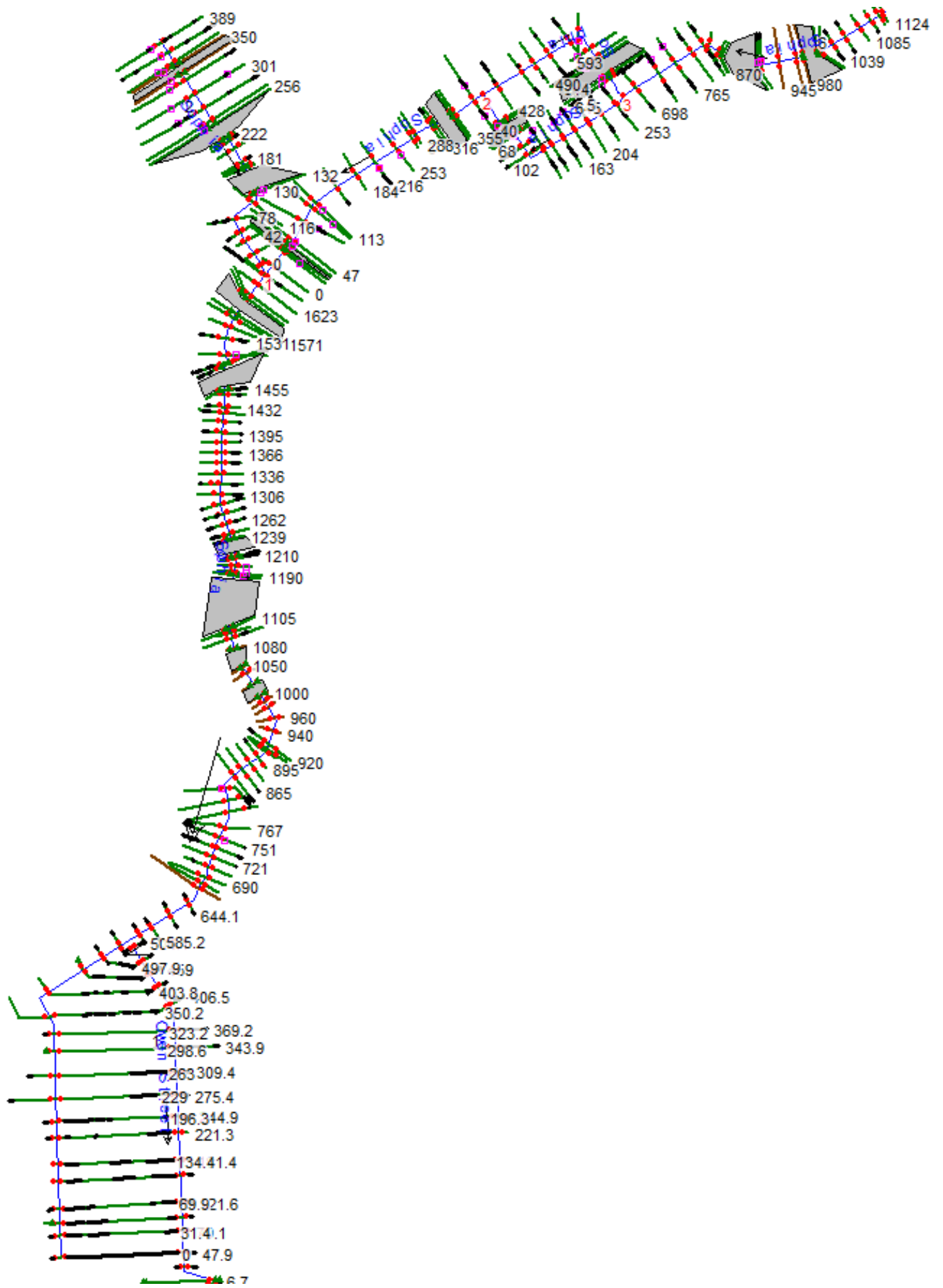


**APPENDIX G:
ALTERNATIVE 3A MODEL RESULTS**



Improvement Alternative 3A - HEC RAS Results Summary

HEC-RAS Plan: PR01

River	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
Sophia	6	1124	10 YR	4.97	258.50	259.41	259.41	259.67	0.022814	2.26	2.20	4.27	1.01
Sophia	6	1124	25 YR	6.84	258.50	259.56	259.56	259.84	0.021800	2.36	2.89	5.12	1.00
Sophia	6	1124	50 YR	8.35	258.50	259.66	259.66	259.96	0.021475	2.43	3.43	5.86	1.01
Sophia	6	1124	100 YR	9.83	258.50	259.74	259.74	260.06	0.020326	2.52	3.94	6.91	1.00
Sophia	6	1118	10 YR	4.97	258.13	259.22		259.39	0.013835	1.79	2.77	5.05	0.77
Sophia	6	1118	25 YR	6.84	258.13	259.35		259.55	0.015446	1.98	3.46	6.02	0.83
Sophia	6	1118	50 YR	8.35	258.13	259.43	259.35	259.65	0.016448	2.11	3.96	6.58	0.87
Sophia	6	1118	100 YR	9.83	258.13	259.50	259.43	259.75	0.017137	2.21	4.45	7.19	0.90
Sophia	6	1104	10 YR	4.97	258.14	259.07	258.95	259.20	0.012024	1.59	3.13	6.66	0.74
Sophia	6	1104	25 YR	6.84	258.14	259.20	259.07	259.34	0.011404	1.66	4.12	7.94	0.74
Sophia	6	1104	50 YR	8.35	258.14	259.29	259.16	259.44	0.010896	1.71	4.88	8.73	0.73
Sophia	6	1104	100 YR	9.83	258.14	259.38	259.22	259.53	0.010515	1.74	5.64	9.59	0.73
Sophia	6	1085	10 YR	4.97	257.86	258.64	258.64	258.88	0.023331	2.17	2.29	4.85	1.01
Sophia	6	1085	25 YR	6.84	257.86	258.77	258.77	259.04	0.022315	2.31	2.97	5.58	1.01
Sophia	6	1085	50 YR	8.35	257.86	258.86	258.86	259.15	0.021705	2.38	3.50	6.16	1.01
Sophia	6	1085	100 YR	9.83	257.86	258.94	258.94	259.24	0.021206	2.45	4.02	6.70	1.01
Sophia	6	1060	10 YR	4.97	257.20	258.34		258.42	0.005853	1.20	4.16	7.84	0.52
Sophia	6	1060	25 YR	6.84	257.20	258.47		258.56	0.006245	1.32	5.18	8.90	0.55
Sophia	6	1060	50 YR	8.35	257.20	258.54		258.64	0.006764	1.42	5.87	9.60	0.58
Sophia	6	1060	100 YR	9.83	257.20	258.60		258.72	0.007412	1.53	6.47	12.42	0.61
Sophia	6	1039	10 YR	4.97	257.05	258.07		258.22	0.015157	1.73	2.87	6.24	0.82
Sophia	6	1039	25 YR	6.84	257.05	258.24	258.11	258.38	0.011256	1.67	4.36	12.22	0.73
Sophia	6	1039	50 YR	8.35	257.05	258.33	258.22	258.47	0.010064	1.69	5.57	14.94	0.70
Sophia	6	1039	100 YR	9.83	257.05	258.42		258.55	0.008490	1.64	7.05	16.81	0.65
Sophia	6	1017	10 YR	4.97	256.64	257.99		258.04	0.003724	1.05	4.87	11.27	0.43
Sophia	6	1017	25 YR	6.84	256.64	258.19		258.24	0.002653	1.01	7.72	15.88	0.37
Sophia	6	1017	50 YR	8.35	256.64	258.29		258.34	0.002695	1.07	9.31	19.14	0.38
Sophia	6	1017	100 YR	9.83	256.64	258.38		258.43	0.002647	1.10	11.22	23.28	0.38
Sophia	6	1013	10 YR	4.97	256.41	257.62	257.62	257.88	0.028869	2.29	2.18	4.04	0.99
Sophia	6	1013	25 YR	6.84	256.41	257.76	257.76	258.06	0.027548	2.46	2.78	4.93	1.01
Sophia	6	1013	50 YR	8.35	256.41	257.88	257.88	258.17	0.025324	2.38	3.50	6.01	1.00
Sophia	6	1013	100 YR	9.83	256.41	257.98	257.98	258.27	0.023374	2.36	4.20	8.83	0.98
Sophia	6	1000		Culvert									
Sophia	6	980	10 YR	4.97	255.92	256.62	256.58	256.81	0.016183	1.96	2.53	5.47	0.88
Sophia	6	980	25 YR	6.84	255.92	256.75	256.69	256.98	0.013976	2.13	3.21	6.17	0.85
Sophia	6	980	50 YR	8.35	255.92	256.97	256.77	257.16	0.008002	1.95	4.27	7.27	0.68
Sophia	6	980	100 YR	9.83	255.92	257.19	256.84	257.36	0.005087	1.82	5.40	8.44	0.56
Sophia	6	970	10 YR	4.97	255.75	256.44	256.41	256.64	0.018578	1.98	2.51	5.42	0.93
Sophia	6	970	25 YR	6.84	255.75	256.63		256.81	0.012954	1.89	3.63	6.40	0.80
Sophia	6	970	50 YR	8.35	255.75	256.91		257.03	0.005812	1.48	5.66	7.86	0.56
Sophia	6	970	100 YR	9.83	255.75	257.17		257.25	0.003385	1.26	7.81	9.17	0.44
Sophia	6	945	10 YR	4.97	255.37	256.25		256.34	0.006872	1.37	3.63	6.41	0.58
Sophia	6	945	25 YR	6.84	255.37	256.55		256.62	0.003641	1.18	5.81	7.98	0.44
Sophia	6	945	50 YR	8.35	255.37	256.88		256.93	0.001801	0.95	8.75	9.71	0.32
Sophia	6	945	100 YR	9.83	255.37	257.15		257.19	0.001197	0.85	11.52	11.74	0.27
Sophia	6	920	10 YR	4.97	255.00	256.22	255.66	256.25	0.001683	0.81	6.12	8.21	0.30
Sophia	6	920	25 YR	6.84	255.00	256.53	255.78	256.56	0.001130	0.76	9.00	9.88	0.25
Sophia	6	920	50 YR	8.35	255.00	256.88	255.86	256.90	0.000670	0.66	12.68	11.67	0.20
Sophia	6	920	100 YR	9.83	255.00	257.15	255.94	257.16	0.000421	0.57	21.76	38.94	0.16
Sophia	6	914	10 YR	4.97	254.91	256.21	255.57	256.24	0.001050	0.73	6.82	8.94	0.25
Sophia	6	914	25 YR	6.84	254.91	256.53	255.69	256.56	0.000722	0.74	9.23	10.69	0.21
Sophia	6	914	50 YR	8.35	254.91	256.87	255.78	256.89	0.000515	0.59	14.12	12.58	0.18
Sophia	6	914	100 YR	9.83	254.91	257.15	255.85	257.16	0.000316	0.51	24.82	41.17	0.14
Sophia	6	911		Culvert									
Sophia	6	870	10 YR	4.97	254.50	255.33	255.01	255.38	0.003653	1.04	4.77	8.02	0.43
Sophia	6	870	25 YR	6.84	254.50	255.50	255.12	255.56	0.003266	1.09	6.25	8.98	0.42
Sophia	6	870	50 YR	8.35	254.50	255.62	255.19	255.69	0.003099	1.13	7.37	9.63	0.41
Sophia	6	870	100 YR	9.83	254.50	255.72	255.26	255.79	0.002915	1.18	8.34	10.17	0.41
Sophia	6	860	10 YR	4.97	254.44	255.30		255.35	0.003151	0.99	5.05	8.29	0.40
Sophia	6	860	25 YR	6.84	254.44	255.47		255.53	0.002825	1.03	6.62	9.28	0.39
Sophia	6	860	50 YR	8.35	254.44	255.60		255.65	0.002693	1.07	7.78	9.96	0.39
Sophia	6	860	100 YR	9.83	254.44	255.70		255.76	0.002659	1.12	8.81	10.52	0.39
Sophia	6	830	10 YR	4.97	254.27	255.24		255.27	0.001837	0.80	6.22	9.32	0.31
Sophia	6	830	25 YR	6.84	254.27	255.42		255.46	0.001716	0.85	8.05	10.43	0.31
Sophia	6	830	50 YR	8.35	254.27	255.55		255.59	0.001678	0.89	9.38	11.18	0.31

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	6	830	100 YR	9.83	254.27	255.65		255.69	0.001694	0.93	10.54	11.78	0.31
Sophia	6	815	10 YR	4.97	254.10	255.00		255.19	0.014106	1.95	2.55	4.05	0.79
Sophia	6	815	25 YR	6.84	254.10	255.16		255.38	0.015019	2.10	3.25	4.95	0.83
Sophia	6	815	50 YR	8.35	254.10	255.28		255.51	0.014857	2.15	3.89	5.75	0.83
Sophia	6	815	100 YR	9.83	254.10	255.35	255.26	255.61	0.016070	2.27	4.33	6.31	0.87
Sophia	6	794	10 YR	4.97	253.89	254.85		254.96	0.007538	1.46	3.41	5.53	0.59
Sophia	6	794	25 YR	6.84	253.89	255.01		255.13	0.008034	1.58	4.33	6.58	0.62
Sophia	6	794	50 YR	8.35	253.89	255.11		255.25	0.008787	1.63	5.11	8.05	0.65
Sophia	6	794	100 YR	9.83	253.89	255.17		255.33	0.009460	1.75	5.86	10.52	0.68
Sophia	6	765	10 YR	4.97	253.95	254.61	254.49	254.72	0.009160	1.46	3.40	6.70	0.65
Sophia	6	765	25 YR	6.84	253.95	254.76	254.58	254.88	0.009680	1.48	4.63	9.51	0.68
Sophia	6	765	50 YR	8.35	253.95	254.88	254.68	254.98	0.009495	1.40	5.94	13.13	0.67
Sophia	6	765	100 YR	9.83	253.95	254.96	254.75	255.06	0.008373	1.39	7.09	14.55	0.63
Sophia	6	737	10 YR	4.97	253.59	254.47	254.15	254.53	0.004640	1.10	4.51	8.12	0.47
Sophia	6	737	25 YR	6.84	253.59	254.59	254.25	254.67	0.005354	1.23	5.59	9.65	0.51
Sophia	6	737	50 YR	8.35	253.59	254.69	254.35	254.77	0.005746	1.26	6.60	11.57	0.53
Sophia	6	737	100 YR	9.83	253.59	254.77	254.44	254.85	0.006505	1.30	7.56	14.05	0.57
Sophia	6	698	10 YR	9.11	252.92	254.14		254.25	0.009434	1.48	6.25	15.20	0.67
Sophia	6	698	25 YR	12.34	252.92	254.27		254.39	0.008487	1.55	8.44	18.60	0.65
Sophia	6	698	50 YR	15.21	252.92	254.36		254.48	0.008212	1.61	10.23	21.56	0.65
Sophia	6	698	100 YR	17.77	252.92	254.42		254.56	0.007763	1.68	11.83	28.39	0.64
Sophia	4	645	10 YR	6.99	252.48	253.80	253.35	253.89	0.004419	1.30	5.35	6.84	0.47
Sophia	4	645	25 YR	8.35	252.48	253.94	253.44	254.03	0.004557	1.31	6.40	8.51	0.48
Sophia	4	645	50 YR	9.48	252.48	254.03	253.52	254.12	0.005009	1.32	7.18	10.22	0.50
Sophia	4	645	100 YR	10.68	252.48	254.10	253.59	254.19	0.005377	1.34	7.96	11.81	0.52
Sophia	4	639	10 YR	6.99	252.37	253.58	253.48	253.80	0.016989	2.09	3.34	5.19	0.83
Sophia	4	639	25 YR	8.35	252.37	253.79	253.58	253.97	0.009741	1.86	4.50	6.77	0.66
Sophia	4	639	50 YR	9.48	252.37	253.84	253.65	254.04	0.010293	1.99	4.77	7.23	0.69
Sophia	4	639	100 YR	10.68	252.37	253.75	253.71	254.07	0.018861	2.50	4.27	6.45	0.91
Sophia	4	625		Culvert									
Sophia	4	614	10 YR	6.99	252.27	253.46	253.34	253.71	0.015033	2.23	3.13	6.33	0.79
Sophia	4	614	25 YR	8.35	252.27	253.54	253.43	253.84	0.015620	2.43	3.44	7.01	0.82
Sophia	4	614	50 YR	9.48	252.27	253.68	253.50	253.85	0.014208	1.85	5.11	9.15	0.79
Sophia	4	614	100 YR	10.68	252.27	253.76	253.57	253.93	0.012387	1.79	6.04	12.63	0.75
Sophia	4	608	10 YR	6.99	252.19	253.46	253.16	253.58	0.009529	1.52	4.60	8.75	0.65
Sophia	4	608	25 YR	8.35	252.19	253.57	253.27	253.68	0.007777	1.49	5.79	11.78	0.60
Sophia	4	608	50 YR	9.48	252.19	253.66	253.36	253.76	0.007023	1.46	6.88	13.52	0.58
Sophia	4	608	100 YR	10.68	252.19	253.75	253.46	253.84	0.006626	1.41	8.21	16.67	0.57
Sophia	4	593	10 YR	6.99	252.19	253.26	252.99	253.42	0.010382	1.81	3.87	5.37	0.68
Sophia	4	593	25 YR	8.35	252.19	253.37	253.10	253.54	0.010504	1.85	4.51	6.21	0.69
Sophia	4	593	50 YR	9.48	252.19	253.45	253.20	253.63	0.010479	1.88	5.03	6.82	0.70
Sophia	4	593	100 YR	10.68	252.19	253.52	253.28	253.71	0.010530	1.92	5.56	7.41	0.71
Sophia	4	567	10 YR	6.99	251.95	253.14	252.68	253.22	0.004691	1.28	5.45	7.31	0.47
Sophia	4	567	25 YR	8.35	251.95	253.25	252.76	253.34	0.004655	1.32	6.33	8.16	0.48
Sophia	4	567	50 YR	9.48	251.95	253.34	252.83	253.43	0.004635	1.35	7.03	8.80	0.48
Sophia	4	567	100 YR	10.68	251.95	253.41	252.92	253.51	0.004666	1.38	7.71	9.39	0.49
Sophia	4	550	10 YR	6.99	252.04	252.89		253.09	0.012074	1.98	3.53	4.82	0.74
Sophia	4	550	25 YR	8.35	252.04	252.97		253.20	0.013946	2.11	3.96	5.56	0.80
Sophia	4	550	50 YR	9.48	252.04	253.05		253.28	0.014913	2.17	4.38	6.33	0.83
Sophia	4	550	100 YR	10.68	252.04	253.11	252.99	253.36	0.015510	2.22	4.81	7.00	0.85
Sophia	4	515	10 YR	6.99	251.71	252.89		252.93	0.001508	0.85	8.34	14.55	0.29
Sophia	4	515	25 YR	8.35	251.71	252.98		253.02	0.001617	0.92	9.80	18.58	0.30
Sophia	4	515	50 YR	9.48	251.71	253.05		253.10	0.001629	0.95	11.29	20.97	0.30
Sophia	4	515	100 YR	10.68	251.71	253.12		253.17	0.001669	0.98	12.77	22.17	0.31
Sophia	4	490	10 YR	6.99	251.68	252.82		252.87	0.003332	0.97	7.23	13.97	0.40
Sophia	4	490	25 YR	8.35	251.68	252.92		252.97	0.002869	0.99	8.85	19.94	0.38
Sophia	4	490	50 YR	9.48	251.68	253.00		253.05	0.002433	0.98	10.78	26.09	0.36
Sophia	4	490	100 YR	10.68	251.68	253.07		253.12	0.002149	0.98	12.83	30.14	0.34
Sophia	4	469	10 YR	6.99	251.62	252.67		252.77	0.007254	1.39	5.64	13.41	0.59
Sophia	4	469	25 YR	8.35	251.62	252.80		252.88	0.005679	1.28	7.80	19.92	0.53
Sophia	4	469	50 YR	9.48	251.62	252.92		252.98	0.003750	1.17	10.35	25.97	0.44
Sophia	4	469	100 YR	10.68	251.62	253.01		253.07	0.002787	1.10	13.35	35.79	0.39
Sophia	4	428	10 YR	6.99	251.38	252.55		252.60	0.002278	0.89	8.10	16.92	0.34
Sophia	4	428	25 YR	8.35	251.38	252.73		252.76	0.001429	0.82	11.70	24.27	0.28
Sophia	4	428	50 YR	9.48	251.38	252.87		252.90	0.000982	0.75	15.79	36.33	0.24

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	4	428	100 YR	10.68	251.38	252.98		253.00	0.000815	0.73	19.88	41.48	0.22
Sophia	2	389	10 YR	7.73	252.90	253.62	253.52	253.78	0.012123	1.77	4.36	8.22	0.78
Sophia	2	389	25 YR	11.33	252.90	253.79	253.68	253.98	0.011429	1.93	5.86	9.25	0.77
Sophia	2	389	50 YR	14.12	252.90	253.97	253.78	254.15	0.008491	1.84	7.66	10.35	0.68
Sophia	2	389	100 YR	16.99	252.90	254.07	253.87	254.27	0.008658	1.95	8.70	10.94	0.70
Sophia	2	372	10 YR	7.73	252.69	253.43	253.31	253.58	0.011182	1.72	4.49	8.31	0.75
Sophia	2	372	25 YR	11.33	252.69	253.64	253.46	253.80	0.008887	1.76	6.42	9.60	0.69
Sophia	2	372	50 YR	14.12	252.69	253.89	253.56	254.02	0.005379	1.56	9.05	11.12	0.55
Sophia	2	372	100 YR	16.99	252.69	253.99	253.66	254.13	0.005736	1.68	10.12	11.69	0.58
Sophia	2	356	10 YR	7.73	252.47	253.10	253.10	253.33	0.020489	2.13	3.62	7.66	0.99
Sophia	2	356	25 YR	11.33	252.47	253.57	253.24	253.68	0.004902	1.42	7.97	10.53	0.52
Sophia	2	356	50 YR	14.12	252.47	253.86	253.34	253.94	0.002959	1.26	11.24	12.49	0.42
Sophia	2	356	100 YR	16.99	252.47	253.95	253.44	254.05	0.003257	1.37	12.42	13.57	0.44
Sophia	2	350	10 YR	7.73	251.65	253.16	252.31	253.19	0.000928	0.75	10.28	9.74	0.23
Sophia	2	350	25 YR	11.33	251.65	253.60	252.47	253.63	0.000709	0.76	15.00	11.47	0.21
Sophia	2	350	50 YR	14.12	251.65	253.88	252.59	253.91	0.000605	0.77	18.41	13.66	0.20
Sophia	2	350	100 YR	16.99	251.65	253.97	252.69	254.01	0.000716	0.87	19.74	15.02	0.22
Sophia	2	344		Culvert									
Sophia	2	335	10 YR	7.73	251.52	252.26	252.17	252.45	0.013121	1.93	4.00	6.85	0.81
Sophia	2	335	25 YR	11.33	251.52	252.45	252.34	252.68	0.012567	2.13	5.32	7.58	0.81
Sophia	2	335	50 YR	14.12	251.52	252.73	252.45	252.90	0.007122	1.85	7.63	8.71	0.63
Sophia	2	335	100 YR	16.99	251.52	252.85	252.56	253.04	0.007162	1.95	8.70	9.18	0.64
Sophia	2	325	10 YR	7.73	251.36	252.11	252.04	252.31	0.014277	1.99	3.89	6.83	0.84
Sophia	2	325	25 YR	11.33	251.36	252.34	252.21	252.55	0.011279	2.04	5.56	7.83	0.77
Sophia	2	325	50 YR	14.12	251.36	252.69	252.32	252.83	0.005303	1.65	8.57	9.37	0.55
Sophia	2	325	100 YR	16.99	251.36	252.81	252.42	252.96	0.005423	1.75	9.73	9.90	0.56
Sophia	2	301	10 YR	7.73	250.98	251.73	251.68	251.94	0.016412	2.05	3.77	7.12	0.90
Sophia	2	301	25 YR	11.33	250.98	252.28	251.85	252.37	0.003796	1.33	8.51	10.15	0.46
Sophia	2	301	50 YR	14.12	250.98	252.67	251.95	252.73	0.001901	1.09	12.94	12.32	0.34
Sophia	2	301	100 YR	16.99	250.98	252.79	252.06	252.86	0.001977	1.17	14.51	13.18	0.35
Sophia	2	277	10 YR	7.73	250.50	251.65	251.27	251.73	0.003925	1.22	6.31	8.74	0.46
Sophia	2	277	25 YR	11.33	250.50	252.26	251.44	252.30	0.001293	0.89	12.68	12.19	0.28
Sophia	2	277	50 YR	14.12	250.50	252.66	251.55	252.69	0.000782	0.78	18.03	14.46	0.22
Sophia	2	277	100 YR	16.99	250.50	252.78	251.65	252.82	0.000873	0.85	20.09	19.77	0.24
Sophia	2	256	10 YR	7.73	250.25	251.64	250.94	251.67	0.001193	0.77	10.00	11.36	0.26
Sophia	2	256	25 YR	11.33	250.25	252.26	251.10	252.28	0.000516	0.62	18.13	15.05	0.18
Sophia	2	256	50 YR	14.12	250.25	252.66	251.21	252.68	0.000334	0.57	24.68	17.31	0.15
Sophia	2	256	100 YR	16.99	250.25	252.79	251.30	252.81	0.000369	0.64	26.85	17.87	0.16
Sophia	2	248	10 YR	7.73	250.15	251.64	250.85	251.66	0.000900	0.70	11.10	11.93	0.23
Sophia	2	248	25 YR	11.33	250.15	252.26	251.01	252.27	0.000363	0.60	18.98	15.64	0.16
Sophia	2	248	50 YR	14.12	250.15	252.66	251.11	252.68	0.000268	0.54	26.40	17.75	0.14
Sophia	2	248	100 YR	16.99	250.15	252.78	251.20	252.80	0.000301	0.60	28.64	19.00	0.15
Sophia	2	241		Culvert									
Sophia	2	222	10 YR	7.73	250.02	251.47	250.78	251.50	0.001331	0.81	9.54	10.93	0.28
Sophia	2	222	25 YR	11.33	250.02	251.90	250.95	251.93	0.000786	0.78	14.60	15.94	0.22
Sophia	2	222	50 YR	14.12	250.02	252.27	251.06	252.29	0.000507	0.66	25.54	34.56	0.18
Sophia	2	222	100 YR	16.99	250.02	252.41	251.16	252.43	0.000497	0.68	30.52	35.68	0.18
Sophia	2	217	10 YR	7.73	250.00	251.47		251.49	0.000863	0.68	11.30	12.10	0.23
Sophia	2	217	25 YR	11.33	250.00	251.90		251.92	0.000605	0.66	17.28	23.42	0.20
Sophia	2	217	50 YR	14.12	250.00	252.27		252.29	0.000374	0.58	28.22	34.78	0.16
Sophia	2	217	100 YR	16.99	250.00	252.41		252.43	0.000377	0.62	33.24	36.04	0.16
Sophia	2	203	10 YR	7.73	249.92	251.45		251.48	0.001092	0.75	10.26	11.30	0.25
Sophia	2	203	25 YR	11.33	249.92	251.89		251.91	0.000730	0.71	16.56	23.65	0.21
Sophia	2	203	50 YR	14.12	249.92	252.26		252.28	0.000422	0.61	27.77	35.22	0.17
Sophia	2	203	100 YR	16.99	249.92	252.41		252.42	0.000418	0.64	32.83	36.07	0.17
Sophia	2	181	10 YR	7.73	249.81	251.43		251.46	0.000840	0.68	11.32	11.84	0.22
Sophia	2	181	25 YR	11.33	249.81	251.88		251.90	0.000591	0.66	17.17	14.51	0.19
Sophia	2	181	50 YR	14.12	249.81	252.26		252.27	0.000380	0.59	27.14	35.75	0.16
Sophia	2	181	100 YR	16.99	249.81	252.40		252.42	0.000387	0.63	32.52	40.71	0.16
Sophia	2	174	10 YR	7.73	249.78	251.43		251.45	0.000645	0.62	12.53	12.54	0.20
Sophia	2	174	25 YR	11.33	249.78	251.88		251.89	0.000472	0.61	18.70	15.21	0.17
Sophia	2	174	50 YR	14.12	249.78	252.25		252.27	0.000318	0.55	28.37	36.40	0.15
Sophia	2	174	100 YR	16.99	249.78	252.40		252.41	0.000326	0.59	33.82	41.43	0.15
Sophia	2	170	10 YR	8.45	249.76	251.36	250.71	251.43	0.003148	1.20	7.05	7.33	0.39

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	2	170	25 YR	12.41	249.76	251.81	250.96	251.88	0.001994	1.16	10.73	9.83	0.33
Sophia	2	170	50 YR	15.43	249.76	252.19	251.10	252.25	0.001273	1.10	13.99	30.35	0.27
Sophia	2	170	100 YR	18.68	249.76	252.35	251.24	252.40	0.001400	0.99	23.08	40.44	0.29
Sophia	2	142		Culvert									
Sophia	2	132	10 YR	8.45	249.68	251.22	250.76	251.30	0.003394	1.30	6.51	7.87	0.43
Sophia	2	132	25 YR	12.41	249.68	251.41	250.95	251.54	0.004148	1.56	7.98	8.92	0.49
Sophia	2	132	50 YR	15.43	249.68	251.54	251.07	251.69	0.004532	1.72	8.95	10.08	0.52
Sophia	2	132	100 YR	18.68	249.68	251.65	251.18	251.83	0.004812	1.89	9.86	12.20	0.54
Sophia	2	130	10 YR	8.45	249.67	251.20	250.72	251.29	0.004077	1.35	6.26	6.99	0.46
Sophia	2	130	25 YR	12.41	249.67	251.39	250.94	251.53	0.005022	1.62	7.67	7.63	0.51
Sophia	2	130	50 YR	15.43	249.67	251.51	251.08	251.67	0.005708	1.80	8.58	8.01	0.55
Sophia	2	130	100 YR	18.68	249.67	251.62	251.20	251.82	0.006332	1.97	9.50	8.38	0.59
Sophia	2	116	10 YR	8.45	249.64	251.18		251.24	0.002568	1.08	7.87	12.23	0.38
Sophia	2	116	25 YR	12.41	249.64	251.39		251.46	0.002531	1.21	12.72	33.07	0.38
Sophia	2	116	50 YR	15.43	249.64	251.53		251.60	0.002231	1.21	18.76	50.29	0.36
Sophia	2	116	100 YR	18.68	249.64	251.68		251.73	0.001711	1.13	27.15	57.62	0.32
Sophia	2	78	10 YR	8.45	249.56	251.12		251.16	0.001561	0.93	9.57	13.03	0.30
Sophia	2	78	25 YR	12.41	249.56	251.32		251.38	0.001774	1.11	12.43	15.49	0.33
Sophia	2	78	50 YR	15.43	249.56	251.45		251.52	0.001878	1.21	14.62	19.71	0.34
Sophia	2	78	100 YR	18.68	249.56	251.58		251.66	0.001978	1.32	18.11	30.64	0.35
Sophia	2	57	10 YR	8.45	249.52	251.05		251.12	0.002290	1.14	7.47	7.65	0.36
Sophia	2	57	25 YR	12.41	249.52	251.22		251.32	0.003042	1.44	8.77	7.82	0.42
Sophia	2	57	50 YR	15.43	249.52	251.32		251.46	0.003596	1.64	9.59	7.93	0.46
Sophia	2	57	100 YR	18.68	249.52	251.42		251.59	0.004194	1.84	10.55	17.36	0.50
Sophia	2	42	10 YR	8.45	249.49	251.05		251.09	0.001028	0.84	10.34	9.58	0.25
Sophia	2	42	25 YR	12.41	249.49	251.22		251.28	0.001426	1.07	12.01	9.85	0.30
Sophia	2	42	50 YR	15.43	249.49	251.33		251.41	0.001718	1.23	13.09	10.02	0.33
Sophia	2	42	100 YR	18.68	249.49	251.43		251.53	0.002067	1.40	14.78	24.02	0.36
Sophia	2	20	10 YR	8.45	249.45	250.95		251.04	0.004542	1.34	6.34	9.12	0.49
Sophia	2	20	25 YR	12.41	249.45	251.07		251.22	0.005954	1.68	7.58	10.78	0.57
Sophia	2	20	50 YR	15.43	249.45	251.14		251.33	0.007206	1.93	8.33	11.68	0.64
Sophia	2	20	100 YR	18.68	249.45	251.19		251.43	0.009026	2.22	8.87	12.28	0.71
Sophia	2	0	10 YR	8.45	249.41	250.94		250.98	0.001168	0.93	11.73	21.21	0.28
Sophia	2	0	25 YR	12.41	249.41	251.08		251.14	0.001569	1.16	14.67	22.99	0.32
Sophia	2	0	50 YR	15.43	249.41	251.15		251.23	0.001895	1.32	16.51	27.72	0.36
Sophia	2	0	100 YR	18.68	249.41	251.21		251.30	0.002282	1.49	18.14	28.10	0.40
Sophia	5	253	10 YR	2.12	253.44	253.86		253.90	0.006519	1.02	3.51	21.79	0.54
Sophia	5	253	25 YR	3.97	253.44	254.02		254.04	0.003498	0.95	7.36	26.27	0.42
Sophia	5	253	50 YR	5.73	253.44	254.10		254.13	0.003366	1.04	9.76	28.45	0.42
Sophia	5	253	100 YR	7.10	253.44	254.16		254.19	0.003315	1.09	11.41	29.32	0.43
Sophia	5	227	10 YR	2.12	253.32	253.80		253.81	0.001843	0.59	5.65	24.04	0.29
Sophia	5	227	25 YR	3.97	253.32	253.98		253.99	0.001181	0.60	10.87	30.16	0.25
Sophia	5	227	50 YR	5.73	253.32	254.06		254.08	0.001332	0.70	13.43	30.72	0.27
Sophia	5	227	100 YR	7.10	253.32	254.12		254.13	0.001440	0.77	15.13	31.15	0.29
Sophia	5	204	10 YR	2.12	253.17	253.78		253.79	0.000466	0.37	8.80	26.37	0.16
Sophia	5	204	25 YR	3.97	253.17	253.97		253.97	0.000467	0.44	13.94	29.41	0.16
Sophia	5	204	50 YR	5.73	253.17	254.05		254.06	0.000626	0.55	16.35	30.53	0.19
Sophia	5	204	100 YR	7.10	253.17	254.10		254.11	0.000729	0.62	17.96	30.74	0.21
Sophia	5	182	10 YR	2.12	253.11	253.77	253.49	253.77	0.000670	0.44	8.24	25.18	0.19
Sophia	5	182	25 YR	3.97	253.11	253.95	253.59	253.96	0.000643	0.52	13.36	30.00	0.19
Sophia	5	182	50 YR	5.73	253.11	254.03	253.63	254.04	0.000776	0.61	16.67	32.92	0.21
Sophia	5	182	100 YR	7.10	253.11	254.08	253.68	254.09	0.000899	0.68	18.32	33.11	0.23
Sophia	5	163	10 YR	2.12	252.93	253.75	253.34	253.76	0.000686	0.52	6.61	22.01	0.20
Sophia	5	163	25 YR	3.97	252.93	253.93	253.51	253.95	0.000751	0.63	11.59	32.17	0.21
Sophia	5	163	50 YR	5.73	252.93	254.01	253.59	254.03	0.000749	0.66	17.58	44.41	0.22
Sophia	5	163	100 YR	7.10	252.93	254.06	253.70	254.08	0.000848	0.73	19.72	44.57	0.23
Sophia	5	143	10 YR	2.12	253.02	253.53	253.53	253.70	0.019217	1.90	1.26	4.28	0.94
Sophia	5	143	25 YR	3.97	253.02	253.79	253.79	253.90	0.008308	1.72	4.25	21.57	0.67
Sophia	5	143	50 YR	5.73	253.02	253.86	253.86	253.98	0.008749	1.89	6.16	31.97	0.70
Sophia	5	143	100 YR	7.10	253.02	253.91	253.91	254.03	0.008578	1.96	7.99	39.82	0.70
Sophia	5	130	10 YR	2.12	252.78	253.27	253.27	253.43	0.021443	1.77	1.26	4.59	0.96
Sophia	5	130	25 YR	3.97	252.78	253.46	253.46	253.65	0.016142	2.04	2.31	8.34	0.89
Sophia	5	130	50 YR	5.73	252.78	253.65	253.65	253.77	0.007785	1.75	5.76	24.68	0.65
Sophia	5	130	100 YR	7.10	252.78	253.69	253.69	253.83	0.008551	1.90	6.79	25.66	0.69
Sophia	5	102	10 YR	2.12	252.20	252.67		252.70	0.003027	0.72	2.95	7.65	0.37

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	5	102	25 YR	3.97	252.20	253.06		253.08	0.001180	0.62	6.35	9.97	0.25
Sophia	5	102	50 YR	5.73	252.20	253.27		253.30	0.001047	0.66	8.63	11.26	0.24
Sophia	5	102	100 YR	7.10	252.20	253.30		253.33	0.001454	0.79	8.94	11.42	0.29
Sophia	5	87	10 YR	2.12	251.90	252.67		252.68	0.000529	0.39	5.41	9.33	0.16
Sophia	5	87	25 YR	3.97	251.90	253.06		253.07	0.000386	0.42	9.47	11.65	0.15
Sophia	5	87	50 YR	5.73	251.90	253.27		253.28	0.000410	0.47	12.11	12.94	0.16
Sophia	5	87	100 YR	7.10	251.90	253.30		253.32	0.000580	0.57	12.46	13.10	0.19
Sophia	5	68	10 YR	2.12	251.80	252.66	252.09	252.67	0.000458	0.38	5.59	9.07	0.15
Sophia	5	68	25 YR	3.97	251.80	253.05	252.22	253.06	0.000363	0.41	9.58	11.41	0.14
Sophia	5	68	50 YR	5.73	251.80	253.27	252.32	253.28	0.000395	0.47	12.16	12.69	0.15
Sophia	5	68	100 YR	7.10	251.80	253.29	252.40	253.31	0.000567	0.57	12.46	12.83	0.18
Sophia	5	64	10 YR	2.12	251.78	252.66	252.08	252.67	0.000428	0.40	5.29	8.81	0.15
Sophia	5	64	25 YR	3.97	251.78	253.04	252.22	253.06	0.000348	0.49	8.18	11.13	0.15
Sophia	5	64	50 YR	5.73	251.78	253.26	252.33	253.28	0.000420	0.48	11.85	12.44	0.16
Sophia	5	64	100 YR	7.10	251.78	253.29	252.40	253.30	0.000605	0.59	12.13	12.57	0.19
Sophia	5	57		Culvert									
Sophia	5	40	10 YR	2.12	251.67	252.58	251.93	252.58	0.000241	0.32	6.74	10.30	0.12
Sophia	5	40	25 YR	3.97	251.67	252.76	252.05	252.77	0.000406	0.47	8.39	11.40	0.16
Sophia	5	40	50 YR	5.73	251.67	252.91	252.14	252.92	0.000524	0.59	9.69	12.27	0.18
Sophia	5	40	100 YR	7.10	251.67	253.01	252.21	253.03	0.000660	0.60	11.91	12.90	0.20
Sophia	5	37	10 YR	2.12	251.65	252.58		252.58	0.000260	0.31	6.96	10.29	0.12
Sophia	5	37	25 YR	3.97	251.65	252.76		252.77	0.000453	0.44	8.94	11.38	0.16
Sophia	5	37	50 YR	5.73	251.65	252.91		252.92	0.000583	0.54	10.66	12.25	0.18
Sophia	5	37	100 YR	7.10	251.65	253.01		253.03	0.000649	0.59	11.97	12.88	0.20
Sophia	3	389	10 YR	9.27	251.35	252.46	251.95	252.51	0.002152	0.98	9.47	11.87	0.35
Sophia	3	389	25 YR	12.53	251.35	252.63	252.07	252.69	0.002115	1.09	11.75	16.61	0.36
Sophia	3	389	50 YR	15.39	251.35	252.77	252.16	252.84	0.001927	1.14	14.61	22.44	0.35
Sophia	3	389	100 YR	17.95	251.35	252.87	252.24	252.94	0.001894	1.20	17.12	29.02	0.35
Sophia	3	355	10 YR	9.27	251.20	252.08	252.05	252.33	0.017579	2.21	4.19	7.40	0.94
Sophia	3	355	25 YR	12.53	251.20	252.33		252.53	0.011072	2.02	6.22	8.90	0.77
Sophia	3	355	50 YR	15.39	251.20	252.52		252.71	0.008337	1.91	8.04	10.05	0.68
Sophia	3	355	100 YR	17.95	251.20	252.61		252.81	0.008556	2.01	9.01	14.41	0.70
Sophia	3	350	10 YR	9.27	251.12	252.12	251.80	252.21	0.004334	1.38	6.71	9.99	0.50
Sophia	3	350	25 YR	12.53	251.12	252.35	251.92	252.46	0.003325	1.44	8.71	11.40	0.45
Sophia	3	350	50 YR	15.39	251.12	252.53	252.02	252.65	0.002898	1.50	10.27	12.50	0.44
Sophia	3	350	100 YR	17.95	251.12	252.64	252.10	252.73	0.003258	1.38	12.98	13.11	0.44
Sophia	3	340		Culvert									
Sophia	3	321	10 YR	9.27	250.78	251.79	251.48	251.89	0.004325	1.36	6.82	10.57	0.49
Sophia	3	321	25 YR	12.53	250.78	251.93	251.60	252.06	0.004702	1.55	8.06	11.11	0.52
Sophia	3	321	50 YR	15.39	250.78	252.04	251.69	252.19	0.005052	1.71	9.00	11.57	0.55
Sophia	3	321	100 YR	17.95	250.78	252.12	251.76	252.29	0.005434	1.84	9.74	12.05	0.58
Sophia	3	316	10 YR	9.27	250.77	251.76		251.86	0.005655	1.41	6.59	9.87	0.55
Sophia	3	316	25 YR	12.53	250.77	251.91		252.03	0.005921	1.55	8.09	10.85	0.57
Sophia	3	316	50 YR	15.39	250.77	252.01		252.15	0.006210	1.66	9.27	11.60	0.59
Sophia	3	316	100 YR	17.95	250.77	252.09		252.25	0.006454	1.75	10.25	12.18	0.61
Sophia	3	288	10 YR	9.27	250.53	251.65		251.72	0.004037	1.23	7.52	10.68	0.47
Sophia	3	288	25 YR	12.53	250.53	251.78		251.88	0.004327	1.39	9.03	11.23	0.49
Sophia	3	288	50 YR	15.39	250.53	251.88		252.00	0.004628	1.52	10.32	16.95	0.52
Sophia	3	288	100 YR	17.95	250.53	251.96		252.09	0.004839	1.61	11.75	21.19	0.54
Sophia	3	281	10 YR	9.27	250.62	251.61		251.69	0.004470	1.27	7.29	10.73	0.49
Sophia	3	281	25 YR	12.53	250.62	251.75		251.85	0.004956	1.42	8.84	11.92	0.53
Sophia	3	281	50 YR	15.39	250.62	251.84		251.96	0.005277	1.54	10.00	12.46	0.55
Sophia	3	281	100 YR	17.95	250.62	251.92		252.05	0.005614	1.64	10.93	12.95	0.57
Sophia	3	253	10 YR	9.27	250.23	251.54	251.01	251.59	0.002698	1.02	9.08	12.67	0.38
Sophia	3	253	25 YR	12.53	250.23	251.66	251.16	251.73	0.003173	1.17	10.73	13.76	0.42
Sophia	3	253	50 YR	15.39	250.23	251.75	251.26	251.84	0.003429	1.29	11.97	14.05	0.44
Sophia	3	253	100 YR	17.95	250.23	251.82	251.35	251.92	0.003669	1.39	12.94	15.14	0.46
Sophia	3	216	10 YR	9.27	250.17	251.47	250.90	251.51	0.001758	0.79	11.78	17.85	0.31
Sophia	3	216	25 YR	12.53	250.17	251.59	251.02	251.63	0.001946	0.90	13.97	18.73	0.33
Sophia	3	216	50 YR	15.39	250.17	251.68	251.11	251.73	0.002079	0.99	15.62	19.32	0.35
Sophia	3	216	100 YR	17.95	250.17	251.75	251.19	251.80	0.002153	1.05	17.95	31.97	0.36
Sophia	3	184	10 YR	9.27	250.02	251.43		251.46	0.001185	0.79	11.86	17.46	0.26
Sophia	3	184	25 YR	12.53	250.02	251.54		251.58	0.001470	0.94	14.16	24.81	0.30
Sophia	3	184	50 YR	15.39	250.02	251.61		251.67	0.001676	1.06	16.25	27.94	0.32
Sophia	3	184	100 YR	17.95	250.02	251.67		251.74	0.001855	1.15	18.03	31.10	0.34

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	3	151	10 YR	9.27	250.08	251.37		251.41	0.002083	0.89	10.44	14.87	0.34
Sophia	3	151	25 YR	12.53	250.08	251.45		251.51	0.002904	1.06	11.83	16.55	0.40
Sophia	3	151	50 YR	15.39	250.08	251.52		251.59	0.003316	1.19	13.00	20.58	0.43
Sophia	3	151	100 YR	17.95	250.08	251.57		251.65	0.003728	1.31	14.00	22.84	0.46
Sophia	3	113	10 YR	9.27	250.02	251.34	250.60	251.36	0.000663	0.61	16.27	26.70	0.20
Sophia	3	113	25 YR	12.53	250.02	251.42	250.70	251.45	0.000927	0.75	18.57	37.56	0.24
Sophia	3	113	50 YR	15.39	250.02	251.48	250.79	251.51	0.001127	0.86	21.27	50.56	0.27
Sophia	3	113	100 YR	17.95	250.02	251.52	250.85	251.56	0.001313	0.95	23.52	58.04	0.29
Sophia	3	102	10 YR	9.27	250.02	251.33	250.71	251.35	0.000951	0.70	14.72	37.44	0.24
Sophia	3	102	25 YR	12.53	250.02	251.40	250.83	251.43	0.001279	0.85	17.63	44.91	0.28
Sophia	3	102	50 YR	15.39	250.02	251.45	250.91	251.50	0.001525	0.96	20.69	64.14	0.31
Sophia	3	102	100 YR	17.95	250.02	251.50	250.96	251.54	0.001479	0.98	29.77	108.52	0.31
Sophia	3	79	10 YR	9.27	250.23	251.27	250.96	251.32	0.002515	0.93	12.65	45.65	0.37
Sophia	3	79	25 YR	12.53	250.23	251.33	251.05	251.39	0.003247	1.12	15.42	54.67	0.43
Sophia	3	79	50 YR	15.39	250.23	251.37	251.14	251.44	0.003705	1.25	18.15	64.45	0.46
Sophia	3	79	100 YR	17.95	250.23	251.42	251.22	251.49	0.003791	1.31	20.98	66.78	0.47
Sophia	3	47	10 YR	9.27	250.23	251.14	251.11	251.18	0.007651	1.22	14.40	81.87	0.60
Sophia	3	47	25 YR	12.53	250.23	251.19	251.14	251.23	0.007391	1.29	18.48	85.08	0.60
Sophia	3	47	50 YR	15.39	250.23	251.26	251.17	251.29	0.005183	1.18	24.52	89.48	0.51
Sophia	3	47	100 YR	17.95	250.23	251.32	251.19	251.35	0.003944	1.11	30.69	101.20	0.45
Sophia	3	40	10 YR	9.27	249.95	251.02	251.02	251.09	0.011672	1.49	10.98	56.55	0.71
Sophia	3	40	25 YR	12.53	249.95	251.14	251.06	251.18	0.005707	1.18	18.38	73.96	0.52
Sophia	3	40	50 YR	15.39	249.95	251.23	251.09	251.26	0.003932	1.08	25.21	90.16	0.44
Sophia	3	40	100 YR	17.95	249.95	251.30	251.10	251.33	0.002957	1.01	32.07	97.52	0.39
Sophia	3	35		Culvert									
Sophia	3	30	10 YR	9.27	249.82	251.03	250.90	251.05	0.002886	0.84	18.65	60.61	0.36
Sophia	3	30	25 YR	12.53	249.82	251.16	250.93	251.17	0.001934	0.79	26.61	67.50	0.30
Sophia	3	30	50 YR	15.39	249.82	251.24	250.95	251.25	0.001682	0.79	32.33	72.00	0.29
Sophia	3	30	100 YR	17.95	249.82	251.31	250.99	251.32	0.001515	0.80	37.79	81.67	0.28
Sophia	3	27	10 YR	9.27	249.88	251.03	250.82	251.05	0.001351	0.79	22.28	63.06	0.28
Sophia	3	27	25 YR	12.53	249.88	251.15	250.88	251.17	0.001093	0.78	30.42	67.47	0.25
Sophia	3	27	50 YR	15.39	249.88	251.23	250.92	251.25	0.001042	0.80	36.06	71.59	0.25
Sophia	3	27	100 YR	17.95	249.88	251.30	250.95	251.32	0.000998	0.82	41.27	78.46	0.25
Sophia	3	0	10 YR	9.27	249.73	250.95		250.99	0.002635	1.05	15.85	62.54	0.37
Sophia	3	0	25 YR	12.53	249.73	251.11		251.13	0.001634	0.88	25.90	70.48	0.30
Sophia	3	0	50 YR	15.39	249.73	251.19		251.22	0.001420	0.88	32.18	73.54	0.28
Sophia	3	0	100 YR	17.95	249.73	251.27		251.29	0.001281	0.87	37.78	82.69	0.27
Sophia	1	1640	10 YR	21.17	249.38	250.79		250.91	0.005109	1.76	20.23	56.37	0.56
Sophia	1	1640	25 YR	30.35	249.38	250.91		251.06	0.005740	2.01	27.81	69.96	0.60
Sophia	1	1640	50 YR	37.33	249.38	250.98	250.90	251.14	0.006136	2.17	33.11	77.16	0.63
Sophia	1	1640	100 YR	44.39	249.38	251.04	250.99	251.21	0.006644	2.32	37.57	81.88	0.66
Sophia	1	1623	10 YR	21.17	249.19	250.73	250.64	250.82	0.004643	1.62	23.90	71.57	0.52
Sophia	1	1623	25 YR	30.35	249.19	250.86	250.74	250.95	0.004403	1.72	34.24	81.76	0.52
Sophia	1	1623	50 YR	37.33	249.19	250.93		251.03	0.004551	1.82	40.30	86.36	0.53
Sophia	1	1623	100 YR	44.39	249.19	250.98		251.09	0.005256	2.01	44.15	90.88	0.57
Sophia	1	1604	10 YR	21.17	249.07	250.50	250.50	250.69	0.009704	2.17	16.09	49.61	0.74
Sophia	1	1604	25 YR	30.35	249.07	250.63	250.63	250.82	0.010025	2.35	23.28	63.44	0.76
Sophia	1	1604	50 YR	37.33	249.07	250.72	250.72	250.90	0.009568	2.40	28.94	69.29	0.75
Sophia	1	1604	100 YR	44.39	249.07	250.84		250.98	0.006953	2.17	37.64	70.95	0.65
Sophia	1	1597	10 YR	21.17	248.00	249.75	249.17	249.90	0.003649	1.68	12.60	10.59	0.48
Sophia	1	1597	25 YR	30.35	248.00	250.10	249.42	250.28	0.003355	1.89	16.04	15.03	0.47
Sophia	1	1597	50 YR	37.33	248.00	250.32	249.61	250.53	0.003347	2.05	18.17	28.90	0.48
Sophia	1	1597	100 YR	44.39	248.00	250.69	249.76	250.90	0.002559	2.03	21.85	70.59	0.44
Sophia	1	1584		Bridge									
Sophia	1	1571	10 YR	21.17	247.88	249.61	249.05	249.76	0.004154	1.71	12.38	10.44	0.50
Sophia	1	1571	25 YR	30.35	247.88	249.90	249.30	250.09	0.004288	1.94	15.61	13.99	0.52
Sophia	1	1571	50 YR	37.33	247.88	250.05	249.49	250.29	0.004645	2.16	17.26	21.51	0.55
Sophia	1	1571	100 YR	44.39	247.88	250.17	249.66	250.46	0.005105	2.39	18.61	33.02	0.59
Sophia	1	1563	10 YR	21.17	247.86	249.58		249.69	0.004237	1.47	14.37	16.16	0.50
Sophia	1	1563	25 YR	30.35	247.86	249.88		250.00	0.004121	1.52	19.98	22.10	0.50
Sophia	1	1563	50 YR	37.33	247.86	250.04		250.17	0.003874	1.60	23.57	24.04	0.49
Sophia	1	1563	100 YR	44.39	247.86	250.16		250.31	0.003794	1.70	26.82	29.57	0.50
Sophia	1	1549	10 YR	21.17	247.82	249.40		249.61	0.006696	2.04	11.20	15.59	0.63
Sophia	1	1549	25 YR	30.35	247.82	249.70		249.92	0.005741	2.15	16.34	18.82	0.60

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	1	1549	50 YR	37.33	247.82	249.82		250.09	0.006149	2.36	18.73	20.09	0.63
Sophia	1	1549	100 YR	44.39	247.82	249.90		250.22	0.007111	2.63	20.28	20.83	0.69
Sophia	1	1531	10 YR	21.17	247.77	249.36		249.48	0.004868	1.55	13.67	15.98	0.53
Sophia	1	1531	25 YR	30.35	247.77	249.68		249.81	0.003833	1.56	19.47	19.82	0.49
Sophia	1	1531	50 YR	37.33	247.77	249.82		249.96	0.003972	1.70	22.17	21.39	0.51
Sophia	1	1531	100 YR	44.39	247.77	249.90		250.08	0.004527	1.89	23.92	22.36	0.55
Sophia	1	1508	10 YR	21.17	247.70	249.32	248.78	249.40	0.002017	1.28	20.94	29.12	0.37
Sophia	1	1508	25 YR	30.35	247.70	249.67	249.01	249.74	0.001485	1.30	31.79	32.92	0.33
Sophia	1	1508	50 YR	37.33	247.70	249.81	249.13	249.89	0.001602	1.42	36.34	34.46	0.35
Sophia	1	1508	100 YR	44.39	247.70	249.89	249.25	249.99	0.001863	1.58	39.22	35.29	0.38
Sophia	1	1496	10 YR	21.17	247.67	249.28		249.37	0.003090	1.28	16.50	18.16	0.43
Sophia	1	1496	25 YR	30.35	247.67	249.63		249.72	0.002527	1.28	24.20	27.46	0.40
Sophia	1	1496	50 YR	37.33	247.67	249.77		249.86	0.002903	1.38	28.08	31.13	0.43
Sophia	1	1496	100 YR	44.39	247.67	249.84		249.96	0.003287	1.52	31.53	58.18	0.46
Sophia	1	1490	10 YR	22.73	247.65	249.26	248.47	249.35	0.002086	1.29	17.57	15.53	0.36
Sophia	1	1490	25 YR	32.52	247.65	249.57	248.71	249.68	0.002174	1.51	21.52	19.89	0.37
Sophia	1	1490	50 YR	39.92	247.65	249.72	248.86	249.83	0.003160	1.51	26.52	23.05	0.44
Sophia	1	1490	100 YR	47.43	247.65	249.77	249.01	249.92	0.003984	1.72	27.72	26.01	0.50
Sophia	1	1473		Bridge									
Sophia	1	1455	10 YR	22.73	247.21	248.82	248.04	248.93	0.002586	1.46	15.59	9.93	0.37
Sophia	1	1455	25 YR	32.52	247.21	249.01	248.27	249.19	0.003766	1.85	17.54	10.18	0.45
Sophia	1	1455	50 YR	39.92	247.21	249.08	248.42	249.33	0.005107	2.19	18.22	10.30	0.53
Sophia	1	1455	100 YR	47.43	247.21	249.17	248.57	249.49	0.006227	2.47	19.19	10.48	0.58
Sophia	1	1449	10 YR	22.73	247.15	248.59	248.37	248.82	0.008814	2.15	10.60	12.12	0.72
Sophia	1	1449	25 YR	32.52	247.15	248.84	248.64	249.10	0.007630	2.31	15.87	23.60	0.69
Sophia	1	1449	50 YR	39.92	247.15	249.01		249.28	0.006735	2.38	20.06	25.94	0.67
Sophia	1	1449	100 YR	47.43	247.15	249.14		249.42	0.006420	2.48	23.50	26.42	0.66
Sophia	1	1432	10 YR	22.73	246.98	248.46		248.68	0.008036	2.07	10.96	11.84	0.69
Sophia	1	1432	25 YR	32.52	246.98	248.69	248.44	248.97	0.007801	2.35	14.54	19.61	0.70
Sophia	1	1432	50 YR	39.92	246.98	248.87	248.61	249.16	0.006763	2.42	18.96	26.98	0.67
Sophia	1	1432	100 YR	47.43	246.98	249.01	248.81	249.31	0.006489	2.52	22.69	28.67	0.67
Sophia	1	1423	10 YR	22.73	246.90	248.44		248.60	0.005101	1.80	13.03	14.50	0.56
Sophia	1	1423	25 YR	32.52	246.90	248.67		248.89	0.005200	2.08	16.81	18.76	0.59
Sophia	1	1423	50 YR	39.92	246.90	248.85		249.09	0.004868	2.20	20.59	23.45	0.58
Sophia	1	1423	100 YR	47.43	246.90	248.98		249.25	0.005023	2.36	23.70	26.00	0.60
Sophia	1	1410	10 YR	22.73	246.85	248.38		248.53	0.004802	1.76	13.41	16.07	0.55
Sophia	1	1410	25 YR	32.52	246.85	248.61		248.82	0.004839	2.03	17.96	23.50	0.57
Sophia	1	1410	50 YR	39.92	246.85	248.81		249.02	0.004188	2.08	23.03	27.04	0.54
Sophia	1	1410	100 YR	47.43	246.85	248.95		249.17	0.004189	2.20	26.75	28.55	0.55
Sophia	1	1395	10 YR	22.73	246.80	248.29		248.46	0.005131	1.81	13.09	15.96	0.57
Sophia	1	1395	25 YR	32.52	246.80	248.54		248.74	0.005009	2.05	17.22	18.09	0.58
Sophia	1	1395	50 YR	39.92	246.80	248.73		248.95	0.004574	2.15	20.92	20.98	0.57
Sophia	1	1395	100 YR	47.43	246.80	248.82		249.10	0.005200	2.39	22.99	24.18	0.61
Sophia	1	1381	10 YR	22.73	246.75	248.22		248.38	0.005251	1.81	13.34	18.04	0.57
Sophia	1	1381	25 YR	32.52	246.75	248.47		248.67	0.004755	2.00	18.45	21.35	0.56
Sophia	1	1381	50 YR	39.92	246.75	248.69		248.88	0.004009	2.04	23.24	23.49	0.53
Sophia	1	1381	100 YR	47.43	246.75	248.78		249.01	0.004534	2.25	25.37	24.38	0.57
Sophia	1	1366	10 YR	22.73	246.69	248.13		248.30	0.005790	1.86	13.42	20.18	0.60
Sophia	1	1366	25 YR	32.52	246.69	248.41		248.60	0.004634	1.96	19.97	26.75	0.56
Sophia	1	1366	50 YR	39.92	246.69	248.65		248.82	0.003529	1.92	27.25	33.85	0.50
Sophia	1	1366	100 YR	47.43	246.69	248.74		248.94	0.003870	2.09	30.48	36.38	0.53
Sophia	1	1351	10 YR	22.73	246.62	248.06		248.21	0.005045	1.77	15.02	28.12	0.56
Sophia	1	1351	25 YR	32.52	246.62	248.40		248.52	0.003147	1.69	25.37	32.17	0.46
Sophia	1	1351	50 YR	39.92	246.62	248.65		248.76	0.002307	1.62	34.21	39.24	0.41
Sophia	1	1351	100 YR	47.43	246.62	248.74		248.87	0.002526	1.76	37.99	40.18	0.43
Sophia	1	1336	10 YR	22.73	246.47	248.04		248.14	0.002951	1.46	19.33	27.67	0.44
Sophia	1	1336	25 YR	32.52	246.47	248.38		248.47	0.002109	1.47	29.44	31.36	0.39
Sophia	1	1336	50 YR	39.92	246.47	248.64		248.72	0.001667	1.45	38.06	37.56	0.35
Sophia	1	1336	100 YR	47.43	246.47	248.73		248.83	0.001891	1.60	41.63	39.64	0.38
Sophia	1	1321	10 YR	22.73	246.42	248.07		248.10	0.000791	0.90	33.79	30.15	0.24
Sophia	1	1321	25 YR	32.52	246.42	248.40		248.44	0.000743	1.00	44.05	31.60	0.24
Sophia	1	1321	50 YR	39.92	246.42	248.65		248.69	0.000742	1.09	52.71	38.23	0.24
Sophia	1	1321	100 YR	47.43	246.42	248.74		248.80	0.000879	1.22	56.35	39.50	0.27
Sophia	1	1306	10 YR	22.73	246.39	247.97		248.07	0.002871	1.48	17.91	22.16	0.43
Sophia	1	1306	25 YR	32.52	246.39	248.30		248.41	0.002262	1.55	25.79	24.82	0.40

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	1	1306	50 YR	39.92	246.39	248.56		248.67	0.001878	1.57	32.53	27.72	0.38
Sophia	1	1306	100 YR	47.43	246.39	248.63		248.77	0.002300	1.78	34.47	28.83	0.42
Sophia	1	1292	10 YR	22.73	246.36	247.94		248.03	0.002556	1.34	20.19	30.15	0.41
Sophia	1	1292	25 YR	32.52	246.36	248.30		248.37	0.001713	1.32	31.83	34.54	0.35
Sophia	1	1292	50 YR	39.92	246.36	248.57		248.64	0.001305	1.29	41.39	36.96	0.31
Sophia	1	1292	100 YR	47.43	246.36	248.64		248.73	0.001556	1.45	44.13	37.60	0.34
Sophia	1	1277	10 YR	22.73	246.34	247.89		247.99	0.002620	1.43	18.67	21.36	0.42
Sophia	1	1277	25 YR	32.52	246.34	248.25		248.35	0.002036	1.50	26.54	23.17	0.38
Sophia	1	1277	50 YR	39.92	246.34	248.51		248.61	0.001690	1.52	33.49	29.37	0.36
Sophia	1	1277	100 YR	47.43	246.34	248.56		248.69	0.002150	1.74	35.03	30.43	0.41
Sophia	1	1262	10 YR	22.73	246.31	247.78		247.93	0.004842	1.74	14.48	18.29	0.55
Sophia	1	1262	25 YR	32.52	246.31	248.17		248.30	0.003115	1.72	21.63	19.02	0.46
Sophia	1	1262	50 YR	39.92	246.31	248.44		248.58	0.002460	1.72	26.97	20.40	0.42
Sophia	1	1262	100 YR	47.43	246.31	248.46		248.65	0.003316	2.02	27.42	20.71	0.49
Sophia	1	1247	10 YR	22.73	246.12	247.69		247.85	0.005315	1.82	13.02	16.24	0.57
Sophia	1	1247	25 YR	32.52	246.12	248.11		248.26	0.003111	1.74	21.52	22.56	0.46
Sophia	1	1247	50 YR	39.92	246.12	248.41		248.54	0.002296	1.70	28.60	25.17	0.41
Sophia	1	1247	100 YR	47.43	246.12	248.41		248.60	0.003192	2.00	28.77	25.23	0.48
Sophia	1	1239	10 YR	22.73	246.00	247.67	246.83	247.77	0.002326	1.41	16.16	9.87	0.35
Sophia	1	1239	25 YR	32.52	246.00	248.09	247.06	248.22	0.002435	1.58	20.53	11.42	0.37
Sophia	1	1239	50 YR	39.92	246.00	248.38	247.21	248.52	0.002597	1.66	24.22	15.15	0.39
Sophia	1	1239	100 YR	47.43	246.00	248.36	247.36	248.56	0.003741	1.99	24.01	14.87	0.46
Sophia	1	1234		Bridge									
Sophia	1	1213	10 YR	22.73	245.64	246.91	246.91	247.33	0.016760	2.97	8.32	11.41	0.98
Sophia	1	1213	25 YR	32.52	245.64	247.14	247.14	247.66	0.016711	3.30	10.64	12.39	1.00
Sophia	1	1213	50 YR	39.92	245.64	247.32	247.32	247.88	0.016028	3.45	12.43	13.14	1.00
Sophia	1	1213	100 YR	47.43	245.64	247.52	247.52	247.99	0.013365	3.24	16.83	14.67	0.92
Sophia	1	1210	10 YR	22.73	245.50	246.72	246.71	247.07	0.016852	2.89	9.43	12.37	0.99
Sophia	1	1210	25 YR	32.52	245.50	246.93	246.92	247.36	0.017042	3.19	12.18	13.45	1.02
Sophia	1	1210	50 YR	39.92	245.50	247.06	247.06	247.55	0.017767	3.42	13.92	14.09	1.05
Sophia	1	1210	100 YR	47.43	245.50	247.20	247.19	247.72	0.017307	3.54	15.94	14.82	1.05
Sophia	1	1199	10 YR	22.73	245.25	246.79	246.42	246.91	0.003569	1.66	16.77	19.49	0.48
Sophia	1	1199	25 YR	32.52	245.25	247.04	246.61	247.19	0.003570	1.88	21.79	20.98	0.50
Sophia	1	1199	50 YR	39.92	245.25	247.15	246.73	247.34	0.004022	2.10	24.24	21.65	0.54
Sophia	1	1199	100 YR	47.43	245.25	247.33	246.84	247.53	0.003753	2.18	28.21	22.75	0.53
Sophia	1	1190	10 YR	22.73	245.10	246.44	246.44	246.83	0.015957	2.80	8.72	14.57	0.96
Sophia	1	1190	25 YR	32.52	245.10	246.89	246.71	247.14	0.006295	2.34	17.91	23.65	0.65
Sophia	1	1190	50 YR	39.92	245.10	246.84	246.84	247.26	0.011107	3.03	16.74	22.89	0.86
Sophia	1	1190	100 YR	47.43	245.10	247.30	246.97	247.50	0.003957	2.22	33.78	43.32	0.54
Sophia	1	1186	10 YR	23.47	244.69	246.55	245.76	246.65	0.001835	1.39	16.83	13.11	0.36
Sophia	1	1186	25 YR	33.55	244.69	246.94	245.98	247.07	0.001778	1.59	21.06	14.98	0.36
Sophia	1	1186	50 YR	41.32	244.69	246.59	246.14	246.88	0.005164	2.38	17.33	13.19	0.60
Sophia	1	1186	100 YR	49.11	244.69	247.32	246.27	247.46	0.002118	1.65	34.15	42.55	0.39
Sophia	1	1179		Bridge									
Sophia	1	1105	10 YR	23.47	244.28	245.86	245.34	246.02	0.003493	1.76	13.30	12.32	0.48
Sophia	1	1105	25 YR	33.55	244.28	245.92	245.56	246.22	0.006132	2.41	13.92	12.64	0.65
Sophia	1	1105	50 YR	41.32	244.28	246.06	245.72	246.43	0.006787	2.70	15.30	18.33	0.69
Sophia	1	1105	100 YR	49.11	244.28	246.65	245.87	246.81	0.002548	1.83	34.77	42.23	0.43
Sophia	1	1099	10 YR	23.47	244.28	245.84		245.99	0.004187	1.69	13.86	12.24	0.51
Sophia	1	1099	25 YR	33.55	244.28	245.89		246.17	0.007609	2.32	14.47	12.49	0.69
Sophia	1	1099	50 YR	41.32	244.28	246.04		246.36	0.007973	2.52	16.51	15.07	0.71
Sophia	1	1099	100 YR	49.11	244.28	246.55		246.77	0.003495	2.09	24.86	17.56	0.50
Sophia	1	1091	10 YR	25.20	244.09	245.83		245.95	0.003161	1.57	16.14	15.51	0.45
Sophia	1	1091	25 YR	35.95	244.09	245.87		246.10	0.005826	2.17	16.77	18.02	0.61
Sophia	1	1091	50 YR	44.31	244.09	246.02		246.30	0.005972	2.36	19.86	21.20	0.63
Sophia	1	1091	100 YR	52.44	244.09	246.56		246.74	0.002504	1.90	32.78	28.41	0.43
Sophia	1	1080	10 YR	25.20	243.86	245.80	244.96	245.90	0.001947	1.38	19.69	23.03	0.35
Sophia	1	1080	25 YR	35.95	243.86	245.81	245.20	246.00	0.003899	1.96	19.85	23.05	0.50
Sophia	1	1080	50 YR	44.31	243.86	245.96	245.36	246.19	0.004219	2.15	23.38	23.53	0.52
Sophia	1	1080	100 YR	52.44	243.86	246.55	245.51	246.68	0.001906	1.71	37.77	26.52	0.36
Sophia	1	1065		Bridge									
Sophia	1	1050	10 YR	25.20	243.20	244.47	244.30	244.82	0.010667	2.60	9.70	9.92	0.78
Sophia	1	1050	25 YR	35.95	243.20	245.01	244.56	245.33	0.006353	2.51	14.34	11.60	0.62
Sophia	1	1050	50 YR	44.31	243.20	245.42	244.74	245.66	0.004242	2.17	20.88	13.15	0.51

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	1	1050	100 YR	52.44	243.20	246.21	244.91	246.36	0.001823	1.74	32.46	16.14	0.34
Sophia	1	1040	10 YR	25.20	242.90	244.50		244.66	0.004420	1.76	14.32	12.42	0.52
Sophia	1	1040	25 YR	35.95	242.90	245.07		245.20	0.002357	1.65	22.84	18.16	0.41
Sophia	1	1040	50 YR	44.31	242.90	245.45		245.58	0.001700	1.61	30.69	22.49	0.36
Sophia	1	1040	100 YR	52.44	242.90	246.24		246.31	0.000686	1.27	51.27	28.69	0.24
Sophia	1	1020	10 YR	25.20	242.80	244.37	243.90	244.56	0.004617	1.96	12.86	12.27	0.55
Sophia	1	1020	25 YR	35.95	242.80	244.96	244.15	245.14	0.002745	1.92	18.74	16.92	0.45
Sophia	1	1020	50 YR	44.31	242.80	245.34	244.33	245.53	0.002258	1.97	22.53	20.21	0.42
Sophia	1	1020	100 YR	52.44	242.80	246.23	244.49	246.30	0.000642	1.25	50.37	25.59	0.23
Sophia	1	1010		Bridge									
Sophia	1	1000	10 YR	25.20	242.70	243.80	243.80	244.26	0.017153	3.00	8.41	10.41	1.00
Sophia	1	1000	25 YR	35.95	242.70	244.06	244.06	244.62	0.015965	3.32	10.81	11.36	1.00
Sophia	1	1000	50 YR	44.31	242.70	244.23	244.23	244.87	0.015426	3.54	12.53	12.11	1.00
Sophia	1	1000	100 YR	52.44	242.70	244.40	244.40	245.10	0.014912	3.71	14.15	12.93	0.99
Sophia	1	990	10 YR	25.20	241.95	243.11	243.06	243.49	0.014999	2.72	9.28	10.62	0.93
Sophia	1	990	25 YR	35.95	241.95	243.35	243.30	243.81	0.015006	3.02	11.90	11.53	0.95
Sophia	1	990	50 YR	44.31	241.95	243.51	243.47	244.03	0.014948	3.20	13.85	12.24	0.96
Sophia	1	990	100 YR	52.44	241.95	243.66	243.61	244.23	0.014972	3.35	15.67	13.27	0.97
Sophia	1	980	10 YR	25.20	241.80	242.96	242.91	243.34	0.014999	2.72	9.28	10.62	0.93
Sophia	1	980	25 YR	35.95	241.80	243.20	243.15	243.68	0.015011	3.02	11.90	11.52	0.95
Sophia	1	980	50 YR	44.31	241.80	243.36	243.32	243.88	0.014920	3.20	13.86	12.24	0.96
Sophia	1	980	100 YR	52.44	241.80	243.51	243.46	244.08	0.014952	3.35	15.68	13.31	0.97
Sophia	1	960	10 YR	25.20	241.50	242.66	242.61	243.04	0.014926	2.71	9.29	10.62	0.93
Sophia	1	960	25 YR	35.95	241.50	242.92	242.85	243.37	0.013894	2.94	12.23	11.64	0.92
Sophia	1	960	50 YR	44.31	241.50	243.10	243.02	243.59	0.013551	3.09	14.36	12.44	0.92
Sophia	1	960	100 YR	52.44	241.50	243.22	243.16	243.78	0.014231	3.30	15.93	14.48	0.95
Sophia	1	940	10 YR	25.20	241.20	242.45		242.76	0.011323	2.46	10.23	10.94	0.81
Sophia	1	940	25 YR	35.95	241.20	242.76		243.10	0.009941	2.61	13.80	12.22	0.78
Sophia	1	940	50 YR	44.31	241.20	242.95	242.72	243.33	0.009447	2.72	16.40	18.74	0.78
Sophia	1	940	100 YR	52.44	241.20	243.12	242.86	243.51	0.008306	2.78	20.55	25.34	0.74
Sophia	1	920	10 YR	25.20	240.90	242.21		242.53	0.011451	2.51	10.06	10.52	0.82
Sophia	1	920	25 YR	35.95	240.90	242.35	242.32	242.84	0.015771	3.11	11.56	11.09	0.97
Sophia	1	920	50 YR	44.31	240.90	242.49	242.49	243.06	0.016537	3.35	13.24	11.76	1.01
Sophia	1	920	100 YR	52.44	240.90	242.64	242.64	243.26	0.016177	3.48	15.10	13.86	1.01
Sophia	1	913	10 YR	25.20	240.80	242.16	242.01	242.44	0.011057	2.31	10.91	12.82	0.80
Sophia	1	913	25 YR	35.95	240.80	242.30	242.26	242.71	0.015206	2.82	12.77	14.20	0.95
Sophia	1	913	50 YR	44.31	240.80	242.43	242.42	242.90	0.015188	3.03	14.97	23.47	0.96
Sophia	1	913	100 YR	52.44	240.80	242.57	242.57	243.06	0.013981	3.11	18.41	25.63	0.94
Sophia	1	909	10 YR	25.20	240.80	241.99	241.99	242.37	0.018248	2.72	9.26	12.39	1.01
Sophia	1	909	25 YR	35.95	240.80	242.24	242.24	242.65	0.015775	2.84	13.28	22.50	0.96
Sophia	1	909	50 YR	44.31	240.80	242.38	242.38	242.82	0.014421	2.97	16.69	24.82	0.94
Sophia	1	909	100 YR	52.44	240.80	242.50	242.50	242.97	0.013770	3.10	19.77	26.31	0.93
Sophia	1	895	10 YR	25.20	240.40	241.82		242.09	0.010612	2.31	11.03	14.50	0.79
Sophia	1	895	25 YR	35.95	240.40	242.02	241.89	242.37	0.011048	2.64	14.72	21.98	0.82
Sophia	1	895	50 YR	44.31	240.40	242.10	242.08	242.55	0.012960	2.98	16.66	23.60	0.90
Sophia	1	895	100 YR	52.44	240.40	242.21	242.21	242.71	0.013264	3.17	19.37	25.89	0.92
Sophia	1	880	10 YR	25.20	240.30	241.52	241.48	241.88	0.016147	2.68	9.41	11.82	0.96
Sophia	1	880	25 YR	35.95	240.30	241.76	241.76	242.17	0.015315	2.83	13.32	24.92	0.95
Sophia	1	880	50 YR	44.31	240.30	241.91	241.91	242.34	0.013940	2.95	17.10	27.14	0.93
Sophia	1	880	100 YR	52.44	240.30	242.03	242.03	242.49	0.013257	3.07	20.49	28.89	0.92
Sophia	1	865	10 YR	25.20	240.00	241.30	241.24	241.65	0.014439	2.63	9.63	12.71	0.91
Sophia	1	865	25 YR	35.95	240.00	241.53	241.53	241.94	0.013102	2.87	14.81	26.30	0.90
Sophia	1	865	50 YR	44.31	240.00	241.68	241.68	242.11	0.012242	3.00	18.98	28.42	0.88
Sophia	1	865	100 YR	52.44	240.00	241.83	241.79	242.26	0.011023	3.04	23.32	29.28	0.85
Sophia	1	850	10 YR	25.20	239.60	241.24		241.47	0.007111	2.14	13.02	19.62	0.66
Sophia	1	850	25 YR	35.95	239.60	241.37	241.24	241.72	0.010050	2.68	15.67	22.33	0.80
Sophia	1	850	50 YR	44.31	239.60	241.45	241.43	241.90	0.012146	3.04	17.61	23.60	0.88
Sophia	1	850	100 YR	52.44	239.60	241.55	241.55	242.07	0.012755	3.26	20.18	27.19	0.91
Sophia	1	826	10 YR	25.20	239.40	241.27	240.90	241.31	0.001939	1.12	44.61	54.77	0.34
Sophia	1	826	25 YR	35.95	239.40	241.45	240.94	241.50	0.002300	1.25	54.74	57.13	0.38
Sophia	1	826	50 YR	44.31	239.40	241.59	241.02	241.64	0.002356	1.33	62.67	62.06	0.39
Sophia	1	826	100 YR	52.44	239.40	241.70	241.09	241.76	0.002398	1.43	69.98	66.31	0.40
Sophia	1	808	10 YR	25.20	238.95	241.23		241.28	0.001543	1.14	44.29	65.52	0.32
Sophia	1	808	25 YR	35.95	238.95	241.39		241.46	0.001921	1.34	55.93	72.44	0.36
Sophia	1	808	50 YR	44.31	238.95	241.53		241.60	0.001971	1.41	65.92	74.10	0.36

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	1	808	100 YR	52.44	238.95	241.65		241.71	0.002026	1.47	74.62	75.42	0.37
Sophia	1	791	10 YR	25.20	238.80	241.17		241.24	0.001936	1.36	36.00	54.55	0.36
Sophia	1	791	25 YR	35.95	238.80	241.31		241.41	0.002672	1.66	44.02	59.52	0.42
Sophia	1	791	50 YR	44.31	238.80	241.44		241.55	0.002884	1.78	51.80	62.39	0.44
Sophia	1	791	100 YR	52.44	238.80	241.55		241.67	0.003042	1.88	58.76	64.10	0.46
Sophia	1	767	10 YR	25.20	238.50	241.16		241.21	0.000819	1.08	43.45	52.09	0.25
Sophia	1	767	25 YR	35.95	238.50	241.29		241.37	0.001266	1.40	50.89	61.36	0.31
Sophia	1	767	50 YR	44.31	238.50	241.41		241.50	0.001482	1.58	58.29	64.52	0.34
Sophia	1	767	100 YR	52.44	238.50	241.51		241.62	0.001673	1.72	64.91	66.77	0.36
Sophia	1	751	10 YR	25.20	238.30	241.17	239.80	241.19	0.000350	0.77	60.98	47.00	0.17
Sophia	1	751	25 YR	35.95	238.30	241.30	240.04	241.34	0.000593	1.04	68.06	61.68	0.22
Sophia	1	751	50 YR	44.31	238.30	241.42	240.23	241.47	0.000724	1.19	75.68	66.55	0.24
Sophia	1	751	100 YR	52.44	238.30	241.52	240.34	241.58	0.000841	1.31	82.56	68.83	0.26
Sophia	1	736	10 YR	25.20	238.05	241.17		241.19	0.000323	0.82	67.12	41.02	0.16
Sophia	1	736	25 YR	35.95	238.05	241.30		241.33	0.000556	1.11	72.89	46.16	0.21
Sophia	1	736	50 YR	44.31	238.05	241.41		241.46	0.000715	1.29	78.28	49.40	0.24
Sophia	1	736	100 YR	52.44	238.05	241.51		241.57	0.000855	1.44	83.19	49.54	0.27
Sophia	1	721	10 YR	25.20	237.90	241.17		241.18	0.000181	0.59	78.26	51.76	0.12
Sophia	1	721	25 YR	35.95	237.90	241.30		241.32	0.000299	0.78	85.20	53.94	0.16
Sophia	1	721	50 YR	44.31	237.90	241.42		241.45	0.000386	0.92	91.79	61.25	0.18
Sophia	1	721	100 YR	52.44	237.90	241.52		241.55	0.000474	1.04	98.38	71.18	0.20
Sophia	1	706	10 YR	25.20	237.75	241.17		241.18	0.000136	0.60	83.04	60.58	0.11
Sophia	1	706	25 YR	35.95	237.75	241.29		241.32	0.000230	0.81	91.02	62.19	0.14
Sophia	1	706	50 YR	44.31	237.75	241.41		241.44	0.000297	0.94	98.25	62.51	0.16
Sophia	1	706	100 YR	52.44	237.75	241.51		241.55	0.000363	1.06	104.44	62.70	0.18
Sophia	1	690	10 YR	25.20	237.45	241.16		241.18	0.000140	0.53	65.42	66.66	0.11
Sophia	1	690	25 YR	35.95	237.45	241.29		241.31	0.000234	0.71	74.22	71.02	0.14
Sophia	1	690	50 YR	44.31	237.45	241.41		241.44	0.000297	0.82	82.56	74.16	0.16
Sophia	1	690	100 YR	52.44	237.45	241.50		241.54	0.000359	0.93	89.95	76.56	0.17
Sophia	1	680	10 YR	15.20	237.30	241.17		241.17	0.000104	0.43	51.43	65.10	0.08
Sophia	1	680	25 YR	22.95	237.30	241.29		241.31	0.000191	0.60	60.14	68.91	0.11
Sophia	1	680	50 YR	31.31	237.30	241.41		241.43	0.000293	0.76	67.92	69.19	0.14
Sophia	1	680	100 YR	39.44	237.30	241.50		241.54	0.000397	0.91	74.54	69.38	0.17
Sophia	1	671.2	10 YR	15.20	240.60	241.01	241.01	241.16	0.002139	1.92	14.66	57.75	0.97
Sophia	1	671.2	25 YR	22.95	240.60	241.11	241.11	241.29	0.001994	2.16	20.94	63.56	0.98
Sophia	1	671.2	50 YR	31.31	240.60	241.20	241.20	241.41	0.002024	2.41	26.35	66.06	1.01
Sophia	1	671.2	100 YR	39.44	240.60	241.27	241.27	241.51	0.002002	2.60	31.41	68.15	1.02
Sophia	1	644.1	10 YR	15.20	239.61	240.26	240.26	240.55	0.002609	2.61	8.43	15.81	1.12
Sophia	1	644.1	25 YR	22.95	239.61	240.44	240.44	240.81	0.002390	3.00	11.23	16.36	1.13
Sophia	1	644.1	50 YR	31.31	239.61	240.61	240.61	241.07	0.002148	3.29	14.19	16.99	1.11
Sophia	1	644.1	100 YR	39.44	239.61	240.76	240.76	241.29	0.002038	3.55	16.77	17.39	1.11
Sophia	1	612.2	10 YR	15.20	238.57	239.12	239.12	239.38	0.002715	2.55	9.54	19.62	1.13
Sophia	1	612.2	25 YR	22.95	238.57	239.28	239.28	239.61	0.002503	2.93	12.70	20.10	1.14
Sophia	1	612.2	50 YR	31.31	238.57	239.43	239.43	239.84	0.002352	3.25	15.79	20.56	1.14
Sophia	1	612.2	100 YR	39.44	238.57	239.57	239.57	240.04	0.002219	3.50	18.65	20.97	1.14
Sophia	1	585.2	10 YR	15.20	238.04	238.69	238.69	238.96	0.002501	2.56	8.73	17.00	1.10
Sophia	1	585.2	25 YR	22.95	238.04	238.86	238.86	239.22	0.002295	2.94	11.70	17.50	1.10
Sophia	1	585.2	50 YR	31.31	238.04	238.99	238.99	239.47	0.002471	3.40	13.97	17.87	1.17
Sophia	1	585.2	100 YR	39.44	238.04	239.20	239.20	239.70	0.001927	3.47	18.28	23.23	1.07
Sophia	1	559.7	10 YR	15.20	237.69	238.36	238.36	238.63	0.002187	2.48	9.09	18.53	1.04
Sophia	1	559.7	25 YR	22.95	237.69	238.50	238.50	238.88	0.002407	2.99	11.66	19.28	1.13
Sophia	1	559.7	50 YR	31.31	237.69	238.71	238.71	239.11	0.001794	3.08	16.38	22.46	1.02
Sophia	1	559.7	100 YR	39.44	237.69	238.84	238.84	239.30	0.001791	3.35	19.28	22.46	1.04
Sophia	1	545		Lat Struct									
Sophia	1	527.4	10 YR	15.20	237.10	237.67	237.67	237.88	0.002405	2.38	11.82	28.80	1.07
Sophia	1	527.4	25 YR	22.95	237.10	237.80	237.80	238.08	0.002405	2.77	15.54	28.80	1.11
Sophia	1	527.4	50 YR	31.31	237.10	237.93	237.93	238.26	0.002377	3.10	19.10	28.80	1.13
Sophia	1	527.4	100 YR	39.44	237.10	238.04	238.04	238.43	0.002337	3.36	22.28	28.80	1.15
Sophia	1	497.9	10 YR	15.20	236.32	236.53	236.53	236.70	0.015928	2.15	8.33	28.96	2.11
Sophia	1	497.9	25 YR	22.95	236.32	236.61	236.61	236.88	0.015946	3.16	10.85	31.12	2.32
Sophia	1	497.9	50 YR	31.31	236.32	236.73	236.73	237.06	0.010771	3.63	14.88	35.28	2.08
Sophia	1	497.9	100 YR	39.44	236.32	236.87	236.87	237.22	0.006849	3.70	20.16	39.18	1.76
Sophia	1	464.6	10 YR	15.20	236.05	236.09	236.09	236.20	0.009017	0.46	10.27	21.13	1.16
Sophia	1	464.6	25 YR	22.95	236.05	236.18	236.09	236.35	0.011142	1.12	12.71	32.57	1.57
Sophia	1	464.6	50 YR	31.31	236.05	236.27	236.27	236.46	0.011720	2.13	16.09	44.77	1.88

HEC-RAS Plan: PR01 (Continued)

River	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
Sophia	1	464.6	100 YR	39.44	236.05	236.32	236.32	236.56	0.013282	2.80	18.29	45.61	2.11
Sophia	1	403.8	10 YR	15.20	235.78	235.35	235.35	235.44	0.018014		11.77	62.61	0.00
Sophia	1	403.8	25 YR	22.95	235.78	235.43	235.41	235.52	0.016221		17.15	79.01	0.00
Sophia	1	403.8	50 YR	31.31	235.78	235.52	235.52	235.60	0.011172		25.11	86.87	0.00
Sophia	1	403.8	100 YR	39.44	235.78	235.60	235.60	235.68	0.008942		32.06	92.70	0.00
Sophia	1	350.2	10 YR	15.20	234.42	235.05	235.05	235.17	0.001843	1.83	17.73	88.89	0.90
Sophia	1	350.2	25 YR	22.95	234.42	235.13	235.13	235.28	0.001909	2.10	25.33	94.49	0.95
Sophia	1	350.2	50 YR	31.31	234.42	235.21	235.21	235.38	0.001963	2.33	32.47	99.05	0.98
Sophia	1	350.2	100 YR	39.44	234.42	235.27	235.27	235.47	0.002005	2.53	38.76	102.90	1.01
Sophia	1	323.2	10 YR	15.20	234.04	234.48	234.48	234.62	0.003027	2.04	16.16	69.84	1.12
Sophia	1	323.2	25 YR	22.95	234.04	234.60	234.60	234.76	0.002408	2.22	26.52	107.64	1.05
Sophia	1	323.2	50 YR	31.31	234.04	234.71	234.71	234.85	0.001816	2.21	39.31	126.30	0.94
Sophia	1	323.2	100 YR	39.44	234.04	234.75	234.75	234.91	0.002099	2.48	44.16	126.34	1.02
Sophia	1	298.6	10 YR	15.20	233.66	234.13	234.13	234.24	0.001915	1.82	19.83	100.52	0.92
Sophia	1	298.6	25 YR	22.95	233.66	234.22	234.22	234.35	0.001813	2.02	29.27	119.27	0.92
Sophia	1	298.6	50 YR	31.31	233.66	234.28	234.28	234.43	0.001995	2.29	36.22	123.95	0.99
Sophia	1	298.6	100 YR	39.44	233.66	234.34	234.34	234.50	0.001996	2.45	43.13	124.34	1.00
Sophia	1	263	10 YR	15.20	233.18	233.54	233.54	233.64	0.003179	1.88	20.03	112.53	1.12
Sophia	1	263	25 YR	22.95	233.18	233.77	233.77	233.81	0.000704	1.31	47.14	122.52	0.58
Sophia	1	263	50 YR	31.31	233.18	233.89	233.89	233.93	0.000567	1.35	62.17	124.92	0.54
Sophia	1	263	100 YR	39.44	233.18	233.99	233.99	234.03	0.000530	1.43	73.96	126.76	0.53
Sophia	1	229	10 YR	15.20	232.72	233.57	233.57	233.58	0.000113	0.67	56.55	125.05	0.25
Sophia	1	229	25 YR	22.95	232.72	233.78	233.78	233.79	0.000093	0.72	84.88	141.54	0.23
Sophia	1	229	50 YR	31.31	232.72	233.90	233.90	233.92	0.000107	0.83	102.72	157.00	0.26
Sophia	1	229	100 YR	39.44	232.72	234.00	234.00	234.02	0.000119	0.93	117.61	160.40	0.27
Sophia	1	196.3	10 YR	15.20	232.67	233.32	233.32	233.55	0.001780	2.25	9.85	27.77	0.94
Sophia	1	196.3	25 YR	22.95	232.67	233.49	233.49	233.76	0.001601	2.51	14.95	34.24	0.93
Sophia	1	196.3	50 YR	31.31	232.67	233.69	233.69	233.89	0.001002	2.33	33.36	111.08	0.76
Sophia	1	196.3	100 YR	39.44	232.67	233.77	233.77	233.99	0.001047	2.51	42.07	111.08	0.79
Sophia	1	173	10 YR	15.20	231.82	232.49	232.49	232.77	0.002168	2.46	8.35	17.57	1.04
Sophia	1	173	25 YR	22.95	231.82	232.67	232.67	233.02	0.001902	2.77	11.75	19.75	1.02
Sophia	1	173	50 YR	31.31	231.82	232.84	232.84	233.25	0.001750	3.04	15.30	22.20	1.01
Sophia	1	173	100 YR	39.44	231.82	233.01	233.01	233.45	0.001541	3.19	19.22	24.61	0.97
Sophia	1	134.4	10 YR	15.20	230.30	230.92	230.92	231.17	0.001888	2.32	8.81	20.27	0.97
Sophia	1	134.4	25 YR	22.95	230.30	231.08	231.08	231.40	0.001807	2.67	12.07	20.27	0.98
Sophia	1	134.4	50 YR	31.31	230.30	231.23	231.23	231.62	0.001777	2.98	15.06	20.27	1.01
Sophia	1	134.4	100 YR	39.44	230.30	231.35	231.35	231.82	0.001758	3.24	17.67	20.27	1.02
Sophia	1	109.4	10 YR	15.20	229.32	229.95	229.95	230.18	0.001987	2.31	9.74	21.64	0.99
Sophia	1	109.4	25 YR	22.95	229.32	230.10	230.10	230.41	0.001924	2.67	13.13	26.47	1.01
Sophia	1	109.4	50 YR	31.31	229.32	230.26	230.26	230.61	0.001754	2.90	17.79	32.50	1.00
Sophia	1	109.4	100 YR	39.44	229.32	230.39	230.39	230.78	0.001672	3.11	22.18	36.33	0.99
Sophia	1	69.9	10 YR	15.20	227.68	227.71	227.70	227.80	0.024303	0.74	11.20	55.76	1.90
Sophia	1	69.9	25 YR	22.95	227.68	227.77	227.77	227.89	0.021585	1.32	15.02	63.15	2.10
Sophia	1	69.9	50 YR	31.31	227.68	227.83	227.83	227.97	0.019820	1.87	18.72	69.87	2.22
Sophia	1	69.9	100 YR	39.44	227.68	227.87	227.87	228.04	0.019809	2.49	21.58	74.62	2.38
Sophia	1	49.2	10 YR	15.20	227.16	227.15	227.15	227.27	0.028056		10.11	54.18	0.00
Sophia	1	49.2	25 YR	22.95	227.16	227.25	227.25	227.36	0.019837	1.30	15.24	76.74	2.03
Sophia	1	49.2	50 YR	31.31	227.16	227.31	227.31	227.44	0.018514	1.83	19.54	87.00	2.16
Sophia	1	49.2	100 YR	39.44	227.16	227.34	227.34	227.51	0.021424	2.45	21.67	88.37	2.45
Sophia	1	31.4	10 YR	15.20	226.53	226.86	226.86	226.98	0.004573	2.09	16.10	72.60	1.32
Sophia	1	31.4	25 YR	22.95	226.53	226.94	226.94	227.09	0.004147	2.38	22.12	79.85	1.32
Sophia	1	31.4	50 YR	31.31	226.53	227.02	227.02	227.20	0.003617	2.57	28.85	86.66	1.27
Sophia	1	31.4	100 YR	39.44	226.53	227.16	227.08	227.30	0.001943	2.30	42.12	95.52	0.98
Sophia	1	0	10 YR	15.20	225.95	226.48	226.45	226.66	0.002048	2.04	10.44	24.79	0.97
Sophia	1	0	25 YR	22.95	225.95	226.60	226.58	226.85	0.002048	2.40	13.55	24.79	1.01
Sophia	1	0	50 YR	31.31	225.95	226.72	226.70	227.04	0.002048	2.72	16.47	24.79	1.04
Sophia	1	0	100 YR	39.44	225.95	226.82	226.81	227.21	0.002047	2.99	19.11	26.42	1.07
Owen Street	1	504.1	10 YR	0.05	237.52	237.58	237.58	237.59	0.006356	0.52	0.12	5.58	1.05
Owen Street	1	504.1	25 YR	0.12	237.52	237.60	237.60	237.62	0.009172	0.73	0.21	7.66	1.31
Owen Street	1	504.1	50 YR	0.17	237.52	237.63	237.63	237.64	0.001603	0.40	0.54	11.55	0.59
Owen Street	1	504.1	100 YR	0.17	237.52	237.63	237.63	237.64	0.001603	0.40	0.54	11.55	0.59
Owen Street	1	480.5	10 YR	0.05	237.14	237.08	237.08	237.12	0.047605		0.06	0.92	0.00
Owen Street	1	480.5	25 YR	0.12	237.14	237.14	237.14	237.19	0.036755	0.28	0.13	1.47	1.73
Owen Street	1	480.5	50 YR	0.17	237.14	237.18	237.18	237.21	0.022495	0.85	0.20	2.60	1.90
Owen Street	1	480.5	100 YR	0.17	237.14	237.18	237.18	237.21	0.022495	0.85	0.20	2.60	1.90

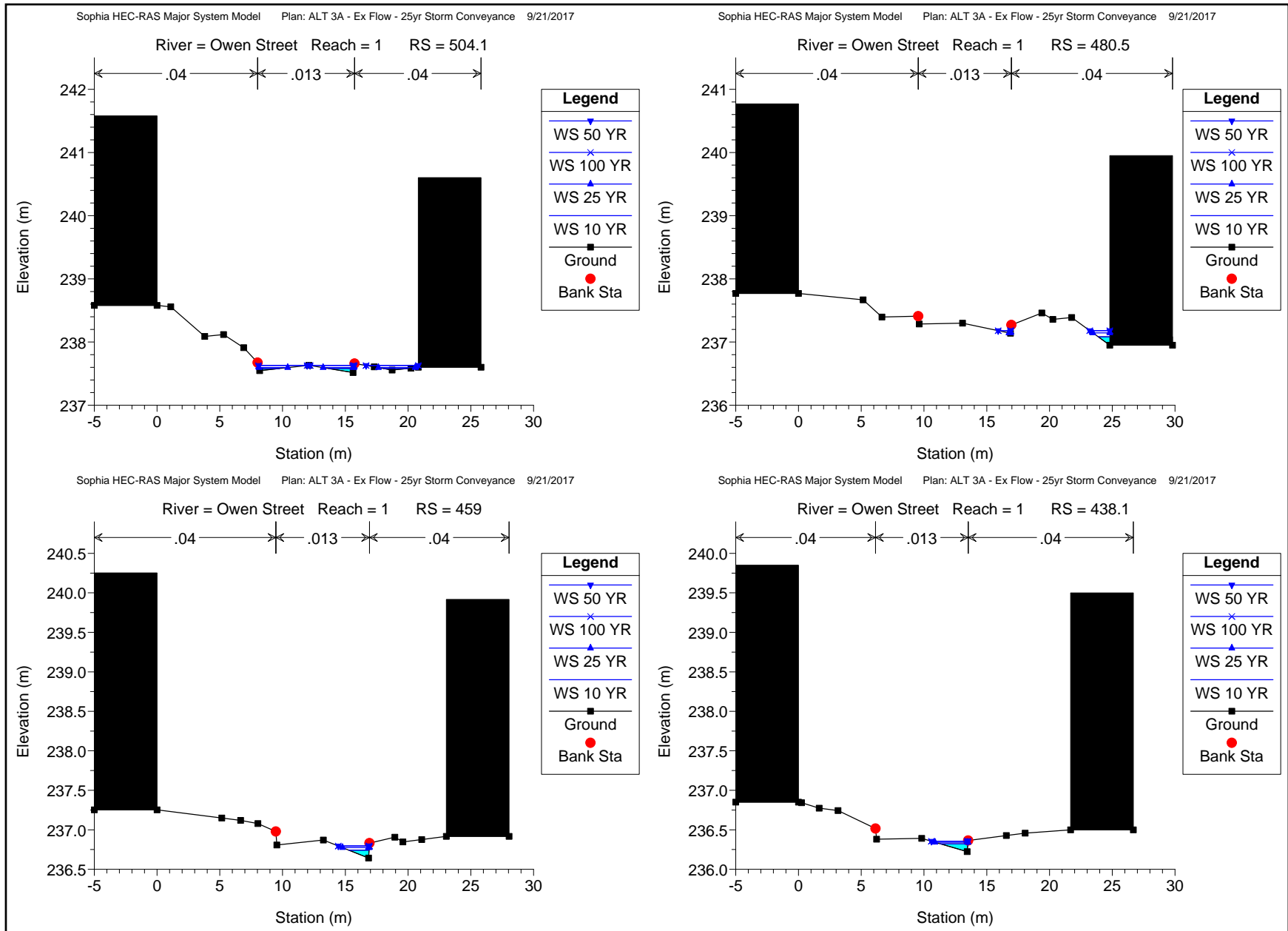
HEC-RAS Plan: PR01 (Continued)

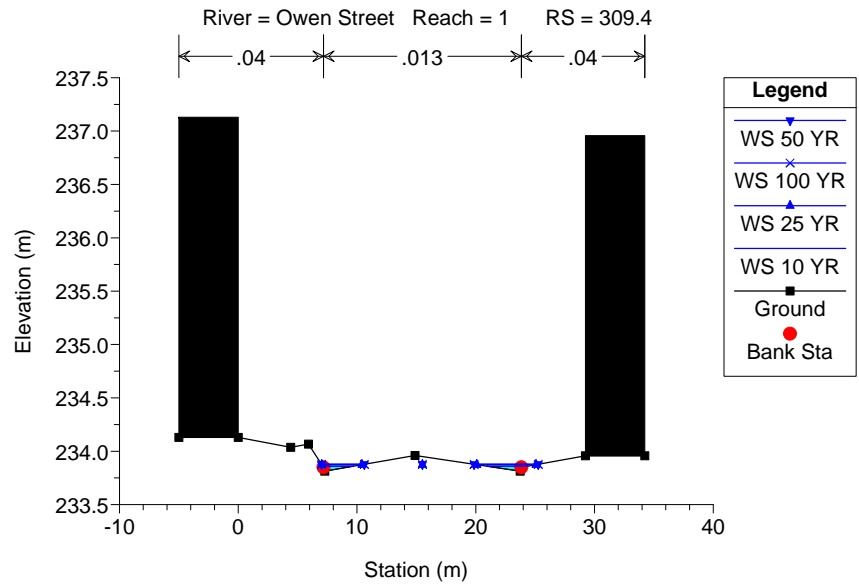
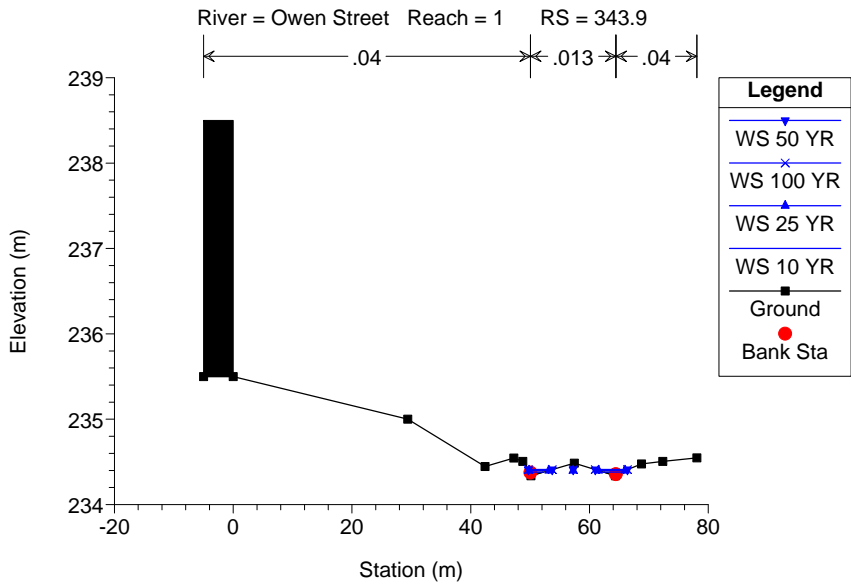
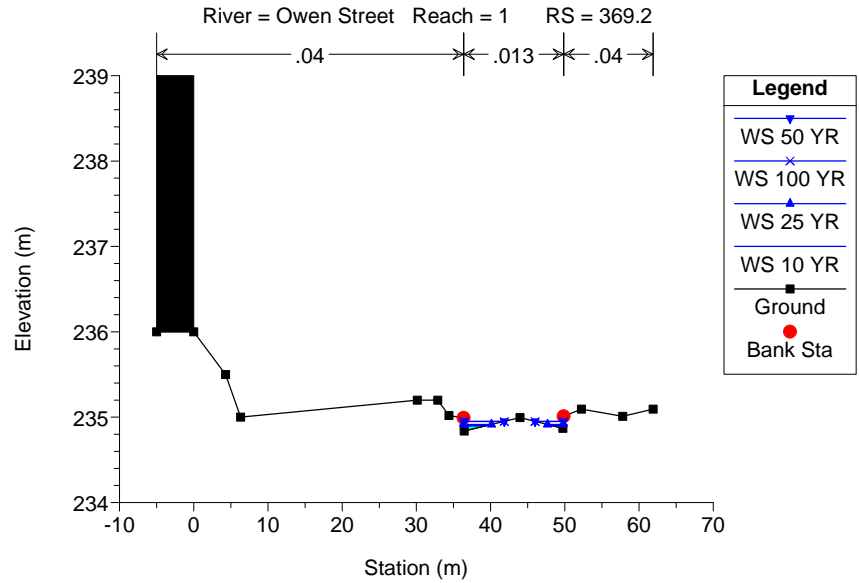
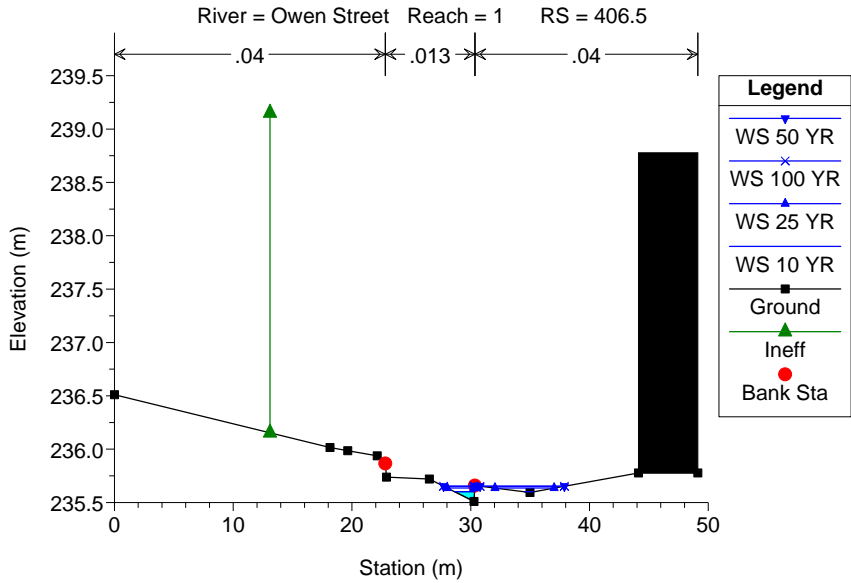
River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Owen Street	1	459	10 YR	0.05	236.64	236.74	236.74	236.76	0.003816	0.63	0.08	1.61	0.89
Owen Street	1	459	25 YR	0.12	236.64	236.77	236.77	236.81	0.004966	0.86	0.14	2.12	1.07
Owen Street	1	459	50 YR	0.17	236.64	236.80	236.80	236.83	0.004171	0.87	0.19	2.47	1.00
Owen Street	1	459	100 YR	0.17	236.64	236.80	236.80	236.83	0.004171	0.87	0.19	2.47	1.00
Owen Street	1	438.1	10 YR	0.05	236.22	236.32	236.32	236.33	0.002017	0.46	0.11	2.20	0.66
Owen Street	1	438.1	25 YR	0.12	236.22	236.34	236.34	236.37	0.004384	0.76	0.16	2.64	1.00
Owen Street	1	438.1	50 YR	0.17	236.22	236.36	236.36	236.39	0.004800	0.86	0.19	2.92	1.06
Owen Street	1	438.1	100 YR	0.17	236.22	236.36	236.36	236.39	0.004800	0.86	0.19	2.92	1.06
Owen Street	1	406.5	10 YR	0.05	235.51	235.60	235.60	235.62	0.004537	0.65	0.08	2.50	0.97
Owen Street	1	406.5	25 YR	0.12	235.51	235.64	235.64	235.66	0.003908	0.74	0.25	7.31	0.95
Owen Street	1	406.5	50 YR	0.17	235.51	235.65	235.65	235.68	0.003151	0.73	0.40	9.76	0.87
Owen Street	1	406.5	100 YR	0.17	235.51	235.65	235.65	235.68	0.003151	0.73	0.40	9.76	0.87
Owen Street	1	369.2	10 YR	0.05	234.84	234.90	234.90	234.91	0.004356	0.44	0.11	4.38	0.87
Owen Street	1	369.2	25 YR	0.12	234.84	234.91	234.91	234.93	0.006440	0.63	0.19	5.82	1.11
Owen Street	1	369.2	50 YR	0.17	234.84	234.95	234.95	234.96	0.001170	0.35	0.46	9.26	0.51
Owen Street	1	369.2	100 YR	0.17	234.84	234.95	234.95	234.96	0.001170	0.35	0.46	9.26	0.51
Owen Street	1	343.9	10 YR	0.05	234.34	234.38	234.38	234.39	0.008720	0.55	0.10	5.10	1.20
Owen Street	1	343.9	25 YR	0.12	234.34	234.40	234.40	234.42	0.006599	0.61	0.22	7.82	1.12
Owen Street	1	343.9	50 YR	0.17	234.34	234.41	234.41	234.43	0.005026	0.60	0.32	9.41	1.00
Owen Street	1	343.9	100 YR	0.17	234.34	234.41	234.41	234.43	0.005026	0.60	0.32	9.41	1.00
Owen Street	1	309.4	10 YR	0.05	233.81	233.86	233.86	233.87	0.003649	0.38	0.13	6.10	0.79
Owen Street	1	309.4	25 YR	0.12	233.81	233.87	233.87	233.89	0.005383	0.55	0.23	8.37	1.01
Owen Street	1	309.4	50 YR	0.17	233.81	233.88	233.88	233.90	0.007329	0.67	0.26	9.01	1.19
Owen Street	1	309.4	100 YR	0.17	233.81	233.88	233.88	233.90	0.007329	0.67	0.26	9.01	1.19
Owen Street	1	275.4	10 YR	0.05	233.55	233.61	233.61	233.62	0.006571	0.56	0.09	4.00	1.09
Owen Street	1	275.4	25 YR	0.12	233.55	233.65	233.65	233.66	0.001439	0.39	0.36	8.39	0.56
Owen Street	1	275.4	50 YR	0.17	233.55	233.65	233.65	233.66	0.002721	0.54	0.36	8.39	0.77
Owen Street	1	275.4	100 YR	0.17	233.55	233.65	233.65	233.66	0.002721	0.54	0.36	8.39	0.77
Owen Street	1	244.9	10 YR	0.05	233.24	233.31	233.31	233.34	0.006325	0.69	0.07	1.87	1.11
Owen Street	1	244.9	25 YR	0.12	233.24	233.36	233.36	233.38	0.003350	0.68	0.18	2.92	0.87
Owen Street	1	244.9	50 YR	0.17	233.24	233.37	233.37	233.40	0.004429	0.81	0.20	3.12	1.02
Owen Street	1	244.9	100 YR	0.17	233.24	233.37	233.37	233.40	0.004429	0.81	0.20	3.12	1.02
Owen Street	1	221.3	10 YR	0.05	233.03	233.12	233.12	233.13	0.002390	0.47	0.11	2.32	0.71
Owen Street	1	221.3	25 YR	0.12	233.03	233.14	233.14	233.17	0.004391	0.74	0.16	2.88	0.99
Owen Street	1	221.3	50 YR	0.17	233.03	233.15	233.15	233.19	0.005260	0.86	0.19	3.14	1.10
Owen Street	1	221.3	100 YR	0.17	233.03	233.15	233.15	233.19	0.005260	0.86	0.19	3.14	1.10
Owen Street	1	181.4	10 YR	0.05	232.32	232.39	232.39	232.42	0.008302	0.75	0.07	1.88	1.26
Owen Street	1	181.4	25 YR	0.12	232.32	232.43	232.43	232.46	0.005345	0.79	0.15	2.84	1.09
Owen Street	1	181.4	50 YR	0.17	232.32	232.45	232.45	232.48	0.004310	0.79	0.21	3.33	1.00
Owen Street	1	181.4	100 YR	0.17	232.32	232.45	232.45	232.48	0.004310	0.79	0.21	3.33	1.00
Owen Street	1	159.8	10 YR	0.05	231.84	231.94	231.94	231.95	0.002603	0.50	0.10	2.11	0.74
Owen Street	1	159.8	25 YR	0.12	231.84	231.96	231.96	231.99	0.004384	0.76	0.16	2.66	1.00
Owen Street	1	159.8	50 YR	0.17	231.84	231.97	231.97	232.01	0.005477	0.90	0.18	3.01	1.13
Owen Street	1	159.8	100 YR	0.17	231.84	231.97	231.97	232.01	0.005477	0.90	0.18	3.01	1.13
Owen Street	1	121.6	10 YR	0.05	230.54	230.60	230.60	230.61	0.005721	0.48	0.10	4.31	0.99
Owen Street	1	121.6	25 YR	0.12	230.54	230.64	230.64	230.64	0.001895	0.39	0.31	7.67	0.62
Owen Street	1	121.6	50 YR	0.17	230.54	230.64	230.64	230.65	0.003583	0.54	0.31	7.67	0.86
Owen Street	1	121.6	100 YR	0.17	230.54	230.64	230.64	230.65	0.003583	0.54	0.31	7.67	0.86
Owen Street	1	98.9	10 YR	0.05	228.55	228.61	228.61	228.63	0.007190	0.61	0.08	2.83	1.13
Owen Street	1	98.9	25 YR	0.12	228.55	228.64	228.64	228.66	0.005106	0.66	0.18	4.19	1.02
Owen Street	1	98.9	50 YR	0.17	228.55	228.66	228.66	228.68	0.004057	0.66	0.28	9.71	0.93
Owen Street	1	98.9	100 YR	0.17	228.55	228.66	228.66	228.68	0.004057	0.66	0.28	9.71	0.93
Owen Street	1	79.1	10 YR	0.05	227.22	227.28	227.28	227.29	0.005648	0.52	0.10	3.54	1.00
Owen Street	1	79.1	25 YR	0.12	227.22	227.31	227.31	227.32	0.002818	0.50	0.24	5.60	0.76
Owen Street	1	79.1	50 YR	0.17	227.22	227.31	227.31	227.33	0.003725	0.60	0.28	6.18	0.88
Owen Street	1	79.1	100 YR	0.17	227.22	227.31	227.31	227.33	0.003725	0.60	0.28	6.18	0.88
Owen Street	1	47.9	10 YR	0.05	225.60	225.66	225.66	225.67	0.006145	0.52	0.10	3.73	1.03
Owen Street	1	47.9	25 YR	0.12	225.60	225.70	225.70	225.71	0.001700	0.40	0.31	7.99	0.60
Owen Street	1	47.9	50 YR	0.17	225.60	225.70	225.70	225.71	0.003215	0.55	0.31	7.99	0.82
Owen Street	1	47.9	100 YR	0.17	225.60	225.70	225.70	225.71	0.003215	0.55	0.31	7.99	0.82
Owen Street	1	26.8	10 YR	0.05	224.59	224.66	224.66	224.68	0.006905	0.65	0.08	2.31	1.15
Owen Street	1	26.8	25 YR	0.12	224.59	224.69	224.69	224.71	0.003513	0.63	0.19	3.64	0.88
Owen Street	1	26.8	50 YR	0.17	224.59	224.70	224.70	224.73	0.004389	0.74	0.22	3.94	1.00
Owen Street	1	26.8	100 YR	0.17	224.59	224.70	224.70	224.73	0.004389	0.74	0.22	3.94	1.00
Owen Street	1	6.7	10 YR	0.05	224.06	224.10	224.10	224.12	0.009266	0.53	0.09	4.84	1.22
Owen Street	1	6.7	25 YR	0.12	224.06	224.12	224.12	224.14	0.007063	0.60	0.20	7.07	1.14

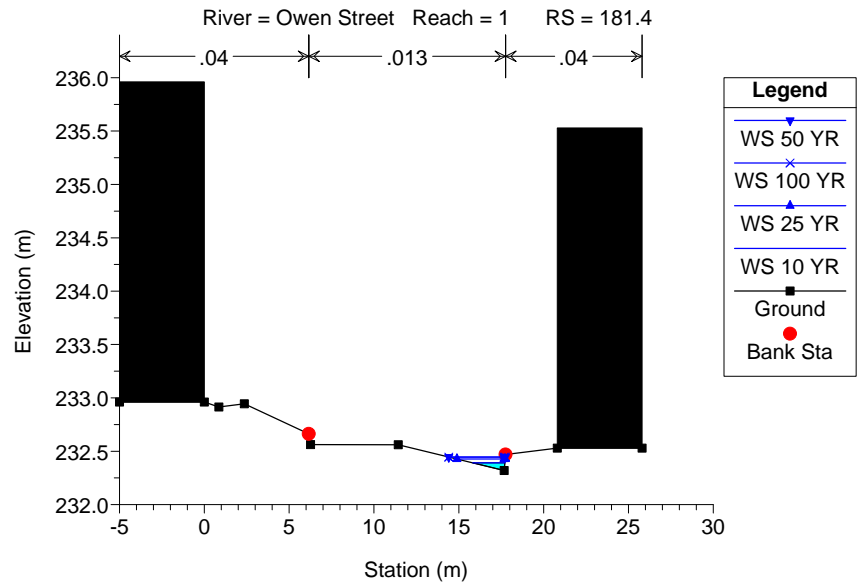
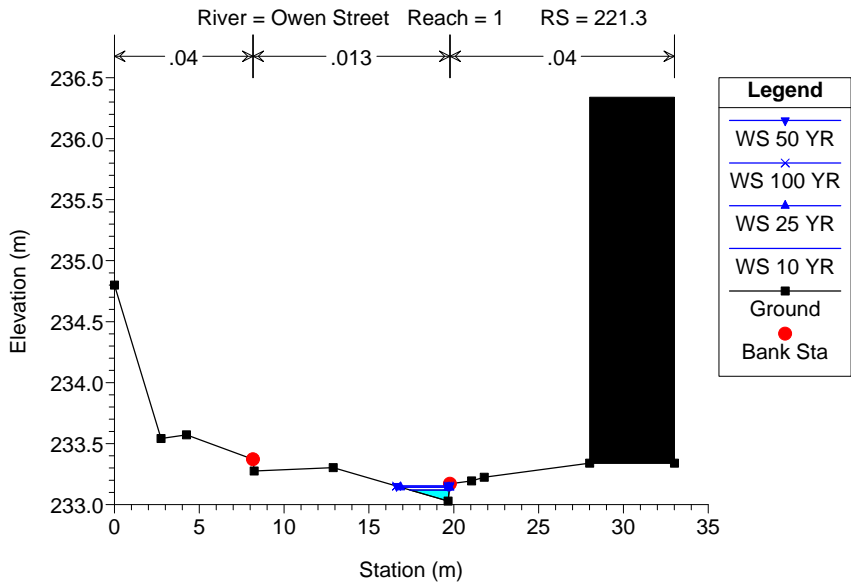
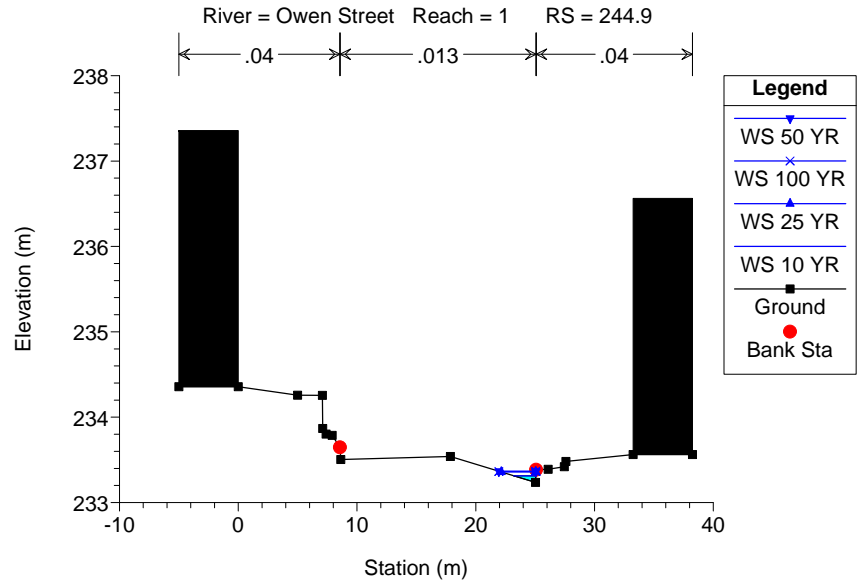
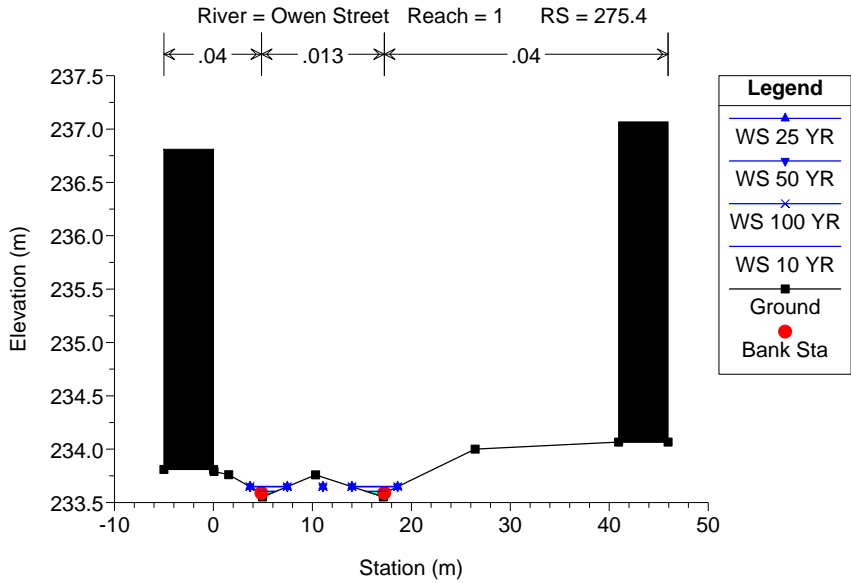
HEC-RAS Plan: PR01 (Continued)

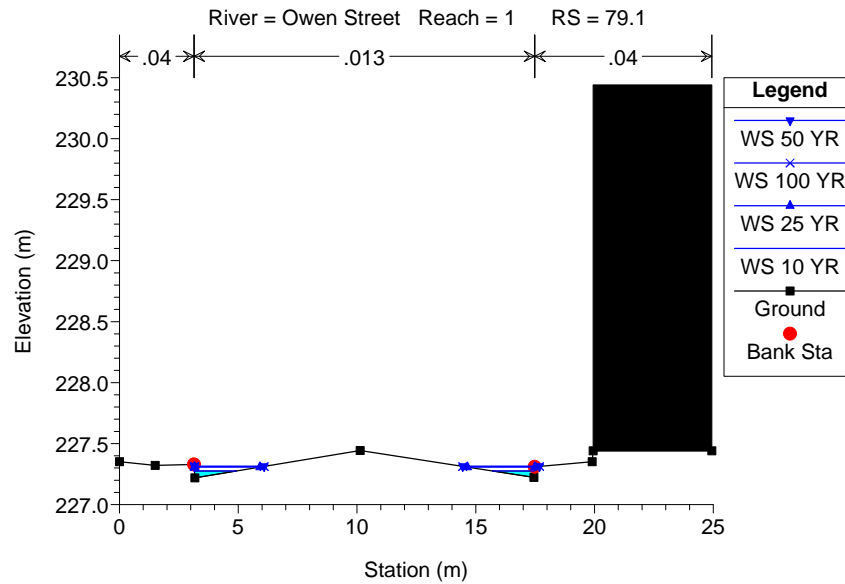
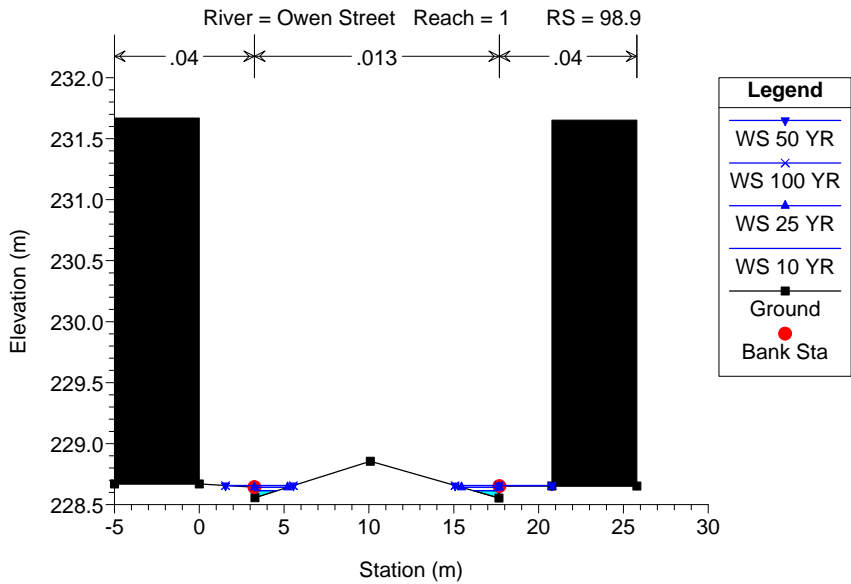
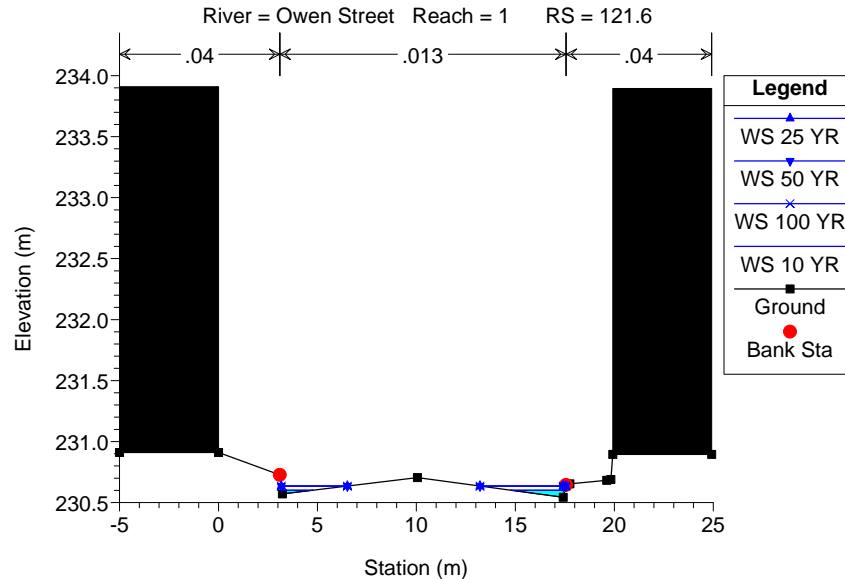
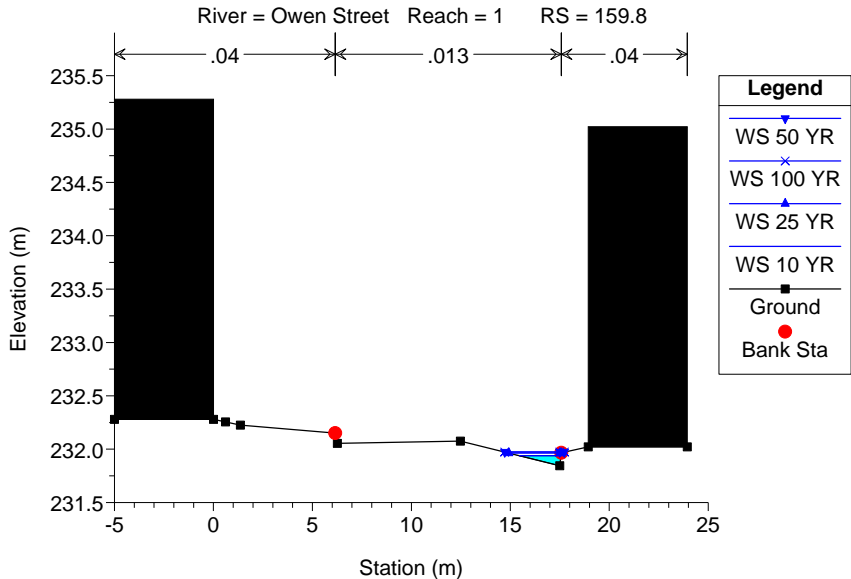
River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Owen Street	1	6.7	50 YR	0.17	224.06	224.13	224.13	224.15	0.006113	0.61	0.27	8.19	1.08
Owen Street	1	6.7	100 YR	0.17	224.06	224.13	224.13	224.15	0.006113	0.61	0.27	8.19	1.08
Owen Street	1	0	10 YR	0.05	223.75	223.83	223.81	223.84	0.001362	0.32	0.15	3.96	0.52
Owen Street	1	0	25 YR	0.12	223.75	223.86	223.86	223.87	0.001362	0.40	0.30	5.50	0.55
Owen Street	1	0	50 YR	0.17	223.75	223.88	223.86	223.89	0.001360	0.44	0.38	6.20	0.56
Owen Street	1	0	100 YR	0.17	223.75	223.88	223.86	223.89	0.001360	0.44	0.38	6.20	0.56

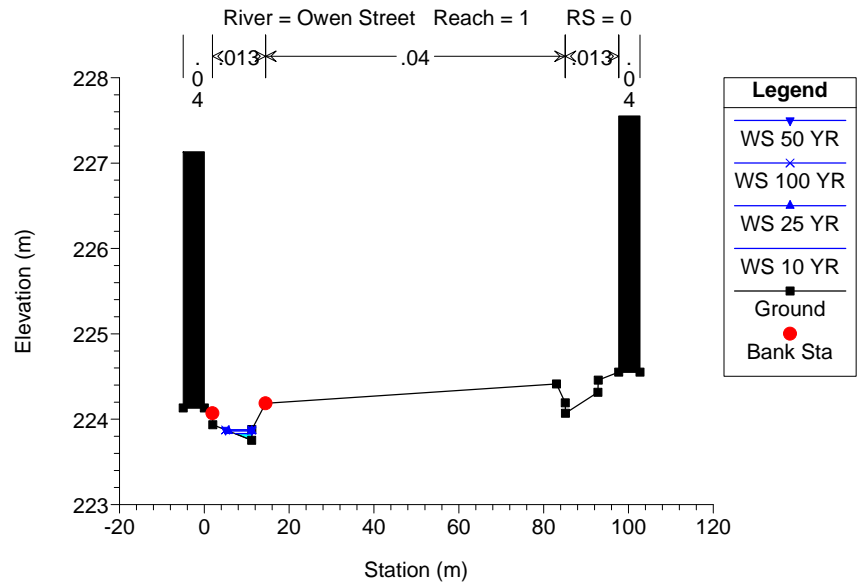
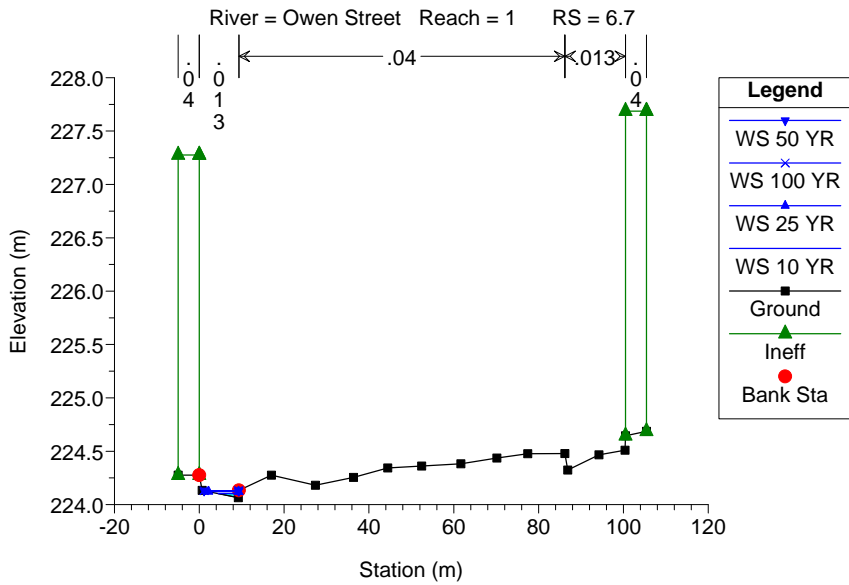
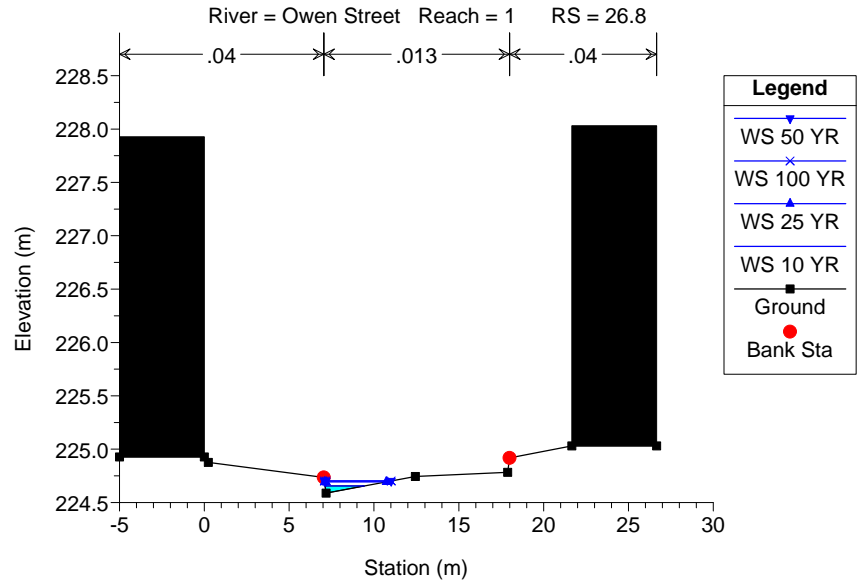
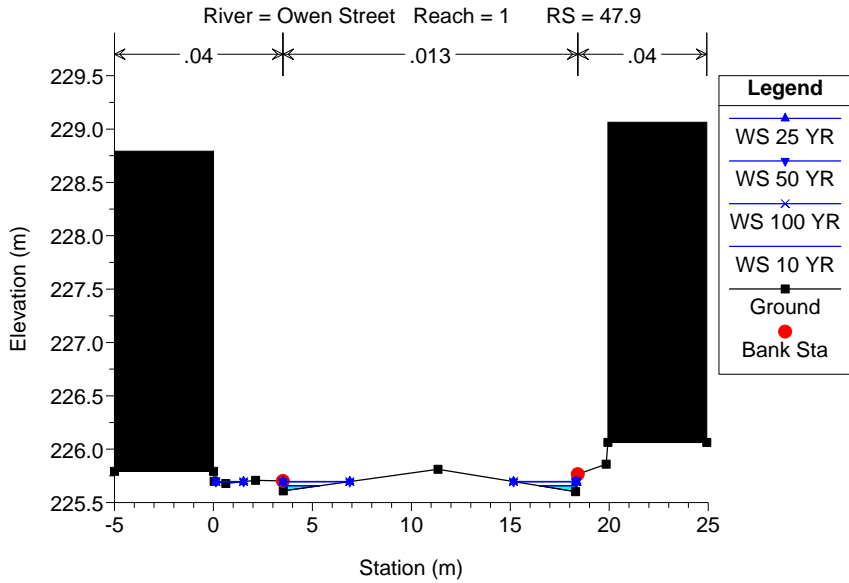
Improvement Alternative 3A - HEC RAS Results Summary

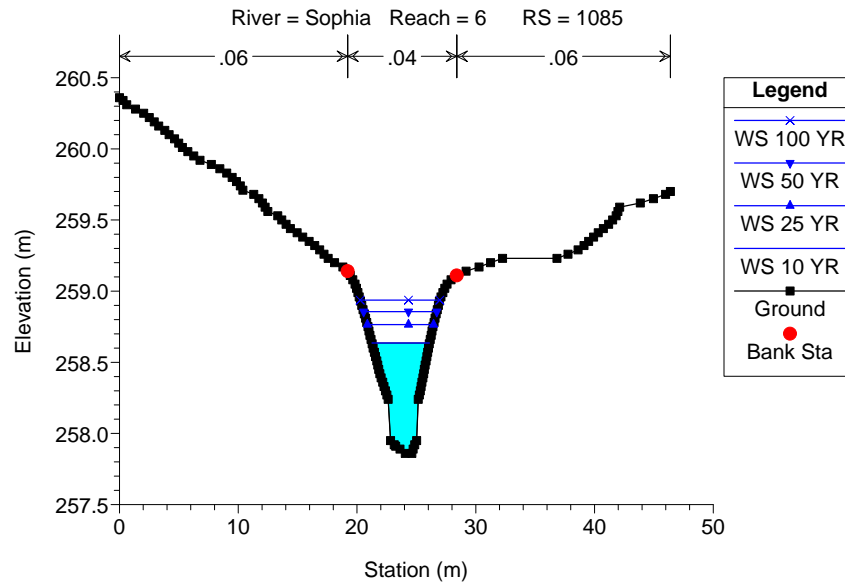
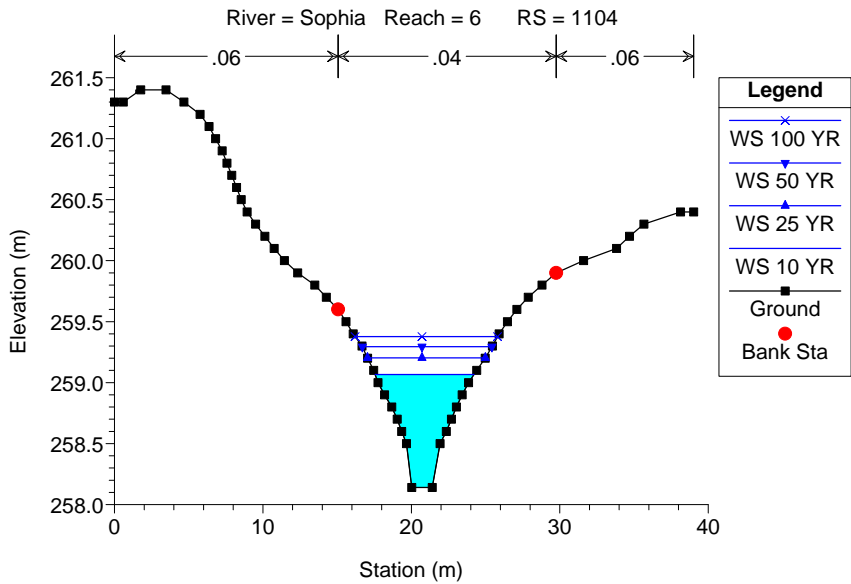
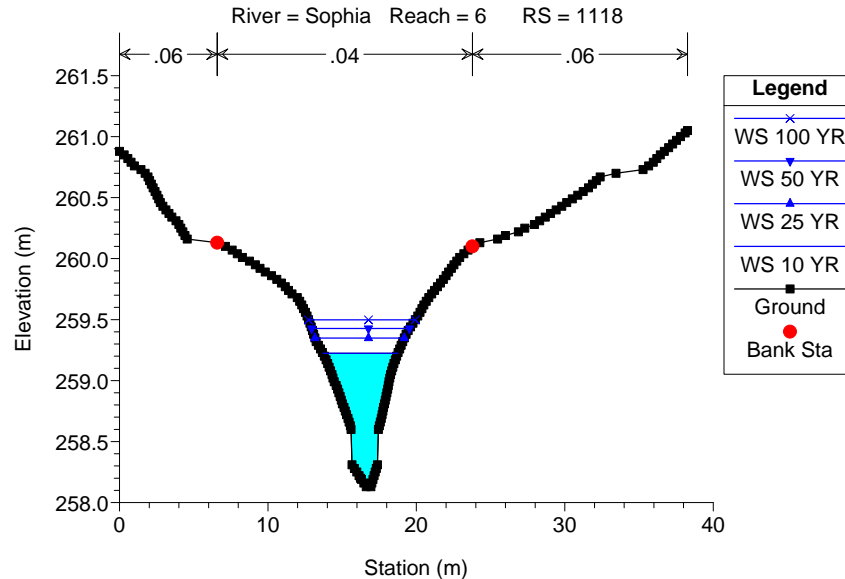
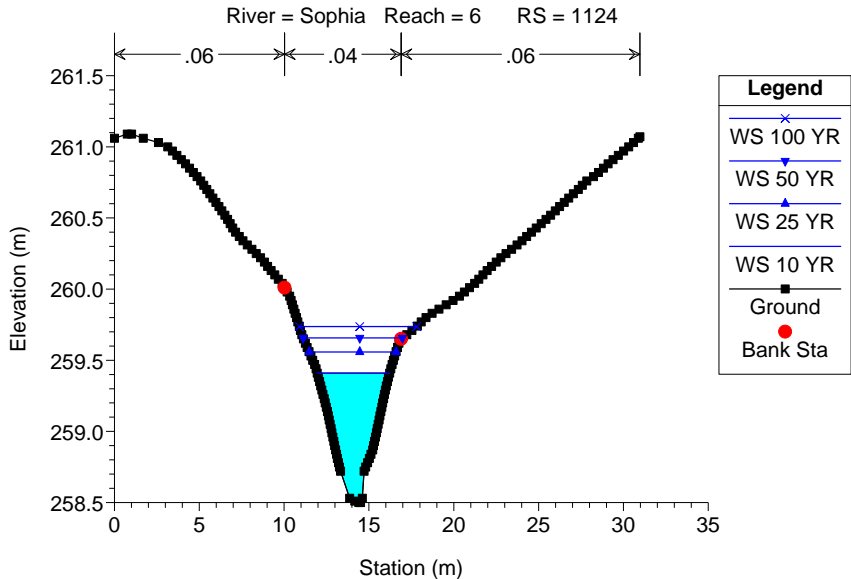


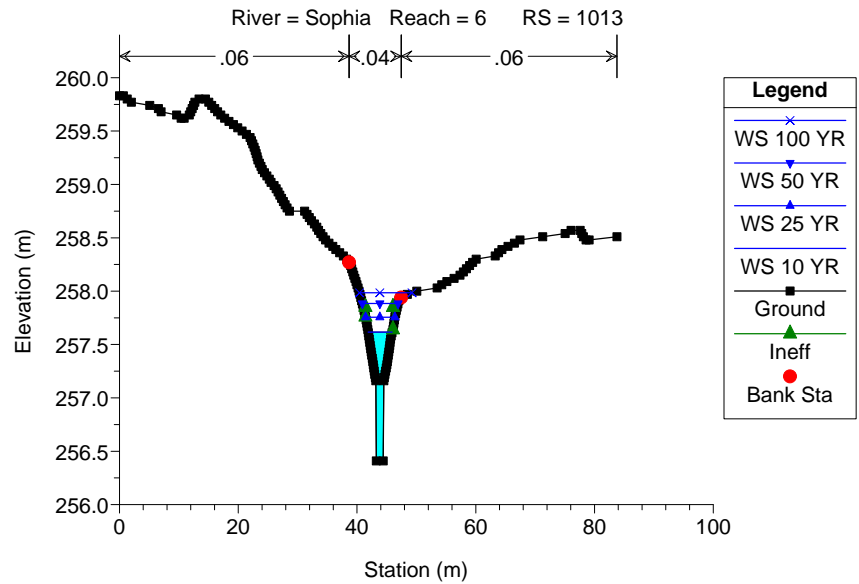
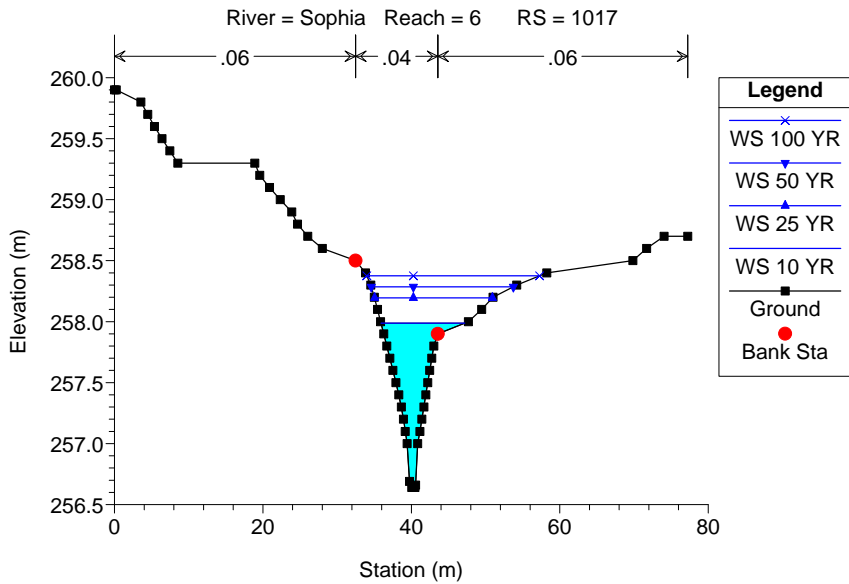
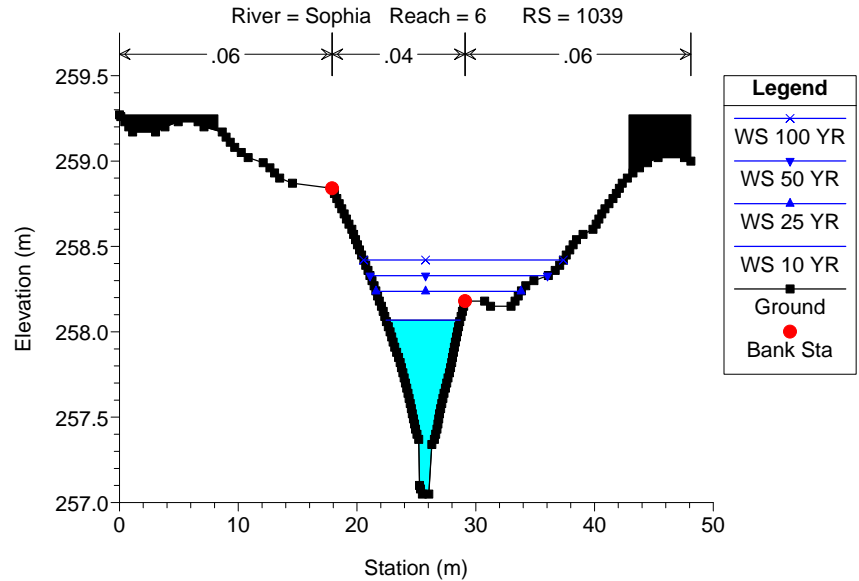
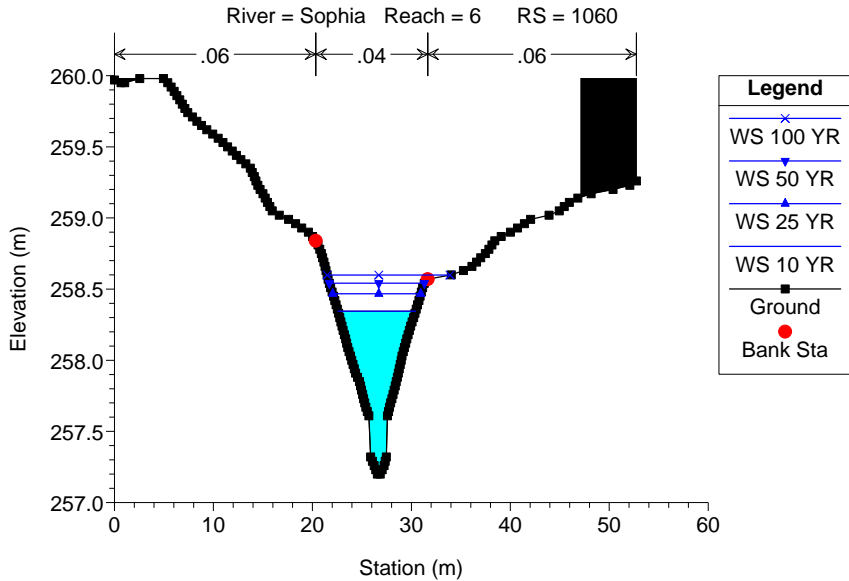


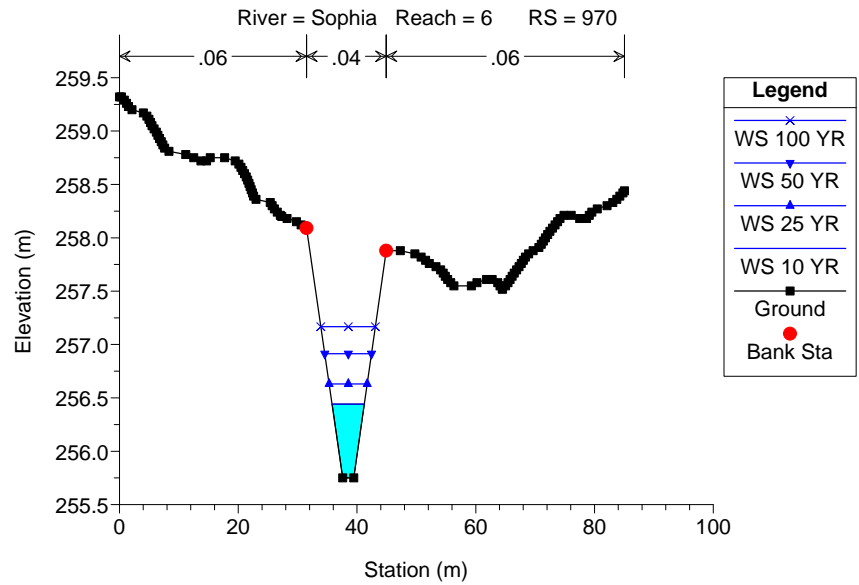
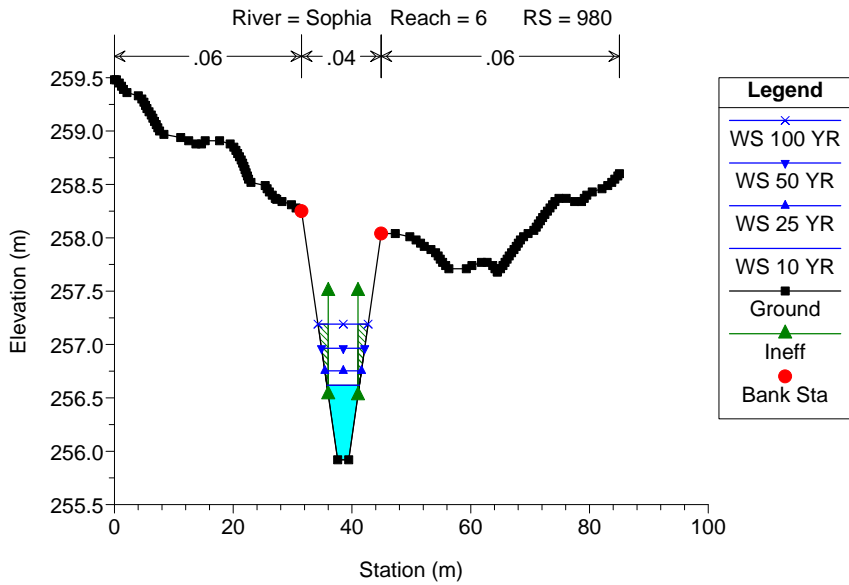
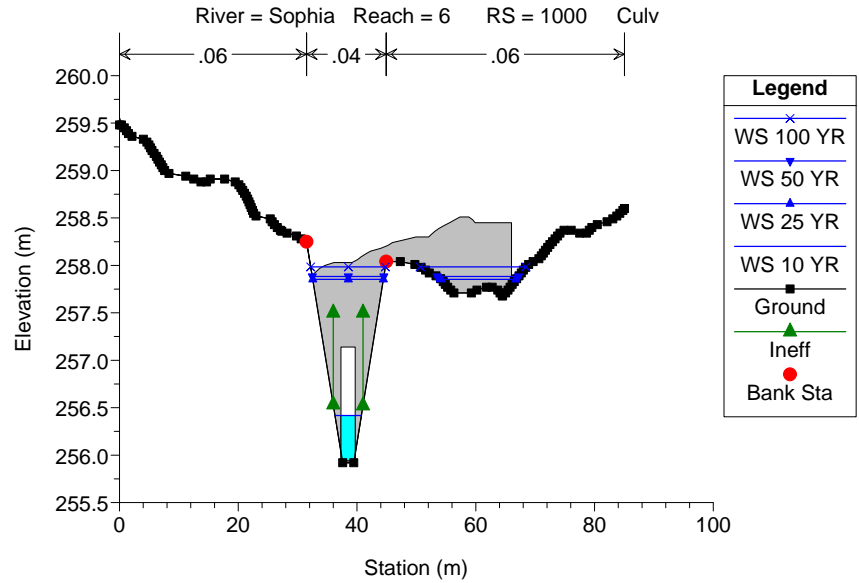
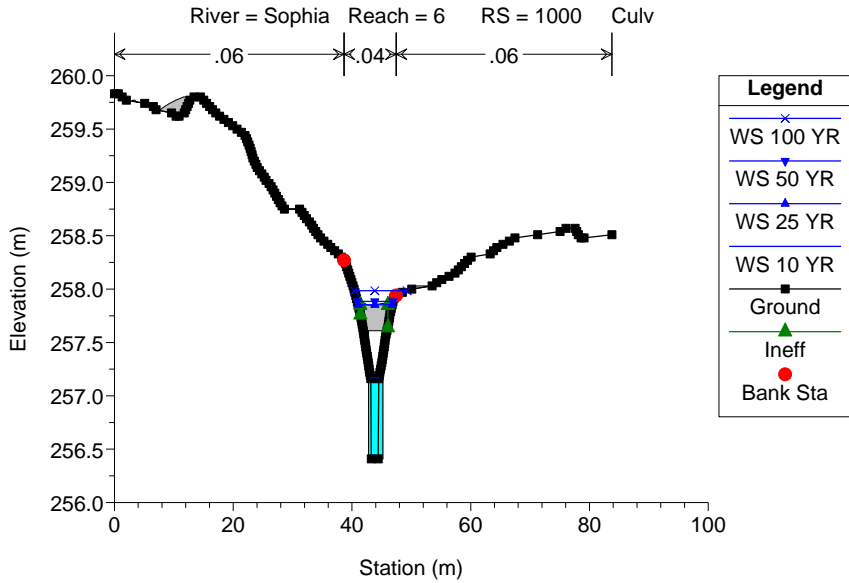


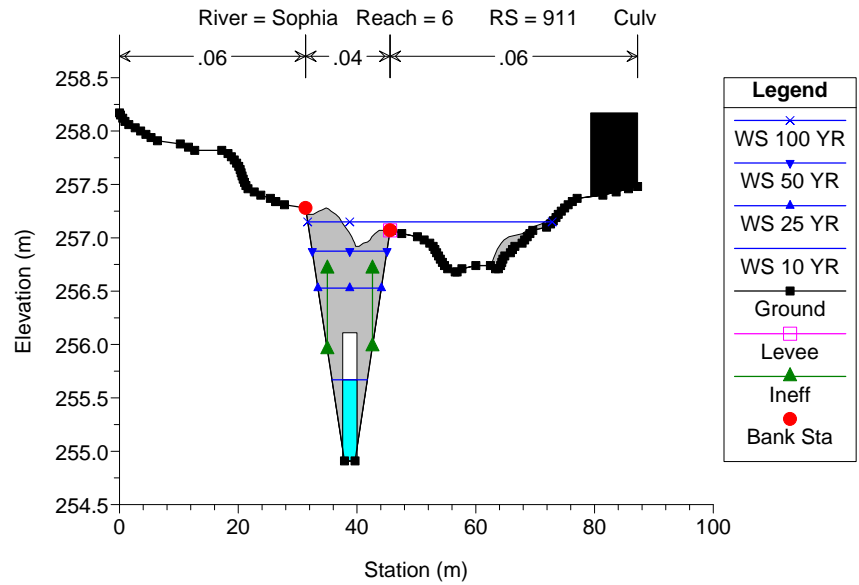
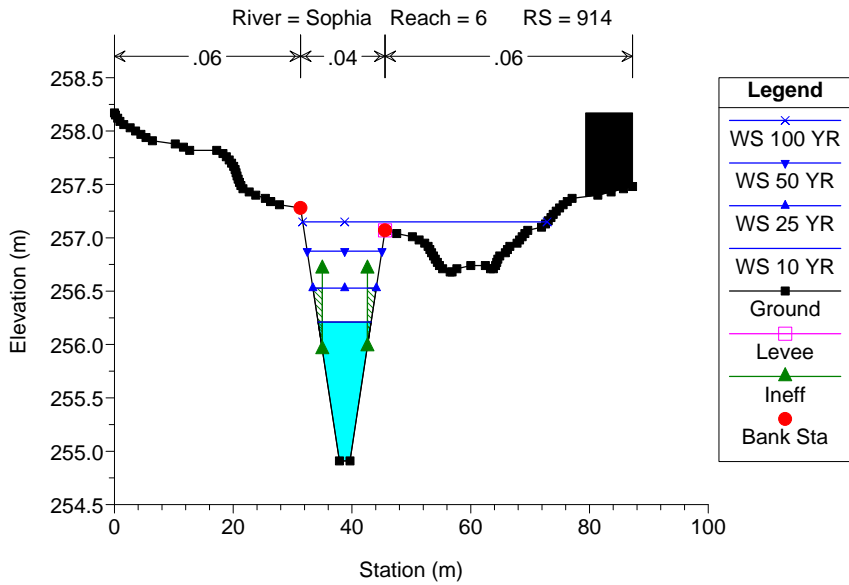
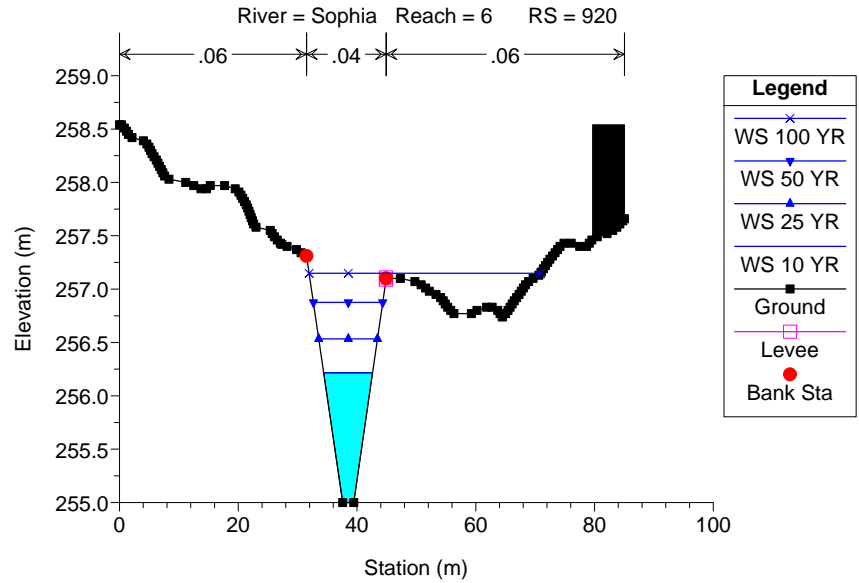
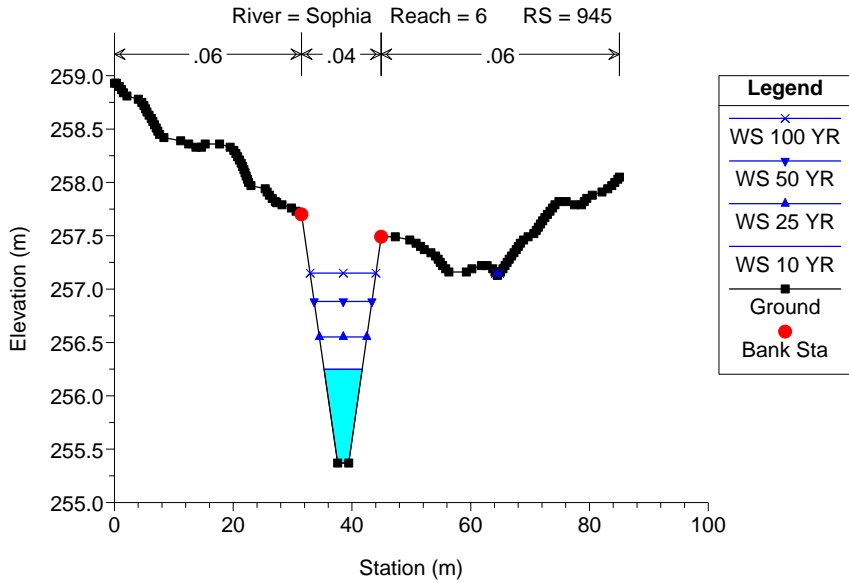


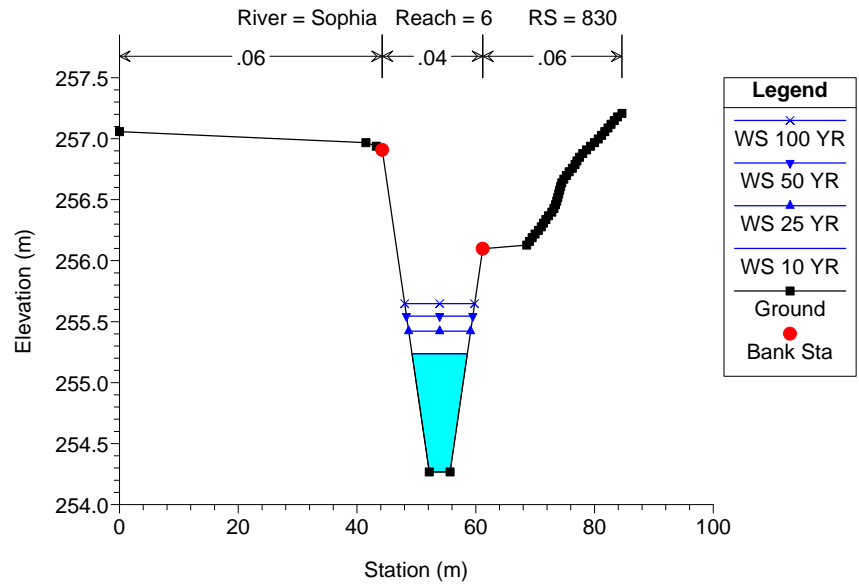
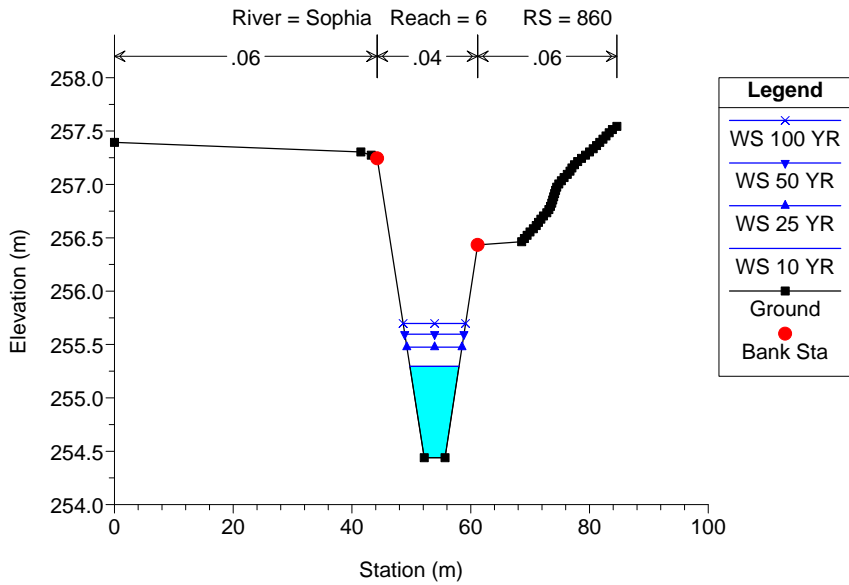
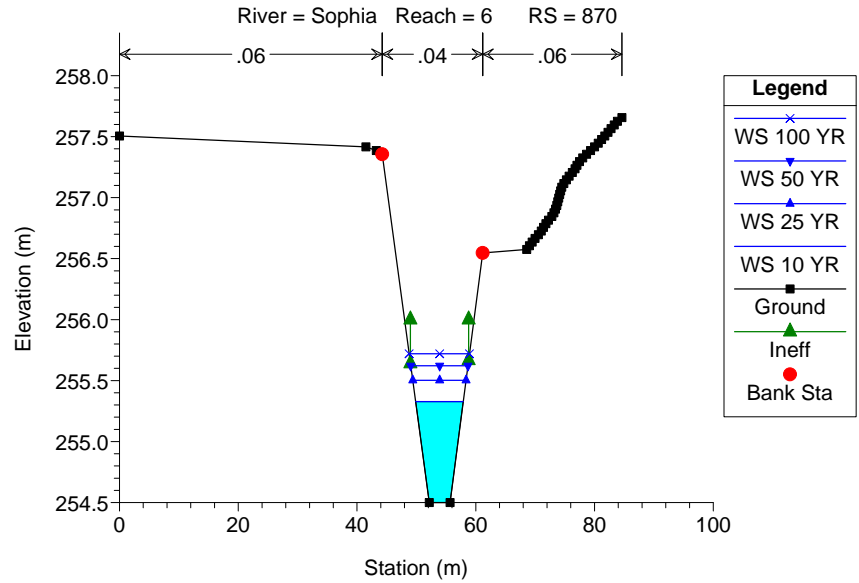
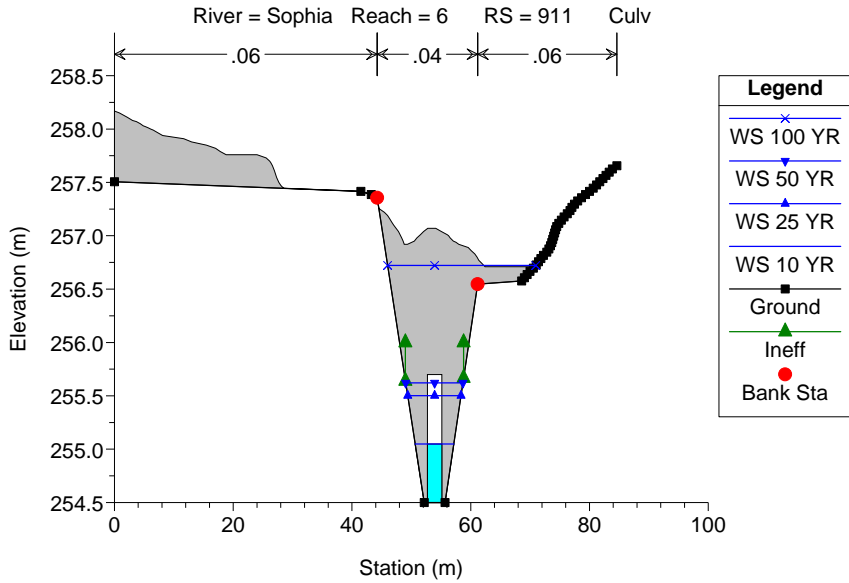


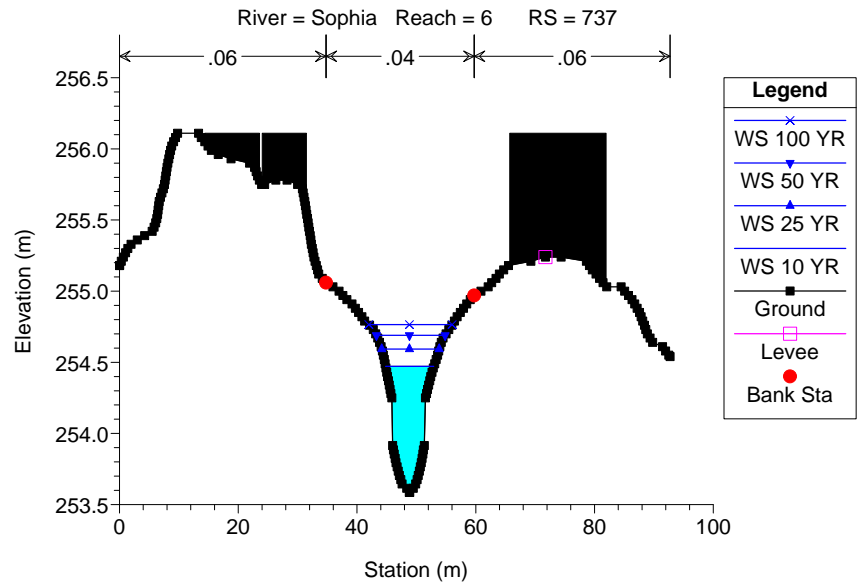
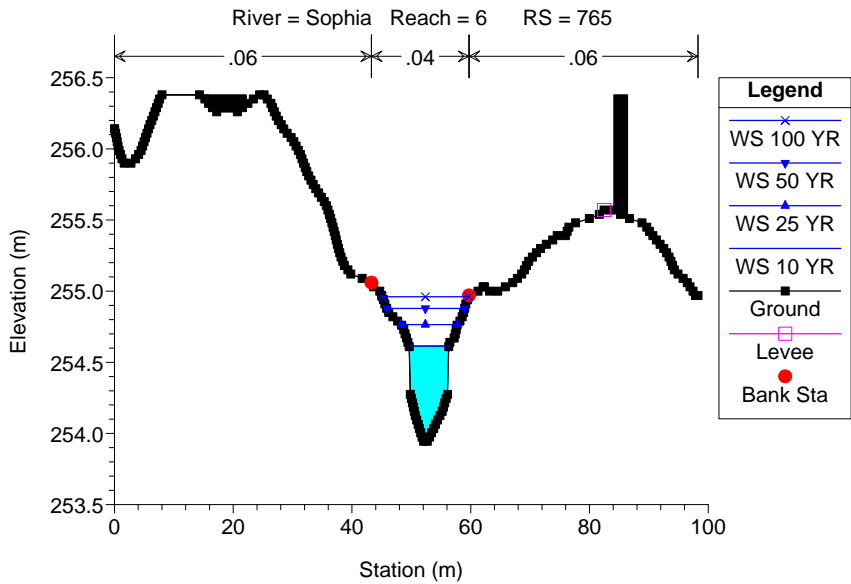
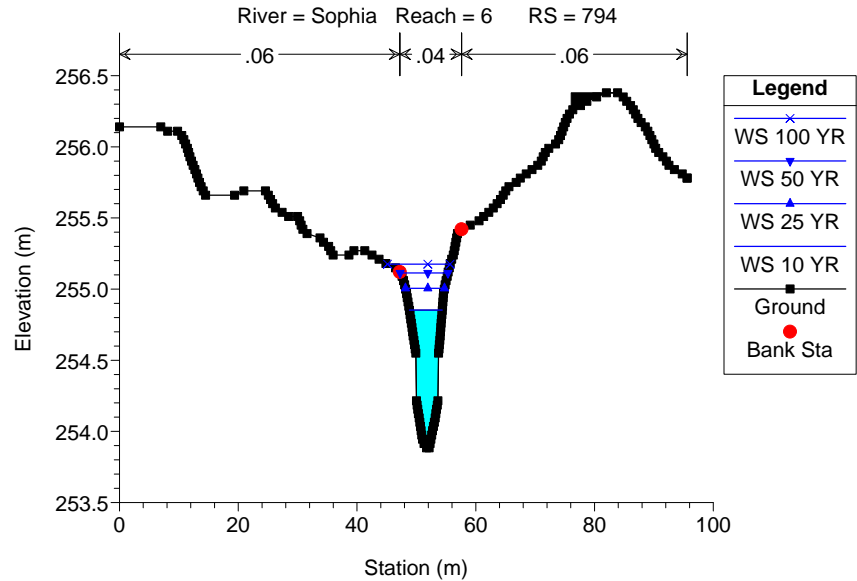
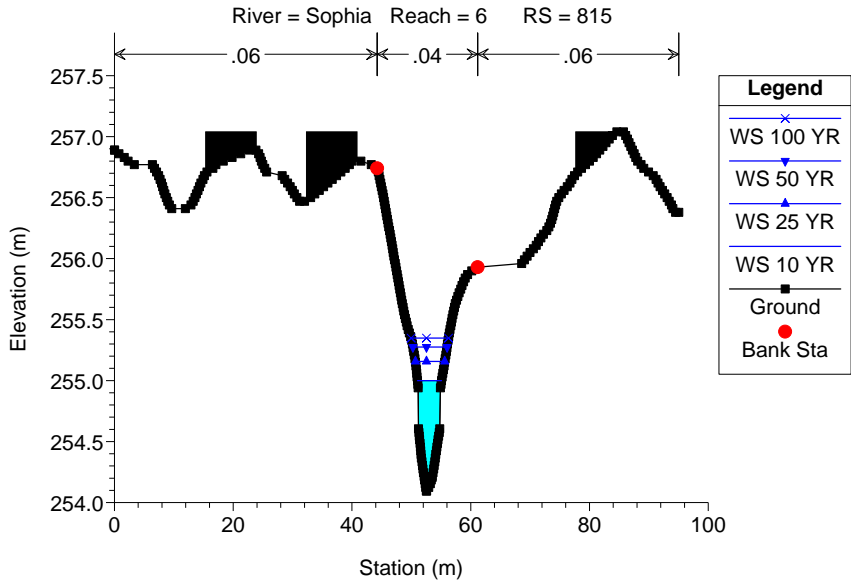


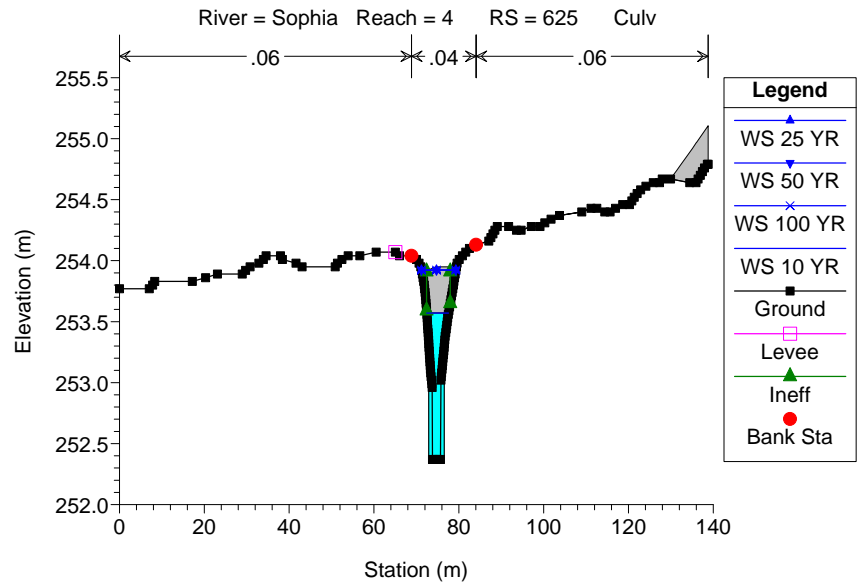
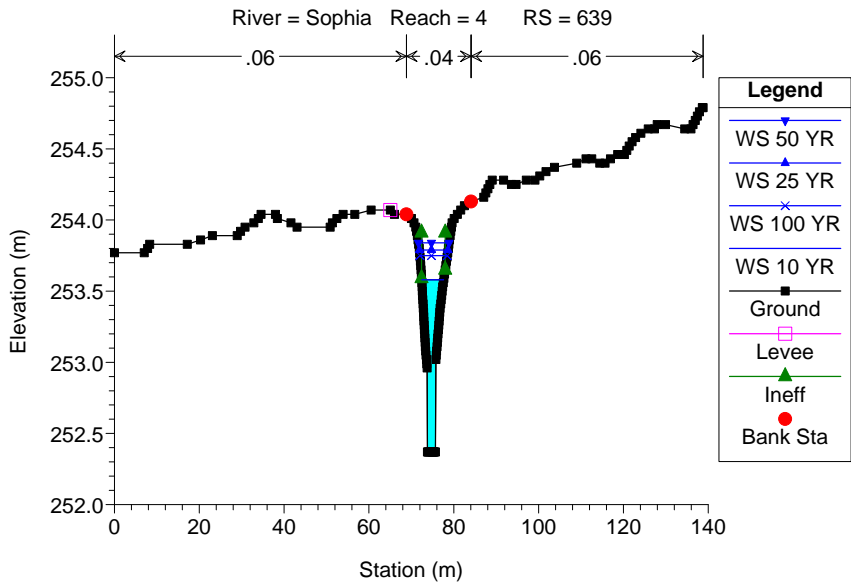
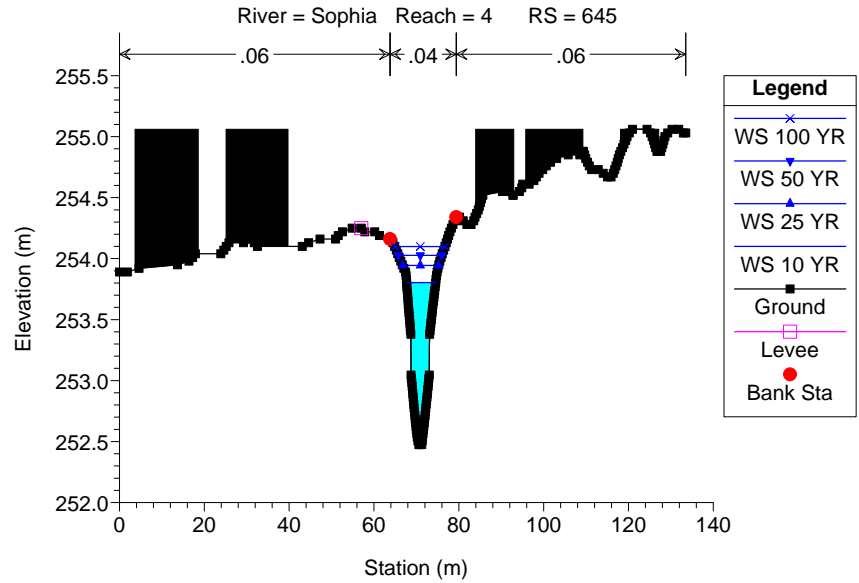
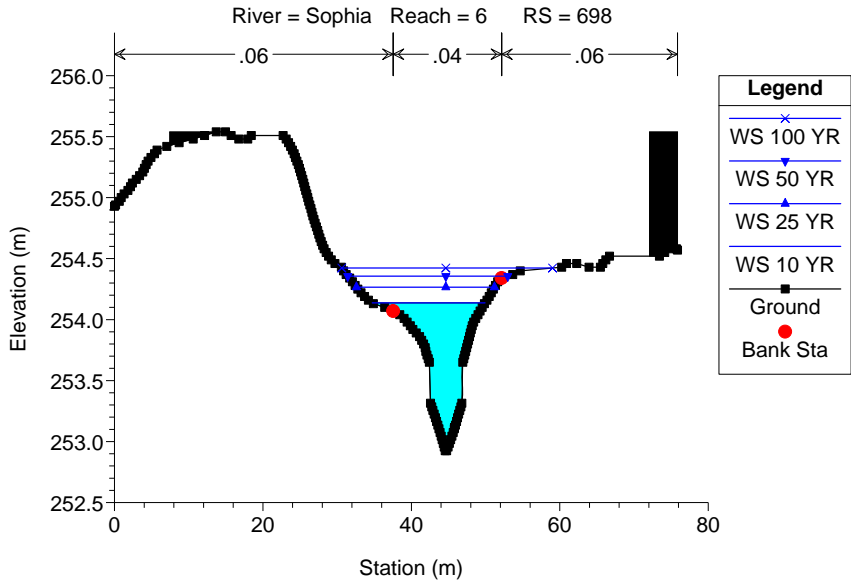


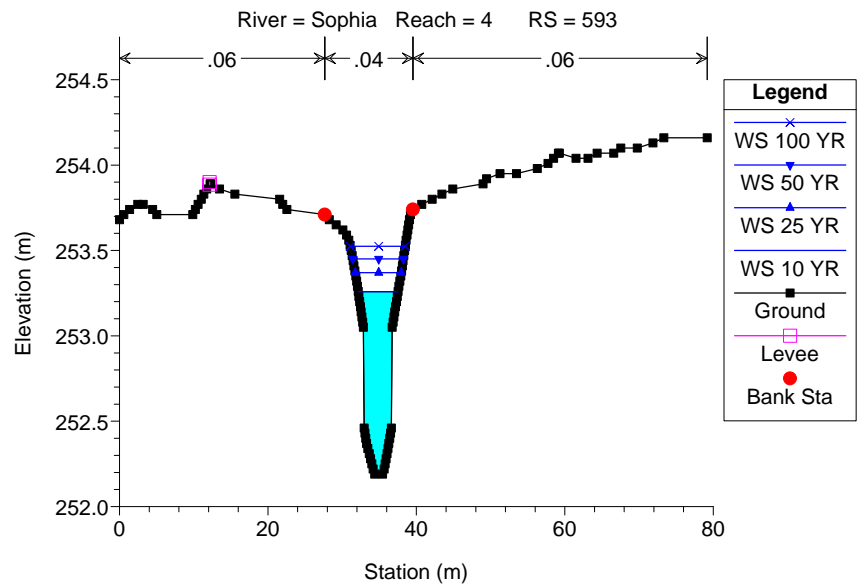
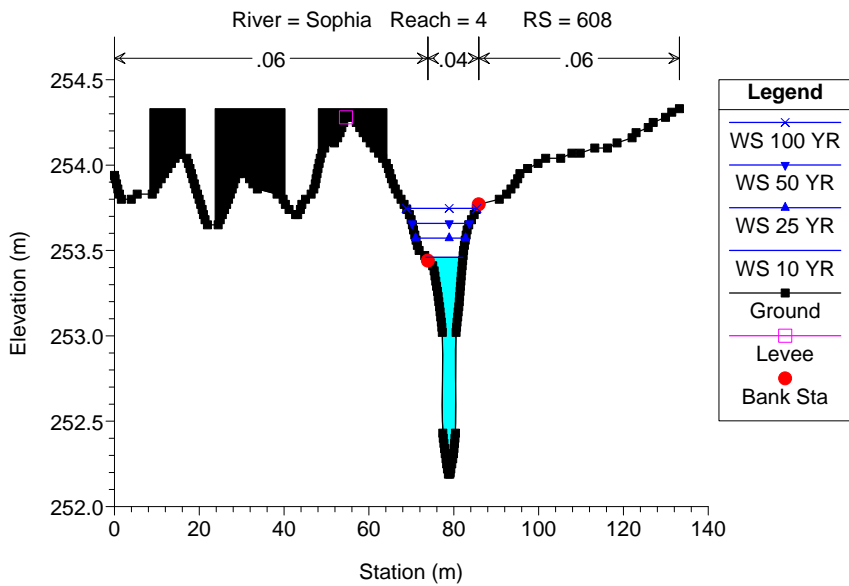
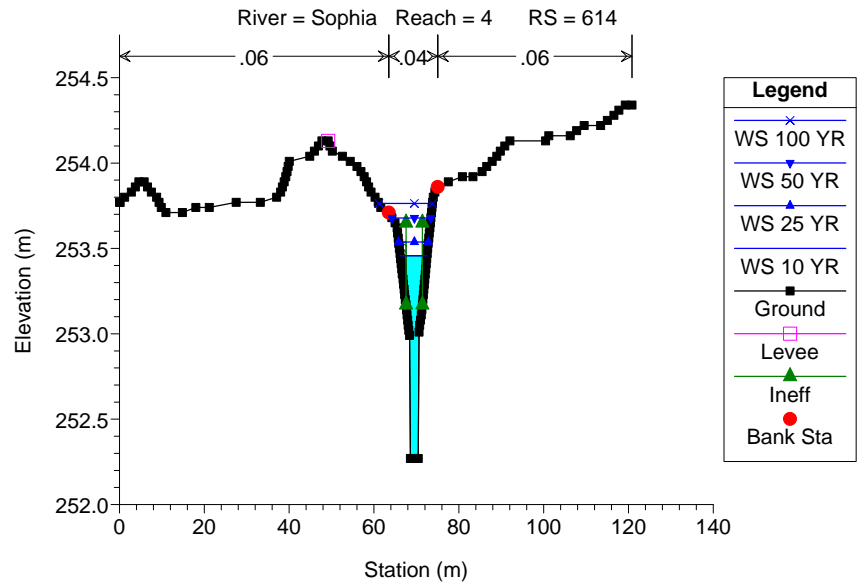
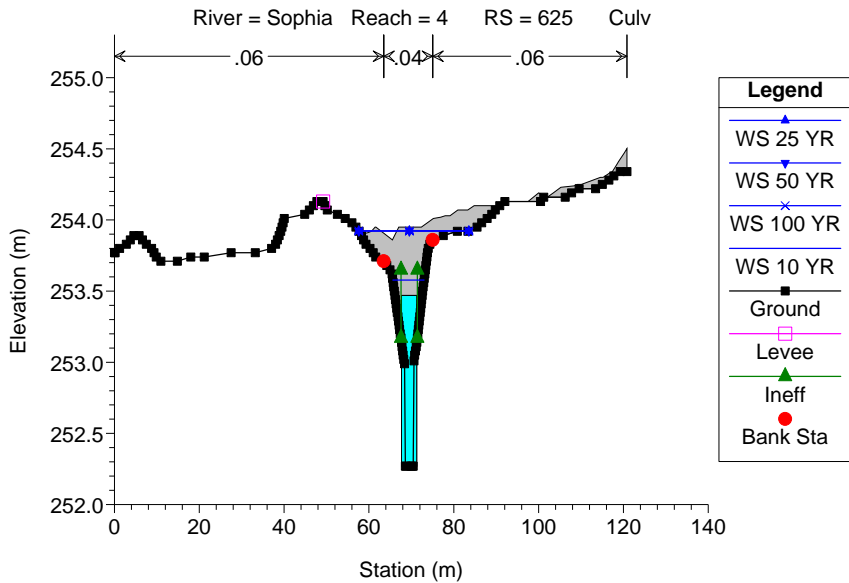


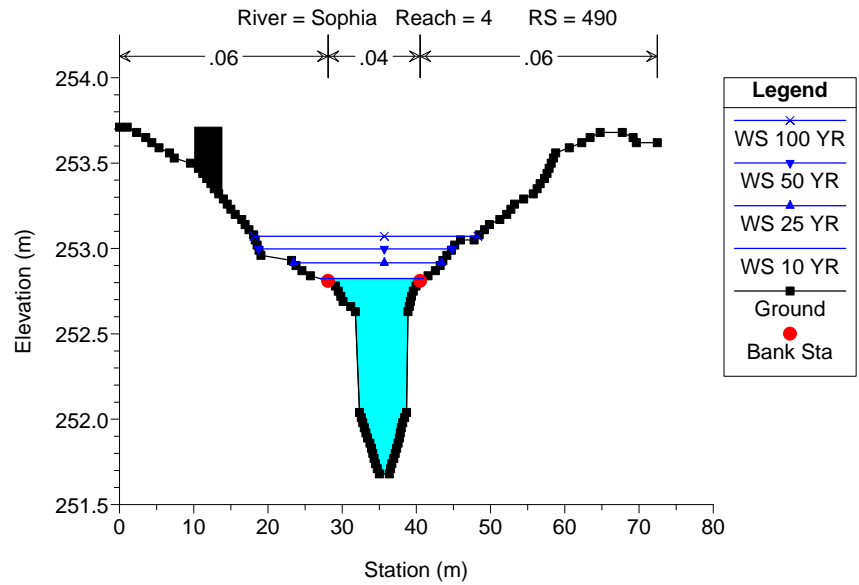
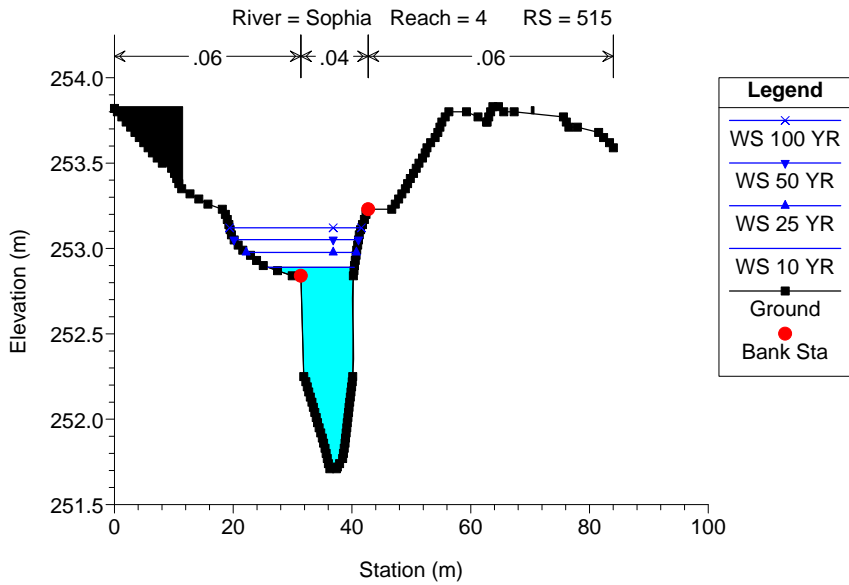
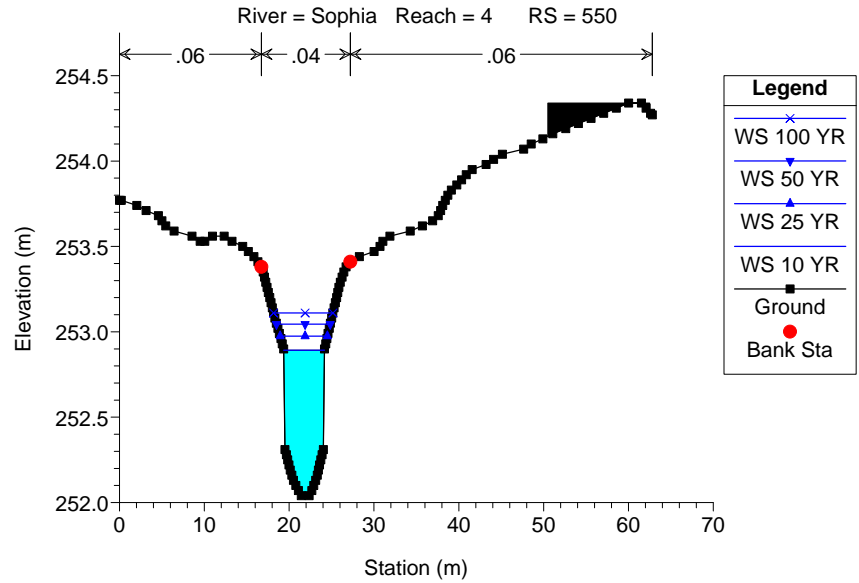
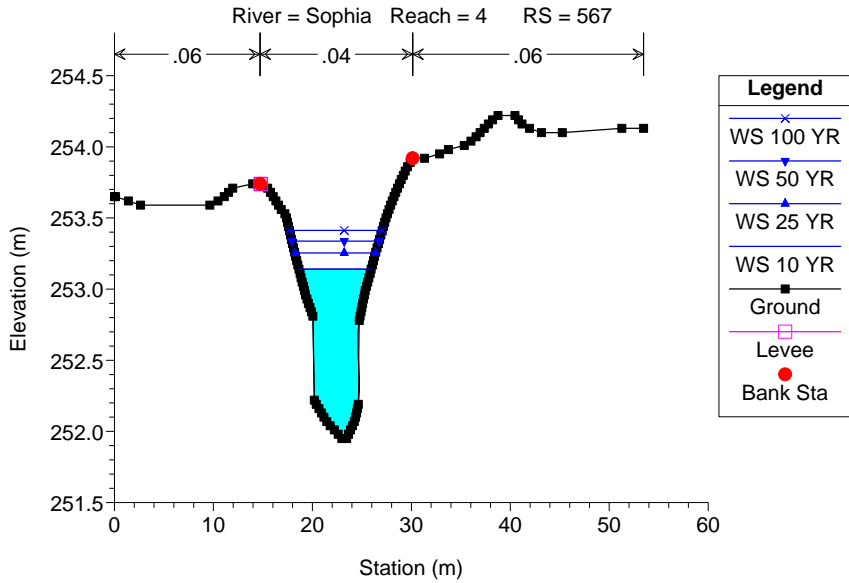


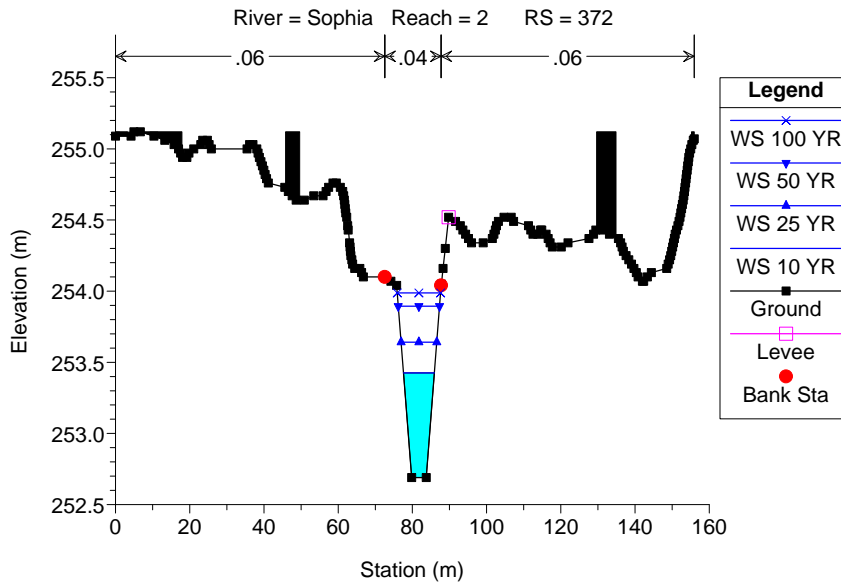
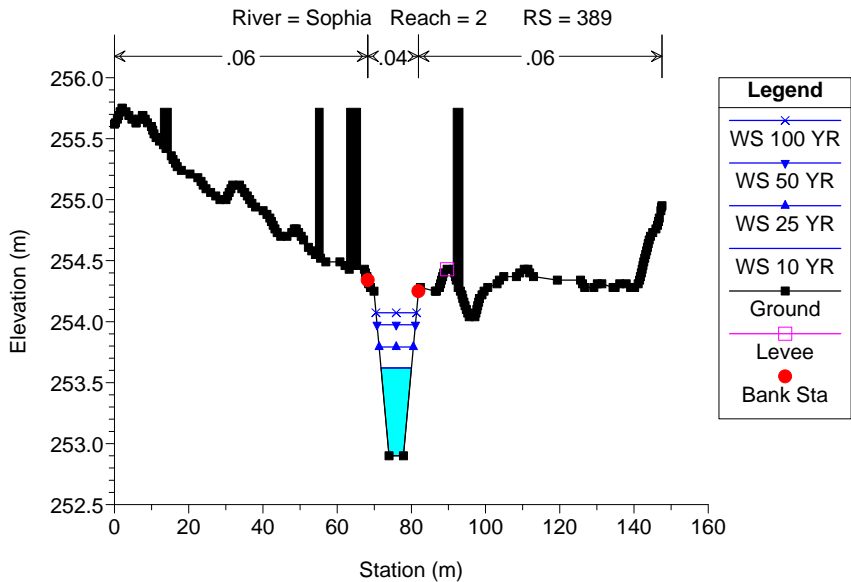
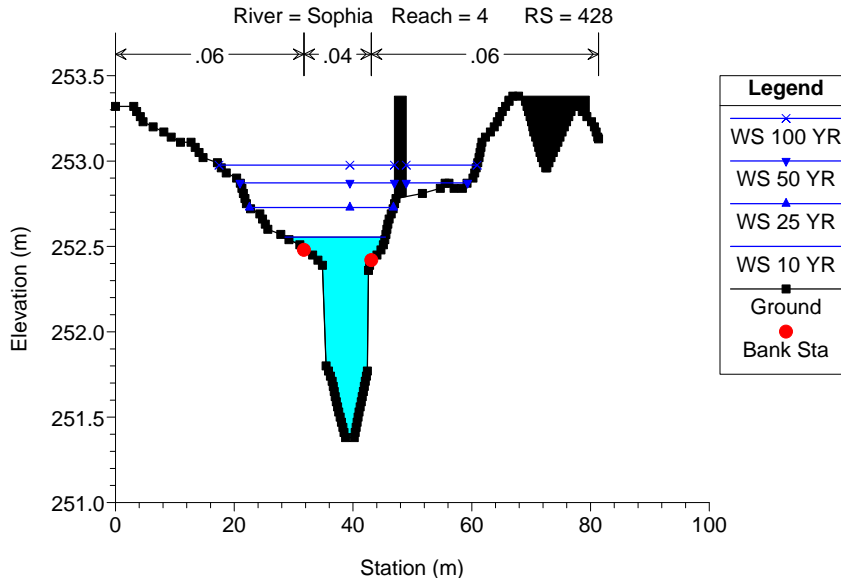
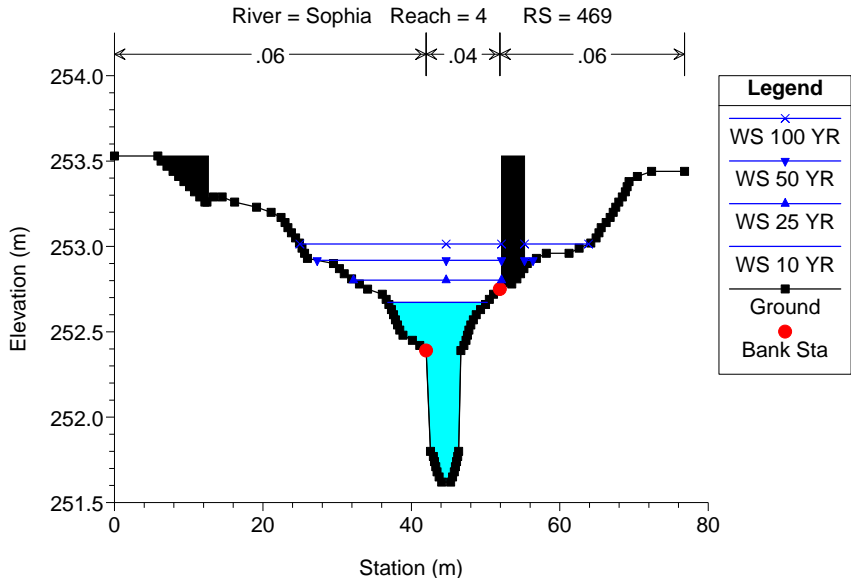


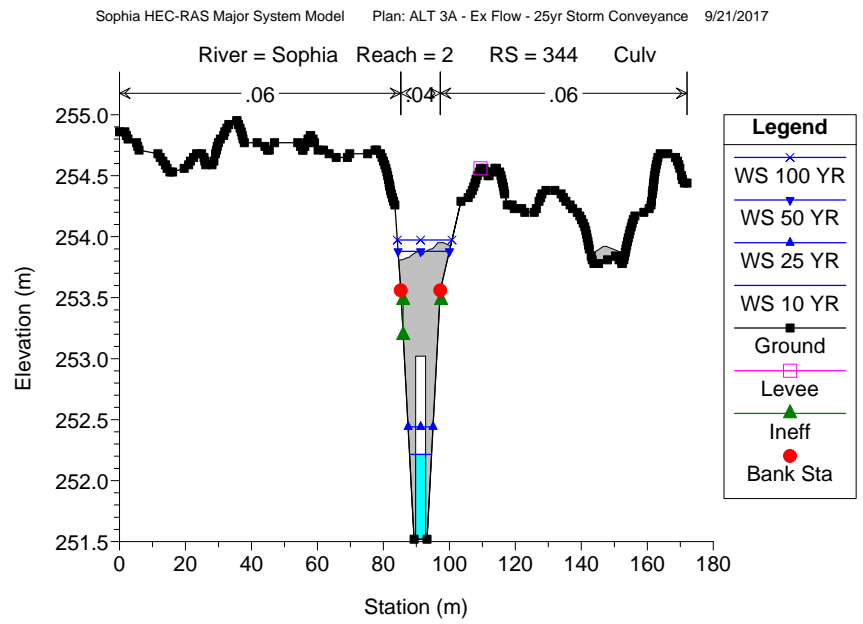
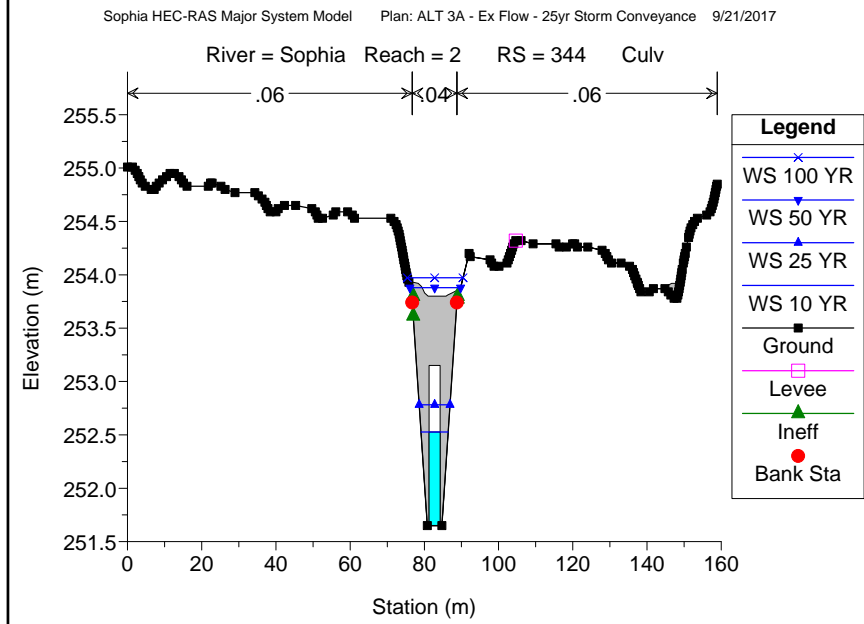
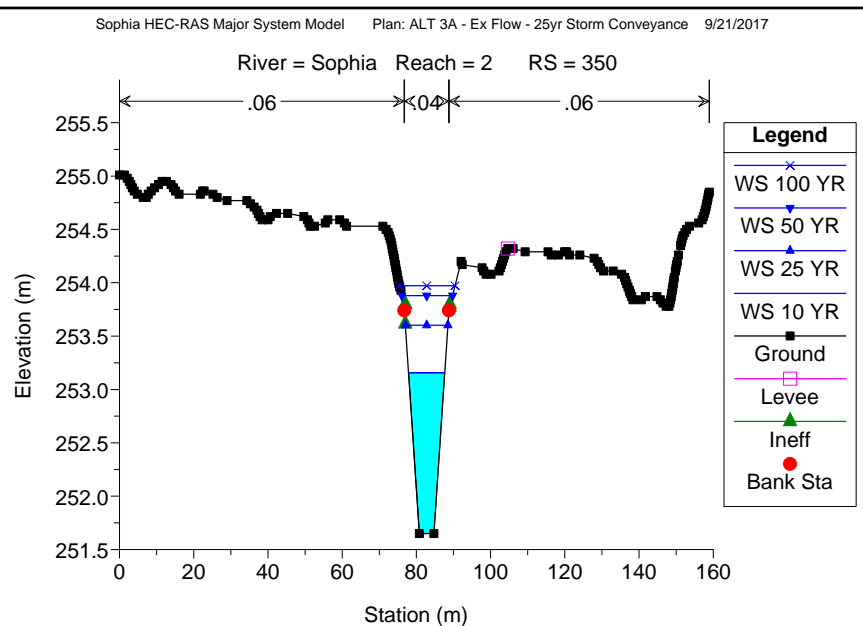
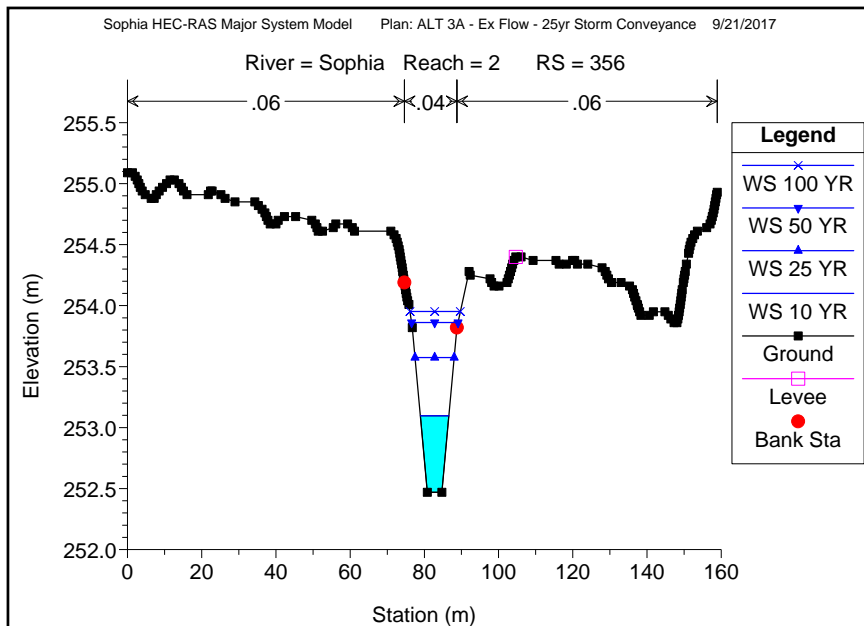


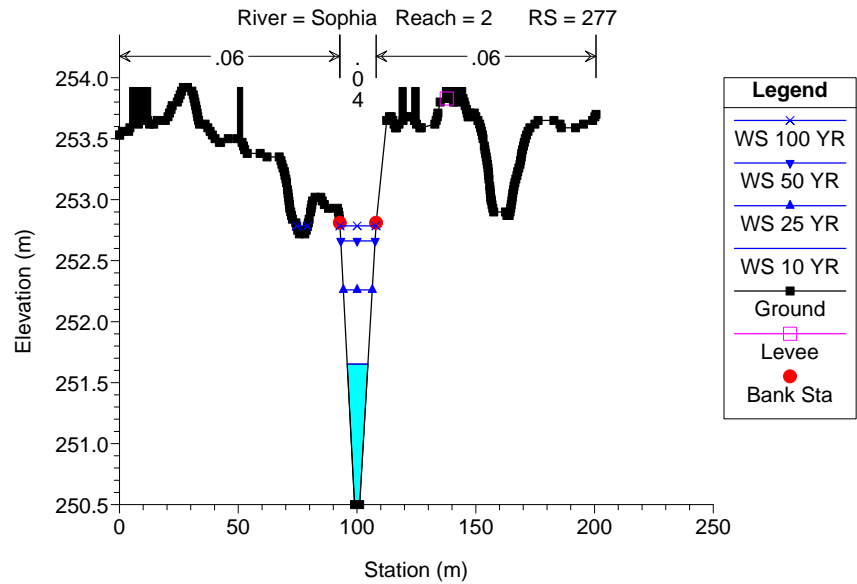
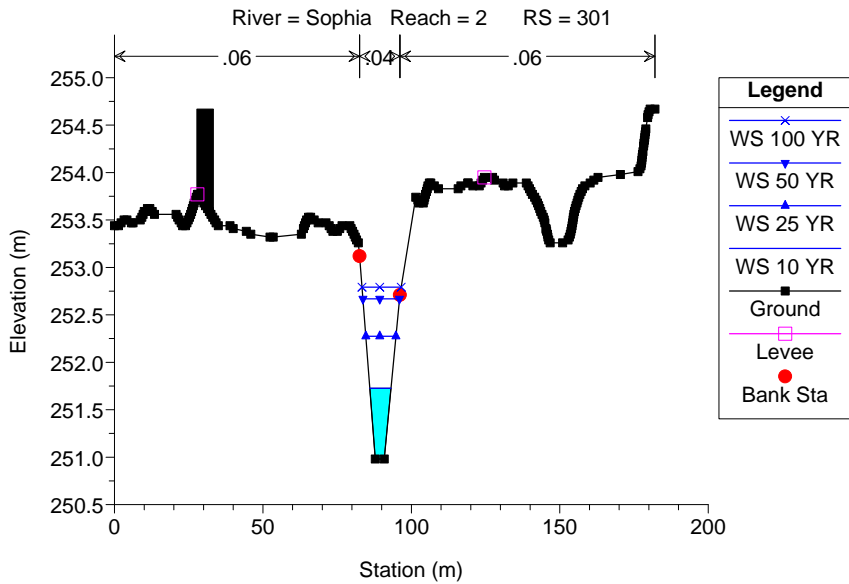
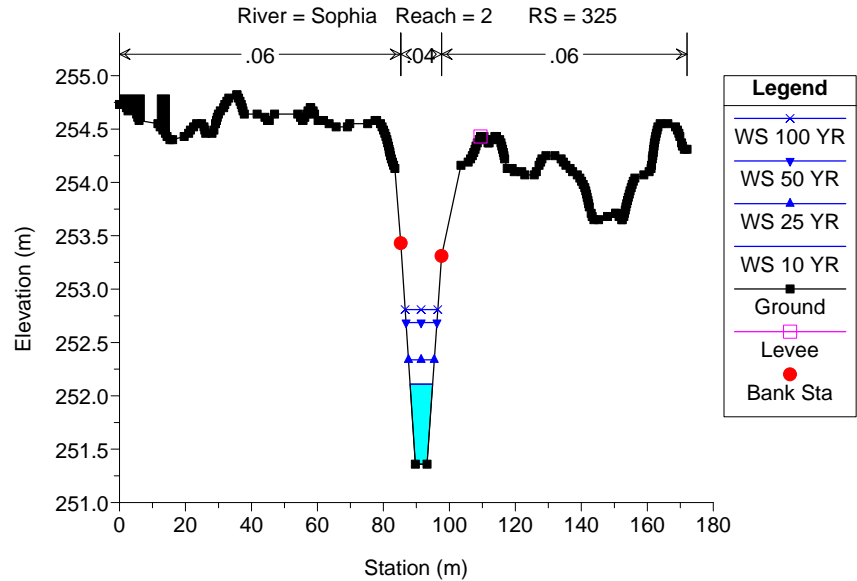
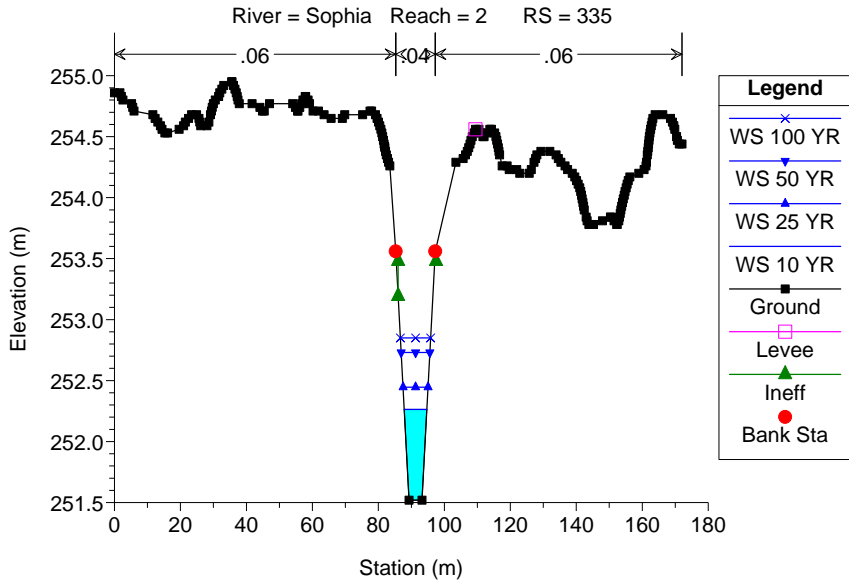


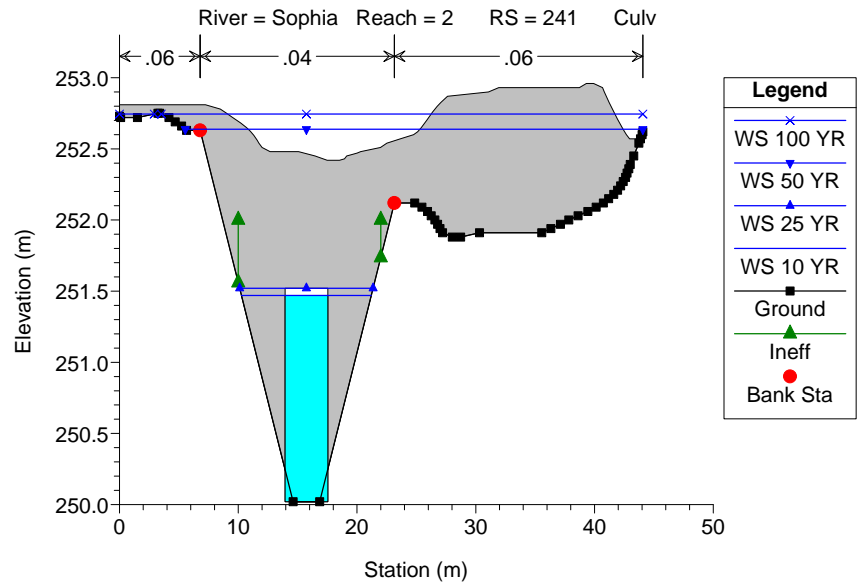
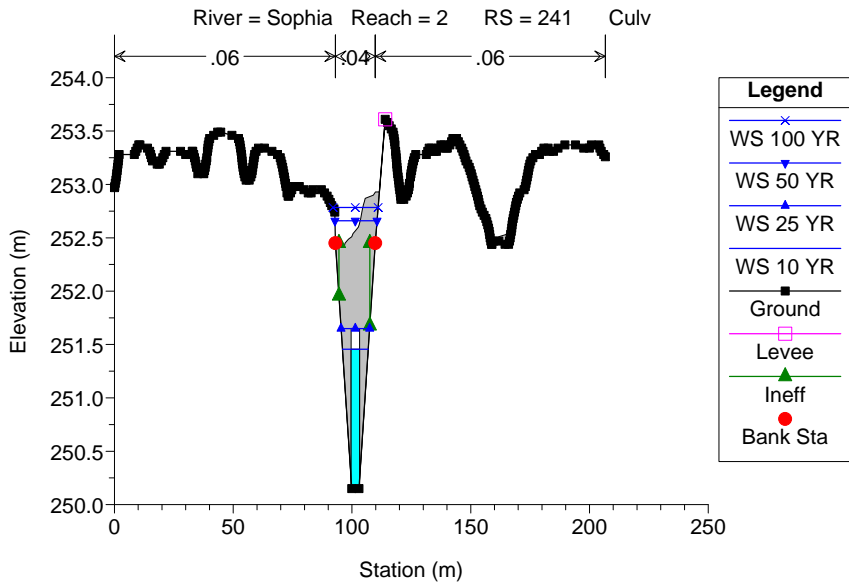
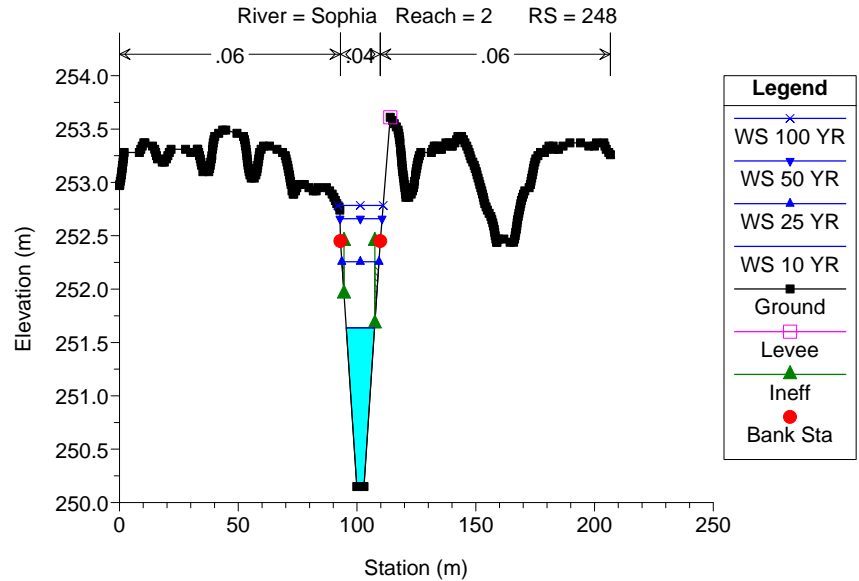
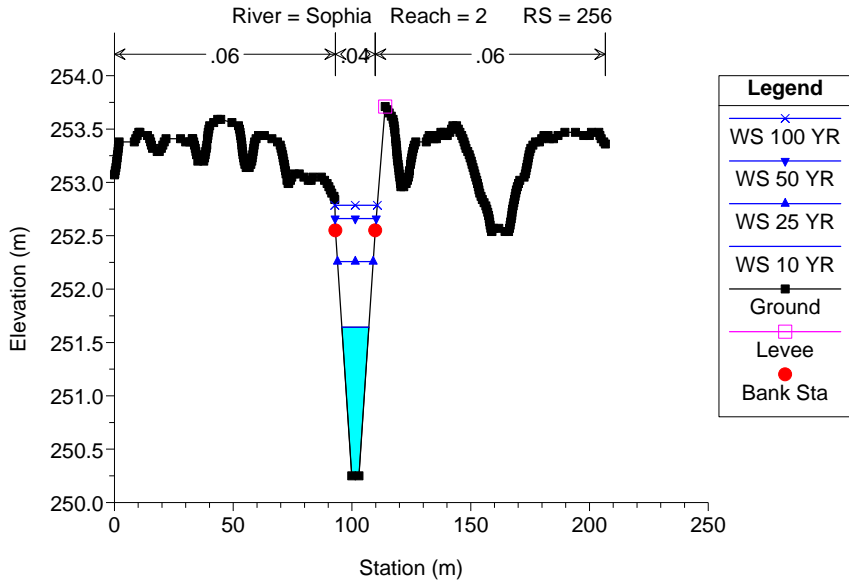


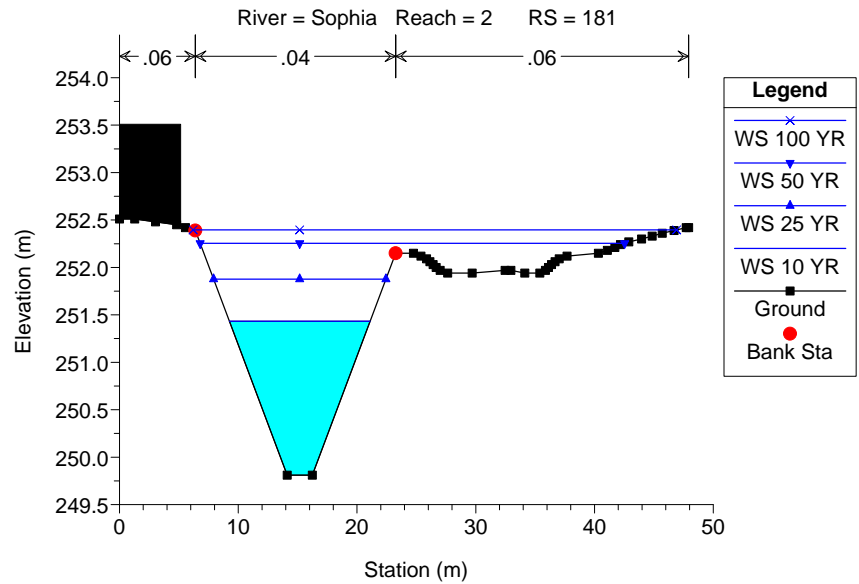
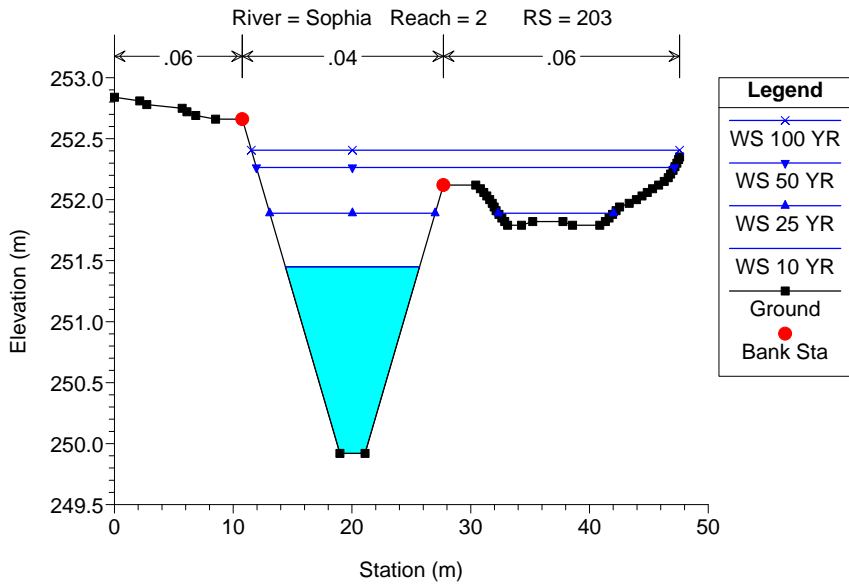
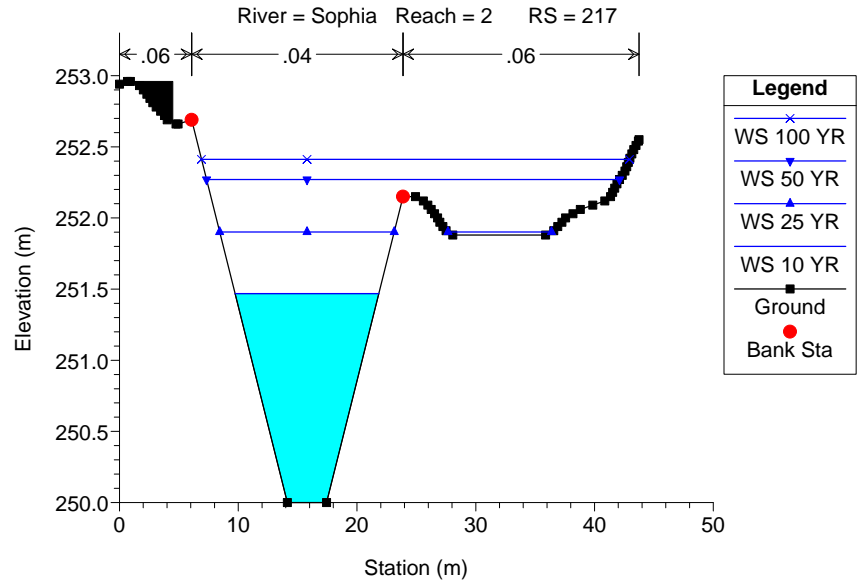
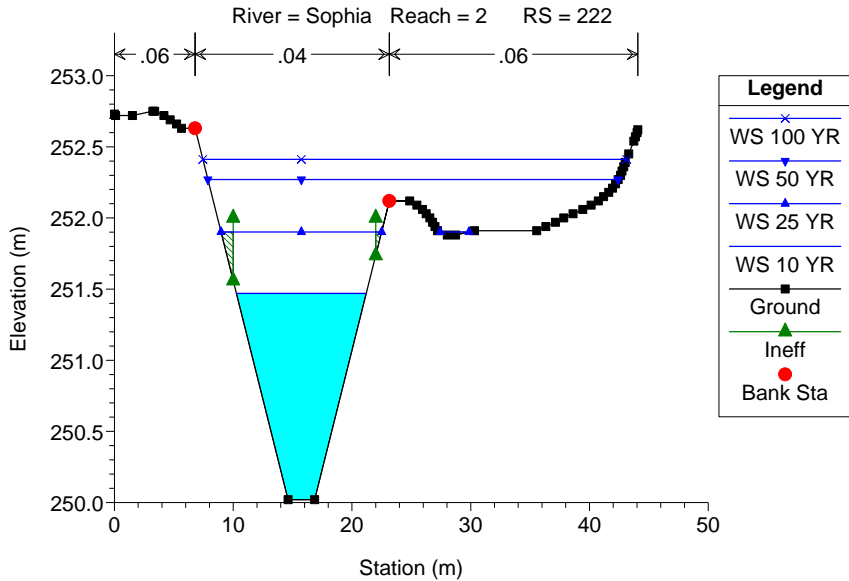




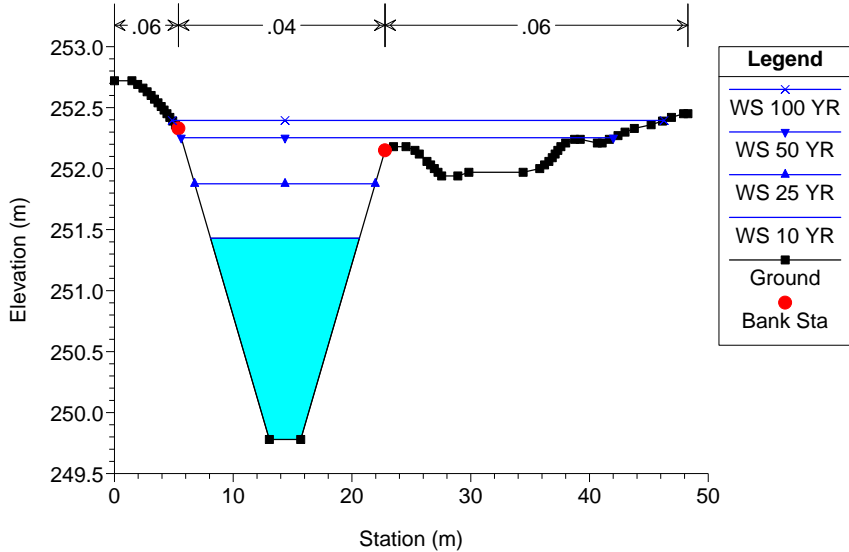




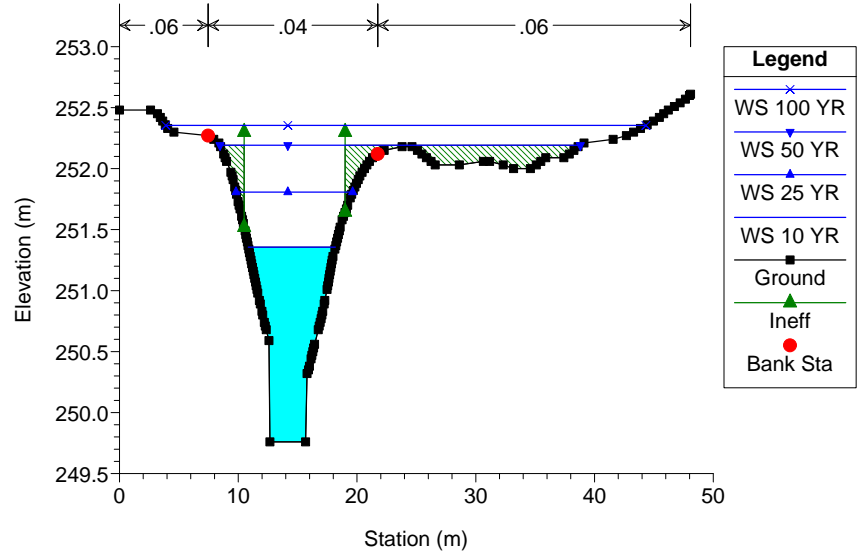




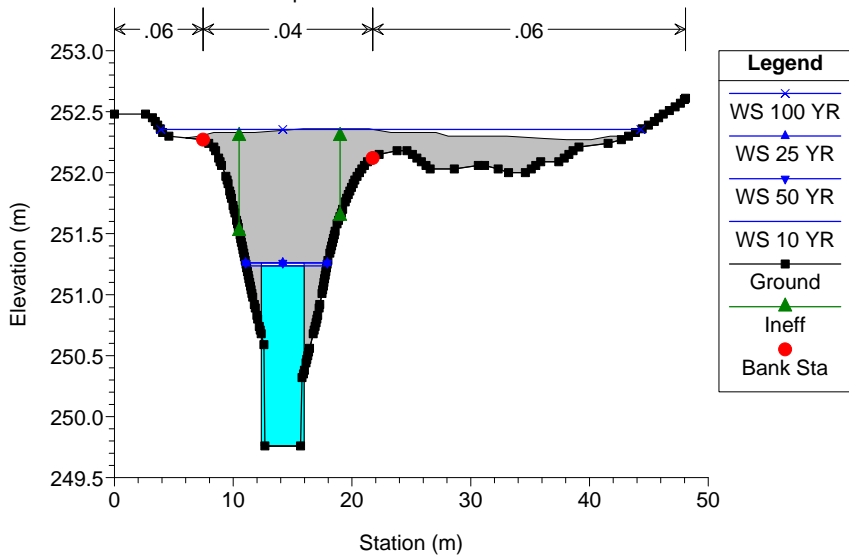
River = Sophia Reach = 2 RS = 174



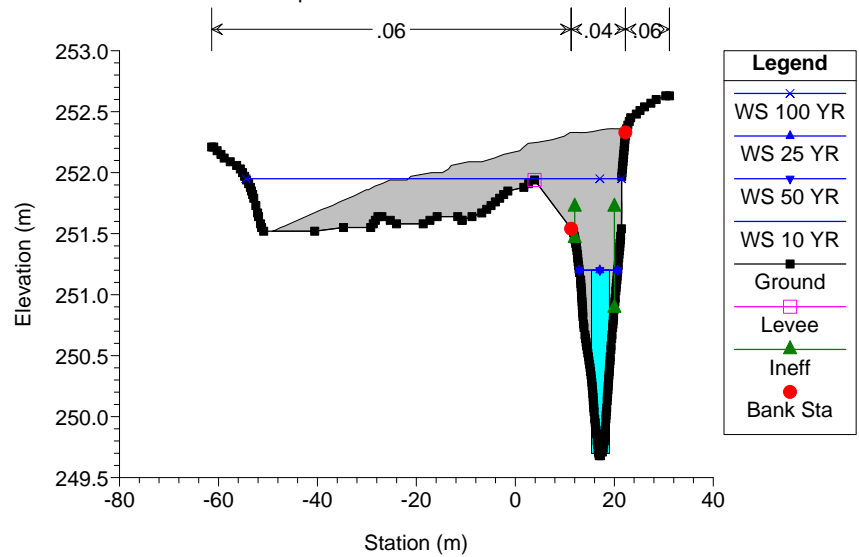
River = Sophia Reach = 2 RS = 170

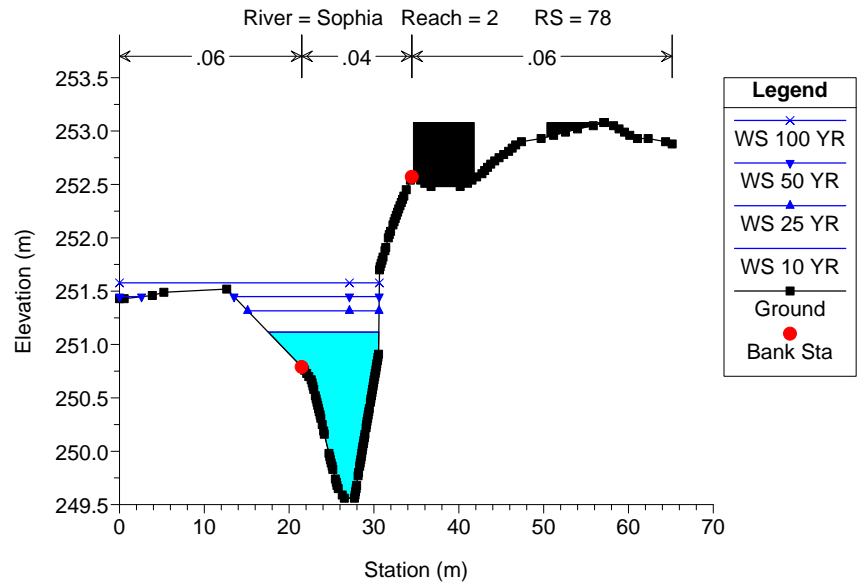
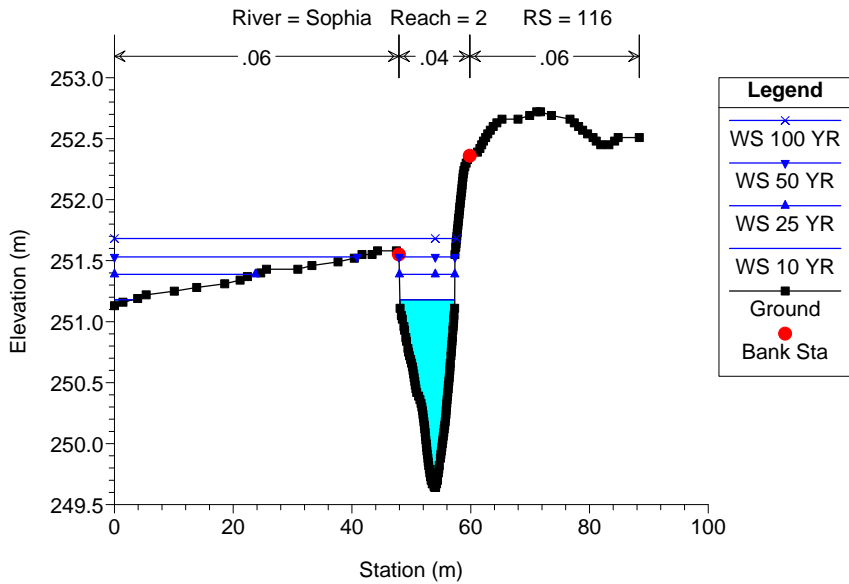
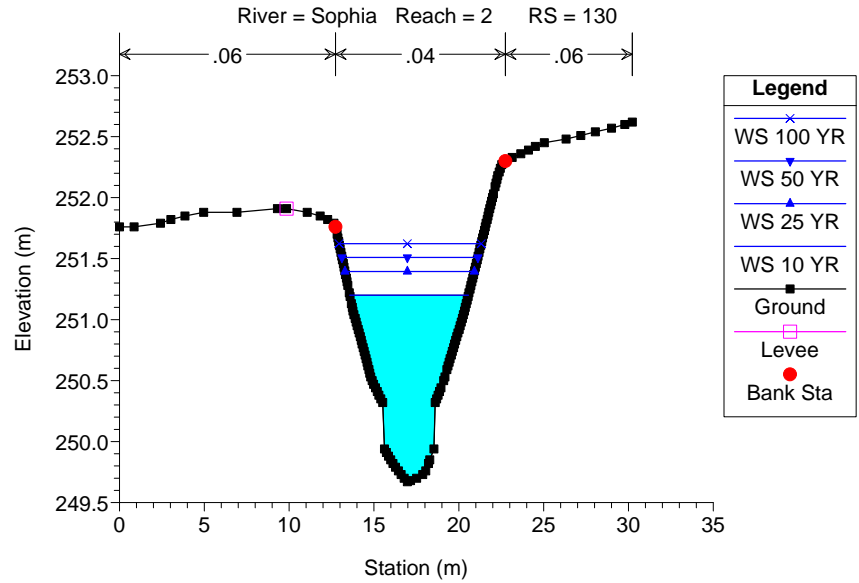
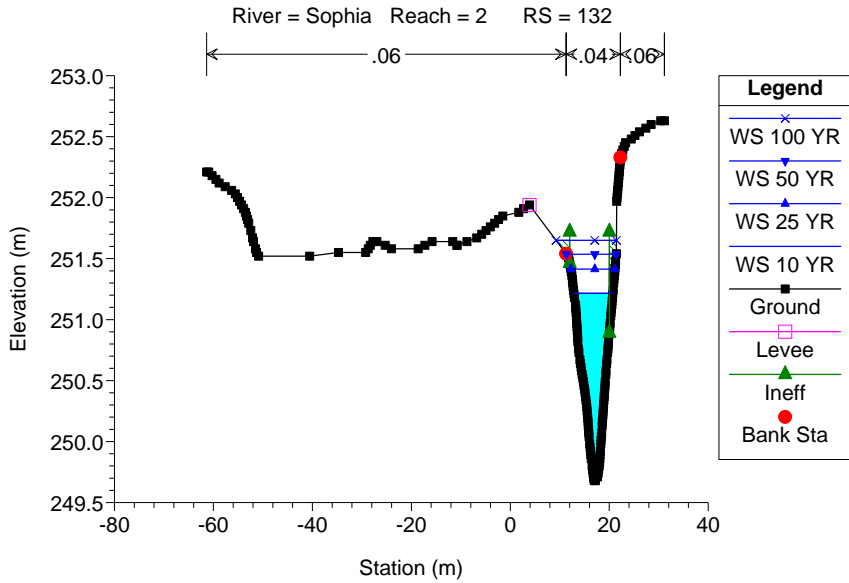


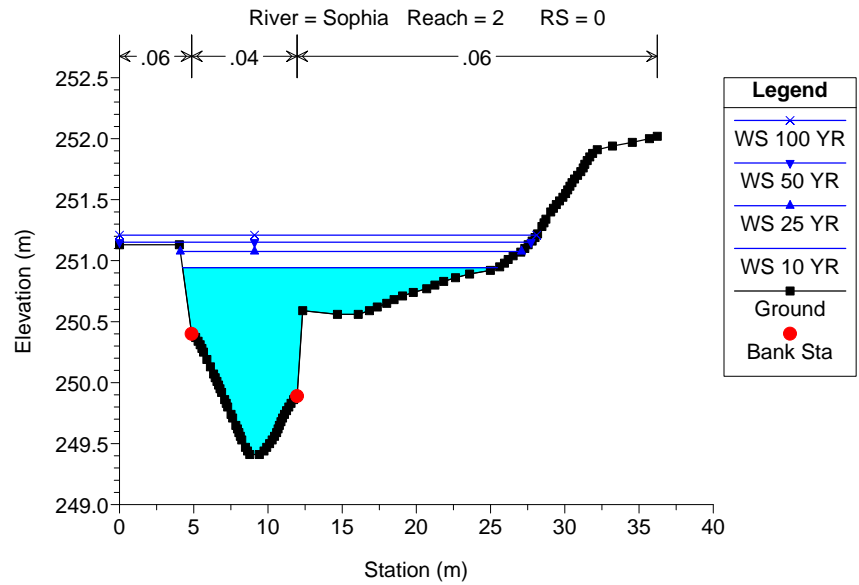
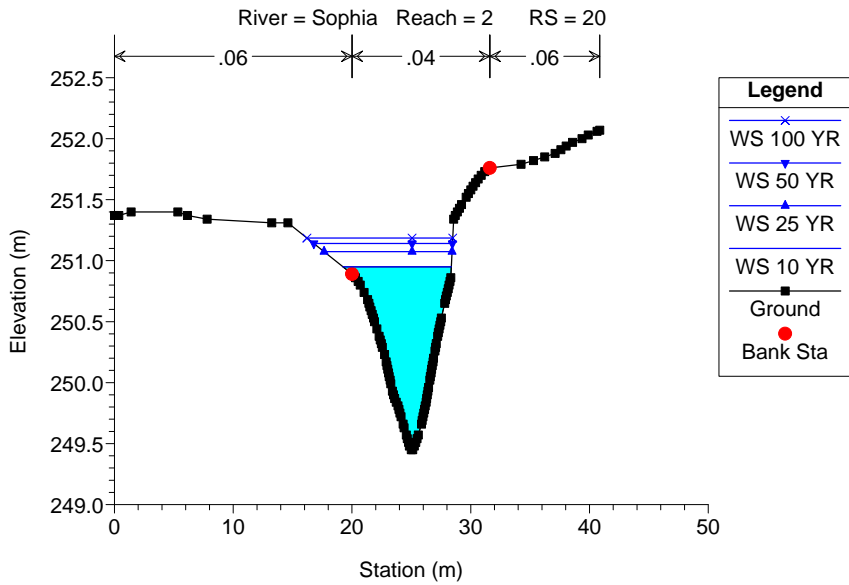
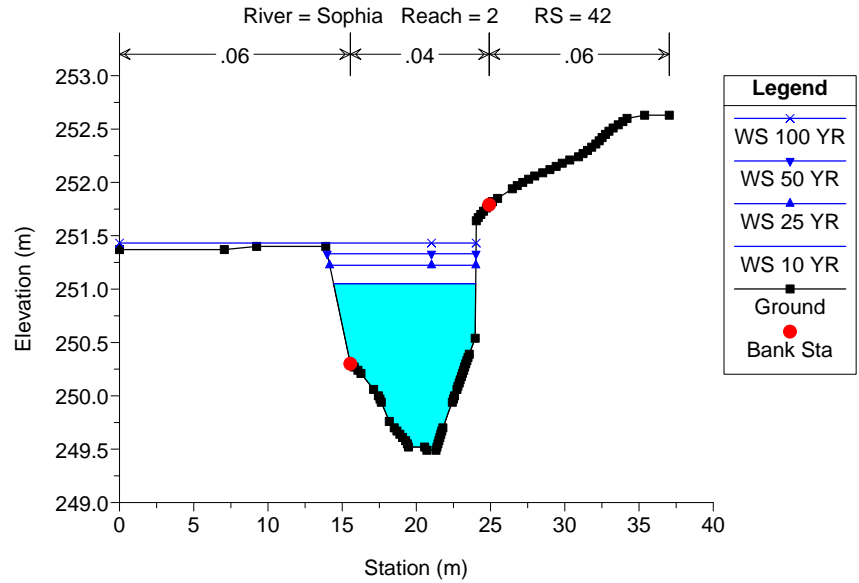
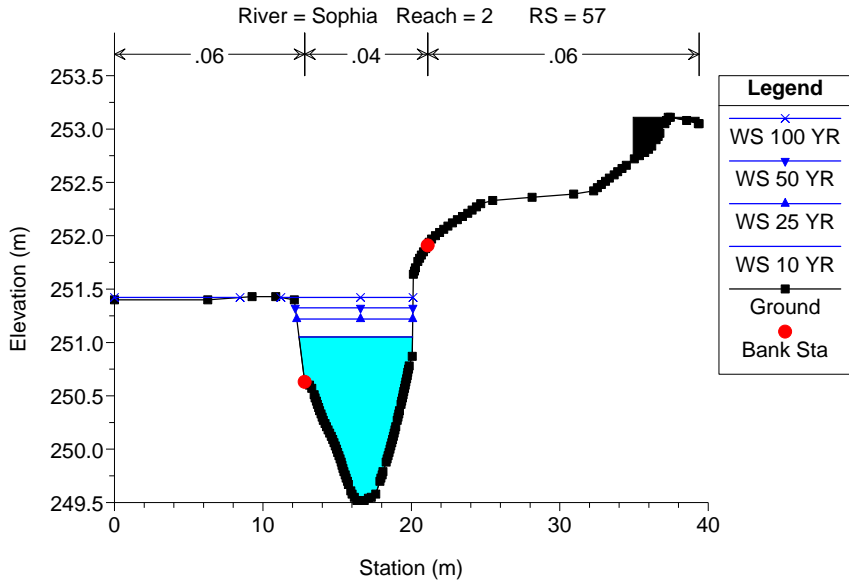
River = Sophia Reach = 2 RS = 142 Culv

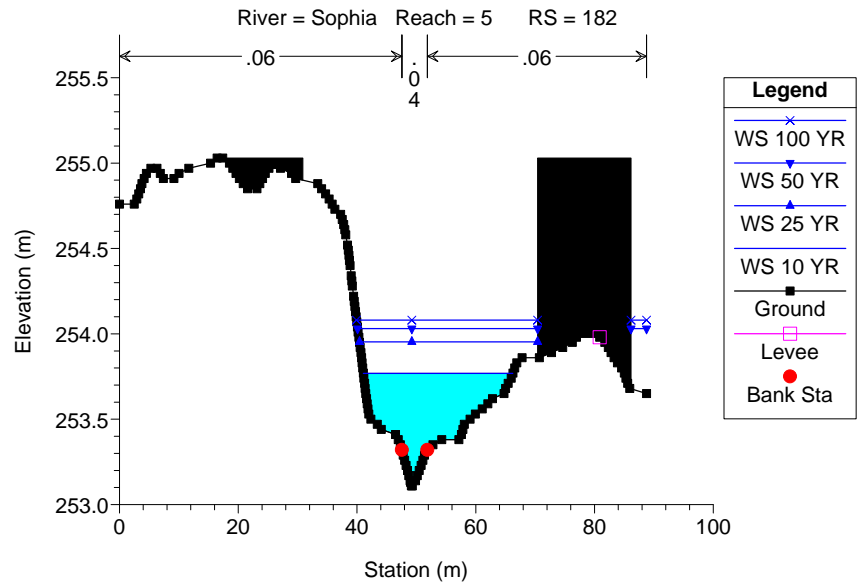
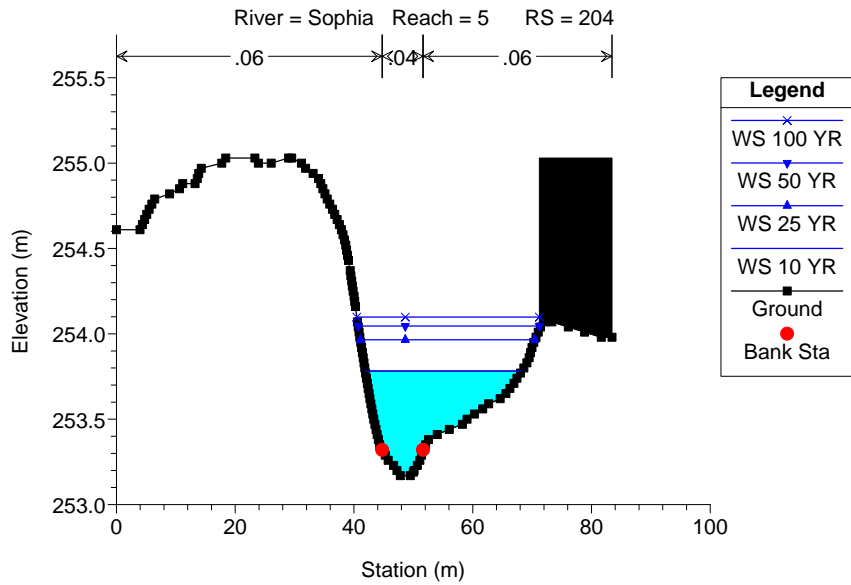
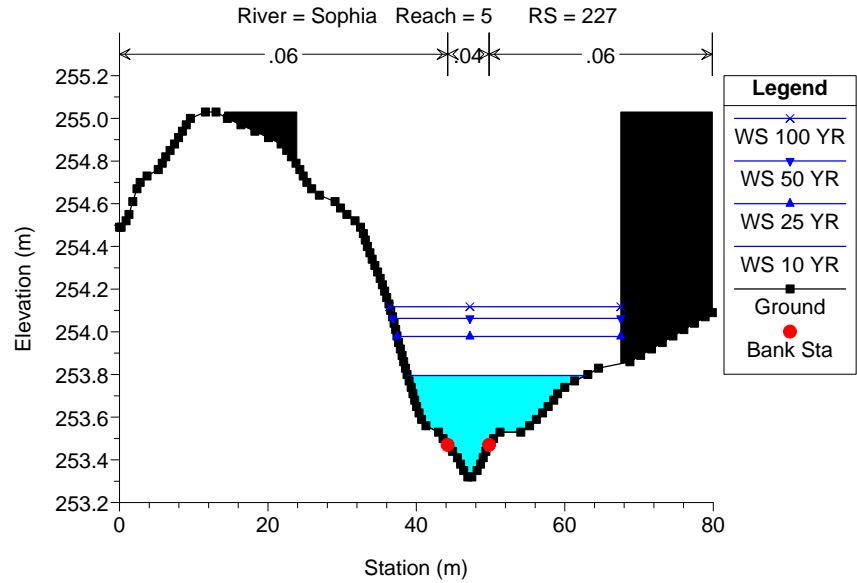
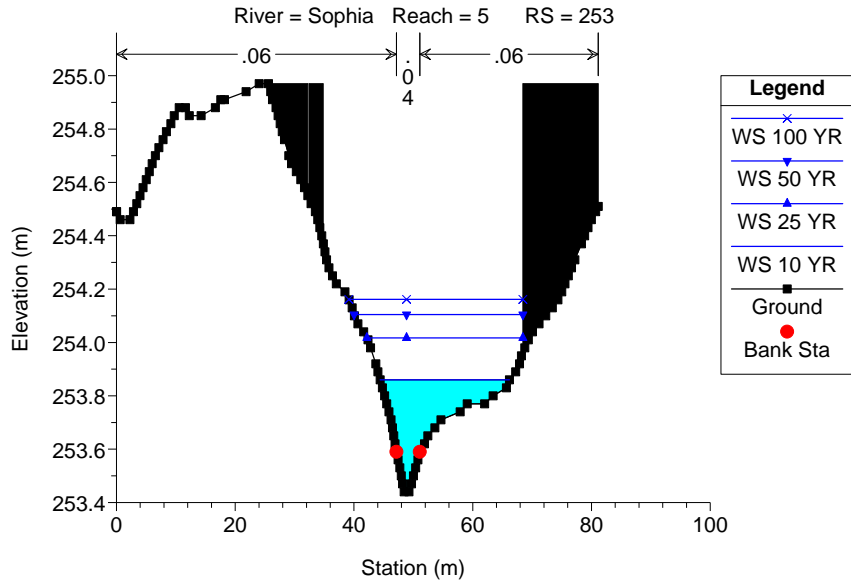


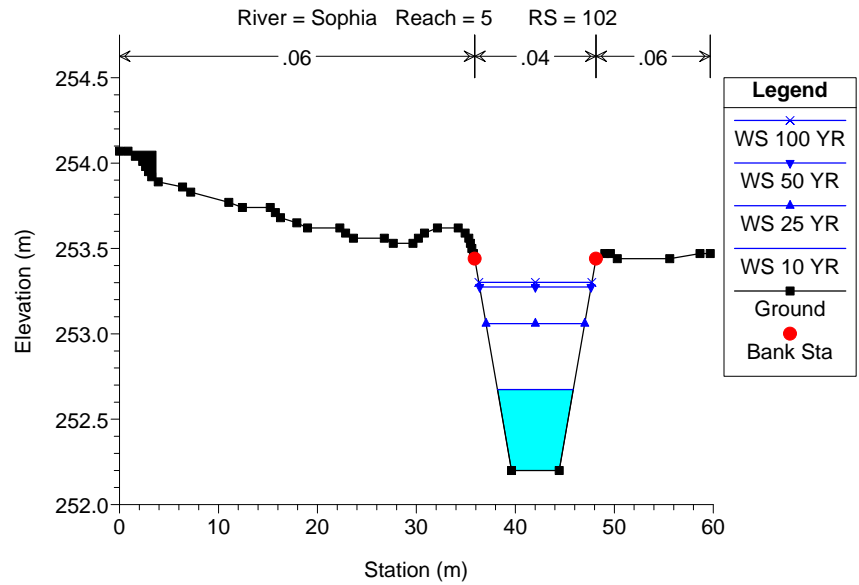
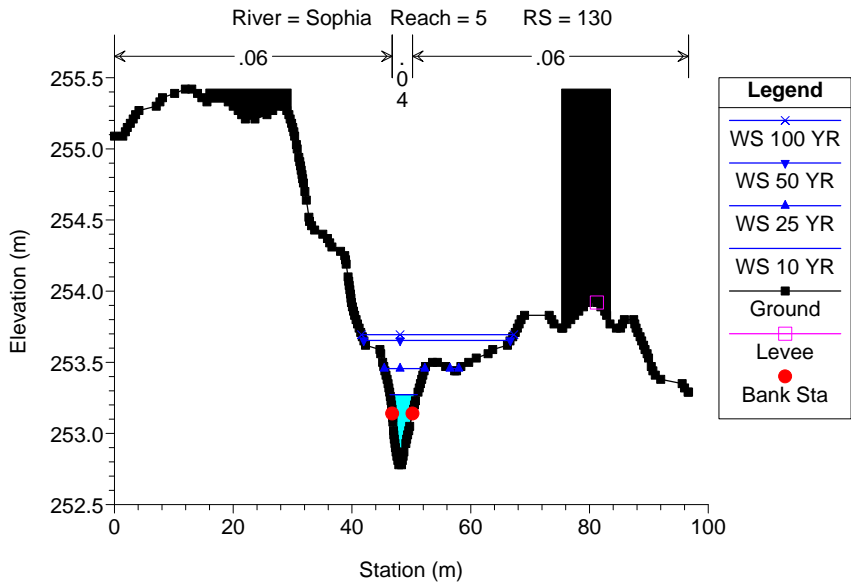
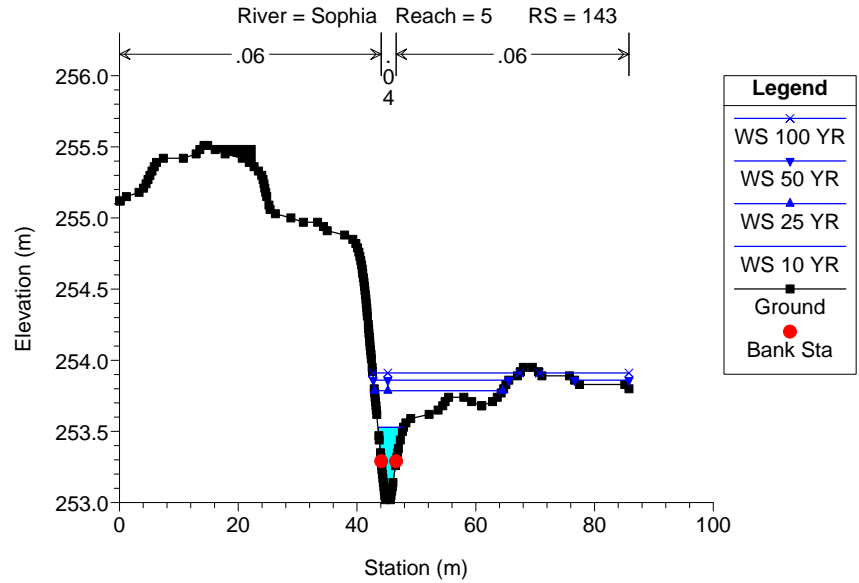
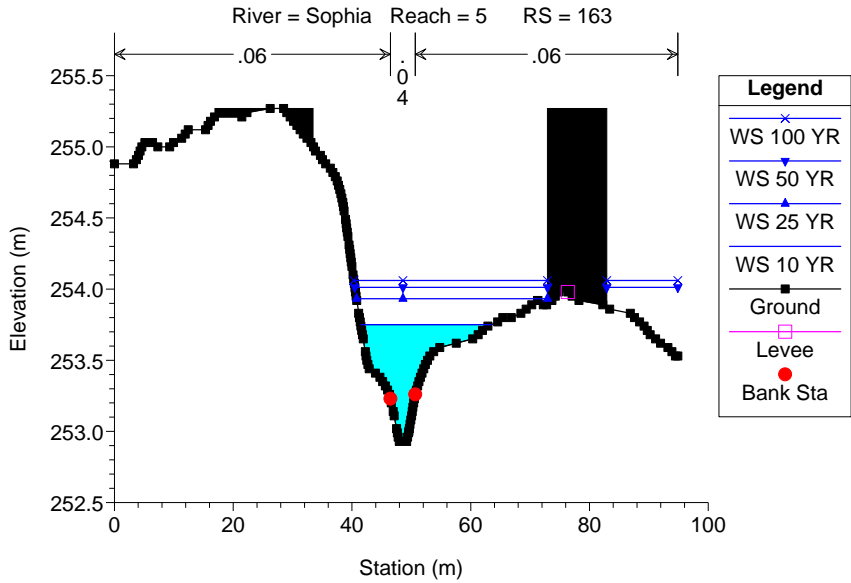
River = Sophia Reach = 2 RS = 142 Culv

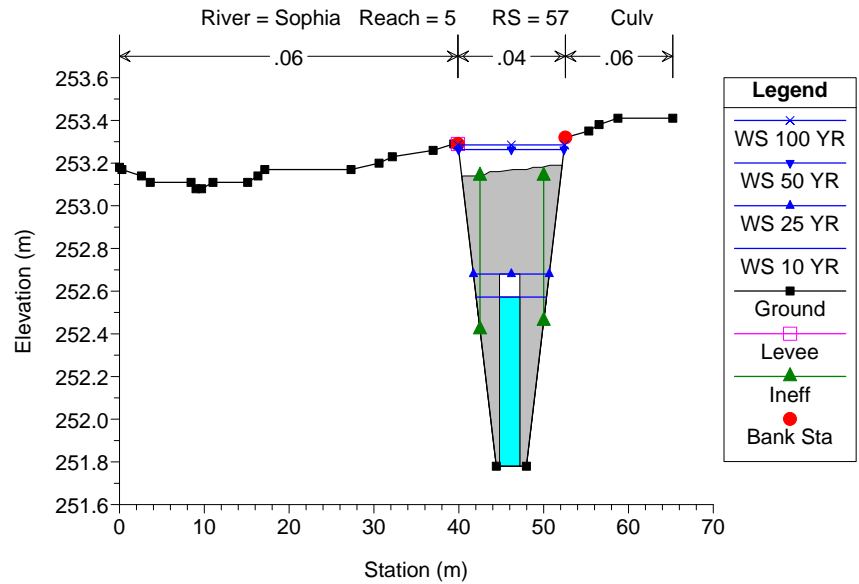
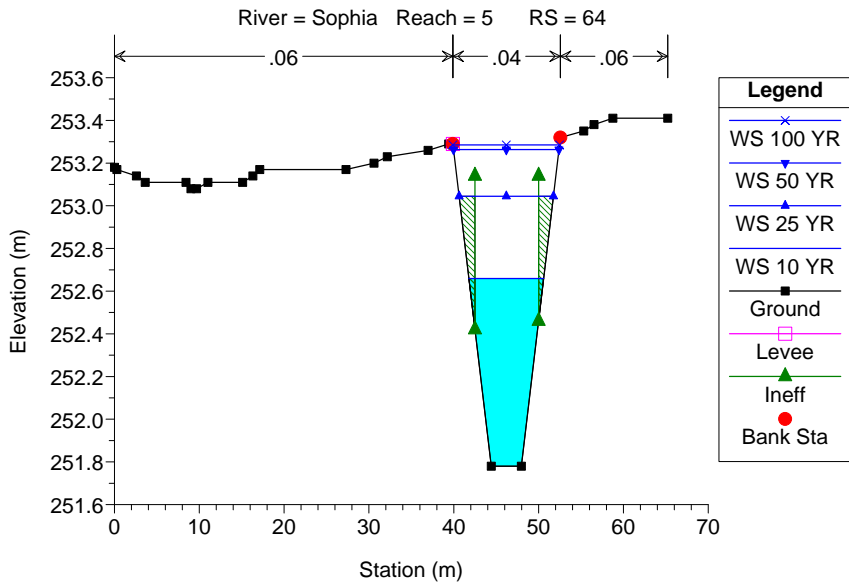
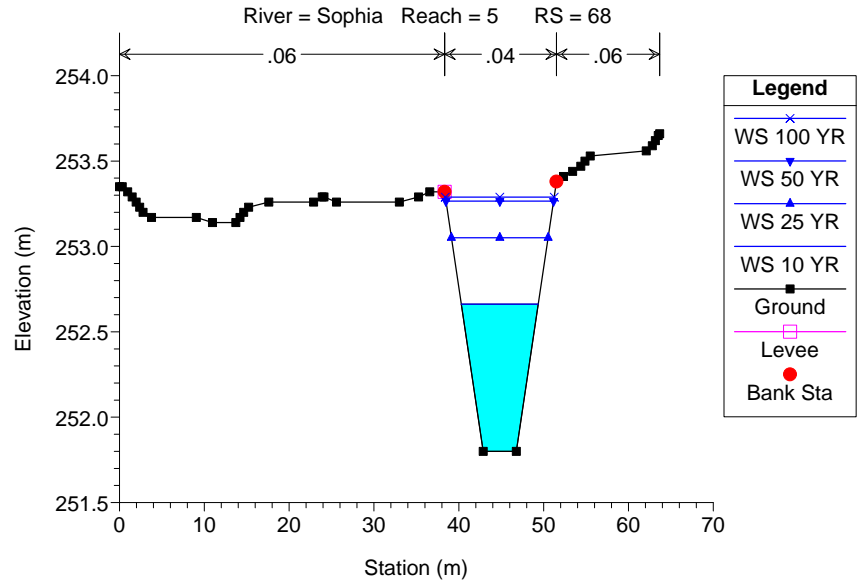
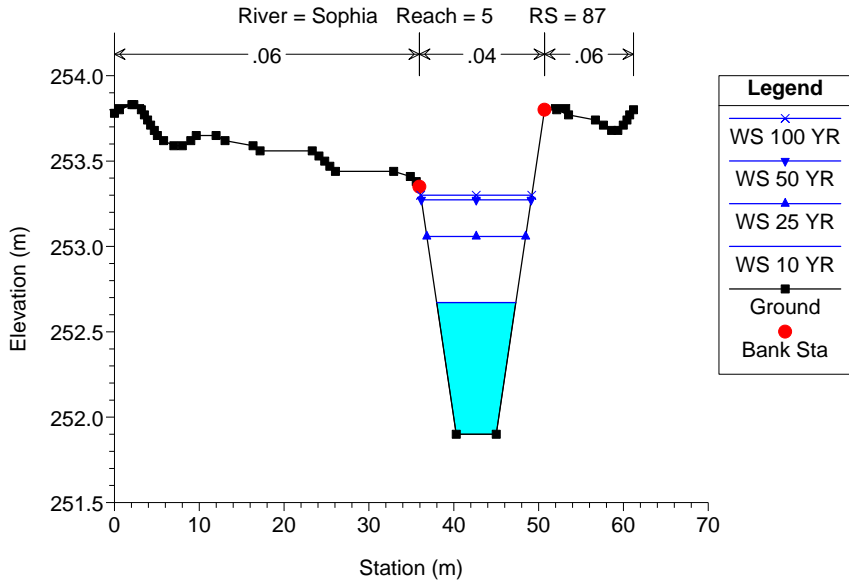


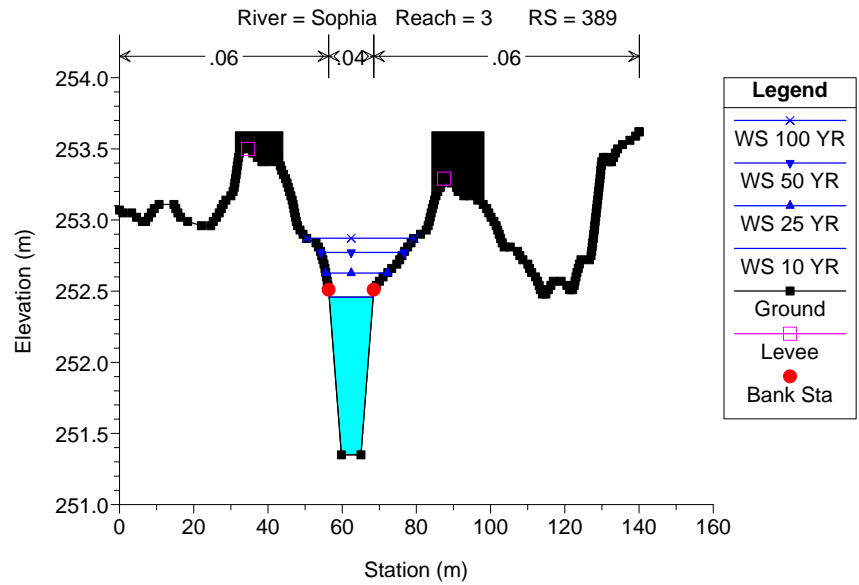
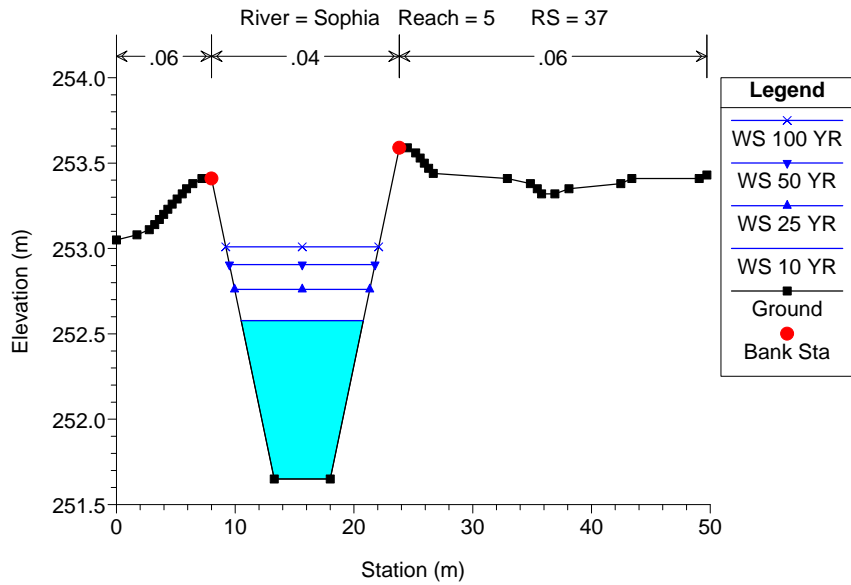
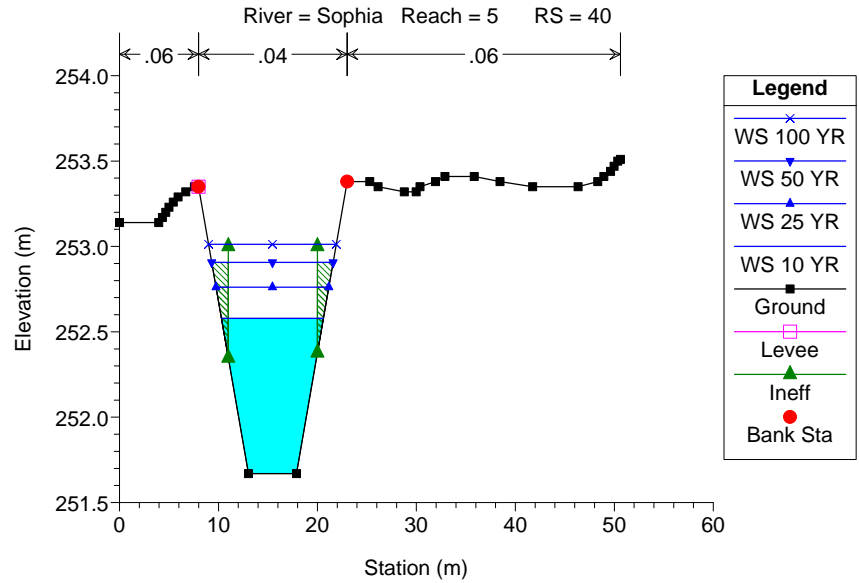
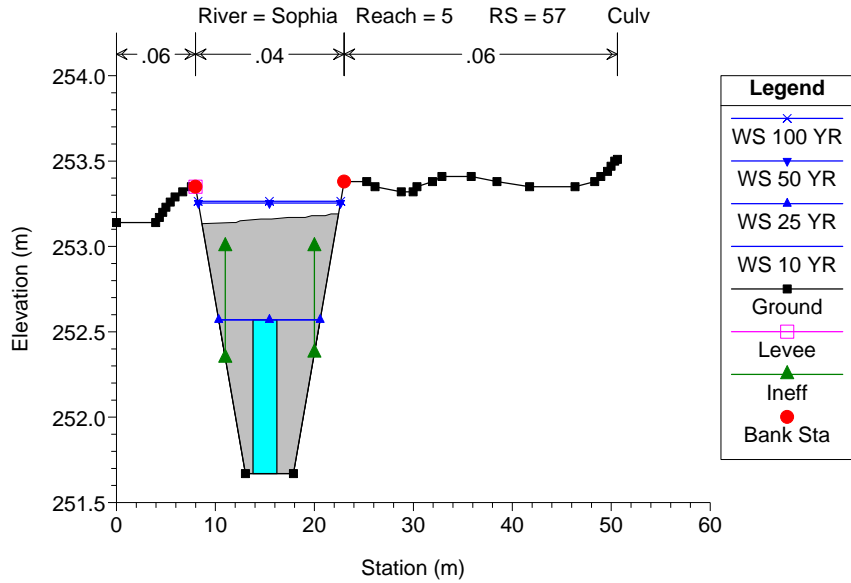


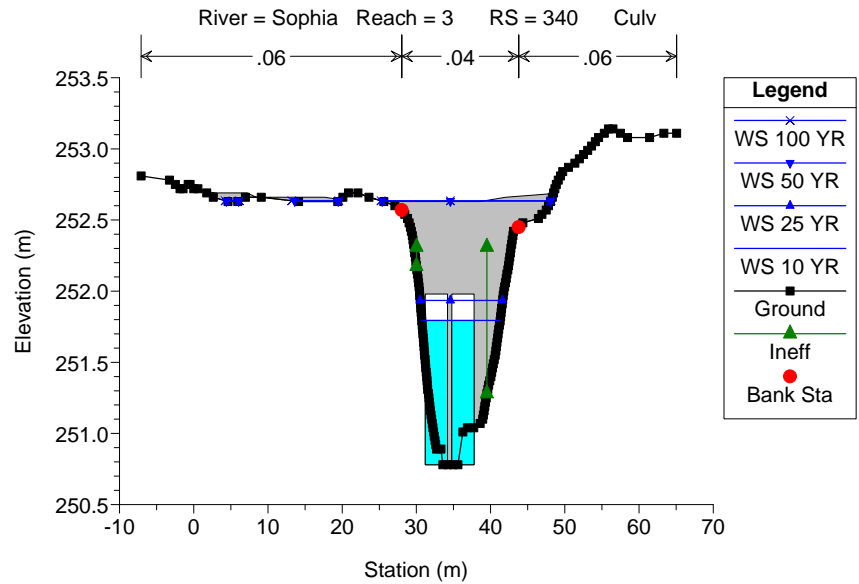
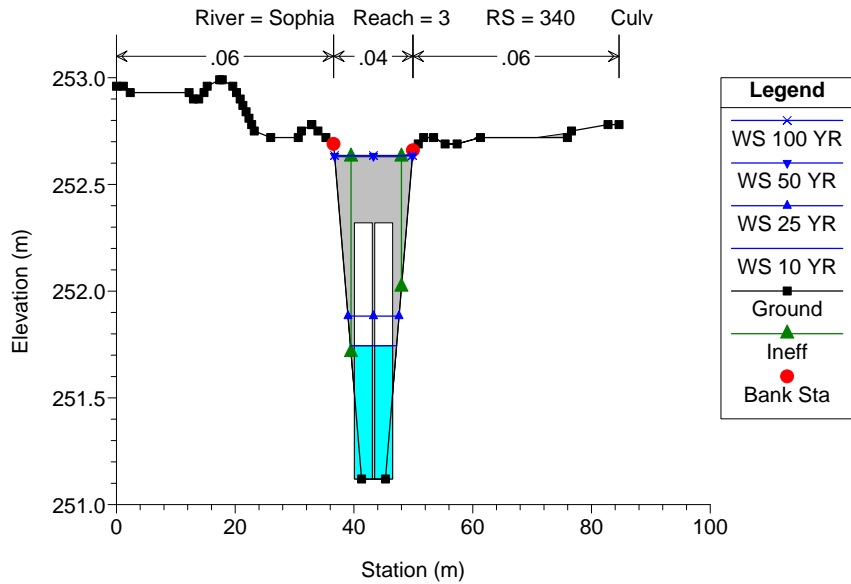
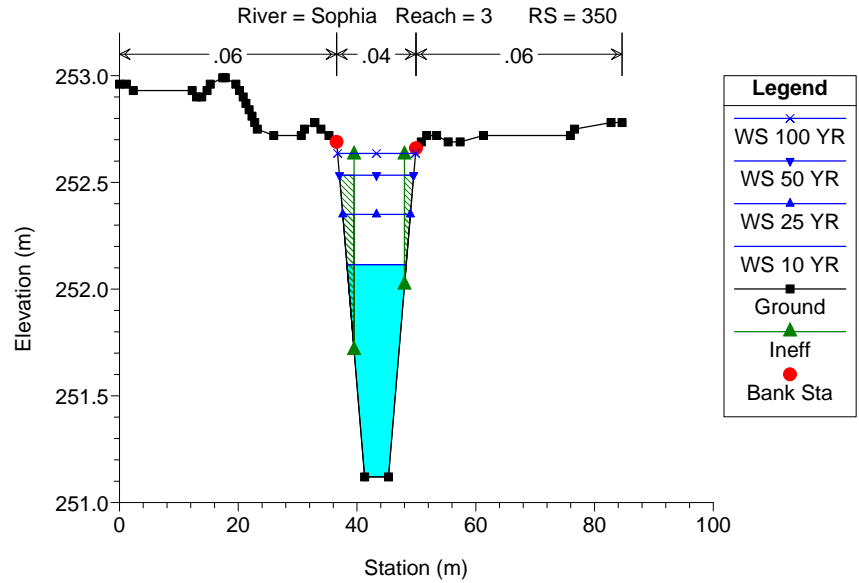
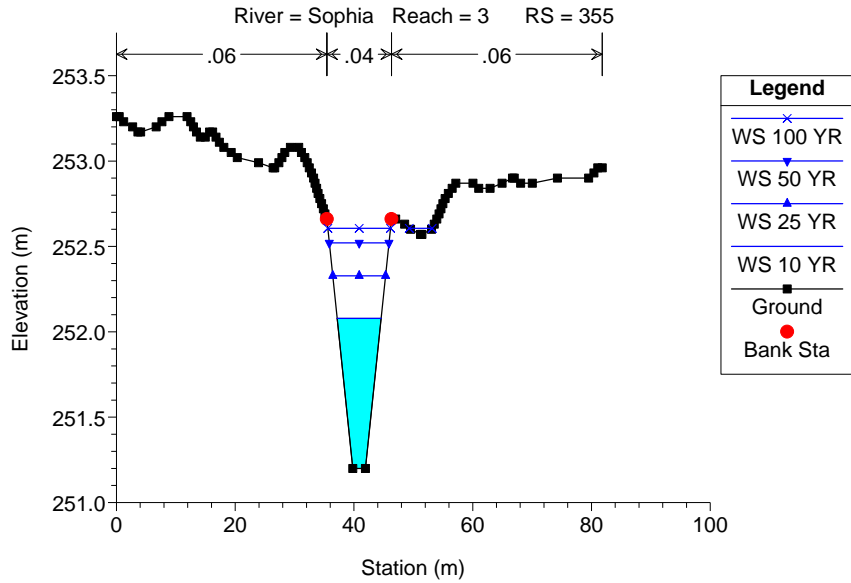


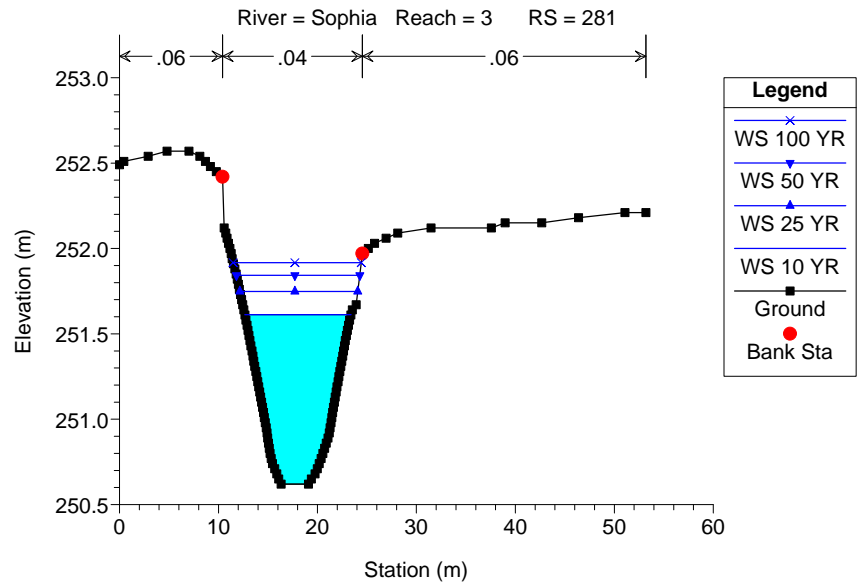
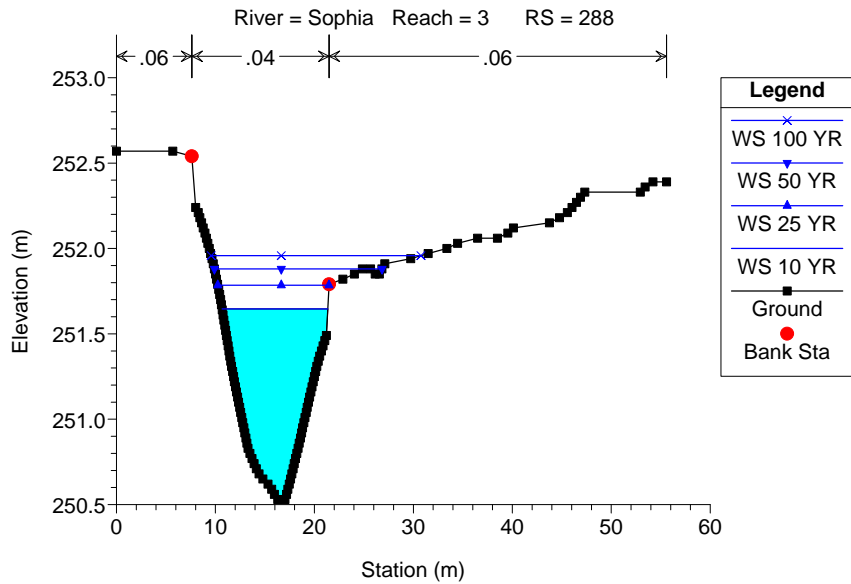
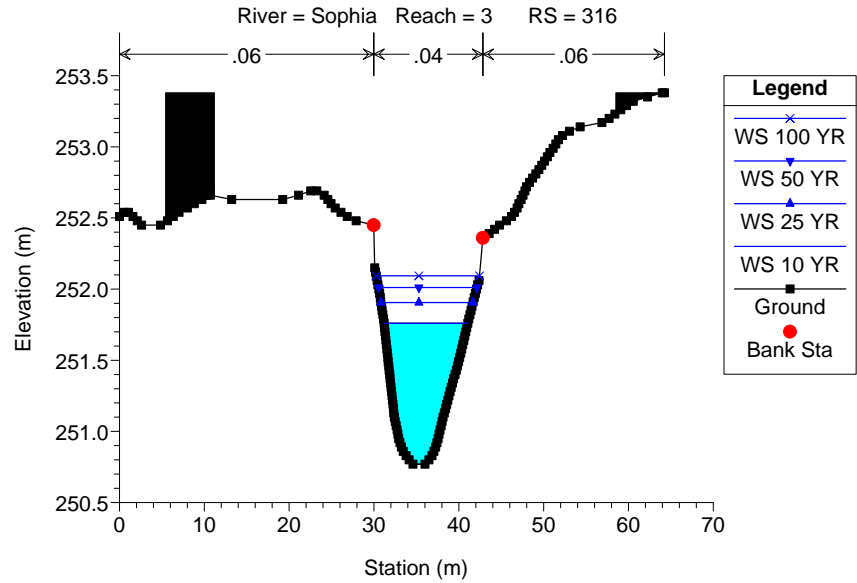
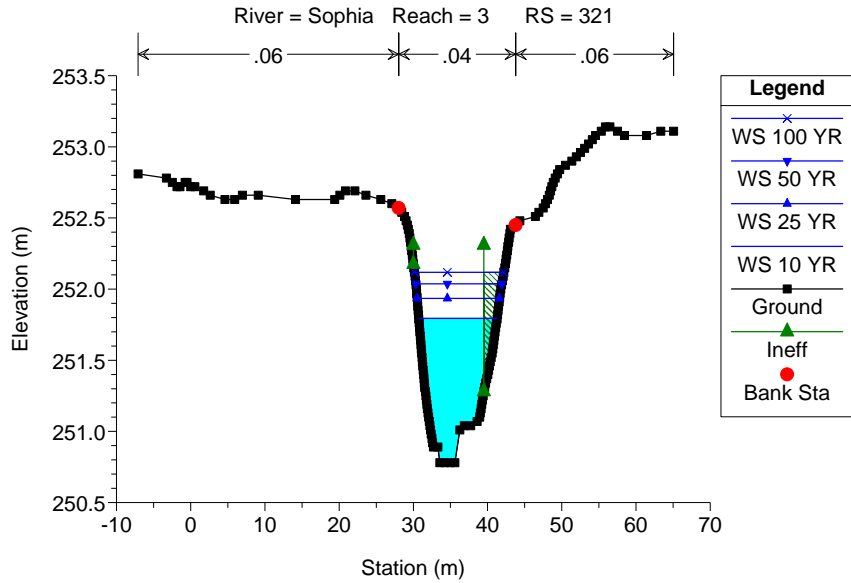


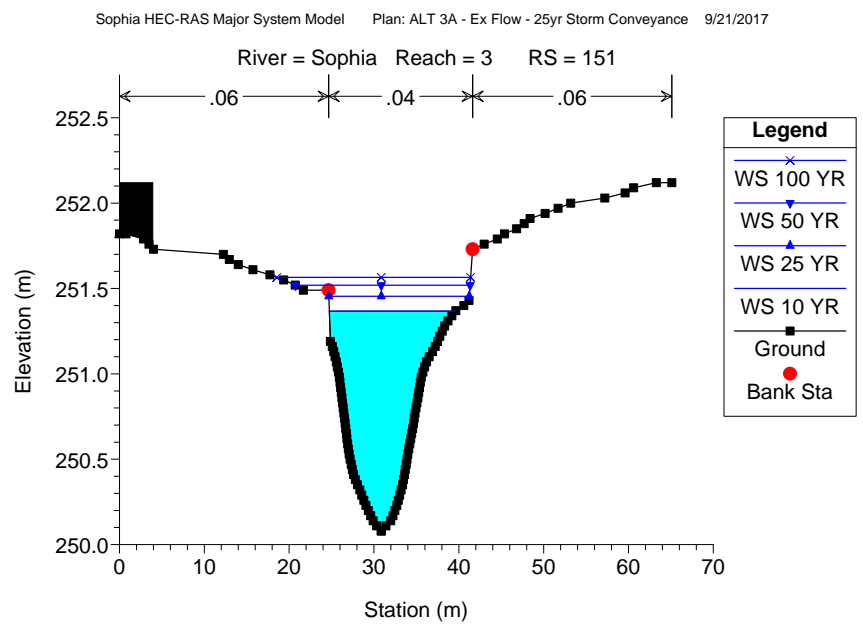
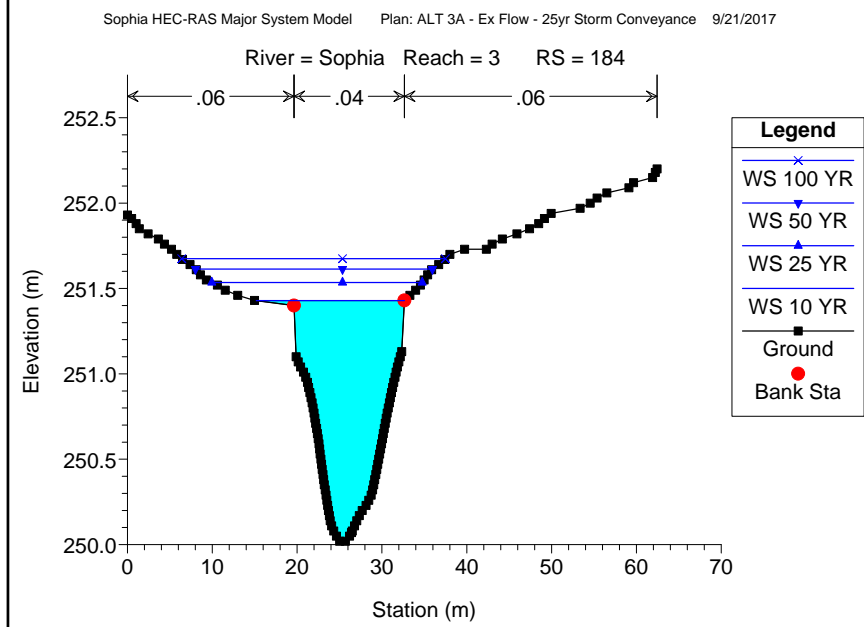
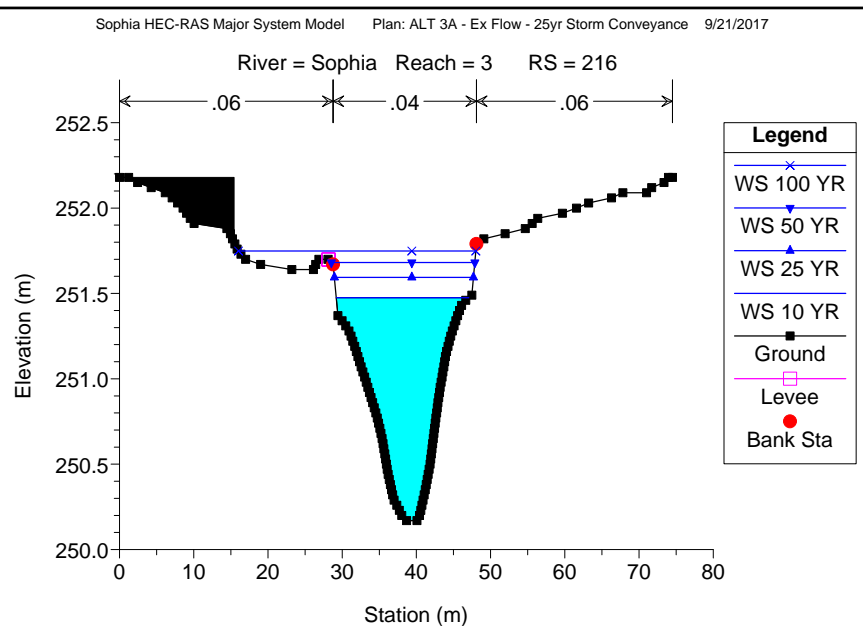
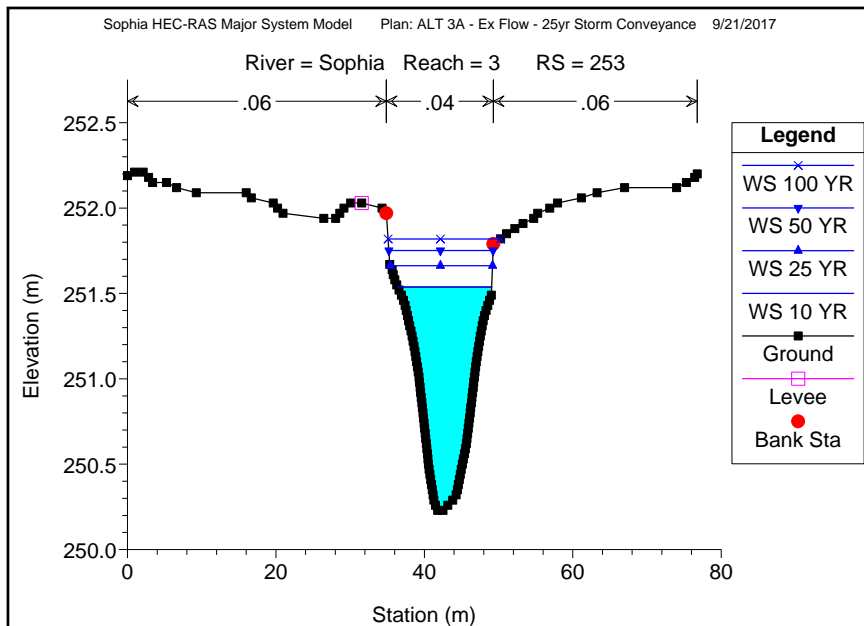


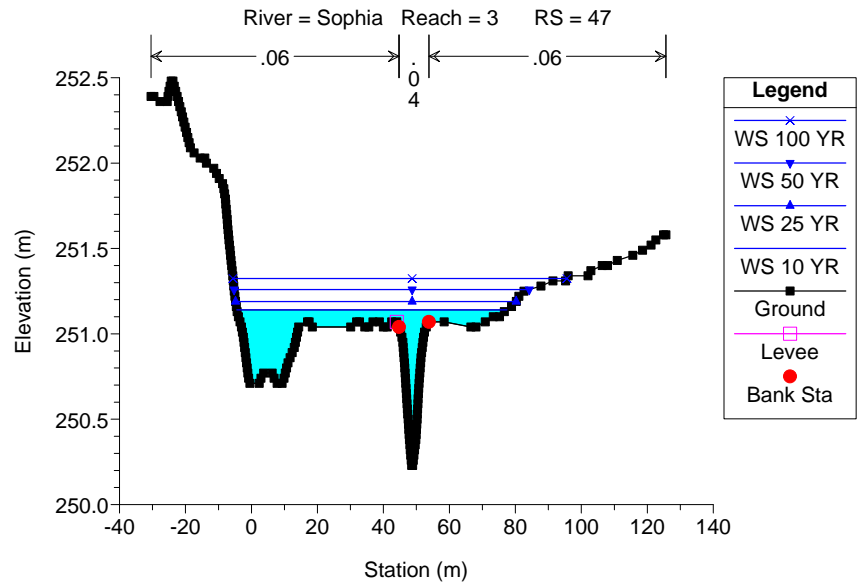
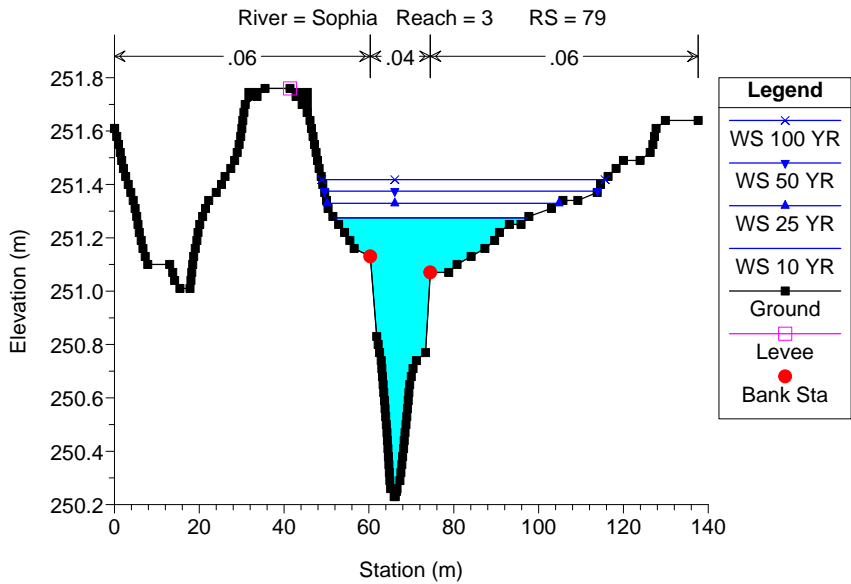
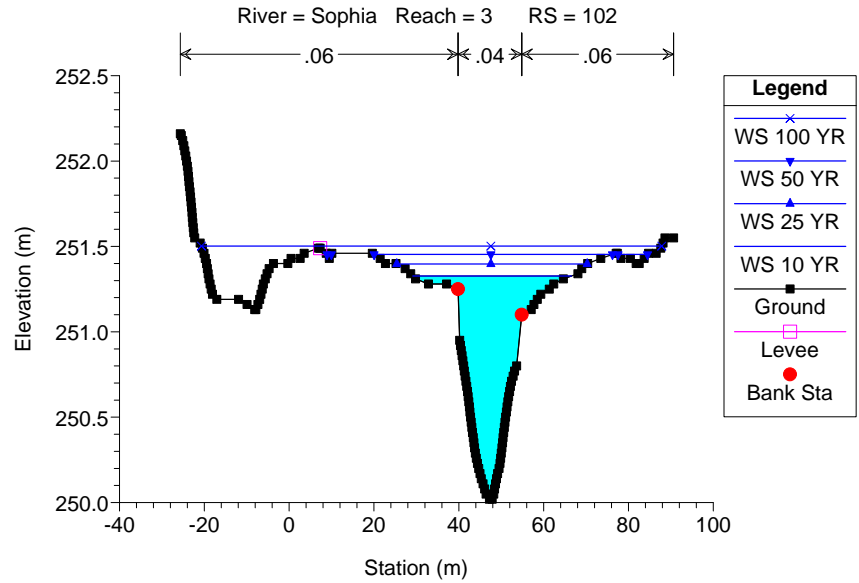
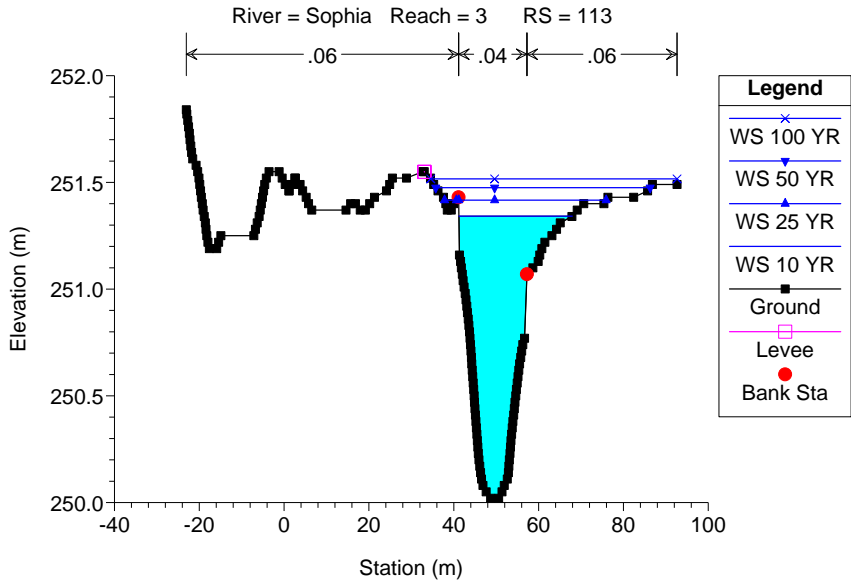


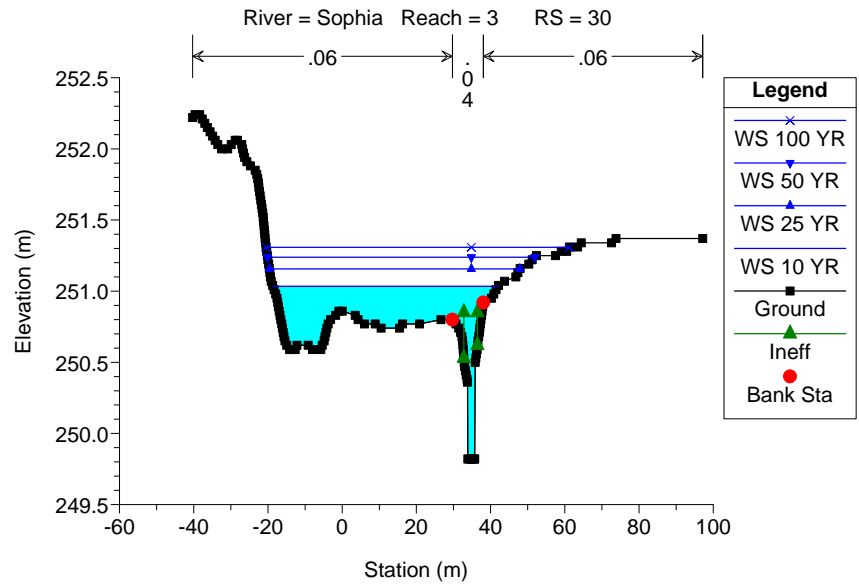
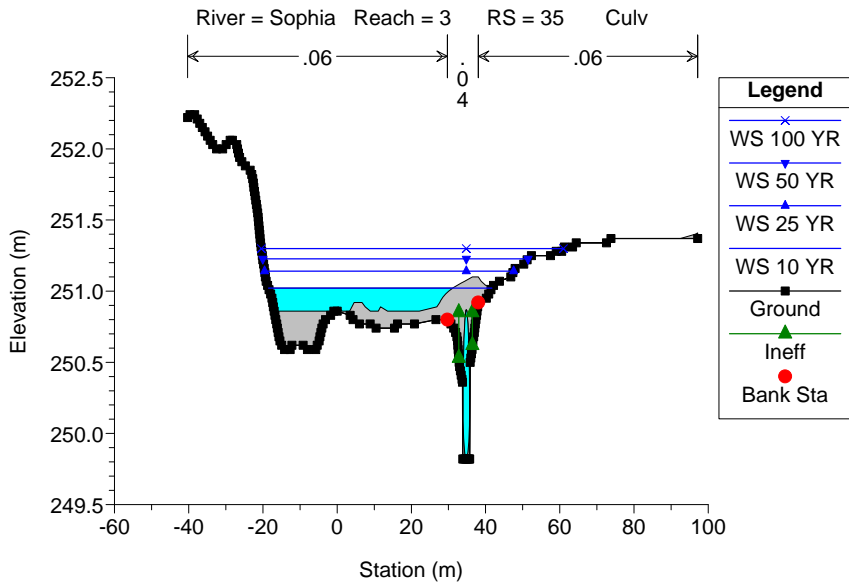
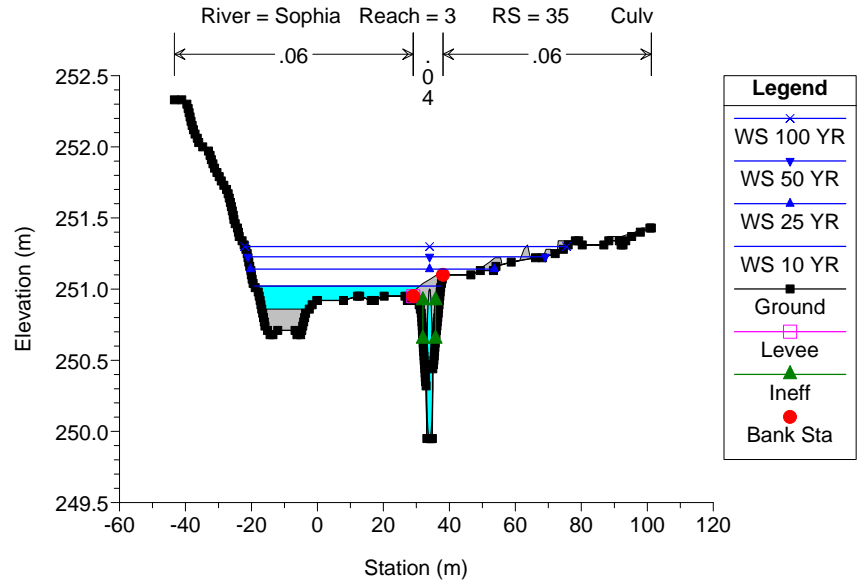
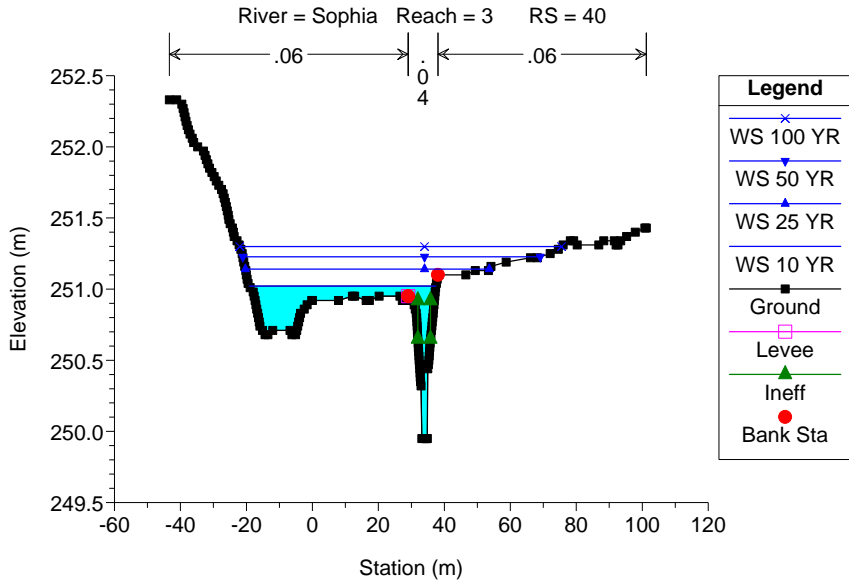


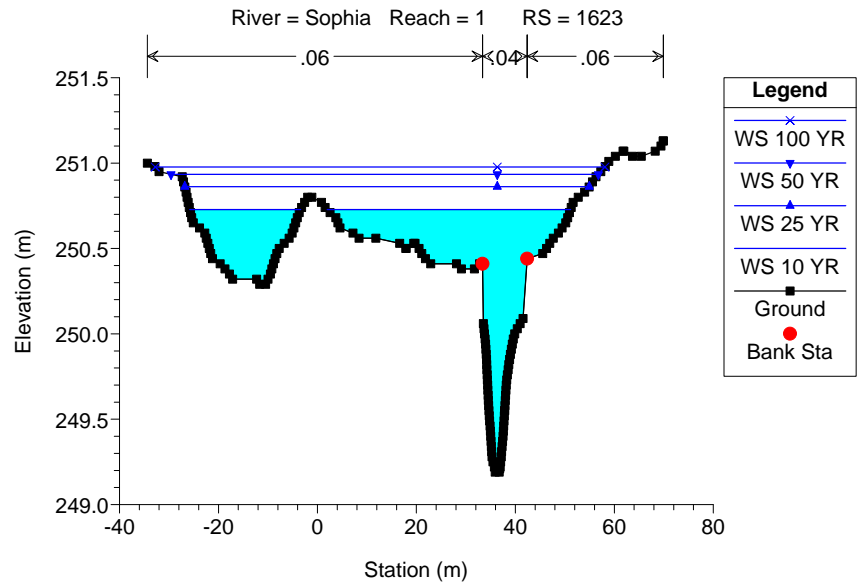
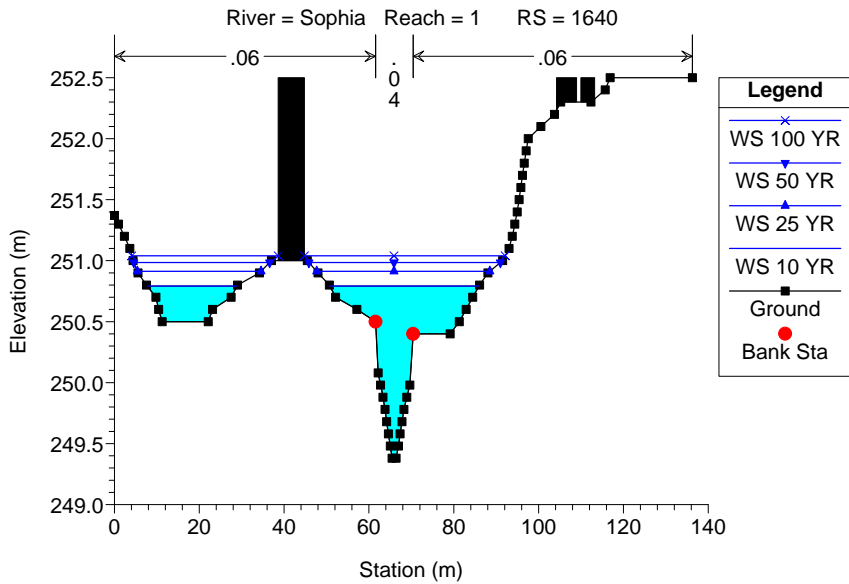
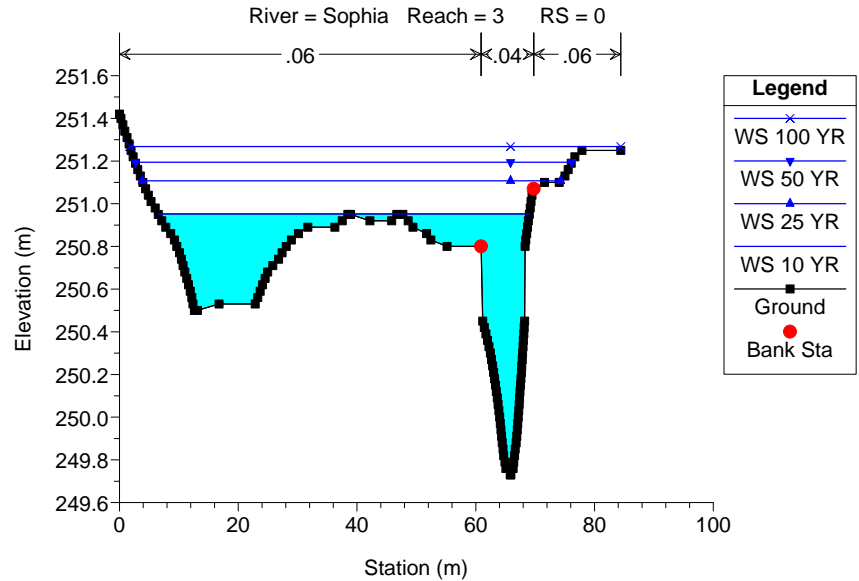
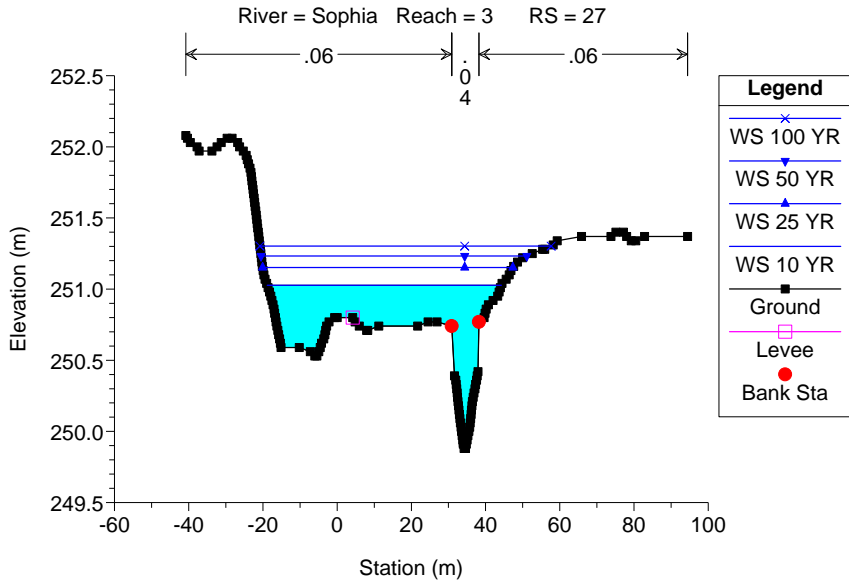




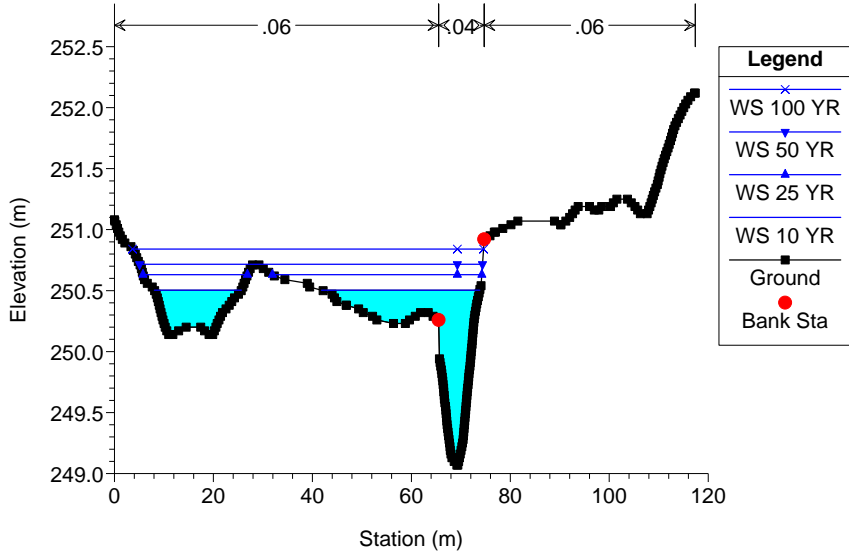




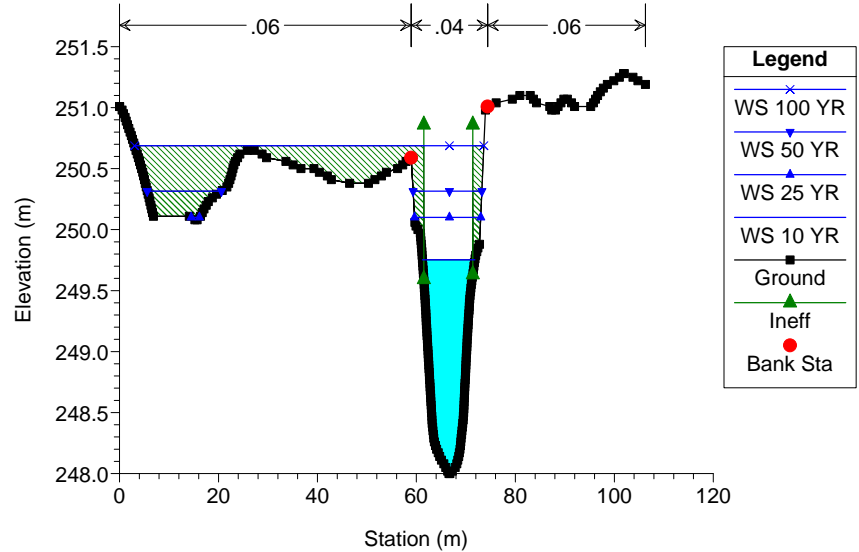




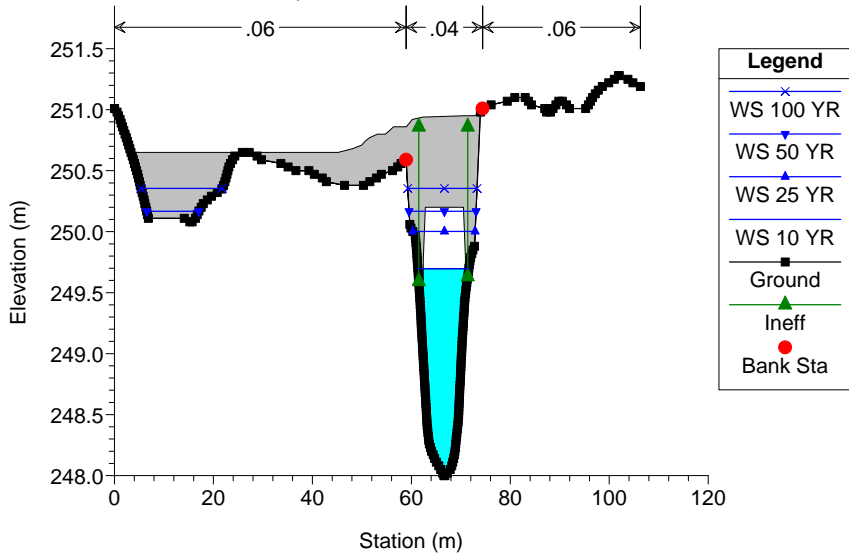
River = Sophia Reach = 1 RS = 1604



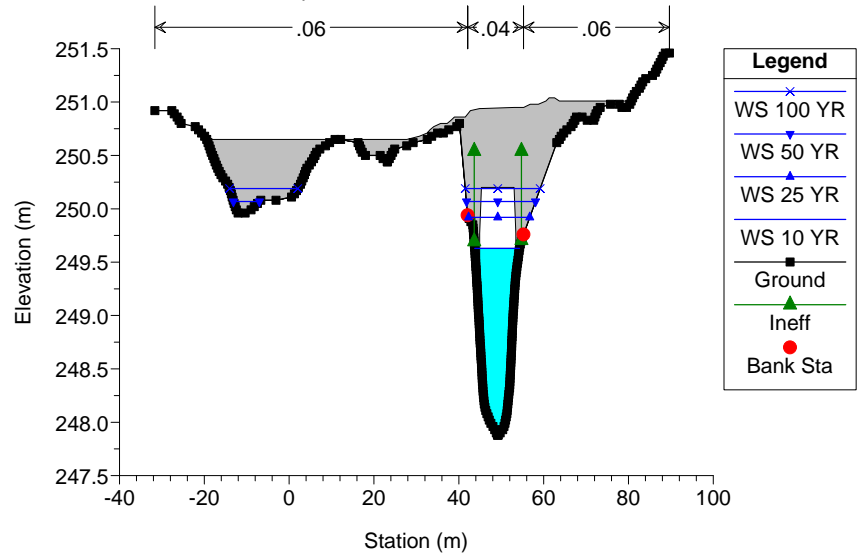
River = Sophia Reach = 1 RS = 1597

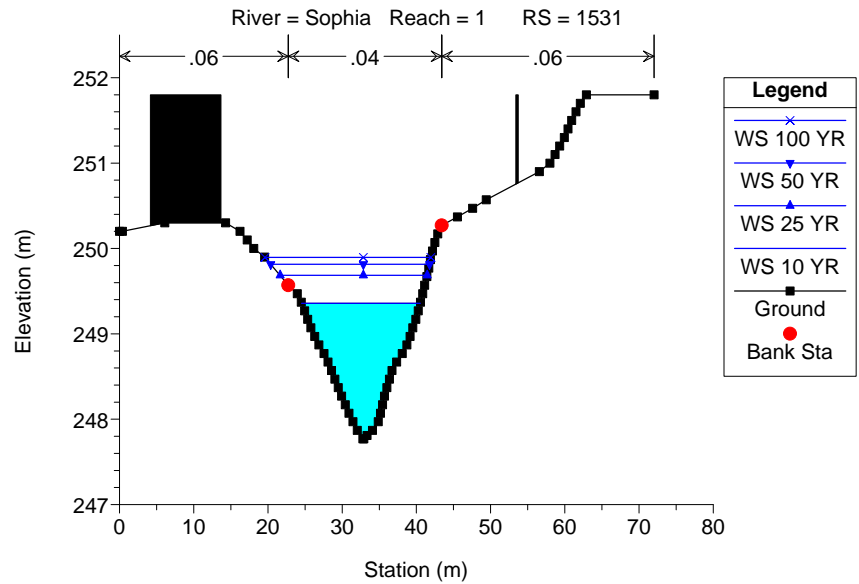
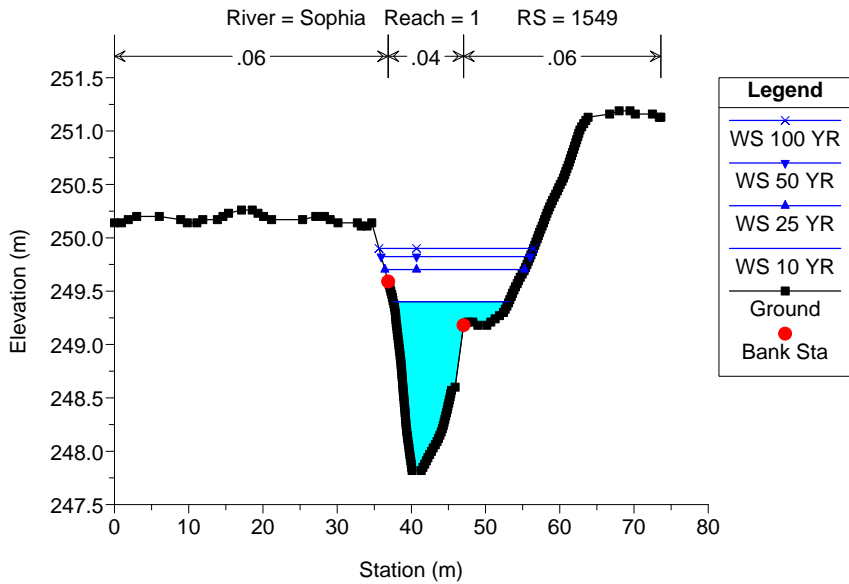
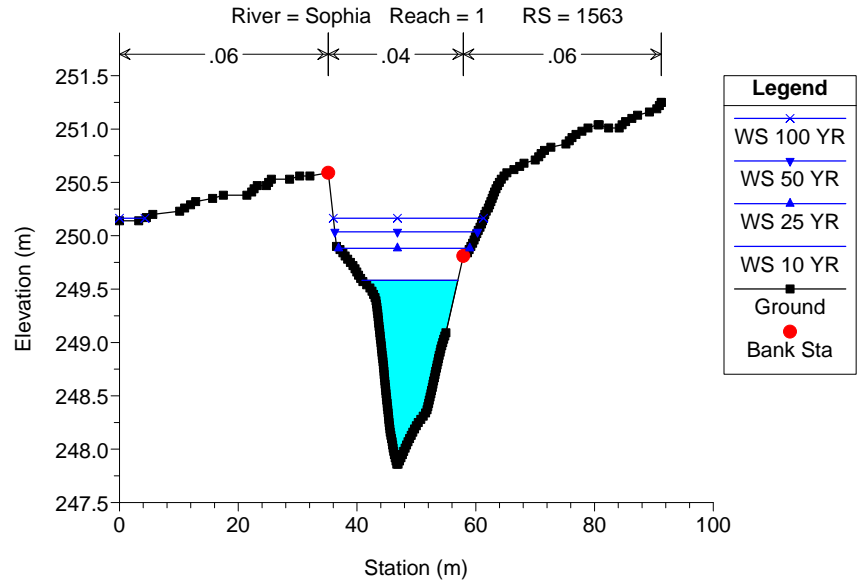
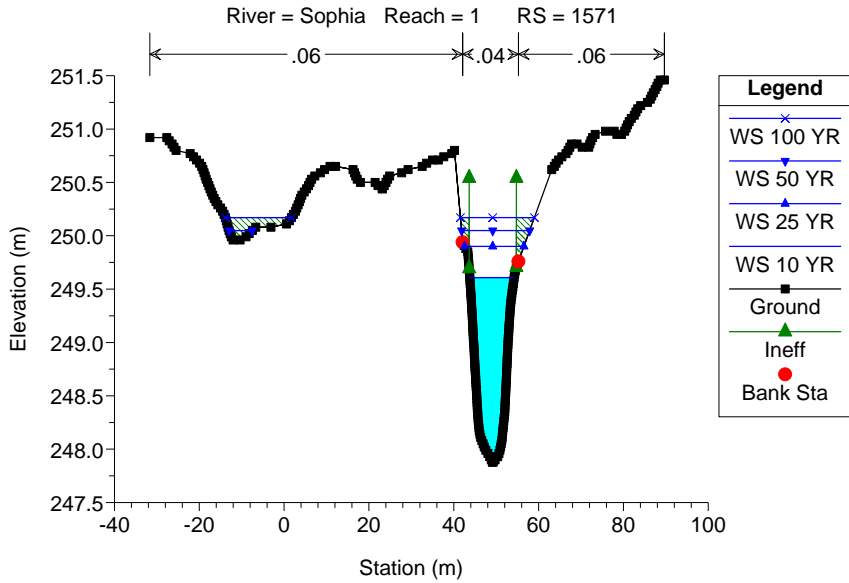


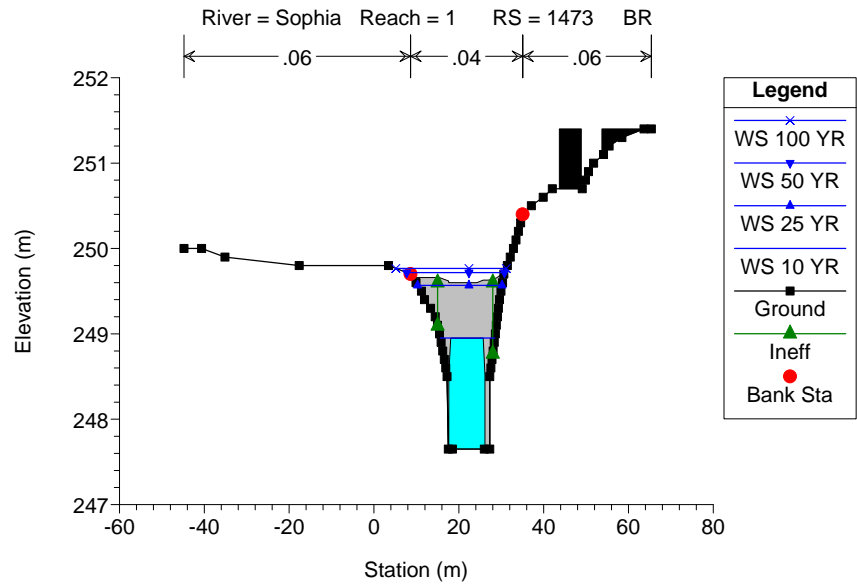
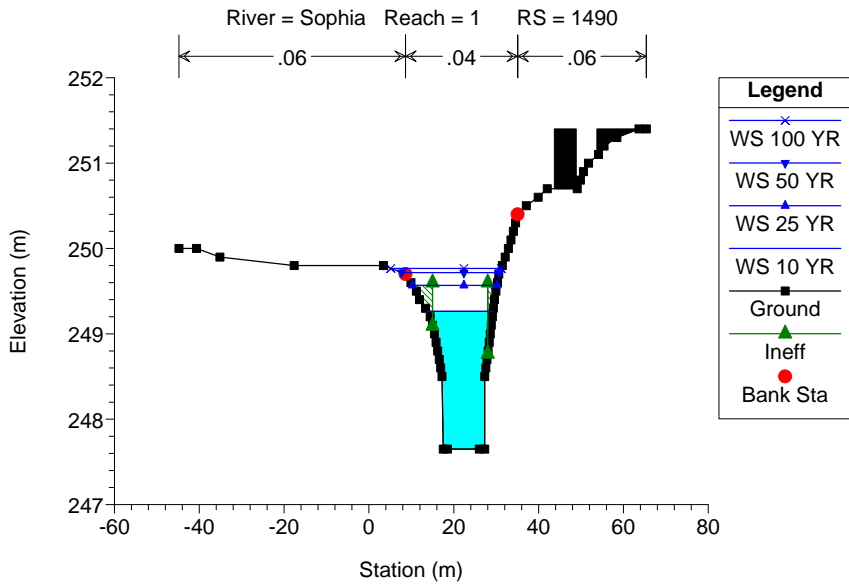
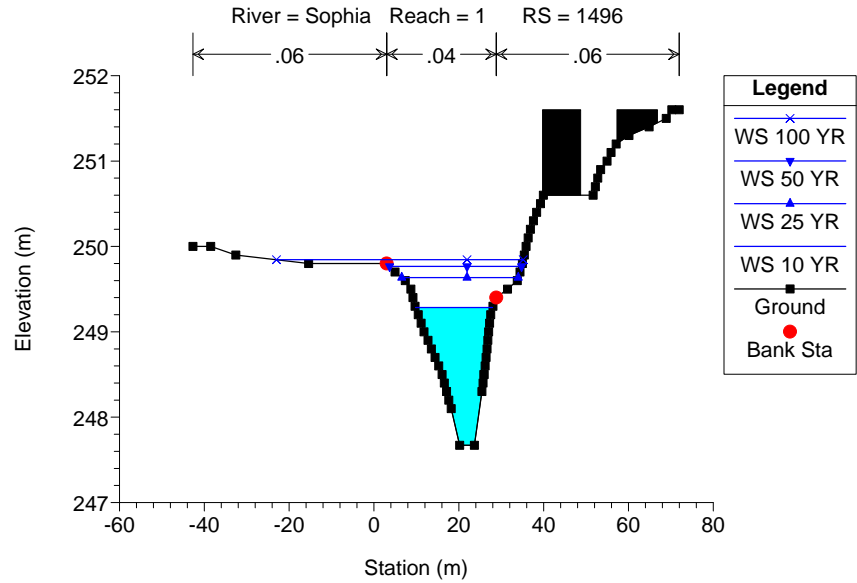
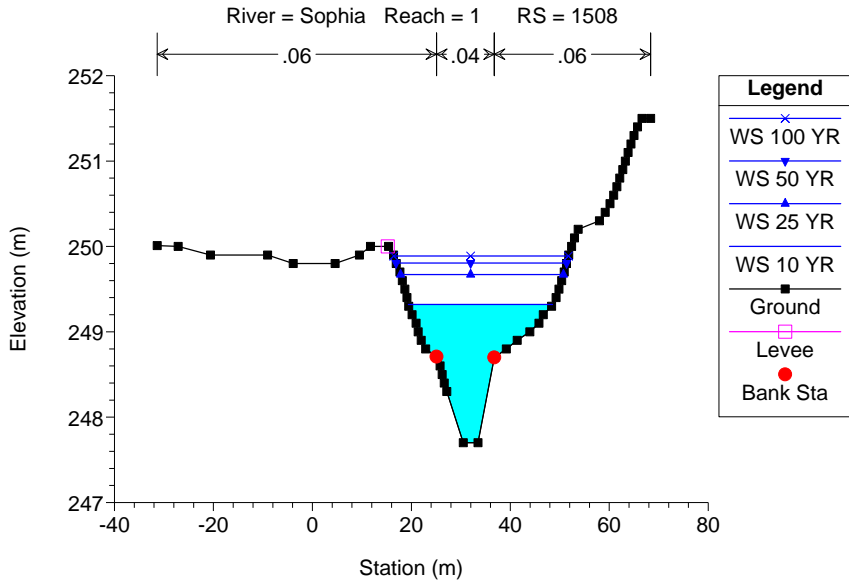
River = Sophia Reach = 1 RS = 1584 BR



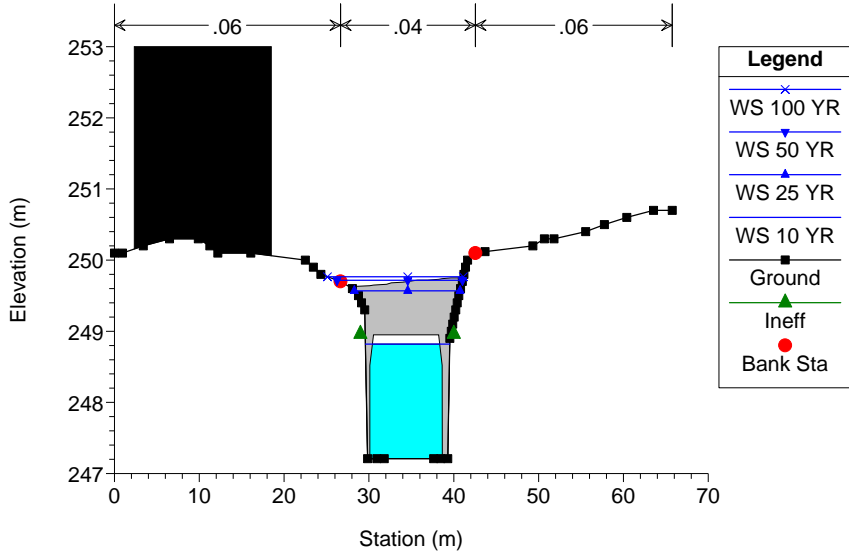
River = Sophia Reach = 1 RS = 1584 BR



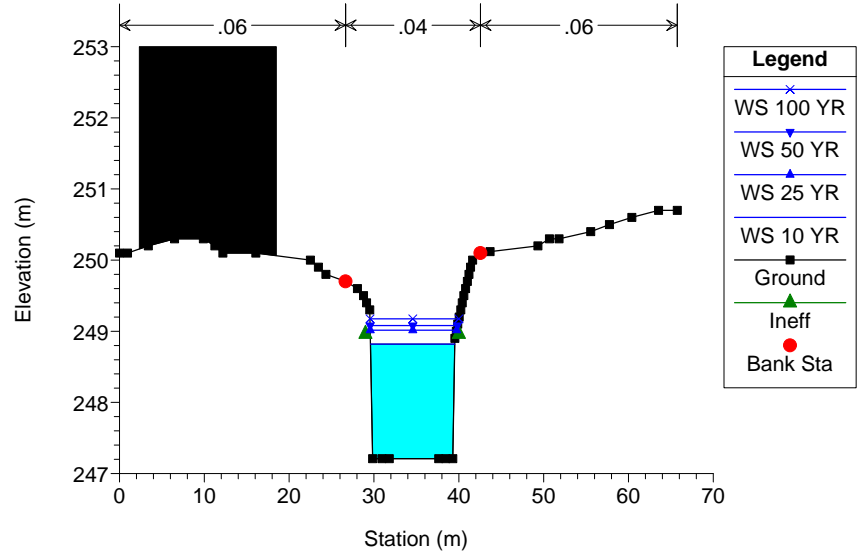




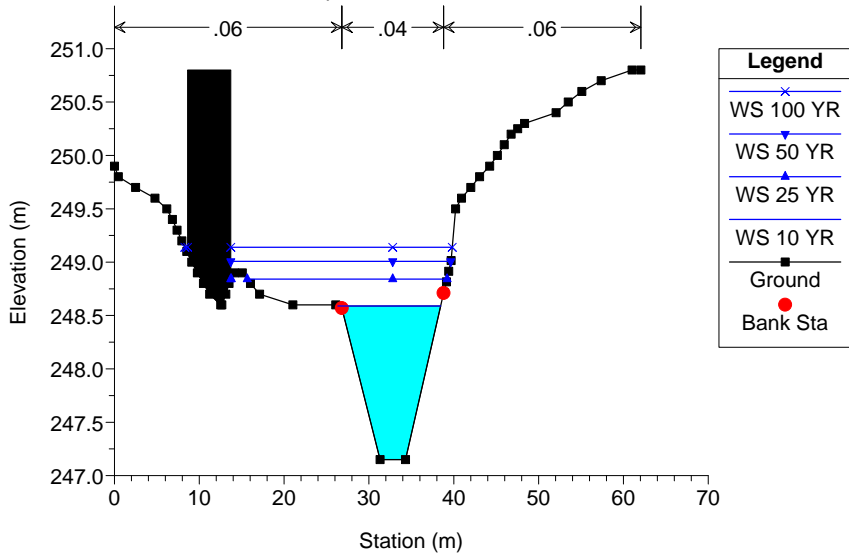
River = Sophia Reach = 1 RS = 1473 BR



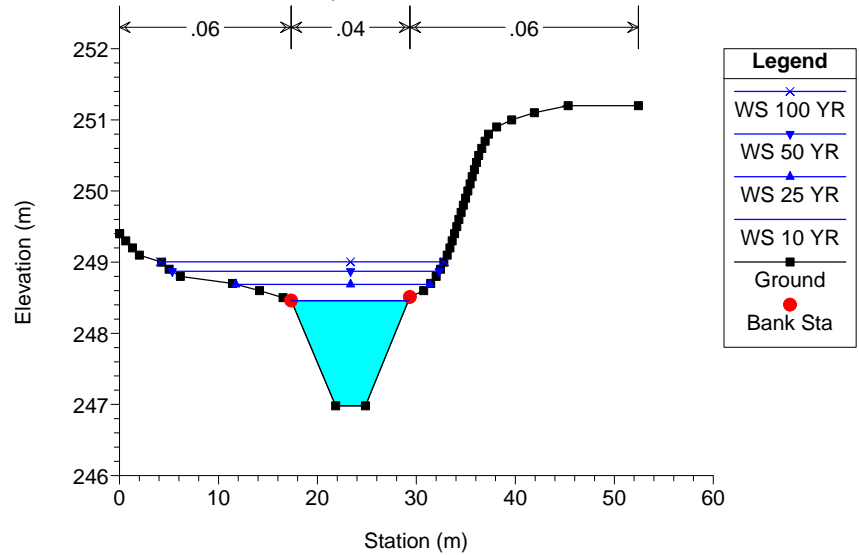
River = Sophia Reach = 1 RS = 1455

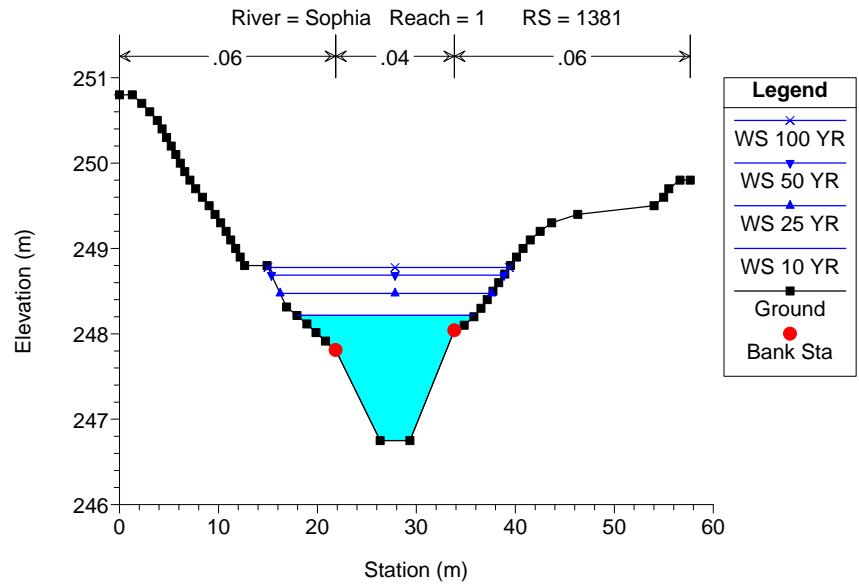
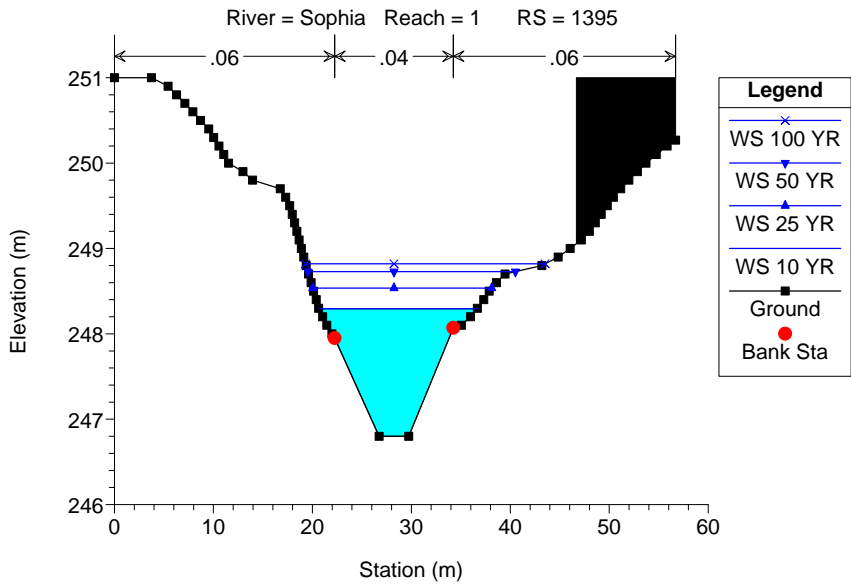
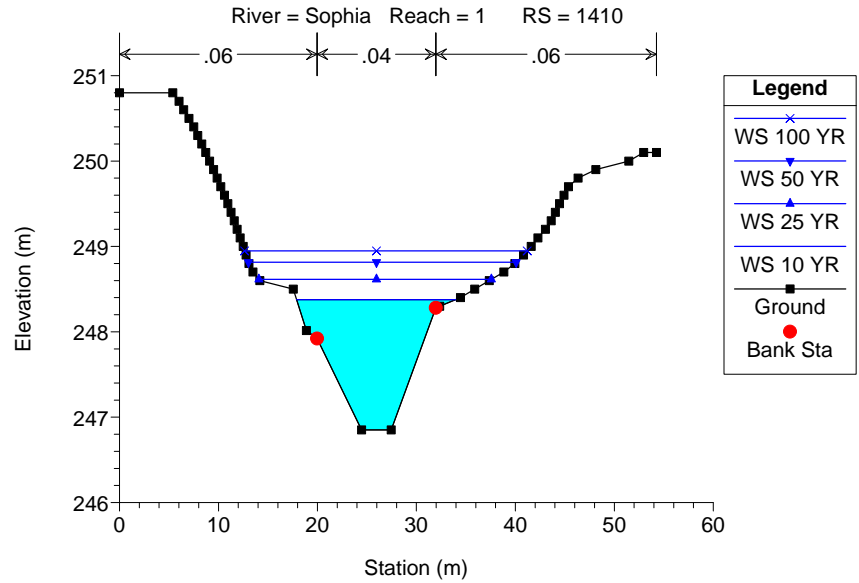
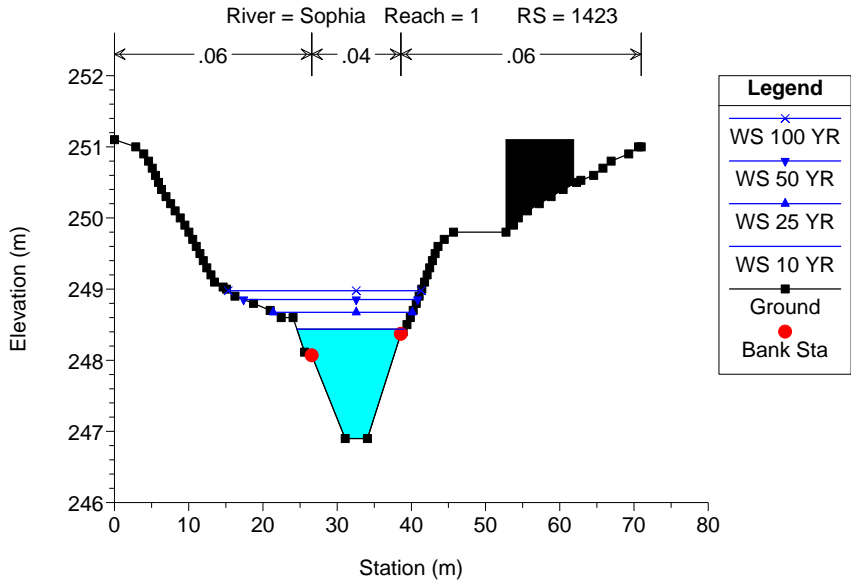


River = Sophia Reach = 1 RS = 1449

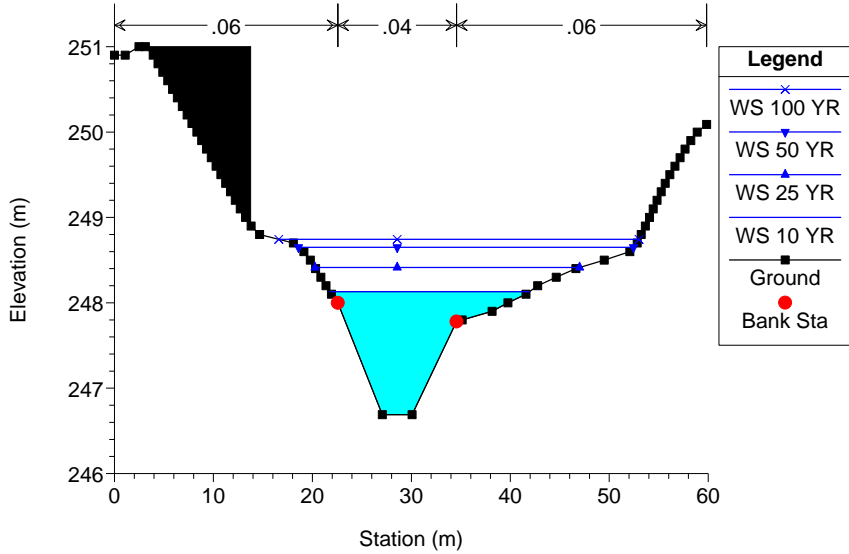


River = Sophia Reach = 1 RS = 1432

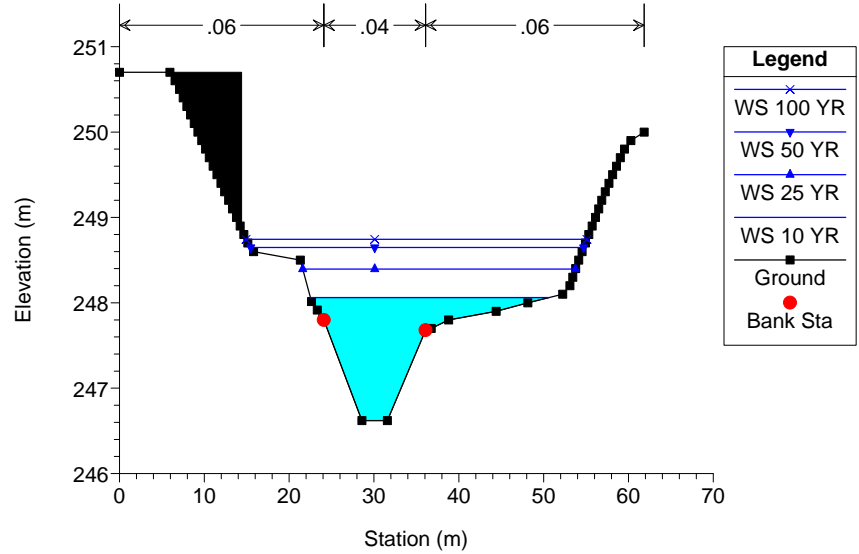




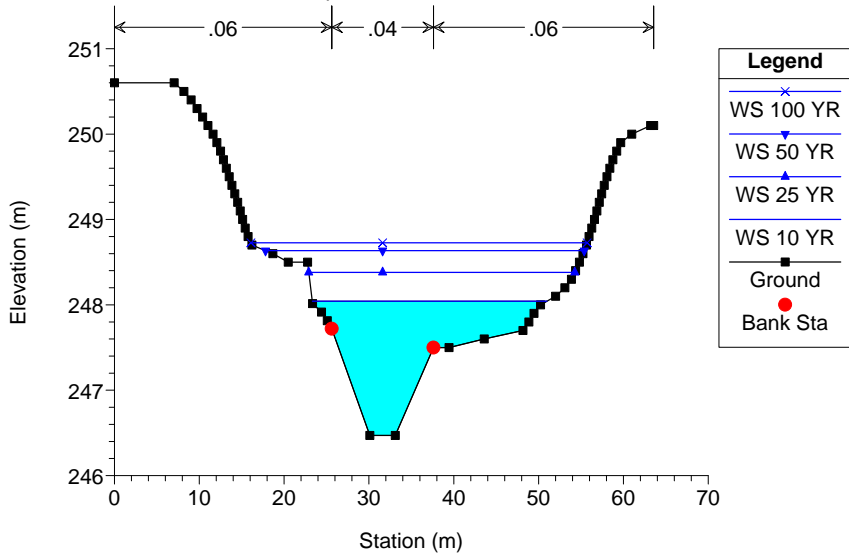
River = Sophia Reach = 1 RS = 1366



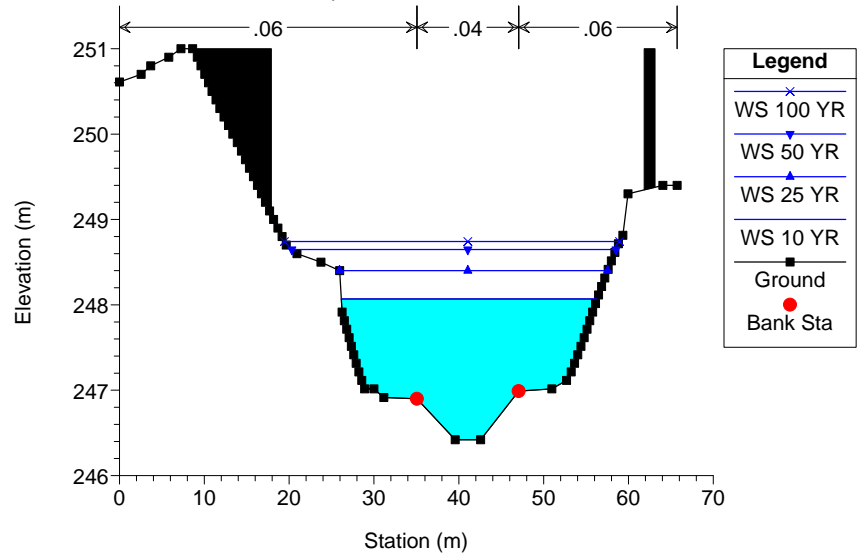
River = Sophia Reach = 1 RS = 1351

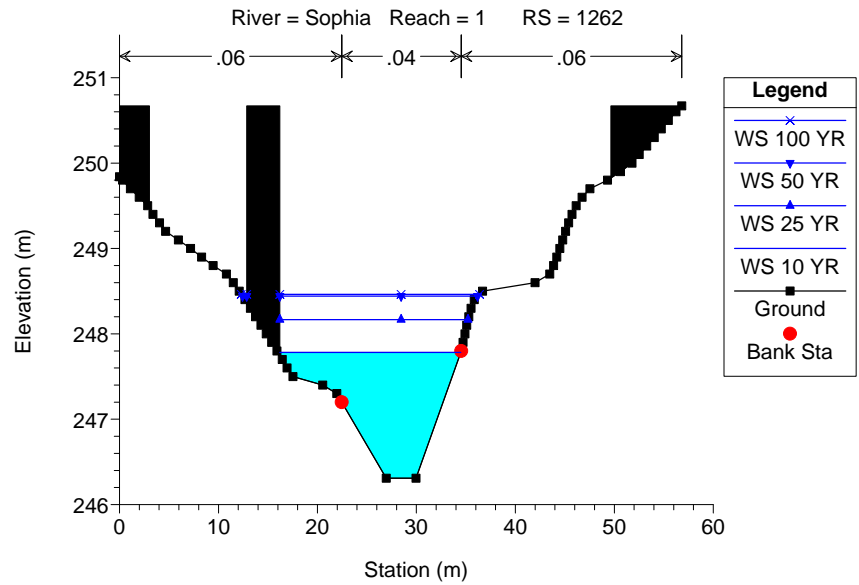
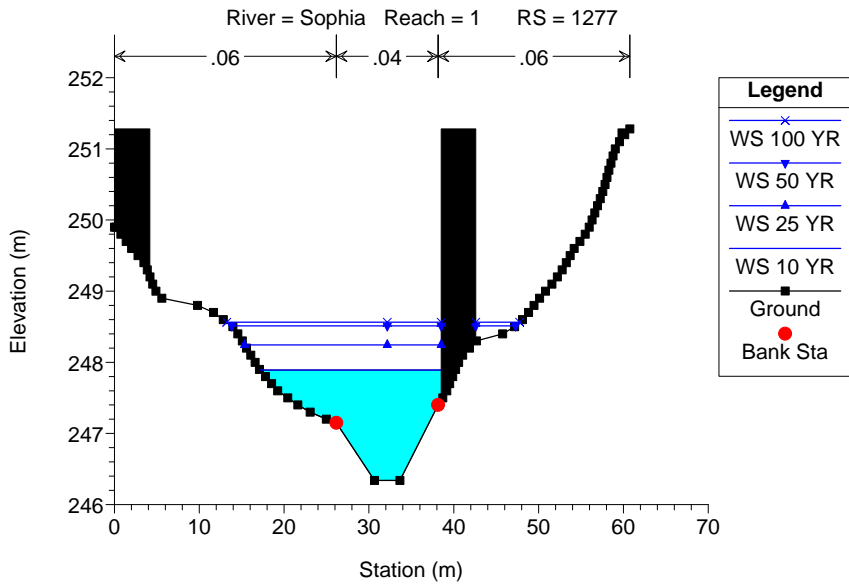
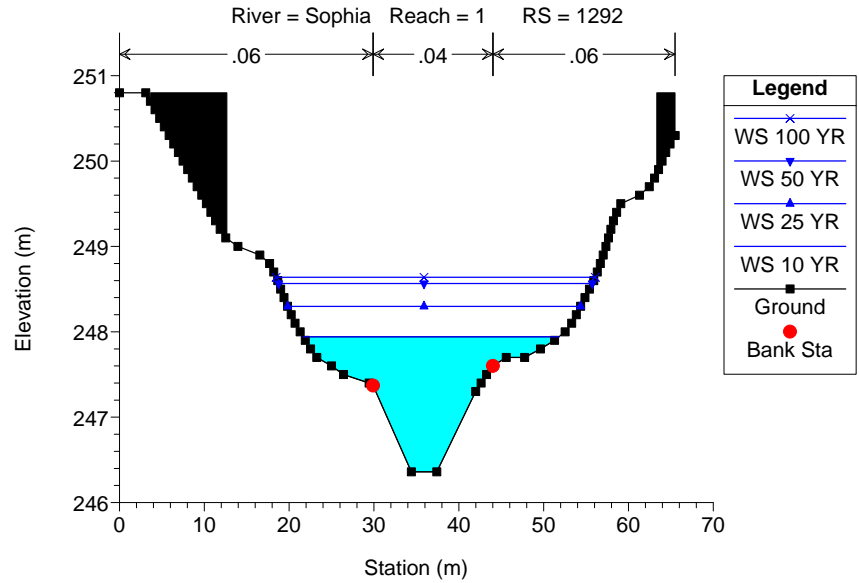
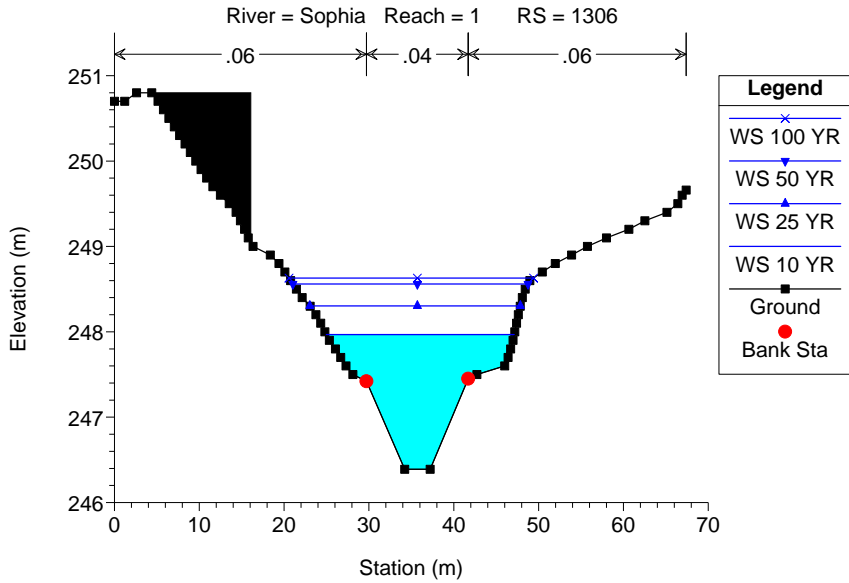


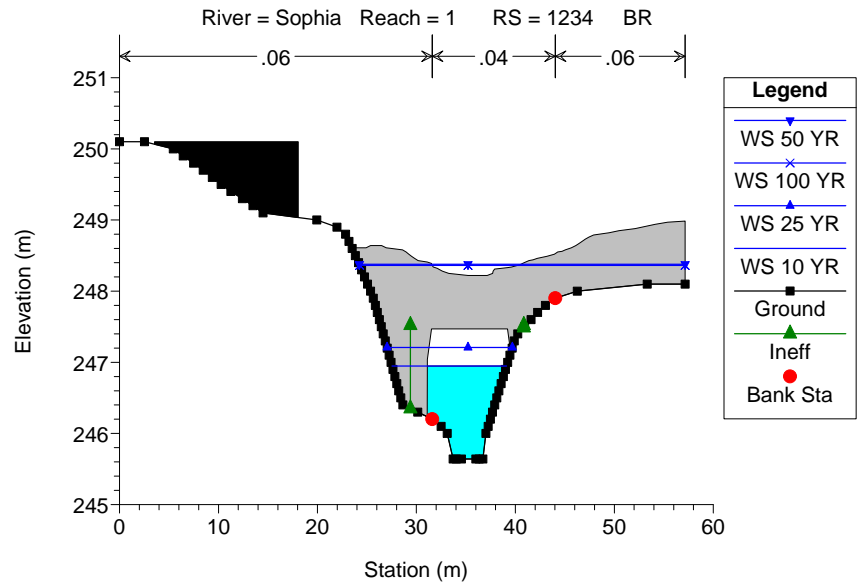
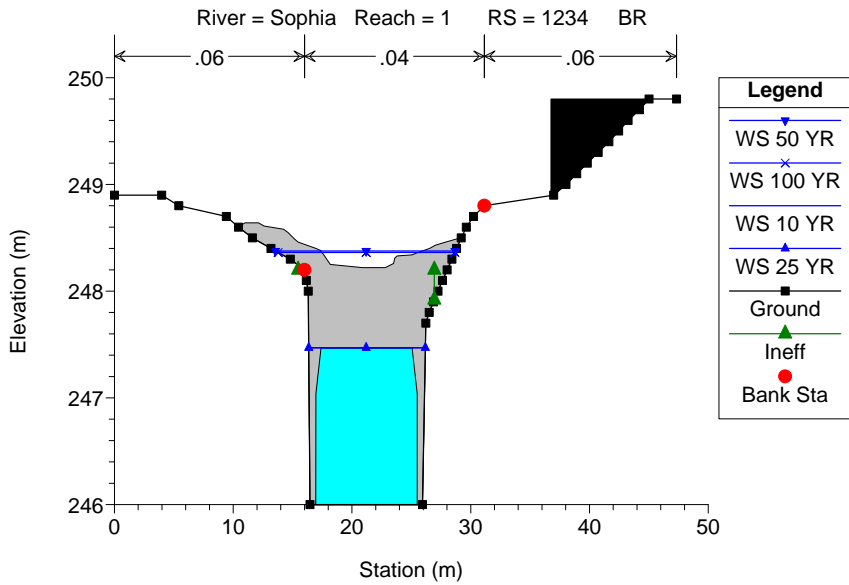
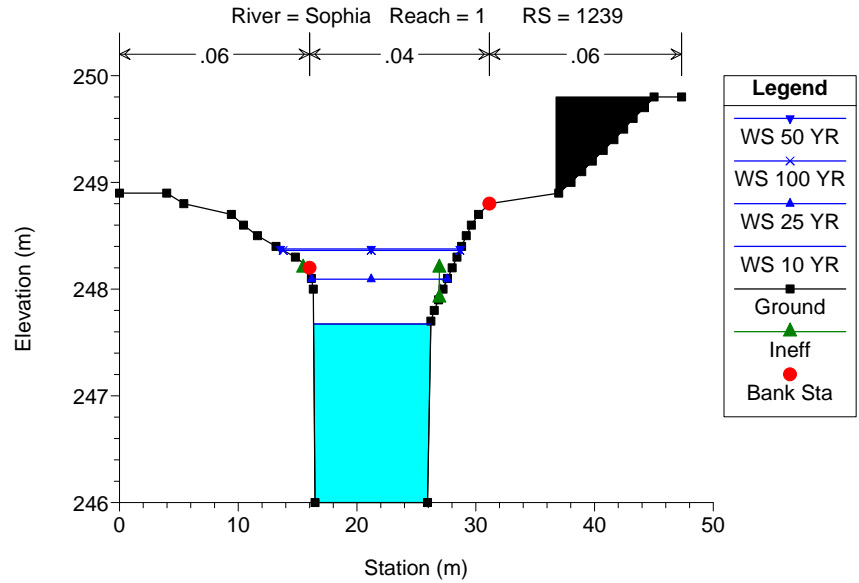
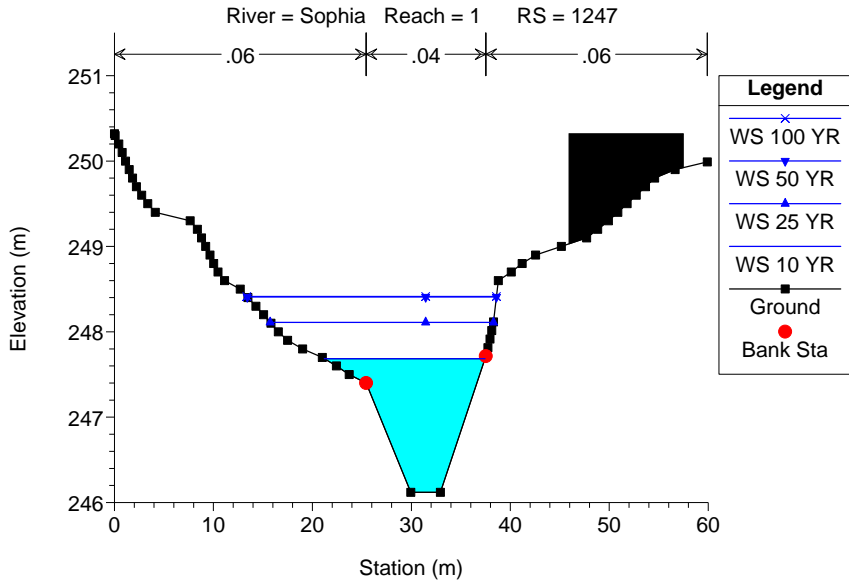
River = Sophia Reach = 1 RS = 1336

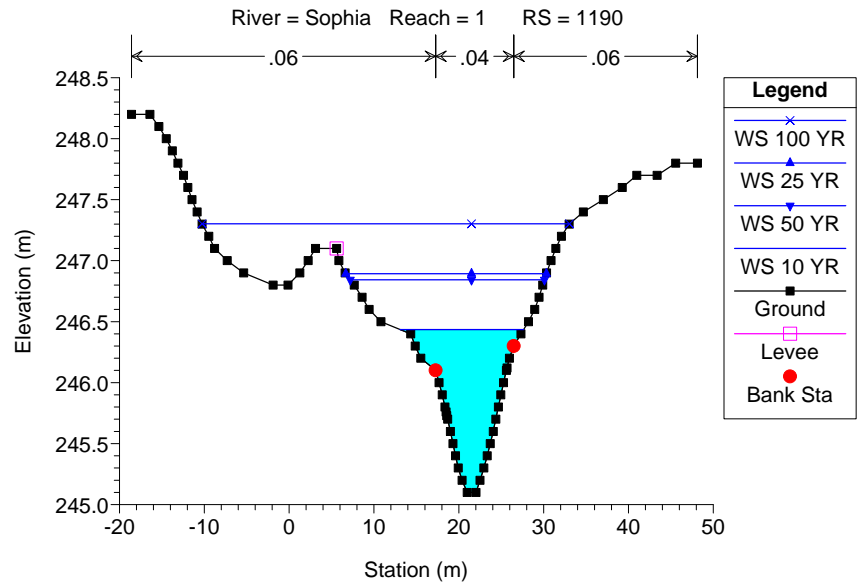
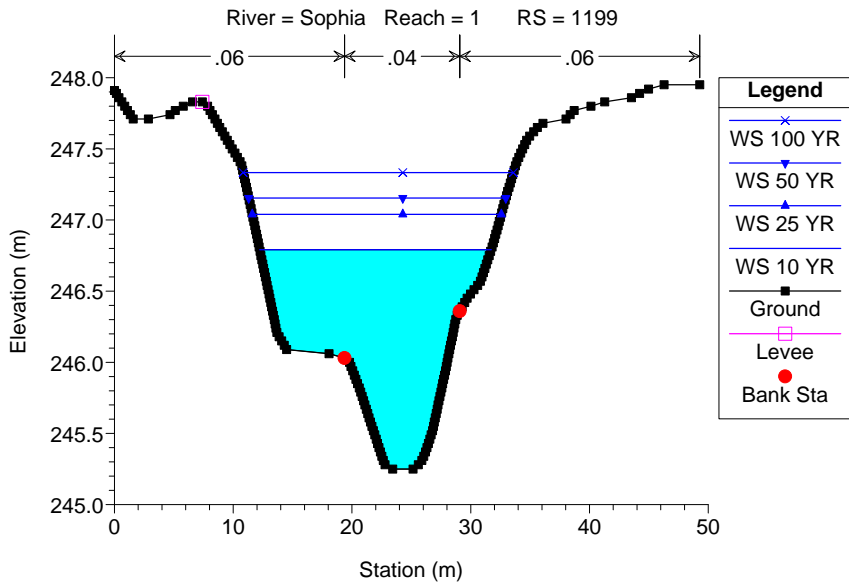
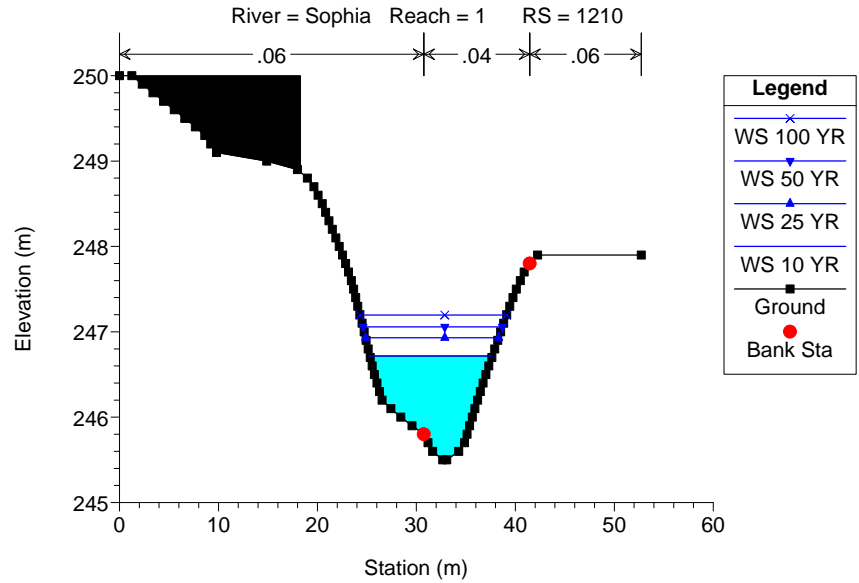
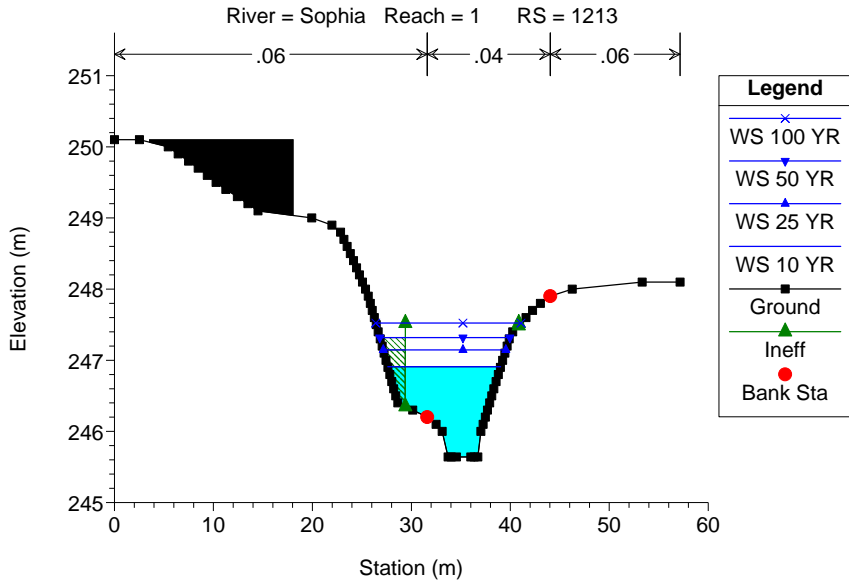


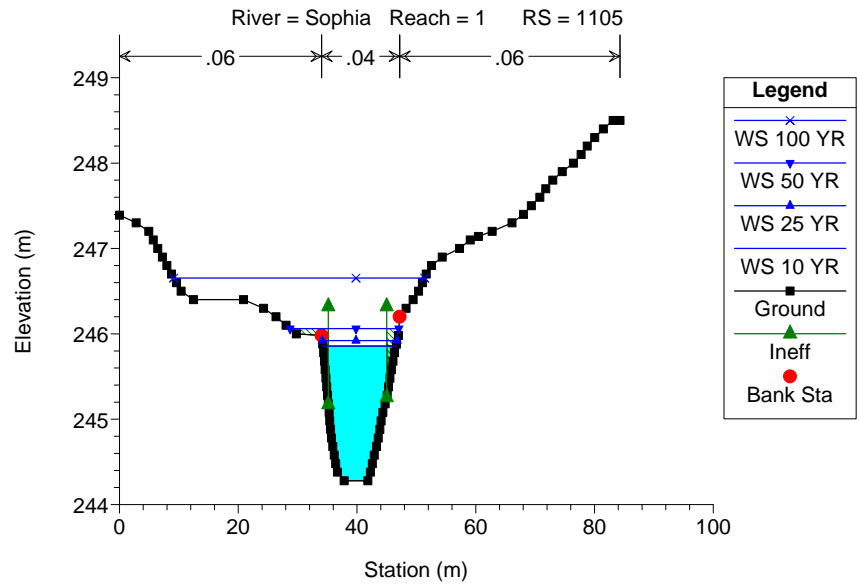
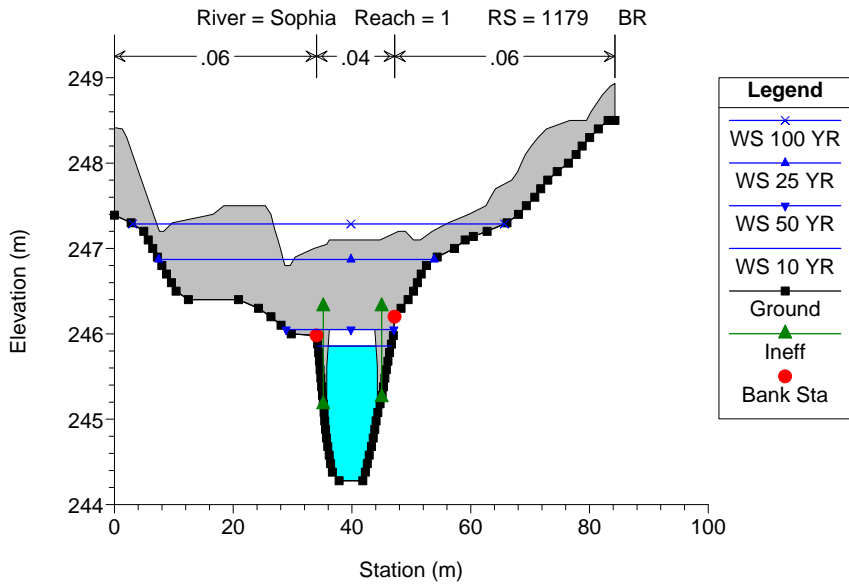
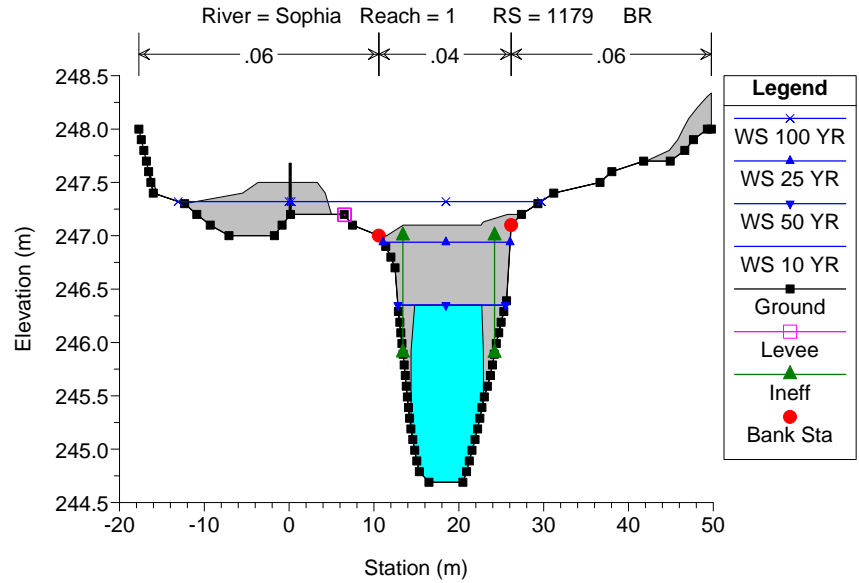
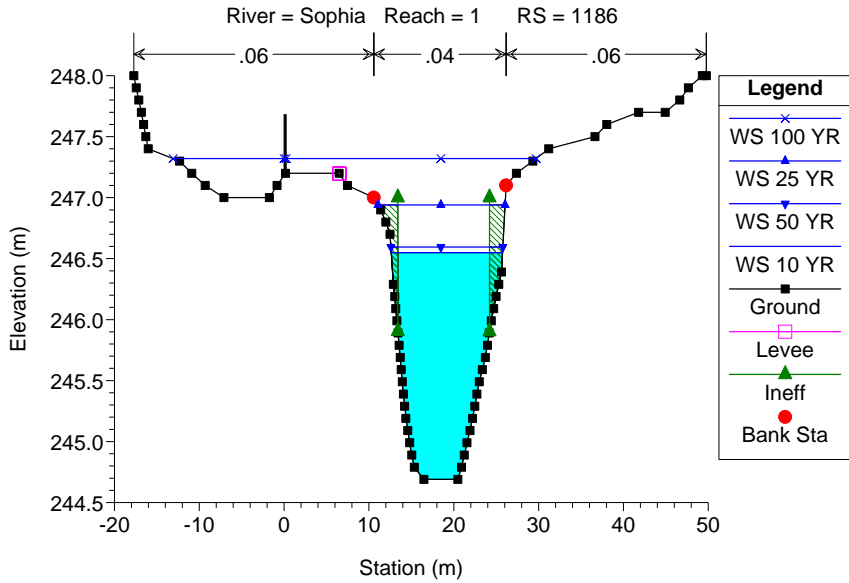
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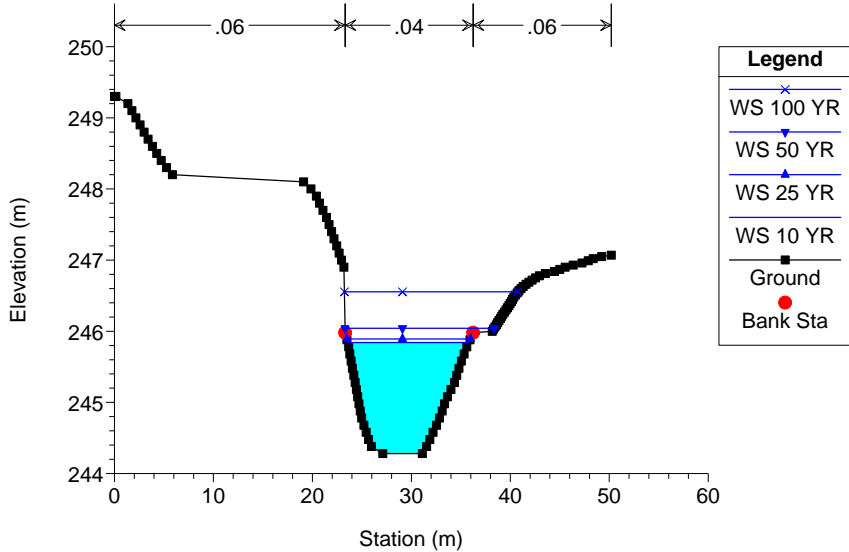




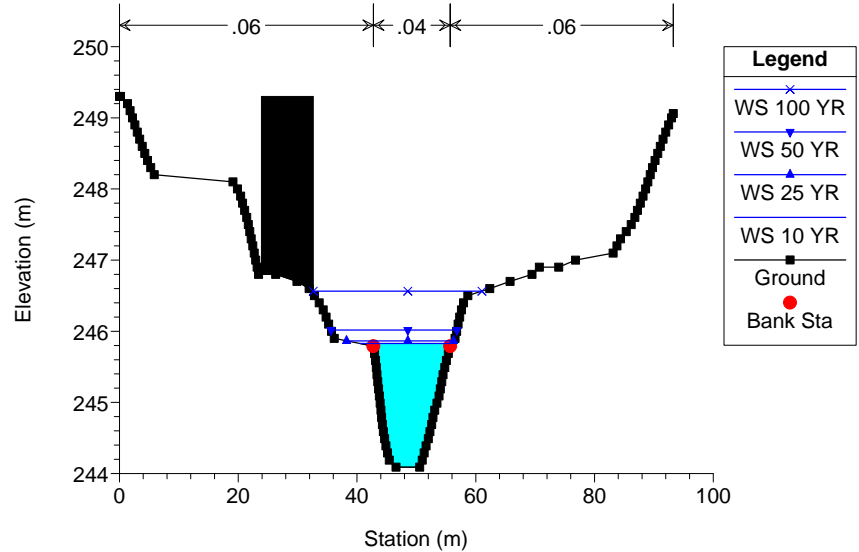




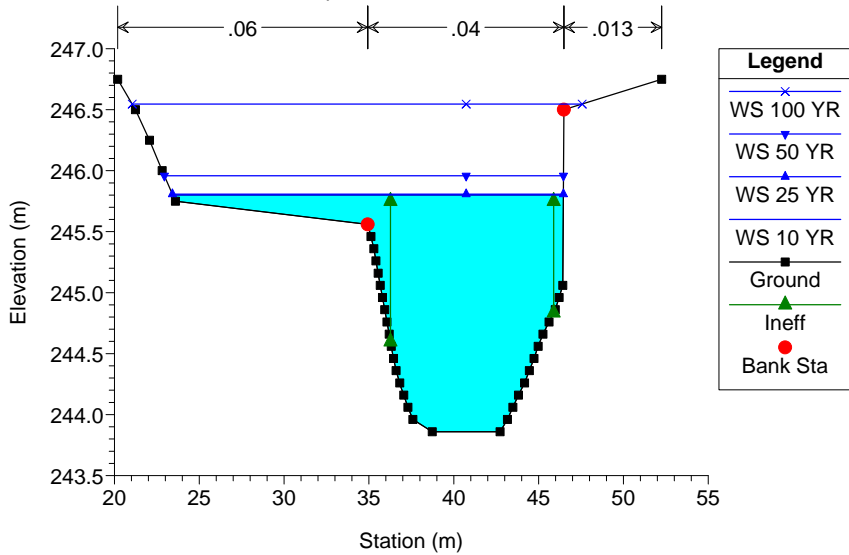
River = Sophia Reach = 1 RS = 1099



River = Sophia Reach = 1 RS = 1091



River = Sophia Reach = 1 RS = 1080



River = Sophia Reach = 1 RS = 1065 BR

