

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Alignment -1	8551.05	100Yr	21.00	684.53	685.47	685.47	685.74	0.014685	2.52	11.27	23.11	0.92
Alignment -1	8551.05	10Yr	9.00	684.53	685.17	685.17	685.36	0.018386	2.02	5.23	15.08	0.95
Alignment -1	8500	100Yr	21.00	675.78	676.48	676.48	676.71	0.023562	2.88	11.68	25.69	1.14
Alignment -1	8500	10Yr	9.00	675.78	676.24	676.24	676.39	0.025478	2.22	6.23	20.93	1.10
Alignment -1	8400	100Yr	21.00	659.13	660.49	660.49	660.89	0.014793	2.97	8.54	12.37	0.95
Alignment -1	8400	10Yr	9.00	659.13	660.07	660.07	660.34	0.018285	2.37	4.20	8.25	0.97
Alignment -1	8300	100Yr	21.00	644.70	645.52	645.52	645.80	0.018770	2.53	10.13	20.08	1.01
Alignment -1	8300	10Yr	9.00	644.70	645.26	645.26	645.43	0.023622	1.96	5.24	16.43	1.04
Alignment -1	8200	100Yr	21.00	633.72	634.26	634.26	634.43	0.021647	2.12	13.35	39.92	1.02
Alignment -1	8200	10Yr	9.00	633.72	634.09	634.09	634.20	0.025023	1.65	7.02	33.84	1.01
Alignment -1	8100	100Yr	21.00	624.48	625.36	625.36	625.62	0.018490	2.99	11.78	23.14	1.05
Alignment -1	8100	10Yr	9.00	624.48	625.09	625.09	625.26	0.019265	2.32	6.12	17.76	1.00
Alignment -1	8000	100Yr	21.00	617.11	618.21	618.21	618.54	0.015820	3.24	10.50	16.28	1.01
Alignment -1	8000	10Yr	9.00	617.11	617.83	617.83	618.06	0.017944	2.56	5.20	11.78	1.00
Alignment -1	7900	100Yr	21.00	609.14	610.41	610.41	610.77	0.013139	2.93	9.81	15.12	0.92
Alignment -1	7900	10Yr	9.00	609.14	610.00	610.00	610.26	0.016562	2.36	4.57	10.27	0.95
Alignment -1	7800	100Yr	21.00	601.02	602.27	602.27	602.58	0.015695	3.53	11.16	16.90	1.03
Alignment -1	7800	10Yr	9.00	601.02	601.89	601.89	602.13	0.016751	2.83	5.59	12.26	1.00
Alignment -1	7700	100Yr	21.00	595.85	596.76	596.76	597.03	0.021013	3.11	11.37	21.98	1.11
Alignment -1	7700	10Yr	9.00	595.85	596.49	596.49	596.67	0.021699	2.40	6.05	17.55	1.06
Alignment -1	7600	100Yr	21.00	589.36	590.22	590.22	590.46	0.022208	3.27	11.58	22.39	1.15
Alignment -1	7600	10Yr	9.00	589.36	589.95	589.95	590.12	0.023725	2.60	6.12	17.95	1.11
Alignment -1	7500	100Yr	21.00	582.53	584.03	584.03	584.45	0.015780	3.76	9.23	11.06	1.02
Alignment -1	7500	10Yr	9.00	582.53	583.59	583.59	583.87	0.015362	2.87	4.89	8.67	0.95
Alignment -1	7400	100Yr	21.00	576.50	577.65	577.65	577.98	0.017724	3.53	10.33	15.50	1.08
Alignment -1	7400	10Yr	9.00	576.50	577.29	577.29	577.52	0.017851	2.73	5.45	12.07	1.01
Alignment -1	7300	100Yr	21.00	569.44	570.57	570.57	570.93	0.018022	3.53	9.86	14.30	1.08
Alignment -1	7300	10Yr	9.00	569.44	570.17	570.17	570.42	0.020631	2.78	4.93	10.40	1.07
Alignment -1	7200	100Yr	21.00	561.76	563.10	563.10	563.43	0.015264	3.54	11.04	16.71	1.01
Alignment -1	7200	10Yr	9.00	561.76	562.71	562.71	562.96	0.015962	2.81	5.48	11.74	0.97
Alignment -1	7100	100Yr	21.00	550.46	551.77	551.77	552.14	0.016465	2.85	8.57	12.80	0.99
Alignment -1	7100	10Yr	9.00	550.46	551.40	551.40	551.64	0.018659	2.25	4.42	9.42	0.97
Alignment -1	7000	100Yr	21.00	543.09	544.00	544.00	544.31	0.016012	2.68	9.94	17.43	0.96
Alignment -1	7000	10Yr	9.00	543.09	543.68	543.68	543.88	0.018836	2.11	5.00	13.03	0.96
Alignment -1	6900	100Yr	21.00	535.03	535.92	535.92	536.18	0.015201	2.33	10.57	22.98	0.92
Alignment -1	6900	10Yr	9.00	535.03	535.64	535.64	535.82	0.020493	1.87	5.02	16.45	0.97
Alignment -1	6800	100Yr	21.00	529.15	530.45	530.45	530.76	0.018187	2.82	9.67	15.24	1.02
Alignment -1	6800	10Yr	9.00	529.15	530.06	530.06	530.31	0.020254	2.41	4.67	10.31	1.02
Alignment -1	6700	100Yr	21.00	525.79	526.72	526.72	527.00	0.014560	2.62	10.85	20.20	0.93
Alignment -1	6700	10Yr	9.00	525.79	526.39	526.39	526.62	0.021217	2.22	4.77	15.38	1.03
Alignment -1	6600	100Yr	21.00	521.17	522.26	522.26	522.53	0.013541	2.37	10.13	23.72	0.88
Alignment -1	6600	10Yr	9.00	521.17	521.87	521.87	522.09	0.020828	2.08	4.41	10.57	1.00
Alignment -1	6500	100Yr	21.00	516.85	517.79	517.79	518.11	0.015853	2.62	9.35	15.91	0.96
Alignment -1	6500	10Yr	9.00	516.85	517.48	517.48	517.68	0.019264	2.03	4.80	13.03	0.97
Alignment -1	6400	100Yr	21.00	511.76	513.04	513.04	513.31	0.017486	3.81	11.94	19.80	1.08
Alignment -1	6400	10Yr	9.00	511.76	512.78	512.78	512.95	0.013124	2.82	7.09	17.18	0.90
Alignment -1	6300	100Yr	21.00	507.74	508.97	508.97	509.26	0.015787	2.59	10.33	18.97	0.95
Alignment -1	6300	10Yr	9.00	507.74	508.59	508.59	508.81	0.018500	2.20	4.74	11.19	0.97
Alignment -1	6215.47	100Yr	21.00	503.17	504.26	504.26	504.58	0.014195	2.78	10.39	18.60	0.93
Alignment -1	6215.47	10Yr	9.00	503.17	503.92	503.92	504.14	0.016326	2.18	5.00	13.10	0.92
Alignment -1	6100	100Yr	21.00	497.87	499.19	499.19	499.57	0.012951	3.06	9.61	13.70	0.92
Alignment -1	6100	10Yr	9.00	497.87	498.76	498.76	499.03	0.015725	2.44	4.56	9.60	0.93
Alignment -1	6000	100Yr	21.00	493.03	494.63	494.63	495.12	0.012512	3.45	8.43	9.53	0.91
Alignment -1	6000	10Yr	9.00	493.03	494.08	494.08	494.43	0.014726	2.73	4.00	6.60	0.92
Alignment -1	5900	100Yr	21.00	487.40	488.73	488.73	489.15	0.015577	3.00	8.09	10.30	0.96
Alignment -1	5900	10Yr	9.00	487.40	488.26	488.26	488.56	0.017854	2.44	3.96	7.33	0.96
Alignment -1	5800	100Yr	21.00	481.49	483.13	483.13	483.59	0.012465	3.30	8.70	10.70	0.91
Alignment -1	5800	10Yr	9.00	481.49	482.61	482.61	482.93	0.015706	2.65	4.03	7.10	0.94

HEC-RAS Plan: Plan 01 River: Itla Reach: Alignment -1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Alignment -1	5700	100Yr	21.00	477.64	479.10	479.10	479.44	0.012850	2.89	10.15	16.72	0.90
Alignment -1	5700	10Yr	9.00	477.64	478.65	478.65	478.92	0.018695	2.43	4.35	9.25	0.99
Alignment -1	5600	100Yr	21.00	472.40	473.75	473.75	474.18	0.013653	3.07	8.27	10.59	0.94
Alignment -1	5600	10Yr	9.00	472.40	473.29	473.29	473.58	0.017436	2.43	4.05	7.86	0.97
Alignment -1	5500	100Yr	21.00	467.50	469.03	469.03	469.43	0.015782	2.89	8.07	10.51	0.96
Alignment -1	5500	10Yr	9.00	467.50	468.57	468.57	468.86	0.018616	2.41	3.92	7.32	0.98
Alignment -1	5400	100Yr	21.00	464.86	466.20	466.20	466.55	0.011431	2.96	10.14	14.46	0.87
Alignment -1	5400	10Yr	9.00	464.86	465.73	465.73	466.00	0.015471	2.45	4.51	9.29	0.93
Alignment -1	5300	100Yr	21.00	460.83	461.67	461.67	462.01	0.016911	2.69	8.78	13.77	0.99
Alignment -1	5300	10Yr	9.00	460.83	461.35	461.35	461.56	0.020706	2.07	4.68	11.95	1.00
Alignment -1	5200	100Yr	21.00	456.45	457.74	457.74	458.06	0.013056	2.80	10.15	15.64	0.89
Alignment -1	5200	10Yr	9.00	456.45	457.35	457.35	457.59	0.016957	2.29	4.73	11.20	0.94
Alignment -1	5100	100Yr	21.00	451.68	453.26	453.26	453.73	0.014564	3.13	7.68	9.36	0.95
Alignment -1	5100	10Yr	9.00	451.68	452.79	452.79	453.09	0.018708	2.46	3.88	6.72	0.99
Alignment -1	5000	100Yr	21.00	445.66	447.01	447.01	447.50	0.014199	3.18	7.43	8.38	0.95
Alignment -1	5000	10Yr	9.00	445.66	446.52	446.52	446.83	0.018171	2.48	3.78	6.65	0.98
Alignment -1	4900	100Yr	21.00	441.21	442.41	442.41	442.70	0.018861	2.77	9.93	15.91	1.02
Alignment -1	4900	10Yr	9.00	441.21	442.12	442.12	442.31	0.016079	2.15	5.63	13.91	0.91
Alignment -1	4800	100Yr	21.00	436.23	437.26	437.26	437.58	0.021650	3.28	9.97	16.64	1.14
Alignment -1	4800	10Yr	9.00	436.23	436.94	436.94	437.15	0.024761	2.55	5.18	13.11	1.12
Alignment -1	4700	100Yr	21.00	429.40	430.61	430.61	431.00	0.013653	3.20	9.65	13.66	0.95
Alignment -1	4700	10Yr	9.00	429.40	430.17	430.17	430.45	0.015939	2.53	4.64	9.48	0.95
Alignment -1	4600	100Yr	21.00	426.24	427.72	427.72	428.08	0.013093	2.83	9.68	15.99	0.89
Alignment -1	4600	10Yr	9.00	426.24	427.31	427.31	427.57	0.016719	2.29	4.35	9.83	0.92
Alignment -1	4500	100Yr	21.00	420.19	421.94	421.94	422.43	0.013859	3.48	8.28	9.48	0.96
Alignment -1	4500	10Yr	9.00	420.19	421.40	421.40	421.74	0.017375	2.77	3.94	6.54	0.98
Alignment -1	4400	100Yr	21.00	416.37	417.30	417.30	417.57	0.014092	2.51	10.92	20.87	0.91
Alignment -1	4400	10Yr	9.00	416.37	416.99	416.99	417.18	0.018129	2.02	5.22	15.36	0.94
Alignment -1	4300	100Yr	21.00	408.97	410.62	410.62	411.02	0.017169	4.30	9.64	11.55	1.10
Alignment -1	4300	10Yr	9.00	408.97	410.14	410.14	410.44	0.017769	3.42	4.88	8.23	1.05
Alignment -1	4200	100Yr	21.00	405.65	407.13	407.13	407.56	0.014540	3.43	8.82	10.74	0.98
Alignment -1	4200	10Yr	9.00	405.65	406.62	406.62	406.93	0.018692	2.77	4.20	7.51	1.02
Alignment -1	4100	100Yr	21.00	403.13	404.33	404.33	404.64	0.016014	2.80	9.69	14.45	0.96
Alignment -1	4100	10Yr	9.00	403.13	403.97	403.97	404.20	0.017018	2.27	4.93	11.58	0.93
Alignment -1	4000	100Yr	21.00	398.30	399.86	399.86	400.25	0.017731	2.95	8.18	10.50	1.01
Alignment -1	4000	10Yr	9.00	398.30	399.40	399.40	399.68	0.019186	2.47	4.11	7.44	1.00
Alignment -1	3900	100Yr	21.00	394.80	395.89	395.89	396.26	0.014206	3.12	9.60	13.52	0.96
Alignment -1	3900	10Yr	9.00	394.80	395.47	395.47	395.73	0.017153	2.47	4.71	9.98	0.97
Alignment -1	3800	100Yr	21.00	391.27	392.40	392.40	392.76	0.017788	3.22	9.69	14.77	1.05
Alignment -1	3800	10Yr	9.00	391.27	392.02	392.02	392.26	0.021388	2.53	4.84	11.02	1.06
Alignment -1	3700	100Yr	21.00	386.35	387.42	387.42	387.75	0.017980	3.17	9.89	15.06	1.05
Alignment -1	3700	10Yr	9.00	386.35	387.10	387.10	387.30	0.017862	2.39	5.44	12.91	0.98
Alignment -1	3600	100Yr	21.00	381.81	383.55	383.55	384.03	0.016201	3.68	8.39	9.65	1.03
Alignment -1	3600	10Yr	9.00	381.81	383.01	383.01	383.35	0.021183	2.95	3.98	6.64	1.07
Alignment -1	3500	100Yr	21.00	378.28	379.53	379.53	379.93	0.015218	2.92	8.45	11.76	0.97
Alignment -1	3500	10Yr	9.00	378.28	379.14	379.14	379.39	0.019519	2.29	4.29	9.27	1.00
Alignment -1	3400	100Yr	21.00	375.34	376.55	376.55	376.90	0.014014	2.90	9.50	14.22	0.93
Alignment -1	3400	10Yr	9.00	375.34	376.19	376.19	376.42	0.015451	2.24	4.82	11.38	0.91
Alignment -1	3300	100Yr	21.00	371.48	372.93	372.93	373.28	0.012367	2.67	9.17	17.47	0.86
Alignment -1	3300	10Yr	9.00	371.48	372.47	372.47	372.73	0.020245	2.26	4.00	7.98	1.00
Alignment -1	3200	100Yr	21.00	367.01	368.32	368.32	368.69	0.017533	3.72	9.97	13.85	1.08
Alignment -1	3200	10Yr	9.00	367.01	367.94	367.94	368.19	0.017108	2.85	5.30	10.85	1.00
Alignment -1	3100	100Yr	21.00	362.03	363.69	363.69	364.19	0.015937	3.27	7.31	8.17	0.98
Alignment -1	3100	10Yr	9.00	362.03	363.17	363.17	363.50	0.018095	2.59	3.72	5.90	0.97
Alignment -1	3000	100Yr	21.00	358.22	359.37	359.37	359.71	0.017288	3.40	9.97	14.10	1.06
Alignment -1	3000	10Yr	9.00	358.22	359.03	359.03	359.25	0.017007	2.60	5.46	12.18	0.98
Alignment -1	2900	100Yr	21.00	355.00	356.24	356.24	356.54	0.016017	3.43	11.27	17.63	1.03
Alignment -1	2900	10Yr	9.00	355.00	355.87	355.87	356.10	0.017521	2.76	5.62	12.84	1.01

HEC-RAS Plan: Plan 01 River: Itla Reach: Alignment -1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Alignment -1	2800	100Yr	21.00	351.82	352.92	352.92	353.24	0.015332	3.05	10.75	18.41	0.98
Alignment -1	2800	10Yr	9.00	351.82	352.57	352.57	352.80	0.016875	2.38	5.29	13.03	0.96
Alignment -1	2700	100Yr	21.00	349.10	350.24	350.24	350.58	0.018153	3.19	10.05	16.28	1.05
Alignment -1	2700	10Yr	9.00	349.10	349.86	349.86	350.10	0.023460	2.57	4.80	11.14	1.09
Alignment -1	2600	100Yr	21.00	346.18	347.22	347.22	347.58	0.015975	2.93	9.17	13.73	0.99
Alignment -1	2600	10Yr	9.00	346.18	346.85	346.85	347.08	0.020047	2.30	4.64	10.77	1.01
Alignment -1	2500	100Yr	21.00	342.91	343.61	343.61	343.82	0.020928	2.63	12.40	28.47	1.07
Alignment -1	2500	10Yr	9.00	342.91	343.41	343.41	343.54	0.019593	1.98	7.05	25.92	0.97
Alignment -1	2400	100Yr	21.00	338.06	339.58	339.58	339.69	0.003884	1.82	17.64	22.38	0.51
Alignment -1	2400	10Yr	9.00	338.06	339.17	339.17	339.25	0.003762	1.38	9.34	18.13	0.47
Alignment -1	2300	100Yr	21.00	337.32	338.59	338.59	338.91	0.020876	3.52	10.06	15.97	1.13
Alignment -1	2300	10Yr	9.00	337.32	338.19	338.19	338.44	0.026481	2.84	4.79	10.95	1.17
Alignment -1	2200	100Yr	21.00	330.43	331.94	331.94	332.34	0.016402	3.28	8.93	12.19	1.01
Alignment -1	2200	10Yr	9.00	330.43	331.47	331.47	331.76	0.024555	2.69	4.07	8.02	1.12
Alignment -1	2098.03	100Yr	21.00	326.80	327.73	327.73	327.97	0.025656	3.75	11.41	22.19	1.26
Alignment -1	2098.03	10Yr	9.00	326.80	327.47	327.47	327.64	0.025551	3.01	6.23	18.21	1.19
Alignment -1	2000	100Yr	21.00	322.92	323.51	323.51	323.73	0.031203	2.79	10.99	25.80	1.26
Alignment -1	2000	10Yr	9.00	322.92	323.29	323.29	323.43	0.038883	2.13	5.79	21.70	1.27
Alignment -1	1900	100Yr	21.00	318.42	319.70	319.70	320.10	0.015697	3.07	8.47	10.77	0.98
Alignment -1	1900	10Yr	9.00	318.42	319.31	319.31	319.56	0.017113	2.33	4.56	9.64	0.94
Alignment -1	1800	100Yr	21.00	302.88	305.27	305.27	306.01	0.012204	4.93	8.12	5.84	1.02
Alignment -1	1800	10Yr	9.00	302.88	304.44	304.44	304.96	0.013179	3.85	3.98	4.15	0.99
Alignment -1	1695.65	100Yr	21.00	292.48	293.84	293.84	294.27	0.014399	3.06	8.22	10.47	0.95
Alignment -1	1695.65	10Yr	9.00	292.48	293.41	293.41	293.69	0.017423	2.38	4.17	8.36	0.96
Alignment -1	1600	100Yr	30.00	286.94	288.21	288.21	288.65	0.016439	3.54	12.33	14.22	1.05
Alignment -1	1600	10Yr	13.00	286.94	287.81	287.81	288.08	0.016688	2.68	6.89	12.68	0.98
Alignment -1	1500	100Yr	30.00	283.29	284.94	284.94	285.40	0.013365	3.37	12.13	14.08	0.94
Alignment -1	1500	10Yr	13.00	283.29	284.43	284.43	284.75	0.016340	2.68	5.93	10.22	0.96
Alignment -1	1400	100Yr	30.00	280.28	281.84	281.84	282.32	0.016923	4.20	12.22	13.22	1.10
Alignment -1	1400	10Yr	13.00	280.28	281.31	281.31	281.65	0.018731	3.31	6.22	9.66	1.08
Alignment -1	1300	100Yr	30.00	277.88	279.25	279.25	279.62	0.013640	2.97	13.27	19.16	0.93
Alignment -1	1300	10Yr	13.00	277.88	278.87	278.87	279.12	0.014763	2.29	6.78	15.47	0.90
Alignment -1	1200	100Yr	30.00	274.27	275.75	275.75	276.17	0.016855	3.55	12.64	15.49	1.04
Alignment -1	1200	10Yr	13.00	274.27	275.34	275.34	275.61	0.017937	2.74	6.76	12.64	1.00
Alignment -1	1100	100Yr	30.00	271.09	272.56	272.56	272.94	0.013419	3.56	14.55	18.69	0.97
Alignment -1	1100	10Yr	13.00	271.09	272.12	272.12	272.40	0.014147	2.83	7.33	13.80	0.93
Alignment -1	1000	100Yr	30.00	268.64	269.58	269.58	269.93	0.037869	3.26	11.57	17.09	1.31
Alignment -1	1000	10Yr	13.00	268.64	269.27	269.25	269.47	0.041017	2.16	6.57	15.05	1.22
Alignment -1	900	100Yr	30.00	265.39	267.15	267.15	267.64	0.015038	3.32	11.01	11.83	0.95
Alignment -1	900	10Yr	13.00	265.39	266.60	266.60	266.95	0.016819	2.72	5.43	8.38	0.95
Alignment -1	800	100Yr	30.00	262.70	264.26	264.26	264.66	0.015944	3.96	13.83	17.09	1.06
Alignment -1	800	10Yr	13.00	262.70	263.79	263.79	264.09	0.017066	3.15	7.01	12.40	1.02
Alignment -1	700	100Yr	30.00	260.25	261.57	261.57	261.96	0.013086	2.95	12.96	19.73	0.92
Alignment -1	700	10Yr	13.00	260.25	261.15	261.15	261.42	0.016404	2.35	6.10	12.90	0.94
Alignment -1	600	100Yr	30.00	256.88	258.63	258.63	259.28	0.022189	4.22	10.50	13.75	1.17
Alignment -1	600	10Yr	13.00	256.88	258.21	258.21	258.55	0.018083	2.94	5.79	9.20	0.99
Alignment -1	500	100Yr	30.00	254.71	255.94	255.94	256.25	0.024128	4.37	14.78	23.65	1.28
Alignment -1	500	10Yr	13.00	254.71	255.62	255.62	255.82	0.021997	3.38	8.12	17.95	1.16
Alignment -1	400	100Yr	30.00	252.06	253.47	253.47	253.87	0.015083	3.64	13.95	18.27	1.02
Alignment -1	400	10Yr	13.00	252.06	253.03	253.03	253.31	0.016675	2.88	6.94	12.91	1.00
Alignment -1	300	100Yr	30.00	250.24	251.40	251.40	251.55	0.016342	2.89	24.84	70.58	0.99
Alignment -1	300	10Yr	13.00	250.24	251.21	251.21	251.33	0.014393	2.30	12.41	54.69	0.89
Alignment -1	200	100Yr	30.00	248.37	249.46	249.46	249.66	0.013537	2.86	21.04	46.09	0.92
Alignment -1	200	10Yr	13.00	248.37	249.23	249.23	249.37	0.010844	2.14	11.63	37.13	0.79
Alignment -1	100	100Yr	30.00	246.10	247.35	247.35	247.63	0.015885	3.21	16.82	31.26	1.01
Alignment -1	100	10Yr	13.00	246.10	246.94	246.94	247.20	0.023729	2.81	7.04	16.30	1.13
Alignment -1	0	100Yr	30.00	243.93	244.71	244.71	244.83	0.020014	2.54	25.17	85.47	1.03
Alignment -1	0	10Yr	13.00	243.93	244.59	244.59	244.67	0.014613	1.89	15.43	80.11	0.85