0.86	4.86	4.86
Yellowstone County	B3	RM 359.78	98940.52	1.5-yr	1127.9	932.52	928.1	2.05	1.33	29.67	7.61	146.79	1048.05	3.17	0.81	4.42	4.42
Yellowstone County	B3	RM 359.70	98813.18	1.5-yr	1127.9	932.13	928.32	2.79	2.39	63.44	17.59	138.09	629.87	2.83	0.78	3.81	3.81
Yellowstone County	B3	RM 359.61	98663.44	1.5-yr	1127.9	932	928.8	1.86	1.81	26.95	21.13	317.8	473.37	1.9	1.49	3.2	3.2
Yellowstone County	B3	RM 359.50	98492.66	1.5-yr	1127.9	931.76	928.22	1.97	1.85	23.96	16.27	284.31	507.4	1.97	1.34	3.54	3.54
Yellowstone County	B3	RM 359.38	98291.15	1.5-yr	1127.9	931.44	927.09	1.96	1.84	35.62	23.4	317.02	617.54	1.63	1.07	4.35	4.35
Yellowstone County	B3	RM 359.26	98107.42	1.5-yr	1127.9	931.03	927.71	2.03	1.84	29.44	22.29	369.38	605.28	1.41	1.07	3.32	3.32
Yellowstone County	B3	RM 359.18	97966.53	1.5-yr	1127.9	930.81	927.28	1.95	1.6	25.22	14.36	287.46	758.58	1.81	1.03	3.53	3.53
Yellowstone County	B3	RM 359.10	97841.82	1.5-yr	1127.9	930.62	926.69	1.92	1.6	25.31	16.12	335.56	736.81	1.53	0.98	3.93	3.93
Yellowstone County	B3	RM 359.01	97692.75	1.5-yr	1127.9	930.42	925.91	1.68	1.24	25.47	16.54	296.69	855.24	1.68	1.09	4.51	4.51
Yellowstone County	B3	RM 358.90	97524.59	1.5-yr	1127.9	929.97	926.77	2.43	1.92	37.75	16.98	186.82	573.27	2.28	1.03	3.2	3.2
Yellowstone County	B3	RM 358.81	97374.99	1.5-yr	1127.9	929.75	926.37	2.32	1.91	31.47	14.25	206.18	610.12	2.19	0.99	3.38	3.38
Yellowstone County	B3	RM 358.74	97267.71	1.5-yr	1127.9	929.5	925.53	2.63	1.89	56.3	24.34	161.45	674.13	2.21	0.96	3.97	3.97
Yellowstone County	B3	RM 358.67	97155.8	1.5-yr	1127.9	929.4	925.59	1.8	1.62	21.15	14.7	271.62	717.98	1.61	1.12	3.81	3.81
Yellowstone County	B3	RM 358.61	97062.24	1.5-yr	1127.9	929.29	925.74	1.48	1.5	19.49	16.24	383.95	776.81	1.46	1.21	3.55	3.55
Yellowstone County	B3	RM 358.56	96985.92	1.5-yr	1127.9	929.23	926.2	1.33	1.36	13.59	10.61	359.26	742.37	1.79	1.4	4.64	4.64
Yellowstone County	B3	RM 358.50	96888.4	1.5-yr	1127.9	929.16	925.64	1.32	1.27	11.75	8.87	391.85	874.19	1.73	1.31	3.52	3.52
Yellowstone County	B3	RM 358.43	96788.43	1.5-yr	1127.9	929.09	925.27	1.08	1.14	13.7	11.66	524.27	1025.5	1.53	1.3	3.82	3.82
Yellowstone County	B3	RM 358.30	96638.82	1.5-yr	1127.9	929.04	924.7	0.91	0.87	7.59	6.71	669.09	1079.08	1.8	1.59	4.34	4.34
Yellowstone County	B3	RM 358.24	96561.93	1.5-yr	1127.9	928.98	923.57	1.07	1.04	10.08	9.01	643	1046.07	1.58	1.41	5.41	5.41
Yellowstone County	B3	RM 358.20	96500.79	1.5-yr	1127.9	928.91	922.99	1.23	1.21	12.26	11.37	617.31	710.24	1.43	1.33	5.92	5.92
Yellowstone County	B3	RM 358.14	96404.93	1.5-yr	1127.9	928.83	922.57	1.27	1.22	11.31	9.43	542.4	712.37	1.58	1.32	6.26	6.26
Yellowstone County	B3	RM 358.12	96368.05	1.5-yr	1127.9	928.81	922.78	1.3	1.14	11.41	7.37	347.78	763.44	2.18	1.4	6.03	6.03
Yellowstone County	B3	RM 358.04	96244.75	1.5-yr	1127.9	928.62	923.22	1.95	1.61	33.64	15.73	161.68	544.81	2.96	1.38	5.4	5.4
Yellowstone County	B3	RM 358.00	96168.44	1.5-yr	1127.9	928.39	923.39	2.67	1.92	50.86	19.44	101.41	511.6	3.13	1.18	5	5
Yellowstone County	B3	RM 357.93	96065.49	1.5-yr	1127.9	928.16	923.1	2.92	2.29	39.21	20.32	104.18	336.65	2.9	1.5	5.06	5.06
Yellowstone County	B3	RM 357.88	95975.44	1.5-yr	1127.9	928.15	923.91	2.2	1.88	31.85	17.87	151.06	483.25	2.65	1.48	4.24	4.24
Yellowstone County	B3	RM 357.82	95884.99	1.5-yr	1127.9	928.12	924.01	1.72	1.56	19.74	12.6	192.72	469.6	2.66	1.7	4.11	4.11
Yellowstone County	B3	RM 357.78	95821.69	1.5-yr	1127.9	928.06	924.08	1.6	1.62	22.53	20.72	256.79	357.83	2.12	1.95	3.98	3.98
Yellowstone County	B3	RM 357.69	95683.91	1.5-yr	1127.9	927.86	923.81	1.88	1.88	21.52	21.37	291.39	293.56	2.06	2.05	4.05	4.05
Yellowstone County	B4	RM 357.62	95571.15	1.5-yr	1127.9	927.61	921.84	2.31	2.31	35.72	35.62	222.91	223.57	2.19	2.18	5.77	5.77
Yellowstone County	B4	RM 357.56	95469.4	1.5-yr	1127.9	927.56	918.46	1.8	1.79	23.18	21.79	218.77	233.99	2.86	2.69	9.1	9.1
Yellowstone County	B4	RM 357.48	95351.48	1.5-yr	1127.9	927.28	922.69	2.45	2.44	37.03	35.64	196.15	205.19	2.34	2.25	4.59	4.59
Yellowstone County	B4	RM 357.44	95275.91	1.5-yr	1127.9	927.14	922.22	2.49	2.49	38.78	38.3	193.3	227.27	2.35	2.32	4.92	4.92
Yellowstone County	B4	RM 357.34	95127.12	1.5-yr	1127.9	926.95	923.1	2.36	2.33	32.49	29.93	178.07	219.61	2.68	2.47	3.85	3.85
Yellowstone County	B4	RM 357.23	94939.75	1.5-yr	1127.9	926.77	920.81	2.24	2.13	31.03	20.37	140.93	259.58	3.53	2.31	5.96	5.96
Yellowstone County	B4	RM 357.13	94789.23	1.5-yr	1127.9	926.58	921.26	2.48	2.26	33.03	23.92	135.51	237.16	3.05	2.2	5.32	5.32
Yellowstone County	B4	RM 357.01	94595.53	1.5-yr	1127.9	926.49	921.72	1.93	1.62	19.42	10.49	181.33	416.47	3.1	1.67	4.77	4.77
Yellowstone County	B4	RM 356.90	94412.13	1.5-yr	1127.9	926.32	921.02	2.02	1.83	23.12	15.63	233.57	394.23	2.32	1.57	5.3	5.3
Yellowstone County	B4	RM 356.81	94272.48	1.5-yr	1127.9	926.17	919.95	2.06	1.75	26.48	19.11	230.98	408.32	2.19	1.58	6.22	6.22
Yellowstone County	B4	RM 356.73	94148.77	1.5-yr	1127.9	926.02	921.15	1.98	1.8	24.87	20.38	267.95	393.81	1.94	1.59	4.86	4.86
Yellowstone County	B4	RM 356.66	94030.68	1.5-yr	1127.9	925.89	921.75	1.85	1.73	20.79	16.15	287.92	429.03	1.95	1.52	4.14	4.14
Yellowstone County	B4	RM 356.59	93912.76	1.5-yr	1127.9	925.8	921.88	1.7	1.55	19.57	13.94	246.37	414.2	2.45	1.75	3.92	3.92
Yellowstone County	B4	RM 356.50	93782.14	1.5-yr	1127.9	925.64	921.75	1.96	1.77	28.03	18.66	152.89	322.02	2.98	1.98	3.89	3.89
Yellowstone County	B4	RM 356.44	93670.16	1.5-yr	1127.9	925.48	921.33	2.23	2.03	26.7	17.18	134.73	294.25	2.93	1.89	4.15	4.15
Yellowstone County	B4	RM 356.35	93525.27	1.5-yr	1127.9	925.28	919.71	2.41	2.18	40	20.58	109.88	287.02	3.52	1.8	5.57	5.57
Yellowstone County	B4	RM 356.26	93386.36	1.5-yr	1127.9	925.2	919.77	2.21	1.8	21.97	9.98	120.78	374.51	3.68	1.67	5.43	5.43
Yellowstone County	B4	RM 356.18	93264.31	1.5-yr	1127.9	925.13	919.95	2.09	1.83	26.26	10.34	124.85	427.05	3.68	1.44	5.18	5.18
Yellowstone County	B4	RM 356.11	93150.71	1.5-yr	1127.9	925.06	920.24	1.86	1.6	29.75	10.77	176.4	588.37	3.33	1.2	4.82	4.82
Yellowstone County	B4	RM 356.04	93034.25	1.5-yr	1127.9	924.85	920.36	2.17	1.93	45.87	22.27	172	412.41	2.92	1.42	4.49	4.49
Yellowstone County	B4	RM 355.97	92927.46	1.5-yr	1127.9	924.57	920.09	2.58	2.28	47.58	21.93	149.08	380.93	2.83	1.3	4.48	4.48
Yellowstone County	B4	RM 355.91	92825.82	1.5-yr	1127.9	924.5	919.82	2.28	1.78	26.8	9.62	150.51	587.84	3.02	1.08	4.68	4.68
Yellowstone County	B4	RM 355.82	92688.73	1.5-yr	1127.9	923.72	919.51	2.99	2.85	52.96	46.85	147.68	176.75	2.53	2.24	4.21	4.21
Yellowstone County	B4	RM 355.66	92419.94	1.5-yr	1127.9	923.44	919.8	2.69	2.35	35.98	22.81	139.95	292.96	2.59	1.64	3.64	3.64

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	1.5-yr	1127.9	923.36	919.42	2.53	2.15	32.24	17.61	147.86	371.37	2.58	1.41	3.94	3.94
Yellowstone County	B4	RM 355.49	92159.95	1.5-yr	1127.9	923.1	918.52	2.39	2.12	53.8	33.1	133.05	324.66	2.66	1.64	4.58	4.58
Yellowstone County	B4	RM 355.43	92061.2	1.5-yr	1127.9	922.91	918.67	2.17	2.17	49.85	30.96	134.53	305.72	2.74	1.7	4.24	4.24
Yellowstone County	B4	RM 355.41	92020.68	1.5-yr	1127.9	922.85	919.02	1.98	2.07	53.63	34.4	155.6	378.69	2.38	1.53	3.83	3.83
Yellowstone County	B4	RM 355.38	91976.12	1.5-yr	1127.9	922.69	919.25	2.5	2.21	54.93	31.24	125.52	335.34	2.67	1.52	3.44	3.44
Yellowstone County	B4	RM 355.35	91933.98	1.5-yr	1127.9	922.65	919.21	2.37	1.98	34.33	17.46	109.74	381.63	2.95	1.49	3.44	3.44
Yellowstone County	B4	RM 355.32	91885.87	1.5-yr	1127.9	922.6	919.16	2.33	1.97	32.71	18.02	105.24	357.21	2.92	1.6	3.44	3.44
Yellowstone County	B4	RM 355.29	91828.99	1.5-yr	1127.9	922.49	918.93	2.54	2.06	36.43	18.76	99.86	361.45	2.97	1.52	3.96	3.96
Yellowstone County	B4	RM 355.23	91732.97	1.5-yr	1127.9	922.37	918.68	2.44	2.16	38.53	22.78	99.49	293.99	3.02	1.77	3.93	3.93
Yellowstone County	B4	RM 355.14	91596.1	1.5-yr	1127.9	922.26	918.52	2.2	1.82	28.5	12.96	117.7	477.63	2.88	1.3	3.74	3.74
Yellowstone County	B4	RM 354.94	91268.08	1.5-yr	1127.9	921.69	917.25	2.48	2.22	50.85	26.92	153.05	334.28	2.88	1.52	4.44	4.44
Yellowstone County	B4	RM 354.86	91153.59	1.5-yr	1127.9	921.63	917.03	1.98	1.45	35.16	14.65	125.07	560.68	3.42	1.42	4.6	4.6
Yellowstone County	B4	RM 354.80	91056.05	1.5-yr	1127.9	921.31	915.66	2.72	1.98	56.65	17.04	110.86	576.95	3.35	1	5.65	5.65
Yellowstone County	B4	RM 354.70	90880.27	1.5-yr	1127.9	921.07	915.38	2.43	1.72	45.32	18.05	131.17	589.74	2.8	1.11	5.69	5.69
Yellowstone County	B4	RM 354.61	90744.35	1.5-yr	1127.9	920.92	917.13	2.15	1.47	25.87	11.46	179.85	803.89	2.21	0.98	3.79	3.79
Yellowstone County	B4	RM 354.53	90609.24	1.5-yr	1127.9	920.82	916.52	1.79	1.3	19.82	7.82	238.53	980	2.24	0.88	4.3	4.3
Yellowstone County	B4	RM 354.45	90486.63	1.5-yr	1127.9	920.64	915.87	2.12	1.36	28.76	10.19	191.8	1063.11	2.22	0.78	4.77	4.77
Yellowstone County	B4	RM 354.39	90385.43	1.5-yr	1127.9	920.4	915.24	2.52	1.6	39.11	13.39	160.31	971.77	2.26	0.77	5.16	5.16
Yellowstone County	B4	RM 354.33	90291.31	1.5-yr	1127.9	920.32	915.37	2.22	1.21	28.1	8.9	144.74	1238.38	2.47	0.78	4.95	4.95
Yellowstone County	B4	RM 354.23	90133.96	1.5-yr	1127.9	920.08	915.46	2.42	1.33	34.03	8.12	113.62	1162.25	3.11	0.74	4.62	4.62
Yellowstone County	B4	RM 354.13	89983.48	1.5-yr	1127.9	919.99	914.94	1.98	1.08	27.16	6.57	129.29	1316.41	3.3	0.79	5.05	5.05
Yellowstone County	B4	RM 354.00	89778.46	1.5-yr	1127.9	919.85	916.2	1.9	1.03	25.22	7.29	155.73	1431.57	2.66	0.76	3.65	3.65
Yellowstone County	B5	RM 353.90	89604.28	1.5-yr	1127.9	919.73	917.06	1.65	0.99	20.15	8.3	238.52	1386.46	1.99	0.82	2.83	2.83
Yellowstone County	B5	RM 353.80	89446.75	1.5-yr	1202	919.51	916.36	1.81	1.25	30	12.49	298.22	1291.58	1.8	0.75	3.15	3.15
Yellowstone County	B5	RM 353.70	89288.94	1.5-yr	1202	919.33	915.92	1.51	1.07	22.28	10.36	350.72	1327.36	1.83	0.85	3.41	3.41
Yellowstone County	B5	RM 353.65	89204.58	1.5-yr	1202	919.2	915.49	1.4	1.04	24.92	12.08	388.22	1420.53	1.68	0.81	3.71	3.71
Yellowstone County	B5	RM 353.56	89077.56	1.5-yr	1202	919.01	914.2	1.5	1.13	26.85	12.03	355.47	1263.47	1.89	0.84	4.81	4.81
Yellowstone County	B5	RM 353.50	88982.39	1.5-yr	1202	918.93	914.58	1.33	1	19.54	8.08	303.57	1144.92	2.54	1.05	4.35	4.35
Yellowstone County	B5	RM 353.41	88846.15	1.5-yr	1202	918.74	914.41	1.67	1.22	28.05	12.49	228.77	899.5	2.48	1.1	4.33	4.33
Yellowstone County	B5	RM 353.32	88709.14	1.5-yr	1202	918.48	913.6	2.08	1.57	34.2	13.8	193.93	736.65	2.58	1.04	4.88	4.88
Yellowstone County	B5	RM 353.25	88587.13	1.5-yr	1202	918.25	912.76	2.39	1.82	38.86	15.1	160.44	646.61	2.64	1.02	5.49	5.49
Yellowstone County	B5	RM 353.15	88438.48	1.5-yr	1202	917.95	912.71	2.61	2.09	43.5	25.97	181.38	462.47	2.08	1.24	5.24	5.24
Yellowstone County	B5	RM 353.08	88321.13	1.5-yr	1202	917.75	912.99	2.46	1.99	40.3	21.88	195.79	551.13	2.02	1.1	4.76	4.76
Yellowstone County	B5	RM 353.01	88210.34	1.5-yr	1202	917.58	913.13	2.11	1.84	35.67	22.09	249.37	586.39	1.8	1.12	4.45	4.45
Yellowstone County	B5	RM 352.94	88090.6	1.5-yr	1202	917.48	912.5	1.78	1.49	23.12	13.9	173.62	514.89	2.61	1.57	4.98	4.98
Yellowstone County	B5	RM 352.86	87957.76	1.5-yr	1202	917.28	913.38	2.3	1.79	36.88	16.58	114.24	482.59	3.1	1.39	3.9	3.9
Yellowstone County	B5	RM 352.79	87857.09	1.5-yr	1202	917.08	913.06	2.69	2.03	37.93	15.38	93.85	490.14	3	1.21	4.02	4.02
Yellowstone County	B5	RM 352.72	87748.15	1.5-yr	1202	916.85	911.97	2.98	2.25	60.96	18.05	83.67	513.29	3.61	1.05	4.88	4.88
Yellowstone County	B5	RM 352.68	87677.1	1.5-yr	1202	916.73	912.27	2.54	2.28	54.74	26.54	206.49	676.09	2.22	1.06	4.46	4.46
Yellowstone County	B5	RM 352.64	87605.18	1.5-yr	1202	916.61	911.68	2.43	1.93	41.67	16.3	180.65	619.46	2.6	1.01	4.93	4.93
Yellowstone County	B5	RM 352.54	87461.4	1.5-yr	1202	916.51	912.57	1.87	1.56	23.32	10.98	263.86	758.74	2.26	1.06	3.94	3.94
Yellowstone County	B5	RM 352.47	87340.46	1.5-yr	1202	916.37	912.2	1.98	1.41	26.17	12.88	228.9	939.66	1.94	0.95	4.17	4.17
Yellowstone County	B5	RM 352.39	87216.99	1.5-yr	1202	916.07	912.01	2.52	1.89	39.75	22.28	176.97	654.4	1.77	1	4.88	4.88
Yellowstone County	B5	RM 352.31	87079.16	1.5-yr	1202	915.71	910.66	2.7	2.03	56.45	30.1	156.15	591.07	1.93	1.03	5.05	5.05
Yellowstone County	B5	RM 352.23	86961.03	1.5-yr	1202	915.6	911.35	1.72	1.39	22.53	16.63	205.75	842.67	1.61	1.19	4.25	4.25
Yellowstone County	B5	RM 352.18	86873.5	1.5-yr	1202	915.51	911.21	1.71	1.43	19.42	14.26	211.34	913.63	1.87	1.37	4.3	4.3
Yellowstone County	B5	RM 352.09	86723.6	1.5-yr	1202	915.33	912.18	1.96	1.6	26.61	15.47	171.12	761.29	2.02	1.17	3.15	3.15
Yellowstone County	B5	RM 351.99	86568.41	1.5-yr	1202	914.97	912.6	2.62	2.09	41.54	21.93	142.05	573.93	2	1.05	2.39	2.39
Yellowstone County	B5	RM 351.93	86466.74	1.5-yr	1202	914.85	911.69	2.22	1.67	32.44	19.04	166.41	794.89	1.67	0.98	3.16	3.16
Yellowstone County	B5	RM 351.88	86386.8	1.5-yr	1202	914.76	911.38	1.67	1.31	23.62	18.02	181.23	905.52	1.42	1.09	3.38	3.38
Yellowstone County	B5	RM 351.81	86277.68	1.5-yr	1202	914.66	910.99	1.41	1.15	16.74	14.53	217.28	1005.03	1.32	1.15	3.67	3.67
Yellowstone County	B5	RM 351.74	86159.62	1.5-yr	1202	914.31	911.37	1.66	1.53	24.46	18.78	182.66	814.75	1.38	1.06	3.48	3.48
Yellowstone County	B5	RM 351.67	86034.59	1.5-yr	1202	914.02	911.31	1.66	1.59	24.19	19.09	196.41	741.9	1.32	1.04	3.64	3.64
Yellowstone County	B5	RM 351.58	85891.33	1.5-yr	1202	913.8	911.47	1.28	1.53	15.06	14.53	230.54	661.17	1.24	1.2	3.71	3.71
Yellowstone County	B5	RM 351.52	85811.35	1.5-yr	1202	913.64	911.37	1.68	1.74	20.05	17.66	231.12	639	1.25	1.1	2.92	2.92
Yellowstone County	B5	RM 351.47	85728.2	1.5-yr	1202	913.55	911.17	1.61	1.53	16.76	13.28	177.07	606.81	1.7	1.35	3.01	3.01
Yellowstone County	B5	RM 351.40	85601.48	1.5-yr	1202	913.41	910.26	1.92	1.55	22.22	14.19	115.07	657.04	2.09	1.33	3.5	3.5
Yellowstone County	B5	RM 351.34	85482.66	1.5-yr	1202	913.3	909.98	1.3	1.45	25.88	14.41	136.57	814.42	1.95	1.09	3.33	3.33
Yellowstone County	B5	RM 351.25	85342.53	1.5-yr	1202	913.16	909.91	1.34	1.32	15.21	11.38	240.16	903.98	1.34	1.01	3.28	3.28
Yellowstone County	B5	RM 351.21	85257.19	1.5-yr	1202	913.06	909.48	1.63	1.43	19.3	12.54	180.05	854.61	1.52	0.99	3.58	3.58
Yellowstone County	B5	RM 351.12	85127.55	1.5-yr	1202	912.97	909.49	1.67	1.38	18.07	10.6	138.09	773.93	1.93	1.12	3.48	3.48

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	1.5-yr	1202	912.85	908.79	1.87	1.4	21.91	11.3	123.68	731.01	2.29	1.17	4.06	4.06
Yellowstone County	B5	RM 350.90	84769.91	1.5-yr	1202	912.79	909.27	1.38	1.09	12.99	6.56	96.77	803.66	2.74	1.37	3.52	3.52
Yellowstone County	B5	RM 350.75	84536.19	1.5-yr	1202	912.62	909.72	1.23	1.46	23.89	17.49	244.54	697.98	1.62	1.18	3.24	3.24
Yellowstone County	B5	RM 350.66	84383.33	1.5-yr	1202	912.41	909.32	1.85	1.69	27.77	16.13	143.05	545.23	2.24	1.3	3.09	3.09
Yellowstone County	B5	RM 350.57	84244.69	1.5-yr	1202	912.15	908.48	1.73	1.83	34.1	21.33	149.54	480.09	2.2	1.37	3.67	3.67
Yellowstone County	B5	RM 350.50	84128.62	1.5-yr	1202	911.94	908.49	1.91	1.94	35.64	21.36	150.93	492.92	2.1	1.26	3.45	3.45
Yellowstone County	B5	RM 350.40	83974.24	1.5-yr	1202	911.76	908.73	1.42	1.56	18.14	15.32	297.95	626.65	1.46	1.23	3.03	3.03
Yellowstone County	B5	RM 350.33	83868.06	1.5-yr	1202	911.65	908.17	1.45	1.49	15.6	13.11	318.63	673.22	1.43	1.2	3.48	3.48
Yellowstone County	B5	RM 350.23	83712.91	1.5-yr	1202	911.42	907.61	1.75	1.66	24.41	16.02	251.29	665.41	1.69	1.11	3.81	3.81
Yellowstone County	B5	RM 350.14	83563.43	1.5-yr	1202	911.24	907.94	1.53	1.51	18.69	12.24	285.04	799.48	1.56	1.02	3.3	3.3
Yellowstone County	B5	RM 350.06	83419.86	1.5-yr	1202	911.03	907.84	1.44	1.46	21.29	15.64	337.83	793.18	1.43	1.05	3.19	3.19
Yellowstone County	B5	RM 349.94	83229.4	1.5-yr	1202	910.76	906.93	1.66	1.48	22.61	13.29	250.77	779.61	1.78	1.04	3.83	3.83
Yellowstone County	B5	RM 349.83	83071.99	1.5-yr	1202	910.67	907.36	1.37	1.17	10.76	5.59	369.27	863.01	2.29	1.19	3.31	3.31
Yellowstone County	B5	RM 349.68	82904.73	1.5-yr	1202	910.46	906.92	1.85	1.55	26.91	14.46	337.13	792.86	1.84	0.99	3.54	3.54
Yellowstone County	B5	RM 349.54	82632.78	1.5-yr	1202	910.06	906.29	1.78	1.68	22.58	18.62	423.64	563.01	1.55	1.28	3.77	3.77
Yellowstone County	B5	RM 349.33	82276.28	1.5-yr	1202	909.78	906.45	1.05	1.06	10.86	10	339.13	760.87	1.62	1.49	3.33	3.33
Yellowstone County	B5	RM 349.19	82046.53	1.5-yr	1202	909.43	905.16	1.93	1.58	24.83	15.57	269.82	738.9	1.7	1.07	4.27	4.27
Yellowstone County	B5	RM 349.04	81800.47	1.5-yr	1273.3	909.2	904.5	1.48	1.34	15.26	10.33	344.06	821.89	1.78	1.2	4.7	4.7
Yellowstone County	B5	RM 348.89	81574.02	1.5-yr	1273.3	909.05	904.75	1.16	1.11	15.68	12.09	542.55	779.91	1.98	1.53	4.3	4.3
Yellowstone County	B5	RM 348.77	81370.46	1.5-yr	1273.3	908.83	905.09	1.35	1.27	22.33	13.74	427.96	764.01	2.17	1.33	3.74	3.74
Yellowstone County	B5	RM 348.64	81138.52	1.5-yr	1273.3	908.6	903.35	1.62	1.46	16.54	8.38	292.54	665.06	2.62	1.32	5.25	5.25
Yellowstone County	B5	RM 348.52	80960.09	1.5-yr	1273.3	908.37	902.88	2.04	1.86	33.23	15.12	200.55	498.35	3.04	1.38	5.49	5.49
Yellowstone County	B5	RM 348.38	80737.31	1.5-yr	1273.3	908	902.85	2.37	2.25	43.21	29.08	186.08	294.76	2.86	1.92	5.15	5.15
Yellowstone County	B5	RM 348.26	80551.51	1.5-yr	1273.3	907.71	902.73	2.41	2.14	46.42	25.1	160.03	350.35	3.16	1.7	4.98	4.98
Yellowstone County	B5	RM 348.09	80276.34	1.5-yr	1273.3	907.33	901.64	2.39	1.99	39.9	16.35	169.65	528.12	2.97	1.21	5.69	5.69
Yellowstone County	B5	RM 347.95	80055.79	1.5-yr	1273.3	907.14	902.96	2.17	1.84	24.51	14.29	165.09	435.44	3.2	1.87	4.18	4.18
Yellowstone County	B5	RM 347.82	79844.2	1.5-yr	1273.3	906.97	902.93	1.96	1.82	31.62	15.92	174.87	469.22	2.96	1.49	4.04	4.04
Yellowstone County	B5	RM 347.77	79751.93	1.5-yr	1273.3	906.87	902.38	2	1.75	36.57	18.09	177.69	506.14	2.9	1.43	4.49	4.49
Yellowstone County	B5	RM 347.70	79643.98	1.5-yr	1273.3	906.72	901.91	2.04	1.73	36.24	18.26	177.91	514.43	2.85	1.43	4.81	4.81
Yellowstone County	B5	RM 347.61	79501.64	1.5-yr	1273.3	906.66	902.2	1.66	1.18	14.6	6.34	192.93	803.04	3.1	1.34	4.46	4.46
Yellowstone County	B5	RM 347.51	79347.38	1.5-yr	1273.3	906.4	900.54	2.46	1.88	29.57	10.42	111.91	503.09	3.97	1.39	5.86	5.86
Yellowstone County	B5	RM 347.42	79196.21	1.5-yr	1273.3	906.31	900.73	2.12	1.8	43.8	18.51	139.71	510.2	3.56	1.5	5.58	5.58
Yellowstone County	B5	RM 347.35	79079.87	1.5-yr	1273.3	906.37	900.77	1.05	1.05	4.8	4.8	497.17	566.02	2.45	2.44	5.6	5.6
Yellowstone County	B5	RM 347.23	78895.71	1.5-yr	1273.3	906.3	900.89	1.14	1.14	8.47	8.43	505.36	570.39	2.21	2.19	5.41	5.41
Yellowstone County	B5	RM 347.13	78732.21	1.5-yr	1273.3	906.2	900.98	1.22	1.22	18.24	17.41	439.35	623.75	2.37	2.26	5.22	5.22
Yellowstone County	B5	RM 346.93	78400.21	1.5-yr	1273.3	905.71	900.98	1.52	1.5	49.44	40.86	463	585.32	1.8	1.49	4.73	4.73
Yellowstone County	B5	RM 346.80	78193.27	1.5-yr	1273.3	904.97	900.02	1.87	1.82	55.83	53.74	436.69	505.07	1.47	1.42	4.95	4.95
Yellowstone County	B5	RM 346.64	77938.83	1.5-yr	1273.3	904.66	900.47	1.73	1.49	17.15	9.75	246.18	573.25	2.67	1.51	4.19	4.19
Yellowstone County	B5	RM 346.49	77706.6	1.5-yr	1273.3	904.37	900.21	2.21	1.93	31.09	15.93	174.51	463.02	2.84	1.45	4.16	4.16
Yellowstone County	B6	RM 346.35	77480.6	1.5-yr	1273.3	904.13	900.33	2.04	1.87	31.17	15.49	211.03	519.23	2.7	1.34	3.8	3.8
Yellowstone County	B6	RM 346.23	77285.9	1.5-yr	1273.3	903.83	900.11	2.38	2.12	31.22	16.5	176.57	393.59	2.89	1.52	3.71	3.71
Yellowstone County	B6	RM 346.11	77095.33	1.5-yr	1273.3	903.61	899.75	2.3	1.99	38.96	20.33	177.62	428.37	2.91	1.52	3.86	3.86
Yellowstone County	B6	RM 346.00	76926.16	1.5-yr	1273.3	903.43	899.8	2.18	1.86	29.75	18.79	176.19	359.17	3.02	1.91	3.63	3.63
Yellowstone County	B6	RM 345.90	76766.95	1.5-yr	1273.3	903.18	899.51	2.39	2.05	39.74	26.11	177.01	333.97	2.83	1.86	3.67	3.67
Yellowstone County	B6	RM 345.80	76608.55	1.5-yr	1273.3	903.06	899.04	2.06	1.83	25.99	18.89	193.98	323.64	2.94	2.15	4.16	4.16
Yellowstone County	B6	RM 345.73	76484.99	1.5-yr	1273.3	902.84	899.01	2.38	2.2	35.45	24.91	194.48	331.73	2.53	1.79	3.94	3.94
Yellowstone County	B6	RM 345.67	76386.71	1.5-yr	1273.3	902.79	899.1	1.96	1.76	23.63	12.36	210.09	487.57	2.83	1.48	3.89	3.89
Yellowstone County	B6	RM 345.60	76268.76	1.5-yr	1273.3	902.67	899.22	1.99	1.78	28.95	15.98	234.2	532.77	2.43	1.34	3.77	3.77
Yellowstone County	B6	RM 345.50	76118.1	1.5-yr	1273.3	902.52	899.07	1.83	1.65	24.33	17.1	229.79	431.38	2.56	1.79	3.62	3.62
Yellowstone County	B6	RM 345.37	75909.53	1.5-yr	1273.3	902.2	897.51	2.02	2	33.84	30.66	301.84	336.09	2.09	1.89	4.69	4.69
Yellowstone County	B6	RM 345.27	75751.01	1.5-yr	1273.3	901.94	898.15	2.13	2.02	30.64	21.03	251.94	392.48	2.35	1.61	3.79	3.79
Yellowstone County	B6	RM 345.07	75427.56	1.5-yr	1273.3	901.67	897.07	1.85	1.74	20.07	11.1	240.88	497.98	2.83	1.56	4.6	4.6
Yellowstone County	B6	RM 344.90	75166.64	1.5-yr	1273.3	901.53	897.3	1.57	1.45	15.31	10.59	293.74	472.17	2.68	1.86	4.23	4.23
Yellowstone County	B6	RM 344.75	74927.69	1.5-yr	1273.3	901.3	896.02	1.86	1.7	28.42	18.02	230.1	410.58	2.88	1.82	5.28	5.28
Yellowstone County	B6	RM 344.64	74743.45	1.5-yr	1273.3	901.03	895.93	2.28	2.1	29.23	17.91	157.72	284.82	3.48	2.13	5.1	5.1
Yellowstone County	B6	RM 344.53	74576.12	1.5-yr	1273.3	900.85	895.39	2.31	2	46.32	25.58	158.4	358.91	3.22	1.77	5.46	5.46
Yellowstone County	B6	RM 344.43	74405.67	1.5-yr	1273.3	900.71	896.11	2.12	1.77	21.09	9.1	172.69	539.37	3.09	1.33	4.6	4.6
Yellowstone County	B6	RM 344.29	74192.79	1.5-yr	1273.3	900.57	895.87	1.99	1.72	24.83	10.74	177.88	531.67	3.22	1.39	4.7	4.7
Yellowstone County	B6	RM 344.13	73931.76	1.5-yr	1273.3	900.35	895.4	2.08	1.8	26.39	8.82	157.02	591.87	3.59	1.19	4.95	4.95
Yellowstone County	B6	RM 343.87	73520.95	1.5-yr	1273.3	900.13	895.23	1.63	1.42	14.92	8.86	287.43	575.37	2.63	1.56	4.9	4.9
Yellowstone County	B6	RM 343.80	73403.19	1.5-yr	1273.3	900.07	894.69	1.38	1.22	23.14	13.09	356.81	758.13	2.43	1.38	5.38	5.38

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	1.5-yr	1273.3	899.76	894.63	1.47	1.41	36.24	25.4	394.68	605.92	2.13	1.49	5.13	5.13
Yellowstone County	B6	RM 343.55	72997.33	1.5-yr	1273.3	899.49	894.63	1.48	1.45	31.04	24.89	357.75	458.8	2.4	1.92	4.86	4.86
Yellowstone County	B6	RM 343.45	72840.49	1.5-yr	1273.3	899.28	894.78	1.53	1.52	27.84	26.87	367.74	386.12	2.24	2.16	4.5	4.5
Yellowstone County	B6	RM 343.37	72718.86	1.5-yr	1273.3	899.04	894.5	1.8	1.79	40.92	39.2	322.48	339.52	2.19	2.1	4.54	4.54
Yellowstone County	B6	RM 343.29	72586.22	1.5-yr	1273.3	898.85	894.28	1.72	1.62	30.88	18.23	278.63	516.51	2.59	1.52	4.57	4.57
Yellowstone County	B6	RM 343.21	72458.03	1.5-yr	1273.3	898.68	893.99	1.59	1.44	39.24	25.17	356.06	637.05	2.16	1.38	4.69	4.69
Yellowstone County	B6	RM 343.14	72328.78	1.5-yr	1273.3	898.39	893.94	1.59	1.45	45.45	30.56	431.67	737.17	1.77	1.19	4.45	4.45
Yellowstone County	B6	RM 343.04	72174.44	1.5-yr	1273.3	898.21	894.12	1.36	1.23	13.7	9.65	485.55	786.9	1.88	1.32	4.09	4.09
Yellowstone County	B6	RM 342.96	72046.7	1.5-yr	1273.3	898.07	894.17	1.38	1.26	30.64	22.44	491.39	778.58	1.78	1.3	3.9	3.9
Yellowstone County	B6	RM 342.87	71890.42	1.5-yr	1273.3	897.68	893.92	1.57	1.46	46.16	34.93	507.08	756.85	1.52	1.15	3.76	3.76
Yellowstone County	B6	RM 342.78	71759.64	1.5-yr	1273.3	897.49	893.85	1.54	1.41	12.93	9.6	477.37	782.77	1.55	1.15	3.64	3.64
Yellowstone County	B6	RM 342.71	71649.64	1.5-yr	1273.3	897.39	893.88	1.6	1.46	11.96	10.44	475.77	709.4	1.41	1.23	3.51	3.51
Yellowstone County	B6	RM 342.64	71534.72	1.5-yr	1273.3	897.23	893.45	1.46	1.42	33.86	26.77	617.62	1024.63	1.38	1.09	3.78	3.78
Yellowstone County	B6	RM 342.59	71441.82	1.5-yr	1273.3	896.95	893.13	1.6	1.58	40.31	34.76	572.24	849.61	1.37	1.18	3.82	3.82
Yellowstone County	B6	RM 342.49	71299.94	1.5-yr	1273.3	896.78	892.73	1.23	1.23	15.81	15.81	540.8	734.96	1.91	1.91	4.05	4.05
Yellowstone County	B6	RM 342.40	71182.23	1.5-yr	1273.3	896.72	892.4	0.99	0.99	11.75	11.73	519.86	677.85	2.48	2.48	4.32	4.32
Yellowstone County	B6	RM 342.29	70973.95	1.5-yr	1273.3	896.53	891.26	1.35	1.34	22.97	22.15	472.66	563.47	2	1.93	5.27	5.27
Yellowstone County	B6	RM 342.17	70788.09	1.5-yr	1273.3	896.06	891.21	2.12	2.12	49.51	49.51	316.61	345.09	1.89	1.89	4.85	4.85
Yellowstone County	B6	RM 342.09	70668.79	1.5-yr	1273.3	895.95	892.22	1.66	1.66	21.58	21.39	309.15	333.47	2.48	2.46	3.73	3.73
Yellowstone County	B6	RM 341.96	70472.35	1.5-yr	1273.3	895.82	891.5	1.52	1.47	11.17	9.88	467.87	717.53	1.76	1.55	4.32	4.32
Yellowstone County	B6	RM 341.82	70207.79	1.5-yr	1273.3	895.65	890.89	1.21	1.2	15.22	13.97	568.82	625.69	1.85	1.7	4.76	4.76
Yellowstone County	B6	RM 341.68	69974.03	1.5-yr	1273.3	895.43	890.38	1.32	1.3	19.66	18.19	467.52	515.85	2.04	1.89	5.05	5.05
Yellowstone County	B6	RM 341.57	69788.71	1.5-yr	1273.3	895.18	889.58	1.84	1.83	11.84	11.61	416.3	426.97	1.66	1.63	5.6	5.6
Yellowstone County	B6	RM 341.47	69629.19	1.5-yr	1273.3	895.03	889.76	1.57	1.56	40.98	39.32	373.64	397.78	2.13	2.05	5.27	5.27
Yellowstone County	B6	RM 341.32	69391.37	1.5-yr	1273.3	894.59	890.36	1.63	1.61	34.75	30.91	365.04	418.24	2.13	1.89	4.23	4.23
Yellowstone County	B6	RM 341.24	69252.71	1.5-yr	1273.3	894.48	890.28	1.44	1.35	13.15	10.3	396.74	560.29	2.15	1.68	4.2	4.2
Yellowstone County	B6	RM 341.11	69044.61	1.5-yr	1273.3	894.22	890	1.84	1.66	28	18.67	321.57	551.05	2.1	1.4	4.22	4.22
Yellowstone County	B6	RM 340.94	68773.18	1.5-yr	1273.3	893.86	889.22	1.88	1.62	27.53	13.25	277.81	702.84	2.36	1.14	4.64	4.64
Yellowstone County	B6	RM 340.81	68556.42	1.5-yr	1273.3	893.71	889.05	1.45	1.1	19.19	9.16	315	974.18	2.49	1.18	4.66	4.66
Yellowstone County	B6	RM 340.65	68325.7	1.5-yr	1273.3	893.49	888.87	1.87	1.34	17.33	6.18	203.53	863.73	3.09	1.1	4.62	4.62
Yellowstone County	B6	RM 340.52	68126.27	1.5-yr	1273.3	893.28	887.3	2.23	1.69	34.36	8.26	129.25	761.42	4.16	0.99	5.98	5.98
Yellowstone County	B6	RM 340.40	67936.51	1.5-yr	1273.3	893.16	886.73	1.92	1.43	32.18	9.37	170.6	843.89	3.65	1.05	6.43	6.43
Yellowstone County	B7	RM 340.26	67715.84	1.5-yr	1273.3	892.93	887.99	1.75	1.5	38.35	19.51	250.31	605.76	2.77	1.4	4.94	4.94
Yellowstone County	B7	RM 340.16	67550.99	1.5-yr	1273.3	892.63	888.43	1.75	1.57	49.08	27.5	309.5	642.78	2.26	1.26	4.2	4.2
Yellowstone County	B7	RM 340.06	67387.35	1.5-yr	1273.3	892.39	888.74	1.57	1.43	29.31	24.86	315.76	441.61	2.38	2.02	3.65	3.65
Yellowstone County	B7	RM 339.96	67234.59	1.5-yr	1273.3	892.16	888.85	1.81	1.81	20.7	20.7	357.83	357.83	1.97	1.97	3.31	3.31
Yellowstone County	B7	RM 339.88	67094.07	1.5-yr	1273.3	891.98	888.78	1.65	1.62	31.87	28.01	435.06	507.32	1.76	1.55	3.2	3.2
Yellowstone County	B7	RM 339.79	66960.51	1.5-yr	1273.3	891.62	888.98	2.07	2.07	30.87	30.87	440.89	440.89	1.4	1.4	2.64	2.64
Yellowstone County	B7	RM 339.72	66843.76	1.5-yr	1273.3	891.43	888.72	1.83	1.81	23.66	22.72	456.62	484.27	1.52	1.46	2.71	2.71
Yellowstone County	B7	RM 339.66	66753.41	1.5-yr	1273.3	891.36	887.9	1.54	1.53	16.19	14.87	485.23	530.77	1.71	1.57	3.46	3.46
Yellowstone County	B7	RM 339.52	66527.74	1.5-yr	1273.3	891.18	887.31	1.59	1.42	14.71	8.85	311.42	618.21	2.43	1.46	3.87	3.87
Yellowstone County	B7	RM 339.37	66324.85	1.5-yr	1273.3	890.97	887.17	1.83	1.6	34.21	17.84	228.92	588.54	2.68	1.4	3.8	3.8
Yellowstone County	B7	RM 339.24	66108.49	1.5-yr	1273.3	890.54	886.45	2.41	2.12	31.58	21.08	214.16	410.47	2.19	1.46	4.09	4.09
Yellowstone County	B7	RM 339.13	65940.41	1.5-yr	1273.3	890.29	885.31	2.51	1.93	41.57	21.91	142.85	461.57	2.72	1.43	4.98	4.98
Yellowstone County	B7	RM 339.02	65745.93	1.5-yr	1273.3	890	886.09	2.38	2.14	32.71	22.22	174.17	341.23	2.57	1.75	3.91	3.91
Yellowstone County	B7	RM 338.94	65621.59	1.5-yr	1273.3	889.9	886.36	2.07	1.77	23.27	15.39	223.16	502.41	2.16	1.43	3.54	3.54
Yellowstone County	B7	RM 338.83	65433.26	1.5-yr	1273.3	889.7	886.37	1.9	1.69	28.03	17.32	220.7	554.07	2.21	1.37	3.68	3.68
Yellowstone County	B7	RM 338.72	65256.88	1.5-yr	1273.3	889.48	886.18	1.84	1.69	27.89	18.46	201.68	455.6	2.49	1.65	3.68	3.68
Yellowstone County	B7	RM 338.62	65095.08	1.5-yr	1273.3	889.2	886.28	2.28	2.1	30.38	18.57	173.6	418.15	2.4	1.47	3.58	3.58
Yellowstone County	B7	RM 338.49	64891.36	1.5-yr	1273.3	889	885.05	2.15	1.81	26.52	13.61	165.79	551.75	2.56	1.31	3.95	3.95
Yellowstone County	B7	RM 338.40	64742.15	1.5-yr	1273.3	888.97	884.28	1.55	1.23	13.44	8.75	165.12	638.56	2.57	1.67	4.69	4.69
Yellowstone County	B7	RM 338.29	64577.05	1.5-yr	1273.3	888.83	884.18	1.89	1.48	20.28	10.03	122.46	594.37	2.93	1.44	4.64	4.64
Yellowstone County	B7	RM 338.19	64384.71	1.5-yr	1273.3	888.75	885.23	1.31	1.15	11.86	7.73	389.4	871.83	1.94	1.27	3.52	3.52
Yellowstone County	B7	RM 338.06	64164.59	1.5-yr	1273.3	888.63	884.64	1.4	1.07	13.12	6.62	283.85	979.78	2.41	1.22	3.99	3.99
Yellowstone County	B7	RM 337.91	63921.69	1.5-yr	1273.3	888.43	884.16	1.8	1.33	16.98	6.78	201.02	892.09	2.73	1.09	4.27	4.27
Yellowstone County	B7	RM 337.83	63789.53	1.5-yr	1273.3	888.11	882.72	2.56	2.15	41.41	19.12	177.18	481.19	2.67	1.23	5.39	5.39
Yellowstone County	B7	RM 337.75	63667.96	1.5-yr	1273.3	887.84	881.69	2.84	2.28	45.12	19.73	141.04	427.48	3	1.31	6.15	6.15
Yellowstone County	B7	RM 337.68	63550.4	1.5-yr	1273.3	887.73	882.49	2.49	2.22	40.38	20.54	161.63	366.37	3.08	1.57	5.24	5.24
Yellowstone County	B7	RM 337.58	63396.62	1.5-yr	1273.3	887.52	883.62	2.52	2.17	35.6	21.55	183.56	374.59	2.58	1.57	3.9	3.9
Yellowstone County	B7	RM 337.47	63212.44	1.5-yr	1273.3	887.33	883.31	2.25	1.77	32.68	18.24	177.16	484.82	2.66	1.48	4.02	4.02
Yellowstone County	B7	RM 337.38	63064.58	1.5-yr	1273.3	887.09	883.29	2.47	1.91	35.18	15.64	160.23	545.3	2.76	1.22	3.8	3.8

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	1.5-yr	1273.3	887.05	883.15	1.7	1.29	15.99	7.28	200.53	826.72	2.63	1.2	3.9	3.9
Yellowstone County	B7	RM 337.16	62717.85	1.5-yr	1273.3	886.97	882.57	1.35	1.13	10.92	5.62	393.25	1039.73	2.11	1.08	4.4	4.4
Yellowstone County	B7	RM 337.04	62524.52	1.5-yr	1273.3	886.91	879.61	1.43	1.04	10.66	3.42	152.29	954.26	4.02	1.28	7.3	7.3
Yellowstone County	B7	RM 336.96	62390.64	1.5-yr	1273.3	886.82	880.21	1.65	1.27	21.13	7.32	184.74	862.1	3.39	1.17	6.61	6.61
Yellowstone County	B7	RM 336.87	62246.97	1.5-yr	1273.3	886.68	881.41	1.94	1.46	22.23	6.85	155.78	808.39	3.52	1.08	5.27	5.27
Yellowstone County	B7	RM 336.80	62131.42	1.5-yr	1273.3	886.58	881.33	1.97	1.47	33.45	11.86	162.27	810.1	3.12	1.1	5.25	5.25
Yellowstone County	B7	RM 336.72	62005.73	1.5-yr	1273.3	886.33	881.38	2.38	2	46.23	16.6	135.44	554.21	3.33	1.19	4.95	4.95
Yellowstone County	B7	RM 336.66	61902.64	1.5-yr	1273.3	885.95	881.45	3.05	2.82	62.23	32.01	111.88	268.16	3.28	1.69	4.5	4.5
Yellowstone County	B7	RM 336.59	61800.43	1.5-yr	1273.3	885.94	880.66	2.28	2.01	38.59	17.21	134.04	392.44	3.62	1.61	5.28	5.28
Yellowstone County	B7	RM 336.52	61689.55	1.5-yr	1273.3	885.82	881.76	2.28	1.9	34.24	18.06	144.58	424.51	2.99	1.58	4.06	4.06
Yellowstone County	B7	RM 336.46	61580.5	1.5-yr	1273.3	885.71	882.13	2.12	1.91	32.53	15.79	153.8	483.27	2.85	1.38	3.58	3.58
Yellowstone County	B7	RM 336.40	61491.01	1.5-yr	1273.3	885.6	882.03	2.16	1.86	34.19	13.64	158.3	595.69	2.88	1.15	3.57	3.57
Yellowstone County	B7	RM 336.34	61394.22	1.5-yr	1273.3	885.49	881.93	2.2	1.65	32.8	13.58	162.46	693.1	2.69	1.11	3.56	3.56
Yellowstone County	B7	RM 336.27	61278.9	1.5-yr	1273.3	885.37	881.67	2.08	1.52	28.88	10.98	168.39	809.88	2.72	1.03	3.7	3.7
Yellowstone County	B7	RM 336.19	61159.07	1.5-yr	1273.3	885.19	882.11	2.19	1.7	27.55	15.79	206.38	903.6	2.02	1.16	3.08	3.08
Yellowstone County	B7	RM 336.09	60993.57	1.5-yr	1273.3	885.05	882.16	1.67	1.29	19.28	10.59	319.68	988.78	1.85	1.01	2.89	2.89
Yellowstone County	B7	RM 335.98	60812.26	1.5-yr	1273.3	884.86	881.93	1.37	1.23	23.27	15.88	398.83	1026.44	1.55	1.06	3.13	3.13
Yellowstone County	B7	RM 335.89	60669.74	1.5-yr	1273.3	884.67	880.16	1.51	1.41	16.19	12.21	517.76	863.37	1.58	1.19	4.51	4.51
Yellowstone County	B7	RM 335.77	60465.85	1.5-yr	1273.3	884.35	880.49	1.6	1.55	28.82	24.51	614.37	892.08	1.28	1.09	3.86	3.86
Yellowstone County	B7	RM 335.68	60324.8	1.5-yr	1273.3	884.09	880.65	1.72	1.69	16.36	14.05	564.49	809.94	1.31	1.12	3.44	3.44
Yellowstone County	B7	RM 335.59	60183.7	1.5-yr	1273.3	883.89	880.3	1.8	1.79	15.72	15.08	603.67	716.22	1.17	1.12	3.59	3.59
Yellowstone County	B7	RM 335.51	60046.12	1.5-yr	1273.3	883.73	880.03	1.67	1.66	13.9	13.41	588.86	900	1.3	1.25	3.7	3.7
Yellowstone County	B7	RM 335.41	59899.97	1.5-yr	1273.3	883.64	879.45	1.22	1.15	9.86	8.28	834.98	1303.99	1.22	1.02	4.19	4.19
Yellowstone County	B7	RM 335.36	59814.82	1.5-yr	1273.3	883.63	878.65	0.82	0.76	4.18	2.99	870.67	1952.75	1.73	1.23	4.98	4.98
Yellowstone County	B7	RM 335.12	59393.71	1.5-yr	1273.3	883.43	878.54	1.46	1	12.53	4.69	314.31	1725.73	2.41	0.9	4.89	4.89
Yellowstone County	B7	RM 335.03	59228.59	1.5-yr	1273.3	883.11	876.8	2.5	1.59	43.33	12.28	148.47	1090.02	2.79	0.79	6.31	6.31
Yellowstone County	B7	RM 334.91	59041.32	1.5-yr	1273.3	882.86	878.31	2.13	1.42	35.58	12.85	226.01	1137.78	2.21	0.8	4.55	4.55
Yellowstone County	B7	RM 334.85	58937.73	1.5-yr	1273.3	882.68	878.66	2.12	1.47	37.1	13.58	223.8	1117.05	2.19	0.8	4.02	4.02
Yellowstone County	B7	RM 334.73	58737.5	1.5-yr	1273.3	882.12	879.52	2.77	2.04	48.9	25.84	187.66	576.77	2.12	1.12	2.74	2.74
Yellowstone County	B7	RM 334.63	58573.32	1.5-yr	1273.3	881.86	878.31	2.47	1.76	37.17	20.35	182.12	731.55	2.01	1.1	3.55	3.55
Yellowstone County	B7	RM 334.54	58424.99	1.5-yr	1273.3	881.82	877.09	1.24	1.14	18.45	10.59	136.42	832.73	2.51	1.44	4.73	4.73
Yellowstone County	B7	RM 334.22	57821.07	1.5-yr	1273.3	881.52	875.76	1.67	1.25	13.24	7.12	174.49	550.99	3.57	1.92	5.76	5.76
Yellowstone County	B7	RM 334.09	57621.62	1.5-yr	1273.3	881.15	875.55	2.86	2.17	58.32	27.07	107.68	441.81	3.17	1.47	5.6	5.6
Yellowstone County	B7	RM 333.98	57440.64	1.5-yr	1273.3	881.12	875.46	1.94	1.54	20.14	11.7	137.01	389.5	3.87	2.25	5.66	5.66
Yellowstone County	B7	RM 333.83	57207.78	1.5-yr	1273.3	880.96	875.4	2	1.76	25.82	17.26	149.81	354.25	3.28	2.19	5.56	5.56
Yellowstone County	B7	RM 333.69	56989.22	1.5-yr	1273.3	880.79	873.45	1.56	1.52	26.88	23.16	330.26	420.09	2.45	2.11	7.34	7.34
Yellowstone County	B7	RM 333.54	56738.21	1.5-yr	1273.3	880.65	874.22	1.08	1.03	13.67	9.45	398.79	733.78	2.91	2.01	6.43	6.43
Yellowstone County	B7	RM 333.42	56552.03	1.5-yr	1273.3	880.5	873.42	1.29	1.26	23.23	17.37	422.29	784.91	2.32	1.73	7.08	7.08
Yellowstone County	B7	RM 333.30	56351.75	1.5-yr	1273.3	880.15	875.65	1.56	1.55	45.13	43.67	442.48	486.94	1.84	1.78	4.5	4.5
Yellowstone County	B7	RM 333.19	56177.76	1.5-yr	1273.3	879.69	875.72	1.85	1.84	39.26	35.19	364.96	441.81	1.88	1.69	3.97	3.97
Yellowstone County	B7	RM 333.09	56027.56	1.5-yr	1273.3	879.52	875.59	1.63	1.55	17.11	14.32	381.15	674.16	2.04	1.7	3.93	3.93
Yellowstone County	B7	RM 332.99	55855.76	1.5-yr	1273.3	879.26	873.86	1.78	1.66	45.37	38.41	376.57	772.76	1.8	1.52	5.4	5.4
Yellowstone County	B7	RM 332.88	55687.68	1.5-yr	1273.3	879.05	874.43	1.56	1.55	15.97	13.69	398.11	607.65	1.94	1.66	4.62	4.62
Yellowstone County	B7	RM 332.77	55504.73	1.5-yr	1273.3	878.96	875.49	1.36	1.26	11.67	5.88	376.01	1033.62	2.38	1.2	3.47	3.47
Yellowstone County	B7	RM 332.66	55333.33	1.5-yr	1273.3	878.83	874.96	1.53	1.38	18.42	9.74	333.59	1049.58	2.36	1.25	3.87	3.87
Yellowstone County	B7	RM 332.56	55182.74	1.5-yr	1273.3	878.73	874.54	1.44	1.36	15.21	9.79	310.09	873.92	2.7	1.74	4.19	4.19
Yellowstone County	B7	RM 332.47	55059.84	1.5-yr	1273.3	878.67	873.95	1.39	1.24	14.8	8.05	277.71	879.98	2.97	1.61	4.72	4.72
Yellowstone County	B7	RM 332.38	54913.1	1.5-yr	1273.3	878.42	873.16	2.17	2.02	33.8	26.48	158.33	335.31	3.59	2.81	5.26	5.26
Yellowstone County	B7	RM 332.33	54822.67	1.5-yr	1273.3	878.31	872.5	2.16	1.98	44.77	32.64	171.02	391.88	3.36	2.45	5.81	5.81
Yellowstone County	B7	RM 332.21	54626.48	1.5-yr	1273.3	878.14	873.4	2.05	1.96	25.21	21.15	171.31	273.06	3.46	2.91	4.74	4.74
Yellowstone County	B7	RM 332.17	54575.38	1.5-yr	1273.3	878.07	872.76	2.2	2.07	27.59	12.72	138.21	478.13	4.01	1.83	5.31	5.31
Yellowstone County	B7	RM 332.08	54422.01	1.5-yr	1273.3	877.94	873.77	2.2	1.98	31.71	15.31	151.64	493.02	3.44	1.65	4.17	4.17
Yellowstone County	B7	RM 331.96	54224.76	1.5-yr	1273.3	877.77	873.18	2	1.89	31.89	18.14	183.07	461.56	3.08	1.75	4.59	4.59
Yellowstone County	B7	RM 331.85	54057.19	1.5-yr	1273.3	877.54	873.16	1.98	1.93	50.28	39.87	231.54	313.41	2.76	2.19	4.38	4.38
Yellowstone County	B7	RM 331.74	53882.8	1.5-yr	1273.3	877.17	872.62	2.46	2.22	40.1	27.25	147.05	286.15	3.4	2.31	4.55	4.55
Yellowstone County	B8	RM 331.66	53744.64	1.5-yr	1273.3	877.08	871.68	1.98	1.88	31.46	23.13	217.38	315.69	2.91	2.14	5.4	5.4
Yellowstone County	B8	RM 331.55	53575.67	1.5-yr	1273.3	876.86	872.61	2.16	1.87	31.95	20.09	185.29	374.59	2.89	1.82	4.25	4.25
Yellowstone County	B8	RM 331.41	53354.89	1.5-yr	1273.3	876.59	872.56	2.17	1.87	35.72	21.12	217.51	474.38	2.44	1.44	4.03	4.03
Yellowstone County	B8	RM 331.32	53209.79	1.5-yr	1273.3	876.4	871.92	2.1	1.68	27.23	14.53	210.46	566.82	2.52	1.34	4.48	4.48
Yellowstone County	B8	RM 331.23	53053.99	1.5-yr	1273.3	876.21	871.53	1.88	1.68	28.12	20.25	352.83	636.29	1.66	1.19	4.68	4.68
Yellowstone County	B8	RM 331.14	52919.44	1.5-yr	1273.3	876.08	871.72	1.57	1.36	20.01	14.93	276.95	576.09	2.18	1.62	4.36	4.36

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	1.5-yr	1273.3	875.99	871.29	1.5	1.44	18.06	14.25	303.78	488.73	2.3	1.81	4.7	4.7
Yellowstone County	B8	RM 331.01	52700.37	1.5-yr	1273.3	875.87	871.8	1.56	1.45	20.55	13.71	299.28	594.52	2.22	1.48	4.07	4.07
Yellowstone County	B8	RM 330.93	52576.5	1.5-yr	1273.3	875.76	871.67	1.54	1.48	19.18	13.75	244.85	454.13	2.76	1.98	4.09	4.09
Yellowstone County	B8	RM 330.83	52418.21	1.5-yr	1273.3	875.57	870.75	2.06	1.81	24.48	17.59	140.85	326.21	3.57	2.56	4.82	4.82
Yellowstone County	B8	RM 330.77	52321.13	1.5-yr	1273.3	875.46	870.68	2.15	2.03	27.84	18.72	157.87	344.53	3.2	2.15	4.78	4.78
Yellowstone County	B8	RM 330.68	52174.9	1.5-yr	1273.3	875.26	870.33	2.45	2.24	32.85	20.58	127.86	323.04	3.42	2.15	4.93	4.93
Yellowstone County	B8	RM 330.58	52000.46	1.5-yr	1273.3	875.08	869.72	2.44	2.07	43.15	21.44	115.44	355.44	3.72	1.84	5.36	5.36
Yellowstone County	B8	RM 330.48	51852.83	1.5-yr	1273.3	874.91	868.81	2.51	2	42.97	17.92	104.08	380.09	4.06	1.67	6.1	6.1
Yellowstone County	B8	RM 330.39	51701.57	1.5-yr	1273.3	874.78	869.32	2.35	2.01	29.18	13.2	131.26	419.47	3.34	1.51	5.46	5.46
Yellowstone County	B8	RM 330.32	51592.04	1.5-yr	1273.3	874.68	869.57	2.35	2.05	28.46	14.4	134.34	356.15	3.46	1.75	5.11	5.11
Yellowstone County	B8	RM 330.25	51473.55	1.5-yr	1273.3	874.58	868.38	2.33	1.98	30.28	14.64	137.98	407.34	3.28	1.58	6.2	6.2
Yellowstone County	B8	RM 330.17	51344.77	1.5-yr	1273.3	874.45	869.9	2.32	1.99	31	18.46	150.2	358.24	3.01	1.79	4.55	4.55
Yellowstone County	B8	RM 330.10	51243.99	1.5-yr	1273.3	874.33	870.02	2.28	2.01	32.93	20.8	183.34	374.4	2.68	1.69	4.31	4.31
Yellowstone County	B8	RM 330.05	51150.67	1.5-yr	1273.3	874.26	869.94	1.87	1.68	23.95	14.01	294.11	649.55	2	1.16	4.32	4.32
Yellowstone County	B8	RM 329.95	50995.78	1.5-yr	1273.3	874.09	869.67	1.74	1.67	22.86	15.7	350.09	532.96	2.08	1.43	4.42	4.42
Yellowstone County	B8	RM 329.86	50853.11	1.5-yr	1273.3	873.96	869.99	1.61	1.49	18.26	11.42	376.79	671.56	2.04	1.27	3.97	3.97
Yellowstone County	B8	RM 329.75	50682.47	1.5-yr	1273.3	873.77	869.45	1.46	1.36	28.61	15.77	471.86	1018.34	1.8	0.99	4.32	4.32
Yellowstone County	B8	RM 329.66	50540.7	1.5-yr	1273.3	873.52	869.45	1.7	1.57	26.73	16.26	390.57	725.95	1.84	1.12	4.07	4.07
Yellowstone County	B8	RM 329.57	50390.78	1.5-yr	1273.3	873.32	869.17	1.66	1.52	18.88	13.18	472.4	790.1	1.53	1.06	4.15	4.15
Yellowstone County	B8	RM 329.49	50267.58	1.5-yr	1273.3	873.16	869.52	1.7	1.51	19.74	14.16	418.04	722.17	1.63	1.17	3.64	3.64
Yellowstone County	B8	RM 329.43	50165.22	1.5-yr	1273.3	873.12	869.82	1.25	1.16	10.18	7.26	525.93	814.09	1.89	1.34	3.3	3.3
Yellowstone County	B8	RM 329.37	50053.96	1.5-yr	1273.3	873.07	869.58	1.21	1.06	9.48	6.06	445.15	957.72	1.97	1.26	3.49	3.49
Yellowstone County	B8	RM 329.31	49969.13	1.5-yr	1273.3	873	869.66	1.33	1.14	14.09	8.04	372.29	1019.25	1.93	1.1	3.34	3.34
Yellowstone County	B8	RM 329.26	49883.05	1.5-yr	1273.3	872.93	868.74	1.35	1.18	11.87	7	373.04	957.59	1.92	1.13	4.19	4.19
Yellowstone County	B8	RM 329.20	49785.51	1.5-yr	1273.3	872.84	868.71	1.46	1.32	14.5	9.6	397.53	840.02	1.74	1.15	4.13	4.13
Yellowstone County	B8	RM 329.15	49699.71	1.5-yr	1404.9	872.77	868.64	1.36	1.23	17.62	11.89	463.63	889.71	1.91	1.29	4.13	4.13
Yellowstone County	B8	RM 329.08	49597.49	1.5-yr	1404.9	872.67	869.34	1.28	1.13	17.43	11.15	470.87	1023.99	1.89	1.21	3.33	3.33
Yellowstone County	B8	RM 328.96	49388.08	1.5-yr	1404.9	872.5	868.99	1.5	1.17	16.9	8.83	304.19	1052.59	2.19	1.14	3.51	3.51
Yellowstone County	B8	RM 328.85	49197.37	1.5-yr	1404.9	872.29	866.79	1.88	1.64	12.12	8.13	427.65	874.44	1.46	0.98	5.5	5.5
Yellowstone County	B8	RM 328.75	49036.09	1.5-yr	1404.9	872.25	866.93	1.34	1.02	9.23	6.16	391.22	1266.74	1.73	1.15	5.32	5.32
Yellowstone County	B8	RM 328.68	48920.76	1.5-yr	1404.9	872.13	867.09	1.65	1.28	19.14	9.35	302.01	1084.87	2.07	1.01	5.04	5.04
Yellowstone County	B8	RM 328.60	48788.86	1.5-yr	1404.9	871.93	866.36	2.12	1.61	22.75	8.17	194.14	862.35	2.85	1.01	5.57	5.57
Yellowstone County	B8	RM 328.52	48664.7	1.5-yr	1404.9	871.89	867.75	1.84	1.37	19.8	7.66	165.37	1152.99	2.52	0.96	4.14	4.14
Yellowstone County	B8	RM 328.44	48539.46	1.5-yr	1404.9	871.7	867.34	2.22	1.66	33.63	11.02	137.16	738.01	3.54	1.15	4.36	4.36
Yellowstone County	B8	RM 328.36	48405.85	1.5-yr	1404.9	871.48	867.12	2.59	1.95	32.6	10.97	131.73	658.32	3.3	1.09	4.36	4.36
Yellowstone County	B8	RM 328.28	48276.93	1.5-yr	1404.9	871.42	867.73	1.92	1.86	31.85	19.2	189.85	431.92	2.9	1.75	4.31	4.31
Yellowstone County	B8	RM 328.16	48097.58	1.5-yr	1404.9	871.21	866.7	1.91	1.81	32.14	20.63	218.08	509.32	2.38	1.52	4.51	4.51
Yellowstone County	B8	RM 328.05	47914.16	1.5-yr	1404.9	871.03	866.62	1.7	1.58	23.6	17.69	260.58	507.81	2.33	1.75	4.41	4.41
Yellowstone County	B8	RM 327.93	47729.4	1.5-yr	1404.9	870.8	865.67	1.97	1.79	22.59	16.03	294.83	511.38	2.17	1.54	5.13	5.13
Yellowstone County	B8	RM 327.88	47641.03	1.5-yr	1404.9	870.63	866	2.25	1.91	33.57	20.23	245.09	540.29	2.26	1.36	4.63	4.63
Yellowstone County	B8	RM 327.81	47525.32	1.5-yr	1404.9	870.53	866.29	2.16	1.79	23.58	11.3	179.98	536.23	3.06	1.47	4.24	4.24
Yellowstone County	B8	RM 327.75	47432.57	1.5-yr	1404.9	870.32	865.09	2.65	2.11	32.26	12.34	133.48	476.66	3.66	1.4	5.23	5.23
Yellowstone County	B8	RM 327.69	47341.24	1.5-yr	1404.9	870.12	864.48	3.15	2.18	41.89	17.48	104.23	427.95	3.63	1.5	5.64	5.64
Yellowstone County	B8	RM 327.62	47227.31	1.5-yr	1404.9	870.07	863.86	2.68	2.02	37.3	16.29	127.68	582.35	3.31	1.44	6.21	6.21
Yellowstone County	B8	RM 327.56	47124.87	1.5-yr	1404.9	870.05	864.46	2.27	1.75	27.57	14.68	153.69	622.43	2.91	1.55	5.59	5.59
Yellowstone County	B8	RM 327.51	47053.82	1.5-yr	1404.9	870.01	865.84	1.89	1.6	22.48	17.3	295.96	658.06	1.73	1.34	4.17	4.17
Yellowstone County	B8	RM 327.44	46933.28	1.5-yr	1404.9	869.99	866.93	1	1.13	7.75	8.17	387.11	700.69	1.69	1.78	3.37	3.37
Yellowstone County	B8	RM 327.37	46817.72	1.5-yr	1404.9	869.88	866.26	1.56	1.47	17.73	11.76	337.57	731.62	1.97	1.3	3.62	3.62
Yellowstone County	B8	RM 327.29	46687.12	1.5-yr	1404.9	869.79	866.04	1.54	1.38	15.58	9.97	302.61	760.5	2.1	1.34	3.75	3.75
Yellowstone County	B8	RM 327.23	46600.07	1.5-yr	1404.9	869.71	866.25	1.64	1.5	17.17	8.88	283.03	869.21	2.09	1.08	3.86	3.86
Yellowstone County	B8	RM 327.16	46485.25	1.5-yr	1404.9	869.57	865.67	1.83	1.61	24.48	13.01	268.26	775.03	2.14	1.14	3.9	3.9
Yellowstone County	B8	RM 327.08	46360.36	1.5-yr	1404.9	869.5	864.94	1.54	1.29	15.8	7.49	260.02	1006.98	2.59	1.23	4.56	4.56
Yellowstone County	B8	RM 327.00	46240.1	1.5-yr	1404.9	869.44	864.56	1.49	1.32	17.52	9.39	227.38	676.5	3.33	1.79	4.88	4.88
Yellowstone County	B8	RM 326.94	46091.8	1.5-yr	1404.9	869.38	864.04	1.54	1.25	12.11	6.31	223.67	641.04	3.36	1.75	5.34	5.34
Yellowstone County	B8	RM 326.88	46003.77	1.5-yr	1404.9	869.27	864.08	1.9	1.5	24.66	10.82	170.06	678.74	3.14	1.38	5.19	5.19
Yellowstone County	B8	RM 326.82	45901.15	1.5-yr	1404.9	869.17	864.18	1.96	1.53	25.86	14.19	201.73	724.57	2.3	1.27	4.99	4.99
Yellowstone County	B8	RM 326.78	45830.7	1.5-yr	1404.9	869.1	864.46	2.08	1.5	24.49	12.91	163.64	716.51	2.48	1.31	4.64	4.64
Yellowstone County	B8	RM 326.70	45707.6	1.5-yr	1404.9	869.03	864.66	1.78	1.36	15.85	11.24	239.09	658.17	2.22	1.57	4.37	4.37
Yellowstone County	B8	RM 326.64	45589.72	1.5-yr	1404.9	868.91	864.92	1.52	1.52	41.38	33.88	415.43	693.47	1.63	1.34	3.99	3.99
Yellowstone County	B8	RM 326.55	45430.24	1.5-yr	1404.9	868.72	864.83	1.66	1.54	17.07	12.93	347.31	556.88	2.17	1.64	3.89	3.89
Yellowstone County	B8	RM 326.45	45281.78	1.5-yr	1404.9	868.61	864.12	1.66	1.56	17.32	13.06	332.98	537.5	2.23	1.68	4.49	4.49

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	1.5-yr	1404.9	868.58	864.32	1.39	1.31	12.32	9.86	432.08	650.95	2.06	1.65	4.26	4.26
Yellowstone County	B8	RM 326.35	45106.57	1.5-yr	1404.9	868.55	864.43	1.19	1.09	8.75	6.65	482.7	717.42	2.37	1.8	4.12	4.12
Yellowstone County	B8	RM 326.28	45022.31	1.5-yr	1404.9	868.54	864.61	0.97	0.9	5.3	3.43	548.28	901.79	3	1.94	3.93	3.93
Yellowstone County	B8	RM 326.07	44588.61	1.5-yr	1404.9	868.29	862.39	1.75	1.71	9.25	7.19	525.71	728.91	1.52	1.18	5.9	5.9
Yellowstone County	B8	RM 326.00	44481.07	1.5-yr	1404.9	868.23	861.24	1.7	1.64	7.7	6.2	596.67	831.4	1.38	1.11	6.99	6.99
Yellowstone County	B8	RM 325.94	44379.11	1.5-yr	1404.9	868.18	861.85	1.33	1.3	29.88	23.6	646.58	1044.77	1.62	1.27	6.33	6.33
Yellowstone County	B8	RM 325.89	44304.17	1.5-yr	1404.9	868.03	863	1.29	1.26	31.47	25.05	716.43	961.55	1.51	1.2	5.03	5.03
Yellowstone County	B8	RM 325.86	44262.16	1.5-yr	1404.9	868	863.76	1.26	1.23	5.72	4.75	736.58	916.57	1.5	1.25	4.24	4.24
Yellowstone County	B8	RM 325.81	44176.46	1.5-yr	1404.9	867.96	863.1	1.3	1.21	6.12	4.75	720.68	1010.03	1.48	1.15	4.86	4.86
Yellowstone County	B8	RM 325.76	44089.5	1.5-yr	1404.9	867.91	862.66	1.14	1.09	21.33	16.78	683.99	954.6	1.76	1.38	5.25	5.25
Yellowstone County	B8	RM 325.69	43989.97	1.5-yr	1404.9	867.85	862.55	1.18	1.09	6.58	4	616.51	1166.9	1.9	1.15	5.3	5.3
Yellowstone County	B8	RM 325.58	43809.68	1.5-yr	1404.9	867.76	862.61	1.16	1.02	22.07	13.26	471.46	966.37	2.39	1.43	5.15	5.15
Yellowstone County	B8	RM 325.50	43680.96	1.5-yr	1404.9	867.58	862.6	1.35	1.28	28.44	16.7	434.18	813.7	2.32	1.35	4.98	4.98
Yellowstone County	B8	RM 325.43	43556.76	1.5-yr	1404.9	867.42	860.89	1.39	1.27	31.31	15.41	385.28	892.84	2.53	1.24	6.53	6.53
Yellowstone County	B8	RM 325.37	43461.41	1.5-yr	1404.9	867.32	861.36	1.32	1.2	27.7	14.4	342.57	822.12	2.73	1.42	5.96	5.96
Yellowstone County	B8	RM 325.30	43343.13	1.5-yr	1404.9	867.16	861.56	1.62	1.42	24.99	10.84	263.4	741.86	3.08	1.33	5.6	5.6
Yellowstone County	B8	RM 325.21	43210.67	1.5-yr	1404.9	867.03	861.34	1.82	1.57	22.16	8.16	202.95	675.31	3.63	1.33	5.69	5.69
Yellowstone County	B8	RM 325.13	43078.9	1.5-yr	1404.9	866.88	861.36	2.11	1.75	30.29	8.96	148.57	635.09	4.3	1.26	5.52	5.52
Yellowstone County	B8	RM 325.06	42966.54	1.5-yr	1404.9	866.63	860.78	2.67	2.38	45.5	15.33	120.96	417.15	4.24	1.42	5.85	5.85
Yellowstone County	B8	RM 324.99	42864.51	1.5-yr	1404.9	866.51	861.24	2.58	2.06	46.64	13.34	133.79	624.26	3.85	1.09	5.27	5.27
Yellowstone County	B8	RM 324.91	42729.7	1.5-yr	1404.9	866.37	860.76	2.47	1.95	43.82	12.61	131.74	609.38	4.13	1.18	5.61	5.61
Yellowstone County	B8	RM 324.81	42573.19	1.5-yr	1404.9	866.23	860.39	2.34	1.93	40.06	13.11	136.72	535.69	4.18	1.36	5.84	5.84
Yellowstone County	B8	RM 324.73	42451.12	1.5-yr	1404.9	866.15	861.59	2.15	1.74	31.65	11.57	178.86	640.66	3.46	1.26	4.56	4.56
Yellowstone County	B8	RM 324.65	42323.44	1.5-yr	1404.9	866.07	861.99	1.65	1.43	31.91	17.45	300.92	701.01	2.57	1.4	4.08	4.08
Yellowstone County	B8	RM 324.56	42178.25	1.5-yr	1404.9	865.94	861.76	1.72	1.41	11.5	8.28	390.96	752.41	1.84	1.32	4.18	4.18
Yellowstone County	B8	RM 324.48	42039.74	1.5-yr	1404.9	865.8	861.58	1.58	1.42	39.82	25.7	475.74	867.1	1.77	1.14	4.22	4.22
Yellowstone County	B8	RM 324.42	41946.09	1.5-yr	1404.9	865.69	861.04	1.26	1.14	22.78	13.87	478.13	908.53	2.23	1.36	4.65	4.65
Yellowstone County	B8	RM 324.34	41812.99	1.5-yr	1404.9	865.45	861.07	1.62	1.37	42.28	21.66	378.78	941.36	2.13	1.09	4.38	4.38
Yellowstone County	B8	RM 324.28	41712.42	1.5-yr	1404.9	865.19	859.64	1.78	1.55	52.43	27.9	358.52	869.41	1.97	1.05	5.55	5.55
Yellowstone County	B8	RM 324.20	41597.64	1.5-yr	1404.9	865.09	860.59	1.02	0.96	16.61	12.23	663.86	1007.54	1.98	1.45	4.5	4.5
Yellowstone County	B8	RM 324.16	41526.97	1.5-yr	1404.9	864.98	861.07	1.42	1.37	9.54	8.9	664.29	765.25	1.44	1.34	3.91	3.91
Yellowstone County	B8	RM 324.10	41434.55	1.5-yr	1404.9	864.92	860.81	1.2	1.2	21.24	19.53	657.52	719.54	1.77	1.63	4.11	4.11
Yellowstone County	B8	RM 324.04	41346.42	1.5-yr	1404.9	864.85	860.39	1.1	1.1	13.42	10.65	597.01	815.81	1.99	1.58	4.46	4.46
Yellowstone County	B8	RM 323.97	41219.29	1.5-yr	1404.9	864.76	860.64	1.08	1.05	13.7	9.81	552.28	937.14	2.01	1.43	4.12	4.12
Yellowstone County	B8	RM 323.83	40977.08	1.5-yr	1404.9	864.63	860.31	1.13	0.99	10.01	5.62	452.72	1033.42	2.45	1.37	4.32	4.32
Yellowstone County	B8	RM 323.71	40786.71	1.5-yr	1404.9	864.44	858.49	1.79	1.41	20.71	7.87	219.28	819.87	3.21	1.21	5.95	5.95
Yellowstone County	B8	RM 323.60	40615.85	1.5-yr	1404.9	864.35	858.06	1.85	1.45	21.81	8.78	120.84	724.95	4.04	1.61	6.29	6.29
Yellowstone County	B8	RM 323.55	40536.83	1.5-yr	1404.9	864.04	857.58	2.82	2.16	52.41	17.11	113.34	549.16	3.64	1.18	6.46	6.46
Yellowstone County	B8	RM 323.49	40429.96	1.5-yr	1404.9	863.92	858.37	2.67	2.03	43.68	14.3	117.75	561.45	3.77	1.23	5.55	5.55
Yellowstone County	B8	RM 323.41	40309.21	1.5-yr	1404.9	863.81	859.41	2.46	1.95	42.21	16.88	130.88	525.41	3.43	1.37	4.41	4.41
Yellowstone County	B8	RM 323.33	40186.15	1.5-yr	1404.9	863.74	859.58	2.06	1.6	24.63	9.95	174.74	723.39	3.02	1.21	4.16	4.16
Yellowstone County	B8	RM 323.27	40082.34	1.5-yr	1404.9	863.64	859.66	2.07	1.6	28.62	11.41	188.1	760.44	2.9	1.15	3.98	3.98
Yellowstone County	B8	RM 323.21	39985.33	1.5-yr	1404.9	863.53	859.54	2.08	1.57	30.72	13.82	210.59	780.71	2.55	1.15	3.99	3.99
Yellowstone County	B8	RM 323.16	39899.29	1.5-yr	1404.9	863.45	859.55	1.68	1.35	29.96	14.86	275.29	938.1	2.25	1.11	3.9	3.9
Yellowstone County	B8	RM 323.06	39735.77	1.5-yr	1404.9	863.13	858.56	1.63	1.62	35.12	26.83	296.71	663.97	1.98	1.51	4.57	4.57
Yellowstone County	B8	RM 322.93	39531.81	1.5-yr	1404.9	862.89	859.35	1.57	1.44	22.49	13.65	295.86	700.81	2.32	1.4	3.54	3.54
Yellowstone County	B8	RM 322.79	39301.41	1.5-yr	1404.9	862.65	858.62	1.79	1.48	22.67	10.91	220.09	735.11	2.69	1.29	4.03	4.03
Yellowstone County	B8	RM 322.69	39142.64	1.5-yr	1404.9	862.53	857.47	1.89	1.47	19.06	9.41	200.75	682.77	2.82	1.4	5.06	5.06
Yellowstone County	B8	RM 322.58	38982.22	1.5-yr	1404.9	862	856.56	3.27	2.79	66.48	35.12	112.13	318.5	3	1.58	5.44	5.44
Yellowstone County	B9	RM 322.51	38859.49	1.5-yr	1404.9	861.92	858.28	2.54	2.22	39.58	23.01	156.85	385.79	2.83	1.64	3.64	3.64
Yellowstone County	B9	RM 322.41	38696.02	1.5-yr	1404.9	861.82	857.62	1.6	1.61	24.57	22.88	363.88	461.4	2.03	1.89	4.21	4.21
Yellowstone County	B9	RM 322.34	38586.33	1.5-yr	1404.9	861.72	857.65	1.33	1.38	18.4	16.28	505.09	668.5	1.73	1.53	4.08	4.08
Yellowstone County	B9	RM 322.23	38396.25	1.5-yr	1404.9	861.58	857.13	1.04	1.08	14.85	13.66	605.64	753.41	1.87	1.72	4.45	4.45
Yellowstone County	B9	RM 322.13	38239.27	1.5-yr	1404.9	861.42	857.1	0.95	1.06	16.82	16.03	703.82	831.47	1.67	1.59	4.33	4.33
Yellowstone County	B9	RM 322.03	38090.48	1.5-yr	1404.9	861.04	856.15	1.48	1.63	52.72	52.49	580.54	652.9	1.32	1.32	4.89	4.89
Yellowstone County	B9	RM 321.91	37898.13	1.5-yr	1404.9	860.76	856.85	1.87	1.87	12.96	12.96	394.54	394.54	1.91	1.91	3.91	3.91
Yellowstone County	B9	RM 321.82	37758.36	1.5-yr	1404.9	860.76	856.34	1.34	1.34	6.39	6.39	555.31	555.31	1.89	1.89	4.42	4.42
Yellowstone County	B9	RM 321.70	37567.01	1.5-yr	1404.9	860.64	855.27	1.24	1.24	24.99	24.99	744.92	744.92	1.52	1.52	5.37	5.37
Yellowstone County	B9	RM 321.60	37414.63	1.5-yr	1404.9	860.55	854.48	0.91	0.91	8.22	8.22	713.9	713.9	2.17	2.17	6.08	6.08
Yellowstone County	B9	RM 321.48	37188.51	1.5-yr	1404.9	860.35	855.03	1.37	1.33	23.54	21.33	529.28	608.04	1.92	1.73	5.32	5.32
Yellowstone County	B9	RM 321.38	37016.94	1.5-yr	1404.9	860.03	854.75	1.74	1.69	31.66	27.9	448.24	530.7	1.78	1.57	5.28	5.28

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	1.5-yr	1404.9	859.91	855.3	1.35	1.33	13.65	12.38	453.3	509.69	2.29	2.07	4.61	4.61
Yellowstone County	B9	RM 321.13	36652.19	1.5-yr	1404.9	859.8	854.69	1.33	1.02	19.24	10.44	272.98	906.25	3.06	1.64	5.11	5.11
Yellowstone County	B9	RM 321.05	36531.25	1.5-yr	1404.9	859.7	855.36	1.59	1.23	13.23	5.61	188.88	734.66	3.71	1.56	4.34	4.34
Yellowstone County	B9	RM 321.00	36446.98	1.5-yr	1404.9	859.57	855.12	2.13	1.7	31.92	11.6	128.85	620.67	3.75	1.33	4.45	4.45
Yellowstone County	B9	RM 320.71	36404.1*	1.5-yr	1404.9	859.47	855.12	2.38	1.83	27.41	11.11	133.88	547.83	3.51	1.4	4.36	4.36
Yellowstone County	B9	RM 320.62	36361.3*	1.5-yr	1404.9	859.41	855.12	2.48	1.88	29.22	12.25	137.03	539.53	3.36	1.38	4.3	4.3
Yellowstone County	B9	RM 320.92	36318.56	1.5-yr	1404.9	859.35	855.12	2.54	2.13	45.46	17.94	127.76	564.91	3.52	1.36	4.23	4.23
Yellowstone County	B9	RM 320.44	36258.3*	1.5-yr	1404.9	859.3	855.19	2.46	1.99	27.92	12.49	147.88	547.16	3.24	1.43	4.11	4.11
Yellowstone County	B9	RM 320.38	36198.1*	1.5-yr	1404.9	859.26	855.26	2.32	1.81	25.39	10.39	155.98	611.62	3.31	1.34	4	4
Yellowstone County	B9	RM 320.80	36137.92	1.5-yr	1404.9	859.25	855.33	2.1	1.63	30.99	12.52	153.75	659.72	3.49	1.39	3.92	3.92
Yellowstone County	B9	RM 320.71	35990.21	1.5-yr	1404.9	859.22	854.38	1.36	1.21	16.57	6.58	273.64	903.16	3.28	1.29	4.83	4.83
Yellowstone County	B9	RM 320.54	35839.45	1.5-yr	1404.9	859.1	853.99	1.49	1.22	17.11	7.88	323.4	934.35	2.7	1.23	5.12	5.12
Yellowstone County	B9	RM 320.44	35717.45	1.5-yr	1404.9	859.03	854.32	1.48	1.2	14.1	5.46	334.82	1213.89	2.53	0.97	4.71	4.71
Yellowstone County	B9	RM 320.62	35556.9	1.5-yr	1404.9	858.93	854.17	1.5	1.2	22.3	9.21	248.98	1001.58	2.91	1.19	4.76	4.76
Yellowstone County	B9	RM 320.38	35461.42	1.5-yr	1404.9	858.82	854.17	1.75	1.31	18.71	6.39	196.39	895.6	3.57	1.2	4.65	4.65
Yellowstone County	B9	RM 320.32	35359.13	1.5-yr	1404.9	858.62	854.57	2.35	1.89	37.02	11.38	138.39	647.81	3.82	1.15	4.06	4.06
Yellowstone County	B9	RM 320.25	35241.01	1.5-yr	1404.9	858.05	854.29	3.56	3.18	83.12	28.86	108.66	381.67	3.41	1.16	3.76	3.76
Yellowstone County	B9	RM 320.20	35163.52	1.5-yr	1404.9	857.89	854.2	3.41	3.03	79.46	32.33	119.91	370.06	3.14	1.25	3.69	3.69
Yellowstone County	B9	RM 320.14	35071.29	1.5-yr	1404.9	857.69	854.32	3.16	2.85	69.21	35.79	155.68	368.88	2.61	1.34	3.37	3.37
Yellowstone County	B9	RM 320.01	34865.89	1.5-yr	1404.9	857.3	854.42	2.54	2.54	31.1	29.12	120.04	308.17	1.91	1.79	2.95	2.95
Yellowstone County	B9	RM 319.91	34707.77	1.5-yr	1404.9	857.26	854.66	1.35	1.77	13.32	14.2	139.45	390.19	2.05	2.17	3.68	3.68
Yellowstone County	B9	RM 319.86	34625.68	1.5-yr	1404.9	857.22	854.6	1.25	1.67	13.84	12.81	149.3	494.76	1.93	1.78	3.66	3.66
Yellowstone County	B9	RM 319.78	34508.06	1.5-yr	1404.9	857.07	854.51	2.11	1.94	30.16	21.98	105.68	420.15	2.4	1.73	3.55	3.55
Yellowstone County	B9	RM 319.73	34426.63	1.5-yr	1404.9	856.9	854.69	2.65	1.71	39.69	30.48	153.13	549.12	1.95	1.5	3.43	3.43
Yellowstone County	B9	RM 319.66	34314.84	1.5-yr	1404.9	856.79	854.51	1.84	1.78	18.38	13.36	152.83	590.77	1.84	1.34	3.36	3.36
Yellowstone County	B9	RM 319.57	34163.05	1.5-yr	1404.9	856.65	853.93	1.95	1.83	18.32	13.88	193.94	534.6	1.9	1.43	3.31	3.31
Yellowstone County	B9	RM 319.44	33955.96	1.5-yr	1404.9	856.53	853.14	1.86	1.69	24.99	17.3	153.24	571.35	2.13	1.46	3.4	3.4
Yellowstone County	B9	RM 319.39	33872.4	1.5-yr	1404.9	856.44	852.65	2.08	1.77	21.44	13.58	137.96	571.25	2.23	1.39	3.8	3.8
Yellowstone County	B9	RM 319.34	33786.83	1.5-yr	1404.9	856.39	852.83	1.94	1.58	18.47	11.07	178.14	676.41	2.21	1.31	3.56	3.56
Yellowstone County	B9	RM 319.22	33580.15	1.5-yr	1404.9	856.33	851.79	1.94	1.31	16.9	8.81	80.63	625.67	3.4	1.71	4.53	4.53
Yellowstone County	B9	RM 319.17	33497.33	1.5-yr	1404.9	856.31	851.64	1.48	1.3	12.32	8.4	119.99	648.9	2.64	1.76	4.67	4.67
Yellowstone County	B9	RM 319.09	33368.53	1.5-yr	1404.9	856.05	851.25	2.3	2.17	36.44	27.13	130.52	282.4	3.12	2.29	4.8	4.8
Yellowstone County	B9	RM 319.04	33287.21	1.5-yr	1404.9	855.81	851.49	2.9	2.46	54.68	32.44	110.08	284.46	3.44	2	4.32	4.32
Yellowstone County	B9	RM 318.96	33153.16	1.5-yr	1404.9	855.66	851.64	2.44	2.27	46.35	31.34	154.47	303.9	3.04	2.04	4.02	4.02
Yellowstone County	B9	RM 318.91	33065.54	1.5-yr	1404.9	855.54	851.86	2.33	2.16	44.78	30.99	172.67	325.03	2.9	2	3.69	3.69
Yellowstone County	B9	RM 318.82	32939.33	1.5-yr	1404.9	855.35	851.86	2.51	2.17	32.06	19.68	152.37	337.68	3.15	1.92	3.5	3.5
Yellowstone County	B9	RM 318.74	32833.24	1.5-yr	1404.9	855.33	851.86	1.91	1.74	24.57	16.54	180.43	506.61	2.97	1.98	3.48	3.48
Yellowstone County	B9	RM 318.62	32649.76	1.5-yr	1404.9	855.14	850.67	1.67	1.67	30.35	26.53	315.82	476.34	2.02	1.77	4.47	4.47
Yellowstone County	B9	RM 318.42	32315.28	1.5-yr	1404.9	854.71	850.15	1.85	1.83	21.12	19.22	339.9	377.57	2.24	2.03	4.56	4.56
Yellowstone County	B9	RM 318.17	31866.42	1.5-yr	1404.9	854.3	849.17	1.98	1.7	24.93	13.91	206.28	461.32	3.24	1.79	5.13	5.13
Yellowstone County	B9	RM 317.97	31551.39	1.5-yr	1404.9	854.06	848.35	2.02	1.94	17.61	12.02	227.37	351.71	3.03	2.06	5.71	5.71
Yellowstone County	B10	RM 317.87	31388.76	1.5-yr	1404.9	853.8	848.78	2.58	2.36	36.86	17.78	152.69	359.81	3.48	1.66	5.02	5.02
Yellowstone County	B10	RM 317.78	31248.07	1.5-yr	1404.9	853.77	848.75	2.14	1.7	25.2	9.81	142.98	551.45	3.9	1.5	5.02	5.02
Yellowstone County	B10	RM 317.70	31120.75	1.5-yr	1404.9	853.74	848.56	1.79	1.37	18.43	9.35	170.9	790.08	3.28	1.64	5.18	5.18
Yellowstone County	B10	RM 317.61	30982.56	1.5-yr	1404.9	853.64	848.29	1.87	1.46	18.89	8.83	194.06	698.12	3	1.38	5.35	5.35
Yellowstone County	B10	RM 317.53	30849.94	1.5-yr	1404.9	853.61	848.5	1.41	1.32	12.05	9.05	341.55	578.23	2.47	1.85	5.1	5.1
Yellowstone County	B10	RM 317.45	30723.4	1.5-yr	1404.9	853.49	848.47	1.61	1.55	17.98	13.46	356.83	600.79	2.02	1.51	5.02	5.02
Yellowstone County	B10	RM 317.37	30601.88	1.5-yr	1404.9	853.39	848.17	1.47	1.42	20.06	12.86	348.76	781.46	1.99	1.27	5.22	5.22
Yellowstone County	B10	RM 317.30	30483.81	1.5-yr	1404.9	853.28	848.41	1.61	1.42	15.1	9.67	271.94	607.41	2.57	1.63	4.87	4.87
Yellowstone County	B10	RM 317.19	30302.33	1.5-yr	1404.9	853.16	848.84	1.82	1.49	17.91	7.58	159.76	594.57	3.88	1.62	4.32	4.32
Yellowstone County	B10	RM 317.05	30079.26	1.5-yr	1404.9	852.98	848.38	2.05	1.81	20.46	12.11	157.91	326.79	4.06	2.38	4.6	4.6
Yellowstone County	B10	RM 316.93	29889.26	1.5-yr	1404.9	852.78	847.25	2.33	2.19	32.05	18.69	149.11	277.27	4.02	2.31	5.53	5.53
Yellowstone County	B10	RM 316.79	29668.4	1.5-yr	1404.9	852.63	847.89	2.2	2.05	28.94	16.46	145.09	281.33	4.32	2.43	4.74	4.74
Yellowstone County	B10	RM 316.66	29466.39	1.5-yr	1404.9	852.52	847.86	2.06	1.92	23.77	15.18	161.83	278.2	4.14	2.62	4.66	4.66
Yellowstone County	B10	RM 316.58	29329.04	1.5-yr	1404.9	852.42	847.74	2.09	1.81	31.48	13.15	170.47	488.47	3.84	1.59	4.68	4.68
Yellowstone County	B10	RM 316.51	29227.18	1.5-yr	1404.9	852.3	847.41	2.22	1.9	31.49	13.51	180.68	509.9	3.42	1.45	4.89	4.89
Yellowstone County	B10	RM 316.43	29091.4	1.5-yr	1404.9	852.16	847.41	2.09	1.78	38.46	20.19	238.25	562.94	2.69	1.4	4.75	4.75
Yellowstone County	B10	RM 316.33	28935.99	1.5-yr	1404.9	851.87	847.74	2.12	1.87	46.83	27.93	281.33	560.59	2.26	1.34	4.13	4.13
Yellowstone County	B10	RM 316.24	28786.65	1.5-yr	1404.9	851.59	847.5	1.82	1.77	42.22	35.85	342.06	451.87	2.07	1.76	4.1	4.1
Yellowstone County	B10	RM 316.14	28628.02	1.5-yr	1404.9	851.38	846.92	1.68	1.56	26.42	18.96	316.31	485.66	2.59	1.85	4.46	4.46
Yellowstone County	B10	RM 316.05	28475.44	1.5-yr	1404.9	851.13	846.73	1.94	1.87	37.19	29.97	290.62	377.75	2.47	1.99	4.39	4.39

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	1.5-yr	1404.9	851.01	846.43	1.9	1.77	16.6	12.46	293.6	431.32	2.45	1.84	4.58	4.58
Yellowstone County	B10	RM 315.84	28140.65	1.5-yr	1404.9	850.68	846.58	2.47	2.25	42.25	24.46	162.23	339.7	3.19	1.84	4.1	4.1
Yellowstone County	B10	RM 315.71	27926.69	1.5-yr	1404.9	850.45	846.34	2.39	2.15	25.47	15.48	189.41	392.7	2.76	1.66	4.11	4.11
Yellowstone County	B10	RM 315.58	27720.72	1.5-yr	1404.9	850.38	846.16	1.89	1.46	23.21	9.88	138.93	824.25	3.31	1.38	4.23	4.23
Yellowstone County	B10	RM 315.44	27505.06	1.5-yr	1404.9	850.2	846.09	2.01	1.62	23.5	9.02	150.06	698.57	3.68	1.39	4.11	4.11
Yellowstone County	B10	RM 315.30	27283.58	1.5-yr	1404.9	850.09	844.45	1.49	1.26	16.8	8.38	317.48	1047.04	2.16	1.07	5.64	5.64
Yellowstone County	B10	RM 315.18	27097.16	1.5-yr	1404.9	850	844.72	1.23	1.1	9.82	7.56	453.62	986.82	1.68	1.29	5.28	5.28
Yellowstone County	B10	RM 315.01	26818.99	1.5-yr	1404.9	849.76	844.66	1.57	1.42	19.28	15.08	458.96	707.49	1.8	1.4	5.1	5.1
Yellowstone County	B10	RM 314.85	26559.67	1.5-yr	1404.9	849.41	844.84	2.14	1.95	31.05	18.6	164.12	336.96	3.62	2.14	4.57	4.57
Yellowstone County	B10	RM 314.69	26324.37	1.5-yr	1404.9	849.12	844.24	2.37	2.27	35.38	28.9	169.07	226.05	3.36	2.74	4.89	4.89
Yellowstone County	B10	RM 314.57	26132.54	1.5-yr	1404.9	848.87	844.63	2.54	2.35	39.64	21.6	140.59	286.93	3.86	2.08	4.24	4.24
Yellowstone County	B10	RM 314.46	25963.96	1.5-yr	1404.9	848.72	844.48	2.25	2.12	37.65	23.74	199.58	348.47	3.03	1.9	4.24	4.24
Yellowstone County	B10	RM 314.35	25782.69	1.5-yr	1404.9	848.51	844.51	2.11	2.11	35.37	33.85	225.85	236.61	2.95	2.82	4	4
Yellowstone County	B10	RM 314.24	25607.48	1.5-yr	1404.9	848.37	844.14	2.03	2.03	18.22	16.96	222.1	239.52	3.11	2.89	4.23	4.23
Yellowstone County	B10	RM 314.15	25461.23	1.5-yr	1404.9	848.21	844.05	2.11	2.1	42.88	38.82	266.99	296.26	2.5	2.25	4.16	4.16
Yellowstone County	B10	RM 314.06	25326.45	1.5-yr	1404.9	848.18	843.63	1.52	1.51	10.73	10.28	391.98	429.4	2.36	2.26	4.55	4.55
Yellowstone County	B10	RM 313.98	25189.4	1.5-yr	1404.9	848.07	843.05	1.54	1.51	26.48	22.99	501.85	589.53	1.81	1.57	5.02	5.02
Yellowstone County	B10	RM 313.83	24942.42	1.5-yr	1404.9	847.86	843.2	1.33	1.33	14.16	13.85	455.81	466.44	2.32	2.27	4.66	4.66
Yellowstone County	B10	RM 313.72	24768.08	1.5-yr	1404.9	847.71	842.35	1.55	1.48	16.33	12.13	329.88	472.63	2.71	2.01	5.37	5.37
Yellowstone County	B10	RM 313.66	24671.51	1.5-yr	1404.9	847.62	843.14	1.74	1.64	18.18	12.82	284.78	437.68	2.79	1.96	4.48	4.48
Yellowstone County	B10	RM 313.57	24513.04	1.5-yr	1404.9	847.49	842.47	1.77	1.68	20.28	15.86	302.01	417.43	2.58	2.01	5.03	5.03
Yellowstone County	B10	RM 313.47	24364.02	1.5-yr	1404.9	847.4	841.55	1.68	1.66	17.04	14.64	280.06	329.19	2.99	2.56	5.85	5.85
Yellowstone County	B10	RM 313.33	24143.26	1.5-yr	1404.9	847.14	842.65	2.19	2.13	29.74	19.8	164.69	256.4	3.89	2.57	4.49	4.49
Yellowstone County	B10	RM 313.18	23899.74	1.5-yr	1404.9	846.62	842.19	2.93	2.91	67.53	60.43	151.97	171.49	3.16	2.82	4.43	4.43
Yellowstone County	B10	RM 313.07	23728.15	1.5-yr	1404.9	846.43	842.62	2.57	2.52	36.11	26.99	159.5	219.37	3.42	2.55	3.81	3.81
Yellowstone County	B10	RM 312.98	23590.93	1.5-yr	1404.9	846.37	842.5	2.19	2.1	23.84	20.28	189.12	273.16	3.26	2.77	3.88	3.88
Yellowstone County	B10	RM 312.90	23455.11	1.5-yr	1404.9	846.31	842.38	1.9	1.79	27.41	21.39	197.44	308.01	3.28	2.55	3.93	3.93
Yellowstone County	B10	RM 312.75	23227.05	1.5-yr	1404.9	846.09	841.71	2.02	1.85	25.17	16.84	221.11	408.69	2.79	1.86	4.38	4.38
Yellowstone County	B10	RM 312.65	23058.61	1.5-yr	1404.9	845.95	841.61	1.88	1.75	24.01	16.88	264.5	483.84	2.37	1.66	4.33	4.33
Yellowstone County	B10	RM 312.53	22873.59	1.5-yr	1404.9	845.89	841.37	1.57	1.37	10.94	6.03	236.41	557.29	3.35	1.84	4.52	4.52
Yellowstone County	B10	RM 312.49	22797.96	1.5-yr	1404.9	845.81	841.34	1.84	1.58	19.21	9.62	200.49	528.69	3.38	1.69	4.47	4.47
Yellowstone County	B10	RM 312.39	22646.67	1.5-yr	1404.9	845.64	840.85	2.26	1.79	31.59	15.95	147.31	497.6	3.16	1.58	4.79	4.79
Yellowstone County	B10	RM 312.33	22536.68	1.5-yr	1404.9	845.47	840.82	2.5	1.94	39.51	20.01	138.13	443.93	3.27	1.63	4.65	4.65
Yellowstone County	B10	RM 312.22	22360.55	1.5-yr	1404.9	845.4	840.91	2.02	1.63	26.35	13.76	125.26	445.96	3.75	1.93	4.49	4.49
Yellowstone County	B10	RM 312.13	22230.65	1.5-yr	1404.9	845.36	840.94	1.45	1.33	15.11	11.94	345.91	509.16	2.63	2.08	4.42	4.42
Yellowstone County	B10	RM 312.04	22082.88	1.5-yr	1404.9	845.23	840.82	1.63	1.51	20.19	16.87	342.4	468.05	2.38	1.99	4.41	4.41
Yellowstone County	B10	RM 311.95	21934.61	1.5-yr	1404.9	845.08	840.79	1.69	1.62	20.92	17.19	345.97	444.86	2.36	1.94	4.29	4.29
Yellowstone County	B10	RM 311.89	21840.24	1.5-yr	1404.9	845.02	840.76	1.58	1.49	20.91	16.46	318.65	437.58	2.74	2.16	4.26	4.26
Yellowstone County	B10	RM 311.77	21651.91	1.5-yr	1404.9	844.9	840.18	1.6	1.49	17.47	11.22	224.75	383.1	3.85	2.47	4.72	4.72
Yellowstone County	B10	RM 311.69	21530.39	1.5-yr	1404.9	844.74	839.85	2.08	1.76	28.05	15.28	150.5	347.63	4.27	2.3	4.9	4.9
Yellowstone County	B10	RM 311.58	21350.77	1.5-yr	1404.9	844.6	839.63	2.11	1.75	30.21	13.5	171.57	499.12	3.64	1.6	4.97	4.97
Yellowstone County	B10	RM 311.48	21191.11	1.5-yr	1404.9	844.49	839.42	1.93	1.62	22.77	10.23	226.71	644.41	3.03	1.35	5.07	5.07
Yellowstone County	B10	RM 311.37	21010.53	1.5-yr	1404.9	844.38	839.18	1.66	1.45	19.74	12	333.72	662.58	2.42	1.47	5.2	5.2
Yellowstone County	B10	RM 311.27	20852.82	1.5-yr	1404.9	844.24	838.96	1.7	1.48	21.06	12.28	319.72	660.33	2.48	1.44	5.27	5.27
Yellowstone County	B10	RM 311.19	20716.8	1.5-yr	1404.9	844.16	838.84	1.61	1.35	17.57	7.94	247.37	693.01	3.37	1.5	5.32	5.32
Yellowstone County	B10	RM 311.09	20559.11	1.5-yr	1404.9	843.85	839.14	2.47	2.09	36.86	16.99	144.57	389.88	3.79	1.72	4.71	4.71
Yellowstone County	B10	RM 310.97	20364.78	1.5-yr	1404.9	843.72	839.45	2.19	1.91	29.02	12.26	167.62	470.88	3.73	1.56	4.27	4.27
Yellowstone County	B10	RM 310.87	20211.96	1.5-yr	1404.9	843.61	839.02	2.13	1.98	26.66	12.36	184.66	438.26	3.53	1.62	4.58	4.58
Yellowstone County	B10	RM 310.76	20019.23	1.5-yr	1404.9	843.31	839.18	2.61	2.45	36.69	18.66	139.67	298.26	3.83	1.92	4.13	4.13
Yellowstone County	B11	RM 310.67	19877.9	1.5-yr	1404.9	843.21	839.11	2.31	2.06	41.97	22.89	170.22	367.7	3.43	1.85	4.09	4.09
Yellowstone County	B11	RM 310.57	19727.96	1.5-yr	1404.9	843.04	839.08	2.17	1.92	40.57	19.33	191.64	474.93	3.26	1.54	3.95	3.95
Yellowstone County	B11	RM 310.48	19578.86	1.5-yr	1404.9	842.89	838.96	2.04	1.74	30.91	14.56	207.41	545.18	3.15	1.48	3.93	3.93
Yellowstone County	B11	RM 310.39	19437.53	1.5-yr	1404.9	842.84	838.54	1.72	1.4	13.79	7.63	252.89	619.45	2.95	1.62	4.3	4.3
Yellowstone County	B11	RM 310.31	19317.45	1.5-yr	1404.9	842.77	838.23	1.73	1.51	12.77	9.53	348.53	568.19	2.19	1.64	4.54	4.54
Yellowstone County	B11	RM 310.24	19187.47	1.5-yr	1404.9	842.67	838.23	1.47	1.39	35.98	25	460.45	754.19	1.93	1.34	4.44	4.44
Yellowstone County	B11	RM 310.16	19069.04	1.5-yr	1404.9	842.48	837.93	1.36	1.32	28.56	24.06	500.97	641.17	1.98	1.66	4.56	4.56
Yellowstone County	B11	RM 310.09	18955.28	1.5-yr	1404.9	842.38	837.93	1.46	1.31	7.43	5.96	518	753.55	1.78	1.42	4.46	4.46
Yellowstone County	B11	RM 309.97	18765.62	1.5-yr	1404.9	842.34	837.59	0.97	0.94	11.46	9.31	591.16	764.91	2.4	1.95	4.75	4.75
Yellowstone County	B11	RM 309.90	18643.48	1.5-yr	1404.9	842.26	837.5	1.22	1.14	5.21	4.21	617.64	834.58	1.84	1.48	4.76	4.76
Yellowstone County	B11	RM 309.82	18525.48	1.5-yr	1404.9	842.2	837.5	1.16	1.14	25.06	22.38	692.56	841.91	1.64	1.46	4.7	4.7
Yellowstone County	B11	RM 309.73	18379.74	1.5-yr	1404.9	842.01	837.35	1.04	1.04	18.78	18.47	794.46	808.95	1.7	1.67	4.66	4.66

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	1.5-yr	1404.9	841.92	837.38	0.84	0.84	10.96	10.53	868.29	905.5	1.92	1.84	4.55	4.55
Yellowstone County	B11	RM 309.52	18029.98	1.5-yr	1404.9	841.7	836.68	1.11	1.11	20.78	20.75	814.49	815.95	1.56	1.55	5.03	5.03
Yellowstone County	B11	RM 309.39	17824.11	1.5-yr	1404.9	841.58	836.74	0.83	0.83	8.78	8.78	761.01	761.01	2.22	2.22	4.84	4.84
Yellowstone County	B11	RM 309.22	17557.23	1.5-yr	1404.9	841.44	836.07	1.27	1.22	10.09	8.01	333.07	440.32	3.32	2.62	5.37	5.37
Yellowstone County	B11	RM 309.06	17331.95	1.5-yr	1404.9	841.23	835.79	1.81	1.64	38.35	20.82	190.44	400.22	3.99	2.14	5.43	5.43
Yellowstone County	B11	RM 308.94	17142.36	1.5-yr	1404.9	840.68	835.4	2.98	2.76	57.35	28.8	120.3	267	3.87	1.9	5.28	5.28
Yellowstone County	B11	RM 308.83	16971.41	1.5-yr	1404.9	840.64	836.04	2.14	1.92	33.05	13	157.28	463.03	4.07	1.58	4.6	4.6
Yellowstone County	B11	RM 308.71	16778.65	1.5-yr	1404.9	840.59	835.91	1.68	1.52	12.6	6.28	249.78	568.57	3.29	1.63	4.68	4.68
Yellowstone County	B11	RM 308.62	16631.4	1.5-yr	1404.9	840.49	835.85	1.67	1.46	39.63	20.32	299.91	700.18	2.69	1.37	4.64	4.64
Yellowstone County	B11	RM 308.55	16518.64	1.5-yr	1404.9	840.29	835.85	1.73	1.61	40.52	25.23	351.69	621.96	2.26	1.4	4.44	4.44
Yellowstone County	B11	RM 308.43	16328.3	1.5-yr	1404.9	839.93	834.51	1.64	1.55	42.72	28.85	398.51	638.74	2.11	1.42	5.41	5.41
Yellowstone County	B11	RM 308.35	16192.95	1.5-yr	1404.9	839.75	834.88	1.53	1.43	23.55	14.09	373.56	680.21	2.43	1.44	4.87	4.87
Yellowstone County	B11	RM 308.24	16015.46	1.5-yr	1404.9	839.64	834.63	1.38	1.19	13.53	7.62	361.79	792.27	2.66	1.49	5	5
Yellowstone County	B11	RM 308.12	15826.82	1.5-yr	1404.9	839.56	834.63	1.28	1.12	11.07	7.01	381.37	721.95	2.75	1.74	4.92	4.92
Yellowstone County	B11	RM 308.02	15675.58	1.5-yr	1404.9	839.51	834.76	1.28	1.18	8.44	5.55	303.31	511.84	3.55	2.33	4.75	4.75
Yellowstone County	B11	RM 307.88	15434.86	1.5-yr	1404.9	839.1	834.45	2.8	2.35	48.88	28.29	110.89	276.07	3.82	2.17	4.65	4.65
Yellowstone County	B11	RM 307.77	15261.75	1.5-yr	1404.9	838.8	834.45	2.86	2.66	57.35	35.69	124.75	257.18	3.35	2.05	4.35	4.35
Yellowstone County	B11	RM 307.68	15125.28	1.5-yr	1404.9	838.68	834.85	2.36	2.07	39.45	21.1	157.21	381.99	3.35	1.77	3.83	3.83
Yellowstone County	B11	RM 307.60	14980.1	1.5-yr	1404.9	838.66	834.36	1.6	1.56	14.92	11.58	267.89	357.38	3.26	2.52	4.3	4.3
Yellowstone County	B11	RM 307.52	14873.7	1.5-yr	1404.9	838.52	834.12	1.98	1.95	25.18	18.31	251.93	354.82	2.81	2.03	4.4	4.4
Yellowstone County	B11	RM 307.46	14779.11	1.5-yr	1404.9	838.38	833.6	2.06	2.02	43.71	32.15	279.5	389.94	2.44	1.78	4.78	4.78
Yellowstone County	B11	RM 307.39	14664.34	1.5-yr	1404.9	838.25	833.63	2.05	1.95	15.81	10.69	298.7	471.03	2.28	1.53	4.62	4.62
Yellowstone County	B11	RM 307.30	14517.89	1.5-yr	1404.9	838.07	833.81	2.07	1.97	45.58	35.37	353.31	494.13	1.87	1.44	4.26	4.26
Yellowstone County	B11	RM 307.22	14385.45	1.5-yr	1404.9	837.82	833.87	1.92	1.83	33.67	27.59	353.81	470.67	1.99	1.63	3.95	3.95
Yellowstone County	B11	RM 307.14	14262.57	1.5-yr	1404.9	837.67	833.51	1.72	1.64	25.98	17.41	334.09	546.28	2.34	1.56	4.17	4.17
Yellowstone County	B11	RM 307.08	14166.72	1.5-yr	1404.9	837.62	833.11	1.53	1.41	14.69	10.24	348.49	574	2.5	1.74	4.51	4.51
Yellowstone County	B11	RM 307.01	14050.92	1.5-yr	1404.9	837.54	832.65	1.61	1.51	12.07	9.3	370.83	566.52	2.14	1.64	4.88	4.88
Yellowstone County	B11	RM 306.95	13949.23	1.5-yr	1404.9	837.43	832.35	1.81	1.58	21.7	14.38	323.61	636.1	2.12	1.4	5.08	5.08
Yellowstone County	B11	RM 306.90	13869.87	1.5-yr	1404.9	837.34	832.56	1.81	1.56	22.72	15.9	317.24	562.77	2.3	1.6	4.78	4.78
Yellowstone County	B11	RM 306.82	13726.64	1.5-yr	1404.9	837.22	832.62	1.7	1.51	20.35	12.8	343.73	640.43	2.31	1.45	4.59	4.59
Yellowstone County	B11	RM 306.72	13574.53	1.5-yr	1404.9	837.04	831.8	1.96	1.64	24.56	11.83	220.84	638.41	2.83	1.35	5.24	5.24
Yellowstone County	B11	RM 306.62	13414.11	1.5-yr	1404.9	836.82	832.77	2.18	1.96	38.18	18.77	211.24	546.62	2.7	1.31	4.05	4.05
Yellowstone County	B11	RM 306.52	13251.36	1.5-yr	1404.9	836.5	832.87	2.62	2.31	37.78	16.11	146.71	431.83	3.34	1.41	3.63	3.63
Yellowstone County	B11	RM 306.42	13099.73	1.5-yr	1404.9	836.2	832.74	2.99	2.59	49.35	24.76	129.71	350.8	3.13	1.55	3.46	3.46
Yellowstone County	B11	RM 306.34	12958.96	1.5-yr	1404.9	836.16	832.84	2.05	1.84	27.9	16.65	232.86	501.29	2.56	1.52	3.33	3.33
Yellowstone County	B11	RM 306.25	12825.95	1.5-yr	1404.9	835.96	832.35	2.15	2.04	31.44	25.04	305.11	456.56	1.9	1.51	3.61	3.61
Yellowstone County	B11	RM 306.16	12673.7	1.5-yr	1404.9	835.75	832.41	2.05	1.89	26.2	19.91	273.1	439.12	2.23	1.69	3.35	3.35
Yellowstone County	B11	RM 306.11	12592.39	1.5-yr	1404.9	835.66	832.17	2.03	1.84	30.54	21.76	233.53	414.35	2.6	1.84	3.5	3.5
Yellowstone County	B11	RM 306.03	12457.47	1.5-yr	1404.9	835.52	831.25	1.88	1.76	24.39	18.3	343.33	589.32	1.82	1.36	4.26	4.26
Yellowstone County	B11	RM 305.93	12317.98	1.5-yr	1404.9	835.22	831.25	2.19	2.06	34.62	28.24	322.32	505.82	1.66	1.35	3.97	3.97
Yellowstone County	B11	RM 305.84	12159.82	1.5-yr	1404.9	834.96	831.1	2.19	2	32.26	24.88	244.08	428.05	2.14	1.64	3.86	3.86
Yellowstone County	B11	RM 305.74	11989.73	1.5-yr	1404.9	834.72	830.64	2.19	2	33.05	22.5	188.45	355.04	2.93	1.98	4.08	4.08
Yellowstone County	B11	RM 305.67	11883.31	1.5-yr	1404.9	834.53	830.43	2.5	2.14	38.13	23.06	155.11	360.36	3.04	1.82	4.1	4.1
Yellowstone County	B11	RM 305.60	11764.11	1.5-yr	1404.9	834.49	830.18	1.74	1.8	18.16	14.29	143.34	498.8	2.59	2.01	4.31	4.31
Yellowstone County	B11	RM 305.52	11651.48	1.5-yr	1404.9	834.32	830.18	2.25	1.92	31.23	20.19	143.24	474.32	2.43	1.55	4.14	4.14
Yellowstone County	B11	RM 305.44	11514.64	1.5-yr	1404.9	834.26	830.43	1.76	1.33	14.25	9.89	150.51	601.23	2.55	1.75	3.83	3.83
Yellowstone County	B11	RM 305.40	11441.77	1.5-yr	1404.9	834.14	830.61	1.86	1.62	13.48	12.8	211.93	467.23	1.96	1.86	3.53	3.53
Yellowstone County	B11	RM 305.32	11312.15	1.5-yr	1404.9	834	830.61	2.05	1.78	26.24	14.18	138.37	567.19	2.68	1.43	3.39	3.39
Yellowstone County	B11	RM 305.24	11186.22	1.5-yr	1404.9	833.99	830.43	1.33	1.12	13.16	8.09	130.46	898.52	2.52	1.52	3.56	3.56
Yellowstone County	B11	RM 305.06	10905.09	1.5-yr	1404.9	833.85	830.15	1.42	1.07	8.96	6.58	292.43	1048.72	1.72	1.25	3.7	3.7
Yellowstone County	B11	RM 304.71	10460.6	1.5-yr	1404.9	833.64	828.96	1.33	1.29	12.81	11.38	386.78	679.28	1.82	1.61	4.67	4.67
Yellowstone County	B11	RM 304.62	10332.33	1.5-yr	1404.9	833.61	829.09	1.08	1.03	7.25	5.63	205.29	565.99	3.13	2.41	4.53	4.53
Yellowstone County	B11	RM 304.50	10132.63	1.5-yr	1404.9	833.32	829.09	2.27	2.17	45.16	32.36	120.52	255.54	3.57	2.53	4.23	4.23
Yellowstone County	B11	RM 304.42	10011.11	1.5-yr	1404.9	833.22	829.18	1.98	1.93	29.61	20.32	141.63	306.89	3.49	2.37	4.04	4.04
Yellowstone County	B11	RM 304.34	9873.393	1.5-yr	1404.9	833.14	828.78	1.82	1.79	16.45	13.58	257.37	318.52	3	2.47	4.36	4.36
Yellowstone County	B11	RM 304.25	9735.197	1.5-yr	1404.9	832.98	828.39	2.1	2.07	31.76	25.36	198.24	254.58	3.36	2.67	4.59	4.59
Yellowstone County	B11	RM 304.18	9615.178	1.5-yr	1404.9	832.88	828.54	2.09	2.05	19.56	16.56	210.76	255	3.18	2.69	4.35	4.35
Yellowstone County	B11	RM 304.09	9478.266	1.5-yr	1404.9	832.77	828.6	2.14	2.09	29.1	24.08	179.12	223.91	3.63	3	4.17	4.17
Yellowstone County	B11	RM 304.00	9326.206	1.5-yr	1404.9	832.67	828.39	2.02	1.98	28.25	20.9	188.01	261.04	3.69	2.72	4.28	4.28
Yellowstone County	B11	RM 303.91	9177.479	1.5-yr	1404.9	832.57	828.14	1.89	1.73	27.14	13.29	210.05	479.3	3.48	1.69	4.43	4.43
Yellowstone County	B11	RM 303.78	8973.508	1.5-yr	1404.9	832.33	827.93	2.25	2.13	27.98	14.55	154.28	320.08	4.01	2.06	4.4	4.4

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	1.5-yr	1404.9	832.14	827.9	2.31	2.07	38.86	19.97	163.66	367.88	3.62	1.84	4.24	4.24
Yellowstone County	B11	RM 303.55	8608.195	1.5-yr	1404.9	832.02	827.65	2.11	1.97	18.98	14.58	240.13	356.09	2.73	2.09	4.37	4.37
Yellowstone County	B11	RM 303.43	8422.329	1.5-yr	1404.9	831.88	827.87	1.91	1.84	32.06	28.07	265.41	323.36	2.7	2.36	4.01	4.01
Yellowstone County	B11	RM 303.34	8276.308	1.5-yr	1404.9	831.83	826.92	1.45	1.31	12.48	9.23	318.43	506.12	2.89	2.13	4.91	4.91
Yellowstone County	B11	RM 303.26	8138.725	1.5-yr	1404.9	831.65	826.98	1.94	1.94	28.08	27.68	220.89	224.22	3.29	3.24	4.67	4.67
Yellowstone County	B11	RM 303.18	8018.762	1.5-yr	1404.9	831.52	826.22	1.96	1.96	38.69	38.12	244.67	248.59	2.93	2.89	5.29	5.29
Yellowstone County	B11	RM 303.09	7876.674	1.5-yr	1404.9	831.34	825.43	1.9	1.9	32.73	32.73	256.43	256.43	2.88	2.88	5.91	5.91
Yellowstone County	B11	RM 302.99	7711.603	1.5-yr	1404.9	831.11	826.22	1.84	1.82	39.97	36	328.25	370.18	2.31	2.08	4.89	4.89
Yellowstone County	B11	RM 302.89	7556.419	1.5-yr	1404.9	830.86	825.73	1.9	1.87	35.77	33.76	269.31	293.57	2.71	2.56	5.12	5.12
Yellowstone County	B11	RM 302.81	7423.411	1.5-yr	1404.9	830.7	825.86	2.01	2	27.29	25.81	184.99	197.73	3.76	3.56	4.84	4.84
Yellowstone County	B11	RM 302.70	7257.14	1.5-yr	1404.9	830.61	826.01	1.91	1.89	21.06	17.59	182.84	223.26	4.01	3.34	4.6	4.6
Yellowstone County	B12	RM 302.56	7050.708	1.5-yr	1404.9	830.29	825.25	2.56	2.51	33.8	27.5	158.68	200.17	3.45	2.8	5.05	5.05
Yellowstone County	B12	RM 302.49	6918.549	1.5-yr	1404.9	830.21	825.92	2.31	2.26	30.11	24.52	165.88	209.89	3.65	2.97	4.29	4.29
Yellowstone County	B12	RM 302.41	6794.522	1.5-yr	1404.9	830.13	825.64	2.3	2.04	24.02	14.49	161.6	333.77	3.45	2.06	4.48	4.48
Yellowstone County	B12	RM 302.34	6674.634	1.5-yr	1404.9	830.03	825.76	2.17	1.95	33.15	23.51	207.53	352.71	2.89	2.04	4.27	4.27
Yellowstone County	B12	RM 302.22	6485.378	1.5-yr	1404.9	829.93	825.76	1.68	1.5	19.22	15.49	233.39	450.35	2.6	2.08	4.16	4.16
Yellowstone County	B12	RM 302.14	6360.047	1.5-yr	1404.9	829.69	825.76	2.28	1.93	34.55	22.07	175.52	392.15	2.93	1.86	3.93	3.93
Yellowstone County	B12	RM 302.08	6267.13	1.5-yr	1404.9	829.62	825.79	2.06	1.89	18.14	14.95	257.67	378.71	2.39	1.97	3.83	3.83
Yellowstone County	B12	RM 301.98	6100.949	1.5-yr	1404.9	829.57	825.34	1.6	1.51	17.77	13.83	251.04	395.12	3.04	2.36	4.23	4.23
Yellowstone County	B12	RM 301.88	5944.005	1.5-yr	1404.9	829.46	824.7	1.61	1.5	17.36	11.99	306.67	531.17	2.56	1.76	4.77	4.77
Yellowstone County	B12	RM 301.79	5801.18	1.5-yr	1404.9	829.4	824.36	1.5	1.39	10.34	7.31	367.34	614.59	2.34	1.65	5.04	5.04
Yellowstone County	B12	RM 301.72	5685.105	1.5-yr	1404.9	829.33	824.85	1.52	1.44	15.78	12.05	325.62	513.5	2.5	1.9	4.49	4.49
Yellowstone County	B12	RM 301.65	5569.191	1.5-yr	1404.9	829.2	824.61	1.73	1.68	22.32	17.37	308.87	468.44	2.3	1.79	4.6	4.6
Yellowstone County	B12	RM 301.59	5465.51	1.5-yr	1404.9	829.07	824.42	1.81	1.81	26.58	22.71	317.13	420.42	2.16	1.84	4.65	4.65
Yellowstone County	B12	RM 301.53	5366.723	1.5-yr	1404.9	828.94	824.12	1.68	1.71	31.11	27.06	360.84	467.1	2.02	1.75	4.82	4.82
Yellowstone County	B12	RM 301.47	5270.902	1.5-yr	1404.9	828.8	824.12	1.74	1.73	30.73	25.69	349.05	465.77	2.09	1.74	4.68	4.68
Yellowstone County	B12	RM 301.39	5140.04	1.5-yr	1404.9	828.72	824.36	1.33	1.23	16.93	13.34	343.25	567.23	2.56	2.01	4.36	4.36
Yellowstone County	B12	RM 301.33	5044.575	1.5-yr	1404.9	828.64	824.12	1.45	1.36	14.73	9.76	328.79	576.82	2.72	1.79	4.53	4.53
Yellowstone County	B12	RM 301.24	4906.408	1.5-yr	1404.9	828.53	823.87	1.62	1.49	16.51	11.02	309.58	570.14	2.6	1.73	4.66	4.66
Yellowstone County	B12	RM 301.18	4802.631	1.5-yr	1404.9	828.4	823.17	1.9	1.77	24.14	20.13	309.73	444.29	2.15	1.79	5.22	5.22
Yellowstone County	B12	RM 301.12	4698.913	1.5-yr	1404.9	828.27	823.81	1.92	1.87	24.16	21.5	307.88	362.76	2.33	2.07	4.46	4.46
Yellowstone County	B12	RM 301.07	4611.142	1.5-yr	1404.9	828.21	824	1.76	1.72	19.15	16.43	283.93	347.82	2.75	2.35	4.22	4.22
Yellowstone County	B12	RM 301.02	4531.484	1.5-yr	1404.9	828.16	823.81	1.82	1.75	14.15	12.2	259.45	322.83	2.89	2.49	4.34	4.34
Yellowstone County	B12	RM 300.97	4453.011	1.5-yr	1404.9	828.03	823.9	2.19	2.05	21.46	17.46	189.64	260.3	3.24	2.63	4.13	4.13
Yellowstone County	B12	RM 300.89	4332.618	1.5-yr	1404.9	827.91	823.66	2.25	2.2	35.9	30.54	198.89	258.63	2.9	2.47	4.25	4.25
Yellowstone County	B12	RM 300.83	4232.362	1.5-yr	1404.9	827.72	823.78	2.49	2.32	40.86	31.12	171.84	276.26	2.89	2.19	3.94	3.94
Yellowstone County	B12	RM 300.77	4151.049	1.5-yr	1404.9	827.65	823.75	2.23	2.09	36.39	25.67	172.72	310.92	3.09	2.16	3.89	3.89
Yellowstone County	B12	RM 300.69	4011.358	1.5-yr	1404.9	827.58	823.63	1.88	1.69	17.45	11.41	204.48	394.44	3.24	2.11	3.95	3.95
Yellowstone County	B12	RM 300.55	3793.957	1.5-yr	1404.9	827.45	822.93	1.68	1.51	21.65	13.13	262.08	588.43	2.63	1.58	4.52	4.52
Yellowstone County	B12	RM 300.45	3633.035	1.5-yr	1404.9	827.29	822.53	1.37	1.45	26	20.72	335.99	578.52	2.11	1.67	4.75	4.75
Yellowstone County	B12	RM 300.35	3461.833	1.5-yr	1404.9	827.04	822.66	1.92	1.66	12.27	8.73	375.64	634.36	1.88	1.33	4.39	4.39
Yellowstone County	B12	RM 300.24	3286.175	1.5-yr	1404.9	826.84	822.47	1.88	1.75	46.12	34.56	403.5	613.08	1.76	1.31	4.36	4.36
Yellowstone County	B12	RM 300.15	3141.724	1.5-yr	1404.9	826.48	822.47	1.8	1.73	39.28	34.37	431.45	532.77	1.75	1.53	4.01	4.01
Yellowstone County	B12	RM 300.10	3054.752	1.5-yr	1404.9	826.35	822.35	1.94	1.74	14.83	11.47	324.58	495.27	2.12	1.63	4	4
Yellowstone County	B12	RM 300.00	2887.728	1.5-yr	1404.9	826.19	821.22	1.76	1.69	34.92	30.56	385.13	488.32	1.95	1.7	4.97	4.97
Yellowstone County	B12	RM 299.91	2736.431	1.5-yr	1404.9	826.02	821.5	1.63	1.61	19.01	16.71	348.59	504	1.98	1.73	4.52	4.52
Yellowstone County	B12	RM 299.83	2614.069	1.5-yr	1404.9	825.8	821.41	1.82	1.9	29.34	28.16	334.89	443.46	1.74	1.67	4.4	4.4
Yellowstone County	B12	RM 299.72	2484.158	1.5-yr	1404.9	825.68	820.89	1.65	1.62	20.16	18.15	368.15	418.43	2.31	2.08	4.79	4.79
Yellowstone County	B12	RM 299.59	2312.328	1.5-yr	1404.9	825.45	821.13	2.1	1.82	25.33	17.27	217.29	432.34	2.64	1.79	4.32	4.32
Yellowstone County	B12	RM 299.48	2160.343	1.5-yr	1404.9	825.21	821.13	2.58	2.02	30.27	14.4	137.75	461.75	3.21	1.51	4.08	4.08
Yellowstone County	B12	RM 299.38	1995.229	1.5-yr	1404.9	825.05	821.13	2.43	1.8	51.97	21.88	128.74	582.97	3.21	1.34	3.92	3.92
Yellowstone County	B12	RM 299.31	1874.433	1.5-yr	1404.9	824.86	821.22	2.49	1.97	30.14	15.33	136.62	448.18	3.15	1.59	3.64	3.64
Yellowstone County	B12	RM 299.22	1738.666	1.5-yr	1404.9	824.7	821.16	2.58	1.92	38.18	15.79	126.02	559.81	3.25	1.32	3.54	3.54
Yellowstone County	B12	RM 299.15	1613.992	1.5-yr	1404.9	824.64	820.95	2.11	1.49	24.8	10.43	154.01	907.41	3	1.25	3.69	3.69
Yellowstone County	B12	RM 299.06	1473.748	1.5-yr	1404.9	824.58	820.64	1.89	1.22	24.06	8.13	114.57	1010.05	3.47	1.14	3.94	3.94
Yellowstone County	B12	RM 298.99	1360.532	1.5-yr	1404.9	824.48	820.46	2.05	1.38	29.58	10.37	98.98	870.86	3.45	1.17	4.02	4.02
Yellowstone County	B12	RM 298.93	1269.876	1.5-yr	1404.9	824.41	820.46	1.97	1.37	26.51	11.13	105.08	770.5	3.26	1.33	3.95	3.95
Yellowstone County	B12	RM 298.88	1195.725	1.5-yr	1404.9	824.35	820.43	1.87	1.36	23.08	9.46	116.91	834.28	3.11	1.24	3.92	3.92
Yellowstone County	B12	RM 298.82	1096.849	1.5-yr	1404.9	824.18	820.58	2.31	1.61	30.21	12.81	149.55	807.62	2.59	1.08	3.6	3.6
Yellowstone County	B12	RM 298.77	1018.392	1.5-yr	1404.9	824.11	820.4	2.05	1.48	24.56	11.51	183.36	827.4	2.48	1.15	3.71	3.71
Yellowstone County	B12	RM 298.67	854.844	1.5-yr	1404.9	824.02	819.39	1.87	1.37	14.62	9.88	225.05	759.93	2.02	1.35	4.63	4.63

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	1.5-yr	1404.9	823.92	819.55	1.59	1.44	18.89	15.65	263.83	664.07	1.78	1.46	4.37	4.37
Yellowstone County	B12	RM 298.49	579.164	1.5-yr	1404.9	823.83	819.27	1.64	1.28	12.04	7.71	214	727.19	2.38	1.51	4.55	4.55
Yellowstone County	B12	RM 298.42	469.573	1.5-yr	1404.9	823.74	819.27	1.7	1.35	22.03	9.82	176.44	850.34	2.8	1.23	4.47	4.47
Yellowstone County	B12	RM 298.35	368.049	1.5-yr	1404.9	823.63	819.97	1.95	1.48	22.13	8.47	146.91	755.85	3.34	1.26	3.66	3.66
Yellowstone County	B12	RM 298.30	290.003	1.5-yr	1404.9	823.61	819.82	1.71	1.21	13.97	5.27	197.73	1109.08	2.8	1.04	3.79	3.79
Yellowstone County	B12	RM 298.26	211.35	1.5-yr	1404.9	823.55	819.82	1.7	1.38	18.67	8.51	218.85	915.34	2.47	1.12	3.73	3.73
Yellowstone County	B12	RM 298.19	83.499	1.5-yr	1404.9	823.44	819.49	1.87	1.51	16.33	8.5	176.55	690.45	2.62	1.35	3.96	3.96

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	1.5-yr	1565.9	823.3	820.43	1.58	1.29	13.89	8.1	191.77	913.33	2.66	1.54	2.87	2.87
Treasure County	C1	RM 297.89	61639	1.5-yr	1565.9	823.13	820.07	1.53	1.34	14.27	10.74	352.62	775.72	2.02	1.52	3.06	3.06
Treasure County	C1	RM 297.76	61392	1.5-yr	1565.9	822.95	819.93	1.61	1.46	17.62	13.55	330.93	688.51	2.02	1.55	3.02	3.02
Treasure County	C1	RM 297.62	61179	1.5-yr	1565.9	822.85	819.69	1.37	1.21	10	8.01	285.93	909.2	2.27	1.81	3.16	3.16
Treasure County	C1	RM 297.5	60985	1.5-yr	1565.9	822.63	819.39	2.13	1.67	24.51	11.26	159.01	864.9	2.94	1.34	3.24	3.24
Treasure County	C1	RM 297.36	60767	1.5-yr	1565.9	822.43	819.14	2.08	1.67	23.96	12.56	169.82	757.38	2.75	1.43	3.29	3.29
Treasure County	C1	RM 297.22	60535	1.5-yr	1565.9	822.26	819	1.93	1.63	20.53	13.34	147.69	658.8	2.79	1.8	3.27	3.27
Treasure County	C1	RM 297.08	60314	1.5-yr	1565.9	822.11	818.76	1.86	1.62	18.83	12.5	192.54	895.8	2.89	1.91	3.35	3.35
Treasure County	C1	RM 296.94	60093	1.5-yr	1565.9	821.86	818.42	2.2	1.97	26.69	15.45	176.78	893.87	2.74	1.58	3.44	3.44
Treasure County	C1	RM 296.79	59847	1.5-yr	1565.9	821.79	817.97	1.43	1.34	11.49	7.62	246.75	766.3	2.64	1.74	3.82	3.82
Treasure County	C1	RM 296.64	59608	1.5-yr	1565.9	821.7	817.9	1.55	1.38	12.61	8.27	173.31	684.95	2.92	1.9	3.8	3.8
Treasure County	C1	RM 296.51	59386	1.5-yr	1565.9	821.64	817.8	1.21	1.18	8.04	6.7	477.06	747.96	2.71	2.26	3.84	3.84
Treasure County	C1	RM 296.33	59113	1.5-yr	1565.9	821.54	817.52	1.35	1.31	9.25	7.65	334.76	705.81	3.47	2.86	4.02	4.02
Treasure County	C1	RM 296.16	58839	1.5-yr	1565.9	820.65	817.46	3.83	3.64	79.17	61.93	136.77	216.25	2.96	2.31	3.2	3.2
Treasure County	C1	RM 296.01	58583	1.5-yr	1565.9	820.54	817.45	2.31	2.31	29.94	29.89	258.44	365.91	2.63	2.62	3.08	3.08
Treasure County	C1	RM 295.83	58296	1.5-yr	1565.9	820.31	817.4	1.78	1.78	16.31	16.3	504.02	504.13	1.74	1.74	2.91	2.91
Treasure County	C1	RM 295.66	58032	1.5-yr	1565.9	819.94	817.27	2.15	2.15	23.37	23.37	383.98	383.98	1.9	1.9	2.67	2.67
Treasure County	C1	RM 295.52	57800	1.5-yr	1565.9	819.86	816.19	1.42	1.42	11.13	11.13	458.01	458.01	2.41	2.41	3.67	3.67
Treasure County	C1	RM 295.31	57474	1.5-yr	1565.9	819.76	815.61	1.23	1.19	6.53	6.07	522.64	598.85	2.36	2.19	4.15	4.15
Treasure County	C1	RM 295.13	57174	1.5-yr	1565.9	819.61	815.57	1.52	1.46	12.76	9.5	355.27	591.66	2.77	2.05	4.04	4.04
Treasure County	C1	RM 294.94	56877	1.5-yr	1565.9	819.21	815.46	2.48	2.33	31.26	17.7	187.1	381.96	3.17	1.78	3.75	3.75
Treasure County	C1	RM 294.76	56587	1.5-yr	1565.9	819.01	815.45	2.09	1.96	22.7	16.37	245.51	383.58	2.89	2.08	3.55	3.55
Treasure County	C1	RM 294.55	56261	1.5-yr	1565.9	818.78	815.36	2.06	1.77	22.57	14.16	191.41	482.4	3.03	1.89	3.42	3.42
Treasure County	C1	RM 294.38	55980	1.5-yr	1565.9	818.6	815.07	1.8	1.71	18.32	14.35	223.27	518.59	2.52	1.97	3.54	3.54
Treasure County	C1	RM 294.21	55714	1.5-yr	1565.9	818.36	814.88	2.1	1.8	23.4	13.73	195.58	508.01	3.07	1.79	3.48	3.48
Treasure County	C1	RM 294.02	55401	1.5-yr	1565.9	818.16	814.59	1.96	1.78	18.41	12.38	228.23	546.42	2.5	1.67	3.57	3.57
Treasure County	C1	RM 293.83	55100	1.5-yr	1565.9	818	814.3	1.75	1.54	13.5	11.93	273.2	830.59	2.35	2.08	3.7	3.7
Treasure County	C1	RM 293.63	54777	1.5-yr	1565.9	817.9	813.55	1.42	1.42	9.51	9.41	322.97	946.8	3.41	3.38	4.35	4.35
Treasure County	C1	RM 293.43	54432	1.5-yr	1565.9	817.62	813.29	2.11	2.01	22.37	12.04	199.21	1274.94	3.69	1.97	4.33	4.33
Treasure County	C1	RM 293.26	54152	1.5-yr	1565.9	817.33	813.24	2.39	2.14	27.21	14.2	235.23	1299.31	2.75	1.42	4.1	4.1
Treasure County	C1	RM 293.07	53839	1.5-yr	1565.9	817.03	813.24	2.27	1.61	29.11	15.09	239.37	1291.38	2.53	1.3	3.79	3.79
Treasure County	C1	RM 292.83	53458	1.5-yr	1565.9	816.9	813.1	1.37	1.19	10.19	6.66	373.55	1344.06	2.54	1.66	3.8	3.8
Treasure County	C1	RM 292.6	53082	1.5-yr	1565.9	816.7	812.6	1.69	1.42	14.58	8.82	237.6	593.03	3.45	2.09	4.1	4.1
Treasure County	C2	RM 292.32	52612	1.5-yr	1565.9	816.5	811.76	1.83	1.29	14.87	7.93	206.76	654.62	3.51	1.86	4.74	4.74
Treasure County	C2	RM 292.09	52256	1.5-yr	1565.9	816.38	811.6	1.83	1.39	15.55	9.03	169.02	511.52	3.86	2.21	4.78	4.78
Treasure County	C2	RM 291.9	51956	1.5-yr	1565.9	816.21	811.55	1.85	1.54	18.25	11.92	236.81	786.49	3.07	1.99	4.66	4.66
Treasure County	C2	RM 291.71	51639	1.5-yr	1565.9	815.61	811.5	2.8	2.42	60.89	50.75	230.91	352.81	2.21	1.83	4.11	4.11
Treasure County	C2	RM 291.52	51333	1.5-yr	1565.9	815.36	811.46	2.03	1.66	21.3	12.57	211.72	480.65	3.38	1.98	3.9	3.9
Treasure County	C2	RM 291.33	51042	1.5-yr	1565.9	815.11	811.46	2.15	1.99	25.26	18.39	229.48	379.28	2.87	2.08	3.66	3.66
Treasure County	C2	RM 291.15	50747	1.5-yr	1565.9	815.05	811.4	1.42	1.28	10.47	7.98	294.45	490.6	3.31	2.51	3.65	3.65
Treasure County	C2	RM 290.94	50437	1.5-yr	1565.9	814.87	811.31	1.75	1.36	17.01	9.49	259.11	766.54	2.71	1.5	3.56	3.56
Treasure County	C2	RM 290.78	50179	1.5-yr	1565.9	814.72	810.97	1.56	1.3	12.22	8.41	382.54	786.04	2.24	1.53	3.76	3.76
Treasure County	C2	RM 290.6	49891	1.5-yr	1565.9	814.64	810.54	1.19	1.13	7.87	7	472.7	570.83	2.73	2.43	4.1	4.1
Treasure County	C2	RM 290.43	49607	1.5-yr	1565.9	814.41	810.13	1.88	1.77	17.64	12.68	273	444.6	2.79	1.99	4.28	4.28
Treasure County	C2	RM 290.23	49287	1.5-yr	1565.9	813.94	810.07	2.7	2.47	36.64	22.38	150.01	285.07	3.66	2.22	3.87	3.87
Treasure County	C2	RM 290.04	48976	1.5-yr	1565.9	813.84	810.04	1.89	1.71	17.91	10.36	208.54	436.68	3.64	2.09	3.79	3.79
Treasure County	C2	RM 289.85	48667	1.5-yr	1565.9	813.7	809.87	1.56	1.45	13.36	10.86	357.54	585.17	2.53	2.05	3.83	3.83
Treasure County	C2	RM 289.67	48372	1.5-yr	1565.9	813.51	809.87	1.65	1.63	13.25	10.69	395.94	520.82	2.4	1.93	3.65	3.65
Treasure County	C2	RM 289.46	48067	1.5-yr	1565.9	813.4	809.56	1.4	1.31	10.33	7.7	371.49	623.87	2.98	2.21	3.84	3.84
Treasure County	C2	RM 289.27	47769	1.5-yr	1565.9	813.16	809.32	1.88	1.77	19.75	12.53	315.71	545.56	2.62	1.65	3.85	3.85
Treasure County	C2	RM 289.11	47515	1.5-yr	1565.9	813.01	809	1.86	1.72	17.3	8.21	225.73	551.67	3.69	1.74	4.01	4.01
Treasure County	C2	RM 288.94	47232	1.5-yr	1565.9	812.82	808.59	2.1	1.81	21.33	8.8	180.52	522.01	4.06	1.65	4.23	4.23
Treasure County	C2	RM 288.76	46939	1.5-yr	1565.9	812.69	808.33	1.91	1.47	18.53	7.54	217.12	761.74	3.53	1.42	4.36	4.36
Treasure County	C2	RM 288.55	46613	1.5-yr	1565.9	812.31	808.24	2.42	2.28	31.78	20.17	223.02	379.35	2.87	1.81	4.07	4.07
Treasure County	C2	RM 288.36	46302	1.5-yr	1565.9	812.24	807.91	1.69	1.51	13.67	5.38	217.67	634.34	4.19	1.63	4.33	4.33
Treasure County	C2	RM 288.18	46008	1.5-yr	1565.9	812.08	807.77	1.89	1.65	18.47	11.13	242.08	478.98	3.3	1.98	4.31	4.31
Treasure County	C2	RM 287.99	45713	1.5-yr	1565.9	811.95	807.58	1.76	1.53	14.45	6.14	235.16	1046.46	3.36	1.42	4.37	4.37
Treasure County	C2	RM 287.81	45421	1.5-yr	1565.9	811.85	807.25	1.6	1.36	12.95	6.98	226.81	601.81	3.57	1.91	4.6	4.6
Treasure County	C2	RM 287.62	45112	1.5-yr	1565.9	811.51	807.19	2.49	2.06	30.44	9.01	136.23	654.31	3.99	1.16	4.32	4.32
Treasure County	C2	RM 287.42	44789	1.5-yr	1565.9	811.29	807.15	2.33	1.87	27.11	10.44	158.31	587.51	3.75	1.43	4.15	4.15

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	1.5-yr	1565.9	811.22	806.81	1.43	1.32	11.58	7.15	419.45	746.68	2.57	1.58	4.41	4.41
Treasure County	C2	RM 287.06	44222	1.5-yr	1565.9	811.13	806.77	1.22	1.17	8.59	6.81	513	703.73	2.46	1.94	4.36	4.36
Treasure County	C2	RM 286.9	43958	1.5-yr	1565.9	811.01	806.52	1.49	1.39	10.99	6.99	274.56	562.95	3.78	2.39	4.48	4.48
Treasure County	C2	RM 286.72	43671	1.5-yr	1565.9	810.25	806.4	3.57	3.26	64.72	42.1	122.05	210.6	3.53	2.28	3.85	3.85
Treasure County	C3	RM 286.58	43448	1.5-yr	1565.9	810.23	806.32	2.41	2.14	28.85	12.4	169.59	501.31	3.77	1.6	3.91	3.91
Treasure County	C3	RM 286.51	43344	1.5-yr	1565.9	810.21	806.32	2.08	1.75	21.55	8.86	193.91	652.2	3.75	1.52	3.9	3.9
Treasure County	C3	RM 286.46	43257	1.5-yr	1565.9	810.15	806.25	2.14	1.84	22.81	12.01	195	491.19	3.66	1.92	3.9	3.9
Treasure County	C3	RM 286.37	43117	1.5-yr	1565.9	810.14	806.17	1.64	1.19	14.5	9.12	295.42	1120.06	2.9	1.81	3.97	3.97
Treasure County	C3	RM 286.26	42931	1.5-yr	1565.9	809.84	806.17	2.27	1.91	46.49	22.77	213.39	710.62	2.85	1.39	3.67	3.67
Treasure County	C3	RM 286.06	42624	1.5-yr	1565.9	809.69	806.08	1.53	1.24	12.39	6.18	354.13	1143.07	2.76	1.37	3.61	3.61
Treasure County	C3	RM 285.81	42213	1.5-yr	1565.9	809.45	805.78	1.9	1.32	16.88	7.74	208.47	1668.95	2.28	1.03	3.66	3.66
Treasure County	C3	RM 285.56	41812	1.5-yr	1565.9	809.28	805.34	1.52	1.11	11.55	2.99	233.68	2048.67	3.74	0.96	3.94	3.94
Treasure County	C3	RM 285.23	41280	1.5-yr	1565.9	809.02	805.17	1.89	1.11	19.38	5.06	151.47	2129.5	2.95	0.75	3.85	3.85
Treasure County	C3	RM 284.69	40395	1.5-yr	1565.9	808.36	804.85	2.46	2.05	34.32	17.11	138.63	703.17	2.55	1.25	3.51	3.51
Treasure County	C3	RM 284.26	39705	1.5-yr	1565.9	808.06	804.6	1.48	1.33	12.46	8.85	347.18	662.81	2.49	1.78	3.46	3.46
Treasure County	C3	RM 283.96	39199	1.5-yr	1565.9	807.78	804.3	1.76	1.35	17.05	6.12	240.43	1293.25	2.74	0.97	3.48	3.48
Treasure County	C3	RM 283.69	38766	1.5-yr	1565.9	807.6	803.9	1.66	1.13	14.08	4.24	179.88	1630.4	3.52	1.04	3.7	3.7
Treasure County	C3	RM 283.35	38229	1.5-yr	1565.9	807.44	803.42	1.44	0.91	10.62	3.82	273.83	1825.09	2.99	1.06	4.02	4.02
Treasure County	C3	RM 283.05	37749	1.5-yr	1565.9	807.07	803.32	2.17	1.5	25.15	5.88	187.14	1597.5	3.08	0.71	3.75	3.75
Treasure County	C3	RM 282.78	37306	1.5-yr	1565.9	806.8	803.11	1.82	1.21	15.46	4.96	255.56	1780.27	2.55	0.81	3.69	3.69
Treasure County	C3	RM 282.56	36942	1.5-yr	1565.9	806.67	802.83	1.34	0.92	9.76	3.53	279.87	2048.67	2.49	0.89	3.84	3.84
Treasure County	C3	RM 282.31	36546	1.5-yr	1565.9	806.53	802.74	1.51	0.83	11.78	3.46	186.8	1983.49	3.37	0.97	3.79	3.79
Treasure County	C3	RM 282.09	36195	1.5-yr	1565.9	806.27	802.56	2.15	1.15	25.67	7.54	181.69	1799.06	2.67	0.77	3.71	3.71
Treasure County	C4	RM 281.73	35619	1.5-yr	1565.9	805.92	801.74	1.68	1.32	13.19	4.92	389.59	1414.62	2.26	0.84	4.18	4.18
Treasure County	C4	RM 281.35	35005	1.5-yr	1565.9	805.75	801.53	1.29	1.03	8.17	1.99	307.33	1650.95	3.82	0.92	4.22	4.22
Treasure County	C4	RM 281.03	34521	1.5-yr	1565.9	805.51	801.19	1.89	1.37	17.53	3.76	205.28	1449.38	3.86	0.82	4.32	4.32
Treasure County	C4	RM 280.73	34051	1.5-yr	1565.9	805.35	800.82	1.46	1.24	6.71	4.06	677.48	1360.22	1.54	0.93	4.53	4.53
Treasure County	C4	RM 280.5	33687	1.5-yr	1565.9	805.21	800.66	1.3	1.15	6	3.56	754.99	1555.52	1.55	0.91	4.55	4.55
Treasure County	C4	RM 280.27	33304	1.5-yr	1565.9	805.09	800.31	1.1	0.95	5.58	3.11	758.46	1835.76	1.81	1.01	4.78	4.78
Treasure County	C4	RM 279.95	32800	1.5-yr	1565.9	804.95	800.08	1.1	0.86	6.74	3.04	503.81	1847.43	2.66	1.19	4.87	4.87
Treasure County	C4	RM 279.6	32231	1.5-yr	1565.9	804.54	799.98	2.14	1.62	17.71	7.78	303	969.91	2.28	1	4.56	4.56
Treasure County	C4	RM 279.33	31805	1.5-yr	1565.9	803.98	799.98	2.59	2.39	32.8	19.78	242.6	443.28	2.47	1.48	4	4
Treasure County	C4	RM 279.14	31495	1.5-yr	1565.9	803.82	799.96	1.96	1.7	18.42	10.98	230.33	490.52	3.16	1.88	3.86	3.86
Treasure County	C4	RM 278.96	31209	1.5-yr	1565.9	803.76	799.87	1.38	1.33	9.51	7.17	364.63	524.95	2.99	2.25	3.89	3.89
Treasure County	C4	RM 278.76	30894	1.5-yr	1565.9	803.61	799.6	1.53	1.49	12.91	10.57	389.74	525.35	2.46	2.01	4.01	4.01
Treasure County	C4	RM 278.56	30571	1.5-yr	1565.9	803.36	799.53	1.79	1.65	18.27	12.47	334.19	651.18	2.46	1.67	3.83	3.83
Treasure County	C4	RM 278.37	30259	1.5-yr	1565.9	803.26	799.26	1.35	1.34	9.53	9.06	364.18	543.13	3.19	3.03	4	4
Treasure County	C5	RM 278.16	29915	1.5-yr	1565.9	802.94	798.81	2.2	2.12	23.71	17.03	201.16	299.1	3.52	2.52	4.12	4.12
Treasure County	C5	RM 277.99	29648	1.5-yr	1565.9	802.67	798.77	2.44	2.4	29.98	23.06	185.31	245.53	3.47	2.66	3.89	3.89
Treasure County	C5	RM 277.8	29336	1.5-yr	1565.9	802.46	798.74	2.16	2.13	23.79	18.48	208.6	273.12	3.47	2.69	3.72	3.72
Treasure County	C5	RM 277.61	29041	1.5-yr	1565.9	802.26	798.72	2.12	1.99	22.97	14.42	213.66	368.25	3.42	2.14	3.55	3.55
Treasure County	C5	RM 277.43	28747	1.5-yr	1565.9	802.11	798.48	1.79	1.74	17.36	11.49	303.77	474.36	2.88	1.89	3.63	3.63
Treasure County	C5	RM 277.22	28415	1.5-yr	1565.9	801.85	798.47	1.95	1.95	17.14	16.29	359.96	380.69	2.23	2.11	3.38	3.38
Treasure County	C5	RM 277.04	28123	1.5-yr	1565.9	801.67	798.4	1.75	1.69	14.93	12.7	350.1	428.58	2.54	2.16	3.27	3.27
Treasure County	C5	RM 276.81	27791	1.5-yr	1565.9	801.58	797.8	1.34	1.33	9.47	8.42	376.57	566.98	3.1	2.76	3.78	3.78
Treasure County	C5	RM 276.63	27499	1.5-yr	1565.9	801.3	797.4	2.1	1.93	22.91	9.38	226.34	613.44	3.25	1.32	3.9	3.9
Treasure County	C5	RM 276.4	27133	1.5-yr	1565.9	801.07	797.1	1.99	1.82	19.83	11.6	238.61	519.59	3.22	1.88	3.97	3.97
Treasure County	C5	RM 276.19	26801	1.5-yr	1565.9	800.89	796.87	1.96	1.72	19.64	11.01	182.79	534.6	3.42	1.9	4.02	4.02
Treasure County	C5	RM 276.01	26502	1.5-yr	1565.9	800.7	796.74	2.07	1.81	21.34	12.54	154.09	397.61	3.74	2.18	3.96	3.96
Treasure County	C5	RM 275.81	26193	1.5-yr	1565.9	800.58	796.61	1.76	1.6	15.9	9.31	179.56	493.7	3.42	1.99	3.97	3.97
Treasure County	C5	RM 275.63	25896	1.5-yr	1565.9	800.41	796.49	2.02	1.67	20.61	10.41	134.07	535.27	3.67	1.82	3.91	3.91
Treasure County	C5	RM 275.45	25606	1.5-yr	1565.9	800.32	796.37	1.59	1.38	13.15	10.15	153.92	485.14	3.24	2.47	3.95	3.95
Treasure County	C5	RM 275.26	25299	1.5-yr	1565.9	800.16	796.16	1.65	1.65	13.5	12.5	248.96	269.27	3.81	3.52	4	4
Treasure County	C5	RM 275.09	25033	1.5-yr	1565.9	799.93	796.13	2.14	2.09	23.07	11.68	199.32	407.16	3.66	1.84	3.8	3.8
Treasure County	C6	RM 274.89	24716	1.5-yr	1565.9	799.77	796.04	1.92	1.53	19.1	9.62	226.84	1294.94	3.36	1.68	3.74	3.74
Treasure County	C6	RM 274.72	24440	1.5-yr	1565.9	799.37	796.04	2.58	2.26	36.95	23.17	213.92	972.17	2.69	1.68	3.33	3.33
Treasure County	C6	RM 274.55	24165	1.5-yr	1565.9	799.21	795.79	1.72	1.38	18.13	9.11	293.43	1940.98	2.29	1.14	3.41	3.41
Treasure County	C6	RM 274.38	23892	1.5-yr	1565.9	799.03	795.55	1.71	1.28	15.81	6.35	222.03	1829.02	2.88	1.15	3.48	3.48
Treasure County	C6	RM 274.13	23491	1.5-yr	1565.9	798.83	795.16	1.79	1.32	18.25	7.57	218.02	1974.16	2.47	1.01	3.67	3.67
Treasure County	C6	RM 273.83	22999	1.5-yr	1565.9	798.66	794.46	1.51	1.07	11.67	3.64	182.98	2068.78	3.42	1.05	4.2	4.2

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	1.5-yr	1565.9	798.42	794.04	1.99	1.36	19.1	4.56	172.26	1948.08	3.27	0.77	4.38	4.38
Treasure County	C6	RM 273.35	22238	1.5-yr	1565.9	798.22	794.04	1.92	1.08	17.29	4.68	230.93	3019.06	2.42	0.65	4.19	4.19
Treasure County	C6	RM 273.15	21916	1.5-yr	1565.9	798.07	793.92	1.62	0.9	13.59	4.44	262.75	3143.92	2.47	0.8	4.16	4.16
Treasure County	C6	RM 272.83	21397	1.5-yr	1565.9	797.91	793.79	1.47	0.82	10.01	2.81	255.71	3437.24	2.93	0.81	4.12	4.12
Treasure County	C6	RM 272.5	20872	1.5-yr	1565.9	797.55	793.46	2.17	1.32	25.17	7.14	224.77	2840.73	2.42	0.68	4.09	4.09
Treasure County	C6	RM 272.19	20368	1.5-yr	1565.9	797.12	793.34	2.07	1.51	22	8.25	240.15	1625.6	2.88	1.07	3.78	3.78
Treasure County	C6	RM 271.91	19902	1.5-yr	1565.9	796.89	793.18	1.79	1.34	16.83	8.11	225.12	1405.65	3.19	1.53	3.71	3.71
Treasure County	C6	RM 271.68	19534	1.5-yr	1565.9	796.58	792.81	2.24	1.8	26.9	14.63	186.63	848.1	3.03	1.64	3.77	3.77
Treasure County	C6	RM 271.41	19102	1.5-yr	1565.9	796.51	792.54	1.22	0.98	8.23	4.24	297.2	1389.02	2.69	1.38	3.97	3.97
Treasure County	C6	RM 271.06	18548	1.5-yr	1565.9	796.1	792.18	2.31	2.04	28.59	14.24	164.31	522.91	2.99	1.47	3.92	3.92
Treasure County	C6	RM 270.64	17870	1.5-yr	1565.9	795.89	792.05	1.41	1.09	10.97	4.71	220.85	1245.84	2.72	1.16	3.84	3.84
Treasure County	C6	RM 270.05	16897	1.5-yr	1565.9	795.48	791.48	2.02	1.35	19.34	5.87	161.17	1249.02	3.11	0.93	4.01	4.01
Treasure County	C6	RM 269.75	16413	1.5-yr	1565.9	795.14	791.35	2.08	1.59	23.12	9.64	217.49	797.31	2.98	1.23	3.79	3.79
Treasure County	C6	RM 269.47	15967	1.5-yr	1565.9	794.85	791.23	2.03	1.84	21.48	13.38	204.86	718.16	3.26	2.02	3.62	3.62
Treasure County	C7	RM 269.27	15645	1.5-yr	1565.9	794.73	791.23	1.61	1.43	13.76	7.79	267.4	1305.39	3.06	1.72	3.5	3.5
Treasure County	C7	RM 269.06	15308	1.5-yr	1565.9	794.62	791.01	1.35	1.21	10.21	5.69	193.95	1229.85	2.66	1.46	3.6	3.6
Treasure County	C7	RM 268.83	14957	1.5-yr	1565.9	794.54	790.6	0.93	0.81	5.01	2.74	262.99	1635.6	2.39	1.29	3.94	3.94
Treasure County	C7	RM 268.55	14516	1.5-yr	1565.9	794.42	790.17	1.23	0.96	7.86	2.48	222.43	1813.24	3.34	1.04	4.25	4.25
Treasure County	C7	RM 268.2	13976	1.5-yr	1565.9	794.16	789.62	1.82	1.31	16.95	4.13	227.97	1534.74	3.44	0.83	4.54	4.54
Treasure County	C7	RM 267.87	13439	1.5-yr	1565.9	793.81	789.53	2.09	1.51	20.18	7.09	217.54	938.09	3.21	1.11	4.28	4.28
Treasure County	C7	RM 267.53	12884	1.5-yr	1565.9	793.3	789.5	2.35	1.65	29.74	13.86	235.66	806.79	2.55	1.18	3.8	3.8
Treasure County	C7	RM 267.14	12253	1.5-yr	1565.9	793.12	789.26	1.43	1.05	10.23	5.56	226.49	1096.63	2.94	1.58	3.86	3.86
Treasure County	C7	RM 266.8	11700	1.5-yr	1565.9	792.98	789.2	1.46	1.09	11.35	4.54	214.75	1436.54	3.03	1.2	3.78	3.78
Treasure County	C7	RM 266.41	11078	1.5-yr	1565.9	792.68	789.14	2.09	1.41	24.31	9.2	153.81	1237.78	2.71	1.01	3.54	3.54
Treasure County	C7	RM 266.11	10593	1.5-yr	1565.9	792.38	788.83	1.83	1.51	19.29	9.55	257.19	1077.5	2.45	1.2	3.55	3.55
Treasure County	C7	RM 265.92	10283	1.5-yr	1565.9	792.18	788.65	1.82	1.53	13.69	10.4	322.74	1008.48	1.91	1.45	3.54	3.54
Treasure County	C7	RM 265.68	9915	1.5-yr	1565.9	791.97	788.21	1.93	1.59	18.81	11.29	179.35	578.99	3.58	2.13	3.76	3.76
Treasure County	C7	RM 265.52	9650	1.5-yr	1565.9	791.82	788.07	2.02	1.54	22.1	10.84	156.19	731.43	2.93	1.42	3.75	3.75
Treasure County	C7	RM 265.34	9362	1.5-yr	1565.9	791.57	788.07	1.97	1.65	22.29	11.22	173.89	779.36	2.45	1.22	3.5	3.5
Treasure County	C7	RM 265.16	9071	1.5-yr	1565.9	791.38	787.95	1.57	1.5	14.7	11.19	280.24	643.36	2.13	1.62	3.43	3.43
Treasure County	C7	RM 264.98	8775	1.5-yr	1565.9	791.15	787.59	1.97	1.72	16.71	12.82	258.73	590.59	2.01	1.54	3.56	3.56
Treasure County	C7	RM 264.81	8508	1.5-yr	1565.9	791.07	787.35	1.13	1.15	8.61	7.58	620.3	1041.26	1.48	1.3	3.72	3.72
Treasure County	C7	RM 264.64	8216	1.5-yr	1565.9	790.94	787.22	1.21	1.18	7.58	7.33	648.77	986.41	1.39	1.35	3.72	3.72
Treasure County	C7	RM 264.39	7803	1.5-yr	1565.9	790.71	786.86	1.53	1.44	13.52	10.51	342.71	667.01	2.1	1.63	3.85	3.85
Treasure County	C7	RM 264.15	7406	1.5-yr	1565.9	790.58	786.6	1.33	1.11	9.45	5.81	198.16	1033.05	2.28	1.38	3.98	3.98
Treasure County	C7	RM 263.97	7116	1.5-yr	1565.9	790.48	786.49	1.46	1.11	10.6	6.11	174.37	688.68	3.71	2.11	3.99	3.99
Treasure County	C7	RM 263.79	6834	1.5-yr	1565.9	790.29	786.49	1.95	1.6	18.43	9.95	196.7	668.23	2.74	1.46	3.8	3.8
Treasure County	C7	RM 263.6	6534	1.5-yr	1565.9	790.13	786.37	1.74	1.25	16.1	7.03	201.94	947.81	3.07	1.33	3.76	3.76
Treasure County	C7	RM 263.39	6194	1.5-yr	1565.9	790	786.25	1.28	1.21	9.02	6.21	442.9	873.09	2.55	1.75	3.76	3.76
Treasure County	C7	RM 263.19	5862	1.5-yr	1565.9	789.71	786	1.9	1.63	21.67	12.44	332.71	1042.08	2.14	1.22	3.71	3.71
Treasure County	C7	RM 262.95	5479	1.5-yr	1565.9	789.45	785.85	1.75	1.53	11.35	6.97	372.18	751.82	2.23	1.37	3.6	3.6
Treasure County	C7	RM 262.78	5206	1.5-yr	1565.9	789.32	785.76	1.59	1.38	12.01	7.52	435.74	1136.43	1.82	1.14	3.56	3.56
Treasure County	C7	RM 262.58	4883	1.5-yr	1565.9	789.16	785.64	1.22	1.04	9.95	5.97	610.86	1659.48	1.84	1.1	3.52	3.52
Treasure County	C7	RM 262.42	4613	1.5-yr	1565.9	789.06	785.54	1.07	0.91	6.05	3.64	651.42	1578.78	1.88	1.13	3.52	3.52
Treasure County	C7	RM 262.24	4323	1.5-yr	1565.9	788.98	785.43	0.92	0.88	5.21	3.61	839.33	1488.72	2	1.39	3.56	3.56
Treasure County	C7	RM 261.95	3917	1.5-yr	1565.9	788.84	785.28	1.16	1.09	6.77	4.97	649.99	982.73	2.07	1.52	3.56	3.56
Treasure County	C7	RM 261.7	3519	1.5-yr	1565.9	788.6	784.87	1.26	1.26	24.25	24.14	575.7	578.39	2.16	2.16	3.73	3.73
Treasure County	C7	RM 261.53	3256	1.5-yr	1565.9	788.15	784.51	1.61	1.57	35.6	32.81	534.39	597.79	1.81	1.67	3.64	3.64
Treasure County	C7	RM 261.35	2959	1.5-yr	1565.9	788.04	784.33	1.12	1.12	5.79	5.79	575.29	575.29	2.44	2.44	3.7	3.7
Treasure County	C7	RM 261.2	2720	1.5-yr	1565.9	787.89	784.14	1.34	1.34	28.06	28.04	545.68	546.11	2.14	2.14	3.75	3.75
Treasure County	C7	RM 261.03	2441	1.5-yr	1565.9	787.77	783.66	1.22	1.21	7.36	6.89	398.96	429.05	3.22	3.02	4.11	4.11
Treasure County	C7	RM 260.84	2142	1.5-yr	1565.9	787.65	783.41	1.43	1.4	10.7	8.58	340.82	433.72	3.21	2.57	4.24	4.24
Treasure County	C7	RM 260.66	1863	1.5-yr	1565.9	787.54	783.29	1.52	1.42	10.82	5.9	346.66	689.37	2.94	1.6	4.25	4.25
Treasure County	C8	RM 259.9	634	1.5-yr	1565.9	786.45	782.46	2.88	2.62	41.74	26.84	146.5	256.42	3.64	2.33	3.99	3.99
Treasure County	C8	RM 259.72	347	1.5-yr	1565.9	786.21	782.45	2.53	2.34	32.62	22.5	172.83	278.14	3.49	2.4	3.76	3.76
Treasure County	C8	RM 259.55	68	1.5-yr	1565.9	786.11	782.2	1.84	1.84	13.59	13.59	347.89	347.89	2.44	2.44	3.91	3.91

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	1.5-yr	1565.9	786.11	782.19	1.99	1.85	19.83	16.95	205.03	263.51	3.76	3.21	3.92	3.92
Rosebud County	C8	RM 259.41	87598	1.5-yr	1565.9	785.92	781.96	2.02	2.02	21.93	21.93	206.05	206.05	3.77	3.77	3.96	3.96
Rosebud County	C8	RM 259.22	87292	1.5-yr	1565.9	785.8	781.55	1.79	1.62	15.59	11.67	232.6	352.58	3.69	2.75	4.25	4.25
Rosebud County	C8	RM 259.04	87004	1.5-yr	1565.9	785.64	781	1.91	1.85	20.1	17.65	207.67	254.95	3.8	3.33	4.64	4.64
Rosebud County	C8	RM 258.85	86696	1.5-yr	1565.9	785.45	780.9	1.97	1.87	15.72	13.4	282.1	356.98	2.76	2.35	4.55	4.55
Rosebud County	C8	RM 258.66	86399	1.5-yr	1565.9	785.3	780.78	1.97	1.92	18.48	15.39	182.36	252.28	4.29	3.56	4.52	4.52
Rosebud County	C8	RM 258.47	86098	1.5-yr	1565.9	785.11	780.65	2.12	1.98	22.15	16.18	199	314.41	3.46	2.52	4.46	4.46
Rosebud County	C8	RM 258.28	85798	1.5-yr	1565.9	784.95	780.53	1.95	1.6	18.46	12.43	217.17	457.96	3.18	2.13	4.42	4.42
Rosebud County	C8	RM 258.1	85498	1.5-yr	1565.9	784.79	780.14	1.94	1.69	17.82	11.55	172.89	437.04	4.34	2.79	4.65	4.65
Rosebud County	C8	RM 257.91	85200	1.5-yr	1565.9	784.63	780.14	1.97	1.83	20.52	12.39	220.75	543.88	3.14	1.89	4.49	4.49
Rosebud County	C8	RM 257.71	84875	1.5-yr	1565.9	784.34	780.14	2.21	1.89	27.33	18.96	217.64	505.64	2.64	1.82	4.2	4.2
Rosebud County	C8	RM 257.54	84597	1.5-yr	1565.9	784.14	780.17	2.02	1.65	20.58	10.53	202.72	603.65	3.21	1.63	3.97	3.97
Rosebud County	C8	RM 257.36	84298	1.5-yr	1565.9	783.96	780.05	1.97	1.55	19.58	10.71	188.41	618.72	2.98	1.63	3.91	3.91
Rosebud County	C8	RM 257.16	83984	1.5-yr	1565.9	783.93	780	1.18	1	6.99	3.96	305.45	760.32	3.68	2.09	3.93	3.93
Rosebud County	C8	RM 256.87	83608	1.5-yr	1565.9	783.58	779.89	2.35	2.01	27.59	17.63	178.42	359.31	3.4	2.16	3.69	3.69
Rosebud County	C8	RM 256.65	83257	1.5-yr	1565.9	783.5	779.82	1.61	1.42	13.1	7.59	171.34	574.82	3.35	1.92	3.68	3.68
Rosebud County	C8	RM 256.45	82941	1.5-yr	1565.9	783.32	779.67	1.78	1.63	16.1	8.91	222.18	499.56	3.49	1.92	3.65	3.65
Rosebud County	C8	RM 256.26	82630	1.5-yr	1565.9	783.1	779.58	1.84	1.54	25.36	16.28	318.17	641.05	2.48	1.58	3.52	3.52
Rosebud County	C8	RM 256.1	82375	1.5-yr	1565.9	782.96	779.42	1.44	1.44	10.37	10.37	493.43	493.43	2.21	2.21	3.54	3.54
Rosebud County	C8	RM 255.91	82077	1.5-yr	1565.9	782.89	779.09	1.15	1.15	6.05	6.05	542.55	542.55	2.5	2.5	3.8	3.8
Rosebud County	C8	RM 255.7	81747	1.5-yr	1565.9	782.7	778.73	1.65	1.6	13.72	10.78	306.33	404.03	3.08	2.42	3.97	3.97
Rosebud County	C8	RM 255.51	81446	1.5-yr	1565.9	782.5	778.49	1.87	1.78	18.24	13.94	252.92	526.28	3.27	2.49	4.01	4.01
Rosebud County	C8	RM 255.31	81125	1.5-yr	1565.9	782.34	778.36	1.78	1.63	19.32	10.5	235.92	539.84	3.63	1.96	3.98	3.98
Rosebud County	C8	RM 255.14	80856	1.5-yr	1565.9	782.15	778.24	1.97	1.8	19.4	10.55	209.61	432.39	3.72	2.01	3.91	3.91
Rosebud County	C8	RM 254.95	80554	1.5-yr	1565.9	781.96	778.12	2.06	1.92	21.22	13.35	205.68	368.49	3.64	2.28	3.84	3.84
Rosebud County	C8	RM 254.76	80251	1.5-yr	1565.9	781.8	778	1.94	1.79	18.93	11.19	217.17	422.68	3.65	2.15	3.8	3.8
Rosebud County	C8	RM 254.58	79960	1.5-yr	1565.9	781.67	777.88	1.84	1.76	17.01	13.64	229.98	317.38	3.66	2.93	3.79	3.79
Rosebud County	C8	RM 254.39	79658	1.5-yr	1565.9	781.59	777.41	1.49	1.43	11.24	8.17	293.71	467.96	3.55	2.58	4.18	4.18
Rosebud County	C8	RM 254.2	79359	1.5-yr	1565.9	781.39	777.39	1.88	1.85	18.73	14.95	269.2	355.36	3.08	2.46	4	4
Rosebud County	C8	RM 254.01	79052	1.5-yr	1565.9	781.25	776.82	1.81	1.75	15.71	10.08	206.35	359.92	4.18	2.68	4.43	4.43
Rosebud County	C9	RM 253.82	78779	1.5-yr	1565.9	781.09	776.24	1.94	1.78	20.65	11.96	241.75	542.79	3.29	1.89	4.85	4.85
Rosebud County	C9	RM 253.63	78478	1.5-yr	1565.9	780.78	776.12	2.23	1.86	44.64	19.6	167.75	655.19	3.76	1.63	4.66	4.66
Rosebud County	C9	RM 253.45	78178	1.5-yr	1565.9	780.43	775.97	2.42	1.93	26.87	11.91	171.93	870.75	3.33	1.46	4.46	4.46
Rosebud County	C9	RM 253.26	77879	1.5-yr	1565.9	780.39	775.72	1.63	1.16	10.87	3.68	228.96	1249.73	3.74	1.25	4.67	4.67
Rosebud County	C9	RM 253.07	77578	1.5-yr	1565.9	780.17	775.57	2.14	1.52	21.07	6.64	181.13	1007.43	3.45	1.07	4.6	4.6
Rosebud County	C9	RM 252.88	77278	1.5-yr	1565.9	780.05	775.45	1.75	1.33	16.07	5.26	221.89	1163.42	3.15	1.02	4.6	4.6
Rosebud County	C9	RM 252.69	76962	1.5-yr	1565.9	779.99	775.33	1.26	0.84	8.25	2.85	260.6	1622.49	3.36	1.15	4.66	4.66
Rosebud County	C9	RM 252.49	76646	1.5-yr	1565.9	779.74	775.36	2.16	1.43	22.05	6.18	155.64	1657.29	3.59	0.99	4.38	4.38
Rosebud County	C9	RM 252.24	76252	1.5-yr	1565.9	779.56	775.4	1.91	1.18	19.8	4.31	167.1	2486.24	3.14	0.67	4.16	4.16
Rosebud County	C9	RM 252.01	75885	1.5-yr	1565.9	779.36	775.39	1.73	1.14	21.96	5.29	243.85	2198.35	2.94	0.7	3.97	3.97
Rosebud County	C9	RM 251.7	75438	1.5-yr	1565.9	779.22	775.01	1.2	0.94	6.78	2.24	467.93	2237.53	2.5	0.82	4.21	4.21
Rosebud County	C9	RM 251.49	75098	1.5-yr	1565.9	779.06	775.02	1.41	1.03	10.56	5.11	638.61	2529.76	1.5	0.72	4.04	4.04
Rosebud County	C9	RM 251.23	74691	1.5-yr	1565.9	778.75	775.05	1.56	1.39	11.63	6.22	545.72	1504.77	1.8	0.96	3.7	3.7
Rosebud County	C9	RM 251.01	74322	1.5-yr	1565.9	778.59	774.84	1.39	1.11	6.99	3.8	481.82	1552.13	2.03	1.1	3.75	3.75
Rosebud County	C9	RM 250.79	73973	1.5-yr	1565.9	778.5	774.42	1.26	0.95	7.84	3.78	363.07	1442.78	2.72	1.31	4.08	4.08
Rosebud County	C9	RM 250.6	73678	1.5-yr	1565.9	778.34	774.17	1.47	1.12	20.15	11.12	374.24	1340.53	2.11	1.16	4.17	4.17
Rosebud County	C9	RM 250.37	73306	1.5-yr	1565.9	778.06	774.05	1.84	1.25	14.88	5.82	232.48	1084.45	3.15	1.23	4.01	4.01
Rosebud County	C9	RM 250.17	72982	1.5-yr	1565.9	777.83	773.93	2.19	1.31	25.41	12.65	205.88	1084.83	2.55	1.26	3.9	3.9
Rosebud County	C9	RM 249.95	72617	1.5-yr	1565.9	777.62	773.83	1.84	1.24	17.26	8.01	226.06	887.95	3.07	1.42	3.79	3.79
Rosebud County	C9	RM 249.73	72253	1.5-yr	1565.9	777.43	773.71	1.79	1.24	16.71	7.98	271.53	981.15	2.7	1.29	3.72	3.72
Rosebud County	C9	RM 249.53	71936	1.5-yr	1565.9	777.36	773.38	1.24	0.9	7.94	3.34	350.06	1435.05	3.1	1.3	3.98	3.98
Rosebud County	C9	RM 249.31	71579	1.5-yr	1565.9	777.16	773.14	1.63	1.33	16.5	7.8	360.28	1869.88	2.23	1.05	4.02	4.02
Rosebud County	C9	RM 249.13	71274	1.5-yr	1565.9	777.03	772.84	1.45	1.01	11.06	3.67	297.11	1943.91	3.18	1.05	4.19	4.19
Rosebud County	C9	RM 248.94	70978	1.5-yr	1565.9	776.81	772.56	1.98	1.23	19.44	4.49	195.14	2308.71	3.33	0.77	4.25	4.25
Rosebud County	C9	RM 248.76	70681	1.5-yr	1565.9	776.81	772.32	1.04	0.74	5.77	2.06	424.32	2109.55	3.08	1.09	4.49	4.49
Rosebud County	C9	RM 248.53	70312	1.5-yr	1565.9	776.75	772.17	1.14	0.6	6	1.86	160.15	2914.33	3.79	1.17	4.58	4.58
Rosebud County	C9	RM 248.31	69962	1.5-yr	1565.9	776.61	772.04	1.53	0.95	11.92	3.37	277.15	2572.12	3.04	0.85	4.57	4.57
Rosebud County	C9	RM 248.08	69603	1.5-yr	1565.9	776.43	771.92	1.77	1.03	13.64	3.23	211.49	2609.9	3.55	0.84	4.51	4.51
Rosebud County	C9	RM 247.88	69253	1.5-yr	1565.9	776.18	771.92	1.87	1.3	30.39	11.27	348.22	2370.68	2.12	0.78	4.26	4.26
Rosebud County	C9	RM 247.64	68836	1.5-yr	1565.9	775.83	771.95	1.65	1.38	14.35	6.89	411.28	1617.46	2.21	1.06	3.88	3.88

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	1.5-yr	1565.9	775.69	771.87	1.33	0.94	8.81	3.31	282.14	1579.65	3.39	1.27	3.82	3.82
Rosebud County	C9	RM 247.11	67963	1.5-yr	1565.9	775.36	771.45	2.33	1.69	29.6	8.34	195.04	1403.05	2.84	0.79	3.91	3.91
Rosebud County	C9	RM 246.83	67502	1.5-yr	1565.9	775.16	770.97	1.78	1.27	17.39	6.56	194.58	1098.49	3.61	1.35	4.19	4.19
Rosebud County	C9	RM 246.52	67019	1.5-yr	1565.9	775.01	770.61	1.54	1.25	11.68	5.12	225.38	1057.34	3.79	1.65	4.4	4.4
Rosebud County	C9	RM 246.22	66538	1.5-yr	1565.9	774.15	770.53	3.37	2.99	65.22	33.11	204.11	523.21	2.23	1.12	3.62	3.62
Rosebud County	C9	RM 245.94	66068	1.5-yr	1565.9	773.77	770.29	1.73	1.52	17.49	12.17	294.93	677.35	2.24	1.55	3.48	3.48
Rosebud County	C9	RM 245.66	65624	1.5-yr	1565.9	773.45	769.81	1.91	1.32	20.13	6.51	192.91	1297.97	3.49	1.11	4.21	4.21
Rosebud County	C9	RM 245.4	65205	1.5-yr	1565.9	773.23	769.59	1.68	1.69	13.87	10.5	301.66	606.6	2.04	1.54	4.07	4.07
Rosebud County	C9	RM 245.15	64804	1.5-yr	1565.9	772.74	769.41	2.11	2.29	36.51	30.88	204.72	376.54	2.18	1.83	3.58	3.58
Rosebud County	C9	RM 244.89	64387	1.5-yr	1565.9	772.31	769.41	2.27	2.06	28.67	22.63	181.86	358.33	2.7	2.13	3.28	3.28
Rosebud County	C9	RM 244.7	64085	1.5-yr	1565.9	772.28	769.37	1.22	1.1	7.94	5.9	214.02	785.89	2.43	1.8	3.37	3.37
Rosebud County	C9	RM 244.51	63776	1.5-yr	1565.9	772.21	769.35	1.06	1.01	7.23	5.27	262.86	907.39	2.35	1.72	3.3	3.3
Rosebud County	C9	RM 244.33	63499	1.5-yr	1565.9	772.18	769.16	0.47	0.68	4.18	4.47	272.85	1006.31	2.16	2.3	3.75	3.75
Rosebud County	C9	RM 244.14	63224	1.5-yr	1565.9	772.13	768.52	0.95	0.78	4.91	2.88	208.4	1241.29	2.84	1.65	3.7	3.7
Rosebud County	C9	RM 243.96	62927	1.5-yr	1565.9	772.05	768.13	1.27	0.97	8.56	3.94	175.44	1334.28	3.06	1.41	3.92	3.92
Rosebud County	C9	RM 243.77	62617	1.5-yr	1565.9	772.02	767.57	0.8	0.58	3.15	1.64	160.76	1382.32	3.96	2.03	4.45	4.45
Rosebud County	C9	RM 243.59	62327	1.5-yr	1565.9	771.93	766.98	1.36	0.97	10.35	3.84	122.45	993.39	4.55	1.64	4.95	4.95
Rosebud County	C9	RM 243.39	62012	1.5-yr	1565.9	771.71	766.86	2.01	1.58	19.74	9.46	153.43	518.43	4.04	1.91	4.85	4.85
Rosebud County	C9	RM 243.21	61718	1.5-yr	1565.9	771.6	766.74	1.76	1.57	14.6	4.97	202.39	701.15	4.36	1.47	4.86	4.86
Rosebud County	C10	RM 243.03	61422	1.5-yr	1565.9	771.2	766.73	2.69	2.36	37.45	15.06	170.97	624.36	3.36	1.33	4.47	4.47
Rosebud County	C10	RM 242.84	61125	1.5-yr	1565.9	770.8	766.76	2.81	2.6	40.2	23.71	166.94	316.81	3.3	1.93	4.04	4.04
Rosebud County	C10	RM 242.65	60825	1.5-yr	1565.9	770.62	766.76	2.24	2.1	25.41	13.34	200.47	413.9	3.45	1.8	3.86	3.86
Rosebud County	C10	RM 242.47	60527	1.5-yr	1565.9	770.48	766.77	1.86	1.71	17.49	9.22	240.59	502.39	3.46	1.82	3.71	3.71
Rosebud County	C10	RM 242.29	60239	1.5-yr	1565.9	770.37	766.64	1.67	1.56	14.2	7.03	281.26	618.83	3.29	1.62	3.73	3.73
Rosebud County	C10	RM 242.1	59939	1.5-yr	1565.9	770.15	766.29	1.95	1.75	21.29	12.3	274.47	557.35	2.88	1.66	3.86	3.86
Rosebud County	C10	RM 241.9	59618	1.5-yr	1565.9	769.97	765.95	1.81	1.61	16.62	6.58	243.26	733.62	3.5	1.38	4.02	4.02
Rosebud County	C10	RM 241.72	59324	1.5-yr	1565.9	769.89	765.5	1.5	1.27	11.1	5.45	289.08	769.77	3.52	1.72	4.39	4.39
Rosebud County	C10	RM 241.53	59025	1.5-yr	1565.9	769.57	765.17	2.36	2.03	31.16	15.55	159.58	389.13	4.01	1.98	4.4	4.4
Rosebud County	C10	RM 241.34	58725	1.5-yr	1565.9	769.37	765.02	2.22	1.76	23.82	11.39	177.25	608.66	3.78	1.79	4.35	4.35
Rosebud County	C10	RM 241.16	58424	1.5-yr	1565.9	769.26	764.97	1.87	1.41	16.98	8.83	171.92	809.12	3.5	1.8	4.29	4.29
Rosebud County	C10	RM 240.97	58132	1.5-yr	1565.9	769.14	764.83	1.7	1.34	14.35	7.38	189.58	814.16	3.71	1.89	4.31	4.31
Rosebud County	C10	RM 240.78	57818	1.5-yr	1565.9	769.08	764.56	1.39	0.99	9.21	4.01	159.68	1207.42	4.19	1.8	4.52	4.52
Rosebud County	C10	RM 240.56	57467	1.5-yr	1565.9	768.94	764.28	1.56	1.16	17.08	5.47	212.38	1331.63	3.76	1.19	4.66	4.66
Rosebud County	C10	RM 240.41	57228	1.5-yr	1565.9	768.88	763.91	1.36	1.02	10.88	3.04	216.4	1402.8	4.29	1.18	4.97	4.97
Rosebud County	C10	RM 240.22	56944	1.5-yr	1565.9	768.67	763.51	1.94	1.35	17.93	4.26	157.35	1045.98	4.84	1.11	5.16	5.16
Rosebud County	C10	RM 240.09	56741	1.5-yr	1565.9	768.37	763.47	2.75	1.9	28.35	6.56	120.22	813.21	4.51	1.02	4.9	4.9
Rosebud County	C10	RM 239.97	56546	1.5-yr	1565.9	768.32	763.47	2.22	1.69	30.11	9.1	155.75	719.47	4.34	1.29	4.85	4.85
Rosebud County	C10	RM 239.86	56371	1.5-yr	1565.9	768.24	763.25	1.98	1.82	20.43	5.87	205.82	788.52	3.82	1.09	4.99	4.99
Rosebud County	C10	RM 239.68	56093	1.5-yr	1565.9	768	763.02	2.36	2.22	20.12	10.2	172.44	625.7	3.83	1.91	4.98	4.98
Rosebud County	C10	RM 239.56	55888	1.5-yr	1565.9	767.29	763.1	3.85	3.85	59.5	59.5	112.73	151.63	3.61	3.61	4.19	4.19
Rosebud County	C10	RM 239.41	55655	1.5-yr	1565.9	767.23	763.17	2.93	2.93	33.99	33.99	140.54	164.77	3.81	3.81	4.06	4.06
Rosebud County	C10	RM 239.25	55398	1.5-yr	1565.9	766.99	763.17	2.77	2.77	41.06	41.06	161.33	222.86	3.51	3.51	3.82	3.82
Rosebud County	C10	RM 239.07	55108	1.5-yr	1565.9	766.89	763.2	2.05	1.85	17.22	9.94	218.77	480.98	3.38	1.94	3.69	3.69
Rosebud County	C10	RM 238.89	54826	1.5-yr	1565.9	766.67	763.23	2.32	1.99	22.22	16.52	191.01	322.47	3.3	2.44	3.44	3.44
Rosebud County	C10	RM 238.73	54570	1.5-yr	1565.9	766.5	763.38	2.18	2.06	20.32	16.25	239.34	319.77	2.97	2.37	3.12	3.12
Rosebud County	C10	RM 238.51	54223	1.5-yr	1565.9	766.34	762.88	1.63	1.63	14.17	14.17	431.32	571.84	2.23	2.23	3.46	3.46
Rosebud County	C10	RM 238.33	53926	1.5-yr	1565.9	766.17	762.37	1.65	1.65	13.78	13.61	304.18	453.34	3.11	3.08	3.8	3.8
Rosebud County	C10	RM 238.14	53626	1.5-yr	1565.9	765.88	762.25	2.21	2.05	25.37	19.15	212.95	539.82	3.27	2.47	3.63	3.63
Rosebud County	C10	RM 237.95	53321	1.5-yr	1565.9	765.58	762.09	2.4	2.17	29.83	18.38	188.34	612.51	3.27	2.01	3.49	3.49
Rosebud County	C10	RM 237.77	53027	1.5-yr	1565.9	765.52	761.85	1.6	1.51	12.97	10.21	292.52	745.63	3.19	2.51	3.67	3.67
Rosebud County	C10	RM 237.56	52703	1.5-yr	1565.9	765.38	761.46	1.55	1.54	11.45	9.95	396.36	924.14	2.56	2.22	3.92	3.92
Rosebud County	C10	RM 237.36	52386	1.5-yr	1565.9	765.27	761.22	1.38	1.34	10.21	7.76	413.11	1247.65	2.74	2.08	4.05	4.05
Rosebud County	C10	RM 237.15	52029	1.5-yr	1565.9	765.14	760.88	1.36	1.27	9.86	6.64	382.44	1060.2	2.98	2	4.26	4.26
Rosebud County	C10	RM 236.99	51756	1.5-yr	1565.9	764.92	760.22	2.01	1.95	15.23	9.29	175.29	703.82	4.43	2.68	4.7	4.7
Rosebud County	C10	RM 236.83	51500	1.5-yr	1565.9	764.67	760.07	2.5	2.44	24.92	16.63	165.92	402.24	3.76	2.49	4.6	4.6
Rosebud County	C10	RM 236.66	51221	1.5-yr	1565.9	764.61	760.07	2.02	1.89	15.67	7.59	183.77	663.78	4.18	2	4.54	4.54
Rosebud County	C10	RM 236.47	50924	1.5-yr	1565.9	764.51	759.94	1.91	1.84	13.87	9.63	190.91	287.51	4.28	2.96	4.57	4.57
Rosebud County	C11	RM 236.29	50623	1.5-yr	1565.9	764.42	760	1.86	1.79	13.46	9.9	210.31	299.67	3.98	2.92	4.42	4.42
Rosebud County	C11	RM 236.1	50327	1.5-yr	1565.9	764.24	760	2.12	2.04	18.15	14.81	206.87	265.56	3.55	2.89	4.24	4.24
Rosebud County	C11	RM 235.91	50024	1.5-yr	1565.9	763.93	760	2.51	2.38	31.42	21.19	167.16	265	3.71	2.49	3.93	3.93

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	1.5-yr	1565.9	763.85	760.15	1.8	1.66	16.41	13.22	242.99	369.33	3.18	2.55	3.7	3.7
Rosebud County	C11	RM 235.57	49480	1.5-yr	1565.9	763.75	760.02	1.55	1.55	12.58	12.58	315.42	315.42	3.2	3.2	3.73	3.73
Rosebud County	C11	RM 235.36	49133	1.5-yr	1565.9	763.55	759.74	1.75	1.75	13.8	13.8	335.74	335.74	2.66	2.66	3.81	3.81
Rosebud County	C11	RM 235.17	48830	1.5-yr	1565.9	763.38	759.55	1.76	1.75	12.3	12	436.07	448.88	2.04	1.99	3.83	3.83
Rosebud County	C11	RM 235	48571	1.5-yr	1565.9	763.28	759.29	1.53	1.49	11.43	9.07	319.02	419.13	3.21	2.54	3.99	3.99
Rosebud County	C11	RM 234.82	48271	1.5-yr	1565.9	762.81	759.21	2.73	2.59	39.97	27.13	189.92	298.36	2.99	2.03	3.6	3.6
Rosebud County	C11	RM 234.63	47978	1.5-yr	1565.9	762.59	759.21	2.18	1.95	24.53	15.56	233.55	429.46	2.95	1.87	3.38	3.38
Rosebud County	C11	RM 234.45	47692	1.5-yr	1565.9	762.39	759.12	1.96	1.82	20.1	16.01	282.09	398.37	2.71	2.16	3.27	3.27
Rosebud County	C11	RM 234.2	47305	1.5-yr	1565.9	762.21	758.6	1.57	1.45	13.22	10.45	346.28	505.36	2.71	2.13	3.61	3.61
Rosebud County	C11	RM 234.01	47006	1.5-yr	1565.9	762.14	758.27	1.17	1.08	5.51	4.92	615.05	784.32	2.12	1.89	3.87	3.87
Rosebud County	C11	RM 233.84	46737	1.5-yr	1565.9	762.06	758.12	1.21	1.14	8.12	7.61	488.3	571.26	2.57	2.41	3.94	3.94
Rosebud County	C11	RM 233.61	46365	1.5-yr	1565.9	761.95	757.67	1.29	1.19	8.13	5.52	302.81	488.06	3.96	2.69	4.28	4.28
Rosebud County	C11	RM 233.35	45943	1.5-yr	1565.9	761.71	757.03	1.92	1.57	18.83	12.63	214.65	430.31	3.48	2.32	4.68	4.68
Rosebud County	C11	RM 233.13	45584	1.5-yr	1565.9	761.55	756.45	1.81	1.81	15.68	15.08	206.06	276.21	4.2	4.04	5.1	5.1
Rosebud County	C11	RM 232.94	45281	1.5-yr	1565.9	761.35	756.15	2.13	2.12	21.49	19.78	169.29	243.24	4.35	4	5.2	5.2
Rosebud County	C11	RM 232.75	44978	1.5-yr	1565.9	761.28	756.03	1.71	1.65	13.64	8.81	203.23	382.63	4.5	2.88	5.25	5.25
Rosebud County	C11	RM 232.56	44674	1.5-yr	1565.9	761.17	755.79	1.72	1.71	14.68	12.55	240.24	439.57	3.79	3.23	5.38	5.38
Rosebud County	C11	RM 232.37	44366	1.5-yr	1565.9	760.92	755.72	2.14	2.14	23.32	22.77	204.6	605.12	3.57	3.48	5.2	5.2
Rosebud County	C11	RM 232.19	44074	1.5-yr	1565.9	760.78	755.67	1.95	1.94	18.57	16.48	202.57	343.11	3.97	3.51	5.11	5.11
Rosebud County	C11	RM 232.01	43791	1.5-yr	1565.9	760.63	755.65	1.96	1.96	19.63	16.68	226.01	340.96	3.53	2.99	4.98	4.98
Rosebud County	C11	RM 231.81	43473	1.5-yr	1565.9	760.34	755.6	2.31	2.02	26.59	16.56	197.72	574.76	3.3	2.04	4.74	4.74
Rosebud County	C11	RM 231.62	43160	1.5-yr	1565.9	760.13	755.57	2.18	1.84	19.4	11.47	221.36	469.75	3.08	1.81	4.56	4.56
Rosebud County	C11	RM 231.42	42835	1.5-yr	1565.9	760.09	755.45	1.5	1.2	10.7	4.13	223.53	786.73	4.37	1.66	4.65	4.65
Rosebud County	C11	RM 231.22	42522	1.5-yr	1565.9	759.94	755.45	1.87	1.33	16.04	4.98	201.5	1127.94	3.73	1.14	4.49	4.49
Rosebud County	C11	RM 230.99	42160	1.5-yr	1565.9	759.44	755.45	2.84	2.23	41.16	16.51	148.01	507.49	3.51	1.38	3.99	3.99
Rosebud County	C11	RM 230.79	41841	1.5-yr	1565.9	759.33	755.43	2	1.61	20.19	10.3	201.66	597.26	3.63	1.84	3.9	3.9
Rosebud County	C11	RM 230.53	41415	1.5-yr	1565.9	759.21	755.17	1.42	1.26	10.59	8.48	292.49	575.96	2.69	2.15	4.04	4.04
Rosebud County	C11	RM 230.29	41045	1.5-yr	1565.9	759.02	755.15	1.72	1.44	14.32	7.45	233.66	748.5	3.06	1.58	3.87	3.87
Rosebud County	C11	RM 230.06	40676	1.5-yr	1565.9	758.83	754.81	1.66	1.56	15.54	12.4	285.66	604.33	2.57	2.05	4.02	4.02
Rosebud County	C11	RM 229.81	40276	1.5-yr	1565.9	758.67	754.74	1.44	1.33	11	6.9	319.78	1217.86	3.11	1.94	3.93	3.93
Rosebud County	C11	RM 229.6	39937	1.5-yr	1565.9	758.4	754.58	1.96	1.78	16.81	12.05	343.82	1188.17	2.23	1.59	3.82	3.82
Rosebud County	C11	RM 229.4	39596	1.5-yr	1565.9	758.27	754.34	1.55	1.38	12.67	8.28	283.58	896.76	3.28	2.13	3.93	3.93
Rosebud County	C11	RM 229.2	39273	1.5-yr	1565.9	757.95	754.15	2.29	2.02	28.71	16.28	214.29	656.88	2.82	1.59	3.8	3.8
Rosebud County	C11	RM 229.02	38994	1.5-yr	1565.9	757.71	754.12	2.2	1.74	26.17	14.11	210.02	733.88	2.91	1.56	3.59	3.59
Rosebud County	C11	RM 228.82	38676	1.5-yr	1565.9	757.55	753.8	1.77	1.47	16.83	10.99	268.09	707.08	2.92	1.9	3.75	3.75
Rosebud County	C11	RM 228.64	38383	1.5-yr	1565.9	757.42	753.73	1.67	1.27	14.9	10.52	223.17	690.39	2.97	2.09	3.73	3.73
Rosebud County	C11	RM 228.46	38093	1.5-yr	1565.9	757.35	753.53	1.27	0.93	8.57	5.02	300.52	1045.34	3.04	1.77	3.82	3.82
Rosebud County	C11	RM 228.26	37771	1.5-yr	1565.9	757.28	753.35	1.18	0.79	7.33	3.86	273.06	1409.59	3.19	1.66	3.93	3.93
Rosebud County	C11	RM 228.03	37408	1.5-yr	1565.9	757.12	753.16	1.63	0.99	13.86	4.56	232.62	1621.74	3.28	1.07	3.96	3.96
Rosebud County	C11	RM 227.74	36949	1.5-yr	1565.9	756.9	752.95	1.87	1.42	17.79	4.81	164.8	1176.1	3.52	0.94	3.95	3.95
Rosebud County	C11	RM 227.49	36537	1.5-yr	1565.9	756.73	752.83	1.87	1.32	18.03	4.63	175.36	1379.72	3.4	0.86	3.9	3.9
Rosebud County	C11	RM 227.2	36062	1.5-yr	1565.9	756.56	752.41	1.72	1.33	15.29	4.81	177.79	1135.22	3.34	1.04	4.15	4.15
Rosebud County	C11	RM 226.98	35709	1.5-yr	1565.9	756.1	752.31	2.52	2	34.87	16.02	209.02	610.51	2.81	1.28	3.79	3.79
Rosebud County	C11	RM 226.79	35400	1.5-yr	1565.9	755.9	752.25	1.91	1.53	20.56	9.97	267.91	746.92	2.85	1.37	3.65	3.65
Rosebud County	C11	RM 226.56	35065	1.5-yr	1565.9	755.77	751.83	1.47	1.22	12.88	8.36	338.41	693.01	2.86	1.85	3.94	3.94
Rosebud County	C11	RM 226.36	34743	1.5-yr	1565.9	755.51	751.68	1.84	1.69	19.58	16.2	300.15	405.42	2.76	2.28	3.83	3.83
Rosebud County	C11	RM 226.2	34476	1.5-yr	1565.9	755.4	751.25	1.46	1.36	10.5	9.79	424.72	501.62	2.46	2.29	4.15	4.15
Rosebud County	C11	RM 226.01	34177	1.5-yr	1565.9	755.26	750.81	1.58	1.47	12.01	8.39	282.06	597.24	3.46	2.41	4.45	4.45
Rosebud County	C11	RM 225.83	33884	1.5-yr	1565.9	754.91	750.59	2.51	2.16	31.17	19.55	157.4	442.69	3.8	2.36	4.32	4.32
Rosebud County	C11	RM 225.64	33580	1.5-yr	1565.9	754.81	750.56	1.75	1.56	16.5	10.68	293.96	562.49	2.97	1.91	4.25	4.25
Rosebud County	C11	RM 225.45	33275	1.5-yr	1565.9	754.71	750.31	1.44	1.43	10.72	10.04	322.67	357.95	3.36	3.15	4.4	4.4
Rosebud County	C11	RM 225.26	32969	1.5-yr	1565.9	754.57	750.25	1.61	1.58	13.48	10.62	291.19	406.66	3.33	2.61	4.32	4.32
Rosebud County	C11	RM 225.16	32805	1.5-yr	1565.9	754.44	750.19	1.89	1.87	17.97	15.02	224.54	289.12	3.69	3.07	4.25	4.25
Rosebud County	C11	RM 225.06	32646	1.5-yr	1565.9	754.13	750.15	2.67	2.66	34.32	32.58	163.18	172.36	3.6	3.42	3.98	3.98
Rosebud County	C12	RM 224.89	32368	1.5-yr	1565.9	754.1	750.09	1.74	1.74	15.21	15.12	246.93	248.39	3.64	3.62	4.01	4.01
Rosebud County	C12	RM 224.71	32083	1.5-yr	1565.9	753.95	750.04	1.79	1.79	15.42	15.42	322.29	322.29	2.72	2.72	3.91	3.91
Rosebud County	C12	RM 224.53	31796	1.5-yr	1565.9	753.79	749.96	1.8	1.8	13.59	13.56	323.85	498.68	2.69	2.68	3.83	3.83
Rosebud County	C12	RM 224.34	31486	1.5-yr	1565.9	753.59	750.03	1.72	1.68	16.32	15.9	454.37	635.48	1.86	1.81	3.56	3.56
Rosebud County	C12	RM 224.16	31195	1.5-yr	1565.9	753.44	749.78	1.57	1.48	12.25	9.21	260.03	583.41	3.12	2.34	3.76	3.76
Rosebud County	C12	RM 223.96	30878	1.5-yr	1565.9	753.26	749.48	1.85	1.67	17.59	11.3	179.51	541.7	3.42	2.19	3.88	3.88

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	1.5-yr	1565.9	753.04	749.18	2.12	1.96	24.15	16.01	162.95	495.93	2.94	1.94	3.86	3.86
Rosebud County	C12	RM 223.55	30235	1.5-yr	1565.9	752.91	748.87	1.73	1.59	14.91	8.53	229.9	463.33	3.75	2.13	4.04	4.04
Rosebud County	C12	RM 223.37	29952	1.5-yr	1565.9	752.72	748.72	1.99	1.83	19.62	10.38	208.3	528.42	3.75	1.97	4	4
Rosebud County	C12	RM 223.2	29681	1.5-yr	1565.9	752.59	748.51	1.9	1.76	17.74	8.81	209.58	463.95	3.89	1.92	4.08	4.08
Rosebud County	C12	RM 223.02	29391	1.5-yr	1565.9	752.5	748.51	1.65	1.45	13.83	5.73	262.53	1112.39	3.49	1.43	3.99	3.99
Rosebud County	C12	RM 222.82	29071	1.5-yr	1565.9	752.37	748.5	1.64	1.37	13.68	5.1	267.66	1096.67	3.47	1.29	3.87	3.87
Rosebud County	C12	RM 222.64	28787	1.5-yr	1565.9	752.24	748.46	1.72	1.2	15.03	4.86	236.97	1237.01	3.54	1.14	3.78	3.78
Rosebud County	C12	RM 222.45	28479	1.5-yr	1565.9	752.12	748.44	1.64	1.11	14.04	4.72	273.74	1328.41	3.18	1.06	3.68	3.68
Rosebud County	C12	RM 222.22	28128	1.5-yr	1565.9	751.91	748.15	1.49	1.12	36.99	11.49	252.87	1265.38	3.6	1.11	3.76	3.76
Rosebud County	C12	RM 222.01	27784	1.5-yr	1565.9	751.75	747.57	1.28	1	8.48	3.28	372.22	1312.97	3.12	1.2	4.18	4.18
Rosebud County	C12	RM 221.77	27401	1.5-yr	1565.9	751.69	747.18	0.91	0.74	4.68	2.79	722.89	1756.11	2.27	1.35	4.51	4.51
Rosebud County	C12	RM 221.55	27042	1.5-yr	1565.9	751.62	747.07	0.84	0.72	4.43	2.85	807.88	2693.24	2.19	1.41	4.55	4.55
Rosebud County	C12	RM 221.34	26708	1.5-yr	1565.9	751.55	746.94	0.94	0.81	4.37	2.94	648.68	2626.83	2.46	1.65	4.61	4.61
Rosebud County	C12	RM 221.15	26406	1.5-yr	1565.9	751.44	746.7	1.35	1.2	8.66	4.05	265.14	2091.43	4.3	1.99	4.74	4.74
Rosebud County	C12	RM 220.96	26081	1.5-yr	1565.9	750.86	746.66	3.11	2.84	48.93	29.42	137.51	273.83	3.6	2.14	4.2	4.2
Rosebud County	C12	RM 220.77	25779	1.5-yr	1565.9	750.55	746.73	2.75	2.73	38.49	35.12	161.56	178.73	3.52	3.21	3.82	3.82
Rosebud County	C12	RM 220.6	25513	1.5-yr	1565.9	750.54	746.72	1.71	1.67	14.66	11.3	248.41	331.75	3.67	2.82	3.82	3.82
Rosebud County	C12	RM 220.4	25183	1.5-yr	1565.9	750.37	746.88	1.77	1.66	12.86	11.59	389.3	798.65	2.19	1.97	3.49	3.49
Rosebud County	C12	RM 220.23	24914	1.5-yr	1565.9	750.3	746.8	1.33	1.25	7.37	5.54	499.75	1075.61	2.26	1.7	3.5	3.5
Rosebud County	C12	RM 220.02	24578	1.5-yr	1565.9	750.17	746.54	1.33	1.29	6.93	5.55	711.1	926.45	1.64	1.31	3.63	3.63
Rosebud County	C12	RM 219.83	24268	1.5-yr	1565.9	750.1	746.18	1.04	0.99	4.82	4.1	714.75	977.09	2.07	1.76	3.92	3.92
Rosebud County	C12	RM 219.63	23947	1.5-yr	1565.9	749.96	745.79	1.33	1.29	7.74	6.11	567.16	747.89	2.07	1.63	4.17	4.17
Rosebud County	C12	RM 219.47	23683	1.5-yr	1565.9	749.88	745.56	1.32	1.24	8.89	5.06	367.59	697.33	3.21	1.82	4.32	4.32
Rosebud County	C12	RM 219.29	23386	1.5-yr	1565.9	749.6	745.27	2.12	1.84	22.92	8.81	204.89	636.26	3.52	1.34	4.33	4.33
Rosebud County	C12	RM 219.11	23085	1.5-yr	1565.9	749.41	745.15	2.14	1.74	23.25	10.88	175.18	557.96	3.49	1.62	4.26	4.26
Rosebud County	C12	RM 218.92	22783	1.5-yr	1565.9	749.25	745.15	1.88	1.54	17.94	8.98	229.83	706.9	2.9	1.44	4.1	4.1
Rosebud County	C12	RM 218.73	22473	1.5-yr	1565.9	749.1	745.06	1.73	1.36	14.86	7.46	226.39	621.06	3.72	1.85	4.04	4.04
Rosebud County	C12	RM 218.54	22180	1.5-yr	1565.9	748.99	744.99	1.64	1.38	13.88	7.25	274.48	648.24	3.35	1.75	4	4
Rosebud County	C12	RM 218.38	21902	1.5-yr	1565.9	748.88	744.43	1.63	1.32	12.98	5.59	234.5	703.6	3.92	1.68	4.45	4.45
Rosebud County	C12	RM 218.18	21580	1.5-yr	1565.9	748.65	743.9	2.12	1.56	22.18	8.52	181.44	687.26	3.84	1.46	4.75	4.75
Rosebud County	C12	RM 217.99	21276	1.5-yr	1565.9	748.47	743.66	2.05	1.6	21.64	11.86	211.96	589.23	3.38	1.83	4.81	4.81
Rosebud County	C12	RM 217.81	20981	1.5-yr	1565.9	748.44	743.51	1.36	1.33	8.51	5.99	289.69	512.44	3.98	2.79	4.93	4.93
Rosebud County	C12	RM 217.64	20702	1.5-yr	1565.9	748.16	743.41	2.27	2.09	25.46	10.5	175.14	499.41	3.9	1.59	4.75	4.75
Rosebud County	C12	RM 217.45	20392	1.5-yr	1565.9	747.93	743.29	2.31	1.9	27	10.93	184.69	580.13	3.55	1.42	4.64	4.64
Rosebud County	C12	RM 217.25	20070	1.5-yr	1565.9	747.86	743.29	1.72	1.31	14.2	5.11	191.77	802.36	4.2	1.49	4.57	4.57
Rosebud County	C12	RM 217	19662	1.5-yr	1565.9	747.61	743.25	2.06	1.68	20.91	7.7	189.24	667.97	3.84	1.4	4.36	4.36
Rosebud County	C12	RM 216.77	19300	1.5-yr	1565.9	747.36	743.25	2.15	1.69	24.5	10.22	217.02	720.27	3.11	1.29	4.11	4.11
Rosebud County	C12	RM 216.53	18912	1.5-yr	1565.9	747.16	743.3	1.77	1.26	16.81	6.42	273.04	1104.35	2.98	1.13	3.86	3.86
Rosebud County	C12	RM 216.27	18500	1.5-yr	1565.9	746.96	743.24	1.55	1.18	13.32	5.5	357.37	1206.12	2.68	1.1	3.72	3.72
Rosebud County	C12	RM 215.98	18038	1.5-yr	1565.9	746.8	743.12	1.39	0.97	10.36	4.99	273.73	1155.5	2.9	1.4	3.68	3.68
Rosebud County	C12	RM 215.68	17550	1.5-yr	1565.9	746.66	742.31	1.37	1.1	9.05	3.58	269.37	888.17	4.06	1.61	4.35	4.35
Rosebud County	C12	RM 215.41	17101	1.5-yr	1565.9	746.46	741.82	1.77	1.41	15.59	5.87	217.48	785.89	3.8	1.42	4.64	4.64
Rosebud County	C12	RM 215.21	16781	1.5-yr	1565.9	746.05	741.65	2.63	2.23	34.91	13.68	158.78	504.2	3.61	1.4	4.4	4.4
Rosebud County	C12	RM 215.02	16479	1.5-yr	1565.9	745.77	741.68	2.63	2.29	34.61	19.07	146.32	335.22	3.74	2.04	4.09	4.09
Rosebud County	C13	RM 214.86	16220	1.5-yr	1565.9	745.79	741.64	1.55	1.44	11.79	7.65	252.52	426.45	3.94	2.55	4.15	4.15
Rosebud County	C13	RM 214.65	15883	1.5-yr	1565.9	745.64	741.6	1.65	1.65	10.97	10.97	396.68	422.6	2.39	2.39	4.04	4.04
Rosebud County	C13	RM 214.46	15577	1.5-yr	1565.9	745.5	741.6	1.65	1.64	11.62	10.03	347.57	598.58	2.73	2.35	3.9	3.9
Rosebud County	C13	RM 214.27	15282	1.5-yr	1565.9	745.39	741.59	1.53	1.53	10.1	10.1	416.11	571.18	2.46	2.46	3.8	3.8
Rosebud County	C13	RM 214.07	14957	1.5-yr	1565.9	745.26	741.54	1.34	1.3	12.82	9.28	424.03	937.59	2.74	1.98	3.72	3.72
Rosebud County	C13	RM 213.9	14672	1.5-yr	1565.9	745.1	741.37	1.52	1.52	12.29	12.29	360	460.05	2.86	2.86	3.73	3.73
Rosebud County	C13	RM 213.7	14343	1.5-yr	1565.9	744.89	740.88	1.83	1.79	16.77	12.83	229.4	821.43	3.71	2.83	4.01	4.01
Rosebud County	C13	RM 213.54	14083	1.5-yr	1565.9	744.66	740.59	2.22	2.16	24.67	16.03	188	784.68	3.73	2.41	4.07	4.07
Rosebud County	C13	RM 213.36	13792	1.5-yr	1565.9	744.53	740.39	1.9	1.84	18.65	16.78	238	943.81	3.37	3.02	4.14	4.14
Rosebud County	C13	RM 213.16	13475	1.5-yr	1565.9	744.27	740.27	2.18	1.74	24.09	17.06	207.81	905.85	3.09	2.17	4	4
Rosebud County	C13	RM 212.99	13200	1.5-yr	1565.9	744.12	740.31	2.01	1.69	18.85	12.09	196.48	896.24	3.06	1.95	3.81	3.81
Rosebud County	C13	RM 212.79	12880	1.5-yr	1565.9	743.92	740.19	2.03	1.63	20.91	11.44	178.02	957.3	3.52	1.91	3.73	3.73
Rosebud County	C13	RM 212.6	12572	1.5-yr	1565.9	743.79	739.79	1.74	1.51	15.02	5.37	235.97	1641.67	3.75	1.33	4	4
Rosebud County	C13	RM 212.42	12284	1.5-yr	1565.9	743.56	739.58	2.14	1.77	23.7	10.59	200.38	776.44	3.5	1.55	3.98	3.98
Rosebud County	C13	RM 212.23	11983	1.5-yr	1565.9	743.4	739.17	1.88	1.72	18.53	10.92	254.46	1107.78	3.22	1.89	4.23	4.23
Rosebud County	C13	RM 212.05	11688	1.5-yr	1565.9	743.26	738.83	1.81	1.68	16.2	9.69	220.5	543.13	3.87	2.3	4.43	4.43

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	1.5-yr	1565.9	743.08	738.79	1.95	1.81	19.57	12.39	232.47	511.61	3.41	2.15	4.29	4.29
Rosebud County	C13	RM 211.65	11066	1.5-yr	1565.9	742.89	738.58	1.91	1.69	18.99	9.69	245.81	685.34	3.25	1.65	4.31	4.31
Rosebud County	C13	RM 211.44	10724	1.5-yr	1565.9	742.68	738.38	2.03	1.57	21.09	10.14	199.53	892.22	3.42	1.63	4.3	4.3
Rosebud County	C13	RM 211.21	10353	1.5-yr	1565.9	742.57	737.87	1.69	1.25	12.78	5.46	199	888.95	3.57	1.51	4.7	4.7
Rosebud County	C13	RM 210.96	9946	1.5-yr	1565.9	742.24	737.72	2.32	1.61	27.89	11.77	169.56	689.7	3.37	1.41	4.52	4.52
Rosebud County	C13	RM 210.75	9612	1.5-yr	1565.9	742.16	737.48	1.71	1.19	14.5	7.49	191.24	689.7	3.75	1.91	4.68	4.68
Rosebud County	C13	RM 210.57	9317	1.5-yr	1565.9	742.08	737.5	1.51	1.17	11.2	4.94	242.89	815.93	3.74	1.63	4.58	4.58
Rosebud County	C13	RM 210.36	8986	1.5-yr	1565.9	741.81	737.54	2.14	1.62	23.68	9.68	194.77	702.34	3.39	1.37	4.27	4.27
Rosebud County	C13	RM 210.16	8674	1.5-yr	1565.9	741.59	737.53	1.97	1.77	21.55	14.35	284.48	491.4	2.71	1.8	4.06	4.06
Rosebud County	C13	RM 209.98	8382	1.5-yr	1565.9	741.56	737.25	1.26	1.08	7.88	3.87	303.92	832.17	3.68	1.79	4.31	4.31
Rosebud County	C13	RM 209.8	8091	1.5-yr	1565.9	741.48	736.96	1.42	1.09	9.53	3.87	218.68	837.79	4.38	1.76	4.51	4.51
Rosebud County	C13	RM 209.6	7774	1.5-yr	1565.9	741.28	736.72	1.94	1.33	18.15	5.03	179.37	1073.74	4.16	1.14	4.56	4.56
Rosebud County	C13	RM 209.41	7482	1.5-yr	1565.9	741.19	736.53	1.68	1.24	14.14	4.36	236.05	1124.83	3.69	1.13	4.66	4.66
Rosebud County	C13	RM 209.21	7161	1.5-yr	1565.9	740.94	736.29	2.1	1.8	21.64	5.8	189.03	849.46	3.88	1.03	4.65	4.65
Rosebud County	C13	RM 209.03	6871	1.5-yr	1565.9	740.74	736.14	2.2	1.82	24.06	6.66	185.11	837.54	3.76	1.03	4.6	4.6
Rosebud County	C13	RM 208.85	6571	1.5-yr	1565.9	740.65	736.03	1.74	1.39	15.13	5.47	229.12	843.93	3.75	1.34	4.62	4.62
Rosebud County	C13	RM 208.65	6257	1.5-yr	1565.9	740.54	735.74	1.72	1.34	15.12	7.81	217.56	654.49	3.5	1.79	4.8	4.8
Rosebud County	C13	RM 208.46	5945	1.5-yr	1565.9	740.28	735.69	2.13	1.86	21.84	14.76	203.59	426.23	2.95	1.98	4.59	4.59
Rosebud County	C13	RM 208.29	5682	1.5-yr	1565.9	739.75	735.63	3.05	2.8	47.04	33.43	115.79	218.4	3.66	2.56	4.12	4.12
Rosebud County	C14	RM 208.1	5374	1.5-yr	1565.9	739.66	735.61	2.02	1.96	20.07	13.52	199.97	309.34	3.87	2.59	4.05	4.05
Rosebud County	C14	RM 207.91	5064	1.5-yr	1565.9	739.48	735.56	1.93	1.76	18.54	8.89	290.23	689.12	2.75	1.31	3.92	3.92
Rosebud County	C14	RM 207.72	4766	1.5-yr	1565.9	739.29	735.52	1.83	1.64	16.94	9.36	330.58	690.47	2.52	1.38	3.77	3.77
Rosebud County	C14	RM 207.53	4450	1.5-yr	1565.9	739.17	735.35	1.34	1.16	10.51	5.64	454.05	1031.85	2.46	1.31	3.82	3.82
Rosebud County	C14	RM 207.33	4123	1.5-yr	1565.9	738.97	735.27	1.67	1.28	14.73	5.42	282.48	1088.21	3.08	1.13	3.7	3.7
Rosebud County	C14	RM 207.15	3851	1.5-yr	1565.9	738.88	735.14	1.49	1.16	11.18	4.44	309.87	1085.14	3.16	1.25	3.74	3.74
Rosebud County	C14	RM 206.99	3599	1.5-yr	1565.9	738.79	734.95	1.46	1.05	11.48	4.81	326.78	1433.49	2.9	1.21	3.84	3.84
Rosebud County	C14	RM 206.81	3315	1.5-yr	1565.9	738.7	734.49	1.46	1.02	11.05	3.59	257.35	1656.73	3.38	1.09	4.21	4.21
Rosebud County	C14	RM 206.61	2997	1.5-yr	1565.9	738.6	733.91	1.53	0.88	11.46	2.96	197.48	2279.44	3.95	1.01	4.69	4.69
Rosebud County	C14	RM 206.43	2701	1.5-yr	1565.9	738.54	733.52	1.39	0.83	10.2	3.59	244.3	2649.1	3.18	1.11	5.02	5.02
Rosebud County	C14	RM 206.21	2350	1.5-yr	1565.9	738.45	733.38	1.33	0.86	8.87	3.16	253.17	2101.53	3.42	1.2	5.07	5.07
Rosebud County	C14	RM 205.97	1963	1.5-yr	1565.9	738.36	732.73	1.31	0.91	7.87	2.31	223.85	2477.15	4.85	1.4	5.63	5.63
Rosebud County	C14	RM 205.72	1563	1.5-yr	1565.9	737.5	732.73	3.81	3.28	91.33	31.63	94.36	576.69	4.25	1.43	4.76	4.76
Rosebud County	C14	RM 205.49	1198	1.5-yr	1565.9	737.34	732.63	2.2	1.77	31.94	12.03	187.25	1000.89	3.6	1.34	4.71	4.71
Rosebud County	C14	RM 205.3	907	1.5-yr	1565.9	736.97	732.76	2.41	1.8	32.95	11.59	243.67	1407.88	2.51	0.87	4.21	4.21
Rosebud County	C14	RM 205.11	594	1.5-yr	1565.9	736.83	732.8	1.82	1.04	16.59	5.36	190.95	1508.62	3.66	1.17	4.03	4.03
Rosebud County	C14	RM 204.9	243	1.5-yr	1565.9	736.52	732.63	2.18	1.69	25.27	5.27	223.06	1743.08	3.08	0.63	3.89	3.89

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	5% Duration	1288.4	736.29	732.67	2.37	2.12	30.73	16.63	189.96	508.24	2.8	1.5	3.62	3.62
Custer County	C14	RM 204.43	73135	5% Duration	1288.4	736.16	732.44	1.69	1.37	15.62	6.18	264.16	1237.17	2.79	1.09	3.72	3.72
Custer County	C14	RM 204.22	72808	5% Duration	1288.4	735.89	732.3	1.93	1.53	21.35	7.15	257.27	1028.31	2.45	0.82	3.59	3.59
Custer County	C14	RM 204	72454	5% Duration	1288.4	735.79	731.9	1.36	1.1	9.46	3.93	258.87	813.39	3.48	1.44	3.89	3.89
Custer County	C14	RM 203.82	72156	5% Duration	1288.4	735.57	731.14	1.96	1.53	19.83	5.27	190.95	1101.99	3.34	0.87	4.43	4.43
Custer County	C14	RM 203.65	71895	5% Duration	1288.4	735.37	730.95	2.16	1.27	24.21	4.89	156.91	1521.57	3.37	0.67	4.42	4.42
Custer County	C14	RM 203.5	71641	5% Duration	1288.4	735.29	730.78	1.66	0.95	14.46	4.21	193.98	1464.9	3.24	0.93	4.51	4.51
Custer County	C14	RM 203.3	71324	5% Duration	1288.4	735.23	730.79	1.32	0.83	8.83	3.5	161.07	1111.07	3.61	1.4	4.44	4.44
Custer County	C14	RM 203.1	71035	5% Duration	1288.4	735.05	730.79	1.8	1.23	17.21	7.73	183.21	776.25	3.09	1.37	4.26	4.26
Custer County	C14	RM 202.9	70718	5% Duration	1288.4	734.83	730.67	1.89	1.49	21.71	14.23	245.94	640.33	2.07	1.35	4.17	4.17
Custer County	C14	RM 202.71	70415	5% Duration	1288.4	734.54	730.64	1.94	1.63	20.93	11.76	226.06	521.56	2.72	1.52	3.9	3.9
Custer County	C14	RM 202.51	70088	5% Duration	1288.4	734.15	730.68	2.42	2.02	31.18	14.7	150.94	447.26	3.06	1.43	3.47	3.47
Custer County	C14	RM 202.34	69815	5% Duration	1288.4	734	730.63	1.66	1.59	16.05	11.56	319.88	482.84	2.34	1.68	3.37	3.37
Custer County	C14	RM 202.13	69483	5% Duration	1288.4	733.83	730.54	1.52	1.24	12.59	6.23	281.21	740.14	2.85	1.4	3.29	3.29
Custer County	C14	RM 201.97	69219	5% Duration	1288.4	733.69	730.01	1.63	1.38	14.41	11.37	260.42	419.83	2.84	2.23	3.68	3.68
Custer County	C14	RM 201.75	68884	5% Duration	1288.4	733.65	729.45	1.07	1.03	5.65	4.81	303.74	447.49	3.87	3.28	4.2	4.2
Custer County	C14	RM 201.57	68612	5% Duration	1288.4	733.51	729.37	1.57	1.44	14.73	10.55	362.32	683.35	2.15	1.54	4.14	4.14
Custer County	C14	RM 201.38	68299	5% Duration	1288.4	733.09	729.23	2.14	2.04	27.5	22.13	277.14	468.94	2.15	1.72	3.86	3.86
Custer County	C14	RM 201.23	68055	5% Duration	1288.4	732.81	729.13	1.93	1.66	23.26	16.25	335.13	589.22	1.89	1.31	3.67	3.67
Custer County	C14	RM 201.06	67778	5% Duration	1288.4	732.73	729.03	1.23	1.02	8.68	6.4	260.47	741.82	2.39	1.75	3.7	3.7
Custer County	C14	RM 200.85	67439	5% Duration	1288.4	732.27	729.05	2.72	2.46	39.48	31.3	111.64	216.94	3.08	2.41	3.22	3.22
Custer County	C14	RM 200.64	67103	5% Duration	1288.4	732.17	728.97	1.67	1.52	14.73	9.34	212.98	433.41	3.1	1.96	3.2	3.2
Custer County	C14	RM 200.48	66842	5% Duration	1288.4	732.08	728.8	1.32	1.27	10.02	9.08	306.66	467.7	2.39	2.16	3.28	3.28
Custer County	C14	RM 200.27	66515	5% Duration	1288.4	731.91	728.63	1.41	1.33	11.18	8.12	359.69	530.47	2.53	1.83	3.28	3.28
Custer County	C14	RM 200.05	66162	5% Duration	1288.4	731.66	728.3	1.68	1.63	16.62	14.21	366.24	443.14	2.09	1.79	3.36	3.36
Custer County	C14	RM 199.9	65916	5% Duration	1288.4	731.58	727.78	1.25	1.25	8.64	8.38	381.62	394.9	2.7	2.62	3.8	3.8
Custer County	C14	RM 199.71	65614	5% Duration	1288.4	731.34	727.34	1.89	1.89	16.59	16.59	220.5	220.5	3.1	3.1	4	4
Custer County	C14	RM 199.53	65326	5% Duration	1288.4	731.29	727.34	1.39	1.39	9.78	9.78	256.68	259.49	3.6	3.6	3.95	3.95
Custer County	C14	RM 199.38	65076	5% Duration	1288.4	731.16	727.34	1.6	1.6	12.41	12.41	325.2	325.2	2.47	2.47	3.82	3.82
Custer County	C14	RM 199.18	64754	5% Duration	1288.4	730.9	727.64	1.86	1.86	14.5	14.5	365.44	369.96	1.89	1.89	3.26	3.26
Custer County	C14	RM 199.04	64535	5% Duration	1288.4	730.81	727.64	1.48	1.48	11.61	11.61	350.35	353.5	2.48	2.48	3.17	3.17
Custer County	C14	RM 198.77	64102	5% Duration	1288.4	730.62	727.28	1.49	1.49	12.01	11.9	294.95	306.7	2.93	2.9	3.34	3.34
Custer County	C14	RM 198.57	63773	5% Duration	1288.4	730.34	726.99	2.02	2.02	21.56	21.47	204.02	211.23	3.13	3.11	3.35	3.35
Custer County	C14	RM 198.4	63505	5% Duration	1288.4	730.13	726.86	2.09	1.98	23.35	17.32	198.13	305.42	3.01	2.23	3.27	3.27
Custer County	C14	RM 198.22	63215	5% Duration	1288.4	729.83	726.57	2.27	1.9	28.2	16.6	189.7	410.28	2.83	1.66	3.26	3.26
Custer County	C14	RM 198.04	62923	5% Duration	1288.4	729.66	726.32	1.83	1.59	18.13	14.71	224.55	346.13	2.89	2.34	3.34	3.34
Custer County	C14	RM 197.84	62611	5% Duration	1288.4	729.54	726.04	1.37	1.37	10.67	10.61	349.91	380.32	2.49	2.48	3.5	3.5
Custer County	C14	RM 197.65	62306	5% Duration	1288.4	729.37	725.69	1.6	1.56	13.26	11.46	251.11	324.4	2.95	2.55	3.68	3.68
Custer County	C14	RM 197.47	62013	5% Duration	1288.4	729.35	725.29	1.07	1.02	5.62	4.14	294.56	467.34	3.88	2.86	4.06	4.06
Custer County	C14	RM 197.27	61686	5% Duration	1288.4	729.19	724.81	1.73	1.39	15.79	8.57	210.07	689.58	3.15	1.7	4.38	4.38
Custer County	C14	RM 197.07	61373	5% Duration	1288.4	729.06	724.81	1.66	1.52	14.42	9.67	202.17	415.24	3.25	2.17	4.25	4.25
Custer County	C14	RM 196.91	61115	5% Duration	1288.4	729	724.81	1.39	1	10.18	5.95	221.65	994.05	3.21	1.86	4.19	4.19
Custer County	C14	RM 196.73	60815	5% Duration	1288.4	728.92	724.76	1.33	0.92	9.06	4.2	235.67	1011.42	3.4	1.57	4.16	4.16
Custer County	C14	RM 196.54	60518	5% Duration	1288.4	728.81	724.67	1.47	1.14	11.81	5.6	268.82	869.71	2.79	1.31	4.14	4.14
Custer County	C14	RM 196.33	60178	5% Duration	1288.4	728.73	724.57	1.28	1.1	8.3	5.03	245.41	560.15	3.52	2.12	4.16	4.16
Custer County	C14	RM 196.17	59915	5% Duration	1288.4	728.68	724.51	1.27	1.15	8.14	5.72	190.37	438.54	3.66	2.57	4.16	4.16
Custer County	C15	RM 195.98	59615	5% Duration	1288.4	727.85	724.52	3.61	3.61	72.42	71.62	130.92	132.43	2.72	2.69	3.33	3.33
Custer County	C15	RM 195.81	59337	5% Duration	1288.4	727.69	724.33	2.38	2.38	29.71	29.71	166.9	166.9	3.24	3.24	3.36	3.36
Custer County	C15	RM 195.61	59020	5% Duration	1288.4	727.56	724.24	1.77	1.77	16.32	16.32	227.2	228.25	3.21	3.21	3.32	3.32
Custer County	C15	RM 195.43	58727	5% Duration	1288.4	727.32	724.22	1.92	1.92	21.68	21.68	302.26	305.17	2.22	2.22	3.1	3.1
Custer County	C15	RM 195.23	58415	5% Duration	1288.4	727.15	723.93	1.52	1.52	12.33	12.33	364.69	374.88	2.33	2.33	3.22	3.22
Custer County	C15	RM 195.04	58114	5% Duration	1288.4	726.9	723.54	1.83	1.78	19.3	17.11	268.36	348.45	2.42	2.15	3.36	3.36
Custer County	C15	RM 194.86	57824	5% Duration	1288.4	726.65	722.93	1.96	1.85	20.81	17.05	208.5	316.64	2.92	2.38	3.72	3.72
Custer County	C15	RM 194.67	57521	5% Duration	1288.4	726.52	722.75	1.66	1.66	13.9	13.9	215.61	215.61	3.6	3.6	3.77	3.77
Custer County	C15	RM 194.49	57231	5% Duration	1288.4	726.42	722.53	1.58	1.57	12.64	11.85	227.86	254.86	3.57	3.35	3.89	3.89
Custer County	C15	RM 194.32	56946	5% Duration	1288.4	726.21	722.5	1.93	1.93	16.99	16.99	255.42	281.85	2.61	2.61	3.71	3.71
Custer County	C15	RM 194.13	56643	5% Duration	1288.4	725.99	722.5	1.92	1.92	20.55	20.55	248.76	264.49	2.69	2.69	3.49	3.49
Custer County	C15	RM 193.93	56331	5% Duration	1288.4	725.84	722.31	1.64	1.62	14.09	12.56	247.32	280.5	3.18	2.83	3.53	3.53
Custer County	C15	RM 193.74	56024	5% Duration	1288.4	725.69	722.23	1.7	1.7	14.95	14.47	226.39	240.7	3.34	3.24	3.46	3.46
Custer County	C15	RM 193.55	55708	5% Duration	1288.4	725.49	722.13	1.85	1.85	17.97	16.81	214.44	230.32	3.24	3.03	3.37	3.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	5% Duration	1288.4	725.29	722.13	1.97	1.96	20.65	20.06	215.95	223.34	3.03	2.94	3.16	3.16
Custer County	C15	RM 193.2	55158	5% Duration	1288.4	725.19	722.13	1.56	1.51	13.01	10.75	275.51	346.4	2.98	2.46	3.06	3.06
Custer County	C15	RM 193	54825	5% Duration	1288.4	725.04	721.84	1.56	1.52	13.06	11.24	276.12	332.85	2.97	2.55	3.2	3.2
Custer County	C15	RM 192.81	54525	5% Duration	1288.4	724.87	721.37	1.76	1.6	16.03	11.44	207.29	338.43	3.34	2.37	3.5	3.5
Custer County	C15	RM 192.63	54247	5% Duration	1288.4	724.74	721.01	1.71	1.66	14.79	11.87	213.76	276.02	3.52	2.82	3.73	3.73
Custer County	C15	RM 192.44	53935	5% Duration	1288.4	724.64	721.01	1.52	1.4	11.88	8.54	239.01	385.13	3.32	2.38	3.63	3.63
Custer County	C16	RM 192.26	53653	5% Duration	1288.4	724.49	721.01	1.68	1.63	14.51	13.4	225.97	254.39	3.37	3.11	3.48	3.48
Custer County	C16	RM 192.05	53309	5% Duration	1288.4	724.06	721.11	2.49	2.46	34.1	30.12	186.81	214.66	2.77	2.44	2.95	2.95
Custer County	C16	RM 191.74	52809	5% Duration	1288.4	723.77	721.1	1.52	1.52	12.97	12.97	399.35	423.32	2.12	2.12	2.67	2.67
Custer County	C16	RM 191.35	52181	5% Duration	1288.4	723.22	721.02	1.66	1.66	17.8	17.44	483.29	493.94	1.61	1.57	2.2	2.2
Custer County	C16	RM 191.12	51812	5% Duration	1288.4	722.96	720.51	1.36	1.36	10.67	10.67	517.53	517.53	1.83	1.83	2.45	2.45
Custer County	C16	RM 190.87	51406	5% Duration	1288.4	722.73	719.89	1.28	1.28	9.23	9.23	594.01	594.01	1.69	1.69	2.84	2.84
Custer County	C16	RM 190.54	50885	5% Duration	1288.4	722.54	719.15	0.95	0.95	5.62	5.62	748.34	754.59	1.82	1.82	3.39	3.39
Custer County	C16	RM 190.29	50477	5% Duration	1288.4	722.1	718.45	2.27	2.22	27.17	22.53	178.43	223.19	3.17	2.62	3.65	3.65
Custer County	C16	RM 190.1	50176	5% Duration	1288.4	721.85	718.43	2.12	2.12	24.95	24.4	224.12	241.08	2.71	2.65	3.41	3.41
Custer County	C16	RM 189.85	49765	5% Duration	1288.4	721.61	718.13	1.59	1.55	14.46	13.53	332.6	367.33	2.41	2.26	3.48	3.48
Custer County	C16	RM 189.65	49458	5% Duration	1288.4	721.36	718.1	1.81	1.81	18.27	18.27	273.16	345.13	2.61	2.61	3.26	3.26
Custer County	C16	RM 189.43	49103	5% Duration	1288.4	720.88	718.09	2.3	2.3	31.87	31.87	265.24	301.45	2.11	2.11	2.79	2.79
Custer County	C16	RM 189.22	48763	5% Duration	1288.4	720.85	717.93	1.09	1.09	6.68	6.68	450.11	468.76	2.62	2.62	2.92	2.92
Custer County	C16	RM 188.91	48267	5% Duration	1288.4	720.64	717.54	1.43	1.43	9.01	9.01	429.69	515.5	2.1	2.1	3.1	3.1
Custer County	C16	RM 188.66	47869	5% Duration	1288.4	720.34	716.75	1.93	1.93	18.99	18.99	192.85	328.93	3.47	3.47	3.59	3.59
Custer County	C16	RM 188.51	47622	5% Duration	1288.4	720.19	716.72	1.95	1.94	20.15	19.43	213.94	304.9	3.09	2.98	3.47	3.47
Custer County	C16	RM 188.32	47314	5% Duration	1288.4	720.05	716.79	1.65	1.45	15.17	10.14	150.9	487.68	2.84	1.87	3.26	3.26
Custer County	C16	RM 188.14	47024	5% Duration	1288.4	719.86	716.93	1.5	1.61	8.64	11.42	223.27	425.7	1.47	1.95	2.92	2.92
Custer County	C16	RM 187.98	46768	5% Duration	1288.4	719.75	716.91	1.41	1.31	11.21	7.72	221.23	565.17	2.53	1.74	2.84	2.84
Custer County	C16	RM 187.78	46440	5% Duration	1288.4	719.65	716.69	1.27	1.21	8.4	6.58	250.59	593.18	2.29	1.79	2.96	2.96
Custer County	C16	RM 187.55	46083	5% Duration	1288.4	719.35	716.04	1.93	1.73	20.11	13.06	222.99	396.04	2.91	1.89	3.31	3.31
Custer County	C16	RM 187.35	45750	5% Duration	1288.4	718.97	715.34	2.33	2.31	28.81	24.11	176.44	214.07	3.13	2.61	3.63	3.63
Custer County	C16	RM 187.14	45421	5% Duration	1288.4	718.8	715.3	1.79	1.73	17.44	10.6	254.12	436.08	2.83	1.71	3.5	3.5
Custer County	C16	RM 187.01	45211	5% Duration	1288.4	718.73	715.3	1.47	1.43	11.54	8.88	296.45	401.85	2.96	2.27	3.44	3.44
Custer County	C16	RM 186.84	44930	5% Duration	1288.4	718.56	715.03	1.66	1.64	15.41	12.77	292.07	402.16	2.65	2.19	3.53	3.53
Custer County	C16	RM 186.62	44553	5% Duration	1288.4	718.22	714.75	2.11	2.11	23.14	23.14	186.59	186.59	3.27	3.27	3.47	3.47
Custer County	C16	RM 186.46	44311	5% Duration	1288.4	717.96	714.53	2.33	2.28	28.89	23.78	180.81	251.24	3.05	2.51	3.43	3.43
Custer County	C16	RM 186.26	43996	5% Duration	1288.4	717.73	714.27	2.06	2.06	22.54	22.3	202.77	227.52	3.08	3.05	3.46	3.46
Custer County	C16	RM 186.1	43730	5% Duration	1288.4	717.64	713.9	1.57	1.57	13.46	13.46	287.38	294.12	2.85	2.85	3.74	3.74
Custer County	C16	RM 185.91	43424	5% Duration	1322.4	717.43	713.84	1.78	1.78	15.4	15.4	309.09	320.19	2.41	2.41	3.59	3.59
Custer County	C16	RM 185.71	43110	5% Duration	1322.4	716.83	713.84	2.82	2.82	38.91	38.91	220.33	220.33	2.13	2.13	2.99	2.99
Custer County	C16	RM 185.52	42808	5% Duration	1322.4	716.77	713.71	1.47	1.46	12.27	11.89	357.83	370.95	2.51	2.43	3.06	3.06
Custer County	C16	RM 185.34	42508	5% Duration	1322.4	716.45	713.28	2.05	2.05	17.83	17.83	367.72	367.72	1.75	1.75	3.17	3.17
Custer County	C16	RM 185.16	42219	5% Duration	1322.4	716.35	712.93	1.34	1.34	10.32	10.32	416.7	812.12	2.37	2.37	3.42	3.42
Custer County	C17	RM 184.95	41881	5% Duration	1322.4	716.11	712.72	1.68	1.67	16.11	13.97	287.19	496.17	2.73	2.37	3.39	3.39
Custer County	C17	RM 184.78	41621	5% Duration	1322.4	715.85	712.51	2.07	2.02	23.05	20.56	211.74	296.89	3	2.67	3.34	3.34
Custer County	C17	RM 184.59	41311	5% Duration	1322.4	715.61	711.96	2.11	2.07	23.14	18.66	193.06	270.44	3.24	2.61	3.65	3.65
Custer County	C17	RM 184.4	41010	5% Duration	1322.4	715.52	711.62	1.58	1.58	12.8	12.8	241.42	262.24	3.46	3.46	3.9	3.9
Custer County	C17	RM 184.23	40728	5% Duration	1322.4	715.32	711.31	1.91	1.91	19.6	19.6	233.32	251.47	2.97	2.97	4.01	4.01
Custer County	C17	RM 184.1	40517	5% Duration	1322.4	715.14	711.39	2.04	2.03	21.78	20.36	203.14	338.81	3.19	2.99	3.75	3.75
Custer County	C17	RM 184.03	40407	5% Duration	1322.4	715.1	711.49	1.84	1.84	17.53	17.53	215.85	222.05	3.33	3.33	3.61	3.61
Custer County	C17	RM 183.83	40098	5% Duration	1322.4	714.96	711.42	1.73	1.73	15.36	15.36	228.16	257.85	3.36	3.36	3.54	3.54
Custer County	C17	RM 183.65	39806	5% Duration	1322.4	714.8	711.39	1.81	1.81	16.99	16.99	222.34	230.14	3.29	3.29	3.4	3.4
Custer County	C17	RM 183.47	39513	5% Duration	1322.4	714.55	711.39	2.07	2.07	22.66	22.66	207.18	237.33	3.09	3.09	3.16	3.16
Custer County	C17	RM 183.28	39210	5% Duration	1322.4	714.43	711.31	1.66	1.66	14.59	14.59	262.1	309.39	3.05	3.05	3.12	3.12
Custer County	C17	RM 183.09	38909	5% Duration	1322.4	714.22	711.04	1.86	1.76	18.53	13.08	234.65	461.87	3	2.11	3.18	3.18
Custer County	C17	RM 182.94	38660	5% Duration	1322.4	714.12	710.66	1.63	1.63	13.75	13.75	241.8	292.66	3.35	3.35	3.46	3.46
Custer County	C17	RM 182.72	38316	5% Duration	1322.4	713.94	710.1	1.72	1.69	15.66	14.47	249.96	317.71	3.07	2.84	3.84	3.84
Custer County	C17	RM 182.54	38020	5% Duration	1322.4	713.6	710.12	2.32	2.21	28.22	24.06	173.19	245.81	3.25	2.77	3.48	3.48
Custer County	C17	RM 182.34	37706	5% Duration	1322.4	713.4	710.27	1.95	1.89	20.88	18.56	238.95	285.38	2.76	2.45	3.13	3.13
Custer County	C17	RM 182.15	37402	5% Duration	1322.4	713.2	710.26	1.83	1.76	18.2	16.03	248.57	300.66	2.83	2.49	2.94	2.94
Custer County	C17	RM 181.97	37127	5% Duration	1322.4	713.04	710.26	1.69	1.67	15.89	14.65	284.91	318.76	2.7	2.49	2.78	2.78
Custer County	C17	RM 181.78	36815	5% Duration	1322.4	712.8	710.09	1.83	1.8	19.02	17.51	277.96	316.36	2.53	2.32	2.71	2.71
Custer County	C17	RM 181.59	36505	5% Duration	1322.4	712.47	709.76	2.06	2.02	22.61	20.63	294.29	331.26	2.16	1.97	2.71	2.71

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	5% Duration	1322.4	712.16	709.37	1.9	1.8	20.51	14.59	275.75	418.97	2.47	1.76	2.79	2.79
Custer County	C17	RM 181.23	35925	5% Duration	1322.4	711.84	709.36	2.27	2.15	30.13	25.05	240.87	320.43	2.3	1.92	2.48	2.48
Custer County	C17	RM 181.03	35607	5% Duration	1322.4	711.64	709.02	1.61	1.59	15.05	14.69	348.8	373.97	2.33	2.27	2.62	2.62
Custer County	C17	RM 180.83	35292	5% Duration	1322.4	711.45	708.68	1.51	1.47	13.6	12.14	360.82	465.79	2.17	1.94	2.77	2.77
Custer County	C17	RM 180.66	35006	5% Duration	1322.4	711.25	708.22	1.61	1.59	14.81	14.21	342.11	360.57	2.4	2.31	3.03	3.03
Custer County	C18	RM 180.46	34700	5% Duration	1322.4	711.08	708.05	1.62	1.6	14.24	12.57	280.15	321.57	2.9	2.56	3.02	3.02
Custer County	C18	RM 180.29	34421	5% Duration	1322.4	710.79	707.79	2.09	2.04	24.4	21.15	236.86	284.3	2.63	2.28	3	3
Custer County	C18	RM 180.08	34086	5% Duration	1322.4	710.59	707.53	1.75	1.71	16.58	14.19	251.33	306.41	2.94	2.52	3.06	3.06
Custer County	C18	RM 179.9	33807	5% Duration	1322.4	710.42	707.32	1.77	1.71	17.28	13.4	264.48	364.08	2.74	2.13	3.1	3.1
Custer County	C18	RM 179.73	33525	5% Duration	1322.4	710.15	706.89	2.02	1.98	22.96	21.33	248.89	275.59	2.61	2.42	3.26	3.26
Custer County	C18	RM 179.54	33218	5% Duration	1322.4	709.79	706.7	2.15	2.15	25.81	25.81	291.84	292.19	2.11	2.11	3.09	3.09
Custer County	C18	RM 179.35	32914	5% Duration	1322.4	709.58	706.45	1.73	1.72	16.74	15.7	287.99	321.03	2.65	2.48	3.13	3.13
Custer County	C18	RM 179.16	32611	5% Duration	1322.4	709.35	706.29	1.9	1.9	19.64	19.64	235.67	235.67	2.96	2.96	3.06	3.06
Custer County	C18	RM 178.99	32337	5% Duration	1322.4	709.19	706.07	1.78	1.78	16.97	16.57	251.61	257.92	2.96	2.89	3.12	3.12
Custer County	C18	RM 178.79	32025	5% Duration	1322.4	708.98	705.9	1.86	1.85	18.71	17.3	245.27	267.66	2.9	2.68	3.08	3.08
Custer County	C18	RM 178.61	31730	5% Duration	1322.4	708.79	705.59	1.79	1.79	17.52	17.48	259.12	375.16	2.85	2.84	3.2	3.2
Custer County	C18	RM 178.43	31434	5% Duration	1322.4	708.63	705.25	1.75	1.75	16.2	16.2	245.26	245.26	3.08	3.08	3.38	3.38
Custer County	C18	RM 178.23	31114	5% Duration	1322.4	708.45	704.7	1.75	1.75	16.18	16.18	243.06	243.06	3.11	3.11	3.75	3.75
Custer County	C18	RM 178.06	30848	5% Duration	1322.4	708.3	704.57	1.81	1.81	16.97	16.97	217.18	217.18	3.36	3.36	3.73	3.73
Custer County	C18	RM 177.88	30549	5% Duration	1322.4	708.11	704.57	1.9	1.89	19.3	18.14	228.34	244.37	3.04	2.86	3.54	3.54
Custer County	C18	RM 177.66	30211	5% Duration	1328.1	707.73	704.57	2.34	2.34	29.45	29.45	188.57	188.57	3	3	3.16	3.16
Custer County	C18	RM 177.49	29932	5% Duration	1328.1	707.57	704.47	1.89	1.89	19.25	19.25	234.19	234.19	2.99	2.99	3.1	3.1
Custer County	C19	RM 177.3	29625	5% Duration	1328.1	707.41	704.46	1.65	1.65	15	15	297.27	297.27	2.71	2.71	2.95	2.95
Custer County	C19	RM 177.11	29314	5% Duration	1328.1	707.11	704.46	2	2	22.97	22.97	282.14	282.14	2.35	2.35	2.65	2.65
Custer County	C19	RM 176.93	29040	5% Duration	1328.1	706.93	704.42	1.62	1.62	15.14	15.14	348.89	375.72	2.35	2.35	2.51	2.51
Custer County	C19	RM 176.74	28720	5% Duration	1328.1	706.74	704.21	1.52	1.49	13.61	12.89	339.26	446.28	2.24	2.12	2.53	2.53
Custer County	C19	RM 176.53	28384	5% Duration	1328.1	706.41	703.63	1.89	1.83	21.97	21.06	285.74	378.02	1.99	1.92	2.78	2.78
Custer County	C19	RM 176.36	28109	5% Duration	1328.1	706.19	703.08	1.7	1.7	16.5	16.29	322.72	327.12	2.42	2.39	3.11	3.11
Custer County	C19	RM 176.18	27824	5% Duration	1328.1	705.68	702.71	2.62	2.62	38.87	37.38	198.34	206.52	2.55	2.45	2.97	2.97
Custer County	C19	RM 176	27527	5% Duration	1328.1	705.46	702.51	1.94	1.9	21	18.25	259.1	315.7	2.63	2.29	2.95	2.95
Custer County	C19	RM 175.81	27227	5% Duration	1328.1	705.23	702.24	1.83	1.83	19.19	18.59	297.33	307.77	2.44	2.36	2.99	2.99
Custer County	C19	RM 175.62	26928	5% Duration	1328.1	704.95	701.81	2	1.9	21.95	16.3	233.9	341.3	2.77	2.05	3.14	3.14
Custer County	C19	RM 175.43	26622	5% Duration	1328.1	704.59	701.81	2.3	1.86	30.24	22.77	213.42	389.2	2.45	1.84	2.78	2.78
Custer County	C19	RM 175.25	26325	5% Duration	1328.1	704.26	701.72	2.13	2.04	26.13	23.91	210.56	296.76	2.41	2.2	2.54	2.54
Custer County	C19	RM 175.08	26048	5% Duration	1328.1	704.02	701.63	1.76	1.76	18.71	18.71	357.06	357.06	2.11	2.11	2.39	2.39
Custer County	C19	RM 174.9	25768	5% Duration	1328.1	703.68	701.31	1.97	1.97	23.55	23.55	333.82	333.82	2.02	2.02	2.37	2.37
Custer County	C19	RM 174.69	25444	5% Duration	1328.1	703.21	700.82	2.13	2.13	28.1	28.08	318.85	319.09	1.95	1.95	2.39	2.39
Custer County	C19	RM 174.49	25112	5% Duration	1328.1	702.74	700.04	2.18	2.18	28.23	28.23	276.71	276.71	2.2	2.2	2.7	2.7
Custer County	C19	RM 174.32	24844	5% Duration	1328.1	702.33	699.39	2.4	2.4	32.64	32.64	218.03	218.03	2.54	2.54	2.94	2.94
Custer County	C19	RM 174.13	24549	5% Duration	1328.1	702.19	698.84	1.75	1.75	16.16	16.16	239.53	239.53	3.16	3.16	3.35	3.35
Custer County	C19	RM 173.94	24238	5% Duration	1328.1	701.94	698.14	2.01	2.01	22.15	22.15	234.8	234.8	2.81	2.81	3.79	3.79
Custer County	C19	RM 173.75	23939	5% Duration	1328.1	701.61	697.92	2.34	2.33	28.12	27.11	169.34	207.46	3.36	3.23	3.69	3.69
Custer County	C19	RM 173.57	23651	5% Duration	1328.1	701.48	697.83	1.87	1.87	17.89	17.89	204.52	204.52	3.46	3.46	3.65	3.65
Custer County	C19	RM 173.39	23352	5% Duration	1328.1	701.22	697.83	2.17	2.17	25.06	25.06	197.1	197.1	3.1	3.1	3.39	3.39
Custer County	C19	RM 173.2	23054	5% Duration	1328.1	700.98	697.72	2.09	2.09	23.61	23.5	220.29	253.02	2.89	2.88	3.26	3.26
Custer County	C19	RM 173.02	22756	5% Duration	1328.1	700.78	697.29	1.89	1.89	19.36	18.85	240.53	247.74	2.92	2.84	3.49	3.49
Custer County	C19	RM 172.82	22437	5% Duration	1328.1	700.55	696.82	1.72	1.72	18.28	18.28	393.53	393.53	1.96	1.96	3.73	3.73
Custer County	C19	RM 172.67	22200	5% Duration	1328.1	700.18	696.52	2.08	2.08	27.84	27.84	373.3	373.3	1.71	1.71	3.66	3.66
Custer County	C19	RM 172.49	21903	5% Duration	1328.1	699.89	696.23	1.8	1.8	18.61	18.61	300.31	300.31	2.45	2.45	3.66	3.66
Custer County	C19	RM 172.29	21585	5% Duration	1328.1	699.67	695.79	1.83	1.83	17.58	17.58	225.2	280.69	3.22	3.22	3.88	3.88
Custer County	C19	RM 172.12	21325	5% Duration	1328.1	699.08	695.81	3.01	3.01	54.44	54.44	210.28	210.28	2.1	2.1	3.27	3.27
Custer County	C19	RM 171.89	20942	5% Duration	1328.1	698.8	695.57	1.95	1.95	20.36	20.35	227.86	227.89	2.99	2.99	3.23	3.23
Custer County	C19	RM 171.71	20638	5% Duration	1328.1	698.48	695.49	2.2	2.19	27.03	26.26	230.58	237.91	2.62	2.54	2.99	2.99
Custer County	C19	RM 171.52	20341	5% Duration	1328.1	698.25	695.3	1.94	1.94	20.66	20.59	249.24	250.02	2.75	2.74	2.95	2.95
Custer County	C19	RM 171.34	20043	5% Duration	1328.1	697.97	695.11	2.07	2.07	23.74	23.74	238.4	238.4	2.69	2.69	2.86	2.86
Custer County	C19	RM 171.15	19745	5% Duration	1328.1	697.74	694.86	1.96	1.96	21.05	21.05	245.18	245.18	2.77	2.77	2.88	2.88
Custer County	C19	RM 170.96	19437	5% Duration	1328.1	697.51	694.67	1.89	1.89	19.75	19.75	255.62	255.62	2.74	2.74	2.84	2.84
Custer County	C19	RM 170.78	19143	5% Duration	1328.1	697.28	694.2	1.94	1.94	20.47	20.47	239.99	239.99	2.85	2.85	3.08	3.08
Custer County	C19	RM 170.58	18838	5% Duration	1328.1	696.96	693.91	2.16	2.16	26.37	26.37	241.24	241.24	2.55	2.55	3.05	3.05
Custer County	C19	RM 170.4	18543	5% Duration	1328.1	696.76	693.9	1.84	1.84	18.77	18.77	267.64	267.67	2.7	2.7	2.85	2.85

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	5% Duration	1328.1	696.56	693.7	1.8	1.8	17.91	17.91	269.08	269.08	2.74	2.74	2.86	2.86
Custer County	C19	RM 170.03	17941	5% Duration	1328.1	696.29	693.31	2	2	21.75	21.75	234.17	234.17	2.84	2.84	2.98	2.98
Custer County	C19	RM 169.84	17641	5% Duration	1328.1	696.07	692.78	1.99	1.99	20.74	20.74	211.16	211.16	3.17	3.17	3.29	3.29
Custer County	C19	RM 169.65	17341	5% Duration	1328.1	695.85	692.47	2.05	2.05	22.07	22.07	200.93	200.93	3.22	3.22	3.38	3.38
Custer County	C19	RM 169.47	17041	5% Duration	1328.1	695.57	692.17	2.21	2.19	26.1	24.27	199.81	216.75	3.01	2.79	3.41	3.41
Custer County	C19	RM 169.28	16732	5% Duration	1328.1	695.35	692	2.02	2.02	21.81	21.2	214.51	221.1	3.06	2.97	3.35	3.35
Custer County	C19	RM 169.09	16441	5% Duration	1328.1	695.14	691.96	2.01	2.01	21.7	21.7	224.87	235.68	2.94	2.94	3.18	3.18
Custer County	C19	RM 168.91	16152	5% Duration	1328.1	694.9	691.93	2.05	2.05	23.02	23.02	229.32	229.32	2.82	2.82	2.96	2.96
Custer County	C19	RM 168.72	15846	5% Duration	1328.1	694.72	691.82	1.72	1.72	16.22	16.22	275.46	275.46	2.8	2.8	2.9	2.9
Custer County	C19	RM 168.51	15500	5% Duration	1328.1	694.49	691.6	1.77	1.76	17.6	17.28	294.14	300.01	2.56	2.51	2.89	2.89
Custer County	C19	RM 168.35	15241	5% Duration	1328.1	694.23	691.48	2.01	2	23.18	22.16	267.4	281.93	2.46	2.35	2.75	2.75
Custer County	C19	RM 168.15	14931	5% Duration	1328.1	693.84	691.2	2.26	2.26	28.94	28.94	236.84	236.84	2.49	2.49	2.63	2.63
Custer County	C19	RM 167.97	14639	5% Duration	1328.1	693.63	690.59	1.9	1.9	19.49	19.49	242.56	242.56	2.89	2.89	3.04	3.04
Custer County	C19	RM 167.79	14340	5% Duration	1328.1	693.42	690.5	1.89	1.89	19.57	19.57	248.74	285.56	2.82	2.82	2.91	2.91
Custer County	C19	RM 167.61	14054	5% Duration	1328.1	693.11	690.42	2.15	2.15	26.14	26.14	242.19	242.19	2.55	2.55	2.69	2.69
Custer County	C19	RM 167.41	13735	5% Duration	1328.1	692.8	690.14	2.05	2.03	23.9	21.86	264.94	292.82	2.45	2.24	2.66	2.66
Custer County	C19	RM 167.22	13433	5% Duration	1328.1	692.58	689.79	1.83	1.83	18.59	18.59	274.11	274.11	2.65	2.65	2.78	2.78
Custer County	C19	RM 167.04	13143	5% Duration	1328.1	692.4	689.14	1.74	1.72	16.22	15.53	255.45	270.39	2.98	2.86	3.26	3.26
Custer County	C19	RM 166.85	12847	5% Duration	1328.1	692.04	688.98	2.28	2.28	29.65	29.65	236.41	236.41	2.47	2.47	3.06	3.06
Custer County	C19	RM 166.67	12552	5% Duration	1328.1	691.8	688.84	1.98	1.98	21.48	21.48	244.44	244.44	2.75	2.75	2.96	2.96
Custer County	C19	RM 166.52	12319	5% Duration	1328.1	691.69	688.64	1.64	1.64	14.58	14.58	276.01	276.01	2.93	2.93	3.05	3.05
Custer County	C19	RM 166.31	11978	5% Duration	1328.1	691.46	688.02	1.86	1.86	17.45	17.44	243.13	243.27	2.94	2.94	3.44	3.44
Custer County	C20	RM 166.2	11806	5% Duration	1328.1	691.36	687.4	1.86	1.86	18.23	18.23	223.96	223.96	3.18	3.18	3.96	3.96
Custer County	C20	RM 166.06	11569	5% Duration	1328.1	691.13	687.38	2.09	2.09	24.14	24.14	232.29	232.29	2.73	2.73	3.75	3.75
Custer County	C20	RM 165.92	11350	5% Duration	1328.1	690.88	687.38	2.23	2.23	27.87	27.87	224.91	224.91	2.64	2.64	3.5	3.5
Custer County	C20	RM 165.73	11039	5% Duration	1328.1	690.66	687.26	1.87	1.87	19.33	19.33	261.97	261.97	2.71	2.71	3.4	3.4
Custer County	C20	RM 165.55	10750	5% Duration	1328.1	690.45	687.11	1.85	1.85	18.84	18.84	263.89	263.89	2.73	2.73	3.34	3.34
Custer County	C20	RM 165.35	10440	5% Duration	1328.1	690.22	686.75	1.88	1.88	19.68	19.68	265.5	265.5	2.66	2.66	3.47	3.47
Custer County	C20	RM 165.17	10140	5% Duration	1328.1	690.01	686.41	1.85	1.81	18.51	16.25	247.01	289.91	2.89	2.53	3.6	3.6
Custer County	C20	RM 165.01	9883	5% Duration	1328.1	689.83	686.16	1.85	1.85	18.88	18.88	258.26	258.26	2.77	2.77	3.67	3.67
Custer County	C20	RM 164.81	9577	5% Duration	1328.1	689.61	686.04	1.85	1.85	19.41	18.9	282.54	291.06	2.54	2.47	3.57	3.57
Custer County	C20	RM 164.61	9252	5% Duration	1328.1	689.42	685.8	1.71	1.68	13.58	12.77	278.03	303.48	2.78	2.61	3.62	3.62
Custer County	C20	RM 164.42	8945	5% Duration	1328.1	689.25	685.78	1.72	1.72	15.34	15.34	303.5	303.5	2.54	2.54	3.47	3.47
Custer County	C20	RM 164.23	8641	5% Duration	1328.1	689.01	685.85	1.77	1.77	15.83	15.83	413.43	413.43	1.81	1.81	3.16	3.16
Custer County	C20	RM 164.06	8372	5% Duration	1328.1	688.89	685.64	1.49	1.49	11.67	11.61	288.79	295.18	3.1	3.08	3.25	3.25
Custer County	C20	RM 163.85	8031	5% Duration	1328.1	688.72	685	1.64	1.64	14.49	14.49	276.08	276.08	2.94	2.94	3.72	3.72
Custer County	C20	RM 163.67	7743	5% Duration	1328.1	688.55	684.45	1.81	1.81	16.15	16.15	190.27	190.27	3.86	3.86	4.1	4.1
Custer County	C20	RM 163.48	7449	5% Duration	1328.1	688.33	684.13	2.12	2.12	22.11	22.09	161.03	161.16	3.89	3.88	4.2	4.2
Custer County	C20	RM 163.3	7150	5% Duration	1328.1	688.22	684.13	1.81	1.81	16.52	16.04	203.2	209.92	3.61	3.5	4.09	4.09
Custer County	C20	RM 163.12	6859	5% Duration	1328.1	688.12	683.91	1.57	1.56	12.33	11.8	265.23	280.08	3.19	3.05	4.21	4.21
Custer County	C20	RM 162.94	6583	5% Duration	1328.1	687.96	683.78	1.78	1.77	15.73	14.96	200.37	211.43	3.73	3.54	4.18	4.18
Custer County	C20	RM 162.74	6254	5% Duration	1328.1	687.65	683.77	2.28	2.28	27	27	174.44	174.44	3.34	3.34	3.88	3.88
Custer County	C20	RM 162.55	5957	5% Duration	1328.1	687.41	683.96	2.16	2.16	24.67	24.67	228.44	228.44	2.7	2.7	3.45	3.45
Custer County	C20	RM 162.34	5620	5% Duration	1328.1	687.23	683.92	1.66	1.66	15.4	15.4	301.09	301.09	2.65	2.65	3.31	3.31
Custer County	C20	RM 162.18	5352	5% Duration	1328.1	687.04	683.41	1.56	1.56	22.43	22.41	354.23	354.59	2.4	2.4	3.63	3.63
Custer County	C20	RM 162.03	5111	5% Duration	1328.1	686.93	683.26	1.36	1.36	9.56	9.56	319.59	319.59	3.05	3.05	3.67	3.67
Custer County	C20	RM 161.81	4770	5% Duration	1328.1	686.62	682.63	2.15	2.15	23.38	22.96	174.61	177.88	3.54	3.48	3.99	3.99
Custer County	C20	RM 161.62	4470	5% Duration	1328.1	686.34	682.53	2.33	2.33	28.21	28.21	170.65	224.72	3.33	3.33	3.81	3.81
Custer County	C20	RM 161.43	4159	5% Duration	1328.1	686.14	682.63	2.06	2.06	22.42	21.88	204.62	209.85	3.15	3.07	3.51	3.51
Custer County	C20	RM 161.24	3859	5% Duration	1328.1	685.86	682.51	2.21	2.2	26.22	23.56	199.25	223.28	3.01	2.7	3.35	3.35
Custer County	C20	RM 161.06	3559	5% Duration	1328.1	685.65	682.38	1.99	1.99	20.94	20.87	214.86	215.62	3.11	3.1	3.27	3.27
Custer County	C20	RM 160.87	3258	5% Duration	1328.1	685.35	682.24	2.24	2.24	27.22	27.22	202.72	202.72	2.92	2.92	3.11	3.11
Custer County	C20	RM 160.68	2952	5% Duration	1328.1	685.18	682.11	1.81	1.81	17.68	17.68	250.11	250.11	2.93	2.93	3.07	3.07
Custer County	C20	RM 160.5	2662	5% Duration	1328.1	684.96	681.85	1.83	1.83	19.32	19.32	300.98	300.98	2.41	2.41	3.11	3.11
Custer County	C20	RM 160.31	2364	5% Duration	1328.1	684.73	681.58	1.78	1.78	18.42	18.36	319.08	320.06	2.34	2.33	3.15	3.15
Custer County	C20	RM 160.12	2063	5% Duration	1328.1	684.54	681.02	1.69	1.68	15.5	14.77	277.19	293.17	2.84	2.7	3.52	3.52
Custer County	C20	RM 159.93	1758	5% Duration	1328.1	684.19	680.9	2.14	2.14	27.27	27.27	289.57	289.57	2.15	2.15	3.29	3.29
Custer County	C20	RM 159.75	1459	5% Duration	1328.1	683.9	680.88	1.98	1.98	21.85	21.85	249.09	249.09	2.69	2.69	3.02	3.02
Custer County	C20	RM 159.55	1151	5% Duration	1328.1	683.67	680.74	1.9	1.9	20.07	20.06	258.64	258.73	2.7	2.7	2.93	2.93
Custer County	C20	RM 159.38	876	5% Duration	1328.1	683.42	680.37	2.03	2.02	22.45	21.15	228.69	244.62	2.85	2.69	3.05	3.05

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	5% Duration	1328.1	683.22	679.77	1.89	1.89	19.06	19.02	231.7	232.16	3.03	3.03	3.45	3.45
Custer County	C20	RM 158.98	229	5% Duration	1328.1	682.96	679.44	2.02	2.02	21.73	21.13	215.71	222.01	3.05	2.96	3.52	3.52

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	1.5-yr	1616.9	683.36	679.22	2.1	2.1	22.32	22.18	214.16	215.48	3.59	3.57	4.14	4.14
Prairie County	C21	RM 158.55	61087	1.5-yr	1616.9	683.25	678.98	1.79	1.79	15.65	15.53	225.43	227.24	4	3.97	4.27	4.27
Prairie County	C21	RM 158.36	60787	1.5-yr	1616.9	683.13	678.83	1.75	1.75	15.26	15.26	247.77	247.77	3.73	3.73	4.3	4.3
Prairie County	C21	RM 158.17	60481	1.5-yr	1616.9	682.97	678.35	1.83	1.82	18.46	17.44	252.81	268.02	3.5	3.31	4.62	4.62
Prairie County	C21	RM 157.98	60173	1.5-yr	1616.9	682.68	678.22	2.21	2.21	25.72	25.31	231.03	234.84	3.16	3.11	4.46	4.46
Prairie County	C21	RM 157.78	59862	1.5-yr	1616.9	682.44	678.23	2.22	2.19	24.73	22.92	201.61	220.41	3.61	3.34	4.21	4.21
Prairie County	C21	RM 157.6	59561	1.5-yr	1616.9	682.33	678.14	1.82	1.81	16.37	15.48	233.85	248.81	3.8	3.59	4.19	4.19
Prairie County	C21	RM 157.38	59209	1.5-yr	1616.9	682.16	677.81	1.76	1.7	16.44	14.38	286.73	350.12	3.11	2.72	4.35	4.35
Prairie County	C21	RM 157.18	58885	1.5-yr	1616.9	682.01	677.42	1.75	1.68	15.31	10.13	235.66	397.58	3.76	2.48	4.59	4.59
Prairie County	C21	RM 156.99	58595	1.5-yr	1616.9	681.77	677.32	2.23	2.01	24.46	14.72	173.63	346.72	3.88	2.32	4.45	4.45
Prairie County	C21	RM 156.8	58287	1.5-yr	1616.9	681.34	677.32	2.86	2.54	41.85	23.99	149.68	319.77	3.51	1.99	4.02	4.02
Prairie County	C21	RM 156.62	57990	1.5-yr	1616.9	681.23	677.29	2.01	1.95	20.58	18.19	207.38	264.39	3.55	3.13	3.94	3.94
Prairie County	C21	RM 156.42	57683	1.5-yr	1616.9	681.1	677.21	1.73	1.72	15.36	14.18	270.94	295.58	3.45	3.18	3.89	3.89
Prairie County	C21	RM 156.24	57378	1.5-yr	1616.9	680.83	676.91	2.13	2.11	24.07	21.56	245.29	276.71	3.09	2.77	3.92	3.92
Prairie County	C21	RM 156.04	57069	1.5-yr	1616.9	680.69	676.56	1.86	1.85	17.02	15.21	223.78	252.98	3.88	3.46	4.13	4.13
Prairie County	C21	RM 155.85	56762	1.5-yr	1616.9	680.47	676.11	2.12	2.1	22.35	19.8	203	232.52	3.75	3.32	4.36	4.36
Prairie County	C21	RM 155.66	56455	1.5-yr	1616.9	680.13	675.96	2.53	2.47	32.22	25.17	175.81	232.12	3.63	2.82	4.17	4.17
Prairie County	C21	RM 155.47	56151	1.5-yr	1616.9	679.98	675.89	1.98	1.96	20.65	18.66	257.44	306.61	3.17	2.86	4.09	4.09
Prairie County	C21	RM 155.27	55835	1.5-yr	1616.9	679.77	675.92	1.89	1.89	19.82	19.75	317.77	318.93	2.69	2.68	3.85	3.85
Prairie County	C21	RM 155.08	55530	1.5-yr	1616.9	679.52	675.95	1.95	1.95	20.75	20.57	296.49	299.13	2.8	2.78	3.57	3.57
Prairie County	C21	RM 154.88	55209	1.5-yr	1616.9	679.32	675.64	1.84	1.84	17.23	17.22	300.55	300.73	2.93	2.93	3.68	3.68
Prairie County	C21	RM 154.69	54901	1.5-yr	1616.9	679.02	675.39	2.16	2.16	25.47	25.04	264.93	269.98	2.82	2.78	3.63	3.63
Prairie County	C21	RM 154.5	54588	1.5-yr	1616.9	678.76	675.02	2.09	2.09	23.44	22.85	257.32	264.58	3	2.93	3.74	3.74
Prairie County	C21	RM 154.3	54273	1.5-yr	1616.9	678.54	674.8	1.97	1.97	20.82	20.57	277.5	281.07	2.96	2.93	3.74	3.74
Prairie County	C21	RM 154.1	53959	1.5-yr	1616.9	678.26	674.67	2.09	2.09	23.8	23.3	269.5	275.74	2.87	2.81	3.59	3.59
Prairie County	C21	RM 153.91	53650	1.5-yr	1616.9	678.08	674.51	1.88	1.88	18.34	18.11	260.55	264.14	3.3	3.26	3.57	3.57
Prairie County	C21	RM 153.72	53338	1.5-yr	1616.9	677.85	674.06	2.05	2.02	21.37	18.17	225.99	270.33	3.49	2.96	3.79	3.79
Prairie County	C21	RM 153.52	53023	1.5-yr	1616.9	677.45	673.78	2.59	2.46	36.06	30.26	206.24	265.86	2.95	2.47	3.67	3.67
Prairie County	C21	RM 153.32	52704	1.5-yr	1616.9	677.11	673.64	2.34	2.34	29.7	29.7	242.22	242.22	2.86	2.86	3.47	3.47
Prairie County	C21	RM 153.12	52380	1.5-yr	1616.9	676.89	673.43	1.97	1.97	20.6	20.55	270.43	278.86	3.04	3.03	3.46	3.46
Prairie County	C21	RM 152.92	52065	1.5-yr	1616.9	676.69	672.88	1.94	1.94	19.07	19.07	266.91	303.12	3.12	3.12	3.81	3.81
Prairie County	C21	RM 152.73	51762	1.5-yr	1616.9	676.47	672.27	2	2	20.76	20.76	269.29	269.29	3.01	3.01	4.2	4.2
Prairie County	C21	RM 152.54	51463	1.5-yr	1616.9	676.26	671.85	2.02	2.02	20.71	20.55	251.06	253.06	3.19	3.16	4.41	4.41
Prairie County	C21	RM 152.35	51157	1.5-yr	1616.9	676.11	671.41	1.87	1.87	17.41	17.41	227.74	227.74	3.8	3.8	4.7	4.7
Prairie County	C21	RM 152.16	50852	1.5-yr	1616.9	675.95	671.23	1.87	1.87	18.25	17.89	267.08	272.93	3.24	3.17	4.72	4.72
Prairie County	C21	RM 151.97	50546	1.5-yr	1616.9	675.79	670.99	1.86	1.79	14.73	12.56	257.99	319.74	3.32	2.82	4.8	4.8
Prairie County	C21	RM 151.77	50227	1.5-yr	1616.9	675.67	670.87	1.79	1.66	15.24	10.83	204.34	325.49	4.25	3	4.8	4.8
Prairie County	C21	RM 151.59	49936	1.5-yr	1616.9	675.34	670.75	2.55	2.39	31.83	26.01	149.88	208.48	3.99	3.24	4.59	4.59
Prairie County	C21	RM 151.38	49599	1.5-yr	1616.9	675.17	670.9	2.12	2.06	22.3	20	199.02	230.92	3.8	3.4	4.27	4.27
Prairie County	C21	RM 151.19	49287	1.5-yr	1616.9	675.03	670.96	1.9	1.9	17.93	17.93	224.64	224.64	3.78	3.78	4.07	4.07
Prairie County	C21	RM 151.01	49012	1.5-yr	1616.9	674.88	670.91	1.86	1.86	18.37	18.37	285.86	285.86	3.05	3.05	3.97	3.97
Prairie County	C21	RM 150.81	48683	1.5-yr	1616.9	674.72	670.79	1.68	1.68	13.9	13.9	335.13	335.13	2.87	2.87	3.93	3.93
Prairie County	C21	RM 150.63	48400	1.5-yr	1710.3	674.62	670.45	1.5	1.5	11.69	11.17	358.75	376.86	3.17	3.03	4.17	4.17
Prairie County	C21	RM 150.44	48094	1.5-yr	1710.3	674.42	669.86	1.84	1.81	15.57	13.8	273.64	316.8	3.38	2.99	4.56	4.56
Prairie County	C21	RM 150.25	47780	1.5-yr	1710.3	674.04	669.38	2.58	2.57	37.28	36.83	165.49	167.57	4.01	3.96	4.66	4.66
Prairie County	C21	RM 150.05	47474	1.5-yr	1710.3	673.94	669.21	1.98	1.98	18.75	18.75	201.48	201.48	4.28	4.28	4.73	4.73
Prairie County	C21	RM 149.87	47178	1.5-yr	1710.3	673.79	669.02	1.92	1.92	19.31	19.22	269.57	270.77	3.3	3.28	4.77	4.77
Prairie County	C21	RM 149.66	46846	1.5-yr	1710.3	673.66	668.97	1.69	1.69	11.46	11.46	329.29	339.29	3.08	3.08	4.69	4.69
Prairie County	C21	RM 149.48	46551	1.5-yr	1710.3	673.39	668.91	2.17	2.15	25.26	23.97	259.53	363.68	3.03	2.87	4.48	4.48
Prairie County	C21	RM 149.27	46219	1.5-yr	1710.3	673.12	668.94	2.25	2.07	25.25	19.83	208.01	420.02	3.32	2.59	4.18	4.18
Prairie County	D1	RM 149.08	45914	1.5-yr	1710.3	672.93	668.95	1.99	1.99	20.3	20.24	253.2	253.91	3.4	3.39	3.98	3.98
Prairie County	D1	RM 148.89	45608	1.5-yr	1710.3	672.83	668.96	1.62	1.62	13.43	13.4	313.77	314.47	3.37	3.37	3.87	3.87
Prairie County	D1	RM 148.7	45301	1.5-yr	1710.3	672.66	668.73	1.73	1.73	14.96	14.83	347.74	350.99	2.84	2.82	3.93	3.93
Prairie County	D1	RM 148.5	44987	1.5-yr	1710.3	672.43	668.42	2.01	1.94	20.36	14.71	235.13	339.65	3.6	2.6	4.01	4.01
Prairie County	D1	RM 148.3	44667	1.5-yr	1710.3	672.14	668.01	2.34	2.26	27.08	22.2	192.73	245.79	3.77	3.08	4.13	4.13
Prairie County	D1	RM 148.11	44353	1.5-yr	1710.3	671.99	667.73	2	1.97	19.98	18.28	230.09	256.52	3.7	3.39	4.26	4.26
Prairie County	D1	RM 147.93	44062	1.5-yr	1710.3	671.85	667.4	1.79	1.79	16.99	16.88	306.1	308.14	3.12	3.1	4.45	4.45
Prairie County	D1	RM 147.74	43761	1.5-yr	1710.3	671.67	667.21	1.89	1.75	19.1	14.51	251.12	381.02	3.38	2.56	4.46	4.46
Prairie County	D1	RM 147.55	43454	1.5-yr	1710.3	671.48	666.79	2.05	1.89	20.56	15.32	191.28	305.51	4.01	2.96	4.69	4.69
Prairie County	D1	RM 147.34	43128	1.5-yr	1710.3	671.26	666.46	2.23	2.04	24.21	16.88	171.78	296.71	4.1	2.83	4.8	4.8

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	1.5-yr	1710.3	671.02	666.42	2.36	2.16	27.83	20.65	178.57	288.89	3.72	2.74	4.6	4.6
Prairie County	D1	RM 146.96	42505	1.5-yr	1710.3	670.81	666.49	2.26	2.24	24.75	22.9	187.33	204.78	4.04	3.73	4.32	4.32
Prairie County	D1	RM 146.77	42199	1.5-yr	1710.3	670.69	666.48	1.94	1.94	18.51	18.47	222.75	223.15	3.95	3.94	4.21	4.21
Prairie County	D1	RM 146.58	41899	1.5-yr	1710.3	670.6	666.59	1.62	1.62	13.3	13.3	295.11	295.11	3.58	3.58	4.01	4.01
Prairie County	D1	RM 146.32	41487	1.5-yr	1710.3	670.34	666.62	1.91	1.91	16.98	16.97	324.48	324.72	2.76	2.76	3.72	3.72
Prairie County	D1	RM 146	40968	1.5-yr	1710.3	669.99	666.48	1.95	1.95	20.71	20.58	276.71	278.42	3.18	3.16	3.51	3.51
Prairie County	D1	RM 145.65	40420	1.5-yr	1710.3	669.61	665.52	2.02	2.02	21.96	21.96	244.29	244.29	3.46	3.46	4.09	4.09
Prairie County	D1	RM 145.36	39958	1.5-yr	1710.3	669.33	664.91	1.92	1.91	20.26	19.45	264.9	278.03	3.36	3.23	4.42	4.42
Prairie County	D1	RM 145.13	39579	1.5-yr	1710.3	669.15	664.58	1.77	1.77	16.62	16.57	265.97	266.81	3.63	3.62	4.57	4.57
Prairie County	D1	RM 144.92	39251	1.5-yr	1710.3	668.99	664.24	1.76	1.76	16.88	16.88	269.49	269.49	3.61	3.61	4.75	4.75
Prairie County	D1	RM 144.73	38942	1.5-yr	1710.3	668.8	663.99	1.88	1.88	19.22	18.52	263.1	273.58	3.46	3.33	4.81	4.81
Prairie County	D1	RM 144.56	38672	1.5-yr	1710.3	668.55	664.1	2.15	2.15	24.82	24.19	265.13	272.27	2.99	2.92	4.45	4.45
Prairie County	D1	RM 144.33	38305	1.5-yr	1710.3	668.31	664.19	2.05	2.05	21.24	20.85	231.72	236.09	3.6	3.53	4.12	4.12
Prairie County	D1	RM 144.13	37987	1.5-yr	1710.3	668.18	664.33	1.75	1.74	15.33	14.84	271.3	281.81	3.61	3.5	3.85	3.85
Prairie County	D1	RM 143.91	37637	1.5-yr	1710.3	668.04	663.96	1.67	1.65	14.3	13.19	299.48	337.26	3.41	3.14	4.08	4.08
Prairie County	D1	RM 143.71	37320	1.5-yr	1710.3	667.73	663.43	2.3	2.28	25.88	23.71	190.8	236.32	3.9	3.57	4.3	4.3
Prairie County	D1	RM 143.45	36908	1.5-yr	1710.3	667.32	663.01	2.6	2.59	33.76	31.19	179.26	194.65	3.68	3.39	4.31	4.31
Prairie County	D1	RM 143.21	36511	1.5-yr	1710.3	667.13	662.92	2.01	2.01	20.07	20	224.58	225.39	3.78	3.77	4.21	4.21
Prairie County	D1	RM 142.97	36139	1.5-yr	1710.3	666.96	662.7	1.89	1.89	17.51	17.41	231.77	233.17	3.91	3.88	4.26	4.26
Prairie County	D1	RM 142.71	35717	1.5-yr	1710.3	666.54	662.52	2.51	2.51	31.58	31.58	186.91	186.91	3.65	3.65	4.02	4.02
Prairie County	D1	RM 142.46	35322	1.5-yr	1710.3	666.37	662.36	1.91	1.91	18.58	18.51	254.41	255.4	3.52	3.5	4.01	4.01
Prairie County	D1	RM 142.23	34952	1.5-yr	1710.3	666.14	662.21	2	2	20.21	20	236.32	238.88	3.61	3.58	3.93	3.93
Prairie County	D1	RM 142.02	34614	1.5-yr	1710.3	665.86	662.21	2.17	2.1	25.64	23.44	269.68	317.23	2.81	2.56	3.65	3.65
Prairie County	D1	RM 141.8	34258	1.5-yr	1710.3	665.71	662.01	1.56	1.56	12.95	12.9	393.16	394.66	2.79	2.78	3.7	3.7
Prairie County	D1	RM 141.6	33942	1.5-yr	1710.3	665.43	661.72	2.01	2.01	20.75	20.75	301.43	301.43	2.83	2.83	3.71	3.71
Prairie County	D1	RM 141.42	33642	1.5-yr	1710.3	665.32	661.32	1.56	1.56	12.31	12.27	347.98	349.07	3.14	3.13	4	4
Prairie County	D1	RM 141.22	33325	1.5-yr	1710.3	665.19	660.91	1.57	1.57	12.82	12.79	326.39	327.13	3.33	3.32	4.28	4.28
Prairie County	D1	RM 141.02	33011	1.5-yr	1710.3	664.91	660.58	2.19	2.19	23.39	23.39	194.29	194.29	4.02	4.02	4.33	4.33
Prairie County	D1	RM 140.84	32709	1.5-yr	1710.3	664.78	660.35	1.94	1.94	18.98	18.98	240.55	240.55	3.66	3.66	4.43	4.43
Prairie County	D1	RM 140.64	32394	1.5-yr	1710.3	664.67	660.07	1.72	1.72	13.93	13.93	237.77	237.77	4.17	4.17	4.6	4.6
Prairie County	D1	RM 140.44	32074	1.5-yr	1710.3	664.47	659.63	2.02	2.02	19.79	19.79	224.23	224.23	3.78	3.78	4.84	4.84
Prairie County	D1	RM 140.23	31738	1.5-yr	1710.3	664.17	659.62	2.36	2.36	27.24	27.16	206.77	207.23	3.51	3.5	4.55	4.55
Prairie County	D1	RM 140.03	31420	1.5-yr	1710.3	664.03	659.59	1.92	1.92	18.26	18.26	252.01	252.01	3.54	3.54	4.44	4.44
Prairie County	D1	RM 139.84	31118	1.5-yr	1710.3	663.88	659.19	1.8	1.79	17.15	16.41	309.05	324.97	3.08	2.94	4.69	4.69
Prairie County	D1	RM 139.64	30801	1.5-yr	1710.3	663.72	658.96	1.84	1.81	16.27	13.9	221.72	265.11	4.18	3.56	4.76	4.76
Prairie County	D1	RM 139.44	30466	1.5-yr	1710.3	663.57	658.72	1.82	1.81	16.55	15.28	249.81	273.96	3.75	3.46	4.85	4.85
Prairie County	D1	RM 139.23	30138	1.5-yr	1710.3	663.43	658.34	1.81	1.81	17.95	17.93	219.64	219.78	4.31	4.3	5.09	5.09
Prairie County	D1	RM 139.02	29799	1.5-yr	1710.3	663.1	658.14	2.36	2.36	32.63	32.52	179.14	179.79	4.04	4.02	4.96	4.96
Prairie County	D1	RM 138.81	29470	1.5-yr	1710.3	663.03	658.11	1.7	1.69	15.47	14.93	218.49	226.86	4.61	4.45	4.92	4.92
Prairie County	D1	RM 138.62	29157	1.5-yr	1710.3	662.89	657.94	1.82	1.81	15.34	14.11	216.62	237.62	4.34	3.99	4.95	4.95
Prairie County	D1	RM 138.41	28823	1.5-yr	1710.3	662.69	657.82	2.07	2.06	22.89	21.33	202.45	219.49	4.07	3.79	4.87	4.87
Prairie County	D1	RM 138.22	28519	1.5-yr	1710.3	662.52	657.8	2.07	2.06	20.12	19.37	198.68	206.75	4.16	4.01	4.72	4.72
Prairie County	D1	RM 138.02	28200	1.5-yr	1710.3	662.48	657.74	1.54	1.53	11.92	11.62	246.99	253.78	4.5	4.39	4.74	4.74
Prairie County	D1	RM 137.82	27874	1.5-yr	1710.3	662.34	656.95	1.69	1.69	15.12	15.03	263.32	264.94	3.84	3.82	5.39	5.39
Prairie County	D1	RM 137.62	27552	1.5-yr	1710.3	662.15	656.75	1.9	1.82	19.69	11.98	234.74	456.98	3.8	2.3	5.4	5.4
Prairie County	D1	RM 137.42	27247	1.5-yr	1710.3	661.94	656.66	2.08	2.08	22.59	22.59	202.42	202.42	4.07	4.07	5.28	5.28
Prairie County	D1	RM 137.24	26944	1.5-yr	1710.3	661.77	656.66	2.03	2.03	22.36	22.24	204.4	205.52	4.12	4.1	5.11	5.11
Prairie County	D1	RM 137.04	26627	1.5-yr	1713.2	661.57	656.5	2.1	2.1	24	24	203.56	203.56	4	4	5.07	5.07
Prairie County	D2	RM 136.84	26475	1.5-yr	1713.2	661.53	656.46	1.84	1.84	16.68	16.68	203.78	203.78	4.57	4.57	5.07	5.07
Prairie County	D2	RM 136.44	26317	1.5-yr	1713.2	661.5	656.37	1.65	1.65	13.9	13.9	226.35	226.35	4.59	4.59	5.13	5.13
Prairie County	D2	RM 136.23	26001	1.5-yr	1713.2	661.35	656.19	1.85	1.85	16.01	16.01	245.38	245.38	3.77	3.77	5.16	5.16
Prairie County	D2	RM 136.04	25673	1.5-yr	1713.2	661.22	656.01	1.85	1.85	15.04	15.04	210.51	210.51	4.4	4.4	5.21	5.21
Prairie County	D2	RM 135.85	25337	1.5-yr	1713.2	661.02	655.93	2.12	2.12	21.22	21.2	185.75	185.99	4.36	4.35	5.09	5.09
Prairie County	D2	RM 135.66	25033	1.5-yr	1713.2	660.9	655.91	1.96	1.96	18.26	18.21	201.78	202.36	4.33	4.32	4.99	4.99
Prairie County	D2	RM 135.46	24715	1.5-yr	1713.2	660.74	655.86	1.96	1.96	21.95	21.86	199.09	199.88	4.38	4.36	4.88	4.88
Prairie County	D2	RM 135.24	24417	1.5-yr	1713.2	660.67	655.68	1.61	1.61	14.31	14.31	229.07	229.07	4.64	4.64	4.99	4.99
Prairie County	D2	RM 135	24090	1.5-yr	1713.2	660.51	655.56	1.78	1.78	17.16	17.09	246.72	247.77	3.9	3.89	4.95	4.95
Prairie County	D2	RM 134.78	23742	1.5-yr	1713.2	660.37	655.36	1.74	1.74	16.15	16.07	223.84	224.94	4.4	4.38	5.01	5.01
Prairie County	D2	RM 134.58	23351	1.5-yr	1713.2	660.12	655.29	2.08	2.07	24.46	24.08	189.75	192.96	4.35	4.28	4.83	4.83
Prairie County	D2	RM 134.39	23000	1.5-yr	1713.2	659.92	655.24	2.02	2.01	23.47	22.05	216.71	231.77	3.91	3.67	4.68	4.68

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	1.5-yr	1713.2	659.75	655.11	1.87	1.86	17.94	16.5	263.97	393.1	3.46	3.18	4.64	4.64
Prairie County	D2	RM 133.99	22372	1.5-yr	1713.2	659.62	654.97	1.78	1.78	14.56	14.5	264.54	265.67	3.65	3.63	4.65	4.65
Prairie County	D2	RM 133.79	22053	1.5-yr	1713.2	659.42	655	2.02	2.01	20.32	19.43	226.1	237.9	3.75	3.58	4.42	4.42
Prairie County	D2	RM 133.59	21733	1.5-yr	1713.2	659.26	654.96	1.91	1.91	18.28	18.04	244.33	247.88	3.67	3.62	4.3	4.3
Prairie County	D2	RM 133.41	21417	1.5-yr	1713.2	659.13	654.78	1.77	1.77	15.56	15.37	254.28	257.85	3.8	3.75	4.35	4.35
Prairie County	D2	RM 133.21	21104	1.5-yr	1713.2	658.95	654.64	1.94	1.93	18.61	17.48	229.84	247.01	3.83	3.6	4.31	4.31
Prairie County	D2	RM 133.02	20811	1.5-yr	1713.2	658.81	654.53	1.88	1.88	17.65	17.37	246.2	250.31	3.7	3.64	4.28	4.28
Prairie County	D2	RM 132.83	20491	1.5-yr	1713.2	658.64	654.29	1.91	1.9	18.65	17.94	262.25	275.06	3.42	3.29	4.35	4.35
Prairie County	D2	RM 132.63	20184	1.5-yr	1713.2	658.47	654.04	1.92	1.85	18.83	16.17	253.57	314.76	3.43	2.94	4.43	4.43
Prairie County	D2	RM 132.42	19875	1.5-yr	1713.2	658.29	653.98	1.97	1.92	19.05	17.24	219.51	253.74	3.89	3.52	4.31	4.31
Prairie County	D2	RM 132.23	19553	1.5-yr	1713.2	658.19	653.88	1.66	1.62	13.55	12.54	256.31	290.21	3.94	3.64	4.31	4.31
Prairie County	D2	RM 132.02	19225	1.5-yr	1713.2	657.97	653.63	1.99	1.99	20.17	20.17	244.84	244.89	3.51	3.51	4.34	4.34
Prairie County	D2	RM 131.81	18910	1.5-yr	1713.2	657.74	653.37	2.13	2.13	23.03	23	226.2	226.53	3.55	3.55	4.37	4.37
Prairie County	D2	RM 131.58	18573	1.5-yr	1713.2	657.63	653.02	1.75	1.74	14.73	14.24	237.69	255.38	4.12	3.99	4.61	4.61
Prairie County	D2	RM 131.38	18237	1.5-yr	1713.2	657.48	652.75	1.88	1.81	16.96	15.54	212.37	248.14	4.15	3.81	4.73	4.73
Prairie County	D2	RM 131.18	17875	1.5-yr	1713.2	657.23	652.49	2.14	2.14	22.58	22.44	207.84	209.24	3.85	3.83	4.74	4.74
Prairie County	D2	RM 130.98	17548	1.5-yr	1713.2	657.03	652.34	2.16	2.13	22.68	21.26	197.09	213.63	4.02	3.76	4.69	4.69
Prairie County	D2	RM 130.78	17227	1.5-yr	1713.2	656.89	652.27	1.98	1.97	18.97	18.72	215.5	218.49	4.02	3.97	4.62	4.62
Prairie County	D2	RM 130.59	16914	1.5-yr	1713.2	656.8	652.16	1.68	1.68	13.47	12.95	238.57	248.52	4.27	4.1	4.64	4.64
Prairie County	D2	RM 130.39	16588	1.5-yr	1713.2	656.63	651.95	1.91	1.91	17.49	17.49	211.06	211.06	4.24	4.24	4.68	4.68
Prairie County	D2	RM 130.19	16280	1.5-yr	1713.2	656.46	651.81	2.02	2.02	20.09	20.09	217.48	217.48	3.9	3.9	4.65	4.65
Prairie County	D2	RM 130	15965	1.5-yr	1713.2	656.35	651.57	1.79	1.79	15.68	15.68	241.22	241.22	3.96	3.96	4.78	4.78
Prairie County	D2	RM 129.81	15649	1.5-yr	1713.2	656.24	651.47	1.7	1.7	13.84	13.57	235.08	240.37	4.27	4.19	4.77	4.77
Prairie County	D2	RM 129.62	15337	1.5-yr	1713.2	656.07	651.34	1.96	1.95	18.66	17.85	216.64	227.39	4.03	3.85	4.73	4.73
Prairie County	D2	RM 129.43	15031	1.5-yr	1713.2	655.96	651.21	1.8	1.8	15.61	15.48	227.37	229.35	4.18	4.14	4.75	4.75
Prairie County	D2	RM 129.24	14724	1.5-yr	1724.5	655.77	651.06	2.02	2.02	20.04	20.04	221.17	221.17	3.87	3.87	4.71	4.71
Prairie County	D2	RM 129.04	14417	1.5-yr	1724.5	655.57	651.06	2.13	2.13	22.39	21.96	209.54	231.18	3.86	3.79	4.51	4.51
Prairie County	D2	RM 128.82	14112	1.5-yr	1724.5	655.38	651.05	2.15	2.15	22.73	22.52	209.12	253.17	3.84	3.81	4.33	4.33
Prairie County	D2	RM 128.62	13798	1.5-yr	1724.5	655.24	651.08	1.93	1.93	18.19	18.19	227.65	252.36	3.93	3.93	4.16	4.16
Prairie County	D2	RM 128.41	13446	1.5-yr	1724.5	655.08	651.07	1.86	1.86	17.29	17.29	254.21	254.21	3.65	3.65	4.01	4.01
Prairie County	D2	RM 128.21	13125	1.5-yr	1724.5	654.91	650.98	1.92	1.91	18.52	17.72	246.05	258.44	3.65	3.49	3.93	3.93
Prairie County	D2	RM 127.98	12790	1.5-yr	1724.5	654.74	650.84	1.87	1.87	17.38	17.38	249.39	249.39	3.71	3.71	3.9	3.9
Prairie County	D2	RM 127.75	12473	1.5-yr	1724.5	654.62	650.59	1.71	1.71	14.98	14.98	287.78	287.78	3.5	3.5	4.03	4.03
Prairie County	D2	RM 127.55	12112	1.5-yr	1724.5	654.46	650.35	1.71	1.71	14.95	14.93	286.96	287.37	3.51	3.5	4.11	4.11
Prairie County	D2	RM 127.27	11729	1.5-yr	1724.5	654.29	649.95	1.72	1.72	14.87	14.87	277.14	277.14	3.62	3.62	4.34	4.34
Prairie County	D2	RM 126.97	11415	1.5-yr	1724.5	654.08	649.68	2.01	2.01	20.01	20.01	225.75	225.75	3.8	3.8	4.4	4.4
Prairie County	D2	RM 126.71	10962	1.5-yr	1724.5	653.85	649.49	1.98	1.98	19	18.97	218.08	218.41	4	4	4.36	4.36
Prairie County	D2	RM 126.43	10478	1.5-yr	1724.5	653.7	649.32	1.61	1.61	12.79	12.75	275.78	276.7	3.88	3.86	4.38	4.38
Prairie County	D2	RM 126.42	10074	1.5-yr	1724.5	653.46	649.05	1.94	1.94	19.05	19.02	249.15	249.55	3.56	3.56	4.41	4.41
Prairie County	D2	RM 126.41	9625	1.5-yr	1724.5	653.21	648.27	2	1.99	19.43	18.85	219.88	227.28	3.93	3.81	4.94	4.94
Prairie County	D3	RM 126.38	9533	1.5-yr	1724.5	653.16	648.27	2.02	2.02	20.05	19.5	219.75	226.39	3.88	3.77	4.88	4.88
Prairie County	D3	RM 126.22	9286	1.5-yr	1724.5	653.07	648.8	1.8	1.8	15.9	15.9	243.15	243.15	3.93	3.93	4.27	4.27
Prairie County	D3	RM 126.03	8974	1.5-yr	1724.5	652.96	648.71	1.71	1.71	14.62	14.34	269.32	275.25	3.74	3.67	4.25	4.25
Prairie County	D3	RM 125.82	8648	1.5-yr	1724.5	652.81	648.36	1.75	1.75	15.58	15.58	281	281	3.51	3.51	4.45	4.45
Prairie County	D3	RM 125.63	8335	1.5-yr	1724.5	652.69	648.12	1.68	1.68	13.81	13.25	259.94	271.59	3.95	3.79	4.57	4.57
Prairie County	D3	RM 125.43	8020	1.5-yr	1724.5	652.54	647.8	1.85	1.82	16.36	14.4	217.06	253.11	4.27	3.75	4.74	4.74
Prairie County	D3	RM 125.24	7711	1.5-yr	1724.5	652.46	647.26	1.66	1.65	12.47	11.63	226.37	244.74	4.59	4.27	5.2	5.2
Prairie County	D3	RM 125.05	7403	1.5-yr	1724.5	652.34	647.23	1.78	1.76	14.64	13.72	209.96	226.06	4.62	4.33	5.11	5.11
Prairie County	D3	RM 124.83	7059	1.5-yr	1724.5	652.24	647.25	1.67	1.66	13.15	12.58	237.41	249.38	4.35	4.17	4.99	4.99
Prairie County	D3	RM 124.62	6712	1.5-yr	1724.5	652.13	647.25	1.67	1.67	13.65	13.46	257.84	261.76	3.99	3.94	4.88	4.88
Prairie County	D3	RM 124.41	6375	1.5-yr	1724.5	651.92	647.27	1.99	1.98	19.36	18.44	221.62	258.49	3.91	3.73	4.65	4.65
Prairie County	D3	RM 124.15	5960	1.5-yr	1724.5	651.66	647.27	2.08	2.08	21.88	21.4	232.47	271.19	3.57	3.49	4.39	4.39
Prairie County	D3	RM 123.94	5627	1.5-yr	1724.5	651.32	647.27	2.44	2.44	30.29	30.15	199.91	224.19	3.53	3.51	4.05	4.05
Prairie County	D3	RM 123.74	5312	1.5-yr	1724.5	651.07	647.25	2.37	2.37	28.43	28.43	205.21	226.8	3.55	3.55	3.82	3.82
Prairie County	D3	RM 123.56	5014	1.5-yr	1724.5	651.04	647.24	1.5	1.5	11.31	11.19	310.81	341.38	3.69	3.65	3.8	3.8
Prairie County	D3	RM 123.24	4500	1.5-yr	1724.5	650.82	647.19	1.28	1.28	16.86	16.83	649.53	650.49	2.07	2.07	3.63	3.63
Prairie County	D3	RM 122.99	4116	1.5-yr	1724.5	650.63	646.67	1.28	1.28	7.81	7.42	503.09	532.59	2.67	2.53	3.96	3.96
Prairie County	D3	RM 122.76	3746	1.5-yr	1724.5	650.49	646.22	1.43	1.43	10.6	10.56	360.11	361.58	3.34	3.33	4.27	4.27
Prairie County	D3	RM 122.55	3414	1.5-yr	1724.5	650.31	645.7	1.79	1.79	15.73	15.7	242.55	243.04	3.96	3.96	4.61	4.61
Prairie County	D3	RM 122.3	3012	1.5-yr	1724.5	650.04	645.57	2.1	2.1	21.83	21.75	214.39	215.2	3.83	3.81	4.47	4.47

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	1.5-yr	1724.5	649.85	645.49	2.01	2.01	19.92	19.58	240.65	245.06	3.56	3.5	4.36	4.36
Prairie County	D3	RM 121.88	2338	1.5-yr	1724.5	649.69	645.42	1.91	1.91	17.37	16.95	243.83	250.13	3.71	3.62	4.27	4.27
Prairie County	D3	RM 121.66	1982	1.5-yr	1724.5	649.49	645.3	2.02	2.02	19.5	19.27	226.93	229.77	3.77	3.72	4.19	4.19
Prairie County	D3	RM 121.46	1651	1.5-yr	1724.5	649.31	645.06	1.99	1.98	19.95	19.25	242.36	252.02	3.58	3.45	4.25	4.25
Prairie County	D3	RM 121.24	1304	1.5-yr	1724.5	649.07	644.99	2.1	2.07	22.16	20.24	247.19	275.29	3.32	3.03	4.08	4.08
Prairie County	D3	RM 121.02	957	1.5-yr	1724.5	648.87	644.88	1.95	1.91	19.21	17.85	258.86	286.37	3.39	3.15	3.99	3.99
Prairie County	D3	RM 120.84	660	1.5-yr	1724.5	648.7	644.78	1.92	1.92	20.91	20.81	255.32	256.45	3.52	3.5	3.92	3.92
Prairie County	D3	RM 120.64	350	1.5-yr	1724.5	648.54	644.42	1.87	1.87	17.3	17.3	243.21	243.21	3.79	3.79	4.12	4.12

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	1.5-yr	1724.72	648.48	643.94	1.85	1.79	17.17	15.22	254.01	326.77	3.62	3.21	4.54	4.54
Dawson County	D3	RM 120.28	90838.07	1.5-yr	1724.72	648.41	643.78	1.87	1.83	17.34	15.89	233.12	268.91	3.83	3.51	4.63	4.63
Dawson County	D3	RM 120.18	90675.23	1.5-yr	1724.72	648.34	643.7	1.87	1.81	16.76	14.97	213.48	257.92	4.13	3.7	4.64	4.64
Dawson County	D3	RM 120.00	90388.96	1.5-yr	1724.72	648.24	643.56	1.76	1.74	14.78	13.81	226.64	246.91	4.3	4.02	4.68	4.68
Dawson County	D3	RM 119.84	90136.35	1.5-yr	1724.72	648.12	643.44	1.88	1.86	16.78	15.98	213.73	226.49	4.29	4.09	4.68	4.68
Dawson County	D3	RM 119.68	89873.82	1.5-yr	1724.72	647.96	643.31	2.09	2.06	20.8	18.78	189.21	213.32	4.34	3.92	4.64	4.64
Dawson County	D3	RM 119.53	89627.16	1.5-yr	1724.72	647.87	643.2	1.94	1.94	17.74	17.55	204.32	206.55	4.36	4.31	4.67	4.67
Dawson County	D3	RM 119.39	89404.11	1.5-yr	1724.72	647.8	643.09	1.77	1.75	14.97	14.35	231.36	243.94	4.2	4.04	4.72	4.72
Dawson County	D3	RM 119.26	89201.38	1.5-yr	1724.72	647.73	642.99	1.72	1.7	14.54	13.6	263.7	285.68	3.8	3.56	4.74	4.74
Dawson County	D3	RM 119.12	88969.13	1.5-yr	1724.72	647.56	642.87	2.04	1.97	19.78	17.51	193.4	257.03	4.32	3.83	4.69	4.69
Dawson County	D3	RM 119.00	88780.83	1.5-yr	1724.72	647.48	642.78	2	1.94	18.99	16.08	199.46	246.2	4.26	3.61	4.7	4.7
Dawson County	D3	RM 118.85	88537.07	1.5-yr	1724.72	647.41	642.66	1.76	1.72	15.09	13.53	241.51	281.66	3.98	3.57	4.75	4.75
Dawson County	D3	RM 118.72	88336.12	1.5-yr	1724.72	647.36	642.56	1.6	1.53	12.05	10.25	237.19	300.07	4.41	3.75	4.8	4.8
Dawson County	D3	RM 118.60	88130.39	1.5-yr	1724.72	647.26	642.46	1.8	1.76	15.41	13.89	220.72	252.96	4.28	3.87	4.79	4.79
Dawson County	D3	RM 118.47	87924.15	1.5-yr	1724.72	647.12	642.37	2.04	1.98	20.46	18.26	211.72	251.17	3.87	3.47	4.75	4.75
Dawson County	D3	RM 118.34	87719.85	1.5-yr	1724.72	646.89	642.27	2.37	2.32	29.3	27.13	214.06	244.56	3.27	3.04	4.63	4.63
Dawson County	D3	RM 118.21	87507.02	1.5-yr	1724.72	646.79	642.16	2.14	2.08	21.55	18.93	175.82	212.47	4.45	3.91	4.63	4.63
Dawson County	D3	RM 118.07	87276.02	1.5-yr	1730.39	646.72	642.05	1.75	1.75	15.87	15.69	297.49	301.18	3.32	3.29	4.67	4.67
Dawson County	D4	RM 117.90	87004.77	1.5-yr	1730.39	646.64	641.92	1.64	1.48	13.19	10.48	234.19	381.51	3.86	3.06	4.72	4.72
Dawson County	D4	RM 117.77	86795.88	1.5-yr	1730.39	646.56	641.81	1.68	1.48	13.97	9.42	217.15	465.68	3.77	2.52	4.74	4.74
Dawson County	D4	RM 117.62	86560.03	1.5-yr	1730.39	646.49	641.7	1.56	1.45	11.65	9.08	247.32	371.71	4.13	3.22	4.78	4.78
Dawson County	D4	RM 117.46	86294.2	1.5-yr	1730.39	646.3	641.57	2.05	1.88	20.27	15.05	183	301.42	4.13	3.05	4.73	4.73
Dawson County	D4	RM 117.33	86073.88	1.5-yr	1730.39	646.08	641.46	2.43	2.23	27.88	19.2	137.01	251.25	4.55	3.09	4.62	4.62
Dawson County	D4	RM 117.16	85808.16	1.5-yr	1730.39	646.03	641.33	1.89	1.75	16.8	13.08	182.25	284.45	4.47	3.47	4.69	4.69
Dawson County	D4	RM 117.03	85604.68	1.5-yr	1730.39	645.97	641.3	1.63	1.59	13.19	11.86	243.69	316.35	3.83	3.45	4.67	4.67
Dawson County	D4	RM 116.87	85336.88	1.5-yr	1730.39	645.89	641.29	1.57	1.42	12.06	8.38	238.63	444.42	3.94	2.74	4.61	4.61
Dawson County	D4	RM 116.69	85043.25	1.5-yr	1730.39	645.76	641.44	1.7	1.58	14.99	11.7	279.08	426.74	3.29	2.57	4.32	4.32
Dawson County	D4	RM 116.56	84823.15	1.5-yr	1730.39	645.59	641.34	1.96	1.85	20.02	14.99	234.35	383.04	3.27	2.45	4.25	4.25
Dawson County	D4	RM 116.39	84558.58	1.5-yr	1730.39	645.5	641.21	1.59	1.5	12.7	9.75	269.92	416.79	3.61	2.77	4.29	4.29
Dawson County	D4	RM 116.22	84287.19	1.5-yr	1730.39	645.39	641	1.66	1.6	13.41	10.43	259.34	347.25	3.99	3.11	4.39	4.39
Dawson County	D4	RM 116.05	84007.59	1.5-yr	1730.39	645.22	640.84	1.95	1.83	18.52	12.41	213.93	348.81	4.02	2.7	4.38	4.38
Dawson County	D4	RM 115.87	83722.29	1.5-yr	1730.39	645.04	640.8	2.1	1.94	21.98	14.69	214.27	359.85	3.7	2.47	4.24	4.24
Dawson County	D4	RM 115.73	83500.35	1.5-yr	1730.39	644.92	640.69	1.89	1.8	19.63	14.39	310.77	466.56	2.81	2.06	4.22	4.22
Dawson County	D4	RM 115.61	83294.37	1.5-yr	1730.39	644.85	640.59	1.49	1.44	11.85	10.4	385.01	462.64	2.96	2.61	4.26	4.26
Dawson County	D4	RM 115.45	83034.82	1.5-yr	1730.39	644.72	640.37	1.57	1.48	13.76	10.72	407.6	577.44	2.61	2.03	4.35	4.35
Dawson County	D4	RM 115.29	82782.88	1.5-yr	1730.39	644.57	640.34	1.66	1.61	14.51	12.68	319.39	388.08	3.17	2.77	4.23	4.23
Dawson County	D4	RM 115.09	82480.02	1.5-yr	1730.39	644.5	640.2	1.4	1.37	9.67	8.68	324	374.15	3.76	3.38	4.3	4.3
Dawson County	D4	RM 114.96	82177.99	1.5-yr	1730.39	644.35	640	1.7	1.65	14.23	11.96	260.73	324.43	3.84	3.23	4.35	4.35
Dawson County	D4	RM 114.74	81836.48	1.5-yr	1730.39	643.97	639.98	2.51	2.41	31.22	22.82	179.76	258.33	3.81	2.78	3.99	3.99
Dawson County	D4	RM 114.58	81577.9	1.5-yr	1730.39	643.94	639.46	1.77	1.62	15.11	12.31	195.77	344.14	4.1	3.32	4.49	4.49
Dawson County	D4	RM 114.42	81309.47	1.5-yr	1730.39	643.81	639.33	1.81	1.81	16.28	15.85	257.26	264.33	3.72	3.62	4.48	4.48
Dawson County	D4	RM 114.28	81078.59	1.5-yr	1730.39	643.65	639.21	2.04	2.02	20.25	18.78	213.07	231.34	3.98	3.69	4.43	4.43
Dawson County	D4	RM 114.11	80813.63	1.5-yr	1730.39	643.48	639.2	2.12	2.1	22.21	21.2	210.18	222.61	3.87	3.7	4.28	4.28
Dawson County	D4	RM 113.97	80580.15	1.5-yr	1730.39	643.31	639.45	2.19	2.17	24.43	23.36	225.76	238.37	3.49	3.35	3.86	3.86
Dawson County	D4	RM 113.79	80292.13	1.5-yr	1730.39	643.1	639.45	2.23	1.99	25.74	16.99	201.08	397.87	3.32	2.19	3.65	3.65
Dawson County	D4	RM 113.60	79987.05	1.5-yr	1730.39	643.06	639.2	1.44	1.27	10.37	8.08	179.84	476.53	3.71	2.88	3.86	3.86
Dawson County	D4	RM 113.43	79712.89	1.5-yr	1730.39	642.92	638.73	1.73	1.52	14.59	10.9	173.8	378.92	4.06	3.01	4.2	4.2
Dawson County	D4	RM 113.24	79405.49	1.5-yr	1730.39	642.63	638.43	2.4	2.11	27.91	20.71	130.78	272.77	4.09	3	4.2	4.2
Dawson County	D4	RM 113.08	79152.39	1.5-yr	1730.39	642.47	638.37	2.25	2.02	24.75	19.07	138.2	281.69	3.99	3.04	4.1	4.1
Dawson County	D4	RM 112.94	78925.1	1.5-yr	1730.39	642.43	638.26	1.63	1.51	13.28	11.5	194.15	351.53	3.79	3.26	4.17	4.17
Dawson County	D4	RM 112.74	78585.88	1.5-yr	1730.39	642.23	638.09	1.86	1.75	17.76	15.21	237.95	339.45	3.4	2.91	4.14	4.14
Dawson County	D4	RM 112.59	78355.25	1.5-yr	1730.39	642.05	637.98	2.02	1.87	21.92	18.59	271.92	368.38	2.97	2.51	4.07	4.07
Dawson County	D4	RM 112.37	78008.78	1.5-yr	1730.39	641.98	637.88	1.43	1.28	10.26	8.37	206.92	502.25	3.62	2.93	4.1	4.1
Dawson County	D4	RM 112.19	77721.27	1.5-yr	1730.39	641.82	637.59	1.7	1.62	14.38	12.54	213.8	330.52	3.7	3.22	4.23	4.23
Dawson County	D4	RM 111.89	77240.22	1.5-yr	1730.39	641.55	637.16	1.92	1.91	18.13	17.44	235.68	246.02	3.83	3.68	4.39	4.39
Dawson County	D4	RM 111.42	76486.24	1.5-yr	1730.39	641.25	636.91	1.68	1.67	14.18	13.48	287.11	303.45	3.59	3.41	4.34	4.34
Dawson County	D4	RM 111.26	76213.83	1.5-yr	1730.39	641.15	636.66	1.57	1.56	12.75	12.09	329.26	349.35	3.34	3.17	4.49	4.49
Dawson County	D4	RM 111.09	75911.9	1.5-yr	1730.39	640.91	636.51	2.04	2.04	21.13	21.13	237.36	237.36	3.57	3.57	4.4	4.4
Dawson County	D4	RM 110.95	75678.54	1.5-yr	1730.39	640.73	636.4	2.21	2.2	23.66	22.79	194.97	203.18	4.02	3.87	4.33	4.33
Dawson County	D4	RM 110.78	75415.61	1.5-yr	1730.39	640.52	636.27	2.35	2.35	27.13	26.93	186.03	187.29	3.95	3.93	4.24	4.24

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	1.5-yr	1730.39	640.36	636.09	1.91	1.91	18.17	17.91	240.69	244.49	3.76	3.71	4.27	4.27
Dawson County	D4	RM 110.39	74780.03	1.5-yr	1730.39	640.28	635.96	1.64	1.63	13.46	12.51	293.1	317.06	3.61	3.35	4.32	4.32
Dawson County	D4	RM 110.17	74428.56	1.5-yr	1730.39	640.06	635.79	1.88	1.86	19.34	18.32	321.63	344.78	2.85	2.7	4.27	4.27
Dawson County	D4	RM 109.95	74074.87	1.5-yr	1730.39	639.9	635.62	1.65	1.64	13.73	12.91	297.98	318.55	3.53	3.32	4.28	4.28
Dawson County	D4	RM 109.75	73741.09	1.5-yr	1730.39	639.74	635.46	1.75	1.74	15.37	13.97	272.8	302.69	3.62	3.29	4.29	4.29
Dawson County	D4	RM 109.54	73418.83	1.5-yr	1730.39	639.61	635.3	1.68	1.66	14.24	12.79	287.56	324.55	3.57	3.21	4.31	4.31
Dawson County	D4	RM 109.37	73150.54	1.5-yr	1730.39	639.45	635.17	1.92	1.78	18.17	14.91	224.7	309.23	3.83	3.15	4.28	4.28
Dawson County	D4	RM 109.19	72864.56	1.5-yr	1730.39	639.32	635.03	1.88	1.85	17.35	15.11	238.65	279.79	3.85	3.35	4.29	4.29
Dawson County	D4	RM 109.04	72628	1.5-yr	1730.39	639.1	634.92	2.25	2.23	24.86	22.31	194.23	219.49	3.94	3.54	4.18	4.18
Dawson County	D4	RM 108.86	72339.73	1.5-yr	1730.39	639.04	634.77	1.66	1.62	14.11	13.33	287.17	331.53	3.4	3.22	4.26	4.26
Dawson County	D4	RM 108.70	72072.36	1.5-yr	1730.39	638.95	634.65	1.53	1.49	11.84	11.07	291.61	349.41	3.56	3.33	4.3	4.3
Dawson County	D4	RM 108.55	71827.97	1.5-yr	1730.39	638.87	634.53	1.48	1.48	11.33	11.24	343.64	346.35	3.39	3.37	4.34	4.34
Dawson County	D4	RM 108.40	71587.18	1.5-yr	1730.39	638.7	634.41	1.84	1.84	16.16	16.01	275.55	278.25	3.41	3.38	4.3	4.3
Dawson County	D4	RM 108.25	71345.86	1.5-yr	1730.39	638.6	634.29	1.76	1.76	13.21	13.08	344.09	347.88	2.86	2.83	4.3	4.3
Dawson County	D4	RM 108.12	71131.88	1.5-yr	1730.39	638.52	634.19	1.64	1.63	13.49	12.82	289.42	306.64	3.64	3.47	4.33	4.33
Dawson County	D4	RM 107.98	70905.01	1.5-yr	1730.39	638.38	634.08	1.86	1.86	17.27	16.55	245.46	257.09	3.78	3.62	4.3	4.3
Dawson County	D4	RM 107.82	70651.22	1.5-yr	1730.39	638.22	633.95	2.01	1.99	20.18	19.07	231.93	248.02	3.7	3.5	4.26	4.26
Dawson County	D4	RM 107.68	70418.24	1.5-yr	1730.39	638.08	633.84	2.06	2.01	20.95	18.84	219.72	251.2	3.8	3.43	4.24	4.24
Dawson County	D4	RM 107.50	70132.11	1.5-yr	1730.39	637.95	633.17	1.9	1.83	17.83	15.43	239.71	289.51	3.75	3.26	4.78	4.78
Dawson County	D4	RM 107.31	69834.56	1.5-yr	1730.39	637.78	633.23	1.94	1.91	19.31	17.98	264.38	288.55	3.36	3.14	4.55	4.55
Dawson County	D4	RM 107.13	69541.52	1.5-yr	1730.39	637.61	633.98	1.85	1.81	18.6	17.38	322.33	356.89	2.86	2.68	3.63	3.63
Dawson County	D5	RM 106.98	69305.02	1.5-yr	1733.22	637.51	634.16	1.53	1.5	13.05	12.73	421.85	450.93	2.62	2.57	3.35	3.35
Dawson County	D5	RM 106.85	69065.27	1.5-yr	1733.22	637.4	633.6	1.49	1.47	12.45	11.96	412.2	474.5	2.58	2.49	3.8	3.8
Dawson County	D5	RM 106.65	68764.02	1.5-yr	1733.22	637.18	632.98	1.79	1.74	15.73	14.85	328.97	390.01	2.69	2.55	4.2	4.2
Dawson County	D5	RM 106.47	68475.87	1.5-yr	1733.22	637	632.51	1.8	1.68	17.59	11.07	307.26	566.42	2.89	1.82	4.49	4.49
Dawson County	D5	RM 106.28	68173.97	1.5-yr	1733.22	636.73	631.71	2.17	1.93	23.58	15.22	204.05	383.34	3.63	2.35	5.02	5.02
Dawson County	D5	RM 106.10	67879.83	1.5-yr	1733.22	636.54	631.29	2.15	1.81	23.89	14.39	206.53	478.1	3.31	2	5.25	5.25
Dawson County	D5	RM 105.89	67550.49	1.5-yr	1733.22	636.36	631.76	1.94	1.67	19.59	12.32	226.74	512.54	3.2	2.02	4.6	4.6
Dawson County	D5	RM 105.74	67300.35	1.5-yr	1733.22	636.22	632.3	1.86	1.41	18.09	11.25	203.14	609.23	3.23	2.01	3.92	3.92
Dawson County	D5	RM 105.54	66973.54	1.5-yr	1733.22	635.93	632.17	2.25	1.78	26.86	15.04	147.79	573.14	3.08	1.73	3.76	3.76
Dawson County	D5	RM 105.30	66609.03	1.5-yr	1733.22	635.76	632.29	1.46	1.28	12.33	9.5	219.79	740.23	2.38	1.83	3.64	3.64
Dawson County	D5	RM 105.06	66212.24	1.5-yr	1733.22	635.61	631.19	1.55	1.47	13.93	12.12	181.11	799.14	2.38	2.07	4.42	4.42
Dawson County	D5	RM 104.89	65945.5	1.5-yr	1733.22	635.37	631.5	1.82	1.62	20.13	16.6	205.87	747.49	2.05	1.7	3.95	3.95
Dawson County	D5	RM 104.77	65742.33	1.5-yr	1733.22	635.21	631.67	1.8	1.57	17.54	10.25	125.62	712.02	2.88	1.69	4.5	4.5
Dawson County	D5	RM 104.64	65530.83	1.5-yr	1733.22	635.13	632.1	1.51	1.37	12.79	8.77	172.1	792.19	2.64	1.8	4.16	4.16
Dawson County	D5	RM 104.43	65180.62	1.5-yr	1733.22	635.01	631.56	1.16	1.07	8.51	6.76	361.11	1133.51	1.79	1.42	4.22	4.22
Dawson County	D5	RM 104.26	64906.83	1.5-yr	1733.22	634.91	631.59	1.05	0.98	6.56	5.15	218.58	1036.97	2.18	1.71	4.27	4.27
Dawson County	D5	RM 104.10	64643.2	1.5-yr	1733.22	634.79	630.81	1.22	1.24	8.12	5.9	150.64	694.18	2.76	2.02	4.35	4.35
Dawson County	D5	RM 103.95	64410.06	1.5-yr	1733.22	634.73	631.24	1.36	1.28	10.42	5.99	185.01	932.13	2.53	1.46	4.91	4.91
Dawson County	D5	RM 103.68	63957.56	1.5-yr	1733.22	634.6	629.68	1.52	1.26	12.53	5	188.7	1190.17	2.9	1.16	5.16	5.16
Dawson County	D5	RM 103.48	63615.6	1.5-yr	1733.22	634.5	630.4	1.64	1.36	14.02	6.99	152.55	790.06	3.26	1.62	4.99	4.99
Dawson County	D5	RM 103.26	63259.44	1.5-yr	1733.22	634.42	630.13	1.48	1.23	11.34	5.09	173.05	954.55	3.31	1.48	5.01	5.01
Dawson County	D5	RM 102.58	62131.5	1.5-yr	1733.22	634.23	629.72	1.31	1.18	8.93	5.59	178.73	708.03	3.3	2.07	4.55	4.55
Dawson County	D5	RM 102.44	61920.83	1.5-yr	1733.22	634.1	629.74	1.68	1.57	14.56	10.38	255.44	473.43	3.27	2.33	4.36	4.36
Dawson County	D5	RM 102.31	61720.14	1.5-yr	1733.22	633.95	629.03	2.03	1.83	21.32	12.34	200.53	491.92	3.31	1.93	4.92	4.92
Dawson County	D5	RM 102.15	61456.58	1.5-yr	1733.22	633.83	629.39	1.88	1.64	17.87	12.28	201.3	437.34	3.51	2.42	4.44	4.44
Dawson County	D5	RM 102.00	61217.89	1.5-yr	1733.22	633.73	629.48	1.66	1.52	14.74	11.07	267.9	507.97	2.97	2.25	4.25	4.25
Dawson County	D5	RM 101.84	60967.97	1.5-yr	1733.22	633.62	629.23	1.66	1.26	14.58	8.19	155.67	887.51	3.1	1.74	4.39	4.39
Dawson County	D5	RM 101.60	60582.61	1.5-yr	1733.22	633.47	628.87	1.38	1.26	10.24	8.23	336.08	574.9	2.98	2.4	4.6	4.6
Dawson County	D5	RM 101.45	60336.09	1.5-yr	1733.22	633.29	629.16	1.8	1.7	16.4	12.91	251.39	365.99	3.52	2.78	4.13	4.13
Dawson County	D5	RM 101.25	60019.5	1.5-yr	1733.22	633.09	627.81	1.99	1.9	19.69	16.16	209.15	295.19	3.75	3.09	5.28	5.28
Dawson County	D5	RM 101.09	59759.25	1.5-yr	1733.22	632.96	627.99	1.97	1.86	19.39	16.16	216.65	309.01	3.6	3.01	4.97	4.97
Dawson County	D5	RM 100.88	59426.42	1.5-yr	1733.22	632.81	627.86	1.9	1.65	17.86	10.8	196.58	459.95	3.78	2.29	4.95	4.95
Dawson County	D5	RM 100.67	59075.4	1.5-yr	1733.22	632.6	627.1	2.15	1.75	21.88	11.53	151.88	439.75	4.25	2.25	5.5	5.5
Dawson County	D5	RM 100.46	58743.44	1.5-yr	1733.22	632.52	627.92	1.66	1.36	13.63	6.9	202.94	674.98	3.73	1.89	4.6	4.6
Dawson County	D5	RM 100.25	58401.49	1.5-yr	1733.22	632.32	627.57	1.92	1.69	18.21	10.82	196.17	459.26	3.76	2.23	4.75	4.75
Dawson County	D5	RM 100.05	58077.55	1.5-yr	1733.22	632.18	626.86	1.86	1.64	17.07	11.87	176.97	398.23	3.82	2.65	5.32	5.32
Dawson County	D5	RM 99.87	57778.81	1.5-yr	1733.22	631.98	626.4	1.91	1.9	19.45	19.05	301.61	309.09	3.01	2.95	5.58	5.58
Dawson County	D5	RM 99.68	57474.16	1.5-yr	1733.22	631.83	626.29	1.8	1.73	15.9	12.93	246.92	318.15	3.85	3.14	5.54	5.54
Dawson County	D5	RM 99.49	57160.47	1.5-yr	1733.22	631.62	626.53	2.07	1.99	21.04	16.92	218.38	282.89	3.81	3.07	5.09	5.09

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	1.5-yr	1733.22	631.49	627.26	1.86	1.81	17.49	13.2	267.93	364.49	3.48	2.63	4.23	4.23
Dawson County	D5	RM 99.13	56566.63	1.5-yr	1733.22	631.37	626.77	1.71	1.62	14.99	9.89	293.66	476.13	3.4	2.24	4.6	4.6
Dawson County	D5	RM 98.92	56243.98	1.5-yr	1733.22	631.22	626.63	1.65	1.59	14.52	11.31	339.1	459.35	3.03	2.38	4.59	4.59
Dawson County	D5	RM 98.71	55911.87	1.5-yr	1733.22	631.01	626.34	1.82	1.76	17.95	13.74	322.21	445.54	2.89	2.22	4.67	4.67
Dawson County	D5	RM 98.57	55680.2	1.5-yr	1733.22	630.84	626.1	1.9	1.72	19.47	9.82	297.01	740.54	2.94	1.48	4.74	4.74
Dawson County	D5	RM 98.35	55325.95	1.5-yr	1733.22	630.59	625.91	2.05	1.83	20.81	8.99	216.82	588.88	3.74	1.61	4.68	4.68
Dawson County	D5	RM 98.19	55066.09	1.5-yr	1733.22	630.44	624.42	2.1	1.84	20.93	11.07	184	417.61	4.25	2.26	6.02	6.02
Dawson County	D5	RM 97.99	54752.97	1.5-yr	1733.22	630.28	625.04	2.03	1.87	20.81	12.33	236.53	438.42	3.56	2.11	5.24	5.24
Dawson County	D5	RM 97.84	54493.48	1.5-yr	1733.22	630.17	625.39	1.77	1.72	16.17	12.51	292.51	389.72	3.33	2.58	4.78	4.78
Dawson County	D5	RM 97.68	54241.32	1.5-yr	1733.22	630.02	624.99	1.82	1.63	18.3	13.27	340.05	542.81	2.71	1.97	5.03	5.03
Dawson County	D5	RM 97.48	53918.21	1.5-yr	1733.22	629.77	624.81	1.89	1.67	18.77	13.94	288.51	576.95	2.42	1.8	4.96	4.96
Dawson County	D5	RM 97.28	53585.68	1.5-yr	1733.22	629.55	625.86	1.66	1.59	15.58	11.38	328.8	669.42	2.5	1.83	4.1	4.1
Dawson County	D5	RM 97.08	53263.89	1.5-yr	1733.22	629.29	625.27	2	1.85	20.84	15.65	209.17	391.06	3.18	2.39	4.02	4.02
Dawson County	D5	RM 96.94	53030.11	1.5-yr	1733.22	629.07	623.97	2.22	2.04	26.16	17.7	199.17	413.73	3.03	2.06	5.1	5.1
Dawson County	D5	RM 96.77	52762.2	1.5-yr	1733.22	628.87	623.51	2.1	1.94	23.48	18.65	202.34	375.09	2.99	2.38	5.36	5.36
Dawson County	D5	RM 96.55	52403.59	1.5-yr	1733.22	628.56	624.57	2.35	1.91	28.6	14.43	160.42	552.27	3.25	1.65	3.99	3.99
Dawson County	D5	RM 96.35	52079.12	1.5-yr	1733.22	628.53	625.39	0.99	1.06	5.98	6.54	290.07	768.36	1.98	2.18	5.06	5.06
Dawson County	D5	RM 96.17	51777.74	1.5-yr	1733.22	628.28	624.71	1.87	1.79	19.53	16.96	130.42	418.38	2.65	2.32	3.9	3.9
Dawson County	D5	RM 96.00	51500.38	1.5-yr	1733.22	628.07	624.3	1.87	1.73	19.16	16.32	122.42	430	2.74	2.33	3.77	3.77
Dawson County	D5	RM 95.79	51156.87	1.5-yr	1733.22	627.92	624.35	1.32	1.37	10.27	9.82	284.94	553.34	2.39	2.29	3.67	3.67
Dawson County	D5	RM 95.60	50859.75	1.5-yr	1733.22	627.8	622.97	1.46	1.3	11.55	7.51	226.03	726.5	2.82	1.84	4.83	4.83
Dawson County	D5	RM 95.40	50547.92	1.5-yr	1733.22	627.7	623.13	1.26	1.15	8.62	5.4	377.96	831.1	2.89	1.82	4.57	4.57
Dawson County	D5	RM 95.21	50245.97	1.5-yr	1733.22	627.57	622.21	1.61	1.26	12.92	4.89	217.6	988.77	3.67	1.39	5.36	5.36
Dawson County	D5	RM 95.04	49971.19	1.5-yr	1733.22	627.38	621.68	2.1	1.69	22.55	8.9	167.77	759.23	3.41	1.35	5.7	5.7
Dawson County	D5	RM 94.88	49717.07	1.5-yr	1733.22	627.25	621.44	2.03	1.27	20.67	7.4	151.24	1107.55	3.57	1.28	5.81	5.81
Dawson County	D5	RM 94.71	49446.9	1.5-yr	1733.22	627.17	621.69	1.44	1.05	10.93	4.7	234.28	1220.44	3.15	1.35	5.49	5.49
Dawson County	D5	RM 94.58	49286.95	1.5-yr	1733.22	627.18	618.6	0.76	0.73	2.64	1.55	456.42	1040.08	4.93	2.9	8.59	8.59
Dawson County	D5	RM 94.57	49255.56	1.5-yr	1733.22	627.15	618.63	1.02	1.01	4.8	3.57	360.59	489.85	4.7	3.49	8.52	8.52
Dawson County	D5	RM 94.52	49157.18	1.5-yr	1733.22	627.05	620.89	1.63	1.53	13.19	6.94	286.23	588.09	3.69	1.93	6.16	6.16
Dawson County	D6	RM 94.42	48998.19	1.5-yr	1738.88	626.85	621.76	2.2	2.14	24.37	12.53	219.93	442.88	3.58	1.84	5.09	5.09
Dawson County	D6	RM 94.30	48806.79	1.5-yr	1738.88	626.69	621.22	2.2	2.18	26.63	18.88	286.51	409.46	2.75	1.95	5.47	5.47
Dawson County	D6	RM 94.20	48653.06	1.5-yr	1738.88	626.57	621.41	2.09	1.98	23.3	12.84	261.89	505.67	3.15	1.73	5.16	5.16
Dawson County	D6	RM 94.08	48445.46	1.5-yr	1738.88	626.54	622.37	1.51	1.46	11.75	9.33	338.07	442.4	3.38	2.68	4.17	4.17
Dawson County	D6	RM 93.96	48246.42	1.5-yr	1738.88	626.41	621.88	1.75	1.7	16.46	10.92	330.74	519.14	2.98	1.98	4.53	4.53
Dawson County	D6	RM 93.83	48030.25	1.5-yr	1738.88	626.23	620.28	2.03	1.83	20.81	9.67	237.8	574.82	3.55	1.65	5.95	5.95
Dawson County	D6	RM 93.68	47782.89	1.5-yr	1738.88	625.98	620.19	2.36	2.29	27.51	19.35	191.53	282.32	3.83	2.69	5.79	5.79
Dawson County	D6	RM 93.57	47606.95	1.5-yr	1738.88	625.75	620.08	2.64	2.58	35.05	23.99	184.03	275.16	3.58	2.45	5.67	5.67
Dawson County	D6	RM 93.53	47552.11	1.5-yr	1738.88	625.73	620.21	2.5	2.44	31	23.45	184.33	250.1	3.76	2.85	5.51	5.51
Dawson County	D6	RM 93.47	47460.74	1.5-yr	1738.88	625.67	618.63	2.4	2.36	28.56	23.74	189.97	233.46	3.8	3.16	7.04	7.04
Dawson County	D6	RM 93.43	47382.46	1.5-yr	1738.88	625.64	619.44	2.26	2.23	24.54	20.13	188.75	233	4.08	3.35	6.2	6.2
Dawson County	D6	RM 93.36	47287.92	1.5-yr	1738.88	625.63	620.47	1.99	1.95	19.01	12.73	213.34	326.11	4.1	2.74	5.16	5.16
Dawson County	D6	RM 93.25	47111.44	1.5-yr	1738.88	625.46	621.12	2.24	2.2	26.69	22.46	228.84	278.79	3.37	2.84	4.34	4.34
Dawson County	D6	RM 93.05	46807.77	1.5-yr	1738.88	625.33	621.74	1.81	1.65	17.03	10.53	283.11	522.19	3.27	2.02	3.59	3.59
Dawson County	D6	RM 92.93	46606.31	1.5-yr	1738.88	625.17	621.34	1.94	1.78	20.47	12.42	305.05	558.88	2.88	1.74	3.83	3.83
Dawson County	D6	RM 92.83	46460.06	1.5-yr	1738.88	625.03	621.02	2.07	1.96	20.87	14.78	319.48	486.53	2.58	1.83	4.01	4.01
Dawson County	D6	RM 92.71	46261.84	1.5-yr	1738.88	624.91	620.37	1.92	1.64	16.97	6.46	326.37	1048.34	2.66	1.01	4.54	4.54
Dawson County	D6	RM 92.59	46079.79	1.5-yr	1738.88	624.82	620.95	1.74	1.6	16.42	5.97	319.71	969.51	3.1	1.12	3.87	3.87
Dawson County	D6	RM 92.50	45933.81	1.5-yr	1738.88	624.69	620.75	1.91	1.9	19.92	16.39	320.05	392.9	2.84	2.33	3.94	3.94
Dawson County	D6	RM 92.39	45753.94	1.5-yr	1738.88	624.57	620.58	1.92	1.9	19.56	15.15	298.79	389.98	3.03	2.35	3.99	3.99
Dawson County	D6	RM 92.29	45591.17	1.5-yr	1738.88	624.47	620.64	1.9	1.84	19.04	14.99	293.88	387.96	3.09	2.43	3.83	3.83
Dawson County	D6	RM 92.18	45414.13	1.5-yr	1738.88	624.4	620.23	1.62	1.59	14.05	11.02	357.42	466.75	2.99	2.34	4.17	4.17
Dawson County	D6	RM 92.06	45238.47	1.5-yr	1738.88	624.3	620.12	1.71	1.6	15.93	10.8	354.46	568.39	2.82	1.91	4.18	4.18
Dawson County	D6	RM 91.99	45117.89	1.5-yr	1738.88	624.26	619.81	1.48	1.4	12.35	9.37	382.41	640.08	2.56	1.94	4.45	4.45
Dawson County	D6	RM 91.85	44886.16	1.5-yr	1738.88	624.2	619.7	1.27	1.15	9.62	5.83	238.88	772.74	3.22	1.95	4.5	4.5
Dawson County	D6	RM 91.77	44752.88	1.5-yr	1738.88	624.12	619.28	1.4	1.31	13.67	9.44	224.91	659.24	2.92	2.02	4.84	4.84
Dawson County	D6	RM 91.61	44507.01	1.5-yr	1738.88	623.98	619	1.68	1.45	13.93	9.32	148.19	470.87	3.8	2.55	4.98	4.98
Dawson County	D6	RM 91.45	44219.47	1.5-yr	1738.88	623.86	618.66	1.69	1.61	14.88	12.63	189.07	346.71	3.67	3.12	5.2	5.2
Dawson County	D6	RM 91.31	43987.79	1.5-yr	1738.88	623.69	618.98	1.92	1.91	18.98	17.83	271.16	289.59	3.34	3.14	4.71	4.71
Dawson County	D6	RM 91.11	43666.49	1.5-yr	1738.88	623.51	618.54	1.97	1.93	18.79	14.22	219.42	295.6	4.01	3.04	4.97	4.97
Dawson County	D6	RM 90.97	43442.55	1.5-yr	1738.88	623.38	618.3	2.05	1.97	20.81	14.72	224.14	331.38	3.76	2.67	5.08	5.08

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	1.5-yr	1738.88	623.17	618.97	1.96	1.93	24.5	20.72	267.39	328.57	3.31	2.8	4.2	4.2
Dawson County	D6	RM 90.59	42823.65	1.5-yr	1738.88	623.04	618.64	1.78	1.48	16.29	7.96	232.7	924.26	3.37	1.65	4.4	4.4
Dawson County	D6	RM 90.43	42564.46	1.5-yr	1738.88	622.74	618.18	2.34	2.14	28.58	20.69	208.77	345.79	3.23	2.35	4.56	4.56
Dawson County	D6	RM 90.29	42331.05	1.5-yr	1738.88	622.61	618.21	2	1.86	20.5	13.54	236.08	413.48	3.42	2.27	4.4	4.4
Dawson County	D6	RM 90.16	42118.24	1.5-yr	1738.88	622.47	618.54	2.05	1.84	21.49	13.58	229.61	440.07	3.41	2.16	3.93	3.93
Dawson County	D6	RM 89.96	41795.66	1.5-yr	1738.88	622.32	618.08	1.7	1.64	15.62	11.87	346.39	493.03	2.92	2.22	4.23	4.23
Dawson County	D6	RM 89.83	41589.45	1.5-yr	1738.88	622.03	617.17	2.36	2.22	28.39	18.92	211.95	342	3.42	2.29	4.86	4.86
Dawson County	D6	RM 89.65	41302.33	1.5-yr	1738.88	621.8	618.15	2.25	2.17	26.92	22.42	251.93	315.51	3.02	2.54	3.65	3.65
Dawson County	D6	RM 89.46	41003.8	1.5-yr	1738.88	621.65	617.56	1.93	1.87	18.55	15.62	236.74	293.11	3.75	3.17	4.08	4.08
Dawson County	D6	RM 89.29	40732.3	1.5-yr	1738.88	621.58	617.42	1.57	1.38	12.57	8.68	253.25	524.44	3.49	2.41	4.16	4.16
Dawson County	D6	RM 89.13	40476.68	1.5-yr	1738.88	621.41	617.29	1.85	1.76	17.18	14.09	231.92	333.37	3.63	2.97	4.13	4.13
Dawson County	D6	RM 88.96	40193.97	1.5-yr	1738.88	621.29	617.14	1.84	1.69	16.47	12.94	186.73	322.92	4.09	3.19	4.15	4.15
Dawson County	D7	RM 88.77	39887.75	1.5-yr	1738.88	621.11	616.98	1.93	1.84	19.04	15.06	260.04	371.07	3.38	2.67	4.13	4.13
Dawson County	D7	RM 88.58	39581.56	1.5-yr	1738.88	620.84	616.82	2.28	2.12	25.4	17.78	185.88	299.7	3.95	2.75	4.02	4.02
Dawson County	D7	RM 88.44	39345.29	1.5-yr	1738.88	620.68	616.7	2.28	2.13	25.54	18.99	181.67	310.58	3.98	2.94	3.98	3.98
Dawson County	D7	RM 88.25	39047.22	1.5-yr	1738.88	620.54	616.54	2.01	1.83	20.57	15.07	221.53	371.03	3.52	2.57	4	4
Dawson County	D7	RM 88.06	38736.32	1.5-yr	1738.88	620.4	616.38	1.72	1.67	15.32	13.34	305.89	363.76	3.28	2.86	4.02	4.02
Dawson County	D7	RM 87.87	38426.68	1.5-yr	1738.88	620.29	616.22	1.47	1.36	12.09	10.42	420.09	564.02	2.62	2.27	4.07	4.07
Dawson County	D7	RM 87.70	38161.81	1.5-yr	1738.88	620.19	616.08	1.58	1.22	12.2	6.7	181.73	647.85	4.1	2.21	4.11	4.11
Dawson County	D7	RM 87.52	37862.82	1.5-yr	1738.88	620.14	615.92	1.23	1.15	8.08	7.16	308.23	569.95	3.01	2.65	4.21	4.21
Dawson County	D7	RM 87.34	37574.69	1.5-yr	1738.88	619.93	615.85	1.84	1.7	17.89	13.32	253.88	442.98	3.12	2.31	4.09	4.09
Dawson County	D7	RM 87.17	37307.08	1.5-yr	1738.88	619.75	615.82	2.06	1.84	21.04	14.36	162.99	362.33	3.85	2.61	3.93	3.93
Dawson County	D7	RM 87.00	37023.47	1.5-yr	1738.88	619.62	615.79	1.81	1.73	17.21	15.53	241.45	354.98	3.14	2.83	3.83	3.83
Dawson County	D7	RM 86.82	36748.51	1.5-yr	1738.88	619.46	615.76	1.88	1.75	18.44	15.58	210.89	360.27	3.28	2.75	3.7	3.7
Dawson County	D7	RM 86.67	36501.76	1.5-yr	1738.88	619.19	615.73	2.43	2.07	30.42	20.81	151.26	361.75	3.46	2.32	3.47	3.47
Dawson County	D7	RM 86.52	36253.46	1.5-yr	1738.88	619.07	615.7	1.81	1.63	17.34	12.5	250.55	474.15	3.12	2.25	3.38	3.38
Dawson County	D7	RM 86.39	36046.31	1.5-yr	1738.88	618.92	615.59	2.02	1.69	21.84	13.89	147.45	533.58	3.07	1.92	3.33	3.33
Dawson County	D7	RM 86.24	35796.38	1.5-yr	1738.88	618.87	615.46	1.26	1.15	8.2	6.9	166.41	548.05	3.34	2.77	3.41	3.41
Dawson County	D7	RM 86.08	35541.56	1.5-yr	1738.88	618.55	615.48	2.28	2.15	28.41	23.61	158.68	344.76	2.85	2.34	3.08	3.08
Dawson County	D7	RM 85.91	35282.1	1.5-yr	1738.88	618.35	615.5	2.04	1.92	22.85	17.66	191.42	427.91	2.75	2.12	2.84	2.84
Dawson County	D7	RM 85.78	35075.01	1.5-yr	1738.88	618.33	614.9	1.2	1.14	8.12	7.42	288.53	792.39	2.51	2.29	3.43	3.43
Dawson County	D7	RM 85.59	34774.5	1.5-yr	1738.88	618.25	614.32	1.42	1.15	9.88	5.9	184.84	651.48	3.9	2.32	3.93	3.93
Dawson County	D7	RM 85.39	34449.3	1.5-yr	1738.88	618.06	614.15	1.86	1.7	17.68	13.53	219.47	382.61	3.5	2.67	3.91	3.91
Dawson County	D7	RM 85.23	34186.4	1.5-yr	1738.88	617.82	614.01	2.34	2.07	27.28	18.98	157.48	320.12	3.8	2.62	3.8	3.8
Dawson County	D7	RM 85.04	33863.7	1.5-yr	1738.88	617.7	613.84	1.77	1.6	16.76	11.53	265.03	529.56	2.99	2.05	3.85	3.85
Dawson County	D7	RM 84.89	33626.36	1.5-yr	1738.88	617.6	613.92	1.49	1.45	12.05	11.36	413.04	451.23	2.81	2.66	3.68	3.68
Dawson County	D7	RM 84.72	33349.5	1.5-yr	1738.88	617.45	613.77	1.62	1.61	13.91	13.69	353.9	360.99	3.04	2.99	3.68	3.68
Dawson County	D7	RM 84.57	33104.21	1.5-yr	1738.88	617.32	613.45	1.72	1.71	15.07	14.74	294.82	302.85	3.43	3.36	3.87	3.87
Dawson County	D7	RM 84.41	32856.7	1.5-yr	1738.88	617.21	613.32	1.69	1.68	14.9	14.03	312.69	336.18	3.27	3.08	3.89	3.89
Dawson County	D7	RM 84.22	32552.24	1.5-yr	1738.88	617.08	613.16	1.7	1.54	14.98	11.64	261.68	441.77	3.3	2.55	3.92	3.92
Dawson County	D7	RM 84.05	32270.74	1.5-yr	1738.88	616.91	613.14	1.87	1.67	17.66	13.52	206.16	381.32	3.56	2.73	3.78	3.78
Dawson County	D7	RM 83.89	32017.88	1.5-yr	1738.88	616.72	613.11	2.06	1.91	21.59	15.99	191.2	347.92	3.53	2.61	3.61	3.61
Dawson County	D7	RM 83.73	31759.16	1.5-yr	1738.88	616.59	613.07	1.82	1.62	17.42	11.84	240.43	509.73	3.12	2.11	3.52	3.52
Dawson County	D7	RM 83.53	31426.04	1.5-yr	1738.88	616.49	613.01	1.41	1.29	10.51	8.35	304.34	545.77	3.11	2.47	3.48	3.48
Dawson County	D7	RM 83.39	31213.34	1.5-yr	1738.88	616.4	612.95	1.6	1.41	13.32	9.51	189.12	537.91	3.24	2.29	3.45	3.45
Dawson County	D7	RM 83.21	30910.79	1.5-yr	1738.88	616.29	612.91	1.47	1.28	11.22	7.8	170.07	590.12	3.35	2.3	3.51	3.51
Dawson County	D7	RM 83.05	30660.14	1.5-yr	1738.88	616.21	612.78	1.34	1.22	9.28	7.02	229.1	580.31	3.24	2.46	3.75	3.75
Dawson County	D7	RM 82.94	30491.79	1.5-yr	1738.88	616.15	612.69	1.35	1.28	9.5	7.57	219.21	532.43	3.2	2.55	3.76	3.76
Dawson County	D7	RM 82.81	30280.45	1.5-yr	1738.88	616.03	612.58	1.51	1.46	12.13	9.46	178.49	506	3.03	2.36	3.88	3.88
Dawson County	D7	RM 82.68	30058.39	1.5-yr	1738.88	615.94	612.34	1.62	1.44	13.24	8.56	152.77	525.36	3.6	2.3	3.84	3.84
Dawson County	D7	RM 82.51	29786.14	1.5-yr	1738.88	615.91	612.1	1.17	1.09	7.01	4.66	229.35	694.18	3.48	2.3	4.06	4.06
Dawson County	D7	RM 82.33	29497.12	1.5-yr	1738.88	615.85	611.87	1.25	1.05	7.91	3.76	246.87	981.29	3.62	1.69	4.1	4.1
Dawson County	D7	RM 82.22	29323.27	1.5-yr	1738.88	615.76	611.66	1.57	1.17	12.28	4.41	193.52	1112.38	3.74	1.33	4.11	4.11
Dawson County	D7	RM 82.06	29049.94	1.5-yr	1738.88	615.7	611.37	1.43	1.1	10.03	3.95	202.97	1029.21	4	1.54	4.34	4.34
Dawson County	D7	RM 81.91	28820.21	1.5-yr	1738.88	615.66	611.21	1.39	1.08	9.23	4.56	191.58	762.92	4.33	2.11	4.45	4.45
Dawson County	D7	RM 81.71	28446.75	1.5-yr	1738.88	615.61	611.02	1.14	0.95	6.13	3.48	220.81	730.95	4.39	2.49	4.59	4.59
Dawson County	D7	RM 81.49	28026.4	1.5-yr	1738.88	615.35	610.8	2.11	1.86	20.92	12.87	165.37	337.58	4.54	2.77	4.55	4.55
Dawson County	D7	RM 81.31	27735.46	1.5-yr	1738.88	614.77	610.65	3.25	3.21	51.6	43.08	131.98	160.98	4.04	3.37	4.12	4.12
Dawson County	D8	RM 81.10	27398.33	1.5-yr	1738.88	614.5	610.47	2.74	2.58	36.89	27.32	160.09	232.66	3.93	2.9	4.02	4.02
Dawson County	D8	RM 80.94	27148.21	1.5-yr	1738.88	614.44	610.34	2	1.99	19.75	17.85	225.85	251.13	3.84	3.48	4.1	4.1

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	1.5-yr	1738.88	614.38	610.19	1.67	1.43	13.44	7.89	181.68	503	4.18	2.41	4.19	4.19
Dawson County	D8	RM 80.64	26669.58	1.5-yr	1738.88	614.29	610.09	1.72	1.6	14.43	10.45	209.02	379.94	3.96	2.86	4.2	4.2
Dawson County	D8	RM 80.45	26373.01	1.5-yr	1738.88	614.26	609.94	1.34	1.03	8.71	4.81	122.91	938.96	4.19	2.24	4.33	4.33
Dawson County	D8	RM 80.17	25926.88	1.5-yr	1738.88	614.11	609.71	1.78	1.41	14.99	8.08	146.98	531.92	4.4	2.31	4.4	4.4
Dawson County	D8	RM 79.91	25496.94	1.5-yr	1738.88	614.01	609.42	1.3	1.27	8.41	6.53	362.06	476.56	3.69	2.86	4.6	4.6
Dawson County	D8	RM 79.43	24626.85	1.5-yr	1738.88	613.78	609.14	1.45	1.4	10.06	7.51	289.02	403.65	4.14	3.09	4.64	4.64
Dawson County	D8	RM 79.23	24229.4	1.5-yr	1738.88	613.46	608.87	2.29	2.28	24.92	23.9	173.45	181.33	4.38	4.2	4.59	4.59
Dawson County	D8	RM 78.27	22640.58	1.5-yr	1738.88	612.61	608.6	1.92	1.6	18.82	11.45	226.68	516.32	3.49	2.1	4.01	4.01
Dawson County	D8	RM 78.12	22398.86	1.5-yr	1738.88	612.52	608.48	1.78	1.52	16.16	10.89	222.94	486.39	3.5	2.34	4.04	4.04
Dawson County	D8	RM 77.97	22135.34	1.5-yr	1738.88	612.4	608.34	1.8	1.61	15.96	9.83	214.67	456.99	3.84	2.36	4.06	4.06
Dawson County	D8	RM 77.79	21831.85	1.5-yr	1738.88	612.29	608.18	1.62	1.5	14.51	11.47	332.46	534.82	2.74	2.17	4.1	4.1
Dawson County	D8	RM 77.57	21474.71	1.5-yr	1738.88	612.09	608	1.77	1.68	15.61	12.89	250.08	337.95	3.71	3.06	4.09	4.09
Dawson County	D8	RM 77.38	21170.35	1.5-yr	1738.88	611.9	607.84	1.99	1.88	19.6	15.96	215.18	299.79	3.79	3.09	4.06	4.06
Dawson County	D8	RM 77.13	20780.17	1.5-yr	1738.88	611.83	607.63	1.51	1.28	11.35	7.86	188.55	520.23	3.82	2.62	4.19	4.19
Dawson County	D8	RM 77.00	20442.34	1.5-yr	1738.88	611.69	607.46	1.84	1.5	16.38	8.68	131.83	538.2	4.22	2.16	4.23	4.23
Dawson County	D8	RM 76.90	20124.49	1.5-yr	1738.88	611.61	607.29	1.63	1.41	12.75	8.86	153.24	424.24	4.31	2.92	4.32	4.32
Dawson County	D8	RM 76.76	19785.25	1.5-yr	1738.88	611.56	607.12	1.27	1.19	7.83	6.56	269.03	437.31	4	3.35	4.44	4.44
Dawson County	D8	RM 76.63	19501.04	1.5-yr	1738.88	611.47	606.97	1.42	1.34	10.33	8.93	246.86	427.69	3.53	3.03	4.5	4.5
Dawson County	D8	RM 76.37	19137.53	1.5-yr	1738.88	611.33	606.78	1.57	1.52	11.87	8.63	272.76	387.15	4.06	2.95	4.55	4.55
Dawson County	D8	RM 76.22	18884.28	1.5-yr	1738.88	611.24	606.65	1.62	1.59	12.57	10.94	253.7	298.57	4.21	3.67	4.59	4.59
Dawson County	D8	RM 76.00	18519.22	1.5-yr	1738.88	611.05	606.61	1.9	1.83	17.49	13.59	225.2	301.99	4.04	3.14	4.44	4.44
Dawson County	D8	RM 75.75	18119.45	1.5-yr	1738.88	610.81	606.58	2.1	2.03	21.58	16.14	209.51	292.28	3.93	2.93	4.23	4.23
Dawson County	D8	RM 75.56	17818.36	1.5-yr	1738.88	610.69	606.75	1.78	1.75	16.53	13.24	303.99	385.42	3.21	2.57	3.94	3.94
Dawson County	D8	RM 75.31	17411.3	1.5-yr	1738.88	610.53	606.34	1.64	1.59	13.46	11.6	263.12	339.4	3.72	3.22	4.19	4.19
Dawson County	D8	RM 75.13	17092.44	1.5-yr	1738.88	610.41	606.17	1.59	1.5	12.81	8.54	306.22	491	3.53	2.35	4.24	4.24
Dawson County	D8	RM 74.90	16719.46	1.5-yr	1738.88	610.13	605.98	2.1	1.98	22.13	15.01	224.87	356.81	3.64	2.46	4.15	4.15
Dawson County	D8	RM 74.65	16308.2	1.5-yr	1738.88	609.99	605.91	1.66	1.5	13.92	9.82	267.86	456.48	3.6	2.54	4.08	4.08
Dawson County	D8	RM 74.37	15846.14	1.5-yr	1738.88	609.71	605.85	1.99	1.71	20.7	13.88	221.55	469.33	3.23	2.16	3.86	3.86
Dawson County	D8	RM 74.13	15464.97	1.5-yr	1738.88	609.53	605.82	1.72	1.54	15.26	11.18	235.57	464.97	3.33	2.43	3.71	3.71
Dawson County	D8	RM 73.91	15098.01	1.5-yr	1738.88	609.38	605.99	1.51	1.37	12.17	8.68	283.69	598.35	2.96	2.12	3.39	3.39
Dawson County	D8	RM 73.71	14783.86	1.5-yr	1738.88	609.26	605.87	1.43	1.34	10.99	8.53	292.2	581.05	3.01	2.33	3.39	3.39
Dawson County	D8	RM 73.53	14496.67	1.5-yr	1738.88	609.15	605.72	1.47	1.36	11.41	8.46	249.62	989.6	3.16	2.34	3.43	3.43
Dawson County	D8	RM 73.29	14096.19	1.5-yr	1738.88	608.72	605.51	2.46	2.26	31.92	21.76	198.62	362.93	3.11	2.12	3.21	3.21
Dawson County	D8	RM 73.07	13729.79	1.5-yr	1738.88	608.12	605.52	2.81	2.73	44.73	38.24	196.15	294.17	2.53	2.17	2.87	2.87
Dawson County	D8	RM 72.83	13354.45	1.5-yr	1738.88	607.71	604.9	2.14	2.07	25.8	22.4	264.25	376.97	2.57	2.23	2.81	2.81
Dawson County	D8	RM 72.62	13000.82	1.5-yr	1738.88	607.42	604.4	1.94	1.85	20.49	17.3	295.23	397.56	2.79	2.36	3.03	3.03
Dawson County	D8	RM 72.37	12609.05	1.5-yr	1738.88	607.06	603.89	2.18	1.95	25.43	17.41	228.58	437.67	2.98	2.03	3.17	3.17
Dawson County	D8	RM 72.16	12261.75	1.5-yr	1738.88	606.76	603.69	2.08	1.98	23.56	18.68	286.3	419.95	2.79	2.22	3.08	3.08
Dawson County	D8	RM 71.92	11875.08	1.5-yr	1738.88	606.55	603.18	1.67	1.62	15.21	13.31	342.49	427.78	2.86	2.51	3.37	3.37
Dawson County	D8	RM 71.69	11512.65	1.5-yr	1738.88	606.32	602.95	1.82	1.75	17.84	14.78	303.44	403.41	2.97	2.47	3.37	3.37
Dawson County	D8	RM 71.49	11192.6	1.5-yr	1738.88	606.15	602.03	1.82	1.72	16.32	12.1	237.66	359.45	3.79	2.82	4.12	4.12
Dawson County	D8	RM 71.31	10913.3	1.5-yr	1738.88	606.02	601.99	1.82	1.7	16.51	12.55	244.59	368.63	3.65	2.78	4.04	4.04
Dawson County	D9	RM 71.10	10567.75	1.5-yr	1738.88	605.9	602.11	1.64	1.46	14.05	10.6	197.48	485.25	3.28	2.46	3.79	3.79
Dawson County	D9	RM 70.91	10267.7	1.5-yr	1738.88	605.71	602.05	1.91	1.7	18.54	12.54	126.11	426.9	3.59	2.4	3.67	3.67
Dawson County	D9	RM 70.72	9968.939	1.5-yr	1738.88	605.58	601.91	1.86	1.65	17.53	12.17	153.19	424.58	3.66	2.49	3.67	3.67
Dawson County	D9	RM 70.50	9603.574	1.5-yr	1738.88	605.44	601.9	1.63	1.5	14.05	11.34	251.24	458.37	3.15	2.54	3.54	3.54
Dawson County	D9	RM 70.27	9238.535	1.5-yr	1738.88	605.17	601.31	2.01	1.94	20.33	17.42	236.79	295.31	3.54	3.04	3.85	3.85
Dawson County	D9	RM 70.08	8928.013	1.5-yr	1738.88	605.01	600.85	1.9	1.79	18.14	14.02	234.44	342.82	3.67	2.83	4.16	4.16
Dawson County	D9	RM 69.79	8464.726	1.5-yr	1738.88	604.85	600.61	1.66	1.46	13.62	9.51	248.41	450.37	3.78	2.64	4.24	4.24
Dawson County	D9	RM 69.50	7983.226	1.5-yr	1738.88	604.68	600.56	1.7	1.51	14.48	9.4	237.14	495.38	3.61	2.33	4.12	4.12
Dawson County	D9	RM 69.26	7575.04	1.5-yr	1738.88	604.51	600.35	1.72	1.5	14.71	8.12	245.78	569.91	3.71	2.04	4.17	4.17
Dawson County	D9	RM 69.03	7206.967	1.5-yr	1738.88	604.41	599.95	1.58	1.31	11.97	7.65	236.36	508.97	4.1	2.61	4.45	4.45
Dawson County	D9	RM 68.82	6851.789	1.5-yr	1738.88	604.21	599.77	1.88	1.74	17.39	11.86	217.59	380.11	3.88	2.63	4.44	4.44
Dawson County	D9	RM 68.60	6509.797	1.5-yr	1738.88	603.97	599.59	2.15	2.08	22.08	18.39	189.13	237.37	4.25	3.53	4.38	4.38
Dawson County	D9	RM 68.39	6158.879	1.5-yr	1738.88	603.81	599.51	1.93	1.89	18.72	17.45	241.73	267	3.68	3.44	4.3	4.3
Dawson County	D9	RM 68.11	5709.195	1.5-yr	1738.88	603.6	599.37	1.82	1.77	16.73	14.57	262.72	314.21	3.59	3.13	4.23	4.23
Dawson County	D9	RM 67.86	5308.187	1.5-yr	1738.88	603.39	599.17	2.03	1.83	20.12	14.39	130.41	335.11	4.05	2.84	4.22	4.22
Dawson County	D10	RM 67.57	4859.184	1.5-yr	1738.88	603.21	598.93	1.73	1.63	14.61	12.04	240.29	329.14	3.93	3.24	4.28	4.28
Dawson County	D10	RM 67.37	4523.862	1.5-yr	1738.88	603.08	598.75	1.73	1.55	14.6	10.49	224.36	400.59	3.92	2.81	4.33	4.33
Dawson County	D10	RM 67.15	4175.103	1.5-yr	1738.88	602.77	598.47	2.38	2.15	27.51	19.1	158.11	286.65	4.09	2.82	4.3	4.3

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

1.5-yr

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	1.5-yr	1738.88	602.63	598.2	1.98	1.67	19.81	11.29	211.57	514.69	3.56	2.02	4.43	4.43
Dawson County	D10	RM 66.74	3505.323	1.5-yr	1738.88	602.47	598.12	1.91	1.64	17.44	10.76	189.78	411.24	4.21	2.58	4.35	4.35
Dawson County	D10	RM 66.52	3142.889	1.5-yr	1738.88	602.31	598.26	1.82	1.7	16.46	13.49	249	333.93	3.73	3.07	4.06	4.06
Dawson County	D10	RM 66.28	2774.58	1.5-yr	1738.88	602	598.21	2.28	2.12	26.37	20.72	206.17	293.53	3.54	2.79	3.79	3.79
Dawson County	D10	RM 66.11	2492.331	1.5-yr	1738.88	601.87	597.8	1.87	1.78	18.13	15.23	269.84	347.28	3.34	2.81	4.08	4.08
Dawson County	D10	RM 65.90	2160.839	1.5-yr	1738.88	601.74	597.33	1.73	1.57	14.82	10.46	227.64	413.26	3.82	2.69	4.42	4.42
Dawson County	D10	RM 65.75	1926.044	1.5-yr	1738.88	601.63	597.2	1.78	1.56	16.44	12.23	203.78	446.66	3.37	2.49	4.43	4.43
Dawson County	D10	RM 65.60	1669.095	1.5-yr	1738.88	601.48	597.07	1.99	1.63	19.15	10.52	140.14	471.09	4.17	2.26	4.41	4.41
Dawson County	D10	RM 65.42	1386.836	1.5-yr	1738.88	601.42	596.92	1.45	1.31	10.19	7.49	247.82	447.85	4.04	2.96	4.5	4.5
Dawson County	D10	RM 65.23	1090.639	1.5-yr	1738.88	601.28	596.91	1.68	1.51	15.14	10.66	263.18	562.55	3.01	2.11	4.38	4.38
Dawson County	D10	RM 64.96	634.963	1.5-yr	1738.88	601.13	597.09	1.46	1.16	10.78	5.53	270.22	965.16	3.52	1.81	4.04	4.04

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	1.5-yr	1738.7	600.98	596.42	1.13	0.99	6.85	4.93	398.12	851.61	3.02	2.17	4.56	4.56
Richland/McKenzie County	D10	RM 64.32	103200	1.5-yr	1738.7	600.85	596.33	1.59	1.27	12.65	4.5	232.97	1106.62	3.67	1.3	4.52	4.52
Richland/McKenzie County	D10	RM 64.12	102900	1.5-yr	1738.7	600.8	596.18	1.25	1.09	8.1	4.61	280.77	925.97	3.27	1.85	4.62	4.62
Richland/McKenzie County	D10	RM 63.92	102601	1.5-yr	1738.7	600.75	596.08	1.23	0.94	7.96	4.35	273.11	1127.31	3.13	1.69	4.67	4.67
Richland/McKenzie County	D10	RM 63.74	102302	1.5-yr	1738.7	600.68	595.94	1.28	1.04	8.32	4.28	254.65	978.62	3.53	1.8	4.74	4.74
Richland/McKenzie County	D10	RM 63.55	101998	1.5-yr	1738.7	600.61	595.79	1.35	1.03	8.66	2.81	210.36	1254.22	4.36	1.4	4.82	4.82
Richland/McKenzie County	D10	RM 63.34	101671	1.5-yr	1738.7	600.54	595.21	1.42	0.98	10.13	3.5	241.49	1435.9	3.59	1.23	5.33	5.33
Richland/McKenzie County	D10	RM 63.08	101293	1.5-yr	1738.7	600.05	595.12	2.74	2.07	37.27	13.58	159.68	655.42	3.78	1.36	4.93	4.93
Richland/McKenzie County	D10	RM 62.96	101094	1.5-yr	1738.7	599.86	595.12	2.69	2.19	43.64	17.4	147.7	484.41	4.18	1.64	4.74	4.74
Richland/McKenzie County	D10	RM 62.83	100882	1.5-yr	1738.7	599.73	595.12	2.38	1.94	30.35	16.54	161.51	386.68	4.29	2.31	4.61	4.61
Richland/McKenzie County	D10	RM 62.64	100582	1.5-yr	1738.7	599.61	595.12	2.03	1.65	19.83	10.86	189.94	462.8	4.21	2.28	4.49	4.49
Richland/McKenzie County	D10	RM 62.46	100282	1.5-yr	1738.7	599.26	595.1	2.67	2.23	35.22	22.64	158.67	315.89	3.88	2.47	4.16	4.16
Richland/McKenzie County	D10	RM 62.27	99977	1.5-yr	1738.7	599.28	594.91	1.47	1.34	10.76	8.6	301.43	434.68	3.75	2.99	4.37	4.37
Richland/McKenzie County	D10	RM 62.1	99691	1.5-yr	1738.7	599.18	594.75	1.46	1.32	10.49	7.2	273.91	659.26	2.91	1.99	4.43	4.43
Richland/McKenzie County	D10	RM 61.91	99377	1.5-yr	1738.7	599	594.51	1.72	1.36	14.3	7.77	164.84	722.49	3.29	1.77	4.49	4.49
Richland/McKenzie County	D10	RM 61.72	99082	1.5-yr	1738.7	598.86	594.36	1.72	1.47	14.64	9.69	127.17	469.34	3.88	2.53	4.5	4.5
Richland/McKenzie County	D10	RM 61.54	98782	1.5-yr	1738.7	598.67	594.36	1.89	1.76	16.83	12.67	227.93	342.05	3.84	2.88	4.31	4.31
Richland/McKenzie County	D10	RM 61.35	98482	1.5-yr	1738.7	598.52	594.26	1.95	1.73	18.67	12.68	213.97	386.56	3.85	2.6	4.26	4.26
Richland/McKenzie County	D10	RM 61.16	98182	1.5-yr	1738.7	598.45	594.17	1.56	1.26	12.41	7.7	248.77	649.85	3.44	2.12	4.28	4.28
Richland/McKenzie County	D10	RM 60.99	97906	1.5-yr	1738.7	598.34	594.02	1.61	1.4	12.79	7.15	216.46	571.3	3.9	2.17	4.32	4.32
Richland/McKenzie County	D10	RM 60.79	97582	1.5-yr	1738.7	598.18	593.78	1.81	1.47	17.36	8.17	224.25	816.73	3.14	1.47	4.4	4.4
Richland/McKenzie County	D10	RM 60.64	97339	1.5-yr	1738.7	598.16	593.58	1.11	0.92	6.69	4.09	265.35	1078.42	2.95	1.79	4.58	4.58
Richland/McKenzie County	D10	RM 60.42	96982	1.5-yr	1738.7	598.04	593.38	1.4	1.21	9.5	6.14	215.62	615.34	3.72	2.39	4.66	4.66
Richland/McKenzie County	D10	RM 60.25	96700	1.5-yr	1738.7	597.89	593.24	1.88	1.55	18.68	11.36	192.2	618.02	3.11	1.87	4.65	4.65
Richland/McKenzie County	D10	RM 60.04	96365	1.5-yr	1738.7	597.68	593.14	1.94	1.7	21.32	15.12	226.25	789.26	2.52	1.77	4.54	4.54
Richland/McKenzie County	D10	RM 59.86	96088	1.5-yr	1738.7	597.55	592.99	1.85	1.48	16.58	6.88	170.18	1132.72	4.14	1.69	4.56	4.56
Richland/McKenzie County	D10	RM 59.65	95769	1.5-yr	1738.7	597.49	592.85	1.57	1.3	12.38	6.81	207.05	1450.25	3.59	1.95	4.64	4.64
Richland/McKenzie County	D10	RM 59.5	95530	1.5-yr	1738.7	597.4	592.75	1.57	1.29	12.92	8.88	206.9	874.91	3.23	2.2	4.65	4.65
Richland/McKenzie County	D10	RM 59.29	95183	1.5-yr	1738.7	597.27	592.55	1.45	1.32	10.98	7.98	232.08	743.94	3.28	2.37	4.72	4.72
Richland/McKenzie County	D10	RM 59.07	94797	1.5-yr	1738.7	597.16	592.36	1.29	1.21	9.55	7.7	407.8	708.06	3.04	2.45	4.8	4.8
Richland/McKenzie County	D10	RM 58.93	94582	1.5-yr	1738.7	597.03	592.31	1.6	1.53	13.25	10.06	327.28	525.27	3.31	2.5	4.72	4.72
Richland/McKenzie County	D10	RM 58.75	94282	1.5-yr	1738.7	596.92	592.28	1.64	1.56	12.11	8.66	264.72	468.49	3.99	2.84	4.64	4.64
Richland/McKenzie County	D10	RM 58.56	93982	1.5-yr	1738.7	596.51	592.22	2.72	2.49	36.15	21.12	157.23	338.1	4.01	2.32	4.29	4.29
Richland/McKenzie County	D10	RM 58.37	93682	1.5-yr	1738.7	596.29	592.22	2.45	2.41	29.83	26.48	185.87	232.65	3.81	3.37	4.07	4.07
Richland/McKenzie County	D10	RM 58.19	93382	1.5-yr	1738.7	596.22	592.22	1.78	1.78	15.65	15.63	254.08	553.6	3.84	3.84	4	4
Richland/McKenzie County	D10	RM 58.01	93086	1.5-yr	1738.7	596.03	592.14	2.02	2.02	20.38	20.38	232.65	292.04	3.7	3.7	3.89	3.89
Richland/McKenzie County	D10	RM 57.82	92782	1.5-yr	1738.7	595.93	592.11	1.57	1.49	13.3	12.1	307.17	476.87	2.9	2.64	3.82	3.82
Richland/McKenzie County	D10	RM 57.63	92482	1.5-yr	1738.7	595.72	592.11	2.07	1.78	22.27	13.83	160.84	520.58	3.31	2.04	3.61	3.61
Richland/McKenzie County	D10	RM 57.46	92205	1.5-yr	1738.7	595.6	591.95	1.62	1.36	13.48	7.66	192.28	776.76	3.36	1.9	3.65	3.65
Richland/McKenzie County	D10	RM 57.26	91882	1.5-yr	1738.7	595.3	591.9	1.99	1.83	21.87	18.23	136.34	419.79	2.73	2.26	3.4	3.4
Richland/McKenzie County	D10	RM 57.07	91583	1.5-yr	1738.7	595.19	591.73	1.69	1.44	15	9.59	136.03	625.92	3.25	2.05	3.46	3.46
Richland/McKenzie County	D10	RM 56.87	91253	1.5-yr	1738.7	595	591.49	1.48	1.3	12.11	9.05	186.15	666.98	2.7	2	3.57	3.57
Richland/McKenzie County	D10	RM 56.68	90943	1.5-yr	1738.7	594.91	591.12	1.17	1.2	7.75	7.17	299.58	635.97	2.47	2.28	3.79	3.79
Richland/McKenzie County	D10	RM 56.54	90682	1.5-yr	1738.7	594.7	590.76	1.47	1.81	12.06	15.1	216.14	384.33	2	2.5	3.98	3.98
Richland/McKenzie County	D10	RM 56.35	90387	1.5-yr	1738.7	594.58	590.46	1.47	1.54	11.85	12.21	174.85	396.56	2.77	2.84	4.12	4.12
Richland/McKenzie County	D11	RM 56.16	90086	1.5-yr	1738.7	594.33	590.11	2.08	2.08	21.33	21.31	218.44	218.66	3.83	3.83	4.22	4.22
Richland/McKenzie County	D11	RM 55.96	89768	1.5-yr	1738.7	594.18	589.96	1.94	1.84	18.23	14.82	220	288.41	4.03	3.28	4.22	4.22
Richland/McKenzie County	D11	RM 55.78	89479	1.5-yr	1738.7	594.08	589.96	1.82	1.57	16.43	9.81	216.69	494.07	3.8	2.27	4.12	4.12
Richland/McKenzie County	D11	RM 55.61	89193	1.5-yr	1738.7	593.94	589.98	1.83	1.64	16.61	10.42	222.22	458.66	3.74	2.34	3.96	3.96
Richland/McKenzie County	D11	RM 55.41	88882	1.5-yr	1738.7	593.75	589.76	2.01	1.63	20.67	10.43	203.81	618.82	3.46	1.74	3.99	3.99
Richland/McKenzie County	D11	RM 55.23	88582	1.5-yr	1738.7	593.64	589.53	1.68	1.39	13.85	8.19	236.18	551.5	3.95	2.32	4.11	4.11
Richland/McKenzie County	D11	RM 55.04	88282	1.5-yr	1738.7	593.49	589.39	1.83	1.52	17.21	10.67	252.08	548.69	3.44	2.13	4.1	4.1
Richland/McKenzie County	D11	RM 54.86	87996	1.5-yr	1738.7	593.17	589.33	2.37	2.09	30.3	21.28	222.03	412.53	2.94	2.06	3.84	3.84
Richland/McKenzie County	D11	RM 54.69	87715	1.5-yr	1738.7	593.1	589.23	1.65	1.38	14.24	10.42	187.33	550.81	3.24	2.36	3.87	3.87
Richland/McKenzie County	D11	RM 54.48	87382	1.5-yr	1738.7	592.96	589.15	1.55	1.18	12.39	6.78	179.08	848.54	3.33	1.8	3.81	3.81
Richland/McKenzie County	D11	RM 54.32	87122	1.5-yr	1738.7	592.84	589	1.67	1.26	14.02	6.57	159.57	904.68	3.7	1.7	3.84	3.84
Richland/McKenzie County	D11	RM 54.1	86783	1.5-yr	1738.7	592.75	588.83	1.37	1.12	9.37	5.73	200.58	841.72	3.8	2.3	3.92	3.92
Richland/McKenzie County	D11	RM 53.92	86482	1.5-yr	1738.7	592.67	588.68	1.29	1.12	8.61	5.96	253.5	875.36	3.3	2.26	3.99	3.99
Richland/McKenzie County	D11	RM 53.73	86182	1.5-yr	1738.7	592.59	588.51	1.44	1.15	10.22	5.34	196.75	928.85	3.86	1.99	4.08	4.08
Richland/McKenzie County	D11	RM 53.55	85882	1.5-yr	1738.7	592.48	588.37	1.45	1.24	10.45	7.67	181.72	743.21	3.76	2.74	4.11	4.11
Richland/McKenzie County	D11	RM 53.36	85582	1.5-yr	1738.7	592.35	588.01	1.53	1.5	12.23	11.5	166.55	555.2	3.29	3.1	4.34	4.34

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	1.5-yr	1738.7	592.15	587.56	2.01	1.88	19.42	16.22	204.17	473.26	4.14	3.49	4.59	4.59
Richland/McKenzie County	D11	RM 52.98	84982	1.5-yr	1738.7	591.8	587.56	2.47	2.32	34.69	31.65	270.27	1328.7	2.53	2.32	4.24	4.24
Richland/McKenzie County	D11	RM 52.79	84682	1.5-yr	1738.7	591.48	587.56	2.04	2.03	24.57	22.64	386.26	1349.29	2.21	2.04	3.92	3.92
Richland/McKenzie County	D11	RM 52.61	84390	1.5-yr	1738.7	591.4	587.43	1.32	1.27	9.4	7.87	449.5	1237.23	2.9	2.43	3.97	3.97
Richland/McKenzie County	D11	RM 52.42	84082	1.5-yr	1738.7	591.29	587.28	1.39	1.23	11.08	7.69	409.11	1608.4	2.46	1.7	4.01	4.01
Richland/McKenzie County	D11	RM 52.24	83798	1.5-yr	1738.7	591.12	587.28	1.78	1.26	16.95	8.23	227.41	1981.35	3.04	1.46	3.84	3.84
Richland/McKenzie County	D11	RM 52.01	83423	1.5-yr	1738.7	590.89	587.23	1.81	1.61	16.74	8.64	124.2	1139.05	3.47	1.75	3.66	3.66
Richland/McKenzie County	D11	RM 51.87	83182	1.5-yr	1738.7	590.79	587.16	1.45	1.29	12.41	7.45	155.33	1029.97	2.26	1.34	3.63	3.63
Richland/McKenzie County	D11	RM 51.69	82882	1.5-yr	1738.7	590.65	587.16	1.46	1.15	10.9	5.34	147.45	1220.3	2.78	1.34	3.49	3.49
Richland/McKenzie County	D11	RM 51.51	82585	1.5-yr	1738.7	590.55	587.16	1.51	1.36	13.21	7.61	147.96	949.88	2.41	1.37	3.39	3.39
Richland/McKenzie County	D11	RM 51.32	82274	1.5-yr	1738.7	590.48	587.16	1.34	1.18	10.51	6.3	170.47	1088.05	2.36	1.39	3.32	3.32
Richland/McKenzie County	D11	RM 51.13	81982	1.5-yr	1738.7	590.4	587.13	1.41	1.24	10.51	7.19	163.16	921.79	3.12	2.11	3.29	3.29
Richland/McKenzie County	D11	RM 50.95	81682	1.5-yr	1738.7	590.3	587.08	1.28	1.11	8.82	4.64	144.11	1139.12	3.02	1.57	3.22	3.22
Richland/McKenzie County	D11	RM 50.76	81378	1.5-yr	1738.7	590.22	586.89	1.24	0.88	8.45	4.15	173.78	1684.43	2.84	1.37	3.33	3.33
Richland/McKenzie County	D11	RM 50.56	81065	1.5-yr	1738.7	589.98	586.37	1.61	1.43	13.15	8.14	171.37	700.5	3.49	2.14	3.61	3.61
Richland/McKenzie County	D11	RM 50.39	80787	1.5-yr	1738.7	589.93	585.7	1.41	1.27	9.63	5.07	196.96	798.71	4.13	2.15	4.23	4.23
Richland/McKenzie County	D11	RM 50.21	80482	1.5-yr	1738.7	589.84	585.55	1.33	1.22	8.87	6.11	234.94	757.92	3.57	2.46	4.29	4.29
Richland/McKenzie County	D11	RM 50.02	80182	1.5-yr	1738.7	589.69	585.55	1.63	1.55	13.56	11.24	197.51	504.51	3.5	2.87	4.14	4.14
Richland/McKenzie County	D12	RM 49.82	79860	1.5-yr	1738.7	589.36	585.55	2.28	2.22	26.16	21.4	209.41	308.43	3.62	2.96	3.81	3.81
Richland/McKenzie County	D12	RM 49.65	79582	1.5-yr	1738.7	589.09	585.55	2.43	2.29	30.57	24.48	213.94	322.4	3.3	2.64	3.54	3.54
Richland/McKenzie County	D12	RM 49.5	79348	1.5-yr	1738.7	589.16	585.49	1.2	1.16	7.23	6.09	354.76	551.47	3.59	3.03	3.71	3.71
Richland/McKenzie County	D12	RM 49.26	78981	1.5-yr	1738.7	589.04	585.29	1.61	1.33	13.1	7.06	137.23	762.49	3.53	1.88	3.75	3.75
Richland/McKenzie County	D12	RM 49.08	78682	1.5-yr	1738.7	588.86	585.11	1.77	1.54	15.93	9.36	155.55	657.3	3.51	2.05	3.82	3.82
Richland/McKenzie County	D12	RM 48.87	78351	1.5-yr	1738.7	588.76	584.96	1.58	1.45	12.54	9.64	206.67	434.88	3.57	2.76	3.8	3.8
Richland/McKenzie County	D12	RM 48.7	78082	1.5-yr	1738.7	588.65	584.86	1.53	1.5	12.93	11.59	250.35	467.68	2.78	2.47	3.79	3.79
Richland/McKenzie County	D12	RM 48.52	77782	1.5-yr	1738.7	588.63	584.74	0.98	0.99	5.36	4.47	472.05	785.06	2.68	2.24	3.89	3.89
Richland/McKenzie County	D12	RM 48.33	77482	1.5-yr	1738.7	588.55	584.51	1.14	1.1	7	4.98	455.04	932.14	2.39	1.69	4.04	4.04
Richland/McKenzie County	D12	RM 48.15	77182	1.5-yr	1738.7	588.45	584.24	1.36	1.07	9.42	6.61	405.29	849.27	2.73	1.91	4.21	4.21
Richland/McKenzie County	D12	RM 47.97	76887	1.5-yr	1738.7	588.4	584.09	1.16	1.01	4.52	3.29	485.18	1222.77	2.28	1.66	4.31	4.31
Richland/McKenzie County	D12	RM 47.76	76570	1.5-yr	1738.7	588.35	583.86	0.98	0.97	4.2	4	493.45	922.82	2.47	2.35	4.49	4.49
Richland/McKenzie County	D12	RM 47.59	76293	1.5-yr	1738.7	588.29	583.71	1.09	1.06	5.22	4.54	391.27	821.82	2.85	2.48	4.58	4.58
Richland/McKenzie County	D12	RM 47.4	75982	1.5-yr	1738.7	588.17	583.42	1.47	1.27	10.13	4.81	196.88	940.84	3.68	1.74	4.75	4.75
Richland/McKenzie County	D12	RM 47.12	75521	1.5-yr	1738.7	588.01	583.04	1.57	1.51	11.37	6.8	234.72	554.08	4.71	2.8	4.97	4.97
Richland/McKenzie County	D12	RM 47	75323	1.5-yr	1738.7	587.68	583.04	2.63	2.56	33.61	20.54	162.2	278.88	4.06	2.47	4.64	4.64
Richland/McKenzie County	D12	RM 46.85	75082	1.5-yr	1738.7	587.55	583.04	2.31	2.22	26.01	16.83	184.53	300.31	4.05	2.61	4.51	4.51
Richland/McKenzie County	D12	RM 46.67	74782	1.5-yr	1738.7	587.38	583.04	2.23	2.16	23.95	19.24	185.83	240.87	4.17	3.35	4.34	4.34
Richland/McKenzie County	D12	RM 46.47	74459	1.5-yr	1738.7	587.33	583.04	1.52	1.5	11.65	10.81	311.2	340.32	3.66	3.4	4.29	4.29
Richland/McKenzie County	D12	RM 46.3	74186	1.5-yr	1738.7	587.19	583.04	1.72	1.72	13.13	13.13	351.86	351.86	2.88	2.88	4.15	4.15
Richland/McKenzie County	D12	RM 46.14	73920	1.5-yr	1738.7	587.1	583.04	1.53	1.51	10.8	9.9	387.95	429.58	2.93	2.69	4.06	4.06
Richland/McKenzie County	D12	RM 45.9	73546	1.5-yr	1738.7	586.97	582.97	1.5	1.33	11.51	8.59	339.6	562.69	3.12	2.33	4	4
Richland/McKenzie County	D12	RM 45.75	73307	1.5-yr	1738.7	586.78	582.88	1.87	1.71	14.61	12.36	350.4	480.04	2.51	2.12	3.9	3.9
Richland/McKenzie County	D12	RM 45.54	72980	1.5-yr	1738.7	586.7	582.55	1.39	1.3	10.12	8.29	382.5	526.42	3.14	2.57	4.15	4.15
Richland/McKenzie County	D12	RM 45.29	72680	1.5-yr	1738.7	586.56	582.25	1.53	1.39	12.45	9.96	347.33	508.91	3.09	2.47	4.31	4.31
Richland/McKenzie County	D12	RM 45.09	72380	1.5-yr	1738.7	586.46	582.08	1.54	1.37	11.51	7.54	266.65	634.14	4	2.61	4.38	4.38
Richland/McKenzie County	D12	RM 44.91	72080	1.5-yr	1738.7	586.38	582.01	1.49	1.28	11.07	7	283.48	634.05	3.77	2.37	4.37	4.37
Richland/McKenzie County	D12	RM 44.72	71783	1.5-yr	1738.7	586.2	581.97	1.9	1.52	17.6	8.92	208.27	597.57	3.93	1.98	4.23	4.23
Richland/McKenzie County	D12	RM 44.53	71483	1.5-yr	1738.7	585.97	581.82	2.26	1.73	25.54	12.41	177.29	643.72	3.7	1.78	4.15	4.15
Richland/McKenzie County	D12	RM 44.34	71183	1.5-yr	1738.7	585.66	581.8	2.45	2.01	31.97	19.65	197.61	472.03	3.09	1.89	3.86	3.86
Richland/McKenzie County	D12	RM 44.17	70899	1.5-yr	1738.7	585.68	581.79	1.28	1.11	8.08	5.82	301.59	801.33	3.82	2.74	3.89	3.89
Richland/McKenzie County	D12	RM 43.97	70594	1.5-yr	1738.7	585.62	581.73	1.24	1.1	8.21	6.74	326.68	964.7	3.03	2.48	3.89	3.89
Richland/McKenzie County	D12	RM 43.74	70230	1.5-yr	1738.7	585.48	581.66	1.35	1.35	9.85	9.12	160.1	721.45	2.94	2.71	3.82	3.82
Richland/McKenzie County	D12	RM 43.59	69983	1.5-yr	1738.7	585.38	581.56	1.32	1.1	8.66	5.26	142.05	1153.05	2.98	1.78	3.82	3.82
Richland/McKenzie County	D12	RM 43.4	69684	1.5-yr	1738.7	585.28	581.49	1.31	1.15	8.77	4.93	150.64	1107.8	3.14	1.74	3.79	3.79
Richland/McKenzie County	D12	RM 43.03	69084	1.5-yr	1738.7	585.13	581.37	1.44	1.18	11.31	5.26	131.62	1156.06	2.88	1.32	3.76	3.76
Richland/McKenzie County	D12	RM 42.66	68489	1.5-yr	1738.7	585.02	581.18	1.46	1.18	11.19	5.33	115.48	1007.42	3.21	1.5	3.84	3.84
Richland/McKenzie County	D12	RM 42.29	67889	1.5-yr	1738.7	584.97	580.87	1.03	0.87	5.39	2.36	281.43	1366.24	3.5	1.52	4.1	4.1
Richland/McKenzie County	D12	RM 42.08	67558	1.5-yr	1738.7	584.92	580.61	1.2	0.88	6.99	2.4	180.21	1465.44	4.06	1.38	4.31	4.31
Richland/McKenzie County	D12	RM 41.89	67260	1.5-yr	1738.7	584.84	580.31	1.29	1.02	8.12	2.72	292.42	1359.81	3.94	1.31	4.53	4.53
Richland/McKenzie County	D12	RM 41.75	67037	1.5-yr	1738.7	584.76	579.99	1.39	1.22	10.09	4.78	335.2	955.61	3.28	1.54	4.77	4.77
Richland/McKenzie County	D12	RM 41.54	66695	1.5-yr	1738.7	584.6	579.72	1.71	1.34	13.65	3.8	196.03	1099.99	4.58	1.26	4.88	4.88
Richland/McKenzie County	D12	RM 41.34	66361	1.5-yr	1738.7	584.47	579.43	1.81	1.41	16.33	6.95	218.95	816.78	3.67	1.55	5.04	5.04

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	1.5-yr	1738.7	584.36	579.08	1.81	1.5	15.58	6.14	195.81	784	4.26	1.66	5.28	5.28
Richland/McKenzie County	D12	RM 40.99	65802	1.5-yr	1738.7	584.25	578.99	1.74	1.33	14.67	5.09	203.5	957.08	4.11	1.41	5.26	5.26
Richland/McKenzie County	D12	RM 40.8	65502	1.5-yr	1738.7	584.14	578.97	1.63	1.49	13.44	10.6	273.63	686.43	3.61	2.84	5.17	5.17
Richland/McKenzie County	D12	RM 40.62	65205	1.5-yr	1738.7	584.07	578.92	1.29	1.2	8.8	6.02	375.4	928.75	3.11	2.12	5.15	5.15
Richland/McKenzie County	D12	RM 40.24	64602	1.5-yr	1738.7	583.87	578.6	1.36	1.34	8.04	6.72	503.33	1029.99	2.54	2.12	5.27	5.27
Richland/McKenzie County	D12	RM 40	64219	1.5-yr	1738.7	583.7	578.56	1.59	1.54	12.74	9	308.24	813.13	3.55	2.49	5.14	5.14
Richland/McKenzie County	D12	RM 39.87	64002	1.5-yr	1738.7	583.57	578.55	1.83	1.73	15.87	9.41	220.38	801.57	4.3	2.53	5.02	5.02
Richland/McKenzie County	D12	RM 39.68	63702	1.5-yr	1738.7	583.45	578.45	1.85	1.65	17.11	9.3	241.16	653.63	3.67	1.98	5	5
Richland/McKenzie County	D12	RM 39.5	63402	1.5-yr	1738.7	583.26	578.35	2.02	1.72	21.02	10.32	225.45	668.72	3.43	1.67	4.91	4.91
Richland/McKenzie County	D12	RM 39.31	63102	1.5-yr	1738.7	583.16	578.31	1.73	1.36	14.64	7.44	227.09	730.9	3.69	1.86	4.85	4.85
Richland/McKenzie County	D12	RM 39.13	62802	1.5-yr	1738.7	583.05	578.2	1.65	1.37	14.07	7.18	285.07	781.89	3.32	1.68	4.85	4.85
Richland/McKenzie County	D12	RM 38.94	62501	1.5-yr	1738.7	582.95	578.12	1.55	1.21	12	5.12	262.08	982.29	3.65	1.54	4.83	4.83
Richland/McKenzie County	D12	RM 38.76	62201	1.5-yr	1738.7	582.87	578.03	1.48	1.23	10.54	3.95	243.17	932.74	4.22	1.57	4.84	4.84
Richland/McKenzie County	D12	RM 38.57	61901	1.5-yr	1738.7	582.72	577.87	1.79	1.33	16.8	6.1	236.04	1170.25	3.24	1.17	4.85	4.85
Richland/McKenzie County	D12	RM 38.38	61601	1.5-yr	1738.7	582.69	577.84	1.1	0.81	5.95	2.64	268.55	1755.51	3.29	1.45	4.85	4.85
Richland/McKenzie County	D12	RM 38.2	61301	1.5-yr	1738.7	582.63	577.82	1.21	0.82	7.01	3.03	244.45	1575.36	4.11	1.76	4.81	4.81
Richland/McKenzie County	D12	RM 38.01	61008	1.5-yr	1738.7	582.56	577.81	1.3	0.94	9.13	5.87	307.49	1063.05	2.98	1.9	4.75	4.75
Richland/McKenzie County	D12	RM 37.84	60708	1.5-yr	1738.7	582.44	577.71	1.45	1.25	11.73	7.7	335.25	799.68	2.95	1.93	4.73	4.73
Richland/McKenzie County	D12	RM 37.65	60408	1.5-yr	1738.7	582.42	577.66	0.93	0.81	4.7	3.62	563.25	1059.72	2.87	2.21	4.76	4.76
Richland/McKenzie County	D12	RM 37.5	60107	1.5-yr	1738.7	582.36	577.54	0.94	0.9	4.4	3.83	561.58	927.79	2.38	2.08	4.82	4.82
Richland/McKenzie County	D12	RM 37.35	59808	1.5-yr	1738.7	582.25	577.37	1.01	1.04	5.96	4.15	427.63	884.63	2.73	1.9	4.88	4.88
Richland/McKenzie County	D12	RM 37.16	59508	1.5-yr	1738.7	582.13	577.24	1.53	1.32	10.23	5.14	274.22	890.05	2.96	1.48	4.89	4.89
Richland/McKenzie County	D12	RM 36.97	59208	1.5-yr	1738.7	582.01	576.96	1.71	1.52	11.72	5.83	220.38	836.14	2.77	1.36	5.05	5.05
Richland/McKenzie County	D12	RM 36.78	58908	1.5-yr	1738.7	581.94	576.87	1.48	1.27	9.6	5.34	217.29	680.58	3.63	2	5.07	5.07
Richland/McKenzie County	D12	RM 36.6	58608	1.5-yr	1738.7	581.87	576.66	1.45	1.32	9.82	5.37	182.19	538.22	4.57	2.45	5.21	5.21
Richland/McKenzie County	D12	RM 36.38	58263	1.5-yr	1738.7	581.78	576.49	1.42	1.42	9.63	9.63	290.12	290.15	4.22	4.22	5.29	5.29
Richland/McKenzie County	D13	RM 36.23	58011	1.5-yr	1738.7	581.64	576.43	1.83	1.82	15.38	12.25	196.97	250.12	4.82	3.82	5.21	5.21
Richland/McKenzie County	D13	RM 36.04	57708	1.5-yr	1738.7	581.42	576.42	2.21	2	23.78	10.42	193.19	498.77	4.03	1.75	5	5
Richland/McKenzie County	D13	RM 35.85	57408	1.5-yr	1738.7	581.29	576.41	1.97	1.68	16.32	9.65	277.09	571.24	3.09	1.81	4.88	4.88
Richland/McKenzie County	D13	RM 35.66	57108	1.5-yr	1738.7	581.27	576.36	1.31	1.16	7.68	4.83	327.66	637.8	3.74	2.34	4.91	4.91
Richland/McKenzie County	D13	RM 35.48	56810	1.5-yr	1738.7	581.08	576.3	1.93	1.6	17.94	9.34	187.19	508.12	4.15	2.14	4.78	4.78
Richland/McKenzie County	D13	RM 35.29	56508	1.5-yr	1738.7	580.94	576.19	1.94	1.64	19.48	12.12	215.74	513.39	3.35	2.07	4.75	4.75
Richland/McKenzie County	D13	RM 35.1	56208	1.5-yr	1738.7	580.84	576.07	1.59	1.39	12.04	7.24	244.46	490.54	4.29	2.54	4.77	4.77
Richland/McKenzie County	D13	RM 34.92	55908	1.5-yr	1738.7	580.71	576.09	1.74	1.53	16.59	10.65	254.13	472.53	3.76	2.4	4.62	4.62
Richland/McKenzie County	D13	RM 34.73	55605	1.5-yr	1738.7	580.63	575.89	1.4	1.32	9.31	7.96	414.19	524.59	2.93	2.5	4.74	4.74
Richland/McKenzie County	D13	RM 34.54	55297	1.5-yr	1738.7	580.49	575.79	1.55	1.42	11.85	9.61	340.96	551.92	2.74	2.22	4.7	4.7
Richland/McKenzie County	D13	RM 34.36	55008	1.5-yr	1738.7	580.45	575.75	1.2	1.06	6.62	4.18	323.03	675.06	3.87	2.43	4.7	4.7
Richland/McKenzie County	D13	RM 34.17	54708	1.5-yr	1738.7	580.4	575.49	1.13	0.98	6.58	4.01	380.88	871.9	3.35	2.03	4.91	4.91
Richland/McKenzie County	D13	RM 33.94	54408	1.5-yr	1738.7	580.36	575.34	1.03	0.84	4.95	3.67	372.45	800.96	3.48	2.58	5.02	5.02
Richland/McKenzie County	D13	RM 33.76	54079	1.5-yr	1738.7	580.3	575.12	1.16	1.02	6.75	4.65	286.25	715.85	3.62	2.47	5.18	5.18
Richland/McKenzie County	D13	RM 33.6	53799	1.5-yr	1738.7	580.26	574.88	1.1	0.94	6.4	4.93	375.43	739.4	3.26	2.5	5.38	5.38
Richland/McKenzie County	D13	RM 33.42	53508	1.5-yr	1738.7	580.21	574.61	1.15	0.96	5.88	3.5	262.09	693.33	4.42	2.61	5.6	5.6
Richland/McKenzie County	D13	RM 33.23	53208	1.5-yr	1738.7	580.18	574.45	1.13	0.92	5.8	3.43	209.05	652.84	4.94	2.9	5.73	5.73
Richland/McKenzie County	D13	RM 33.04	52908	1.5-yr	1738.7	580.12	574.3	1.31	1.1	7.55	3.84	193.34	575.78	5.48	2.76	5.82	5.82
Richland/McKenzie County	D13	RM 32.86	52608	1.5-yr	1738.7	580.01	574.18	1.6	1.27	11.61	4.77	209.27	676.22	5	2.02	5.83	5.83
Richland/McKenzie County	D13	RM 32.67	52308	1.5-yr	1738.7	579.91	574.18	1.73	1.13	13.72	5.54	188.49	815.79	4.77	1.9	5.73	5.73
Richland/McKenzie County	D13	RM 32.48	52008	1.5-yr	1738.7	579.79	574.04	1.85	1.37	16.03	5.64	195.79	819.84	4.49	1.55	5.75	5.75
Richland/McKenzie County	D13	RM 32.29	51709	1.5-yr	1738.7	579.74	574.04	1.51	1.1	10.52	4.05	224.21	891.72	4.7	1.79	5.7	5.7
Richland/McKenzie County	D13	RM 32.11	51423	1.5-yr	1738.7	579.69	573.94	1.4	1.21	8.86	4.42	220.08	590.21	5	2.48	5.75	5.75
Richland/McKenzie County	D13	RM 31.92	51108	1.5-yr	1738.7	579.58	573.85	1.65	1.3	13.11	4.4	211.76	1085.28	4.19	1.39	5.73	5.73
Richland/McKenzie County	D13	RM 31.73	50809	1.5-yr	1738.7	579.55	573.72	1.25	1.01	7.1	2.38	261.37	1041.11	5	1.66	5.83	5.83
Richland/McKenzie County	D13	RM 31.51	50462	1.5-yr	1738.7	579.31	573.24	2.11	1.71	18.51	4.75	162.22	815.84	4.96	1.25	6.07	6.07
Richland/McKenzie County	D13	RM 31.35	50208	1.5-yr	1738.7	579.1	573.24	2.45	2.05	29.07	10.08	169.04	610.38	4.09	1.39	5.86	5.86
Richland/McKenzie County	D13	RM 31.22	50009	1.5-yr	1738.7	578.97	573.24	2.4	2.04	26.83	10.37	149.68	481.2	4.67	1.77	5.73	5.73
Richland/McKenzie County	D13	RM 31.12	49859	1.5-yr	1738.7	578.96	573.24	1.91	1.9	23.2	22.1	196.27	207.07	4.64	4.42	5.72	5.72
Richland/McKenzie County	D13	RM 30.97	49608	1.5-yr	1738.7	578.94	573.24	1.46	1.46	9.47	9.14	225.84	234.29	5.28	5.09	5.7	5.7
Richland/McKenzie County	D13	RM 30.79	49308	1.5-yr	1738.7	578.78	573.24	1.9	1.86	16.82	14.06	199.27	245.4	4.58	3.82	5.54	5.54
Richland/McKenzie County	D13	RM 30.6	49009	1.5-yr	1738.7	578.59	573.24	2.14	2.05	21.85	12.52	187.26	380.98	4.32	2.45	5.35	5.35
Richland/McKenzie County	D13	RM 30.41	48706	1.5-yr	1738.7	578.48	573.15	1.93	1.81	16.44	9.19	212.3	421.82	4.21	2.33	5.33	5.33
Richland/McKenzie County	D13	RM 30.22	48403	1.5-yr	1738.7	578.39	573.15	1.81	1.66	15.07	7.81	198.93	517.67	4.78	2.45	5.24	5.24
Richland/McKenzie County	D13	RM 30.03	48102	1.5-yr	1738.7	578.39	573.15	1.21	1.13	6.87	3.49	315.48	871.34	4.53	2.25	5.24	5.24

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile		W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	1.5-yr	1738.7	578.34	573.15	1.14	1.05	6.35	3.99	376.84	769.59	3.99	2.48	5.19	5.19
Richland/McKenzie County	D13	RM 29.66	47508	1.5-yr	1738.7	578.23	573.11	1.49	1.41	8.06	4.42	353.59	694.82	3.28	1.78	5.12	5.12
Richland/McKenzie County	D13	RM 29.48	47209	1.5-yr	1738.7	578.18	573.11	1.3	1.18	7.08	3.54	346.87	925.61	3.81	1.88	5.07	5.07
Richland/McKenzie County	D13	RM 29.28	46894	1.5-yr	1738.7	578.13	572.98	1.17	1.08	7.01	4.58	401.07	755.49	3.41	2.22	5.15	5.15
Richland/McKenzie County	D13	RM 29.1	46608	1.5-yr	1738.7	578.06	572.94	1.46	1.06	10.28	6.18	169.49	692.61	4.16	2.47	5.12	5.12
Richland/McKenzie County	D13	RM 28.92	46308	1.5-yr	1738.7	577.96	572.85	1.56	1.23	11.34	6.78	146.69	517.35	4.64	2.74	5.11	5.11
Richland/McKenzie County	D13	RM 28.73	46008	1.5-yr	1738.7	577.91	572.67	1.41	1.07	9.4	5.18	152.03	683.83	4.37	2.37	5.24	5.24
Richland/McKenzie County	D13	RM 28.54	45708	1.5-yr	1738.7	577.86	572.67	1.39	1.04	8.69	5.07	200.43	736.82	3.95	2.28	5.19	5.19
Richland/McKenzie County	D13	RM 28.36	45419	1.5-yr	1738.7	577.81	572.48	1.16	0.96	6.42	3.77	233.95	713.64	4.35	2.54	5.34	5.34
Richland/McKenzie County	D13	RM 28.15	45071	1.5-yr	1738.7	577.77	572.25	1.02	0.99	4.97	4.01	427.95	544.88	3.99	3.21	5.52	5.52
Richland/McKenzie County	D13	RM 27.98	44808	1.5-yr	1738.7	577.65	572.04	1.51	1.44	10.39	7.01	235.8	369.83	4.86	3.26	5.61	5.61
Richland/McKenzie County	D13	RM 27.8	44508	1.5-yr	1738.7	577.61	571.87	1.39	1.33	8.48	5.25	226.85	389.07	5.49	3.37	5.74	5.74
Richland/McKenzie County	D14	RM 27.61	44208	1.5-yr	1738.7	577.55	571.87	1.42	1.35	9.16	5.54	245.58	431.35	4.96	2.98	5.68	5.68
Richland/McKenzie County	D14	RM 27.43	43916	1.5-yr	1738.7	577.52	571.87	1.25	1.18	6.92	4.13	259.89	602.55	5.32	3.16	5.65	5.65
Richland/McKenzie County	D14	RM 27.23	43608	1.5-yr	1738.7	577.51	571.87	1.01	0.96	4.45	2.39	310.46	617.04	5.53	2.94	5.64	5.64
Richland/McKenzie County	D14	RM 27.04	43305	1.5-yr	1738.7	577.45	571.87	1.25	1.15	7.11	3.3	277.37	685.36	4.97	2.27	5.58	5.58
Richland/McKenzie County	D14	RM 26.86	43008	1.5-yr	1738.7	577.37	571.87	1.44	1.28	9.24	3.65	229.24	665.92	5.22	2.03	5.5	5.5
Richland/McKenzie County	D14	RM 26.67	42708	1.5-yr	1738.7	577.33	571.87	1.31	1.17	7.68	3.45	252.42	698.27	5.19	2.31	5.46	5.46
Richland/McKenzie County	D14	RM 26.48	42408	1.5-yr	1738.7	577.23	571.87	1.62	1.42	11.79	5.72	209	524.14	5.07	2.44	5.35	5.35
Richland/McKenzie County	D14	RM 26.29	42108	1.5-yr	1738.7	577.14	571.87	1.68	1.5	12.75	7.28	205.84	412.65	4.97	2.81	5.27	5.27
Richland/McKenzie County	D14	RM 26.11	41808	1.5-yr	1738.7	577.1	571.87	1.41	1.35	8.97	7.21	249.58	325.09	4.93	3.95	5.23	5.23
Richland/McKenzie County	D14	RM 25.92	41508	1.5-yr	1738.7	577.08	571.87	1.16	1.16	6.07	5.81	303.64	354.44	4.95	4.73	5.21	5.21
Richland/McKenzie County	D14	RM 25.73	41208	1.5-yr	1738.7	577.05	571.74	1.1	1.1	5.48	5.46	309.51	310.45	5.09	5.07	5.31	5.31
Richland/McKenzie County	D14	RM 25.55	40918	1.5-yr	1738.7	576.98	571.74	1.25	1.25	7.55	7.35	345.95	355.84	4.03	3.92	5.25	5.25
Richland/McKenzie County	D14	RM 25.37	40619	1.5-yr	1738.7	576.92	571.74	1.28	1.28	8.04	7.59	353.9	374.98	3.83	3.62	5.18	5.18
Richland/McKenzie County	D14	RM 25.17	40310	1.5-yr	1738.7	576.82	571.74	1.44	1.41	8.48	7.21	361.09	457.55	3.35	2.84	5.08	5.08
Richland/McKenzie County	D14	RM 24.99	40008	1.5-yr	1738.7	576.8	571.74	1.1	1.07	5.27	4.2	384.4	519.75	4.1	3.26	5.06	5.06
Richland/McKenzie County	D14	RM 24.8	39703	1.5-yr	1738.7	576.78	571.71	0.91	0.89	4.1	3.63	398.42	461.19	4.8	4.25	5.07	5.07
Richland/McKenzie County	D14	RM 24.62	39408	1.5-yr	1738.7	576.7	571.64	1.3	1.26	7.98	6.55	278.62	382.2	4.4	3.62	5.06	5.06
Richland/McKenzie County	D14	RM 24.45	39139	1.5-yr	1738.7	576.6	571.64	1.53	1.53	10.82	10.34	239.98	251.37	4.73	4.52	4.96	4.96
Richland/McKenzie County	D14	RM 24.24	38801	1.5-yr	1738.7	576.52	571.58	1.54	1.48	10.87	8.5	237.24	317.55	4.74	3.69	4.94	4.94
Richland/McKenzie County	D14	RM 24.05	38506	1.5-yr	1738.7	576.47	571.48	1.39	1.39	8.83	8.69	264.67	268.86	4.74	4.67	4.99	4.99
Richland/McKenzie County	D14	RM 23.87	38210	1.5-yr	1738.7	576.46	571.28	1.04	1.04	4.92	4.66	333.46	353.3	5	4.72	5.18	5.18
Richland/McKenzie County	D14	RM 23.66	37912	1.5-yr	1738.7	576.45	571.21	0.87	0.87	3.54	3.51	442.5	446.14	4.51	4.48	5.24	5.24
Richland/McKenzie County	D14	RM 23.48	37610	1.5-yr	1738.7	576.4	571.12	1.01	0.98	4.98	4.58	347.97	525.6	3.68	3.39	5.28	5.28
Richland/McKenzie County	D14	RM 23.29	37312	1.5-yr	1738.7	576.35	570.86	1.15	1.09	6.22	4.67	313.1	593.57	3.59	2.68	5.49	5.49
Richland/McKenzie County	D14	RM 23.1	37006	1.5-yr	1738.7	576.3	570.82	1.15	1	6.21	3.59	254.67	697.82	4.36	2.5	5.48	5.48
Richland/McKenzie County	D14	RM 22.92	36721	1.5-yr	1738.7	576.24	570.8	1.32	1.09	7.96	4.41	211.68	671.67	4.33	2.37	5.44	5.44
Richland/McKenzie County	D14	RM 22.72	36402	1.5-yr	1738.7	576.13	570.81	1.64	1.28	12.24	5.38	178.19	633.21	4.94	2.14	5.32	5.32
Richland/McKenzie County	D14	RM 22.54	36108	1.5-yr	1738.7	576.1	570.76	1.29	1.12	7.48	4.17	276.8	586.75	4.77	2.65	5.34	5.34
Richland/McKenzie County	D14	RM 22.35	35808	1.5-yr	1738.7	576.06	570.74	1.2	1.08	6.74	4.05	308.52	589.58	4.58	2.73	5.32	5.32
Richland/McKenzie County	D14	RM 22.17	35508	1.5-yr	1738.7	576.02	570.68	1.11	1.04	5.5	3.2	303.06	567.88	5.15	2.98	5.34	5.34
Richland/McKenzie County	D14	RM 22.02	35264	1.5-yr	1738.7	576.01	570.68	0.94	0.89	3.9	2.82	353.82	521.29	5.23	3.77	5.33	5.33
Richland/McKenzie County	D14	RM 21.8	34901	1.5-yr	1738.7	575.96	570.69	1.08	1.04	5.7	4.33	399.91	552.45	4	3.03	5.27	5.27
Richland/McKenzie County	D14	RM 21.61	34626	1.5-yr	1738.7	575.91	570.67	1.09	1.07	6.05	5.66	468.23	509.33	3.41	3.19	5.24	5.24
Richland/McKenzie County	D14	RM 21.34	34140	1.5-yr	1738.7	575.87	570.67	0.98	0.83	4.45	2.91	288.17	722.65	4.56	2.96	5.2	5.2
Richland/McKenzie County	D14	RM 21.25	33973	1.5-yr	1738.7	575.82	570.67	1.35	1.06	8.46	4.81	203.04	735.94	4.03	2.27	5.15	5.15
Richland/McKenzie County	D14	RM 21.06	33672	1.5-yr	1738.7	575.8	570.6	1.06	0.89	5.4	3.2	266.65	831.48	4.12	2.43	5.2	5.2
Richland/McKenzie County	D14	RM 20.9	33400	1.5-yr	1738.7	575.75	570.58	1.18	1.02	7.07	4.1	249.78	825.29	3.63	2.09	5.17	5.17
Richland/McKenzie County	D14	RM 20.71	33101	1.5-yr	1738.7	575.67	570.53	1.38	1.16	9.47	4.78	246.56	789.19	3.84	1.93	5.14	5.14
Richland/McKenzie County	D14	RM 20.52	32800	1.5-yr	1738.7	575.64	570.52	1.13	1.04	6.13	3.85	280.27	655.71	4.23	2.65	5.12	5.12
Richland/McKenzie County	D14	RM 20.34	32500	1.5-yr	1738.7	575.6	570.52	1.18	1.04	6.55	4.35	256.07	615.77	4.34	2.87	5.08	5.08
Richland/McKenzie County	D14	RM 20.15	32200	1.5-yr	1738.7	575.53	570.52	1.26	1.21	8.76	5.9	231.21	519.04	4.47	3	5.01	5.01
Richland/McKenzie County	D14	RM 19.96	31900	1.5-yr	1738.7	575.31	570.52	2.02	1.8	19.06	10.78	189.06	408.91	4.5	2.51	4.79	4.79
Richland/McKenzie County	D14	RM 19.77	31600	1.5-yr	1738.7	575.33	570.5	1.21	1.18	6.74	5.42	331.86	456.76	4.31	3.46	4.83	4.83
Richland/McKenzie County	D14	RM 19.59	31297	1.5-yr	1738.7	575.28	570.45	1.19	1.11	6.51	4.17	334.2	663.73	3.99	2.55	4.83	4.83
Richland/McKenzie County	D14	RM 19.4	30995	1.5-yr	1738.7	575.2	570.45	1.39	1.19	9.56	5.13	284.57	753.49	3.76	2.01	4.75	4.75
Richland/McKenzie County	D14	RM 19.21	30710	1.5-yr	1738.7	575.19	570.38	0.94	0.79	4.16	2.14	380.6	1019.12	4.37	2.24	4.81	4.81
Richland/McKenzie County	D14	RM 19.03	30402	1.5-yr	1738.7	575.15	570.38	0.98	0.87	4.43	2.78	427.83	881.18	3.72	2.32	4.77	4.77
Richland/McKenzie County	D14	RM 18.83	30086	1.5-yr	1738.7	575.09	570.38	1.08	0.96	5.39	3.11	453.55	1091.09	3.12	1.78	4.71	4.71
Richland/McKenzie County	D14	RM 18.66	29802	1.5-yr	1738.7	575.04	570.38	1.16	0.97	6.53	3.85	422.6	1056.16	2.98	1.74	4.66	4.66

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	1.5-yr	1738.7	574.91	570.36	1.52	1.29	12.15	6.51	296.44	785.45	3.24	1.71	4.55	4.55
Richland/McKenzie County	D14	RM 18.28	29197	1.5-yr	1738.7	574.81	570.36	1.49	1.44	10.57	8.11	299.23	416.82	3.88	2.97	4.45	4.45
Richland/McKenzie County	D14	RM 17.89	28624	1.5-yr	1738.7	574.78	570.33	0.86	0.86	3.45	3.24	468.14	509.56	4.33	4.06	4.45	4.45
Richland/McKenzie County	D14	RM 17.56	27975	1.5-yr	1738.7	574.65	570.29	1.24	1.21	6.45	5.9	443.08	501.37	3.13	2.87	4.36	4.36
Richland/McKenzie County	D14	RM 17.36	27539	1.5-yr	1738.7	574.44	570.31	1.78	1.78	15.65	15.56	254.84	256.33	3.83	3.81	4.13	4.13
Richland/McKenzie County	D14	RM 17.1	27113	1.5-yr	1738.7	574.31	570.28	1.53	1.53	11.61	11.49	298.39	306.82	3.8	3.76	4.03	4.03
Richland/McKenzie County	D14	RM 16.74	26537	1.5-yr	1738.7	574.22	570.14	1.14	1.14	6.33	5.89	403.3	436.16	3.77	3.51	4.08	4.08
Richland/McKenzie County	D14	RM 16.35	25925	1.5-yr	1738.7	574.13	569.46	1.1	1.06	5.65	3.86	343.88	537.29	4.49	3.06	4.67	4.67
Richland/McKenzie County	D14	RM 16.17	25629	1.5-yr	1738.7	574.1	569.2	1.03	0.95	5.13	3.02	376.66	702.52	4.43	2.59	4.9	4.9
Richland/McKenzie County	D14	RM 15.95	25324	1.5-yr	1738.7	574.09	568.99	0.77	0.72	2.68	1.99	456.94	661.77	4.9	3.63	5.1	5.1
Richland/McKenzie County	D14	RM 15.75	25032	1.5-yr	1738.7	574.06	568.85	0.86	0.84	3.52	3.11	461.31	537.56	4.35	3.84	5.21	5.21
Richland/McKenzie County	D14	RM 15.56	24777	1.5-yr	1738.7	573.97	568.85	1.33	1.33	8.12	8.12	290.5	290.5	4.51	4.51	5.12	5.12
Richland/McKenzie County	D14	RM 15.34	24438	1.5-yr	1738.7	573.91	568.79	1.36	1.36	8.44	8.44	260.55	260.58	4.9	4.9	5.12	5.12
Richland/McKenzie County	D14	RM 15.16	24144	1.5-yr	1738.7	573.86	568.75	1.34	1.34	8.15	7.64	265.58	283.64	4.9	4.59	5.11	5.11
Richland/McKenzie County	D14	RM 14.98	23841	1.5-yr	1738.7	573.78	568.76	1.43	1.41	10.46	8.42	254.68	320.72	4.78	3.83	5.02	5.02
Richland/McKenzie County	D14	RM 14.79	23543	1.5-yr	1738.7	573.71	568.72	1.44	1.42	9.03	6.5	284.62	403.4	4.23	3.03	4.99	4.99
Richland/McKenzie County	D14	RM 14.61	23241	1.5-yr	1738.7	573.66	568.7	1.35	1.34	8.44	6.35	274.01	370.68	4.69	3.51	4.96	4.96
Richland/McKenzie County	D14	RM 14.42	22940	1.5-yr	1738.7	573.64	568.69	1.12	1.11	5.72	5.02	328.42	400.31	4.74	4.15	4.95	4.95
Richland/McKenzie County	D14	RM 14.23	22647	1.5-yr	1738.7	573.63	568.67	0.85	0.84	3.37	2.95	444.61	528.38	4.59	4.01	4.96	4.96
Richland/McKenzie County	D14	RM 14.05	22341	1.5-yr	1738.7	573.61	568.68	0.77	0.76	3.99	3.62	601.92	681.68	3.75	3.41	4.93	4.93
Richland/McKenzie County	D14	RM 13.88	22040	1.5-yr	1738.7	573.55	568.67	0.93	0.93	3.78	3.65	678.31	714.92	2.74	2.65	4.88	4.88
Richland/McKenzie County	D14	RM 13.7	21728	1.5-yr	1738.7	573.48	568.65	1.12	1.12	4.68	4.65	502.19	554.99	3.09	3.07	4.83	4.83
Richland/McKenzie County	D14	RM 13.51	21429	1.5-yr	1738.7	573.45	568.63	1.05	1.05	4.99	4.81	409.11	435.98	4.04	3.89	4.82	4.82
Richland/McKenzie County	D15	RM 13.31	21145	1.5-yr	1738.7	573.42	568.51	0.94	0.94	4.07	4.05	456.99	465.64	4.05	4.04	4.91	4.91
Richland/McKenzie County	D15	RM 13.12	20858	1.5-yr	1738.7	573.38	568.39	1.08	1.08	5.37	5.37	343.37	351.19	4.69	4.69	4.99	4.99
Richland/McKenzie County	D15	RM 12.9	20507	1.5-yr	1738.7	573.31	568.39	1.25	1.25	7.18	7.18	301.18	313.19	4.64	4.64	4.92	4.92
Richland/McKenzie County	D15	RM 12.73	20241	1.5-yr	1738.7	573.27	568.35	1.24	1.24	7.07	7.07	294.66	301.72	4.76	4.76	4.92	4.92
Richland/McKenzie County	D15	RM 12.56	19961	1.5-yr	1738.7	573.24	568.34	1.09	1.09	5.44	5.44	335.88	344.47	4.76	4.76	4.9	4.9
Richland/McKenzie County	D15	RM 12.38	19686	1.5-yr	1738.7	573.23	568.23	0.89	0.89	3.68	3.68	423.11	432.89	4.62	4.62	5	5
Richland/McKenzie County	D15	RM 12.21	19384	1.5-yr	1738.7	573.18	568.17	1.01	1.01	4.23	4.23	486.37	602.45	3.53	3.53	5.01	5.01
Richland/McKenzie County	D15	RM 11.99	19084	1.5-yr	1738.7	573.15	568.16	0.99	0.99	3.75	3.74	580.92	594.7	3.03	3.02	4.99	4.99
Richland/McKenzie County	D15	RM 11.53	18484	1.5-yr	1738.7	573.05	568.11	1.1	1.07	5.27	4.52	422.72	562.57	3.71	3.18	4.94	4.94
Richland/McKenzie County	D15	RM 11.34	18216	1.5-yr	1738.7	573	568.06	1.06	1.02	10.12	8.12	416.65	669.75	3.9	3.12	4.94	4.94
Richland/McKenzie County	D15	RM 11.17	17885	1.5-yr	1738.7	572.86	567.88	1.2	1.18	17.77	15.02	493.89	599.36	2.92	2.46	4.98	4.98
Richland/McKenzie County	D15	RM 10.97	17584	1.5-yr	1738.7	572.78	567.8	1.06	1.04	4.63	4.09	542.63	625.6	3.02	2.66	4.98	4.98
Richland/McKenzie County	D15	RM 10.75	17284	1.5-yr	1738.7	572.76	567.79	0.91	0.9	3.62	3.15	508.48	591.44	3.77	3.28	4.97	4.97
Richland/McKenzie County	D15	RM 10.53	16964	1.5-yr	1738.7	572.7	567.73	1.08	1.06	4.85	4.26	479.86	557.2	3.36	2.95	4.97	4.97
Richland/McKenzie County	D15	RM 10.35	16670	1.5-yr	1738.7	572.64	567.73	1.16	1.11	6.25	4.85	460.04	629.22	3.24	2.5	4.91	4.91
Richland/McKenzie County	D15	RM 10.15	16384	1.5-yr	1738.7	572.6	567.73	1.15	0.93	6.1	3.57	251.85	702.35	4.56	2.65	4.87	4.87
Richland/McKenzie County	D15	RM 9.94	16084	1.5-yr	1738.7	572.57	567.73	0.96	0.8	4.36	2.79	272.39	778.49	4.36	2.78	4.84	4.84
Richland/McKenzie County	D15	RM 9.76	15797	1.5-yr	1738.7	572.52	567.65	1.04	0.9	4.85	2.87	350.56	834.39	4	2.36	4.87	4.87
Richland/McKenzie County	D15	RM 9.57	15487	1.5-yr	1738.7	572.47	567.58	1.19	1.01	6.49	3.28	245.31	771.34	4.68	2.35	4.89	4.89
Richland/McKenzie County	D15	RM 9.37	15187	1.5-yr	1738.7	572.4	567.58	1.34	1.12	8.36	4.77	202.65	589.07	4.65	2.63	4.82	4.82
Richland/McKenzie County	D15	RM 9.24	14963	1.5-yr	1738.7	572.26	567.5	1.73	1.72	14.26	12.9	234.33	260.14	4.29	3.88	4.76	4.76
Richland/McKenzie County	D15	RM 9.1	14741	1.5-yr	1738.7	572.18	567.39	1.77	1.74	14.79	12.82	231.83	276.01	4.24	3.67	4.78	4.78
Richland/McKenzie County	D15	RM 9.03	14639	1.5-yr	1738.7	572.13	567.4	1.79	1.78	15.71	14.85	248.61	270.38	3.9	3.68	4.73	4.73
Richland/McKenzie County	D15	RM 8.82	14300	1.5-yr	1738.7	572.13	567.41	1.07	1.07	5.49	5.36	380.21	395.15	4.26	4.15	4.72	4.72
Richland/McKenzie County	D15	RM 8.61	13963	1.5-yr	1738.7	572.06	567.39	1.24	1.16	7.19	5.24	310.76	496.06	4.2	3.05	4.67	4.67
Richland/McKenzie County	D15	RM 8.44	13687	1.5-yr	1738.7	572	567.32	1.38	1.21	8.9	4.95	258.5	592.67	4.42	2.44	4.68	4.68
Richland/McKenzie County	D15	RM 8.24	13387	1.5-yr	1738.7	571.91	567.32	1.49	1.18	10.41	5.29	229.07	686.01	4.45	2.24	4.59	4.59
Richland/McKenzie County	D15	RM 8.05	13080	1.5-yr	1738.7	571.86	567.05	1.34	1.2	8.31	4.2	266.23	648.8	4.56	2.29	4.81	4.81
Richland/McKenzie County	D15	RM 7.87	12786	1.5-yr	1738.7	571.77	567.05	1.51	1.31	10.75	5.45	229.92	617.94	4.47	2.25	4.72	4.72
Richland/McKenzie County	D15	RM 7.69	12506	1.5-yr	1738.7	571.73	567.05	1.34	1.2	8.44	5.04	266.56	547.7	4.45	2.65	4.68	4.68
Richland/McKenzie County	D15	RM 7.48	12179	1.5-yr	1738.7	571.7	566.95	1.05	1.05	5.07	5.03	361.54	364.69	4.6	4.56	4.75	4.75
Richland/McKenzie County	D16	RM 7.3	11891	1.5-yr	1738.7	571.65	566.76	1.18	1.18	6.33	6.33	334.23	334.23	4.42	4.42	4.89	4.89
Richland/McKenzie County	D16	RM 7.14	11639	1.5-yr	1738.7	571.59	566.76	1.29	1.24	8.07	6.97	324.06	405.34	4.01	3.46	4.83	4.83
Richland/McKenzie County	D16	RM 6.94	11319	1.5-yr	1738.7	571.54	566.76	1.22	1.14	6.91	4.46	297.15	516.13	4.59	2.95	4.78	4.78
Richland/McKenzie County	D16	RM 6.77	11043	1.5-yr	1738.7	571.51	566.76	1.09	1	5.67	3.75	349.25	615.11	4.28	2.82	4.75	4.75
Richland/McKenzie County	D16	RM 6.58	10733	1.5-yr	1738.7	571.47	566.59	1.06	0.94	5.26	2.95	342.3	734.61	4.51	2.51	4.88	4.88
Richland/McKenzie County	D16	RM 6.38	10417	1.5-yr	1738.7	571.29	566.59	1.88	1.51	16.56	5.77	181.98	747.07	4.48	1.54	4.7	4.7
Richland/McKenzie County	D16	RM 6.21	10138	1.5-yr	1738.7	571.24	566.44	1.58	1.2	11.68	4.1	217.01	921.2	4.53	1.57	4.8	4.8

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	1.5-yr	1738.7	571.23	566.17	0.97	0.86	4.47	2.24	412.46	951.85	4.27	2.13	5.06	5.06
Richland/McKenzie County	D16	RM 5.83	9551	1.5-yr	1738.7	571.22	565.96	0.78	0.69	2.82	1.52	480.72	1029.37	4.56	2.44	5.26	5.26
Richland/McKenzie County	D16	RM 5.67	9297	1.5-yr	1738.7	571.19	565.96	0.93	0.79	4.04	2.11	341.29	951.02	4.46	2.31	5.23	5.23
Richland/McKenzie County	D16	RM 5.43	8926	1.5-yr	1738.7	571.12	565.96	1.21	1.07	7.28	4.25	268.59	748.55	3.86	2.24	5.16	5.16
Richland/McKenzie County	D16	RM 5.25	8623	1.5-yr	1738.7	570.95	565.96	1.73	1.5	13.87	7.63	206.77	451.11	4.72	2.58	4.99	4.99
Richland/McKenzie County	D16	RM 5.06	8331	1.5-yr	1738.7	570.94	565.82	1.25	1.08	7.17	4.57	289.25	542.98	4.67	2.96	5.12	5.12
Richland/McKenzie County	D16	RM 4.87	8029	1.5-yr	1738.7	570.92	565.67	1.07	0.97	5.4	3.77	333.71	618.08	4.39	3.05	5.25	5.25
Richland/McKenzie County	D16	RM 4.71	7757	1.5-yr	1738.7	570.87	565.54	1.2	1.03	6.5	3.84	250.22	578.57	4.99	2.92	5.33	5.33
Richland/McKenzie County	D16	RM 4.53	7456	1.5-yr	1738.7	570.77	565.54	1.56	1.28	11.1	5.31	198.32	657.77	5	2.36	5.23	5.23
Richland/McKenzie County	D16	RM 4.34	7156	1.5-yr	1738.7	570.71	565.54	1.46	1.2	10.87	5.21	214.29	808.88	4.9	2.32	5.17	5.17
Richland/McKenzie County	D16	RM 4.17	6884	1.5-yr	1738.7	570.65	565.54	1.43	1.24	9.38	4.24	223.92	844.54	4.9	2.19	5.11	5.11
Richland/McKenzie County	D16	RM 3.96	6550	1.5-yr	1738.7	570.63	565.54	1.13	0.97	5.81	2.97	216.6	1081.86	4.81	2.44	5.09	5.09
Richland/McKenzie County	D16	RM 3.78	6249	1.5-yr	1738.7	570.57	565.54	1.31	1.11	8.23	4.07	196.52	1202.53	4.24	2.08	5.03	5.03
Richland/McKenzie County	D16	RM 3.55	5904	1.5-yr	1738.7	570.52	565.54	1.2	1.01	6.56	3.53	206.04	1378.4	4.79	2.55	4.98	4.98
Richland/McKenzie County	D16	RM 3.38	5657	1.5-yr	1738.7	570.45	565.53	1.47	1.28	10	5.16	171.27	870.28	4.66	2.38	4.92	4.92
Richland/McKenzie County	D16	RM 3.2	5363	1.5-yr	1738.7	570.36	565.54	1.54	1.45	11.55	6.96	166.84	676.67	3.98	2.38	4.82	4.82
Richland/McKenzie County	D16	RM 3.01	5062	1.5-yr	1738.7	570.32	565.54	1.33	1.22	8.6	5.1	310	652.46	4.15	2.43	4.78	4.78
Richland/McKenzie County	D16	RM 2.82	4763	1.5-yr	1738.7	570.25	565.46	1.24	1.19	7.98	5.54	422.6	666.81	3.3	2.28	4.79	4.79

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5pct Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A1	RM 478.19	225868	5pct Duration	461.8	1280.87	1278.12	1.84	1.75	19.45	14.73	98.38	140.7	2.5	1.88	2.75	2.75
Sweet Grass County	A1	RM 478.10	225378	5pct Duration	461.8	1280.54	1277.66	2.49	2.34	37.66	26.46	87.2	136.6	2.06	1.45	2.88	2.88
Sweet Grass County	A1	RM 478.00	224862	5pct Duration	461.8	1280.1	1277.97	2.58	2.45	47.78	39.54	135.51	181.55	1.25	1.04	2.14	2.14
Sweet Grass County	A1	RM 477.91	224362	5pct Duration	461.8	1279.5	1277.65	2.92	2.52	50.98	36.4	81.99	162.19	1.58	1.13	1.85	1.85
Sweet Grass County	A1	RM 477.81	223862	5pct Duration	461.8	1279.04	1276.96	2.82	2.44	43.49	28.54	87.58	174.38	1.66	1.09	2.08	2.08
Sweet Grass County	A1	RM 477.72	223354	5pct Duration	461.8	1278.55	1276.32	2.77	2.66	50.97	43.74	94.44	129.52	1.57	1.34	2.23	2.23
Sweet Grass County	A1	RM 477.63	222892	5pct Duration	461.8	1278.56	1275.76	1.32	1.25	11.16	9.69	172.73	243.45	1.77	1.53	2.8	2.8
Sweet Grass County	A1	RM 477.49	222220	5pct Duration	461.8	1278.31	1276.07	1.65	1.57	14.31	13.92	212.24	316.35	1.02	0.99	2.25	2.25
Sweet Grass County	A1	RM 477.40	221702	5pct Duration	461.8	1278.24	1275.47	1.05	0.94	7.42	5.71	242.4	483.33	1.52	1.17	2.78	2.78
Sweet Grass County	A1	RM 477.31	221259	5pct Duration	461.8	1277.93	1275.74	2.17	1.95	30.3	23.04	119.49	229.36	1.72	1.31	2.19	2.19
Sweet Grass County	A1	RM 477.21	220767	5pct Duration	461.8	1277.78	1275.28	1.8	1.62	19.89	14.33	125.92	234.39	1.98	1.43	2.5	2.5
Sweet Grass County	A1	RM 477.11	220252	5pct Duration	461.8	1277.45	1274.86	2.27	2.01	34.74	26.3	132.17	233.57	1.48	1.12	2.58	2.58
Sweet Grass County	A1	RM 477.04	219860	5pct Duration	461.8	1277.13	1275.13	2.35	2.03	37.47	27.47	129.56	235.6	1.44	1.06	2	2
Sweet Grass County	A1	RM 476.95	219422	5pct Duration	461.8	1276.69	1274.55	2.56	2.27	44.14	31.63	118.13	206.92	1.48	1.06	2.14	2.14
Sweet Grass County	A1	RM 476.84	218828	5pct Duration	461.8	1276.3	1273.95	2.14	1.91	31.56	24.77	129.99	236	1.42	1.11	2.36	2.36
Sweet Grass County	A1	RM 476.75	218345	5pct Duration	461.8	1276.02	1273.54	2.03	1.95	22.43	19.73	169.12	228.22	1.33	1.17	2.48	2.48
Sweet Grass County	A1	RM 476.66	217855	5pct Duration	461.8	1275.64	1273.45	2.32	2.21	30.41	24.92	154.57	263.57	1.28	1.04	2.19	2.19
Sweet Grass County	A1	RM 476.57	217396	5pct Duration	461.8	1275.3	1273.09	2.49	2.06	38.57	25	90.77	263.21	1.91	1.24	2.21	2.21
Sweet Grass County	A1	RM 476.47	216861	5pct Duration	461.8	1274.88	1273.04	2.52	2.22	43.48	33.47	119.31	219.45	1.41	1.09	1.84	1.84
Sweet Grass County	A1	RM 476.38	216362	5pct Duration	461.8	1274.53	1272.1	2.41	2.08	35.81	21.69	94.56	220.55	1.94	1.17	2.44	2.44
Sweet Grass County	A1	RM 476.28	215816	5pct Duration	461.8	1274.11	1271.85	2.63	2.41	44.78	33.02	97.58	169.11	1.67	1.23	2.26	2.26
Sweet Grass County	A1	RM 476.15	215126	5pct Duration	461.8	1273.41	1271.76	2.66	2.47	51.26	44.23	123.59	187.34	1.19	1.03	1.65	1.65
Sweet Grass County	A1	RM 476.01	214437	5pct Duration	461.8	1272.99	1270.96	1.96	1.85	25.5	22.23	133.53	208.74	1.57	1.37	2.03	2.03
Sweet Grass County	A1	RM 475.91	213787	5pct Duration	461.8	1272.63	1270.35	1.96	1.92	25.81	23.94	154.26	170.57	1.52	1.41	2.28	2.28
Sweet Grass County	A1	RM 475.76	213072	5pct Duration	461.8	1272.04	1270.22	2.41	2.36	39.99	38.24	134.57	145.35	1.41	1.35	1.82	1.82
Sweet Grass County	A1	RM 475.63	212347	5pct Duration	461.8	1271.63	1269.34	1.9	1.84	24.62	22.9	169.75	188.86	1.43	1.33	2.29	2.29
Sweet Grass County	A1	RM 475.47	211539	5pct Duration	461.8	1271.13	1268.97	2.16	2.16	30.14	30.14	127.46	127.46	1.68	1.68	2.15	2.15
Sweet Grass County	A1	RM 475.35	210875	5pct Duration	461.8	1270.35	1268.88	2.96	2.96	60.19	60.19	111.55	111.55	1.4	1.4	1.47	1.47
Sweet Grass County	A1	RM 475.24	210333	5pct Duration	461.8	1270.37	1267.53	1.59	1.59	14.28	13.84	112.42	116.1	2.58	2.5	2.84	2.84
Sweet Grass County	A2	RM 475.12	209673	5pct Duration	461.8	1269.57	1267.9	3.46	3.31	85.05	77.9	104.27	120.35	1.27	1.16	1.66	1.66
Sweet Grass County	A2	RM 475.00	209034	5pct Duration	461.8	1269.02	1266.93	2.31	2.31	35.8	35.8	130.36	130.36	1.53	1.53	2.09	2.09
Sweet Grass County	A2	RM 474.87	208359	5pct Duration	461.8	1268.82	1266.75	1.77	1.54	19.27	14.87	78.03	194.16	2.02	1.54	2.07	2.07
Sweet Grass County	A2	RM 474.76	207797	5pct Duration	461.8	1268.45	1266.42	2.39	2.09	35.64	24.28	74.21	169.17	1.94	1.31	2.03	2.03
Sweet Grass County	A2	RM 474.67	207305	5pct Duration	461.8	1267.81	1266.29	3.22	2.64	70.41	45.76	65.84	183.67	1.48	0.95	1.52	1.52
Sweet Grass County	A2	RM 474.54	206635	5pct Duration	461.8	1267.51	1264.92	1.92	1.8	23.09	17.42	124.15	184.18	1.85	1.39	2.59	2.59
Sweet Grass County	A2	RM 474.43	205945	5pct Duration	461.8	1267.06	1265.16	2.47	2.13	39.22	26.21	87.43	185.78	1.76	1.17	1.9	1.9
Sweet Grass County	A2	RM 474.30	205321	5pct Duration	461.8	1266.76	1264.46	2.02	1.98	25.95	21.92	128	155.22	1.78	1.5	2.29	2.29
Sweet Grass County	A2	RM 474.21	204877	5pct Duration	461.8	1266.42	1264.22	2.43	2.4	36.75	34.69	100.62	108.08	1.89	1.78	2.2	2.2
Sweet Grass County	A2	RM 474.12	204378	5pct Duration	461.8	1266.32	1263.24	1.87	1.75	20.01	13.79	100.71	157.63	2.43	1.67	3.07	3.07
Sweet Grass County	A2	RM 474.01	203787	5pct Duration	461.8	1266.01	1263.55	2.2	2.05	32.55	25.51	136.54	190.31	1.51	1.19	2.46	2.46
Sweet Grass County	A2	RM 473.87	203072	5pct Duration	461.8	1265.47	1263.52	2.5	2.17	38.85	24.94	96.57	196.61	1.69	1.08	1.95	1.95
Sweet Grass County	A2	RM 473.74	202395	5pct Duration	461.8	1265.19	1263.06	1.94	1.83	23.77	20.31	112.19	159.98	1.84	1.57	2.13	2.13
Sweet Grass County	A2	RM 473.62	201781	5pct Duration	461.8	1264.77	1262.63	2.27	2.22	34.91	33.19	137.95	148.77	1.47	1.4	2.14	2.14
Sweet Grass County	A2	RM 473.50	201110	5pct Duration	461.8	1264	1261.83	2.55	2.55	49.59	49.59	174.14	174.14	1.04	1.04	2.17	2.17
Sweet Grass County	A2	RM 473.36	200362	5pct Duration	461.8	1263.68	1261.08	1.83	1.82	20.28	19.16	123.58	131.53	2.04	1.93	2.6	2.6
Sweet Grass County	A2	RM 473.27	199862	5pct Duration	461.8	1263.35	1260.81	2.36	2.36	35.11	35.11	105.76	105.76	1.85	1.85	2.54	2.54
Sweet Grass County	A2	RM 473.17	199362	5pct Duration	461.8	1263.22	1260.56	1.92	1.92	21.07	21.07	99.01	99.01	2.43	2.43	2.66	2.66
Sweet Grass County	A2	RM 473.08	198879	5pct Duration	461.8	1262.95	1260.56	2.33	2.33	32.98	32.98	97.7	97.7	2.03	2.03	2.39	2.39
Sweet Grass County	A2	RM 472.98	198340	5pct Duration	461.8	1262.78	1260.21	1.94	1.93	22.7	21.57	115.06	121.75	2.07	1.97	2.58	2.58
Sweet Grass County	A2	RM 472.89	197862	5pct Duration	461.8	1262.37	1260.5	2.65	2.4	45.02	29.37	98.67	171.27	1.72	1.12	1.87	1.87
Sweet Grass County	A2	RM 472.79	197362	5pct Duration	461.8	1262.04	1259.98	2.29	2.15	35.16	27.51	131.26	182.07	1.51	1.18	2.06	2.06
Sweet Grass County	A2	RM 472.70	196862	5pct Duration	461.8	1261.63	1259.35	2.47	2.24	39.57	29.16	109.8	168.17	1.66	1.23	2.29	2.29
Sweet Grass County	A2	RM 472.60	196360	5pct Duration	461.8	1261.36	1259.01	1.98	1.82	27.68	23.9	163.79	223.56	1.31	1.13	2.35	2.35
Sweet Grass County	A2	RM 472.50	195816	5pct Duration	461.8	1260.99	1258.53	2.11	1.97	29.52	22.89	132.54	189.28	1.6	1.24	2.46	2.46
Sweet Grass County	A2	RM 472.41	195349	5pct Duration	461.8	1260.58	1258.52	2.32	2.18	39.72	36.87	167.33	198	1.15	1.07	2.06	2.06
Sweet Grass County	A2	RM 472.31	194860	5pct Duration	461.8	1260.26	1258.34	2.02	1.9	26.96	22.25	144.09	188.28	1.57	1.29	1.93	1.93
Sweet Grass County	A2	RM 472.22	194356	5pct Duration	461.8	1260.05	1257.3	2.03	1.96	21.19	17.54	112.67	143.43	1.99	1.64	2.75	2.75
Sweet Grass County	A2	RM 472.09	193660	5pct Duration	461.8	1259.3	1257.45	3.23	3.18	66.56	55.23	78.03	96.54	1.82	1.5	1.84	1.84
Sweet Grass County	A2	RM 471.95	192935	5pct Duration	461.8	1259.23	1256.05	1.79	1.65	18.3	13.22	100.34	155.21	2.52	1.81	3.18	3.18
Sweet Grass County	A2	RM 471.86	192442	5pct Duration	461.8	1258.91	1256.23	2.53	2.16	36.79	21.39	69.21	149.6	2.49	1.43	2.67	2.67
Sweet Grass County	A2	RM 471.75	191870	5pct Duration	461.8	1258.74	1256.47	1.95	1.83	23.8	17.03	125.41	189.43	1.86	1.34	2.28	2.28

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5pct Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A2	RM 471.65	191367	5pct Duration	461.8	1258.24	1256.54	2.68	2.61	49.16	43.15	118.33	139.35	1.44	1.27	1.7	1.7
Sweet Grass County	A2	RM 471.52	190686	5pct Duration	461.8	1258.03	1255.75	1.78	1.55	19.73	13.59	127.07	226.47	1.92	1.32	2.28	2.28
Sweet Grass County	A2	RM 471.38	189910	5pct Duration	461.8	1257.41	1255.44	2.59	2.44	48.2	38.77	123.83	192.92	1.22	0.98	1.97	1.97
Sweet Grass County	A2	RM 471.28	189362	5pct Duration	461.8	1256.77	1254.65	2.41	2.22	43.36	33.8	152.17	242.44	1.1	0.86	2.12	2.12
Sweet Grass County	A2	RM 471.18	188875	5pct Duration	461.8	1256.41	1254.2	2.18	1.85	26.3	18.51	122.33	262.09	1.36	0.95	2.21	2.21
Sweet Grass County	A2	RM 471.06	188150	5pct Duration	461.8	1255.98	1253.95	2.04	1.73	29.25	19.26	118.5	306.91	1.32	0.87	2.03	2.03
Sweet Grass County	A2	RM 470.94	187526	5pct Duration	461.8	1255.61	1253.58	2.08	1.77	26.47	17	103.07	258.01	1.57	1.01	2.03	2.03
Sweet Grass County	A2	RM 470.84	186938	5pct Duration	461.8	1255.24	1252.88	2.12	1.8	31.51	19.98	140.61	310.89	1.32	0.83	2.36	2.36
Sweet Grass County	A2	RM 470.73	186362	5pct Duration	461.8	1254.88	1253.49	1.51	1.76	18.68	20.4	174.76	289.58	0.83	0.91	1.82	1.82
Sweet Grass County	A2	RM 470.65	185977	5pct Duration	461.8	1254.67	1252.18	1.74	1.72	21.26	19.87	195.56	225.21	1.35	1.26	2.49	2.49
Sweet Grass County	A2	RM 470.56	185491	5pct Duration	461.8	1254.32	1252.52	2.01	2.01	29.19	29.19	187.36	207.44	1.23	1.23	1.8	1.8
Sweet Grass County	A2	RM 470.44	184875	5pct Duration	461.8	1254.19	1251.39	1.4	1.39	11.9	9.74	157.13	193.98	2.09	1.71	2.81	2.81
Sweet Grass County	A2	RM 470.35	184363	5pct Duration	461.8	1253.73	1251.52	2.65	2.65	46.62	45.91	110.35	112.08	1.58	1.55	2.21	2.21
Sweet Grass County	A2	RM 470.23	183828	5pct Duration	461.8	1253.37	1251.51	2.09	2.01	31.47	29.64	176.5	197.48	1.23	1.16	1.86	1.86
Sweet Grass County	A2	RM 470.13	183304	5pct Duration	461.8	1252.99	1249.86	2.02	1.95	29.06	26.85	161.5	204.02	1.26	1.16	3.13	3.13
Sweet Grass County	A2	RM 470.05	182914	5pct Duration	461.8	1252.7	1250.59	2.03	1.92	29.66	25.07	164.35	230.96	1.23	1.04	2.1	2.1
Sweet Grass County	A2	RM 469.93	182267	5pct Duration	461.8	1252	1249.62	2.66	2.56	46.3	41.62	101.73	122.75	1.63	1.47	2.38	2.38
Sweet Grass County	A2	RM 469.85	181860	5pct Duration	461.8	1251.57	1249.59	2.86	2.76	52.36	43.46	89.68	115	1.75	1.45	1.98	1.98
Sweet Grass County	A2	RM 469.75	181348	5pct Duration	461.8	1251.45	1248.77	1.87	1.78	21.77	19.12	114.52	153.77	1.92	1.69	2.68	2.68
Sweet Grass County	A2	RM 469.68	180952	5pct Duration	461.8	1251.08	1249.31	2.48	2.48	42	42	129.24	129.24	1.44	1.44	1.76	1.76
Sweet Grass County	A2	RM 469.58	180427	5pct Duration	461.8	1251.07	1247.94	1.47	1.42	12.06	8.39	117.19	176.08	2.67	1.85	3.12	3.12
Sweet Grass County	A2	RM 469.47	179860	5pct Duration	461.8	1250.86	1247.85	2.02	1.85	20.66	16.46	87.82	123.8	2.54	2.02	3.01	3.01
Sweet Grass County	A2	RM 469.39	179400	5pct Duration	461.8	1250.56	1248.45	2.47	2.37	38.89	29.09	105.69	148.24	1.76	1.31	2.11	2.11
Sweet Grass County	A2	RM 469.30	178975	5pct Duration	461.8	1250.53	1247.55	1.71	1.63	16.44	9.53	101.9	188.29	2.63	1.51	2.98	2.98
Sweet Grass County	A2	RM 469.21	178467	5pct Duration	461.8	1250.01	1248.31	2.93	2.84	56.69	45.78	99.12	127.91	1.58	1.27	1.71	1.71
Sweet Grass County	A2	RM 469.09	177862	5pct Duration	461.8	1249.91	1247.12	1.66	1.42	17.52	8.24	113.07	385.53	1.79	0.84	2.79	2.79
Sweet Grass County	A2	RM 469.00	177350	5pct Duration	461.8	1249.18	1247.58	3.33	2.96	77.85	60.28	83.62	160.55	1.34	1.04	1.6	1.6
Sweet Grass County	A2	RM 468.90	176865	5pct Duration	461.8	1248.8	1246.48	1.89	1.71	18.14	14.92	151.01	235.95	1.39	1.14	2.32	2.32
Sweet Grass County	A2	RM 468.80	176341	5pct Duration	461.8	1248.61	1246.11	1.78	1.63	20.71	16.67	133.58	217.01	1.63	1.31	2.5	2.5
Sweet Grass County	A2	RM 468.71	175823	5pct Duration	461.8	1248.07	1246.41	2.63	2.37	53.64	44.76	138.96	235.86	0.99	0.83	1.66	1.66
Sweet Grass County	A2	RM 468.57	175192	5pct Duration	461.8	1247.84	1245.17	1.49	1.44	14.79	13.65	160.79	239.99	1.57	1.44	2.67	2.67
Sweet Grass County	A2	RM 468.42	174099	5pct Duration	461.8	1247.08	1244.97	2.44	2.37	42.08	35.5	145.29	192.69	1.29	1.09	2.12	2.12
Sweet Grass County	A3	RM 468.25	173324	5pct Duration	461.8	1247.02	1242.97	1.36	1.29	10.32	7.7	125.83	275.5	2.66	1.98	4.04	4.04
Sweet Grass County	A3	RM 468.16	172855	5pct Duration	461.8	1246.87	1243.58	1.76	1.56	18.56	11.12	117.16	359.16	2.12	1.27	3.29	3.29
Sweet Grass County	A3	RM 468.07	172364	5pct Duration	461.8	1246.8	1243.89	1.48	1.29	13.12	7.14	133.55	421.98	2.11	1.14	2.91	2.91
Sweet Grass County	A3	RM 467.97	171839	5pct Duration	461.8	1246.12	1244.32	3.34	2.95	75.11	48.56	80.78	194.63	1.53	0.98	1.8	1.8
Sweet Grass County	A3	RM 467.87	171312	5pct Duration	461.8	1245.85	1243.46	1.74	1.68	19.84	18.4	155.2	195.62	1.61	1.49	2.39	2.39
Sweet Grass County	A3	RM 467.78	170840	5pct Duration	461.8	1245.43	1243.74	2.47	2.27	42.6	35.03	99.03	182.35	1.35	1.11	1.69	1.69
Sweet Grass County	A3	RM 467.69	170376	5pct Duration	461.8	1245.1	1242.96	2.19	1.95	32.19	24.05	111.99	207.03	1.54	1.14	2.14	2.14
Sweet Grass County	A3	RM 467.55	169614	5pct Duration	461.8	1244.54	1242.1	2.28	2.03	35.45	28.2	97.26	194.76	1.47	1.17	2.44	2.44
Sweet Grass County	A3	RM 467.41	168870	5pct Duration	461.8	1244.39	1241.15	1.47	1.35	12.65	8.17	127.33	232.64	2.29	1.48	3.25	3.25
Sweet Grass County	A3	RM 467.30	168362	5pct Duration	461.8	1243.65	1242.15	3.5	3.31	84.41	70.35	87.79	119.16	1.41	1.17	1.5	1.5
Sweet Grass County	A3	RM 467.16	167641	5pct Duration	461.8	1243.46	1240.78	1.7	1.6	18.5	13.91	150.71	222.88	1.72	1.3	2.68	2.68
Sweet Grass County	A3	RM 467.00	166780	5pct Duration	461.8	1242.9	1240.48	2.42	2.31	37.8	31.54	104.88	139.03	1.73	1.44	2.43	2.43
Sweet Grass County	A3	RM 466.83	165902	5pct Duration	461.8	1242.43	1239.84	2.22	2.04	30.12	16.98	101.9	202.87	2	1.12	2.59	2.59
Sweet Grass County	A3	RM 466.73	165364	5pct Duration	461.8	1242.2	1239.81	2.1	1.98	27.57	20.69	112.63	165.57	1.88	1.41	2.39	2.39
Sweet Grass County	A3	RM 466.64	164858	5pct Duration	461.8	1241.88	1239.36	2.43	2.23	33.82	22.1	84.87	180.57	2.12	1.38	2.52	2.52
Sweet Grass County	A3	RM 466.49	164108	5pct Duration	461.8	1241.42	1239.67	2.45	1.97	40.18	21.44	105.78	358.49	1.54	0.82	1.75	1.75
Sweet Grass County	A3	RM 466.25	162845	5pct Duration	461.8	1240.34	1238.71	2.62	2.27	45.34	33.13	78.03	175.22	1.62	1.16	1.63	1.63
Sweet Grass County	A3	RM 465.79	160351	5pct Duration	461.8	1238.93	1236.48	2.04	1.6	26.24	13.82	102.55	297	1.89	0.97	2.45	2.45
Sweet Grass County	A3	RM 465.01	155919	5pct Duration	461.8	1236.8	1234.44	2.28	2.23	32.85	28.28	111.13	132.43	1.82	1.56	2.36	2.36
Sweet Grass County	A3	RM 464.68	154254	5pct Duration	461.8	1235.95	1233.35	1.9	1.9	24.39	23.67	162.74	167.78	1.49	1.45	2.61	2.61
Sweet Grass County	A3	RM 464.48	153160	5pct Duration	461.8	1235.39	1232.71	1.87	1.77	24.09	17.9	169.83	265.1	1.42	1.05	2.68	2.68
Sweet Grass County	A3	RM 464.33	152378	5pct Duration	461.8	1235	1232.61	1.79	1.59	21.86	16.82	173.99	262.78	1.44	1.1	2.39	2.39
Sweet Grass County	A3	RM 464.16	151621	5pct Duration	461.8	1234.38	1232.45	2.34	2.19	38.69	30.13	148.77	209.77	1.29	1.01	1.93	1.93
Sweet Grass County	A3	RM 464.04	150961	5pct Duration	461.8	1234.21	1231.48	1.69	1.5	16.53	9.4	111.63	228.86	2.39	1.35	2.72	2.72
Sweet Grass County	A3	RM 463.88	150174	5pct Duration	461.8	1233.68	1231.85	2.57	2.44	45.82	39.19	128.08	162.62	1.36	1.17	1.83	1.83
Sweet Grass County	A3	RM 463.78	149616	5pct Duration	461.8	1233.32	1230.54	2.06	1.93	28.36	22.34	144.82	214.61	1.53	1.2	2.78	2.78
Sweet Grass County	A3	RM 463.67	149069	5pct Duration	461.8	1232.84	1230.86	2.46	2.21	41.4	28.86	125.23	210.3	1.43	0.99	1.98	1.98
Sweet Grass County	A3	RM 463.59	148630	5pct Duration	461.8	1232.61	1230.39	2.06	1.83	27.49	19.74	128.78	244.37	1.69	1.21	2.22	2.22
Sweet Grass County	A3	RM 463.49	148111	5pct Duration	461.8	1232.21	1229.73	2.44	2.31	37.95	32.67	104.41	135.63	1.79	1.54	2.48	2.48

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5pct Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A3	RM 463.34	147326	5pct Duration	461.8	1231.78	1229.72	1.94	1.69	26.43	19.19	172.96	308.94	1.3	0.95	2.06	2.06
Sweet Grass County	A3	RM 463.20	146616	5pct Duration	461.8	1231.38	1228.95	2.09	1.54	27.77	12.47	88.3	410.63	1.82	0.8	2.42	2.42
Sweet Grass County	A3	RM 463.06	145881	5pct Duration	461.8	1230.99	1228.89	2.07	1.43	28.62	10.55	110.58	667.3	1.55	0.57	2.09	2.09
Sweet Grass County	A4	RM 462.79	144435	5pct Duration	461.8	1230.65	1228.25	1.29	0.72	10.85	4.58	132.55	1169.89	1.7	0.71	2.4	2.4
Sweet Grass County	A4	RM 462.16	141146	5pct Duration	461.8	1228.77	1226.15	2.28	1.92	32.96	16.13	100.2	270.38	1.84	0.89	2.62	2.62
Sweet Grass County	A4	RM 461.97	140135	5pct Duration	461.8	1228.21	1226.06	2.06	1.52	29.23	15.05	120.55	497.24	1.41	0.73	2.15	2.15
Sweet Grass County	A4	RM 461.71	138705	5pct Duration	461.8	1226.61	1224.75	3.21	2.71	71.95	45.21	81.82	242.43	1.35	0.84	1.85	1.85
Sweet Grass County	A4	RM 461.52	137683	5pct Duration	461.8	1225.85	1222.31	1.68	1.42	14.67	7.37	69.13	195.34	3.44	1.67	3.54	3.54
Sweet Grass County	A4	RM 461.33	136718	5pct Duration	461.8	1225.56	1223.38	1.94	1.87	25.84	23.94	119.26	187.23	1.43	1.32	2.18	2.18
Sweet Grass County	A4	RM 461.14	135736	5pct Duration	461.8	1224.85	1222.44	2.35	2.31	35.07	30.45	110.09	129.23	1.78	1.55	2.41	2.41
Sweet Grass County	A4	RM 460.99	134951	5pct Duration	461.8	1224.44	1221.98	2.15	2.06	29.16	24.4	118.31	148.52	1.8	1.51	2.46	2.46
Sweet Grass County	A4	RM 460.85	134214	5pct Duration	461.8	1223.4	1222.07	3.3	3.3	77.57	77.57	126.6	126.6	1.11	1.11	1.34	1.34
Sweet Grass County	A4	RM 460.74	133616	5pct Duration	461.8	1223.15	1220.27	1.74	1.73	17.8	17.07	118.21	123.79	2.25	2.15	2.88	2.88
Sweet Grass County	A4	RM 460.63	133067	5pct Duration	461.8	1223.16	1218.9	1.12	1.12	6.14	5.9	101.37	105.7	4.06	3.9	4.26	4.26
Sweet Grass County	A4	RM 460.50	132281	5pct Duration	461.8	1222.81	1221.12	2.4	2.22	41.39	33.28	146.66	209.94	1.23	0.99	1.69	1.69
Sweet Grass County	A4	RM 460.38	131785	5pct Duration	461.8	1222.36	1220.5	2.29	2.1	31.67	26.79	137.12	224.72	1.16	0.98	1.86	1.86
Sweet Grass County	A4	RM 460.29	131287	5pct Duration	461.8	1221.83	1219.97	2.42	2.33	42.64	39.81	121.82	177.16	1.2	1.12	1.86	1.86
Sweet Grass County	A4	RM 460.19	130793	5pct Duration	461.8	1221.26	1219.38	2.52	2.37	44.95	39.89	110.18	195.37	1.3	1.15	1.88	1.88
Sweet Grass County	A4	RM 460.08	130210	5pct Duration	461.8	1220.87	1218.23	2.19	2.19	30.59	30.59	117.74	117.74	1.79	1.79	2.65	2.65
Sweet Grass County	A4	RM 459.99	129763	5pct Duration	461.8	1220.66	1218.01	2.2	2.2	28.89	28.89	95.96	95.96	2.18	2.18	2.65	2.65
Sweet Grass County	A4	RM 459.90	129246	5pct Duration	461.8	1220.54	1217.62	1.86	1.86	19.62	19.62	96.81	96.81	2.56	2.56	2.93	2.93
Sweet Grass County	A4	RM 459.81	128792	5pct Duration	461.8	1220.21	1218.15	2.53	2.53	39.86	39.86	95.93	95.93	1.9	1.9	2.06	2.06
Sweet Grass County	A4	RM 459.72	128310	5pct Duration	516.2	1220.08	1217.31	1.97	1.97	23.31	23.31	121.95	145.65	2.14	2.14	2.77	2.77
Sweet Grass County	A4	RM 459.62	127798	5pct Duration	516.2	1219.69	1217.46	2.51	2.46	41.31	34.19	126.8	203.71	1.61	1.33	2.22	2.22
Sweet Grass County	A5	RM 459.53	127324	5pct Duration	516.2	1219.2	1217.26	2.63	2.63	48.43	48.43	149.38	149.38	1.32	1.32	1.94	1.94
Sweet Grass County	A5	RM 459.44	126881	5pct Duration	516.2	1218.79	1216.93	2.29	2.29	37.46	37.46	180.14	180.14	1.25	1.25	1.87	1.87
Sweet Grass County	A5	RM 459.31	126192	5pct Duration	516.2	1218.4	1215.66	1.99	1.94	25.3	24.24	145.58	162.94	1.77	1.7	2.74	2.74
Sweet Grass County	A5	RM 459.24	125848	5pct Duration	516.2	1218.18	1215.69	2.18	2.15	30.93	28.99	141.88	154.3	1.67	1.56	2.49	2.49
Sweet Grass County	A5	RM 459.16	125420	5pct Duration	516.2	1217.66	1215.82	2.72	2.72	53.07	53.07	155.2	155.2	1.22	1.22	1.84	1.84
Sweet Grass County	A5	RM 459.02	124624	5pct Duration	516.2	1217.14	1214.8	1.9	1.9	24.79	24.79	194.01	202.79	1.4	1.4	2.33	2.33
Sweet Grass County	A5	RM 458.79	123371	5pct Duration	516.2	1216.4	1214.02	2.12	2.12	28.94	28.94	141.81	141.81	1.72	1.72	2.38	2.38
Sweet Grass County	A5	RM 458.48	121727	5pct Duration	516.2	1215.4	1213.35	2.15	2.01	31.83	28.12	127.83	211.5	1.39	1.23	2.05	2.05
Sweet Grass County	A5	RM 458.36	121100	5pct Duration	516.2	1214.38	1212.73	3.28	3.04	77.64	63.18	110.41	172.26	1.21	0.99	1.65	1.65
Sweet Grass County	A5	RM 458.25	120543	5pct Duration	516.2	1213.99	1211.35	1.98	1.75	23.83	15.57	113.11	220.96	2.06	1.34	2.64	2.64
Sweet Grass County	A5	RM 458.13	119849	5pct Duration	516.2	1213.2	1211.21	3.11	2.94	68.43	54.25	120.81	169.3	1.31	1.04	1.98	1.98
Sweet Grass County	A5	RM 458.03	119256	5pct Duration	516.2	1213.17	1210.09	1.76	1.76	16.84	16.84	101.71	128.5	2.88	2.88	3.08	3.08
Sweet Grass County	A5	RM 457.87	118444	5pct Duration	516.2	1213.07	1209.57	1.59	1.59	13.23	13.23	100.19	100.19	3.24	3.24	3.5	3.5
Sweet Grass County	A5	RM 457.76	117858	5pct Duration	516.2	1212.88	1210.24	1.93	1.93	22.63	22.63	129.39	129.39	2.06	2.06	2.64	2.64
Sweet Grass County	A5	RM 457.66	117350	5pct Duration	516.2	1212.67	1210.03	2.04	2.04	25.59	25.59	127.84	127.84	1.98	1.98	2.64	2.64
Sweet Grass County	A5	RM 457.54	116694	5pct Duration	516.2	1212.37	1209.93	2.11	2.11	27.58	27.58	127.2	127.2	1.92	1.92	2.44	2.44
Sweet Grass County	A5	RM 457.35	115703	5pct Duration	516.2	1211.19	1209.69	3.21	3.21	77.81	77.81	150.25	150.25	1.07	1.07	1.5	1.5
Sweet Grass County	A5	RM 457.20	114921	5pct Duration	516.2	1210.89	1208.7	1.66	1.66	18.12	18.12	192.64	192.64	1.61	1.61	2.19	2.19
Sweet Grass County	A5	RM 457.02	113974	5pct Duration	516.2	1209.84	1208.04	3.35	3.06	75.01	51.26	94.72	161.35	1.53	1.05	1.79	1.79
Sweet Grass County	A5	RM 456.84	113009	5pct Duration	516.2	1209.39	1206.55	2	2	23.37	23.37	110.99	110.99	2.32	2.32	2.84	2.84
Sweet Grass County	A5	RM 456.68	112164	5pct Duration	516.2	1208.82	1206.59	2.66	2.66	44.82	44.82	106.82	106.82	1.81	1.81	2.23	2.23
Sweet Grass County	A5	RM 456.55	111455	5pct Duration	516.2	1208.35	1206.19	2.35	2.35	36.28	36.28	135.69	135.69	1.62	1.62	2.17	2.17
Sweet Grass County	A5	RM 456.43	110857	5pct Duration	516.2	1208.17	1205.33	1.96	1.96	21.82	21.82	102.63	102.63	2.56	2.56	2.83	2.83
Sweet Grass County	A6	RM 456.29	110121	5pct Duration	516.2	1207.84	1205.45	2.28	2.28	29.52	29.52	110.48	110.48	2.05	2.05	2.39	2.39
Sweet Grass County	A6	RM 456.18	109508	5pct Duration	516.2	1207.47	1205.45	2.4	2.4	37.06	37.06	124.46	124.46	1.73	1.73	2.02	2.02
Sweet Grass County	A6	RM 456.03	108721	5pct Duration	516.2	1206.92	1204.59	2.32	2.32	36.24	36.24	148.2	148.2	1.5	1.5	2.33	2.33
Sweet Grass County	A6	RM 455.84	107742	5pct Duration	516.2	1206.19	1204.05	2.3	2.26	31.07	29.43	173.29	186.9	1.29	1.22	2.14	2.14
Sweet Grass County	A6	RM 455.70	106976	5pct Duration	516.2	1205.98	1203.14	1.76	1.76	17.59	17.59	118.06	145.73	2.49	2.49	2.84	2.84
Sweet Grass County	A6	RM 455.56	106256	5pct Duration	516.2	1205.65	1203.35	2.24	2.24	29.13	29.13	115.87	161.23	1.99	1.99	2.3	2.3
Sweet Grass County	A6	RM 455.39	105360	5pct Duration	516.2	1205.4	1202.74	1.76	1.76	18.72	18.72	144.39	181.53	2.04	2.04	2.65	2.65
Sweet Grass County	A6	RM 455.26	104667	5pct Duration	516.2	1204.44	1202.83	3.54	3.54	87.9	87.9	114.42	127.95	1.27	1.27	1.6	1.6
Sweet Grass County	A6	RM 455.09	103771	5pct Duration	516.2	1204.28	1201.58	1.51	1.46	13.58	12.01	153.05	181.64	2.2	1.95	2.7	2.7
Sweet Grass County	A6	RM 454.95	103072	5pct Duration	516.2	1203.74	1201.94	2.61	2.55	51.91	50.38	176.26	201.79	1.03	1	1.8	1.8
Sweet Grass County	A6	RM 454.82	102364	5pct Duration	516.2	1203.08	1200.61	2.16	2.08	32.24	29.88	150.58	192.41	1.4	1.29	2.47	2.47
Sweet Grass County	A6	RM 454.72	101863	5pct Duration	516.2	1202.34	1200.47	3.01	3.01	58.4	58.4	122.65	122.65	1.4	1.4	1.87	1.87
Sweet Grass County	A6	RM 454.64	101419	5pct Duration	516.2	1202.16	1199.69	2.1	2.1	26.82	26.82	145.06	145.06	1.7	1.7	2.47	2.47
Sweet Grass County	A6	RM 454.53	100846	5pct Duration	516.2	1201.8	1199.59	2.35	2.35	32.98	32.98	117.42	117.42	1.87	1.87	2.22	2.22

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5pct Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A6	RM 454.43	100338	5pct Duration	516.2	1201.58	1199	2.21	2.21	29.1	29.1	106.86	106.86	2.18	2.18	2.59	2.59
Sweet Grass County	A6	RM 454.29	99597	5pct Duration	516.2	1201.32	1198.71	2.07	2.02	25.26	21.7	110.43	133.05	2.24	1.92	2.61	2.61
Sweet Grass County	A6	RM 454.15	98861	5pct Duration	516.2	1201.08	1198.68	1.96	1.96	21.97	21.97	133.03	133.03	1.98	1.98	2.4	2.4
Sweet Grass County	A6	RM 454.00	98105	5pct Duration	516.2	1200.71	1198.53	2.15	2.15	25.08	25.08	161.08	161.08	1.49	1.49	2.18	2.18
Sweet Grass County	A6	RM 453.89	97523	5pct Duration	516.2	1200.12	1198.31	2.71	2.68	42.61	40.55	169.38	179.88	1.12	1.07	1.82	1.82
Sweet Grass County	A6	RM 453.78	96929	5pct Duration	516.2	1200.05	1197.07	1.58	1.58	14.82	14.82	146.42	146.42	2.22	2.22	2.97	2.97
Sweet Grass County	A6	RM 453.67	96361	5pct Duration	516.2	1199.42	1197.77	3.04	3.01	60.81	59.03	144.03	150.14	1.18	1.14	1.65	1.65
Sweet Grass County	A6	RM 453.58	95863	5pct Duration	516.2	1199.43	1196.37	1.59	1.59	14.07	14.07	178.06	178.06	2.14	2.14	3.06	3.06
Sweet Grass County	A6	RM 453.48	95355	5pct Duration	516.2	1199.08	1196.86	2.41	2.41	34.8	34.8	114.36	114.36	1.87	1.87	2.22	2.22
Sweet Grass County	A6	RM 453.35	94633	5pct Duration	516.2	1198.71	1196.43	2.25	2.25	29.53	29.53	132.99	132.99	1.72	1.72	2.27	2.27
Sweet Grass County	A7	RM 453.23	93994	5pct Duration	516.2	1198.05	1196.41	2.97	2.65	54.39	44.93	104.06	184.13	1.28	1.06	1.64	1.64
Sweet Grass County	A7	RM 453.11	93361	5pct Duration	516.2	1197.78	1195.68	1.88	1.86	21.91	21.31	164.2	174.34	1.64	1.59	2.09	2.09
Sweet Grass County	A7	RM 453.01	92863	5pct Duration	516.2	1197.31	1195.38	2.59	2.54	42.58	37.39	127.71	150.14	1.54	1.35	1.93	1.93
Sweet Grass County	A7	RM 452.91	92363	5pct Duration	516.2	1197.02	1194.85	2.37	2.14	31.97	26.01	104.72	176.33	1.69	1.37	2.17	2.17
Sweet Grass County	A7	RM 452.82	91863	5pct Duration	516.2	1196.72	1194.65	2.27	2.11	33.28	29.01	103.66	164.65	1.7	1.48	2.07	2.07
Sweet Grass County	A7	RM 452.72	91363	5pct Duration	516.2	1196.71	1193.29	1.38	1.38	10.59	10.59	138.69	138.69	2.69	2.69	3.41	3.41
Sweet Grass County	A7	RM 452.64	90932	5pct Duration	516.2	1196.49	1194.02	2.05	1.94	26.4	22.47	133.5	168.21	1.86	1.58	2.47	2.47
Sweet Grass County	A7	RM 452.53	90362	5pct Duration	516.2	1196.08	1193.87	2.5	2.43	37.35	32.32	107.19	129.37	1.89	1.64	2.21	2.21
Sweet Grass County	A7	RM 452.43	89864	5pct Duration	516.2	1195.77	1193.52	2.52	2.46	37.62	29.98	105.75	137.49	1.92	1.53	2.24	2.24
Sweet Grass County	A7	RM 452.33	89331	5pct Duration	516.2	1195.45	1193.16	2.43	2.42	32.32	31.03	131.05	137.32	1.62	1.56	2.29	2.29
Sweet Grass County	A7	RM 452.25	88863	5pct Duration	516.2	1195.19	1192.91	2.34	2.33	31.48	30.26	129.07	134.58	1.71	1.65	2.28	2.28
Sweet Grass County	A7	RM 452.16	88399	5pct Duration	516.2	1194.89	1192.68	2.44	2.37	35.39	31.15	114	133.72	1.85	1.63	2.21	2.21
Sweet Grass County	A7	RM 452.06	87882	5pct Duration	516.2	1194.66	1192.4	2.19	2.14	29.39	24.55	117.46	144.58	2	1.67	2.26	2.26
Sweet Grass County	A7	RM 451.96	87394	5pct Duration	516.2	1194.3	1191.9	2.5	2.43	39.91	34.26	117.04	140.66	1.75	1.51	2.4	2.4
Sweet Grass County	A7	RM 451.86	86835	5pct Duration	516.2	1193.99	1191.79	2.34	2.2	32	26.13	115.22	152.76	1.88	1.53	2.2	2.2
Sweet Grass County	A7	RM 451.75	86230	5pct Duration	516.2	1193.74	1191.43	2.09	2.09	25.96	25.96	127.58	127.58	1.94	1.94	2.31	2.31
Sweet Grass County	A7	RM 451.61	85483	5pct Duration	516.2	1193.41	1190.7	2.08	2.08	27.53	27.53	141.63	141.63	1.76	1.76	2.7	2.7
Sweet Grass County	A7	RM 451.49	84861	5pct Duration	516.2	1192.76	1191.07	2.88	2.83	53.02	49.69	110.61	120.45	1.61	1.51	1.69	1.69
Sweet Grass County	A7	RM 451.34	84113	5pct Duration	516.2	1192.62	1190.06	1.65	1.65	16.34	16.34	149.13	149.13	2.1	2.1	2.56	2.56
Sweet Grass County	A7	RM 451.20	83363	5pct Duration	516.2	1192.2	1189.8	2.39	2.39	34.18	34.18	100.84	100.84	2.14	2.14	2.4	2.4
Sweet Grass County	A7	RM 451.10	82863	5pct Duration	516.2	1192.01	1189.79	2.11	2.11	27.18	27.18	125.78	125.78	1.94	1.94	2.22	2.22
Sweet Grass County	A7	RM 451.00	82325	5pct Duration	516.2	1191.68	1189.55	2.37	2.21	36.57	30.52	116.57	169.51	1.66	1.38	2.13	2.13
Sweet Grass County	A7	RM 450.86	81602	5pct Duration	516.2	1191.41	1188.29	1.76	1.65	33.97	22	88.86	160.37	3.08	1.96	3.12	3.12
Sweet Grass County	A7	RM 450.73	80923	5pct Duration	516.2	1190.79	1188.46	2.82	2.76	48.24	40.95	88.02	106.84	2.07	1.75	2.34	2.34
Sweet Grass County	A7	RM 450.63	80374	5pct Duration	516.2	1190.55	1188.16	2.27	2.27	32.2	31.9	122.02	123.19	1.87	1.85	2.39	2.39
Sweet Grass County	A7	RM 450.53	79863	5pct Duration	516.2	1190.35	1187.88	2.01	2.01	22.72	22.72	144.23	144.23	1.78	1.78	2.48	2.48
Sweet Grass County	A7	RM 450.43	79300	5pct Duration	516.2	1190.12	1187.72	2.08	1.93	23.66	20.73	123.78	176.03	1.73	1.52	2.4	2.4
Sweet Grass County	A7	RM 450.34	78849	5pct Duration	548.3	1189.58	1188.05	2.91	2.66	57.02	48.02	119.01	197.79	1.24	1.04	1.53	1.53
Sweet Grass County	A7	RM 450.23	78298	5pct Duration	548.3	1189.46	1186.92	1.61	1.61	15.56	15.56	189.71	189.71	1.8	1.8	2.54	2.54
Sweet Grass County	A7	RM 450.14	77822	5pct Duration	548.3	1189.23	1186.4	1.98	1.98	24.84	24.84	150.26	150.26	1.84	1.84	2.82	2.82
Sweet Grass County	A7	RM 450.05	77362	5pct Duration	548.3	1188.65	1187.2	2.9	2.9	58.21	58.21	136.7	136.7	1.38	1.38	1.46	1.46
Sweet Grass County	A7	RM 449.96	76841	5pct Duration	548.3	1188.43	1186.28	2.14	2.08	27.91	24.63	124.71	146.21	2.04	1.8	2.15	2.15
Sweet Grass County	A7	RM 449.86	76356	5pct Duration	548.3	1188.27	1185.58	2.04	1.97	23.62	20.11	105.87	129.63	2.52	2.15	2.69	2.69
Sweet Grass County	A7	RM 449.77	75860	5pct Duration	548.3	1188	1185.68	2.38	2.16	31.38	28.69	131.48	164.24	1.69	1.54	2.32	2.32
Sweet Grass County	A7	RM 449.68	75373	5pct Duration	548.3	1187.41	1185.9	2.81	2.72	59.58	57.45	181.1	195.59	1.06	1.03	1.51	1.51
Sweet Grass County	A7	RM 449.59	74904	5pct Duration	548.3	1187.44	1184.15	1.57	1.48	13.24	11.21	107.78	161.62	3	2.52	3.29	3.29
Sweet Grass County	A7	RM 449.48	74351	5pct Duration	548.3	1187.08	1184.86	2.6	2.4	42.94	32.31	96.95	168.89	1.8	1.35	2.23	2.23
Sweet Grass County	A7	RM 449.37	73741	5pct Duration	548.3	1186.91	1184.73	1.56	1.54	16.88	15.95	204.42	313.1	1.4	1.32	2.18	2.18
Sweet Grass County	A7	RM 449.26	73165	5pct Duration	548.3	1186.7	1184.33	1.84	1.44	17.55	7.36	122.63	521.06	1.91	0.79	2.37	2.37
Sweet Grass County	A7	RM 449.10	72364	5pct Duration	548.3	1186.06	1183.97	2.91	2.19	51.72	25.38	84.12	376.93	2.06	0.99	2.09	2.09
Sweet Grass County	A7	RM 449.00	71858	5pct Duration	548.3	1185.57	1183.97	2.99	2.28	59.3	35.93	96.32	251.42	1.6	0.96	1.61	1.61
Sweet Grass County	A7	RM 448.88	71223	5pct Duration	548.3	1184.75	1183.11	2.62	2.49	51.73	44.66	182.37	252.45	1.06	0.92	1.63	1.63
Sweet Grass County	A7	RM 448.76	70537	5pct Duration	548.3	1184.44	1182.01	1.65	1.5	18.34	14.85	181.36	303.95	1.49	1.2	2.43	2.43
Sweet Grass County	A7	RM 448.55	69424	5pct Duration	548.3	1184.06	1181.8	1.72	1.62	18.6	16.17	152.32	214.59	1.82	1.58	2.26	2.26
Sweet Grass County	A7	RM 448.41	68815	5pct Duration	548.3	1183.37	1181.16	3.1	3.1	57.55	57.55	81.08	81.08	2.18	2.18	2.21	2.21
Sweet Grass County	A7	RM 448.32	68353	5pct Duration	548.3	1183.38	1179.91	1.42	1.42	10.54	10.54	114.86	114.86	3.35	3.35	3.47	3.47
Sweet Grass County	A7	RM 448.23	67851	5pct Duration	548.3	1183.25	1179.82	1.76	1.76	16.29	16.29	98.76	98.76	3.16	3.16	3.43	3.43
Sweet Grass County	A7	RM 448.07	67043	5pct Duration	548.3	1182.92	1180.7	2.24	2.24	31.83	31.83	137.33	146.32	1.78	1.78	2.22	2.22
Sweet Grass County	A7	RM 447.94	66348	5pct Duration	548.3	1182.66	1180.22	2.02	2	24.07	22	119.62	133.61	2.26	2.07	2.44	2.44
Sweet Grass County	A7	RM 447.85	65863	5pct Duration	548.3	1182.24	1180.39	2.67	2.67	46.78	46.78	127.48	146.05	1.61	1.61	1.85	1.85
Sweet Grass County	A7	RM 447.75	65363	5pct Duration	548.3	1182.19	1179.55	1.73	1.73	15.97	15.97	135.63	152.83	2.34	2.34	2.65	2.65

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5pct Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A7	RM 447.66	64865	5pct Duration	548.3	1182	1179.59	2.01	2.01	23.74	23.74	119.09	137.47	2.29	2.29	2.41	2.41
Sweet Grass County	A7	RM 447.56	64365	5pct Duration	548.3	1181.62	1179.67	2.57	2.44	43.12	34.22	128.64	210.8	1.64	1.3	1.95	1.95
Sweet Grass County	A7	RM 447.49	64001	5pct Duration	548.3	1181.44	1179.82	2.05	1.99	27.89	23	192.78	266.36	1.38	1.14	1.62	1.62
Sweet Grass County	A7	RM 447.39	63473	5pct Duration	548.3	1180.86	1178.85	2.93	2.4	52.47	30.88	88.14	217.64	1.79	1.05	2.01	2.01
Sweet Grass County	A7	RM 447.27	62880	5pct Duration	548.3	1180.58	1178.26	2.27	1.95	32.49	20.29	98.79	244.6	1.85	1.15	2.32	2.32
Sweet Grass County	A7	RM 447.17	62358	5pct Duration	548.3	1180.27	1177.92	2.38	1.8	35.38	16.8	98.77	339.85	1.9	0.9	2.35	2.35
Sweet Grass County	A7	RM 447.08	61863	5pct Duration	548.3	1179.79	1177.91	2.74	2.03	54.19	34.57	97.45	346.08	1.23	0.78	1.88	1.88
Sweet Grass County	A7	RM 446.98	61358	5pct Duration	548.3	1179.31	1177.28	2.56	1.97	39.8	22.19	92.15	282.21	1.78	0.99	2.03	2.03
Sweet Grass County	A7	RM 446.89	60841	5pct Duration	548.3	1178.85	1176.94	2.89	2.11	53.85	30.82	76.74	263.49	1.72	0.99	1.91	1.91
Sweet Grass County	A7	RM 446.80	60396	5pct Duration	548.3	1178.71	1175.92	2.07	1.51	25.48	13.26	86.8	322.18	2.23	1.15	2.8	2.8
Sweet Grass County	A7	RM 446.70	59903	5pct Duration	548.3	1178.34	1176.22	2.86	2.06	50.04	23.65	65.84	287.99	2.07	0.96	2.12	2.12
Sweet Grass County	A7	RM 446.60	59371	5pct Duration	548.3	1177.84	1175.91	2.98	2.43	52.68	31.91	75.34	217.24	1.72	1.04	1.94	1.94
Sweet Grass County	A7	RM 446.51	58868	5pct Duration	548.3	1177.52	1175.24	2.52	2.22	40.83	29.04	104.84	198.6	1.75	1.24	2.28	2.28
Sweet Grass County	A7	RM 446.41	58363	5pct Duration	548.3	1177.34	1174.39	1.95	1.81	21.52	16.88	131.1	193.67	1.99	1.56	2.95	2.95
Sweet Grass County	A7	RM 446.30	57762	5pct Duration	548.3	1176.91	1174.85	2.56	2.39	38.77	33.28	120.24	168.26	1.58	1.36	2.07	2.07
Sweet Grass County	A7	RM 446.22	57365	5pct Duration	548.3	1176.58	1174.39	2.6	2.6	41.39	41.39	121.15	121.15	1.74	1.74	2.18	2.18
Sweet Grass County	A7	RM 446.12	56852	5pct Duration	548.3	1176.27	1174.04	2.39	2.39	33.04	33.04	137.96	137.96	1.66	1.66	2.23	2.23
Sweet Grass County	A7	RM 446.02	56303	5pct Duration	548.3	1176.14	1173.3	1.93	1.85	20.54	18.14	97.39	123.87	2.79	2.46	2.84	2.84
Sweet Grass County	A7	RM 445.94	55871	5pct Duration	548.3	1175.7	1173.6	2.94	2.77	54.46	46.17	93.48	127.16	1.84	1.56	2.11	2.11
Sweet Grass County	A7	RM 445.82	55236	5pct Duration	548.3	1175.27	1173.05	2.17	2.17	33.53	32.16	196.88	206.14	1.28	1.23	2.22	2.22
Sweet Grass County	A7	RM 445.71	54753	5pct Duration	548.3	1175.06	1172.38	1.88	1.87	17.76	17.33	187.32	193.31	1.55	1.51	2.68	2.68
Sweet Grass County	A7	RM 445.60	54202	5pct Duration	548.3	1174.84	1172.32	1.94	1.94	20.08	20.08	180.26	180.26	1.57	1.57	2.52	2.52
Sweet Grass County	A7	RM 445.46	53453	5pct Duration	548.3	1174.34	1171.04	2.51	2.5	31.35	30.37	126.51	131.52	1.72	1.67	3.3	3.3
Sweet Grass County	A7	RM 445.36	52888	5pct Duration	548.3	1174.14	1170.25	2.28	2.12	29.05	18.27	88.45	157.63	2.65	1.66	3.89	3.89
Sweet Grass County	A7	RM 445.26	52344	5pct Duration	548.3	1173.82	1171.35	2.54	2.44	39.35	31.98	103.24	135.33	2.04	1.66	2.48	2.48
Sweet Grass County	A7	RM 445.17	51873	5pct Duration	548.3	1173.08	1171.83	3.35	3.27	81.14	75.35	132.89	149.85	1.2	1.12	1.25	1.25
Sweet Grass County	A7	RM 445.07	51376	5pct Duration	548.3	1172.96	1170.28	1.82	1.81	21.6	21.16	179.39	184.79	1.67	1.64	2.68	2.68
Sweet Grass County	A7	RM 444.97	50844	5pct Duration	548.3	1172.55	1170.19	2.4	2.4	33.72	33.72	142.93	142.93	1.6	1.6	2.36	2.36
Sweet Grass County	A7	RM 444.88	50352	5pct Duration	548.3	1172.29	1170.05	2.24	2.23	29.89	28.63	140.15	146.75	1.75	1.68	2.24	2.24
Sweet Grass County	A7	RM 444.79	49860	5pct Duration	548.3	1171.89	1169.94	2.55	2.46	42.16	37.05	127.96	151.55	1.67	1.47	1.95	1.95
Sweet Grass County	A7	RM 444.69	49316	5pct Duration	548.3	1171.5	1169.55	2.4	2.4	38.15	38.15	143.24	143.24	1.6	1.6	1.94	1.94
Sweet Grass County	A7	RM 444.60	48863	5pct Duration	548.3	1171.52	1167.23	1.56	1.46	11.87	8.79	84.58	152.58	4.11	3	4.29	4.29
Sweet Grass County	A7	RM 444.50	48367	5pct Duration	548.3	1171.13	1169.73	0.5	2.48	9.27	28.24	67.91	167.75	0.43	1.32	2.47	2.47
Sweet Grass County	A7	RM 444.41	47863	5pct Duration	548.3	1170.99	1168.6	2.07	1.95	24.38	21.36	129.02	174.69	1.84	1.61	2.39	2.39
Sweet Grass County	A7	RM 444.30	47336	5pct Duration	548.3	1170.87	1168.26	1.66	1.65	15.78	14.83	160.95	172.3	2.05	1.93	2.61	2.61
Sweet Grass County	A7	RM 444.20	46789	5pct Duration	548.3	1170.31	1167.97	2.93	2.93	53.28	53.28	96.15	96.15	1.94	1.94	2.35	2.35
Sweet Grass County	A7	RM 444.12	46346	5pct Duration	548.3	1170.12	1167.62	2.48	2.42	36.16	32.6	97.19	111	2.27	2.04	2.49	2.49
Sweet Grass County	A7	RM 444.02	45829	5pct Duration	548.3	1169.94	1167.57	2.13	2.13	24.19	24.05	132.71	133.47	1.94	1.93	2.37	2.37
Sweet Grass County	A7	RM 443.91	45243	5pct Duration	548.3	1169.69	1167.08	2.09	2.09	28.06	28.06	149.5	149.5	1.75	1.75	2.61	2.61
Sweet Grass County	A7	RM 443.84	44853	5pct Duration	548.3	1169.11	1167.23	2.94	2.94	64.83	64.83	170.65	170.65	1.09	1.09	1.88	1.88
Sweet Grass County	A7	RM 443.75	44415	5pct Duration	548.3	1168.81	1166.67	2.1	2.1	29.98	29.98	180.79	203.51	1.45	1.45	2.14	2.14
Sweet Grass County	A7	RM 443.64	43870	5pct Duration	548.3	1168.36	1166.09	2.55	2.3	41.24	32.51	99.74	179.28	1.79	1.41	2.27	2.27
Sweet Grass County	A7	RM 443.53	43290	5pct Duration	548.3	1168.18	1165.72	2.04	1.81	24.65	19.42	84.75	171.62	2.25	1.76	2.46	2.46
Sweet Grass County	A8	RM 443.45	42860	5pct Duration	548.3	1167.9	1165.25	2.3	2.3	31.8	31.8	117.88	117.88	2.02	2.02	2.65	2.65
Sweet Grass County	A8	RM 443.35	42363	5pct Duration	548.3	1167.54	1164.95	2.62	2.58	41.79	33.34	100.46	148.53	2.07	1.65	2.59	2.59
Sweet Grass County	A8	RM 443.25	41863	5pct Duration	548.3	1167.38	1165.05	2.07	1.88	26.33	18.18	126.11	260.39	1.96	1.35	2.33	2.33
Sweet Grass County	A8	RM 443.16	41342	5pct Duration	548.3	1167.13	1165.43	2.07	1.74	29.63	21.89	147.26	314.5	1.39	1.02	1.7	1.7
Sweet Grass County	A8	RM 443.07	40863	5pct Duration	548.3	1166.71	1164.49	2.34	1.94	37.42	24.21	137.56	301.51	1.45	0.94	2.22	2.22
Sweet Grass County	A8	RM 442.97	40345	5pct Duration	548.3	1166.42	1164.28	2	1.56	22.68	14.91	158.58	387.84	1.39	0.91	2.14	2.14
Sweet Grass County	A8	RM 442.88	39863	5pct Duration	548.3	1166.23	1164.06	1.68	1.42	17.25	12.73	169.81	399.86	1.37	1.01	2.18	2.18
Sweet Grass County	A8	RM 442.78	39363	5pct Duration	548.3	1165.5	1164.18	2.98	2.91	66.5	55.69	117.32	229	1.08	0.91	1.65	1.65
Sweet Grass County	A8	RM 442.68	38840	5pct Duration	548.3	1165.11	1162.8	2.22	1.81	25.14	16.9	107.55	276.9	1.63	1.09	2.31	2.31
Sweet Grass County	A8	RM 442.60	38390	5pct Duration	548.3	1165.06	1162.57	1.33	1.16	11.43	8.34	154.15	380.73	1.71	1.24	2.49	2.49
Sweet Grass County	A8	RM 442.50	37863	5pct Duration	548.3	1164.72	1162.29	2.35	2	30.27	20.69	87.48	245.78	2.05	1.4	2.44	2.44
Sweet Grass County	A8	RM 442.42	37461	5pct Duration	548.3	1164.34	1162.07	2.9	2.59	36.88	29.64	106.99	209.76	1.47	1.18	2.28	2.28
Sweet Grass County	A8	RM 442.32	36914	5pct Duration	548.3	1164	1161.85	2.58	2.28	43.03	26.96	100.8	245.42	1.7	1.06	2.15	2.15
Sweet Grass County	A8	RM 442.24	36451	5pct Duration	548.3	1163.74	1161.75	2.27	2.01	29.09	24.27	112.21	226.11	1.45	1.21	1.99	1.99
Sweet Grass County	A8	RM 442.12	35820	5pct Duration	548.3	1163.44	1161.12	2.15	1.84	24.07	18.34	111.66	237.02	1.67	1.27	2.33	2.33
Sweet Grass County	A8	RM 442.03	35367	5pct Duration	548.3	1163.13	1161.18	2.34	2.11	37.53	30.21	117.5	232.17	1.4	1.13	1.95	1.95
Sweet Grass County	A8	RM 441.95	34945	5pct Duration	548.3	1163.06	1160.28	1.51	1.36	14.1	10.32	132.08	287.82	1.93	1.4	2.78	2.78
Sweet Grass County	A8	RM 441.84	34360	5pct Duration	548.3	1162.61	1160.33	2.47	2.36	29.54	23	177.98	241.43	1.23	0.96	2.28	2.28

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Sweet Grass County - Unregulated Flows - Undeveloped Conditions

5pct Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Sweet Grass County	A8	RM 441.74	33863	5pct Duration	548.3	1162.26	1160.06	2.39	2.21	30.89	24.92	169.19	231.16	1.33	1.07	2.2	2.2
Sweet Grass County	A8	RM 441.65	33357	5pct Duration	548.3	1162.09	1159.78	1.81	1.71	19.5	14.44	172.1	248	1.75	1.29	2.31	2.31
Sweet Grass County	A8	RM 441.53	32732	5pct Duration	548.3	1161.77	1159.44	2.11	1.95	28.76	22.9	147.6	206.38	1.71	1.36	2.32	2.32
Sweet Grass County	A8	RM 441.47	32366	5pct Duration	548.3	1161.66	1158.95	1.85	1.66	20.66	12.76	138.74	287.1	2.07	1.28	2.7	2.7
Sweet Grass County	A8	RM 441.38	31928	5pct Duration	548.3	1161.63	1158.24	1.33	0.97	10.3	4.81	153.74	655.44	2.31	1.08	3.39	3.39
Sweet Grass County	A8	RM 441.27	31350	5pct Duration	548.3	1161.11	1158.76	2.89	2.59	51.75	32.08	91.69	182.46	1.95	1.2	2.36	2.36
Sweet Grass County	A8	RM 441.18	30882	5pct Duration	548.3	1160.98	1158.5	2.11	1.83	24.82	16.78	125.17	236.5	1.87	1.27	2.48	2.48
Sweet Grass County	A8	RM 441.07	30295	5pct Duration	548.3	1160.78	1158.19	1.89	1.8	22.27	16.89	149.2	212.09	1.89	1.43	2.59	2.59
Sweet Grass County	A8	RM 441.00	29913	5pct Duration	548.3	1160.6	1157.63	2.02	1.91	25.7	17.39	146.46	235.35	1.81	1.22	2.97	2.97
Sweet Grass County	A8	RM 440.80	28852	5pct Duration	548.3	1159.81	1157.49	2.77	2.62	43.64	31.11	103.86	157.54	1.87	1.33	2.32	2.32
Sweet Grass County	A8	RM 440.60	27841	5pct Duration	548.3	1158.97	1157.2	2.63	2.38	47.77	37.85	121	207.88	1.4	1.11	1.77	1.77
Sweet Grass County	A8	RM 440.51	27361	5pct Duration	548.3	1158.6	1156.41	2.45	2	37.71	23.24	99.21	243.77	1.83	1.12	2.19	2.19
Sweet Grass County	A8	RM 440.42	26862	5pct Duration	548.3	1157.94	1156.26	3.17	2.65	69.9	41.5	88.05	254.78	1.37	0.81	1.68	1.68
Sweet Grass County	A8	RM 440.30	26223	5pct Duration	548.3	1157.78	1155.63	1.67	1.29	17.46	10.41	80.81	387.86	1.85	1.1	2.15	2.15
Sweet Grass County	A8	RM 440.17	25466	5pct Duration	548.3	1157.15	1154.7	3.13	2.34	61.21	26.93	62.73	279.75	1.96	0.84	2.45	2.45
Sweet Grass County	A8	RM 440.06	24863	5pct Duration	548.3	1156.92	1153.97	2.03	1.92	25	18.7	127.03	186.72	2.05	1.53	2.95	2.95
Sweet Grass County	A8	RM 439.96	24366	5pct Duration	548.3	1156.64	1154.18	2.4	2.16	34.05	25.45	91.44	152.01	2.23	1.67	2.45	2.45
Sweet Grass County	A8	RM 439.87	23863	5pct Duration	548.3	1156.49	1153.59	2.07	1.97	22.85	20.12	102.11	123.35	2.56	2.26	2.9	2.9
Sweet Grass County	A8	RM 439.77	23365	5pct Duration	548.3	1156.29	1153.6	2.21	2.2	26.12	24.41	123.27	132.41	2.01	1.88	2.69	2.69
Sweet Grass County	A8	RM 439.68	22863	5pct Duration	548.3	1156.04	1153.45	2.33	2.33	29.01	29.01	124.51	124.51	1.89	1.89	2.59	2.59
Sweet Grass County	A8	RM 439.58	22363	5pct Duration	548.3	1155.88	1153.39	1.97	1.89	22.19	20.1	149.28	173.38	1.84	1.67	2.49	2.49
Sweet Grass County	A8	RM 439.49	21863	5pct Duration	548.3	1155.77	1152.86	1.76	1.69	17.34	16.25	114.68	129.24	2.67	2.52	2.91	2.91
Sweet Grass County	A8	RM 439.39	21363	5pct Duration	548.3	1155.59	1153.06	1.98	1.98	23.27	23.15	128.99	129.65	2.14	2.13	2.54	2.54
Sweet Grass County	A8	RM 439.30	20863	5pct Duration	548.3	1155.21	1152.92	2.58	2.58	39.06	38.79	109.27	110.02	1.95	1.93	2.3	2.3
Sweet Grass County	A8	RM 439.20	20353	5pct Duration	548.3	1154.81	1152.64	2.76	2.74	43.72	41.37	107.38	114.39	1.85	1.75	2.17	2.17
Sweet Grass County	A8	RM 439.11	19864	5pct Duration	548.3	1154.67	1152.34	2.17	1.9	28.58	19.08	98.01	211.02	2.05	1.37	2.33	2.33
Sweet Grass County	A8	RM 439.01	19360	5pct Duration	548.3	1154.2	1152.4	2.69	2.58	42.18	40.26	123.18	161.53	1.37	1.32	1.8	1.8
Sweet Grass County	A8	RM 438.91	18848	5pct Duration	548.3	1153.91	1151.92	2.25	1.99	29	20.25	121.26	251.5	1.56	1.09	2	2
Sweet Grass County	A8	RM 438.82	18363	5pct Duration	548.3	1153.71	1151.23	2.01	1.77	25.19	18.43	113.11	225.5	1.88	1.37	2.48	2.48
Sweet Grass County	A8	RM 438.73	17853	5pct Duration	548.3	1153.19	1151.37	2.81	2.48	43.95	33.42	113.08	227.22	1.28	0.97	1.82	1.82
Sweet Grass County	A8	RM 438.63	17363	5pct Duration	548.3	1152.87	1150.74	2.42	1.99	37.11	20.37	93.78	278.21	1.81	0.99	2.13	2.13
Sweet Grass County	A8	RM 438.54	16863	5pct Duration	548.3	1152.7	1150.59	1.99	1.7	24.39	16.9	99.77	234.34	2.01	1.38	2.11	2.11
Sweet Grass County	A8	RM 438.43	16307	5pct Duration	548.3	1152.57	1149.52	1.6	1.6	15.22	15.22	157.13	159.81	2.18	2.18	3.05	3.05
Sweet Grass County	A9	RM 438.36	15889	5pct Duration	548.3	1152.43	1149.4	1.81	1.8	13.18	12.81	184.79	190.7	1.64	1.59	3.03	3.03
Sweet Grass County	A9	RM 438.26	15363	5pct Duration	548.3	1152.06	1149.84	2.55	2.39	38.62	31.37	111.43	149.78	1.88	1.53	2.22	2.22
Sweet Grass County	A9	RM 438.16	14863	5pct Duration	548.3	1151.89	1149.31	2.12	2.01	24.93	17.24	116.12	178.92	2.21	1.53	2.58	2.58
Sweet Grass County	A9	RM 438.07	14394	5pct Duration	548.3	1151.68	1149.19	2.21	2.03	29.9	19.31	122.37	210.74	1.99	1.28	2.49	2.49
Sweet Grass County	A9	RM 437.96	13827	5pct Duration	548.3	1151.42	1149.19	2.24	1.94	29.19	17.22	116.4	273.66	1.75	1.03	2.23	2.23
Sweet Grass County	A9	RM 437.88	13363	5pct Duration	548.3	1151.15	1148.94	2.44	1.97	34.04	21.9	97.16	238.17	1.82	1.17	2.21	2.21
Sweet Grass County	A9	RM 437.78	12844	5pct Duration	548.3	1150.93	1148.72	2.23	1.88	28.69	17.5	97.54	262.83	1.82	1.11	2.21	2.21
Sweet Grass County	A9	RM 437.69	12354	5pct Duration	548.3	1150.8	1148.45	1.59	1.41	16.77	11.01	145.49	386.64	1.58	1.04	2.35	2.35
Sweet Grass County	A9	RM 437.59	11863	5pct Duration	548.3	1150.49	1148.76	2.03	1.85	30.01	21.95	143.23	344.83	1.18	0.86	2.08	2.08
Sweet Grass County	A9	RM 437.50	11362	5pct Duration	548.3	1150.29	1148.29	1.63	1.46	18.21	13.01	175.79	371.37	1.4	1.01	2	2
Sweet Grass County	A9	RM 437.41	10902	5pct Duration	548.3	1149.99	1148.26	1.98	1.81	29.01	21.92	175.76	350.49	1.14	0.86	1.73	1.73
Sweet Grass County	A9	RM 437.31	10361	5pct Duration	548.3	1149.58	1147.37	2.15	1.83	31.54	21.1	144.37	310.36	1.44	0.97	2.21	2.21
Sweet Grass County	A9	RM 437.20	9764	5pct Duration	548.3	1149.2	1147.02	2.31	1.83	30.69	16.88	100.01	310.72	1.75	0.96	2.19	2.19
Sweet Grass County	A9	RM 437.08	9128	5pct Duration	548.3	1148.8	1146.9	2.21	1.99	30.02	23.62	181.37	282.95	1.23	0.97	1.9	1.9
Sweet Grass County	A9	RM 436.95	8363	5pct Duration	548.3	1148.63	1145.32	1.8	1.26	12.69	6.24	93.39	413.74	2.19	1.05	3.31	3.31
Sweet Grass County	A9	RM 436.83	7805	5pct Duration	548.3	1148.51	1145.93	1.33	1.32	12.67	11.04	146.26	461.79	1.24	1.08	2.58	2.58
Sweet Grass County	A9	RM 436.75	6857	5pct Duration	548.3	1148	1145.61	2.6	2.07	42.01	17.54	64.5	333.76	1.92	0.79	2.39	2.39
Sweet Grass County	A9	RM 436.66	6193	5pct Duration	548.3	1147.57	1145.68	2.39	1.84	37.47	20.38	97.51	364.15	1.53	0.84	1.89	1.89
Sweet Grass County	A9	RM 436.56	5280	5pct Duration	548.3	1147.03	1144.44	2.73	1.8	42.88	15	50.6	363.46	2.52	0.84	2.58	2.58
Sweet Grass County	A9	RM 436.40	4576	5pct Duration	548.3	1146.77	1144.05	2.41	1.51	33.12	11	51.39	448.74	2.63	0.83	2.72	2.72
Sweet Grass County	A9	RM 436.29	3787	5pct Duration	548.3	1146.33	1144.44	2.47	2	39.95	23.59	89.16	318.01	1.63	0.96	1.89	1.89
Sweet Grass County	A9	RM 436.16	3087	5pct Duration	548.3	1145.66	1143.57	2.62	2.24	46.3	29	107.28	295.22	1.49	0.93	2.09	2.09
Sweet Grass County	A9	RM 436.07	2676	5pct Duration	548.3	1145.38	1143.09	2.43	1.89	31.46	18.37	100.49	358.8	1.47	0.85	2.28	2.28
Sweet Grass County	A9	RM 435.98	2200	5pct Duration	548.3	1145.08	1142.85	2.4	1.87	36.84	21.57	68.2	304.99	1.8	1.04	2.23	2.23
Sweet Grass County	A9	RM 435.88	1580	5pct Duration	548.3	1144.52	1142.56	2.65	2.17	48.47	30.1	55.54	290.37	1.42	0.87	1.96	1.96
Sweet Grass County	A9	RM 435.73	890	5pct Duration	548.3	1144.21	1141.99	1.83	1.56	21.88	15.76	75.06	300.6	1.65	1.17	2.21	2.21
Sweet Grass County	A9	RM 435.62	104	5pct Duration	548.3	1143.56	1141.54	2.52	2.27	45.92	37.5	122.38	242.45	1.22	0.99	2.03	2.03

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A9	RM 435.42	232605.4	5% Duration	548.3	1143.16	1140.73	1.46	1.47	15.07	14.18	141.61	307.66	1.28	1.21	2.47	2.47
Stillwater County	A9	RM 435.38	231282.1	5% Duration	548.3	1142.82	1139.61	1.58	1.56	16.24	14.9	192.44	233.63	1.64	1.51	3.21	3.21
Stillwater County	A9	RM 435.25	230611.3	5% Duration	548.3	1142.29	1138.48	2.6	2.6	41.37	41.31	103.79	103.93	2.03	2.03	3.81	3.81
Stillwater County	A9	RM 435.16	230122.9	5% Duration	548.3	1142.01	1138.39	2.55	2.55	38.26	38.26	96.21	96.21	2.24	2.24	3.62	3.62
Stillwater County	A9	RM 435.07	229649	5% Duration	548.3	1141.77	1137.85	2.51	2.51	36.8	34.3	95.13	102.22	2.3	2.14	3.92	3.92
Stillwater County	A9	RM 434.97	229153	5% Duration	548.3	1141.49	1137.87	2.61	2.55	39.95	36.46	91.17	103.63	2.27	2.08	3.62	3.62
Stillwater County	A9	RM 434.84	228443.5	5% Duration	548.3	1141.11	1137	2.59	2.53	39.35	34.7	93.17	109.14	2.25	1.99	4.1	4.1
Stillwater County	A9	RM 434.73	227855.5	5% Duration	548.3	1140.96	1135.61	2.21	2.21	25.4	23.78	74.35	79.72	3.33	3.12	5.35	5.35
Stillwater County	A9	RM 434.63	227328.2	5% Duration	548.3	1140.84	1135.42	2.15	2.15	24.9	24.9	85.96	85.96	2.96	2.96	5.42	5.42
Stillwater County	A9	RM 434.57	227011.2	5% Duration	548.3	1140.72	1136.35	2.25	2.25	28.82	28.82	98.54	98.54	2.47	2.47	4.37	4.37
Stillwater County	A9	RM 434.53	226817.6	5% Duration	548.3	1140.57	1136.73	2.47	2.47	37.44	37.44	111.51	111.51	1.99	1.99	3.84	3.84
Stillwater County	A10	RM 434.49	226573.3	5% Duration	548.3	1140.48	1137.23	2.22	2.22	29.84	29.81	120.58	120.67	2.05	2.05	3.25	3.25
Stillwater County	A10	RM 434.42	226233.2	5% Duration	548.3	1140.31	1137.1	2.24	2.24	31.8	31.8	134.41	134.41	1.82	1.82	3.21	3.21
Stillwater County	A10	RM 434.37	225940.2	5% Duration	548.3	1140.15	1136.51	2.29	2.29	31.75	31.75	116.18	116.18	2.06	2.06	3.64	3.64
Stillwater County	A10	RM 434.24	225278.2	5% Duration	548.3	1139.9	1136.56	2.1	2.02	26.34	23.94	111.81	138.03	2.16	1.97	3.34	3.34
Stillwater County	A10	RM 434.15	224819.6	5% Duration	548.3	1139.63	1137.06	2.26	2.17	34.01	29.66	151.93	186.21	1.55	1.36	2.57	2.57
Stillwater County	A10	RM 434.07	224366.5	5% Duration	548.3	1139.28	1136.55	2.35	2.33	35.85	33.1	95.97	149.87	1.69	1.57	2.88	2.88
Stillwater County	A10	RM 433.98	223883.5	5% Duration	548.3	1139.06	1136.28	2	1.94	26.89	24.99	128.08	202.81	1.49	1.39	2.78	2.78
Stillwater County	A10	RM 433.87	223309.3	5% Duration	548.3	1138.8	1135.82	2.03	1.89	25.71	22.38	104.04	174.15	1.92	1.67	2.98	2.98
Stillwater County	A10	RM 433.78	222850	5% Duration	548.3	1138.53	1135.54	2.12	2.12	30.18	30.18	170.24	170.24	1.52	1.52	2.99	2.99
Stillwater County	A10	RM 433.66	222201.9	5% Duration	548.3	1138.17	1135.16	2.14	2.14	28.56	28.56	136.35	136.35	1.88	1.88	3.01	3.01
Stillwater County	A10	RM 433.54	221596.6	5% Duration	548.3	1137.85	1135.33	2.25	2.25	31.22	30.96	126.32	127.4	1.93	1.92	2.52	2.52
Stillwater County	A10	RM 433.42	220956.2	5% Duration	548.3	1137.56	1134.88	2.18	2.18	28.8	28.8	121.32	121.32	2.07	2.07	2.68	2.68
Stillwater County	A10	RM 433.31	220362.5	5% Duration	548.3	1137.25	1134.67	2.08	2.08	30.21	29.34	195.79	202.31	1.34	1.31	2.58	2.58
Stillwater County	A10	RM 433.20	219758.6	5% Duration	548.3	1136.86	1134.17	1.95	1.79	26.98	20.46	145.32	314.52	1.29	0.98	2.69	2.69
Stillwater County	A10	RM 433.09	219185.2	5% Duration	548.3	1136.55	1133.45	1.89	1.89	23.33	23.33	174.56	174.56	1.66	1.66	3.1	3.1
Stillwater County	A10	RM 432.97	218599.7	5% Duration	548.3	1136.16	1133.57	2.26	2.23	33.22	31.72	143.07	153.02	1.68	1.6	2.59	2.59
Stillwater County	A10	RM 432.84	217905.9	5% Duration	548.3	1135.79	1132.7	2.19	2.12	29.93	27.37	132.04	152.23	1.86	1.7	3.09	3.09
Stillwater County	A10	RM 432.69	217146.9	5% Duration	548.3	1135.46	1131.51	2.29	2.25	28.8	24.54	87.05	104.26	2.75	2.34	3.95	3.95
Stillwater County	A10	RM 432.60	216656.8	5% Duration	548.3	1135.32	1132.1	2.16	2.16	26.66	25.53	101.38	106.06	2.5	2.39	3.21	3.21
Stillwater County	A10	RM 432.45	215889.7	5% Duration	548.3	1135.02	1132.07	2.15	2.15	28.27	28.27	128.53	149.76	1.99	1.99	2.95	2.95
Stillwater County	A10	RM 432.35	215361.3	5% Duration	548.3	1134.79	1132.33	2.05	2.05	26.86	25.8	152.43	172.76	1.75	1.68	2.46	2.46
Stillwater County	A10	RM 432.20	214585.3	5% Duration	565.3	1134.35	1131.29	2.31	2.31	32.63	32.25	122.35	123.83	2	1.98	3.06	3.06
Stillwater County	A10	RM 432.10	214039.1	5% Duration	565.3	1134.11	1130.7	2.18	2.06	28.91	21.9	124.1	228.1	2.04	1.55	3.41	3.41
Stillwater County	A10	RM 432.02	213606.1	5% Duration	565.3	1133.99	1130.52	1.86	1.79	21.64	18.85	157.1	192.86	1.87	1.63	3.46	3.46
Stillwater County	A10	RM 431.87	212811.5	5% Duration	565.3	1133.54	1129.24	2.18	2.11	31.87	26.83	167.21	207.84	1.53	1.29	4.3	4.3
Stillwater County	A10	RM 431.74	212127.4	5% Duration	565.3	1133.28	1129.66	1.81	1.4	20.71	13.1	156.78	348.41	1.84	1.16	3.62	3.62
Stillwater County	A10	RM 431.60	211373.6	5% Duration	565.3	1132.86	1129.96	2.24	2.22	31.05	29.36	130.45	139.27	1.93	1.83	2.89	2.89
Stillwater County	A10	RM 431.49	210820.2	5% Duration	565.3	1132.62	1129.62	2.14	2.13	27.66	25.93	125.86	134.93	2.09	1.96	3	3
Stillwater County	A10	RM 431.41	210365.9	5% Duration	565.3	1132.4	1129.57	2.22	2.22	30.03	29.52	126.26	128.54	2.02	1.98	2.83	2.83
Stillwater County	A10	RM 431.28	209716.5	5% Duration	565.3	1132.07	1129.79	2.15	2.15	30.25	30.25	161.56	161.56	1.63	1.63	2.28	2.28
Stillwater County	A10	RM 431.14	208918.5	5% Duration	565.3	1131.69	1129.82	1.71	1.94	20.47	23.93	123.24	184.95	1.34	1.57	2.94	2.94
Stillwater County	A10	RM 431.03	208358.8	5% Duration	565.3	1131.33	1128.56	2.14	2.2	31.99	33.15	106.59	182.18	1.36	1.41	2.77	2.77
Stillwater County	A10	RM 430.93	207821.9	5% Duration	565.3	1130.94	1128.76	2.34	2.14	37.59	31.62	107.4	222.14	1.4	1.19	2.18	2.18
Stillwater County	A10	RM 430.83	207325.6	5% Duration	565.3	1130.59	1127.66	2.2	2.09	32.7	30.38	148.19	197.88	1.47	1.37	2.92	2.92
Stillwater County	A10	RM 430.70	206629.1	5% Duration	565.3	1130.42	1126.9	1.57	1.5	14.35	12.98	146.48	207.11	2	1.82	3.51	3.51
Stillwater County	A10	RM 430.59	206064.9	5% Duration	565.3	1130.25	1127.2	1.75	1.63	18.28	15.01	132.62	193.6	2.18	1.79	3.05	3.05
Stillwater County	A10	RM 430.51	205629.5	5% Duration	565.3	1130	1126.28	2.25	2.18	29.25	26.35	102.61	122.09	2.36	2.13	3.72	3.72
Stillwater County	A10	RM 430.43	205204.2	5% Duration	565.3	1129.84	1126.08	2.24	2.17	28.33	25.34	95.2	113.12	2.57	2.3	3.76	3.76
Stillwater County	A10	RM 430.34	204728.4	5% Duration	565.3	1129.65	1126.07	2.29	2.23	29.81	26.68	98.53	114.84	2.46	2.21	3.58	3.58
Stillwater County	A11	RM 430.23	204119.7	5% Duration	565.3	1129.52	1126.63	1.76	1.75	19.19	17.9	164.73	177.81	1.94	1.81	2.89	2.89
Stillwater County	A11	RM 430.12	203479.6	5% Duration	565.3	1129.29	1126.96	2	1.95	25.3	24.24	107.52	164.57	1.83	1.76	2.76	2.76
Stillwater County	A11	RM 430.04	202968.2	5% Duration	565.3	1129.03	1127.24	2.01	2.05	26.74	25.67	110.95	181.65	1.58	1.51	2.39	2.39
Stillwater County	A11	RM 429.95	202589.5	5% Duration	565.3	1128.78	1126.33	1.96	2.05	26.96	27.9	139.01	202.44	1.32	1.37	2.45	2.45
Stillwater County	A11	RM 429.88	202224.7	5% Duration	565.3	1128.57	1125.62	2	1.98	25.09	24.71	126.88	187.59	1.54	1.52	2.95	2.95
Stillwater County	A11	RM 429.78	201933.6	5% Duration	565.3	1128.34	1123.72	2.24	2.05	28.42	24.1	92.85	155.88	2.09	1.76	4.62	4.62
Stillwater County	A11	RM 429.69	201539.9	5% Duration	565.3	1128.06	1123.39	2.49	2.13	36.8	25.01	83.62	178.59	2.2	1.49	4.67	4.67
Stillwater County	A11	RM 429.58	200961.9	5% Duration	565.3	1127.79	1124.69	2.2	1.82	30.56	19.71	116.25	295.25	1.63	1.05	3.1	3.1
Stillwater County	A11	RM 429.38	200210.8	5% Duration	565.3	1127.31	1125.15	1.79	1.68	21.91	18.04	170.09	290.73	1.4	1.16	2.88	2.88
Stillwater County	A11	RM 429.28	199644.1	5% Duration	565.3	1127.01	1123.59	1.92	1.79	24.75	19.67	146.8	264.03	1.51	1.2	3.42	3.42

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 429.18	199152	5% Duration	565.3	1126.73	1124.66	1.64	1.82	19.65	20.21	141.89	262.39	1.15	1.19	2.82	2.82
Stillwater County	A11	RM 429.10	198708.6	5% Duration	565.3	1126.4	1124.26	1.95	2.09	26.65	27.23	82.99	196.35	1.34	1.38	2.81	2.81
Stillwater County	A11	RM 429.00	198203.8	5% Duration	565.3	1126.07	1123.47	1.82	2.03	24.98	27.73	110.45	234.22	1.07	1.19	2.6	2.6
Stillwater County	A11	RM 428.89	197650.5	5% Duration	565.3	1125.87	1121.26	1.9	1.72	21.8	15.82	135.66	217.38	2.09	1.52	4.61	4.61
Stillwater County	A11	RM 428.81	197194.1	5% Duration	565.3	1125.67	1121.47	2.16	1.89	27.07	16.13	96.66	214.15	2.35	1.4	4.2	4.2
Stillwater County	A11	RM 428.66	196404.4	5% Duration	565.3	1125.45	1122.31	1.71	1.69	18.94	18.11	179.4	208.66	1.68	1.61	3.14	3.14
Stillwater County	A11	RM 428.52	195702.6	5% Duration	565.3	1124.94	1122.1	2.29	2.29	37.48	37.48	196.24	196.24	1.26	1.26	2.84	2.84
Stillwater County	A11	RM 428.44	195293.8	5% Duration	565.3	1124.67	1121.18	2.24	2.24	31.5	31.34	137.62	138.34	1.84	1.83	3.49	3.49
Stillwater County	A11	RM 428.39	195075.5	5% Duration	565.3	1124.49	1120.72	2.46	2.46	36.92	36.92	114.46	114.46	2.01	2.01	3.77	3.77
Stillwater County	A11	RM 428.33	194724.6	5% Duration	565.3	1124.3	1121.22	2.37	2.37	34.94	34.94	125.8	125.8	1.9	1.9	3.08	3.08
Stillwater County	A11	RM 428.28	194450.8	5% Duration	565.3	1124.11	1121.2	2.44	2.44	37.87	37.87	130.77	130.77	1.77	1.77	2.91	2.91
Stillwater County	A11	RM 428.23	194235.2	5% Duration	565.3	1123.98	1120.74	2.41	2.41	36.97	36.97	132.68	132.68	1.77	1.77	3.24	3.24
Stillwater County	A11	RM 428.20	194033.4	5% Duration	565.3	1123.88	1120.37	2.3	2.24	32.18	26.82	118.45	148.34	2.05	1.7	3.51	3.51
Stillwater County	A11	RM 428.15	193779.9	5% Duration	565.3	1123.8	1120.23	2.2	2.08	28.32	21.34	108.65	157.81	2.29	1.72	3.57	3.57
Stillwater County	A11	RM 428.09	193436.6	5% Duration	565.3	1123.64	1119.9	2.24	2.09	30.89	25.65	114.82	164.59	1.98	1.64	3.74	3.74
Stillwater County	A11	RM 428.05	193246.1	5% Duration	565.3	1123.46	1120.1	2.47	2.32	38.18	29.08	113.6	168.69	1.9	1.44	3.36	3.36
Stillwater County	A11	RM 428.00	192989.8	5% Duration	565.3	1123.31	1120.28	2.41	2.23	36.73	26.11	123.05	196.8	1.82	1.29	3.03	3.03
Stillwater County	A11	RM 427.95	192728.8	5% Duration	565.3	1123.16	1119.57	2.33	2.25	34.25	28.76	129.61	164.6	1.82	1.53	3.59	3.59
Stillwater County	A11	RM 427.88	192333.2	5% Duration	565.3	1122.87	1119.27	2.57	2.47	39.64	34.43	97.41	122.59	2.15	1.87	3.6	3.6
Stillwater County	A11	RM 427.83	192088.8	5% Duration	565.3	1122.71	1119.18	2.63	2.52	41.39	36.25	97.63	149.86	2.12	1.86	3.53	3.53
Stillwater County	A11	RM 427.76	191724.1	5% Duration	565.3	1122.36	1119.07	2.88	2.88	51.53	48.29	101.84	108.89	1.93	1.8	3.29	3.29
Stillwater County	A11	RM 427.65	191155.9	5% Duration	565.3	1122.27	1118.58	1.88	1.83	20.78	16.4	133.44	316.8	2.24	1.77	3.69	3.69
Stillwater County	A11	RM 427.53	190509.6	5% Duration	565.3	1122.06	1117.37	2.07	1.96	22.65	12.54	87.68	200.64	3.1	1.7	4.69	4.69
Stillwater County	A11	RM 427.41	189886.1	5% Duration	565.3	1121.94	1118.73	1.92	1.87	20.54	16.44	111.13	142.94	2.64	2.11	3.21	3.21
Stillwater County	A11	RM 427.29	189253.3	5% Duration	565.3	1121.64	1119.12	2.17	2.15	31.48	28.37	172.77	192.99	1.51	1.36	2.52	2.52
Stillwater County	A11	RM 427.17	188639.5	5% Duration	565.3	1121.23	1118.44	2.14	2.08	31.74	28.32	191.92	222.14	1.37	1.22	2.79	2.79
Stillwater County	A11	RM 427.09	188179.7	5% Duration	565.3	1120.93	1118.34	2.26	2.16	31.21	24.65	123.51	165.4	2	1.58	2.59	2.59
Stillwater County	A11	RM 427.00	187745.4	5% Duration	565.3	1120.77	1117.71	2.04	1.82	26.07	21.57	135.1	199.28	1.87	1.56	3.06	3.06
Stillwater County	A11	RM 426.92	187309.3	5% Duration	565.3	1120.33	1117.32	2.54	2.45	47.53	46.49	186.67	203.98	1.15	1.13	3.01	3.01
Stillwater County	A11	RM 426.86	186960.4	5% Duration	565.3	1120.1	1116.77	2.24	2.15	31.64	30.1	136.22	151.11	1.82	1.74	3.33	3.33
Stillwater County	A11	RM 426.75	186401.3	5% Duration	565.3	1119.81	1116.11	2.26	2.14	31.69	29.29	125.15	147.15	1.94	1.79	3.7	3.7
Stillwater County	A11	RM 426.67	185983.5	5% Duration	565.3	1119.65	1115.84	2.05	2.05	25.44	25.03	134.63	136.91	2.05	2.02	3.81	3.81
Stillwater County	A11	RM 426.59	185580.4	5% Duration	565.3	1119.46	1115.47	2.22	2.2	28.22	26.84	102.6	109.13	2.47	2.35	3.99	3.99
Stillwater County	A11	RM 426.52	185166.5	5% Duration	565.3	1119.35	1115.54	2.07	2.07	23.87	23.87	102.51	102.51	2.66	2.66	3.81	3.81
Stillwater County	A11	RM 426.43	184738.3	5% Duration	565.3	1119.23	1115.89	2.05	2.04	23.92	23.26	111.11	114.7	2.48	2.41	3.34	3.34
Stillwater County	A11	RM 426.32	184158.4	5% Duration	565.3	1119.07	1116.39	1.95	1.95	22.37	22.37	130.33	130.33	2.23	2.23	2.67	2.67
Stillwater County	A11	RM 426.20	183517.2	5% Duration	565.3	1118.73	1116.07	2.13	2.13	31.34	31.03	192.2	194.19	1.38	1.37	2.66	2.66
Stillwater County	A11	RM 426.11	183030.7	5% Duration	565.3	1118.4	1115.37	2.06	2.06	27.82	27.82	224.68	230.04	1.22	1.22	3.03	3.03
Stillwater County	A11	RM 426.00	182442.5	5% Duration	565.3	1118.02	1115.74	2.02	1.93	28.12	25.67	193.31	228.11	1.41	1.29	2.28	2.28
Stillwater County	A11	RM 425.89	181895	5% Duration	565.3	1117.7	1115.1	2.01	2.01	26.75	26.68	178.21	178.65	1.58	1.57	2.6	2.6
Stillwater County	A11	RM 425.72	181043.5	5% Duration	565.3	1117.18	1113.77	2.24	2.24	32.01	32.01	145.41	145.51	1.74	1.74	3.41	3.41
Stillwater County	A11	RM 425.58	180310.5	5% Duration	565.3	1116.89	1112.19	2.18	2.18	26.26	25.34	94.52	98.15	2.74	2.64	4.7	4.7
Stillwater County	A11	RM 425.46	179669.9	5% Duration	565.3	1116.65	1112.78	2.32	2.32	30.01	30.01	92.1	130.78	2.65	2.65	3.86	3.86
Stillwater County	A11	RM 425.34	179022.4	5% Duration	565.3	1116.54	1113.64	1.74	1.64	18.02	14.76	132	194.64	2.16	1.77	2.9	2.9
Stillwater County	A11	RM 425.24	178485.9	5% Duration	565.3	1116.17	1114.19	2.37	2.18	38.41	27.62	125.84	274.46	1.41	1.02	2.03	2.03
Stillwater County	A11	RM 425.18	178205.8	5% Duration	565.3	1115.91	1113.81	2.2	2.31	33.34	31.71	121.07	181.45	1.41	1.35	2.6	2.6
Stillwater County	A11	RM 425.11	177826.8	5% Duration	565.3	1115.66	1113.29	1.96	2.16	26.29	28.78	116.68	165.45	1.44	1.58	3.37	3.37
Stillwater County	A11	RM 425.04	177454.7	5% Duration	565.3	1115.52	1112.86	1.99	1.82	24.56	19.96	102.09	201.5	1.89	1.54	3.05	3.05
Stillwater County	A11	RM 424.97	177098.9	5% Duration	565.3	1115.23	1113.11	2.38	2.16	37.14	30.36	106.09	197	1.62	1.33	2.22	2.22
Stillwater County	A11	RM 424.89	176675.9	5% Duration	565.3	1115.04	1112.27	1.72	1.79	20.09	18.13	133.61	240.18	1.45	1.31	4.24	4.24
Stillwater County	A11	RM 424.81	176242.8	5% Duration	565.3	1114.67	1112.25	2.3	2.21	36.2	31.66	102.4	219.61	1.42	1.24	2.66	2.66
Stillwater County	A11	RM 424.70	175789.3	5% Duration	565.3	1114.51	1111.91	1.76	1.61	20.32	16.86	160.37	277.52	1.61	1.34	2.6	2.6
Stillwater County	A11	RM 424.58	175159.4	5% Duration	565.3	1114.26	1111.34	1.81	1.69	21.45	17.55	125.59	248.88	1.64	1.34	2.92	2.92
Stillwater County	A11	RM 424.51	174723.2	5% Duration	565.3	1114	1110.93	1.93	1.88	26.92	22.66	134.25	296.85	1.2	1.01	3.07	3.07
Stillwater County	A11	RM 424.38	174051	5% Duration	565.3	1113.67	1110.98	1.87	1.86	23.28	20.16	112.48	222.54	1.57	1.36	2.69	2.69
Stillwater County	A11	RM 424.30	173607.9	5% Duration	565.3	1113.41	1110.75	2.15	2.12	30.9	26.83	104.17	229.29	1.55	1.35	2.66	2.66
Stillwater County	A11	RM 424.21	173153.7	5% Duration	565.3	1113.15	1110.74	1.76	1.8	23.2	23.02	186.23	326.88	1.08	1.08	2.41	2.41
Stillwater County	A11	RM 424.13	172713.5	5% Duration	565.3	1112.87	1110.43	1.9	1.64	24.18	16.73	78.31	324.22	1.54	1.06	2.52	2.52
Stillwater County	A11	RM 424.05	172309.3	5% Duration	565.3	1112.59	1110.18	1.79	1.83	23.74	19.68	130.78	393.65	1.12	0.93	2.41	2.41
Stillwater County	A11	RM 423.98	171892.1	5% Duration	565.3	1112.47	1110.15	1.49	1.38	15.27	10.32	234.63	435.76	1.39	0.94	2.32	2.32

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A11	RM 423.90	171454.2	5% Duration	565.3	1112.1	1109.55	2.28	2.15	34.93	27.77	140.66	252.2	1.54	1.22	2.55	2.55
Stillwater County	A11	RM 423.84	171147.5	5% Duration	565.3	1111.9	1109.08	2.31	2.05	33.76	21.64	119.23	291.6	1.83	1.17	2.82	2.82
Stillwater County	A11	RM 423.74	170686.3	5% Duration	565.3	1111.77	1108.91	1.82	1.52	20.87	12.63	121.92	387.57	1.82	1.1	2.86	2.86
Stillwater County	A11	RM 423.69	170436.3	5% Duration	565.3	1111.51	1108.49	2.49	2.06	36.13	23.11	71.57	219.65	2.34	1.49	3.02	3.02
Stillwater County	A11	RM 423.57	169782.9	5% Duration	565.3	1111.27	1108.2	1.99	1.99	24.39	24.39	147.25	181.6	1.93	1.93	3.07	3.07
Stillwater County	A11	RM 423.47	169296.5	5% Duration	565.3	1111	1107.67	2.27	2.27	30.77	30.73	114.53	138.15	2.17	2.17	3.33	3.33
Stillwater County	A11	RM 423.39	168860.7	5% Duration	565.3	1110.78	1107.7	2.38	2.38	32.71	32.71	99.56	129.27	2.39	2.39	3.08	3.08
Stillwater County	A11	RM 423.27	168178	5% Duration	565.3	1110.46	1107.36	2.37	2.37	33.87	33.87	115.83	115.83	2.06	2.06	3.1	3.1
Stillwater County	A12	RM 423.17	167687.7	5% Duration	565.3	1110.27	1107.46	2.08	2.08	27.17	27.17	149.57	149.57	1.82	1.82	2.81	2.81
Stillwater County	A12	RM 423.08	167239.6	5% Duration	565.3	1110	1107.21	2.3	2.14	33.35	27.48	123.79	177.24	1.81	1.49	2.79	2.79
Stillwater County	A12	RM 423.01	166844.5	5% Duration	565.3	1109.66	1106.84	2.56	2.39	43.17	36.54	115.19	172.71	1.62	1.37	2.82	2.82
Stillwater County	A12	RM 422.91	166338	5% Duration	565.3	1109.41	1106.54	2.16	2.04	28.95	25.15	109.29	165.09	1.92	1.68	2.87	2.87
Stillwater County	A12	RM 422.80	165757.6	5% Duration	565.3	1109.15	1106.83	2.05	1.97	26.99	23.96	141.9	214.84	1.71	1.52	2.32	2.32
Stillwater County	A12	RM 422.70	165279.2	5% Duration	565.3	1108.98	1105.79	1.76	1.6	20.87	18.44	196.42	289.29	1.48	1.31	3.19	3.19
Stillwater County	A12	RM 422.63	164895.4	5% Duration	565.3	1108.75	1105.43	1.97	1.75	27	22.58	174.15	295.39	1.36	1.14	3.32	3.32
Stillwater County	A12	RM 422.53	164348.1	5% Duration	565.3	1108.27	1104.76	2.33	2.22	36.93	32.26	148.8	199.99	1.46	1.27	3.51	3.51
Stillwater County	A12	RM 422.39	163609.2	5% Duration	565.3	1107.82	1104.22	2.27	2.25	31.58	30.27	126.07	135.2	1.97	1.89	3.6	3.6
Stillwater County	A12	RM 422.30	163120.4	5% Duration	565.3	1107.57	1104.18	2.36	2.36	32.61	32.61	104.41	104.41	2.29	2.29	3.39	3.39
Stillwater County	A12	RM 422.19	162534.3	5% Duration	565.3	1107.41	1103.72	2.04	2.04	23.58	23.58	110.93	110.93	2.5	2.5	3.69	3.69
Stillwater County	A12	RM 422.08	161934.5	5% Duration	565.3	1107.13	1104.18	2.31	2.31	30.77	30.77	103.42	103.42	2.37	2.37	2.95	2.95
Stillwater County	A12	RM 421.98	161402.1	5% Duration	565.3	1107.03	1103.86	1.82	1.82	19.7	19.7	141.19	141.19	2.2	2.2	3.17	3.17
Stillwater County	A12	RM 421.90	161037.7	5% Duration	565.3	1106.91	1103.14	1.84	1.84	21.07	21.07	164.07	164.07	1.88	1.88	3.77	3.77
Stillwater County	A12	RM 421.86	160799.3	5% Duration	565.3	1106.78	1102.54	1.97	1.97	25.89	25.89	189.32	189.32	1.52	1.52	4.24	4.24
Stillwater County	A12	RM 421.81	160535.9	5% Duration	565.3	1106.59	1102.38	2.1	2.1	30.74	30.74	201.29	201.29	1.34	1.34	4.21	4.21
Stillwater County	A12	RM 421.77	160279.4	5% Duration	565.3	1106.3	1102.41	2.43	2.39	40.67	39.07	159.82	176.24	1.4	1.34	3.89	3.89
Stillwater County	A12	RM 421.69	159875.5	5% Duration	565.3	1106.23	1102.56	1.78	1.73	18.07	15.9	127.65	152.03	2.44	2.15	3.67	3.67
Stillwater County	A12	RM 421.60	159411.4	5% Duration	565.3	1105.98	1103.26	2.24	2.12	31.55	27.79	129.8	163.43	1.85	1.63	2.72	2.72
Stillwater County	A12	RM 421.53	159038	5% Duration	565.3	1105.76	1102.81	2.35	2.24	33.9	29.49	116.04	148.19	1.96	1.7	2.95	2.95
Stillwater County	A12	RM 421.45	158590.5	5% Duration	565.3	1105.57	1103.26	2.05	1.87	27.04	20.17	148.16	237.32	1.71	1.27	2.31	2.31
Stillwater County	A12	RM 421.32	157930.2	5% Duration	565.3	1105.23	1102.82	2.06	1.97	28.97	25.12	83.13	230.59	1.43	1.25	2.41	2.41
Stillwater County	A12	RM 421.24	157513	5% Duration	565.3	1104.85	1103.05	2.04	2.19	32.62	34	112.4	259.92	0.95	0.99	2.37	2.37
Stillwater County	A12	RM 421.13	156951.5	5% Duration	565.3	1104.53	1100.38	2.16	1.84	31.15	22.13	92.74	281.56	1.54	1.09	4.15	4.15
Stillwater County	A12	RM 421.05	156536.5	5% Duration	565.3	1104.3	1102.11	2.07	1.78	29.94	22.65	82.01	311.46	1.35	1.02	2.19	2.19
Stillwater County	A12	RM 420.94	155960.1	5% Duration	565.3	1104.07	1101.68	1.52	1.48	14.79	13.67	212.64	237.34	1.74	1.61	2.39	2.39
Stillwater County	A12	RM 420.85	155473.6	5% Duration	565.3	1103.47	1100.98	2.98	2.85	58.33	45.05	117.7	163	1.6	1.24	2.49	2.49
Stillwater County	A12	RM 420.75	154957.2	5% Duration	565.3	1103.21	1099.95	2.22	2.14	31.42	25.83	139.47	182.26	1.76	1.45	3.26	3.26
Stillwater County	A12	RM 420.66	154483	5% Duration	565.3	1103.04	1099.89	1.93	1.85	23.04	18.7	152.12	197.19	1.91	1.55	3.15	3.15
Stillwater County	A12	RM 420.58	154037.5	5% Duration	565.3	1102.76	1100.13	2.31	2.14	32.2	20.81	116.14	196.94	2.08	1.34	2.63	2.63
Stillwater County	A12	RM 420.52	153691.5	5% Duration	565.3	1102.6	1099.7	2.28	2.04	31.74	21.5	120.3	203.73	2.01	1.36	2.9	2.9
Stillwater County	A12	RM 420.46	153398	5% Duration	565.3	1102.46	1099.36	2.25	2.07	31.12	24.07	123.95	178.22	1.98	1.53	3.1	3.1
Stillwater County	A12	RM 420.38	152998.3	5% Duration	565.3	1102.29	1099.19	2.03	1.85	26.59	23.97	158.19	201.03	1.68	1.52	3.1	3.1
Stillwater County	A12	RM 420.30	152566.4	5% Duration	565.3	1102.1	1099.43	1.82	1.62	23.17	19.81	221.85	308.03	1.32	1.13	2.67	2.67
Stillwater County	A12	RM 420.21	152106.2	5% Duration	565.3	1101.73	1098.69	2.19	1.91	32.41	27.08	163.81	238.61	1.48	1.24	3.04	3.04
Stillwater County	A12	RM 420.15	151738.6	5% Duration	565.3	1101.6	1098.38	1.91	1.91	17.9	17.58	175.69	179.12	1.69	1.66	3.22	3.22
Stillwater County	A12	RM 420.08	151399.3	5% Duration	565.3	1101.47	1097.97	1.89	1.88	23.55	23.37	190.52	192	1.57	1.56	3.5	3.5
Stillwater County	A12	RM 420.03	151123.2	5% Duration	565.3	1101.34	1097.96	1.95	1.94	22.87	21.23	139.32	150.5	2.08	1.93	3.38	3.38
Stillwater County	A12	RM 419.96	150779.4	5% Duration	565.3	1101.11	1098.1	2.33	2.33	32.53	32.53	115.6	115.6	2.1	2.1	3.01	3.01
Stillwater County	A12	RM 419.91	150511.3	5% Duration	565.3	1101	1097.83	2.29	2.28	29.84	28.86	99.42	103.01	2.48	2.4	3.17	3.17
Stillwater County	A12	RM 419.85	150192.4	5% Duration	565.3	1100.78	1097.85	2.57	2.53	39.39	36.77	102.4	111.52	2.15	2	2.93	2.93
Stillwater County	A12	RM 419.78	149807.6	5% Duration	565.3	1100.69	1097.13	2.16	2.08	26.23	19.54	101.98	142.18	2.56	1.91	3.56	3.56
Stillwater County	A12	RM 419.70	149371.5	5% Duration	565.3	1100.53	1097.73	2.15	2.1	28.21	25.82	129.83	145.74	2.02	1.85	2.8	2.8
Stillwater County	A12	RM 419.63	149047.6	5% Duration	565.3	1100.43	1097.92	1.91	1.9	23.1	21.52	163.61	176.27	1.81	1.68	2.51	2.51
Stillwater County	A12	RM 419.53	148495.9	5% Duration	565.3	1100.03	1097.22	2.46	2.29	39.98	32.37	118.72	192.02	1.58	1.29	2.8	2.8
Stillwater County	A12	RM 419.46	148117.9	5% Duration	565.3	1099.76	1097.34	2.2	2.13	32.36	23.78	117.67	235.68	1.53	1.13	2.68	2.68
Stillwater County	A12	RM 419.38	147728.5	5% Duration	565.3	1099.39	1097.36	2.44	2.21	41.85	32.76	116.19	244.56	1.33	1.04	2.03	2.03
Stillwater County	A12	RM 419.31	147342.9	5% Duration	565.3	1099.31	1096.9	1.58	1.44	15.93	13.42	103.93	266.32	1.74	1.47	2.41	2.41
Stillwater County	A12	RM 419.19	146720.3	5% Duration	565.3	1099.22	1096.42	1.11	1.25	7.78	9.09	98.35	208.76	1.85	2.17	4.82	4.82
Stillwater County	A12	RM 419.10	146243.9	5% Duration	565.3	1099.16	1095.09	1.31	1.29	9.48	8.8	155.48	174.78	2.76	2.56	4.07	4.07
Stillwater County	A12	RM 419.03	145859.8	5% Duration	565.3	1098.98	1095.88	1.93	1.93	23.47	23.45	161.77	167.65	1.81	1.81	3.1	3.1
Stillwater County	A12	RM 418.95	145435.3	5% Duration	565.3	1098.76	1095.15	2.01	2.01	27.39	27.39	193.25	198.45	1.46	1.46	3.61	3.61

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A12	RM 418.84	144864	5% Duration	565.3	1098.4	1094.92	2.08	2.07	28.96	27.63	181.25	193.83	1.5	1.43	3.48	3.48
Stillwater County	A12	RM 418.57	143452.8	5% Duration	565.3	1097.46	1095.1	2.26	2.12	33.58	29.35	123.12	191.73	1.59	1.39	2.36	2.36
Stillwater County	A12	RM 418.49	143008.1	5% Duration	565.3	1097.31	1094.94	1.72	1.53	19.59	13.83	167.8	333.3	1.57	1.11	2.37	2.37
Stillwater County	A12	RM 418.25	141740.8	5% Duration	565.3	1096.64	1093.71	1.83	1.54	24.18	17.4	172.37	450.47	1.19	0.86	2.93	2.93
Stillwater County	A12	RM 418.08	140894.8	5% Duration	565.3	1096.15	1092.65	2.05	1.77	27.64	18.4	132.04	301.47	1.6	1.06	3.5	3.5
Stillwater County	A12	RM 417.89	139893.7	5% Duration	565.3	1095.46	1092.75	2.43	2.37	37.35	32.52	125.69	150.34	1.82	1.59	2.71	2.71
Stillwater County	A12	RM 417.79	139376.4	5% Duration	565.3	1095.01	1091.64	2.78	2.58	47.63	33.5	97.74	158.03	1.97	1.38	3.37	3.37
Stillwater County	A12	RM 417.65	138633.4	5% Duration	565.3	1094.6	1091.57	2.57	2.41	38.84	30.94	88.26	131.85	2.23	1.78	3.03	3.03
Stillwater County	A12	RM 417.54	138089.5	5% Duration	565.3	1094.32	1091.15	2.55	2.32	37.5	25.96	82.9	145.91	2.41	1.67	3.17	3.17
Stillwater County	A12	RM 417.40	137321.3	5% Duration	647.4	1093.96	1091.71	2.33	2.06	35.06	25.01	115.44	257.36	1.71	1.22	2.25	2.25
Stillwater County	A12	RM 417.30	136818.2	5% Duration	647.4	1093.6	1091.51	2.23	2.12	34.38	29.7	196.59	264.88	1.37	1.18	2.09	2.09
Stillwater County	A13	RM 417.09	135706	5% Duration	647.4	1092.92	1090.35	2.41	2.41	38.87	38.87	179.09	201.62	1.5	1.5	2.57	2.57
Stillwater County	A13	RM 417.01	135303.6	5% Duration	647.4	1092.72	1090	1.96	1.96	25.84	25.84	219.91	242.21	1.5	1.5	2.72	2.72
Stillwater County	A13	RM 416.85	134457.6	5% Duration	647.4	1092.25	1089.62	1.84	1.81	20.84	18.23	181.47	225.62	1.94	1.7	2.63	2.63
Stillwater County	A13	RM 416.73	133843.5	5% Duration	647.4	1091.91	1089.6	2.12	2.1	30.23	27.65	204.41	240.88	1.49	1.37	2.31	2.31
Stillwater County	A13	RM 416.63	133286.1	5% Duration	647.4	1091.58	1089.3	2.15	2.02	30.65	27.47	115.85	258.89	1.54	1.39	2.28	2.28
Stillwater County	A13	RM 416.52	132717.9	5% Duration	647.4	1091.27	1089.09	2.03	1.72	29.48	23.92	102.01	372.65	1.24	1.01	2.18	2.18
Stillwater County	A13	RM 416.43	132250.3	5% Duration	647.4	1090.86	1088.74	2.05	1.92	30.34	24.9	100.01	342.89	1.2	0.98	2.12	2.12
Stillwater County	A13	RM 416.33	131707.5	5% Duration	647.4	1090.48	1088.02	1.95	1.94	28.07	26.94	122.85	349.63	1.12	1.08	2.46	2.46
Stillwater County	A13	RM 416.22	131140.9	5% Duration	647.4	1090.02	1087.56	2.54	2.15	41.38	28.51	81.66	254.04	1.72	1.18	2.46	2.46
Stillwater County	A13	RM 416.13	130626.3	5% Duration	647.4	1089.69	1086.65	2.32	2.18	34.32	27.56	135.21	243.04	1.77	1.42	3.04	3.04
Stillwater County	A13	RM 416.04	130164.9	5% Duration	647.4	1089.18	1085.03	2.91	2.67	53	37.68	111.14	212.3	1.84	1.31	4.15	4.15
Stillwater County	A13	RM 415.96	129734.7	5% Duration	647.4	1088.96	1085.48	2.44	1.99	36.58	25.31	114.5	240.8	1.96	1.35	3.48	3.48
Stillwater County	A13	RM 415.90	129423.4	5% Duration	647.4	1088.74	1085.77	2.2	1.91	33.31	27.46	147.3	295.45	1.38	1.15	2.97	2.97
Stillwater County	A13	RM 415.83	129071.6	5% Duration	647.4	1088.5	1085.89	1.89	1.89	24.47	22.66	147.88	262.37	1.4	1.3	3.17	3.17
Stillwater County	A13	RM 415.74	128639.5	5% Duration	647.4	1088.25	1084.72	2.24	2.09	30.38	23.1	137.33	196.31	2.07	1.57	3.53	3.53
Stillwater County	A13	RM 415.72	128521.2	5% Duration	647.4	1088.11	1084.8	2.53	2.34	38.89	29.76	123.27	177.12	2.04	1.56	3.31	3.31
Stillwater County	A13	RM 415.65	128106.2	5% Duration	647.4	1087.77	1083.7	2.8	2.7	46.49	38.28	103.96	131.9	2.21	1.82	4.07	4.07
Stillwater County	A13	RM 415.59	127828.3	5% Duration	647.4	1087.61	1083.61	2.79	2.78	43.46	40.95	87.09	92.95	2.66	2.51	4	4
Stillwater County	A13	RM 415.55	127620.5	5% Duration	647.4	1087.66	1082.84	1.78	1.78	17.27	17.27	127.19	127.19	2.86	2.86	4.82	4.82
Stillwater County	A13	RM 415.50	127340.9	5% Duration	647.4	1087.54	1083.14	2.01	2.01	23.52	23.52	140.36	140.36	2.3	2.3	4.4	4.4
Stillwater County	A13	RM 415.45	127087.4	5% Duration	647.4	1087.34	1083.18	2.39	2.39	32.96	32.96	114.3	114.3	2.37	2.37	4.15	4.15
Stillwater County	A13	RM 415.34	126499.1	5% Duration	647.4	1086.98	1084.45	2.53	2.39	41.33	36.88	123.86	210.43	1.69	1.51	2.53	2.53
Stillwater County	A13	RM 415.25	126040.7	5% Duration	647.4	1086.7	1082.42	2.44	2.31	36.2	32.21	113.26	155.58	2.01	1.8	4.28	4.28
Stillwater County	A13	RM 415.18	125663.1	5% Duration	647.4	1086.53	1083.81	2.25	2.14	31.13	28.2	129.71	171.47	1.94	1.76	2.72	2.72
Stillwater County	A13	RM 414.97	124585.1	5% Duration	647.4	1085.75	1082.64	2.67	2.44	43.21	33.69	101.53	164.76	2.06	1.61	3.11	3.11
Stillwater County	A13	RM 414.88	124110.1	5% Duration	647.4	1085.38	1083.02	2.74	2.53	48.32	39.47	117.27	180.68	1.73	1.42	2.36	2.36
Stillwater County	A13	RM 414.71	123222	5% Duration	647.4	1084.91	1080.88	2.14	2.14	28.37	28.37	156.94	156.94	1.93	1.93	4.03	4.03
Stillwater County	A13	RM 414.57	122473.6	5% Duration	647.4	1084.51	1081.21	2.3	2.3	32.24	31.52	139.35	142.57	2.02	1.97	3.3	3.3
Stillwater County	A13	RM 414.43	121696.6	5% Duration	647.4	1084.14	1080.49	2.18	2.14	29.98	27.46	160.83	179.78	1.84	1.68	3.65	3.65
Stillwater County	A13	RM 414.21	120527.7	5% Duration	647.4	1083.27	1080.81	2.39	2.33	41.41	39.67	197.24	241.61	1.2	1.15	2.46	2.46
Stillwater County	A13	RM 413.90	118914.7	5% Duration	647.4	1081.98	1079.28	2.44	2.43	37.13	35	138.89	176.41	1.9	1.8	2.7	2.7
Stillwater County	A13	RM 413.65	117570.4	5% Duration	647.4	1081.18	1078.15	2.45	2.45	36.85	35.17	134.37	346.99	1.97	1.88	3.03	3.03
Stillwater County	A14	RM 413.44	116446.3	5% Duration	647.4	1080.68	1076.4	2.19	2.17	28.51	25.35	135.85	243.08	2.17	1.93	4.28	4.28
Stillwater County	A14	RM 413.27	115556.7	5% Duration	647.4	1080.12	1077.8	2.47	2.23	40.57	25.67	159.07	399.83	1.56	0.99	2.32	2.32
Stillwater County	A14	RM 413.11	114697.4	5% Duration	647.4	1079.61	1077.12	2.06	1.98	28.31	25.2	191.54	353.24	1.54	1.37	2.49	2.49
Stillwater County	A14	RM 412.99	114113.2	5% Duration	647.4	1079.1	1076.41	2.48	2.36	41.49	34.87	167.34	289.37	1.49	1.26	2.69	2.69
Stillwater County	A14	RM 412.88	113533.6	5% Duration	647.4	1078.77	1076.03	2.26	2.07	31.4	20.91	137.48	276.54	1.97	1.31	2.74	2.74
Stillwater County	A14	RM 412.73	112742.6	5% Duration	647.4	1078.28	1074.72	2.37	2.15	37.13	25.04	165.75	324.68	1.57	1.06	3.55	3.55
Stillwater County	A14	RM 412.59	112005.5	5% Duration	647.4	1077.67	1074.72	2.4	2.19	39.4	27.66	182.9	307.72	1.44	1.01	2.95	2.95
Stillwater County	A14	RM 412.49	111442.5	5% Duration	647.4	1077.13	1074.54	2.49	2.31	44.52	33.64	188.49	296.41	1.25	0.94	2.59	2.59
Stillwater County	A14	RM 412.31	110522	5% Duration	647.4	1076.73	1072.96	1.95	1.92	22.15	21.2	143.57	152.15	2.31	2.21	3.76	3.76
Stillwater County	A14	RM 412.19	109955.3	5% Duration	647.4	1076.17	1071.57	3.02	3.02	54.15	54.15	97.76	97.76	2.2	2.2	4.6	4.6
Stillwater County	A14	RM 412.05	109175.2	5% Duration	647.4	1075.76	1072.08	2.57	2.57	38.56	36.54	107.89	114.05	2.33	2.21	3.68	3.68
Stillwater County	A14	RM 411.92	108510.2	5% Duration	647.4	1075.47	1072.88	2.33	2.33	32.95	32.95	135.19	135.19	2.05	2.05	2.59	2.59
Stillwater County	A14	RM 411.81	107950.5	5% Duration	647.4	1075.07	1070.62	2.61	2.61	41.47	41.47	123.39	123.39	2.01	2.01	4.45	4.45
Stillwater County	A14	RM 411.71	107391.9	5% Duration	647.4	1074.91	1070.83	2.16	2.16	26.03	26.03	114.49	114.49	2.62	2.62	4.08	4.08
Stillwater County	A14	RM 411.58	106721	5% Duration	647.4	1074.66	1071.65	2.16	2.16	28.61	28.61	149.31	152.97	2	2	3.01	3.01
Stillwater County	A14	RM 411.47	106133.7	5% Duration	647.4	1074.27	1071.87	2.43	2.43	37.68	35.43	149.54	159.46	1.78	1.67	2.4	2.4
Stillwater County	A14	RM 411.32	105338.4	5% Duration	647.4	1073.59	1069.29	2.67	2.59	47.19	43	150.75	171.95	1.59	1.45	4.3	4.3

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A14	RM 411.14	104374.6	5% Duration	647.4	1073.03	1067.92	2.51	2.37	35.37	27.74	99.32	135.63	2.57	2.02	5.11	5.11
Stillwater County	A14	RM 411.00	103638.4	5% Duration	647.4	1072.73	1069.6	2.27	1.96	32.27	23.01	136.34	248.54	1.86	1.33	3.13	3.13
Stillwater County	A14	RM 410.85	102835.8	5% Duration	647.4	1072.23	1069.92	2.04	2.04	30.42	26.75	82.97	313.55	1.15	1.01	2.31	2.31
Stillwater County	A14	RM 410.74	102286.3	5% Duration	647.4	1071.82	1068.99	2.23	1.83	32.66	23.28	67.03	305.87	1.63	1.16	2.83	2.83
Stillwater County	A14	RM 410.63	101668.3	5% Duration	647.4	1071.32	1068.37	2.64	2.05	45.16	26.37	79.67	322.37	1.68	0.98	2.95	2.95
Stillwater County	A14	RM 410.52	101115.7	5% Duration	647.4	1071.01	1067.81	2.1	1.92	27.78	20.71	119.67	245.36	1.84	1.37	3.19	3.19
Stillwater County	A14	RM 410.42	100568.4	5% Duration	647.4	1070.5	1066.66	2.43	2.48	42.52	43.74	135.25	205.21	1.24	1.27	3.84	3.84
Stillwater County	A14	RM 410.33	100099.2	5% Duration	647.4	1070.24	1066.6	2.01	1.96	26.26	23.7	194.35	231.57	1.65	1.49	3.64	3.64
Stillwater County	A14	RM 410.22	99589.26	5% Duration	647.4	1069.91	1066.94	2.3	2.24	32.73	27.11	146.61	181.84	1.91	1.59	2.97	2.97
Stillwater County	A14	RM 410.12	99057.4	5% Duration	647.4	1069.56	1065.8	2.37	2.14	37.68	30.63	170.46	247.65	1.53	1.24	3.76	3.76
Stillwater County	A14	RM 410.03	98630.66	5% Duration	647.4	1069.11	1065.33	2.57	2.38	47.38	43.28	191.39	239.9	1.24	1.14	3.78	3.78
Stillwater County	A14	RM 409.99	98385.41	5% Duration	647.4	1068.86	1065.38	2.57	2.4	43.65	40.14	152.39	193.92	1.58	1.45	3.48	3.48
Stillwater County	A14	RM 409.94	98072.09	5% Duration	647.4	1068.59	1065.51	2.46	2.34	41.68	33.8	185.32	278.49	1.4	1.14	3.08	3.08
Stillwater County	A14	RM 409.87	97717.24	5% Duration	647.4	1068.58	1065.52	1.62	1.33	15.17	10.23	157.29	308.87	2.34	1.58	3.06	3.06
Stillwater County	A14	RM 409.76	97130.84	5% Duration	647.4	1068.32	1065.37	2.12	1.86	27.35	20.74	140.86	226.28	2.03	1.54	2.95	2.95
Stillwater County	A14	RM 409.60	96278.7	5% Duration	647.4	1067.36	1064.65	3.33	3.12	73.03	55.3	119.31	171.01	1.6	1.21	2.7	2.7
Stillwater County	A14	RM 409.43	95381.62	5% Duration	647.4	1066.94	1063.55	2.22	1.89	29.38	16.03	118.84	415.77	2.18	1.19	3.4	3.4
Stillwater County	A14	RM 409.24	94405.29	5% Duration	647.4	1066.14	1064.55	2.44	2.3	44.99	36.09	102.71	339.24	1.05	0.84	1.93	1.93
Stillwater County	A14	RM 409.15	93912.54	5% Duration	647.4	1065.66	1064.27	1.43	2.09	16.38	22.74	133.5	253.78	0.88	1.22	3.58	3.58
Stillwater County	A14	RM 408.99	93008.08	5% Duration	647.4	1065.04	1063.94	1.75	2.43	25.37	33.83	131.59	251.48	0.79	1.06	2.5	2.5
Stillwater County	A14	RM 408.84	92229.27	5% Duration	647.4	1064.76	1062.1	1.78	1.8	22.31	20.43	138.44	298.41	1.31	1.21	2.66	2.66
Stillwater County	A14	RM 408.63	91072.98	5% Duration	647.4	1063.46	1061.85	2.65	2.75	58.62	60.44	166.25	301.19	0.78	0.81	1.88	1.88
Stillwater County	A14	RM 408.41	89726.16	5% Duration	647.4	1062.77	1059.04	2.07	1.84	24.37	18.54	97.75	186	2.49	1.89	3.73	3.73
Stillwater County	A14	RM 408.26	88966.66	5% Duration	647.4	1062.54	1058.13	2.03	1.99	22.85	19.17	119.17	145.21	2.67	2.24	4.41	4.41
Stillwater County	A14	RM 408.10	88091.52	5% Duration	647.4	1062.2	1057.78	2.37	2.3	30.52	27.59	96.38	110.3	2.82	2.56	4.42	4.42
Stillwater County	A14	RM 408.02	87720.33	5% Duration	647.4	1062.13	1058.61	2.09	2.04	24.37	22.16	118.71	133.69	2.61	2.37	3.52	3.52
Stillwater County	A14	RM 407.83	86708.48	5% Duration	647.4	1061.57	1058.65	2.41	2.35	40.3	36.89	139.35	221.29	1.35	1.24	2.92	2.92
Stillwater County	A14	RM 407.71	86078.99	5% Duration	647.4	1061.28	1057.9	2.13	2	27.39	22.55	113.14	187.52	2.09	1.72	3.37	3.37
Stillwater County	A14	RM 407.61	85508.29	5% Duration	647.4	1061.05	1058.36	1.87	1.9	24.19	22.57	169.56	265.67	1.37	1.28	2.69	2.69
Stillwater County	A14	RM 407.50	84909.3	5% Duration	647.4	1060.73	1058.55	2.07	1.89	30.7	25.12	171.02	339.77	1.23	1.01	2.67	2.67
Stillwater County	A14	RM 407.41	84433.26	5% Duration	647.4	1060.36	1057.85	2.49	1.99	41.2	25.33	107.6	337.22	1.57	0.97	2.7	2.7
Stillwater County	A14	RM 407.36	84180.66	5% Duration	647.4	1060.09	1057.59	2.75	2.19	48.94	29.27	95.99	293.13	1.68	1.01	2.5	2.5
Stillwater County	A14	RM 407.29	83775.88	5% Duration	647.4	1059.8	1057.08	1.9	2.08	24.14	26.57	117.53	184.4	1.53	1.69	2.98	2.98
Stillwater County	A14	RM 407.13	82954.84	5% Duration	647.4	1059.18	1056.27	2.27	2.27	38.41	38.16	256.59	258.47	1.11	1.1	2.91	2.91
Stillwater County	A14	RM 406.98	82156.72	5% Duration	647.4	1058.86	1056.37	1.72	1.69	18.25	17.76	194.54	203.68	1.92	1.88	2.48	2.48
Stillwater County	A14	RM 406.86	81532.92	5% Duration	647.4	1058.39	1055.69	2.62	2.58	40.59	38.29	111.15	119.88	2.21	2.09	2.69	2.69
Stillwater County	A14	RM 406.77	81053.3	5% Duration	647.4	1058.19	1053.84	2.4	2.32	32.75	26.34	108.23	140.28	2.48	1.99	4.35	4.35
Stillwater County	A14	RM 406.64	80405.13	5% Duration	647.4	1058.01	1054.89	2.04	1.99	23.99	18.42	134.02	179.73	2.36	1.81	3.12	3.12
Stillwater County	A14	RM 406.48	79524.79	5% Duration	647.4	1057.42	1054.8	2.59	2.45	44.65	37.13	177.57	234.72	1.35	1.12	2.62	2.62
Stillwater County	A14	RM 406.25	78337.26	5% Duration	647.4	1056.57	1054.03	2.37	2.26	34.82	26.51	137.3	197.39	1.91	1.45	2.54	2.54
Stillwater County	A14	RM 406.08	77409.13	5% Duration	647.4	1055.92	1052.87	2.66	2.48	43.4	35.71	114.43	159.53	1.99	1.64	3.05	3.05
Stillwater County	A14	RM 405.93	76624.91	5% Duration	647.4	1055.52	1052.64	2.42	2.37	34.04	29.51	114.34	135.34	2.33	2.02	2.88	2.88
Stillwater County	A14	RM 405.81	75994.44	5% Duration	647.4	1055.3	1051.93	2.15	2.1	27.28	25.08	131.66	149	2.25	2.07	3.37	3.37
Stillwater County	A15	RM 405.77	75764.36	5% Duration	647.4	1055.11	1052.63	2.46	2.34	38.3	34.01	139.07	170.92	1.82	1.62	2.48	2.48
Stillwater County	A15	RM 405.67	75185.26	5% Duration	647.4	1054.71	1052.06	2.58	2.15	42.55	30	82.19	241.45	1.76	1.25	2.64	2.64
Stillwater County	A15	RM 405.61	74883.52	5% Duration	647.4	1054.51	1051.81	2.64	2.17	41.73	25.16	69.55	239.09	2.12	1.28	2.7	2.7
Stillwater County	A15	RM 405.52	74415.92	5% Duration	647.4	1053.91	1051.43	3.44	2.78	72.54	38.57	52.24	219.18	2.01	1.06	2.48	2.48
Stillwater County	A15	RM 405.45	74031.34	5% Duration	647.4	1053.7	1051.1	2.99	1.92	52.95	25.72	57.4	329.21	2.18	1.06	2.61	2.61
Stillwater County	A15	RM 405.34	73437.72	5% Duration	647.4	1053.24	1050.67	2.65	2.46	43	31.41	116.05	181.32	1.99	1.45	2.57	2.57
Stillwater County	A15	RM 405.18	72616.33	5% Duration	647.4	1052.66	1049.45	2.86	2.77	46.56	26.17	90.35	178.26	2.49	1.39	3.21	3.21
Stillwater County	A15	RM 405.09	72171.48	5% Duration	647.4	1052.49	1049.09	2.42	2.24	34.53	24.03	114.53	186.19	2.24	1.55	3.4	3.4
Stillwater County	A15	RM 405.02	71774.52	5% Duration	647.4	1052.21	1048.59	2.77	2.54	43.7	31.96	86.48	139.19	2.51	1.83	3.62	3.62
Stillwater County	A15	RM 404.97	71526.86	5% Duration	647.4	1052.15	1048.35	2.41	2.22	33.6	26.34	103.44	156.98	2.37	1.85	3.8	3.8
Stillwater County	A15	RM 404.90	71150.58	5% Duration	647.4	1051.93	1048.99	2.56	2.33	38.22	27.94	101.55	166.97	2.28	1.66	2.94	2.94
Stillwater County	A15	RM 404.84	70801.47	5% Duration	647.4	1051.83	1049.19	2.21	2.07	28.93	24.49	115.5	175.08	2.18	1.84	2.64	2.64
Stillwater County	A15	RM 404.77	70415.17	5% Duration	647.4	1051.58	1048.51	2.63	2.39	39.52	30.64	83.47	142.42	2.46	1.9	3.07	3.07
Stillwater County	A15	RM 404.59	69477.61	5% Duration	647.4	1051.18	1047.56	2.5	2.5	35.79	35.79	105.99	105.99	2.45	2.45	3.62	3.62
Stillwater County	A15	RM 404.54	69214.33	5% Duration	647.4	1051.09	1047.65	2.34	2.34	32.09	31.57	119.07	121.11	2.32	2.28	3.44	3.44
Stillwater County	A15	RM 404.35	68254.38	5% Duration	647.4	1050.59	1048.18	2.21	2.28	32.09	33.53	134.14	169.43	1.59	1.68	2.82	2.82
Stillwater County	A15	RM 404.10	66934.17	5% Duration	647.4	1049.84	1047.61	2.24	2.12	32	28.74	118.97	193.6	1.78	1.6	2.23	2.23

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A15	RM 403.94	66110.59	5% Duration	647.4	1049.36	1045.27	2.41	2.17	35.66	28.39	105.54	188.72	2	1.59	4.09	4.09
Stillwater County	A15	RM 403.85	65604.39	5% Duration	647.4	1049.07	1044.79	2.63	2.25	38.27	24.23	75.76	175.2	2.73	1.72	4.28	4.28
Stillwater County	A15	RM 403.75	65058.55	5% Duration	647.4	1048.72	1046.13	2.76	2.56	46.76	37.7	99.86	159.03	1.98	1.59	2.59	2.59
Stillwater County	A15	RM 403.69	64721.22	5% Duration	647.4	1048.6	1046.02	2.12	1.98	29.04	25.63	130.8	223.8	1.7	1.5	2.58	2.58
Stillwater County	A15	RM 403.62	64341.29	5% Duration	647.4	1048.27	1045.75	2.69	2.38	47.97	38.42	75.68	217.78	1.55	1.25	2.52	2.52
Stillwater County	A15	RM 403.55	63997.04	5% Duration	647.4	1047.86	1045.95	2.63	2.51	51.43	47.43	114.9	254.02	1.12	1.04	1.91	1.91
Stillwater County	A15	RM 403.38	62985.06	5% Duration	647.4	1047.26	1043.43	2.03	1.91	26	22.29	162.49	218.84	1.8	1.55	3.83	3.83
Stillwater County	A15	RM 403.24	62260	5% Duration	647.4	1047.02	1043.43	1.86	1.86	20.56	20.56	158.22	158.22	2.2	2.2	3.59	3.59
Stillwater County	A15	RM 403.15	61770.95	5% Duration	647.4	1046.74	1042.51	2.35	2.35	31.8	31.8	115.66	115.66	2.39	2.39	4.23	4.23
Stillwater County	A15	RM 403.05	61263.44	5% Duration	647.4	1046.55	1043.23	2.2	2.2	28.93	28.93	137.99	137.99	2.13	2.13	3.32	3.32
Stillwater County	A15	RM 402.97	60777.65	5% Duration	647.4	1046.38	1043.89	2.01	2.01	24.81	24.81	166.46	166.46	1.94	1.94	2.49	2.49
Stillwater County	A15	RM 402.83	60113.9	5% Duration	647.4	1045.88	1043.49	2.4	2.4	41.14	41.14	215.72	274.86	1.25	1.25	2.39	2.39
Stillwater County	A15	RM 402.68	59309.8	5% Duration	647.4	1045.14	1042.55	2.25	2.22	36.03	34.23	224.64	327.39	1.27	1.21	2.59	2.59
Stillwater County	A15	RM 402.53	58529.61	5% Duration	647.4	1044.94	1040.51	1.8	1.64	17.15	11.01	115.37	254.9	3.06	1.97	4.43	4.43
Stillwater County	A15	RM 402.37	57665.93	5% Duration	647.4	1044.42	1041.09	2.66	2.49	48.95	36.95	173.14	269.61	1.38	1.05	3.33	3.33
Stillwater County	A15	RM 402.24	56987.42	5% Duration	647.4	1044.19	1040.75	1.63	1.48	17.7	13.86	243.09	410.74	1.55	1.22	3.44	3.44
Stillwater County	A15	RM 402.07	56034.67	5% Duration	647.4	1043.65	1041.1	2.12	1.84	30.95	26.14	201.19	296.02	1.4	1.19	2.55	2.55
Stillwater County	A15	RM 401.87	54972.92	5% Duration	647.4	1042.53	1040.1	2.92	2.84	55.5	43.09	134.42	178.57	1.65	1.28	2.43	2.43
Stillwater County	A15	RM 401.69	54002.29	5% Duration	647.4	1042.17	1038.43	1.88	1.84	21.75	19.15	170.24	201.33	1.99	1.75	3.74	3.74
Stillwater County	A15	RM 401.55	53267.48	5% Duration	647.4	1041.8	1036.56	2.49	2.4	31.37	24.67	72.29	97.02	3.55	2.78	5.24	5.24
Stillwater County	A15	RM 401.41	52506.25	5% Duration	647.4	1041.59	1037.91	2.24	2.1	29.39	20.64	123.18	199.87	2.29	1.61	3.68	3.68
Stillwater County	A15	RM 401.31	51997.63	5% Duration	647.4	1041.21	1038.08	2.68	2.56	43.79	34.11	116.05	159.92	2.03	1.58	3.13	3.13
Stillwater County	A15	RM 401.17	51259.17	5% Duration	647.4	1040.75	1037.38	2.5	2.48	39.04	36.09	136.85	149.12	1.89	1.75	3.37	3.37
Stillwater County	A15	RM 401.03	50507.04	5% Duration	647.4	1040.45	1036.56	2.19	2.13	27.55	25.32	121.53	136.53	2.42	2.23	3.89	3.89
Stillwater County	A15	RM 400.90	49826.69	5% Duration	647.4	1040.05	1036.25	2.5	2.46	38.84	34.4	135.66	156.12	1.9	1.69	3.8	3.8
Stillwater County	A15	RM 400.74	49002.09	5% Duration	647.4	1039.57	1037.21	2.49	2.06	38	26.72	109.17	226.82	1.98	1.38	2.35	2.35
Stillwater County	A15	RM 400.61	48243.95	5% Duration	647.4	1039.05	1035.99	2.41	2.18	39.05	27.77	142.78	279.25	1.5	1.07	3.06	3.06
Stillwater County	A15	RM 400.50	47710.55	5% Duration	647.4	1038.68	1035.67	2.18	2.15	31.82	30.48	142.4	202.83	1.55	1.49	3.01	3.01
Stillwater County	A15	RM 400.42	47243.72	5% Duration	647.4	1038.4	1034.87	2.28	2.23	31.47	29.68	102.69	148.09	2.08	1.96	3.53	3.53
Stillwater County	A15	RM 400.34	46832.6	5% Duration	647.4	1038.27	1034.91	2.14	1.99	26.14	23.01	91.3	147.85	2.49	2.2	3.36	3.36
Stillwater County	A15	RM 400.25	46335.82	5% Duration	647.4	1038.14	1035.01	1.98	1.85	22.72	19.46	102.55	169.91	2.41	2.06	3.13	3.13
Stillwater County	A15	RM 400.18	45999.89	5% Duration	647.4	1038.01	1034.98	2.09	1.98	25.94	23.46	109.88	164.06	2.21	2	3.03	3.03
Stillwater County	A15	RM 400.13	45714.33	5% Duration	647.4	1037.89	1035.2	2.16	1.95	27.5	20.46	119.17	201.96	2.21	1.64	2.69	2.69
Stillwater County	A15	RM 400.11	45623.77	5% Duration	647.4	1037.79	1035.11	2.35	2.11	34.04	25.94	125.49	205.27	1.96	1.49	2.68	2.68
Stillwater County	A15	RM 400.09	45529.19	5% Duration	647.4	1037.61	1035.05	2.78	2.5	50.38	39.82	124.21	196.61	1.67	1.32	2.56	2.56
Stillwater County	A15	RM 400.03	45177.97	5% Duration	647.4	1037.18	1034.82	2.96	2.74	59.91	51.87	132.51	190.78	1.43	1.24	2.36	2.36
Stillwater County	A15	RM 399.95	44761.86	5% Duration	647.4	1037.05	1033.69	2.06	2.06	25.44	25.44	147.7	147.7	2.13	2.13	3.36	3.36
Stillwater County	A16	RM 399.85	44225.61	5% Duration	647.4	1036.72	1033.63	2.39	2.39	35.71	35.71	142.48	142.48	1.9	1.9	3.09	3.09
Stillwater County	A16	RM 399.74	43664.16	5% Duration	647.4	1036.51	1033.48	2.05	2.05	25.57	25.57	156.02	156.02	2.03	2.03	3.03	3.03
Stillwater County	A16	RM 399.62	43026.17	5% Duration	647.4	1036	1033.67	2.46	2.46	43.67	43.67	213.84	213.84	1.23	1.23	2.33	2.33
Stillwater County	A16	RM 399.50	42404.94	5% Duration	647.4	1035.7	1031.89	2	2	24.47	24.47	162.16	162.16	2	2	3.81	3.81
Stillwater County	A16	RM 399.39	41801.43	5% Duration	647.4	1035.41	1031.8	2.16	2.16	28.68	27.87	150.34	155.05	1.99	1.93	3.61	3.61
Stillwater County	A16	RM 399.30	41294.57	5% Duration	647.4	1035.08	1031.14	2.44	2.41	36.77	33.97	137.88	150.89	1.92	1.78	3.94	3.94
Stillwater County	A16	RM 399.19	40736.83	5% Duration	647.4	1034.7	1031.46	2.55	2.53	40.01	38.43	131.1	137.35	1.94	1.86	3.24	3.24
Stillwater County	A16	RM 399.09	40202.15	5% Duration	647.4	1034.53	1031.09	2.11	2.01	25.75	19.14	126.6	181.55	2.39	1.77	3.44	3.44
Stillwater County	A16	RM 399.00	39710.39	5% Duration	647.4	1034.38	1031.41	2	1.71	24.2	16.44	140.37	271.1	2.05	1.39	2.97	2.97
Stillwater County	A16	RM 398.91	39231.58	5% Duration	647.4	1034.08	1031.73	2.24	2.01	34.72	29.63	163.83	272.89	1.38	1.18	2.35	2.35
Stillwater County	A16	RM 398.80	38666.26	5% Duration	647.4	1033.61	1031.55	2.28	2.01	36.51	26.22	182.6	337.33	1.33	0.95	2.06	2.06
Stillwater County	A16	RM 398.73	38275.64	5% Duration	647.4	1033.3	1030.78	2.25	2.02	31.53	26.33	174.75	266.52	1.44	1.2	2.52	2.52
Stillwater County	A16	RM 398.62	37715.08	5% Duration	647.4	1032.99	1030.19	2	1.9	25.57	20.18	166.81	285.38	1.51	1.19	2.8	2.8
Stillwater County	A16	RM 398.51	37115.9	5% Duration	647.4	1032.51	1030.68	2.28	2.2	37.03	33.17	202.02	262.44	1.25	1.12	1.85	1.85
Stillwater County	A16	RM 398.40	36522.49	5% Duration	647.4	1032.26	1028.27	1.82	1.73	19.86	16.64	162.42	260.8	1.72	1.44	3.99	3.99
Stillwater County	A16	RM 398.29	35952.65	5% Duration	647.4	1031.89	1027.62	2.16	2.16	32.06	32.06	212.02	212.02	1.41	1.41	4.27	4.27
Stillwater County	A16	RM 398.17	35320.39	5% Duration	647.4	1031.71	1028.88	1.58	1.58	15.79	15.75	227.19	227.71	1.8	1.8	2.82	2.82
Stillwater County	A16	RM 398.04	34597.07	5% Duration	647.4	1031.37	1027.24	1.86	1.86	27.21	27.21	251.3	251.3	1.38	1.38	4.13	4.13
Stillwater County	A16	RM 397.95	34133.39	5% Duration	647.4	1030.98	1027.15	2.22	2.21	33.48	32.87	200.46	205.15	1.46	1.43	3.82	3.82
Stillwater County	A16	RM 397.81	33366.95	5% Duration	647.4	1030.52	1027.05	1.96	1.94	26.37	25.59	234.51	243.62	1.41	1.37	3.47	3.47
Stillwater County	A16	RM 397.68	32754.86	5% Duration	647.4	1030.27	1026.97	1.82	1.81	20.62	19.87	186.85	203.48	1.9	1.83	3.3	3.3
Stillwater County	A16	RM 397.56	32104.4	5% Duration	647.4	1029.89	1026.76	2.33	2.27	32.59	30.74	131.27	144.63	2.1	1.99	3.13	3.13
Stillwater County	A16	RM 397.40	31237.31	5% Duration	647.4	1029.47	1026.27	2.19	2.1	30.7	27.58	166.86	238.09	1.75	1.57	3.2	3.2

* Bathymetric survey was collected from RM 435.5 to 391.4. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Stillwater County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Stillwater County	A16	RM 397.17	30082.69	5% Duration	647.4	1028.88	1025.84	2	1.9	26.39	19.77	202.86	451.39	1.58	1.18	3.04	3.04
Stillwater County	A16	RM 396.97	29050.44	5% Duration	647.4	1028.14	1025.61	2.14	2.14	33.7	33.65	266.7	353.22	1.14	1.13	2.53	2.53
Stillwater County	A16	RM 396.71	27639.86	5% Duration	647.4	1027.43	1022.48	2.23	2.23	27.13	27.13	101.83	160.57	2.85	2.85	4.95	4.95
Stillwater County	A16	RM 396.62	27103.31	5% Duration	647.4	1027.27	1022.36	2.23	2.23	26.74	26.74	98.64	153.4	2.95	2.95	4.91	4.91
Stillwater County	A16	RM 396.52	26616.35	5% Duration	647.4	1027.07	1023.41	2.39	2.39	31.82	31.82	100.86	180.79	2.68	2.68	3.66	3.66
Stillwater County	A16	RM 396.29	25423.1	5% Duration	647.4	1026.62	1023.53	2.04	1.87	26.99	22.36	175.71	284.97	1.69	1.4	3.09	3.09
Stillwater County	A16	RM 396.14	24635.78	5% Duration	647.4	1026.2	1022.46	2.26	2.01	31.06	21.6	125.86	258.35	2.06	1.43	3.74	3.74
Stillwater County	A16	RM 396.03	24026.24	5% Duration	647.4	1025.94	1024.1	2.03	1.81	27.44	20	177.63	386.35	1.56	1.13	1.84	1.84
Stillwater County	A16	RM 395.89	23301.08	5% Duration	647.4	1025.39	1022.79	2.47	2.03	40.73	27.1	122.59	337.57	1.51	1.01	2.6	2.6
Stillwater County	A16	RM 395.73	22420.29	5% Duration	647.4	1024.99	1022.66	1.27	1.21	11.41	9.93	167.13	478.59	1.3	1.13	2.33	2.33
Stillwater County	A16	RM 395.64	21923.33	5% Duration	647.4	1024.71	1022.13	1.64	1.66	18.64	13.92	141.3	464.21	1.36	1.01	2.89	2.89
Stillwater County	A16	RM 395.57	21526.11	5% Duration	647.4	1024.38	1021.61	2.22	1.93	30.75	18	75.64	461.57	1.91	1.12	2.77	2.77
Stillwater County	A16	RM 395.48	21053.74	5% Duration	647.4	1023.94	1021.89	2.26	2.2	38.05	32.41	105.72	363.09	1.11	0.95	2.05	2.05
Stillwater County	A16	RM 395.36	20532.68	5% Duration	647.4	1023.66	1021.53	1.74	1.74	20.99	18.8	128.94	346.55	1.35	1.21	2.13	2.13
Stillwater County	A16	RM 394.98	18666.37	5% Duration	647.4	1022.95	1020.31	2.44	2.13	37.97	25.98	88.96	250.73	1.77	1.21	2.64	2.64
Stillwater County	A16	RM 394.80	17678.79	5% Duration	647.4	1022.57	1019.23	2.24	2.07	31.92	25.4	96.87	222.83	1.77	1.41	3.34	3.34
Stillwater County	A16	RM 394.65	16921.48	5% Duration	647.4	1022.21	1019.93	1.72	1.8	20.09	20.04	136.91	249.54	1.45	1.44	3.2	3.2
Stillwater County	A16	RM 394.59	16622.61	5% Duration	647.4	1021.9	1019.92	2.06	2.01	29.43	26.02	113.89	264.72	1.38	1.22	2.33	2.33
Stillwater County	A16	RM 394.53	16295.21	5% Duration	647.4	1021.55	1019.83	2.13	2.11	33.63	27.44	124.6	340.56	1.11	0.9	2.54	2.54
Stillwater County	A16	RM 394.20	14503.23	5% Duration	647.4	1020.36	1016.38	2.27	2	32.16	21.39	132.99	262.46	1.86	1.24	3.98	3.98
Stillwater County	A16	RM 394.12	14088.57	5% Duration	647.4	1020.12	1016.74	2.29	2.06	32.73	22.38	136.68	248.06	1.85	1.27	3.38	3.38
Stillwater County	A16	RM 393.99	13393.6	5% Duration	647.4	1019.76	1017.11	2.17	1.75	30.92	18.91	107.68	370.25	1.63	1	2.65	2.65
Stillwater County	A16	RM 393.85	12650.05	5% Duration	647.4	1019.18	1016.49	1.98	2.03	29.78	27.92	171.3	328.9	1.03	0.97	2.69	2.69
Stillwater County	A16	RM 393.59	11240.84	5% Duration	647.4	1018.57	1015.45	1.53	1.43	15.58	12.68	224.89	353.83	1.58	1.28	3.12	3.12
Stillwater County	A16	RM 393.27	9813.245	5% Duration	647.4	1017.53	1013.32	2.93	2.68	54.76	37.51	119.38	201.72	1.75	1.2	4.21	4.21
Stillwater County	A16	RM 393.10	8870.543	5% Duration	647.4	1016.99	1013.34	1.92	1.82	25.88	21.73	227.67	318.68	1.33	1.12	3.65	3.65
Stillwater County	A16	RM 392.95	8114.595	5% Duration	647.4	1016.29	1014.13	2.28	2.21	38.31	35.1	240.69	280.44	1.14	1.04	2.16	2.16
Stillwater County	A16	RM 392.69	6912.838	5% Duration	647.4	1015.57	1012.43	1.76	1.57	21.3	16.86	178.43	393.05	1.43	1.13	3.14	3.14
Stillwater County	A16	RM 392.44	5710.825	5% Duration	647.4	1014.93	1011.68	2.13	1.92	28.66	22.33	130.19	395.43	1.81	1.41	3.25	3.25
Stillwater County	A17	RM 392.20	4388.056	5% Duration	647.4	1013.93	1010.8	2.63	2.48	45.01	39.33	146.62	180.35	1.65	1.45	3.13	3.13
Stillwater County	A17	RM 392.00	3345.174	5% Duration	647.4	1013.47	1009.53	1.98	1.74	24.16	16.69	156.68	276.05	1.95	1.34	3.94	3.94
Stillwater County	A17	RM 391.84	2491.214	5% Duration	647.4	1013.2	1010.51	1.62	1.59	17.87	16.21	149.57	308.02	1.46	1.32	2.78	2.78
Stillwater County	A17	RM 391.68	1656.536	5% Duration	647.4	1012.81	1010.5	1.54	1.61	18.73	17.48	252.22	465.89	0.92	0.86	2.31	2.31
Stillwater County	A17	RM 391.58	1120.168	5% Duration	647.4	1012.51	1009.55	1.7	1.63	20.71	16.55	278.75	396.54	1.26	1	2.96	2.96
Stillwater County	A17	RM 391.46	505.9	5% Duration	647.4	1012.22	1009.4	1.68	1.55	19.43	14.83	258.36	394.63	1.39	1.06	2.82	2.82

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Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	A17	RM 391.31	149936	0.05	647.4	1011.88	1008.74	1.76	1.56	19.96	13.97	202.08	344.55	1.72	1.21	3.14	3.14
Yellowstone County	A17	RM 391.14	149661.4	0.05	647.4	1011.51	1007.82	1.82	1.46	24.96	12.37	200.78	528.93	1.7	0.84	3.69	3.69
Yellowstone County	A17	RM 390.83	149168.3	0.05	647.4	1010.28	1007.89	2.28	2.11	43.17	38.51	227.51	330.01	1.14	1.01	2.39	2.39
Yellowstone County	A17	RM 390.51	148644.1	0.05	647.4	1009.4	1006	1.4	1.4	18.3	16.59	194.9	287.29	1.78	1.61	3.4	3.4
Yellowstone County	A17	RM 390.34	148387.5	0.05	647.4	1008.98	1005.26	2.01	1.9	37.29	23.69	137.7	268.02	2.01	1.27	3.71	3.71
Yellowstone County	A17	RM 390.13	148054.9	0.05	647.4	1008.38	1005.54	2.17	2.05	34.19	25.35	129.48	206.63	2.06	1.53	2.84	2.84
Yellowstone County	A17	RM 389.96	147776.4	0.05	647.4	1008	1004.81	1.86	1.68	23.34	17.91	161.75	304.16	1.65	1.27	3.19	3.19
Yellowstone County	A17	RM 389.76	147468.2	0.05	647.4	1007.71	1004.52	1.27	1.25	15.84	14.86	295.33	320.83	1.72	1.61	3.19	3.19
Yellowstone County	A17	RM 389.55	147162.3	0.05	647.4	1007.19	1003.2	1.8	1.77	36.1	33.43	220.17	243.48	1.63	1.5	3.99	3.99
Yellowstone County	A17	RM 389.31	146731.1	0.05	647.4	1006.61	1003.49	1.52	1.5	15.98	15.37	250.6	264.82	1.7	1.64	3.12	3.12
Yellowstone County	A17	RM 389.08	146349	0.05	647.4	1005.97	1001.61	1.78	1.71	42.72	27.45	238.16	391.04	1.51	0.97	4.36	4.36
Yellowstone County	A17	RM 388.92	146095.5	0.05	647.4	1005.41	1002.49	1.83	1.76	23.28	19.69	242.99	303.92	1.43	1.21	2.92	2.92
Yellowstone County	A17	RM 388.79	145883.6	0.05	647.4	1005.2	1002.14	1.67	1.49	17.41	10.82	161.57	305.11	2.31	1.43	3.06	3.06
Yellowstone County	A17	RM 388.61	145594.9	0.05	647.4	1004.78	1000.48	2.22	1.9	33.66	25.89	129.53	212.72	2.09	1.6	4.3	4.3
Yellowstone County	A17	RM 388.58	145547	0.05	647.4	1004.72	1000.28	2.02	1.75	32.84	22.04	140	263.45	2.17	1.45	4.44	4.44
Yellowstone County	A17	RM 388.36	145196.7	0.05	647.4	1004.28	1001.21	1.89	1.66	23.93	14.58	152.57	317	2.07	1.26	3.07	3.07
Yellowstone County	A17	RM 388.22	144960.1	0.05	647.4	1003.8	1000.23	2.46	2.18	40.03	20.57	121.41	313.48	1.84	0.95	3.57	3.57
Yellowstone County	A17	RM 388.09	144745.8	0.05	647.4	1003.29	999.87	2.11	1.82	36.32	27.23	206.52	409.68	1.16	0.87	3.42	3.42
Yellowstone County	A17	RM 387.91	144452	0.05	647.4	1002.43	999.77	1.46	1.71	20.45	26.2	271.97	368.42	0.8	1.03	2.66	2.66
Yellowstone County	A17	RM 387.79	144255.2	0.05	647.4	1002.33	999.17	1.03	1.01	6.64	6.3	288.17	425.09	1.59	1.52	3.16	3.16
Yellowstone County	A17	RM 387.59	143932.9	0.05	647.4	1002	998.1	1.37	1.37	33.58	33.58	478.63	500.51	0.99	0.99	3.9	3.9
Yellowstone County	A17	RM 387.36	143562.1	0.05	647.4	1001.05	997.78	1.83	1.83	20.17	20.17	282.21	282.21	1.25	1.25	3.27	3.27
Yellowstone County	A17	RM 387.24	143353.9	0.05	647.4	1000.76	997.71	1.62	1.62	17.13	17.13	326.72	326.72	1.23	1.23	3.05	3.05
Yellowstone County	A17	RM 387.04	143026.2	0.05	647.4	999.93	996.49	2.31	2.31	36.39	34.6	241.48	254.99	1.16	1.1	3.44	3.44
Yellowstone County	A17	RM 386.86	142750.4	0.05	647.4	999.42	997.01	1.62	1.61	21.25	20.15	294.07	313.22	1.35	1.28	2.41	2.41
Yellowstone County	A17	RM 386.74	142538.5	0.05	647.4	999.01	996.31	1.75	1.71	25.98	24	287.72	324.46	1.27	1.17	2.7	2.7
Yellowstone County	A17	RM 386.61	142318.4	0.05	647.4	998.48	995.9	2.11	2.07	31.88	29.09	178.29	215.03	1.6	1.46	2.58	2.58
Yellowstone County	A17	RM 386.47	142095.8	0.05	647.4	998.07	995.18	2.1	1.94	29.37	23.03	158.13	276.97	1.75	1.37	2.89	2.89
Yellowstone County	A17	RM 386.33	141875.1	0.05	647.4	997.64	994.36	2.31	2.09	32.54	20.11	129.57	245.95	2.03	1.26	3.28	3.28
Yellowstone County	A17	RM 386.17	141622.7	0.05	647.4	997.16	993.9	2.22	2.12	36.75	30.63	180.51	237.28	1.54	1.29	3.26	3.26
Yellowstone County	A17	RM 386.08	141479.6	0.05	647.4	996.82	994.12	2.18	2.1	39.2	29.51	172.82	356.71	1.69	1.27	2.7	2.7
Yellowstone County	A17	RM 386.03	141389.2	0.05	647.4	996.32	993.82	2.83	2.83	61.64	61.64	194.41	308.36	1.18	1.18	2.5	2.5
Yellowstone County	A17	RM 385.96	141289.2	0.05	647.4	996.26	993.01	1.8	1.78	20.92	19.48	212.12	571.73	1.68	1.56	3.25	3.25
Yellowstone County	A17	RM 385.91	141204.9	0.05	647.4	996.15	992.33	1.79	1.75	20.89	19.96	232.43	568.05	1.5	1.43	3.82	3.82
Yellowstone County	A17	RM 385.84	141096	0.05	647.4	996.18	990.57	0.86	0.86	5.32	5.32	328.82	664.66	2.28	2.28	5.61	5.61
Yellowstone County	A17	RM 385.79	141006	0.05	647.4	996.01	992.48	1.77	1.77	16.95	16.95	143.57	453.36	2.54	2.54	3.53	3.53
Yellowstone County	A18	RM 385.69	140846.5	0.05	647.4	995.77	992.9	2.07	2.07	32.8	32.8	200	520.06	1.56	1.56	2.87	2.87
Yellowstone County	A18	RM 385.60	140705.5	0.05	647.4	995.46	992.71	2.11	2.11	36.83	36.61	167.51	384.05	1.83	1.82	2.75	2.75
Yellowstone County	A18	RM 385.50	140538.8	0.05	647.4	995.33	990.71	1.74	1.74	17.06	17.06	146.09	355.31	2.55	2.55	4.62	4.62
Yellowstone County	A18	RM 385.39	140367.1	0.05	647.4	995.16	992.41	1.87	1.84	20.51	17.59	181.3	478.99	1.9	1.63	2.75	2.75
Yellowstone County	A18	RM 385.30	140231.3	0.05	647.4	994.88	992.53	2.1	2.08	37.74	35.61	232.3	248.83	1.33	1.25	2.35	2.35
Yellowstone County	A18	RM 385.23	140108.3	0.05	647.4	994.55	992.01	1.93	1.85	34.93	30.85	223.28	515.63	1.24	1.1	2.54	2.54
Yellowstone County	A18	RM 385.12	139921.2	0.05	647.4	993.78	991.37	2.55	2.52	48.4	46.47	160.86	290.43	1.32	1.27	2.41	2.41
Yellowstone County	A18	RM 384.93	139688.7	0.05	647.4	993.38	991.06	1.76	1.66	21.79	18.33	205.46	407.96	1.44	1.21	2.32	2.32
Yellowstone County	A18	RM 384.75	139352.1	0.05	647.4	992.51	989.77	2.71	2.33	57.29	37.82	101.96	290.47	1.83	1.2	2.74	2.74
Yellowstone County	A18	RM 384.63	139146.9	0.05	647.4	991.99	989.58	1.98	1.7	30.18	22.61	132.49	497.65	1.16	0.87	2.41	2.41
Yellowstone County	A18	RM 384.48	138904.5	0.05	647.4	991.49	989.55	1.62	1.58	20.82	19.05	145.33	357.6	1.28	1.17	2.14	2.14
Yellowstone County	A18	RM 384.34	138682.4	0.05	647.4	991.12	988.23	1.53	1.67	28.4	26.53	149.34	241.97	1.73	1.62	2.89	2.89
Yellowstone County	A18	RM 384.26	138551.1	0.05	647.4	990.85	987.34	2.37	2.07	32.64	20.13	79.81	313.67	2.33	1.43	3.51	3.51
Yellowstone County	A18	RM 384.15	138370.3	0.05	647.4	990.44	987.39	2.62	2.38	53.3	33.1	76.08	264.19	2.08	1.29	3.05	3.05
Yellowstone County	A18	RM 384.06	138235.3	0.05	647.4	990.29	987.31	2.1	1.48	27.99	13.9	81.7	525.14	2.04	1.01	2.98	2.98
Yellowstone County	A18	RM 383.96	138072.3	0.05	647.4	989.67	987.67	2.62	2.48	59.1	51.23	130.1	473.78	0.79	0.69	2	2
Yellowstone County	A18	RM 383.86	137914.6	0.05	647.4	989.41	987.24	1.53	1.45	15.95	14.9	148.47	436.61	1.33	1.25	2.17	2.17
Yellowstone County	A18	RM 383.75	137749.9	0.05	647.4	989.07	986.55	1.61	1.83	21.91	23.02	134.58	335.42	1.23	1.29	2.59	2.59
Yellowstone County	A18	RM 383.62	137544.5	0.05	647.4	988.76	986.32	1.44	1.63	15.91	14.65	142.25	457.16	1.19	1.09	3.14	3.14
Yellowstone County	A18	RM 383.54	137415.7	0.05	647.4	988.66	984.41	1.37	1.35	12.44	10.71	328.97	506.98	1.44	1.24	4.25	4.25
Yellowstone County	B1	RM 383.39	137175.7	0.05	809.1	988.33	984.98	1.85	1.85	20.47	20.47	246.32	246.32	1.77	1.77	3.35	3.35
Yellowstone County	B1	RM 383.31	137040.5	0.05	809.1	988.14	984.86	1.88	1.85	23.57	19.19	286.64	358.05	1.5	1.22	3.28	3.28
Yellowstone County	B1	RM 383.16	136817.2	0.05	809.1	987.83	984.9	1.82	1.7	17.47	13.49	302.5	424.72	1.45	1.12	2.93	2.93
Yellowstone County	B1	RM 382.88	136371.1	0.05	809.1	987.08	983.64	2.1	2.06	24.99	22.52	301.71	343.74	1.27	1.14	3.44	3.44
Yellowstone County	B1	RM 382.61	135921.1	0.05	809.1	986.42	982.68	2	1.94	24.73	21.25	184.32	223.01	2.17	1.87	3.74	3.74

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 382.44	135657.8	0.05	809.1	986.02	981.56	2.38	2.11	32.04	22.01	119.69	203.87	2.74	1.88	4.46	4.46
Yellowstone County	B1	RM 382.28	135389.1	0.05	809.1	985.78	981.45	2.12	2	25.12	18.01	129.94	196.25	2.87	2.06	4.33	4.33
Yellowstone County	B1	RM 382.11	135122	0.05	809.1	985.42	980.52	2.39	2.36	35.21	32.41	125.94	138.77	2.69	2.47	4.9	4.9
Yellowstone County	B1	RM 381.93	134829.3	0.05	809.1	985	981.3	2.14	2.14	41.26	41.26	170.32	170.32	2.22	2.22	3.7	3.7
Yellowstone County	B1	RM 381.79	134602.8	0.05	809.1	984.55	981.63	2.33	2.33	34.41	34.41	161.79	161.79	2.15	2.15	2.92	2.92
Yellowstone County	B1	RM 381.69	134426.2	0.05	809.1	984.45	981.06	1.68	1.68	18.09	18.09	193.04	193.04	2.49	2.49	3.39	3.39
Yellowstone County	B1	RM 381.58	134232.5	0.05	809.1	984.14	981.02	2.1	2.09	31.47	30.75	259.55	266.53	1.49	1.45	3.12	3.12
Yellowstone County	B1	RM 381.47	134047.3	0.05	809.1	983.82	980.95	1.91	1.91	28.72	27.97	230.29	236.51	1.84	1.79	2.87	2.87
Yellowstone County	B1	RM 381.35	133871.9	0.05	809.1	983.55	980.79	1.91	1.9	25.61	24.57	235.24	245.71	1.8	1.73	2.76	2.76
Yellowstone County	B1	RM 381.22	133659.2	0.05	809.1	983.13	979.74	2.05	2.05	35.27	35.27	257.92	257.92	1.53	1.53	3.39	3.39
Yellowstone County	B1	RM 381.11	133491.4	0.05	809.1	982.82	979.61	2.01	1.95	32.23	29.36	179.52	224.56	2.02	1.84	3.21	3.21
Yellowstone County	B1	RM 381.00	133302.9	0.05	809.1	982.36	978.23	2.44	2.33	37.48	33.26	175.74	223.68	1.75	1.56	4.13	4.13
Yellowstone County	B1	RM 380.92	133180	0.05	809.1	982.22	976.97	2.09	1.93	28.27	17.17	144.26	270.03	2.57	1.55	5.25	5.25
Yellowstone County	B1	RM 380.81	132986.3	0.05	809.1	981.96	978.55	2.14	2.04	28.56	20.57	187.31	283.69	1.94	1.4	3.41	3.41
Yellowstone County	B1	RM 380.69	132800.2	0.05	809.1	981.72	978.53	1.93	1.8	22.27	15.37	247.88	402.16	1.62	1.12	3.19	3.19
Yellowstone County	B1	RM 380.57	132628.6	0.05	809.1	981.52	978.7	1.73	1.62	23.66	18.22	216.04	343.04	1.89	1.46	2.82	2.82
Yellowstone County	B1	RM 380.48	132470	0.05	809.1	981.32	978.24	1.76	1.63	22.92	17.02	193.27	311.83	2.14	1.59	3.08	3.08
Yellowstone County	B1	RM 380.34	132222.4	0.05	809.1	980.89	977.37	2.21	2.05	31.35	23.15	193.41	304.48	1.75	1.29	3.52	3.52
Yellowstone County	B1	RM 380.22	132032.4	0.05	809.1	980.63	977.02	2.08	1.89	26.34	15.27	169.45	350.14	2.11	1.22	3.61	3.61
Yellowstone County	B1	RM 380.11	131847.7	0.05	809.1	980.35	976.29	2.18	1.95	32.2	19.84	165.57	333.45	2.02	1.24	4.06	4.06
Yellowstone County	B1	RM 380.01	131671.4	0.05	809.1	980.09	976.21	2.16	1.87	31.23	16.91	157.75	367.22	2.17	1.18	3.88	3.88
Yellowstone County	B1	RM 379.92	131538.8	0.05	809.1	979.84	976.69	2.29	2.06	32.86	23.06	180.1	319.53	1.75	1.23	3.15	3.15
Yellowstone County	B1	RM 379.84	131406.9	0.05	809.1	979.75	975.94	1.49	1.37	15.26	12.22	368.06	572.62	1.39	1.11	3.81	3.81
Yellowstone County	B1	RM 379.75	131265.1	0.05	809.1	979.56	974.98	1.56	1.4	18.74	15.09	342.77	595.92	1.44	1.16	4.58	4.58
Yellowstone County	B1	RM 379.65	131104.3	0.05	809.1	979.34	975.6	1.6	1.34	18.04	11.29	347.9	720.03	1.34	0.84	3.74	3.74
Yellowstone County	B1	RM 379.56	130964.3	0.05	809.1	979.19	975.94	1.41	1.3	14.55	11.12	309.9	571.72	1.42	1.09	3.25	3.25
Yellowstone County	B1	RM 379.46	130794	0.05	809.1	979.03	974.74	1.57	1.42	14.62	8.43	201.93	459.42	2.15	1.24	4.29	4.29
Yellowstone County	B1	RM 379.36	130642.3	0.05	809.1	978.92	975.71	1.47	1.34	17.74	9.61	237.92	493.19	2.27	1.22	3.21	3.21
Yellowstone County	B1	RM 379.27	130496.2	0.05	809.1	978.49	974.66	2.56	2.36	46.77	24.58	146.89	335.05	2.13	1.12	3.83	3.83
Yellowstone County	B1	RM 379.17	130345.7	0.05	809.1	978.27	973.93	2.32	2.21	33.04	20.88	146.01	267.37	2.38	1.5	4.34	4.34
Yellowstone County	B1	RM 379.04	130142	0.05	809.1	977.98	974.79	2.18	1.9	29.4	16.08	196.7	477.73	1.81	0.99	3.19	3.19
Yellowstone County	B1	RM 378.97	130026.7	0.05	809.1	977.78	974.64	2.17	1.97	30.64	18.67	222.03	407.7	1.65	1.01	3.14	3.14
Yellowstone County	B1	RM 378.86	129850.9	0.05	809.1	977.39	974.4	2.2	2	36.34	30.52	237.82	363.43	1.49	1.25	2.99	2.99
Yellowstone County	B1	RM 378.76	129682.3	0.05	809.1	977.08	974.17	2.06	2.01	27.14	22.64	226.07	334.9	1.74	1.45	2.91	2.91
Yellowstone County	B1	RM 378.67	129541.3	0.05	809.1	976.84	973.97	2.09	1.83	27.51	16.87	228.25	451.5	1.65	1.01	2.87	2.87
Yellowstone County	B1	RM 378.61	129443.1	0.05	809.1	976.59	973.83	2.37	1.93	42.2	25.81	184.78	448.1	1.58	0.97	2.76	2.76
Yellowstone County	B1	RM 378.52	129297.7	0.05	809.1	976.26	973.62	2.03	1.87	26.28	24.4	356.54	450.61	1.08	1	2.64	2.64
Yellowstone County	B1	RM 378.46	129200.8	0.05	809.1	976.12	973.48	1.56	1.53	20.22	18.2	406.93	464.61	1.27	1.14	2.64	2.64
Yellowstone County	B1	RM 378.40	129112.2	0.05	809.1	975.9	973.41	1.72	1.71	38.3	37.19	396.79	411.72	1.18	1.15	2.49	2.49
Yellowstone County	B1	RM 378.29	128929.4	0.05	809.1	975.58	972.93	1.31	1.3	14.9	14.63	518.61	532.05	1.19	1.17	2.65	2.65
Yellowstone County	B1	RM 378.13	128673.7	0.05	809.1	975.16	971.4	1.92	1.92	21.66	21.66	222.15	222.15	1.9	1.9	3.76	3.76
Yellowstone County	B1	RM 378.07	128569	0.05	809.1	975.1	970.46	1.7	1.68	15.84	13.81	187.63	219.16	2.53	2.2	4.64	4.64
Yellowstone County	B1	RM 377.96	128380.3	0.05	809.1	975	968.85	1.73	1.7	15.97	14.23	104.84	119.94	4.45	3.97	6.15	6.15
Yellowstone County	B1	RM 377.87	128244.4	0.05	809.1	974.84	970.56	2.05	2	34.28	31.59	194.63	233.72	2.01	1.85	4.28	4.28
Yellowstone County	B1	RM 377.79	128118	0.05	809.1	974.58	970.94	2.28	2.23	26.73	25.12	208.86	232.04	1.69	1.59	3.64	3.64
Yellowstone County	B1	RM 377.69	127964.3	0.05	809.1	974.41	969.86	1.9	1.83	22.21	20.06	247.34	315.82	1.7	1.53	4.55	4.55
Yellowstone County	B1	RM 377.61	127824.8	0.05	809.1	974.06	970.53	2.37	2.29	34.66	31.08	206.16	242.99	1.62	1.46	3.53	3.53
Yellowstone County	B1	RM 377.55	127735.1	0.05	809.1	973.96	970.41	1.97	1.9	21.96	20.11	255.67	293.98	1.58	1.45	3.55	3.55
Yellowstone County	B1	RM 377.48	127618.1	0.05	809.1	973.74	970.26	2.1	2	28.08	25.28	257.56	308.09	1.46	1.31	3.48	3.48
Yellowstone County	B1	RM 377.39	127466.6	0.05	809.1	973.36	969.73	2.3	2.21	32.55	30.62	242.15	273.61	1.42	1.34	3.63	3.63
Yellowstone County	B1	RM 377.34	127391.5	0.05	809.1	973.17	969.95	2.29	2.25	40.25	37.71	234.99	256.95	1.49	1.4	3.22	3.22
Yellowstone County	B1	RM 377.25	127241.9	0.05	809.1	972.97	970.26	1.7	1.69	19.2	18.39	337.24	356.52	1.41	1.35	2.71	2.71
Yellowstone County	B1	RM 377.16	127097.7	0.05	809.1	972.61	969.82	2.14	2.13	32.72	31.61	268.12	312.03	1.26	1.22	2.79	2.79
Yellowstone County	B1	RM 377.08	126969	0.05	809.1	972.54	969	1.36	1.35	11.45	10.67	359.51	410.36	1.57	1.46	3.54	3.54
Yellowstone County	B1	RM 377.04	126900.8	0.05	809.1	972.39	968.6	1.76	1.76	28.11	27.91	309.94	312.36	1.48	1.47	3.79	3.79
Yellowstone County	B1	RM 376.98	126797.5	0.05	809.1	972.16	969.02	2.03	2.03	25.62	25.62	225.59	225.59	1.77	1.77	3.14	3.14
Yellowstone County	B1	RM 376.92	126710.1	0.05	809.1	972.04	969.01	1.77	1.77	30.74	30.74	315.29	315.29	1.45	1.45	3.03	3.03
Yellowstone County	B1	RM 376.84	126584.2	0.05	809.1	971.87	967.73	1.41	1.42	19.53	19.09	335.52	393.77	1.47	1.44	4.14	4.14
Yellowstone County	B1	RM 376.75	126442.1	0.05	809.1	971.71	967.82	1.41	1.39	16.69	16.03	308.69	354.84	1.7	1.64	3.89	3.89
Yellowstone County	B1	RM 376.67	126309	0.05	809.1	971.57	967.23	1.58	1.53	17.06	15.16	202.11	246.86	2.41	2.14	4.34	4.34
Yellowstone County	B1	RM 376.58	126174.1	0.05	809.1	971.38	966.82	1.79	1.76	31.79	29.92	273.05	298.06	1.64	1.54	4.56	4.56

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 376.51	126058.2	0.05	809.1	971.09	966.77	2.04	1.99	33.73	30.84	225.14	254.82	1.74	1.59	4.32	4.32
Yellowstone County	B1	RM 376.42	125918.5	0.05	809.1	970.92	967.68	1.75	1.75	20.07	20.07	251.75	251.75	1.83	1.83	3.24	3.24
Yellowstone County	B1	RM 376.35	125809.8	0.05	809.1	970.85	966.71	1.6	1.58	15.15	13.9	222.49	245.81	2.27	2.08	4.14	4.14
Yellowstone County	B1	RM 376.28	125697	0.05	809.1	970.61	966.28	2.19	2.14	29.77	27.68	191.79	213.03	1.91	1.77	4.33	4.33
Yellowstone County	B1	RM 376.20	125565.9	0.05	809.1	970.43	966.16	2.05	1.97	27.2	23.27	208.42	259.79	1.85	1.58	4.27	4.27
Yellowstone County	B1	RM 376.10	125404.8	0.05	809.1	970.18	966.61	1.98	1.77	26.59	21.85	239.58	375.23	1.48	1.22	3.57	3.57
Yellowstone County	B1	RM 376.00	125250.5	0.05	809.1	969.83	967.42	2.15	1.97	31.96	23.06	223.65	358.47	1.59	1.15	2.41	2.41
Yellowstone County	B1	RM 375.88	125055.1	0.05	809.1	969.55	966.01	1.94	1.61	25.89	13.69	176.82	466.74	2.04	1.08	3.54	3.54
Yellowstone County	B1	RM 375.78	124897.3	0.05	809.1	969.36	965.37	1.85	1.64	24.19	13.37	173.03	445.67	2	1.11	3.99	3.99
Yellowstone County	B1	RM 375.67	124708.2	0.05	809.1	969.14	965.8	1.9	1.68	24.87	15.73	185.04	390.14	1.94	1.23	3.34	3.34
Yellowstone County	B1	RM 375.58	124564.2	0.05	809.1	968.89	966.54	2.02	1.9	28.93	22.09	219.65	356.71	1.56	1.19	2.35	2.35
Yellowstone County	B1	RM 375.23	124013.6	0.05	809.1	968.09	965.23	2.02	1.88	25.18	15.63	185.54	326.9	2.12	1.32	2.86	2.86
Yellowstone County	B1	RM 375.10	123799.5	0.05	809.1	967.65	963.88	2.54	2.3	47.15	26.75	120	244.95	2.54	1.44	3.77	3.77
Yellowstone County	B1	RM 374.97	123580.4	0.05	809.1	967.33	963.97	2.19	1.91	41.5	22.87	126.43	322.37	2.4	1.31	3.36	3.36
Yellowstone County	B1	RM 374.83	123365.5	0.05	809.1	967.01	963.52	2.1	1.65	30.19	16.1	115.41	409.67	2.26	1.21	3.49	3.49
Yellowstone County	B1	RM 374.73	123195.7	0.05	809.1	966.9	963.36	1.55	1.33	14.72	9.26	137.64	465.46	2.11	1.33	3.54	3.54
Yellowstone County	B1	RM 374.61	123010.3	0.05	809.1	966.65	963.49	1.95	1.67	28.04	18.17	149.78	346.88	2.16	1.4	3.16	3.16
Yellowstone County	B1	RM 374.53	122875.3	0.05	829.4	966.44	963.14	2.04	1.83	27.97	20.86	180.26	315.43	1.93	1.44	3.3	3.3
Yellowstone County	B1	RM 374.44	122726.7	0.05	829.4	966.18	963.04	2.27	1.97	36.27	22.4	120.99	261.31	2.61	1.61	3.14	3.14
Yellowstone County	B1	RM 374.32	122535.1	0.05	829.4	965.9	962.82	2.12	1.9	33.08	23.49	175.63	352.21	1.74	1.24	3.08	3.08
Yellowstone County	B1	RM 374.22	122379	0.05	829.4	965.63	960.92	2.22	1.86	32.25	16.93	122.67	335.88	2.53	1.33	4.71	4.71
Yellowstone County	B1	RM 374.13	122231.1	0.05	829.4	965.39	960.11	2.53	2.07	35.47	16.84	92.78	289.93	2.92	1.38	5.28	5.28
Yellowstone County	B1	RM 373.97	121972.4	0.05	829.4	965.25	958.8	1.68	1.52	18.1	13.14	177.02	308.06	2.45	1.77	6.45	6.45
Yellowstone County	B1	RM 373.88	121829.3	0.05	829.4	965.05	962.21	1.95	1.82	30.28	23.87	188.41	299.65	1.93	1.52	2.84	2.84
Yellowstone County	B1	RM 373.79	121688.7	0.05	829.4	964.82	961.66	2	1.84	29.26	21.4	173.54	311.32	1.98	1.45	3.16	3.16
Yellowstone County	B1	RM 373.69	121523.5	0.05	829.4	964.49	961.11	2.13	1.99	34.07	27.62	178.74	301.72	1.7	1.38	3.38	3.38
Yellowstone County	B1	RM 373.56	121314.3	0.05	829.4	963.91	959.37	2.71	2.21	44.81	27.76	126.91	269.38	2.24	1.39	4.54	4.54
Yellowstone County	B1	RM 373.39	121015.9	0.05	829.4	963.47	958.78	2.16	1.81	30	21.33	176.42	321.12	2.01	1.43	4.69	4.69
Yellowstone County	B1	RM 373.26	120802.3	0.05	829.4	963.34	960.81	1.23	0.86	10.21	9.77	315.75	784.35	1.28	1.23	2.53	2.53
Yellowstone County	B1	RM 373.09	120539.5	0.05	829.4	962.98	959.94	1.88	1.34	24.4	18.27	211.83	533.16	1.56	1.16	3.04	3.04
Yellowstone County	B1	RM 372.99	120365.2	0.05	829.4	962.69	959.69	1.77	1.46	33.99	28.4	195.16	392.6	1.73	1.45	3	3
Yellowstone County	B1	RM 372.82	120107.7	0.05	829.4	962.24	959.03	1.71	1.36	21.87	21.25	292.56	542.79	1.15	1.12	3.21	3.21
Yellowstone County	B1	RM 372.72	119922.5	0.05	829.4	961.93	958.92	1.76	1.37	29.08	28.13	242.34	517.69	1.21	1.17	3.01	3.01
Yellowstone County	B1	RM 372.65	119797.7	0.05	829.4	961.83	957.32	1.22	0.88	12.16	12.28	238.91	709.2	1.32	1.33	4.51	4.51
Yellowstone County	B1	RM 372.58	119676.6	0.05	829.4	961.75	958.2	1.17	0.91	9.04	7.85	256.71	711.7	1.47	1.28	3.55	3.55
Yellowstone County	B1	RM 372.41	119395.9	0.05	829.4	961.59	958.82	1.28	1.02	11.48	9.98	314.64	705.13	1.33	1.15	2.77	2.77
Yellowstone County	B1	RM 372.32	119268.8	0.05	829.4	961.48	957.24	1.21	1.17	14.53	11.6	259.42	516.89	1.72	1.37	4.24	4.24
Yellowstone County	B1	RM 372.20	119079.1	0.05	829.4	961.2	956.93	1.79	1.45	29.42	18.01	197.61	455.4	2.06	1.25	4.27	4.27
Yellowstone County	B1	RM 372.08	118886.4	0.05	829.4	960.97	956.2	1.6	1.32	25.45	16.41	223.63	479.11	2.05	1.31	4.77	4.77
Yellowstone County	B1	RM 371.94	118669.8	0.05	829.4	960.66	957.58	1.55	1.57	21.66	20.79	289.82	362.23	1.52	1.46	3.08	3.08
Yellowstone County	B1	RM 371.83	118490.4	0.05	829.4	960.46	957.52	1.36	1.36	16.35	15.3	352.06	459.54	1.42	1.33	2.94	2.94
Yellowstone County	B1	RM 371.74	118350.7	0.05	829.4	960.17	957.48	1.84	1.77	25.85	21.51	336.56	441.6	1.27	1.06	2.69	2.69
Yellowstone County	B1	RM 371.62	118155.6	0.05	829.4	959.92	956.41	1.68	1.51	21.71	14.98	214.52	364.05	2.19	1.51	3.51	3.51
Yellowstone County	B1	RM 371.53	118001.4	0.05	829.4	959.62	955.99	2.12	2.05	30.44	24.58	223.33	291.3	1.72	1.39	3.63	3.63
Yellowstone County	B1	RM 371.43	117839.2	0.05	829.4	959.31	955.47	2.18	2.08	37.42	28.39	167.99	237.14	2.22	1.68	3.84	3.84
Yellowstone County	B1	RM 371.37	117745.1	0.05	829.4	959.19	955.72	2.05	1.97	22.09	18.48	222.13	279.36	1.8	1.51	3.47	3.47
Yellowstone County	B1	RM 371.32	117662.6	0.05	829.4	959.09	956.41	1.83	1.77	30.62	24.05	290.4	382.88	1.56	1.22	2.68	2.68
Yellowstone County	B1	RM 371.25	117560.3	0.05	829.4	958.87	955.99	1.84	1.78	26.49	23.83	366.36	425.2	1.22	1.1	2.88	2.88
Yellowstone County	B1	RM 371.21	117499	0.05	829.4	958.74	955.72	1.84	1.78	26.22	24.89	349.31	394.39	1.24	1.18	3.02	3.02
Yellowstone County	B1	RM 371.12	117353.9	0.05	829.4	958.53	955.54	1.69	1.64	18.67	16.12	316.08	471.34	1.55	1.33	2.99	2.99
Yellowstone County	B1	RM 371.04	117225.1	0.05	829.4	958.2	954.84	2.28	2.28	32.74	32.74	197.49	197.49	1.84	1.84	3.36	3.36
Yellowstone County	B1	RM 370.94	117054.9	0.05	829.4	958	955.57	1.91	1.75	26.87	25.22	234.77	453.25	1.73	1.62	2.43	2.43
Yellowstone County	B1	RM 370.85	116910.9	0.05	829.4	957.69	954.47	2.2	2.14	32.78	28.16	192.31	401.07	1.95	1.68	3.22	3.22
Yellowstone County	B1	RM 370.77	116793.6	0.05	829.4	957.31	953.84	2.67	2.64	45.37	38.6	181.11	431.09	1.71	1.46	3.47	3.47
Yellowstone County	B1	RM 370.72	116711.6	0.05	829.4	957.14	953.13	2.58	2.43	43.48	33.59	136.32	430.88	2.33	1.8	4.01	4.01
Yellowstone County	B1	RM 370.70	116669.2	0.05	829.4	957.06	953.05	2.62	2.31	39.35	23.96	136.85	416.02	2.26	1.37	4.01	4.01
Yellowstone County	B1	RM 370.63	116558.9	0.05	829.4	956.91	953.42	2.26	2.21	41.45	31.06	167.36	366.54	2.18	1.63	3.49	3.49
Yellowstone County	B1	RM 370.56	116440.6	0.05	829.4	956.82	953.34	1.93	1.87	19.81	14.52	158.17	251.1	2.71	1.98	3.48	3.48
Yellowstone County	B1	RM 370.44	116241.1	0.05	829.4	956.57	952.03	2.24	2.07	31.54	21.56	126	201.59	2.91	1.99	4.54	4.54
Yellowstone County	B1	RM 370.34	116071.6	0.05	829.4	956.45	949.79	2.09	2.02	25.68	19.14	107.14	150.08	3.68	2.74	6.66	6.66
Yellowstone County	B1	RM 370.24	115908.6	0.05	829.4	956.35	950.22	1.96	1.87	23.57	17.04	114	169.93	3.65	2.64	6.13	6.13

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B1	RM 370.11	115705	0.05	829.4	956.2	952.12	1.96	1.78	24.18	15.32	148.72	267.33	2.75	1.74	4.08	4.08
Yellowstone County	B1	RM 370.00	115535.2	0.05	829.4	955.99	952.2	2.01	1.85	30.21	24.85	199.8	287.91	1.89	1.56	3.79	3.79
Yellowstone County	B1	RM 369.89	115356.1	0.05	829.4	955.75	953.15	1.84	1.77	20.63	19.2	279.64	321.43	1.57	1.46	2.6	2.6
Yellowstone County	B1	RM 369.77	115164.3	0.05	829.4	955.49	952.34	1.72	1.7	20.42	19.09	344.12	371.11	1.4	1.31	3.15	3.15
Yellowstone County	B1	RM 369.64	114965.6	0.05	829.4	955.1	951.9	1.91	1.88	27.68	26.66	326.45	351.94	1.3	1.25	3.2	3.2
Yellowstone County	B1	RM 369.54	114789.5	0.05	829.4	954.74	952.38	1.92	1.86	25.46	22.81	301.63	378.95	1.4	1.25	2.36	2.36
Yellowstone County	B1	RM 369.45	114650.1	0.05	829.4	954.54	951	1.67	1.56	22.21	19.01	325.47	742.11	1.36	1.16	3.54	3.54
Yellowstone County	B1	RM 369.32	114431.1	0.05	829.4	954.17	951.1	1.65	1.6	22.97	18.97	355.59	1323.98	1.35	1.11	3.07	3.07
Yellowstone County	B1	RM 369.17	114210.5	0.05	829.4	953.78	949.85	2.1	1.91	28.3	21.38	147.94	875.15	2.32	1.75	3.93	3.93
Yellowstone County	B1	RM 369.06	114022.4	0.05	829.4	953.45	949.89	2.39	2.23	33.78	24.81	130.98	895.9	2.51	1.84	3.56	3.56
Yellowstone County	B1	RM 368.96	113871.2	0.05	829.4	953.33	949.68	1.98	1.78	25.21	19.36	163.1	1188.92	2.25	1.73	3.65	3.65
Yellowstone County	B1	RM 368.88	113745.9	0.05	829.4	953.15	948.77	2	1.89	27.84	24.03	206.2	1187.65	1.77	1.53	4.38	4.38
Yellowstone County	B1	RM 368.82	113641	0.05	829.4	952.86	948.47	2.28	2.21	43.47	36.68	191.86	1055.34	1.76	1.49	4.39	4.39
Yellowstone County	B1	RM 368.72	113477.3	0.05	829.4	952.51	948.45	1.97	1.89	38.44	31.96	243.88	773.14	1.63	1.36	4.06	4.06
Yellowstone County	B1	RM 368.63	113328.9	0.05	829.4	952.14	947.82	2.18	2.07	35.56	28.03	201.95	533.77	1.78	1.4	4.32	4.32
Yellowstone County	B1	RM 368.54	113195.6	0.05	829.4	951.84	947.51	2.24	2.17	35.98	31.26	209.46	277.77	1.74	1.51	4.33	4.33
Yellowstone County	B1	RM 368.44	113035.8	0.05	829.4	951.35	947.4	2.82	2.82	45.78	42.09	121.73	150.26	2.41	2.22	3.95	3.95
Yellowstone County	B1	RM 368.35	112878.7	0.05	829.4	951.43	946.64	1.31	1.31	11.11	11.11	274.54	299.27	2.31	2.31	4.79	4.79
Yellowstone County	B1	RM 368.26	112737.6	0.05	829.4	951.16	946.23	2.05	2.05	54.18	54.18	179.1	182.2	2.26	2.26	4.93	4.93
Yellowstone County	B1	RM 368.18	112604.7	0.05	829.4	950.87	947.11	2.24	2.24	33.33	33.33	155.64	155.64	2.38	2.38	3.76	3.76
Yellowstone County	B2	RM 368.09	112456.7	0.05	829.4	950.65	947.7	2.29	2.2	35.08	30.8	146.43	176.77	2.43	2.13	2.95	2.95
Yellowstone County	B2	RM 368.00	112314.4	0.05	829.4	950.53	947.56	1.88	1.88	21.93	21.71	194.01	195.98	2.27	2.25	2.97	2.97
Yellowstone County	B2	RM 367.86	112104.7	0.05	829.4	950.19	946.1	2.29	2.29	32.87	32.87	163.28	163.28	2.22	2.22	4.09	4.09
Yellowstone County	B2	RM 367.79	111989.2	0.05	829.4	950.01	945.04	2.23	2.23	35.55	35.55	164.33	164.33	2.27	2.27	4.97	4.97
Yellowstone County	B2	RM 367.72	111876.5	0.05	829.4	949.9	945.45	2.09	2.06	26.68	23.68	138.34	164.27	2.86	2.54	4.45	4.45
Yellowstone County	B2	RM 367.64	111739.2	0.05	829.4	949.7	945.68	2.28	2.26	36.43	31.9	133.14	153.69	2.73	2.39	4.02	4.02
Yellowstone County	B2	RM 367.50	111519.9	0.05	829.4	949.46	945.21	2.16	2.11	29.99	26.74	121.77	140.41	3.14	2.8	4.25	4.25
Yellowstone County	B2	RM 367.40	111357.1	0.05	829.4	949.31	944.36	2.17	2.06	27.19	16.29	109.52	196.73	3.44	2.05	4.95	4.95
Yellowstone County	B2	RM 367.31	111214.8	0.05	829.4	949.21	945.36	2.07	1.98	22.6	16.61	141.45	203.63	2.8	2.06	3.85	3.85
Yellowstone County	B2	RM 367.19	110992.7	0.05	829.4	949	945.91	1.91	1.85	24.1	21.79	240.6	277.23	1.79	1.62	3.09	3.09
Yellowstone County	B2	RM 367.11	110813.5	0.05	829.4	948.56	945.17	2.32	2.27	39.48	37.49	247.52	269.45	1.43	1.36	3.39	3.39
Yellowstone County	B2	RM 367.03	110669.4	0.05	829.4	948.25	945.89	2.05	2	28.84	28.02	293.34	311.23	1.37	1.33	2.36	2.36
Yellowstone County	B2	RM 366.95	110543	0.05	829.4	948.05	945.34	1.67	1.63	25.02	24.52	354.1	373.59	1.39	1.36	2.71	2.71
Yellowstone County	B2	RM 366.84	110376	0.05	829.4	947.8	944.61	1.54	1.54	18.89	18.89	369.75	369.75	1.45	1.45	3.19	3.19
Yellowstone County	B2	RM 366.78	110300.8	0.05	829.4	947.7	943.84	1.58	1.58	19.01	19.01	333.53	333.53	1.58	1.58	3.86	3.86
Yellowstone County	B2	RM 366.73	110074.8	0.05	829.4	947.32	943.42	1.88	1.88	25.42	25.42	276.4	276.4	1.59	1.59	3.9	3.9
Yellowstone County	B2	RM 366.68	109931.6	0.05	829.4	947.13	942.77	1.92	1.92	23.98	23.98	183.38	183.38	2.36	2.36	4.36	4.36
Yellowstone County	B2	RM 366.53	109747.6	0.05	829.4	946.87	940.86	2.19	2.19	26.61	26.61	138.38	138.38	2.73	2.73	6.01	6.01
Yellowstone County	B2	RM 366.38	109510.8	0.05	829.4	946.64	941.55	2.02	2.02	33.46	33.46	136.21	136.21	3.01	3.01	5.09	5.09
Yellowstone County	B2	RM 366.27	109345.5	0.05	829.4	946.49	942.72	1.81	1.81	22.25	22.25	214.95	214.95	2.13	2.13	3.77	3.77
Yellowstone County	B2	RM 366.15	109158.9	0.05	829.4	946.21	941.59	2.1	2.1	29.95	29.95	171.63	171.63	2.3	2.3	4.62	4.62
Yellowstone County	B2	RM 366.04	108972.6	0.05	829.4	946.01	941.41	2.07	2.07	22.44	22.44	153.22	153.22	2.61	2.61	4.6	4.6
Yellowstone County	B2	RM 365.94	108818.8	0.05	829.4	945.89	940.93	1.97	1.97	21.31	21.31	167.59	167.59	2.51	2.51	4.96	4.96
Yellowstone County	B2	RM 365.83	108647.5	0.05	829.4	945.68	939.93	2.02	2.02	32.25	32.25	200.17	200.17	2.05	2.05	5.75	5.75
Yellowstone County	B2	RM 365.75	108521.3	0.05	829.4	945.48	941.33	2.06	2	32.09	28.65	177.72	211.07	2.2	1.96	4.15	4.15
Yellowstone County	B2	RM 365.71	108446.5	0.05	829.4	945.4	941.83	1.85	1.83	27.67	25.97	197.34	213.53	2.27	2.13	3.57	3.57
Yellowstone County	B2	RM 365.64	108343.5	0.05	829.4	945.23	942.19	1.96	1.96	28.85	27.86	219.93	227.94	1.92	1.86	3.04	3.04
Yellowstone County	B2	RM 365.57	108220.5	0.05	829.4	944.89	942.08	2.29	2.28	49.62	48.06	233.9	242.99	1.55	1.5	2.81	2.81
Yellowstone County	B2	RM 365.51	108118.9	0.05	829.4	944.63	941.87	2.23	2.22	37.01	35.61	207.92	217.46	1.78	1.72	2.76	2.76
Yellowstone County	B2	RM 365.46	108042.9	0.05	829.4	944.56	941.73	1.85	1.84	22.55	22.14	254.31	259.85	1.76	1.73	2.83	2.83
Yellowstone County	B2	RM 365.41	107956.5	0.05	829.4	944.47	941.46	1.71	1.71	22.3	22.3	277.34	277.34	1.75	1.75	3.01	3.01
Yellowstone County	B2	RM 365.37	107905.7	0.05	829.4	944.39	940.74	1.75	1.75	21.28	21.28	284.52	284.52	1.66	1.66	3.65	3.65
Yellowstone County	B2	RM 365.31	107792.4	0.05	829.4	944.22	939.27	1.91	1.91	22.73	22.45	207.69	210.47	2.09	2.07	4.95	4.95
Yellowstone County	B2	RM 365.27	107727.9	0.05	829.4	944	939.34	2.41	2.41	39.39	39.39	191.19	191.19	1.8	1.8	4.66	4.66
Yellowstone County	B2	RM 365.23	107674.2	0.05	829.4	943.85	939.52	2.52	2.52	38.23	38.23	170.23	170.23	1.93	1.93	4.33	4.33
Yellowstone County	B2	RM 365.19	107603	0.05	829.4	943.75	939.93	2.4	2.4	27.18	27.18	185.11	185.11	1.87	1.87	3.82	3.82
Yellowstone County	B2	RM 365.15	107534.7	0.05	829.4	943.68	939.68	2.16	2.16	30.49	30.49	208.41	208.41	1.84	1.84	4	4
Yellowstone County	B2	RM 365.10	107466	0.05	829.4	943.55	938.61	2.26	2.26	31.2	31.2	172.33	172.33	2.13	2.13	4.94	4.94
Yellowstone County	B2	RM 365.06	107396.2	0.05	829.4	943.48	939.07	2.1	2.1	28.36	28.36	159.05	159.05	2.48	2.48	4.41	4.41
Yellowstone County	B2	RM 365.01	107325.8	0.05	829.4	943.45	939.22	1.81	1.81	22.52	22.52	159.09	159.09	2.88	2.88	4.23	4.23
Yellowstone County	B2	RM 364.99	107287.5	0.05	829.4	943.39	939.27	1.98	1.98	24.45	24.45	147.03	147.03	2.85	2.85	4.12	4.12

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B2	RM 364.90	107128.3	0.05	829.4	943.19	937.97	2.17	2.17	26.17	26.17	140.89	140.89	2.71	2.71	5.22	5.22
Yellowstone County	B2	RM 364.81	106996.1	0.05	829.4	943.08	938.93	2.03	2.03	23.49	23.49	168.44	168.44	2.42	2.42	4.15	4.15
Yellowstone County	B2	RM 364.74	106893.3	0.05	829.4	942.97	938.94	2.07	2.07	25.04	25.04	158.4	158.4	2.53	2.53	4.03	4.03
Yellowstone County	B2	RM 364.64	106739.2	0.05	829.4	942.75	939.09	2.32	2.31	28.81	28.06	119.71	123.37	2.98	2.91	3.66	3.66
Yellowstone County	B2	RM 364.61	106686.8	0.05	829.4	942.74	939.21	2.09	2.09	23.73	23.73	136.7	136.7	2.9	2.9	3.53	3.53
Yellowstone County	B2	RM 364.60	106666.6	0.05	829.4	942.68	939.26	2.27	2.27	28.4	28.16	132	133.15	2.76	2.74	3.42	3.42
Yellowstone County	B2	RM 364.53	106558.4	0.05	829.4	942.61	939.11	2.07	2.07	23.46	23.46	145.16	145.16	2.76	2.76	3.5	3.5
Yellowstone County	B2	RM 364.49	106490.3	0.05	829.4	942.53	939.24	2.12	2.12	25.29	25.29	153.52	153.52	2.55	2.55	3.29	3.29
Yellowstone County	B2	RM 364.43	106394	0.05	829.4	942.44	939.13	2.09	2.09	24.48	24.48	150.94	150.94	2.62	2.62	3.31	3.31
Yellowstone County	B2	RM 364.37	106296.4	0.05	829.4	942.37	938.98	2.01	2.01	21.85	21.85	142.9	142.9	2.89	2.89	3.39	3.39
Yellowstone County	B2	RM 364.32	106215.1	0.05	829.4	942.29	938.52	2.04	2.04	27.96	27.96	143.69	143.69	2.83	2.83	3.77	3.77
Yellowstone County	B2	RM 364.29	106172.9	0.05	829.4	942.3	938.13	1.62	1.62	22.35	22.19	184.7	186.11	2.77	2.75	4.17	4.17
Yellowstone County	B2	RM 364.26	106126.6	0.05	829.4	942.15	937.7	2.14	2.1	27.93	25.5	133.76	156.35	2.88	2.63	4.45	4.45
Yellowstone County	B2	RM 364.22	106055.2	0.05	829.4	942.09	938.15	2.09	2.09	26.98	26.98	127.27	154.98	3.12	3.12	3.94	3.94
Yellowstone County	B2	RM 364.14	105927.3	0.05	829.4	941.9	938.12	2.36	2.31	32.68	27.15	118.34	145.46	2.97	2.46	3.78	3.78
Yellowstone County	B2	RM 364.06	105809.9	0.05	829.4	941.82	938.22	2.04	2.04	28.16	26.67	143.62	151.81	2.82	2.67	3.6	3.6
Yellowstone County	B2	RM 363.96	105648.3	0.05	829.4	941.66	938.28	1.83	1.83	24.45	24.45	234.47	234.47	1.94	1.94	3.38	3.38
Yellowstone County	B2	RM 363.85	105472.4	0.05	829.4	941.48	936.25	1.93	1.81	20.21	16.42	142.45	195.53	2.89	2.35	5.23	5.23
Yellowstone County	B2	RM 363.76	105316.8	0.05	829.4	941.39	937.03	1.77	1.7	22.28	19.17	141.45	185.07	3.06	2.63	4.36	4.36
Yellowstone County	B2	RM 363.63	105118.1	0.05	829.4	941.17	937.93	1.77	1.77	30.43	30.43	269.56	269.56	1.74	1.74	3.24	3.24
Yellowstone County	B2	RM 363.52	104943.9	0.05	829.4	940.86	937.54	1.75	1.75	28.53	28.27	285.34	288.06	1.66	1.64	3.32	3.32
Yellowstone County	B2	RM 363.46	104841.5	0.05	829.4	940.73	937.16	1.46	1.46	22.83	22.47	323.65	332.54	1.75	1.72	3.57	3.57
Yellowstone County	B2	RM 363.33	104622.9	0.05	829.4	940.42	936.36	1.69	1.63	25.39	17.52	225.63	342.79	2.15	1.48	4.06	4.06
Yellowstone County	B2	RM 363.20	104414.5	0.05	829.4	940.11	936.48	1.77	1.67	27.68	23.05	278.14	372.09	1.66	1.38	3.63	3.63
Yellowstone County	B2	RM 363.10	104256.4	0.05	829.4	939.82	936.25	1.91	1.73	30.1	22.4	206.37	313.95	2.05	1.52	3.57	3.57
Yellowstone County	B2	RM 363.03	104144.8	0.05	829.4	939.7	936.22	1.75	1.66	21.31	18.18	224.46	280.98	2.08	1.77	3.48	3.48
Yellowstone County	B2	RM 362.86	103869.6	0.05	829.4	939.5	934.32	1.34	1.24	12.11	10.53	398.83	508.19	1.51	1.31	5.18	5.18
Yellowstone County	B2	RM 362.74	103671.4	0.05	829.4	939.12	934.52	2.06	2	29.71	27.07	265.47	303.31	1.5	1.37	4.6	4.6
Yellowstone County	B2	RM 362.63	103493.2	0.05	829.4	938.63	934.5	2.39	2.37	38.56	36.23	220.72	237.37	1.57	1.47	4.13	4.13
Yellowstone County	B2	RM 362.52	103330.7	0.05	829.4	938.28	934.5	2.16	2.16	36.95	36.42	229.39	233.16	1.67	1.65	3.78	3.78
Yellowstone County	B2	RM 362.43	103185.5	0.05	829.4	938.02	934.1	2.16	2.16	20.96	20.96	255.04	277.46	1.51	1.51	3.92	3.92
Yellowstone County	B2	RM 362.36	103070.8	0.05	829.4	937.91	932.98	1.94	1.89	17.36	16.77	252.45	270.3	1.68	1.63	4.93	4.93
Yellowstone County	B2	RM 362.27	102929.3	0.05	829.4	937.84	932.93	1.7	1.7	13.39	13.39	192.57	192.57	2.53	2.53	4.91	4.91
Yellowstone County	B2	RM 362.20	102813.3	0.05	829.4	937.63	933.37	2.29	2.29	27.71	27.71	107.81	107.81	3.36	3.36	4.26	4.26
Yellowstone County	B2	RM 362.13	102693.1	0.05	829.4	937.52	933.47	2.28	2.28	27.97	27.97	124.01	124.01	2.94	2.94	4.05	4.05
Yellowstone County	B3	RM 362.05	102570.9	0.05	829.4	937.43	933.85	2.06	2.06	23.53	23.53	177.26	177.26	2.27	2.27	3.58	3.58
Yellowstone County	B3	RM 362.00	102488.8	0.05	829.4	937.38	934.11	1.78	1.78	20.74	20.74	237.42	245.28	1.96	1.96	3.27	3.27
Yellowstone County	B3	RM 361.93	102368.8	0.05	829.4	937.21	934.31	1.8	1.8	23.54	23.54	331.88	331.88	1.39	1.39	2.9	2.9
Yellowstone County	B3	RM 361.86	102261.1	0.05	829.4	936.91	934.36	2.17	2.17	35.53	34.63	243.22	249.76	1.57	1.53	2.55	2.55
Yellowstone County	B3	RM 361.78	102138.9	0.05	829.4	936.77	933.72	1.72	1.72	20.01	20.01	296.38	296.38	1.63	1.63	3.05	3.05
Yellowstone County	B3	RM 361.68	101970.2	0.05	829.4	936.4	933.64	1.92	1.92	35.24	34.82	397.1	402.71	1.08	1.07	2.76	2.76
Yellowstone County	B3	RM 361.65	101918.4	0.05	829.4	936.31	933.71	1.59	1.59	25.37	24.73	400.26	412.07	1.3	1.27	2.6	2.6
Yellowstone County	B3	RM 361.61	101855.6	0.05	829.4	936.11	932.7	1.96	1.92	30.03	27.53	294.1	329.21	1.43	1.31	3.41	3.41
Yellowstone County	B3	RM 361.56	101767.4	0.05	829.4	935.99	930.29	1.83	1.81	22.02	19.87	237.48	267.37	1.9	1.71	5.7	5.7
Yellowstone County	B3	RM 361.48	101644.6	0.05	829.4	935.84	929.97	1.92	1.83	24.18	16.53	174	273.92	2.45	1.67	5.87	5.87
Yellowstone County	B3	RM 361.42	101546.2	0.05	829.4	935.57	932.36	2.46	2.46	35.56	35.56	159.01	176.8	2.12	2.12	3.21	3.21
Yellowstone County	B3	RM 361.37	101468.9	0.05	829.4	935.52	932.21	2.16	2.15	26.68	25.55	157.91	165.51	2.44	2.33	3.31	3.31
Yellowstone County	B3	RM 361.33	101409.4	0.05	829.4	935.33	932.02	2.55	2.54	38.37	34.05	145.5	164.99	2.23	1.98	3.31	3.31
Yellowstone County	B3	RM 361.29	101346	0.05	829.4	935.2	930.51	2.67	2.41	41.18	27.1	123.91	216.35	2.42	1.59	4.69	4.69
Yellowstone County	B3	RM 361.25	101284.9	0.05	829.4	935.1	928.42	2.7	2.3	38.82	16.49	93.6	277.01	3.1	1.3	6.68	6.68
Yellowstone County	B3	RM 361.21	101251.*	0.05	829.4	935.15	927.55	2.12	1.87	46.22	19.46	103.62	339.78	3.65	1.52	7.6	7.6
Yellowstone County	B3	RM 361.21	101217.5	0.05	829.4	935.17	926.68	1.78	1.61	16.73	8.29	109.45	505.92	4.17	2.05	8.49	8.49
Yellowstone County	B3	RM 361.18	101167.2	0.05	829.4	935.15	928.03	1.76	1.52	15.12	4.56	115.46	531.4	4	1.2	7.12	7.12
Yellowstone County	B3	RM 361.16	101134.2	0.05	829.4	935.15	928.92	1.64	1.51	14.08	7.17	154.31	593.64	3.23	1.64	6.23	6.23
Yellowstone County	B3	RM 361.09	101028.7	0.05	829.4	935.07	931.28	1.75	1.44	20.16	13.82	265.15	593.99	1.53	1.05	3.79	3.79
Yellowstone County	B3	RM 361.01	100891.3	0.05	829.4	934.76	931.55	2.15	2.08	30.26	16.2	214.07	429.7	1.76	0.94	3.21	3.21
Yellowstone County	B3	RM 360.92	100756	0.05	829.4	934.6	931.05	1.49	1.22	25.66	18.65	293.51	662.27	1.41	1.02	3.55	3.55
Yellowstone County	B3	RM 360.81	100570.1	0.05	829.4	933.95	929.52	2.45	2.33	54.93	41.2	191.21	274.06	1.73	1.3	4.43	4.43
Yellowstone County	B3	RM 360.69	100383.5	0.05	829.4	933.97	930.6	0.92	0.72	6.41	5.34	303.09	848.43	1.66	1.38	4.08	4.08
Yellowstone County	B3	RM 360.59	100227.2	0.05	829.4	933.77	930.53	1.71	1.29	20.78	12.82	239.79	664.32	1.59	0.99	3.56	3.56
Yellowstone County	B3	RM 360.50	100081	0.05	829.4	933.51	930.55	1.92	1.63	27.26	14.05	196.94	497.94	2.03	1.04	2.96	2.96

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B3	RM 360.42	99970.7	0.05	829.4	933.34	929.97	2.04	1.64	27.8	13.37	178.4	503.84	2.09	1	3.37	3.37
Yellowstone County	B3	RM 360.36	99862.66	0.05	829.4	933.2	929.68	2.01	1.61	24.17	11.9	220.05	606.69	1.73	0.85	3.52	3.52
Yellowstone County	B3	RM 360.27	99717.18	0.05	829.4	932.91	929.52	2.34	1.86	34.49	17.13	141.67	417.93	2.15	1.07	3.39	3.39
Yellowstone County	B3	RM 360.18	99578.06	0.05	829.4	932.75	929.32	2.12	1.67	30.2	12.43	133.43	440.62	2.76	1.13	3.43	3.43
Yellowstone County	B3	RM 360.11	99458.59	0.05	829.4	932.62	929.38	2.09	1.77	26.73	17.08	144.43	331.97	2.21	1.41	3.24	3.24
Yellowstone County	B3	RM 360.03	99328	0.05	834.8	932.48	929.58	1.9	1.7	28.75	16.65	163.3	395.24	2.19	1.27	2.9	2.9
Yellowstone County	B3	RM 359.96	99226.54	0.05	834.8	932.35	929.2	1.99	1.65	24.99	11.91	156.17	461.86	2.3	1.1	3.15	3.15
Yellowstone County	B3	RM 359.88	99098.18	0.05	834.8	932.21	927.78	2.05	1.63	23.96	8.87	137.95	513.97	2.69	0.99	4.43	4.43
Yellowstone County	B3	RM 359.78	98940.52	0.05	834.8	932.05	928.1	2.03	1.71	27.73	8.88	142.1	547.71	2.8	0.89	3.95	3.95
Yellowstone County	B3	RM 359.70	98813.18	0.05	834.8	931.79	928.32	2.4	2.35	46.78	34.88	135.43	199.69	2.54	1.9	3.47	3.47
Yellowstone County	B3	RM 359.61	98663.44	0.05	834.8	931.62	928.8	1.73	1.72	24.25	22.7	314.13	355.49	1.54	1.44	2.82	2.82
Yellowstone County	B3	RM 359.50	98492.66	0.05	834.8	931.36	928.22	1.83	1.78	21.55	19	260.61	306.44	1.73	1.53	3.14	3.14
Yellowstone County	B3	RM 359.38	98291.15	0.05	834.8	931.06	927.09	1.91	1.84	29.44	25.31	231.09	303.75	1.78	1.53	3.97	3.97
Yellowstone County	B3	RM 359.26	98107.42	0.05	834.8	930.66	927.71	2.05	1.92	30.47	26.7	304.82	391.86	1.28	1.13	2.95	2.95
Yellowstone County	B3	RM 359.18	97966.53	0.05	834.8	930.42	927.28	1.92	1.72	24.98	15.98	244.76	450.28	1.7	1.09	3.14	3.14
Yellowstone County	B3	RM 359.10	97841.82	0.05	834.8	930.18	926.69	2.02	1.82	28.88	21.8	269.94	437.21	1.41	1.07	3.49	3.49
Yellowstone County	B3	RM 359.01	97692.75	0.05	834.8	929.96	925.91	1.88	1.4	23.26	14.09	215.09	564.37	1.77	1.07	4.05	4.05
Yellowstone County	B3	RM 358.90	97524.59	0.05	834.8	929.64	926.77	2.18	1.93	30.7	18.24	181.86	362.1	2.01	1.19	2.87	2.87
Yellowstone County	B3	RM 358.81	97374.99	0.05	834.8	929.43	926.37	2.07	1.87	26.13	17.52	203.38	356.22	1.9	1.28	3.06	3.06
Yellowstone County	B3	RM 358.74	97267.71	0.05	834.8	929.19	925.53	2.35	1.9	45.73	24.6	158.02	464.99	1.95	1.05	3.66	3.66
Yellowstone County	B3	RM 358.67	97155.8	0.05	834.8	929.04	925.59	1.66	1.67	19.7	17.5	268.87	527.82	1.26	1.12	3.45	3.45
Yellowstone County	B3	RM 358.61	97062.24	0.05	834.8	928.9	925.74	1.45	1.55	18.74	18.76	373.22	580.98	1.1	1.1	3.16	3.16
Yellowstone County	B3	RM 358.56	96985.92	0.05	834.8	928.83	926.2	1.21	1.32	11.83	11.9	346.61	552.88	1.45	1.46	4.24	4.24
Yellowstone County	B3	RM 358.50	96888.4	0.05	834.8	928.76	925.64	1.25	1.27	10.75	9.17	347.45	632.52	1.53	1.31	3.12	3.12
Yellowstone County	B3	RM 358.43	96788.43	0.05	834.8	928.69	925.27	1.04	1.12	14.31	13.84	400.96	737.72	1.53	1.48	3.42	3.42
Yellowstone County	B3	RM 358.30	96638.82	0.05	834.8	928.62	924.7	0.87	0.85	7.57	7.08	618.75	887.13	1.52	1.42	3.92	3.92
Yellowstone County	B3	RM 358.24	96561.93	0.05	834.8	928.56	923.57	1.08	1.05	8.74	8.32	550.45	850.34	1.38	1.31	4.99	4.99
Yellowstone County	B3	RM 358.20	96500.79	0.05	834.8	928.48	922.99	1.29	1.28	12.66	11.95	520.65	570.13	1.22	1.15	5.49	5.49
Yellowstone County	B3	RM 358.14	96404.93	0.05	834.8	928.35	922.57	1.36	1.34	14.46	13.72	534.53	586.4	1.12	1.07	5.78	5.78
Yellowstone County	B3	RM 358.12	96368.05	0.05	834.8	928.33	922.78	1.28	1.18	11.82	9.51	345.49	518.45	1.71	1.38	5.55	5.55
Yellowstone County	B3	RM 358.04	96244.75	0.05	834.8	928.13	923.22	1.84	1.65	31	20.28	159.13	317.69	2.51	1.64	4.91	4.91
Yellowstone County	B3	RM 358.00	96168.44	0.05	834.8	927.9	923.39	2.52	2.05	42.54	23.69	96.83	268.05	2.78	1.54	4.51	4.51
Yellowstone County	B3	RM 357.93	96065.49	0.05	834.8	927.66	923.1	2.81	2.33	39.25	22.34	93.74	238.31	2.69	1.52	4.56	4.56
Yellowstone County	B3	RM 357.88	95975.44	0.05	834.8	927.63	923.91	2.16	1.92	30.87	22.52	147.44	319.9	2.19	1.6	3.72	3.72
Yellowstone County	B3	RM 357.82	95884.99	0.05	834.8	927.59	924.01	1.67	1.56	19.02	14.84	189.32	325.52	2.17	1.69	3.58	3.58
Yellowstone County	B3	RM 357.78	95821.69	0.05	834.8	927.51	924.08	1.65	1.62	19.78	18.05	227.93	311.1	1.81	1.65	3.43	3.43
Yellowstone County	B3	RM 357.69	95683.91	0.05	834.8	927.31	923.81	1.84	1.84	21.58	21.58	253.02	253.02	1.79	1.79	3.5	3.5
Yellowstone County	B4	RM 357.62	95571.15	0.05	834.8	927.09	921.84	2.16	2.16	31.37	31.37	181.02	181.02	2.13	2.13	5.25	5.25
Yellowstone County	B4	RM 357.56	95469.4	0.05	834.8	927.06	918.46	1.61	1.61	18.1	18.1	199.81	199.81	2.6	2.6	8.6	8.6
Yellowstone County	B4	RM 357.48	95351.48	0.05	834.8	926.77	922.69	2.31	2.31	34.97	34.48	193.48	196.35	1.87	1.84	4.08	4.08
Yellowstone County	B4	RM 357.44	95275.91	0.05	834.8	926.63	922.22	2.34	2.34	34.96	34.96	175.94	175.94	2.03	2.03	4.41	4.41
Yellowstone County	B4	RM 357.34	95127.12	0.05	834.8	926.43	923.1	2.16	2.16	27.63	26.8	175.17	185.81	2.21	2.14	3.33	3.33
Yellowstone County	B4	RM 357.23	94939.75	0.05	834.8	926.29	920.81	1.93	1.92	21.32	17.68	135.68	175.92	3.18	2.63	5.48	5.48
Yellowstone County	B4	RM 357.13	94789.23	0.05	834.8	926.09	921.26	2.28	2.12	29	21.41	133.17	211.86	2.61	1.92	4.83	4.83
Yellowstone County	B4	RM 357.01	94595.53	0.05	834.8	926	921.72	1.74	1.61	16.69	10.23	177.48	316.97	2.67	1.64	4.28	4.28
Yellowstone County	B4	RM 356.90	94412.13	0.05	834.8	925.8	921.02	1.95	1.86	23.16	18.79	210.49	274.7	2.01	1.63	4.78	4.78
Yellowstone County	B4	RM 356.81	94272.48	0.05	834.8	925.59	919.95	2.09	1.89	28.36	23.76	195.85	273.92	1.92	1.61	5.64	5.64
Yellowstone County	B4	RM 356.73	94148.77	0.05	834.8	925.46	921.15	1.96	1.83	22.6	18.25	174.34	244.74	2.31	1.87	4.31	4.31
Yellowstone County	B4	RM 356.66	94030.68	0.05	834.8	925.34	921.75	1.85	1.79	21.45	20.89	226.09	256.69	1.86	1.82	3.59	3.59
Yellowstone County	B4	RM 356.59	93912.76	0.05	834.8	925.24	921.88	1.64	1.55	18.02	16.24	239.78	304.9	1.96	1.77	3.36	3.36
Yellowstone County	B4	RM 356.50	93782.14	0.05	834.8	925.09	921.75	1.79	1.68	23.58	20.6	150.11	228.23	2.49	2.18	3.34	3.34
Yellowstone County	B4	RM 356.44	93670.16	0.05	834.8	924.93	921.33	2.06	1.97	24.34	20.68	131.12	202.79	2.45	2.09	3.6	3.6
Yellowstone County	B4	RM 356.35	93525.27	0.05	834.8	924.76	919.71	2.17	2.04	29.21	22.95	101.89	160.06	3.26	2.56	5.05	5.05
Yellowstone County	B4	RM 356.26	93386.36	0.05	834.8	924.7	919.77	1.94	1.71	18.65	12.22	111.91	213.95	3.46	2.28	4.93	4.93
Yellowstone County	B4	RM 356.18	93264.31	0.05	834.8	924.63	919.95	1.86	1.75	19.83	14.13	121.48	214.77	3.28	2.34	4.68	4.68
Yellowstone County	B4	RM 356.11	93150.71	0.05	834.8	924.57	920.24	1.66	1.64	24.58	18.44	174.56	236.23	2.87	2.15	4.33	4.33
Yellowstone County	B4	RM 356.04	93034.25	0.05	834.8	924.37	920.36	1.97	1.92	39.1	32.12	168.99	245.23	2.49	2.04	4.01	4.01
Yellowstone County	B4	RM 355.97	92927.46	0.05	834.8	924.11	920.09	2.35	2.34	36.46	22.55	142.98	269.17	2.48	1.53	4.02	4.02
Yellowstone County	B4	RM 355.91	92825.82	0.05	834.8	924.01	919.82	2.17	2.1	25.62	11.28	146.86	362.46	2.61	1.14	4.19	4.19
Yellowstone County	B4	RM 355.82	92688.73	0.05	834.8	923.33	919.51	2.63	2.55	42.52	38.62	146.66	167.39	2.15	1.95	3.82	3.82
Yellowstone County	B4	RM 355.66	92419.94	0.05	834.8	923	919.8	2.52	2.28	34.63	23.45	126.93	227.62	2.38	1.61	3.2	3.2

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B4	RM 355.60	92333.48	0.05	834.8	922.9	919.42	2.43	2.16	30.4	20.14	138.43	256.09	2.28	1.51	3.48	3.48
Yellowstone County	B4	RM 355.49	92159.95	0.05	834.8	922.62	918.52	2.35	2.14	48.32	31.68	126.32	258.56	2.3	1.51	4.1	4.1
Yellowstone County	B4	RM 355.43	92061.2	0.05	834.8	922.44	918.67	2.01	2.05	43.01	35.69	131.49	210.05	2.33	1.94	3.77	3.77
Yellowstone County	B4	RM 355.41	92020.68	0.05	834.8	922.35	919.02	1.94	2.07	52.65	43.45	149.8	257.79	1.97	1.63	3.33	3.33
Yellowstone County	B4	RM 355.38	91976.12	0.05	834.8	922.22	919.25	2.37	2.19	41.28	29.73	115.58	219.16	2.41	1.74	2.97	2.97
Yellowstone County	B4	RM 355.35	91933.98	0.05	834.8	922.17	919.21	2.29	2.04	33.55	19.85	107.35	276.11	2.52	1.49	2.96	2.96
Yellowstone County	B4	RM 355.32	91885.87	0.05	834.8	922.11	919.16	2.25	1.99	31.74	20.24	101.99	262.74	2.51	1.6	2.95	2.95
Yellowstone County	B4	RM 355.29	91828.99	0.05	834.8	922.01	918.93	2.4	2.04	33.78	22.59	97.92	241.63	2.54	1.69	3.48	3.48
Yellowstone County	B4	RM 355.23	91732.97	0.05	834.8	921.91	918.68	2.18	2.03	30.26	24.71	97.48	193.02	2.6	2.13	3.47	3.47
Yellowstone County	B4	RM 355.14	91596.1	0.05	834.8	921.76	918.52	2.11	1.91	27.34	18.29	115.44	269.48	2.43	1.62	3.24	3.24
Yellowstone County	B4	RM 354.94	91268.08	0.05	834.8	921.31	917.25	2.15	2.05	33.81	24.07	144.13	215.14	2.66	1.89	4.06	4.06
Yellowstone County	B4	RM 354.86	91153.59	0.05	834.8	921.27	917.03	1.68	1.35	25.24	14.75	123.15	350.77	3.1	1.81	4.24	4.24
Yellowstone County	B4	RM 354.80	91056.05	0.05	834.8	921	915.66	2.36	2.01	41.2	13.98	107.47	392.52	3.14	1.06	5.34	5.34
Yellowstone County	B4	RM 354.70	90880.27	0.05	834.8	920.79	915.38	2.2	1.68	36.28	13.51	127.6	517.55	2.59	0.96	5.41	5.41
Yellowstone County	B4	RM 354.61	90744.35	0.05	834.8	920.65	917.13	1.96	1.45	22.51	9.82	174.94	660.99	1.99	0.87	3.52	3.52
Yellowstone County	B4	RM 354.53	90609.24	0.05	834.8	920.55	916.52	1.62	1.29	16.81	7.75	238.16	707.37	1.98	0.91	4.03	4.03
Yellowstone County	B4	RM 354.45	90486.63	0.05	834.8	920.36	915.87	1.98	1.46	25.7	9.16	181.88	785.33	2.06	0.73	4.49	4.49
Yellowstone County	B4	RM 354.39	90385.43	0.05	834.8	920.13	915.24	2.34	1.74	35.1	12.32	159.14	694.91	2.01	0.7	4.89	4.89
Yellowstone County	B4	RM 354.33	90291.31	0.05	834.8	920.02	915.37	2.19	1.35	28.11	8.76	139.6	890.98	2.25	0.7	4.65	4.65
Yellowstone County	B4	RM 354.23	90133.96	0.05	834.8	919.82	915.46	2.24	1.43	28.79	7.25	112.3	814.68	2.88	0.72	4.36	4.36
Yellowstone County	B4	RM 354.13	89983.48	0.05	834.8	919.74	914.94	1.82	1.13	23	5.16	128.48	1079.24	3.07	0.68	4.8	4.8
Yellowstone County	B4	RM 354.00	89778.46	0.05	834.8	919.58	916.2	1.84	1.13	23.38	6.47	153.86	1112.19	2.42	0.67	3.38	3.38
Yellowstone County	B5	RM 353.90	89604.28	0.05	834.8	919.42	917.06	1.67	1.12	21.19	8.22	234.56	1124.23	1.72	0.67	2.52	2.52
Yellowstone County	B5	RM 353.80	89446.75	0.05	871.3	919.1	916.36	1.93	1.65	36.75	20.27	295.89	686.79	1.4	0.77	2.74	2.74
Yellowstone County	B5	RM 353.70	89288.94	0.05	871.3	918.84	915.92	1.64	1.4	22.59	14.46	313.81	635.01	1.53	0.98	2.92	2.92
Yellowstone County	B5	RM 353.65	89204.58	0.05	871.3	918.7	915.49	1.64	1.4	23.11	15.25	298.27	589.86	1.61	1.06	3.21	3.21
Yellowstone County	B5	RM 353.56	89077.56	0.05	871.3	918.53	914.2	1.57	1.39	24.44	14.5	267.46	543.68	1.95	1.15	4.33	4.33
Yellowstone County	B5	RM 353.50	88982.39	0.05	871.3	918.47	914.58	1.26	1.09	16.18	8.88	277.94	636.4	2.3	1.26	3.89	3.89
Yellowstone County	B5	RM 353.41	88846.15	0.05	871.3	918.29	914.41	1.61	1.35	25.57	13.54	219.1	572.56	2.13	1.13	3.88	3.88
Yellowstone County	B5	RM 353.32	88709.14	0.05	871.3	918.07	913.6	1.9	1.63	28.88	16.3	176.96	399.15	2.38	1.34	4.47	4.47
Yellowstone County	B5	RM 353.25	88587.13	0.05	871.3	917.88	912.76	2.08	1.78	30.44	18.53	158.02	349.05	2.3	1.4	5.12	5.12
Yellowstone County	B5	RM 353.15	88438.48	0.05	871.3	917.62	912.71	2.3	1.92	34.36	25.72	160.74	303.85	2	1.5	4.91	4.91
Yellowstone County	B5	RM 353.08	88321.13	0.05	871.3	917.4	912.99	2.31	1.98	37.38	24.28	191.07	395.26	1.72	1.12	4.41	4.41
Yellowstone County	B5	RM 353.01	88210.34	0.05	871.3	917.17	913.13	2.05	1.87	36.29	28.81	236.11	395.09	1.48	1.18	4.04	4.04
Yellowstone County	B5	RM 352.94	88090.6	0.05	871.3	917.05	912.5	1.74	1.46	22.73	13.82	171.24	445.21	2.21	1.34	4.55	4.55
Yellowstone County	B5	RM 352.86	87957.76	0.05	871.3	916.84	913.38	2.17	1.75	33.08	18.34	112.11	331.96	2.71	1.5	3.46	3.46
Yellowstone County	B5	RM 352.79	87857.09	0.05	871.3	916.66	913.06	2.47	1.97	33.7	19.95	90.33	278.26	2.7	1.59	3.6	3.6
Yellowstone County	B5	RM 352.72	87748.15	0.05	871.3	916.49	911.97	2.55	2.18	44.41	22.82	82.19	236.25	3.31	1.69	4.52	4.52
Yellowstone County	B5	RM 352.68	87677.1	0.05	871.3	916.4	912.27	2.22	2.21	41.18	31.35	185.97	417.85	2.11	1.6	4.13	4.13
Yellowstone County	B5	RM 352.64	87605.18	0.05	871.3	916.31	911.68	2.07	1.87	30.25	13.87	177.1	437.08	2.34	1.07	4.63	4.63
Yellowstone County	B5	RM 352.54	87461.4	0.05	871.3	916.2	912.57	1.65	1.51	18.63	10.31	262.26	557.46	1.96	1.08	3.63	3.63
Yellowstone County	B5	RM 352.47	87340.46	0.05	871.3	916.03	912.2	1.9	1.5	24.71	11.62	204.38	702.97	1.81	0.85	3.83	3.83
Yellowstone County	B5	RM 352.39	87216.99	0.05	871.3	915.77	912.01	2.24	1.91	33.54	17.87	169.72	563.06	1.55	0.83	4.58	4.58
Yellowstone County	B5	RM 352.31	87079.16	0.05	871.3	915.41	910.66	2.51	2	50.5	27.09	144.91	470.85	1.76	0.95	4.75	4.75
Yellowstone County	B5	RM 352.23	86961.03	0.05	871.3	915.28	911.35	1.67	1.34	22.47	13.91	166.82	740.82	1.63	1.01	3.93	3.93
Yellowstone County	B5	RM 352.18	86873.5	0.05	871.3	915.21	911.21	1.52	1.3	17.47	12.48	187.16	800.94	1.79	1.28	4	4
Yellowstone County	B5	RM 352.09	86723.6	0.05	871.3	915.04	912.18	1.77	1.49	22.47	14.92	169.03	566.14	1.74	1.16	2.86	2.86
Yellowstone County	B5	RM 351.99	86568.41	0.05	871.3	914.73	912.6	2.28	1.89	32.77	20.49	139.83	423.58	1.78	1.11	2.15	2.15
Yellowstone County	B5	RM 351.93	86466.74	0.05	871.3	914.59	911.69	2.04	1.6	28.79	18.1	163.87	634.26	1.43	0.9	2.9	2.9
Yellowstone County	B5	RM 351.88	86386.8	0.05	871.3	914.49	911.38	1.61	1.24	22.38	15.32	156.41	786.07	1.35	0.93	3.11	3.11
Yellowstone County	B5	RM 351.81	86277.68	0.05	871.3	914.38	910.99	1.38	1.09	16.72	12.92	183.44	884.75	1.26	0.98	3.39	3.39
Yellowstone County	B5	RM 351.74	86159.62	0.05	871.3	914.02	911.37	1.62	1.47	24.13	17.7	154.16	672.17	1.34	0.98	3.19	3.19
Yellowstone County	B5	RM 351.67	86034.59	0.05	871.3	913.71	911.31	1.55	1.58	23.2	19.75	185.18	606.11	1.08	0.92	3.33	3.33
Yellowstone County	B5	RM 351.58	85891.33	0.05	871.3	913.46	911.47	1.06	1.5	11.72	13.82	225.9	540.14	0.92	1.09	3.36	3.36
Yellowstone County	B5	RM 351.52	85811.35	0.05	871.3	913.3	911.37	1.62	1.73	19.26	18.43	190.38	464.25	1.14	1.09	2.58	2.58
Yellowstone County	B5	RM 351.47	85728.2	0.05	871.3	913.22	911.17	1.4	1.42	13.37	12.41	169.89	469.86	1.43	1.33	2.68	2.68
Yellowstone County	B5	RM 351.40	85601.48	0.05	871.3	913.08	910.26	1.75	1.46	19.09	11.98	108.67	528.91	1.87	1.17	3.17	3.17
Yellowstone County	B5	RM 351.34	85482.66	0.05	871.3	912.96	909.98	1.17	1.46	23.49	14.85	132.39	597.99	1.66	1.05	2.99	2.99
Yellowstone County	B5	RM 351.25	85342.53	0.05	871.3	912.81	909.91	1.31	1.38	15.23	11.33	191.75	662.78	1.28	0.95	2.93	2.93
Yellowstone County	B5	RM 351.21	85257.19	0.05	871.3	912.7	909.48	1.59	1.5	18.67	13.23	156.58	604.06	1.36	0.96	3.22	3.22
Yellowstone County	B5	RM 351.12	85127.55	0.05	871.3	912.62	909.49	1.57	1.37	16.31	9.97	121.57	573.94	1.82	1.11	3.12	3.12

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B5	RM 351.04	84988.05	0.05	871.3	912.49	908.79	1.74	1.4	19.69	11.06	122.45	571.21	1.96	1.09	3.7	3.7
Yellowstone County	B5	RM 350.90	84769.91	0.05	871.3	912.43	909.27	1.31	1.03	11.91	6.78	95.99	622.17	2.4	1.35	3.16	3.16
Yellowstone County	B5	RM 350.75	84536.19	0.05	871.3	912.24	909.72	1.25	1.45	22.88	19.47	217.38	499.1	1.41	1.2	2.86	2.86
Yellowstone County	B5	RM 350.66	84383.33	0.05	871.3	912.03	909.32	1.68	1.66	23.41	16.79	141.38	389.01	1.89	1.35	2.71	2.71
Yellowstone County	B5	RM 350.57	84244.69	0.05	871.3	911.78	908.48	1.54	1.69	27.86	22.79	148.18	341.47	1.85	1.51	3.3	3.3
Yellowstone County	B5	RM 350.50	84128.62	0.05	871.3	911.56	908.49	1.7	1.86	28.36	22.22	147.46	337.39	1.77	1.39	3.07	3.07
Yellowstone County	B5	RM 350.40	83974.24	0.05	871.3	911.38	908.73	1.32	1.57	16.89	15.22	246.45	465.8	1.32	1.19	2.65	2.65
Yellowstone County	B5	RM 350.33	83868.06	0.05	871.3	911.26	908.17	1.4	1.5	15.1	14.21	269.33	491.81	1.26	1.18	3.09	3.09
Yellowstone County	B5	RM 350.23	83712.91	0.05	871.3	911.04	907.61	1.7	1.64	22.88	16.72	191.88	406.12	1.79	1.31	3.43	3.43
Yellowstone County	B5	RM 350.14	83563.43	0.05	871.3	910.86	907.94	1.43	1.54	16.35	14.27	256.62	488.1	1.33	1.16	2.92	2.92
Yellowstone County	B5	RM 350.06	83419.86	0.05	871.3	910.6	907.84	1.44	1.59	22.57	21.1	290.84	495.95	1.18	1.1	2.76	2.76
Yellowstone County	B5	RM 349.94	83229.4	0.05	871.3	910.37	906.93	1.59	1.49	18.9	14.16	184.93	396.39	1.97	1.47	3.44	3.44
Yellowstone County	B5	RM 349.83	83071.99	0.05	871.3	910.3	907.36	1.2	1.13	8.84	6.42	366.09	544.38	1.94	1.41	2.94	2.94
Yellowstone County	B5	RM 349.68	82904.73	0.05	871.3	910.08	906.92	1.73	1.62	24.91	18.91	327.33	467.79	1.51	1.15	3.16	3.16
Yellowstone County	B5	RM 349.54	82632.78	0.05	871.3	909.62	906.29	1.75	1.69	22.15	20.53	357.75	408.1	1.37	1.27	3.33	3.33
Yellowstone County	B5	RM 349.33	82276.28	0.05	871.3	909.32	906.45	1.05	1.05	10.63	10.22	270.72	569.3	1.51	1.45	2.87	2.87
Yellowstone County	B5	RM 349.19	82046.53	0.05	871.3	908.9	905.16	2.11	1.85	29.73	19.75	191.04	402.22	1.76	1.17	3.74	3.74
Yellowstone County	B5	RM 349.04	81800.47	0.05	903.2	908.58	904.5	1.6	1.55	18.51	16.53	289.84	462.18	1.41	1.26	4.08	4.08
Yellowstone County	B5	RM 348.89	81574.02	0.05	903.2	908.38	904.75	1.22	1.2	14.78	14.13	459.29	490.25	1.61	1.54	3.63	3.63
Yellowstone County	B5	RM 348.77	81370.46	0.05	903.2	908.18	905.09	1.33	1.33	17.06	16.08	345.46	368.13	1.96	1.85	3.09	3.09
Yellowstone County	B5	RM 348.64	81138.52	0.05	903.2	907.94	903.35	1.56	1.53	16.3	13.82	284.98	343.05	2.02	1.72	4.59	4.59
Yellowstone County	B5	RM 348.52	80960.09	0.05	903.2	907.72	902.88	1.87	1.85	25.9	22.12	190.69	226.28	2.53	2.16	4.84	4.84
Yellowstone County	B5	RM 348.38	80737.31	0.05	903.2	907.34	902.85	2.19	2.18	39.35	37.72	184.3	193.46	2.23	2.14	4.49	4.49
Yellowstone County	B5	RM 348.26	80551.51	0.05	903.2	907.06	902.73	2.21	2.16	33.34	25.36	148.55	201.07	2.74	2.08	4.33	4.33
Yellowstone County	B5	RM 348.09	80276.34	0.05	903.2	906.71	901.64	2.23	2.19	31.79	23.46	154.82	213.63	2.62	1.93	5.07	5.07
Yellowstone County	B5	RM 347.95	80055.79	0.05	903.2	906.52	902.96	2.02	1.88	22.97	14.53	165.09	311.7	2.57	1.63	3.56	3.56
Yellowstone County	B5	RM 347.82	79844.2	0.05	903.2	906.31	902.93	1.88	1.83	28.07	24.88	168.04	230.33	2.41	2.14	3.38	3.38
Yellowstone County	B5	RM 347.77	79751.93	0.05	903.2	906.17	902.38	1.99	1.91	35.59	27.67	171.06	263.25	2.3	1.79	3.79	3.79
Yellowstone County	B5	RM 347.70	79643.98	0.05	903.2	905.98	901.91	2.06	1.97	35.86	26.43	167.4	274.31	2.27	1.67	4.07	4.07
Yellowstone County	B5	RM 347.61	79501.64	0.05	903.2	905.87	902.2	1.78	1.49	17.91	9.98	186.81	454.65	2.39	1.33	3.67	3.67
Yellowstone County	B5	RM 347.51	79347.38	0.05	903.2	905.63	900.54	2.29	2.08	27.07	18.65	107.73	190.21	3.34	2.3	5.09	5.09
Yellowstone County	B5	RM 347.42	79196.21	0.05	903.2	905.54	900.73	2	1.89	31.9	24.26	124.13	197.46	3.17	2.42	4.81	4.81
Yellowstone County	B5	RM 347.35	79079.87	0.05	903.2	905.59	900.77	1.04	1.04	5.46	5.46	384.29	386.62	2.27	2.27	4.82	4.82
Yellowstone County	B5	RM 347.23	78895.71	0.05	903.2	905.48	900.89	1.28	1.28	11.82	11.82	462.76	468.76	1.52	1.52	4.59	4.59
Yellowstone County	B5	RM 347.13	78732.21	0.05	903.2	905.33	900.98	1.34	1.34	17.26	17.26	357.72	369.1	1.89	1.89	4.35	4.35
Yellowstone County	B5	RM 346.93	78400.21	0.05	903.2	904.84	900.98	1.78	1.78	34.26	34.26	253.97	260.09	2	2	3.86	3.86
Yellowstone County	B5	RM 346.80	78193.27	0.05	903.2	904.33	900.02	2.08	1.99	39.58	39.46	275.63	303.3	1.51	1.51	4.31	4.31
Yellowstone County	B5	RM 346.64	77938.83	0.05	903.2	904.04	900.47	1.66	1.49	16.95	13.95	241.19	349.25	2.1	1.73	3.57	3.57
Yellowstone County	B5	RM 346.49	77706.6	0.05	903.2	903.76	900.21	2.04	1.86	24.65	22.26	163.67	225.03	2.4	2.16	3.55	3.55
Yellowstone County	B6	RM 346.35	77480.6	0.05	903.2	903.54	900.33	1.88	1.79	24.52	23.3	196.11	239.18	2.29	2.18	3.21	3.21
Yellowstone County	B6	RM 346.23	77285.9	0.05	903.2	903.27	900.11	2.1	2.02	25.83	23.21	172.3	207.21	2.4	2.16	3.16	3.16
Yellowstone County	B6	RM 346.11	77095.33	0.05	903.2	903.06	899.75	2.04	1.91	30.69	25.48	171.38	231.48	2.45	2.04	3.31	3.31
Yellowstone County	B6	RM 346.00	76926.16	0.05	903.2	902.88	899.8	1.95	1.77	24.88	18.21	174.59	279.58	2.49	1.83	3.08	3.08
Yellowstone County	B6	RM 345.90	76766.95	0.05	903.2	902.63	899.51	2.17	1.98	34.46	25.88	175.5	264.54	2.3	1.73	3.12	3.12
Yellowstone County	B6	RM 345.80	76608.55	0.05	903.2	902.49	899.04	1.82	1.69	21.38	18.44	192.38	256.4	2.4	2.08	3.59	3.59
Yellowstone County	B6	RM 345.73	76484.99	0.05	903.2	902.27	899.01	2.17	2.08	30.77	30.08	191.35	219.48	2	1.98	3.37	3.37
Yellowstone County	B6	RM 345.67	76386.71	0.05	903.2	902.21	899.1	1.73	1.67	19.38	18.18	207.23	249.39	2.29	2.16	3.31	3.31
Yellowstone County	B6	RM 345.60	76268.76	0.05	903.2	902.04	899.22	1.91	1.85	28.86	28.01	232.43	275.11	1.82	1.77	3.14	3.14
Yellowstone County	B6	RM 345.50	76118.1	0.05	903.2	901.86	899.07	1.76	1.68	21	19.97	219.21	282.35	2	1.91	2.96	2.96
Yellowstone County	B6	RM 345.37	75909.53	0.05	903.2	901.55	897.51	1.97	1.97	28.2	28.2	222.46	222.46	2.06	2.06	4.04	4.04
Yellowstone County	B6	RM 345.27	75751.01	0.05	903.2	901.32	898.15	2.03	2.02	28.71	26.59	201.12	218.59	2.21	2.05	3.17	3.17
Yellowstone County	B6	RM 345.07	75427.56	0.05	903.2	901.02	897.07	1.71	1.7	18.34	17.6	238.94	250.82	2.2	2.12	3.95	3.95
Yellowstone County	B6	RM 344.90	75166.64	0.05	903.2	900.83	897.3	1.54	1.49	15.63	13.46	290.79	350.53	2	1.73	3.53	3.53
Yellowstone County	B6	RM 344.75	74927.69	0.05	903.2	900.52	896.02	1.84	1.79	28.92	24.48	225.05	276.31	2.16	1.83	4.5	4.5
Yellowstone County	B6	RM 344.64	74743.45	0.05	903.2	900.27	895.93	2.08	2.02	24.07	20.23	152.21	187.23	2.84	2.39	4.34	4.34
Yellowstone County	B6	RM 344.53	74576.12	0.05	903.2	900.09	895.39	2.21	2.06	28.77	20.45	134.21	206.17	2.99	2.12	4.7	4.7
Yellowstone County	B6	RM 344.43	74405.67	0.05	903.2	899.96	896.11	2.05	1.92	21.68	15.71	150.73	236.45	2.74	1.99	3.85	3.85
Yellowstone County	B6	RM 344.29	74192.79	0.05	903.2	899.78	895.87	1.99	1.9	25.88	21.54	172.01	226.8	2.52	2.1	3.91	3.91
Yellowstone County	B6	RM 344.13	73931.76	0.05	903.2	899.53	895.4	1.97	1.87	23.38	19.42	152.91	203.12	2.86	2.37	4.13	4.13
Yellowstone County	B6	RM 343.87	73520.95	0.05	903.2	899.21	895.23	1.79	1.78	18.47	17.42	219.75	235.1	2.29	2.16	3.98	3.98
Yellowstone County	B6	RM 343.80	73403.19	0.05	903.2	899.11	894.69	1.63	1.6	22.37	20.28	287.07	322.82	1.92	1.74	4.42	4.42

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B6	RM 343.66	73173.16	0.05	903.2	898.85	894.63	1.7	1.69	22.88	21.91	228.66	240.13	2.32	2.22	4.22	4.22
Yellowstone County	B6	RM 343.55	72997.33	0.05	903.2	898.65	894.63	1.55	1.55	29.58	29.26	289.08	292.55	2.02	1.99	4.02	4.02
Yellowstone County	B6	RM 343.45	72840.49	0.05	903.2	898.4	894.78	1.65	1.65	27.32	26.79	273.78	279.5	2	1.96	3.62	3.62
Yellowstone County	B6	RM 343.37	72718.86	0.05	903.2	898.22	894.5	1.82	1.82	24.1	23.81	223.72	226.69	2.21	2.19	3.72	3.72
Yellowstone County	B6	RM 343.29	72586.22	0.05	903.2	898.08	894.28	1.73	1.7	24.22	22.69	243.74	265.2	2.13	2	3.8	3.8
Yellowstone County	B6	RM 343.21	72458.03	0.05	903.2	897.95	893.99	1.64	1.61	22.52	20.25	252.95	288.49	2.17	1.95	3.96	3.96
Yellowstone County	B6	RM 343.14	72328.78	0.05	903.2	897.76	893.94	1.69	1.65	32.28	31.07	272.38	293.86	1.93	1.86	3.82	3.82
Yellowstone County	B6	RM 343.04	72174.44	0.05	903.2	897.56	894.12	1.47	1.45	17.6	16.6	424.2	460.03	1.44	1.36	3.44	3.44
Yellowstone County	B6	RM 342.96	72046.7	0.05	903.2	897.36	894.17	1.53	1.5	29.4	27.08	347.08	387.15	1.69	1.55	3.19	3.19
Yellowstone County	B6	RM 342.87	71890.42	0.05	903.2	897.06	893.92	1.71	1.68	25.24	22.81	326.25	370.74	1.61	1.45	3.14	3.14
Yellowstone County	B6	RM 342.78	71759.64	0.05	903.2	896.9	893.85	1.65	1.59	17.2	15.54	324.42	402.72	1.56	1.41	3.05	3.05
Yellowstone County	B6	RM 342.71	71649.64	0.05	903.2	896.73	893.88	1.83	1.69	20.06	16.31	275.47	407.01	1.61	1.31	2.85	2.85
Yellowstone County	B6	RM 342.64	71534.72	0.05	903.2	896.56	893.45	1.69	1.67	26.64	25.34	389.45	425.74	1.37	1.3	3.11	3.11
Yellowstone County	B6	RM 342.59	71441.82	0.05	903.2	896.32	893.13	1.8	1.79	35.99	35.65	379.8	395.45	1.32	1.31	3.19	3.19
Yellowstone County	B6	RM 342.49	71299.94	0.05	903.2	896.16	892.73	1.25	1.25	13.8	13.8	480.76	493.99	1.5	1.5	3.43	3.43
Yellowstone County	B6	RM 342.40	71182.23	0.05	903.2	896.11	892.4	0.92	0.92	10.14	10.14	481.6	498.47	2.04	2.04	3.71	3.71
Yellowstone County	B6	RM 342.29	70973.95	0.05	903.2	895.9	891.26	1.33	1.33	20.16	20.16	371.78	384.8	1.83	1.83	4.64	4.64
Yellowstone County	B6	RM 342.17	70788.09	0.05	903.2	895.49	891.21	2.05	2.05	34.29	34.29	260.24	270.01	1.69	1.69	4.28	4.28
Yellowstone County	B6	RM 342.09	70668.79	0.05	903.2	895.4	892.22	1.5	1.5	17.58	17.58	298.72	306.67	2.01	2.01	3.18	3.18
Yellowstone County	B6	RM 341.96	70472.35	0.05	903.2	895.25	891.5	1.48	1.46	14.41	13.32	295.76	329.83	2.06	1.9	3.75	3.75
Yellowstone County	B6	RM 341.82	70207.79	0.05	903.2	895.05	890.89	1.23	1.23	15.35	15.21	461.61	467	1.59	1.57	4.16	4.16
Yellowstone County	B6	RM 341.68	69974.03	0.05	903.2	894.77	890.38	1.35	1.35	18.7	18.46	418.32	425.7	1.59	1.57	4.39	4.39
Yellowstone County	B6	RM 341.57	69788.71	0.05	903.2	894.49	889.58	1.94	1.94	15.9	15.69	216.48	219.71	2.15	2.12	4.91	4.91
Yellowstone County	B6	RM 341.47	69629.19	0.05	903.2	894.39	889.76	1.53	1.52	25.97	24.67	258.44	274.29	2.28	2.17	4.63	4.63
Yellowstone County	B6	RM 341.32	69391.37	0.05	903.2	894.1	890.36	1.48	1.47	24.83	23.69	318.86	335.7	1.91	1.83	3.74	3.74
Yellowstone County	B6	RM 341.24	69252.71	0.05	903.2	893.98	890.28	1.32	1.29	11.99	11	384.06	443.2	1.72	1.58	3.7	3.7
Yellowstone County	B6	RM 341.11	69044.61	0.05	903.2	893.71	890	1.73	1.68	25.87	22	269.27	329.19	1.92	1.63	3.71	3.71
Yellowstone County	B6	RM 340.94	68773.18	0.05	903.2	893.33	889.22	1.76	1.71	24.94	20.41	273.31	346.4	1.86	1.53	4.11	4.11
Yellowstone County	B6	RM 340.81	68556.42	0.05	903.2	893.13	889.05	1.45	1.3	17.93	11.45	297.29	534.39	2.04	1.3	4.08	4.08
Yellowstone County	B6	RM 340.65	68325.7	0.05	903.2	892.93	888.87	1.7	1.48	15.24	8.88	194.13	394.91	2.66	1.55	4.06	4.06
Yellowstone County	B6	RM 340.52	68126.27	0.05	903.2	892.77	887.3	1.88	1.73	23.96	12.89	125.96	259.06	3.75	2.01	5.46	5.46
Yellowstone County	B6	RM 340.40	67936.51	0.05	903.2	892.65	886.73	1.67	1.57	24.91	12.92	168.78	349.68	3.18	1.64	5.92	5.92
Yellowstone County	B7	RM 340.26	67715.84	0.05	903.2	892.43	887.99	1.57	1.5	31.76	22.31	245.29	368.42	2.33	1.63	4.44	4.44
Yellowstone County	B7	RM 340.16	67550.99	0.05	903.2	892.18	888.43	1.58	1.53	35.22	28.98	274.21	348.3	2.06	1.69	3.75	3.75
Yellowstone County	B7	RM 340.06	67387.35	0.05	903.2	891.97	888.74	1.35	1.26	22.64	20.31	312.19	400.13	1.99	1.79	3.23	3.23
Yellowstone County	B7	RM 339.96	67234.59	0.05	903.2	891.74	888.85	1.63	1.63	17.95	17.95	355.05	355.05	1.56	1.56	2.89	2.89
Yellowstone County	B7	RM 339.88	67094.07	0.05	903.2	891.57	888.78	1.51	1.5	22.2	21.7	375.64	388.37	1.58	1.55	2.79	2.79
Yellowstone County	B7	RM 339.79	66960.51	0.05	903.2	891.2	888.98	2.02	2.02	32.75	32.75	385.35	385.35	1.16	1.16	2.22	2.22
Yellowstone County	B7	RM 339.72	66843.76	0.05	903.2	890.99	888.72	1.76	1.75	22.91	22.04	356.94	373.17	1.44	1.39	2.27	2.27
Yellowstone County	B7	RM 339.66	66753.41	0.05	903.2	890.9	887.9	1.48	1.48	16.11	16.11	450.68	450.68	1.35	1.35	3	3
Yellowstone County	B7	RM 339.52	66527.74	0.05	903.2	890.71	887.31	1.43	1.38	12.82	10.71	305.22	393.33	2	1.67	3.4	3.4
Yellowstone County	B7	RM 339.37	66324.85	0.05	903.2	890.5	887.17	1.65	1.53	27.52	20.19	222.95	354.22	2.27	1.67	3.33	3.33
Yellowstone County	B7	RM 339.24	66108.49	0.05	903.2	890.09	886.45	2.18	2.04	26.48	21.01	209.2	311.52	1.79	1.42	3.64	3.64
Yellowstone County	B7	RM 339.13	65940.41	0.05	903.2	889.82	885.31	2.28	1.92	35.85	21.5	138.27	336.99	2.34	1.4	4.51	4.51
Yellowstone County	B7	RM 339.02	65745.93	0.05	903.2	889.58	886.09	2.04	1.89	25.43	22.1	168.49	247.26	2.22	1.94	3.49	3.49
Yellowstone County	B7	RM 338.94	65621.59	0.05	903.2	889.45	886.36	1.88	1.7	19.13	16.43	218.6	353.17	1.75	1.5	3.09	3.09
Yellowstone County	B7	RM 338.83	65433.26	0.05	903.2	889.24	886.37	1.76	1.66	24.6	18.57	208.79	386.63	1.86	1.41	3.22	3.22
Yellowstone County	B7	RM 338.72	65256.88	0.05	903.2	889.02	886.18	1.66	1.6	22.75	16.74	197.05	366.73	2.08	1.54	3.22	3.22
Yellowstone County	B7	RM 338.62	65095.08	0.05	903.2	888.76	886.28	1.97	1.98	23.98	20.68	169.07	260.62	2.02	1.75	3.14	3.14
Yellowstone County	B7	RM 338.49	64891.36	0.05	903.2	888.57	885.05	1.93	1.77	22.33	14.31	156.67	351.15	2.27	1.45	3.52	3.52
Yellowstone County	B7	RM 338.40	64742.15	0.05	903.2	888.51	884.28	1.53	1.18	13.67	8.07	154.67	587.96	2.27	1.34	4.23	4.23
Yellowstone County	B7	RM 338.29	64577.05	0.05	903.2	888.36	884.18	1.83	1.47	19.94	10.58	121.13	466.16	2.49	1.32	4.18	4.18
Yellowstone County	B7	RM 338.19	64384.71	0.05	903.2	888.24	885.23	1.3	1.25	12.91	10.77	385.46	597.42	1.45	1.21	3.01	3.01
Yellowstone County	B7	RM 338.06	64164.59	0.05	903.2	888.08	884.64	1.38	1.2	13.37	8.93	281.84	598.31	1.87	1.25	3.44	3.44
Yellowstone County	B7	RM 337.91	63921.69	0.05	903.2	887.85	884.16	1.73	1.49	16.7	11.83	193.2	380.25	2.25	1.6	3.69	3.69
Yellowstone County	B7	RM 337.83	63789.53	0.05	903.2	887.56	882.72	2.33	2.18	32.6	25.61	171.29	237.98	2.21	1.74	4.84	4.84
Yellowstone County	B7	RM 337.75	63667.96	0.05	903.2	887.36	881.69	2.46	2.21	35.04	25.23	137.39	219.65	2.59	1.86	5.67	5.67
Yellowstone County	B7	RM 337.68	63550.4	0.05	903.2	887.27	882.49	2.09	1.98	28.88	24.59	155.35	195.69	2.73	2.33	4.78	4.78
Yellowstone County	B7	RM 337.58	63396.62	0.05	903.2	887.06	883.62	2.2	2	28.92	23.25	178.4	254.21	2.2	1.77	3.44	3.44
Yellowstone County	B7	RM 337.47	63212.44	0.05	903.2	886.82	883.31	2.14	1.81	30.99	19.36	175.66	369.33	2.16	1.35	3.51	3.51
Yellowstone County	B7	RM 337.38	63064.58	0.05	903.2	886.58	883.29	2.25	1.9	31.46	21.35	156.18	301.04	2.32	1.58	3.29	3.29

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B7	RM 337.27	62894.98	0.05	903.2	886.49	883.15	1.66	1.4	16.36	10.84	196.71	458.93	2.11	1.4	3.34	3.34
Yellowstone County	B7	RM 337.16	62717.85	0.05	903.2	886.37	882.57	1.39	1.31	12.76	10.72	372.07	508.95	1.61	1.35	3.8	3.8
Yellowstone County	B7	RM 337.04	62524.52	0.05	903.2	886.3	879.61	1.33	1.12	9.46	5.56	150.82	397.57	3.44	2.02	6.69	6.69
Yellowstone County	B7	RM 336.96	62390.64	0.05	903.2	886.21	880.21	1.57	1.41	15.12	10.49	158.97	282.76	3.28	2.27	6	6
Yellowstone County	B7	RM 336.87	62246.97	0.05	903.2	886.1	881.41	1.76	1.6	19.1	14.06	154.23	258.31	2.98	2.19	4.69	4.69
Yellowstone County	B7	RM 336.80	62131.42	0.05	903.2	885.96	881.33	1.96	1.83	30.63	19.76	152.82	295.34	2.66	1.72	4.63	4.63
Yellowstone County	B7	RM 336.72	62005.73	0.05	903.2	885.78	881.38	2.1	1.98	35.46	25.7	131.72	224.36	2.87	2.08	4.4	4.4
Yellowstone County	B7	RM 336.66	61902.64	0.05	903.2	885.52	881.45	2.53	2.42	42.72	34.32	109.44	157.99	2.92	2.36	4.07	4.07
Yellowstone County	B7	RM 336.59	61800.43	0.05	903.2	885.51	880.66	1.89	1.77	26.23	17.2	131.07	237.96	3.26	2.14	4.85	4.85
Yellowstone County	B7	RM 336.52	61689.55	0.05	903.2	885.4	881.76	1.96	1.73	25.9	17.52	143.42	297.66	2.59	1.76	3.64	3.64
Yellowstone County	B7	RM 336.46	61580.5	0.05	903.2	885.3	882.13	1.81	1.72	23.85	17.95	151.57	280.62	2.48	1.87	3.17	3.17
Yellowstone County	B7	RM 336.40	61491.01	0.05	903.2	885.21	882.03	1.83	1.71	24.93	17.27	156.4	300.75	2.52	1.75	3.18	3.18
Yellowstone County	B7	RM 336.34	61394.22	0.05	903.2	885.11	881.93	1.89	1.6	24.73	14.16	160.75	420.11	2.34	1.34	3.18	3.18
Yellowstone County	B7	RM 336.27	61278.9	0.05	903.2	885	881.67	1.81	1.55	22.13	9.53	166.77	570.4	2.38	1.02	3.33	3.33
Yellowstone County	B7	RM 336.19	61159.07	0.05	903.2	884.83	882.11	1.97	1.67	24.53	15.35	196.29	744.42	1.76	1.1	2.72	2.72
Yellowstone County	B7	RM 336.09	60993.57	0.05	903.2	884.65	882.16	1.58	1.38	17.99	11.48	316.17	702.23	1.47	0.94	2.49	2.49
Yellowstone County	B7	RM 335.98	60812.26	0.05	903.2	884.43	881.93	1.47	1.33	20.94	15.08	320.91	659.01	1.46	1.05	2.7	2.7
Yellowstone County	B7	RM 335.89	60669.74	0.05	903.2	884.24	880.16	1.49	1.46	17.47	15.65	437.57	503.11	1.38	1.24	4.08	4.08
Yellowstone County	B7	RM 335.77	60465.85	0.05	903.2	883.93	880.49	1.58	1.58	21.13	20.05	419.96	469.13	1.36	1.29	3.44	3.44
Yellowstone County	B7	RM 335.68	60324.8	0.05	903.2	883.71	880.65	1.64	1.63	17.59	17.29	421.03	452.78	1.31	1.29	3.06	3.06
Yellowstone County	B7	RM 335.59	60183.7	0.05	903.2	883.49	880.3	1.75	1.75	18.27	18.06	393.04	447.44	1.31	1.29	3.19	3.19
Yellowstone County	B7	RM 335.51	60046.12	0.05	903.2	883.32	880.03	1.61	1.61	15.66	15.61	428.43	483.4	1.31	1.31	3.29	3.29
Yellowstone County	B7	RM 335.41	59899.97	0.05	903.2	883.2	879.45	1.26	1.22	11.52	10.74	585.36	747.43	1.2	1.12	3.75	3.75
Yellowstone County	B7	RM 335.36	59814.82	0.05	903.2	883.19	878.65	0.78	0.75	3.98	3.54	747.56	1015.75	1.53	1.36	4.54	4.54
Yellowstone County	B7	RM 335.12	59393.71	0.05	903.2	883	878.54	1.33	1.08	10.36	5.46	264.43	677.01	2.39	1.26	4.46	4.46
Yellowstone County	B7	RM 335.03	59228.59	0.05	903.2	882.73	876.8	2.2	1.66	34.18	17.3	145.62	440.67	2.46	1.25	5.93	5.93
Yellowstone County	B7	RM 334.91	59041.32	0.05	903.2	882.46	878.31	1.98	1.58	33.27	19.17	222.55	542.17	1.84	1.06	4.15	4.15
Yellowstone County	B7	RM 334.85	58937.73	0.05	903.2	882.26	878.66	1.96	1.58	34.49	22.49	220.46	490.97	1.8	1.18	3.6	3.6
Yellowstone County	B7	RM 334.73	58737.5	0.05	903.2	881.68	879.52	2.55	2.07	43.43	30.96	181.86	349.95	1.75	1.25	2.3	2.3
Yellowstone County	B7	RM 334.63	58573.32	0.05	903.2	881.3	878.31	2.61	1.99	42.8	29.54	150.41	368.08	1.82	1.26	2.99	2.99
Yellowstone County	B7	RM 334.54	58424.99	0.05	903.2	881.18	877.09	1.6	1.33	32.83	15.76	110.96	605.92	2.36	1.13	4.09	4.09
Yellowstone County	B7	RM 334.22	57821.07	0.05	903.2	880.8	875.76	1.58	1.28	13.02	7.64	159.28	387.99	3.18	1.87	5.04	5.04
Yellowstone County	B7	RM 334.09	57621.62	0.05	903.2	880.33	875.55	3.01	2.52	55.1	36.11	94.21	205	2.76	1.81	4.78	4.78
Yellowstone County	B7	RM 333.98	57440.64	0.05	903.2	880.33	875.46	1.85	1.56	19.16	12.56	131.05	288.5	3.24	2.13	4.87	4.87
Yellowstone County	B7	RM 333.83	57207.78	0.05	903.2	880.13	875.4	1.96	1.8	25.78	22.14	146.33	242.23	2.52	2.16	4.73	4.73
Yellowstone County	B7	RM 333.69	56989.22	0.05	903.2	879.93	873.45	1.62	1.62	21.04	20.75	256.48	268.39	2.17	2.14	6.48	6.48
Yellowstone County	B7	RM 333.54	56738.21	0.05	903.2	879.87	874.22	1.02	1.01	8.41	8.2	308.79	338.2	2.86	2.79	5.65	5.65
Yellowstone County	B7	RM 333.42	56552.03	0.05	903.2	879.74	873.42	1.3	1.3	17.14	17.14	330	348.26	2.11	2.11	6.32	6.32
Yellowstone County	B7	RM 333.30	56351.75	0.05	903.2	879.44	875.65	1.64	1.64	34.75	34.75	297.17	308.84	1.85	1.85	3.79	3.79
Yellowstone County	B7	RM 333.19	56177.76	0.05	903.2	879.14	875.72	1.75	1.75	26.24	26.24	256.98	269.45	2.01	2.01	3.42	3.42
Yellowstone County	B7	RM 333.09	56027.56	0.05	903.2	879	875.59	1.53	1.51	15.84	14.51	332.79	548.56	1.77	1.62	3.41	3.41
Yellowstone County	B7	RM 332.99	55855.76	0.05	903.2	878.72	873.86	1.78	1.69	38.69	34.26	302.42	475.34	1.64	1.45	4.86	4.86
Yellowstone County	B7	RM 332.88	55687.68	0.05	903.2	878.46	874.43	1.6	1.58	16.04	15.75	383.54	455.12	1.41	1.38	4.03	4.03
Yellowstone County	B7	RM 332.77	55504.73	0.05	903.2	878.33	875.49	1.33	1.31	11.87	11.46	362.66	421.53	1.82	1.76	2.84	2.84
Yellowstone County	B7	RM 332.66	55333.33	0.05	903.2	878.14	874.96	1.57	1.55	21.6	20.79	319.01	364.44	1.76	1.69	3.18	3.18
Yellowstone County	B7	RM 332.56	55182.74	0.05	903.2	878	874.54	1.43	1.41	16.29	15.09	307.62	370.65	1.99	1.85	3.46	3.46
Yellowstone County	B7	RM 332.47	55059.84	0.05	903.2	877.93	873.95	1.37	1.31	12.88	11.02	260.92	352.12	2.4	2.06	3.98	3.98
Yellowstone County	B7	RM 332.38	54913.1	0.05	903.2	877.72	873.16	1.93	1.82	27.67	25.13	156.61	203.8	2.93	2.66	4.56	4.56
Yellowstone County	B7	RM 332.33	54822.67	0.05	903.2	877.63	872.5	1.92	1.83	30.32	27.27	154.37	211.45	3	2.7	5.13	5.13
Yellowstone County	B7	RM 332.21	54626.48	0.05	903.2	877.47	873.4	1.83	1.78	20.95	18.18	167.22	227.26	2.87	2.5	4.07	4.07
Yellowstone County	B7	RM 332.17	54575.38	0.05	903.2	877.42	872.76	1.89	1.85	21.38	18.83	136.95	180.59	3.4	2.99	4.66	4.66
Yellowstone County	B7	RM 332.08	54422.01	0.05	903.2	877.28	873.77	2	1.97	26.55	25.2	149.44	209.88	2.82	2.69	3.51	3.51
Yellowstone County	B7	RM 331.96	54224.76	0.05	903.2	877.11	873.18	1.83	1.81	23.77	21.48	172.52	221.15	2.6	2.36	3.93	3.93
Yellowstone County	B7	RM 331.85	54057.19	0.05	903.2	876.91	873.16	1.8	1.8	37.33	35.44	208.75	229.86	2.4	2.28	3.75	3.75
Yellowstone County	B7	RM 331.74	53882.8	0.05	903.2	876.61	872.62	2.13	2.01	30.62	22.58	145.17	242.6	2.89	2.13	3.99	3.99
Yellowstone County	B8	RM 331.66	53744.64	0.05	903.2	876.51	871.68	1.76	1.73	25.94	23.12	214.98	246.47	2.37	2.12	4.83	4.83
Yellowstone County	B8	RM 331.55	53575.67	0.05	903.2	876.3	872.61	1.97	1.78	24.38	17.98	172.06	271.8	2.53	1.87	3.69	3.69
Yellowstone County	B8	RM 331.41	53354.89	0.05	903.2	876.02	872.56	2.1	1.98	30.63	20.11	182.96	307.08	2.27	1.49	3.46	3.46
Yellowstone County	B8	RM 331.32	53209.79	0.05	903.2	875.81	871.92	2.08	1.85	28.53	18.56	202.14	371.66	2.02	1.31	3.89	3.89
Yellowstone County	B8	RM 331.23	53053.99	0.05	903.2	875.57	871.53	2.03	1.88	30.8	24.79	215	313.54	1.91	1.53	4.04	4.04
Yellowstone County	B8	RM 331.14	52919.44	0.05	903.2	875.43	871.72	1.69	1.49	22.34	16.08	225.15	429.78	1.97	1.41	3.71	3.71

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 331.08	52820.06	0.05	903.2	875.36	871.29	1.49	1.44	15.82	13.31	225.16	321.91	2.32	1.95	4.07	4.07
Yellowstone County	B8	RM 331.01	52700.37	0.05	903.2	875.23	871.8	1.58	1.53	20.14	16.91	256.17	370.5	1.89	1.59	3.43	3.43
Yellowstone County	B8	RM 330.93	52576.5	0.05	903.2	875.12	871.67	1.48	1.44	18.33	15.79	230.95	322.29	2.25	1.94	3.45	3.45
Yellowstone County	B8	RM 330.83	52418.21	0.05	903.2	874.95	870.75	1.85	1.65	20.43	15.92	139.53	240.21	2.98	2.32	4.2	4.2
Yellowstone County	B8	RM 330.77	52321.13	0.05	903.2	874.85	870.68	1.93	1.84	20.65	17.96	140.16	226.1	2.96	2.59	4.17	4.17
Yellowstone County	B8	RM 330.68	52174.9	0.05	903.2	874.69	870.33	2.15	2.02	25.85	20.95	124.23	217.74	2.95	2.39	4.36	4.36
Yellowstone County	B8	RM 330.58	52000.46	0.05	903.2	874.52	869.72	2.18	1.94	33.29	20.7	111.97	236.9	3.26	2.03	4.8	4.8
Yellowstone County	B8	RM 330.48	51852.83	0.05	903.2	874.36	868.81	2.24	1.96	34.79	17.14	102.74	265.55	3.56	1.74	5.55	5.55
Yellowstone County	B8	RM 330.39	51701.57	0.05	903.2	874.25	869.32	2.08	1.9	22.81	17.71	117.55	192.55	3.17	2.47	4.93	4.93
Yellowstone County	B8	RM 330.32	51592.04	0.05	903.2	874.18	869.57	2.02	1.86	21.8	15.89	131.52	221.1	3.02	2.2	4.61	4.61
Yellowstone County	B8	RM 330.25	51473.55	0.05	903.2	874.07	868.38	2.12	1.87	25.44	15.62	123.58	253.51	3.11	1.9	5.69	5.69
Yellowstone County	B8	RM 330.17	51344.77	0.05	903.2	873.95	869.9	2.11	1.87	26.77	17.4	141.46	278.29	2.67	1.73	4.05	4.05
Yellowstone County	B8	RM 330.10	51243.99	0.05	903.2	873.84	870.02	2.04	1.86	27.25	22.11	179.45	267.32	2.24	1.82	3.82	3.82
Yellowstone County	B8	RM 330.05	51150.67	0.05	903.2	873.75	869.94	1.82	1.68	22.97	18.69	220.83	319.7	2.07	1.68	3.81	3.81
Yellowstone County	B8	RM 329.95	50995.78	0.05	903.2	873.58	869.67	1.63	1.63	21.11	20.59	325.2	334	1.71	1.66	3.91	3.91
Yellowstone County	B8	RM 329.86	50853.11	0.05	903.2	873.44	869.99	1.54	1.51	15.44	13.62	332.55	388.03	1.75	1.55	3.45	3.45
Yellowstone County	B8	RM 329.75	50682.47	0.05	903.2	873.27	869.45	1.41	1.4	21.13	19.82	383.62	413.15	1.66	1.56	3.82	3.82
Yellowstone County	B8	RM 329.66	50540.7	0.05	903.2	873.07	869.45	1.56	1.53	21.41	18.08	298.8	364.84	1.91	1.61	3.62	3.62
Yellowstone County	B8	RM 329.57	50390.78	0.05	903.2	872.88	869.17	1.61	1.55	19.54	16.08	336.71	437.78	1.62	1.33	3.71	3.71
Yellowstone County	B8	RM 329.49	50267.58	0.05	903.2	872.72	869.52	1.66	1.55	20.18	16.26	344.93	486.77	1.49	1.2	3.2	3.2
Yellowstone County	B8	RM 329.43	50165.22	0.05	903.2	872.68	869.82	1.14	1.12	8.74	8.48	456.35	486.93	1.71	1.66	2.86	2.86
Yellowstone County	B8	RM 329.37	50053.96	0.05	903.2	872.62	869.58	1.14	1.06	8.75	7.45	430.2	627.5	1.59	1.35	3.04	3.04
Yellowstone County	B8	RM 329.31	49969.13	0.05	903.2	872.55	869.66	1.28	1.19	12.68	10.14	339.4	580.78	1.63	1.31	2.89	2.89
Yellowstone County	B8	RM 329.26	49883.05	0.05	903.2	872.48	868.74	1.29	1.23	11.04	8.18	313.49	555.44	1.78	1.32	3.74	3.74
Yellowstone County	B8	RM 329.20	49785.51	0.05	903.2	872.38	868.71	1.35	1.36	13.69	13.4	395.41	529.66	1.28	1.26	3.67	3.67
Yellowstone County	B8	RM 329.15	49699.71	0.05	958.8	872.29	868.64	1.24	1.22	16.22	13.74	462.41	645.84	1.43	1.22	3.65	3.65
Yellowstone County	B8	RM 329.08	49597.49	0.05	958.8	872.17	869.34	1.19	1.22	15.86	12.3	459.39	711.84	1.42	1.11	2.83	2.83
Yellowstone County	B8	RM 328.96	49388.08	0.05	958.8	871.97	868.99	1.41	1.27	15.72	11.75	299.18	595.22	1.69	1.26	2.98	2.98
Yellowstone County	B8	RM 328.85	49197.37	0.05	958.8	871.74	866.79	1.82	1.7	15.2	13.41	235.95	332.49	1.92	1.7	4.95	4.95
Yellowstone County	B8	RM 328.75	49036.09	0.05	958.8	871.67	866.93	1.52	1.21	9.38	6.51	332.55	870.44	1.37	0.95	4.74	4.74
Yellowstone County	B8	RM 328.68	48920.76	0.05	958.8	871.53	867.09	1.7	1.52	21.27	13.28	242.21	533.92	1.89	1.18	4.44	4.44
Yellowstone County	B8	RM 328.60	48788.86	0.05	958.8	871.36	866.36	1.93	1.72	20.56	12.72	182.01	369.86	2.45	1.51	5	5
Yellowstone County	B8	RM 328.52	48664.7	0.05	958.8	871.26	867.75	1.89	1.66	23.06	15	157.13	530.29	2.01	1.3	3.51	3.51
Yellowstone County	B8	RM 328.44	48539.46	0.05	958.8	871.11	867.34	2.02	1.76	27.23	12.38	133.84	398.34	3.03	1.37	3.77	3.77
Yellowstone County	B8	RM 328.36	48405.85	0.05	958.8	870.93	867.12	2.26	1.99	26.65	15.89	125.62	281.66	2.89	1.71	3.81	3.81
Yellowstone County	B8	RM 328.28	48276.93	0.05	958.8	870.87	867.73	1.65	1.67	22.53	18.98	182.68	276.7	2.46	2.08	3.76	3.76
Yellowstone County	B8	RM 328.16	48097.58	0.05	958.8	870.68	866.7	1.78	1.68	23.83	20.43	201.5	329.03	2.02	1.73	3.98	3.98
Yellowstone County	B8	RM 328.05	47914.16	0.05	958.8	870.51	866.62	1.54	1.45	19.29	16.66	254.44	408.85	1.87	1.62	3.89	3.89
Yellowstone County	B8	RM 327.93	47729.4	0.05	958.8	870.25	865.67	1.83	1.72	21.44	19.27	289.63	374.03	1.65	1.49	4.58	4.58
Yellowstone County	B8	RM 327.88	47641.03	0.05	958.8	870.06	866	2.09	1.93	30.46	26.19	240.51	332.52	1.73	1.49	4.06	4.06
Yellowstone County	B8	RM 327.81	47525.32	0.05	958.8	869.98	866.29	1.84	1.7	18.93	13.63	171.09	294.79	2.65	1.92	3.69	3.69
Yellowstone County	B8	RM 327.75	47432.57	0.05	958.8	869.84	865.09	2.15	1.93	23.31	13.21	124.62	256.63	3.42	1.94	4.75	4.75
Yellowstone County	B8	RM 327.69	47341.24	0.05	958.8	869.68	864.48	2.56	1.95	32.19	14.11	90.47	302.53	3.73	1.62	5.2	5.2
Yellowstone County	B8	RM 327.62	47227.31	0.05	958.8	869.62	863.86	2.3	1.87	28.46	14.18	124.44	428.56	2.94	1.46	5.76	5.76
Yellowstone County	B8	RM 327.56	47124.87	0.05	958.8	869.57	864.46	2.04	1.66	23.58	12.53	150.81	525.63	2.49	1.32	5.11	5.11
Yellowstone County	B8	RM 327.51	47053.82	0.05	958.8	869.52	865.84	1.81	1.6	21.66	17.82	246.85	472.24	1.54	1.27	3.68	3.68
Yellowstone County	B8	RM 327.44	46933.28	0.05	958.8	869.49	866.93	0.88	1.03	6.56	7.86	361.1	603.84	1.28	1.54	2.87	2.87
Yellowstone County	B8	RM 327.37	46817.72	0.05	958.8	869.37	866.26	1.42	1.45	15.62	15.23	333.68	457.54	1.48	1.45	3.11	3.11
Yellowstone County	B8	RM 327.29	46687.12	0.05	958.8	869.27	866.04	1.39	1.4	13.61	11.42	298.62	511.7	1.6	1.34	3.23	3.23
Yellowstone County	B8	RM 327.23	46600.07	0.05	958.8	869.17	866.25	1.48	1.57	14.3	12.08	248.18	403.04	1.79	1.52	3.32	3.32
Yellowstone County	B8	RM 327.16	46485.25	0.05	958.8	869.05	865.67	1.65	1.63	20.61	17.68	261.29	407.64	1.67	1.44	3.38	3.38
Yellowstone County	B8	RM 327.08	46360.36	0.05	958.8	868.98	864.94	1.36	1.32	13.67	9.3	251.56	517.59	2.15	1.47	4.04	4.04
Yellowstone County	B8	RM 327.00	46240.1	0.05	958.8	868.93	864.56	1.22	1.17	11.77	8.77	222.4	398.83	2.89	2.17	4.37	4.37
Yellowstone County	B8	RM 326.94	46091.8	0.05	958.8	868.88	864.04	1.27	1.13	8.72	5.65	223.67	457.55	2.86	1.86	4.84	4.84
Yellowstone County	B8	RM 326.88	46003.77	0.05	958.8	868.79	864.08	1.63	1.43	18.79	10.38	167.72	450.39	2.69	1.49	4.71	4.71
Yellowstone County	B8	RM 326.82	45901.15	0.05	958.8	868.67	864.18	1.79	1.56	23.34	16.99	197.3	457.28	1.84	1.35	4.49	4.49
Yellowstone County	B8	RM 326.78	45830.7	0.05	958.8	868.56	864.46	2.04	1.58	25.54	15.6	160.7	500.48	1.97	1.21	4.1	4.1
Yellowstone County	B8	RM 326.70	45707.6	0.05	958.8	868.44	864.66	1.81	1.42	19.62	11.92	202.21	557.18	2.01	1.22	3.78	3.78
Yellowstone County	B8	RM 326.64	45589.72	0.05	958.8	868.28	864.92	1.74	1.64	38.36	31.39	279.55	438.49	1.63	1.34	3.36	3.36
Yellowstone County	B8	RM 326.55	45430.24	0.05	958.8	868.04	864.83	1.69	1.61	19.49	17.4	327.18	418.95	1.6	1.42	3.21	3.21
Yellowstone County	B8	RM 326.45	45281.78	0.05	958.8	867.83	864.12	1.78	1.73	22.19	20.22	317.94	394.21	1.54	1.4	3.71	3.71

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B8	RM 326.41	45207.36	0.05	958.8	867.76	864.32	1.56	1.54	17.42	15.46	360.14	454.2	1.54	1.37	3.44	3.44
Yellowstone County	B8	RM 326.35	45106.57	0.05	958.8	867.7	864.43	1.28	1.25	11.4	10.57	461.08	517.39	1.6	1.48	3.27	3.27
Yellowstone County	B8	RM 326.28	45022.31	0.05	958.8	867.69	864.61	0.95	0.92	5.67	5.05	548.05	638.18	2.14	1.91	3.08	3.08
Yellowstone County	B8	RM 326.07	44588.61	0.05	958.8	867.32	862.39	2.02	2.02	18.76	18.76	216.99	216.99	2.19	2.19	4.92	4.92
Yellowstone County	B8	RM 326.00	44481.07	0.05	958.8	867.23	861.24	1.98	1.98	16.49	16.49	234.97	234.97	2.06	2.06	5.99	5.99
Yellowstone County	B8	RM 325.94	44379.11	0.05	958.8	867.17	861.85	1.64	1.64	24.28	24.28	305.8	305.8	1.92	1.92	5.32	5.32
Yellowstone County	B8	RM 325.89	44304.17	0.05	958.8	867.08	863	1.55	1.55	22.6	22.6	332.08	332.08	1.86	1.86	4.08	4.08
Yellowstone County	B8	RM 325.86	44262.16	0.05	958.8	867.05	863.76	1.49	1.49	10.75	10.75	338.37	338.37	1.9	1.9	3.3	3.3
Yellowstone County	B8	RM 325.81	44176.46	0.05	958.8	866.98	863.1	1.63	1.63	12.81	12.81	295	295	2	2	3.88	3.88
Yellowstone County	B8	RM 325.76	44089.5	0.05	958.8	866.92	862.66	1.45	1.45	21.62	21.62	415.48	415.48	1.6	1.6	4.26	4.26
Yellowstone County	B8	RM 325.69	43989.97	0.05	958.8	866.83	862.55	1.43	1.43	11.47	11.47	366.49	366.49	1.83	1.83	4.28	4.28
Yellowstone County	B8	RM 325.58	43809.68	0.05	958.8	866.71	862.61	1.3	1.25	16.92	15.01	328.21	396.85	2.18	1.94	4.1	4.1
Yellowstone County	B8	RM 325.50	43680.96	0.05	958.8	866.6	862.6	1.46	1.44	14.39	13.36	270.98	296.65	2.42	2.24	4	4
Yellowstone County	B8	RM 325.43	43556.76	0.05	958.8	866.51	860.89	1.42	1.41	20.98	19.36	265.45	290.27	2.54	2.34	5.62	5.62
Yellowstone County	B8	RM 325.37	43461.41	0.05	958.8	866.42	861.36	1.41	1.35	26.86	22.53	282.14	369.39	2.29	1.93	5.06	5.06
Yellowstone County	B8	RM 325.30	43343.13	0.05	958.8	866.28	861.56	1.58	1.54	19.48	17.97	231.64	262.93	2.56	2.37	4.72	4.72
Yellowstone County	B8	RM 325.21	43210.67	0.05	958.8	866.17	861.34	1.67	1.62	17.72	15.52	194.26	231.91	2.91	2.55	4.83	4.83
Yellowstone County	B8	RM 325.13	43078.9	0.05	958.8	866.06	861.36	1.83	1.8	19.53	17.51	138.49	158.26	3.76	3.37	4.7	4.7
Yellowstone County	B8	RM 325.06	42966.54	0.05	958.8	865.89	860.78	2.24	2.2	30.07	27.72	116.3	129.03	3.65	3.38	5.11	5.11
Yellowstone County	B8	RM 324.99	42864.51	0.05	958.8	865.77	861.24	2.28	2.23	34.49	30.59	128.38	148.67	3.25	2.89	4.53	4.53
Yellowstone County	B8	RM 324.91	42729.7	0.05	958.8	865.66	860.76	2.11	2.05	31.17	22.26	127.58	185.29	3.54	2.53	4.9	4.9
Yellowstone County	B8	RM 324.81	42573.19	0.05	958.8	865.56	860.39	1.94	1.83	25.99	18.91	130.73	195.05	3.68	2.68	5.17	5.17
Yellowstone County	B8	RM 324.73	42451.12	0.05	958.8	865.46	861.59	1.91	1.85	25.67	19.79	175.91	237.34	2.83	2.18	3.87	3.87
Yellowstone County	B8	RM 324.65	42323.44	0.05	958.8	865.34	861.99	1.69	1.66	30.59	24.37	274.3	357.23	2.03	1.62	3.35	3.35
Yellowstone County	B8	RM 324.56	42178.25	0.05	958.8	865.15	861.76	1.85	1.66	17.93	13.51	223.62	350.06	2.2	1.65	3.39	3.39
Yellowstone County	B8	RM 324.48	42039.74	0.05	958.8	864.98	861.58	1.83	1.81	31	29.54	327.27	350.51	1.59	1.51	3.4	3.4
Yellowstone County	B8	RM 324.42	41946.09	0.05	958.8	864.91	861.04	1.3	1.29	18.83	18.07	388.82	414.86	1.87	1.79	3.87	3.87
Yellowstone County	B8	RM 324.34	41812.99	0.05	958.8	864.66	861.07	1.76	1.73	29	25.08	264.8	314.12	2.04	1.76	3.59	3.59
Yellowstone County	B8	RM 324.28	41712.42	0.05	958.8	864.49	859.64	1.88	1.8	33.4	26.17	231.52	313.56	2.17	1.7	4.85	4.85
Yellowstone County	B8	RM 324.20	41597.64	0.05	958.8	864.45	860.59	1.03	1.02	13.39	12.92	538.48	572.13	1.7	1.64	3.86	3.86
Yellowstone County	B8	RM 324.16	41526.97	0.05	958.8	864.31	861.07	1.59	1.56	15.15	14.86	369.92	393.6	1.59	1.57	3.24	3.24
Yellowstone County	B8	RM 324.10	41434.55	0.05	958.8	864.25	860.81	1.23	1.23	14.55	14.55	492.77	492.77	1.58	1.58	3.44	3.44
Yellowstone County	B8	RM 324.04	41346.42	0.05	958.8	864.2	860.39	1.1	1.09	9.6	9.19	489.41	537.82	1.71	1.64	3.81	3.81
Yellowstone County	B8	RM 323.97	41219.29	0.05	958.8	864.11	860.64	1.11	1.08	12.31	10.58	455.47	594.41	1.74	1.49	3.47	3.47
Yellowstone County	B8	RM 323.83	40977.08	0.05	958.8	863.96	860.31	1.1	1.08	9.97	8.62	438.63	559.02	1.84	1.59	3.65	3.65
Yellowstone County	B8	RM 323.71	40786.71	0.05	958.8	863.77	858.49	1.62	1.53	17.59	13.04	216.45	327.99	2.58	1.91	5.28	5.28
Yellowstone County	B8	RM 323.60	40615.85	0.05	958.8	863.68	858.06	1.7	1.47	17.37	9.21	115.48	470.91	3.54	1.86	5.62	5.62
Yellowstone County	B8	RM 323.55	40536.83	0.05	958.8	863.45	857.58	2.46	2.14	36.83	24.71	107.05	205.44	3.24	2.18	5.87	5.87
Yellowstone County	B8	RM 323.49	40429.96	0.05	958.8	863.36	858.37	2.26	1.98	30.06	17.81	113.87	245.11	3.33	1.98	4.99	4.99
Yellowstone County	B8	RM 323.41	40309.21	0.05	958.8	863.28	859.41	2.11	1.86	27.81	17.23	124.38	270.8	3.06	1.9	3.87	3.87
Yellowstone County	B8	RM 323.33	40186.15	0.05	958.8	863.21	859.58	1.82	1.58	19.57	13.3	172.36	354.6	2.52	1.71	3.63	3.63
Yellowstone County	B8	RM 323.27	40082.34	0.05	958.8	863.11	859.66	1.81	1.66	22.55	13.7	186.01	396.13	2.4	1.46	3.45	3.45
Yellowstone County	B8	RM 323.21	39985.33	0.05	958.8	862.99	859.54	1.88	1.7	26.87	16.71	209.91	448.25	2.02	1.26	3.45	3.45
Yellowstone County	B8	RM 323.16	39899.29	0.05	958.8	862.87	859.55	1.65	1.55	30.95	20.99	267.41	530.42	1.71	1.16	3.32	3.32
Yellowstone County	B8	RM 323.06	39735.77	0.05	958.8	862.52	858.56	1.65	1.66	28.46	23.52	243.03	431.82	1.75	1.44	3.96	3.96
Yellowstone County	B8	RM 322.93	39531.81	0.05	958.8	862.28	859.35	1.47	1.47	19.45	15.85	280.7	437.59	1.83	1.49	2.93	2.93
Yellowstone County	B8	RM 322.79	39301.41	0.05	958.8	862.01	858.62	1.69	1.6	21.02	15.11	217.31	401.25	2.08	1.5	3.39	3.39
Yellowstone County	B8	RM 322.69	39142.64	0.05	958.8	861.87	857.47	1.75	1.61	17.94	12.29	193.22	384.88	2.26	1.55	4.4	4.4
Yellowstone County	B8	RM 322.58	38982.22	0.05	958.8	861.34	856.56	3.05	2.82	58.86	43.91	108.86	187.76	2.42	1.81	4.78	4.78
Yellowstone County	B9	RM 322.51	38859.49	0.05	958.8	861.17	858.28	2.54	2.37	41.65	32.65	153.87	242.54	2.13	1.67	2.89	2.89
Yellowstone County	B9	RM 322.41	38696.02	0.05	958.8	860.98	857.62	1.86	1.8	28.68	26.02	269.27	340.65	1.72	1.56	3.36	3.36
Yellowstone County	B9	RM 322.34	38586.33	0.05	958.8	860.82	857.65	1.7	1.69	23.99	22.25	315.35	385.32	1.59	1.47	3.17	3.17
Yellowstone County	B9	RM 322.23	38396.25	0.05	958.8	860.68	857.13	1.23	1.21	13.6	12.7	355.01	422.38	2.01	1.87	3.55	3.55
Yellowstone County	B9	RM 322.13	38239.27	0.05	958.8	860.55	857.1	1.17	1.2	15.82	15.67	435.96	493.9	1.63	1.62	3.45	3.45
Yellowstone County	B9	RM 322.03	38090.48	0.05	958.8	860.24	856.15	1.85	1.83	31.23	29.64	274.67	318.03	1.73	1.64	4.09	4.09
Yellowstone County	B9	RM 321.91	37898.13	0.05	958.8	860.04	856.85	1.78	1.78	15.18	15.18	247.6	247.6	2.17	2.17	3.18	3.18
Yellowstone County	B9	RM 321.82	37758.36	0.05	958.8	860.01	856.34	1.33	1.33	7.32	7.32	370.1	370.1	1.95	1.95	3.68	3.68
Yellowstone County	B9	RM 321.70	37567.01	0.05	958.8	859.86	855.27	1.43	1.43	22.59	22.59	475.72	475.72	1.41	1.41	4.59	4.59
Yellowstone County	B9	RM 321.60	37414.63	0.05	958.8	859.79	854.48	0.92	0.92	7.15	7.15	635.9	635.9	1.63	1.63	5.31	5.31
Yellowstone County	B9	RM 321.48	37188.51	0.05	958.8	859.61	855.03	1.35	1.34	14.04	13.42	312.07	328.65	2.27	2.17	4.59	4.59
Yellowstone County	B9	RM 321.38	37016.94	0.05	958.8	859.39	854.75	1.73	1.71	24.19	23.67	321.3	333.79	1.71	1.68	4.64	4.64

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B9	RM 321.28	36857.57	0.05	958.8	859.28	855.3	1.26	1.25	11.98	11.59	421.02	437.98	1.8	1.74	3.98	3.98
Yellowstone County	B9	RM 321.13	36652.19	0.05	958.8	859.11	854.69	1.35	1.17	21.43	9.21	269.66	865.56	2.41	1.02	4.42	4.42
Yellowstone County	B9	RM 321.05	36531.25	0.05	958.8	859.04	855.36	1.45	1.22	11.41	6.76	184.08	425.46	3.13	1.84	3.68	3.68
Yellowstone County	B9	RM 321.00	36446.98	0.05	958.8	858.89	855.12	2.02	1.74	30.17	16.58	125.07	320.68	3.18	1.72	3.78	3.78
Yellowstone County	B9	RM 320.71	36404.1*	0.05	958.8	858.81	855.12	2.21	1.84	24.53	13.97	125.04	301.59	3.08	1.73	3.69	3.69
Yellowstone County	B9	RM 320.62	36361.3*	0.05	958.8	858.75	855.12	2.3	1.9	27	15.61	121.95	287.63	3.09	1.76	3.63	3.63
Yellowstone County	B9	RM 320.92	36318.56	0.05	958.8	858.69	855.12	2.35	2.1	35.65	22.62	121.03	302.17	3.05	1.91	3.58	3.58
Yellowstone County	B9	RM 320.44	36258.3*	0.05	958.8	858.64	855.19	2.26	1.98	26.68	17.21	130.22	280.39	2.99	1.91	3.45	3.45
Yellowstone County	B9	RM 320.38	36198.1*	0.05	958.8	858.6	855.26	2.13	1.87	23.31	14.64	147.18	298.11	2.83	1.76	3.34	3.34
Yellowstone County	B9	RM 320.80	36137.92	0.05	958.8	858.57	855.33	1.98	1.75	26.49	15.27	148.5	327.47	2.93	1.67	3.24	3.24
Yellowstone County	B9	RM 320.71	35990.21	0.05	958.8	858.54	854.38	1.25	1.19	14.63	11.38	269.53	391.29	2.65	2.05	4.15	4.15
Yellowstone County	B9	RM 320.54	35839.45	0.05	958.8	858.39	853.99	1.47	1.44	18.06	12.82	320.85	468.81	2.01	1.42	4.4	4.4
Yellowstone County	B9	RM 320.44	35717.45	0.05	958.8	858.31	854.32	1.48	1.37	13.87	9.34	256.69	424.98	2.46	1.64	3.98	3.98
Yellowstone County	B9	RM 320.62	35556.9	0.05	958.8	858.18	854.17	1.56	1.41	21.96	15.4	225.23	403.88	2.43	1.69	4.01	4.01
Yellowstone County	B9	RM 320.38	35461.42	0.05	958.8	858.08	854.17	1.66	1.57	17.31	11.29	193.77	326.71	2.88	1.86	3.91	3.91
Yellowstone County	B9	RM 320.32	35359.13	0.05	958.8	857.91	854.57	2.12	2.04	30.55	25.81	136.03	176.29	3.17	2.67	3.34	3.34
Yellowstone County	B9	RM 320.25	35241.01	0.05	958.8	857.53	854.29	2.92	2.8	55.83	47.23	106.15	136.57	2.97	2.5	3.24	3.24
Yellowstone County	B9	RM 320.20	35163.52	0.05	958.8	857.38	854.2	2.88	2.73	55.67	43.23	116.12	167.12	2.72	2.1	3.18	3.18
Yellowstone County	B9	RM 320.14	35071.29	0.05	958.8	857.19	854.32	2.77	2.63	51.91	42.98	150.1	201.13	2.2	1.81	2.86	2.86
Yellowstone County	B9	RM 320.01	34865.89	0.05	958.8	856.79	854.42	2.31	2.36	23.91	25.01	114.76	262.53	1.48	1.55	2.44	2.44
Yellowstone County	B9	RM 319.91	34707.77	0.05	958.8	856.77	854.66	1.12	1.5	9.56	12.37	124.77	304.43	1.77	2.27	3.19	3.19
Yellowstone County	B9	RM 319.86	34625.68	0.05	958.8	856.72	854.6	1.07	1.47	9.68	12.3	142.63	355.54	1.52	1.92	3.16	3.16
Yellowstone County	B9	RM 319.78	34508.06	0.05	958.8	856.57	854.51	1.9	1.77	25.31	21.55	103.99	331.95	1.93	1.63	3.05	3.05
Yellowstone County	B9	RM 319.73	34426.63	0.05	958.8	856.41	854.69	2.34	1.6	34.17	32.54	143.58	400.46	1.57	1.49	2.94	2.94
Yellowstone County	B9	RM 319.66	34314.84	0.05	958.8	856.25	854.51	1.63	1.8	16.23	15.82	131.53	356.91	1.53	1.49	2.82	2.82
Yellowstone County	B9	RM 319.57	34163.05	0.05	958.8	856.11	853.93	1.81	1.8	15.83	15.2	176.99	367.76	1.51	1.45	2.77	2.77
Yellowstone County	B9	RM 319.44	33955.96	0.05	958.8	855.95	853.14	1.83	1.75	26.05	22.45	147.5	398.36	1.61	1.38	2.82	2.82
Yellowstone County	B9	RM 319.39	33872.4	0.05	958.8	855.86	852.65	1.94	1.81	17.16	16.09	137.96	347.73	1.65	1.53	3.21	3.21
Yellowstone County	B9	RM 319.34	33786.83	0.05	958.8	855.77	852.83	2.04	1.81	19.72	15.87	171.6	402.7	1.65	1.32	2.94	2.94
Yellowstone County	B9	RM 319.22	33580.15	0.05	958.8	855.66	851.79	2.08	1.37	20.11	9.61	76.03	520.51	2.91	1.34	3.86	3.86
Yellowstone County	B9	RM 319.17	33497.33	0.05	958.8	855.64	851.64	1.55	1.33	14.18	9.57	103.61	473.67	2.32	1.53	4	4
Yellowstone County	B9	RM 319.09	33368.53	0.05	958.8	855.41	851.25	2.13	1.98	29.72	22.75	123.87	242.75	2.64	1.99	4.16	4.16
Yellowstone County	B9	RM 319.04	33287.21	0.05	958.8	855.22	851.49	2.53	2.24	39.28	26.09	105.15	218.32	3	1.96	3.73	3.73
Yellowstone County	B9	RM 318.96	33153.16	0.05	958.8	855.09	851.64	2.16	2.04	35.98	28.86	149.51	230.6	2.55	2.04	3.45	3.45
Yellowstone County	B9	RM 318.91	33065.54	0.05	958.8	854.99	851.86	2.07	1.94	29.67	22.58	155.42	246.88	2.65	2	3.13	3.13
Yellowstone County	B9	RM 318.82	32939.33	0.05	958.8	854.84	851.86	2.15	1.94	24.6	17.06	149.31	265.47	2.7	1.86	2.99	2.99
Yellowstone County	B9	RM 318.74	32833.24	0.05	958.8	854.81	851.86	1.66	1.55	18.57	14.29	176.32	403.29	2.52	1.92	2.96	2.96
Yellowstone County	B9	RM 318.62	32649.76	0.05	958.8	854.6	850.67	1.61	1.6	29.35	26.79	302.87	422.4	1.56	1.42	3.93	3.93
Yellowstone County	B9	RM 318.42	32315.28	0.05	958.8	854.05	850.15	1.77	1.77	20.99	20.99	325.06	325.06	1.67	1.67	3.91	3.91
Yellowstone County	B9	RM 318.17	31866.42	0.05	958.8	853.6	849.17	1.78	1.67	20.24	15.72	202.2	285.59	2.6	2.01	4.43	4.43
Yellowstone County	B9	RM 317.97	31551.39	0.05	958.8	853.4	848.35	1.76	1.76	12.85	12.21	214.52	226.89	2.54	2.41	5.05	5.05
Yellowstone County	B10	RM 317.87	31388.76	0.05	958.8	853.21	848.78	2.15	2.1	26.26	21.78	142.85	177.32	3.11	2.58	4.43	4.43
Yellowstone County	B10	RM 317.78	31248.07	0.05	958.8	853.14	848.75	1.9	1.66	20.4	11.16	136.45	308.53	3.45	1.87	4.4	4.4
Yellowstone County	B10	RM 317.70	31120.75	0.05	958.8	853.08	848.56	1.84	1.49	20.09	8.76	150.27	610.6	2.99	1.28	4.51	4.51
Yellowstone County	B10	RM 317.61	30982.56	0.05	958.8	852.95	848.29	1.91	1.68	21.33	11.47	189.76	454.97	2.36	1.26	4.66	4.66
Yellowstone County	B10	RM 317.53	30849.94	0.05	958.8	852.89	848.5	1.39	1.35	12.77	11.91	338.88	432.23	1.77	1.65	4.39	4.39
Yellowstone County	B10	RM 317.45	30723.4	0.05	958.8	852.72	848.47	1.75	1.69	22.28	19.72	261.66	350.04	1.84	1.62	4.24	4.24
Yellowstone County	B10	RM 317.37	30601.88	0.05	958.8	852.55	848.17	1.68	1.69	27.45	24.75	243.91	339.11	1.86	1.67	4.38	4.38
Yellowstone County	B10	RM 317.30	30483.81	0.05	958.8	852.42	848.41	1.76	1.63	18.41	13.83	216.78	352.61	2.23	1.66	4.01	4.01
Yellowstone County	B10	RM 317.19	30302.33	0.05	958.8	852.29	848.84	1.8	1.62	17.68	11.07	154.87	306.07	3.12	1.94	3.45	3.45
Yellowstone County	B10	RM 317.05	30079.26	0.05	958.8	852.15	848.38	1.83	1.73	17.28	13.2	151.62	215.81	3.37	2.56	3.77	3.77
Yellowstone County	B10	RM 316.93	29889.26	0.05	958.8	851.99	847.25	1.98	1.98	23.45	22.38	145.15	152.69	3.33	3.18	4.74	4.74
Yellowstone County	B10	RM 316.79	29668.4	0.05	958.8	851.87	847.89	1.84	1.81	20.26	18.02	140.61	162.53	3.68	3.27	3.98	3.98
Yellowstone County	B10	RM 316.66	29466.39	0.05	958.8	851.78	847.86	1.73	1.68	16.45	14.57	157.16	184.42	3.5	3.1	3.91	3.91
Yellowstone County	B10	RM 316.58	29329.04	0.05	958.8	851.68	847.74	1.79	1.73	22.38	18.59	164.61	206.32	3.23	2.68	3.94	3.94
Yellowstone County	B10	RM 316.51	29227.18	0.05	958.8	851.56	847.41	1.95	1.9	25.35	22.79	177.31	204.87	2.75	2.47	4.16	4.16
Yellowstone County	B10	RM 316.43	29091.4	0.05	958.8	851.36	847.41	2.08	1.98	38.56	32.2	220.96	282.41	2.06	1.72	3.95	3.95
Yellowstone County	B10	RM 316.33	28935.99	0.05	958.8	851.09	847.74	2.12	2.05	31.58	25.98	193.92	245.42	2.32	1.91	3.35	3.35
Yellowstone County	B10	RM 316.24	28786.65	0.05	958.8	850.89	847.5	1.85	1.8	34.22	29.64	255.25	312.92	1.97	1.7	3.39	3.39
Yellowstone County	B10	RM 316.14	28628.02	0.05	958.8	850.74	846.92	1.51	1.47	19.26	16.38	272.89	331.28	2.32	1.97	3.82	3.82
Yellowstone County	B10	RM 316.05	28475.44	0.05	958.8	850.51	846.73	1.77	1.75	32.14	30.18	277.65	299.15	1.95	1.83	3.77	3.77

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B10	RM 315.97	28355.68	0.05	958.8	850.38	846.43	1.77	1.72	13.1	11.73	288.21	335.68	1.85	1.66	3.95	3.95
Yellowstone County	B10	RM 315.84	28140.65	0.05	958.8	850.12	846.58	2.11	2.01	30.16	24.44	157.6	217.01	2.72	2.2	3.54	3.54
Yellowstone County	B10	RM 315.71	27926.69	0.05	958.8	849.91	846.34	2.09	1.95	19.07	16.22	182.21	250.15	2.31	1.96	3.57	3.57
Yellowstone County	B10	RM 315.58	27720.72	0.05	958.8	849.8	846.16	1.9	1.49	19.89	9.17	130.19	550.86	2.93	1.33	3.65	3.65
Yellowstone County	B10	RM 315.44	27505.06	0.05	958.8	849.69	846.09	1.68	1.5	16.58	9.72	146.93	348.32	3.24	1.88	3.59	3.59
Yellowstone County	B10	RM 315.30	27283.58	0.05	958.8	849.54	844.45	1.44	1.36	16.91	13.31	310.89	545.84	1.65	1.29	5.1	5.1
Yellowstone County	B10	RM 315.18	27097.16	0.05	958.8	849.38	844.72	1.42	1.3	14.14	11.47	370.33	686.31	1.34	1.08	4.65	4.65
Yellowstone County	B10	RM 315.01	26818.99	0.05	958.8	848.92	844.66	1.94	1.88	28.11	24.06	320.13	393.51	1.52	1.3	4.26	4.26
Yellowstone County	B10	RM 314.85	26559.67	0.05	958.8	848.62	844.84	1.93	1.83	23.64	20.07	156.66	207.87	2.98	2.52	3.78	3.78
Yellowstone County	B10	RM 314.69	26324.37	0.05	958.8	848.34	844.24	2.13	2.09	30.28	27.25	165.13	192.18	2.65	2.38	4.11	4.11
Yellowstone County	B10	RM 314.57	26132.54	0.05	958.8	848.14	844.63	2.16	2.13	28.38	25.13	134.77	155.17	3.28	2.9	3.51	3.51
Yellowstone County	B10	RM 314.46	25963.96	0.05	958.8	847.97	844.48	2.06	2.02	30.37	26.84	188.88	219.58	2.45	2.16	3.49	3.49
Yellowstone County	B10	RM 314.35	25782.69	0.05	958.8	847.77	844.51	1.9	1.9	27.03	27.03	213.03	213.03	2.37	2.37	3.26	3.26
Yellowstone County	B10	RM 314.24	25607.48	0.05	958.8	847.64	844.14	1.8	1.8	14.77	14.77	205.59	205.59	2.6	2.6	3.5	3.5
Yellowstone County	B10	RM 314.15	25461.23	0.05	958.8	847.45	844.05	2.01	2.01	33.63	33.63	240.51	240.51	1.98	1.98	3.4	3.4
Yellowstone County	B10	RM 314.06	25326.45	0.05	958.8	847.39	843.63	1.51	1.51	10.01	9.89	355.75	360.44	1.79	1.76	3.76	3.76
Yellowstone County	B10	RM 313.98	25189.4	0.05	958.8	847.28	843.05	1.57	1.57	19.35	19.34	314.18	314.4	1.94	1.94	4.23	4.23
Yellowstone County	B10	RM 313.83	24942.42	0.05	958.8	847.1	843.2	1.3	1.3	12.6	12.6	388.72	388.72	1.89	1.89	3.9	3.9
Yellowstone County	B10	RM 313.72	24768.08	0.05	958.8	846.94	842.35	1.49	1.47	15.32	14.71	321.13	338.26	2	1.93	4.59	4.59
Yellowstone County	B10	RM 313.66	24671.51	0.05	958.8	846.84	843.14	1.63	1.6	16.15	14.91	240.14	266.33	2.44	2.25	3.71	3.71
Yellowstone County	B10	RM 313.57	24513.04	0.05	958.8	846.66	842.47	1.8	1.76	22.82	21.32	294.09	323.18	1.8	1.68	4.2	4.2
Yellowstone County	B10	RM 313.47	24364.02	0.05	958.8	846.54	841.55	1.59	1.59	15.92	15.92	270.99	270.99	2.23	2.23	4.99	4.99
Yellowstone County	B10	RM 313.33	24143.26	0.05	958.8	846.34	842.65	1.87	1.87	19.85	19.63	156.5	158.28	3.28	3.24	3.69	3.69
Yellowstone County	B10	RM 313.18	23899.74	0.05	958.8	845.96	842.19	2.49	2.49	39.93	39.93	139.11	139.11	2.77	2.77	3.77	3.77
Yellowstone County	B10	RM 313.07	23728.15	0.05	958.8	845.82	842.62	2.13	2.13	25.19	25.05	156.78	157.64	2.87	2.85	3.2	3.2
Yellowstone County	B10	RM 312.98	23590.93	0.05	958.8	845.75	842.5	1.89	1.83	18.25	15.8	187.34	247.93	2.66	2.3	3.25	3.25
Yellowstone County	B10	RM 312.90	23455.11	0.05	958.8	845.68	842.38	1.67	1.59	20.19	16.36	190.56	270.42	2.75	2.23	3.3	3.3
Yellowstone County	B10	RM 312.75	23227.05	0.05	958.8	845.44	841.71	1.86	1.75	22.36	19.47	217.66	288.35	2.18	1.9	3.74	3.74
Yellowstone County	B10	RM 312.65	23058.61	0.05	958.8	845.27	841.61	1.83	1.74	23.35	20.08	209.78	291.98	2.2	1.89	3.66	3.66
Yellowstone County	B10	RM 312.53	22873.59	0.05	958.8	845.23	841.37	1.37	1.27	8.42	7.23	229.38	315.55	2.78	2.39	3.86	3.86
Yellowstone County	B10	RM 312.49	22797.96	0.05	958.8	845.16	841.34	1.59	1.48	13.65	10.86	185.13	274.22	2.98	2.37	3.82	3.82
Yellowstone County	B10	RM 312.39	22646.67	0.05	958.8	844.99	840.85	2.1	1.78	27.03	18.04	131.28	285.92	2.84	1.88	4.14	4.14
Yellowstone County	B10	RM 312.33	22536.68	0.05	958.8	844.81	840.82	2.34	1.97	35.85	22.78	136.72	292.9	2.64	1.66	3.98	3.98
Yellowstone County	B10	RM 312.22	22360.55	0.05	958.8	844.7	840.91	1.95	1.64	24.72	13.07	122.76	359.14	3.12	1.63	3.78	3.78
Yellowstone County	B10	RM 312.13	22230.65	0.05	958.8	844.64	840.94	1.4	1.33	14.58	12.37	339.32	434.4	1.96	1.66	3.7	3.7
Yellowstone County	B10	RM 312.04	22082.88	0.05	958.8	844.48	840.82	1.61	1.53	20.77	18.47	267.19	326.8	2.15	1.91	3.66	3.66
Yellowstone County	B10	RM 311.95	21934.61	0.05	958.8	844.31	840.79	1.69	1.66	21.61	20.86	293.81	311.22	1.92	1.86	3.52	3.52
Yellowstone County	B10	RM 311.89	21840.24	0.05	958.8	844.23	840.76	1.52	1.49	19.49	17.71	306.45	345.18	2.05	1.86	3.47	3.47
Yellowstone County	B10	RM 311.77	21651.91	0.05	958.8	844.12	840.18	1.38	1.35	13.44	12.26	221.2	249.14	3.13	2.85	3.94	3.94
Yellowstone County	B10	RM 311.69	21530.39	0.05	958.8	844	839.85	1.75	1.61	20.19	14.92	146.98	223.2	3.62	2.66	4.15	4.15
Yellowstone County	B10	RM 311.58	21350.77	0.05	958.8	843.85	839.63	1.87	1.7	23.1	18.09	163.48	237.11	3.04	2.37	4.22	4.22
Yellowstone County	B10	RM 311.48	21191.11	0.05	958.8	843.73	839.42	1.8	1.69	20.83	19.2	222.89	266.55	2.31	2.13	4.31	4.31
Yellowstone County	B10	RM 311.37	21010.53	0.05	958.8	843.55	839.18	1.74	1.67	23.3	19.07	247.17	320.28	2.2	1.79	4.37	4.37
Yellowstone County	B10	RM 311.27	20852.82	0.05	958.8	843.38	838.96	1.73	1.69	23.08	19.29	240.56	297.56	2.29	1.91	4.42	4.42
Yellowstone County	B10	RM 311.19	20716.8	0.05	958.8	843.29	838.84	1.54	1.5	17.42	13.47	242.25	325.32	2.55	1.96	4.45	4.45
Yellowstone County	B10	RM 311.09	20559.11	0.05	958.8	843.01	839.14	2.24	2.15	29.4	21.75	139.95	199.49	3.05	2.24	3.86	3.86
Yellowstone County	B10	RM 310.97	20364.78	0.05	958.8	842.87	839.45	1.98	1.93	23.78	18.65	163.4	214.6	2.96	2.31	3.42	3.42
Yellowstone County	B10	RM 310.87	20211.96	0.05	958.8	842.75	839.02	1.92	1.92	20.5	18.83	175.92	192.31	2.84	2.6	3.73	3.73
Yellowstone County	B10	RM 310.76	20019.23	0.05	958.8	842.52	839.18	2.25	2.25	27.63	27.63	135.74	135.74	3.14	3.14	3.34	3.34
Yellowstone County	B11	RM 310.67	19877.9	0.05	958.8	842.4	839.11	2.09	2	29.31	24.15	155.57	200.34	2.92	2.4	3.29	3.29
Yellowstone County	B11	RM 310.57	19727.96	0.05	958.8	842.25	839.08	1.98	1.93	31.5	29	180.39	202.99	2.66	2.45	3.17	3.17
Yellowstone County	B11	RM 310.48	19578.86	0.05	958.8	842.1	838.96	1.9	1.82	24.96	22.31	197.01	234.02	2.51	2.25	3.13	3.13
Yellowstone County	B11	RM 310.39	19437.53	0.05	958.8	842.01	838.54	1.71	1.56	13.46	10.56	242.78	352.18	2.23	1.75	3.48	3.48
Yellowstone County	B11	RM 310.31	19317.45	0.05	958.8	841.89	838.23	1.89	1.75	14.93	12.74	254.19	333.36	1.93	1.65	3.66	3.66
Yellowstone County	B11	RM 310.24	19187.47	0.05	958.8	841.79	838.23	1.66	1.62	26.32	23.55	258.86	302.69	2.19	1.95	3.56	3.56
Yellowstone County	B11	RM 310.16	19069.04	0.05	958.8	841.66	837.93	1.48	1.45	24.56	23.22	332.33	363.64	1.92	1.81	3.73	3.73
Yellowstone County	B11	RM 310.09	18955.28	0.05	958.8	841.54	837.93	1.61	1.56	11.03	9.57	276.42	336.37	2.12	1.83	3.62	3.62
Yellowstone County	B11	RM 309.97	18765.62	0.05	958.8	841.51	837.59	0.98	0.97	8.6	8.31	487.31	512.52	1.99	1.92	3.91	3.91
Yellowstone County	B11	RM 309.90	18643.48	0.05	958.8	841.41	837.5	1.32	1.3	7.23	6.74	345.15	380.2	2.09	1.94	3.91	3.91
Yellowstone County	B11	RM 309.82	18525.48	0.05	958.8	841.34	837.5	1.36	1.34	18.77	17.78	391.03	431.47	1.75	1.66	3.84	3.84
Yellowstone County	B11	RM 309.73	18379.74	0.05	958.8	841.18	837.35	1.24	1.24	18.04	18.04	504.07	504.07	1.54	1.54	3.83	3.83

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 309.65	18253.83	0.05	958.8	841.07	837.38	0.95	0.95	12.98	12.98	671.36	671.36	1.5	1.5	3.69	3.69
Yellowstone County	B11	RM 309.52	18029.98	0.05	958.8	840.78	836.68	1.39	1.39	18.42	18.42	433.67	433.67	1.59	1.59	4.11	4.11
Yellowstone County	B11	RM 309.39	17824.11	0.05	958.8	840.62	836.74	0.97	0.97	11.34	11.34	663.56	663.56	1.49	1.49	3.88	3.88
Yellowstone County	B11	RM 309.22	17557.23	0.05	958.8	840.43	836.07	1.25	1.25	10.7	10.7	329.74	329.74	2.33	2.33	4.36	4.36
Yellowstone County	B11	RM 309.06	17331.95	0.05	958.8	840.2	835.79	1.68	1.68	32.65	32.27	179.44	181.66	3.18	3.15	4.41	4.41
Yellowstone County	B11	RM 308.94	17142.36	0.05	958.8	839.69	835.4	2.74	2.74	45.26	45.26	114.4	114.4	3.06	3.06	4.3	4.3
Yellowstone County	B11	RM 308.83	16971.41	0.05	958.8	839.63	836.04	1.98	1.94	27.26	24.81	150.34	168.65	3.22	2.93	3.59	3.59
Yellowstone County	B11	RM 308.71	16778.65	0.05	958.8	839.53	835.91	1.7	1.7	12.76	12.76	233.93	233.93	2.41	2.41	3.62	3.62
Yellowstone County	B11	RM 308.62	16631.4	0.05	958.8	839.41	835.85	1.77	1.76	26.29	24.45	194.23	209.46	2.79	2.6	3.56	3.56
Yellowstone County	B11	RM 308.55	16518.64	0.05	958.8	839.3	835.85	1.8	1.79	20.85	20.01	221.27	232.9	2.4	2.3	3.45	3.45
Yellowstone County	B11	RM 308.43	16328.3	0.05	958.8	839.13	834.51	1.64	1.63	24.54	23.54	249.05	260.61	2.35	2.25	4.62	4.62
Yellowstone County	B11	RM 308.35	16192.95	0.05	958.8	839.03	834.88	1.43	1.43	17.7	17.35	276.59	282.6	2.43	2.38	4.15	4.15
Yellowstone County	B11	RM 308.24	16015.46	0.05	958.8	838.9	834.63	1.36	1.3	14.22	11.62	359.05	466.5	1.94	1.58	4.27	4.27
Yellowstone County	B11	RM 308.12	15826.82	0.05	958.8	838.79	834.63	1.25	1.22	11.36	9.32	359.55	453.71	2.12	1.74	4.16	4.16
Yellowstone County	B11	RM 308.02	15675.58	0.05	958.8	838.75	834.76	1.12	1.09	6.97	6.16	300.78	352.92	2.82	2.49	3.99	3.99
Yellowstone County	B11	RM 307.88	15434.86	0.05	958.8	838.35	834.45	2.6	2.27	39.24	24.36	106.37	215.05	3.21	1.96	3.9	3.9
Yellowstone County	B11	RM 307.77	15261.75	0.05	958.8	838.11	834.45	2.53	2.42	44.28	39.48	120.8	162.08	2.75	2.44	3.66	3.66
Yellowstone County	B11	RM 307.68	15125.28	0.05	958.8	837.99	834.85	2.1	2.02	28.14	21.27	148.51	223.01	2.83	2.13	3.14	3.14
Yellowstone County	B11	RM 307.60	14980.1	0.05	958.8	837.97	834.36	1.39	1.39	11.87	11.27	265.07	280.48	2.6	2.47	3.61	3.61
Yellowstone County	B11	RM 307.52	14873.7	0.05	958.8	837.83	834.12	1.79	1.79	20.78	20.78	246.14	246.14	2.18	2.18	3.72	3.72
Yellowstone County	B11	RM 307.46	14779.11	0.05	958.8	837.69	833.6	1.91	1.91	31.81	31.81	251.87	251.87	1.99	1.99	4.09	4.09
Yellowstone County	B11	RM 307.39	14664.34	0.05	958.8	837.57	833.63	1.86	1.86	15.91	15.91	218.96	218.96	2.35	2.35	3.95	3.95
Yellowstone County	B11	RM 307.30	14517.89	0.05	958.8	837.37	833.81	2.09	2.07	35.01	33.35	217.5	230.73	2.1	2	3.56	3.56
Yellowstone County	B11	RM 307.22	14385.45	0.05	958.8	837.22	833.87	1.79	1.75	22.61	19.99	270.95	316.71	1.96	1.73	3.35	3.35
Yellowstone County	B11	RM 307.14	14262.57	0.05	958.8	837.1	833.51	1.58	1.55	23.83	21.63	303.78	347.2	1.96	1.78	3.59	3.59
Yellowstone County	B11	RM 307.08	14166.72	0.05	958.8	837.03	833.11	1.4	1.37	13.02	11	334.08	415.47	2	1.69	3.92	3.92
Yellowstone County	B11	RM 307.01	14050.92	0.05	958.8	836.94	832.65	1.53	1.46	10.86	9.69	302.16	380.65	1.93	1.72	4.29	4.29
Yellowstone County	B11	RM 306.95	13949.23	0.05	958.8	836.82	832.35	1.78	1.69	21.52	16.84	254.62	369.43	1.98	1.54	4.47	4.47
Yellowstone County	B11	RM 306.90	13869.87	0.05	958.8	836.74	832.56	1.68	1.55	20.01	15.71	273.16	392.81	2.01	1.57	4.18	4.18
Yellowstone County	B11	RM 306.82	13726.64	0.05	958.8	836.63	832.62	1.53	1.46	15.38	14	293.73	347.37	2.08	1.9	4.01	4.01
Yellowstone County	B11	RM 306.72	13574.53	0.05	958.8	836.47	831.8	1.78	1.62	20.96	17.26	218.51	317.65	2.28	1.87	4.67	4.67
Yellowstone County	B11	RM 306.62	13414.11	0.05	958.8	836.23	832.77	2.01	1.93	33.12	27.92	206.96	274.98	2.15	1.81	3.45	3.45
Yellowstone County	B11	RM 306.52	13251.36	0.05	958.8	836	832.87	2.17	2.04	26.92	21.09	144.77	209.14	2.88	2.25	3.13	3.13
Yellowstone County	B11	RM 306.42	13099.73	0.05	958.8	835.75	832.74	2.5	2.28	35.96	25.37	128.2	221.46	2.71	1.9	3	3
Yellowstone County	B11	RM 306.34	12958.96	0.05	958.8	835.69	832.84	1.79	1.67	20.72	16.7	227.26	332.62	2.14	1.72	2.85	2.85
Yellowstone County	B11	RM 306.25	12825.95	0.05	958.8	835.47	832.35	1.99	1.92	27.7	25.22	269.37	338.8	1.62	1.48	3.13	3.13
Yellowstone County	B11	RM 306.16	12673.7	0.05	958.8	835.29	832.41	1.81	1.7	20.91	17.79	248.38	336.9	1.98	1.68	2.88	2.88
Yellowstone County	B11	RM 306.11	12592.39	0.05	958.8	835.22	832.17	1.73	1.59	22.01	17.44	216.04	324.28	2.35	1.86	3.05	3.05
Yellowstone County	B11	RM 306.03	12457.47	0.05	958.8	835.07	831.25	1.71	1.64	20.81	18.95	301.96	404.03	1.6	1.45	3.82	3.82
Yellowstone County	B11	RM 305.93	12317.98	0.05	958.8	834.74	831.25	2.13	2.05	33.85	30.15	280.72	380.91	1.39	1.23	3.49	3.49
Yellowstone County	B11	RM 305.84	12159.82	0.05	958.8	834.4	831.1	2.14	1.99	33.19	26.79	238.67	369.9	1.62	1.3	3.3	3.3
Yellowstone County	B11	RM 305.74	11989.73	0.05	958.8	834.17	830.64	1.91	1.8	25.68	20.71	186.08	274.22	2.42	1.95	3.53	3.53
Yellowstone County	B11	RM 305.67	11883.31	0.05	958.8	834.02	830.43	2.13	1.94	28.11	19.32	151.56	280.31	2.6	1.77	3.59	3.59
Yellowstone County	B11	RM 305.60	11764.11	0.05	958.8	833.98	830.18	1.47	1.55	13.56	13.7	135.9	390.72	2.21	2.2	3.79	3.79
Yellowstone County	B11	RM 305.52	11651.48	0.05	958.8	833.79	830.18	2.05	1.85	27.78	21.31	138.19	346.37	1.97	1.5	3.61	3.61
Yellowstone County	B11	RM 305.44	11514.64	0.05	958.8	833.69	830.43	1.73	1.29	13.48	9.51	141.86	501.44	2.13	1.49	3.27	3.27
Yellowstone County	B11	RM 305.40	11441.77	0.05	958.8	833.59	830.61	1.79	1.52	12.33	11.48	174.49	384.15	1.76	1.64	2.97	2.97
Yellowstone County	B11	RM 305.32	11312.15	0.05	958.8	833.45	830.61	1.91	1.72	22.84	17.66	132.79	324.62	2.23	1.71	2.84	2.84
Yellowstone County	B11	RM 305.24	11186.22	0.05	958.8	833.41	830.43	1.39	1.13	14.64	9.06	115.48	623.89	2.24	1.36	2.98	2.98
Yellowstone County	B11	RM 305.06	10905.09	0.05	958.8	833.17	830.15	1.69	1.38	9.32	7.94	271.71	715.87	1.15	0.97	3.02	3.02
Yellowstone County	B11	RM 304.71	10460.6	0.05	958.8	832.79	828.96	1.72	1.59	22.05	19.21	254.96	430.65	1.61	1.4	3.82	3.82
Yellowstone County	B11	RM 304.62	10332.33	0.05	958.8	832.77	829.09	1.09	1.02	7.73	6.7	201.32	466.71	2.34	2.01	3.68	3.68
Yellowstone County	B11	RM 304.50	10132.63	0.05	958.8	832.44	829.09	2.32	2.11	38.39	28.21	108.08	203.14	3.07	2.23	3.36	3.36
Yellowstone County	B11	RM 304.42	10011.11	0.05	958.8	832.35	829.18	1.93	1.85	26.13	22.35	132.87	216.11	2.83	2.4	3.17	3.17
Yellowstone County	B11	RM 304.34	9873.393	0.05	958.8	832.26	828.78	1.75	1.75	14.63	14.63	248.02	248.02	2.21	2.21	3.47	3.47
Yellowstone County	B11	RM 304.25	9735.197	0.05	958.8	832.1	828.39	1.93	1.93	26.63	26.63	190.81	190.81	2.6	2.6	3.72	3.72
Yellowstone County	B11	RM 304.18	9615.178	0.05	958.8	832	828.54	1.94	1.94	18.6	18.6	185.03	185.03	2.67	2.67	3.46	3.46
Yellowstone County	B11	RM 304.09	9478.266	0.05	958.8	831.89	828.6	1.94	1.94	23.54	22.95	173.73	178.34	2.85	2.77	3.29	3.29
Yellowstone County	B11	RM 304.00	9326.206	0.05	958.8	831.78	828.39	1.81	1.81	22.98	22.71	182.72	184.97	2.89	2.86	3.39	3.39
Yellowstone County	B11	RM 303.91	9177.479	0.05	958.8	831.65	828.14	1.77	1.77	23.77	23.76	202.07	202.15	2.68	2.68	3.51	3.51
Yellowstone County	B11	RM 303.78	8973.508	0.05	958.8	831.44	827.93	1.98	1.98	22.05	21.7	152.04	154.58	3.18	3.13	3.51	3.51

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B11	RM 303.65	8773.522	0.05	958.8	831.25	827.9	2.11	2.11	27.75	27.75	151.22	151.22	3	3	3.35	3.35
Yellowstone County	B11	RM 303.55	8608.195	0.05	958.8	831.08	827.65	2.12	2.1	20.77	19.17	204.38	230.86	2.21	2.04	3.43	3.43
Yellowstone County	B11	RM 303.43	8422.329	0.05	958.8	830.89	827.87	1.99	1.97	27.87	26.02	228.94	249.52	2.09	1.95	3.02	3.02
Yellowstone County	B11	RM 303.34	8276.308	0.05	958.8	830.79	826.92	1.57	1.52	16.02	13.32	285.14	359.8	2.12	1.76	3.87	3.87
Yellowstone County	B11	RM 303.26	8138.725	0.05	958.8	830.64	826.98	1.83	1.83	20.39	20.39	190.67	190.67	2.74	2.74	3.65	3.65
Yellowstone County	B11	RM 303.18	8018.762	0.05	958.8	830.54	826.22	1.84	1.84	21.73	21.73	183.81	183.81	2.84	2.84	4.32	4.32
Yellowstone County	B11	RM 303.09	7876.674	0.05	958.8	830.41	825.43	1.84	1.84	24.69	24.69	216.11	216.11	2.42	2.42	4.98	4.98
Yellowstone County	B11	RM 302.99	7711.603	0.05	958.8	830.26	826.22	1.79	1.79	21.66	21.38	204.6	207.41	2.62	2.59	4.04	4.04
Yellowstone County	B11	RM 302.89	7556.419	0.05	958.8	830.09	825.73	1.79	1.78	31.86	30.06	223.38	238.8	2.39	2.25	4.35	4.35
Yellowstone County	B11	RM 302.81	7423.411	0.05	958.8	829.98	825.86	1.69	1.69	18.85	18.37	176.94	182.01	3.2	3.12	4.13	4.13
Yellowstone County	B11	RM 302.70	7257.14	0.05	958.8	829.91	826.01	1.58	1.58	14.47	14.13	180.25	184.71	3.36	3.28	3.9	3.9
Yellowstone County	B12	RM 302.56	7050.708	0.05	958.8	829.68	825.25	2.11	2.11	24	23.14	150.46	156.7	3.02	2.91	4.43	4.43
Yellowstone County	B12	RM 302.49	6918.549	0.05	958.8	829.61	825.92	1.88	1.87	19.39	18.21	158.57	170.06	3.21	3.01	3.7	3.7
Yellowstone County	B12	RM 302.41	6794.522	0.05	958.8	829.52	825.64	1.99	1.84	18.14	13.5	160	245.01	2.87	2.13	3.88	3.88
Yellowstone County	B12	RM 302.34	6674.634	0.05	958.8	829.43	825.76	1.94	1.82	24.27	18.55	198.63	287.54	2.4	1.83	3.66	3.66
Yellowstone County	B12	RM 302.22	6485.378	0.05	958.8	829.3	825.76	1.57	1.41	16.58	14.18	222.67	385.02	2.08	1.77	3.54	3.54
Yellowstone County	B12	RM 302.14	6360.047	0.05	958.8	829.08	825.76	2.09	1.85	29.28	20.12	157.87	290.8	2.61	1.78	3.31	3.31
Yellowstone County	B12	RM 302.08	6267.13	0.05	958.8	829.01	825.79	1.91	1.8	16.14	13.4	218.95	300.57	2.14	1.77	3.21	3.21
Yellowstone County	B12	RM 301.98	6100.949	0.05	958.8	828.96	825.34	1.41	1.33	13.23	11.39	241.79	330.72	2.54	2.18	3.62	3.62
Yellowstone County	B12	RM 301.88	5944.005	0.05	958.8	828.85	824.7	1.48	1.44	14.84	13.29	299.35	373.39	2	1.79	4.15	4.15
Yellowstone County	B12	RM 301.79	5801.18	0.05	958.8	828.77	824.36	1.41	1.36	8.74	8.07	338.35	407.32	1.88	1.73	4.41	4.41
Yellowstone County	B12	RM 301.72	5685.105	0.05	958.8	828.72	824.85	1.39	1.34	13.27	11.55	266.41	350.65	2.35	2.05	3.87	3.87
Yellowstone County	B12	RM 301.65	5569.191	0.05	958.8	828.59	824.61	1.62	1.6	19.19	18.05	268.83	323.37	1.97	1.86	3.98	3.98
Yellowstone County	B12	RM 301.59	5465.51	0.05	958.8	828.43	824.42	1.74	1.77	26	25.76	281.99	314.92	1.74	1.72	4.01	4.01
Yellowstone County	B12	RM 301.53	5366.723	0.05	958.8	828.31	824.12	1.63	1.64	30.22	28.13	229.98	272.46	2.31	2.15	4.19	4.19
Yellowstone County	B12	RM 301.47	5270.902	0.05	958.8	828.19	824.12	1.64	1.61	27.09	24.85	225.15	266.32	2.44	2.23	4.08	4.08
Yellowstone County	B12	RM 301.39	5140.04	0.05	958.8	828.12	824.36	1.25	1.17	15.12	11.74	309.45	484.46	2.19	1.69	3.76	3.76
Yellowstone County	B12	RM 301.33	5044.575	0.05	958.8	828.05	824.12	1.29	1.26	11.94	10.94	311.33	368.88	2.26	2.07	3.94	3.94
Yellowstone County	B12	RM 301.24	4906.408	0.05	958.8	827.94	823.87	1.46	1.43	14.32	13.3	306.28	355.02	2.03	1.89	4.07	4.07
Yellowstone County	B12	RM 301.18	4802.631	0.05	958.8	827.75	823.17	1.91	1.82	26.61	23.59	300.74	382.37	1.56	1.38	4.58	4.58
Yellowstone County	B12	RM 301.12	4698.913	0.05	958.8	827.58	823.81	1.87	1.85	25.15	24.07	305.56	326.55	1.66	1.59	3.77	3.77
Yellowstone County	B12	RM 301.07	4611.142	0.05	958.8	827.52	824	1.62	1.6	17.38	16.34	269.66	293.16	2.17	2.04	3.52	3.52
Yellowstone County	B12	RM 301.02	4531.484	0.05	958.8	827.47	823.81	1.62	1.58	12.28	11.29	229.04	259.83	2.54	2.34	3.65	3.65
Yellowstone County	B12	RM 300.97	4453.011	0.05	958.8	827.37	823.9	1.89	1.81	17.18	14.75	173.52	216.11	2.86	2.45	3.47	3.47
Yellowstone County	B12	RM 300.89	4332.618	0.05	958.8	827.23	823.66	2.03	1.99	31.96	30.16	198.89	228.48	2.23	2.11	3.57	3.57
Yellowstone County	B12	RM 300.83	4232.362	0.05	958.8	827.03	823.78	2.32	2.2	30.51	25.16	149.65	207.07	2.56	2.1	3.25	3.25
Yellowstone County	B12	RM 300.77	4151.049	0.05	958.8	826.98	823.75	2	1.9	28.51	25.22	166.38	226.33	2.53	2.23	3.23	3.23
Yellowstone County	B12	RM 300.69	4011.358	0.05	958.8	826.9	823.63	1.68	1.56	14.5	11.59	201.08	295.06	2.61	2.08	3.27	3.27
Yellowstone County	B12	RM 300.55	3793.957	0.05	958.8	826.74	822.93	1.64	1.57	20.99	17.21	246.98	364.83	2.04	1.67	3.81	3.81
Yellowstone County	B12	RM 300.45	3633.035	0.05	958.8	826.59	822.53	1.51	1.47	17.55	15.21	237.75	351.97	2.15	1.85	4.06	4.06
Yellowstone County	B12	RM 300.35	3461.833	0.05	958.8	826.39	822.66	1.84	1.73	15.15	11.52	214.91	305.13	2.4	1.82	3.74	3.74
Yellowstone County	B12	RM 300.24	3286.175	0.05	958.8	826.17	822.47	1.96	1.89	38.2	36.97	313.81	345.63	1.52	1.47	3.69	3.69
Yellowstone County	B12	RM 300.15	3141.724	0.05	958.8	825.88	822.47	1.78	1.72	28.2	27.47	320.32	345.63	1.65	1.61	3.41	3.41
Yellowstone County	B12	RM 300.10	3054.752	0.05	958.8	825.79	822.35	1.77	1.66	13.85	10.97	258.19	357.03	2.06	1.62	3.44	3.44
Yellowstone County	B12	RM 300.00	2887.728	0.05	958.8	825.66	821.22	1.63	1.57	20.94	19.48	304.63	350.93	1.87	1.74	4.44	4.44
Yellowstone County	B12	RM 299.91	2736.431	0.05	958.8	825.49	821.5	1.53	1.52	18.07	17.35	344.69	446.21	1.48	1.41	4	4
Yellowstone County	B12	RM 299.83	2614.069	0.05	958.8	825.25	821.41	1.81	1.85	27.54	27.56	285.91	360.87	1.44	1.44	3.84	3.84
Yellowstone County	B12	RM 299.72	2484.158	0.05	958.8	825.13	820.89	1.46	1.46	16.14	15.79	338.91	347.11	1.93	1.89	4.24	4.24
Yellowstone County	B12	RM 299.59	2312.328	0.05	958.8	824.91	821.13	1.88	1.69	21.63	16.36	211.95	349.61	2.16	1.62	3.78	3.78
Yellowstone County	B12	RM 299.48	2160.343	0.05	958.8	824.71	821.13	2.21	1.85	22.95	14.68	130.58	284.47	2.87	1.82	3.58	3.58
Yellowstone County	B12	RM 299.38	1995.229	0.05	958.8	824.54	821.13	2.21	1.76	40.72	20.98	122.7	373.47	2.85	1.45	3.41	3.41
Yellowstone County	B12	RM 299.31	1874.433	0.05	958.8	824.42	821.22	2.11	1.76	22.45	13.52	133.78	329.45	2.77	1.66	3.2	3.2
Yellowstone County	B12	RM 299.22	1738.666	0.05	958.8	824.26	821.16	2.24	1.81	29.47	14.09	124.31	393.05	2.86	1.35	3.1	3.1
Yellowstone County	B12	RM 299.15	1613.992	0.05	958.8	824.2	820.95	1.86	1.42	19.77	9.95	148.83	633.38	2.66	1.32	3.25	3.25
Yellowstone County	B12	RM 299.06	1473.748	0.05	958.8	824.13	820.64	1.73	1.24	19.79	7.44	112.02	681.12	3.1	1.14	3.49	3.49
Yellowstone County	B12	RM 298.99	1360.532	0.05	958.8	824.02	820.46	2	1.39	26.49	10.04	95.67	607.26	3.1	1.14	3.56	3.56
Yellowstone County	B12	RM 298.93	1269.876	0.05	958.8	823.96	820.46	1.8	1.29	21.85	10.53	102.85	549.74	2.88	1.35	3.5	3.5
Yellowstone County	B12	RM 298.88	1195.725	0.05	958.8	823.91	820.43	1.66	1.28	17.55	9.38	114.32	523.97	2.74	1.43	3.48	3.48
Yellowstone County	B12	RM 298.82	1096.849	0.05	958.8	823.77	820.58	2.02	1.58	24.07	12.55	145.48	524.48	2.25	1.16	3.19	3.19
Yellowstone County	B12	RM 298.77	1018.392	0.05	958.8	823.7	820.4	1.79	1.44	19.58	10.92	181.25	576.14	2.1	1.16	3.3	3.3
Yellowstone County	B12	RM 298.67	854.844	0.05	958.8	823.61	819.39	1.72	1.3	11.52	8.03	212.96	624.65	1.72	1.18	4.22	4.22

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Yellowstone County -Unregulated Flows - Undeveloped Conditions

5%

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Yellowstone County	B12	RM 298.59	724.135	0.05	958.8	823.52	819.55	1.51	1.31	16.83	12.99	213.33	547.49	1.75	1.34	3.97	3.97
Yellowstone County	B12	RM 298.49	579.164	0.05	958.8	823.44	819.27	1.41	1.11	8.49	6.74	209.09	534.82	2.05	1.61	4.17	4.17
Yellowstone County	B12	RM 298.42	469.573	0.05	958.8	823.38	819.27	1.41	1.21	15.34	8.77	173.41	565.34	2.48	1.4	4.11	4.11
Yellowstone County	B12	RM 298.35	368.049	0.05	958.8	823.31	819.97	1.53	1.25	13.9	7.72	145.51	457.52	3.06	1.68	3.34	3.34
Yellowstone County	B12	RM 298.30	290.003	0.05	958.8	823.28	819.82	1.4	1.24	9.38	6.32	195.22	800.23	2.51	1.68	3.46	3.46
Yellowstone County	B12	RM 298.26	211.35	0.05	958.8	823.25	819.82	1.36	1.2	12.04	7.27	204.32	571.91	2.34	1.4	3.43	3.43
Yellowstone County	B12	RM 298.19	83.499	0.05	958.8	823.19	819.49	1.44	1.22	9.88	6.82	170.48	465.31	2.46	1.68	3.7	3.7

* Bathymetric survey was collected from RM 391.4 to 322.6. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C1	RM 298.06	61918	5% Duration	1285.6	823.05	820.43	1.47	1.24	12.39	8.46	189.57	741.28	2.44	1.65	2.62	2.62
Treasure County	C1	RM 297.89	61639	5% Duration	1285.6	822.88	820.07	1.46	1.32	13.59	10.15	348.91	730.8	1.79	1.33	2.81	2.81
Treasure County	C1	RM 297.76	61392	5% Duration	1285.6	822.68	819.93	1.55	1.44	17.28	13.88	321.63	616.1	1.81	1.45	2.75	2.75
Treasure County	C1	RM 297.62	61179	5% Duration	1285.6	822.58	819.69	1.31	1.16	9.68	8.13	271.87	644.05	2.1	1.76	2.89	2.89
Treasure County	C1	RM 297.5	60985	5% Duration	1285.6	822.34	819.39	2.05	1.69	23.48	12.62	158.57	569	2.66	1.42	2.95	2.95
Treasure County	C1	RM 297.36	60767	5% Duration	1285.6	822.13	819.14	2.01	1.72	23.27	12.59	169.82	609.81	2.44	1.31	2.99	2.99
Treasure County	C1	RM 297.22	60535	5% Duration	1285.6	821.93	819	1.92	1.62	21.09	14.4	146.25	483.87	2.48	1.68	2.93	2.93
Treasure County	C1	RM 297.08	60314	5% Duration	1285.6	821.77	818.76	1.75	1.6	17.32	14.25	190.74	380.48	2.58	2.11	3	3
Treasure County	C1	RM 296.94	60093	5% Duration	1285.6	821.5	818.42	2.12	1.99	25.66	18.14	172.14	374.13	2.45	1.72	3.08	3.08
Treasure County	C1	RM 296.79	59847	5% Duration	1285.6	821.42	817.97	1.38	1.36	11.16	9.37	243.23	498.76	2.3	1.93	3.45	3.45
Treasure County	C1	RM 296.64	59608	5% Duration	1285.6	821.32	817.9	1.48	1.4	11.84	8.52	171.56	507.48	2.56	1.83	3.42	3.42
Treasure County	C1	RM 296.51	59386	5% Duration	1285.6	821.25	817.8	1.16	1.16	7.81	7.09	474.85	573.32	2.33	2.12	3.45	3.45
Treasure County	C1	RM 296.33	59113	5% Duration	1285.6	821.16	817.52	1.25	1.24	8.22	7.28	332.58	475.45	3.1	2.74	3.63	3.63
Treasure County	C1	RM 296.16	58839	5% Duration	1285.6	820.42	817.46	3.42	3.32	64.96	49.96	136.52	207.01	2.74	2.1	2.96	2.96
Treasure County	C1	RM 296.01	58583	5% Duration	1285.6	820.26	817.45	2.12	2.12	26.03	26.02	257.78	294.99	2.36	2.36	2.81	2.81
Treasure County	C1	RM 295.83	58296	5% Duration	1285.6	819.99	817.4	1.76	1.76	17.5	17.5	438.3	438.3	1.66	1.66	2.6	2.6
Treasure County	C1	RM 295.66	58032	5% Duration	1285.6	819.6	817.27	2.09	2.09	26.42	26.42	319.54	319.54	1.92	1.92	2.33	2.33
Treasure County	C1	RM 295.52	57800	5% Duration	1285.6	819.51	816.19	1.36	1.36	10.38	10.38	426.49	426.49	2.22	2.22	3.32	3.32
Treasure County	C1	RM 295.31	57474	5% Duration	1285.6	819.41	815.61	1.18	1.15	6.45	6	452.46	512.63	2.35	2.18	3.79	3.79
Treasure County	C1	RM 295.13	57174	5% Duration	1285.6	819.26	815.57	1.44	1.4	11.32	10.14	349.83	420.89	2.46	2.2	3.69	3.69
Treasure County	C1	RM 294.94	56877	5% Duration	1285.6	818.9	815.46	2.28	2.2	27.25	23.33	184.62	236.35	2.9	2.47	3.44	3.44
Treasure County	C1	RM 294.76	56587	5% Duration	1285.6	818.7	815.45	1.94	1.85	20.71	17.14	232.88	307.55	2.74	2.26	3.24	3.24
Treasure County	C1	RM 294.55	56261	5% Duration	1285.6	818.46	815.36	1.97	1.72	21.27	14.95	187.1	389.85	2.77	1.94	3.1	3.1
Treasure County	C1	RM 294.38	55980	5% Duration	1285.6	818.27	815.07	1.71	1.66	17.29	15.09	216.74	393.38	2.26	1.97	3.2	3.2
Treasure County	C1	RM 294.21	55714	5% Duration	1285.6	818.04	814.88	1.97	1.76	21.34	15.16	193.18	371.31	2.78	1.97	3.16	3.16
Treasure County	C1	RM 294.02	55401	5% Duration	1285.6	817.81	814.59	1.89	1.78	19.8	16.11	195.07	352.63	2.53	2.05	3.22	3.22
Treasure County	C1	RM 293.83	55100	5% Duration	1285.6	817.64	814.3	1.74	1.52	14.44	12.31	236.4	429.33	2.31	1.97	3.33	3.33
Treasure County	C1	RM 293.63	54777	5% Duration	1285.6	817.54	813.55	1.3	1.3	8.2	8.2	316.53	411.7	3.12	3.12	3.99	3.99
Treasure County	C1	RM 293.43	54432	5% Duration	1285.6	817.3	813.29	1.91	1.89	18.68	15.1	196.3	595.56	3.43	2.76	4.02	4.02
Treasure County	C1	RM 293.26	54152	5% Duration	1285.6	817.02	813.24	2.23	2.15	25.68	16.01	214.91	827.25	2.68	1.66	3.79	3.79
Treasure County	C1	RM 293.07	53839	5% Duration	1285.6	816.69	813.24	2.21	1.68	28.4	18.25	223.72	660.33	2.36	1.51	3.45	3.45
Treasure County	C1	RM 292.83	53458	5% Duration	1285.6	816.54	813.1	1.35	1.21	10.07	7.42	360.44	811.85	2.26	1.66	3.44	3.44
Treasure County	C1	RM 292.6	53082	5% Duration	1285.6	816.35	812.6	1.58	1.38	13.19	9.08	235.25	432.65	3.13	2.16	3.75	3.75
Treasure County	C2	RM 292.32	52612	5% Duration	1285.6	816.14	811.76	1.73	1.28	13.1	7.71	205.59	542.25	3.17	1.85	4.38	4.38
Treasure County	C2	RM 292.09	52256	5% Duration	1285.6	816.01	811.6	1.76	1.35	14.89	8.54	166.09	472.21	3.55	2.01	4.41	4.41
Treasure County	C2	RM 291.9	51956	5% Duration	1285.6	815.84	811.55	1.78	1.52	17.45	13.77	234.06	395.18	2.73	2.14	4.29	4.29
Treasure County	C2	RM 291.71	51639	5% Duration	1285.6	815.21	811.5	2.85	2.47	51.75	38.75	175.24	285.65	2.45	1.82	3.71	3.71
Treasure County	C2	RM 291.52	51333	5% Duration	1285.6	815.04	811.46	1.89	1.6	18.88	11.95	209.83	415.02	3.09	1.94	3.57	3.57
Treasure County	C2	RM 291.33	51042	5% Duration	1285.6	814.79	811.46	2.01	1.89	22.82	19.27	228.45	314.52	2.56	2.16	3.34	3.34
Treasure County	C2	RM 291.15	50747	5% Duration	1285.6	814.72	811.4	1.32	1.21	9.37	7.28	293.64	460.7	2.98	2.31	3.32	3.32
Treasure County	C2	RM 290.94	50437	5% Duration	1285.6	814.52	811.31	1.72	1.42	17.01	9.99	254.24	645.61	2.41	1.41	3.21	3.21
Treasure County	C2	RM 290.78	50179	5% Duration	1285.6	814.35	810.97	1.56	1.37	13.31	9.64	343.52	621.37	2.09	1.51	3.38	3.38
Treasure County	C2	RM 290.6	49891	5% Duration	1285.6	814.26	810.54	1.14	1.09	7.43	6.89	462.79	528.05	2.41	2.23	3.72	3.72
Treasure County	C2	RM 290.43	49607	5% Duration	1285.6	814.02	810.13	1.81	1.74	16.49	14.39	270.47	349.79	2.43	2.11	3.89	3.89
Treasure County	C2	RM 290.23	49287	5% Duration	1285.6	813.6	810.07	2.47	2.33	31.51	24.72	148.64	209.86	3.36	2.63	3.53	3.53
Treasure County	C2	RM 290.04	48976	5% Duration	1285.6	813.49	810.04	1.73	1.64	15.51	11.32	206.99	324.35	3.32	2.42	3.45	3.45
Treasure County	C2	RM 289.85	48667	5% Duration	1285.6	813.35	809.87	1.51	1.43	12.81	10.85	353.44	502.62	2.2	1.86	3.47	3.47
Treasure County	C2	RM 289.67	48372	5% Duration	1285.6	813.14	809.87	1.6	1.6	11.78	11.78	393.61	411.59	2.05	2.05	3.28	3.28
Treasure County	C2	RM 289.46	48067	5% Duration	1285.6	813.03	809.56	1.32	1.28	9.61	7.8	366.29	513.6	2.64	2.14	3.47	3.47
Treasure County	C2	RM 289.27	47769	5% Duration	1285.6	812.78	809.32	1.82	1.8	19.55	15.98	313.61	397.28	2.25	1.83	3.46	3.46
Treasure County	C2	RM 289.11	47515	5% Duration	1285.6	812.63	809	1.72	1.68	15.22	11.54	222.92	323.86	3.35	2.53	3.63	3.63
Treasure County	C2	RM 288.94	47232	5% Duration	1285.6	812.45	808.59	1.91	1.81	18.3	11.07	179.53	318.2	3.71	2.23	3.87	3.87
Treasure County	C2	RM 288.76	46939	5% Duration	1285.6	812.31	808.33	1.8	1.54	17.1	9.22	216.06	500.75	3.17	1.7	3.98	3.98
Treasure County	C2	RM 288.55	46613	5% Duration	1285.6	811.94	808.24	2.29	2.24	29.86	26.89	221.56	252.76	2.52	2.27	3.69	3.69
Treasure County	C2	RM 288.36	46302	5% Duration	1285.6	811.87	807.91	1.53	1.47	11.6	8.77	216.33	300.51	3.85	2.9	3.96	3.96
Treasure County	C2	RM 288.18	46008	5% Duration	1285.6	811.7	807.77	1.78	1.64	17.09	11.37	241.03	403.16	2.94	1.95	3.93	3.93
Treasure County	C2	RM 287.99	45713	5% Duration	1285.6	811.56	807.58	1.67	1.59	13.46	9.86	225.78	354.82	3.11	2.28	3.98	3.98
Treasure County	C2	RM 287.81	45421	5% Duration	1285.6	811.46	807.25	1.53	1.35	12.26	8.3	222.1	434.44	3.25	2.19	4.21	4.21
Treasure County	C2	RM 287.62	45112	5% Duration	1285.6	811.14	807.19	2.31	2.12	26.9	17.27	134.67	259.61	3.67	2.34	3.96	3.96
Treasure County	C2	RM 287.42	44789	5% Duration	1285.6	810.94	807.15	2.16	1.89	23.85	13.53	153.74	344.69	3.5	1.97	3.79	3.79

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C2	RM 287.24	44498	5% Duration	1285.6	810.84	806.81	1.4	1.38	11.59	9.45	418.11	520.69	2.2	1.79	4.03	4.03
Treasure County	C2	RM 287.06	44222	5% Duration	1285.6	810.72	806.77	1.22	1.2	8.67	8.03	511.98	574.61	2.05	1.9	3.95	3.95
Treasure County	C2	RM 286.9	43958	5% Duration	1285.6	810.6	806.52	1.38	1.36	9.79	6.53	270.8	487.3	3.43	2.28	4.08	4.08
Treasure County	C2	RM 286.72	43671	5% Duration	1285.6	809.97	806.4	3.21	3.02	53.48	36.64	121	190.06	3.28	2.24	3.57	3.57
Treasure County	C3	RM 286.58	43448	5% Duration	1285.6	809.93	806.32	2.17	2.06	24.02	14.7	169.59	303.89	3.47	2.11	3.62	3.62
Treasure County	C3	RM 286.51	43344	5% Duration	1285.6	809.91	806.32	1.88	1.71	18.01	10.58	193.46	372.51	3.46	2.02	3.6	3.6
Treasure County	C3	RM 286.46	43257	5% Duration	1285.6	809.85	806.25	1.94	1.78	19.23	10.59	192.64	387.43	3.4	1.87	3.6	3.6
Treasure County	C3	RM 286.37	43117	5% Duration	1285.6	809.83	806.17	1.55	1.17	13.44	8.35	292.21	688.18	2.61	1.61	3.66	3.66
Treasure County	C3	RM 286.26	42931	5% Duration	1285.6	809.56	806.17	2.14	1.91	34.76	19.15	197.84	442.5	2.77	1.52	3.39	3.39
Treasure County	C3	RM 286.06	42624	5% Duration	1285.6	809.43	806.08	1.41	1.22	10.85	6.31	351.1	823.68	2.52	1.46	3.35	3.35
Treasure County	C3	RM 285.81	42213	5% Duration	1285.6	809.16	805.78	1.86	1.42	19.21	8.63	175.05	1204.05	2.41	1.07	3.38	3.38
Treasure County	C3	RM 285.56	41812	5% Duration	1285.6	809.01	805.34	1.4	1.18	9.91	3.41	231.92	1145.53	3.5	1.2	3.67	3.67
Treasure County	C3	RM 285.23	41280	5% Duration	1285.6	808.74	805.17	1.85	1.3	18.46	5.57	137.14	1276.15	2.96	0.88	3.57	3.57
Treasure County	C3	RM 284.69	40395	5% Duration	1285.6	808.1	804.85	2.34	1.99	31.57	21.58	131.92	395.21	2.42	1.64	3.25	3.25
Treasure County	C3	RM 284.26	39705	5% Duration	1285.6	807.81	804.6	1.35	1.25	10.8	8.71	345.74	564.02	2.26	1.82	3.21	3.21
Treasure County	C3	RM 283.96	39199	5% Duration	1285.6	807.53	804.3	1.65	1.39	15.5	7.51	238.97	806.1	2.51	1.21	3.23	3.23
Treasure County	C3	RM 283.69	38766	5% Duration	1285.6	807.37	803.9	1.55	1.16	12.44	4.17	178.05	1076.79	3.31	1.09	3.47	3.47
Treasure County	C3	RM 283.35	38229	5% Duration	1285.6	807.2	803.42	1.39	0.96	9.93	3.47	271.32	1576.11	2.77	0.96	3.78	3.78
Treasure County	C3	RM 283.05	37749	5% Duration	1285.6	806.84	803.32	2.05	1.65	22.64	6.66	182.44	971.59	2.92	0.85	3.52	3.52
Treasure County	C3	RM 282.78	37306	5% Duration	1285.6	806.56	803.11	1.73	1.33	13.82	5.22	254.19	1157.93	2.33	0.87	3.45	3.45
Treasure County	C3	RM 282.56	36942	5% Duration	1285.6	806.43	802.83	1.29	0.99	9.2	3.9	277.73	1401.03	2.26	0.95	3.6	3.6
Treasure County	C3	RM 282.31	36546	5% Duration	1285.6	806.27	802.74	1.46	0.89	11.19	3.48	182.73	1494.12	3.19	0.97	3.54	3.54
Treasure County	C3	RM 282.09	36195	5% Duration	1285.6	805.97	802.56	2.21	1.41	28.1	8.8	179.38	1246.29	2.4	0.74	3.41	3.41
Treasure County	C4	RM 281.73	35619	5% Duration	1285.6	805.56	801.74	1.68	1.56	14.95	8.45	316.17	613.52	2.38	1.34	3.82	3.82
Treasure County	C4	RM 281.35	35005	5% Duration	1285.6	805.4	801.53	1.19	1.11	7.2	3.63	301.34	650.22	3.54	1.78	3.87	3.87
Treasure County	C4	RM 281.03	34521	5% Duration	1285.6	805.18	801.19	1.74	1.53	15.32	6.33	201.72	572.14	3.59	1.47	3.98	3.98
Treasure County	C4	RM 280.73	34051	5% Duration	1285.6	805	800.82	1.51	1.41	7.67	6.41	461.81	602.43	1.81	1.51	4.18	4.18
Treasure County	C4	RM 280.5	33687	5% Duration	1285.6	804.86	800.66	1.38	1.29	6.1	5.21	592.02	770.29	1.55	1.32	4.2	4.2
Treasure County	C4	RM 280.27	33304	5% Duration	1285.6	804.75	800.31	1.12	1.06	5.42	4.58	665.13	923.24	1.69	1.43	4.43	4.43
Treasure County	C4	RM 279.95	32800	5% Duration	1285.6	804.6	800.08	1.07	0.95	6.2	3.28	495.37	1221.04	2.35	1.24	4.52	4.52
Treasure County	C4	RM 279.6	32231	5% Duration	1285.6	804.18	799.98	2.11	1.86	17.44	11.55	263.16	467.86	2.24	1.48	4.2	4.2
Treasure County	C4	RM 279.33	31805	5% Duration	1285.6	803.63	799.98	2.48	2.39	30.61	25.74	231.17	287.34	2.23	1.87	3.65	3.65
Treasure County	C4	RM 279.14	31495	5% Duration	1285.6	803.46	799.96	1.84	1.67	16.6	12.75	226.91	352.56	2.85	2.18	3.5	3.5
Treasure County	C4	RM 278.96	31209	5% Duration	1285.6	803.4	799.87	1.29	1.26	8.35	7.74	354.31	405.72	2.71	2.51	3.53	3.53
Treasure County	C4	RM 278.76	30894	5% Duration	1285.6	803.24	799.6	1.48	1.46	12.52	11.7	371.42	428.81	2.2	2.06	3.64	3.64
Treasure County	C4	RM 278.56	30571	5% Duration	1285.6	802.96	799.53	1.75	1.69	18.61	15.83	331.33	432.99	2.08	1.77	3.44	3.44
Treasure County	C4	RM 278.37	30259	5% Duration	1285.6	802.85	799.26	1.27	1.27	8.84	8.67	363	370.78	2.79	2.74	3.59	3.59
Treasure County	C5	RM 278.16	29915	5% Duration	1285.6	802.56	798.81	2.03	1.99	20.49	18.52	197.31	222.82	3.2	2.89	3.74	3.74
Treasure County	C5	RM 277.99	29648	5% Duration	1285.6	802.31	798.77	2.23	2.23	25.65	24.72	183.35	190.49	3.14	3.03	3.54	3.54
Treasure County	C5	RM 277.8	29336	5% Duration	1285.6	802.11	798.74	1.97	1.97	20.53	19.45	207.27	219.24	3.14	2.98	3.37	3.37
Treasure County	C5	RM 277.61	29041	5% Duration	1285.6	801.92	798.72	1.94	1.89	20.05	16.36	212.6	270.11	3.1	2.52	3.2	3.2
Treasure County	C5	RM 277.43	28747	5% Duration	1285.6	801.76	798.48	1.68	1.68	15.98	15.5	302.65	312.6	2.53	2.45	3.28	3.28
Treasure County	C5	RM 277.22	28415	5% Duration	1285.6	801.47	798.47	1.89	1.89	18.81	18.62	285.51	288.55	2.39	2.36	3.01	3.01
Treasure County	C5	RM 277.04	28123	5% Duration	1285.6	801.29	798.4	1.66	1.64	15.55	14.08	298.12	335.47	2.59	2.34	2.89	2.89
Treasure County	C5	RM 276.81	27791	5% Duration	1285.6	801.19	797.8	1.25	1.25	8.6	8.58	369.37	375.59	2.78	2.77	3.39	3.39
Treasure County	C5	RM 276.63	27499	5% Duration	1285.6	800.94	797.4	1.93	1.86	19.77	16.42	211.08	266.19	3.12	2.59	3.54	3.54
Treasure County	C5	RM 276.4	27133	5% Duration	1285.6	800.73	797.1	1.83	1.74	17.33	14.29	231.62	337.53	2.98	2.45	3.63	3.63
Treasure County	C5	RM 276.19	26801	5% Duration	1285.6	800.55	796.87	1.83	1.66	17.68	13.08	181.12	377.19	3.11	2.29	3.68	3.68
Treasure County	C5	RM 276.01	26502	5% Duration	1285.6	800.37	796.74	1.92	1.73	18.86	12.23	152.69	335.35	3.45	2.22	3.63	3.63
Treasure County	C5	RM 275.81	26193	5% Duration	1285.6	800.25	796.61	1.64	1.52	14.33	11.23	179.56	351.63	3.09	2.41	3.63	3.63
Treasure County	C5	RM 275.63	25896	5% Duration	1285.6	800.07	796.49	1.9	1.63	18.72	11.48	133.06	388.42	3.37	2.03	3.58	3.58
Treasure County	C5	RM 275.45	25606	5% Duration	1285.6	799.98	796.37	1.52	1.32	12.54	9.36	153.92	460.8	2.9	2.14	3.61	3.61
Treasure County	C5	RM 275.26	25299	5% Duration	1285.6	799.84	796.16	1.48	1.48	11.1	11.1	246.07	246.07	3.53	3.53	3.68	3.68
Treasure County	C5	RM 275.09	25033	5% Duration	1285.6	799.65	796.13	1.91	1.91	18.8	18.79	198.77	198.79	3.39	3.38	3.52	3.52
Treasure County	C6	RM 274.89	24716	5% Duration	1285.6	799.49	796.04	1.76	1.48	16.38	10.4	226.32	1051.19	3.09	1.95	3.46	3.46
Treasure County	C6	RM 274.72	24440	5% Duration	1285.6	799.15	796.04	2.32	2.09	30.62	25.16	213	669.09	2.48	2.03	3.11	3.11
Treasure County	C6	RM 274.55	24165	5% Duration	1285.6	798.97	795.79	1.62	1.39	16.35	9.97	290.34	1611.69	2.07	1.26	3.17	3.17
Treasure County	C6	RM 274.38	23892	5% Duration	1285.6	798.8	795.55	1.59	1.29	13.99	5.76	218.85	1265.16	2.69	1.1	3.25	3.25
Treasure County	C6	RM 274.13	23491	5% Duration	1285.6	798.59	795.16	1.69	1.36	16.77	7.76	213.65	1248.14	2.28	1.04	3.43	3.43
Treasure County	C6	RM 273.83	22999	5% Duration	1285.6	798.43	794.46	1.39	1.08	10.02	3.68	178.39	1471.85	3.28	1.19	3.97	3.97

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Treasure County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Treasure County	C6	RM 273.58	22595	5% Duration	1285.6	798.21	794.04	1.83	1.42	16.57	5.44	168.98	1227.51	3.12	1.01	4.18	4.18
Treasure County	C6	RM 273.35	22238	5% Duration	1285.6	798	794.04	1.9	1.26	17.08	4.71	224.39	2371.89	2.27	0.62	3.97	3.97
Treasure County	C6	RM 273.15	21916	5% Duration	1285.6	797.85	793.92	1.6	1.01	13.58	3.75	253.41	2863.94	2.33	0.63	3.93	3.93
Treasure County	C6	RM 272.83	21397	5% Duration	1285.6	797.67	793.79	1.42	0.92	9.53	2.32	248.31	3054.85	2.77	0.67	3.88	3.88
Treasure County	C6	RM 272.5	20872	5% Duration	1285.6	797.27	793.46	2.17	1.56	25.13	10.06	222.29	1731.42	2.16	0.86	3.81	3.81
Treasure County	C6	RM 272.19	20368	5% Duration	1285.6	796.83	793.34	1.95	1.55	20.01	10.88	236.61	1039.78	2.63	1.42	3.49	3.49
Treasure County	C6	RM 271.91	19902	5% Duration	1285.6	796.6	793.18	1.67	1.32	15.05	8.72	223.16	916.86	2.92	1.69	3.41	3.41
Treasure County	C6	RM 271.68	19534	5% Duration	1285.6	796.29	792.81	2.1	1.74	24.3	15.63	183.84	510.03	2.78	1.79	3.48	3.48
Treasure County	C6	RM 271.41	19102	5% Duration	1285.6	796.21	792.54	1.14	0.99	7.46	4.9	290.4	843.67	2.45	1.6	3.67	3.67
Treasure County	C6	RM 271.06	18548	5% Duration	1285.6	795.83	792.18	2.1	1.96	24.38	16.86	161.69	345.11	2.77	1.9	3.66	3.66
Treasure County	C6	RM 270.64	17870	5% Duration	1285.6	795.61	792.05	1.35	1.13	10.28	5.08	210.75	901.55	2.57	1.26	3.56	3.56
Treasure County	C6	RM 270.05	16897	5% Duration	1285.6	795.17	791.48	1.98	1.5	19.79	7.91	151.76	729.21	2.98	1.17	3.7	3.7
Treasure County	C6	RM 269.75	16413	5% Duration	1285.6	794.83	791.35	1.97	1.66	21.42	11.1	214.68	558.09	2.7	1.39	3.48	3.48
Treasure County	C6	RM 269.47	15967	5% Duration	1285.6	794.54	791.23	1.88	1.75	18.9	13.98	203.1	388.5	2.98	2.19	3.31	3.31
Treasure County	C7	RM 269.27	15645	5% Duration	1285.6	794.41	791.23	1.51	1.39	12.56	9.19	264.99	796.18	2.76	2.02	3.18	3.18
Treasure County	C7	RM 269.06	15308	5% Duration	1285.6	794.29	791.01	1.31	1.2	9.85	7.91	183.94	809.22	2.46	1.95	3.28	3.28
Treasure County	C7	RM 268.83	14957	5% Duration	1285.6	794.19	790.6	0.93	0.87	5.2	2.95	252.64	1281.28	2.14	1.2	3.59	3.59
Treasure County	C7	RM 268.55	14516	5% Duration	1285.6	794.07	790.17	1.17	1.07	7.27	3.14	212.57	921.86	3.13	1.34	3.9	3.9
Treasure County	C7	RM 268.2	13976	5% Duration	1285.6	793.83	789.62	1.7	1.48	15.23	7.12	224.31	591.43	3.16	1.47	4.2	4.2
Treasure County	C7	RM 267.87	13439	5% Duration	1285.6	793.52	789.53	1.89	1.51	18.02	9.97	189.19	459.39	3.37	1.85	3.99	3.99
Treasure County	C7	RM 267.53	12884	5% Duration	1285.6	793.05	789.5	2.19	1.66	26.87	13.72	226.68	636.5	2.39	1.22	3.55	3.55
Treasure County	C7	RM 267.14	12253	5% Duration	1285.6	792.86	789.26	1.33	1.01	8.98	5.34	223.99	934.97	2.72	1.6	3.6	3.6
Treasure County	C7	RM 266.8	11700	5% Duration	1285.6	792.72	789.2	1.36	1.07	10.05	5.92	211.07	953.76	2.82	1.65	3.52	3.52
Treasure County	C7	RM 266.41	11078	5% Duration	1285.6	792.41	789.14	2.04	1.47	23.44	11.59	142.75	811.93	2.64	1.28	3.27	3.27
Treasure County	C7	RM 266.11	10593	5% Duration	1285.6	792.11	788.83	1.73	1.53	17.71	10.94	253.33	804.44	2.21	1.36	3.28	3.28
Treasure County	C7	RM 265.92	10283	5% Duration	1285.6	791.9	788.65	1.79	1.53	14.72	11.02	263.71	858.44	2.01	1.5	3.25	3.25
Treasure County	C7	RM 265.68	9915	5% Duration	1285.6	791.72	788.21	1.74	1.47	15.64	10.21	178.21	515.71	3.34	2.17	3.51	3.51
Treasure County	C7	RM 265.52	9650	5% Duration	1285.6	791.56	788.07	1.92	1.51	20.57	11.32	154.18	577.88	2.71	1.47	3.49	3.49
Treasure County	C7	RM 265.34	9362	5% Duration	1285.6	791.3	788.07	1.88	1.65	20.89	14.09	170.4	523.53	2.23	1.49	3.23	3.23
Treasure County	C7	RM 265.16	9071	5% Duration	1285.6	791.11	787.95	1.49	1.45	13.16	11.62	269.61	518.71	1.95	1.71	3.17	3.17
Treasure County	C7	RM 264.98	8775	5% Duration	1285.6	790.89	787.59	1.89	1.65	17.07	13.62	211.96	449.94	2.18	1.73	3.3	3.3
Treasure County	C7	RM 264.81	8508	5% Duration	1285.6	790.79	787.35	1.13	1.17	7.64	7.89	607.33	861.69	1.24	1.28	3.44	3.44
Treasure County	C7	RM 264.64	8216	5% Duration	1285.6	790.65	787.22	1.25	1.21	6.37	6.78	646.57	896.6	1.12	1.19	3.43	3.43
Treasure County	C7	RM 264.39	7803	5% Duration	1285.6	790.43	786.86	1.47	1.41	12.04	10.69	341.18	563.25	1.84	1.62	3.57	3.57
Treasure County	C7	RM 264.15	7406	5% Duration	1285.6	790.28	786.6	1.34	1.12	9.57	6.56	188.4	809.86	2.09	1.42	3.68	3.68
Treasure County	C7	RM 263.97	7116	5% Duration	1285.6	790.18	786.49	1.4	1.05	10.05	5.52	170.55	644.83	3.49	1.89	3.69	3.69
Treasure County	C7	RM 263.79	6834	5% Duration	1285.6	789.99	786.49	1.88	1.58	16.78	11.74	194.67	474.19	2.47	1.71	3.5	3.5
Treasure County	C7	RM 263.6	6534	5% Duration	1285.6	789.82	786.37	1.68	1.32	15.43	6.89	199.5	788.87	2.8	1.24	3.45	3.45
Treasure County	C7	RM 263.39	6194	5% Duration	1285.6	789.7	786.25	1.19	1.17	8.2	7.45	438.7	583.87	2.26	2.06	3.45	3.45
Treasure County	C7	RM 263.19	5862	5% Duration	1285.6	789.39	786	1.85	1.7	21.64	17.4	330.93	588.25	1.82	1.46	3.38	3.38
Treasure County	C7	RM 262.95	5479	5% Duration	1285.6	789.12	785.85	1.68	1.54	13.01	9.72	271.68	421.83	2.65	1.98	3.26	3.26
Treasure County	C7	RM 262.78	5206	5% Duration	1285.6	788.96	785.76	1.66	1.53	12.09	9.4	405.38	733.56	1.58	1.23	3.2	3.2
Treasure County	C7	RM 262.58	4883	5% Duration	1285.6	788.75	785.64	1.3	1.25	10.9	8.4	577.65	1017.47	1.53	1.18	3.11	3.11
Treasure County	C7	RM 262.42	4613	5% Duration	1285.6	788.62	785.54	1.14	1.08	6.91	5.97	590.05	904.34	1.62	1.4	3.08	3.08
Treasure County	C7	RM 262.24	4323	5% Duration	1285.6	788.51	785.43	1	0.99	6.45	6.24	803.77	973.87	1.61	1.55	3.09	3.09
Treasure County	C7	RM 261.95	3917	5% Duration	1285.6	788.3	785.28	1.25	1.24	8.26	7.63	536.93	615.54	1.91	1.76	3.03	3.03
Treasure County	C7	RM 261.7	3519	5% Duration	1285.6	788.06	784.87	1.32	1.32	18.34	18.31	436.21	437	2.24	2.23	3.19	3.19
Treasure County	C7	RM 261.53	3256	5% Duration	1285.6	787.72	784.51	1.65	1.63	27.9	26.69	382.52	404.56	2.04	1.95	3.21	3.21
Treasure County	C7	RM 261.35	2959	5% Duration	1285.6	787.62	784.33	1.09	1.09	5.96	5.96	502.11	502.11	2.35	2.35	3.29	3.29
Treasure County	C7	RM 261.2	2720	5% Duration	1285.6	787.46	784.14	1.36	1.36	26.16	26.16	480.45	480.45	1.97	1.97	3.32	3.32
Treasure County	C7	RM 261.03	2441	5% Duration	1285.6	787.35	783.66	1.15	1.15	6.52	6.41	396.41	404.47	2.82	2.77	3.69	3.69
Treasure County	C7	RM 260.84	2142	5% Duration	1285.6	787.24	783.41	1.35	1.34	9.89	9.52	339.51	354.73	2.8	2.7	3.82	3.82
Treasure County	C7	RM 260.66	1863	5% Duration	1285.6	787.11	783.29	1.47	1.46	10.37	8.97	323.61	377.78	2.71	2.34	3.82	3.82
Treasure County	C8	RM 259.9	634	5% Duration	1285.6	786.07	782.46	2.66	2.51	36.62	28.21	144.49	200.78	3.31	2.55	3.61	3.61
Treasure County	C8	RM 259.72	347	5% Duration	1285.6	785.83	782.45	2.34	2.23	28.98	24.94	170.61	212.81	3.15	2.71	3.37	3.37
Treasure County	C8	RM 259.55	68	5% Duration	1285.6	785.71	782.2	1.75	1.75	14.91	14.91	264.07	264.07	2.77	2.77	3.51	3.51

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C8	RM 259.59	87898	5% Duration	1285.59	785.71	782.19	1.83	1.73	17.36	15.08	203.06	251.94	3.4	2.95	3.52	3.52
Rosebud County	C8	RM 259.41	87598	5% Duration	1285.59	785.54	781.96	1.84	1.84	18.75	18.75	204.19	204.19	3.42	3.42	3.58	3.58
Rosebud County	C8	RM 259.22	87292	5% Duration	1285.59	785.42	781.55	1.65	1.54	13.56	10.2	231.8	336.43	3.32	2.49	3.87	3.87
Rosebud County	C8	RM 259.04	87004	5% Duration	1285.59	785.27	781	1.75	1.7	17.34	15.67	206.88	243.71	3.44	3.1	4.27	4.27
Rosebud County	C8	RM 258.85	86696	5% Duration	1285.59	785.08	780.9	1.86	1.79	15.07	13.24	248.03	298.62	2.74	2.4	4.18	4.18
Rosebud County	C8	RM 258.66	86399	5% Duration	1285.59	784.95	780.78	1.77	1.73	15.26	13.98	181.44	204.56	3.96	3.63	4.17	4.17
Rosebud County	C8	RM 258.47	86098	5% Duration	1285.59	784.76	780.65	1.96	1.85	19.52	16.16	195.93	265.25	3.17	2.62	4.11	4.11
Rosebud County	C8	RM 258.28	85798	5% Duration	1285.59	784.6	780.53	1.84	1.55	17.18	12.18	209.34	397.77	2.94	2.08	4.07	4.07
Rosebud County	C8	RM 258.1	85498	5% Duration	1285.59	784.47	780.14	1.73	1.57	14.57	10.06	170.97	308.42	4.06	2.78	4.33	4.33
Rosebud County	C8	RM 257.91	85200	5% Duration	1285.59	784.31	780.14	1.8	1.74	17.79	14.91	219.32	346.1	2.84	2.38	4.17	4.17
Rosebud County	C8	RM 257.71	84875	5% Duration	1285.59	783.99	780.14	2.13	1.9	26.5	18.52	215.26	440.61	2.33	1.62	3.85	3.85
Rosebud County	C8	RM 257.54	84597	5% Duration	1285.59	783.78	780.17	1.93	1.67	19.93	12.65	196.81	432.43	2.94	1.85	3.61	3.61
Rosebud County	C8	RM 257.36	84298	5% Duration	1285.59	783.58	780.05	1.93	1.59	19.6	13.24	184.03	448.06	2.66	1.8	3.53	3.53
Rosebud County	C8	RM 257.16	83984	5% Duration	1285.59	783.54	780	1.11	0.98	6.41	4.56	304.95	566.83	3.29	2.35	3.54	3.54
Rosebud County	C8	RM 256.87	83608	5% Duration	1285.59	783.21	779.89	2.21	1.95	25.57	18.36	174.31	296.29	3.11	2.22	3.32	3.32
Rosebud County	C8	RM 256.65	83257	5% Duration	1285.59	783.11	779.82	1.55	1.38	12.69	10.35	168.22	383.16	3.01	2.44	3.29	3.29
Rosebud County	C8	RM 256.45	82941	5% Duration	1285.59	782.93	779.67	1.67	1.58	14.74	12.48	222.13	309.71	3.1	2.62	3.26	3.26
Rosebud County	C8	RM 256.26	82630	5% Duration	1285.59	782.69	779.58	1.85	1.63	20.72	13.95	283.09	498.23	2.36	1.58	3.11	3.11
Rosebud County	C8	RM 256.1	82375	5% Duration	1285.59	782.56	779.42	1.43	1.43	10.87	10.87	441.94	441.94	2.04	2.04	3.14	3.14
Rosebud County	C8	RM 255.91	82077	5% Duration	1285.59	782.48	779.09	1.12	1.12	6.46	6.46	468.22	468.22	2.46	2.46	3.39	3.39
Rosebud County	C8	RM 255.7	81747	5% Duration	1285.59	782.29	778.73	1.57	1.55	13.08	12.18	296.47	321.52	2.76	2.57	3.56	3.56
Rosebud County	C8	RM 255.51	81446	5% Duration	1285.59	782.09	778.49	1.76	1.71	16.82	14.73	247.15	333.96	2.93	2.56	3.6	3.6
Rosebud County	C8	RM 255.31	81125	5% Duration	1285.59	781.92	778.36	1.67	1.61	16.95	13.09	230.45	339.04	3.3	2.54	3.56	3.56
Rosebud County	C8	RM 255.14	80856	5% Duration	1285.59	781.75	778.24	1.83	1.77	17.36	12.99	207.75	291.04	3.35	2.5	3.51	3.51
Rosebud County	C8	RM 254.95	80554	5% Duration	1285.59	781.56	778.12	1.91	1.86	19.05	14.95	205.05	271.44	3.26	2.55	3.44	3.44
Rosebud County	C8	RM 254.76	80251	5% Duration	1285.59	781.4	778	1.81	1.75	17.03	13.05	215.6	300.64	3.28	2.51	3.4	3.4
Rosebud County	C8	RM 254.58	79960	5% Duration	1285.59	781.27	777.88	1.71	1.67	15.25	12.45	229.62	293.87	3.26	2.66	3.39	3.39
Rosebud County	C8	RM 254.39	79658	5% Duration	1285.59	781.18	777.41	1.39	1.36	10.14	8.85	292.32	361.78	3.15	2.75	3.77	3.77
Rosebud County	C8	RM 254.2	79359	5% Duration	1285.59	780.98	777.39	1.78	1.78	17.6	17.04	267.19	282.59	2.7	2.61	3.59	3.59
Rosebud County	C8	RM 254.01	79052	5% Duration	1285.59	780.84	776.82	1.65	1.64	13.43	12.2	204.92	227.01	3.8	3.45	4.02	4.02
Rosebud County	C9	RM 253.82	78779	5% Duration	1285.59	780.68	776.24	1.83	1.78	18.74	15.78	239.01	294.87	2.91	2.45	4.44	4.44
Rosebud County	C9	RM 253.63	78478	5% Duration	1285.59	780.4	776.12	2.12	1.9	30.65	14.78	148.84	446.73	3.85	1.83	4.28	4.28
Rosebud County	C9	RM 253.45	78178	5% Duration	1285.59	780.14	775.97	2.23	1.87	22.81	13.53	167.62	669.2	3.13	1.84	4.17	4.17
Rosebud County	C9	RM 253.26	77879	5% Duration	1285.59	780.11	775.72	1.49	1.18	9.68	3.65	212.25	899	3.74	1.39	4.39	4.39
Rosebud County	C9	RM 253.07	77578	5% Duration	1285.59	779.92	775.57	1.96	1.54	18.77	7.35	170.43	660.95	3.41	1.31	4.35	4.35
Rosebud County	C9	RM 252.88	77278	5% Duration	1285.59	779.8	775.45	1.62	1.37	14.2	6.94	221.89	670.85	2.89	1.4	4.35	4.35
Rosebud County	C9	RM 252.69	76962	5% Duration	1285.59	779.74	775.33	1.17	0.86	7.24	2.84	260.22	1227.24	3.11	1.21	4.41	4.41
Rosebud County	C9	RM 252.49	76646	5% Duration	1285.59	779.52	775.36	1.97	1.42	19.03	7.3	151.44	1047.52	3.46	1.31	4.16	4.16
Rosebud County	C9	RM 252.24	76252	5% Duration	1285.59	779.31	775.4	1.93	1.57	20.65	10.11	166.28	1105.2	2.89	1.4	3.91	3.91
Rosebud County	C9	RM 252.01	75885	5% Duration	1285.59	779.07	775.39	1.74	1.53	22.22	10.91	240.04	1364.5	2.7	1.32	3.68	3.68
Rosebud County	C9	RM 251.7	75438	5% Duration	1285.59	778.94	775.01	1.14	1.09	6.66	3.99	399.86	1218.44	2.63	1.57	3.93	3.93
Rosebud County	C9	RM 251.49	75098	5% Duration	1285.59	778.74	775.02	1.53	1.32	11.69	7.02	514.22	1455.23	1.51	0.9	3.72	3.72
Rosebud County	C9	RM 251.23	74691	5% Duration	1285.59	778.44	775.05	1.53	1.46	11.8	9.47	443.75	743.06	1.88	1.51	3.39	3.39
Rosebud County	C9	RM 251.01	74322	5% Duration	1285.59	778.31	774.84	1.32	1.13	8.42	4.96	317.01	797.55	2.73	1.6	3.47	3.47
Rosebud County	C9	RM 250.79	73973	5% Duration	1285.59	778.22	774.42	1.18	0.95	7.69	4.43	312.99	848.2	2.86	1.65	3.8	3.8
Rosebud County	C9	RM 250.6	73678	5% Duration	1285.59	778.05	774.17	1.44	1.18	19.91	12.84	372.17	964.69	1.83	1.18	3.88	3.88
Rosebud County	C9	RM 250.37	73306	5% Duration	1285.59	777.78	774.05	1.7	1.28	13.01	5.94	223.66	795.15	3	1.36	3.73	3.73
Rosebud County	C9	RM 250.17	72982	5% Duration	1285.59	777.56	773.93	2.05	1.31	22.85	13.1	201.72	823.7	2.34	1.33	3.63	3.63
Rosebud County	C9	RM 249.95	72617	5% Duration	1285.59	777.36	773.83	1.72	1.22	15.43	8.36	224.99	693.57	2.82	1.52	3.53	3.53
Rosebud County	C9	RM 249.73	72253	5% Duration	1285.59	777.16	773.71	1.68	1.25	15.32	8.16	263.94	771.86	2.5	1.33	3.45	3.45
Rosebud County	C9	RM 249.53	71936	5% Duration	1285.59	777.1	773.38	1.15	0.9	7.03	3.63	343.8	991.01	2.89	1.49	3.72	3.72
Rosebud County	C9	RM 249.31	71579	5% Duration	1285.59	776.89	773.14	1.55	1.39	15.53	9.63	358.49	1069.9	1.97	1.22	3.75	3.75
Rosebud County	C9	RM 249.13	71274	5% Duration	1285.59	776.76	772.84	1.35	1.06	9.72	3.77	294.38	1193.17	2.95	1.14	3.92	3.92
Rosebud County	C9	RM 248.94	70978	5% Duration	1285.59	776.57	772.56	1.81	1.35	16.49	5.32	192.08	1213.63	3.14	1.01	4.01	4.01
Rosebud County	C9	RM 248.76	70681	5% Duration	1285.59	776.56	772.32	0.96	0.76	4.97	2.03	423.99	1593.17	2.84	1.15	4.24	4.24
Rosebud County	C9	RM 248.53	70312	5% Duration	1285.59	776.5	772.17	1.09	0.62	5.59	1.6	158.3	2622.03	3.59	1.02	4.33	4.33
Rosebud County	C9	RM 248.31	69962	5% Duration	1285.59	776.36	772.04	1.46	1.06	10.88	2.96	273.53	2213.5	2.83	0.76	4.32	4.32
Rosebud County	C9	RM 248.08	69603	5% Duration	1285.59	776.19	771.92	1.65	1.12	11.83	2.85	209.18	2212.16	3.36	0.81	4.27	4.27
Rosebud County	C9	RM 247.88	69253	5% Duration	1285.59	775.92	771.92	1.86	1.5	31.47	12.53	338.54	1761.61	1.91	0.75	4	4
Rosebud County	C9	RM 247.64	68836	5% Duration	1285.59	775.53	771.95	1.59	1.43	13.36	9.66	402.72	641.54	1.95	1.41	3.58	3.58

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C9	RM 247.34	68336	5% Duration	1285.59	775.38	771.87	1.25	0.98	8.01	4.13	279.89	1045.97	3.11	1.6	3.51	3.51
Rosebud County	C9	RM 247.11	67963	5% Duration	1285.59	775.06	771.45	2.22	1.83	27.37	13.06	186.71	614.15	2.65	1.26	3.61	3.61
Rosebud County	C9	RM 246.83	67502	5% Duration	1285.59	774.85	770.97	1.68	1.3	15.83	7.08	193.98	701.16	3.3	1.47	3.88	3.88
Rosebud County	C9	RM 246.52	67019	5% Duration	1285.59	774.7	770.61	1.41	1.2	10.17	5.98	224.81	566.38	3.49	2.05	4.09	4.09
Rosebud County	C9	RM 246.22	66538	5% Duration	1285.59	773.95	770.53	3.08	2.89	56.57	38	200.57	362.81	2.06	1.38	3.42	3.42
Rosebud County	C9	RM 245.94	66068	5% Duration	1285.59	773.5	770.29	1.65	1.49	16.38	12.69	292.66	576.8	1.99	1.53	3.21	3.21
Rosebud County	C9	RM 245.66	65624	5% Duration	1285.59	773.1	769.81	1.96	1.51	21.61	6.79	191.63	1036.09	3.16	0.98	3.86	3.86
Rosebud County	C9	RM 245.4	65205	5% Duration	1285.59	772.84	769.59	1.64	1.75	13.83	13.51	276.35	413.75	1.83	1.78	3.68	3.68
Rosebud County	C9	RM 245.15	64804	5% Duration	1285.59	772.38	769.41	2.14	2.26	31.65	30.02	171.79	273.9	2.19	2.07	3.22	3.22
Rosebud County	C9	RM 244.89	64387	5% Duration	1285.59	771.99	769.41	2.12	1.96	25.88	23.25	178.15	300.66	2.43	2.18	2.96	2.96
Rosebud County	C9	RM 244.7	64085	5% Duration	1285.59	771.93	769.37	1.2	1.1	7.84	6.22	209.1	689.05	2.13	1.69	3.02	3.02
Rosebud County	C9	RM 244.51	63776	5% Duration	1285.59	771.84	769.35	1.03	1.03	7.28	6.16	262.1	739.28	1.99	1.69	2.93	2.93
Rosebud County	C9	RM 244.33	63499	5% Duration	1285.59	771.8	769.16	0.45	0.66	4.07	4.51	271.42	971.47	1.8	1.99	3.37	3.37
Rosebud County	C9	RM 244.14	63224	5% Duration	1285.59	771.74	768.52	0.97	0.82	5.39	3.37	207.9	1032.69	2.46	1.53	3.31	3.31
Rosebud County	C9	RM 243.96	62927	5% Duration	1285.59	771.64	768.13	1.28	1.08	9.09	4.88	174.34	836.3	2.67	1.43	3.51	3.51
Rosebud County	C9	RM 243.77	62617	5% Duration	1285.59	771.61	767.57	0.82	0.59	3.39	1.69	160.76	1260.27	3.55	1.75	4.04	4.04
Rosebud County	C9	RM 243.59	62327	5% Duration	1285.59	771.51	766.98	1.36	1.02	10.55	4.45	121.99	739.65	4.14	1.7	4.53	4.53
Rosebud County	C9	RM 243.39	62012	5% Duration	1285.59	771.29	766.86	1.94	1.59	18.89	11.92	152.66	357.11	3.64	2.27	4.43	4.43
Rosebud County	C9	RM 243.21	61718	5% Duration	1285.59	771.19	766.74	1.6	1.58	12.51	9.2	199.55	276.93	4.02	2.94	4.45	4.45
Rosebud County	C10	RM 243.03	61422	5% Duration	1285.59	770.82	766.73	2.52	2.46	34.05	24.72	168.77	268.14	3.02	2.18	4.09	4.09
Rosebud County	C10	RM 242.84	61125	5% Duration	1285.59	770.43	766.76	2.6	2.5	35.58	30.62	164.88	201.37	2.97	2.55	3.67	3.67
Rosebud County	C10	RM 242.65	60825	5% Duration	1285.59	770.24	766.76	2.07	2.02	22.3	19.73	197.61	230.77	3.13	2.76	3.48	3.48
Rosebud County	C10	RM 242.47	60527	5% Duration	1285.59	770.1	766.77	1.73	1.69	15.64	12.27	238.16	310.64	3.11	2.44	3.33	3.33
Rosebud County	C10	RM 242.29	60239	5% Duration	1285.59	769.99	766.64	1.56	1.52	12.63	10.83	277.68	335.61	2.95	2.52	3.35	3.35
Rosebud County	C10	RM 242.1	59939	5% Duration	1285.59	769.75	766.29	1.88	1.81	20.79	15.39	271.36	386.46	2.51	1.85	3.46	3.46
Rosebud County	C10	RM 241.9	59618	5% Duration	1285.59	769.56	765.95	1.71	1.67	15.31	10.61	238.56	352.37	3.15	2.18	3.61	3.61
Rosebud County	C10	RM 241.72	59324	5% Duration	1285.59	769.47	765.5	1.42	1.33	10.34	6	285.33	531.73	3.14	1.82	3.97	3.97
Rosebud County	C10	RM 241.53	59025	5% Duration	1285.59	769.17	765.17	2.19	2.01	27.69	17.15	158.58	285.43	3.64	2.24	4	4
Rosebud County	C10	RM 241.34	58725	5% Duration	1285.59	768.97	765.02	2.1	1.82	21.71	11.03	176.35	413.58	3.4	1.71	3.95	3.95
Rosebud County	C10	RM 241.16	58424	5% Duration	1285.59	768.83	764.97	1.86	1.5	17.55	9.09	168.26	595.38	3.14	1.61	3.86	3.86
Rosebud County	C10	RM 240.97	58132	5% Duration	1285.59	768.69	764.83	1.65	1.4	14.09	7.73	188.47	554.59	3.28	1.79	3.86	3.86
Rosebud County	C10	RM 240.78	57818	5% Duration	1285.59	768.62	764.56	1.38	1.03	9.51	4.9	159.68	701.49	3.72	1.9	4.06	4.06
Rosebud County	C10	RM 240.56	57467	5% Duration	1285.59	768.46	764.28	1.55	1.33	17.77	10.01	212.38	583.05	3.27	1.83	4.18	4.18
Rosebud County	C10	RM 240.41	57228	5% Duration	1285.59	768.38	763.91	1.33	1.21	10.4	5.04	213.59	573.48	3.85	1.85	4.47	4.47
Rosebud County	C10	RM 240.22	56944	5% Duration	1285.59	768.18	763.51	1.86	1.69	17.04	6.48	157.35	471.27	4.35	1.61	4.67	4.67
Rosebud County	C10	RM 240.09	56741	5% Duration	1285.59	767.9	763.47	2.61	2.28	26.39	12.18	119.31	305.31	4.07	1.84	4.43	4.43
Rosebud County	C10	RM 239.97	56546	5% Duration	1285.59	767.84	763.47	2.12	1.92	27.21	12.84	153.64	367.8	3.91	1.82	4.37	4.37
Rosebud County	C10	RM 239.86	56371	5% Duration	1285.59	767.76	763.25	1.87	1.87	17.86	17.86	197.35	197.35	3.49	3.49	4.51	4.51
Rosebud County	C10	RM 239.68	56093	5% Duration	1285.59	767.54	763.02	2.21	2.17	17.4	15.34	172.05	199.79	3.38	2.97	4.52	4.52
Rosebud County	C10	RM 239.56	55888	5% Duration	1285.59	766.96	763.1	3.48	3.48	49.95	49.95	110.32	110.32	3.34	3.34	3.86	3.86
Rosebud County	C10	RM 239.41	55655	5% Duration	1285.59	766.88	763.17	2.65	2.65	28.61	28.61	139.07	149.34	3.49	3.49	3.71	3.71
Rosebud County	C10	RM 239.25	55398	5% Duration	1285.59	766.65	763.17	2.51	2.51	34.72	34.72	159.72	174.86	3.2	3.2	3.48	3.48
Rosebud County	C10	RM 239.07	55108	5% Duration	1285.59	766.53	763.2	1.89	1.79	15.23	12.98	216.48	275.81	3.06	2.6	3.33	3.33
Rosebud County	C10	RM 238.89	54826	5% Duration	1285.59	766.31	763.23	2.16	1.91	20.04	14.64	189.61	312.51	2.97	2.16	3.08	3.08
Rosebud County	C10	RM 238.73	54570	5% Duration	1285.59	766.14	763.38	2.04	1.96	18.51	16.36	236.67	279.94	2.65	2.34	2.76	2.76
Rosebud County	C10	RM 238.51	54223	5% Duration	1285.59	765.95	762.88	1.6	1.6	14.66	14.66	384.84	509.17	2.09	2.09	3.07	3.07
Rosebud County	C10	RM 238.33	53926	5% Duration	1285.59	765.79	762.37	1.55	1.55	12.12	12.12	302.09	378.69	2.75	2.75	3.42	3.42
Rosebud County	C10	RM 238.14	53626	5% Duration	1285.59	765.51	762.25	2.07	1.98	23.04	17.13	211.3	433.37	2.92	2.17	3.26	3.26
Rosebud County	C10	RM 237.95	53321	5% Duration	1285.59	765.2	762.09	2.27	2.15	27.89	20.76	187	440.69	2.91	2.16	3.11	3.11
Rosebud County	C10	RM 237.77	53027	5% Duration	1285.59	765.11	761.85	1.52	1.47	11.99	9.94	291.7	562.99	2.79	2.32	3.26	3.26
Rosebud County	C10	RM 237.56	52703	5% Duration	1285.59	764.96	761.46	1.51	1.51	10.92	10.92	369.26	414.5	2.31	2.31	3.5	3.5
Rosebud County	C10	RM 237.36	52386	5% Duration	1285.59	764.83	761.22	1.34	1.34	10.34	9.8	391.19	641.36	2.45	2.32	3.61	3.61
Rosebud County	C10	RM 237.15	52029	5% Duration	1285.59	764.69	760.88	1.32	1.3	9.88	8.08	377.16	595.61	2.57	2.1	3.81	3.81
Rosebud County	C10	RM 236.99	51756	5% Duration	1285.59	764.5	760.22	1.83	1.82	12.98	11.5	173.95	268.04	4.04	3.57	4.28	4.28
Rosebud County	C10	RM 236.83	51500	5% Duration	1285.59	764.27	760.07	2.3	2.29	21.57	20.41	161.11	211.74	3.47	3.28	4.2	4.2
Rosebud County	C10	RM 236.66	51221	5% Duration	1285.59	764.21	760.07	1.85	1.83	13.44	10.7	181.39	447.68	3.84	3.04	4.14	4.14
Rosebud County	C10	RM 236.47	50924	5% Duration	1285.59	764.12	759.94	1.73	1.72	11.73	9.79	189.6	229.84	3.92	3.26	4.18	4.18
Rosebud County	C11	RM 236.29	50623	5% Duration	1285.59	764.03	760	1.7	1.67	11.49	10.01	206.81	242.57	3.66	3.18	4.03	4.03
Rosebud County	C11	RM 236.1	50327	5% Duration	1285.59	763.86	760	1.95	1.9	15.83	14.61	203.16	226.84	3.23	2.98	3.86	3.86
Rosebud County	C11	RM 235.91	50024	5% Duration	1285.59	763.59	760	2.28	2.22	26.62	21.32	165.06	212.86	3.41	2.72	3.59	3.59

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C11	RM 235.73	49726	5% Duration	1285.59	763.48	760.15	1.7	1.59	14.86	11.78	242.42	362.72	2.82	2.23	3.33	3.33
Rosebud County	C11	RM 235.57	49480	5% Duration	1285.59	763.39	760.02	1.44	1.44	11.19	11.19	313.12	313.12	2.86	2.86	3.37	3.37
Rosebud County	C11	RM 235.36	49133	5% Duration	1285.59	763.2	759.74	1.64	1.64	13.94	13.94	287.5	287.5	2.73	2.73	3.46	3.46
Rosebud County	C11	RM 235.17	48830	5% Duration	1285.59	763	759.55	1.74	1.74	13.04	12.86	355.66	360.93	2.08	2.05	3.45	3.45
Rosebud County	C11	RM 235	48571	5% Duration	1285.59	762.91	759.29	1.42	1.41	9.97	9.33	316.79	340.3	2.86	2.68	3.62	3.62
Rosebud County	C11	RM 234.82	48271	5% Duration	1285.59	762.48	759.21	2.53	2.48	35.15	29.25	184.64	227.1	2.75	2.28	3.27	3.27
Rosebud County	C11	RM 234.63	47978	5% Duration	1285.59	762.24	759.21	2.07	1.93	23.17	15.85	226.98	364.05	2.68	1.83	3.03	3.03
Rosebud County	C11	RM 234.45	47692	5% Duration	1285.59	762.02	759.12	1.9	1.79	19.37	16	280.09	369.22	2.35	1.94	2.9	2.9
Rosebud County	C11	RM 234.2	47305	5% Duration	1285.59	761.79	758.6	1.57	1.48	13.75	10.62	334.5	477.03	2.37	1.83	3.19	3.19
Rosebud County	C11	RM 234.01	47006	5% Duration	1285.59	761.71	758.27	1.18	1.1	6.33	5.75	486.93	593.54	2.2	1.99	3.44	3.44
Rosebud County	C11	RM 233.84	46737	5% Duration	1285.59	761.62	758.12	1.19	1.12	8.35	8.08	445.9	501.55	2.35	2.28	3.5	3.5
Rosebud County	C11	RM 233.61	46365	5% Duration	1285.59	761.51	757.67	1.2	1.16	7.29	5.24	301.99	435.84	3.53	2.54	3.84	3.84
Rosebud County	C11	RM 233.35	45943	5% Duration	1285.59	761.27	757.03	1.85	1.56	18.27	13.39	214.65	371.34	3.04	2.22	4.24	4.24
Rosebud County	C11	RM 233.13	45584	5% Duration	1285.59	761.12	756.45	1.65	1.65	13.56	13.54	204.18	220.92	3.81	3.8	4.67	4.67
Rosebud County	C11	RM 232.94	45281	5% Duration	1285.59	760.94	756.15	1.93	1.93	18.15	17.74	167.12	189.14	3.99	3.9	4.79	4.79
Rosebud County	C11	RM 232.75	44978	5% Duration	1285.59	760.87	756.03	1.54	1.53	11.53	10.2	201.8	241.6	4.12	3.64	4.84	4.84
Rosebud County	C11	RM 232.56	44674	5% Duration	1285.59	760.77	755.79	1.58	1.58	12.89	12.89	238.98	347.76	3.4	3.4	4.97	4.97
Rosebud County	C11	RM 232.37	44366	5% Duration	1285.59	760.53	755.72	1.98	1.98	20.57	20.53	203.51	455.77	3.19	3.19	4.81	4.81
Rosebud County	C11	RM 232.19	44074	5% Duration	1285.59	760.4	755.67	1.77	1.77	15.83	15.83	200.9	294.02	3.61	3.61	4.73	4.73
Rosebud County	C11	RM 232.01	43791	5% Duration	1285.59	760.25	755.65	1.81	1.81	17.18	17.18	222.75	258.82	3.19	3.19	4.6	4.6
Rosebud County	C11	RM 231.81	43473	5% Duration	1285.59	759.96	755.6	2.16	1.96	24.06	19.08	195.26	401.99	2.96	2.34	4.36	4.36
Rosebud County	C11	RM 231.62	43160	5% Duration	1285.59	759.75	755.57	2.05	1.8	19.95	14.66	178.55	289.09	3.39	2.47	4.18	4.18
Rosebud County	C11	RM 231.42	42835	5% Duration	1285.59	759.72	755.45	1.37	1.2	9.16	4.9	220.43	499.68	4.05	2.15	4.27	4.27
Rosebud County	C11	RM 231.22	42522	5% Duration	1285.59	759.57	755.45	1.76	1.45	14.45	7.1	199.13	538.31	3.4	1.65	4.12	4.12
Rosebud County	C11	RM 230.99	42160	5% Duration	1285.59	759.14	755.45	2.58	2.18	34.54	23.04	143.4	268.67	3.31	2.19	3.69	3.69
Rosebud County	C11	RM 230.79	41841	5% Duration	1285.59	759.02	755.43	1.83	1.55	17.2	10.34	199.03	475.97	3.36	2.01	3.59	3.59
Rosebud County	C11	RM 230.53	41415	5% Duration	1285.59	758.89	755.17	1.35	1.2	9.79	8.36	287.47	518.54	2.42	2.06	3.72	3.72
Rosebud County	C11	RM 230.29	41045	5% Duration	1285.59	758.7	755.15	1.61	1.41	13.2	8.98	223.18	469.27	2.88	1.95	3.55	3.55
Rosebud County	C11	RM 230.06	40676	5% Duration	1285.59	758.5	754.81	1.57	1.5	14.58	12.89	284.28	504.11	2.26	2	3.69	3.69
Rosebud County	C11	RM 229.81	40276	5% Duration	1285.59	758.34	754.74	1.34	1.27	9.75	7.77	316.39	829.79	2.82	2.24	3.6	3.6
Rosebud County	C11	RM 229.6	39937	5% Duration	1285.59	758.08	754.58	1.87	1.76	16.42	12.37	282.01	812.22	2.37	1.78	3.5	3.5
Rosebud County	C11	RM 229.4	39596	5% Duration	1285.59	757.97	754.34	1.43	1.31	11.04	7.86	282.73	733.87	2.98	2.11	3.63	3.63
Rosebud County	C11	RM 229.2	39273	5% Duration	1285.59	757.66	754.15	2.13	1.99	25.6	16.24	210.33	491.72	2.58	1.63	3.51	3.51
Rosebud County	C11	RM 229.02	38994	5% Duration	1285.59	757.41	754.12	2.08	1.73	24.14	14.18	208.62	541.8	2.63	1.54	3.29	3.29
Rosebud County	C11	RM 228.82	38676	5% Duration	1285.59	757.24	753.8	1.65	1.42	15.25	10.51	266.95	572.5	2.62	1.8	3.44	3.44
Rosebud County	C11	RM 228.64	38383	5% Duration	1285.59	757.11	753.73	1.56	1.21	13.54	10.34	219.45	561.11	2.71	2.06	3.42	3.42
Rosebud County	C11	RM 228.46	38093	5% Duration	1285.59	757.03	753.53	1.19	0.94	7.83	6.52	295.49	786.54	2.78	2.3	3.5	3.5
Rosebud County	C11	RM 228.26	37771	5% Duration	1285.59	756.97	753.35	1.11	0.82	6.72	5.36	269.48	1135.22	2.91	2.3	3.62	3.62
Rosebud County	C11	RM 228.03	37408	5% Duration	1285.59	756.8	753.16	1.58	1.09	13.44	6.59	229	1029.81	3	1.46	3.64	3.64
Rosebud County	C11	RM 227.74	36949	5% Duration	1285.59	756.56	752.95	1.77	1.58	16.41	12.73	161.13	458.91	3.26	2.51	3.61	3.61
Rosebud County	C11	RM 227.49	36537	5% Duration	1285.59	756.38	752.83	1.82	1.51	17.58	9.79	173.68	584.51	3.07	1.69	3.55	3.55
Rosebud County	C11	RM 227.2	36062	5% Duration	1285.59	756.19	752.41	1.66	1.47	14.62	8.81	168.34	514.45	3.15	1.88	3.78	3.78
Rosebud County	C11	RM 226.98	35709	5% Duration	1285.59	755.75	752.31	2.42	2.11	32.92	18.89	200.13	413.81	2.58	1.47	3.44	3.44
Rosebud County	C11	RM 226.79	35400	5% Duration	1285.59	755.53	752.25	1.84	1.59	19.9	12.58	254.24	489.6	2.62	1.65	3.28	3.28
Rosebud County	C11	RM 226.56	35065	5% Duration	1285.59	755.38	751.83	1.42	1.23	12	9.09	333.06	550.47	2.52	1.91	3.55	3.55
Rosebud County	C11	RM 226.36	34743	5% Duration	1285.59	755.12	751.68	1.76	1.65	18.44	17.11	298.35	352.52	2.39	2.21	3.44	3.44
Rosebud County	C11	RM 226.2	34476	5% Duration	1285.59	754.99	751.25	1.44	1.35	10.52	9.82	396.19	461.73	2.2	2.06	3.74	3.74
Rosebud County	C11	RM 226.01	34177	5% Duration	1285.59	754.86	750.81	1.47	1.41	10.34	8.74	280.27	349.46	3.08	2.6	4.05	4.05
Rosebud County	C11	RM 225.83	33884	5% Duration	1285.59	754.55	750.59	2.29	2.04	26.74	20.29	154.48	351.11	3.51	2.65	3.96	3.96
Rosebud County	C11	RM 225.64	33580	5% Duration	1285.59	754.41	750.56	1.69	1.59	16.07	10.68	293.96	477.84	2.57	1.7	3.85	3.85
Rosebud County	C11	RM 225.45	33275	5% Duration	1285.59	754.31	750.31	1.34	1.34	9.68	9.41	320.18	330.57	2.99	2.9	4	4
Rosebud County	C11	RM 225.26	32969	5% Duration	1285.59	754.17	750.25	1.51	1.5	12.21	11.77	288.54	300.18	2.96	2.85	3.92	3.92
Rosebud County	C11	RM 225.16	32805	5% Duration	1285.59	754.06	750.19	1.73	1.73	15.68	14.86	224.08	237.94	3.31	3.13	3.87	3.87
Rosebud County	C11	RM 225.06	32646	5% Duration	1285.59	753.8	750.15	2.41	2.41	29.55	29.55	154.59	154.59	3.46	3.46	3.65	3.65
Rosebud County	C12	RM 224.89	32368	5% Duration	1285.59	753.76	750.09	1.58	1.58	12.79	12.79	240.66	240.66	3.39	3.39	3.67	3.67
Rosebud County	C12	RM 224.71	32083	5% Duration	1285.59	753.61	750.04	1.67	1.67	14.53	14.53	293.31	293.31	2.62	2.62	3.57	3.57
Rosebud County	C12	RM 224.53	31796	5% Duration	1285.59	753.46	749.96	1.67	1.67	12.84	12.84	281.73	452.91	2.74	2.74	3.5	3.5
Rosebud County	C12	RM 224.34	31486	5% Duration	1285.59	753.23	750.03	1.75	1.7	17.96	17.29	396.7	568.63	1.73	1.67	3.2	3.2
Rosebud County	C12	RM 224.16	31195	5% Duration	1285.59	753.08	749.78	1.48	1.41	11.47	9.81	247.94	460.12	2.9	2.47	3.4	3.4
Rosebud County	C12	RM 223.96	30878	5% Duration	1285.59	752.9	749.48	1.74	1.6	16.08	12.76	178.76	342.11	3.07	2.43	3.52	3.52

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C12	RM 223.76	30567	5% Duration	1285.59	752.66	749.18	2.04	1.92	23.31	19.09	158.11	311.16	2.64	2.16	3.48	3.48
Rosebud County	C12	RM 223.55	30235	5% Duration	1285.59	752.53	748.87	1.62	1.53	13.47	10.04	229.9	336.64	3.36	2.5	3.66	3.66
Rosebud County	C12	RM 223.37	29952	5% Duration	1285.59	752.35	748.72	1.82	1.79	17.01	11.66	205.96	307.96	3.42	2.34	3.63	3.63
Rosebud County	C12	RM 223.2	29681	5% Duration	1285.59	752.24	748.51	1.72	1.67	15.06	11.41	208.39	287.12	3.56	2.69	3.73	3.73
Rosebud County	C12	RM 223.02	29391	5% Duration	1285.59	752.14	748.51	1.52	1.44	12.19	8.82	260.45	680.17	3.16	2.28	3.63	3.63
Rosebud County	C12	RM 222.82	29071	5% Duration	1285.59	752.02	748.5	1.51	1.42	11.99	7.36	265.55	672.06	3.15	1.93	3.52	3.52
Rosebud County	C12	RM 222.64	28787	5% Duration	1285.59	751.89	748.46	1.61	1.29	13.58	6.27	236.97	761.29	3.18	1.46	3.43	3.43
Rosebud County	C12	RM 222.45	28479	5% Duration	1285.59	751.75	748.44	1.57	1.27	13.38	5.2	265.83	900.64	2.9	1.12	3.31	3.31
Rosebud County	C12	RM 222.22	28128	5% Duration	1285.59	751.52	748.15	1.45	1.28	36.12	18.04	249.78	622.75	3.25	1.62	3.37	3.37
Rosebud County	C12	RM 222.01	27784	5% Duration	1285.59	751.36	747.57	1.24	1.11	8.13	4.92	369.6	698.5	2.74	1.65	3.79	3.79
Rosebud County	C12	RM 221.77	27401	5% Duration	1285.59	751.27	747.18	0.94	0.85	4.6	2.86	687.97	1388.42	1.95	1.21	4.09	4.09
Rosebud County	C12	RM 221.55	27042	5% Duration	1285.59	751.19	747.07	0.88	0.82	4.26	3.28	795.57	1384.12	1.79	1.38	4.12	4.12
Rosebud County	C12	RM 221.34	26708	5% Duration	1285.59	751.11	746.94	0.95	0.87	4.16	3.17	622.05	2294.28	2.12	1.61	4.17	4.17
Rosebud County	C12	RM 221.15	26406	5% Duration	1285.59	751.01	746.7	1.25	1.2	7.62	4.85	263.85	1572.07	3.9	2.46	4.31	4.31
Rosebud County	C12	RM 220.96	26081	5% Duration	1285.59	750.51	746.66	2.85	2.71	42.63	31.71	137.06	197.53	3.26	2.4	3.85	3.85
Rosebud County	C12	RM 220.77	25779	5% Duration	1285.59	750.22	746.73	2.49	2.49	32.36	31.21	158.33	164.32	3.26	3.14	3.49	3.49
Rosebud County	C12	RM 220.6	25513	5% Duration	1285.59	750.2	746.72	1.55	1.54	12.45	11.74	246.9	264.38	3.35	3.16	3.48	3.48
Rosebud County	C12	RM 220.4	25183	5% Duration	1285.59	750.01	746.88	1.73	1.64	14.82	13.02	294.88	366.41	2.45	2.14	3.13	3.13
Rosebud County	C12	RM 220.23	24914	5% Duration	1285.59	749.94	746.8	1.28	1.22	8.4	7.75	386.4	454.69	2.52	2.32	3.14	3.14
Rosebud County	C12	RM 220.02	24578	5% Duration	1285.59	749.78	746.54	1.39	1.39	8.31	8.18	492.28	499.92	1.88	1.86	3.24	3.24
Rosebud County	C12	RM 219.83	24268	5% Duration	1285.59	749.71	746.18	1.04	1.01	5.03	4.31	604.47	809.11	2.02	1.73	3.53	3.53
Rosebud County	C12	RM 219.63	23947	5% Duration	1285.59	749.57	745.79	1.34	1.33	7.25	6.65	512.75	564.97	1.87	1.71	3.78	3.78
Rosebud County	C12	RM 219.47	23683	5% Duration	1285.59	749.49	745.56	1.23	1.22	7.85	6.87	358.61	417.28	2.9	2.53	3.93	3.93
Rosebud County	C12	RM 219.29	23386	5% Duration	1285.59	749.25	745.27	1.95	1.84	19.85	15.17	198.26	279.91	3.28	2.5	3.98	3.98
Rosebud County	C12	RM 219.11	23085	5% Duration	1285.59	749.05	745.15	2.02	1.75	21.62	12.92	173.77	392.41	3.16	1.87	3.9	3.9
Rosebud County	C12	RM 218.92	22783	5% Duration	1285.59	748.87	745.15	1.8	1.59	17.01	12.5	225.05	427.45	2.58	1.89	3.72	3.72
Rosebud County	C12	RM 218.73	22473	5% Duration	1285.59	748.72	745.06	1.61	1.36	13.3	8.09	222	458.37	3.41	2.06	3.66	3.66
Rosebud County	C12	RM 218.54	22180	5% Duration	1285.59	748.6	744.99	1.55	1.41	12.83	7.9	274.12	498.59	2.98	1.83	3.61	3.61
Rosebud County	C12	RM 218.38	21902	5% Duration	1285.59	748.5	744.43	1.51	1.34	11.55	6.32	231.88	489.82	3.59	1.96	4.07	4.07
Rosebud County	C12	RM 218.18	21580	5% Duration	1285.59	748.28	743.9	1.98	1.67	19.74	8.27	174.25	513.07	3.63	1.5	4.38	4.38
Rosebud County	C12	RM 217.99	21276	5% Duration	1285.59	748.09	743.66	1.95	1.64	20.45	10.83	211.62	496.42	3.01	1.58	4.43	4.43
Rosebud County	C12	RM 217.81	20981	5% Duration	1285.59	748.07	743.51	1.23	1.22	7.12	6.76	283.61	347.78	3.7	3.51	4.56	4.56
Rosebud County	C12	RM 217.64	20702	5% Duration	1285.59	747.83	743.41	2.05	1.99	21.09	16.11	171.78	256.66	3.64	2.77	4.42	4.42
Rosebud County	C12	RM 217.45	20392	5% Duration	1285.59	747.61	743.29	2.13	1.93	23.7	12.39	184.69	398.71	3.22	1.67	4.32	4.32
Rosebud County	C12	RM 217.25	20070	5% Duration	1285.59	747.53	743.29	1.59	1.32	12.41	5.56	191.51	568.16	3.87	1.71	4.24	4.24
Rosebud County	C12	RM 217	19662	5% Duration	1285.59	747.31	743.25	1.87	1.66	17.58	9.15	185.52	415.71	3.61	1.86	4.06	4.06
Rosebud County	C12	RM 216.77	19300	5% Duration	1285.59	747.06	743.25	2.01	1.72	22.01	11.92	215.53	490.97	2.83	1.52	3.81	3.81
Rosebud County	C12	RM 216.53	18912	5% Duration	1285.59	746.83	743.3	1.7	1.38	16.16	6.91	272.59	822.55	2.65	1.13	3.53	3.53
Rosebud County	C12	RM 216.27	18500	5% Duration	1285.59	746.6	743.24	1.52	1.35	13.54	7.09	356.82	784.87	2.32	1.21	3.36	3.36
Rosebud County	C12	RM 215.98	18038	5% Duration	1285.59	746.39	743.12	1.38	1.07	10.78	5.7	272.98	905.38	2.5	1.32	3.27	3.27
Rosebud County	C12	RM 215.68	17550	5% Duration	1285.59	746.26	742.31	1.27	1.13	8.08	4.22	267.09	589.83	3.69	1.93	3.95	3.95
Rosebud County	C12	RM 215.41	17101	5% Duration	1285.59	746.05	741.82	1.68	1.48	14.54	7.73	216.63	483.1	3.41	1.8	4.23	4.23
Rosebud County	C12	RM 215.21	16781	5% Duration	1285.59	745.68	741.65	2.45	2.27	31.3	20.36	157.79	269.6	3.25	2.1	4.03	4.03
Rosebud County	C12	RM 215.02	16479	5% Duration	1285.59	745.41	741.68	2.42	2.2	30.12	23.3	144.35	221.72	3.43	2.63	3.73	3.73
Rosebud County	C13	RM 214.86	16220	5% Duration	1285.59	745.41	741.64	1.42	1.35	10.09	8.02	249.11	331.4	3.62	2.87	3.77	3.77
Rosebud County	C13	RM 214.65	15883	5% Duration	1285.59	745.25	741.6	1.62	1.62	9.47	9.47	385.08	385.08	2.06	2.06	3.65	3.65
Rosebud County	C13	RM 214.46	15577	5% Duration	1285.59	745.12	741.6	1.55	1.55	11.63	11.63	296.01	360.39	2.8	2.8	3.52	3.52
Rosebud County	C13	RM 214.27	15282	5% Duration	1285.59	745.01	741.59	1.46	1.46	10.79	10.79	339.39	458.61	2.6	2.6	3.42	3.42
Rosebud County	C13	RM 214.07	14957	5% Duration	1285.59	744.87	741.54	1.28	1.28	12.02	12.02	411.96	476.93	2.43	2.43	3.33	3.33
Rosebud County	C13	RM 213.9	14672	5% Duration	1285.59	744.71	741.37	1.45	1.45	11.61	11.61	354.96	438.55	2.5	2.5	3.34	3.34
Rosebud County	C13	RM 213.7	14343	5% Duration	1285.59	744.52	740.88	1.67	1.66	14.28	13.36	221.25	501.55	3.47	3.24	3.64	3.64
Rosebud County	C13	RM 213.54	14083	5% Duration	1285.59	744.31	740.59	2.01	2	20.78	19.58	185.89	378.33	3.43	3.23	3.72	3.72
Rosebud County	C13	RM 213.36	13792	5% Duration	1285.59	744.18	740.39	1.75	1.7	16.34	15.06	237.4	454.36	3.03	2.79	3.79	3.79
Rosebud County	C13	RM 213.16	13475	5% Duration	1285.59	743.92	740.27	2.07	1.69	22.7	16.34	202.37	542.54	2.81	2.01	3.64	3.64
Rosebud County	C13	RM 212.99	13200	5% Duration	1285.59	743.73	740.31	1.99	1.71	19.32	12.46	185.61	580.39	2.84	1.82	3.42	3.42
Rosebud County	C13	RM 212.79	12880	5% Duration	1285.59	743.52	740.19	1.96	1.66	20.15	12.23	175.74	594.89	3.17	1.91	3.33	3.33
Rosebud County	C13	RM 212.6	12572	5% Duration	1285.59	743.39	739.79	1.61	1.57	13.38	9.44	233.08	714.42	3.41	2.4	3.6	3.6
Rosebud County	C13	RM 212.42	12284	5% Duration	1285.59	743.18	739.58	1.99	1.78	20.88	14.23	191.45	461.07	3.28	2.23	3.6	3.6
Rosebud County	C13	RM 212.23	11983	5% Duration	1285.59	743.02	739.17	1.76	1.68	16.79	14.31	251.88	549.04	2.87	2.45	3.85	3.85
Rosebud County	C13	RM 212.05	11688	5% Duration	1285.59	742.89	738.83	1.65	1.58	13.6	10.94	211.56	344.82	3.66	2.94	4.06	4.06

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Rosebud County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Rosebud County	C13	RM 211.85	11386	5% Duration	1285.59	742.73	738.79	1.79	1.73	16.77	13.65	220.42	380.05	3.23	2.63	3.94	3.94
Rosebud County	C13	RM 211.65	11066	5% Duration	1285.59	742.55	738.58	1.76	1.64	16.71	13.07	242.44	443.26	2.96	2.31	3.97	3.97
Rosebud County	C13	RM 211.44	10724	5% Duration	1285.59	742.33	738.38	1.92	1.59	19.62	11.18	199.53	665.6	3.07	1.74	3.95	3.95
Rosebud County	C13	RM 211.21	10353	5% Duration	1285.59	742.22	737.87	1.58	1.26	12.45	6.83	173.01	536.55	3.72	2.04	4.35	4.35
Rosebud County	C13	RM 210.96	9946	5% Duration	1285.59	741.9	737.72	2.19	1.68	25.32	12.67	164.58	494.97	3.12	1.55	4.18	4.18
Rosebud County	C13	RM 210.75	9612	5% Duration	1285.59	741.8	737.48	1.64	1.18	13.86	7.18	190.72	622.86	3.4	1.74	4.32	4.32
Rosebud County	C13	RM 210.57	9317	5% Duration	1285.59	741.71	737.5	1.43	1.19	10.24	5.42	241.91	604.16	3.39	1.78	4.21	4.21
Rosebud County	C13	RM 210.36	8986	5% Duration	1285.59	741.44	737.54	2.05	1.72	22.48	11.36	194.13	490.97	3.03	1.52	3.9	3.9
Rosebud County	C13	RM 210.16	8674	5% Duration	1285.59	741.2	737.53	1.9	1.79	20.83	16.2	274.49	383.37	2.42	1.88	3.67	3.67
Rosebud County	C13	RM 209.98	8382	5% Duration	1285.59	741.17	737.25	1.19	1.08	7.29	4.9	301.06	537.96	3.32	2.22	3.92	3.92
Rosebud County	C13	RM 209.8	8091	5% Duration	1285.59	741.09	736.96	1.33	1.12	8.59	3.83	218.34	653.1	3.99	1.77	4.13	4.13
Rosebud County	C13	RM 209.6	7774	5% Duration	1285.59	740.9	736.72	1.82	1.46	16.41	6.31	175.63	600.63	3.86	1.47	4.18	4.18
Rosebud County	C13	RM 209.41	7482	5% Duration	1285.59	740.8	736.53	1.61	1.37	13.37	7.83	235.34	633.51	3.31	1.93	4.27	4.27
Rosebud County	C13	RM 209.21	7161	5% Duration	1285.59	740.58	736.29	1.92	1.87	18.6	15.24	183.28	251.72	3.63	2.97	4.29	4.29
Rosebud County	C13	RM 209.03	6871	5% Duration	1285.59	740.39	736.14	2.03	1.96	21.18	12.22	184.72	336.09	3.42	1.96	4.25	4.25
Rosebud County	C13	RM 208.85	6571	5% Duration	1285.59	740.29	736.03	1.63	1.48	13.68	8.58	229	491.09	3.38	2.11	4.26	4.26
Rosebud County	C13	RM 208.65	6257	5% Duration	1285.59	740.17	735.74	1.63	1.35	14.02	8.51	217.13	503.61	3.14	1.89	4.43	4.43
Rosebud County	C13	RM 208.46	5945	5% Duration	1285.59	739.89	735.69	2.07	1.87	21.4	15.26	192.72	357.71	2.71	1.92	4.2	4.2
Rosebud County	C13	RM 208.29	5682	5% Duration	1285.59	739.44	735.63	2.78	2.57	39.67	32.2	110.55	177.09	3.52	2.82	3.81	3.81
Rosebud County	C14	RM 208.1	5374	5% Duration	1285.59	739.36	735.61	1.8	1.78	16.33	13.79	198.65	238.14	3.6	3.03	3.75	3.75
Rosebud County	C14	RM 207.91	5064	5% Duration	1285.59	739.19	735.56	1.79	1.76	15.65	11.35	288.7	408.97	2.48	1.79	3.63	3.63
Rosebud County	C14	RM 207.72	4766	5% Duration	1285.59	739	735.52	1.72	1.63	15.48	10.05	309.95	509.94	2.4	1.55	3.48	3.48
Rosebud County	C14	RM 207.53	4450	5% Duration	1285.59	738.88	735.35	1.29	1.2	10.04	5.28	442.76	918.75	2.22	1.16	3.53	3.53
Rosebud County	C14	RM 207.33	4123	5% Duration	1285.59	738.69	735.27	1.55	1.33	13.04	7.62	278.38	584.7	2.83	1.65	3.42	3.42
Rosebud County	C14	RM 207.15	3851	5% Duration	1285.59	738.59	735.14	1.39	1.19	9.93	4.42	305.9	837.78	2.91	1.29	3.45	3.45
Rosebud County	C14	RM 206.99	3599	5% Duration	1285.59	738.5	734.95	1.41	1.12	11.11	4.53	325.27	1081.24	2.61	1.06	3.55	3.55
Rosebud County	C14	RM 206.81	3315	5% Duration	1285.59	738.39	734.49	1.41	1.13	10.57	3.33	256.01	1286.19	3.09	0.96	3.9	3.9
Rosebud County	C14	RM 206.61	2997	5% Duration	1285.59	738.27	733.91	1.55	1.19	12.1	2.88	195.57	2021.46	3.65	0.86	4.36	4.36
Rosebud County	C14	RM 206.43	2701	5% Duration	1285.59	738.16	733.52	1.53	1.2	12.77	5.77	243.08	1809.35	2.82	1.27	4.64	4.64
Rosebud County	C14	RM 206.21	2350	5% Duration	1285.59	738.05	733.38	1.39	1.15	9.66	6.45	253.15	1407.45	3.02	2	4.67	4.67
Rosebud County	C14	RM 205.97	1963	5% Duration	1285.59	737.97	732.73	1.27	1.15	7.64	2.6	223.85	1693.3	4.45	1.49	5.24	5.24
Rosebud County	C14	RM 205.72	1563	5% Duration	1285.59	737.27	732.73	3.34	3.07	71.43	35.33	94.05	392.73	4.04	1.95	4.54	4.54
Rosebud County	C14	RM 205.49	1198	5% Duration	1285.59	737.12	732.63	1.95	1.7	25.47	12.53	187.25	516.46	3.38	1.65	4.49	4.49
Rosebud County	C14	RM 205.3	907	5% Duration	1285.59	736.75	732.76	2.26	1.95	29.81	9.49	243.02	1054.97	2.29	0.72	3.99	3.99
Rosebud County	C14	RM 205.11	594	5% Duration	1285.59	736.54	732.8	1.93	1.72	19.18	13.04	190.32	1365.34	3.38	2.29	3.74	3.74
Rosebud County	C14	RM 204.9	243	5% Duration	1285.59	736.29	732.63	1.98	1.79	21.32	11.83	219.76	575.47	2.89	1.6	3.66	3.66

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C14	RM 204.6	73418	5% Duration	1288.4	736.29	732.67	2.37	2.12	30.73	16.63	189.96	508.24	2.8	1.5	3.62	3.62
Custer County	C14	RM 204.43	73135	5% Duration	1288.4	736.16	732.44	1.69	1.37	15.62	6.18	264.16	1237.17	2.79	1.09	3.72	3.72
Custer County	C14	RM 204.22	72808	5% Duration	1288.4	735.89	732.3	1.93	1.53	21.35	7.15	257.27	1028.31	2.45	0.82	3.59	3.59
Custer County	C14	RM 204	72454	5% Duration	1288.4	735.79	731.9	1.36	1.1	9.46	3.93	258.87	813.39	3.48	1.44	3.89	3.89
Custer County	C14	RM 203.82	72156	5% Duration	1288.4	735.57	731.14	1.96	1.53	19.83	5.27	190.95	1101.99	3.34	0.87	4.43	4.43
Custer County	C14	RM 203.65	71895	5% Duration	1288.4	735.37	730.95	2.16	1.27	24.21	4.89	156.91	1521.57	3.37	0.67	4.42	4.42
Custer County	C14	RM 203.5	71641	5% Duration	1288.4	735.29	730.78	1.66	0.95	14.46	4.21	193.98	1464.9	3.24	0.93	4.51	4.51
Custer County	C14	RM 203.3	71324	5% Duration	1288.4	735.23	730.79	1.32	0.83	8.83	3.5	161.07	1111.07	3.61	1.4	4.44	4.44
Custer County	C14	RM 203.1	71035	5% Duration	1288.4	735.05	730.79	1.8	1.23	17.21	7.73	183.21	776.25	3.09	1.37	4.26	4.26
Custer County	C14	RM 202.9	70718	5% Duration	1288.4	734.83	730.67	1.89	1.49	21.71	14.23	245.94	640.33	2.07	1.35	4.17	4.17
Custer County	C14	RM 202.71	70415	5% Duration	1288.4	734.54	730.64	1.94	1.63	20.93	11.76	226.06	521.56	2.72	1.52	3.9	3.9
Custer County	C14	RM 202.51	70088	5% Duration	1288.4	734.15	730.68	2.42	2.02	31.18	14.7	150.94	447.26	3.06	1.43	3.47	3.47
Custer County	C14	RM 202.34	69815	5% Duration	1288.4	734	730.63	1.66	1.59	16.05	11.56	319.88	482.84	2.34	1.68	3.37	3.37
Custer County	C14	RM 202.13	69483	5% Duration	1288.4	733.83	730.54	1.52	1.24	12.59	6.23	281.21	740.14	2.85	1.4	3.29	3.29
Custer County	C14	RM 201.97	69219	5% Duration	1288.4	733.69	730.01	1.63	1.38	14.41	11.37	260.42	419.83	2.84	2.23	3.68	3.68
Custer County	C14	RM 201.75	68884	5% Duration	1288.4	733.65	729.45	1.07	1.03	5.65	4.81	303.74	447.49	3.87	3.28	4.2	4.2
Custer County	C14	RM 201.57	68612	5% Duration	1288.4	733.51	729.37	1.57	1.44	14.73	10.55	362.32	683.35	2.15	1.54	4.14	4.14
Custer County	C14	RM 201.38	68299	5% Duration	1288.4	733.09	729.23	2.14	2.04	27.5	22.13	277.14	468.94	2.15	1.72	3.86	3.86
Custer County	C14	RM 201.23	68055	5% Duration	1288.4	732.81	729.13	1.93	1.66	23.26	16.25	335.13	589.22	1.89	1.31	3.67	3.67
Custer County	C14	RM 201.06	67778	5% Duration	1288.4	732.73	729.03	1.23	1.02	8.68	6.4	260.47	741.82	2.39	1.75	3.7	3.7
Custer County	C14	RM 200.85	67439	5% Duration	1288.4	732.27	729.05	2.72	2.46	39.48	31.3	111.64	216.94	3.08	2.41	3.22	3.22
Custer County	C14	RM 200.64	67103	5% Duration	1288.4	732.17	728.97	1.67	1.52	14.73	9.34	212.98	433.41	3.1	1.96	3.2	3.2
Custer County	C14	RM 200.48	66842	5% Duration	1288.4	732.08	728.8	1.32	1.27	10.02	9.08	306.66	467.7	2.39	2.16	3.28	3.28
Custer County	C14	RM 200.27	66515	5% Duration	1288.4	731.91	728.63	1.41	1.33	11.18	8.12	359.69	530.47	2.53	1.83	3.28	3.28
Custer County	C14	RM 200.05	66162	5% Duration	1288.4	731.66	728.3	1.68	1.63	16.62	14.21	366.24	443.14	2.09	1.79	3.36	3.36
Custer County	C14	RM 199.9	65916	5% Duration	1288.4	731.58	727.78	1.25	1.25	8.64	8.38	381.62	394.9	2.7	2.62	3.8	3.8
Custer County	C14	RM 199.71	65614	5% Duration	1288.4	731.34	727.34	1.89	1.89	16.59	16.59	220.5	220.5	3.1	3.1	4	4
Custer County	C14	RM 199.53	65326	5% Duration	1288.4	731.29	727.34	1.39	1.39	9.78	9.78	256.68	259.49	3.6	3.6	3.95	3.95
Custer County	C14	RM 199.38	65076	5% Duration	1288.4	731.16	727.34	1.6	1.6	12.41	12.41	325.2	325.2	2.47	2.47	3.82	3.82
Custer County	C14	RM 199.18	64754	5% Duration	1288.4	730.9	727.64	1.86	1.86	14.5	14.5	365.44	369.96	1.89	1.89	3.26	3.26
Custer County	C14	RM 199.04	64535	5% Duration	1288.4	730.81	727.64	1.48	1.48	11.61	11.61	350.35	353.5	2.48	2.48	3.17	3.17
Custer County	C14	RM 198.77	64102	5% Duration	1288.4	730.62	727.28	1.49	1.49	12.01	11.9	294.95	306.7	2.93	2.9	3.34	3.34
Custer County	C14	RM 198.57	63773	5% Duration	1288.4	730.34	726.99	2.02	2.02	21.56	21.47	204.02	211.23	3.13	3.11	3.35	3.35
Custer County	C14	RM 198.4	63505	5% Duration	1288.4	730.13	726.86	2.09	1.98	23.35	17.32	198.13	305.42	3.01	2.23	3.27	3.27
Custer County	C14	RM 198.22	63215	5% Duration	1288.4	729.83	726.57	2.27	1.9	28.2	16.6	189.7	410.28	2.83	1.66	3.26	3.26
Custer County	C14	RM 198.04	62923	5% Duration	1288.4	729.66	726.32	1.83	1.59	18.13	14.71	224.55	346.13	2.89	2.34	3.34	3.34
Custer County	C14	RM 197.84	62611	5% Duration	1288.4	729.54	726.04	1.37	1.37	10.67	10.61	349.91	380.32	2.49	2.48	3.5	3.5
Custer County	C14	RM 197.65	62306	5% Duration	1288.4	729.37	725.69	1.6	1.56	13.26	11.46	251.11	324.4	2.95	2.55	3.68	3.68
Custer County	C14	RM 197.47	62013	5% Duration	1288.4	729.35	725.29	1.07	1.02	5.62	4.14	294.56	467.34	3.88	2.86	4.06	4.06
Custer County	C14	RM 197.27	61686	5% Duration	1288.4	729.19	724.81	1.73	1.39	15.79	8.57	210.07	689.58	3.15	1.7	4.38	4.38
Custer County	C14	RM 197.07	61373	5% Duration	1288.4	729.06	724.81	1.66	1.52	14.42	9.67	202.17	415.24	3.25	2.17	4.25	4.25
Custer County	C14	RM 196.91	61115	5% Duration	1288.4	729	724.81	1.39	1	10.18	5.95	221.65	994.05	3.21	1.86	4.19	4.19
Custer County	C14	RM 196.73	60815	5% Duration	1288.4	728.92	724.76	1.33	0.92	9.06	4.2	235.67	1011.42	3.4	1.57	4.16	4.16
Custer County	C14	RM 196.54	60518	5% Duration	1288.4	728.81	724.67	1.47	1.14	11.81	5.6	268.82	869.71	2.79	1.31	4.14	4.14
Custer County	C14	RM 196.33	60178	5% Duration	1288.4	728.73	724.57	1.28	1.1	8.3	5.03	245.41	560.15	3.52	2.12	4.16	4.16
Custer County	C14	RM 196.17	59915	5% Duration	1288.4	728.68	724.51	1.27	1.15	8.14	5.72	190.37	438.54	3.66	2.57	4.16	4.16
Custer County	C15	RM 195.98	59615	5% Duration	1288.4	727.85	724.52	3.61	3.61	72.42	71.62	130.92	132.43	2.72	2.69	3.33	3.33
Custer County	C15	RM 195.81	59337	5% Duration	1288.4	727.69	724.33	2.38	2.38	29.71	29.71	166.9	166.9	3.24	3.24	3.36	3.36
Custer County	C15	RM 195.61	59020	5% Duration	1288.4	727.56	724.24	1.77	1.77	16.32	16.32	227.2	228.25	3.21	3.21	3.32	3.32
Custer County	C15	RM 195.43	58727	5% Duration	1288.4	727.32	724.22	1.92	1.92	21.68	21.68	302.26	305.17	2.22	2.22	3.1	3.1
Custer County	C15	RM 195.23	58415	5% Duration	1288.4	727.15	723.93	1.52	1.52	12.33	12.33	364.69	374.88	2.33	2.33	3.22	3.22
Custer County	C15	RM 195.04	58114	5% Duration	1288.4	726.9	723.54	1.83	1.78	19.3	17.11	268.36	348.45	2.42	2.15	3.36	3.36
Custer County	C15	RM 194.86	57824	5% Duration	1288.4	726.65	722.93	1.96	1.85	20.81	17.05	208.5	316.64	2.92	2.38	3.72	3.72
Custer County	C15	RM 194.67	57521	5% Duration	1288.4	726.52	722.75	1.66	1.66	13.9	13.9	215.61	215.61	3.6	3.6	3.77	3.77
Custer County	C15	RM 194.49	57231	5% Duration	1288.4	726.42	722.53	1.58	1.57	12.64	11.85	227.86	254.86	3.57	3.35	3.89	3.89
Custer County	C15	RM 194.32	56946	5% Duration	1288.4	726.21	722.5	1.93	1.93	16.99	16.99	255.42	281.85	2.61	2.61	3.71	3.71
Custer County	C15	RM 194.13	56643	5% Duration	1288.4	725.99	722.5	1.92	1.92	20.55	20.55	248.76	264.49	2.69	2.69	3.49	3.49
Custer County	C15	RM 193.93	56331	5% Duration	1288.4	725.84	722.31	1.64	1.62	14.09	12.56	247.32	280.5	3.18	2.83	3.53	3.53
Custer County	C15	RM 193.74	56024	5% Duration	1288.4	725.69	722.23	1.7	1.7	14.95	14.47	226.39	240.7	3.34	3.24	3.46	3.46
Custer County	C15	RM 193.55	55708	5% Duration	1288.4	725.49	722.13	1.85	1.85	17.97	16.81	214.44	230.32	3.24	3.03	3.37	3.37

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C15	RM 193.37	55425	5% Duration	1288.4	725.29	722.13	1.97	1.96	20.65	20.06	215.95	223.34	3.03	2.94	3.16	3.16
Custer County	C15	RM 193.2	55158	5% Duration	1288.4	725.19	722.13	1.56	1.51	13.01	10.75	275.51	346.4	2.98	2.46	3.06	3.06
Custer County	C15	RM 193	54825	5% Duration	1288.4	725.04	721.84	1.56	1.52	13.06	11.24	276.12	332.85	2.97	2.55	3.2	3.2
Custer County	C15	RM 192.81	54525	5% Duration	1288.4	724.87	721.37	1.76	1.6	16.03	11.44	207.29	338.43	3.34	2.37	3.5	3.5
Custer County	C15	RM 192.63	54247	5% Duration	1288.4	724.74	721.01	1.71	1.66	14.79	11.87	213.76	276.02	3.52	2.82	3.73	3.73
Custer County	C15	RM 192.44	53935	5% Duration	1288.4	724.64	721.01	1.52	1.4	11.88	8.54	239.01	385.13	3.32	2.38	3.63	3.63
Custer County	C16	RM 192.26	53653	5% Duration	1288.4	724.49	721.01	1.68	1.63	14.51	13.4	225.97	254.39	3.37	3.11	3.48	3.48
Custer County	C16	RM 192.05	53309	5% Duration	1288.4	724.06	721.11	2.49	2.46	34.1	30.12	186.81	214.66	2.77	2.44	2.95	2.95
Custer County	C16	RM 191.74	52809	5% Duration	1288.4	723.77	721.1	1.52	1.52	12.97	12.97	399.35	423.32	2.12	2.12	2.67	2.67
Custer County	C16	RM 191.35	52181	5% Duration	1288.4	723.22	721.02	1.66	1.66	17.8	17.44	483.29	493.94	1.61	1.57	2.2	2.2
Custer County	C16	RM 191.12	51812	5% Duration	1288.4	722.96	720.51	1.36	1.36	10.67	10.67	517.53	517.53	1.83	1.83	2.45	2.45
Custer County	C16	RM 190.87	51406	5% Duration	1288.4	722.73	719.89	1.28	1.28	9.23	9.23	594.01	594.01	1.69	1.69	2.84	2.84
Custer County	C16	RM 190.54	50885	5% Duration	1288.4	722.54	719.15	0.95	0.95	5.62	5.62	748.34	754.59	1.82	1.82	3.39	3.39
Custer County	C16	RM 190.29	50477	5% Duration	1288.4	722.1	718.45	2.27	2.22	27.17	22.53	178.43	223.19	3.17	2.62	3.65	3.65
Custer County	C16	RM 190.1	50176	5% Duration	1288.4	721.85	718.43	2.12	2.12	24.95	24.4	224.12	241.08	2.71	2.65	3.41	3.41
Custer County	C16	RM 189.85	49765	5% Duration	1288.4	721.61	718.13	1.59	1.55	14.46	13.53	332.6	367.33	2.41	2.26	3.48	3.48
Custer County	C16	RM 189.65	49458	5% Duration	1288.4	721.36	718.1	1.81	1.81	18.27	18.27	273.16	345.13	2.61	2.61	3.26	3.26
Custer County	C16	RM 189.43	49103	5% Duration	1288.4	720.88	718.09	2.3	2.3	31.87	31.87	265.24	301.45	2.11	2.11	2.79	2.79
Custer County	C16	RM 189.22	48763	5% Duration	1288.4	720.85	717.93	1.09	1.09	6.68	6.68	450.11	468.76	2.62	2.62	2.92	2.92
Custer County	C16	RM 188.91	48267	5% Duration	1288.4	720.64	717.54	1.43	1.43	9.01	9.01	429.69	515.5	2.1	2.1	3.1	3.1
Custer County	C16	RM 188.66	47869	5% Duration	1288.4	720.34	716.75	1.93	1.93	18.99	18.99	192.85	328.93	3.47	3.47	3.59	3.59
Custer County	C16	RM 188.51	47622	5% Duration	1288.4	720.19	716.72	1.95	1.94	20.15	19.43	213.94	304.9	3.09	2.98	3.47	3.47
Custer County	C16	RM 188.32	47314	5% Duration	1288.4	720.05	716.79	1.65	1.45	15.17	10.14	150.9	487.68	2.84	1.87	3.26	3.26
Custer County	C16	RM 188.14	47024	5% Duration	1288.4	719.86	716.93	1.5	1.61	8.64	11.42	223.27	425.7	1.47	1.95	2.92	2.92
Custer County	C16	RM 187.98	46768	5% Duration	1288.4	719.75	716.91	1.41	1.31	11.21	7.72	221.23	565.17	2.53	1.74	2.84	2.84
Custer County	C16	RM 187.78	46440	5% Duration	1288.4	719.65	716.69	1.27	1.21	8.4	6.58	250.59	593.18	2.29	1.79	2.96	2.96
Custer County	C16	RM 187.55	46083	5% Duration	1288.4	719.35	716.04	1.93	1.73	20.11	13.06	222.99	396.04	2.91	1.89	3.31	3.31
Custer County	C16	RM 187.35	45750	5% Duration	1288.4	718.97	715.34	2.33	2.31	28.81	24.11	176.44	214.07	3.13	2.61	3.63	3.63
Custer County	C16	RM 187.14	45421	5% Duration	1288.4	718.8	715.3	1.79	1.73	17.44	10.6	254.12	436.08	2.83	1.71	3.5	3.5
Custer County	C16	RM 187.01	45211	5% Duration	1288.4	718.73	715.3	1.47	1.43	11.54	8.88	296.45	401.85	2.96	2.27	3.44	3.44
Custer County	C16	RM 186.84	44930	5% Duration	1288.4	718.56	715.03	1.66	1.64	15.41	12.77	292.07	402.16	2.65	2.19	3.53	3.53
Custer County	C16	RM 186.62	44553	5% Duration	1288.4	718.22	714.75	2.11	2.11	23.14	23.14	186.59	186.59	3.27	3.27	3.47	3.47
Custer County	C16	RM 186.46	44311	5% Duration	1288.4	717.96	714.53	2.33	2.28	28.89	23.78	180.81	251.24	3.05	2.51	3.43	3.43
Custer County	C16	RM 186.26	43996	5% Duration	1288.4	717.73	714.27	2.06	2.06	22.54	22.3	202.77	227.52	3.08	3.05	3.46	3.46
Custer County	C16	RM 186.1	43730	5% Duration	1288.4	717.64	713.9	1.57	1.57	13.46	13.46	287.38	294.12	2.85	2.85	3.74	3.74
Custer County	C16	RM 185.91	43424	5% Duration	1322.4	717.43	713.84	1.78	1.78	15.4	15.4	309.09	320.19	2.41	2.41	3.59	3.59
Custer County	C16	RM 185.71	43110	5% Duration	1322.4	716.83	713.84	2.82	2.82	38.91	38.91	220.33	220.33	2.13	2.13	2.99	2.99
Custer County	C16	RM 185.52	42808	5% Duration	1322.4	716.77	713.71	1.47	1.46	12.27	11.89	357.83	370.95	2.51	2.43	3.06	3.06
Custer County	C16	RM 185.34	42508	5% Duration	1322.4	716.45	713.28	2.05	2.05	17.83	17.83	367.72	367.72	1.75	1.75	3.17	3.17
Custer County	C16	RM 185.16	42219	5% Duration	1322.4	716.35	712.93	1.34	1.34	10.32	10.32	416.7	812.12	2.37	2.37	3.42	3.42
Custer County	C17	RM 184.95	41881	5% Duration	1322.4	716.11	712.72	1.68	1.67	16.11	13.97	287.19	496.17	2.73	2.37	3.39	3.39
Custer County	C17	RM 184.78	41621	5% Duration	1322.4	715.85	712.51	2.07	2.02	23.05	20.56	211.74	296.89	3	2.67	3.34	3.34
Custer County	C17	RM 184.59	41311	5% Duration	1322.4	715.61	711.96	2.11	2.07	23.14	18.66	193.06	270.44	3.24	2.61	3.65	3.65
Custer County	C17	RM 184.4	41010	5% Duration	1322.4	715.52	711.62	1.58	1.58	12.8	12.8	241.42	262.24	3.46	3.46	3.9	3.9
Custer County	C17	RM 184.23	40728	5% Duration	1322.4	715.32	711.31	1.91	1.91	19.6	19.6	233.32	251.47	2.97	2.97	4.01	4.01
Custer County	C17	RM 184.1	40517	5% Duration	1322.4	715.14	711.39	2.04	2.03	21.78	20.36	203.14	338.81	3.19	2.99	3.75	3.75
Custer County	C17	RM 184.03	40407	5% Duration	1322.4	715.1	711.49	1.84	1.84	17.53	17.53	215.85	222.05	3.33	3.33	3.61	3.61
Custer County	C17	RM 183.83	40098	5% Duration	1322.4	714.96	711.42	1.73	1.73	15.36	15.36	228.16	257.85	3.36	3.36	3.54	3.54
Custer County	C17	RM 183.65	39806	5% Duration	1322.4	714.8	711.39	1.81	1.81	16.99	16.99	222.34	230.14	3.29	3.29	3.4	3.4
Custer County	C17	RM 183.47	39513	5% Duration	1322.4	714.55	711.39	2.07	2.07	22.66	22.66	207.18	237.33	3.09	3.09	3.16	3.16
Custer County	C17	RM 183.28	39210	5% Duration	1322.4	714.43	711.31	1.66	1.66	14.59	14.59	262.1	309.39	3.05	3.05	3.12	3.12
Custer County	C17	RM 183.09	38909	5% Duration	1322.4	714.22	711.04	1.86	1.76	18.53	13.08	234.65	461.87	3	2.11	3.18	3.18
Custer County	C17	RM 182.94	38660	5% Duration	1322.4	714.12	710.66	1.63	1.63	13.75	13.75	241.8	292.66	3.35	3.35	3.46	3.46
Custer County	C17	RM 182.72	38316	5% Duration	1322.4	713.94	710.1	1.72	1.69	15.66	14.47	249.96	317.71	3.07	2.84	3.84	3.84
Custer County	C17	RM 182.54	38020	5% Duration	1322.4	713.6	710.12	2.32	2.21	28.22	24.06	173.19	245.81	3.25	2.77	3.48	3.48
Custer County	C17	RM 182.34	37706	5% Duration	1322.4	713.4	710.27	1.95	1.89	20.88	18.56	238.95	285.38	2.76	2.45	3.13	3.13
Custer County	C17	RM 182.15	37402	5% Duration	1322.4	713.2	710.26	1.83	1.76	18.2	16.03	248.57	300.66	2.83	2.49	2.94	2.94
Custer County	C17	RM 181.97	37127	5% Duration	1322.4	713.04	710.26	1.69	1.67	15.89	14.65	284.91	318.76	2.7	2.49	2.78	2.78
Custer County	C17	RM 181.78	36815	5% Duration	1322.4	712.8	710.09	1.83	1.8	19.02	17.51	277.96	316.36	2.53	2.32	2.71	2.71
Custer County	C17	RM 181.59	36505	5% Duration	1322.4	712.47	709.76	2.06	2.02	22.61	20.63	294.29	331.26	2.16	1.97	2.71	2.71

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C17	RM 181.37	36155	5% Duration	1322.4	712.16	709.37	1.9	1.8	20.51	14.59	275.75	418.97	2.47	1.76	2.79	2.79
Custer County	C17	RM 181.23	35925	5% Duration	1322.4	711.84	709.36	2.27	2.15	30.13	25.05	240.87	320.43	2.3	1.92	2.48	2.48
Custer County	C17	RM 181.03	35607	5% Duration	1322.4	711.64	709.02	1.61	1.59	15.05	14.69	348.8	373.97	2.33	2.27	2.62	2.62
Custer County	C17	RM 180.83	35292	5% Duration	1322.4	711.45	708.68	1.51	1.47	13.6	12.14	360.82	465.79	2.17	1.94	2.77	2.77
Custer County	C17	RM 180.66	35006	5% Duration	1322.4	711.25	708.22	1.61	1.59	14.81	14.21	342.11	360.57	2.4	2.31	3.03	3.03
Custer County	C18	RM 180.46	34700	5% Duration	1322.4	711.08	708.05	1.62	1.6	14.24	12.57	280.15	321.57	2.9	2.56	3.02	3.02
Custer County	C18	RM 180.29	34421	5% Duration	1322.4	710.79	707.79	2.09	2.04	24.4	21.15	236.86	284.3	2.63	2.28	3	3
Custer County	C18	RM 180.08	34086	5% Duration	1322.4	710.59	707.53	1.75	1.71	16.58	14.19	251.33	306.41	2.94	2.52	3.06	3.06
Custer County	C18	RM 179.9	33807	5% Duration	1322.4	710.42	707.32	1.77	1.71	17.28	13.4	264.48	364.08	2.74	2.13	3.1	3.1
Custer County	C18	RM 179.73	33525	5% Duration	1322.4	710.15	706.89	2.02	1.98	22.96	21.33	248.89	275.59	2.61	2.42	3.26	3.26
Custer County	C18	RM 179.54	33218	5% Duration	1322.4	709.79	706.7	2.15	2.15	25.81	25.81	291.84	292.19	2.11	2.11	3.09	3.09
Custer County	C18	RM 179.35	32914	5% Duration	1322.4	709.58	706.45	1.73	1.72	16.74	15.7	287.99	321.03	2.65	2.48	3.13	3.13
Custer County	C18	RM 179.16	32611	5% Duration	1322.4	709.35	706.29	1.9	1.9	19.64	19.64	235.67	235.67	2.96	2.96	3.06	3.06
Custer County	C18	RM 178.99	32337	5% Duration	1322.4	709.19	706.07	1.78	1.78	16.97	16.57	251.61	257.92	2.96	2.89	3.12	3.12
Custer County	C18	RM 178.79	32025	5% Duration	1322.4	708.98	705.9	1.86	1.85	18.71	17.3	245.27	267.66	2.9	2.68	3.08	3.08
Custer County	C18	RM 178.61	31730	5% Duration	1322.4	708.79	705.59	1.79	1.79	17.52	17.48	259.12	375.16	2.85	2.84	3.2	3.2
Custer County	C18	RM 178.43	31434	5% Duration	1322.4	708.63	705.25	1.75	1.75	16.2	16.2	245.26	245.26	3.08	3.08	3.38	3.38
Custer County	C18	RM 178.23	31114	5% Duration	1322.4	708.45	704.7	1.75	1.75	16.18	16.18	243.06	243.06	3.11	3.11	3.75	3.75
Custer County	C18	RM 178.06	30848	5% Duration	1322.4	708.3	704.57	1.81	1.81	16.97	16.97	217.18	217.18	3.36	3.36	3.73	3.73
Custer County	C18	RM 177.88	30549	5% Duration	1322.4	708.11	704.57	1.9	1.89	19.3	18.14	228.34	244.37	3.04	2.86	3.54	3.54
Custer County	C18	RM 177.66	30211	5% Duration	1328.1	707.73	704.57	2.34	2.34	29.45	29.45	188.57	188.57	3	3	3.16	3.16
Custer County	C18	RM 177.49	29932	5% Duration	1328.1	707.57	704.47	1.89	1.89	19.25	19.25	234.19	234.19	2.99	2.99	3.1	3.1
Custer County	C19	RM 177.3	29625	5% Duration	1328.1	707.41	704.46	1.65	1.65	15	15	297.27	297.27	2.71	2.71	2.95	2.95
Custer County	C19	RM 177.11	29314	5% Duration	1328.1	707.11	704.46	2	2	22.97	22.97	282.14	282.14	2.35	2.35	2.65	2.65
Custer County	C19	RM 176.93	29040	5% Duration	1328.1	706.93	704.42	1.62	1.62	15.14	15.14	348.89	375.72	2.35	2.35	2.51	2.51
Custer County	C19	RM 176.74	28720	5% Duration	1328.1	706.74	704.21	1.52	1.49	13.61	12.89	339.26	446.28	2.24	2.12	2.53	2.53
Custer County	C19	RM 176.53	28384	5% Duration	1328.1	706.41	703.63	1.89	1.83	21.97	21.06	285.74	378.02	1.99	1.92	2.78	2.78
Custer County	C19	RM 176.36	28109	5% Duration	1328.1	706.19	703.08	1.7	1.7	16.5	16.29	322.72	327.12	2.42	2.39	3.11	3.11
Custer County	C19	RM 176.18	27824	5% Duration	1328.1	705.68	702.71	2.62	2.62	38.87	37.38	198.34	206.52	2.55	2.45	2.97	2.97
Custer County	C19	RM 176	27527	5% Duration	1328.1	705.46	702.51	1.94	1.9	21	18.25	259.1	315.7	2.63	2.29	2.95	2.95
Custer County	C19	RM 175.81	27227	5% Duration	1328.1	705.23	702.24	1.83	1.83	19.19	18.59	297.33	307.77	2.44	2.36	2.99	2.99
Custer County	C19	RM 175.62	26928	5% Duration	1328.1	704.95	701.81	2	1.9	21.95	16.3	233.9	341.3	2.77	2.05	3.14	3.14
Custer County	C19	RM 175.43	26622	5% Duration	1328.1	704.59	701.81	2.3	1.86	30.24	22.77	213.42	389.2	2.45	1.84	2.78	2.78
Custer County	C19	RM 175.25	26325	5% Duration	1328.1	704.26	701.72	2.13	2.04	26.13	23.91	210.56	296.76	2.41	2.2	2.54	2.54
Custer County	C19	RM 175.08	26048	5% Duration	1328.1	704.02	701.63	1.76	1.76	18.71	18.71	357.06	357.06	2.11	2.11	2.39	2.39
Custer County	C19	RM 174.9	25768	5% Duration	1328.1	703.68	701.31	1.97	1.97	23.55	23.55	333.82	333.82	2.02	2.02	2.37	2.37
Custer County	C19	RM 174.69	25444	5% Duration	1328.1	703.21	700.82	2.13	2.13	28.1	28.08	318.85	319.09	1.95	1.95	2.39	2.39
Custer County	C19	RM 174.49	25112	5% Duration	1328.1	702.74	700.04	2.18	2.18	28.23	28.23	276.71	276.71	2.2	2.2	2.7	2.7
Custer County	C19	RM 174.32	24844	5% Duration	1328.1	702.33	699.39	2.4	2.4	32.64	32.64	218.03	218.03	2.54	2.54	2.94	2.94
Custer County	C19	RM 174.13	24549	5% Duration	1328.1	702.19	698.84	1.75	1.75	16.16	16.16	239.53	239.53	3.16	3.16	3.35	3.35
Custer County	C19	RM 173.94	24238	5% Duration	1328.1	701.94	698.14	2.01	2.01	22.15	22.15	234.8	234.8	2.81	2.81	3.79	3.79
Custer County	C19	RM 173.75	23939	5% Duration	1328.1	701.61	697.92	2.34	2.33	28.12	27.11	169.34	207.46	3.36	3.23	3.69	3.69
Custer County	C19	RM 173.57	23651	5% Duration	1328.1	701.48	697.83	1.87	1.87	17.89	17.89	204.52	204.52	3.46	3.46	3.65	3.65
Custer County	C19	RM 173.39	23352	5% Duration	1328.1	701.22	697.83	2.17	2.17	25.06	25.06	197.1	197.1	3.1	3.1	3.39	3.39
Custer County	C19	RM 173.2	23054	5% Duration	1328.1	700.98	697.72	2.09	2.09	23.61	23.5	220.29	253.02	2.89	2.88	3.26	3.26
Custer County	C19	RM 173.02	22756	5% Duration	1328.1	700.78	697.29	1.89	1.89	19.36	18.85	240.53	247.74	2.92	2.84	3.49	3.49
Custer County	C19	RM 172.82	22437	5% Duration	1328.1	700.55	696.82	1.72	1.72	18.28	18.28	393.53	393.53	1.96	1.96	3.73	3.73
Custer County	C19	RM 172.67	22200	5% Duration	1328.1	700.18	696.52	2.08	2.08	27.84	27.84	373.3	373.3	1.71	1.71	3.66	3.66
Custer County	C19	RM 172.49	21903	5% Duration	1328.1	699.89	696.23	1.8	1.8	18.61	18.61	300.31	300.31	2.45	2.45	3.66	3.66
Custer County	C19	RM 172.29	21585	5% Duration	1328.1	699.67	695.79	1.83	1.83	17.58	17.58	225.2	280.69	3.22	3.22	3.88	3.88
Custer County	C19	RM 172.12	21325	5% Duration	1328.1	699.08	695.81	3.01	3.01	54.44	54.44	210.28	210.28	2.1	2.1	3.27	3.27
Custer County	C19	RM 171.89	20942	5% Duration	1328.1	698.8	695.57	1.95	1.95	20.36	20.35	227.86	227.89	2.99	2.99	3.23	3.23
Custer County	C19	RM 171.71	20638	5% Duration	1328.1	698.48	695.49	2.2	2.19	27.03	26.26	230.58	237.91	2.62	2.54	2.99	2.99
Custer County	C19	RM 171.52	20341	5% Duration	1328.1	698.25	695.3	1.94	1.94	20.66	20.59	249.24	250.02	2.75	2.74	2.95	2.95
Custer County	C19	RM 171.34	20043	5% Duration	1328.1	697.97	695.11	2.07	2.07	23.74	23.74	238.4	238.4	2.69	2.69	2.86	2.86
Custer County	C19	RM 171.15	19745	5% Duration	1328.1	697.74	694.86	1.96	1.96	21.05	21.05	245.18	245.18	2.77	2.77	2.88	2.88
Custer County	C19	RM 170.96	19437	5% Duration	1328.1	697.51	694.67	1.89	1.89	19.75	19.75	255.62	255.62	2.74	2.74	2.84	2.84
Custer County	C19	RM 170.78	19143	5% Duration	1328.1	697.28	694.2	1.94	1.94	20.47	20.47	239.99	239.99	2.85	2.85	3.08	3.08
Custer County	C19	RM 170.58	18838	5% Duration	1328.1	696.96	693.91	2.16	2.16	26.37	26.37	241.24	241.24	2.55	2.55	3.05	3.05
Custer County	C19	RM 170.4	18543	5% Duration	1328.1	696.76	693.9	1.84	1.84	18.77	18.77	267.64	267.67	2.7	2.7	2.85	2.85

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C19	RM 170.22	18257	5% Duration	1328.1	696.56	693.7	1.8	1.8	17.91	17.91	269.08	269.08	2.74	2.74	2.86	2.86
Custer County	C19	RM 170.03	17941	5% Duration	1328.1	696.29	693.31	2	2	21.75	21.75	234.17	234.17	2.84	2.84	2.98	2.98
Custer County	C19	RM 169.84	17641	5% Duration	1328.1	696.07	692.78	1.99	1.99	20.74	20.74	211.16	211.16	3.17	3.17	3.29	3.29
Custer County	C19	RM 169.65	17341	5% Duration	1328.1	695.85	692.47	2.05	2.05	22.07	22.07	200.93	200.93	3.22	3.22	3.38	3.38
Custer County	C19	RM 169.47	17041	5% Duration	1328.1	695.57	692.17	2.21	2.19	26.1	24.27	199.81	216.75	3.01	2.79	3.41	3.41
Custer County	C19	RM 169.28	16732	5% Duration	1328.1	695.35	692	2.02	2.02	21.81	21.2	214.51	221.1	3.06	2.97	3.35	3.35
Custer County	C19	RM 169.09	16441	5% Duration	1328.1	695.14	691.96	2.01	2.01	21.7	21.7	224.87	235.68	2.94	2.94	3.18	3.18
Custer County	C19	RM 168.91	16152	5% Duration	1328.1	694.9	691.93	2.05	2.05	23.02	23.02	229.32	229.32	2.82	2.82	2.96	2.96
Custer County	C19	RM 168.72	15846	5% Duration	1328.1	694.72	691.82	1.72	1.72	16.22	16.22	275.46	275.46	2.8	2.8	2.9	2.9
Custer County	C19	RM 168.51	15500	5% Duration	1328.1	694.49	691.6	1.77	1.76	17.6	17.28	294.14	300.01	2.56	2.51	2.89	2.89
Custer County	C19	RM 168.35	15241	5% Duration	1328.1	694.23	691.48	2.01	2	23.18	22.16	267.4	281.93	2.46	2.35	2.75	2.75
Custer County	C19	RM 168.15	14931	5% Duration	1328.1	693.84	691.2	2.26	2.26	28.94	28.94	236.84	236.84	2.49	2.49	2.63	2.63
Custer County	C19	RM 167.97	14639	5% Duration	1328.1	693.63	690.59	1.9	1.9	19.49	19.49	242.56	242.56	2.89	2.89	3.04	3.04
Custer County	C19	RM 167.79	14340	5% Duration	1328.1	693.42	690.5	1.89	1.89	19.57	19.57	248.74	285.56	2.82	2.82	2.91	2.91
Custer County	C19	RM 167.61	14054	5% Duration	1328.1	693.11	690.42	2.15	2.15	26.14	26.14	242.19	242.19	2.55	2.55	2.69	2.69
Custer County	C19	RM 167.41	13735	5% Duration	1328.1	692.8	690.14	2.05	2.03	23.9	21.86	264.94	292.82	2.45	2.24	2.66	2.66
Custer County	C19	RM 167.22	13433	5% Duration	1328.1	692.58	689.79	1.83	1.83	18.59	18.59	274.11	274.11	2.65	2.65	2.78	2.78
Custer County	C19	RM 167.04	13143	5% Duration	1328.1	692.4	689.14	1.74	1.72	16.22	15.53	255.45	270.39	2.98	2.86	3.26	3.26
Custer County	C19	RM 166.85	12847	5% Duration	1328.1	692.04	688.98	2.28	2.28	29.65	29.65	236.41	236.41	2.47	2.47	3.06	3.06
Custer County	C19	RM 166.67	12552	5% Duration	1328.1	691.8	688.84	1.98	1.98	21.48	21.48	244.44	244.44	2.75	2.75	2.96	2.96
Custer County	C19	RM 166.52	12319	5% Duration	1328.1	691.69	688.64	1.64	1.64	14.58	14.58	276.01	276.01	2.93	2.93	3.05	3.05
Custer County	C19	RM 166.31	11978	5% Duration	1328.1	691.46	688.02	1.86	1.86	17.45	17.44	243.13	243.27	2.94	2.94	3.44	3.44
Custer County	C20	RM 166.2	11806	5% Duration	1328.1	691.36	687.4	1.86	1.86	18.23	18.23	223.96	223.96	3.18	3.18	3.96	3.96
Custer County	C20	RM 166.06	11569	5% Duration	1328.1	691.13	687.38	2.09	2.09	24.14	24.14	232.29	232.29	2.73	2.73	3.75	3.75
Custer County	C20	RM 165.92	11350	5% Duration	1328.1	690.88	687.38	2.23	2.23	27.87	27.87	224.91	224.91	2.64	2.64	3.5	3.5
Custer County	C20	RM 165.73	11039	5% Duration	1328.1	690.66	687.26	1.87	1.87	19.33	19.33	261.97	261.97	2.71	2.71	3.4	3.4
Custer County	C20	RM 165.55	10750	5% Duration	1328.1	690.45	687.11	1.85	1.85	18.84	18.84	263.89	263.89	2.73	2.73	3.34	3.34
Custer County	C20	RM 165.35	10440	5% Duration	1328.1	690.22	686.75	1.88	1.88	19.68	19.68	265.5	265.5	2.66	2.66	3.47	3.47
Custer County	C20	RM 165.17	10140	5% Duration	1328.1	690.01	686.41	1.85	1.81	18.51	16.25	247.01	289.91	2.89	2.53	3.6	3.6
Custer County	C20	RM 165.01	9883	5% Duration	1328.1	689.83	686.16	1.85	1.85	18.88	18.88	258.26	258.26	2.77	2.77	3.67	3.67
Custer County	C20	RM 164.81	9577	5% Duration	1328.1	689.61	686.04	1.85	1.85	19.41	18.9	282.54	291.06	2.54	2.47	3.57	3.57
Custer County	C20	RM 164.61	9252	5% Duration	1328.1	689.42	685.8	1.71	1.68	13.58	12.77	278.03	303.48	2.78	2.61	3.62	3.62
Custer County	C20	RM 164.42	8945	5% Duration	1328.1	689.25	685.78	1.72	1.72	15.34	15.34	303.5	303.5	2.54	2.54	3.47	3.47
Custer County	C20	RM 164.23	8641	5% Duration	1328.1	689.01	685.85	1.77	1.77	15.83	15.83	413.43	413.43	1.81	1.81	3.16	3.16
Custer County	C20	RM 164.06	8372	5% Duration	1328.1	688.89	685.64	1.49	1.49	11.67	11.61	288.79	295.18	3.1	3.08	3.25	3.25
Custer County	C20	RM 163.85	8031	5% Duration	1328.1	688.72	685	1.64	1.64	14.49	14.49	276.08	276.08	2.94	2.94	3.72	3.72
Custer County	C20	RM 163.67	7743	5% Duration	1328.1	688.55	684.45	1.81	1.81	16.15	16.15	190.27	190.27	3.86	3.86	4.1	4.1
Custer County	C20	RM 163.48	7449	5% Duration	1328.1	688.33	684.13	2.12	2.12	22.11	22.09	161.03	161.16	3.89	3.88	4.2	4.2
Custer County	C20	RM 163.3	7150	5% Duration	1328.1	688.22	684.13	1.81	1.81	16.52	16.04	203.2	209.92	3.61	3.5	4.09	4.09
Custer County	C20	RM 163.12	6859	5% Duration	1328.1	688.12	683.91	1.57	1.56	12.33	11.8	265.23	280.08	3.19	3.05	4.21	4.21
Custer County	C20	RM 162.94	6583	5% Duration	1328.1	687.96	683.78	1.78	1.77	15.73	14.96	200.37	211.43	3.73	3.54	4.18	4.18
Custer County	C20	RM 162.74	6254	5% Duration	1328.1	687.65	683.77	2.28	2.28	27	27	174.44	174.44	3.34	3.34	3.88	3.88
Custer County	C20	RM 162.55	5957	5% Duration	1328.1	687.41	683.96	2.16	2.16	24.67	24.67	228.44	228.44	2.7	2.7	3.45	3.45
Custer County	C20	RM 162.34	5620	5% Duration	1328.1	687.23	683.92	1.66	1.66	15.4	15.4	301.09	301.09	2.65	2.65	3.31	3.31
Custer County	C20	RM 162.18	5352	5% Duration	1328.1	687.04	683.41	1.56	1.56	22.43	22.41	354.23	354.59	2.4	2.4	3.63	3.63
Custer County	C20	RM 162.03	5111	5% Duration	1328.1	686.93	683.26	1.36	1.36	9.56	9.56	319.59	319.59	3.05	3.05	3.67	3.67
Custer County	C20	RM 161.81	4770	5% Duration	1328.1	686.62	682.63	2.15	2.15	23.38	22.96	174.61	177.88	3.54	3.48	3.99	3.99
Custer County	C20	RM 161.62	4470	5% Duration	1328.1	686.34	682.53	2.33	2.33	28.21	28.21	170.65	224.72	3.33	3.33	3.81	3.81
Custer County	C20	RM 161.43	4159	5% Duration	1328.1	686.14	682.63	2.06	2.06	22.42	21.88	204.62	209.85	3.15	3.07	3.51	3.51
Custer County	C20	RM 161.24	3859	5% Duration	1328.1	685.86	682.51	2.21	2.2	26.22	23.56	199.25	223.28	3.01	2.7	3.35	3.35
Custer County	C20	RM 161.06	3559	5% Duration	1328.1	685.65	682.38	1.99	1.99	20.94	20.87	214.86	215.62	3.11	3.1	3.27	3.27
Custer County	C20	RM 160.87	3258	5% Duration	1328.1	685.35	682.24	2.24	2.24	27.22	27.22	202.72	202.72	2.92	2.92	3.11	3.11
Custer County	C20	RM 160.68	2952	5% Duration	1328.1	685.18	682.11	1.81	1.81	17.68	17.68	250.11	250.11	2.93	2.93	3.07	3.07
Custer County	C20	RM 160.5	2662	5% Duration	1328.1	684.96	681.85	1.83	1.83	19.32	19.32	300.98	300.98	2.41	2.41	3.11	3.11
Custer County	C20	RM 160.31	2364	5% Duration	1328.1	684.73	681.58	1.78	1.78	18.42	18.36	319.08	320.06	2.34	2.33	3.15	3.15
Custer County	C20	RM 160.12	2063	5% Duration	1328.1	684.54	681.02	1.69	1.68	15.5	14.77	277.19	293.17	2.84	2.7	3.52	3.52
Custer County	C20	RM 159.93	1758	5% Duration	1328.1	684.19	680.9	2.14	2.14	27.27	27.27	289.57	289.57	2.15	2.15	3.29	3.29
Custer County	C20	RM 159.75	1459	5% Duration	1328.1	683.9	680.88	1.98	1.98	21.85	21.85	249.09	249.09	2.69	2.69	3.02	3.02
Custer County	C20	RM 159.55	1151	5% Duration	1328.1	683.67	680.74	1.9	1.9	20.07	20.06	258.64	258.73	2.7	2.7	2.93	2.93
Custer County	C20	RM 159.38	876	5% Duration	1328.1	683.42	680.37	2.03	2.02	22.45	21.15	228.69	244.62	2.85	2.69	3.05	3.05

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Custer County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Custer County	C20	RM 159.19	566	5% Duration	1328.1	683.22	679.77	1.89	1.89	19.06	19.02	231.7	232.16	3.03	3.03	3.45	3.45
Custer County	C20	RM 158.98	229	5% Duration	1328.1	682.96	679.44	2.02	2.02	21.73	21.13	215.71	222.01	3.05	2.96	3.52	3.52

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	C20	RM 158.74	61391	5% Duration	1328.06	682.96	679.22	1.95	1.95	19.83	19.82	212.52	212.56	3.21	3.21	3.74	3.74
Prairie County	C21	RM 158.55	61087	5% Duration	1328.06	682.85	678.98	1.64	1.64	13.51	13.5	224.73	225.03	3.61	3.6	3.87	3.87
Prairie County	C21	RM 158.36	60787	5% Duration	1328.06	682.73	678.83	1.61	1.61	13.35	13.35	244.91	244.91	3.37	3.37	3.9	3.9
Prairie County	C21	RM 158.17	60481	5% Duration	1328.06	682.57	678.35	1.69	1.69	16.32	16.32	251.18	251.18	3.13	3.13	4.22	4.22
Prairie County	C21	RM 157.98	60173	5% Duration	1328.06	682.29	678.22	2.07	2.07	23.45	23.45	227.7	227.7	2.82	2.82	4.07	4.07
Prairie County	C21	RM 157.78	59862	5% Duration	1328.06	682.05	678.23	2.04	2.04	21.78	20.34	200.84	216.03	3.24	3.02	3.82	3.82
Prairie County	C21	RM 157.6	59561	5% Duration	1328.06	681.94	678.14	1.67	1.67	14.24	13.81	233.85	241.33	3.41	3.3	3.8	3.8
Prairie County	C21	RM 157.38	59209	5% Duration	1328.06	681.76	677.81	1.67	1.63	15.36	14.1	282.13	322.37	2.76	2.53	3.95	3.95
Prairie County	C21	RM 157.18	58885	5% Duration	1328.06	681.61	677.42	1.62	1.58	13.6	12.13	235.47	285.21	3.37	3	4.19	4.19
Prairie County	C21	RM 156.99	58595	5% Duration	1328.06	681.38	677.32	2.07	1.95	21.78	15.75	173.17	270.9	3.5	2.52	4.06	4.06
Prairie County	C21	RM 156.8	58287	5% Duration	1328.06	680.96	677.32	2.67	2.52	37.75	25.93	149.35	246.02	3.15	2.15	3.64	3.64
Prairie County	C21	RM 156.62	57990	5% Duration	1328.06	680.84	677.29	1.87	1.82	18.43	16.95	206.41	249.37	3.18	2.92	3.55	3.55
Prairie County	C21	RM 156.42	57683	5% Duration	1328.06	680.71	677.21	1.6	1.6	13.71	13.45	270.35	275.9	3.06	3	3.5	3.5
Prairie County	C21	RM 156.24	57378	5% Duration	1328.06	680.44	676.91	2	2	22.22	21.61	244.77	252.15	2.71	2.63	3.53	3.53
Prairie County	C21	RM 156.04	57069	5% Duration	1328.06	680.3	676.56	1.7	1.69	14.59	14.15	221.29	228.67	3.54	3.43	3.74	3.74
Prairie County	C21	RM 155.85	56762	5% Duration	1328.06	680.11	676.11	1.93	1.92	18.91	18.04	197.76	208.55	3.49	3.32	4	4
Prairie County	C21	RM 155.66	56455	5% Duration	1328.06	679.81	675.96	2.28	2.27	27.04	23.55	175.17	203.02	3.32	2.88	3.85	3.85
Prairie County	C21	RM 155.47	56151	5% Duration	1328.06	679.66	675.89	1.82	1.81	17.96	17.48	256.93	264.87	2.85	2.77	3.77	3.77
Prairie County	C21	RM 155.27	55835	5% Duration	1328.06	679.43	675.92	1.77	1.77	18.19	18.18	317.24	317.32	2.36	2.36	3.51	3.51
Prairie County	C21	RM 155.08	55530	5% Duration	1328.06	679.18	675.95	1.82	1.82	18.94	18.91	296.27	296.76	2.46	2.46	3.23	3.23
Prairie County	C21	RM 154.88	55209	5% Duration	1328.06	678.98	675.64	1.71	1.71	15.21	15.21	299.29	299.29	2.6	2.6	3.34	3.34
Prairie County	C21	RM 154.69	54901	5% Duration	1328.06	678.68	675.39	2.02	2.02	23.15	23	264.25	266	2.49	2.48	3.29	3.29
Prairie County	C21	RM 154.5	54588	5% Duration	1328.06	678.41	675.02	1.94	1.94	21.03	20.84	257.32	259.83	2.66	2.63	3.39	3.39
Prairie County	C21	RM 154.3	54273	5% Duration	1328.06	678.18	674.8	1.84	1.84	18.91	18.8	277.5	279.19	2.61	2.59	3.38	3.38
Prairie County	C21	RM 154.1	53959	5% Duration	1328.06	677.9	674.67	1.97	1.97	22.08	22	269.17	270.08	2.5	2.49	3.23	3.23
Prairie County	C21	RM 153.91	53650	5% Duration	1328.06	677.71	674.51	1.74	1.74	16.32	16.21	259.53	261.33	2.94	2.92	3.2	3.2
Prairie County	C21	RM 153.72	53338	5% Duration	1328.06	677.49	674.06	1.88	1.88	18.62	17.64	225.36	238.36	3.14	2.97	3.43	3.43
Prairie County	C21	RM 153.52	53023	5% Duration	1328.06	677.09	673.78	2.44	2.35	33.49	28.85	204.93	251.65	2.61	2.24	3.31	3.31
Prairie County	C21	RM 153.32	52704	5% Duration	1328.06	676.73	673.64	2.21	2.21	27.55	27.55	236.27	236.27	2.55	2.55	3.09	3.09
Prairie County	C21	RM 153.12	52380	5% Duration	1328.06	676.5	673.43	1.85	1.85	18.86	18.86	261.97	261.97	2.74	2.74	3.07	3.07
Prairie County	C21	RM 152.92	52065	5% Duration	1328.06	676.29	672.88	1.82	1.82	17.51	17.51	262.68	285.63	2.77	2.77	3.41	3.41
Prairie County	C21	RM 152.73	51762	5% Duration	1328.06	676.06	672.27	1.9	1.9	19.58	19.58	266.25	266.25	2.63	2.63	3.79	3.79
Prairie County	C21	RM 152.54	51463	5% Duration	1328.06	675.84	671.85	1.91	1.91	19.02	19.02	248.96	248.96	2.79	2.79	3.99	3.99
Prairie County	C21	RM 152.35	51157	5% Duration	1328.06	675.69	671.41	1.73	1.73	15.35	15.35	225.37	225.37	3.41	3.41	4.28	4.28
Prairie County	C21	RM 152.16	50852	5% Duration	1328.06	675.51	671.23	1.77	1.77	17.15	17.15	265.64	265.64	2.82	2.82	4.28	4.28
Prairie County	C21	RM 151.97	50546	5% Duration	1328.06	675.35	670.99	1.77	1.72	14.77	12.73	226.29	271.74	3.3	2.83	4.36	4.36
Prairie County	C21	RM 151.77	50227	5% Duration	1328.06	675.23	670.87	1.67	1.58	13.8	9.78	201.93	308.21	3.86	2.72	4.36	4.36
Prairie County	C21	RM 151.59	49936	5% Duration	1328.06	674.93	670.75	2.37	2.24	28.31	23.65	147.99	196.56	3.63	3.01	4.18	4.18
Prairie County	C21	RM 151.38	49599	5% Duration	1328.06	674.75	670.9	1.96	1.93	19.85	17.86	198.37	226.25	3.39	3.05	3.85	3.85
Prairie County	C21	RM 151.19	49287	5% Duration	1328.06	674.61	670.96	1.75	1.75	15.78	15.78	221.73	221.73	3.42	3.42	3.65	3.65
Prairie County	C21	RM 151.01	49012	5% Duration	1328.06	674.45	670.91	1.77	1.77	17.07	17.07	284.07	284.07	2.64	2.64	3.54	3.54
Prairie County	C21	RM 150.81	48683	5% Duration	1328.06	674.27	670.79	1.62	1.62	14.32	14.32	303.09	303.09	2.71	2.71	3.48	3.48
Prairie County	C21	RM 150.63	48400	5% Duration	1393.19	674.16	670.45	1.43	1.43	10.96	10.96	355.94	355.94	2.74	2.74	3.71	3.71
Prairie County	C21	RM 150.44	48094	5% Duration	1393.19	673.97	669.86	1.74	1.73	13.67	12.7	273.64	297.99	2.92	2.71	4.11	4.11
Prairie County	C21	RM 150.25	47780	5% Duration	1393.19	673.63	669.38	2.33	2.33	30.78	30.78	162.06	162.06	3.69	3.69	4.25	4.25
Prairie County	C21	RM 150.05	47474	5% Duration	1393.19	673.54	669.21	1.78	1.78	15.56	15.56	199.12	199.12	3.93	3.93	4.33	4.33
Prairie County	C21	RM 149.87	47178	5% Duration	1393.19	673.39	669.02	1.78	1.78	17.31	17.31	268.37	268.37	2.91	2.91	4.37	4.37
Prairie County	C21	RM 149.66	46846	5% Duration	1393.19	673.26	668.97	1.57	1.57	10.89	10.89	280.24	280.24	3.16	3.16	4.29	4.29
Prairie County	C21	RM 149.48	46551	5% Duration	1393.19	673.01	668.91	2.03	2.02	22.88	21.9	256.11	355.16	2.68	2.56	4.1	4.1
Prairie County	C21	RM 149.27	46219	5% Duration	1393.19	672.7	668.94	2.16	2	24.13	18.61	203.74	405.57	2.97	2.28	3.76	3.76
Prairie County	D1	RM 149.08	45914	5% Duration	1393.19	672.52	668.95	1.84	1.84	18.1	18.1	251.4	251.4	3.01	3.01	3.57	3.57
Prairie County	D1	RM 148.89	45608	5% Duration	1393.19	672.41	668.96	1.5	1.5	12.14	12.13	312.98	313.16	2.96	2.96	3.45	3.45
Prairie County	D1	RM 148.7	45301	5% Duration	1393.19	672.23	668.73	1.66	1.66	13.64	13.64	345.71	345.71	2.43	2.43	3.5	3.5
Prairie County	D1	RM 148.5	44987	5% Duration	1393.19	672.01	668.42	1.86	1.84	18.12	16.95	234.91	254.83	3.18	2.98	3.59	3.59
Prairie County	D1	RM 148.3	44667	5% Duration	1393.19	671.74	668.01	2.14	2.1	23.45	21.66	191.24	211.98	3.4	3.14	3.73	3.73
Prairie County	D1	RM 148.11	44353	5% Duration	1393.19	671.59	667.73	1.83	1.82	17.41	16.29	230.09	248.75	3.3	3.09	3.86	3.86
Prairie County	D1	RM 147.93	44062	5% Duration	1393.19	671.44	667.4	1.68	1.68	15.71	15.69	304.88	305.16	2.71	2.71	4.04	4.04
Prairie County	D1	RM 147.74	43761	5% Duration	1393.19	671.24	667.21	1.81	1.71	17.95	13.44	233.27	343.16	3.18	2.37	4.03	4.03
Prairie County	D1	RM 147.55	43454	5% Duration	1393.19	671.06	666.79	1.92	1.79	18.52	13.51	186.76	292.51	3.68	2.67	4.27	4.27
Prairie County	D1	RM 147.34	43128	5% Duration	1393.19	670.84	666.46	2.08	1.93	21.68	15.43	170.07	273.96	3.73	2.63	4.38	4.38

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D1	RM 147.15	42816	5% Duration	1393.19	670.6	666.42	2.23	2.07	25.95	19.28	177.63	274.9	3.31	2.44	4.18	4.18
Prairie County	D1	RM 146.96	42505	5% Duration	1393.19	670.4	666.49	2.05	2.04	21.12	19.93	187.33	199.18	3.63	3.42	3.91	3.91
Prairie County	D1	RM 146.77	42199	5% Duration	1393.19	670.28	666.48	1.77	1.77	15.8	15.8	221.71	221.71	3.56	3.56	3.8	3.8
Prairie County	D1	RM 146.58	41899	5% Duration	1393.19	670.18	666.59	1.49	1.49	11.71	11.71	293.36	293.36	3.18	3.18	3.59	3.59
Prairie County	D1	RM 146.32	41487	5% Duration	1393.19	669.92	666.62	1.83	1.83	15.99	15.99	303.01	303.01	2.52	2.52	3.3	3.3
Prairie County	D1	RM 146	40968	5% Duration	1393.19	669.57	666.48	1.83	1.83	18.97	18.97	273.94	273.94	2.78	2.78	3.09	3.09
Prairie County	D1	RM 145.65	40420	5% Duration	1393.19	669.19	665.52	1.87	1.87	19.33	19.33	239.54	239.54	3.1	3.1	3.67	3.67
Prairie County	D1	RM 145.36	39958	5% Duration	1393.19	668.9	664.91	1.79	1.79	18.44	17.9	264.33	272.96	2.94	2.85	3.99	3.99
Prairie County	D1	RM 145.13	39579	5% Duration	1393.19	668.71	664.58	1.64	1.64	14.61	14.61	262.65	262.65	3.24	3.24	4.13	4.13
Prairie County	D1	RM 144.92	39251	5% Duration	1393.19	668.56	664.24	1.62	1.62	14.83	14.83	264.2	264.2	3.25	3.25	4.32	4.32
Prairie County	D1	RM 144.73	38942	5% Duration	1393.19	668.38	663.99	1.74	1.74	17.18	17.18	261.29	261.29	3.06	3.06	4.39	4.39
Prairie County	D1	RM 144.56	38672	5% Duration	1393.19	668.12	664.1	2.05	2.05	23.62	23.62	260.6	260.6	2.6	2.6	4.02	4.02
Prairie County	D1	RM 144.33	38305	5% Duration	1393.19	667.86	664.19	1.9	1.9	18.99	18.99	227.82	227.82	3.21	3.21	3.67	3.67
Prairie County	D1	RM 144.13	37987	5% Duration	1393.19	667.73	664.33	1.63	1.62	13.86	13.61	269.04	274.84	3.18	3.13	3.4	3.4
Prairie County	D1	RM 143.91	37637	5% Duration	1393.19	667.58	663.96	1.58	1.57	13.38	12.72	298.41	315.39	2.96	2.81	3.62	3.62
Prairie County	D1	RM 143.71	37320	5% Duration	1393.19	667.29	663.43	2.11	2.11	22.7	22.57	190.43	191.59	3.47	3.45	3.86	3.86
Prairie County	D1	RM 143.45	36908	5% Duration	1393.19	666.9	663.01	2.39	2.39	29.65	29.65	177.09	177.09	3.29	3.29	3.89	3.89
Prairie County	D1	RM 143.21	36511	5% Duration	1393.19	666.7	662.92	1.85	1.85	17.55	17.55	221.87	221.87	3.4	3.4	3.78	3.78
Prairie County	D1	RM 142.97	36139	5% Duration	1393.19	666.54	662.7	1.73	1.73	15.13	15.13	229.2	229.2	3.52	3.52	3.84	3.84
Prairie County	D1	RM 142.71	35717	5% Duration	1393.19	666.16	662.52	2.28	2.28	27.03	27.03	184.69	184.69	3.31	3.31	3.64	3.64
Prairie County	D1	RM 142.46	35322	5% Duration	1393.19	665.97	662.36	1.75	1.75	16.18	16.18	252.45	252.45	3.15	3.15	3.61	3.61
Prairie County	D1	RM 142.23	34952	5% Duration	1393.19	665.76	662.21	1.82	1.82	17.32	17.28	235.41	235.95	3.25	3.24	3.55	3.55
Prairie County	D1	RM 142.02	34614	5% Duration	1393.19	665.46	662.21	2.08	2.03	24.76	22.97	267.16	305.76	2.43	2.25	3.25	3.25
Prairie County	D1	RM 141.8	34258	5% Duration	1393.19	665.27	662.01	1.5	1.5	12.63	12.63	377.98	377.98	2.46	2.46	3.26	3.26
Prairie County	D1	RM 141.6	33942	5% Duration	1393.19	664.98	661.72	1.94	1.94	20.36	20.36	290.28	290.28	2.48	2.48	3.26	3.26
Prairie County	D1	RM 141.42	33642	5% Duration	1393.19	664.86	661.32	1.49	1.49	11.79	11.79	337.6	337.6	2.76	2.76	3.53	3.53
Prairie County	D1	RM 141.22	33325	5% Duration	1393.19	664.71	660.91	1.5	1.5	12.22	12.22	326.03	326.03	2.85	2.85	3.8	3.8
Prairie County	D1	RM 141.02	33011	5% Duration	1393.19	664.45	660.58	2.01	2.01	20.5	20.5	192.73	192.73	3.59	3.59	3.87	3.87
Prairie County	D1	RM 140.84	32709	5% Duration	1393.19	664.31	660.35	1.82	1.82	17.29	17.29	238.83	238.83	3.21	3.21	3.96	3.96
Prairie County	D1	RM 140.64	32394	5% Duration	1393.19	664.2	660.07	1.58	1.58	12.12	12.12	235.62	235.62	3.74	3.74	4.13	4.13
Prairie County	D1	RM 140.44	32074	5% Duration	1393.19	664.01	659.63	1.87	1.87	17.67	17.67	222.13	222.13	3.35	3.35	4.38	4.38
Prairie County	D1	RM 140.23	31738	5% Duration	1393.19	663.71	659.62	2.21	2.21	24.86	24.86	204.46	204.46	3.08	3.08	4.09	4.09
Prairie County	D1	RM 140.03	31420	5% Duration	1393.19	663.55	659.59	1.81	1.81	16.94	16.94	249.39	249.39	3.09	3.09	3.96	3.96
Prairie County	D1	RM 139.84	31118	5% Duration	1393.19	663.37	659.19	1.75	1.75	17.35	17.35	306.85	306.85	2.59	2.59	4.18	4.18
Prairie County	D1	RM 139.64	30801	5% Duration	1393.19	663.2	658.96	1.71	1.71	14.68	13.91	220.63	233.76	3.69	3.49	4.24	4.24
Prairie County	D1	RM 139.44	30466	5% Duration	1393.19	663.05	658.72	1.73	1.72	15.58	14.92	247.69	259.53	3.25	3.11	4.33	4.33
Prairie County	D1	RM 139.23	30138	5% Duration	1393.19	662.91	658.34	1.67	1.67	15.72	15.72	215.49	215.49	3.86	3.86	4.57	4.57
Prairie County	D1	RM 139.02	29799	5% Duration	1393.19	662.6	658.14	2.2	2.2	28.85	28.85	173.99	173.99	3.65	3.65	4.46	4.46
Prairie County	D1	RM 138.81	29470	5% Duration	1393.19	662.52	658.11	1.56	1.56	13.48	13.48	217.67	217.74	4.12	4.11	4.41	4.41
Prairie County	D1	RM 138.62	29157	5% Duration	1393.19	662.39	657.94	1.68	1.68	13.47	13.34	213.9	216.08	3.88	3.84	4.45	4.45
Prairie County	D1	RM 138.41	28823	5% Duration	1393.19	662.18	657.82	1.93	1.93	20.7	19.74	202.45	212.62	3.57	3.4	4.36	4.36
Prairie County	D1	RM 138.22	28519	5% Duration	1393.19	662.02	657.8	1.92	1.92	17.9	17.9	197.21	197.21	3.69	3.69	4.22	4.22
Prairie County	D1	RM 138.02	28200	5% Duration	1393.19	661.96	657.74	1.41	1.41	10.49	10.44	246.97	248.12	3.99	3.97	4.22	4.22
Prairie County	D1	RM 137.82	27874	5% Duration	1393.19	661.82	656.95	1.59	1.59	13.92	13.92	259.88	259.88	3.38	3.38	4.87	4.87
Prairie County	D1	RM 137.62	27552	5% Duration	1393.19	661.62	656.75	1.81	1.81	18.53	18.53	232.43	232.43	3.31	3.31	4.87	4.87
Prairie County	D1	RM 137.42	27247	5% Duration	1393.19	661.42	656.66	1.94	1.94	20.21	20.21	197.02	197.02	3.65	3.65	4.76	4.76
Prairie County	D1	RM 137.24	26944	5% Duration	1393.19	661.26	656.66	1.89	1.89	19.63	19.63	198.46	198.46	3.72	3.72	4.6	4.6
Prairie County	D1	RM 137.04	26627	5% Duration	1396.02	661.06	656.5	1.96	1.96	21.45	21.45	198.66	198.66	3.58	3.58	4.56	4.56
Prairie County	D2	RM 136.84	26475	5% Duration	1396.02	661.02	656.46	1.69	1.69	14.41	14.41	201.55	201.55	4.1	4.1	4.56	4.56
Prairie County	D2	RM 136.44	26317	5% Duration	1396.02	660.99	656.37	1.51	1.51	11.94	11.94	222.34	222.34	4.16	4.16	4.62	4.62
Prairie County	D2	RM 136.23	26001	5% Duration	1396.02	660.83	656.19	1.75	1.75	14.22	14.22	242.11	242.11	3.3	3.3	4.64	4.64
Prairie County	D2	RM 136.04	25673	5% Duration	1396.02	660.71	656.01	1.7	1.7	13.07	13.07	206.7	206.7	3.97	3.97	4.7	4.7
Prairie County	D2	RM 135.85	25337	5% Duration	1396.02	660.52	655.93	1.94	1.94	18.55	18.55	184.23	184.23	3.9	3.9	4.59	4.59
Prairie County	D2	RM 135.66	25033	5% Duration	1396.02	660.4	655.91	1.8	1.8	15.94	15.94	198.88	198.88	3.9	3.9	4.49	4.49
Prairie County	D2	RM 135.46	24715	5% Duration	1396.02	660.26	655.86	1.8	1.8	18.74	18.74	197.47	197.47	3.93	3.93	4.4	4.4
Prairie County	D2	RM 135.24	24417	5% Duration	1396.02	660.19	655.68	1.46	1.46	11.96	11.96	226.75	226.75	4.21	4.21	4.51	4.51
Prairie County	D2	RM 135	24090	5% Duration	1396.02	660.04	655.56	1.65	1.65	15.22	15.22	243.03	243.03	3.48	3.48	4.48	4.48
Prairie County	D2	RM 134.78	23742	5% Duration	1396.02	659.9	655.36	1.58	1.58	13.8	13.8	220.78	220.78	3.99	3.99	4.54	4.54
Prairie County	D2	RM 134.58	23351	5% Duration	1396.02	659.67	655.29	1.88	1.88	20.51	20.45	188.56	189.14	3.93	3.92	4.38	4.38
Prairie County	D2	RM 134.39	23000	5% Duration	1396.02	659.48	655.24	1.86	1.86	20.52	20.49	215.25	215.62	3.5	3.49	4.24	4.24

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D2	RM 134.19	22682	5% Duration	1396.02	659.3	655.11	1.76	1.75	16.52	15.79	263.6	335.35	3.01	2.88	4.19	4.19
Prairie County	D2	RM 133.99	22372	5% Duration	1396.02	659.17	654.97	1.65	1.65	12.81	12.81	260.22	260.22	3.25	3.25	4.2	4.2
Prairie County	D2	RM 133.79	22053	5% Duration	1396.02	658.97	655	1.87	1.87	18.11	17.7	226.1	231.72	3.3	3.23	3.97	3.97
Prairie County	D2	RM 133.59	21733	5% Duration	1396.02	658.81	654.96	1.77	1.77	16.29	16.17	240.28	242.09	3.28	3.26	3.85	3.85
Prairie County	D2	RM 133.41	21417	5% Duration	1396.02	658.68	654.78	1.64	1.63	13.7	13.59	249.85	252.09	3.42	3.39	3.9	3.9
Prairie County	D2	RM 133.21	21104	5% Duration	1396.02	658.51	654.64	1.79	1.79	16.44	15.73	229.84	240.76	3.39	3.25	3.87	3.87
Prairie County	D2	RM 133.02	20811	5% Duration	1396.02	658.37	654.53	1.74	1.74	15.7	15.7	244.52	244.59	3.28	3.28	3.84	3.84
Prairie County	D2	RM 132.83	20491	5% Duration	1396.02	658.19	654.29	1.79	1.79	17.23	16.78	261.62	269.64	2.98	2.9	3.9	3.9
Prairie County	D2	RM 132.63	20184	5% Duration	1396.02	658	654.04	1.83	1.79	18.04	15.84	252.06	299.05	2.98	2.61	3.96	3.96
Prairie County	D2	RM 132.42	19875	5% Duration	1396.02	657.82	653.98	1.83	1.8	17.13	15.68	216.28	244.23	3.48	3.18	3.84	3.84
Prairie County	D2	RM 132.23	19553	5% Duration	1396.02	657.72	653.88	1.55	1.51	12.2	11.44	254.21	281.74	3.49	3.27	3.84	3.84
Prairie County	D2	RM 132.02	19225	5% Duration	1396.02	657.5	653.63	1.87	1.87	18.61	18.61	240.93	240.93	3.09	3.09	3.87	3.87
Prairie County	D2	RM 131.81	18910	5% Duration	1396.02	657.26	653.37	2.01	2.01	21.31	21.31	223.55	223.55	3.11	3.11	3.89	3.89
Prairie County	D2	RM 131.58	18573	5% Duration	1396.02	657.15	653.02	1.61	1.61	13.09	12.83	237.08	248.24	3.65	3.57	4.13	4.13
Prairie County	D2	RM 131.38	18237	5% Duration	1396.02	656.99	652.75	1.74	1.69	15.16	14.16	210.65	239.19	3.7	3.46	4.24	4.24
Prairie County	D2	RM 131.18	17875	5% Duration	1396.02	656.75	652.49	1.99	1.99	20.3	20.3	205.4	205.4	3.42	3.42	4.26	4.26
Prairie County	D2	RM 130.98	17548	5% Duration	1396.02	656.55	652.34	2	1.99	20.27	19.09	196.07	209.9	3.56	3.35	4.21	4.21
Prairie County	D2	RM 130.78	17227	5% Duration	1396.02	656.41	652.27	1.83	1.83	16.87	16.87	212.92	212.92	3.59	3.59	4.14	4.14
Prairie County	D2	RM 130.59	16914	5% Duration	1396.02	656.32	652.16	1.54	1.54	11.79	11.79	235.96	235.96	3.83	3.83	4.16	4.16
Prairie County	D2	RM 130.39	16588	5% Duration	1396.02	656.16	651.95	1.75	1.75	15.23	15.23	208.95	208.95	3.81	3.81	4.21	4.21
Prairie County	D2	RM 130.19	16280	5% Duration	1396.02	655.99	651.81	1.87	1.87	17.94	17.94	215.46	215.46	3.46	3.46	4.18	4.18
Prairie County	D2	RM 130	15965	5% Duration	1396.02	655.87	651.57	1.66	1.66	13.97	13.97	238.95	238.95	3.52	3.52	4.3	4.3
Prairie County	D2	RM 129.81	15649	5% Duration	1396.02	655.77	651.47	1.56	1.56	12.05	11.92	233.42	236.28	3.83	3.79	4.3	4.3
Prairie County	D2	RM 129.62	15337	5% Duration	1396.02	655.6	651.34	1.81	1.81	16.51	16.51	216.4	216.4	3.57	3.57	4.26	4.26
Prairie County	D2	RM 129.43	15031	5% Duration	1396.02	655.49	651.21	1.65	1.65	13.58	13.58	224.54	224.54	3.76	3.76	4.28	4.28
Prairie County	D2	RM 129.24	14724	5% Duration	1404.52	655.31	651.06	1.86	1.86	17.56	17.56	214.89	214.89	3.52	3.52	4.25	4.25
Prairie County	D2	RM 129.04	14417	5% Duration	1404.52	655.12	651.06	1.96	1.96	19.74	19.67	208.1	213.64	3.44	3.43	4.06	4.06
Prairie County	D2	RM 128.82	14112	5% Duration	1404.52	654.94	651.05	1.98	1.98	20	19.94	207.18	245.57	3.43	3.42	3.89	3.89
Prairie County	D2	RM 128.62	13798	5% Duration	1404.52	654.8	651.08	1.77	1.77	15.9	15.9	226.01	226.01	3.51	3.51	3.72	3.72
Prairie County	D2	RM 128.41	13446	5% Duration	1404.52	654.64	651.07	1.72	1.72	15.45	15.45	251.18	251.18	3.25	3.25	3.57	3.57
Prairie County	D2	RM 128.21	13125	5% Duration	1404.52	654.46	650.98	1.78	1.78	16.63	16.42	244.48	247.64	3.22	3.18	3.48	3.48
Prairie County	D2	RM 127.98	12790	5% Duration	1404.52	654.3	650.84	1.73	1.73	15.51	15.51	247.14	247.14	3.29	3.29	3.46	3.46
Prairie County	D2	RM 127.75	12473	5% Duration	1404.52	654.16	650.59	1.61	1.61	13.76	13.76	286.79	286.79	3.05	3.05	3.57	3.57
Prairie County	D2	RM 127.55	12112	5% Duration	1404.52	653.99	650.35	1.61	1.61	13.78	13.78	284.45	284.45	3.07	3.07	3.64	3.64
Prairie County	D2	RM 127.27	11729	5% Duration	1404.52	653.82	649.95	1.61	1.61	13.61	13.61	274.27	274.27	3.18	3.18	3.87	3.87
Prairie County	D2	RM 126.97	11415	5% Duration	1404.52	653.61	649.68	1.86	1.86	17.82	17.82	221.31	221.31	3.41	3.41	3.93	3.93
Prairie County	D2	RM 126.71	10962	5% Duration	1404.52	653.39	649.49	1.82	1.82	16.65	16.65	215.08	215.08	3.6	3.6	3.9	3.9
Prairie County	D2	RM 126.43	10478	5% Duration	1404.52	653.23	649.32	1.49	1.49	11.42	11.42	274.36	274.36	3.43	3.43	3.91	3.91
Prairie County	D2	RM 126.42	10074	5% Duration	1404.52	653	649.05	1.82	1.82	17.41	17.41	246.17	246.17	3.14	3.14	3.95	3.95
Prairie County	D2	RM 126.41	9625	5% Duration	1404.52	652.75	648.27	1.84	1.84	17.22	17.1	218.73	220.37	3.49	3.46	4.47	4.47
Prairie County	D3	RM 126.38	9533	5% Duration	1404.52	652.7	648.27	1.87	1.87	17.84	17.76	218.6	219.59	3.44	3.42	4.42	4.42
Prairie County	D3	RM 126.22	9286	5% Duration	1404.52	652.61	648.8	1.66	1.66	14.08	14.08	240.8	240.8	3.5	3.5	3.81	3.81
Prairie County	D3	RM 126.03	8974	5% Duration	1404.52	652.48	648.71	1.6	1.6	13.3	13.18	269.32	271.74	3.27	3.24	3.77	3.77
Prairie County	D3	RM 125.82	8648	5% Duration	1404.52	652.33	648.36	1.65	1.65	14.52	14.52	278.2	278.2	3.06	3.06	3.97	3.97
Prairie County	D3	RM 125.63	8335	5% Duration	1404.52	652.2	648.12	1.56	1.56	12.44	12.41	259.53	260.09	3.47	3.46	4.08	4.08
Prairie County	D3	RM 125.43	8020	5% Duration	1404.52	652.06	647.8	1.7	1.69	14.36	13.21	216.2	237.98	3.81	3.5	4.26	4.26
Prairie County	D3	RM 125.24	7711	5% Duration	1404.52	651.98	647.26	1.51	1.51	10.57	10.27	226.37	233.37	4.11	3.99	4.72	4.72
Prairie County	D3	RM 125.05	7403	5% Duration	1404.52	651.87	647.23	1.61	1.61	12.47	12	209.96	219.13	4.15	3.99	4.64	4.64
Prairie County	D3	RM 124.83	7059	5% Duration	1404.52	651.78	647.25	1.52	1.52	11.37	11.07	237.41	243.99	3.89	3.79	4.53	4.53
Prairie County	D3	RM 124.62	6712	5% Duration	1404.52	651.66	647.25	1.54	1.54	12.04	12.01	255.3	255.88	3.57	3.56	4.41	4.41
Prairie County	D3	RM 124.41	6375	5% Duration	1404.52	651.47	647.27	1.83	1.83	17.05	17.01	219.1	235.78	3.5	3.5	4.2	4.2
Prairie County	D3	RM 124.15	5960	5% Duration	1404.52	651.21	647.27	1.94	1.94	19.98	19.98	231.2	247.63	3.12	3.12	3.94	3.94
Prairie County	D3	RM 123.94	5627	5% Duration	1404.52	650.87	647.27	2.28	2.28	27.26	27.26	194.15	203.7	3.18	3.18	3.6	3.6
Prairie County	D3	RM 123.74	5312	5% Duration	1404.52	650.61	647.25	2.21	2.21	25.92	25.92	203.27	207.58	3.12	3.12	3.36	3.36
Prairie County	D3	RM 123.56	5014	5% Duration	1404.52	650.56	647.24	1.41	1.41	10.38	10.38	310.19	328.39	3.21	3.21	3.32	3.32
Prairie County	D3	RM 123.24	4500	5% Duration	1404.52	650.34	647.19	1.31	1.31	12.89	12.89	511.8	511.8	2.1	2.1	3.15	3.15
Prairie County	D3	RM 122.99	4116	5% Duration	1404.52	650.17	646.67	1.25	1.25	8.4	8.35	439.49	442.38	2.56	2.55	3.5	3.5
Prairie County	D3	RM 122.76	3746	5% Duration	1404.52	650.03	646.22	1.35	1.35	9.94	9.92	358.28	358.9	2.89	2.89	3.81	3.81
Prairie County	D3	RM 122.55	3414	5% Duration	1404.52	649.86	645.7	1.65	1.65	13.76	13.76	239.8	239.8	3.55	3.55	4.16	4.16
Prairie County	D3	RM 122.3	3012	5% Duration	1404.52	649.61	645.57	1.93	1.93	19.11	19.11	212.01	212.01	3.43	3.43	4.04	4.04

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Prairie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Prairie County	D3	RM 122.08	2651	5% Duration	1404.52	649.41	645.49	1.87	1.87	17.76	17.76	238.7	238.7	3.15	3.15	3.92	3.92
Prairie County	D3	RM 121.88	2338	5% Duration	1404.52	649.26	645.42	1.76	1.76	15.17	15.17	242.1	242.1	3.29	3.29	3.84	3.84
Prairie County	D3	RM 121.66	1982	5% Duration	1404.52	649.06	645.3	1.85	1.85	17.11	17.11	224.41	224.41	3.38	3.38	3.76	3.76
Prairie County	D3	RM 121.46	1651	5% Duration	1404.52	648.88	645.06	1.84	1.84	17.84	17.76	241.47	242.6	3.16	3.14	3.82	3.82
Prairie County	D3	RM 121.24	1304	5% Duration	1404.52	648.63	644.99	1.97	1.96	20.32	19.19	243.67	259.36	2.93	2.76	3.64	3.64
Prairie County	D3	RM 121.02	957	5% Duration	1404.52	648.42	644.88	1.84	1.82	17.36	16.29	257.55	279.01	2.96	2.77	3.54	3.54
Prairie County	D3	RM 120.84	660	5% Duration	1404.52	648.24	644.78	1.8	1.8	18.9	18.9	253.02	253.02	3.09	3.09	3.46	3.46
Prairie County	D3	RM 120.64	350	5% Duration	1404.52	648.08	644.42	1.73	1.73	15.41	15.41	240.33	240.33	3.38	3.38	3.66	3.66

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D3	RM 120.37	90975.57	5% Duration	1404.7	648.01	643.94	1.74	1.71	16.02	13.98	254.01	324.47	3.15	2.75	4.07	4.07
Dawson County	D3	RM 120.28	90838.07	5% Duration	1404.7	647.94	643.78	1.75	1.71	15.77	14.54	229.32	260	3.42	3.15	4.16	4.16
Dawson County	D3	RM 120.18	90675.23	5% Duration	1404.7	647.87	643.7	1.73	1.68	15.01	13.63	213.48	250.58	3.66	3.33	4.17	4.17
Dawson County	D3	RM 120.00	90388.96	5% Duration	1404.7	647.78	643.56	1.61	1.6	12.86	12.12	226.64	242.98	3.83	3.62	4.21	4.21
Dawson County	D3	RM 119.84	90136.35	5% Duration	1404.7	647.66	643.44	1.72	1.71	14.53	14	213.73	222.9	3.83	3.69	4.22	4.22
Dawson County	D3	RM 119.68	89873.82	5% Duration	1404.7	647.51	643.31	1.91	1.9	17.87	16.16	189.21	210.77	3.89	3.52	4.2	4.2
Dawson County	D3	RM 119.53	89627.16	5% Duration	1404.7	647.42	643.2	1.76	1.76	15.12	15.12	204.16	204.16	3.92	3.92	4.23	4.23
Dawson County	D3	RM 119.39	89404.11	5% Duration	1404.7	647.36	643.09	1.61	1.6	12.92	12.45	231.36	241.99	3.75	3.63	4.27	4.27
Dawson County	D3	RM 119.26	89201.38	5% Duration	1404.7	647.28	642.99	1.59	1.58	12.94	12.41	263.7	276.6	3.36	3.22	4.3	4.3
Dawson County	D3	RM 119.12	88969.13	5% Duration	1404.7	647.14	642.87	1.85	1.8	16.87	14.93	193.4	251.04	3.9	3.45	4.26	4.26
Dawson County	D3	RM 119.00	88780.83	5% Duration	1404.7	647.06	642.78	1.82	1.78	16.31	14.59	199.46	229.5	3.84	3.43	4.28	4.28
Dawson County	D3	RM 118.85	88537.07	5% Duration	1404.7	646.98	642.66	1.62	1.59	13.25	12.04	241.51	274.64	3.55	3.22	4.32	4.32
Dawson County	D3	RM 118.72	88336.12	5% Duration	1404.7	646.93	642.56	1.46	1.41	10.36	8.9	237.19	291.93	3.98	3.42	4.37	4.37
Dawson County	D3	RM 118.60	88130.39	5% Duration	1404.7	646.84	642.46	1.63	1.61	13.13	11.99	220.72	247.28	3.86	3.54	4.38	4.38
Dawson County	D3	RM 118.47	87924.15	5% Duration	1404.7	646.71	642.37	1.87	1.83	17.95	16.17	211.72	245.97	3.46	3.13	4.34	4.34
Dawson County	D3	RM 118.34	87719.85	5% Duration	1404.7	646.48	642.27	2.23	2.18	27	25.32	214.06	239.4	2.86	2.69	4.22	4.22
Dawson County	D3	RM 118.21	87507.02	5% Duration	1404.7	646.39	642.16	1.93	1.88	18.09	16.25	175.82	205.4	4.04	3.64	4.22	4.22
Dawson County	D3	RM 118.07	87276.02	5% Duration	1410.37	646.31	642.05	1.63	1.63	14.4	14.31	297.49	299.23	2.91	2.89	4.26	4.26
Dawson County	D4	RM 117.90	87004.77	5% Duration	1410.37	646.21	641.92	1.53	1.4	12.07	9.32	234.19	380.16	3.44	2.65	4.29	4.29
Dawson County	D4	RM 117.77	86795.88	5% Duration	1410.37	646.12	641.81	1.61	1.44	13.37	9.51	217.15	417.49	3.33	2.35	4.31	4.31
Dawson County	D4	RM 117.62	86560.03	5% Duration	1410.37	646.05	641.7	1.44	1.35	10.31	8.55	247.32	339.94	3.7	3.06	4.35	4.35
Dawson County	D4	RM 117.46	86294.2	5% Duration	1410.37	645.88	641.57	1.9	1.77	18.01	13.76	183	282.77	3.71	2.82	4.31	4.31
Dawson County	D4	RM 117.33	86073.88	5% Duration	1410.37	645.69	641.46	2.21	2.06	23.67	18.28	137.01	215.7	4.16	3.17	4.23	4.23
Dawson County	D4	RM 117.16	85808.16	5% Duration	1410.37	645.63	641.33	1.72	1.61	14.37	11.5	182.25	269.65	4.07	3.25	4.3	4.3
Dawson County	D4	RM 117.03	85604.68	5% Duration	1410.37	645.58	641.3	1.5	1.46	11.48	10.65	243.69	303.62	3.44	3.19	4.28	4.28
Dawson County	D4	RM 116.87	85336.88	5% Duration	1410.37	645.49	641.29	1.46	1.34	10.85	8.33	238.63	386.7	3.54	2.72	4.21	4.21
Dawson County	D4	RM 116.69	85043.25	5% Duration	1410.37	645.35	641.44	1.61	1.52	13.98	11.07	279.08	406.06	2.89	2.29	3.91	3.91
Dawson County	D4	RM 116.56	84823.15	5% Duration	1410.37	645.18	641.34	1.85	1.78	18.59	15.28	234.35	336.7	2.86	2.35	3.84	3.84
Dawson County	D4	RM 116.39	84558.58	5% Duration	1410.37	645.09	641.21	1.48	1.42	11.52	9.57	269.92	373.14	3.19	2.66	3.88	3.88
Dawson County	D4	RM 116.22	84287.19	5% Duration	1410.37	644.98	641	1.51	1.49	11.54	10	259.34	304.6	3.58	3.11	3.98	3.98
Dawson County	D4	RM 116.05	84007.59	5% Duration	1410.37	644.83	640.84	1.78	1.71	15.86	13.04	213.93	274.44	3.63	3	3.99	3.99
Dawson County	D4	RM 115.87	83722.29	5% Duration	1410.37	644.65	640.8	1.93	1.84	19.27	15.74	214.27	282.23	3.31	2.72	3.85	3.85
Dawson County	D4	RM 115.73	83500.35	5% Duration	1410.37	644.51	640.69	1.83	1.79	19.23	16.72	310.77	376.95	2.4	2.1	3.82	3.82
Dawson County	D4	RM 115.61	83294.37	5% Duration	1410.37	644.43	640.59	1.42	1.39	11.45	10.28	385.01	443.62	2.54	2.28	3.84	3.84
Dawson County	D4	RM 115.45	83034.82	5% Duration	1410.37	644.28	640.37	1.54	1.49	13.47	11.17	359.43	458.64	2.49	2.07	3.91	3.91
Dawson County	D4	RM 115.29	82782.88	5% Duration	1410.37	644.14	640.34	1.58	1.55	13.8	12.61	314.22	358.81	2.78	2.54	3.79	3.79
Dawson County	D4	RM 115.09	82480.02	5% Duration	1410.37	644.05	640.2	1.3	1.28	8.72	7.98	324	362.94	3.32	3.04	3.86	3.86
Dawson County	D4	RM 114.96	82177.99	5% Duration	1410.37	643.91	640	1.57	1.54	12.71	11.42	260.73	298.37	3.41	3.06	3.91	3.91
Dawson County	D4	RM 114.74	81836.48	5% Duration	1410.37	643.57	639.98	2.3	2.27	27.13	22.56	179.76	219.76	3.41	2.83	3.59	3.59
Dawson County	D4	RM 114.58	81577.9	5% Duration	1410.37	643.52	639.46	1.65	1.51	13.63	10.92	195.77	339.04	3.68	2.93	4.07	4.07
Dawson County	D4	RM 114.42	81309.47	5% Duration	1410.37	643.4	639.33	1.65	1.65	14.02	14.02	251.25	251.25	3.4	3.4	4.07	4.07
Dawson County	D4	RM 114.28	81078.59	5% Duration	1410.37	643.26	639.21	1.84	1.84	17.12	16.45	213.07	222.08	3.59	3.45	4.04	4.04
Dawson County	D4	RM 114.11	80813.63	5% Duration	1410.37	643.1	639.2	1.92	1.9	18.65	17.99	208.33	217.49	3.53	3.41	3.9	3.9
Dawson County	D4	RM 113.97	80580.15	5% Duration	1410.37	642.94	639.45	2	1.98	21.03	20.34	225.56	234.61	3.13	3.03	3.49	3.49
Dawson County	D4	RM 113.79	80292.13	5% Duration	1410.37	642.71	639.45	2.13	1.95	24.42	17.16	201.08	352.12	2.92	2.06	3.26	3.26
Dawson County	D4	RM 113.60	79987.05	5% Duration	1410.37	642.66	639.2	1.38	1.2	9.83	7.61	179.84	463.08	3.31	2.54	3.45	3.45
Dawson County	D4	RM 113.43	79712.89	5% Duration	1410.37	642.52	638.73	1.64	1.43	13.54	9.91	173.8	372.25	3.66	2.66	3.79	3.79
Dawson County	D4	RM 113.24	79405.49	5% Duration	1410.37	642.25	638.43	2.24	1.97	25.08	18.78	130.78	261.17	3.7	2.74	3.81	3.81
Dawson County	D4	RM 113.08	79152.39	5% Duration	1410.37	642.08	638.37	2.1	1.88	22.32	17.37	138.2	270.56	3.6	2.77	3.72	3.72
Dawson County	D4	RM 112.94	78925.1	5% Duration	1410.37	642.03	638.26	1.52	1.4	11.96	10.2	193.13	348.26	3.42	2.89	3.78	3.78
Dawson County	D4	RM 112.74	78585.88	5% Duration	1410.37	641.84	638.09	1.75	1.65	16.44	14	237.95	334.44	3.01	2.56	3.75	3.75
Dawson County	D4	RM 112.59	78355.25	5% Duration	1410.37	641.63	637.98	1.95	1.83	21.43	17.81	271.54	364.91	2.56	2.12	3.65	3.65
Dawson County	D4	RM 112.37	78008.78	5% Duration	1410.37	641.54	637.88	1.38	1.23	10.05	8.05	206.92	493.79	3.18	2.52	3.66	3.66
Dawson County	D4	RM 112.19	77721.27	5% Duration	1410.37	641.39	637.59	1.59	1.52	13.12	11.84	213.8	314.53	3.26	2.94	3.79	3.79
Dawson County	D4	RM 111.89	77240.22	5% Duration	1410.37	641.13	637.16	1.76	1.76	15.86	15.6	235.68	239.81	3.4	3.35	3.97	3.97
Dawson County	D4	RM 111.42	76486.24	5% Duration	1410.37	640.82	636.91	1.56	1.55	12.72	12.57	287.11	290.62	3.16	3.12	3.91	3.91
Dawson County	D4	RM 111.26	76213.83	5% Duration	1410.37	640.71	636.66	1.48	1.47	11.79	11.63	329.26	334.38	2.9	2.86	4.05	4.05
Dawson County	D4	RM 111.09	75911.9	5% Duration	1410.37	640.48	636.51	1.89	1.89	18.73	18.73	233	233	3.2	3.2	3.97	3.97
Dawson County	D4	RM 110.95	75678.54	5% Duration	1410.37	640.32	636.4	2	2	20.2	19.84	194.97	198.78	3.61	3.55	3.92	3.92
Dawson County	D4	RM 110.78	75415.61	5% Duration	1410.37	640.13	636.27	2.13	2.13	22.94	22.92	185.42	185.57	3.57	3.57	3.85	3.85

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D4	RM 110.55	75040.65	5% Duration	1410.37	639.97	636.09	1.74	1.74	15.62	15.5	240.69	242.58	3.37	3.34	3.88	3.88
Dawson County	D4	RM 110.39	74780.03	5% Duration	1410.37	639.89	635.96	1.5	1.5	11.74	11.53	293.1	298.58	3.21	3.15	3.93	3.93
Dawson County	D4	RM 110.17	74428.56	5% Duration	1410.37	639.65	635.79	1.8	1.79	18.55	17.69	321.63	339.87	2.44	2.32	3.86	3.86
Dawson County	D4	RM 109.95	74074.87	5% Duration	1410.37	639.49	635.62	1.52	1.52	12.25	12.12	297.98	301.13	3.11	3.08	3.86	3.86
Dawson County	D4	RM 109.75	73741.09	5% Duration	1410.37	639.33	635.46	1.61	1.61	13.58	13.29	272.8	278.75	3.21	3.14	3.87	3.87
Dawson County	D4	RM 109.54	73418.83	5% Duration	1410.37	639.2	635.3	1.55	1.54	12.66	12.15	287.56	302.18	3.16	3.03	3.9	3.9
Dawson County	D4	RM 109.37	73150.54	5% Duration	1410.37	639.04	635.17	1.77	1.66	16.1	13.36	224.7	298.92	3.41	2.84	3.87	3.87
Dawson County	D4	RM 109.19	72864.56	5% Duration	1410.37	638.91	635.03	1.71	1.7	15.03	13.79	238.65	262.24	3.44	3.16	3.88	3.88
Dawson County	D4	RM 109.04	72628	5% Duration	1410.37	638.72	634.92	2.04	2.03	21	19.13	194.23	214.21	3.56	3.24	3.81	3.81
Dawson County	D4	RM 108.86	72339.73	5% Duration	1410.37	638.64	634.77	1.54	1.51	12.7	11.98	287.17	329.52	3.01	2.84	3.87	3.87
Dawson County	D4	RM 108.70	72072.36	5% Duration	1410.37	638.55	634.65	1.42	1.38	10.58	9.87	291.61	347.49	3.16	2.95	3.91	3.91
Dawson County	D4	RM 108.55	71827.97	5% Duration	1410.37	638.47	634.53	1.37	1.37	10.08	10.05	343.64	344.67	2.99	2.98	3.94	3.94
Dawson County	D4	RM 108.40	71587.18	5% Duration	1410.37	638.32	634.41	1.69	1.69	14.37	14.3	266.71	267.91	3.13	3.12	3.91	3.91
Dawson County	D4	RM 108.25	71345.86	5% Duration	1410.37	638.21	634.29	1.65	1.65	12.64	12.57	307.6	309.36	2.78	2.77	3.91	3.91
Dawson County	D4	RM 108.12	71131.88	5% Duration	1410.37	638.14	634.19	1.49	1.49	11.64	11.43	289.42	295.66	3.26	3.2	3.95	3.95
Dawson County	D4	RM 107.98	70905.01	5% Duration	1410.37	638.01	634.08	1.69	1.68	14.59	14.23	245.46	251.9	3.41	3.33	3.93	3.93
Dawson County	D4	RM 107.82	70651.22	5% Duration	1410.37	637.86	633.95	1.81	1.8	16.98	16.45	231.93	241.25	3.35	3.25	3.91	3.91
Dawson County	D4	RM 107.68	70418.24	5% Duration	1410.37	637.74	633.84	1.85	1.82	17.43	15.94	219.72	244.85	3.46	3.17	3.9	3.9
Dawson County	D4	RM 107.50	70132.11	5% Duration	1410.37	637.62	633.17	1.7	1.66	14.83	13.06	239.71	281.08	3.42	3.02	4.45	4.45
Dawson County	D4	RM 107.31	69834.56	5% Duration	1410.37	637.46	633.23	1.75	1.73	16.23	15.45	264.38	280.86	3.04	2.91	4.23	4.23
Dawson County	D4	RM 107.13	69541.52	5% Duration	1410.37	637.29	633.98	1.7	1.67	16.29	15.41	322.33	350.04	2.55	2.42	3.31	3.31
Dawson County	D5	RM 106.98	69305.02	5% Duration	1410.37	637.19	634.16	1.42	1.39	11.78	11.54	421.85	447.97	2.29	2.26	3.03	3.03
Dawson County	D5	RM 106.85	69065.27	5% Duration	1410.37	637.07	633.6	1.39	1.38	11.36	10.94	407.19	465.53	2.28	2.2	3.47	3.47
Dawson County	D5	RM 106.65	68764.02	5% Duration	1410.37	636.86	632.98	1.66	1.61	14.48	13.61	309.83	366.49	2.53	2.38	3.88	3.88
Dawson County	D5	RM 106.47	68475.87	5% Duration	1410.37	636.68	632.51	1.66	1.62	15.59	12.41	307.26	425.57	2.56	2.04	4.17	4.17
Dawson County	D5	RM 106.28	68173.97	5% Duration	1410.37	636.45	631.71	1.95	1.78	19.53	13.35	204.05	347.03	3.35	2.29	4.74	4.74
Dawson County	D5	RM 106.10	67879.83	5% Duration	1410.37	636.26	631.29	1.97	1.7	20.56	12.71	206.53	440.65	3.04	1.88	4.97	4.97
Dawson County	D5	RM 105.89	67550.49	5% Duration	1410.37	636.08	631.76	1.78	1.57	17.05	10.74	226.74	485.72	2.93	1.85	4.32	4.32
Dawson County	D5	RM 105.74	67300.35	5% Duration	1410.37	635.95	632.3	1.72	1.32	15.91	9.86	203.14	580.45	2.96	1.84	3.65	3.65
Dawson County	D5	RM 105.54	66973.54	5% Duration	1410.37	635.65	632.17	2.15	1.71	25.32	13.75	147.79	544.36	2.8	1.52	3.48	3.48
Dawson County	D5	RM 105.30	66609.03	5% Duration	1410.37	635.46	632.29	1.44	1.24	12.46	9.68	219.79	705.12	2.07	1.61	3.34	3.34
Dawson County	D5	RM 105.06	66212.24	5% Duration	1410.37	635.29	631.19	1.47	1.4	13.11	11.99	181.11	717.4	2.06	1.89	4.1	4.1
Dawson County	D5	RM 104.89	65945.5	5% Duration	1410.37	635.04	631.5	1.52	1.59	14.83	14.7	205.56	612.23	1.73	1.72	3.62	3.62
Dawson County	D5	RM 104.77	65742.33	5% Duration	1410.37	634.9	631.67	1.67	1.56	15.7	9.42	125.62	631.64	2.57	1.54	4.19	4.19
Dawson County	D5	RM 104.64	65530.83	5% Duration	1410.37	634.81	632.1	1.41	1.32	11.51	9.03	171.5	643.27	2.34	1.82	3.85	3.85
Dawson County	D5	RM 104.43	65180.62	5% Duration	1410.37	634.68	631.56	1.1	1.11	8.27	7.58	361.11	947.57	1.46	1.34	3.89	3.89
Dawson County	D5	RM 104.26	64906.83	5% Duration	1410.37	634.56	631.59	1.05	0.98	6.82	5.54	209.53	920.19	1.91	1.56	3.92	3.92
Dawson County	D5	RM 104.10	64643.2	5% Duration	1410.37	634.45	630.81	1.11	1.19	7	5.96	150.64	572.03	2.42	2.07	4.01	4.01
Dawson County	D5	RM 103.95	64410.06	5% Duration	1410.37	634.36	631.24	1.25	1.34	9.3	6.19	185.01	728.33	2.16	1.45	4.54	4.54
Dawson County	D5	RM 103.68	63957.56	5% Duration	1410.37	634.23	629.68	1.43	1.37	11.51	6.31	188.7	739.74	2.53	1.39	4.79	4.79
Dawson County	D5	RM 103.48	63615.6	5% Duration	1410.37	634.14	630.4	1.54	1.37	12.81	7.68	152.26	592.86	2.9	1.74	4.63	4.63
Dawson County	D5	RM 103.26	63259.44	5% Duration	1410.37	634.05	630.13	1.39	1.27	10.32	5.53	172.62	705.01	2.95	1.58	4.64	4.64
Dawson County	D5	RM 102.58	62131.5	5% Duration	1410.37	633.86	629.72	1.22	1.14	8.07	5.88	178.73	577.36	2.93	2.14	4.18	4.18
Dawson County	D5	RM 102.44	61920.83	5% Duration	1410.37	633.74	629.74	1.55	1.48	12.97	10.7	255.44	396.26	2.91	2.4	4	4
Dawson County	D5	RM 102.31	61720.14	5% Duration	1410.37	633.59	629.03	1.88	1.76	19.02	14.59	200.53	352.07	2.96	2.28	4.56	4.56
Dawson County	D5	RM 102.15	61456.58	5% Duration	1410.37	633.47	629.39	1.74	1.55	15.96	11.61	201.3	395.51	3.15	2.3	4.08	4.08
Dawson County	D5	RM 102.00	61217.89	5% Duration	1410.37	633.36	629.48	1.56	1.45	13.55	11.12	267.9	449.71	2.61	2.16	3.88	3.88
Dawson County	D5	RM 101.84	60967.97	5% Duration	1410.37	633.23	629.23	1.64	1.3	14.82	8.35	155.67	768.43	2.71	1.53	4	4
Dawson County	D5	RM 101.60	60582.61	5% Duration	1410.37	633.06	628.87	1.35	1.23	10.23	8.01	336.08	566.78	2.58	2.02	4.19	4.19
Dawson County	D5	RM 101.45	60336.09	5% Duration	1410.37	632.89	629.16	1.67	1.6	14.68	12.4	251.39	332.28	3.13	2.65	3.73	3.73
Dawson County	D5	RM 101.25	60019.5	5% Duration	1410.37	632.71	627.81	1.83	1.76	17.12	14.86	209.15	273.82	3.37	2.93	4.9	4.9
Dawson County	D5	RM 101.09	59759.25	5% Duration	1410.37	632.57	627.99	1.81	1.73	17.09	14.93	216.65	289.6	3.22	2.82	4.58	4.58
Dawson County	D5	RM 100.88	59426.42	5% Duration	1410.37	632.42	627.86	1.79	1.59	16.34	11.28	196.58	379.85	3.39	2.34	4.56	4.56
Dawson County	D5	RM 100.67	59075.4	5% Duration	1410.37	632.22	627.1	1.98	1.67	19.19	12	151.88	347.44	3.87	2.43	5.12	5.12
Dawson County	D5	RM 100.46	58743.44	5% Duration	1410.37	632.12	627.92	1.59	1.34	12.95	8.09	202.94	503.65	3.33	2.09	4.2	4.2
Dawson County	D5	RM 100.25	58401.49	5% Duration	1410.37	631.93	627.57	1.77	1.64	16.11	10.55	196.17	389.04	3.37	2.21	4.36	4.36
Dawson County	D5	RM 100.05	58077.55	5% Duration	1410.37	631.79	626.86	1.73	1.55	15.21	11.19	176.97	360.51	3.44	2.52	4.93	4.93
Dawson County	D5	RM 99.87	57778.81	5% Duration	1410.37	631.59	626.4	1.78	1.78	17.73	17.47	301.61	306.59	2.62	2.59	5.19	5.19
Dawson County	D5	RM 99.68	57474.16	5% Duration	1410.37	631.46	626.29	1.63	1.59	13.53	11.98	246.92	287.68	3.47	3.08	5.17	5.17
Dawson County	D5	RM 99.49	57160.47	5% Duration	1410.37	631.27	626.53	1.86	1.82	17.55	15.7	218.38	250.48	3.46	3.1	4.74	4.74

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D5	RM 99.30	56863.46	5% Duration	1410.37	631.14	627.26	1.68	1.67	14.9	13.96	267.93	286.77	3.13	2.94	3.88	3.88
Dawson County	D5	RM 99.13	56566.63	5% Duration	1410.37	631.02	626.77	1.56	1.53	12.97	10.75	293.66	364.94	3.05	2.53	4.25	4.25
Dawson County	D5	RM 98.92	56243.98	5% Duration	1410.37	630.87	626.63	1.53	1.5	12.97	11.15	339.1	405.65	2.68	2.32	4.24	4.24
Dawson County	D5	RM 98.71	55911.87	5% Duration	1410.37	630.66	626.34	1.7	1.66	16.33	14.57	322.21	373.13	2.54	2.27	4.32	4.32
Dawson County	D5	RM 98.57	55680.2	5% Duration	1410.37	630.48	626.1	1.8	1.71	18.15	13.45	297.01	441.3	2.58	1.91	4.38	4.38
Dawson County	D5	RM 98.35	55325.95	5% Duration	1410.37	630.25	625.91	1.86	1.79	17.77	11.77	216.82	350.52	3.4	2.25	4.34	4.34
Dawson County	D5	RM 98.19	55066.09	5% Duration	1410.37	630.12	624.42	1.88	1.73	17.24	9.41	184	378.6	3.93	2.15	5.7	5.7
Dawson County	D5	RM 97.99	54752.97	5% Duration	1410.37	629.97	625.04	1.83	1.77	17.34	11.46	236.53	369.97	3.26	2.15	4.93	4.93
Dawson County	D5	RM 97.84	54493.48	5% Duration	1410.37	629.87	625.39	1.59	1.58	13.43	11.92	292.51	332.58	3.03	2.69	4.48	4.48
Dawson County	D5	RM 97.68	54241.32	5% Duration	1410.37	629.71	624.99	1.68	1.56	16.21	12.05	340.05	505.17	2.41	1.79	4.72	4.72
Dawson County	D5	RM 97.48	53918.21	5% Duration	1410.37	629.45	624.81	1.8	1.64	18.01	13.84	277.44	511.61	2.19	1.69	4.64	4.64
Dawson County	D5	RM 97.28	53585.68	5% Duration	1410.37	629.21	625.86	1.55	1.53	14.21	13.76	328.8	441.31	2.17	2.11	3.76	3.76
Dawson County	D5	RM 97.08	53263.89	5% Duration	1410.37	628.97	625.27	1.84	1.72	18.37	15.43	209.17	340.61	2.86	2.41	3.7	3.7
Dawson County	D5	RM 96.94	53030.11	5% Duration	1410.37	628.76	623.97	2.05	1.92	23.29	19.02	199.17	330.09	2.71	2.22	4.79	4.79
Dawson County	D5	RM 96.77	52762.2	5% Duration	1410.37	628.56	623.51	1.94	1.81	20.95	17.91	202.34	340.64	2.67	2.29	5.05	5.05
Dawson County	D5	RM 96.55	52403.59	5% Duration	1410.37	628.25	624.57	2.16	1.87	25.01	15.24	160.42	421.3	2.93	1.79	3.68	3.68
Dawson County	D5	RM 96.35	52079.12	5% Duration	1410.37	628.18	625.39	0.93	1.03	5.7	6.44	290.07	758.3	1.64	1.86	4.71	4.71
Dawson County	D5	RM 96.17	51777.74	5% Duration	1410.37	627.93	624.71	1.76	1.7	18.06	16.28	130.42	397.02	2.31	2.09	3.55	3.55
Dawson County	D5	RM 96.00	51500.38	5% Duration	1410.37	627.72	624.3	1.72	1.64	17.03	15.33	122.42	399.33	2.38	2.15	3.42	3.42
Dawson County	D5	RM 95.79	51156.87	5% Duration	1410.37	627.55	624.35	1.24	1.32	9.53	9.77	284.94	517.13	2.01	2.07	3.3	3.3
Dawson County	D5	RM 95.60	50859.75	5% Duration	1410.37	627.41	622.97	1.41	1.29	11.01	8.16	210.33	559.25	2.64	1.95	4.44	4.44
Dawson County	D5	RM 95.40	50547.92	5% Duration	1410.37	627.31	623.13	1.18	1.13	7.9	6.77	377.96	576.62	2.5	2.16	4.18	4.18
Dawson County	D5	RM 95.21	50245.97	5% Duration	1410.37	627.18	622.21	1.49	1.32	11.58	6.34	217.6	591.93	3.28	1.8	4.97	4.97
Dawson County	D5	RM 95.04	49971.19	5% Duration	1410.37	626.99	621.68	1.99	1.77	20.72	12.06	159.83	429.36	3.18	1.86	5.31	5.31
Dawson County	D5	RM 94.88	49717.07	5% Duration	1410.37	626.85	621.44	1.98	1.45	20.49	7.39	150.22	858.76	3.19	1.15	5.41	5.41
Dawson County	D5	RM 94.71	49446.9	5% Duration	1410.37	626.74	621.69	1.51	1.22	12.5	6.42	233.97	921.17	2.72	1.4	5.05	5.05
Dawson County	D5	RM 94.58	49286.95	5% Duration	1410.37	626.76	618.6	0.69	0.68	2.2	2.2	456.42	516.15	4.51	4.5	8.16	8.16
Dawson County	D5	RM 94.57	49255.56	5% Duration	1410.37	626.74	618.63	0.91	0.91	3.95	3.85	359.52	369.29	4.29	4.18	8.11	8.11
Dawson County	D5	RM 94.52	49157.18	5% Duration	1410.37	626.64	620.89	1.5	1.48	11.56	9.45	282.15	350.2	3.33	2.72	5.75	5.75
Dawson County	D6	RM 94.42	48998.19	5% Duration	1413.2	626.47	621.76	2	2	20.86	19.46	215.71	232.25	3.27	3.05	4.71	4.71
Dawson County	D6	RM 94.30	48806.79	5% Duration	1413.2	626.29	621.22	2.09	2.09	24.97	24.97	280.1	280.1	2.42	2.42	5.07	5.07
Dawson County	D6	RM 94.20	48653.06	5% Duration	1413.2	626.17	621.41	1.96	1.94	21.5	18.58	261.89	306.11	2.75	2.37	4.76	4.76
Dawson County	D6	RM 94.08	48445.46	5% Duration	1413.2	626.13	622.37	1.4	1.39	10.53	9.79	334.68	365.67	3	2.79	3.76	3.76
Dawson County	D6	RM 93.96	48246.42	5% Duration	1413.2	625.99	621.88	1.66	1.65	15.55	14.2	328.66	363.37	2.58	2.36	4.11	4.11
Dawson County	D6	RM 93.83	48030.25	5% Duration	1413.2	625.81	620.28	1.89	1.88	18.86	14.1	237.8	320.59	3.14	2.34	5.53	5.53
Dawson County	D6	RM 93.68	47782.89	5% Duration	1413.2	625.59	620.19	2.14	2.12	23.44	20.7	191.53	218.99	3.44	3.04	5.4	5.4
Dawson County	D6	RM 93.57	47606.95	5% Duration	1413.2	625.39	620.08	2.39	2.38	29.63	28.49	181.96	189.46	3.25	3.13	5.31	5.31
Dawson County	D6	RM 93.53	47552.11	5% Duration	1413.2	625.37	620.21	2.25	2.25	25.99	23.9	184.06	200.29	3.41	3.14	5.15	5.15
Dawson County	D6	RM 93.47	47460.74	5% Duration	1413.2	625.31	618.63	2.16	2.15	23.76	21.81	188.66	207.04	3.47	3.18	6.68	6.68
Dawson County	D6	RM 93.43	47382.46	5% Duration	1413.2	625.29	619.44	2.01	2	19.89	19.06	185.78	194.38	3.79	3.63	5.85	5.85
Dawson County	D6	RM 93.36	47287.92	5% Duration	1413.2	625.27	620.47	1.77	1.77	15.55	15.35	213.34	216.24	3.74	3.69	4.8	4.8
Dawson County	D6	RM 93.25	47111.44	5% Duration	1413.2	625.12	621.12	2.04	2.02	22.83	20.79	228.84	253.88	3.03	2.76	4	4
Dawson County	D6	RM 93.05	46807.77	5% Duration	1413.2	624.97	621.74	1.68	1.59	15.22	10.61	281.99	435.4	2.92	2.04	3.23	3.23
Dawson County	D6	RM 92.93	46606.31	5% Duration	1413.2	624.81	621.34	1.83	1.78	18.97	13.41	303.38	444.5	2.53	1.79	3.47	3.47
Dawson County	D6	RM 92.83	46460.06	5% Duration	1413.2	624.67	621.02	1.97	1.93	20.59	18.2	292.63	341.15	2.43	2.15	3.65	3.65
Dawson County	D6	RM 92.71	46261.84	5% Duration	1413.2	624.54	620.37	1.83	1.74	17.71	14.76	275.18	353.89	2.75	2.3	4.17	4.17
Dawson County	D6	RM 92.59	46079.79	5% Duration	1413.2	624.45	620.95	1.62	1.62	14.77	14.27	319.08	330.94	2.74	2.64	3.5	3.5
Dawson County	D6	RM 92.50	45933.81	5% Duration	1413.2	624.32	620.75	1.79	1.79	18.12	18.11	316.15	316.3	2.5	2.5	3.57	3.57
Dawson County	D6	RM 92.39	45753.94	5% Duration	1413.2	624.2	620.58	1.78	1.78	17.5	17.44	298.29	299.35	2.67	2.66	3.62	3.62
Dawson County	D6	RM 92.29	45591.17	5% Duration	1413.2	624.09	620.64	1.76	1.75	17.14	15.16	292.11	334.67	2.74	2.42	3.45	3.45
Dawson County	D6	RM 92.18	45414.13	5% Duration	1413.2	624.02	620.23	1.51	1.51	12.77	12.16	354.2	373.08	2.63	2.51	3.79	3.79
Dawson County	D6	RM 92.06	45238.47	5% Duration	1413.2	623.91	620.12	1.63	1.58	15.13	13.6	353.77	407.7	2.44	2.19	3.79	3.79
Dawson County	D6	RM 91.99	45117.89	5% Duration	1413.2	623.86	619.81	1.46	1.4	12.37	10.56	356.63	508.69	2.32	1.98	4.05	4.05
Dawson County	D6	RM 91.85	44886.16	5% Duration	1413.2	623.79	619.7	1.21	1.15	9.09	6.46	238.11	612.62	2.82	2.01	4.09	4.09
Dawson County	D6	RM 91.77	44752.88	5% Duration	1413.2	623.7	619.28	1.34	1.33	13.28	9.22	224.91	612.58	2.5	1.74	4.42	4.42
Dawson County	D6	RM 91.61	44507.01	5% Duration	1413.2	623.56	619	1.58	1.4	12.8	8.65	148.19	440.07	3.39	2.29	4.56	4.56
Dawson County	D6	RM 91.45	44219.47	5% Duration	1413.2	623.45	618.66	1.57	1.5	13.37	11.81	189.07	327.64	3.26	2.88	4.79	4.79
Dawson County	D6	RM 91.31	43987.79	5% Duration	1413.2	623.29	618.98	1.77	1.77	16.92	16.76	271.16	273.88	2.94	2.91	4.31	4.31
Dawson County	D6	RM 91.11	43666.49	5% Duration	1413.2	623.12	618.54	1.77	1.76	15.75	14.82	219.42	234.94	3.63	3.42	4.58	4.58
Dawson County	D6	RM 90.97	43442.55	5% Duration	1413.2	623	618.3	1.86	1.83	17.72	15.28	224.14	264.15	3.38	2.93	4.7	4.7

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D6	RM 90.76	43114.74	5% Duration	1413.2	622.8	618.97	1.8	1.79	20.67	19.93	264.18	275.14	2.98	2.87	3.83	3.83
Dawson County	D6	RM 90.59	42823.65	5% Duration	1413.2	622.65	618.64	1.72	1.5	15.9	9.82	232.7	656.86	2.98	1.85	4.01	4.01
Dawson County	D6	RM 90.43	42564.46	5% Duration	1413.2	622.35	618.18	2.21	2.04	26.4	21.33	208.77	299.06	2.85	2.31	4.17	4.17
Dawson County	D6	RM 90.29	42331.05	5% Duration	1413.2	622.22	618.21	1.86	1.77	18.31	15.32	236.08	314.14	3.03	2.55	4.01	4.01
Dawson County	D6	RM 90.16	42118.24	5% Duration	1413.2	622.08	618.54	1.9	1.77	19.26	15.79	229.61	320.55	3.02	2.49	3.54	3.54
Dawson County	D6	RM 89.96	41795.66	5% Duration	1413.2	621.91	618.08	1.61	1.59	14.52	13.47	338.37	374.25	2.58	2.4	3.83	3.83
Dawson County	D6	RM 89.83	41589.45	5% Duration	1413.2	621.66	617.17	2.16	2.1	24.84	20.74	211.95	262.8	3.05	2.56	4.49	4.49
Dawson County	D6	RM 89.65	41302.33	5% Duration	1413.2	621.41	618.15	2.1	2.06	24.54	23.13	251.93	274.4	2.64	2.5	3.26	3.26
Dawson County	D6	RM 89.46	41003.8	5% Duration	1413.2	621.26	617.56	1.76	1.72	15.87	14.33	236.74	269.53	3.37	3.05	3.7	3.7
Dawson County	D6	RM 89.29	40732.3	5% Duration	1413.2	621.18	617.42	1.51	1.33	12.05	8.76	253.25	473.58	3.09	2.24	3.76	3.76
Dawson County	D6	RM 89.13	40476.68	5% Duration	1413.2	621.03	617.29	1.7	1.63	15.06	13.24	231.92	305.04	3.24	2.85	3.74	3.74
Dawson County	D6	RM 88.96	40193.97	5% Duration	1413.2	620.91	617.14	1.7	1.55	14.39	11.43	186.73	310.88	3.7	2.93	3.77	3.77
Dawson County	D7	RM 88.77	39887.75	5% Duration	1413.2	620.73	616.98	1.78	1.73	16.93	13.79	260.04	349.18	3	2.45	3.75	3.75
Dawson County	D7	RM 88.58	39581.56	5% Duration	1413.2	620.49	616.82	2.05	1.96	21.37	15.82	185.88	272.23	3.6	2.65	3.67	3.67
Dawson County	D7	RM 88.44	39345.29	5% Duration	1413.2	620.35	616.7	2.05	1.94	21.29	16.46	181.67	291.08	3.64	2.8	3.65	3.65
Dawson County	D7	RM 88.25	39047.22	5% Duration	1413.2	620.2	616.54	1.86	1.71	18.24	13.39	220.9	355.46	3.19	2.33	3.65	3.65
Dawson County	D7	RM 88.06	38736.32	5% Duration	1413.2	620.07	616.38	1.56	1.54	13.13	11.84	305.89	346.5	2.94	2.66	3.69	3.69
Dawson County	D7	RM 87.87	38426.68	5% Duration	1413.2	619.94	616.22	1.39	1.29	11.14	9.79	407.48	525.88	2.36	2.08	3.72	3.72
Dawson County	D7	RM 87.70	38161.81	5% Duration	1413.2	619.83	616.08	1.53	1.17	11.76	6.1	181.73	631.67	3.75	1.91	3.75	3.75
Dawson County	D7	RM 87.52	37862.82	5% Duration	1413.2	619.78	615.92	1.15	1.07	7.35	6.64	308.23	550.9	2.65	2.39	3.86	3.86
Dawson County	D7	RM 87.34	37574.69	5% Duration	1413.2	619.59	615.85	1.71	1.61	16.05	12.54	253.88	406.53	2.77	2.16	3.74	3.74
Dawson County	D7	RM 87.17	37307.08	5% Duration	1413.2	619.42	615.82	1.87	1.7	17.83	13.13	162.99	323.71	3.52	2.57	3.6	3.6
Dawson County	D7	RM 87.00	37023.47	5% Duration	1413.2	619.29	615.79	1.65	1.59	14.99	13.68	241.39	347.37	2.81	2.56	3.5	3.5
Dawson County	D7	RM 86.82	36748.51	5% Duration	1413.2	619.13	615.76	1.73	1.61	16.1	13.63	210.89	352.89	2.95	2.49	3.38	3.38
Dawson County	D7	RM 86.67	36501.76	5% Duration	1413.2	618.87	615.73	2.3	1.95	28.04	18.5	151.2	356.05	3.14	2.03	3.14	3.14
Dawson County	D7	RM 86.52	36253.46	5% Duration	1413.2	618.74	615.7	1.7	1.54	15.89	11.58	250.55	450.51	2.79	2.03	3.05	3.05
Dawson County	D7	RM 86.39	36046.31	5% Duration	1413.2	618.57	615.59	1.97	1.64	21.55	15.06	147.45	457.74	2.73	1.88	2.98	2.98
Dawson County	D7	RM 86.24	35796.38	5% Duration	1413.2	618.52	615.46	1.18	1.07	7.49	6.26	166.41	538.85	2.99	2.46	3.06	3.06
Dawson County	D7	RM 86.08	35541.56	5% Duration	1413.2	618.22	615.48	2.16	2.03	26.15	22.07	151.35	315.27	2.65	2.21	2.74	2.74
Dawson County	D7	RM 85.91	35282.1	5% Duration	1413.2	618	615.5	1.92	1.83	21.25	18.23	191.42	374.77	2.41	2.06	2.5	2.5
Dawson County	D7	RM 85.78	35075.01	5% Duration	1413.2	617.96	614.9	1.16	1.1	8.08	7.32	288.53	771.62	2.14	1.94	3.06	3.06
Dawson County	D7	RM 85.59	34774.5	5% Duration	1413.2	617.87	614.32	1.36	1.1	9.32	5.87	184.84	580.55	3.52	2.21	3.56	3.56
Dawson County	D7	RM 85.39	34449.3	5% Duration	1413.2	617.69	614.15	1.74	1.59	15.96	12.79	219.47	354.69	3.14	2.51	3.54	3.54
Dawson County	D7	RM 85.23	34186.4	5% Duration	1413.2	617.47	614.01	2.15	1.93	23.68	17.44	157.48	290.64	3.45	2.52	3.46	3.46
Dawson County	D7	RM 85.04	33863.7	5% Duration	1413.2	617.33	613.84	1.68	1.56	15.83	12.28	265.03	447.8	2.62	2.03	3.49	3.49
Dawson County	D7	RM 84.89	33626.36	5% Duration	1413.2	617.23	613.92	1.4	1.37	11.18	10.63	413.04	444.5	2.44	2.32	3.31	3.31
Dawson County	D7	RM 84.72	33349.5	5% Duration	1413.2	617.08	613.77	1.5	1.5	12.48	12.31	350.91	356.52	2.69	2.65	3.3	3.3
Dawson County	D7	RM 84.57	33104.21	5% Duration	1413.2	616.95	613.45	1.56	1.56	12.97	12.74	294.82	300.98	3.06	3.01	3.51	3.51
Dawson County	D7	RM 84.41	32856.7	5% Duration	1413.2	616.85	613.32	1.55	1.54	13	12.61	312.69	324.75	2.91	2.82	3.53	3.53
Dawson County	D7	RM 84.22	32552.24	5% Duration	1413.2	616.7	613.16	1.61	1.47	14.05	10.71	261.68	434.31	2.92	2.22	3.54	3.54
Dawson County	D7	RM 84.05	32270.74	5% Duration	1413.2	616.54	613.14	1.76	1.57	16.18	12.45	206.16	367.07	3.19	2.45	3.4	3.4
Dawson County	D7	RM 83.89	32017.88	5% Duration	1413.2	616.35	613.11	1.9	1.79	19.04	15.55	191.2	306.06	3.17	2.59	3.25	3.25
Dawson County	D7	RM 83.73	31759.16	5% Duration	1413.2	616.21	613.07	1.73	1.59	16.53	11.87	240.18	455.27	2.74	1.96	3.14	3.14
Dawson County	D7	RM 83.53	31426.04	5% Duration	1413.2	616.1	613.01	1.36	1.24	10.16	8.39	303.92	508.35	2.72	2.24	3.08	3.08
Dawson County	D7	RM 83.39	31213.34	5% Duration	1413.2	615.99	612.95	1.55	1.38	13.12	9.74	189.12	491.96	2.83	2.08	3.04	3.04
Dawson County	D7	RM 83.21	30910.79	5% Duration	1413.2	615.87	612.91	1.43	1.26	11.13	8.16	170.07	529.57	2.92	2.12	3.09	3.09
Dawson County	D7	RM 83.05	30660.14	5% Duration	1413.2	615.77	612.78	1.28	1.19	8.94	7.26	229.1	519.98	2.81	2.29	3.31	3.31
Dawson County	D7	RM 82.94	30491.79	5% Duration	1413.2	615.71	612.69	1.28	1.24	9	7.86	219.21	472.11	2.76	2.41	3.32	3.32
Dawson County	D7	RM 82.81	30280.45	5% Duration	1413.2	615.58	612.58	1.44	1.43	11.67	10.6	178.49	422.61	2.58	2.35	3.43	3.43
Dawson County	D7	RM 82.68	30058.39	5% Duration	1413.2	615.48	612.34	1.54	1.42	12.6	9.43	152.77	426.49	3.14	2.33	3.38	3.38
Dawson County	D7	RM 82.51	29786.14	5% Duration	1413.2	615.44	612.1	1.12	1.08	6.7	5.64	229.35	519.58	3.01	2.52	3.59	3.59
Dawson County	D7	RM 82.33	29497.12	5% Duration	1413.2	615.37	611.87	1.19	1.13	7.55	4.26	246.42	711.07	3.15	1.75	3.62	3.62
Dawson County	D7	RM 82.22	29323.27	5% Duration	1413.2	615.27	611.66	1.53	1.35	12.21	5.91	193.52	667.37	3.25	1.56	3.62	3.62
Dawson County	D7	RM 82.06	29049.94	5% Duration	1413.2	615.21	611.37	1.39	1.19	9.84	5	202.97	678.4	3.5	1.75	3.84	3.84
Dawson County	D7	RM 81.91	28820.21	5% Duration	1413.2	615.16	611.21	1.33	1.11	8.75	4.94	191.58	595.35	3.83	2.14	3.95	3.95
Dawson County	D7	RM 81.71	28446.75	5% Duration	1413.2	615.1	611.02	1.08	0.95	5.75	3.56	220.81	617.25	3.89	2.41	4.08	4.08
Dawson County	D7	RM 81.49	28026.4	5% Duration	1413.2	614.86	610.8	1.99	1.79	19.24	13.38	165.37	281.35	4.05	2.8	4.06	4.06
Dawson County	D7	RM 81.31	27735.46	5% Duration	1410.37	614.37	610.65	2.93	2.92	43.41	42	131.98	136.92	3.64	3.53	3.72	3.72
Dawson County	D8	RM 81.10	27398.33	5% Duration	1410.37	614.09	610.47	2.49	2.41	31.63	25.08	160.09	210.2	3.52	2.78	3.62	3.62
Dawson County	D8	RM 80.94	27148.21	5% Duration	1410.37	614.02	610.34	1.82	1.82	17.03	16.75	225.85	229.49	3.42	3.38	3.68	3.68

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D8	RM 80.76	26855.69	5% Duration	1410.37	613.94	610.19	1.57	1.39	12.28	8.11	181.68	414.92	3.75	2.44	3.75	3.75
Dawson County	D8	RM 80.64	26669.58	5% Duration	1410.37	613.86	610.09	1.59	1.5	12.8	10.83	209.02	314.68	3.54	2.99	3.77	3.77
Dawson County	D8	RM 80.45	26373.01	5% Duration	1410.37	613.82	609.94	1.35	1.03	9.19	5.18	122.88	852.53	3.74	2.05	3.88	3.88
Dawson County	D8	RM 80.17	25926.88	5% Duration	1410.37	613.66	609.71	1.7	1.39	14.18	8.89	146.98	418.06	3.94	2.42	3.95	3.95
Dawson County	D8	RM 79.91	25496.94	5% Duration	1410.37	613.56	609.42	1.2	1.2	7.55	7.34	362.06	372.42	3.24	3.15	4.14	4.14
Dawson County	D8	RM 79.43	24626.85	5% Duration	1410.37	613.33	609.14	1.32	1.31	8.68	7.42	288.69	341.83	3.7	3.16	4.19	4.19
Dawson County	D8	RM 79.23	24229.4	5% Duration	1410.37	613.06	608.87	2.04	2.04	20.27	20.27	169.7	169.7	4.08	4.08	4.19	4.19
Dawson County	D8	RM 78.27	22640.58	5% Duration	1410.37	612.22	608.6	1.82	1.58	17.57	10.75	226.68	474.53	3.1	1.88	3.62	3.62
Dawson County	D8	RM 78.12	22398.86	5% Duration	1410.37	612.11	608.48	1.73	1.49	15.8	10.26	222.94	473.64	3.09	2	3.63	3.63
Dawson County	D8	RM 77.97	22135.34	5% Duration	1410.37	612	608.34	1.67	1.54	14.22	10.52	214.67	360.43	3.44	2.54	3.66	3.66
Dawson County	D8	RM 77.79	21831.85	5% Duration	1410.37	611.87	608.18	1.6	1.49	14.32	11.08	300.41	472.88	2.59	2	3.69	3.69
Dawson County	D8	RM 77.57	21474.71	5% Duration	1410.37	611.69	608	1.64	1.56	13.87	11.72	250.08	323.29	3.31	2.79	3.69	3.69
Dawson County	D8	RM 77.38	21170.35	5% Duration	1410.37	611.51	607.84	1.83	1.74	17.25	14.32	215.18	287.36	3.4	2.82	3.67	3.67
Dawson County	D8	RM 77.13	20780.17	5% Duration	1410.37	611.41	607.63	1.46	1.22	10.97	7.53	188.55	497.61	3.4	2.32	3.78	3.78
Dawson County	D8	RM 77.00	20442.34	5% Duration	1410.37	611.26	607.46	1.77	1.46	15.75	10.02	131.78	411.52	3.79	2.34	3.8	3.8
Dawson County	D8	RM 76.90	20124.49	5% Duration	1410.37	611.18	607.29	1.55	1.32	11.87	8.6	153.2	388.33	3.88	2.74	3.89	3.89
Dawson County	D8	RM 76.76	19785.25	5% Duration	1410.37	611.13	607.12	1.18	1.1	6.99	5.99	269.03	419.3	3.57	3.05	4.01	4.01
Dawson County	D8	RM 76.63	19501.04	5% Duration	1410.37	611.04	606.97	1.35	1.27	9.62	8.44	246.86	413.07	3.1	2.7	4.07	4.07
Dawson County	D8	RM 76.37	19137.53	5% Duration	1410.37	610.91	606.78	1.42	1.41	10.12	9.78	272.76	283.08	3.64	3.52	4.13	4.13
Dawson County	D8	RM 76.22	18884.28	5% Duration	1410.37	610.83	606.65	1.46	1.45	10.57	9.49	253.7	285.7	3.8	3.41	4.18	4.18
Dawson County	D8	RM 76.00	18519.22	5% Duration	1410.37	610.66	606.61	1.71	1.69	14.7	13.05	225.2	258.31	3.65	3.24	4.05	4.05
Dawson County	D8	RM 75.75	18119.45	5% Duration	1410.37	610.44	606.58	1.89	1.86	17.98	15.61	209.51	245.17	3.56	3.09	3.86	3.86
Dawson County	D8	RM 75.56	17818.36	5% Duration	1410.37	610.31	606.75	1.63	1.63	14.55	14.07	303.99	314.77	2.84	2.75	3.56	3.56
Dawson County	D8	RM 75.31	17411.3	5% Duration	1410.37	610.16	606.34	1.49	1.45	11.44	10.51	263.12	314.88	3.35	3.09	3.82	3.82
Dawson County	D8	RM 75.13	17092.44	5% Duration	1410.37	610.04	606.17	1.45	1.41	10.97	9.14	306.22	378.98	3.17	2.64	3.87	3.87
Dawson County	D8	RM 74.90	16719.46	5% Duration	1410.37	609.8	605.98	1.88	1.82	18.39	14.48	224.87	297.09	3.31	2.6	3.82	3.82
Dawson County	D8	RM 74.65	16308.2	5% Duration	1410.37	609.66	605.91	1.51	1.39	11.83	8.54	267.86	429.59	3.27	2.36	3.75	3.75
Dawson County	D8	RM 74.37	15846.14	5% Duration	1410.37	609.38	605.85	1.88	1.63	19.08	12.92	221.55	440.54	2.9	1.96	3.53	3.53
Dawson County	D8	RM 74.13	15464.97	5% Duration	1410.37	609.19	605.82	1.59	1.44	13.62	10.04	235.57	444.89	3	2.2	3.37	3.37
Dawson County	D8	RM 73.91	15098.01	5% Duration	1410.37	609.04	605.99	1.41	1.31	11.07	8.89	283.63	511.68	2.62	2.11	3.05	3.05
Dawson County	D8	RM 73.71	14783.86	5% Duration	1410.37	608.92	605.87	1.34	1.26	9.96	8.37	292.2	505.55	2.66	2.23	3.05	3.05
Dawson County	D8	RM 73.53	14496.67	5% Duration	1410.37	608.81	605.72	1.37	1.27	10.23	8.52	249.62	888.41	2.81	2.34	3.09	3.09
Dawson County	D8	RM 73.29	14096.19	5% Duration	1410.37	608.41	605.51	2.26	2.11	27.98	22.3	198.62	300.27	2.8	2.23	2.89	2.89
Dawson County	D8	RM 73.07	13729.79	5% Duration	1410.37	607.82	605.52	2.59	2.54	39.5	35.12	196.15	278.03	2.24	1.99	2.57	2.57
Dawson County	D8	RM 72.83	13354.45	5% Duration	1410.37	607.39	604.9	2	1.94	23.43	21.41	263.83	352.27	2.25	2.06	2.49	2.49
Dawson County	D8	RM 72.62	13000.82	5% Duration	1410.37	607.09	604.4	1.8	1.74	18.41	16.16	295.23	375.16	2.46	2.16	2.7	2.7
Dawson County	D8	RM 72.37	12609.05	5% Duration	1410.37	606.72	603.89	2.05	1.87	23.44	17.92	228.58	374.93	2.64	2.01	2.83	2.83
Dawson County	D8	RM 72.16	12261.75	5% Duration	1410.37	606.41	603.69	1.96	1.89	21.97	18.91	286.3	369.84	2.44	2.1	2.72	2.72
Dawson County	D8	RM 71.92	11875.08	5% Duration	1410.37	606.18	603.18	1.57	1.54	14	12.67	337.59	400.65	2.52	2.29	3	3
Dawson County	D8	RM 71.69	11512.65	5% Duration	1410.37	605.93	602.95	1.72	1.66	16.64	14.92	303.44	364.78	2.59	2.32	2.98	2.98
Dawson County	D8	RM 71.49	11192.6	5% Duration	1410.37	605.77	602.03	1.65	1.59	13.98	11.84	237.66	306.42	3.41	2.89	3.74	3.74
Dawson County	D8	RM 71.31	10913.3	5% Duration	1410.37	605.65	601.99	1.66	1.58	14.28	11.67	244.59	332.6	3.28	2.68	3.66	3.66
Dawson County	D9	RM 71.10	10567.75	5% Duration	1410.37	605.51	602.11	1.58	1.4	13.58	10.57	197.48	452.22	2.88	2.23	3.4	3.4
Dawson County	D9	RM 70.91	10267.7	5% Duration	1410.37	605.32	602.05	1.81	1.62	17.27	12.9	126.11	368.13	3.2	2.36	3.27	3.27
Dawson County	D9	RM 70.72	9968.939	5% Duration	1410.37	605.18	601.91	1.75	1.57	16.08	12.61	153.15	356.79	3.26	2.52	3.27	3.27
Dawson County	D9	RM 70.50	9603.574	5% Duration	1410.37	605.02	601.9	1.57	1.45	13.51	10.92	249.33	439.43	2.75	2.22	3.12	3.12
Dawson County	D9	RM 70.27	9238.535	5% Duration	1410.37	604.76	601.31	1.85	1.8	18	16.29	236.79	275.49	3.13	2.84	3.45	3.45
Dawson County	D9	RM 70.08	8928.013	5% Duration	1410.37	604.6	600.85	1.75	1.68	16.04	13.4	234.44	308.05	3.27	2.72	3.76	3.76
Dawson County	D9	RM 69.79	8464.726	5% Duration	1410.37	604.43	600.61	1.54	1.39	12.2	9.12	248.41	402.77	3.36	2.51	3.83	3.83
Dawson County	D9	RM 69.50	7983.226	5% Duration	1410.37	604.25	600.56	1.6	1.46	13.44	10.08	237.14	406.27	3.18	2.38	3.69	3.69
Dawson County	D9	RM 69.26	7575.04	5% Duration	1410.37	604.08	600.35	1.62	1.51	13.59	8.67	245.78	449.16	3.27	2.08	3.73	3.73
Dawson County	D9	RM 69.03	7206.967	5% Duration	1410.37	603.96	599.95	1.49	1.27	11.06	7.36	236.36	458.94	3.65	2.42	4.01	4.01
Dawson County	D9	RM 68.82	6851.789	5% Duration	1410.37	603.78	599.77	1.74	1.65	15.57	12.48	217.59	310.82	3.45	2.75	4.01	4.01
Dawson County	D9	RM 68.60	6509.797	5% Duration	1410.37	603.56	599.59	1.93	1.9	18.5	15.62	189.13	229.64	3.85	3.24	3.97	3.97
Dawson County	D9	RM 68.39	6158.879	5% Duration	1410.37	603.41	599.51	1.77	1.74	16.25	15.29	241.73	262.69	3.28	3.09	3.9	3.9
Dawson County	D9	RM 68.11	5709.195	5% Duration	1410.37	603.2	599.37	1.67	1.64	14.64	13.33	262.54	296.6	3.19	2.9	3.82	3.82
Dawson County	D9	RM 67.86	5308.187	5% Duration	1410.37	602.98	599.17	1.89	1.71	18.02	14.36	130.41	288.74	3.65	2.86	3.82	3.82
Dawson County	D10	RM 67.57	4859.184	5% Duration	1410.37	602.81	598.93	1.58	1.51	12.69	10.43	240.29	322.49	3.53	2.9	3.88	3.88
Dawson County	D10	RM 67.37	4523.862	5% Duration	1410.37	602.68	598.75	1.62	1.46	13.37	9.38	224.36	392.52	3.51	2.46	3.93	3.93
Dawson County	D10	RM 67.15	4175.103	5% Duration	1410.37	602.39	598.47	2.19	2	23.92	17.79	158.11	257.74	3.71	2.74	3.92	3.92

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Dawson County - Unregulated Flows - Undeveloped Conditions

5% Duration

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m) *	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Dawson County	D10	RM 66.95	3842.803	5% Duration	1410.37	602.23	598.2	1.88	1.67	18.67	11.18	211.57	448.97	3.16	1.88	4.03	4.03
Dawson County	D10	RM 66.74	3505.323	5% Duration	1410.37	602.07	598.12	1.76	1.56	15.33	10.03	189.78	365.68	3.82	2.48	3.95	3.95
Dawson County	D10	RM 66.52	3142.889	5% Duration	1410.37	601.93	598.26	1.66	1.57	14.21	11.99	249	317.44	3.35	2.83	3.67	3.67
Dawson County	D10	RM 66.28	2774.58	5% Duration	1410.37	601.64	598.21	2.08	1.96	22.61	19.01	206.17	267.64	3.18	2.68	3.43	3.43
Dawson County	D10	RM 66.11	2492.331	5% Duration	1410.37	601.51	597.8	1.72	1.65	15.83	13.93	269.84	325.67	2.97	2.62	3.71	3.71
Dawson County	D10	RM 65.90	2160.839	5% Duration	1410.37	601.37	597.33	1.6	1.46	13.1	9.72	227.64	378.12	3.45	2.55	4.05	4.05
Dawson County	D10	RM 65.75	1926.044	5% Duration	1410.37	601.25	597.2	1.71	1.49	15.77	11.52	203.78	435.95	2.99	2.17	4.05	4.05
Dawson County	D10	RM 65.60	1669.095	5% Duration	1410.37	601.1	597.07	1.86	1.56	17.22	10.23	140.14	404.89	3.8	2.23	4.03	4.03
Dawson County	D10	RM 65.42	1386.836	5% Duration	1410.37	601.05	596.92	1.32	1.21	8.81	6.78	247.82	414.69	3.67	2.81	4.12	4.12
Dawson County	D10	RM 65.23	1090.639	5% Duration	1410.37	600.9	596.91	1.61	1.47	14.36	11.38	257.5	466.59	2.68	2.12	3.99	3.99
Dawson County	D10	RM 64.96	634.963	5% Duration	1410.37	600.74	597.09	1.38	1.17	10.03	5.71	270.22	784.93	3.12	1.78	3.65	3.65

* Bathymetric survey was collected from RM 107.3 to 89.7. Depths in all other locations are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D10	RM 64.51	103500	5% Duration	1410.18	600.58	596.42	1.09	0.97	6.59	5.31	398.12	715.65	2.61	2.1	4.16	4.16
Richland/McKenzie County	D10	RM 64.32	103200	5% Duration	1410.18	600.44	596.33	1.49	1.32	11.61	7.39	232.9	539.45	3.26	2.07	4.11	4.11
Richland/McKenzie County	D10	RM 64.12	102900	5% Duration	1410.18	600.38	596.18	1.18	1.09	7.6	5.42	280.22	659.96	2.86	2.03	4.2	4.2
Richland/McKenzie County	D10	RM 63.92	102601	5% Duration	1410.18	600.32	596.08	1.19	0.99	7.82	4.76	272.55	898.73	2.71	1.64	4.24	4.24
Richland/McKenzie County	D10	RM 63.74	102302	5% Duration	1410.18	600.26	595.94	1.21	1.04	7.75	5.26	254.57	674	3.1	2.09	4.32	4.32
Richland/McKenzie County	D10	RM 63.55	101998	5% Duration	1410.18	600.19	595.79	1.25	1.07	7.58	4.36	209.09	614.05	3.97	2.27	4.4	4.4
Richland/McKenzie County	D10	RM 63.34	101671	5% Duration	1410.18	600.11	595.21	1.38	1.09	10	4.95	240.04	826.45	3.17	1.57	4.9	4.9
Richland/McKenzie County	D10	RM 63.08	101293	5% Duration	1410.18	599.64	595.12	2.55	2.21	33.6	17.33	159.66	397.2	3.37	1.72	4.52	4.52
Richland/McKenzie County	D10	RM 62.96	101094	5% Duration	1410.18	599.46	595.12	2.47	2.19	37.17	20.21	145.63	311.8	3.84	2.07	4.34	4.34
Richland/McKenzie County	D10	RM 62.83	100882	5% Duration	1410.18	599.34	595.12	2.16	1.87	25.57	15.25	160.13	324.31	3.94	2.32	4.22	4.22
Richland/McKenzie County	D10	RM 62.64	100582	5% Duration	1410.18	599.22	595.12	1.85	1.56	16.96	11.1	188.4	360.53	3.85	2.5	4.1	4.1
Richland/McKenzie County	D10	RM 62.46	100282	5% Duration	1410.18	598.91	595.1	2.42	2.09	29.77	20.21	157.36	282.05	3.56	2.4	3.81	3.81
Richland/McKenzie County	D10	RM 62.27	99977	5% Duration	1410.18	598.91	594.91	1.33	1.23	9.14	7.63	300.12	404.98	3.4	2.83	4	4
Richland/McKenzie County	D10	RM 62.1	99691	5% Duration	1410.18	598.8	594.75	1.38	1.28	9.49	8.3	272.59	493.03	2.55	2.23	4.05	4.05
Richland/McKenzie County	D10	RM 61.91	99377	5% Duration	1410.18	598.62	594.51	1.67	1.36	13.66	8.8	162.69	553.17	2.94	1.88	4.11	4.11
Richland/McKenzie County	D10	RM 61.72	99082	5% Duration	1410.18	598.49	594.36	1.6	1.38	13	9.01	126.31	423.61	3.53	2.41	4.13	4.13
Richland/McKenzie County	D10	RM 61.54	98782	5% Duration	1410.18	598.32	594.36	1.71	1.62	14.21	10.91	224.8	320.63	3.54	2.71	3.96	3.96
Richland/McKenzie County	D10	RM 61.35	98482	5% Duration	1410.18	598.18	594.26	1.78	1.61	16.12	10.85	211.79	369.2	3.54	2.37	3.92	3.92
Richland/McKenzie County	D10	RM 61.16	98182	5% Duration	1410.18	598.09	594.17	1.5	1.23	11.96	7.03	248.77	637.19	3.08	1.8	3.92	3.92
Richland/McKenzie County	D10	RM 60.99	97906	5% Duration	1410.18	597.99	594.02	1.47	1.33	11	6.88	215.79	477.04	3.57	2.22	3.97	3.97
Richland/McKenzie County	D10	RM 60.79	97582	5% Duration	1410.18	597.81	593.78	1.76	1.52	17	9.92	224.25	576.85	2.77	1.61	4.03	4.03
Richland/McKenzie County	D10	RM 60.64	97339	5% Duration	1410.18	597.78	593.58	1.09	0.93	6.73	4.37	264.87	917.2	2.57	1.66	4.2	4.2
Richland/McKenzie County	D10	RM 60.42	96982	5% Duration	1410.18	597.67	593.38	1.28	1.14	8.16	6.54	213.57	469.32	3.39	2.7	4.29	4.29
Richland/McKenzie County	D10	RM 60.25	96700	5% Duration	1410.18	597.52	593.24	1.75	1.53	16.91	11.32	190.71	514.48	2.77	1.83	4.28	4.28
Richland/McKenzie County	D10	RM 60.04	96365	5% Duration	1410.18	597.28	593.14	1.89	1.74	21.39	16.72	220.02	509.73	2.18	1.7	4.14	4.14
Richland/McKenzie County	D10	RM 59.86	96088	5% Duration	1410.18	597.16	592.99	1.72	1.49	14.82	8.83	169.44	555.06	3.76	2.21	4.17	4.17
Richland/McKenzie County	D10	RM 59.65	95769	5% Duration	1410.18	597.08	592.85	1.47	1.3	11.34	6.93	205.63	830.03	3.21	1.94	4.23	4.23
Richland/McKenzie County	D10	RM 59.5	95530	5% Duration	1410.18	596.99	592.75	1.5	1.28	12.35	8.45	206.9	663.57	2.82	1.91	4.24	4.24
Richland/McKenzie County	D10	RM 59.29	95183	5% Duration	1410.18	596.85	592.55	1.39	1.29	10.52	7.87	231.34	562.37	2.87	2.13	4.3	4.3
Richland/McKenzie County	D10	RM 59.07	94797	5% Duration	1410.18	596.72	592.36	1.25	1.19	9.41	7.83	406.86	604.65	2.61	2.16	4.36	4.36
Richland/McKenzie County	D10	RM 58.93	94582	5% Duration	1410.18	596.59	592.31	1.5	1.48	12.25	10.75	326.64	429.33	2.87	2.52	4.28	4.28
Richland/McKenzie County	D10	RM 58.75	94282	5% Duration	1410.18	596.49	592.28	1.49	1.47	10.36	8.89	260.38	353.54	3.62	3.1	4.21	4.21
Richland/McKenzie County	D10	RM 58.56	93982	5% Duration	1410.18	596.13	592.22	2.45	2.34	30.28	21.69	156.47	251.35	3.65	2.6	3.91	3.91
Richland/McKenzie County	D10	RM 58.37	93682	5% Duration	1410.18	595.94	592.22	2.2	2.18	24.59	22.48	183.74	218.56	3.49	3.19	3.72	3.72
Richland/McKenzie County	D10	RM 58.19	93382	5% Duration	1410.18	595.86	592.22	1.59	1.59	12.88	12.88	252.28	435.95	3.51	3.51	3.64	3.64
Richland/McKenzie County	D10	RM 58.01	93086	5% Duration	1410.18	595.7	592.14	1.8	1.8	16.6	16.6	230.67	280.88	3.4	3.4	3.56	3.56
Richland/McKenzie County	D10	RM 57.82	92782	5% Duration	1410.18	595.59	592.11	1.47	1.39	12.11	10.93	306.56	454.78	2.56	2.31	3.48	3.48
Richland/McKenzie County	D10	RM 57.63	92482	5% Duration	1410.18	595.38	592.11	1.93	1.69	20.1	14.55	160.39	412.3	2.97	2.14	3.27	3.27
Richland/McKenzie County	D10	RM 57.46	92205	5% Duration	1410.18	595.25	591.95	1.53	1.32	12.55	8.17	189.67	623.3	3.05	1.98	3.3	3.3
Richland/McKenzie County	D10	RM 57.26	91882	5% Duration	1410.18	594.95	591.9	1.9	1.74	20.69	17.29	130.08	389.05	2.5	2.08	3.05	3.05
Richland/McKenzie County	D10	RM 57.07	91583	5% Duration	1410.18	594.83	591.73	1.63	1.39	14.49	10.4	134.82	488.96	2.91	2.07	3.1	3.1
Richland/McKenzie County	D10	RM 56.87	91253	5% Duration	1410.18	594.61	591.49	1.45	1.31	12.32	9.29	186.12	624.51	2.3	1.73	3.18	3.18
Richland/McKenzie County	D10	RM 56.68	90943	5% Duration	1410.18	594.5	591.12	1.1	1.18	7.26	7.02	299.58	601.86	2.06	1.99	3.38	3.38
Richland/McKenzie County	D10	RM 56.54	90682	5% Duration	1410.18	594.3	590.76	1.4	1.74	10.21	13.71	209.01	364.51	1.66	2.23	3.58	3.58
Richland/McKenzie County	D10	RM 56.35	90387	5% Duration	1410.18	594.18	590.46	1.35	1.46	10.58	11.02	174.51	393.41	2.37	2.45	3.72	3.72
Richland/McKenzie County	D11	RM 56.16	90086	5% Duration	1410.18	593.96	590.11	1.86	1.86	17.71	17.71	217.11	217.11	3.49	3.49	3.85	3.85
Richland/McKenzie County	D11	RM 55.96	89768	5% Duration	1410.18	593.83	589.96	1.73	1.67	14.96	12.38	217.95	275.25	3.71	3.07	3.87	3.87
Richland/McKenzie County	D11	RM 55.78	89479	5% Duration	1410.18	593.72	589.96	1.67	1.5	14.15	8.75	214.44	437	3.48	2.15	3.76	3.76
Richland/McKenzie County	D11	RM 55.61	89193	5% Duration	1410.18	593.6	589.98	1.66	1.52	14.17	10.56	221.3	364.14	3.41	2.54	3.62	3.62
Richland/McKenzie County	D11	RM 55.41	88882	5% Duration	1410.18	593.4	589.76	1.9	1.61	19.1	11.06	203.78	488.12	3.11	1.8	3.64	3.64
Richland/McKenzie County	D11	RM 55.23	88582	5% Duration	1410.18	593.3	589.53	1.53	1.32	11.78	6.98	234.6	510.13	3.63	2.14	3.77	3.77
Richland/McKenzie County	D11	RM 55.04	88282	5% Duration	1410.18	593.15	589.39	1.67	1.44	14.83	10.48	252.08	454	3.11	2.19	3.76	3.76
Richland/McKenzie County	D11	RM 54.86	87996	5% Duration	1410.18	592.85	589.33	2.21	1.99	27.39	19.89	221.62	376.04	2.62	1.9	3.52	3.52
Richland/McKenzie County	D11	RM 54.69	87715	5% Duration	1410.18	592.75	589.23	1.57	1.31	13.39	9.63	186.79	526.99	2.91	2.08	3.52	3.52
Richland/McKenzie County	D11	RM 54.48	87382	5% Duration	1410.18	592.6	589.15	1.53	1.18	12.57	6.93	178.44	756.57	2.98	1.62	3.45	3.45
Richland/McKenzie County	D11	RM 54.32	87122	5% Duration	1410.18	592.47	589	1.62	1.28	13.63	6.69	158.44	769.85	3.36	1.62	3.47	3.47
Richland/McKenzie County	D11	RM 54.1	86783	5% Duration	1410.18	592.38	588.83	1.3	1.08	8.71	5.27	199.68	781.91	3.44	2.06	3.55	3.55
Richland/McKenzie County	D11	RM 53.92	86482	5% Duration	1410.18	592.3	588.68	1.24	1.08	8.23	5.66	251.17	735.81	2.96	2.01	3.62	3.62
Richland/McKenzie County	D11	RM 53.73	86182	5% Duration	1410.18	592.21	588.51	1.35	1.13	9.21	5.06	195.19	730.19	3.52	1.91	3.7	3.7
Richland/McKenzie County	D11	RM 53.55	85882	5% Duration	1410.18	592.11	588.37	1.35	1.17	9.43	7.01	181.72	511.62	3.39	2.5	3.74	3.74
Richland/McKenzie County	D11	RM 53.36	85582	5% Duration	1410.18	591.99	588.01	1.39	1.37	10.41	10.36	166.55	406.58	2.93	2.92	3.98	3.98

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D11	RM 53.17	85290	5% Duration	1410.18	591.83	587.56	1.77	1.67	15.43	13.76	203.44	323.47	3.84	3.45	4.27	4.27
Richland/McKenzie County	D11	RM 52.98	84982	5% Duration	1410.18	591.5	587.56	2.27	2.15	30.38	28.29	267.9	1201.18	2.26	2.12	3.94	3.94
Richland/McKenzie County	D11	RM 52.79	84682	5% Duration	1410.18	591.19	587.56	1.9	1.9	21.91	21.78	356.7	1037.76	2.08	2.07	3.63	3.63
Richland/McKenzie County	D11	RM 52.61	84390	5% Duration	1410.18	591.11	587.43	1.2	1.17	8	7.17	447.32	988.06	2.62	2.34	3.68	3.68
Richland/McKenzie County	D11	RM 52.42	84082	5% Duration	1410.18	590.98	587.28	1.35	1.21	10.86	7.71	408.62	1272.54	2.15	1.52	3.7	3.7
Richland/McKenzie County	D11	RM 52.24	83798	5% Duration	1410.18	590.76	587.28	1.81	1.33	18.13	8.51	227.21	1633.83	2.69	1.25	3.48	3.48
Richland/McKenzie County	D11	RM 52.01	83423	5% Duration	1410.18	590.55	587.23	1.66	1.58	14.67	9.9	123.23	627.12	3.15	2.09	3.32	3.32
Richland/McKenzie County	D11	RM 51.87	83182	5% Duration	1410.18	590.43	587.16	1.35	1.37	11.34	8.64	152.25	716.67	1.94	1.46	3.27	3.27
Richland/McKenzie County	D11	RM 51.69	82882	5% Duration	1410.18	590.29	587.16	1.39	1.21	9.93	6.28	145.38	786.31	2.45	1.53	3.13	3.13
Richland/McKenzie County	D11	RM 51.51	82585	5% Duration	1410.18	590.17	587.16	1.46	1.43	13.03	9.49	145.67	671.94	2.07	1.49	3.01	3.01
Richland/McKenzie County	D11	RM 51.32	82274	5% Duration	1410.18	590.08	587.16	1.32	1.28	10.68	7.7	168.37	793.56	1.99	1.42	2.92	2.92
Richland/McKenzie County	D11	RM 51.13	81982	5% Duration	1410.18	590.01	587.13	1.35	1.21	10.1	7.15	161.69	669.58	2.76	1.93	2.9	2.9
Richland/McKenzie County	D11	RM 50.95	81682	5% Duration	1410.18	589.89	587.08	1.24	1.15	8.55	5.43	141.66	760.93	2.66	1.67	2.81	2.81
Richland/McKenzie County	D11	RM 50.76	81378	5% Duration	1410.18	589.8	586.89	1.23	0.97	8.66	4.95	172.62	1087.32	2.44	1.37	2.91	2.91
Richland/McKenzie County	D11	RM 50.56	81065	5% Duration	1410.18	589.55	586.37	1.53	1.4	12.39	9.33	170.43	465.82	3.08	2.3	3.18	3.18
Richland/McKenzie County	D11	RM 50.39	80787	5% Duration	1410.18	589.5	585.7	1.3	1.21	8.43	6.98	196.55	425.54	3.71	3.05	3.8	3.8
Richland/McKenzie County	D11	RM 50.21	80482	5% Duration	1410.18	589.41	585.55	1.23	1.18	7.91	6.12	234.94	536.11	3.14	2.43	3.86	3.86
Richland/McKenzie County	D11	RM 50.02	80182	5% Duration	1407.35	589.27	585.55	1.52	1.46	12.28	10.42	193.66	430.93	3.14	2.64	3.72	3.72
Richland/McKenzie County	D12	RM 49.82	79860	5% Duration	1407.35	588.98	585.55	2.07	2.03	22.23	20.54	206.98	259.12	3.28	3.03	3.43	3.43
Richland/McKenzie County	D12	RM 49.65	79582	5% Duration	1407.35	588.72	585.55	2.23	2.15	26.81	23.1	212.28	283.71	2.95	2.54	3.17	3.17
Richland/McKenzie County	D12	RM 49.5	79348	5% Duration	1407.35	588.76	585.49	1.1	1.08	6.29	5.87	353.25	477.19	3.2	2.99	3.31	3.31
Richland/McKenzie County	D12	RM 49.26	78981	5% Duration	1407.35	588.63	585.29	1.56	1.34	12.85	9.08	136.38	522.98	3.14	2.2	3.34	3.34
Richland/McKenzie County	D12	RM 49.08	78682	5% Duration	1407.35	588.45	585.11	1.7	1.51	15.23	11.38	153.87	469.35	3.13	2.33	3.41	3.41
Richland/McKenzie County	D12	RM 48.87	78351	5% Duration	1407.35	588.34	584.96	1.47	1.37	11.38	9.56	203.82	381.18	3.2	2.7	3.38	3.38
Richland/McKenzie County	D12	RM 48.7	78082	5% Duration	1407.35	588.22	584.86	1.46	1.46	12.41	11.9	246.87	425.66	2.38	2.27	3.36	3.36
Richland/McKenzie County	D12	RM 48.52	77782	5% Duration	1407.35	588.18	584.74	0.94	0.98	5.15	5.1	467.96	643.38	2.26	2.24	3.44	3.44
Richland/McKenzie County	D12	RM 48.33	77482	5% Duration	1407.35	588.1	584.51	1.13	1.14	7.05	6.24	406.04	636.5	2.19	1.94	3.59	3.59
Richland/McKenzie County	D12	RM 48.15	77182	5% Duration	1407.35	587.99	584.24	1.33	1.1	9.67	7.54	370.48	656.59	2.5	1.95	3.75	3.75
Richland/McKenzie County	D12	RM 47.97	76887	5% Duration	1407.35	587.93	584.09	1.15	1.04	6.05	4.36	321.17	653.25	2.89	2.07	3.84	3.84
Richland/McKenzie County	D12	RM 47.76	76570	5% Duration	1407.35	587.88	583.86	0.96	0.96	4.18	4.05	430.41	649.84	2.33	2.26	4.02	4.02
Richland/McKenzie County	D12	RM 47.59	76293	5% Duration	1407.35	587.82	583.71	1.07	1.03	4.86	4.86	374.21	545.46	2.5	2.5	4.11	4.11
Richland/McKenzie County	D12	RM 47.4	75982	5% Duration	1407.35	587.7	583.42	1.41	1.29	9.62	7.51	192.4	425.54	3.28	2.56	4.28	4.28
Richland/McKenzie County	D12	RM 47.12	75521	5% Duration	1407.35	587.56	583.04	1.41	1.4	9.46	8.38	234.72	266.92	4.26	3.76	4.52	4.52
Richland/McKenzie County	D12	RM 47	75323	5% Duration	1407.35	587.28	583.04	2.37	2.35	28.02	25.73	161.22	176.75	3.69	3.39	4.24	4.24
Richland/McKenzie County	D12	RM 46.85	75082	5% Duration	1407.35	587.16	583.04	2.08	2.04	21.62	19.38	182.79	208.36	3.7	3.31	4.12	4.12
Richland/McKenzie County	D12	RM 46.67	74782	5% Duration	1407.35	587	583.04	1.99	1.95	19.56	16.91	184.6	218.28	3.83	3.3	3.96	3.96
Richland/McKenzie County	D12	RM 46.47	74459	5% Duration	1407.35	586.95	583.04	1.38	1.37	9.89	9.35	310.48	331.02	3.28	3.1	3.91	3.91
Richland/McKenzie County	D12	RM 46.3	74186	5% Duration	1407.35	586.81	583.04	1.59	1.59	11.7	11.7	327.03	327.03	2.71	2.71	3.77	3.77
Richland/McKenzie County	D12	RM 46.14	73920	5% Duration	1407.35	586.72	583.04	1.41	1.4	9.87	9.5	353	368.88	2.83	2.72	3.68	3.68
Richland/McKenzie County	D12	RM 45.9	73546	5% Duration	1407.35	586.59	582.97	1.4	1.26	10.19	8.34	339.47	494.69	2.75	2.25	3.62	3.62
Richland/McKenzie County	D12	RM 45.75	73307	5% Duration	1407.35	586.41	582.88	1.79	1.66	13.98	11.96	309.1	408.24	2.43	2.07	3.53	3.53
Richland/McKenzie County	D12	RM 45.54	72980	5% Duration	1407.35	586.32	582.55	1.28	1.22	9.03	8.05	380.74	466.43	2.78	2.47	3.77	3.77
Richland/McKenzie County	D12	RM 45.29	72680	5% Duration	1407.35	586.19	582.25	1.43	1.32	11.25	9.4	346.98	471.33	2.72	2.27	3.94	3.94
Richland/McKenzie County	D12	RM 45.09	72380	5% Duration	1407.35	586.09	582.08	1.39	1.28	9.73	6.87	263.88	434.67	3.67	2.58	4.01	4.01
Richland/McKenzie County	D12	RM 44.91	72080	5% Duration	1407.35	586.01	582.01	1.37	1.21	9.6	6.35	282.79	521.86	3.41	2.25	4	4
Richland/McKenzie County	D12	RM 44.72	71783	5% Duration	1407.35	585.85	581.97	1.73	1.46	15.05	9.1	207.11	463.34	3.6	2.16	3.88	3.88
Richland/McKenzie County	D12	RM 44.53	71483	5% Duration	1407.35	585.62	581.82	2.1	1.7	22.9	11.9	177.26	497.76	3.35	1.73	3.8	3.8
Richland/McKenzie County	D12	RM 44.34	71183	5% Duration	1407.35	585.3	581.8	2.34	1.99	30.39	19.23	197.1	422.59	2.74	1.72	3.5	3.5
Richland/McKenzie County	D12	RM 44.17	70899	5% Duration	1407.35	585.32	581.79	1.18	1.03	7.1	5.01	301.25	761.59	3.45	2.43	3.53	3.53
Richland/McKenzie County	D12	RM 43.97	70594	5% Duration	1407.35	585.24	581.73	1.17	1.04	7.69	6.27	326.13	892.21	2.66	2.17	3.51	3.51
Richland/McKenzie County	D12	RM 43.74	70230	5% Duration	1407.35	585.11	581.66	1.25	1.25	8.73	8.49	157.69	632.13	2.61	2.53	3.45	3.45
Richland/McKenzie County	D12	RM 43.59	69983	5% Duration	1407.35	585	581.56	1.26	1.08	8.16	5.85	137.36	744.14	2.7	1.91	3.44	3.44
Richland/McKenzie County	D12	RM 43.4	69684	5% Duration	1407.35	584.9	581.49	1.23	1.14	7.87	5.44	150.27	669.12	2.77	1.9	3.41	3.41
Richland/McKenzie County	D12	RM 43.03	69084	5% Duration	1407.35	584.73	581.37	1.46	1.25	11.85	7.75	122.83	653.13	2.66	1.72	3.36	3.36
Richland/McKenzie County	D12	RM 42.66	68489	5% Duration	1407.35	584.61	581.18	1.38	1.24	10.53	6.53	114.83	662.14	2.81	1.72	3.43	3.43
Richland/McKenzie County	D12	RM 42.29	67889	5% Duration	1407.35	584.55	580.87	0.97	0.89	4.99	3.34	280.7	772.14	3.09	2.06	3.68	3.68
Richland/McKenzie County	D12	RM 42.08	67558	5% Duration	1407.35	584.5	580.61	1.15	0.94	6.58	2.92	178.43	945.1	3.68	1.62	3.89	3.89
Richland/McKenzie County	D12	RM 41.89	67260	5% Duration	1407.35	584.42	580.31	1.21	1.08	7.38	3.68	290.09	754.02	3.56	1.76	4.11	4.11
Richland/McKenzie County	D12	RM 41.75	67037	5% Duration	1407.35	584.34	579.99	1.31	1.25	9.34	6.58	332.94	567.01	2.89	2.03	4.35	4.35
Richland/McKenzie County	D12	RM 41.54	66695	5% Duration	1407.35	584.2	579.72	1.56	1.41	11.61	5.69	195.29	508.5	4.19	2.04	4.48	4.48
Richland/McKenzie County	D12	RM 41.34	66361	5% Duration	1407.35	584.06	579.43	1.7	1.47	15.13	8.23	218.95	553.18	3.27	1.76	4.63	4.63

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D12	RM 41.18	66116	5% Duration	1407.35	583.96	579.08	1.65	1.49	13.49	7.73	195.6	458.03	3.86	2.2	4.88	4.88
Richland/McKenzie County	D12	RM 40.99	65802	5% Duration	1407.35	583.85	578.99	1.62	1.41	13.08	5.9	203.25	617.47	3.72	1.66	4.86	4.86
Richland/McKenzie County	D12	RM 40.8	65502	5% Duration	1407.35	583.75	578.97	1.5	1.39	11.84	9.77	273.58	400.18	3.21	2.64	4.78	4.78
Richland/McKenzie County	D12	RM 40.62	65205	5% Duration	1407.35	583.67	578.92	1.21	1.18	8.09	6.16	375.4	596.24	2.7	2.05	4.75	4.75
Richland/McKenzie County	D12	RM 40.24	64602	5% Duration	1407.35	583.46	578.6	1.31	1.3	7.24	7.04	474.77	722.87	2.27	2.2	4.86	4.86
Richland/McKenzie County	D12	RM 40	64219	5% Duration	1407.35	583.3	578.56	1.45	1.44	11	9.86	306.21	470.97	3.17	2.84	4.74	4.74
Richland/McKenzie County	D12	RM 39.87	64002	5% Duration	1407.35	583.2	578.55	1.63	1.6	12.91	9.67	218.61	531.84	3.96	2.95	4.65	4.65
Richland/McKenzie County	D12	RM 39.68	63702	5% Duration	1407.35	583.07	578.45	1.69	1.6	14.86	9.61	240.34	462.01	3.31	2.13	4.62	4.62
Richland/McKenzie County	D12	RM 39.5	63402	5% Duration	1407.35	582.89	578.35	1.88	1.72	18.78	11.56	223.71	465.4	3.08	1.89	4.54	4.54
Richland/McKenzie County	D12	RM 39.31	63102	5% Duration	1407.35	582.78	578.31	1.61	1.37	13.13	6.9	226.45	619.92	3.32	1.73	4.47	4.47
Richland/McKenzie County	D12	RM 39.13	62802	5% Duration	1407.35	582.66	578.2	1.54	1.38	12.7	7.77	284.14	590.02	2.95	1.79	4.46	4.46
Richland/McKenzie County	D12	RM 38.94	62501	5% Duration	1407.35	582.56	578.12	1.44	1.21	10.78	6.86	261.35	566.04	3.27	2.07	4.44	4.44
Richland/McKenzie County	D12	RM 38.76	62201	5% Duration	1407.35	582.49	578.03	1.35	1.23	8.88	5.43	239.08	503.71	3.91	2.39	4.46	4.46
Richland/McKenzie County	D12	RM 38.57	61901	5% Duration	1407.35	582.34	577.87	1.72	1.48	15.99	7.81	232.72	700.34	2.9	1.41	4.47	4.47
Richland/McKenzie County	D12	RM 38.38	61601	5% Duration	1407.35	582.3	577.84	1.05	0.84	5.31	3.33	266.39	1503.56	2.92	1.82	4.46	4.46
Richland/McKenzie County	D12	RM 38.2	61301	5% Duration	1407.35	582.23	577.82	1.16	0.82	6.69	3.3	243.09	1162.04	3.74	1.83	4.41	4.41
Richland/McKenzie County	D12	RM 38.01	61008	5% Duration	1407.35	582.15	577.81	1.32	0.97	9.85	5.77	307.49	1011.9	2.56	1.49	4.34	4.34
Richland/McKenzie County	D12	RM 37.84	60708	5% Duration	1407.35	582.02	577.71	1.42	1.27	11.4	8.45	334	627.06	2.54	1.87	4.31	4.31
Richland/McKenzie County	D12	RM 37.65	60408	5% Duration	1407.35	581.98	577.66	0.91	0.82	4.79	3.53	562.12	1000.83	2.44	1.79	4.32	4.32
Richland/McKenzie County	D12	RM 37.5	60107	5% Duration	1407.35	581.91	577.54	0.94	0.91	4.25	4.24	561.34	802.24	1.93	1.93	4.37	4.37
Richland/McKenzie County	D12	RM 37.35	59808	5% Duration	1407.35	581.79	577.37	0.97	1.05	5.39	5.38	427.3	594.99	2.26	2.26	4.42	4.42
Richland/McKenzie County	D12	RM 37.16	59508	5% Duration	1407.35	581.66	577.24	1.47	1.43	9.88	7.2	244.32	482.22	2.81	2.04	4.42	4.42
Richland/McKenzie County	D12	RM 36.97	59208	5% Duration	1407.35	581.5	576.96	1.67	1.74	12.03	8.58	184.66	416.55	2.73	1.94	4.54	4.54
Richland/McKenzie County	D12	RM 36.78	58908	5% Duration	1407.35	581.45	576.87	1.39	1.32	8.56	5.22	213.8	550.53	3.2	1.94	4.58	4.58
Richland/McKenzie County	D12	RM 36.6	58608	5% Duration	1407.35	581.39	576.66	1.31	1.27	8.36	6.34	181.81	359.62	4.1	3.08	4.73	4.73
Richland/McKenzie County	D12	RM 36.38	58263	5% Duration	1407.35	581.32	576.49	1.29	1.29	8.25	8.25	288.61	288.61	3.78	3.78	4.83	4.83
Richland/McKenzie County	D13	RM 36.23	58011	5% Duration	1407.35	581.2	576.43	1.63	1.63	12.54	12.54	194.97	194.97	4.43	4.43	4.77	4.77
Richland/McKenzie County	D13	RM 36.04	57708	5% Duration	1407.35	581	576.42	2.01	1.97	20.3	15.22	190.15	261	3.67	2.74	4.58	4.58
Richland/McKenzie County	D13	RM 35.85	57408	5% Duration	1407.35	580.85	576.41	1.9	1.74	14.39	9.07	276.61	485.9	2.66	1.67	4.44	4.44
Richland/McKenzie County	D13	RM 35.66	57108	5% Duration	1407.35	580.83	576.36	1.23	1.14	6.65	4.63	326.98	535.91	3.3	2.3	4.47	4.47
Richland/McKenzie County	D13	RM 35.48	56810	5% Duration	1407.35	580.65	576.3	1.82	1.58	16.23	9.13	175.96	401.5	3.96	2.22	4.35	4.35
Richland/McKenzie County	D13	RM 35.29	56508	5% Duration	1407.35	580.49	576.19	1.89	1.65	19.2	13.12	212.91	427.13	2.94	2	4.3	4.3
Richland/McKenzie County	D13	RM 35.1	56208	5% Duration	1407.35	580.4	576.07	1.46	1.34	10.5	6.84	243.06	419.71	3.87	2.49	4.33	4.33
Richland/McKenzie County	D13	RM 34.92	55908	5% Duration	1407.35	580.27	576.09	1.63	1.5	14.8	10.15	253.29	414.06	3.33	2.27	4.18	4.18
Richland/McKenzie County	D13	RM 34.73	55605	5% Duration	1407.35	580.17	575.89	1.36	1.3	8.8	7.68	412.86	499.74	2.48	2.16	4.28	4.28
Richland/McKenzie County	D13	RM 34.54	55297	5% Duration	1407.35	580.01	575.79	1.55	1.44	12.23	9.98	320.31	493.95	2.43	1.98	4.22	4.22
Richland/McKenzie County	D13	RM 34.36	55008	5% Duration	1407.35	579.97	575.75	1.14	1.04	6.08	4.69	322.4	519.7	3.39	2.61	4.22	4.22
Richland/McKenzie County	D13	RM 34.17	54708	5% Duration	1407.35	579.91	575.49	1.1	1.01	6.62	4.64	380.15	698.75	2.86	2	4.42	4.42
Richland/McKenzie County	D13	RM 33.94	54408	5% Duration	1407.35	579.87	575.34	1	0.84	4.92	3.63	359.78	737.6	3.1	2.28	4.53	4.53
Richland/McKenzie County	D13	RM 33.76	54079	5% Duration	1407.35	579.8	575.12	1.12	1.01	6.68	5.32	284.56	582.39	3.14	2.48	4.68	4.68
Richland/McKenzie County	D13	RM 33.6	53799	5% Duration	1407.35	579.75	574.88	1.09	0.96	6.39	5	374.2	687.79	2.75	2.14	4.87	4.87
Richland/McKenzie County	D13	RM 33.42	53508	5% Duration	1407.35	579.7	574.61	1.08	0.96	5.33	3.45	261.11	584.5	3.92	2.52	5.09	5.09
Richland/McKenzie County	D13	RM 33.23	53208	5% Duration	1407.35	579.66	574.45	1.07	0.89	5.42	3.33	209.03	583.5	4.43	2.7	5.21	5.21
Richland/McKenzie County	D13	RM 33.04	52908	5% Duration	1407.35	579.61	574.3	1.21	1.06	6.63	4.09	193.13	437.95	4.97	3.05	5.31	5.31
Richland/McKenzie County	D13	RM 32.86	52608	5% Duration	1407.35	579.5	574.18	1.48	1.33	10.21	4.59	208.66	526.59	4.51	2	5.32	5.32
Richland/McKenzie County	D13	RM 32.67	52308	5% Duration	1407.35	579.39	574.18	1.67	1.24	13.36	4.71	187.57	763.73	4.27	1.48	5.21	5.21
Richland/McKenzie County	D13	RM 32.48	52008	5% Duration	1407.35	579.27	574.04	1.75	1.53	15	7.08	194.15	491.94	4.01	1.86	5.23	5.23
Richland/McKenzie County	D13	RM 32.29	51709	5% Duration	1407.35	579.22	574.04	1.43	1.19	9.81	4.45	222.82	628.57	4.2	1.88	5.18	5.18
Richland/McKenzie County	D13	RM 32.11	51423	5% Duration	1407.35	579.17	573.94	1.3	1.17	7.9	5.46	220.08	395.73	4.48	3.09	5.23	5.23
Richland/McKenzie County	D13	RM 31.92	51108	5% Duration	1407.35	579.04	573.85	1.62	1.48	13.17	10.2	210.56	432.07	3.68	2.83	5.19	5.19
Richland/McKenzie County	D13	RM 31.73	50809	5% Duration	1407.35	579.02	573.72	1.17	1.12	6.24	5.04	261.37	464.36	4.46	3.6	5.3	5.3
Richland/McKenzie County	D13	RM 31.51	50462	5% Duration	1407.35	578.8	573.24	1.95	1.95	15.99	15.4	161.82	211.66	4.46	4.3	5.56	5.56
Richland/McKenzie County	D13	RM 31.35	50208	5% Duration	1407.35	578.58	573.24	2.32	2.3	27.38	23.77	168.69	242.37	3.58	3.1	5.34	5.34
Richland/McKenzie County	D13	RM 31.22	50009	5% Duration	1407.35	578.45	573.24	2.26	2.21	24.72	19.7	149.68	254.51	4.14	3.28	5.21	5.21
Richland/McKenzie County	D13	RM 31.12	49859	5% Duration	1407.35	578.44	573.24	1.74	1.74	19.79	19.57	195.51	197.83	4.14	4.09	5.2	5.2
Richland/McKenzie County	D13	RM 30.97	49608	5% Duration	1407.35	578.42	573.24	1.31	1.31	7.85	7.85	222.48	222.48	4.83	4.83	5.18	5.18
Richland/McKenzie County	D13	RM 30.79	49308	5% Duration	1407.35	578.27	573.24	1.73	1.72	14.48	13.05	198.13	222.25	4.1	3.69	5.03	5.03
Richland/McKenzie County	D13	RM 30.6	49009	5% Duration	1407.35	578.1	573.24	1.96	1.95	19.06	17.24	185.92	207.86	3.85	3.48	4.86	4.86
Richland/McKenzie County	D13	RM 30.41	48706	5% Duration	1407.35	577.99	573.15	1.78	1.74	14.27	12.5	203.58	238.8	3.88	3.39	4.84	4.84
Richland/McKenzie County	D13	RM 30.22	48403	5% Duration	1407.35	577.9	573.15	1.64	1.6	12.86	9.22	197.18	286.11	4.33	3.09	4.75	4.75
Richland/McKenzie County	D13	RM 30.03	48102	5% Duration	1407.35	577.89	573.15	1.1	1.09	5.96	4.74	314.08	473.63	4.05	3.2	4.74	4.74

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D13	RM 29.85	47809	5% Duration	1407.35	577.84	573.15	1.06	1.03	5.76	4.76	374.79	538.51	3.51	2.89	4.69	4.69
Richland/McKenzie County	D13	RM 29.66	47508	5% Duration	1407.35	577.73	573.11	1.41	1.4	8.84	7.86	267.7	304.02	3.73	3.3	4.62	4.62
Richland/McKenzie County	D13	RM 29.48	47209	5% Duration	1407.35	577.69	573.11	1.22	1.19	6.06	4.61	345.67	480.73	3.33	2.52	4.58	4.58
Richland/McKenzie County	D13	RM 29.28	46894	5% Duration	1407.35	577.63	572.98	1.12	1.08	6.82	5.88	398.79	539.72	2.92	2.52	4.65	4.65
Richland/McKenzie County	D13	RM 29.1	46608	5% Duration	1407.35	577.54	572.94	1.41	1.06	10.03	6.13	168.88	621.4	3.66	2.22	4.6	4.6
Richland/McKenzie County	D13	RM 28.92	46308	5% Duration	1407.35	577.44	572.85	1.52	1.21	11.1	6.73	146.46	469.79	4.13	2.47	4.59	4.59
Richland/McKenzie County	D13	RM 28.73	46008	5% Duration	1407.35	577.38	572.67	1.39	1.07	9.52	6.04	150.58	540.98	3.87	2.43	4.71	4.71
Richland/McKenzie County	D13	RM 28.54	45708	5% Duration	1407.35	577.31	572.67	1.42	1.07	9.34	5.92	195.58	599.87	3.49	2.19	4.64	4.64
Richland/McKenzie County	D13	RM 28.36	45419	5% Duration	1407.35	577.27	572.48	1.1	0.95	5.94	4.21	230.77	543.42	3.85	2.72	4.79	4.79
Richland/McKenzie County	D13	RM 28.15	45071	5% Duration	1407.35	577.22	572.25	0.95	0.95	4.6	4.37	426.52	453.28	3.45	3.29	4.97	4.97
Richland/McKenzie County	D13	RM 27.98	44808	5% Duration	1407.35	577.12	572.04	1.38	1.35	8.98	7.89	235.1	273.33	4.34	3.81	5.08	5.08
Richland/McKenzie County	D13	RM 27.8	44508	5% Duration	1407.35	577.08	571.87	1.25	1.23	7.07	6.15	225.29	263.71	4.99	4.33	5.21	5.21
Richland/McKenzie County	D14	RM 27.61	44208	5% Duration	1407.35	577.02	571.87	1.29	1.28	7.84	6.74	243.72	287.33	4.47	3.83	5.15	5.15
Richland/McKenzie County	D14	RM 27.43	43916	5% Duration	1407.35	576.99	571.87	1.13	1.11	5.81	4.87	257.63	437.75	4.84	4.04	5.12	5.12
Richland/McKenzie County	D14	RM 27.23	43608	5% Duration	1407.35	576.98	571.87	0.91	0.89	3.71	3.17	309.97	368.52	5.01	4.27	5.11	5.11
Richland/McKenzie County	D14	RM 27.04	43305	5% Duration	1407.35	576.92	571.87	1.14	1.11	6.09	4.86	276.05	357.15	4.47	3.55	5.05	5.05
Richland/McKenzie County	D14	RM 26.86	43008	5% Duration	1407.35	576.85	571.87	1.3	1.25	7.78	5.58	227.02	332.34	4.75	3.39	4.98	4.98
Richland/McKenzie County	D14	RM 26.67	42708	5% Duration	1407.35	576.82	571.87	1.19	1.15	6.52	4.58	252.42	373.07	4.68	3.27	4.95	4.95
Richland/McKenzie County	D14	RM 26.48	42408	5% Duration	1407.35	576.72	571.87	1.46	1.39	9.96	7.05	208.45	313.94	4.58	3.23	4.85	4.85
Richland/McKenzie County	D14	RM 26.29	42108	5% Duration	1407.35	576.64	571.87	1.52	1.45	10.89	6.72	205.53	353.16	4.48	2.74	4.77	4.77
Richland/McKenzie County	D14	RM 26.11	41808	5% Duration	1407.35	576.6	571.87	1.27	1.24	7.55	6.79	248.54	283.48	4.45	4	4.73	4.73
Richland/McKenzie County	D14	RM 25.92	41508	5% Duration	1407.35	576.58	571.87	1.04	1.04	5.07	5.07	301.3	301.3	4.49	4.49	4.71	4.71
Richland/McKenzie County	D14	RM 25.73	41208	5% Duration	1407.35	576.55	571.74	0.99	0.99	4.54	4.54	307.33	307.33	4.63	4.63	4.81	4.81
Richland/McKenzie County	D14	RM 25.55	40918	5% Duration	1407.35	576.49	571.74	1.15	1.15	6.69	6.69	344.42	344.42	3.55	3.55	4.75	4.75
Richland/McKenzie County	D14	RM 25.37	40619	5% Duration	1407.35	576.42	571.74	1.19	1.19	7.22	7.22	350.6	350.6	3.37	3.37	4.68	4.68
Richland/McKenzie County	D14	RM 25.17	40310	5% Duration	1407.35	576.33	571.74	1.37	1.37	7.27	7.18	351.37	355.84	2.93	2.89	4.59	4.59
Richland/McKenzie County	D14	RM 24.99	40008	5% Duration	1407.35	576.3	571.74	1.02	1.01	4.44	3.91	383.57	452.03	3.61	3.18	4.56	4.56
Richland/McKenzie County	D14	RM 24.8	39703	5% Duration	1407.35	576.28	571.71	0.82	0.81	3.45	3.11	397.61	445.76	4.31	3.89	4.57	4.57
Richland/McKenzie County	D14	RM 24.62	39408	5% Duration	1407.35	576.21	571.64	1.19	1.16	6.92	6.3	274.78	333.27	3.97	3.64	4.57	4.57
Richland/McKenzie County	D14	RM 24.45	39139	5% Duration	1407.35	576.13	571.64	1.38	1.38	9.05	9.05	239.2	239.2	4.27	4.27	4.49	4.49
Richland/McKenzie County	D14	RM 24.24	38801	5% Duration	1407.35	576.05	571.58	1.39	1.36	9.15	7.96	237.24	279.28	4.27	3.71	4.47	4.47
Richland/McKenzie County	D14	RM 24.05	38506	5% Duration	1407.35	576.01	571.48	1.24	1.24	7.33	7.33	262.65	262.65	4.31	4.31	4.53	4.53
Richland/McKenzie County	D14	RM 23.87	38210	5% Duration	1407.35	575.99	571.28	0.93	0.93	4.04	4.04	331.52	331.52	4.56	4.56	4.71	4.71
Richland/McKenzie County	D14	RM 23.66	37912	5% Duration	1407.35	575.98	571.21	0.79	0.79	2.99	2.99	441.4	441.4	4.06	4.06	4.77	4.77
Richland/McKenzie County	D14	RM 23.48	37610	5% Duration	1407.35	575.94	571.12	0.95	0.91	4.51	4.24	346.71	507.38	3.23	3.04	4.82	4.82
Richland/McKenzie County	D14	RM 23.29	37312	5% Duration	1407.35	575.88	570.86	1.08	1.06	5.54	4.54	308.3	511.87	3.17	2.6	5.02	5.02
Richland/McKenzie County	D14	RM 23.1	37006	5% Duration	1407.35	575.83	570.82	1.09	0.97	5.5	3.44	253.36	594.16	3.91	2.43	5.01	5.01
Richland/McKenzie County	D14	RM 22.92	36721	5% Duration	1407.35	575.77	570.8	1.27	1.08	7.43	4.7	211.03	536.11	3.87	2.43	4.97	4.97
Richland/McKenzie County	D14	RM 22.72	36402	5% Duration	1407.35	575.66	570.81	1.57	1.31	11.53	5.38	178.19	521.65	4.46	2.06	4.85	4.85
Richland/McKenzie County	D14	RM 22.54	36108	5% Duration	1407.35	575.63	570.76	1.17	1.1	6.3	3.64	276.6	519.3	4.31	2.47	4.87	4.87
Richland/McKenzie County	D14	RM 22.35	35808	5% Duration	1407.35	575.59	570.74	1.1	1.04	5.82	3.92	307.74	492.3	4.12	2.76	4.85	4.85
Richland/McKenzie County	D14	RM 22.17	35508	5% Duration	1407.35	575.56	570.68	0.99	0.98	4.53	3.5	302.42	398.57	4.69	3.62	4.88	4.88
Richland/McKenzie County	D14	RM 22.02	35264	5% Duration	1407.35	575.55	570.68	0.83	0.82	3.19	2.35	353.25	490.18	4.77	3.49	4.87	4.87
Richland/McKenzie County	D14	RM 21.8	34901	5% Duration	1407.35	575.5	570.69	0.99	0.98	5	4.34	399.02	468.08	3.55	3.08	4.81	4.81
Richland/McKenzie County	D14	RM 21.61	34626	5% Duration	1407.35	575.45	570.67	1.02	1.01	5.57	5.43	465.12	481.74	2.97	2.9	4.78	4.78
Richland/McKenzie County	D14	RM 21.34	34140	5% Duration	1407.35	575.4	570.67	0.93	0.79	4.18	2.79	287.43	652.72	4.1	2.72	4.73	4.73
Richland/McKenzie County	D14	RM 21.25	33973	5% Duration	1407.35	575.34	570.67	1.37	1.07	9.09	5.09	197.3	655.28	3.66	2.03	4.67	4.67
Richland/McKenzie County	D14	RM 21.06	33672	5% Duration	1407.35	575.31	570.6	1.02	0.89	5.19	3.15	265.74	721.34	3.65	2.21	4.71	4.71
Richland/McKenzie County	D14	RM 20.9	33400	5% Duration	1407.35	575.26	570.58	1.16	1.05	7.11	4.63	248.61	654.47	3.15	2.04	4.68	4.68
Richland/McKenzie County	D14	RM 20.71	33101	5% Duration	1407.35	575.17	570.53	1.34	1.22	9.26	6.08	240.21	515.77	3.43	2.25	4.64	4.64
Richland/McKenzie County	D14	RM 20.52	32800	5% Duration	1407.35	575.14	570.52	1.06	1	5.54	4.24	279.28	495.72	3.75	2.86	4.62	4.62
Richland/McKenzie County	D14	RM 20.34	32500	5% Duration	1407.35	575.1	570.52	1.1	1	5.91	4.38	252.3	491.12	3.9	2.88	4.58	4.58
Richland/McKenzie County	D14	RM 20.15	32200	5% Duration	1407.35	575.03	570.52	1.16	1.15	7.6	6.25	228.18	376.79	4.03	3.3	4.51	4.51
Richland/McKenzie County	D14	RM 19.96	31900	5% Duration	1407.35	574.84	570.52	1.84	1.78	16.53	9.52	188.41	344.2	4.04	2.31	4.32	4.32
Richland/McKenzie County	D14	RM 19.77	31600	5% Duration	1407.35	574.85	570.5	1.11	1.1	5.82	5.37	328.5	357.01	3.87	3.57	4.35	4.35
Richland/McKenzie County	D14	RM 19.59	31297	5% Duration	1407.35	574.8	570.45	1.11	1.07	5.77	4.87	329.59	445.3	3.56	3.01	4.35	4.35
Richland/McKenzie County	D14	RM 19.4	30995	5% Duration	1407.35	574.71	570.45	1.32	1.22	8.99	5.8	282.88	552.49	3.29	2.12	4.26	4.26
Richland/McKenzie County	D14	RM 19.21	30710	5% Duration	1407.35	574.7	570.38	0.88	0.79	3.78	2.25	378.66	771.63	3.9	2.31	4.32	4.32
Richland/McKenzie County	D14	RM 19.03	30402	5% Duration	1407.35	574.66	570.38	0.93	0.87	4.1	3.09	425.1	666.69	3.26	2.44	4.28	4.28
Richland/McKenzie County	D14	RM 18.83	30086	5% Duration	1407.35	574.59	570.38	1.07	1.02	5.32	4.2	441.1	686.44	2.7	2.12	4.21	4.21
Richland/McKenzie County	D14	RM 18.66	29802	5% Duration	1407.35	574.52	570.38	1.15	1.06	7.01	4.63	396.38	782.07	2.64	1.73	4.14	4.14

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D14	RM 18.47	29499	5% Duration	1407.35	574.37	570.36	1.52	1.41	12.73	8.46	293.21	551.61	2.74	1.8	4.01	4.01
Richland/McKenzie County	D14	RM 18.28	29197	5% Duration	1407.35	574.28	570.36	1.4	1.39	9.47	8.24	293.77	339.96	3.42	2.97	3.92	3.92
Richland/McKenzie County	D14	RM 17.89	28624	5% Duration	1407.35	574.24	570.33	0.79	0.79	3.09	3.09	463.13	466.39	3.83	3.83	3.91	3.91
Richland/McKenzie County	D14	RM 17.56	27975	5% Duration	1407.35	574.11	570.29	1.2	1.18	7.06	6.71	366.27	394.24	3.18	3.02	3.82	3.82
Richland/McKenzie County	D14	RM 17.36	27539	5% Duration	1407.35	573.9	570.31	1.67	1.67	14.51	14.51	253.29	253.29	3.32	3.32	3.59	3.59
Richland/McKenzie County	D14	RM 17.1	27113	5% Duration	1407.35	573.76	570.28	1.45	1.45	10.89	10.89	294.35	294.35	3.3	3.3	3.48	3.48
Richland/McKenzie County	D14	RM 16.74	26537	5% Duration	1407.35	573.65	570.14	1.09	1.09	6.03	5.92	400.68	408.19	3.22	3.16	3.51	3.51
Richland/McKenzie County	D14	RM 16.35	25925	5% Duration	1407.35	573.56	569.46	1.03	1.01	5.17	4.7	342.97	390.39	3.93	3.57	4.1	4.1
Richland/McKenzie County	D14	RM 16.17	25629	5% Duration	1407.35	573.52	569.2	0.97	0.95	4.68	3.94	376.13	458.01	3.86	3.25	4.32	4.32
Richland/McKenzie County	D14	RM 15.95	25324	5% Duration	1407.35	573.51	568.99	0.71	0.69	2.39	1.77	456.27	633.14	4.33	3.21	4.52	4.52
Richland/McKenzie County	D14	RM 15.75	25032	5% Duration	1407.35	573.48	568.85	0.81	0.8	3.24	2.93	460.39	515.1	3.78	3.42	4.63	4.63
Richland/McKenzie County	D14	RM 15.56	24777	5% Duration	1407.35	573.4	568.85	1.23	1.23	7.22	7.22	288.42	288.42	3.97	3.97	4.55	4.55
Richland/McKenzie County	D14	RM 15.34	24438	5% Duration	1407.35	573.34	568.79	1.25	1.25	7.33	7.33	257.89	257.89	4.38	4.38	4.55	4.55
Richland/McKenzie County	D14	RM 15.16	24144	5% Duration	1407.35	573.29	568.75	1.22	1.22	7.06	7.06	262.19	262.19	4.39	4.39	4.54	4.54
Richland/McKenzie County	D14	RM 14.98	23841	5% Duration	1407.35	573.22	568.76	1.31	1.31	9.02	9.02	251.8	251.84	4.27	4.26	4.46	4.46
Richland/McKenzie County	D14	RM 14.79	23543	5% Duration	1407.35	573.15	568.72	1.35	1.35	8.08	8.08	275.8	275.8	3.78	3.78	4.43	4.43
Richland/McKenzie County	D14	RM 14.61	23241	5% Duration	1407.35	573.1	568.7	1.24	1.24	7.42	7.42	270.41	270.41	4.18	4.18	4.4	4.4
Richland/McKenzie County	D14	RM 14.42	22940	5% Duration	1407.35	573.07	568.69	1.03	1.03	5.02	5.02	324.65	327.35	4.23	4.23	4.38	4.38
Richland/McKenzie County	D14	RM 14.23	22647	5% Duration	1407.35	573.06	568.67	0.79	0.79	3	3	443.72	444.26	4.03	4.03	4.39	4.39
Richland/McKenzie County	D14	RM 14.05	22341	5% Duration	1407.35	573.04	568.68	0.73	0.72	3.03	2.89	550.29	583.9	3.52	3.36	4.36	4.36
Richland/McKenzie County	D14	RM 13.88	22040	5% Duration	1407.35	572.98	568.67	0.94	0.94	3.87	3.83	589.73	597.74	2.54	2.52	4.31	4.31
Richland/McKenzie County	D14	RM 13.7	21728	5% Duration	1407.35	572.92	568.65	1.09	1.09	5.21	5.21	385.13	399.81	3.34	3.34	4.26	4.26
Richland/McKenzie County	D14	RM 13.51	21429	5% Duration	1407.35	572.88	568.63	0.99	0.99	4.55	4.55	399.03	399.68	3.56	3.56	4.25	4.25
Richland/McKenzie County	D15	RM 13.31	21145	5% Duration	1407.35	572.85	568.51	0.88	0.88	3.72	3.72	451.54	453.51	3.53	3.53	4.34	4.34
Richland/McKenzie County	D15	RM 13.12	20858	5% Duration	1407.35	572.81	568.39	0.99	0.99	4.74	4.74	340.49	344.44	4.16	4.16	4.42	4.42
Richland/McKenzie County	D15	RM 12.9	20507	5% Duration	1407.35	572.74	568.39	1.15	1.15	6.31	6.31	296.33	302.66	4.14	4.14	4.35	4.35
Richland/McKenzie County	D15	RM 12.73	20241	5% Duration	1407.35	572.7	568.35	1.14	1.14	6.2	6.2	292.87	297.71	4.22	4.22	4.35	4.35
Richland/McKenzie County	D15	RM 12.56	19961	5% Duration	1407.35	572.68	568.34	1	1	4.77	4.77	334.37	340.69	4.21	4.21	4.34	4.34
Richland/McKenzie County	D15	RM 12.38	19686	5% Duration	1407.35	572.66	568.23	0.82	0.82	3.27	3.27	421.31	429.13	4.07	4.07	4.43	4.43
Richland/McKenzie County	D15	RM 12.21	19384	5% Duration	1407.35	572.61	568.17	0.97	0.97	3.96	3.96	455.43	547.4	3.18	3.18	4.44	4.44
Richland/McKenzie County	D15	RM 11.99	19084	5% Duration	1407.35	572.58	568.16	0.97	0.97	3.76	3.76	505.46	505.46	2.87	2.87	4.42	4.42
Richland/McKenzie County	D15	RM 11.53	18484	5% Duration	1407.35	572.48	568.11	1.05	1.05	5.13	4.47	389.68	451.3	3.43	2.98	4.37	4.37
Richland/McKenzie County	D15	RM 11.34	18216	5% Duration	1407.35	572.44	568.06	1	0.98	5.64	5.06	349.73	395.57	4.04	3.62	4.38	4.38
Richland/McKenzie County	D15	RM 11.17	17885	5% Duration	1407.35	572.35	567.88	1.16	1.16	10.36	9.93	390.89	408.67	3.1	2.96	4.47	4.47
Richland/McKenzie County	D15	RM 10.97	17584	5% Duration	1407.35	572.29	567.8	1.01	1.01	4.64	4.64	467.11	467.37	2.97	2.97	4.49	4.49
Richland/McKenzie County	D15	RM 10.75	17284	5% Duration	1407.35	572.27	567.79	0.84	0.84	3.14	3.09	495.51	503.06	3.38	3.33	4.48	4.48
Richland/McKenzie County	D15	RM 10.53	16964	5% Duration	1407.35	572.21	567.73	1.01	1.01	4.71	4.49	420.76	443.53	3.31	3.15	4.48	4.48
Richland/McKenzie County	D15	RM 10.35	16670	5% Duration	1407.35	572.15	567.73	1.11	1.09	5.88	5.04	440.76	520.65	2.89	2.47	4.42	4.42
Richland/McKenzie County	D15	RM 10.15	16384	5% Duration	1407.35	572.11	567.73	1.08	0.92	5.6	3.39	251.32	621.13	4.08	2.45	4.38	4.38
Richland/McKenzie County	D15	RM 9.94	16084	5% Duration	1407.35	572.08	567.73	0.93	0.79	4.23	2.72	271.82	719.87	3.88	2.49	4.35	4.35
Richland/McKenzie County	D15	RM 9.76	15797	5% Duration	1407.35	572.03	567.65	0.98	0.91	4.39	2.91	347.96	679.68	3.53	2.34	4.38	4.38
Richland/McKenzie County	D15	RM 9.57	15487	5% Duration	1407.35	571.98	567.58	1.1	1	5.8	3.6	244.33	575.91	4.21	2.61	4.4	4.4
Richland/McKenzie County	D15	RM 9.37	15187	5% Duration	1407.35	571.91	567.58	1.24	1.1	7.42	4.38	201.87	521.06	4.18	2.45	4.33	4.33
Richland/McKenzie County	D15	RM 9.24	14963	5% Duration	1407.35	571.79	567.5	1.57	1.57	12.23	12.08	234.33	237.13	3.82	3.78	4.29	4.29
Richland/McKenzie County	D15	RM 9.1	14741	5% Duration	1407.35	571.71	567.39	1.61	1.6	12.63	12.02	230.67	243.14	3.8	3.61	4.32	4.32
Richland/McKenzie County	D15	RM 9.03	14639	5% Duration	1407.35	571.67	567.4	1.65	1.64	13.84	13.39	247.82	257.19	3.44	3.33	4.27	4.27
Richland/McKenzie County	D15	RM 8.82	14300	5% Duration	1407.35	571.66	567.41	0.98	0.98	4.72	4.72	378.32	379.84	3.8	3.8	4.25	4.25
Richland/McKenzie County	D15	RM 8.61	13963	5% Duration	1407.35	571.59	567.39	1.14	1.1	6.28	5.5	306.85	388.06	3.78	3.32	4.2	4.2
Richland/McKenzie County	D15	RM 8.44	13687	5% Duration	1407.35	571.53	567.32	1.27	1.19	7.89	4.88	256.29	480.47	3.99	2.46	4.21	4.21
Richland/McKenzie County	D15	RM 8.24	13387	5% Duration	1407.35	571.44	567.32	1.39	1.19	9.46	4.87	228.63	588	3.99	2.03	4.12	4.12
Richland/McKenzie County	D15	RM 8.05	13080	5% Duration	1407.35	571.39	567.05	1.22	1.16	7.17	5.18	264.25	421.57	4.12	2.97	4.34	4.34
Richland/McKenzie County	D15	RM 7.87	12786	5% Duration	1407.35	571.31	567.05	1.4	1.3	9.52	5.17	229.38	521.56	4.02	2.17	4.26	4.26
Richland/McKenzie County	D15	RM 7.69	12506	5% Duration	1407.35	571.26	567.05	1.23	1.16	7.37	4.93	264.9	453.08	4.01	2.68	4.21	4.21
Richland/McKenzie County	D15	RM 7.48	12179	5% Duration	1407.35	571.24	566.95	0.94	0.94	4.25	4.25	360.2	360.2	4.15	4.15	4.29	4.29
Richland/McKenzie County	D16	RM 7.3	11891	5% Duration	1407.35	571.19	566.76	1.06	1.06	5.44	5.44	324.12	324.12	4.09	4.09	4.43	4.43
Richland/McKenzie County	D16	RM 7.14	11639	5% Duration	1407.35	571.13	566.76	1.19	1.15	7.12	6.28	322.69	388.43	3.57	3.15	4.37	4.37
Richland/McKenzie County	D16	RM 6.94	11319	5% Duration	1407.35	571.08	566.76	1.11	1.07	5.91	4.81	296.12	389.41	4.15	3.38	4.32	4.32
Richland/McKenzie County	D16	RM 6.77	11043	5% Duration	1407.35	571.05	566.76	1.01	0.95	5	3.69	349.12	525.19	3.82	2.81	4.29	4.29
Richland/McKenzie County	D16	RM 6.58	10733	5% Duration	1407.35	571.02	566.59	0.98	0.92	4.65	3.02	341.66	586.62	4.06	2.62	4.43	4.43
Richland/McKenzie County	D16	RM 6.38	10417	5% Duration	1407.35	570.84	566.59	1.77	1.59	15.18	8.22	181.24	406.85	4.05	2.17	4.25	4.25
Richland/McKenzie County	D16	RM 6.21	10138	5% Duration	1407.35	570.78	566.44	1.5	1.32	10.82	4.11	215.67	689.53	4.1	1.54	4.34	4.34

* Bathymetric survey was not collected for the study reach. Depths are approximate based on incorporation of an estimated low flow channel.

Yellowstone River - Richland/McKenzie County - Unregulated Flows - Undeveloped Conditions

Reach	YRCDC Reach Code	YRCDC River Miles	RAS River Station	Profile	Q Total (cms)	W.S. Elevation (m)	Minimum Cross Section Elevation (m)	Average Velocity (m/s)		Average Shear Stress (N/m^2)		Total Wetted Top Width (m)		Average Depth as Hydarulic Depth (m)		Maximum Depth (m)	
								Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section	Main Channel	Cross Section
Richland/McKenzie County	D16	RM 6.01	9825	5% Duration	1407.35	570.78	566.17	0.89	0.86	3.93	2.24	412.18	755.83	3.82	2.17	4.61	4.61
Richland/McKenzie County	D16	RM 5.83	9551	5% Duration	1407.35	570.77	565.96	0.71	0.68	2.43	1.46	480.1	846.29	4.11	2.46	4.81	4.81
Richland/McKenzie County	D16	RM 5.67	9297	5% Duration	1407.35	570.74	565.96	0.85	0.79	3.52	1.88	340.62	843.22	4.02	2.12	4.78	4.78
Richland/McKenzie County	D16	RM 5.43	8926	5% Duration	1407.35	570.67	565.96	1.13	1.07	6.5	4.1	268.3	621.91	3.41	2.14	4.71	4.71
Richland/McKenzie County	D16	RM 5.25	8623	5% Duration	1407.35	570.52	565.96	1.57	1.45	11.7	6.42	206.77	415.96	4.29	2.34	4.56	4.56
Richland/McKenzie County	D16	RM 5.06	8331	5% Duration	1407.35	570.51	565.82	1.13	1.02	6.08	3.81	289.25	519.83	4.24	2.65	4.69	4.69
Richland/McKenzie County	D16	RM 4.87	8029	5% Duration	1407.35	570.48	565.67	0.99	0.91	4.75	3.53	332.76	538.84	3.97	2.94	4.81	4.81
Richland/McKenzie County	D16	RM 4.71	7757	5% Duration	1407.35	570.44	565.54	1.1	0.97	5.6	3.35	248.48	531.82	4.59	2.72	4.9	4.9
Richland/McKenzie County	D16	RM 4.53	7456	5% Duration	1407.35	570.34	565.54	1.43	1.24	9.56	4.84	197.71	493.72	4.59	2.3	4.8	4.8
Richland/McKenzie County	D16	RM 4.34	7156	5% Duration	1407.35	570.29	565.54	1.35	1.17	9.34	4.76	213.54	582.4	4.49	2.27	4.75	4.75
Richland/McKenzie County	D16	RM 4.17	6884	5% Duration	1407.35	570.24	565.54	1.3	1.18	7.9	5.24	223.19	463.19	4.5	2.96	4.7	4.7
Richland/McKenzie County	D16	RM 3.96	6550	5% Duration	1407.35	570.21	565.54	1.02	0.92	4.88	3.14	216.6	757.79	4.4	2.83	4.67	4.67
Richland/McKenzie County	D16	RM 3.78	6249	5% Duration	1407.35	570.15	565.54	1.21	1.1	7.24	3.96	195.95	957.81	3.83	2.08	4.61	4.61
Richland/McKenzie County	D16	RM 3.55	5904	5% Duration	1407.35	570.11	565.54	1.09	0.97	5.6	3.13	206.04	597.49	4.38	2.43	4.57	4.57
Richland/McKenzie County	D16	RM 3.38	5657	5% Duration	1407.35	570.04	565.53	1.32	1.21	8.33	5.29	171.27	436.87	4.26	2.68	4.51	4.51
Richland/McKenzie County	D16	RM 3.2	5363	5% Duration	1407.35	569.97	565.54	1.38	1.38	9.66	7.43	166.2	405.57	3.6	2.75	4.43	4.43
Richland/McKenzie County	D16	RM 3.01	5062	5% Duration	1407.35	569.92	565.54	1.2	1.16	7.22	5.5	310	457.64	3.75	2.84	4.38	4.38
Richland/McKenzie County	D16	RM 2.82	4763	5% Duration	1407.35	569.86	565.46	1.14	1.14	7.08	5.8	419.95	516.82	2.93	2.39	4.4	4.4

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