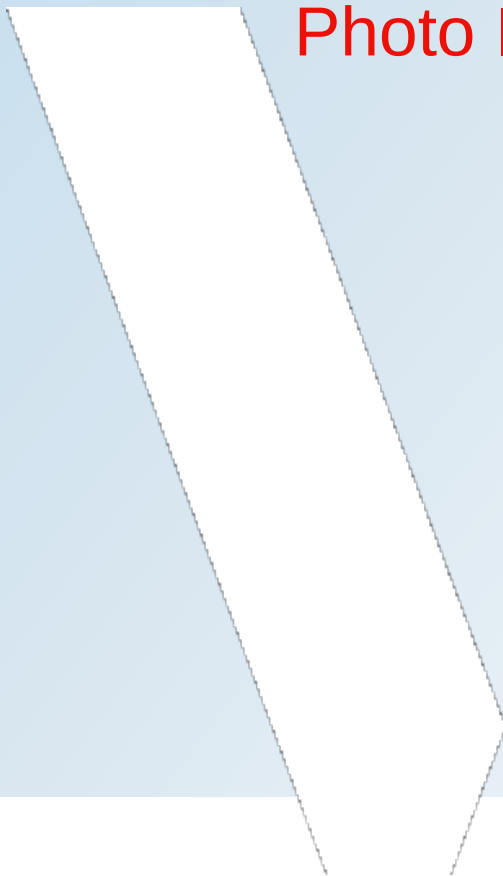


APPENDIX

A

Watercourse Crossing Structures
Photo Inventory



September 5, 2019 Site Visit

Photo Inventory

CULVERT 1



Photo #1: Looking at the downstream end of culvert discharging into C1. Located a short distance upstream of C1.



Photo #2: Looking inside the downstream end of the culvert discharging into C1. Located a short distance upstream of C1.



Photo #3: Looking at the upstream end of C1.

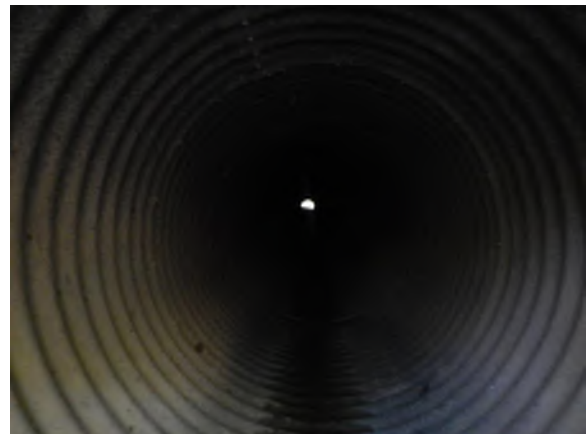


Photo #4: Looking inside the upstream end of culvert C1.



Photo #5: Looking inside the upstream end of culvert C1.



Photo #6: Looking inside the downstream end of culvert C1.



Photo #7: Looking inside the downstream end of culvert C1.



Photo #8: Looking at the vegetated area downstream from C1.

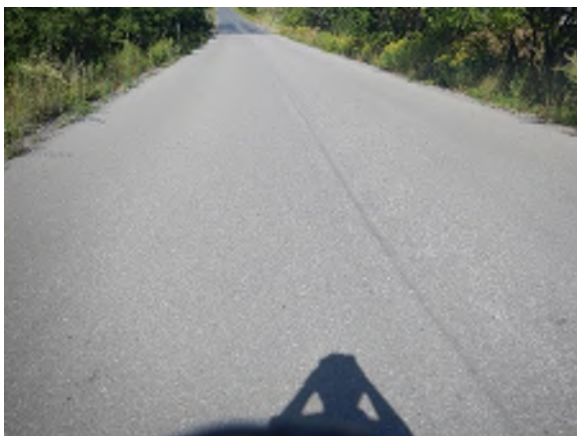


Photo #9: Looking northwest down Hidden Valley Rd. at the condition of the road above C1.

CULVERT 2



Photo #10: Looking at the downstream end of C2.



Photo #12: Looking at the channel condition of the downstream of C1.



Photo #14: Looking at the slope to the right of C1.



Photo #11: Looking at the downstream end of C1. Culvert is perched due to erosion.



Photo #13: Looking at the pool at the downstream end of C1.

CULVERT 3



Photo #15: Looking at the downstream end of C3.



Photo #16: Looking inside the downstream end of C3.



Photo #17: Looking at the channel upstream of C3.



Photo #18: Looking at the vegetation upstream of C3.



Photo #19: Looking southeast down Hidden Valley Rd. at the road condition above C3.

CULVERT 4



Photo #20: Looking at the downstream end of C4.



Photo #21: Looking inside the downstream end of C4.



Photo #22: Looking south at the surrounding wetland downstream of C4.



Photo #23: Looking east at the surrounding wetland downstream of C4.



Photo #24: Looking west at the surrounding wetland downstream of C4.



Photo #25: Looking at the condition of the Highway 8 EBL above C4.

CULVERT 5



Photo #26: Looking at the downstream end of C5.



Photo #27: Looking inside the downstream end of C5.



Photo #28: Looking southeast at the ditch downstream of C5.



Photo #29: Looking northwest at the ditch downstream of C5.



Photo #30: Looking at the upstream end of C5.



Photo #31: Looking inside the upstream end of C5.



Photo #32: Looking at the vegetation at the upstream end of C5.



Photo #33: Looking at the condition of the road surface above C5.

CULVERT 6



Photo #34: Looking at the downstream end of C6.



Photo #35: Looking inside the downstream end of C6.



Photo #36: Looking east at the ditch downstream of C6.



Photo #37: Looking west at the ditch downstream of C6.



Photo #38: Looking at the upstream end of C6.



Photo #39: Looking inside the upstream end of C6.



Photo #40: Looking at the vegetation surrounding C6.



Photo #41: Looking at the road condition above C6.

DITCH INLET AT KING ST. AND HIGHWAY 401



Photo #42: Looking at the ditch inlet on the south side of King St. and west of the 401 bridge.

SPEED RIVER



Photo #43: Looking at the Speed River the from 285 Fountain St. parking lot.



Photo #44: Looking at the Speed River the from 285 Fountain St. parking lot.

KING ST. BRIDGE & RIVERSIDE DAM



Photo #45: Looking northwest at the King St. bridge from the Keleher's parking lot.



Photo #46: Looking northwest at the King St. bridge from the Keleher's parking lot.



Photo #47: Looking northeast from the King St. East bridge at the CN rail tracks.



Photo #48: Looking northeast from the CN rail tracks at the Riverside Dam.



Photo #49: Looking northeast from the CN rail tracks at the Riverside Dam.



Photo #50: Looking northeast on the CN rail tracks upstream of the Riverside Dam.

KING ST. BRIDGE AT SPEED RIVER



Photo #51: Looking at the upstream end of the King St. bridge at the Speed River.



Photo #52: Looking at the channel upstream of the King St. Bridge.



Photo #53: Looking south at the river downstream of the King St. bridge from the PH Milling parking lot.



Photo #54: Looking southeast at the river downstream of the King St. bridge from the PH Milling parking lot.

EAGLE ST. TRAIN TRACKS



Photo #55: Standing on the rail tracks on the north side of Eagle St. looking north.



Photo #56: Standing on the rail tracks on the north side of Eagle St. looking south.



Photo #57: Standing on the rail tracks on the south side of Eagle St. looking north.



Photo #58: Standing on the rail tracks on the south side of Eagle St. looking south.

CULVERT 7



Photo #59: Looking at the upstream end of C7.



Photo #60: Looking at the channel and vegetation upstream of C7.

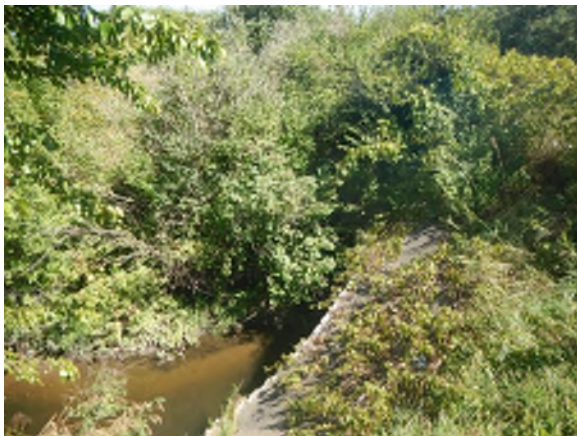


Photo #61: Looking at the downstream end of C7.



Photo #62: Looking at the channel and vegetation downstream of C7.

CULVERT 8



Photo #63: Looking at the upstream end of C8.



Photo #64: Looking at the upstream end of C8.



Photo #65: Looking inside the upstream end of C8.



Photo #66: Looking at the channel upstream of C8.



Photo #67: Looking at the downstream end of C8.



Photo #68: Looking inside the downstream end of C8.



Photo #69: Looking at the channel downstream of C8.



Photo #70: Looking at the road conditions above C8.

CULVERT 9



Photo #71: Looking at the downstream end of C9.



Photo #72: Looking at the channel downstream of C9.



Photo #73: Looking inside the downstream end of C9.



Photo #74: Looking at the upstream end of C9.



Photo #75: Looking at the channel upstream of C9.



Photo #76: Looking at the road surface conditions above C9.

CULVERT 10 (KERR ST. BRIDGE)



Photo #77: Looking at the downstream end of C10.



Photo #78: Looking at the channel downstream of C10.



Photo #79: Looking at the upstream end of C10.



Photo #80: Looking at the channel upstream of C10.

SOPER PARK BRIDGE



Photo #81: Looking at the downstream end of Soper Park Bridge.



Photo #82: Looking at the channel downstream of the Soper Park Bridge.

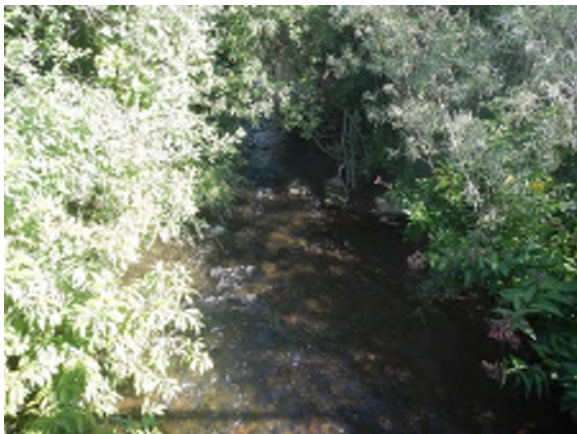


Photo #83: Looking at the upstream end of the Soper Park Bridge.

CULVERT 11



Photo #84: Looking at the upstream end of C11.



Photo #85: Looking at the channel upstream of C11.



Photo #86: Looking at the pedestrian pathway northwest of C11.



Photo #87: Looking at the vegetation in the upstream channel of C11.

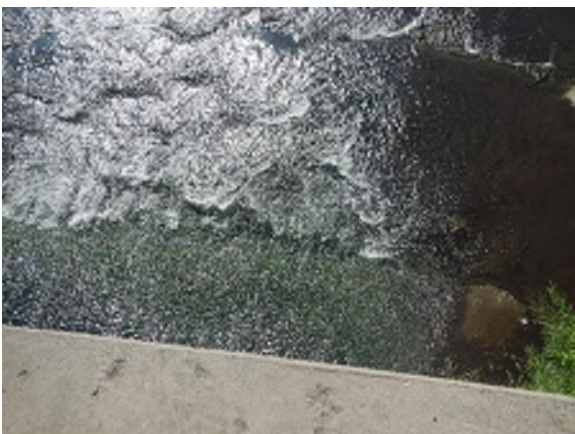


Photo #88: Looking at the downstream end of C11 (Grand River outlet).

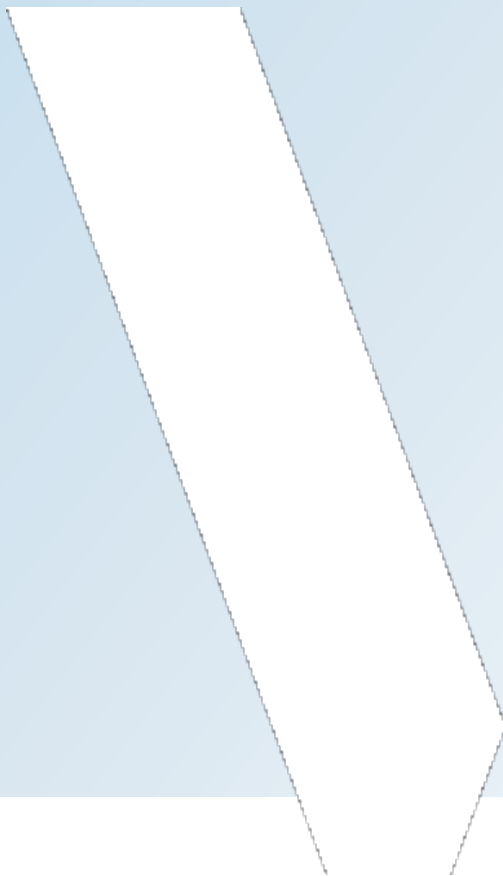


Photo #89: Looking at the downstream end of C11 (Grand River outlet).

APPENDIX

B

Grand River

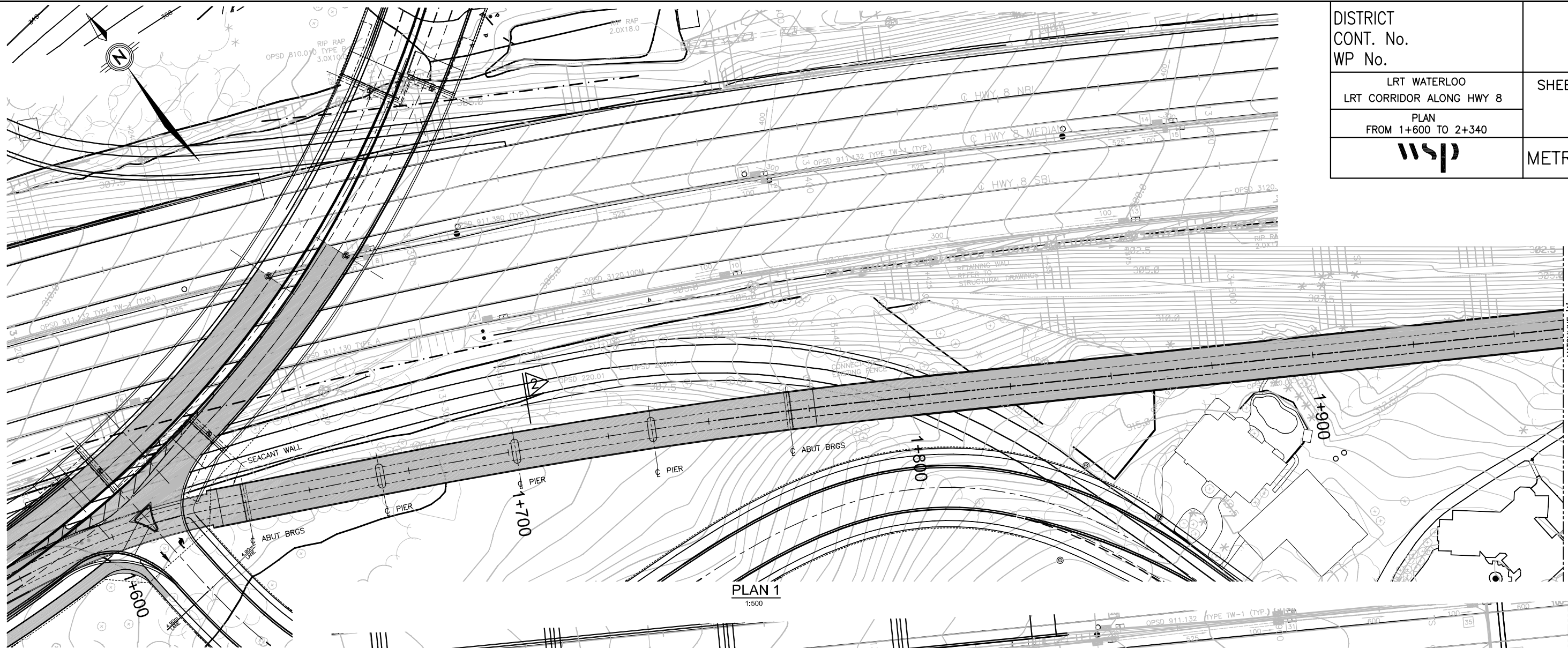


APPENDIX

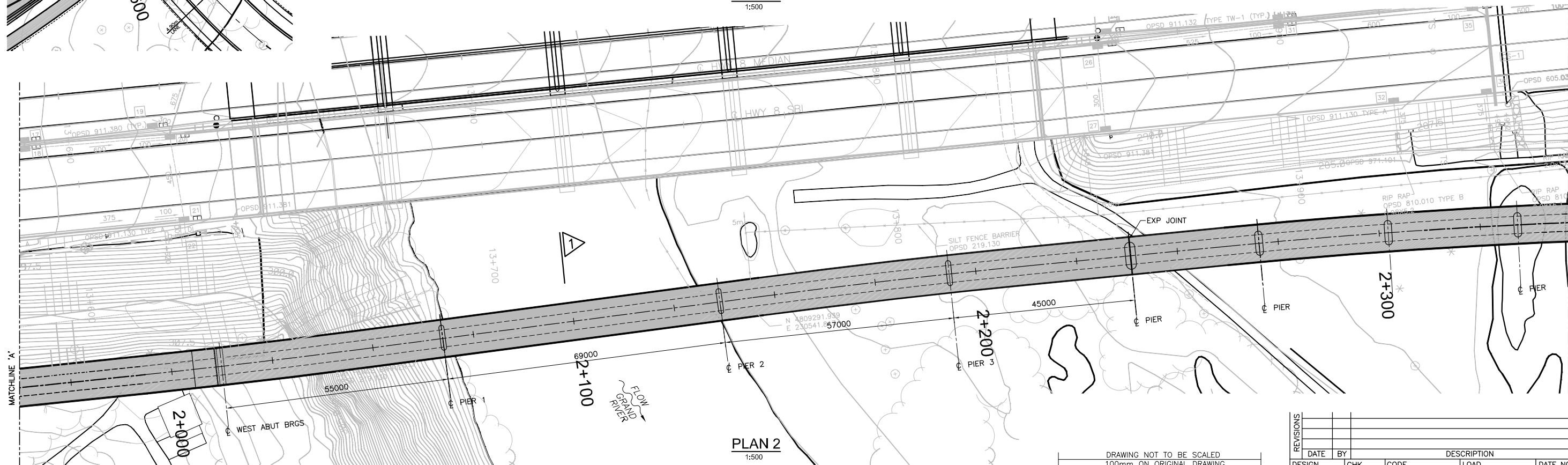
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DATE PLOTTED: 11/7/2018 10:38:36 AM BY: TSENERE, ELENA

MINISTRY OF TRANSPORTATION, ONTARIO
PR-D-707 88-05



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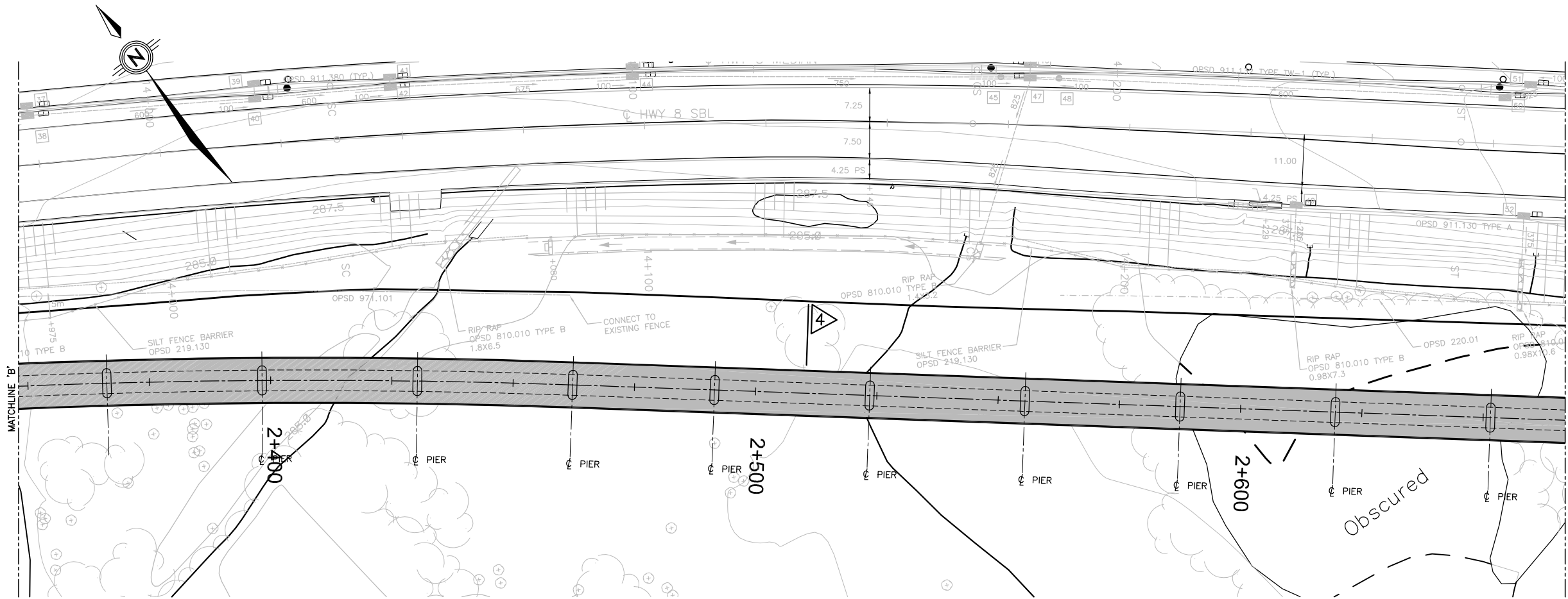


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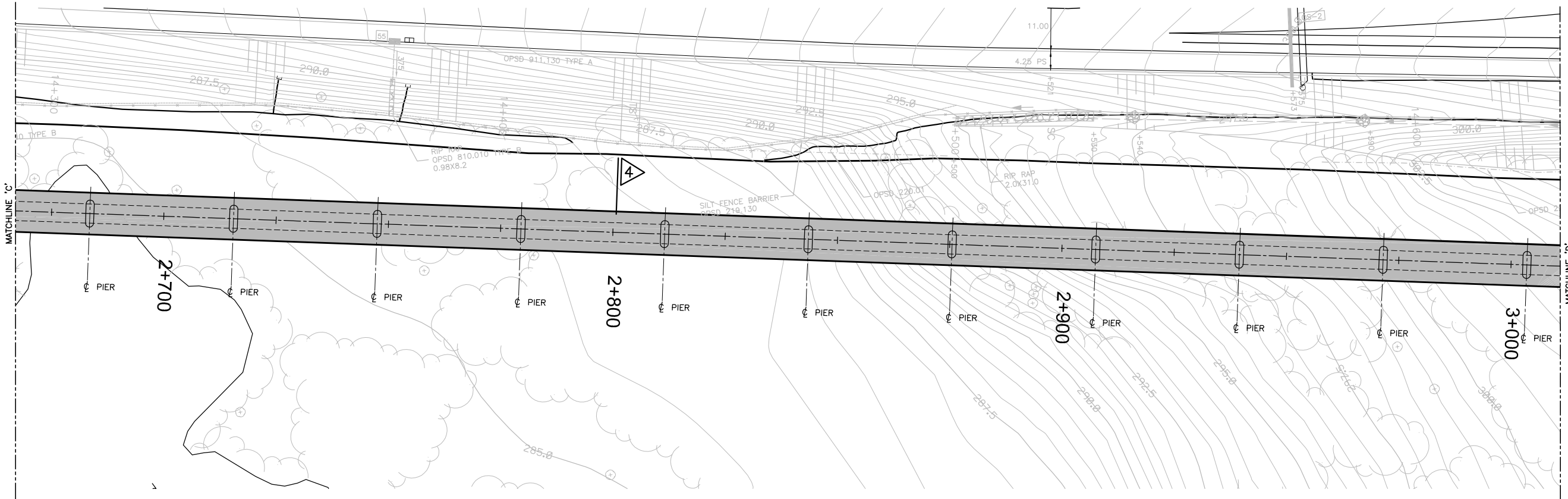
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	METRIC



PLAN 3
1:500



PLAN 4
1:500

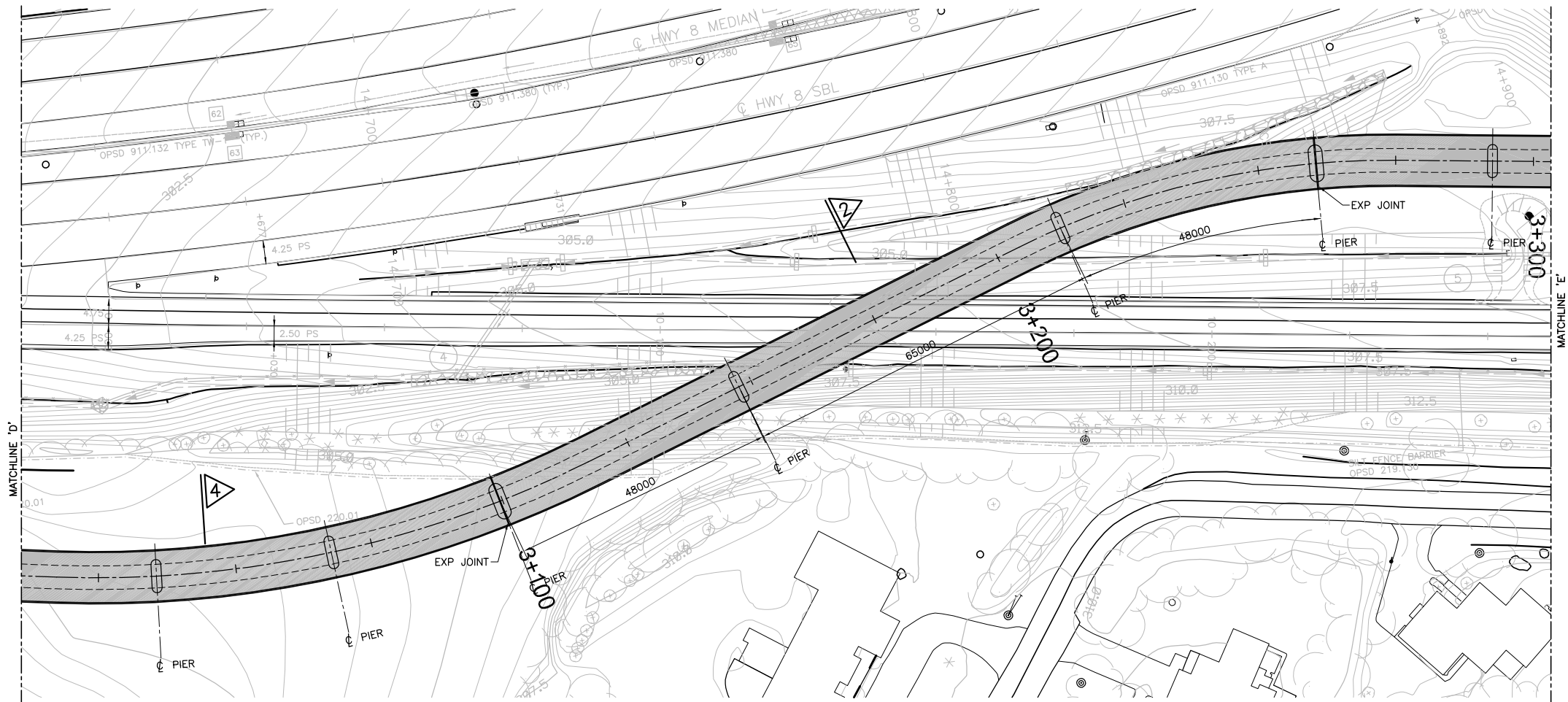
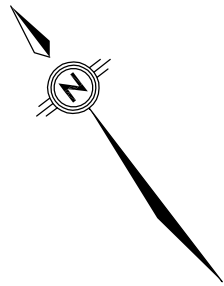
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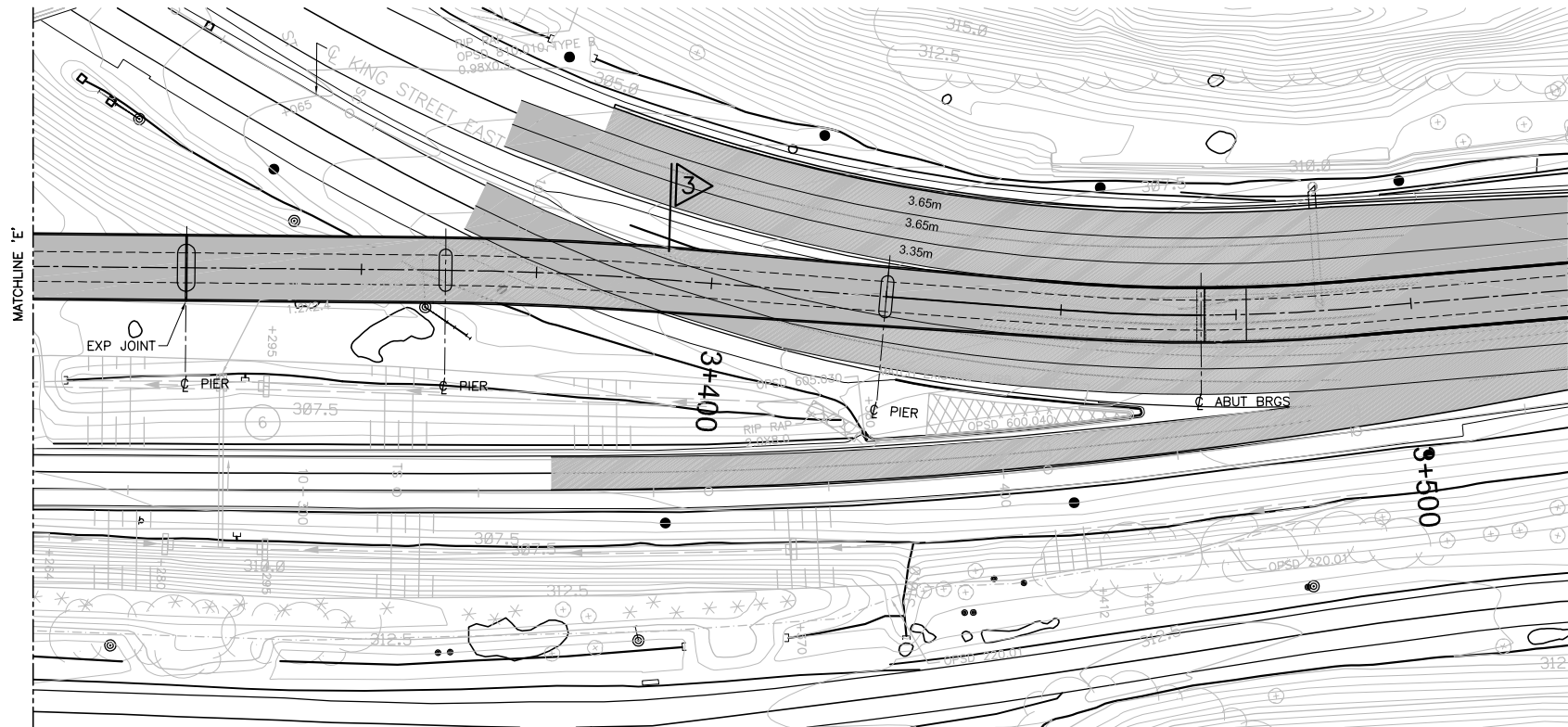
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MINISTRY OF TRANSPORTATION, ONTARIO
PR-D-702 88-05



PLAN 5
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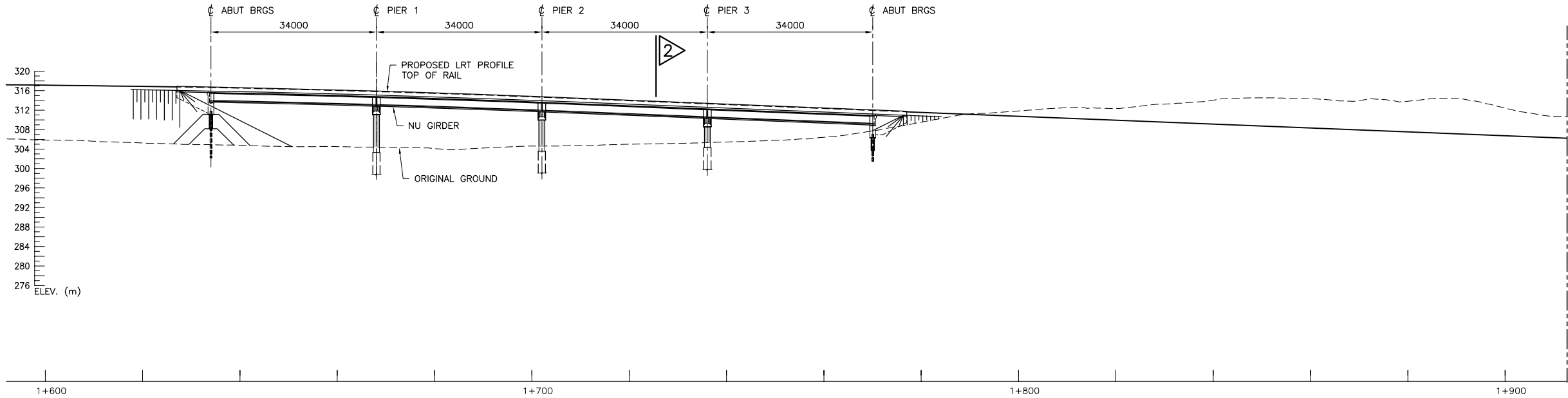


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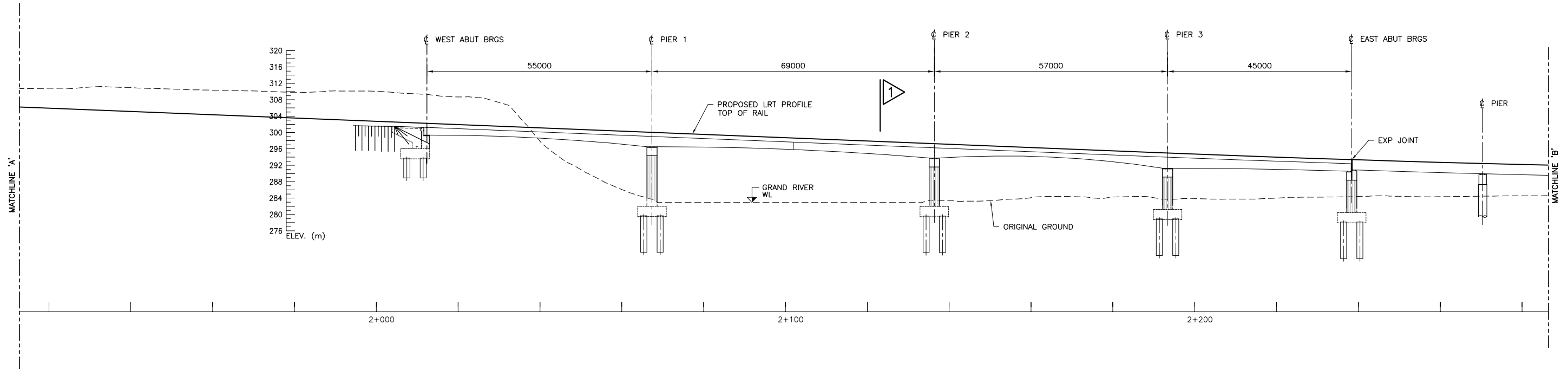
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WP No.	
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PLAN FROM 3+000 TO 3+500	
	METRIC

REVISIONS						
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ELEVATION 1
1:500



ELEVATION 2
1:500

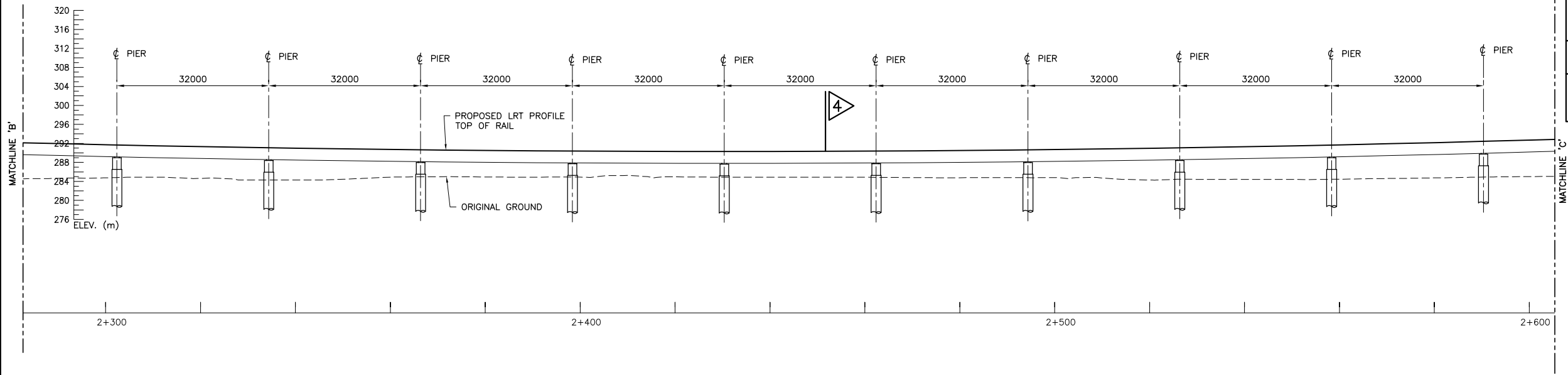
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ELEVATION FROM 1+600 TO 2+280	
wsp	METRIC

DRAWING NOT TO BE SCALED
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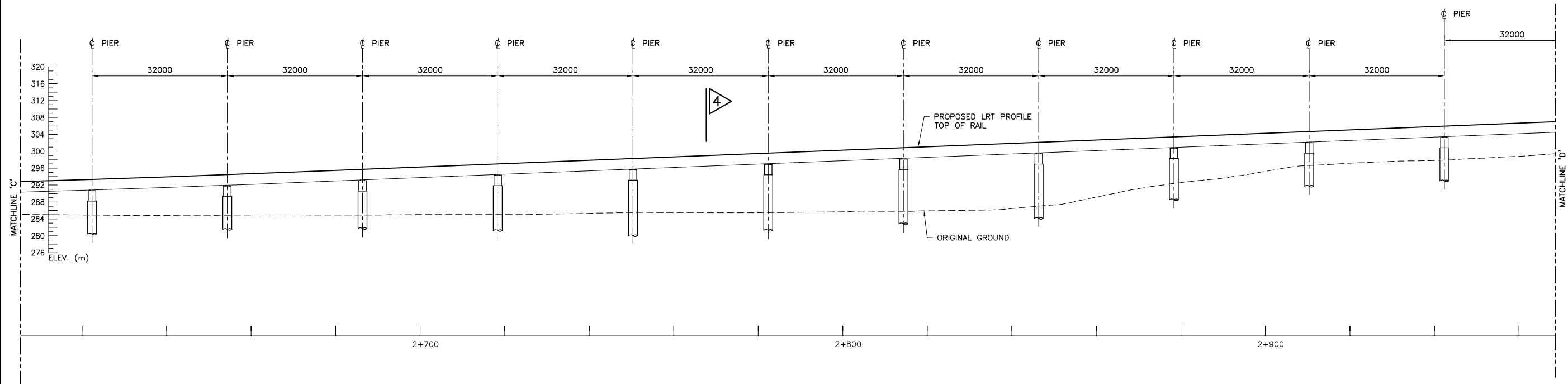
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MINISTRY OF TRANSPORTATION, ONTARIO
PR-D-702 88-05

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DATE PLOTTED: 11/7/2018 11:25:44 AM BY: TSENTERE, ELENA



ELEVATION 3
1:500



ELEVATION 4
1:500

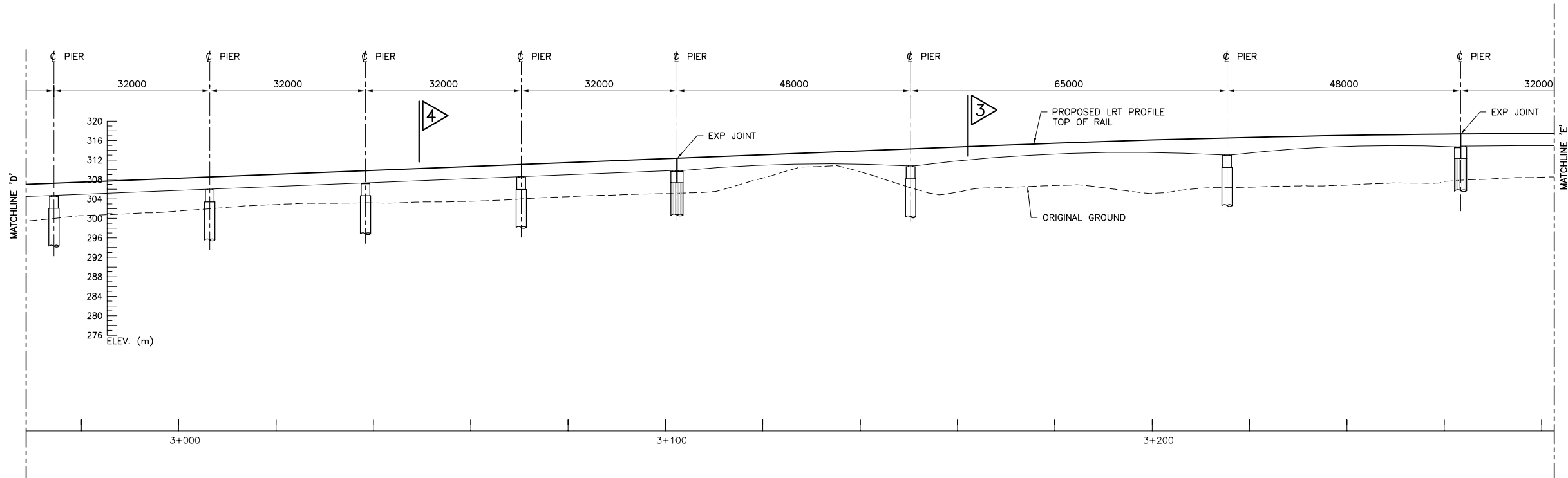
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ELEVATION FROM 2+280 TO 2+960	
	METRIC

DRAWING NOT TO BE SCALED
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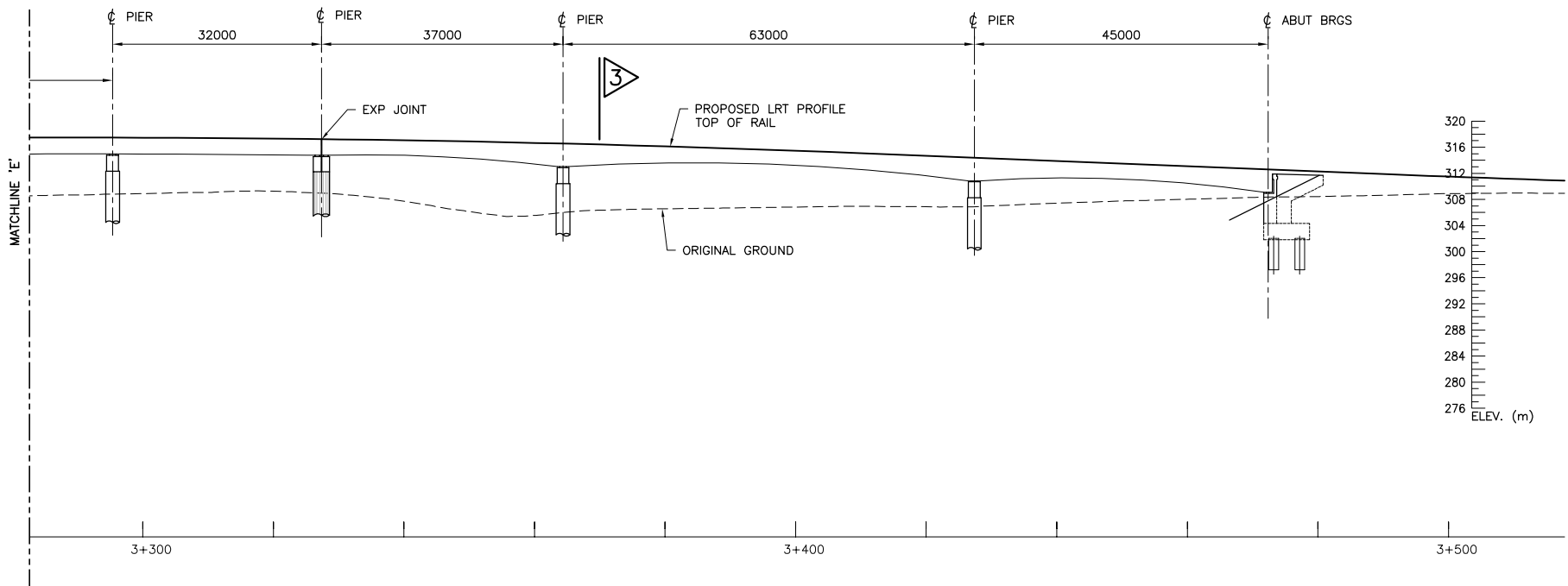
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DATE PLOTTED: 11/7/2018 11:26:05 AM BY: TSENTERE, ELENA

PR-D-702 88-05
MINISTRY OF TRANSPORTATION, ONTARIO



ELEVATION 5
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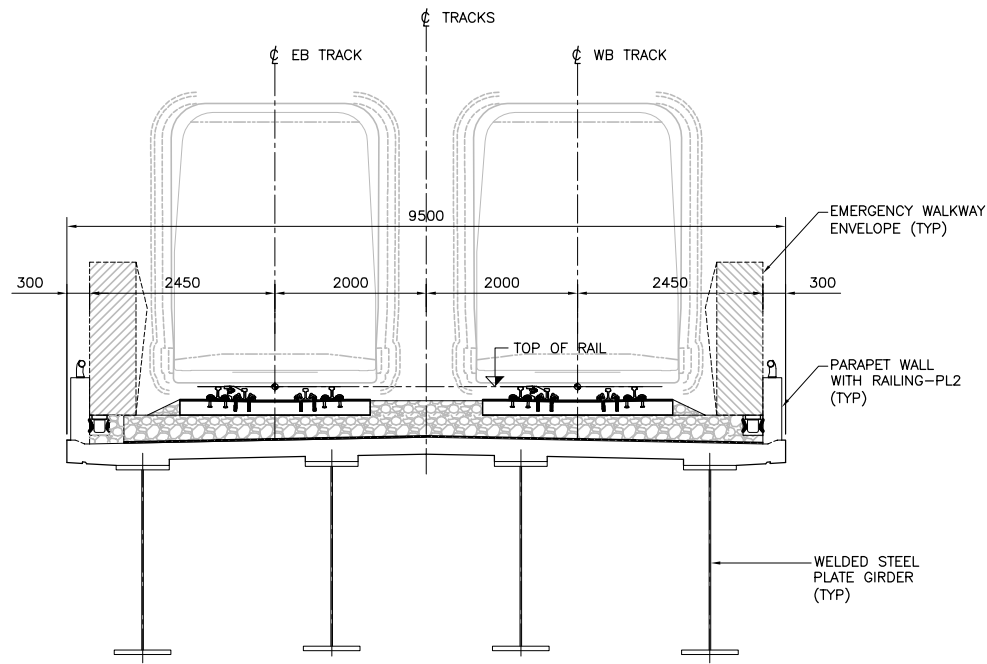


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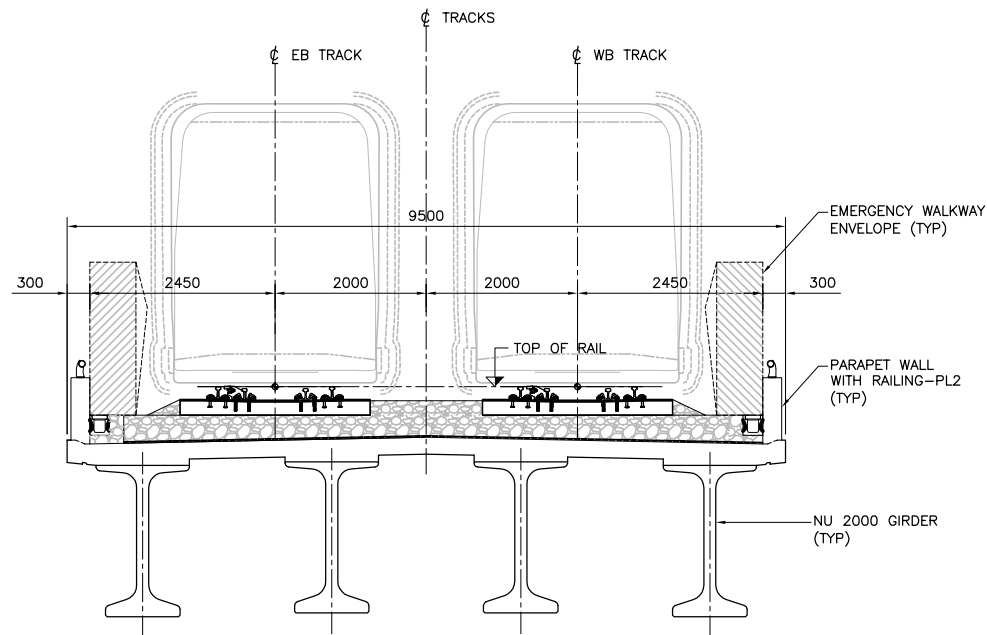
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WP No.	
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ELEVATION FROM 2+960 TO 3+500	
	METRIC

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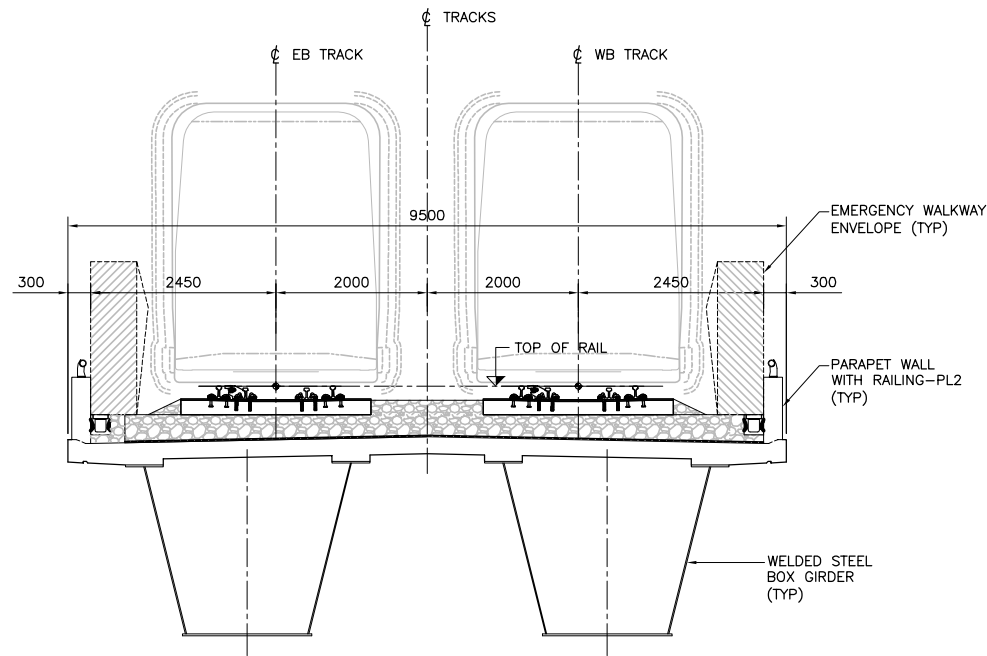
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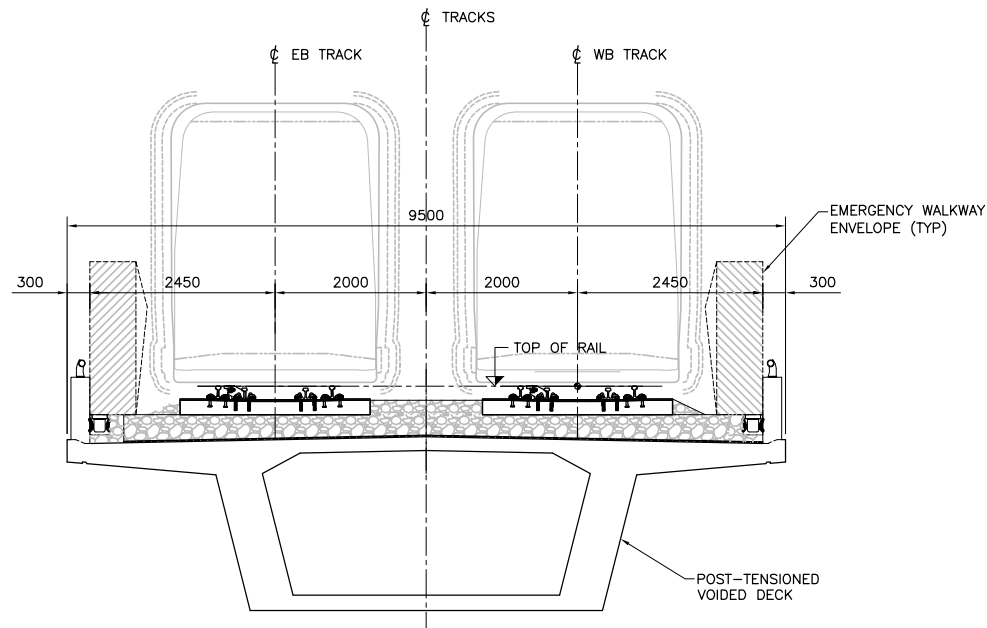
1
1:50
(OVER GRAND RIVER)



2
1:50



3
1:50



4
1:50

TYPICAL CROSS SECTIONS

1:50

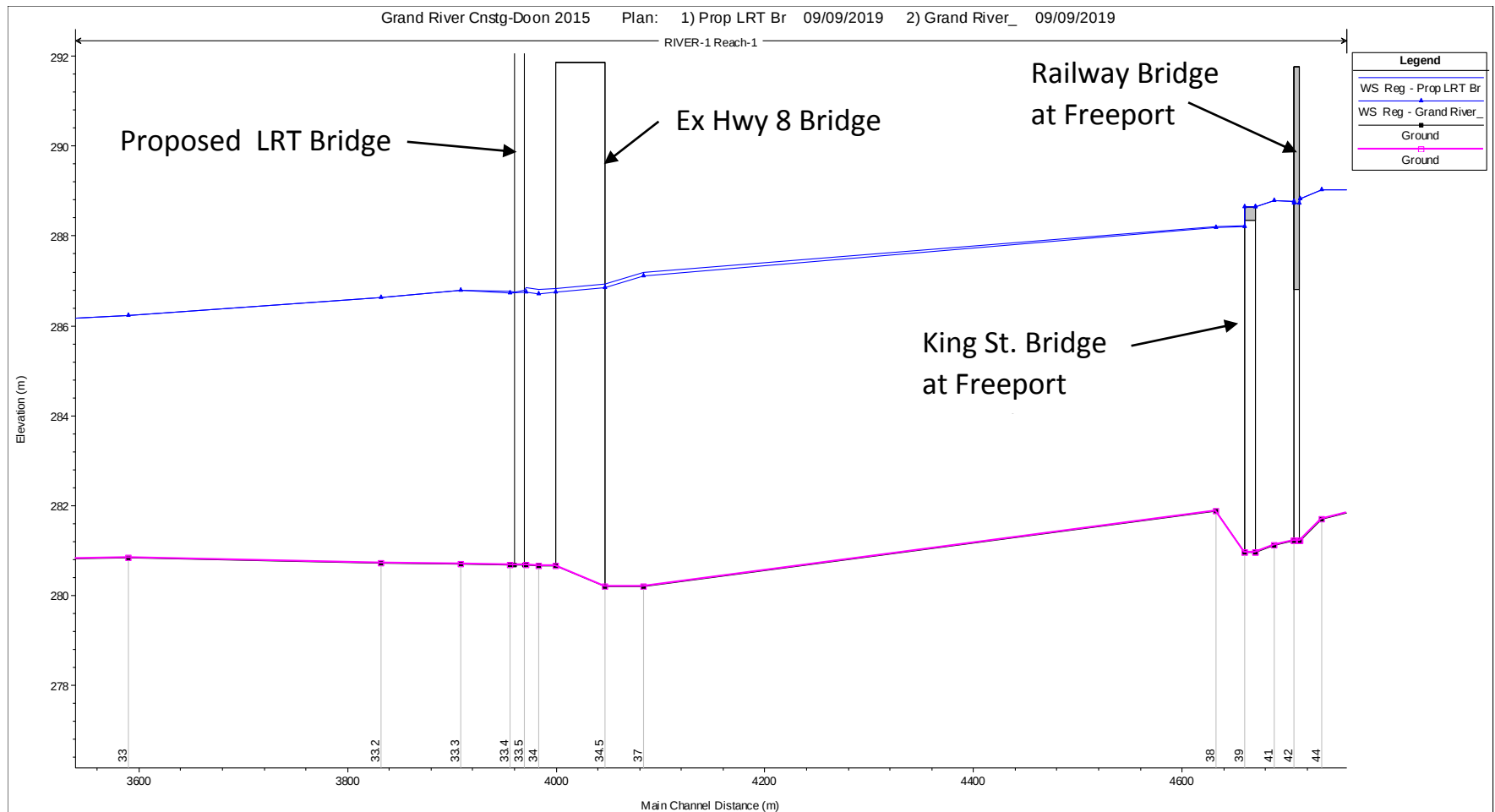
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TYPICAL CROSS SECTIONS	
	METRIC

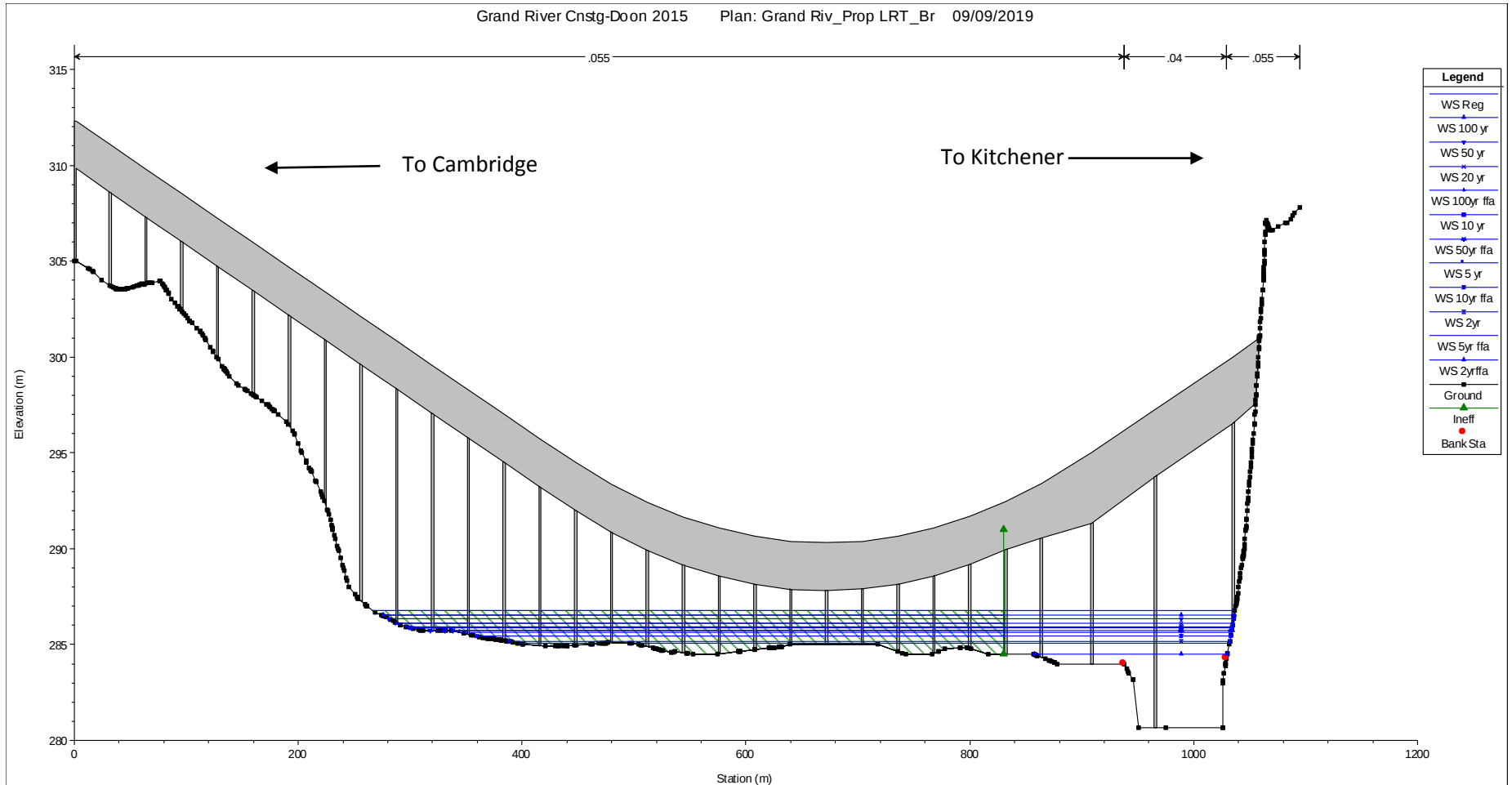
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APPENDIX

B-2 Hydraulic Modelling Output



Grand River Crossing – Existing and Proposed Water Surface Profiles (Regional Storm)



Grand River Crossing – Proposed LRT Bridge Water Surface Profiles

Plan: Ex_Updated

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
RIVER-1	Reach-1	43	Reg	2020	281.21	288.82	285	289.05	0.000591	2.12	953.98	179.92	0.26
RIVER-1	Reach-1	43	100 yr	1740	281.21	288.01	284.74	288.23	0.000685	2.08	834.57	173.86	0.28
RIVER-1	Reach-1	43	50 yr	1580	281.21	287.75	284.58	287.95	0.000658	1.98	797.1	171.96	0.27
RIVER-1	Reach-1	43	20 yr	1360	281.21	287.39	284.37	287.56	0.000614	1.83	744.01	169.26	0.26
RIVER-1	Reach-1	43	10 yr	1160	281.21	287.04	284.15	287.18	0.000567	1.68	692.44	166.65	0.25
RIVER-1	Reach-1	43	5 yr	986	281.21	286.69	283.93	286.81	0.000529	1.54	641.43	164.06	0.23
RIVER-1	Reach-1	43	2yr	696	281.21	286.05	283.53	286.13	0.000444	1.27	548.4	159.33	0.21
RIVER-1	Reach-1	43	100yr ffa	1210	281.21	287.13	284.21	287.28	0.000579	1.71	705.76	167.32	0.25
RIVER-1	Reach-1	43	50yr ffa	1060	281.21	286.85	284.03	286.98	0.000543	1.59	664.73	165.24	0.24
RIVER-1	Reach-1	43	10yr ffa	855	281.21	286.41	283.76	286.51	0.000494	1.42	601.05	162.01	0.22
RIVER-1	Reach-1	43	5yr ffa	637	281.21	285.91	283.44	285.98	0.000424	1.21	527.34	158.26	0.2
RIVER-1	Reach-1	43	2yrffa	387	281.21	285.17	282.98	285.21	0.000336	0.92	419.43	152.78	0.17
RIVER-1	Reach-1	42.5		Bridge									
RIVER-1	Reach-1	42	Reg	2020	281.21	288.76	285	288.98	0.000578	2.08	1019.17	179.47	0.26
RIVER-1	Reach-1	42	100 yr	1740	281.21	287.94	284.74	288.16	0.000684	2.07	874.64	173.39	0.28
RIVER-1	Reach-1	42	50 yr	1580	281.21	287.69	284.58	287.89	0.000658	1.97	831.47	171.53	0.27
RIVER-1	Reach-1	42	20 yr	1360	281.21	287.34	284.37	287.51	0.000616	1.82	771.09	168.89	0.26
RIVER-1	Reach-1	42	10 yr	1160	281.21	286.99	284.15	287.13	0.000571	1.67	713.27	166.33	0.25
RIVER-1	Reach-1	42	5 yr	986	281.21	286.66	283.93	286.78	0.000528	1.53	658.75	163.88	0.23
RIVER-1	Reach-1	42	2yr	696	281.21	286.04	283.53	286.12	0.000445	1.27	557.4	159.22	0.21
RIVER-1	Reach-1	42	100yr ffa	1210	281.21	287.08	284.2	287.23	0.000582	1.71	728.13	166.99	0.25
RIVER-1	Reach-1	42	50yr ffa	1060	281.21	286.81	284.03	286.94	0.000547	1.59	682.52	164.95	0.24
RIVER-1	Reach-1	42	10yr ffa	855	281.21	286.39	283.76	286.49	0.000494	1.42	614.42	161.86	0.22
RIVER-1	Reach-1	42	5yr ffa	637	281.21	285.89	283.44	285.97	0.000426	1.21	534.81	158.16	0.2
RIVER-1	Reach-1	42	2yrffa	387	281.21	285.16	282.98	285.21	0.000338	0.92	421.12	152.73	0.17
RIVER-1	Reach-1	41	Reg	2020	281.12	288.8	285.32	288.93	0.000419	1.83	1607.52	395.6	0.22
RIVER-1	Reach-1	41	100 yr	1740	281.12	287.97	284.98	288.11	0.000548	1.91	1284.34	384.29	0.25
RIVER-1	Reach-1	41	50 yr	1580	281.12	287.71	284.8	287.85	0.00055	1.86	1185.88	381.64	0.25
RIVER-1	Reach-1	41	20 yr	1360	281.12	287.35	284.55	287.48	0.000546	1.77	1047.8	377.89	0.25
RIVER-1	Reach-1	41	10 yr	1160	281.12	286.99	284.27	287.11	0.000536	1.68	918.59	355.47	0.24
RIVER-1	Reach-1	41	5 yr	986	281.12	286.66	284.03	286.77	0.000524	1.58	804.77	296.58	0.24
RIVER-1	Reach-1	41	2yr	696	281.12	286.02	283.59	286.11	0.000487	1.38	624.53	272.08	0.22
RIVER-1	Reach-1	41	100yr ffa	1210	281.12	287.08	284.34	287.21	0.000539	1.7	951.15	361.41	0.24
RIVER-1	Reach-1	41	50yr ffa	1060	281.12	286.8	284.14	286.92	0.00053	1.63	852.61	343.13	0.24
RIVER-1	Reach-1	41	10yr ffa	855	281.12	286.38	283.84	286.48	0.000512	1.5	725.96	284.66	0.23
RIVER-1	Reach-1	41	5yr ffa	637	281.12	285.87	283.51	285.96	0.000475	1.33	585.51	266.79	0.22
RIVER-1	Reach-1	41	2yrffa	387	281.12	285.14	283.06	285.2	0.000384	1.04	412.01	199.79	0.19
RIVER-1	Reach-1	40	Reg	2020	280.96	288.66	285.09	288.89	0.000702	2.11	955.15	164.53	0.28
RIVER-1	Reach-1	40	100 yr	1740	280.96	287.85	284.83	288.08	0.000827	2.11	823.48	160.96	0.3
RIVER-1	Reach-1	40	50 yr	1580	280.96	287.61	284.67	287.82	0.000791	2.01	785.54	159.91	0.29
RIVER-1	Reach-1	40	20 yr	1360	280.96	287.28	284.45	287.45	0.000731	1.86	732.05	158.41	0.28
RIVER-1	Reach-1	40	10 yr	1160	280.96	286.95	284.24	287.1	0.000671	1.71	680.13	156.95	0.26
RIVER-1	Reach-1	40	5 yr	986	280.96	286.63	284.04	286.75	0.000616	1.56	630.45	155.54	0.25
RIVER-1	Reach-1	40	2yr	696	280.96	286.01	283.66	286.1	0.000517	1.3	535.05	152.79	0.22
RIVER-1	Reach-1	40	100yr ffa	1210	280.96	287.03	284.29	287.19	0.000686	1.74	693.54	157.33	0.27
RIVER-1	Reach-1	40	50yr ffa	1060	280.96	286.77	284.13	286.9	0.000639	1.63	652.2	156.16	0.25
RIVER-1	Reach-1	40	10yr ffa	855	280.96	286.37	283.88	286.47	0.000573	1.45	589.56	154.37	0.24
RIVER-1	Reach-1	40	5yr ffa	637	280.96	285.87	283.57	285.95	0.000494	1.24	513.19	152.16	0.22
RIVER-1	Reach-1	40	2yrffa	387	280.96	285.14	283.15	285.19	0.000393	0.96	403.69	148.93	0.19
RIVER-1	Reach-1	39.5		Bridge									
RIVER-1	Reach-1	39	Reg	2020	280.96	288.2	285.07	288.47	0.000904	2.29	880.73	162.53	0.31
RIVER-1	Reach-1	39	100 yr	1740	280.96	287.82	284.83	288.05	0.00084	2.12	819.33	160.84	0.3
RIVER-1	Reach-1	39	50 yr	1580	280.96	287.59	284.67	287.8	0.000802	2.02	781.91	159.81	0.29
RIVER-1	Reach-1	39	20 yr	1360	280.96	287.26	284.45	287.44	0.00074	1.87	729.13	158.33	0.28
RIVER-1	Reach-1	39	10 yr	1160	280.96	286.93	284.24	287.08	0.000678	1.71	677.81	156.89	0.26
RIVER-1	Reach-1	39	5 yr	986	280.96	286.62	284.04	286.74	0.000621	1.57	628.61	155.49	0.25
RIVER-1	Reach-1	39	2yr	696	280.96	286	283.66	286.09	0.00052	1.3	533.91	152.76	0.22
RIVER-1	Reach-1	39	100yr ffa	1210	280.96	287.02	284.29	287.17	0.000694	1.75	691.07	157.26	0.27

Plan: Ex_Updated

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
RIVER-1	Reach-1	39	50yr ffa	1060	280.96	286.76	284.13	286.89	0.000646	1.63	650.16	156.1	0.26
RIVER-1	Reach-1	39	10yr ffa	855	280.96	286.36	283.88	286.46	0.000577	1.45	588.05	154.33	0.24
RIVER-1	Reach-1	39	5yr ffa	637	280.96	285.86	283.56	285.94	0.000497	1.24	512.18	152.13	0.22
RIVER-1	Reach-1	39	2yrffa	387	280.96	285.14	283.15	285.18	0.000395	0.96	403.16	148.91	0.19
RIVER-1	Reach-1	38	Reg	2020	281.88	288.19	285.76	288.43	0.000948	2.54	1177.02	393.46	0.33
RIVER-1	Reach-1	38	100 yr	1740	281.88	287.81	285.53	288.02	0.000937	2.42	1028.86	363.27	0.33
RIVER-1	Reach-1	38	50 yr	1580	281.88	287.57	285.38	287.77	0.000917	2.32	949.91	305.41	0.32
RIVER-1	Reach-1	38	20 yr	1360	281.88	287.22	285.09	287.41	0.000904	2.21	846.94	291.53	0.31
RIVER-1	Reach-1	38	10 yr	1160	281.88	286.88	284.85	287.05	0.000886	2.09	750.32	277.88	0.31
RIVER-1	Reach-1	38	5 yr	986	281.88	286.56	284.62	286.71	0.000863	1.96	664.19	251	0.3
RIVER-1	Reach-1	38	2yr	696	281.88	285.94	284.1	286.06	0.000803	1.71	529.58	204.77	0.28
RIVER-1	Reach-1	38	100yr ffa	1210	281.88	286.97	284.91	287.15	0.000891	2.12	774.82	281.4	0.31
RIVER-1	Reach-1	38	50yr ffa	1060	281.88	286.7	284.72	286.86	0.000874	2.02	700.79	265.14	0.3
RIVER-1	Reach-1	38	10yr ffa	855	281.88	286.3	284.38	286.44	0.000838	1.85	602.83	211.79	0.29
RIVER-1	Reach-1	38	5yr ffa	637	281.88	285.8	283.99	285.91	0.00079	1.65	500.37	203.52	0.28
RIVER-1	Reach-1	38	2yrffa	387	281.88	285.08	283.54	285.16	0.000731	1.37	356.05	190.8	0.26
RIVER-1	Reach-1	37	Reg	2020	280.2	287.12	285.87	287.71	0.00226	3.98	713.23	638.04	0.51
RIVER-1	Reach-1	37	100 yr	1740	280.2	286.8	285.58	287.33	0.002122	3.73	657.04	622.35	0.49
RIVER-1	Reach-1	37	50 yr	1580	280.2	286.61	285.41	287.09	0.002035	3.57	622.96	612.81	0.48
RIVER-1	Reach-1	37	20 yr	1360	280.2	286.32	285.15	286.76	0.001903	3.34	573.03	598.8	0.46
RIVER-1	Reach-1	37	10 yr	1160	280.2	286.04	284.88	286.43	0.001768	3.1	523.87	571.75	0.44
RIVER-1	Reach-1	37	5 yr	986	280.2	285.78	284.07	286.11	0.001637	2.88	477.07	535.62	0.42
RIVER-1	Reach-1	37	2yr	696	280.2	285.27	283.52	285.52	0.001367	2.45	388.69	473.54	0.37
RIVER-1	Reach-1	37	100yr ffa	1210	280.2	286.12	284.95	286.51	0.001803	3.16	536.56	579.6	0.44
RIVER-1	Reach-1	37	50yr ffa	1060	280.2	285.89	284.07	286.25	0.001695	2.98	497.42	550.5	0.43
RIVER-1	Reach-1	37	10yr ffa	855	280.2	285.56	283.84	285.86	0.001523	2.7	439.14	525.88	0.4
RIVER-1	Reach-1	37	5yr ffa	637	280.2	285.15	283.38	285.39	0.0013	2.34	368.58	466.04	0.36
RIVER-1	Reach-1	37	2yrffa	387	280.2	284.56	282.67	284.71	0.000963	1.83	267.54	309.34	0.3
RIVER-1	Reach-1	34.5		Bridge									
RIVER-1	Reach-1	34	Reg	2020	280.66	286.72	285.48	287.27	0.002403	3.88	718.51	754.88	0.52
RIVER-1	Reach-1	34	100 yr	1740	280.66	286.46	285.22	286.94	0.00218	3.59	671.51	748.98	0.49
RIVER-1	Reach-1	34	50 yr	1580	280.66	286.3	285.07	286.73	0.00205	3.41	642.37	745.31	0.48
RIVER-1	Reach-1	34	20 yr	1360	280.66	286.06	284.84	286.43	0.001863	3.15	598.96	739.84	0.45
RIVER-1	Reach-1	34	10 yr	1160	280.66	285.82	284.6	286.14	0.001686	2.9	555.42	710.08	0.42
RIVER-1	Reach-1	34	5 yr	986	280.66	285.58	284.38	285.86	0.001526	2.67	513.13	682.15	0.4
RIVER-1	Reach-1	34	2yr	696	280.66	285.13	283.56	285.33	0.001227	2.23	431.3	489.09	0.35
RIVER-1	Reach-1	34	100yr ffa	1210	280.66	285.88	284.67	286.22	0.001731	2.96	566.73	718.89	0.43
RIVER-1	Reach-1	34	50yr ffa	1060	280.66	285.69	284.48	285.98	0.001595	2.77	531.64	691.56	0.41
RIVER-1	Reach-1	34	10yr ffa	855	280.66	285.39	283.71	285.63	0.001396	2.48	478.3	589.05	0.38
RIVER-1	Reach-1	34	5yr ffa	637	280.66	285.02	283.44	285.21	0.00116	2.13	412.28	433.23	0.34
RIVER-1	Reach-1	34	2yrffa	387	280.66	284.47	282.73	284.59	0.00086	1.66	312.74	206	0.29
RIVER-1	Reach-1	33.6	Reg	2020	280.67	286.76	285.09	287.18	0.00164	3.14	806.12	769.77	0.42
RIVER-1	Reach-1	33.6	100 yr	1740	280.67	286.49	284.77	286.86	0.001483	2.89	751.45	759.75	0.4
RIVER-1	Reach-1	33.6	50 yr	1580	280.67	286.33	284.45	286.66	0.00139	2.74	717.71	754.18	0.38
RIVER-1	Reach-1	33.6	20 yr	1360	280.67	286.09	283.91	286.37	0.001256	2.53	667.66	746.28	0.36
RIVER-1	Reach-1	33.6	10 yr	1160	280.67	285.84	283.57	286.08	0.001127	2.32	617.69	733.36	0.34
RIVER-1	Reach-1	33.6	5 yr	986	280.67	285.61	283.26	285.81	0.001008	2.12	569.37	686.99	0.32
RIVER-1	Reach-1	33.6	2yr	696	280.67	285.15	282.71	285.29	0.000785	1.74	476.32	642.7	0.28
RIVER-1	Reach-1	33.6	100yr ffa	1210	280.67	285.91	283.66	286.16	0.00116	2.37	630.65	737.28	0.35
RIVER-1	Reach-1	33.6	50yr ffa	1060	280.67	285.71	283.4	285.93	0.00106	2.2	590.5	694.43	0.33
RIVER-1	Reach-1	33.6	10yr ffa	855	280.67	285.41	283.01	285.59	0.000912	1.95	529.68	672.72	0.3
RIVER-1	Reach-1	33.6	5yr ffa	637	280.67	285.04	282.6	285.17	0.000735	1.65	454.78	600.36	0.27
RIVER-1	Reach-1	33.6	2yrffa	387	280.67	284.48	282.06	284.56	0.000496	1.23	343.23	172.42	0.21
RIVER-1	Reach-1	33.4	Reg	2020	280.67	286.73	285.2	287.16	0.001821	3.16	793.22	784.01	0.44
RIVER-1	Reach-1	33.4	100 yr	1740	280.67	286.46	284.93	286.83	0.001665	2.92	737.83	780.26	0.42
RIVER-1	Reach-1	33.4	50 yr	1580	280.67	286.3	284.75	286.64	0.001572	2.78	703.61	778.31	0.4
RIVER-1	Reach-1	33.4	20 yr	1360	280.67	286.06	284.36	286.35	0.001438	2.57	652.79	774.69	0.38
RIVER-1	Reach-1	33.4	10 yr	1160	280.67	285.81	283.87	286.07	0.001308	2.36	602.01	741.71	0.36

Plan: Ex_Updated

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
RIVER-1	Reach-1	33.4	5 yr	986	280.67	285.58	283.56	285.79	0.001189	2.17	552.89	726.56	0.34
RIVER-1	Reach-1	33.4	2yr	696	280.67	285.12	282.87	285.28	0.00096	1.8	458.46	671.81	0.3
RIVER-1	Reach-1	33.4	100yr ffa	1210	280.67	285.88	283.97	286.14	0.001341	2.42	615.18	751.27	0.37
RIVER-1	Reach-1	33.4	50yr ffa	1060	280.67	285.68	283.7	285.91	0.001241	2.25	574.37	733.67	0.35
RIVER-1	Reach-1	33.4	10yr ffa	855	280.67	285.39	283.23	285.57	0.001091	2.01	512.57	708.83	0.32
RIVER-1	Reach-1	33.4	5yr ffa	637	280.67	285.02	282.74	285.16	0.000906	1.72	436.63	665.67	0.29
RIVER-1	Reach-1	33.4	2yrffa	387	280.67	284.47	282.16	284.55	0.000651	1.3	323.93	180.92	0.24
RIVER-1	Reach-1	33.3	Reg	2020	280.69	286.8	284.84	287.04	0.001069	2.5	1057.09	793.72	0.34
RIVER-1	Reach-1	33.3	100 yr	1740	280.69	286.52	284.62	286.73	0.000984	2.32	982.83	785.7	0.32
RIVER-1	Reach-1	33.3	50 yr	1580	280.69	286.35	284.47	286.54	0.000933	2.21	937.21	781.32	0.31
RIVER-1	Reach-1	33.3	20 yr	1360	280.69	286.09	284.19	286.26	0.00086	2.05	869.81	774.85	0.3
RIVER-1	Reach-1	33.3	10 yr	1160	280.69	285.84	283.84	285.99	0.000787	1.89	802.81	759.19	0.28
RIVER-1	Reach-1	33.3	5 yr	986	280.69	285.6	283.36	285.73	0.00072	1.74	738.27	739.57	0.27
RIVER-1	Reach-1	33.3	2yr	696	280.69	285.13	282.73	285.22	0.000592	1.46	614.59	688.83	0.24
RIVER-1	Reach-1	33.3	100yr ffa	1210	280.69	285.91	283.92	286.06	0.000806	1.93	820.16	764.69	0.29
RIVER-1	Reach-1	33.3	50yr ffa	1060	280.69	285.71	283.54	285.84	0.00075	1.81	766.46	747	0.27
RIVER-1	Reach-1	33.3	10yr ffa	855	280.69	285.4	283.02	285.51	0.000665	1.62	685.43	720.77	0.26
RIVER-1	Reach-1	33.3	5yr ffa	637	280.69	285.02	282.61	285.11	0.000562	1.4	586.05	675.6	0.23
RIVER-1	Reach-1	33.3	2yrffa	387	280.69	284.46	282.08	284.52	0.000424	1.09	437.76	464.27	0.2
RIVER-1	Reach-1	33.2	Reg	2020	280.73	286.62	285.26	286.95	0.001616	2.99	955.98	744.34	0.42
RIVER-1	Reach-1	33.2	100 yr	1740	280.73	286.36	285.05	286.64	0.00152	2.8	881.32	739.38	0.4
RIVER-1	Reach-1	33.2	50 yr	1580	280.73	286.19	284.92	286.46	0.001462	2.69	835.36	737.03	0.39
RIVER-1	Reach-1	33.2	20 yr	1360	280.73	285.94	284.72	286.18	0.001378	2.52	767.34	732.92	0.38
RIVER-1	Reach-1	33.2	10 yr	1160	280.73	285.7	284.17	285.91	0.001295	2.36	699.63	722.93	0.36
RIVER-1	Reach-1	33.2	5 yr	986	280.73	285.46	284.11	285.66	0.001219	2.2	634.35	705.73	0.35
RIVER-1	Reach-1	33.2	2yr	696	280.73	285.01	283.36	285.16	0.001062	1.9	509.91	658.1	0.32
RIVER-1	Reach-1	33.2	100yr ffa	1210	280.73	285.76	284.17	285.98	0.001317	2.4	717.17	725.88	0.36
RIVER-1	Reach-1	33.2	50yr ffa	1060	280.73	285.57	284.17	285.77	0.001252	2.27	662.86	716.52	0.35
RIVER-1	Reach-1	33.2	10yr ffa	855	280.73	285.27	283.74	285.45	0.001154	2.08	581.07	688.79	0.33
RIVER-1	Reach-1	33.2	5yr ffa	637	280.73	284.91	283.22	285.05	0.001023	1.83	481.36	651.77	0.31
RIVER-1	Reach-1	33.2	2yrffa	387	280.73	284.37	282.49	284.47	0.000824	1.47	334.47	332.04	0.27
RIVER-1	Reach-1	33	Reg	2020	280.84	286.24		286.59	0.00182	3.12	925.43	568.72	0.45
RIVER-1	Reach-1	33	100 yr	1740	280.84	286		286.31	0.001685	2.91	857.82	559.72	0.42
RIVER-1	Reach-1	33	50 yr	1580	280.84	285.85		286.13	0.001605	2.78	815.86	554.12	0.41
RIVER-1	Reach-1	33	20 yr	1360	280.84	285.63		285.88	0.001491	2.59	753.57	545.79	0.39
RIVER-1	Reach-1	33	10 yr	1160	280.84	285.41		285.63	0.001379	2.41	691.35	537.45	0.38
RIVER-1	Reach-1	33	5 yr	986	280.84	285.19		285.38	0.00128	2.24	630.74	529.39	0.36
RIVER-1	Reach-1	33	2yr	696	280.84	284.77		284.92	0.001081	1.91	515.22	454.7	0.32
RIVER-1	Reach-1	33	100yr ffa	1210	280.84	285.46		285.69	0.001408	2.46	707.49	539.62	0.38
RIVER-1	Reach-1	33	50yr ffa	1060	280.84	285.28		285.49	0.001323	2.31	657.24	532.89	0.37
RIVER-1	Reach-1	33	10yr ffa	855	280.84	285.01		285.19	0.001196	2.1	581.37	522.84	0.34
RIVER-1	Reach-1	33	5yr ffa	637	280.84	284.68		284.82	0.001032	1.83	488.79	447.49	0.32
RIVER-1	Reach-1	33	2yrffa	387	280.84	284.21		284.29	0.000667	1.34	375.37	285.35	0.25

Plan: Prop_ LRT Br

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
RIVER-1	Reach-1	43	Reg	2020	281.21	288.82	285	289.05	0.000591	2.12	953.93	179.92	0.26
RIVER-1	Reach-1	43	100 yr	1740	281.21	288.03	284.74	288.25	0.000678	2.08	837.31	174	0.28
RIVER-1	Reach-1	43	50 yr	1580	281.21	287.77	284.58	287.97	0.000651	1.98	799.64	172.09	0.27
RIVER-1	Reach-1	43	20 yr	1360	281.21	287.4	284.37	287.57	0.000608	1.82	746.16	169.37	0.26
RIVER-1	Reach-1	43	10 yr	1160	281.21	287.05	284.15	287.19	0.000562	1.67	694.3	166.74	0.24
RIVER-1	Reach-1	43	5 yr	986	281.21	286.71	283.93	286.83	0.00052	1.53	644.82	164.23	0.23
RIVER-1	Reach-1	43	2yr	696	281.21	286.06	283.53	286.14	0.000441	1.27	549.59	159.39	0.21
RIVER-1	Reach-1	43	100yr ffa	1210	281.21	287.14	284.21	287.29	0.000574	1.71	707.69	167.42	0.25
RIVER-1	Reach-1	43	50yr ffa	1060	281.21	286.86	284.03	286.99	0.000538	1.59	666.47	165.33	0.24
RIVER-1	Reach-1	43	10yr ffa	855	281.21	286.42	283.76	286.52	0.00049	1.42	602.51	162.08	0.22
RIVER-1	Reach-1	43	5yr ffa	637	281.21	285.92	283.44	285.99	0.000421	1.21	528.44	158.32	0.2
RIVER-1	Reach-1	43	2yrffa	387	281.21	285.18	282.98	285.22	0.000334	0.92	420.18	152.82	0.17
RIVER-1	Reach-1	42.5		Bridge									
RIVER-1	Reach-1	42	Reg	2020	281.21	288.76	285	288.98	0.000578	2.08	1019.11	179.47	0.26
RIVER-1	Reach-1	42	100 yr	1740	281.21	287.96	284.74	288.18	0.000676	2.06	878	173.53	0.28
RIVER-1	Reach-1	42	50 yr	1580	281.21	287.71	284.58	287.9	0.000651	1.96	834.54	171.66	0.27
RIVER-1	Reach-1	42	20 yr	1360	281.21	287.35	284.37	287.52	0.000609	1.81	773.65	169.01	0.26
RIVER-1	Reach-1	42	10 yr	1160	281.21	287.01	284.15	287.15	0.000565	1.67	715.44	166.43	0.25
RIVER-1	Reach-1	42	5 yr	986	281.21	286.68	283.93	286.79	0.000524	1.53	660.63	163.96	0.23
RIVER-1	Reach-1	42	2yr	696	281.21	286.04	283.53	286.13	0.000442	1.26	558.71	159.28	0.21
RIVER-1	Reach-1	42	100yr ffa	1210	281.21	287.1	284.2	287.24	0.000577	1.7	730.39	167.1	0.25
RIVER-1	Reach-1	42	50yr ffa	1060	281.21	286.82	284.03	286.95	0.000542	1.59	684.52	165.04	0.24
RIVER-1	Reach-1	42	10yr ffa	855	281.21	286.4	283.76	286.5	0.00049	1.41	616.07	161.93	0.22
RIVER-1	Reach-1	42	5yr ffa	637	281.21	285.9	283.44	285.98	0.000422	1.2	536.02	158.22	0.2
RIVER-1	Reach-1	42	2yrffa	387	281.21	285.17	282.98	285.21	0.000336	0.92	421.91	152.77	0.17
RIVER-1	Reach-1	41	Reg	2020	281.12	288.8	285.32	288.93	0.000419	1.83	1607.4	395.59	0.22
RIVER-1	Reach-1	41	100 yr	1740	281.12	287.99	284.98	288.13	0.00054	1.9	1291.86	384.49	0.25
RIVER-1	Reach-1	41	50 yr	1580	281.12	287.73	284.8	287.87	0.000542	1.85	1192.81	381.83	0.25
RIVER-1	Reach-1	41	20 yr	1360	281.12	287.36	284.55	287.49	0.000539	1.77	1053.61	378.05	0.24
RIVER-1	Reach-1	41	10 yr	1160	281.12	287.01	284.27	287.13	0.00053	1.67	923.31	356.34	0.24
RIVER-1	Reach-1	41	5 yr	986	281.12	286.67	284.03	286.78	0.000518	1.58	808.26	301.75	0.23
RIVER-1	Reach-1	41	2yr	696	281.12	286.03	283.59	286.12	0.000483	1.38	626.87	272.39	0.22
RIVER-1	Reach-1	41	100yr ffa	1210	281.12	287.1	284.34	287.22	0.000533	1.7	956.14	362.31	0.24
RIVER-1	Reach-1	41	50yr ffa	1060	281.12	286.82	284.14	286.93	0.000524	1.62	856.85	343.94	0.24
RIVER-1	Reach-1	41	10yr ffa	855	281.12	286.39	283.84	286.49	0.000507	1.5	728.93	284.72	0.23
RIVER-1	Reach-1	41	5yr ffa	637	281.12	285.88	283.51	285.96	0.000471	1.33	587.64	267.08	0.22
RIVER-1	Reach-1	41	2yrffa	387	281.12	285.15	283.06	285.2	0.000381	1.04	413.07	200.5	0.19
RIVER-1	Reach-1	40	Reg	2020	280.96	288.66	285.09	288.89	0.000702	2.11	955.1	164.53	0.28
RIVER-1	Reach-1	40	100 yr	1740	280.96	287.87	284.83	288.09	0.000817	2.1	826.68	161.04	0.3
RIVER-1	Reach-1	40	50 yr	1580	280.96	287.63	284.67	287.84	0.000782	2	788.46	159.99	0.29
RIVER-1	Reach-1	40	20 yr	1360	280.96	287.29	284.45	287.47	0.000723	1.85	734.47	158.48	0.27
RIVER-1	Reach-1	40	10 yr	1160	280.96	286.96	284.24	287.11	0.000664	1.7	682.19	157.01	0.26
RIVER-1	Reach-1	40	5 yr	986	280.96	286.64	284.04	286.76	0.00061	1.56	632.24	155.59	0.25
RIVER-1	Reach-1	40	2yr	696	280.96	286.02	283.66	286.1	0.000513	1.3	536.36	152.83	0.22
RIVER-1	Reach-1	40	100yr ffa	1210	280.96	287.05	284.29	287.2	0.000679	1.74	695.69	157.39	0.26
RIVER-1	Reach-1	40	50yr ffa	1060	280.96	286.78	284.13	286.91	0.000633	1.62	654.1	156.21	0.25
RIVER-1	Reach-1	40	10yr ffa	855	280.96	286.38	283.88	286.48	0.000568	1.45	591.14	154.41	0.24
RIVER-1	Reach-1	40	5yr ffa	637	280.96	285.87	283.57	285.95	0.000491	1.24	514.4	152.19	0.22
RIVER-1	Reach-1	40	2yrffa	387	280.96	285.14	283.15	285.19	0.000391	0.96	404.49	148.95	0.19
RIVER-1	Reach-1	39.5		Bridge									
RIVER-1	Reach-1	39	Reg	2020	280.96	288.23	285.07	288.49	0.000892	2.28	884.51	162.63	0.31
RIVER-1	Reach-1	39	100 yr	1740	280.96	287.84	284.83	288.07	0.00083	2.12	822.58	160.93	0.3

Plan: Prop_ LRT Br

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
RIVER-1	Reach-1	39	50 yr	1580	280.96	287.61	284.67	287.81	0.000793	2.01	784.88	159.89	0.29
RIVER-1	Reach-1	39	20 yr	1360	280.96	287.27	284.45	287.45	0.000733	1.86	731.59	158.4	0.28
RIVER-1	Reach-1	39	10 yr	1160	280.96	286.95	284.24	287.09	0.000671	1.71	679.9	156.95	0.26
RIVER-1	Reach-1	39	5 yr	986	280.96	286.63	284.04	286.75	0.000616	1.56	630.42	155.54	0.25
RIVER-1	Reach-1	39	2yr	696	280.96	286.01	283.66	286.1	0.000516	1.3	535.22	152.8	0.22
RIVER-1	Reach-1	39	100yr ffa	1210	280.96	287.03	284.29	287.19	0.000687	1.75	693.25	157.32	0.27
RIVER-1	Reach-1	39	50yr ffa	1060	280.96	286.77	284.13	286.9	0.00064	1.63	652.09	156.16	0.25
RIVER-1	Reach-1	39	10yr ffa	855	280.96	286.37	283.88	286.47	0.000572	1.45	589.64	154.37	0.24
RIVER-1	Reach-1	39	5yr ffa	637	280.96	285.87	283.56	285.95	0.000494	1.24	513.4	152.16	0.22
RIVER-1	Reach-1	39	2yrffa	387	280.96	285.14	283.15	285.19	0.000393	0.96	403.95	148.94	0.19
RIVER-1	Reach-1	38	Reg	2020	281.88	288.22	285.76	288.45	0.00093	2.52	1186.63	393.99	0.33
RIVER-1	Reach-1	38	100 yr	1740	281.88	287.83	285.53	288.04	0.000921	2.4	1036.55	365.6	0.32
RIVER-1	Reach-1	38	50 yr	1580	281.88	287.59	285.38	287.79	0.000903	2.31	955.81	308.34	0.32
RIVER-1	Reach-1	38	20 yr	1360	281.88	287.24	285.09	287.43	0.000891	2.2	851.84	292.2	0.31
RIVER-1	Reach-1	38	10 yr	1160	281.88	286.9	284.85	287.07	0.000875	2.08	754.37	278.46	0.31
RIVER-1	Reach-1	38	5 yr	986	281.88	286.57	284.62	286.73	0.000853	1.95	667.37	252.87	0.3
RIVER-1	Reach-1	38	2yr	696	281.88	285.95	284.1	286.07	0.000795	1.7	531.5	204.85	0.28
RIVER-1	Reach-1	38	100yr ffa	1210	281.88	286.99	284.91	287.16	0.000879	2.11	779.08	282.01	0.31
RIVER-1	Reach-1	38	50yr ffa	1060	281.88	286.72	284.72	286.88	0.000863	2.01	704.37	266.21	0.3
RIVER-1	Reach-1	38	10yr ffa	855	281.88	286.31	284.38	286.45	0.000828	1.85	605.21	213.44	0.29
RIVER-1	Reach-1	38	5yr ffa	637	281.88	285.81	283.99	285.92	0.000782	1.65	502.15	203.6	0.28
RIVER-1	Reach-1	38	2yrffa	387	281.88	285.08	283.54	285.16	0.000725	1.37	357.17	191.05	0.26
RIVER-1	Reach-1	37	Reg	2020	280.2	287.18	285.87	287.75	0.002164	3.92	724.07	641.06	0.5
RIVER-1	Reach-1	37	100 yr	1740	280.2	286.85	285.58	287.36	0.002038	3.67	666.43	624.97	0.48
RIVER-1	Reach-1	37	50 yr	1580	280.2	286.66	285.41	287.13	0.001958	3.52	631.5	615.2	0.47
RIVER-1	Reach-1	37	20 yr	1360	280.2	286.37	285.15	286.79	0.001836	3.29	580.46	600.89	0.45
RIVER-1	Reach-1	37	10 yr	1160	280.2	286.08	284.88	286.45	0.001711	3.07	530.3	575.73	0.43
RIVER-1	Reach-1	37	5 yr	986	280.2	285.81	284.07	286.14	0.001589	2.85	482.55	539.25	0.41
RIVER-1	Reach-1	37	2yr	696	280.2	285.29	283.52	285.54	0.001334	2.43	392.59	474.11	0.37
RIVER-1	Reach-1	37	100yr ffa	1210	280.2	286.16	284.95	286.54	0.001743	3.13	543.25	583.74	0.44
RIVER-1	Reach-1	37	50yr ffa	1060	280.2	285.93	284.07	286.28	0.001643	2.95	503.33	556.53	0.42
RIVER-1	Reach-1	37	10yr ffa	855	280.2	285.59	283.84	285.88	0.001482	2.67	443.92	526.41	0.39
RIVER-1	Reach-1	37	5yr ffa	637	280.2	285.17	283.38	285.41	0.00127	2.33	372.16	468.42	0.36
RIVER-1	Reach-1	37	2yrffa	387	280.2	284.57	282.67	284.72	0.000948	1.82	269.66	313.43	0.3
RIVER-1	Reach-1	34.5		Bridge									
RIVER-1	Reach-1	34	Reg	2020	280.66	286.81	285.48	287.34	0.00224	3.79	735.51	757.01	0.51
RIVER-1	Reach-1	34	100 yr	1740	280.66	286.54	285.22	286.99	0.002052	3.51	685.44	750.73	0.48
RIVER-1	Reach-1	34	50 yr	1580	280.66	286.37	285.07	286.78	0.001938	3.34	654.69	746.86	0.46
RIVER-1	Reach-1	34	20 yr	1360	280.66	286.12	284.84	286.48	0.001774	3.1	609.19	741.13	0.44
RIVER-1	Reach-1	34	10 yr	1160	280.66	285.87	284.6	286.18	0.001614	2.85	563.94	716.72	0.42
RIVER-1	Reach-1	34	5 yr	986	280.66	285.62	284.38	285.89	0.001468	2.63	520.21	685	0.39
RIVER-1	Reach-1	34	2yr	696	280.66	285.16	283.56	285.35	0.001191	2.2	436.1	501.98	0.35
RIVER-1	Reach-1	34	100yr ffa	1210	280.66	285.93	284.67	286.25	0.001655	2.92	575.68	725.86	0.42
RIVER-1	Reach-1	34	50yr ffa	1060	280.66	285.73	284.48	286.02	0.001531	2.73	539.32	697.55	0.4
RIVER-1	Reach-1	34	10yr ffa	855	280.66	285.42	283.71	285.66	0.001349	2.45	484.32	596.57	0.37
RIVER-1	Reach-1	34	5yr ffa	637	280.66	285.05	283.44	285.23	0.001128	2.11	416.66	447.01	0.34
RIVER-1	Reach-1	34	2yrffa	387	280.66	284.48	282.73	284.6	0.000843	1.65	315.3	211.67	0.28
RIVER-1	Reach-1	33.6	Reg	2020	280.67	286.85	285.09	287.25	0.001536	3.07	824.95	772.13	0.41
RIVER-1	Reach-1	33.6	100 yr	1740	280.67	286.57	284.77	286.92	0.001401	2.84	766.88	762.55	0.39
RIVER-1	Reach-1	33.6	50 yr	1580	280.67	286.4	284.45	286.71	0.001319	2.7	731.35	756.22	0.37
RIVER-1	Reach-1	33.6	20 yr	1360	280.67	286.14	283.91	286.42	0.0012	2.49	678.98	748.09	0.35
RIVER-1	Reach-1	33.6	10 yr	1160	280.67	285.89	283.57	286.12	0.001082	2.28	627.11	736.21	0.33
RIVER-1	Reach-1	33.6	5 yr	986	280.67	285.64	283.26	285.84	0.000973	2.09	577.18	689.74	0.31

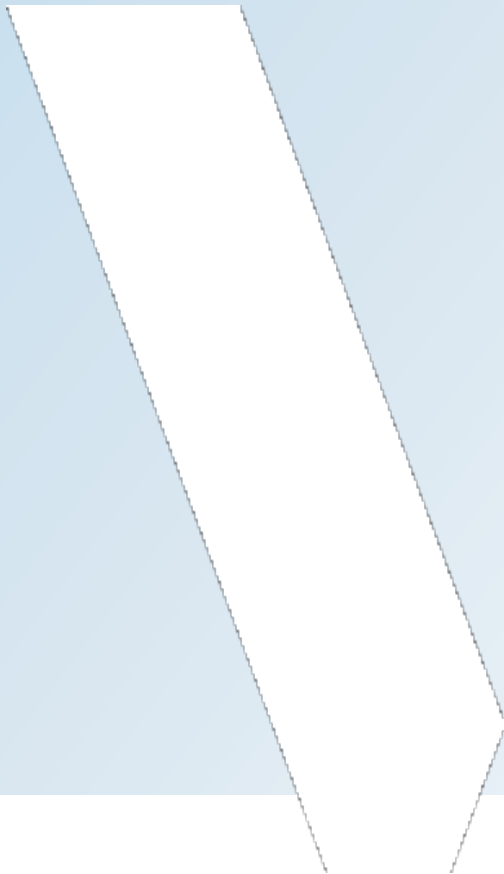
Plan: Prop_ LRT Br

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
RIVER-1	Reach-1	33.6	2yr	696	280.67	285.17	282.71	285.31	0.000765	1.72	481.61	645.38	0.27
RIVER-1	Reach-1	33.6	100yr ffa	1210	280.67	285.95	283.66	286.2	0.001112	2.34	640.55	740.51	0.34
RIVER-1	Reach-1	33.6	50yr ffa	1060	280.67	285.75	283.4	285.97	0.001021	2.18	598.98	725.1	0.32
RIVER-1	Reach-1	33.6	10yr ffa	855	280.67	285.44	283.01	285.62	0.000884	1.93	536.33	675.04	0.3
RIVER-1	Reach-1	33.6	5yr ffa	637	280.67	285.07	282.6	285.19	0.000717	1.64	459.58	606.93	0.26
RIVER-1	Reach-1	33.6	2yrffa	387	280.67	284.5	282.06	284.57	0.000489	1.22	345.63	173.05	0.21
RIVER-1	Reach-1	33.4	Reg	2020	280.67	286.77	285.2	287.19	0.001765	3.13	801.73	784.61	0.43
RIVER-1	Reach-1	33.4	100 yr	1740	280.67	286.5	284.93	286.86	0.001619	2.9	745.03	780.68	0.41
RIVER-1	Reach-1	33.4	50 yr	1580	280.67	286.33	284.75	286.66	0.001531	2.75	710.09	778.67	0.4
RIVER-1	Reach-1	33.4	20 yr	1360	280.67	286.08	284.36	286.37	0.001405	2.55	658.29	775.12	0.38
RIVER-1	Reach-1	33.4	10 yr	1160	280.67	285.84	283.87	286.08	0.001281	2.35	606.64	744.12	0.36
RIVER-1	Reach-1	33.4	5 yr	986	280.67	285.6	283.56	285.81	0.001167	2.16	556.77	727.46	0.34
RIVER-1	Reach-1	33.4	2yr	696	280.67	285.14	282.87	285.29	0.000946	1.79	461.09	672.46	0.3
RIVER-1	Reach-1	33.4	100yr ffa	1210	280.67	285.9	283.97	286.16	0.001313	2.4	620.03	752.99	0.36
RIVER-1	Reach-1	33.4	50yr ffa	1060	280.67	285.7	283.7	285.93	0.001216	2.24	578.58	734.86	0.35
RIVER-1	Reach-1	33.4	10yr ffa	855	280.67	285.4	283.23	285.59	0.001072	2	515.89	710.32	0.32
RIVER-1	Reach-1	33.4	5yr ffa	637	280.67	285.03	282.74	285.17	0.000894	1.71	439	666.34	0.29
RIVER-1	Reach-1	33.4	2yrffa	387	280.67	284.47	282.16	284.56	0.000647	1.3	325	181.29	0.24
RIVER-1	Reach-1	33.3	Reg	2020	280.69	286.8	284.84	287.04	0.001069	2.5	1057.09	793.72	0.34
RIVER-1	Reach-1	33.3	100 yr	1740	280.69	286.52	284.62	286.73	0.000984	2.32	982.83	785.7	0.32
RIVER-1	Reach-1	33.3	50 yr	1580	280.69	286.35	284.47	286.54	0.000933	2.21	937.21	781.32	0.31
RIVER-1	Reach-1	33.3	20 yr	1360	280.69	286.09	284.19	286.26	0.00086	2.05	869.81	774.85	0.3
RIVER-1	Reach-1	33.3	10 yr	1160	280.69	285.84	283.84	285.99	0.000787	1.89	802.81	759.19	0.28
RIVER-1	Reach-1	33.3	5 yr	986	280.69	285.6	283.36	285.73	0.00072	1.74	738.27	739.57	0.27
RIVER-1	Reach-1	33.3	2yr	696	280.69	285.13	282.73	285.22	0.000592	1.46	614.59	688.83	0.24
RIVER-1	Reach-1	33.3	100yr ffa	1210	280.69	285.91	283.92	286.06	0.000806	1.93	820.16	764.69	0.29
RIVER-1	Reach-1	33.3	50yr ffa	1060	280.69	285.71	283.54	285.84	0.00075	1.81	766.46	747	0.27
RIVER-1	Reach-1	33.3	10yr ffa	855	280.69	285.4	283.02	285.51	0.000665	1.62	685.43	720.77	0.26
RIVER-1	Reach-1	33.3	5yr ffa	637	280.69	285.02	282.61	285.11	0.000562	1.4	586.05	675.6	0.23
RIVER-1	Reach-1	33.3	2yrffa	387	280.69	284.46	282.08	284.52	0.000424	1.09	437.76	464.27	0.2
RIVER-1	Reach-1	33.2	Reg	2020	280.73	286.62	285.26	286.95	0.001616	2.99	955.98	744.34	0.42
RIVER-1	Reach-1	33.2	100 yr	1740	280.73	286.36	285.05	286.64	0.00152	2.8	881.32	739.38	0.4
RIVER-1	Reach-1	33.2	50 yr	1580	280.73	286.19	284.92	286.46	0.001462	2.69	835.36	737.03	0.39
RIVER-1	Reach-1	33.2	20 yr	1360	280.73	285.94	284.72	286.18	0.001378	2.52	767.34	732.92	0.38
RIVER-1	Reach-1	33.2	10 yr	1160	280.73	285.7	284.17	285.91	0.001295	2.36	699.63	722.93	0.36
RIVER-1	Reach-1	33.2	5 yr	986	280.73	285.46	284.11	285.66	0.001219	2.2	634.35	705.73	0.35
RIVER-1	Reach-1	33.2	2yr	696	280.73	285.01	283.36	285.16	0.001062	1.9	509.91	658.1	0.32
RIVER-1	Reach-1	33.2	100yr ffa	1210	280.73	285.76	284.17	285.98	0.001317	2.4	717.17	725.88	0.36
RIVER-1	Reach-1	33.2	50yr ffa	1060	280.73	285.57	284.17	285.77	0.001252	2.27	662.86	716.52	0.35
RIVER-1	Reach-1	33.2	10yr ffa	855	280.73	285.27	283.74	285.45	0.001154	2.08	581.07	688.79	0.33
RIVER-1	Reach-1	33.2	5yr ffa	637	280.73	284.91	283.22	285.05	0.001023	1.83	481.36	651.77	0.31
RIVER-1	Reach-1	33.2	2yrffa	387	280.73	284.37	282.49	284.47	0.000824	1.47	334.47	332.04	0.27
RIVER-1	Reach-1	33	Reg	2020	280.84	286.24		286.59	0.00182	3.12	925.43	568.72	0.45
RIVER-1	Reach-1	33	100 yr	1740	280.84	286		286.31	0.001685	2.91	857.82	559.72	0.42
RIVER-1	Reach-1	33	50 yr	1580	280.84	285.85		286.13	0.001605	2.78	815.86	554.12	0.41
RIVER-1	Reach-1	33	20 yr	1360	280.84	285.63		285.88	0.001491	2.59	753.57	545.79	0.39
RIVER-1	Reach-1	33	10 yr	1160	280.84	285.41		285.63	0.001379	2.41	691.35	537.45	0.38
RIVER-1	Reach-1	33	5 yr	986	280.84	285.19		285.38	0.00128	2.24	630.74	529.39	0.36
RIVER-1	Reach-1	33	2yr	696	280.84	284.77		284.92	0.001081	1.91	515.22	454.7	0.32
RIVER-1	Reach-1	33	100yr ffa	1210	280.84	285.46		285.69	0.001408	2.46	707.49	539.62	0.38
RIVER-1	Reach-1	33	50yr ffa	1060	280.84	285.28		285.49	0.001323	2.31	657.24	532.89	0.37
RIVER-1	Reach-1	33	10yr ffa	855	280.84	285.01		285.19	0.001196	2.1	581.37	522.84	0.34
RIVER-1	Reach-1	33	5yr ffa	637	280.84	284.68		284.82	0.001032	1.83	488.79	447.49	0.32
RIVER-1	Reach-1	33	2yrffa	387	280.84	284.21		284.29	0.000667	1.34	375.37	285.35	0.25

APPENDIX

C

Speed River

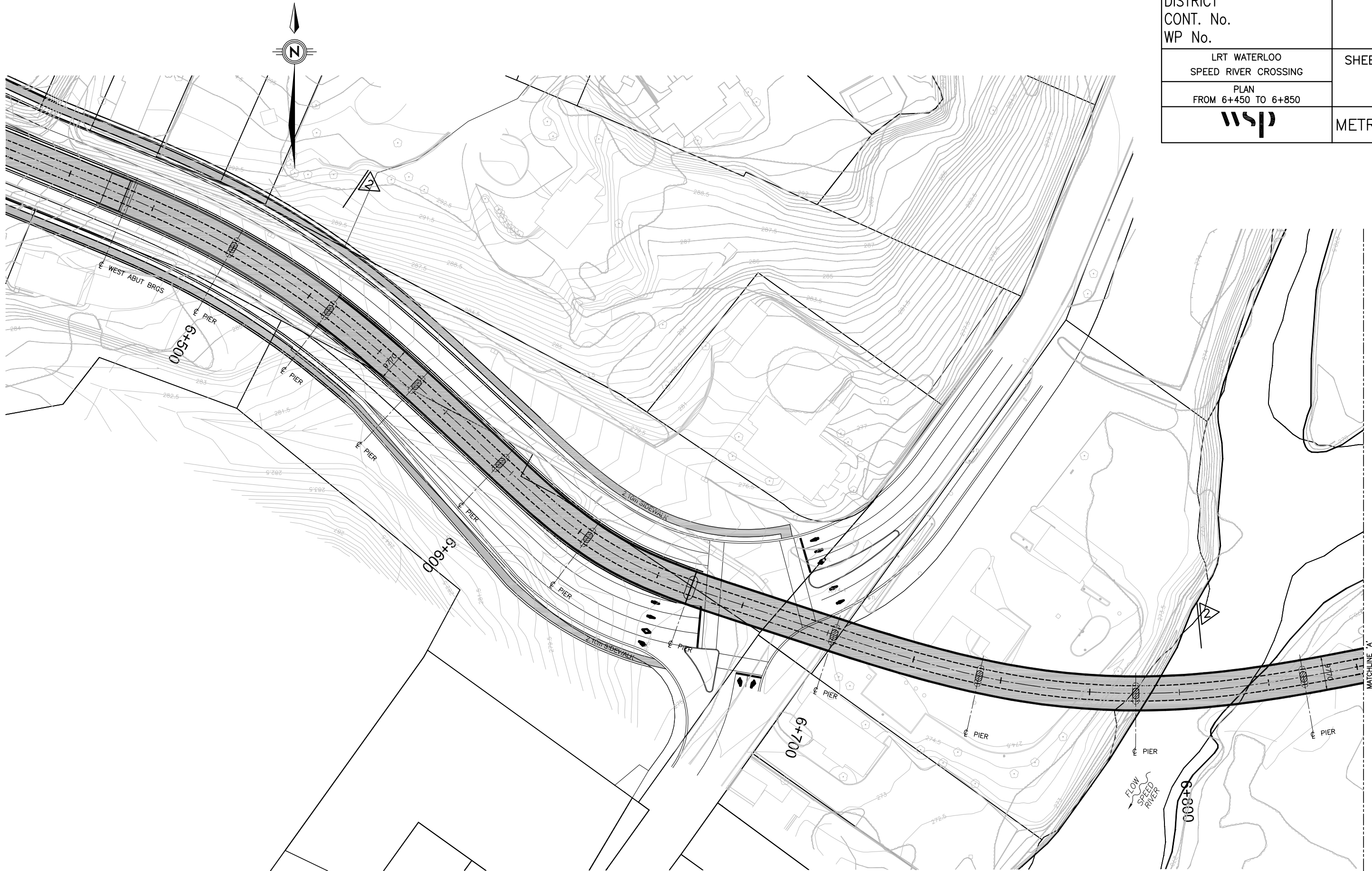


APPENDIX

C-1 General Arrangement Drawings

CAD FILE LOCATION AND NAME: I:\6.1 Drawings (CADD)\STRUCTURAL\SPEED RIVER CROSSING\PLAN-SP.dwg
MODIFIED: 5/7/2019 10:17:31 AM BY: TSENTERE
DATE PLOTTED: 5/7/2019 10:19:03 AM BY: TSENTER, ELENA

MINISTRY OF TRANSPORTATION, ONTARIO
PR-D-702 88-05



DISTRICT CONT. No.	
WP No.	
LRT WATERLOO SPEED RIVER CROSSING	SHEET
PLAN FROM 6+450 TO 6+850	
	METRIC

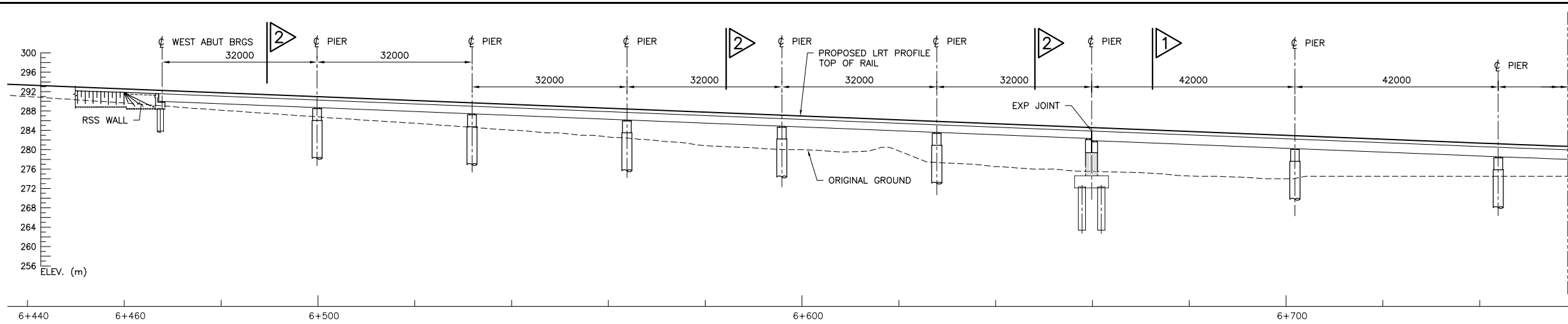
PLAN 1
1:500

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

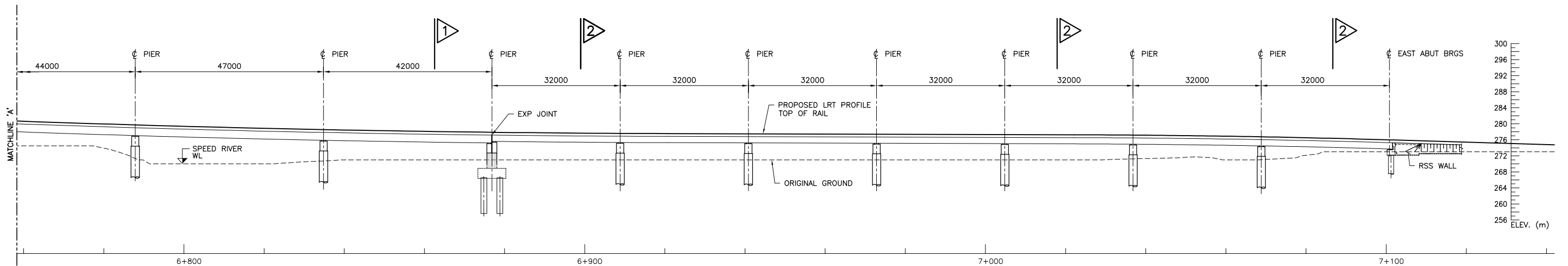
REVISIONS						
DATE	BY	DESCRIPTION				
DESIGN	CHK	CODE	LOAD	DATE MAY/19		
DRAWN	CHK	SITE	STRUCT	SCHEME	DWG	1

CAD FILE LOCATION AND NAME: I:\6.1 Drawings (CADD)\STRUCTURAL\SPEED RIVER CROSSING\ELEVATION-SP.dwg
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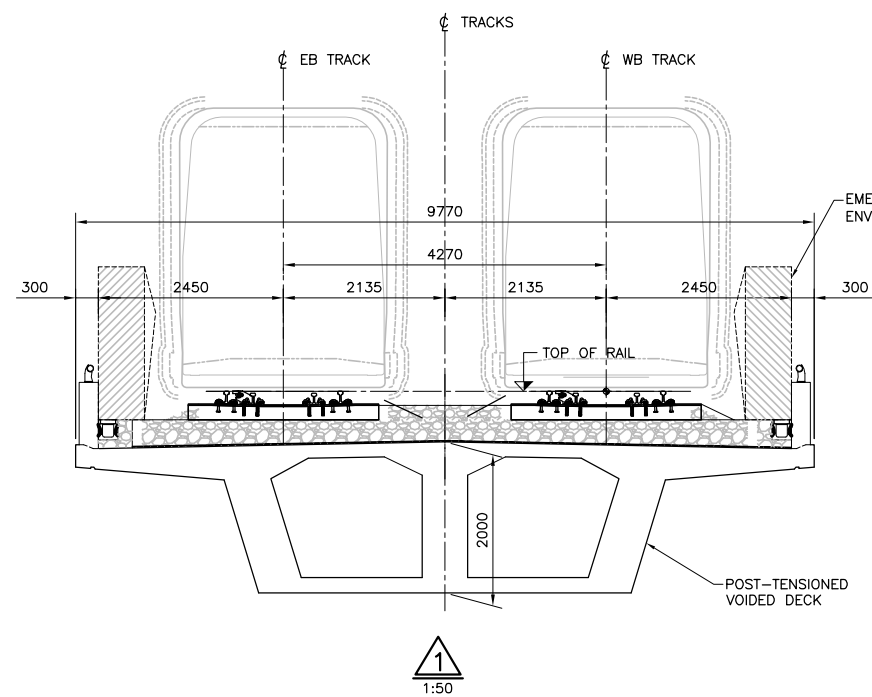
PR-D-707 BR-05
MINISTRY OF TRANSPORTATION, ONTARIO



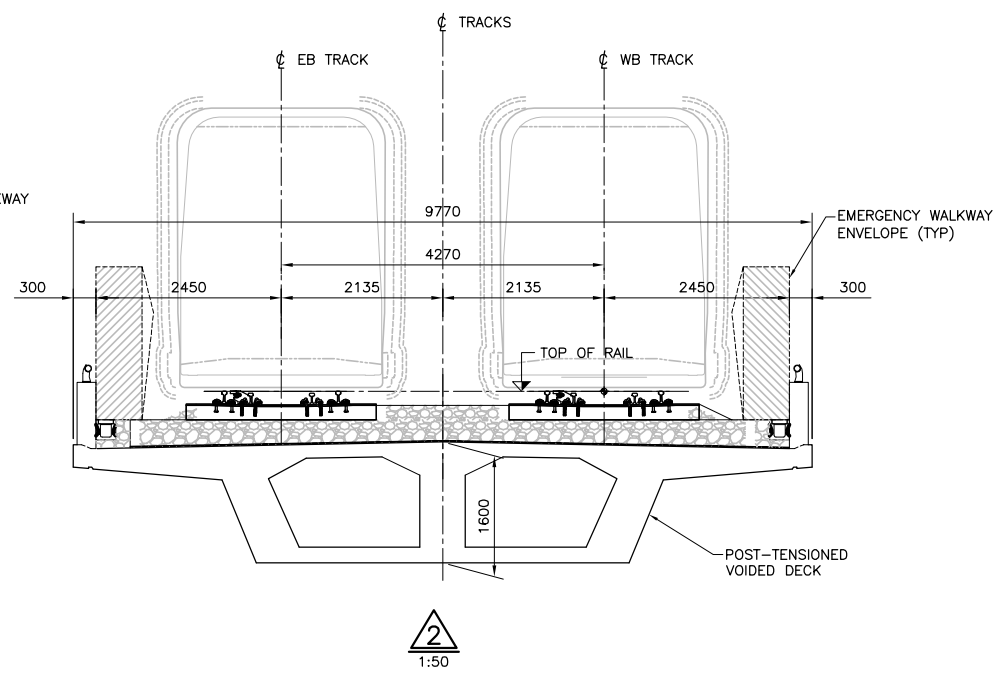
ELEVATION 1
1:500



ELEVATION 2
1:500



1
1:50



2
1:50

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

REVISIONS						
DATE	BY	DESCRIPTION				
DESIGN	CHK	CODE	LOAD	DATE	MAY/19	
DRAWN	CHK	SITE	STRUCT	SCHEME	DWG	3

DISTRICT CONT. No. WP No.	SHEET
LRT WATERLOO SPEED RIVER CROSSING ELEVATION FROM 6+450 TO 7+125 TYPICAL SECTIONS	
	METRIC

APPENDIX

C-2 Hydraulic Modelling Output

HEC-RAS Plan: Existing

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
Reach-1	5382	2-Year	110.00	281.31	283.12		283.21	0.000947	1.44	113.35	133.89	0.36
Reach-1	5382	5-Year	153.00	281.31	283.44		283.54	0.000856	1.55	164.71	207.33	0.35
Reach-1	5382	10-Year	181.00	281.31	283.64		283.75	0.000818	1.61	212.21	259.04	0.35
Reach-1	5382	20-Year	208.00	281.31	283.78		283.89	0.000799	1.66	249.95	288.59	0.35
Reach-1	5382	50-Year	239.00	281.31	283.91		284.02	0.000801	1.72	289.43	316.57	0.35
Reach-1	5382	100-Year	268.00	281.31	284.02		284.13	0.000808	1.78	324.49	339.48	0.35
Reach-1	5382	Regional	698.00	281.31	285.08		285.21	0.000810	2.24	711.98	381.32	0.38
Reach-1	5257	2-Year	110.00	281.03	282.68		282.96	0.002932	2.39	52.05	58.14	0.62
Reach-1	5257	5-Year	153.00	281.03	282.91	282.57	283.29	0.003335	2.81	68.79	84.23	0.67
Reach-1	5257	10-Year	181.00	281.03	283.04	282.78	283.49	0.003673	3.08	81.47	134.87	0.72
Reach-1	5257	20-Year	208.00	281.03	283.17	282.95	283.63	0.003610	3.19	100.01	152.10	0.72
Reach-1	5257	50-Year	239.00	281.03	283.31	283.27	283.78	0.003416	3.25	123.53	171.48	0.71
Reach-1	5257	100-Year	268.00	281.03	283.44	283.38	283.89	0.003214	3.28	146.89	188.77	0.69
Reach-1	5257	Regional	698.00	281.03	284.90		285.07	0.001172	2.75	779.58	658.73	0.45
Reach-1	5127	2-Year	110.00	280.69	282.43	281.93	282.61	0.002089	1.93	62.35	67.83	0.51
Reach-1	5127	5-Year	153.00	280.69	282.66	282.23	282.89	0.002249	2.21	78.44	69.98	0.55
Reach-1	5127	10-Year	181.00	280.69	282.79	282.39	283.06	0.002338	2.37	87.93	75.21	0.57
Reach-1	5127	20-Year	208.00	280.69	282.91	282.52	283.20	0.002401	2.51	97.26	81.46	0.58
Reach-1	5127	50-Year	239.00	280.69	283.05	282.64	283.36	0.002422	2.64	110.51	133.14	0.59
Reach-1	5127	100-Year	268.00	280.69	283.19	282.74	283.50	0.002295	2.68	131.22	161.46	0.58
Reach-1	5127	Regional	698.00	280.69	284.84	283.94	284.94	0.000614	2.02	849.03	678.85	0.33
Reach-1	5097.5	Bridge										
Reach-1	5097	2-Year	110.00	280.69	282.30		282.53	0.002996	2.17	53.79	61.41	0.61
Reach-1	5097	5-Year	153.00	280.69	282.48		282.80	0.003478	2.55	66.21	68.35	0.67
Reach-1	5097	10-Year	181.00	280.69	282.59		282.96	0.003751	2.77	73.33	69.30	0.70
Reach-1	5097	20-Year	208.00	280.69	282.68	282.52	283.10	0.003969	2.96	79.83	70.16	0.73
Reach-1	5097	50-Year	239.00	280.69	282.77	282.64	283.25	0.004327	3.20	85.91	73.78	0.77
Reach-1	5097	100-Year	268.00	280.69	282.86	282.74	283.38	0.004414	3.35	93.32	78.88	0.78
Reach-1	5097	Regional	698.00	280.69	284.45		284.66	0.001288	2.73	595.87	611.08	0.47
Reach-1	5017	2-Year	110.00	280.52	282.24		282.34	0.001250	1.54	108.55	118.56	0.40
Reach-1	5017	5-Year	153.00	280.52	282.45		282.57	0.001452	1.81	133.91	130.58	0.44
Reach-1	5017	10-Year	181.00	280.52	282.56		282.71	0.001564	1.96	148.95	135.42	0.46
Reach-1	5017	20-Year	208.00	280.52	282.65		282.82	0.001718	2.13	162.17	145.59	0.49
Reach-1	5017	50-Year	239.00	280.52	282.74		282.94	0.001936	2.32	174.98	156.07	0.53
Reach-1	5017	100-Year	268.00	280.52	282.84		283.06	0.002003	2.45	192.02	169.01	0.54
Reach-1	5017	Regional	698.00	280.52	284.42		284.56	0.000865	2.33	706.56	396.73	0.39
Reach-1	4953	2-Year	110.00	280.87	281.84	281.84	282.15	0.009304	2.56	51.86	97.12	0.97
Reach-1	4953	5-Year	153.00	280.87	282.01	282.01	282.36	0.008510	2.77	70.28	115.50	0.96
Reach-1	4953	10-Year	181.00	280.87	282.10	282.10	282.49	0.008317	2.92	81.26	124.99	0.96
Reach-1	4953	20-Year	208.00	280.87	282.19	282.19	282.60	0.007889	3.01	92.69	133.97	0.95
Reach-1	4953	50-Year	239.00	280.87	282.33	282.28	282.72	0.006410	2.96	112.81	148.45	0.87
Reach-1	4953	100-Year	268.00	280.87	282.62		282.89	0.003519	2.54	160.22	186.55	0.67
Reach-1	4953	Regional	698.00	280.87	284.41		284.50	0.000603	1.79	889.61	575.44	0.32
Reach-1	4943	2-Year	110.00	280.58	281.64	281.37	281.86	0.001893	2.08	52.80	50.00	0.65
Reach-1	4943	5-Year	153.00	280.58	281.87	281.57	282.16	0.001930	2.37	64.63	50.00	0.66
Reach-1	4943	10-Year	181.00	280.58	282.01	281.68	282.34	0.001945	2.52	71.73	50.00	0.67
Reach-1	4943	20-Year	208.00	280.58	282.14	281.79	282.50	0.001966	2.66	78.13	50.00	0.68
Reach-1	4943	50-Year	239.00	280.58	282.27	281.91	282.68	0.002031	2.83	84.54	50.00	0.69
Reach-1	4943	100-Year	268.00	280.58	282.41	282.01	282.85	0.001983	2.92	91.72	50.00	0.69
Reach-1	4943	Regional	698.00	280.58	284.24	283.70	284.47	0.000784	2.59	715.22	704.96	0.44
Reach-1	4929.5	Bridge										
Reach-1	4929	2-Year	110.00	280.58	281.37	281.37	281.77	0.004788	2.78	39.51	50.00	1.00
Reach-1	4929	5-Year	153.00	280.58	281.57	281.57	282.06	0.004550	3.10	49.32	50.00	1.00
Reach-1	4929	10-Year	181.00	280.58	281.68	281.68	282.23	0.004482	3.29	55.07	50.00	1.00
Reach-1	4929	20-Year	208.00	280.58	281.79	281.79	282.39	0.004414	3.44	60.41	50.00	1.00
Reach-1	4929	50-Year	239.00	280.58	281.91	281.91	282.57	0.004332	3.60	66.36	50.00	1.00
Reach-1	4929	100-Year	268.00	280.58	282.01	282.01	282.73	0.004267	3.74	71.72	50.00	1.00
Reach-1	4929	Regional	698.00	280.58	283.70	283.70	284.31	0.001902	3.76	379.80	515.32	0.68
Reach-1	4919	2-Year	110.00	280.25	281.21	281.21	281.56	0.009511	2.65	45.18	68.99	0.99
Reach-1	4919	5-Year	153.00	280.25	281.39	281.39	281.81	0.008941	2.92	58.02	74.20	0.99
Reach-1	4919	10-Year	181.00	280.25	281.49	281.49	281.95	0.008723	3.09	65.65	76.67	0.99
Reach-1	4919	20-Year	208.00	280.25	281.59	281.59	282.09	0.008352	3.21	73.36	79.09	0.98
Reach-1	4919	50-Year	239.00	280.25	281.65	281.65	282.23	0.009251	3.49	77.98	80.51	1.04
Reach-1	4919	100-Year	268.00	280.25	281.77	281.77	282.37	0.008368	3.53	88.64	92.55	1.01

HEC-RAS Plan: Existing (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	4919	Regional	698.00	280.25	282.97	282.97	283.68	0.004660	4.09	286.99	300.50	0.84
Reach-1	4833	2-Year	110.00	279.76	280.99		281.08	0.001676	1.36	84.66	104.19	0.44
Reach-1	4833	5-Year	153.00	279.76	281.20		281.32	0.001663	1.54	107.92	126.37	0.45
Reach-1	4833	10-Year	181.00	279.76	281.32		281.46	0.001640	1.63	125.21	152.00	0.45
Reach-1	4833	20-Year	208.00	279.76	281.43		281.57	0.001649	1.72	141.85	169.91	0.46
Reach-1	4833	50-Year	239.00	279.76	281.53		281.69	0.001668	1.81	159.60	170.78	0.47
Reach-1	4833	100-Year	268.00	279.76	281.62		281.79	0.001684	1.89	175.10	171.54	0.47
Reach-1	4833	Regional	698.00	279.76	282.56	281.92	282.86	0.001907	2.72	474.52	584.01	0.54
Reach-1	4687	2-Year	110.00	279.29	280.46		280.68	0.004160	2.08	56.82	89.64	0.68
Reach-1	4687	5-Year	153.00	279.29	280.77		280.98	0.002857	2.08	92.31	138.21	0.59
Reach-1	4687	10-Year	181.00	279.29	280.96		281.16	0.002305	2.05	121.49	167.93	0.54
Reach-1	4687	20-Year	208.00	279.29	281.07		281.27	0.002297	2.15	139.54	180.01	0.55
Reach-1	4687	50-Year	239.00	279.29	281.17	280.81	281.39	0.002283	2.24	158.97	184.62	0.55
Reach-1	4687	100-Year	268.00	279.29	281.26	280.90	281.49	0.002279	2.32	176.05	188.58	0.56
Reach-1	4687	Regional	698.00	279.29	282.13	281.92	282.52	0.002713	3.30	403.96	337.84	0.65
Reach-1	4427	2-Year	110.00	277.27	279.94	278.89	280.03	0.001405	1.30	82.74	62.16	0.26
Reach-1	4427	5-Year	153.00	277.27	280.21	279.13	280.31	0.002003	1.55	110.11	143.30	0.27
Reach-1	4427	10-Year	181.00	277.27	280.37	279.28	280.47	0.002625	1.41	136.95	198.50	0.25
Reach-1	4427	20-Year	208.00	277.27	280.48	279.41	280.58	0.002684	1.48	158.37	215.76	0.25
Reach-1	4427	50-Year	239.00	277.27	280.59	279.55	280.69	0.002672	1.53	184.61	235.19	0.24
Reach-1	4427	100-Year	268.00	277.27	280.69	279.75	280.79	0.002664	1.57	208.45	251.55	0.24
Reach-1	4427	Regional	698.00	277.27	281.53	280.85	281.66	0.002925	2.05	483.84	395.97	0.24
Reach-1	4197	2-Year	110.00	277.33	279.77		279.81	0.000538	1.22	142.22	148.63	0.27
Reach-1	4197	5-Year	153.00	277.33	279.98		280.04	0.000650	1.43	175.00	163.15	0.31
Reach-1	4197	10-Year	181.00	277.33	280.09		280.16	0.000718	1.55	194.10	171.50	0.32
Reach-1	4197	20-Year	208.00	277.33	280.16		280.24	0.000832	1.70	205.60	185.37	0.35
Reach-1	4197	50-Year	239.00	277.33	280.25		280.34	0.000923	1.84	223.34	213.15	0.37
Reach-1	4197	100-Year	268.00	277.33	280.32		280.42	0.001004	1.95	244.39	400.84	0.39
Reach-1	4197	Regional	698.00	277.33	281.02	280.54	281.17	0.001510	2.82	617.22	579.66	0.50
Reach-1	3969	2-Year	110.00	277.46	278.97	278.97	279.41	0.005725	3.06	48.87	92.15	0.84
Reach-1	3969	5-Year	153.00	277.46	279.41	279.41	279.69	0.002979	2.67	129.68	316.77	0.64
Reach-1	3969	10-Year	181.00	277.46	279.49	279.49	279.79	0.003231	2.85	153.13	342.95	0.67
Reach-1	3969	20-Year	208.00	277.46	279.62	279.62	279.87	0.002710	2.74	204.86	416.27	0.62
Reach-1	3969	50-Year	239.00	277.46	279.68	279.68	279.94	0.002878	2.88	230.10	433.93	0.64
Reach-1	3969	100-Year	268.00	277.46	279.73	279.73	280.00	0.002999	2.99	253.41	449.62	0.66
Reach-1	3969	Regional	698.00	277.46	280.24	280.24	280.58	0.004095	4.04	528.10	581.17	0.80
Reach-1	3734	2-Year	110.00	276.61	278.18		278.23	0.000926	1.08	143.15	260.90	0.29
Reach-1	3734	5-Year	153.00	276.61	278.36		278.42	0.001005	1.22	193.80	305.76	0.31
Reach-1	3734	10-Year	181.00	276.61	278.46		278.52	0.001032	1.29	225.19	313.79	0.32
Reach-1	3734	20-Year	209.00	276.61	278.56		278.62	0.001037	1.34	256.04	320.19	0.32
Reach-1	3734	50-Year	240.00	276.61	278.67		278.73	0.001021	1.39	290.81	327.26	0.32
Reach-1	3734	100-Year	269.00	276.61	278.76		278.83	0.001011	1.42	321.44	333.36	0.32
Reach-1	3734	Regional	679.00	276.61	279.97		280.03	0.000665	1.59	769.44	401.52	0.28
Reach-1	3634	2-Year	110.00	276.53	277.72		277.81	0.002654	1.80	92.11	177.77	0.55
Reach-1	3634	5-Year	153.00	276.53	277.95		278.03	0.002092	1.82	137.67	218.44	0.51
Reach-1	3634	10-Year	181.00	276.53	278.07		278.15	0.001912	1.85	164.15	219.94	0.49
Reach-1	3634	20-Year	209.00	276.53	278.19		278.27	0.001733	1.86	190.87	221.44	0.48
Reach-1	3634	50-Year	240.00	276.53	278.31		278.40	0.001609	1.88	220.44	268.67	0.46
Reach-1	3634	100-Year	269.00	276.53	278.43		278.51	0.001484	1.89	254.93	341.07	0.45
Reach-1	3634	Regional	679.00	276.53	279.83		279.88	0.000530	1.66	840.96	445.58	0.30
Reach-1	3550	2-Year	110.00	276.33	277.57		277.66	0.001779	1.57	91.48	121.06	0.46
Reach-1	3550	5-Year	153.00	276.33	277.76		277.89	0.001883	1.79	116.88	134.60	0.49
Reach-1	3550	10-Year	181.00	276.33	277.87		278.00	0.001972	1.92	130.62	134.91	0.50
Reach-1	3550	20-Year	209.00	276.33	277.98		278.13	0.001953	2.00	145.90	135.24	0.51
Reach-1	3550	50-Year	240.00	276.33	278.10		278.26	0.001930	2.09	162.01	135.59	0.51
Reach-1	3550	100-Year	269.00	276.33	278.20		278.37	0.001916	2.17	176.19	135.90	0.51
Reach-1	3550	Regional	679.00	276.33	279.51		279.76	0.001528	2.78	358.12	176.68	0.50
Reach-1	3545	2-Year	110.00	276.27	277.57	276.95	277.65	0.000595	1.22	90.23	72.94	0.35
Reach-1	3545	5-Year	153.00	276.27	277.76	277.10	277.87	0.000741	1.47	104.14	72.94	0.39
Reach-1	3545	10-Year	181.00	276.27	277.86	277.19	278.00	0.000849	1.63	111.24	72.94	0.42
Reach-1	3545	20-Year	209.00	276.27	277.96	277.28	278.12	0.000944	1.77	118.13	72.94	0.44
Reach-1	3545	50-Year	240.00	276.27	278.05	277.37	278.24	0.001048	1.92	125.09	72.94	0.47
Reach-1	3545	100-Year	269.00	276.27	278.13	277.45	278.35	0.001146	2.05	131.01	72.94	0.49
Reach-1	3545	Regional	679.00	276.27	279.05	278.40	279.65	0.002185	3.44	197.59	72.94	0.67

HEC-RAS Plan: Existing (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	3510.5		Bridge									
Reach-1	3510	2-Year	110.00	276.27	277.55		277.63	0.000634	1.24	88.36	72.94	0.36
Reach-1	3510	5-Year	153.00	276.27	277.73		277.85	0.000797	1.50	101.68	72.94	0.41
Reach-1	3510	10-Year	181.00	276.27	277.82		277.96	0.000921	1.67	108.31	72.94	0.44
Reach-1	3510	20-Year	209.00	276.27	277.91		278.08	0.001033	1.82	114.67	72.94	0.46
Reach-1	3510	50-Year	240.00	276.27	278.00		278.20	0.001156	1.98	121.07	72.94	0.49
Reach-1	3510	100-Year	269.00	276.27	278.07		278.30	0.001276	2.13	126.39	72.94	0.52
Reach-1	3510	Regional	679.00	276.27	278.77		279.52	0.002988	3.83	177.33	72.94	0.78
Reach-1	3505	2-Year	110.00	276.33	277.50		277.61	0.002929	1.66	83.76	115.28	0.50
Reach-1	3505	5-Year	153.00	276.33	277.70		277.83	0.003012	1.87	107.97	132.54	0.52
Reach-1	3505	10-Year	181.00	276.33	277.81		277.95	0.003040	1.98	122.52	134.71	0.53
Reach-1	3505	20-Year	209.00	276.33	277.90		278.07	0.003081	2.09	135.63	135.00	0.54
Reach-1	3505	50-Year	240.00	276.33	278.00		278.18	0.003169	2.20	148.42	135.28	0.56
Reach-1	3505	100-Year	269.00	276.33	278.08		278.27	0.003270	2.31	159.19	135.51	0.57
Reach-1	3505	Regional	679.00	276.33	278.92		279.32	0.004190	3.43	274.68	137.99	0.69
Reach-1	3360	2-Year	110.00	275.66	277.22		277.31	0.002106	1.59	115.13	181.24	0.44
Reach-1	3360	5-Year	153.00	275.66	277.42		277.52	0.002067	1.74	155.88	223.02	0.44
Reach-1	3360	10-Year	181.00	275.66	277.54		277.64	0.002036	1.81	182.61	244.02	0.45
Reach-1	3360	20-Year	209.00	275.66	277.64		277.74	0.002018	1.87	208.43	265.76	0.45
Reach-1	3360	50-Year	240.00	275.66	277.74		277.84	0.001996	1.93	234.93	267.10	0.45
Reach-1	3360	100-Year	269.00	275.66	277.82		277.93	0.001973	1.97	257.53	267.47	0.45
Reach-1	3360	Regional	679.00	275.66	278.73		278.87	0.001872	2.48	501.52	271.43	0.47
Reach-1	3242	2-Year	110.00	275.49	276.55		276.67	0.003947	1.74	79.38	146.12	0.57
Reach-1	3242	5-Year	153.00	275.49	276.76		276.88	0.003690	1.92	112.14	168.07	0.57
Reach-1	3242	10-Year	181.00	275.49	276.88		277.00	0.003583	2.02	133.43	187.58	0.57
Reach-1	3242	20-Year	209.00	275.49	277.00		277.12	0.003400	2.09	157.37	224.13	0.56
Reach-1	3242	50-Year	240.00	275.49	277.13		277.25	0.003087	2.11	190.51	270.62	0.54
Reach-1	3242	100-Year	269.00	275.49	277.26		277.37	0.002744	2.10	227.12	310.04	0.52
Reach-1	3242	Regional	679.00	275.49	278.37		278.45	0.001279	2.02	677.12	433.88	0.39
Reach-1	3086	2-Year	110.00	274.84	276.29		276.32	0.000872	0.92	161.44	267.07	0.28
Reach-1	3086	5-Year	153.00	274.84	276.55		276.57	0.000744	0.97	247.54	390.58	0.26
Reach-1	3086	10-Year	181.00	274.84	276.70		276.72	0.000651	0.97	309.19	428.22	0.25
Reach-1	3086	20-Year	209.00	274.84	276.84		276.87	0.000566	0.96	374.50	462.23	0.24
Reach-1	3086	50-Year	240.00	274.84	277.00		277.02	0.000487	0.95	450.85	499.07	0.22
Reach-1	3086	100-Year	269.00	274.84	277.15		277.17	0.000420	0.93	526.69	519.78	0.21
Reach-1	3086	Regional	679.00	274.84	278.30		278.32	0.000332	1.12	1164.72	595.83	0.20
Reach-1	3046	2-Year	110.00	274.55	276.13		276.24	0.002578	1.44	75.10	77.78	0.46
Reach-1	3046	5-Year	153.00	274.55	276.34		276.49	0.002714	1.68	91.93	81.13	0.49
Reach-1	3046	10-Year	181.00	274.55	276.47		276.63	0.002751	1.81	102.41	83.14	0.50
Reach-1	3046	20-Year	209.00	274.55	276.59		276.78	0.002724	1.91	113.23	85.18	0.51
Reach-1	3046	50-Year	240.00	274.55	276.74		276.93	0.002648	2.01	125.58	87.44	0.51
Reach-1	3046	100-Year	269.00	274.55	276.87		277.08	0.002543	2.08	137.65	89.60	0.50
Reach-1	3046	Regional	679.00	274.55	278.12		278.26	0.001552	2.32	527.84	416.80	0.43
Reach-1	3044	2-Year	110.00	274.55	276.08	275.67	276.23	0.001859	1.71	64.53	57.46	0.52
Reach-1	3044	5-Year	153.00	274.55	276.24	275.85	276.46	0.002353	2.08	73.87	57.46	0.59
Reach-1	3044	10-Year	181.00	274.55	276.33	275.95	276.60	0.002663	2.30	79.07	57.46	0.63
Reach-1	3044	20-Year	209.00	274.55	276.42	276.06	276.73	0.002940	2.50	84.02	57.46	0.66
Reach-1	3044	50-Year	240.00	274.55	276.51	276.17	276.88	0.003195	2.70	89.44	57.46	0.69
Reach-1	3044	100-Year	269.00	274.55	276.60	276.26	277.01	0.003358	2.85	94.76	57.46	0.71
Reach-1	3044	Regional	679.00	274.55	278.08	277.40	278.25	0.001507	2.70	488.17	395.85	0.50
Reach-1	3034.5		Bridge									
Reach-1	3034	2-Year	110.00	274.55	276.05		276.20	0.002029	1.76	62.76	57.46	0.54
Reach-1	3034	5-Year	153.00	274.55	276.19		276.43	0.002649	2.16	71.13	57.46	0.62
Reach-1	3034	10-Year	181.00	274.55	276.27		276.56	0.003089	2.41	75.40	57.46	0.68
Reach-1	3034	20-Year	209.00	274.55	276.33		276.69	0.003551	2.66	79.07	57.46	0.73
Reach-1	3034	50-Year	240.00	274.55	276.39		276.82	0.004066	2.91	82.74	57.46	0.78
Reach-1	3034	100-Year	269.00	274.55	276.45		276.95	0.004554	3.15	85.86	57.46	0.83
Reach-1	3034	Regional	679.00	274.55	277.40	277.40	277.95	0.005222	4.32	243.06	299.38	0.90
Reach-1	3032	2-Year	110.00	274.55	276.05		276.19	0.003260	1.54	69.51	76.29	0.51
Reach-1	3032	5-Year	153.00	274.55	276.21		276.40	0.003861	1.86	81.74	79.12	0.57
Reach-1	3032	10-Year	181.00	274.55	276.30		276.52	0.004263	2.06	88.45	80.45	0.61
Reach-1	3032	20-Year	209.00	274.55	276.37		276.63	0.004653	2.24	94.57	81.64	0.64
Reach-1	3032	50-Year	240.00	274.55	276.45		276.75	0.005034	2.43	101.05	82.89	0.68
Reach-1	3032	100-Year	269.00	274.55	276.52		276.86	0.005347	2.59	106.93	84.00	0.70

HEC-RAS Plan: Existing (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	3032	Regional	679.00	274.55	277.40	277.40	277.89	0.006166	3.85	256.27	361.33	0.82
Reach-1	2912	2-Year	110.00	274.28	275.66	275.35	275.76	0.003558	1.81	90.99	277.05	0.55
Reach-1	2912	5-Year	153.00	274.28	275.82	275.65	275.92	0.003383	1.94	137.61	296.09	0.55
Reach-1	2912	10-Year	181.00	274.28	275.91	275.70	276.00	0.003351	2.01	162.44	300.00	0.55
Reach-1	2912	20-Year	209.00	274.28	275.97	275.75	276.07	0.003478	2.11	181.34	300.00	0.57
Reach-1	2912	50-Year	240.00	274.28	276.01	275.81	276.13	0.003891	2.28	194.31	300.00	0.60
Reach-1	2912	100-Year	269.00	274.28	276.04	275.86	276.18	0.004388	2.45	203.12	300.00	0.64
Reach-1	2912	Regional	679.00	274.28	276.62		276.81	0.004986	3.25	419.06	456.94	0.72
Reach-1	2662	2-Year	110.00	273.40	274.54		274.69	0.006300	1.97	63.91	114.08	0.70
Reach-1	2662	5-Year	153.00	273.40	274.70		274.89	0.006069	2.19	84.33	131.41	0.71
Reach-1	2662	10-Year	181.00	273.40	274.81	274.62	275.00	0.005700	2.28	101.33	206.48	0.70
Reach-1	2662	20-Year	209.00	273.40	274.93	274.69	275.10	0.005087	2.30	132.98	369.98	0.67
Reach-1	2662	50-Year	240.00	273.40	275.05		275.20	0.004160	2.23	186.30	440.67	0.62
Reach-1	2662	100-Year	269.00	273.40	275.17		275.28	0.003332	2.10	238.85	475.96	0.56
Reach-1	2662	Regional	679.00	273.40	276.18		276.24	0.001147	1.76	745.99	518.98	0.36
Reach-1	2422	2-Year	110.00	272.37	273.91		273.99	0.001921	1.34	98.32	141.37	0.41
Reach-1	2422	5-Year	153.00	272.37	274.24		274.31	0.001394	1.35	157.31	224.85	0.36
Reach-1	2422	10-Year	181.00	272.37	274.41		274.48	0.001202	1.36	200.65	270.22	0.34
Reach-1	2422	20-Year	209.00	272.37	274.57		274.63	0.001055	1.35	247.36	311.81	0.32
Reach-1	2422	50-Year	240.00	272.37	274.74		274.80	0.000924	1.34	302.82	354.92	0.31
Reach-1	2422	100-Year	269.00	272.37	274.89		274.94	0.000819	1.33	357.44	386.17	0.29
Reach-1	2422	Regional	679.00	272.37	275.99		276.05	0.000626	1.54	828.36	464.69	0.28
Reach-1	2132	2-Year	110.00	271.01	273.40		273.54	0.001418	1.68	70.43	46.11	0.38
Reach-1	2132	5-Year	153.00	271.01	273.68		273.87	0.001694	2.00	88.43	71.28	0.43
Reach-1	2132	10-Year	181.00	271.01	273.82		274.05	0.001857	2.19	98.91	72.70	0.45
Reach-1	2132	20-Year	209.00	271.01	273.96		274.22	0.001994	2.35	108.85	74.02	0.47
Reach-1	2132	50-Year	240.00	271.01	274.10		274.40	0.002106	2.51	119.72	75.44	0.49
Reach-1	2132	100-Year	269.00	271.01	274.23		274.56	0.002185	2.64	129.73	76.73	0.50
Reach-1	2132	Regional	679.00	271.01	275.42		275.72	0.001867	3.09	480.95	341.39	0.49
Reach-1	1898	2-Year	110.00	271.10	273.20		273.27	0.000810	1.21	97.33	61.71	0.29
Reach-1	1898	5-Year	153.00	271.10	273.44		273.55	0.001017	1.47	112.39	63.27	0.33
Reach-1	1898	10-Year	181.00	271.10	273.55		273.68	0.001185	1.64	119.49	63.99	0.36
Reach-1	1898	20-Year	209.00	271.10	273.65		273.81	0.001343	1.80	126.18	64.66	0.38
Reach-1	1898	50-Year	240.00	271.10	273.77		273.96	0.001488	1.96	133.78	65.42	0.41
Reach-1	1898	100-Year	269.00	271.10	273.88		274.10	0.001599	2.10	141.01	66.13	0.42
Reach-1	1898	Regional	679.00	271.10	275.23		275.39	0.001046	2.26	649.43	533.63	0.37
Reach-1	1552	2-Year	110.00	271.11	272.73		272.85	0.002083	1.60	102.83	202.53	0.44
Reach-1	1552	5-Year	153.00	271.11	273.06		273.14	0.001370	1.50	208.45	426.41	0.37
Reach-1	1552	10-Year	181.00	271.11	273.22		273.29	0.001052	1.40	282.95	464.32	0.33
Reach-1	1552	20-Year	209.00	271.11	273.40		273.45	0.000783	1.28	364.67	477.77	0.29
Reach-1	1552	50-Year	240.00	271.11	273.58		273.62	0.000597	1.19	453.40	489.10	0.25
Reach-1	1552	100-Year	269.00	271.11	273.74		273.77	0.000489	1.12	533.06	497.65	0.23
Reach-1	1552	Regional	679.00	271.11	275.19		275.21	0.000235	1.07	1322.45	577.56	0.17
Reach-1	1304	2-Year	110.00	270.78	272.72		272.73	0.000143	0.27	443.97	411.02	0.07
Reach-1	1304	5-Year	153.00	270.78	273.02		273.03	0.000174	0.33	577.28	464.04	0.08
Reach-1	1304	10-Year	181.00	270.78	273.19		273.19	0.000165	0.34	652.88	466.40	0.08
Reach-1	1304	20-Year	209.00	270.78	273.36		273.36	0.000152	0.34	733.70	468.90	0.07
Reach-1	1304	50-Year	240.00	270.78	273.54		273.55	0.000140	0.35	820.73	471.36	0.07
Reach-1	1304	100-Year	269.00	270.78	273.71		273.71	0.000132	0.35	897.73	472.92	0.07
Reach-1	1304	Regional	679.00	270.78	275.16		275.17	0.000132	0.48	1594.86	487.12	0.08
Reach-1	1161	2-Year	62.00	270.58	272.70	271.87	272.71	0.000073	0.94	133.63	66.30	0.21
Reach-1	1161	5-Year	95.00	270.58	272.98	271.87	273.01	0.000111	1.26	152.58	66.30	0.26
Reach-1	1161	10-Year	114.90	270.58	273.14	271.87	273.17	0.000132	1.43	162.85	66.30	0.29
Reach-1	1161	20-Year	139.30	270.58	273.30	271.87	273.34	0.000157	1.63	173.66	66.30	0.32
Reach-1	1161	50-Year	167.20	270.58	273.48	271.87	273.52	0.000184	1.84	185.18	66.30	0.34
Reach-1	1161	100-Year	193.90	270.58	273.63	271.87	273.69	0.000208	2.02	195.25	66.30	0.37
Reach-1	1161	Regional	485.20	270.58	274.95	272.54	275.13	0.000395	3.54	283.02	66.30	0.54
Reach-1	1151.5	Inl Struct										
Reach-1	1151	2-Year	62.00	268.48	271.44	269.19	271.44	0.000035	0.36	173.30	69.23	0.07
Reach-1	1151	5-Year	95.00	268.48	271.73	269.36	271.75	0.000057	0.49	194.03	69.48	0.09
Reach-1	1151	10-Year	114.90	268.48	271.90	269.45	271.92	0.000069	0.56	205.73	69.62	0.10
Reach-1	1151	20-Year	139.30	268.48	272.08	269.55	272.10	0.000085	0.64	217.74	69.77	0.12
Reach-1	1151	50-Year	167.20	268.48	272.27	269.66	272.30	0.000101	0.72	231.27	69.93	0.13
Reach-1	1151	100-Year	193.90	268.48	272.47	269.76	272.50	0.000112	0.79	245.54	70.11	0.13

HEC-RAS Plan: Existing (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	1151	Regional	485.20	268.48	274.53	270.63	274.61	0.000161	1.24	391.85	71.85	0.17
Reach-1	1145	2-Year	62.00	270.00	271.40	270.50	271.43	0.000376	0.79	78.88	56.45	0.21
Reach-1	1145	5-Year	95.00	270.00	271.68	270.67	271.73	0.000487	1.00	94.72	56.54	0.25
Reach-1	1145	10-Year	114.90	270.00	271.84	270.75	271.90	0.000531	1.11	103.67	56.59	0.26
Reach-1	1145	20-Year	139.30	270.00	272.00	270.86	272.08	0.000596	1.24	112.64	56.64	0.28
Reach-1	1145	50-Year	167.20	270.00	272.18	270.97	272.27	0.000648	1.36	122.82	56.70	0.30
Reach-1	1145	100-Year	193.90	270.00	272.37	271.07	272.48	0.000661	1.45	133.82	56.76	0.30
Reach-1	1145	Regional	485.20	270.00	274.39	271.97	274.58	0.000538	1.92	266.87	71.44	0.29
Reach-1	1144	2-Year	62.00	270.00	271.38	270.57	271.43	0.001278	0.97	64.31	46.81	0.26
Reach-1	1144	5-Year	95.00	270.00	271.65	270.75	271.73	0.001810	1.24	76.77	46.90	0.31
Reach-1	1144	10-Year	114.90	270.00	271.80	270.85	271.89	0.002070	1.37	83.79	46.96	0.33
Reach-1	1144	20-Year	139.30	270.00	271.94	270.97	272.06	0.002442	1.54	90.67	47.01	0.35
Reach-1	1144	50-Year	167.20	270.00	272.11	271.10	272.26	0.003371	1.70	98.64	59.87	0.42
Reach-1	1144	100-Year	193.90	270.00	272.31	271.21	272.46	0.003127	1.76	110.38	59.90	0.41
Reach-1	1144	Regional	485.20	270.00	274.36	272.34	274.57	0.001613	2.05	245.08	69.43	0.33
Reach-1	1140.5	Bridge										
Reach-1	1140	2-Year	62.00	270.00	271.38		271.42	0.001294	0.97	64.04	46.80	0.26
Reach-1	1140	5-Year	95.00	270.00	271.64		271.72	0.001837	1.25	76.37	46.90	0.31
Reach-1	1140	10-Year	114.90	270.00	271.79		271.88	0.002103	1.38	83.32	46.96	0.33
Reach-1	1140	20-Year	139.30	270.00	271.93		272.05	0.002485	1.55	90.10	47.01	0.36
Reach-1	1140	50-Year	167.20	270.00	272.09		272.24	0.002872	1.72	97.58	47.07	0.38
Reach-1	1140	100-Year	193.90	270.00	272.24		272.41	0.003545	1.83	106.26	59.89	0.44
Reach-1	1140	Regional	485.20	270.00	273.80		274.10	0.002714	2.41	206.61	69.24	0.42
Reach-1	1139	2-Year	62.00	270.00	271.38	270.50	271.42	0.000395	0.80	77.74	56.44	0.22
Reach-1	1139	5-Year	95.00	270.00	271.65	270.67	271.70	0.000519	1.02	92.88	56.53	0.25
Reach-1	1139	10-Year	114.90	270.00	271.80	270.75	271.87	0.000570	1.13	101.43	56.58	0.27
Reach-1	1139	20-Year	139.30	270.00	271.95	270.86	272.03	0.000647	1.27	109.83	56.62	0.29
Reach-1	1139	50-Year	167.20	270.00	272.11	270.97	272.21	0.000716	1.40	119.10	56.68	0.31
Reach-1	1139	100-Year	193.90	270.00	272.26	271.07	272.38	0.000773	1.52	127.51	56.72	0.32
Reach-1	1139	Regional	485.20	270.00	273.82	271.97	274.07	0.000862	2.23	226.21	71.24	0.36
Reach-1	1133	2-Year	62.00	269.66	271.38	270.49	271.41	0.000418	0.79	78.79	62.61	0.22
Reach-1	1133	5-Year	95.00	269.66	271.65	270.68	271.70	0.000520	1.00	95.47	62.65	0.26
Reach-1	1133	10-Year	114.90	269.66	271.80	270.77	271.86	0.000558	1.10	104.89	62.68	0.27
Reach-1	1133	20-Year	139.30	269.66	271.95	270.89	272.03	0.000621	1.22	114.15	62.70	0.29
Reach-1	1133	50-Year	167.20	269.66	272.11	271.00	272.21	0.000674	1.34	124.38	62.73	0.30
Reach-1	1133	100-Year	193.90	269.66	272.26	271.11	272.37	0.000715	1.45	133.66	62.75	0.32
Reach-1	1133	Regional	485.20	269.66	273.83	271.95	274.05	0.000717	2.08	238.71	71.31	0.35
Reach-1	1132	2-Year	62.00	269.70	271.38	270.23	271.41	0.000126	0.71	87.88	52.20	0.17
Reach-1	1132	5-Year	95.00	269.70	271.65	270.40	271.70	0.000187	0.93	101.89	52.20	0.21
Reach-1	1132	10-Year	114.90	269.70	271.80	270.49	271.86	0.000217	1.05	109.78	52.20	0.23
Reach-1	1132	20-Year	139.30	269.70	271.95	270.60	272.02	0.000259	1.19	117.52	52.20	0.25
Reach-1	1132	50-Year	167.20	269.70	272.12	270.71	272.20	0.000301	1.33	126.06	52.20	0.27
Reach-1	1132	100-Year	193.90	269.70	272.26	270.82	272.37	0.000338	1.45	133.78	52.20	0.29
Reach-1	1132	Regional	485.20	269.70	273.81	271.77	274.05	0.000424	2.18	241.51	140.41	0.35
Reach-1	1115.5	Bridge										
Reach-1	1115	2-Year	62.00	269.70	271.38	270.23	271.41	0.000126	0.71	87.76	52.20	0.17
Reach-1	1115	5-Year	95.00	269.70	271.65	270.40	271.69	0.000188	0.93	101.71	52.20	0.21
Reach-1	1115	10-Year	114.90	269.70	271.80	270.49	271.86	0.000218	1.05	109.57	52.20	0.23
Reach-1	1115	20-Year	139.30	269.70	271.95	270.60	272.02	0.000261	1.19	117.27	52.20	0.25
Reach-1	1115	50-Year	167.20	269.70	272.11	270.71	272.20	0.000303	1.33	125.76	52.20	0.27
Reach-1	1115	100-Year	193.90	269.70	272.26	270.82	272.36	0.000341	1.45	133.44	52.20	0.29
Reach-1	1115	Regional	485.20	269.70	273.40	271.77	273.71	0.000616	2.45	210.88	140.20	0.41
Reach-1	1114	2-Year	62.00	268.45	271.39	269.18	271.40	0.000056	0.41	151.46	81.40	0.08
Reach-1	1114	5-Year	95.00	268.45	271.66	269.35	271.68	0.000090	0.56	182.49	83.81	0.10
Reach-1	1114	10-Year	114.90	268.45	271.82	269.45	271.84	0.000110	0.63	193.88	84.38	0.12
Reach-1	1114	20-Year	139.30	268.45	271.97	269.56	272.00	0.000137	0.73	205.15	84.94	0.13
Reach-1	1114	50-Year	167.20	268.45	272.14	269.68	272.17	0.000165	0.83	217.58	92.26	0.14
Reach-1	1114	100-Year	193.90	268.45	272.29	269.78	272.33	0.000191	0.92	228.86	100.26	0.16
Reach-1	1114	Regional	485.20	268.45	273.49	270.68	273.62	0.000435	1.68	317.66	137.69	0.25
Reach-1	1016	2-Year	62.00	268.45	271.38	269.19	271.39	0.000116	0.53	117.02	61.98	0.11
Reach-1	1016	5-Year	95.00	268.45	271.64	269.43	271.67	0.000198	0.73	130.66	65.59	0.15
Reach-1	1016	10-Year	114.90	268.45	271.79	269.55	271.83	0.000246	0.83	138.58	67.10	0.17
Reach-1	1016	20-Year	139.30	268.45	271.93	269.70	271.98	0.000311	0.95	146.50	68.68	0.19

HEC-RAS Plan: Existing (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	1016	50-Year	167.20	268.45	272.09	269.86	272.15	0.000382	1.08	155.46	81.14	0.21
Reach-1	1016	100-Year	193.90	268.45	272.24	269.99	272.31	0.000447	1.18	163.79	91.94	0.23
Reach-1	1016	Regional	485.20	268.45	273.40	271.15	273.58	0.001078	1.91	281.37	237.82	0.36
Reach-1	1015	2-Year	62.00	268.58	271.36	269.45	271.39	0.000226	0.70	88.91	54.27	0.15
Reach-1	1015	5-Year	95.00	268.58	271.61	269.72	271.66	0.000387	0.95	99.77	57.37	0.20
Reach-1	1015	10-Year	114.90	268.58	271.76	269.86	271.81	0.000478	1.08	106.10	59.11	0.23
Reach-1	1015	20-Year	139.30	268.58	271.89	270.02	271.97	0.000601	1.24	112.27	60.68	0.26
Reach-1	1015	50-Year	167.20	268.58	272.04	270.20	272.14	0.000753	1.40	119.23	63.40	0.29
Reach-1	1015	100-Year	193.90	268.58	272.17	270.35	272.29	0.000948	1.54	126.01	68.45	0.32
Reach-1	1015	Regional	485.20	268.58	273.33	271.68	273.54	0.001988	2.06	272.14	320.90	0.46
Reach-1	1014	2-Year	62.00	268.70	271.34	269.65	271.38	0.000358	0.87	71.30	33.99	0.19
Reach-1	1014	5-Year	95.00	268.70	271.57	269.95	271.64	0.000630	1.20	79.31	35.70	0.26
Reach-1	1014	10-Year	114.90	268.70	271.70	270.11	271.79	0.000801	1.37	83.94	37.05	0.29
Reach-1	1014	20-Year	139.30	268.70	271.81	270.29	271.94	0.001143	1.57	88.52	41.49	0.34
Reach-1	1014	50-Year	167.20	268.70	271.94	270.47	272.10	0.001482	1.78	93.92	44.50	0.39
Reach-1	1014	100-Year	193.90	268.70	272.05	270.64	272.24	0.002000	1.96	99.10	51.17	0.45
Reach-1	1014	Regional	485.20	268.70	273.11	272.34	273.46	0.002936	2.69	215.49	269.47	0.56
Reach-1	1013	2-Year	62.00	268.45	271.33	269.41	271.37	0.000286	0.80	77.97	155.22	0.17
Reach-1	1013	5-Year	95.00	268.45	271.56	269.71	271.62	0.000521	1.10	86.34	160.09	0.23
Reach-1	1013	10-Year	114.90	268.45	271.69	269.87	271.77	0.000677	1.26	91.22	163.39	0.27
Reach-1	1013	20-Year	139.30	268.45	271.79	270.05	271.90	0.000895	1.46	95.70	166.24	0.31
Reach-1	1013	50-Year	167.20	268.45	271.91	270.25	272.05	0.001160	1.66	100.80	169.65	0.35
Reach-1	1013	100-Year	193.90	268.45	272.01	270.42	272.18	0.001438	1.84	105.21	173.12	0.39
Reach-1	1013	Regional	485.20	268.45	272.99	271.95	273.36	0.003080	2.75	199.70	301.29	0.58
Reach-1	1012	2-Year	62.00	268.45	271.35	268.96	271.36	0.000027	0.22	281.26	233.88	0.06
Reach-1	1012	5-Year	95.00	268.45	271.60	269.12	271.60	0.000043	0.30	326.91	237.92	0.07
Reach-1	1012	10-Year	114.90	268.45	271.73	269.21	271.74	0.000052	0.33	352.63	238.78	0.07
Reach-1	1012	20-Year	139.30	268.45	271.86	269.31	271.87	0.000064	0.38	376.41	239.55	0.08
Reach-1	1012	50-Year	167.20	268.45	272.00	269.42	272.01	0.000077	0.43	402.70	240.39	0.09
Reach-1	1012	100-Year	193.90	268.45	272.12	269.51	272.13	0.000088	0.47	425.23	245.84	0.10
Reach-1	1012	Regional	485.20	268.45	273.21	270.42	273.24	0.000178	0.81	650.46	359.25	0.14
Reach-2	906	2-Year	110.00	268.90	271.33	270.03	271.35	0.000265	0.70	205.92	235.37	0.16
Reach-2	906	5-Year	153.00	268.90	271.57	270.20	271.59	0.000296	0.80	257.15	255.77	0.18
Reach-2	906	10-Year	181.00	268.90	271.70	270.29	271.73	0.000299	0.84	287.32	257.23	0.18
Reach-2	906	20-Year	209.00	268.90	271.83	270.39	271.85	0.000301	0.87	315.34	258.64	0.18
Reach-2	906	50-Year	240.00	268.90	271.96	270.48	271.99	0.000298	0.90	346.55	260.10	0.18
Reach-2	906	100-Year	269.00	268.90	272.08	270.60	272.11	0.000298	0.93	373.32	261.09	0.18
Reach-2	906	Regional	679.00	268.90	273.16	271.47	273.22	0.000374	1.31	678.22	422.62	0.22
Reach-2	811	2-Year	110.00	268.90	271.33	269.54	271.34	0.000130	0.44	254.48	226.21	0.11
Reach-2	811	5-Year	153.00	268.90	271.57	269.69	271.59	0.000164	0.52	303.18	250.60	0.12
Reach-2	811	10-Year	181.00	268.90	271.71	269.78	271.72	0.000181	0.57	331.95	251.32	0.13
Reach-2	811	20-Year	209.00	268.90	271.83	269.86	271.85	0.000195	0.62	358.58	251.98	0.14
Reach-2	811	50-Year	240.00	268.90	271.97	269.95	271.99	0.000206	0.66	388.12	252.70	0.14
Reach-2	811	100-Year	269.00	268.90	272.09	270.03	272.11	0.000217	0.71	413.43	253.69	0.15
Reach-2	811	Regional	679.00	268.90	273.16	270.90	273.22	0.000379	1.20	662.01	342.58	0.21
Reach-2	810	2-Year	110.00	268.90	271.33	269.68	271.34	0.000179	0.49	223.42	228.73	0.13
Reach-2	810	5-Year	153.00	268.90	271.56	269.85	271.58	0.000214	0.59	267.43	236.04	0.15
Reach-2	810	10-Year	181.00	268.90	271.70	269.95	271.72	0.000235	0.65	292.48	237.03	0.15
Reach-2	810	20-Year	209.00	268.90	271.82	270.04	271.84	0.000253	0.70	315.70	237.94	0.16
Reach-2	810	50-Year	240.00	268.90	271.95	270.14	271.98	0.000266	0.75	341.52	238.95	0.17
Reach-2	810	100-Year	269.00	268.90	272.07	270.22	272.10	0.000280	0.80	364.30	250.81	0.17
Reach-2	810	Regional	679.00	268.90	273.12	271.20	273.20	0.000478	1.35	603.75	340.87	0.24
Reach-2	809	2-Year	110.00	268.90	271.32	269.70	271.33	0.000130	0.53	259.81	246.64	0.12
Reach-2	809	5-Year	153.00	268.90	271.56	269.86	271.57	0.000165	0.63	311.37	265.08	0.13
Reach-2	809	10-Year	181.00	268.90	271.69	269.96	271.71	0.000183	0.69	341.97	266.69	0.14
Reach-2	809	20-Year	209.00	268.90	271.81	270.05	271.83	0.000200	0.75	370.40	268.05	0.15
Reach-2	809	50-Year	240.00	268.90	271.95	270.17	271.97	0.000213	0.80	402.14	269.56	0.15
Reach-2	809	100-Year	269.00	268.90	272.07	270.25	272.09	0.000225	0.84	429.39	270.89	0.16
Reach-2	809	Regional	679.00	268.90	273.12	271.03	273.19	0.000422	1.43	689.36	336.11	0.23
Reach-2	808	2-Year	110.00	268.90	271.30	269.91	271.33	0.000247	0.67	200.56	247.29	0.16
Reach-2	808	5-Year	153.00	268.90	271.54	270.09	271.56	0.000295	0.80	249.90	254.39	0.18
Reach-2	808	10-Year	181.00	268.90	271.67	270.19	271.70	0.000320	0.86	278.04	255.57	0.19
Reach-2	808	20-Year	209.00	268.90	271.79	270.28	271.82	0.000342	0.93	304.17	256.67	0.19
Reach-2	808	50-Year	240.00	268.90	271.92	270.38	271.96	0.000357	0.98	333.48	257.91	0.20
Reach-2	808	100-Year	269.00	268.90	272.03	270.46	272.08	0.000371	1.03	358.57	259.06	0.21

HEC-RAS Plan: Existing (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-2	808	Regional	679.00	268.90	273.05	271.47	273.17	0.000671	1.73	589.85	326.29	0.29
Reach-2	807	2-Year	110.00	268.90	271.28	269.95	271.32	0.000430	0.88	156.12	243.91	0.21
Reach-2	807	5-Year	153.00	268.90	271.51	270.16	271.55	0.000505	1.03	203.24	248.84	0.23
Reach-2	807	10-Year	181.00	268.90	271.63	270.28	271.69	0.000543	1.10	230.12	249.96	0.24
Reach-2	807	20-Year	209.00	268.90	271.75	270.39	271.81	0.000573	1.17	255.16	250.99	0.25
Reach-2	807	50-Year	240.00	268.90	271.89	270.56	271.95	0.000590	1.23	283.49	252.15	0.25
Reach-2	807	100-Year	269.00	268.90	272.00	270.66	272.07	0.000606	1.28	307.73	253.13	0.26
Reach-2	807	Regional	679.00	268.90	273.00	271.75	273.14	0.000960	1.98	532.17	284.54	0.34
Reach-2	806	2-Year	110.00	268.90	271.28		271.30	0.000227	0.67	199.34	235.13	0.15
Reach-2	806	5-Year	153.00	268.90	271.51		271.54	0.000277	0.80	253.45	240.49	0.17
Reach-2	806	10-Year	181.00	268.90	271.64		271.67	0.000303	0.87	284.33	241.73	0.18
Reach-2	806	20-Year	209.00	268.90	271.76		271.79	0.000326	0.93	313.11	242.94	0.19
Reach-2	806	50-Year	240.00	268.90	271.89		271.93	0.000341	0.98	345.69	244.33	0.20
Reach-2	806	100-Year	269.00	268.90	272.00		272.05	0.000355	1.03	373.59	245.53	0.20
Reach-2	806	Regional	679.00	268.90	273.01		273.12	0.000623	1.67	649.47	327.54	0.28
Reach-2	805	2-Year	110.00	268.90	271.25		271.29	0.000537	0.97	145.53	214.08	0.23
Reach-2	805	5-Year	153.00	268.90	271.47		271.53	0.000616	1.11	193.65	216.96	0.25
Reach-2	805	10-Year	181.00	268.90	271.60		271.66	0.000652	1.19	221.32	220.90	0.26
Reach-2	805	20-Year	209.00	268.90	271.71		271.78	0.000680	1.26	247.29	222.48	0.27
Reach-2	805	50-Year	240.00	268.90	271.85		271.92	0.000687	1.31	277.08	224.32	0.27
Reach-2	805	100-Year	269.00	268.90	271.96		272.03	0.000698	1.36	302.61	225.88	0.28
Reach-2	805	Regional	679.00	268.90	272.95		273.10	0.001002	2.01	560.68	283.64	0.35
Reach-2	804	2-Year	110.00	268.90	271.14		271.26	0.001696	1.57	87.79	188.25	0.40
Reach-2	804	5-Year	153.00	268.90	271.35		271.49	0.001821	1.76	127.83	191.18	0.42
Reach-2	804	10-Year	181.00	268.90	271.48		271.62	0.001825	1.83	151.94	192.86	0.43
Reach-2	804	20-Year	209.00	268.90	271.59		271.74	0.001811	1.90	174.90	195.76	0.43
Reach-2	804	50-Year	240.00	268.90	271.73		271.88	0.001720	1.93	202.61	199.68	0.42
Reach-2	804	100-Year	269.00	268.90	271.85		272.00	0.001673	1.96	226.15	203.15	0.42
Reach-2	804	Regional	679.00	268.90	272.79		273.04	0.002231	2.79	444.17	279.67	0.51
Reach-2	803	2-Year	110.00	268.90	271.02	270.27	271.19	0.003108	1.86	75.30	173.62	0.52
Reach-2	803	5-Year	153.00	268.90	271.25		271.42	0.002788	1.96	116.39	178.95	0.51
Reach-2	803	10-Year	181.00	268.90	271.39		271.56	0.002574	1.98	141.43	182.25	0.50
Reach-2	803	20-Year	209.00	268.90	271.52		271.68	0.002408	2.01	164.89	185.05	0.48
Reach-2	803	50-Year	240.00	268.90	271.67		271.82	0.002145	2.00	193.32	186.91	0.46
Reach-2	803	100-Year	269.00	268.90	271.80		271.94	0.002019	2.01	216.26	188.39	0.45
Reach-2	803	Regional	679.00	268.90	272.70		272.97	0.002711	2.91	423.89	281.03	0.55
Reach-2	802	2-Year	110.00	268.90	271.03		271.11	0.001362	1.45	106.43	165.38	0.36
Reach-2	802	5-Year	153.00	268.90	271.27		271.34	0.001185	1.46	146.47	167.71	0.34
Reach-2	802	10-Year	181.00	268.90	271.41		271.48	0.001104	1.46	169.94	168.99	0.33
Reach-2	802	20-Year	209.00	268.90	271.53		271.61	0.001048	1.47	191.60	170.45	0.33
Reach-2	802	50-Year	240.00	268.90	271.69		271.76	0.000958	1.47	217.63	173.08	0.32
Reach-2	802	100-Year	269.00	268.90	271.81		271.88	0.000917	1.48	238.83	175.23	0.31
Reach-2	802	Regional	679.00	268.90	272.74		272.87	0.001062	1.92	459.06	277.65	0.35
Reach-2	801	2-Year	110.00	268.90	271.02		271.08	0.000929	1.26	119.72	155.83	0.30
Reach-2	801	5-Year	153.00	268.90	271.25		271.32	0.000887	1.32	157.01	157.47	0.30
Reach-2	801	10-Year	181.00	268.90	271.39		271.46	0.000863	1.36	178.91	158.43	0.30
Reach-2	801	20-Year	209.00	268.90	271.52		271.59	0.000847	1.39	199.08	159.60	0.30
Reach-2	801	50-Year	240.00	268.90	271.67		271.74	0.000804	1.41	223.52	163.14	0.29
Reach-2	801	100-Year	269.00	268.90	271.79		271.87	0.000791	1.44	243.52	166.11	0.29
Reach-2	801	Regional	679.00	268.90	272.72		272.85	0.001000	1.96	463.05	276.80	0.35
Reach-2	516	2-Year	110.00	269.10	270.93		270.95	0.000428	0.83	240.90	276.39	0.20
Reach-2	516	5-Year	153.00	269.10	271.17		271.19	0.000427	0.91	308.57	288.02	0.21
Reach-2	516	10-Year	181.00	269.10	271.31		271.33	0.000426	0.95	349.47	294.83	0.21
Reach-2	516	20-Year	209.00	269.10	271.44		271.46	0.000426	0.99	388.95	324.67	0.21
Reach-2	516	50-Year	240.00	269.10	271.59		271.62	0.000443	1.05	440.21	348.80	0.22
Reach-2	516	100-Year	269.00	269.10	271.71		271.74	0.000429	1.07	484.36	355.77	0.22
Reach-2	516	Regional	679.00	269.10	272.62		272.68	0.000618	1.59	828.35	408.90	0.28
Reach-2	0.1	2-Year	110.00	268.70	269.93	269.93	270.33	0.011694	2.95	44.30	57.66	0.97
Reach-2	0.1	5-Year	153.00	268.70	270.17	270.17	270.60	0.009568	3.11	63.27	89.74	0.92
Reach-2	0.1	10-Year	181.00	268.70	270.29	270.29	270.74	0.009163	3.24	74.23	94.19	0.91
Reach-2	0.1	20-Year	209.00	268.70	270.40	270.40	270.88	0.008824	3.36	85.40	109.41	0.91
Reach-2	0.1	50-Year	240.00	268.70	270.50	270.50	271.01	0.008747	3.51	98.88	146.62	0.91
Reach-2	0.1	100-Year	269.00	268.70	270.55	270.55	271.13	0.009792	3.79	105.49	150.24	0.97
Reach-2	0.1	Regional	679.00	268.70	271.51	271.51	271.98	0.005828	4.03	360.85	341.49	0.81

HEC-RAS Plan: Prop_PierBlocking

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
Reach-1	5382	2-Year	110.00	281.31	283.12		283.21	0.000947	1.44	113.35	133.89	0.36
Reach-1	5382	5-Year	153.00	281.31	283.44		283.54	0.000856	1.55	164.71	207.33	0.35
Reach-1	5382	10-Year	181.00	281.31	283.64		283.75	0.000818	1.61	212.21	259.04	0.35
Reach-1	5382	20-Year	208.00	281.31	283.78		283.89	0.000799	1.66	249.95	288.59	0.35
Reach-1	5382	50-Year	239.00	281.31	283.91		284.02	0.000801	1.72	289.43	316.57	0.35
Reach-1	5382	100-Year	268.00	281.31	284.02		284.13	0.000808	1.78	324.49	339.48	0.35
Reach-1	5382	Regional	698.00	281.31	285.08		285.21	0.000810	2.24	711.98	381.32	0.38
Reach-1	5257	2-Year	110.00	281.03	282.68		282.96	0.002932	2.39	52.05	58.14	0.62
Reach-1	5257	5-Year	153.00	281.03	282.91	282.57	283.29	0.003335	2.81	68.79	84.23	0.67
Reach-1	5257	10-Year	181.00	281.03	283.04	282.78	283.49	0.003673	3.08	81.47	134.87	0.72
Reach-1	5257	20-Year	208.00	281.03	283.17	282.95	283.63	0.003610	3.19	100.01	152.10	0.72
Reach-1	5257	50-Year	239.00	281.03	283.31	283.27	283.78	0.003416	3.25	123.53	171.48	0.71
Reach-1	5257	100-Year	268.00	281.03	283.44	283.38	283.89	0.003214	3.28	146.89	188.77	0.69
Reach-1	5257	Regional	698.00	281.03	284.90		285.07	0.001172	2.75	779.58	658.73	0.45
Reach-1	5127	2-Year	110.00	280.69	282.43	281.93	282.61	0.002089	1.93	62.35	67.83	0.51
Reach-1	5127	5-Year	153.00	280.69	282.66	282.23	282.89	0.002249	2.21	78.44	69.98	0.55
Reach-1	5127	10-Year	181.00	280.69	282.79	282.39	283.06	0.002338	2.37	87.93	75.21	0.57
Reach-1	5127	20-Year	208.00	280.69	282.91	282.52	283.20	0.002401	2.51	97.26	81.46	0.58
Reach-1	5127	50-Year	239.00	280.69	283.05	282.64	283.36	0.002422	2.64	110.51	133.14	0.59
Reach-1	5127	100-Year	268.00	280.69	283.19	282.74	283.50	0.002295	2.68	131.22	161.46	0.58
Reach-1	5127	Regional	698.00	280.69	284.84	283.94	284.94	0.000614	2.02	849.03	678.85	0.33
Reach-1	5097.5	Bridge										
Reach-1	5097	2-Year	110.00	280.69	282.30		282.53	0.002996	2.17	53.79	61.41	0.61
Reach-1	5097	5-Year	153.00	280.69	282.48		282.80	0.003478	2.55	66.21	68.35	0.67
Reach-1	5097	10-Year	181.00	280.69	282.59		282.96	0.003751	2.77	73.33	69.30	0.70
Reach-1	5097	20-Year	208.00	280.69	282.68	282.52	283.10	0.003969	2.96	79.83	70.16	0.73
Reach-1	5097	50-Year	239.00	280.69	282.77	282.64	283.25	0.004327	3.20	85.91	73.78	0.77
Reach-1	5097	100-Year	268.00	280.69	282.86	282.74	283.38	0.004414	3.35	93.32	78.88	0.78
Reach-1	5097	Regional	698.00	280.69	284.45		284.66	0.001288	2.73	595.87	611.08	0.47
Reach-1	5017	2-Year	110.00	280.52	282.24		282.34	0.001250	1.54	108.55	118.56	0.40
Reach-1	5017	5-Year	153.00	280.52	282.45		282.57	0.001452	1.81	133.91	130.58	0.44
Reach-1	5017	10-Year	181.00	280.52	282.56		282.71	0.001564	1.96	148.95	135.42	0.46
Reach-1	5017	20-Year	208.00	280.52	282.65		282.82	0.001718	2.13	162.17	145.59	0.49
Reach-1	5017	50-Year	239.00	280.52	282.74		282.94	0.001936	2.32	174.98	156.07	0.53
Reach-1	5017	100-Year	268.00	280.52	282.84		283.06	0.002003	2.45	192.02	169.01	0.54
Reach-1	5017	Regional	698.00	280.52	284.42		284.56	0.000865	2.33	706.56	396.73	0.39
Reach-1	4953	2-Year	110.00	280.87	281.84	281.84	282.15	0.009304	2.56	51.86	97.12	0.97
Reach-1	4953	5-Year	153.00	280.87	282.01	282.01	282.36	0.008510	2.77	70.28	115.50	0.96
Reach-1	4953	10-Year	181.00	280.87	282.10	282.10	282.49	0.008317	2.92	81.26	124.99	0.96
Reach-1	4953	20-Year	208.00	280.87	282.19	282.19	282.60	0.007889	3.01	92.69	133.97	0.95
Reach-1	4953	50-Year	239.00	280.87	282.33	282.28	282.72	0.006410	2.96	112.81	148.45	0.87
Reach-1	4953	100-Year	268.00	280.87	282.62		282.89	0.003519	2.54	160.22	186.55	0.67
Reach-1	4953	Regional	698.00	280.87	284.41		284.50	0.000603	1.79	889.61	575.44	0.32
Reach-1	4943	2-Year	110.00	280.58	281.64	281.37	281.86	0.001893	2.08	52.80	50.00	0.65
Reach-1	4943	5-Year	153.00	280.58	281.87	281.57	282.16	0.001930	2.37	64.63	50.00	0.66
Reach-1	4943	10-Year	181.00	280.58	282.01	281.68	282.34	0.001945	2.52	71.73	50.00	0.67
Reach-1	4943	20-Year	208.00	280.58	282.14	281.79	282.50	0.001966	2.66	78.13	50.00	0.68
Reach-1	4943	50-Year	239.00	280.58	282.27	281.91	282.68	0.002031	2.83	84.54	50.00	0.69
Reach-1	4943	100-Year	268.00	280.58	282.41	282.01	282.85	0.001983	2.92	91.72	50.00	0.69
Reach-1	4943	Regional	698.00	280.58	284.24	283.70	284.47	0.000784	2.59	715.22	704.96	0.44
Reach-1	4929.5	Bridge										
Reach-1	4929	2-Year	110.00	280.58	281.37	281.37	281.77	0.004788	2.78	39.51	50.00	1.00
Reach-1	4929	5-Year	153.00	280.58	281.57	281.57	282.06	0.004550	3.10	49.32	50.00	1.00
Reach-1	4929	10-Year	181.00	280.58	281.68	281.68	282.23	0.004482	3.29	55.07	50.00	1.00
Reach-1	4929	20-Year	208.00	280.58	281.79	281.79	282.39	0.004414	3.44	60.41	50.00	1.00
Reach-1	4929	50-Year	239.00	280.58	281.91	281.91	282.57	0.004332	3.60	66.36	50.00	1.00
Reach-1	4929	100-Year	268.00	280.58	282.01	282.01	282.73	0.004267	3.74	71.72	50.00	1.00
Reach-1	4929	Regional	698.00	280.58	283.70	283.70	284.31	0.001902	3.76	379.80	515.32	0.68
Reach-1	4919	2-Year	110.00	280.25	281.21	281.21	281.56	0.009511	2.65	45.18	68.99	0.99
Reach-1	4919	5-Year	153.00	280.25	281.39	281.39	281.81	0.008941	2.92	58.02	74.20	0.99
Reach-1	4919	10-Year	181.00	280.25	281.49	281.49	281.95	0.008723	3.09	65.65	76.67	0.99
Reach-1	4919	20-Year	208.00	280.25	281.59	281.59	282.09	0.008352	3.21	73.36	79.09	0.98
Reach-1	4919	50-Year	239.00	280.25	281.65	281.65	282.23	0.009251	3.49	77.98	80.51	1.04
Reach-1	4919	100-Year	268.00	280.25	281.77	281.77	282.37	0.008368	3.53	88.64	92.55	1.01

HEC-RAS Plan: Prop_PierBlocking (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	4919	Regional	698.00	280.25	282.97	282.97	283.68	0.004660	4.09	286.99	300.50	0.84
Reach-1	4833	2-Year	110.00	279.76	280.99		281.08	0.001676	1.36	84.66	104.19	0.44
Reach-1	4833	5-Year	153.00	279.76	281.20		281.32	0.001663	1.54	107.92	126.37	0.45
Reach-1	4833	10-Year	181.00	279.76	281.32		281.46	0.001640	1.63	125.21	152.00	0.45
Reach-1	4833	20-Year	208.00	279.76	281.43		281.57	0.001649	1.72	141.85	169.91	0.46
Reach-1	4833	50-Year	239.00	279.76	281.53		281.69	0.001668	1.81	159.60	170.78	0.47
Reach-1	4833	100-Year	268.00	279.76	281.62		281.79	0.001684	1.89	175.10	171.54	0.47
Reach-1	4833	Regional	698.00	279.76	282.56	281.92	282.86	0.001907	2.72	474.52	584.01	0.54
Reach-1	4687	2-Year	110.00	279.29	280.46		280.68	0.004160	2.08	56.82	89.64	0.68
Reach-1	4687	5-Year	153.00	279.29	280.77		280.98	0.002857	2.08	92.31	138.21	0.59
Reach-1	4687	10-Year	181.00	279.29	280.96		281.16	0.002305	2.05	121.49	167.93	0.54
Reach-1	4687	20-Year	208.00	279.29	281.07		281.27	0.002297	2.15	139.54	180.01	0.55
Reach-1	4687	50-Year	239.00	279.29	281.17	280.81	281.39	0.002283	2.24	158.97	184.62	0.55
Reach-1	4687	100-Year	268.00	279.29	281.26	280.90	281.49	0.002279	2.32	176.05	188.58	0.56
Reach-1	4687	Regional	698.00	279.29	282.13	281.92	282.52	0.002713	3.30	403.96	337.84	0.65
Reach-1	4427	2-Year	110.00	277.27	279.94	278.89	280.03	0.001405	1.30	82.74	62.16	0.26
Reach-1	4427	5-Year	153.00	277.27	280.21	279.13	280.31	0.002003	1.55	110.11	143.30	0.27
Reach-1	4427	10-Year	181.00	277.27	280.37	279.28	280.47	0.002625	1.41	136.95	198.50	0.25
Reach-1	4427	20-Year	208.00	277.27	280.48	279.41	280.58	0.002684	1.48	158.37	215.76	0.25
Reach-1	4427	50-Year	239.00	277.27	280.59	279.55	280.69	0.002672	1.53	184.61	235.19	0.24
Reach-1	4427	100-Year	268.00	277.27	280.69	279.75	280.79	0.002664	1.57	208.45	251.55	0.24
Reach-1	4427	Regional	698.00	277.27	281.53	280.85	281.66	0.002925	2.05	483.84	395.97	0.24
Reach-1	4197	2-Year	110.00	277.33	279.77		279.81	0.000538	1.22	142.22	148.63	0.27
Reach-1	4197	5-Year	153.00	277.33	279.98		280.04	0.000650	1.43	175.00	163.15	0.31
Reach-1	4197	10-Year	181.00	277.33	280.09		280.16	0.000718	1.55	194.10	171.50	0.32
Reach-1	4197	20-Year	208.00	277.33	280.16		280.24	0.000832	1.70	205.60	185.37	0.35
Reach-1	4197	50-Year	239.00	277.33	280.25		280.34	0.000923	1.84	223.34	213.15	0.37
Reach-1	4197	100-Year	268.00	277.33	280.32		280.42	0.001004	1.95	244.39	400.84	0.39
Reach-1	4197	Regional	698.00	277.33	281.02	280.54	281.17	0.001510	2.82	617.23	579.66	0.50
Reach-1	3969	2-Year	110.00	277.46	278.97	278.97	279.41	0.005725	3.06	48.87	92.15	0.84
Reach-1	3969	5-Year	153.00	277.46	279.41	279.41	279.69	0.002979	2.67	129.68	316.77	0.64
Reach-1	3969	10-Year	181.00	277.46	279.49	279.49	279.79	0.003231	2.85	153.13	342.95	0.67
Reach-1	3969	20-Year	208.00	277.46	279.62	279.62	279.87	0.002710	2.74	204.86	416.27	0.62
Reach-1	3969	50-Year	239.00	277.46	279.68	279.68	279.94	0.002878	2.88	230.10	433.93	0.64
Reach-1	3969	100-Year	268.00	277.46	279.73	279.73	280.00	0.002999	2.99	253.41	449.62	0.66
Reach-1	3969	Regional	698.00	277.46	280.24	280.24	280.58	0.004095	4.04	528.10	581.17	0.80
Reach-1	3734	2-Year	110.00	276.61	278.18		278.23	0.000926	1.08	143.15	260.90	0.29
Reach-1	3734	5-Year	153.00	276.61	278.36		278.42	0.001005	1.22	193.80	305.76	0.31
Reach-1	3734	10-Year	181.00	276.61	278.46		278.52	0.001032	1.29	225.19	313.79	0.32
Reach-1	3734	20-Year	209.00	276.61	278.56		278.62	0.001037	1.34	256.04	320.19	0.32
Reach-1	3734	50-Year	240.00	276.61	278.67		278.73	0.001021	1.39	290.81	327.26	0.32
Reach-1	3734	100-Year	269.00	276.61	278.76		278.83	0.001011	1.42	321.44	333.36	0.32
Reach-1	3734	Regional	679.00	276.61	279.97		280.03	0.000665	1.59	769.48	401.52	0.28
Reach-1	3634	2-Year	110.00	276.53	277.72		277.81	0.002654	1.80	92.11	177.77	0.55
Reach-1	3634	5-Year	153.00	276.53	277.95		278.03	0.002092	1.82	137.67	218.44	0.51
Reach-1	3634	10-Year	181.00	276.53	278.07		278.15	0.001912	1.85	164.15	219.94	0.49
Reach-1	3634	20-Year	209.00	276.53	278.19		278.27	0.001733	1.86	190.87	221.44	0.48
Reach-1	3634	50-Year	240.00	276.53	278.31		278.40	0.001609	1.88	220.44	268.67	0.46
Reach-1	3634	100-Year	269.00	276.53	278.43		278.51	0.001484	1.89	254.93	341.07	0.45
Reach-1	3634	Regional	679.00	276.53	279.83		279.88	0.000530	1.66	841.01	445.59	0.30
Reach-1	3550	2-Year	110.00	276.33	277.57		277.66	0.001779	1.57	91.48	121.06	0.46
Reach-1	3550	5-Year	153.00	276.33	277.76		277.89	0.001883	1.79	116.88	134.60	0.49
Reach-1	3550	10-Year	181.00	276.33	277.87		278.00	0.001972	1.92	130.62	134.91	0.50
Reach-1	3550	20-Year	209.00	276.33	277.98		278.13	0.001952	2.00	145.91	135.24	0.51
Reach-1	3550	50-Year	240.00	276.33	278.10		278.26	0.001930	2.09	162.01	135.59	0.51
Reach-1	3550	100-Year	269.00	276.33	278.20		278.37	0.001916	2.17	176.19	135.90	0.51
Reach-1	3550	Regional	679.00	276.33	279.51		279.76	0.001527	2.78	358.14	176.72	0.50
Reach-1	3545	2-Year	110.00	276.27	277.57	276.95	277.65	0.000595	1.22	90.23	72.94	0.35
Reach-1	3545	5-Year	153.00	276.27	277.76	277.10	277.87	0.000741	1.47	104.14	72.94	0.39
Reach-1	3545	10-Year	181.00	276.27	277.86	277.19	278.00	0.000849	1.63	111.24	72.94	0.42
Reach-1	3545	20-Year	209.00	276.27	277.96	277.28	278.12	0.000944	1.77	118.14	72.94	0.44
Reach-1	3545	50-Year	240.00	276.27	278.05	277.37	278.24	0.001048	1.92	125.09	72.94	0.47
Reach-1	3545	100-Year	269.00	276.27	278.13	277.45	278.35	0.001146	2.05	131.01	72.94	0.49
Reach-1	3545	Regional	679.00	276.27	279.05	278.40	279.65	0.002185	3.44	197.60	72.94	0.67

HEC-RAS Plan: Prop_PierBlocking (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	3510.5		Bridge									
Reach-1	3510	2-Year	110.00	276.27	277.55		277.63	0.000634	1.24	88.36	72.94	0.36
Reach-1	3510	5-Year	153.00	276.27	277.73		277.85	0.000797	1.50	101.68	72.94	0.41
Reach-1	3510	10-Year	181.00	276.27	277.82		277.96	0.000921	1.67	108.31	72.94	0.44
Reach-1	3510	20-Year	209.00	276.27	277.91		278.08	0.001033	1.82	114.68	72.94	0.46
Reach-1	3510	50-Year	240.00	276.27	278.00		278.20	0.001156	1.98	121.07	72.94	0.49
Reach-1	3510	100-Year	269.00	276.27	278.07		278.30	0.001276	2.13	126.39	72.94	0.52
Reach-1	3510	Regional	679.00	276.27	278.77		279.52	0.002986	3.83	177.37	72.94	0.78
Reach-1	3505	2-Year	110.00	276.33	277.50		277.61	0.002929	1.66	83.76	115.28	0.50
Reach-1	3505	5-Year	153.00	276.33	277.70		277.83	0.003012	1.87	107.97	132.54	0.52
Reach-1	3505	10-Year	181.00	276.33	277.81		277.95	0.003039	1.98	122.53	134.71	0.53
Reach-1	3505	20-Year	209.00	276.33	277.90		278.07	0.003081	2.09	135.63	135.00	0.54
Reach-1	3505	50-Year	240.00	276.33	278.00		278.18	0.003169	2.20	148.42	135.28	0.56
Reach-1	3505	100-Year	269.00	276.33	278.08		278.27	0.003269	2.31	159.20	135.51	0.57
Reach-1	3505	Regional	679.00	276.33	278.92		279.32	0.004187	3.43	274.74	137.99	0.69
Reach-1	3360	2-Year	110.00	275.66	277.22		277.31	0.002106	1.59	115.13	181.24	0.44
Reach-1	3360	5-Year	153.00	275.66	277.42		277.52	0.002067	1.74	155.88	223.02	0.44
Reach-1	3360	10-Year	181.00	275.66	277.54		277.64	0.002036	1.81	182.62	244.02	0.45
Reach-1	3360	20-Year	209.00	275.66	277.64		277.74	0.002018	1.87	208.44	265.77	0.45
Reach-1	3360	50-Year	240.00	275.66	277.74		277.84	0.001996	1.93	234.92	267.10	0.45
Reach-1	3360	100-Year	269.00	275.66	277.82		277.93	0.001972	1.97	257.55	267.47	0.45
Reach-1	3360	Regional	679.00	275.66	278.73		278.88	0.001869	2.48	501.75	271.43	0.47
Reach-1	3242	2-Year	110.00	275.49	276.55		276.67	0.003947	1.74	79.38	146.12	0.57
Reach-1	3242	5-Year	153.00	275.49	276.76		276.88	0.003690	1.92	112.14	168.06	0.57
Reach-1	3242	10-Year	181.00	275.49	276.88		277.00	0.003583	2.02	133.42	187.58	0.57
Reach-1	3242	20-Year	209.00	275.49	277.00		277.12	0.003402	2.09	157.32	224.04	0.56
Reach-1	3242	50-Year	240.00	275.49	277.13		277.25	0.003084	2.11	190.60	270.72	0.54
Reach-1	3242	100-Year	269.00	275.49	277.26		277.37	0.002740	2.10	227.29	310.21	0.52
Reach-1	3242	Regional	679.00	275.49	278.37		278.45	0.001275	2.01	677.79	432.47	0.39
Reach-1	3086	2-Year	110.00	274.84	276.29		276.32	0.000872	0.92	161.44	267.07	0.28
Reach-1	3086	5-Year	153.00	274.84	276.55		276.57	0.000744	0.97	247.53	390.57	0.26
Reach-1	3086	10-Year	181.00	274.84	276.70		276.72	0.000651	0.97	309.18	428.20	0.25
Reach-1	3086	20-Year	209.00	274.84	276.84		276.87	0.000565	0.96	374.48	462.22	0.24
Reach-1	3086	50-Year	240.00	274.84	277.00		277.02	0.000488	0.95	450.88	502.47	0.22
Reach-1	3086	100-Year	269.00	274.84	277.15		277.17	0.000422	0.93	526.58	518.13	0.21
Reach-1	3086	Regional	679.00	274.84	278.30		278.32	0.000339	1.13	1161.00	605.57	0.20
Reach-1	3046	2-Year	110.00	274.55	276.13		276.24	0.002578	1.44	75.11	77.78	0.46
Reach-1	3046	5-Year	153.00	274.55	276.34		276.49	0.002714	1.68	91.92	81.12	0.49
Reach-1	3046	10-Year	181.00	274.55	276.47		276.63	0.002752	1.81	102.41	83.14	0.50
Reach-1	3046	20-Year	209.00	274.55	276.59		276.78	0.002724	1.91	113.23	85.18	0.51
Reach-1	3046	50-Year	240.00	274.55	276.74		276.93	0.002649	2.01	125.57	87.44	0.51
Reach-1	3046	100-Year	269.00	274.55	276.87		277.08	0.002544	2.08	137.65	89.59	0.50
Reach-1	3046	Regional	679.00	274.55	278.12		278.26	0.001552	2.32	527.84	416.80	0.43
Reach-1	3044	2-Year	110.00	274.55	276.08	275.67	276.23	0.001859	1.71	64.53	57.46	0.52
Reach-1	3044	5-Year	153.00	274.55	276.24	275.85	276.46	0.002353	2.08	73.87	57.46	0.59
Reach-1	3044	10-Year	181.00	274.55	276.33	275.95	276.60	0.002664	2.30	79.07	57.46	0.63
Reach-1	3044	20-Year	209.00	274.55	276.42	276.06	276.73	0.002940	2.50	84.02	57.46	0.66
Reach-1	3044	50-Year	240.00	274.55	276.51	276.17	276.88	0.003196	2.70	89.43	57.46	0.69
Reach-1	3044	100-Year	269.00	274.55	276.60	276.26	277.01	0.003358	2.85	94.76	57.46	0.71
Reach-1	3044	Regional	679.00	274.55	278.08	277.40	278.25	0.001507	2.70	488.17	395.85	0.50
Reach-1	3034.5		Bridge									
Reach-1	3034	2-Year	110.00	274.55	276.05		276.20	0.002029	1.76	62.76	57.46	0.54
Reach-1	3034	5-Year	153.00	274.55	276.19		276.43	0.002649	2.16	71.13	57.46	0.62
Reach-1	3034	10-Year	181.00	274.55	276.27		276.56	0.003089	2.41	75.40	57.46	0.68
Reach-1	3034	20-Year	209.00	274.55	276.33		276.69	0.003551	2.66	79.07	57.46	0.73
Reach-1	3034	50-Year	240.00	274.55	276.39		276.82	0.004068	2.92	82.73	57.46	0.78
Reach-1	3034	100-Year	269.00	274.55	276.45		276.95	0.004556	3.15	85.85	57.46	0.83
Reach-1	3034	Regional	679.00	274.55	277.40	277.40	277.95	0.005222	4.32	243.06	299.38	0.90
Reach-1	3032	2-Year	110.00	274.55	276.05		276.19	0.003260	1.54	69.51	76.29	0.51
Reach-1	3032	5-Year	153.00	274.55	276.21		276.40	0.003862	1.86	81.74	79.12	0.57
Reach-1	3032	10-Year	181.00	274.55	276.30		276.52	0.004264	2.06	88.45	80.44	0.61
Reach-1	3032	20-Year	209.00	274.55	276.37		276.63	0.004653	2.24	94.56	81.64	0.64
Reach-1	3032	50-Year	240.00	274.55	276.45		276.75	0.005036	2.43	101.04	82.88	0.68
Reach-1	3032	100-Year	269.00	274.55	276.52		276.86	0.005349	2.59	106.91	84.00	0.70

HEC-RAS Plan: Prop_PierBlocking (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	3032	Regional	679.00	274.55	277.40	277.40	277.89	0.006166	3.85	256.27	361.33	0.82
Reach-1	2912	2-Year	110.00	274.28	275.66	275.35	275.76	0.003559	1.81	90.97	277.04	0.55
Reach-1	2912	5-Year	153.00	274.28	275.82	275.65	275.92	0.003382	1.93	137.63	296.10	0.55
Reach-1	2912	10-Year	181.00	274.28	275.91	275.70	276.00	0.003347	2.01	162.52	300.00	0.55
Reach-1	2912	20-Year	209.00	274.28	275.97	275.75	276.07	0.003471	2.11	181.49	300.00	0.57
Reach-1	2912	50-Year	240.00	274.28	276.01	275.81	276.13	0.003879	2.28	194.57	300.00	0.60
Reach-1	2912	100-Year	269.00	274.28	276.04	275.86	276.18	0.004375	2.45	203.36	300.00	0.64
Reach-1	2912	Regional	679.00	274.28	276.62		276.81	0.005002	3.26	415.36	432.30	0.73
Reach-1	2662	2-Year	110.00	273.40	274.54		274.69	0.006294	1.97	63.91	113.84	0.70
Reach-1	2662	5-Year	153.00	273.40	274.70		274.89	0.006067	2.19	84.27	130.94	0.71
Reach-1	2662	10-Year	181.00	273.40	274.81	274.62	275.00	0.005702	2.28	101.20	205.98	0.70
Reach-1	2662	20-Year	209.00	273.40	274.93	274.69	275.10	0.005094	2.30	132.71	369.03	0.67
Reach-1	2662	50-Year	240.00	273.40	275.05		275.20	0.004173	2.23	185.76	439.51	0.62
Reach-1	2662	100-Year	269.00	273.40	275.17		275.28	0.003347	2.11	238.09	474.78	0.56
Reach-1	2662	Regional	679.00	273.40	276.18		276.24	0.001156	1.77	741.19	515.02	0.36
Reach-1	2422	2-Year	110.00	272.37	273.91		273.99	0.001926	1.34	98.19	141.00	0.41
Reach-1	2422	5-Year	153.00	272.37	274.24		274.30	0.001400	1.35	156.90	224.10	0.36
Reach-1	2422	10-Year	181.00	272.37	274.41		274.48	0.001205	1.36	200.25	269.50	0.34
Reach-1	2422	20-Year	209.00	272.37	274.57		274.63	0.001061	1.36	246.56	310.74	0.33
Reach-1	2422	50-Year	240.00	272.37	274.74		274.79	0.000930	1.35	301.58	353.55	0.31
Reach-1	2422	100-Year	269.00	272.37	274.88		274.94	0.000825	1.33	355.90	385.14	0.30
Reach-1	2422	Regional	679.00	272.37	275.99		276.04	0.000627	1.54	822.40	449.48	0.28
Reach-1	2132	2-Year	110.00	271.01	273.39		273.53	0.001423	1.68	70.32	45.74	0.38
Reach-1	2132	5-Year	153.00	271.01	273.67		273.87	0.001708	2.01	88.07	71.23	0.43
Reach-1	2132	10-Year	181.00	271.01	273.82		274.05	0.001866	2.19	98.70	72.67	0.45
Reach-1	2132	20-Year	209.00	271.01	273.95		274.22	0.002013	2.36	108.41	73.96	0.48
Reach-1	2132	50-Year	240.00	271.01	274.09		274.39	0.002132	2.52	119.10	75.36	0.49
Reach-1	2132	100-Year	269.00	271.01	274.23		274.55	0.002213	2.65	129.05	76.64	0.51
Reach-1	2132	Regional	679.00	271.01	275.41		275.72	0.001905	3.11	477.37	345.38	0.50
Reach-1	1898	2-Year	110.00	271.10	273.19		273.27	0.000815	1.21	97.10	61.69	0.29
Reach-1	1898	5-Year	153.00	271.10	273.43		273.54	0.001032	1.48	111.87	63.22	0.33
Reach-1	1898	10-Year	181.00	271.10	273.55		273.68	0.001195	1.65	119.18	63.96	0.36
Reach-1	1898	20-Year	209.00	271.10	273.64		273.81	0.001366	1.81	125.46	64.59	0.39
Reach-1	1898	50-Year	240.00	271.10	273.76		273.95	0.001523	1.98	132.75	65.31	0.41
Reach-1	1898	100-Year	269.00	271.10	273.86		274.08	0.001638	2.11	139.86	66.01	0.43
Reach-1	1898	Regional	679.00	271.10	275.20		275.38	0.001088	2.30	637.39	531.33	0.38
Reach-1	1552	2-Year	110.00	271.11	272.65		272.79	0.002714	1.76	88.34	169.65	0.50
Reach-1	1552	5-Year	153.00	271.11	272.97		273.08	0.001801	1.66	174.32	394.50	0.42
Reach-1	1552	10-Year	181.00	271.11	273.16		273.24	0.001338	1.54	251.74	451.10	0.37
Reach-1	1552	20-Year	209.00	271.11	273.34		273.40	0.000926	1.37	339.65	473.91	0.31
Reach-1	1552	50-Year	240.00	271.11	273.54		273.58	0.000674	1.24	432.31	485.94	0.27
Reach-1	1552	100-Year	269.00	271.11	273.71		273.74	0.000537	1.17	514.71	495.95	0.24
Reach-1	1552	Regional	679.00	271.11	275.17		275.19	0.000246	1.09	1290.76	563.44	0.18
Reach-1	1304	2-Year	110.00	270.78	272.72		272.72	0.000044	0.25	440.80	409.08	0.06
Reach-1	1304	5-Year	153.00	270.78	273.01		273.02	0.000050	0.30	572.46	463.89	0.07
Reach-1	1304	10-Year	181.00	270.78	273.18		273.18	0.000053	0.33	647.95	466.25	0.07
Reach-1	1304	20-Year	209.00	270.78	273.35		273.35	0.000053	0.35	728.77	468.75	0.08
Reach-1	1304	50-Year	240.00	270.78	273.53		273.54	0.000053	0.37	815.65	471.26	0.08
Reach-1	1304	100-Year	269.00	270.78	273.70		273.70	0.000052	0.38	893.06	472.82	0.08
Reach-1	1304	Regional	679.00	270.78	275.15		275.16	0.000067	0.58	1589.01	486.96	0.09
Reach-1	1161	2-Year	62.00	270.58	272.70	271.87	272.71	0.000073	0.94	133.63	66.30	0.21
Reach-1	1161	5-Year	95.00	270.58	272.98	271.87	273.01	0.000111	1.26	152.59	66.30	0.26
Reach-1	1161	10-Year	114.90	270.58	273.14	271.87	273.17	0.000132	1.43	162.85	66.30	0.29
Reach-1	1161	20-Year	139.30	270.58	273.30	271.87	273.34	0.000157	1.63	173.66	66.30	0.32
Reach-1	1161	50-Year	167.20	270.58	273.48	271.87	273.52	0.000184	1.84	185.16	66.30	0.34
Reach-1	1161	100-Year	193.90	270.58	273.63	271.87	273.69	0.000208	2.02	195.28	66.30	0.37
Reach-1	1161	Regional	485.20	270.58	274.95	272.54	275.13	0.000395	3.54	283.01	66.30	0.54
Reach-1	1151.5		Int Struct									
Reach-1	1151	2-Year	62.00	268.48	271.44	269.19	271.45	0.000035	0.36	173.53	69.23	0.07
Reach-1	1151	5-Year	95.00	268.48	271.74	269.36	271.75	0.000057	0.49	194.52	69.49	0.09
Reach-1	1151	10-Year	114.90	268.48	271.91	269.45	271.93	0.000069	0.56	206.30	69.63	0.10
Reach-1	1151	20-Year	139.30	268.48	272.08	269.55	272.10	0.000084	0.64	218.32	69.78	0.12
Reach-1	1151	50-Year	167.20	268.48	272.28	269.66	272.31	0.000100	0.72	231.93	69.94	0.13
Reach-1	1151	100-Year	193.90	268.48	272.48	269.76	272.52	0.000111	0.79	246.34	70.12	0.13

HEC-RAS Plan: Prop_PierBlocking (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	1151	Regional	485.20	268.48	274.53	270.63	274.61	0.000161	1.24	391.75	71.85	0.17
Reach-1	1145	2-Year	62.00	270.00	271.41	270.50	271.44	0.000373	0.78	79.08	56.45	0.21
Reach-1	1145	5-Year	95.00	270.00	271.69	270.67	271.74	0.000479	1.00	95.15	56.54	0.25
Reach-1	1145	10-Year	114.90	270.00	271.85	270.75	271.91	0.000522	1.10	104.16	56.59	0.26
Reach-1	1145	20-Year	139.30	270.00	272.01	270.86	272.09	0.000587	1.23	113.16	56.64	0.28
Reach-1	1145	50-Year	167.20	270.00	272.19	270.97	272.28	0.000638	1.35	123.41	56.70	0.29
Reach-1	1145	100-Year	193.90	270.00	272.39	271.07	272.49	0.000650	1.44	134.54	56.76	0.30
Reach-1	1145	Regional	485.20	270.00	274.39	271.97	274.58	0.000539	1.92	266.75	71.44	0.29
Reach-1	1144	2-Year	62.00	270.00	271.39	270.57	271.43	0.001268	0.96	64.49	46.81	0.26
Reach-1	1144	5-Year	95.00	270.00	271.66	270.75	271.73	0.001785	1.23	77.15	46.91	0.31
Reach-1	1144	10-Year	114.90	270.00	271.81	270.85	271.90	0.002040	1.37	84.23	46.96	0.33
Reach-1	1144	20-Year	139.30	270.00	271.95	270.97	272.07	0.002408	1.53	91.13	47.02	0.35
Reach-1	1144	50-Year	167.20	270.00	272.12	271.10	272.27	0.003292	1.69	99.35	59.87	0.42
Reach-1	1144	100-Year	193.90	270.00	272.32	271.21	272.48	0.003047	1.75	111.25	59.90	0.41
Reach-1	1144	Regional	485.20	270.00	274.36	272.34	274.57	0.001616	2.05	244.96	69.43	0.33
Reach-1	1140.5	Bridge										
Reach-1	1140	2-Year	62.00	270.00	271.38		271.43	0.001283	0.97	64.22	46.81	0.26
Reach-1	1140	5-Year	95.00	270.00	271.65		271.73	0.001812	1.24	76.75	46.90	0.31
Reach-1	1140	10-Year	114.90	270.00	271.80		271.89	0.002072	1.37	83.77	46.96	0.33
Reach-1	1140	20-Year	139.30	270.00	271.94		272.06	0.002450	1.54	90.57	47.01	0.35
Reach-1	1140	50-Year	167.20	270.00	272.10		272.25	0.003429	1.71	98.13	59.87	0.43
Reach-1	1140	100-Year	193.90	270.00	272.25		272.42	0.003465	1.82	107.01	59.89	0.43
Reach-1	1140	Regional	485.20	270.00	273.82		274.11	0.002674	2.40	207.62	69.25	0.42
Reach-1	1139	2-Year	62.00	270.00	271.39	270.50	271.42	0.000391	0.80	77.95	56.44	0.22
Reach-1	1139	5-Year	95.00	270.00	271.66	270.67	271.71	0.000510	1.02	93.34	56.53	0.25
Reach-1	1139	10-Year	114.90	270.00	271.81	270.75	271.88	0.000560	1.13	101.96	56.58	0.27
Reach-1	1139	20-Year	139.30	270.00	271.96	270.86	272.04	0.000636	1.26	110.38	56.63	0.29
Reach-1	1139	50-Year	167.20	270.00	272.13	270.97	272.22	0.000704	1.40	119.72	56.68	0.31
Reach-1	1139	100-Year	193.90	270.00	272.27	271.07	272.39	0.000759	1.51	128.18	56.73	0.32
Reach-1	1139	Regional	485.20	270.00	273.84	271.97	274.09	0.000851	2.22	227.24	71.25	0.36
Reach-1	1133	2-Year	62.00	269.66	271.38	270.49	271.42	0.000414	0.78	79.02	62.61	0.22
Reach-1	1133	5-Year	95.00	269.66	271.66	270.68	271.71	0.000512	0.99	95.97	62.65	0.25
Reach-1	1133	10-Year	114.90	269.66	271.81	270.77	271.87	0.000548	1.09	105.48	62.68	0.27
Reach-1	1133	20-Year	139.30	269.66	271.96	270.89	272.03	0.000610	1.21	114.77	62.70	0.29
Reach-1	1133	50-Year	167.20	269.66	272.13	271.00	272.22	0.000662	1.34	125.06	62.73	0.30
Reach-1	1133	100-Year	193.90	269.66	272.28	271.11	272.38	0.000702	1.44	134.40	62.76	0.31
Reach-1	1133	Regional	485.20	269.66	273.85	271.95	274.07	0.000708	2.08	239.72	71.31	0.34
Reach-1	1132	2-Year	62.00	269.70	271.39	270.23	271.41	0.000125	0.70	88.07	52.20	0.17
Reach-1	1132	5-Year	95.00	269.70	271.66	270.40	271.70	0.000184	0.93	102.31	52.20	0.21
Reach-1	1132	10-Year	114.90	269.70	271.81	270.49	271.87	0.000214	1.04	110.26	52.20	0.23
Reach-1	1132	20-Year	139.30	269.70	271.96	270.60	272.03	0.000255	1.18	118.03	52.20	0.25
Reach-1	1132	50-Year	167.20	269.70	272.13	270.71	272.21	0.000297	1.32	126.62	52.20	0.27
Reach-1	1132	100-Year	193.90	269.70	272.27	270.82	272.38	0.000333	1.44	134.40	52.20	0.29
Reach-1	1132	Regional	485.20	269.70	273.82	271.77	274.06	0.000419	2.17	242.60	140.41	0.35
Reach-1	1115.5	Bridge										
Reach-1	1115	2-Year	62.00	269.70	271.39	270.23	271.41	0.000126	0.70	87.95	52.20	0.17
Reach-1	1115	5-Year	95.00	269.70	271.66	270.40	271.70	0.000185	0.93	102.13	52.20	0.21
Reach-1	1115	10-Year	114.90	269.70	271.81	270.49	271.86	0.000215	1.04	110.06	52.20	0.23
Reach-1	1115	20-Year	139.30	269.70	271.96	270.60	272.03	0.000257	1.18	117.78	52.20	0.25
Reach-1	1115	50-Year	167.20	269.70	272.12	270.71	272.21	0.000299	1.32	126.32	52.20	0.27
Reach-1	1115	100-Year	193.90	269.70	272.27	270.82	272.38	0.000336	1.45	134.06	52.20	0.29
Reach-1	1115	Regional	485.20	269.70	273.42	271.77	273.72	0.000608	2.44	211.91	140.21	0.41
Reach-1	1114	2-Year	62.00	268.45	271.39	269.18	271.40	0.000056	0.41	151.67	81.45	0.08
Reach-1	1114	5-Year	95.00	268.45	271.67	269.35	271.69	0.000089	0.55	183.08	83.84	0.10
Reach-1	1114	10-Year	114.90	268.45	271.83	269.45	271.85	0.000109	0.63	194.56	84.41	0.11
Reach-1	1114	20-Year	139.30	268.45	271.98	269.56	272.01	0.000136	0.73	205.86	84.97	0.13
Reach-1	1114	50-Year	167.20	268.45	272.15	269.68	272.18	0.000163	0.83	218.37	92.82	0.14
Reach-1	1114	100-Year	193.90	268.45	272.30	269.78	272.34	0.000189	0.91	229.72	100.87	0.15
Reach-1	1114	Regional	485.20	268.45	273.50	270.68	273.63	0.000430	1.68	318.63	137.69	0.25
Reach-1	1016	2-Year	62.00	268.45	271.38	269.19	271.40	0.000115	0.53	117.21	62.04	0.11
Reach-1	1016	5-Year	95.00	268.45	271.65	269.43	271.68	0.000197	0.72	131.09	65.67	0.15
Reach-1	1016	10-Year	114.90	268.45	271.80	269.55	271.83	0.000244	0.83	139.09	67.21	0.16
Reach-1	1016	20-Year	139.30	268.45	271.94	269.70	271.99	0.000308	0.95	147.05	68.79	0.19

HEC-RAS Plan: Prop_PierBlocking (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-1	1016	50-Year	167.20	268.45	272.10	269.86	272.16	0.000378	1.07	156.09	82.07	0.21
Reach-1	1016	100-Year	193.90	268.45	272.25	269.99	272.32	0.000442	1.18	164.50	92.10	0.22
Reach-1	1016	Regional	485.20	268.45	273.41	271.15	273.59	0.001057	1.90	284.41	240.81	0.35
Reach-1	1015	2-Year	62.00	268.58	271.37	269.45	271.39	0.000225	0.70	89.07	54.31	0.15
Reach-1	1015	5-Year	95.00	268.58	271.62	269.72	271.67	0.000383	0.95	100.15	57.48	0.20
Reach-1	1015	10-Year	114.90	268.58	271.76	269.86	271.82	0.000473	1.08	106.55	59.23	0.23
Reach-1	1015	20-Year	139.30	268.58	271.90	270.02	271.98	0.000593	1.24	112.76	60.80	0.25
Reach-1	1015	50-Year	167.20	268.58	272.05	270.20	272.15	0.000749	1.40	119.80	63.86	0.29
Reach-1	1015	100-Year	193.90	268.58	272.18	270.36	272.30	0.000941	1.53	126.71	68.93	0.32
Reach-1	1015	Regional	485.20	268.58	273.35	271.68	273.56	0.001895	2.03	281.57	328.96	0.45
Reach-1	1014	2-Year	62.00	268.70	271.34	269.65	271.38	0.000356	0.87	71.43	34.01	0.19
Reach-1	1014	5-Year	95.00	268.70	271.58	269.95	271.65	0.000624	1.19	79.62	35.79	0.26
Reach-1	1014	10-Year	114.90	268.70	271.71	270.11	271.80	0.000792	1.36	84.33	37.16	0.29
Reach-1	1014	20-Year	139.30	268.70	271.82	270.29	271.95	0.001133	1.57	88.99	41.76	0.34
Reach-1	1014	50-Year	167.20	268.70	271.95	270.48	272.11	0.001465	1.77	94.50	44.81	0.39
Reach-1	1014	100-Year	193.90	268.70	272.06	270.64	272.26	0.001981	1.94	99.89	51.84	0.45
Reach-1	1014	Regional	485.20	268.70	273.15	272.34	273.48	0.002718	2.62	222.29	248.97	0.54
Reach-1	1013	2-Year	62.00	268.45	271.34	269.41	271.37	0.000285	0.79	78.11	155.30	0.17
Reach-1	1013	5-Year	95.00	268.45	271.57	269.71	271.63	0.000517	1.10	86.68	160.33	0.23
Reach-1	1013	10-Year	114.90	268.45	271.70	269.87	271.78	0.000670	1.25	91.65	163.67	0.27
Reach-1	1013	20-Year	139.30	268.45	271.81	270.05	271.91	0.000886	1.45	96.19	166.56	0.31
Reach-1	1013	50-Year	167.20	268.45	271.93	270.24	272.07	0.001146	1.65	101.38	170.03	0.35
Reach-1	1013	100-Year	193.90	268.45	272.03	270.42	272.20	0.001453	1.83	105.90	174.91	0.39
Reach-1	1013	Regional	485.20	268.45	273.03	271.96	273.39	0.002863	2.69	205.94	301.68	0.56
Reach-1	1012	2-Year	62.00	268.45	271.36	268.96	271.36	0.000027	0.22	281.97	233.97	0.06
Reach-1	1012	5-Year	95.00	268.45	271.61	269.12	271.61	0.000043	0.30	328.54	237.98	0.07
Reach-1	1012	10-Year	114.90	268.45	271.74	269.21	271.75	0.000051	0.33	354.54	238.85	0.07
Reach-1	1012	20-Year	139.30	268.45	271.87	269.31	271.88	0.000063	0.38	378.48	239.61	0.08
Reach-1	1012	50-Year	167.20	268.45	272.01	269.42	272.02	0.000075	0.43	405.03	240.85	0.09
Reach-1	1012	100-Year	193.90	268.45	272.13	269.51	272.14	0.000087	0.47	427.76	246.48	0.10
Reach-1	1012	Regional	485.20	268.45	273.25	270.42	273.28	0.000170	0.79	643.68	286.78	0.13
Reach-2	906	2-Year	110.00	268.90	271.33	270.03	271.35	0.000259	0.69	204.77	229.71	0.16
Reach-2	906	5-Year	153.00	268.90	271.58	270.20	271.60	0.000291	0.80	255.68	249.86	0.18
Reach-2	906	10-Year	181.00	268.90	271.71	270.29	271.74	0.000294	0.84	285.36	251.34	0.18
Reach-2	906	20-Year	209.00	268.90	271.84	270.39	271.86	0.000297	0.87	312.78	252.76	0.18
Reach-2	906	50-Year	240.00	268.90	271.98	270.48	272.00	0.000295	0.90	343.44	254.23	0.18
Reach-2	906	100-Year	269.00	268.90	272.09	270.60	272.13	0.000295	0.93	369.71	255.20	0.18
Reach-2	906	Regional	679.00	268.90	273.20	271.46	273.25	0.000355	1.29	677.51	419.33	0.21
Reach-2	811	2-Year	110.00	268.90	271.34	269.54	271.35	0.000129	0.44	253.69	220.75	0.11
Reach-2	811	5-Year	153.00	268.90	271.58	269.69	271.59	0.000162	0.52	302.04	244.64	0.12
Reach-2	811	10-Year	181.00	268.90	271.72	269.78	271.73	0.000179	0.57	330.30	245.38	0.13
Reach-2	811	20-Year	209.00	268.90	271.84	269.86	271.86	0.000193	0.62	356.34	246.03	0.14
Reach-2	811	50-Year	240.00	268.90	271.98	269.95	272.00	0.000205	0.66	385.32	246.76	0.14
Reach-2	811	100-Year	269.00	268.90	272.10	270.03	272.12	0.000215	0.71	410.13	247.81	0.15
Reach-2	811	Regional	679.00	268.90	273.19	270.90	273.25	0.000366	1.19	659.29	339.73	0.21
Reach-2	810	2-Year	110.00	268.90	271.33	269.68	271.34	0.000177	0.49	223.51	222.89	0.13
Reach-2	810	5-Year	153.00	268.90	271.57	269.85	271.59	0.000211	0.58	267.01	230.11	0.14
Reach-2	810	10-Year	181.00	268.90	271.71	269.95	271.73	0.000231	0.64	291.53	231.11	0.15
Reach-2	810	20-Year	209.00	268.90	271.83	270.04	271.85	0.000249	0.70	314.15	232.02	0.16
Reach-2	810	50-Year	240.00	268.90	271.97	270.14	271.99	0.000263	0.75	339.38	233.06	0.17
Reach-2	810	100-Year	269.00	268.90	272.08	270.22	272.11	0.000277	0.79	361.80	246.77	0.17
Reach-2	810	Regional	679.00	268.90	273.16	271.20	273.24	0.000459	1.33	602.12	336.39	0.23
Reach-2	809	2-Year	110.00	268.90	271.33	269.70	271.34	0.000130	0.52	258.73	240.76	0.12
Reach-2	809	5-Year	153.00	268.90	271.57	269.86	271.58	0.000163	0.63	310.04	259.20	0.13
Reach-2	809	10-Year	181.00	268.90	271.70	269.96	271.72	0.000181	0.69	340.17	260.80	0.14
Reach-2	809	20-Year	209.00	268.90	271.83	270.05	271.85	0.000198	0.75	368.05	262.17	0.15
Reach-2	809	50-Year	240.00	268.90	271.96	270.17	271.99	0.000211	0.80	399.26	263.69	0.15
Reach-2	809	100-Year	269.00	268.90	272.08	270.25	272.11	0.000224	0.84	426.03	265.05	0.16
Reach-2	809	Regional	679.00	268.90	273.15	270.99	273.22	0.000410	1.42	687.21	331.51	0.23
Reach-2	808	2-Year	110.00	268.90	271.31	269.91	271.33	0.000246	0.67	199.60	241.44	0.16
Reach-2	808	5-Year	153.00	268.90	271.54	270.09	271.57	0.000291	0.79	248.60	248.47	0.18
Reach-2	808	10-Year	181.00	268.90	271.68	270.19	271.71	0.000317	0.86	276.25	249.67	0.19
Reach-2	808	20-Year	209.00	268.90	271.80	270.28	271.83	0.000339	0.93	301.80	250.77	0.19
Reach-2	808	50-Year	240.00	268.90	271.93	270.38	271.97	0.000355	0.98	330.54	252.02	0.20
Reach-2	808	100-Year	269.00	268.90	272.05	270.46	272.09	0.000370	1.03	355.11	253.21	0.21

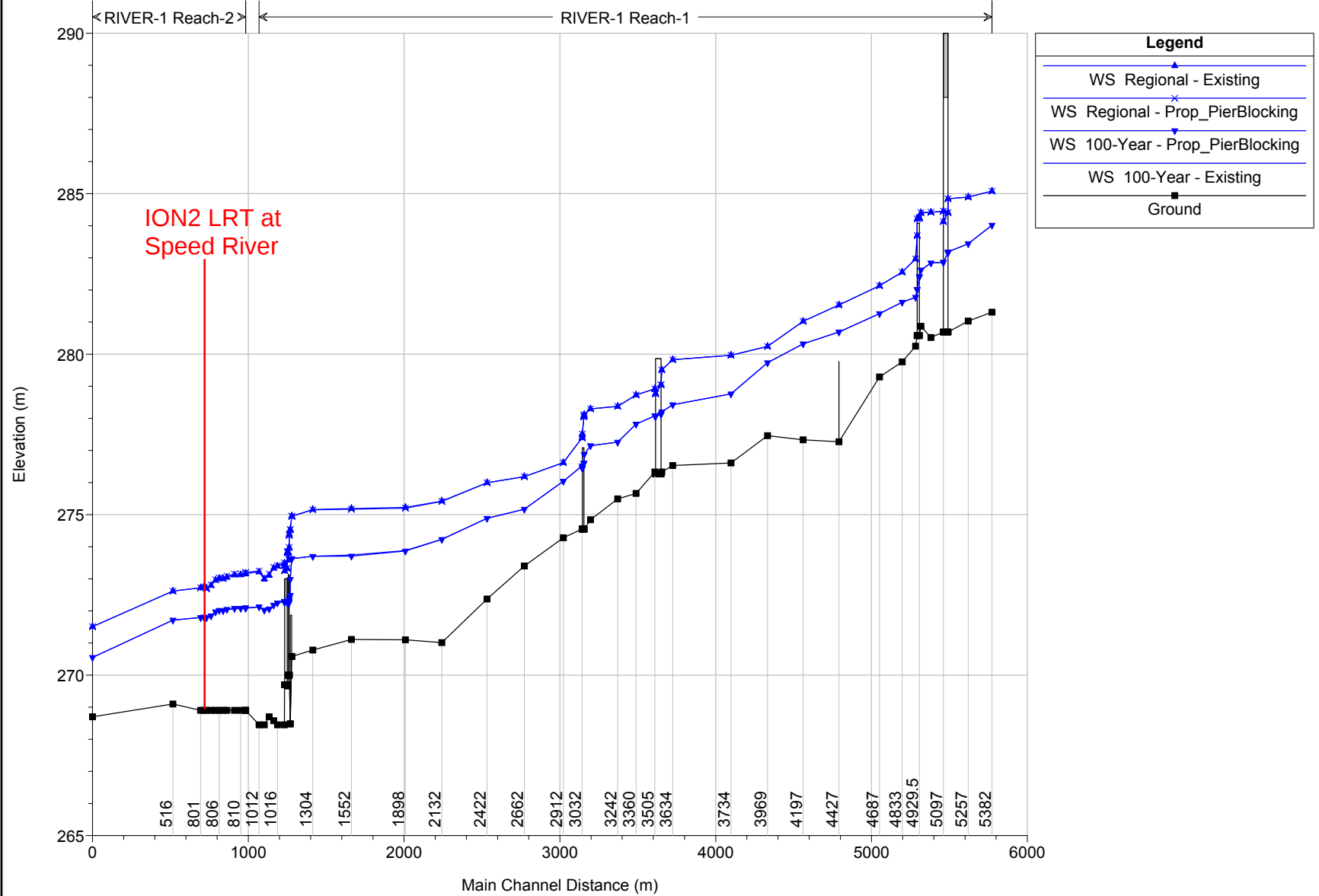
HEC-RAS Plan: Prop_PierBlocking (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach-2	808	Regional	679.00	268.90	273.08	271.46	273.20	0.000652	1.72	588.03	322.70	0.29
Reach-2	807	2-Year	110.00	268.90	271.28	269.95	271.32	0.000428	0.88	155.31	238.01	0.21
Reach-2	807	5-Year	153.00	268.90	271.51	270.16	271.56	0.000501	1.03	202.07	242.92	0.23
Reach-2	807	10-Year	181.00	268.90	271.64	270.28	271.70	0.000539	1.10	228.45	244.05	0.24
Reach-2	807	20-Year	209.00	268.90	271.76	270.39	271.82	0.000571	1.17	252.88	245.08	0.25
Reach-2	807	50-Year	240.00	268.90	271.90	270.56	271.96	0.000589	1.23	280.60	246.25	0.25
Reach-2	807	100-Year	269.00	268.90	272.01	270.66	272.08	0.000607	1.29	304.28	247.29	0.26
Reach-2	807	Regional	679.00	268.90	273.01	271.76	273.18	0.001060	2.09	523.54	325.08	0.35
Reach-2	806	2-Year	110.00	268.90	271.29		271.31	0.000226	0.67	198.64	229.24	0.15
Reach-2	806	5-Year	153.00	268.90	271.52		271.55	0.000274	0.80	252.57	234.58	0.17
Reach-2	806	10-Year	181.00	268.90	271.65		271.68	0.000301	0.87	283.00	235.84	0.18
Reach-2	806	20-Year	209.00	268.90	271.77		271.81	0.000323	0.93	311.21	237.06	0.19
Reach-2	806	50-Year	240.00	268.90	271.90		271.94	0.000339	0.98	343.23	238.46	0.20
Reach-2	806	100-Year	269.00	268.90	272.02		272.06	0.000353	1.03	370.61	239.69	0.20
Reach-2	806	Regional	679.00	268.90	273.03		273.14	0.000615	1.66	645.04	322.31	0.28
Reach-2	805	2-Year	110.00	268.90	271.25		271.30	0.000533	0.96	144.96	208.18	0.23
Reach-2	805	5-Year	153.00	268.90	271.48		271.54	0.000609	1.11	192.83	213.17	0.25
Reach-2	805	10-Year	181.00	268.90	271.61		271.67	0.000646	1.19	220.02	215.04	0.26
Reach-2	805	20-Year	209.00	268.90	271.72		271.79	0.000676	1.26	245.36	216.63	0.27
Reach-2	805	50-Year	240.00	268.90	271.86		271.93	0.000686	1.31	274.54	218.48	0.27
Reach-2	805	100-Year	269.00	268.90	271.97		272.05	0.000698	1.36	299.49	220.04	0.28
Reach-2	805	Regional	679.00	268.90	272.97		273.12	0.001013	2.03	554.32	277.86	0.35
Reach-2	804	2-Year	110.00	268.90	271.13		271.26	0.001638	1.64	84.13	182.14	0.40
Reach-2	804	5-Year	153.00	268.90	271.34		271.50	0.001873	1.86	122.44	185.05	0.43
Reach-2	804	10-Year	181.00	268.90	271.47		271.63	0.001927	1.95	145.65	186.72	0.44
Reach-2	804	20-Year	209.00	268.90	271.58		271.75	0.001946	2.02	167.90	189.48	0.44
Reach-2	804	50-Year	240.00	268.90	271.73		271.89	0.001868	2.04	195.36	193.46	0.43
Reach-2	804	100-Year	269.00	268.90	271.85		272.01	0.001829	2.07	218.64	196.99	0.43
Reach-2	804	Regional	679.00	268.90	272.81		273.06	0.002488	2.86	437.19	274.43	0.51
Reach-2	803	2-Year	110.00	268.90	271.02	270.27	271.20	0.003166	1.91	73.49	170.74	0.53
Reach-2	803	5-Year	153.00	268.90	271.25		271.43	0.002886	2.02	113.68	175.54	0.51
Reach-2	803	10-Year	181.00	268.90	271.39		271.56	0.002678	2.05	138.21	178.55	0.50
Reach-2	803	20-Year	209.00	268.90	271.52		271.69	0.002516	2.08	161.18	181.13	0.49
Reach-2	803	50-Year	240.00	268.90	271.67		271.83	0.002249	2.07	189.05	182.74	0.47
Reach-2	803	100-Year	269.00	268.90	271.79		271.95	0.002123	2.09	211.50	184.01	0.46
Reach-2	803	Regional	679.00	268.90	272.69		272.98	0.002941	3.06	412.57	274.89	0.56
Reach-2	802	2-Year	110.00	268.90	271.03		271.11	0.001362	1.45	106.43	165.38	0.36
Reach-2	802	5-Year	153.00	268.90	271.27		271.34	0.001185	1.46	146.47	167.71	0.34
Reach-2	802	10-Year	181.00	268.90	271.41		271.48	0.001104	1.46	169.94	168.99	0.33
Reach-2	802	20-Year	209.00	268.90	271.53		271.61	0.001048	1.47	191.60	170.45	0.33
Reach-2	802	50-Year	240.00	268.90	271.69		271.76	0.000958	1.47	217.63	173.08	0.32
Reach-2	802	100-Year	269.00	268.90	271.81		271.88	0.000917	1.48	238.83	175.23	0.31
Reach-2	802	Regional	679.00	268.90	272.74		272.87	0.001062	1.92	459.06	277.65	0.35
Reach-2	801	2-Year	110.00	268.90	271.02		271.08	0.000929	1.26	119.72	155.83	0.30
Reach-2	801	5-Year	153.00	268.90	271.25		271.32	0.000887	1.32	157.01	157.47	0.30
Reach-2	801	10-Year	181.00	268.90	271.39		271.46	0.000863	1.36	178.91	158.43	0.30
Reach-2	801	20-Year	209.00	268.90	271.52		271.59	0.000847	1.39	199.08	159.60	0.30
Reach-2	801	50-Year	240.00	268.90	271.67		271.74	0.000804	1.41	223.52	163.14	0.29
Reach-2	801	100-Year	269.00	268.90	271.79		271.87	0.000791	1.44	243.52	166.11	0.29
Reach-2	801	Regional	679.00	268.90	272.72		272.85	0.001000	1.96	463.05	276.80	0.35
Reach-2	516	2-Year	110.00	269.10	270.93		270.95	0.000428	0.83	240.90	276.39	0.20
Reach-2	516	5-Year	153.00	269.10	271.17		271.19	0.000427	0.91	308.57	288.02	0.21
Reach-2	516	10-Year	181.00	269.10	271.31		271.33	0.000426	0.95	349.47	294.83	0.21
Reach-2	516	20-Year	209.00	269.10	271.44		271.46	0.000426	0.99	388.95	324.67	0.21
Reach-2	516	50-Year	240.00	269.10	271.59		271.62	0.000443	1.05	440.21	348.80	0.22
Reach-2	516	100-Year	269.00	269.10	271.71		271.74	0.000429	1.07	484.36	355.77	0.22
Reach-2	516	Regional	679.00	269.10	272.62		272.68	0.000618	1.59	828.35	408.90	0.28
Reach-2	0.1	2-Year	110.00	268.70	269.93	269.93	270.33	0.011694	2.95	44.30	57.66	0.97
Reach-2	0.1	5-Year	153.00	268.70	270.17	270.17	270.60	0.009568	3.11	63.27	89.74	0.92
Reach-2	0.1	10-Year	181.00	268.70	270.29	270.29	270.74	0.009163	3.24	74.23	94.19	0.91
Reach-2	0.1	20-Year	209.00	268.70	270.40	270.40	270.88	0.008824	3.36	85.40	109.41	0.91
Reach-2	0.1	50-Year	240.00	268.70	270.50	270.50	271.01	0.008747	3.51	98.88	146.62	0.91
Reach-2	0.1	100-Year	269.00	268.70	270.55	270.55	271.13	0.009792	3.79	105.49	150.24	0.97
Reach-2	0.1	Regional	679.00	268.70	271.51	271.51	271.98	0.005828	4.03	360.85	341.49	0.81

H2S1_SpeedRiver

Plan: 1) Existing 12/12/2019 4:09:03 PM 2) Prop_PierBlocking 12/12/2019 3:31:15 PM

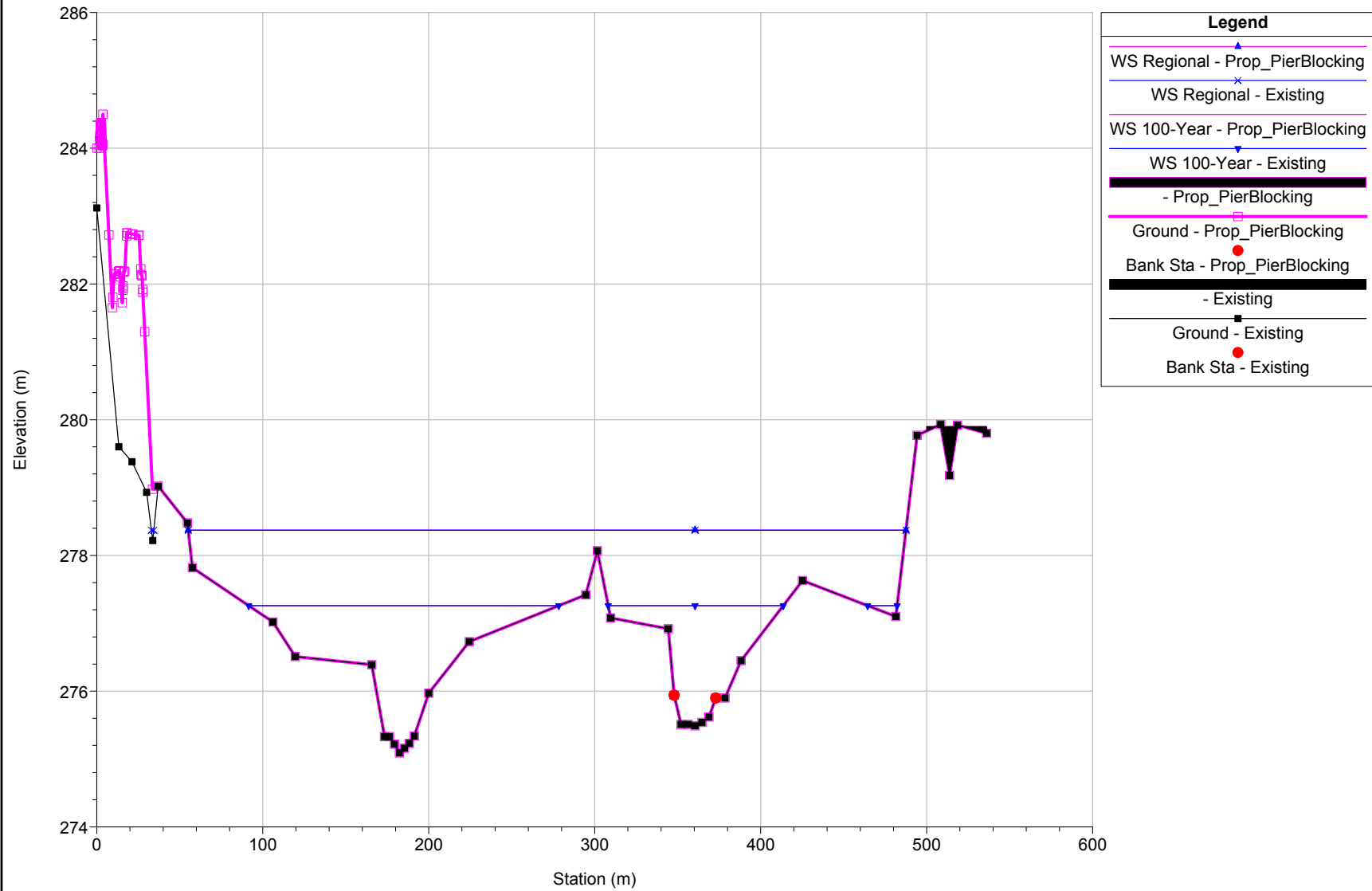
Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

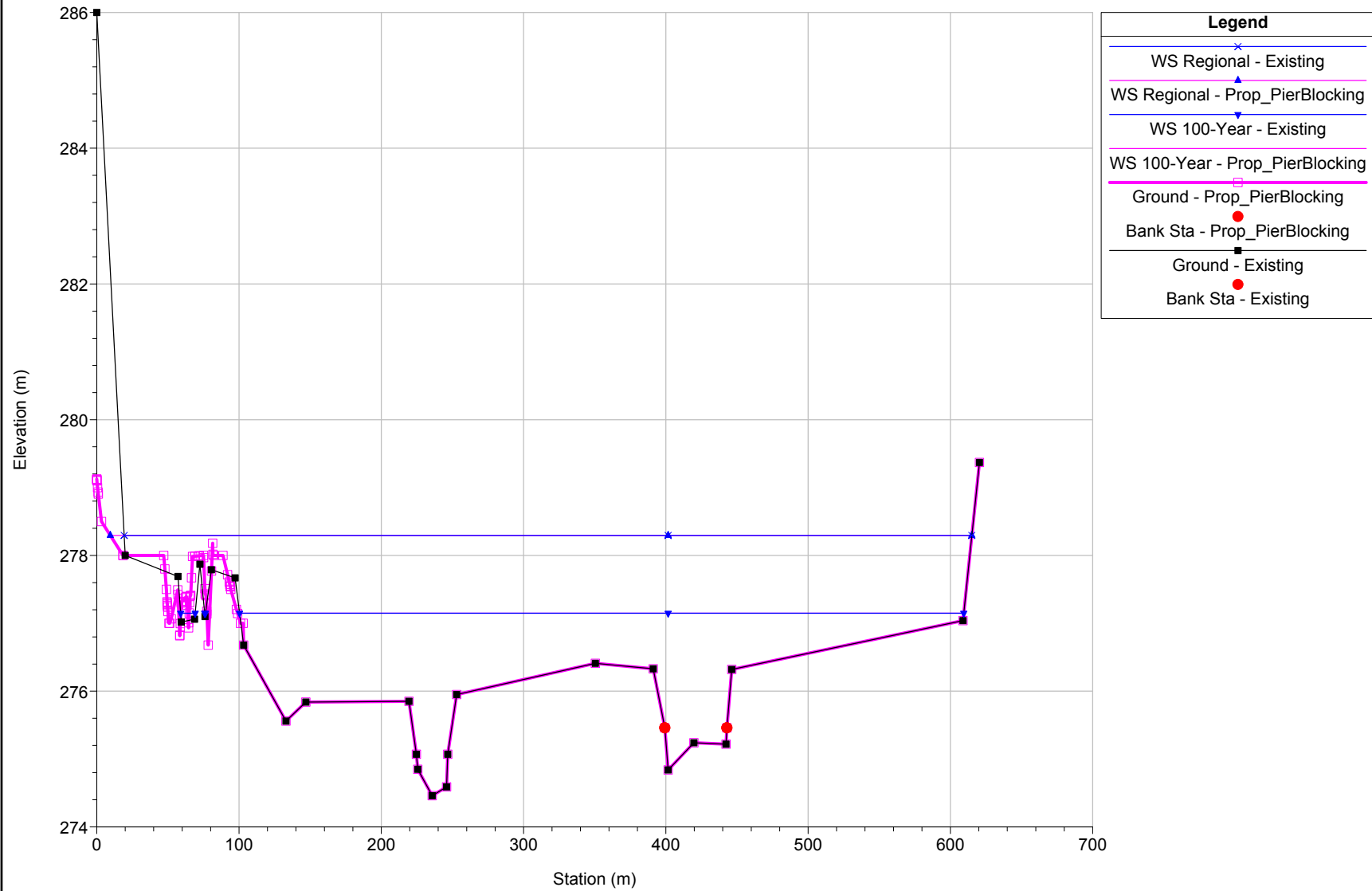
River = RIVER-1 Reach = Reach-1 RS = 3242 3242, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

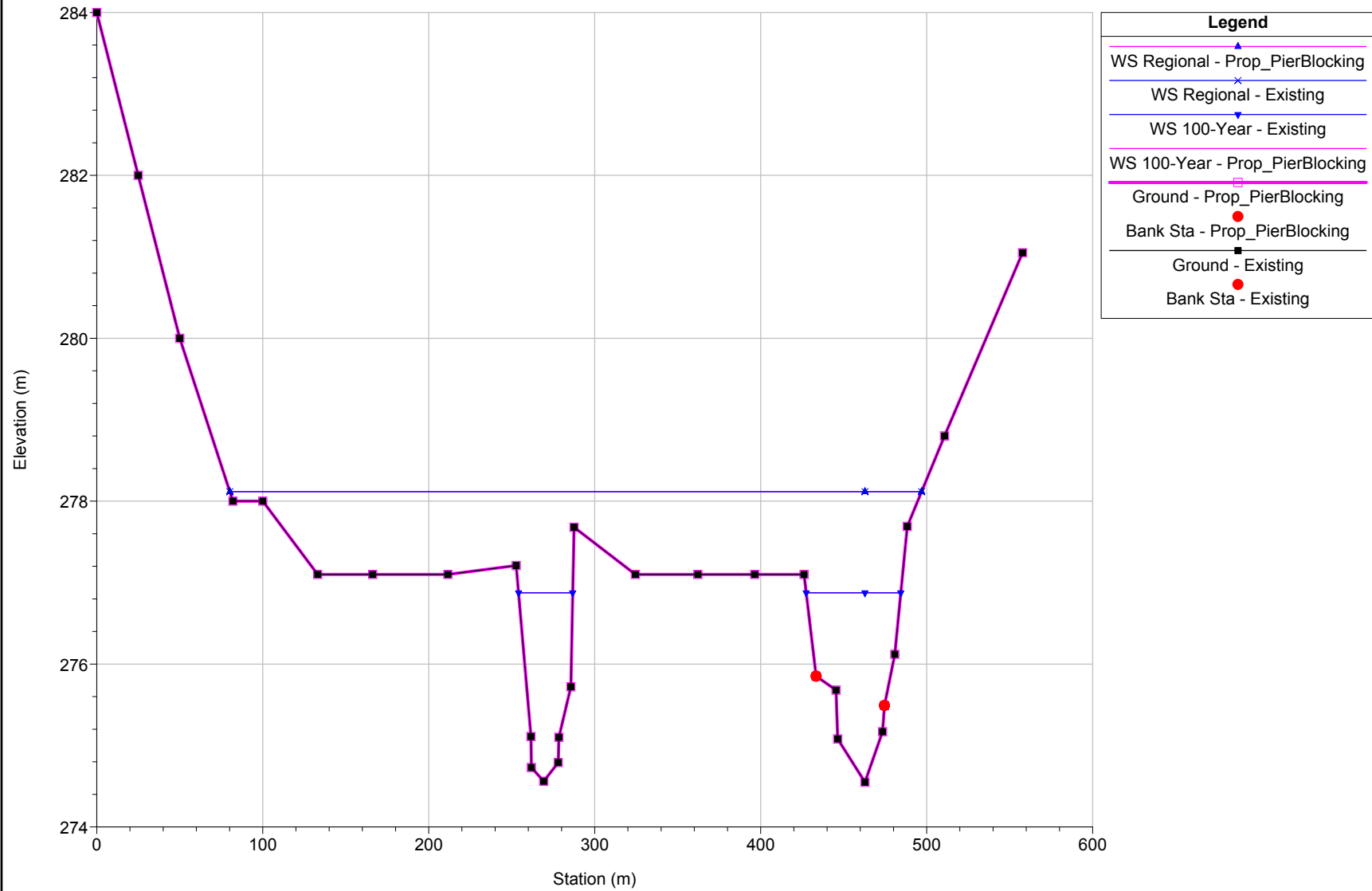
River = RIVER-1 Reach = Reach-1 RS = 3086 3086, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

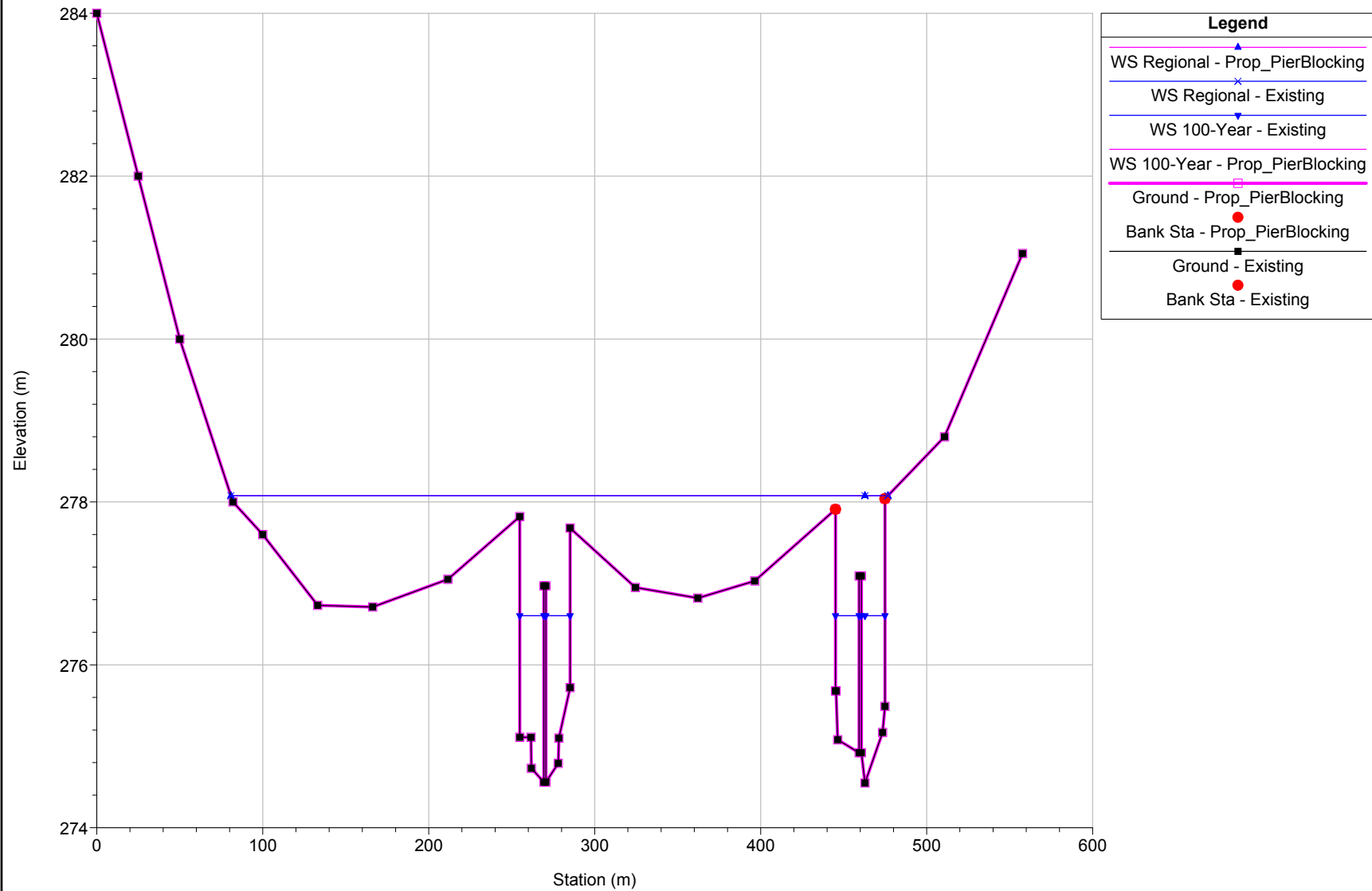
River = RIVER-1 Reach = Reach-1 RS = 3046 3046



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

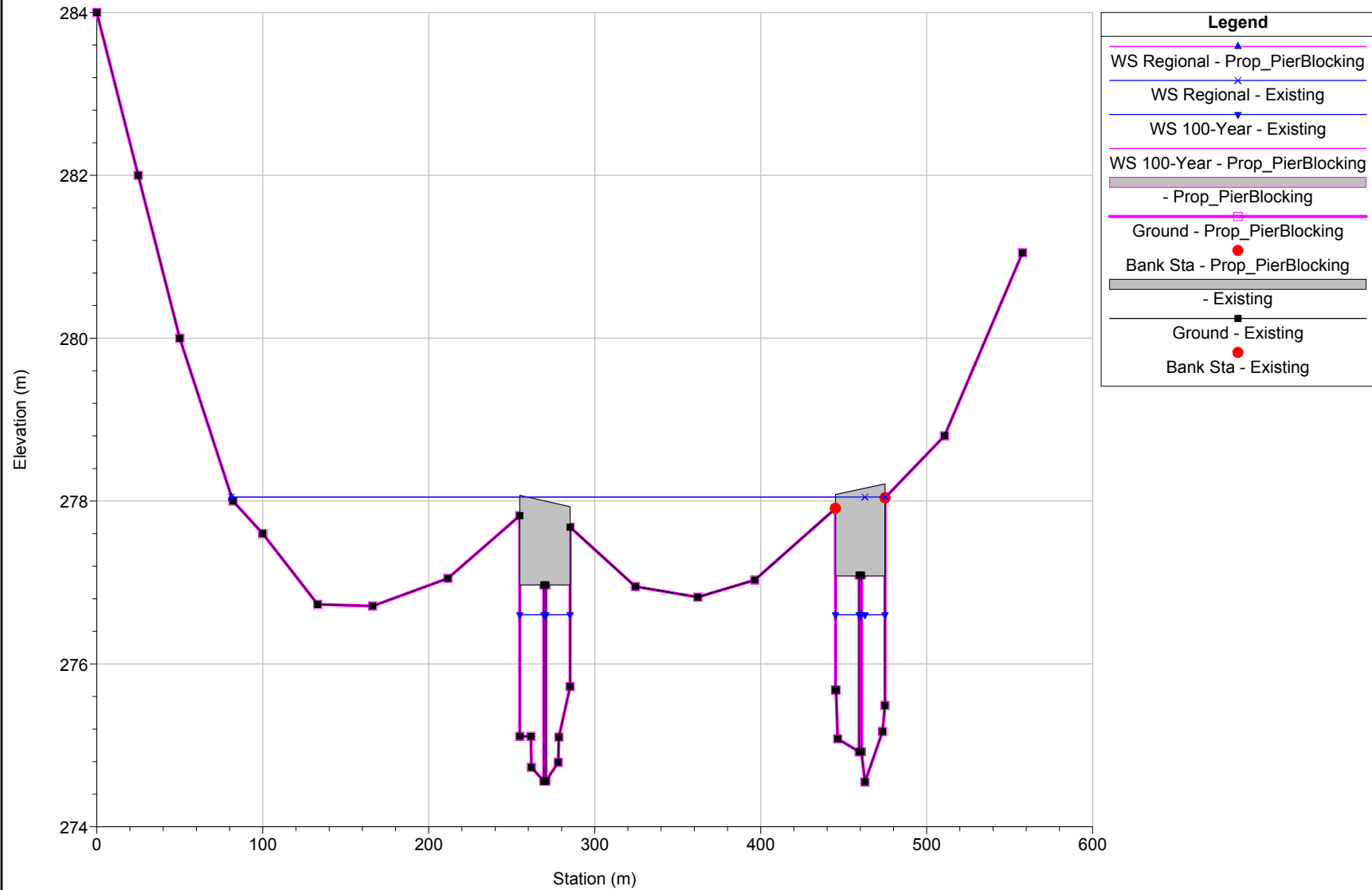
River = RIVER-1 Reach = Reach-1 RS = 3044 3044



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

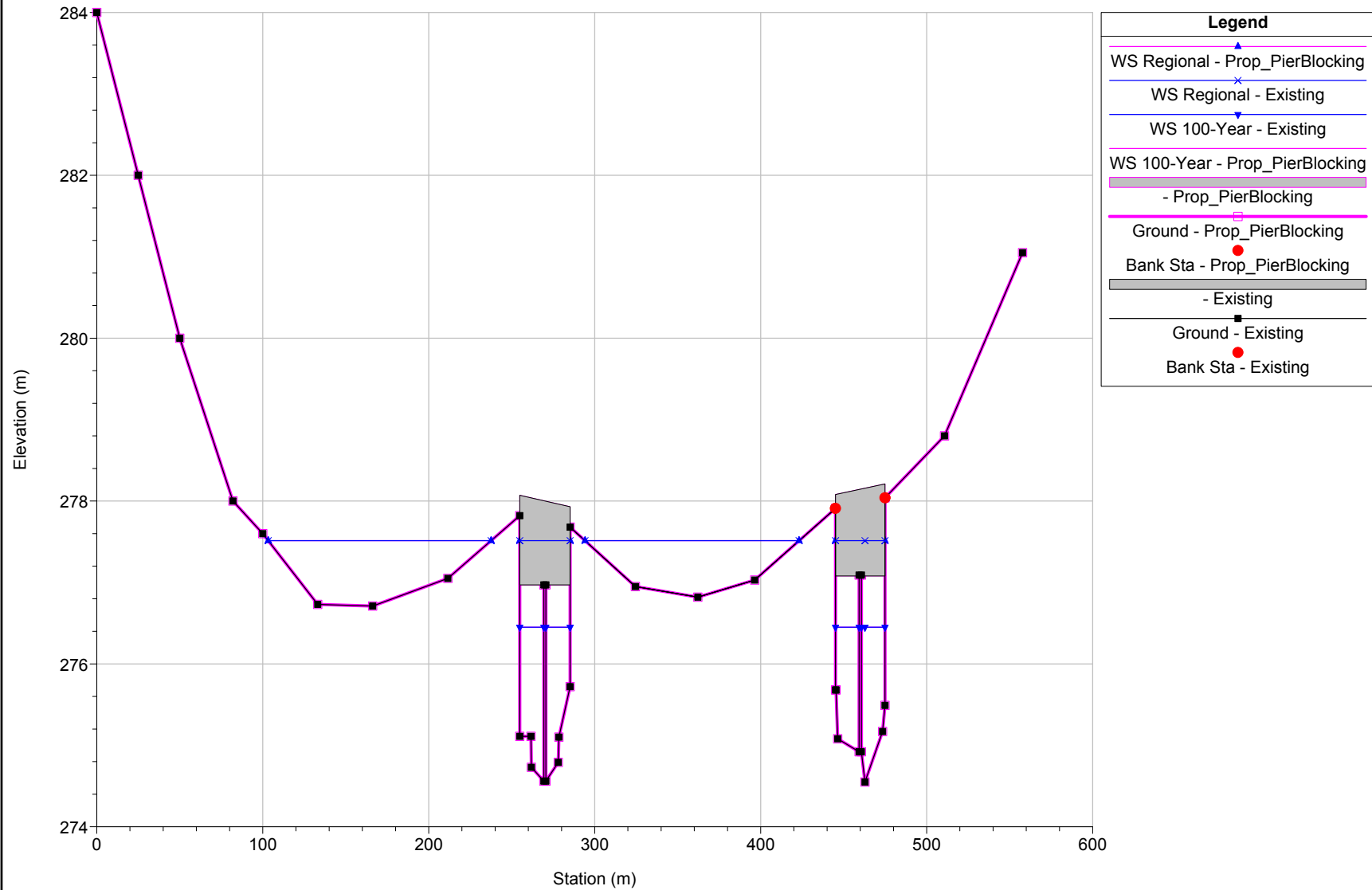
River = RIVER-1 Reach = Reach-1 RS = 3034.5 BR Bridge #4



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

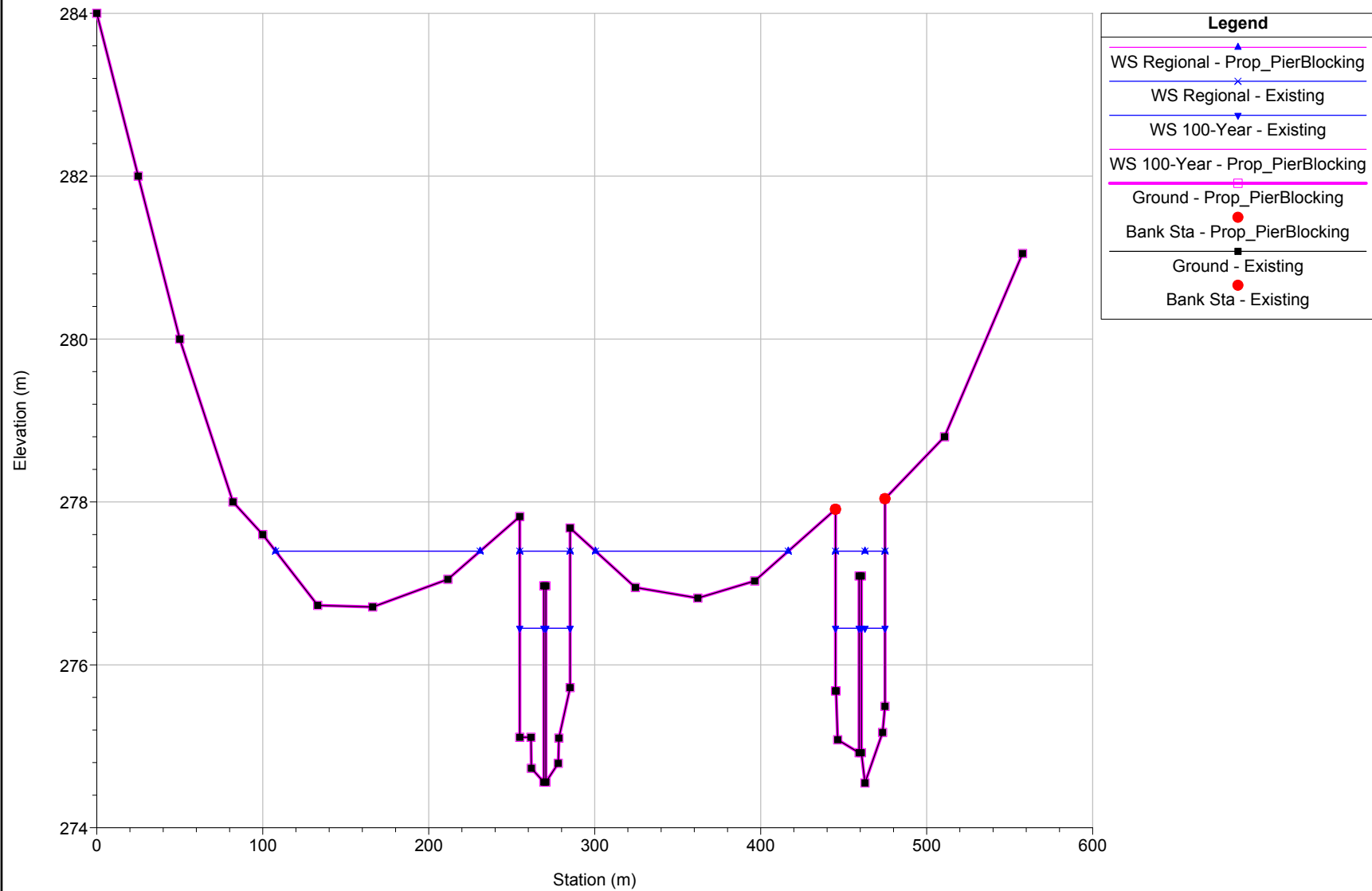
River = RIVER-1 Reach = Reach-1 RS = 3034.5 BR Bridge #4



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

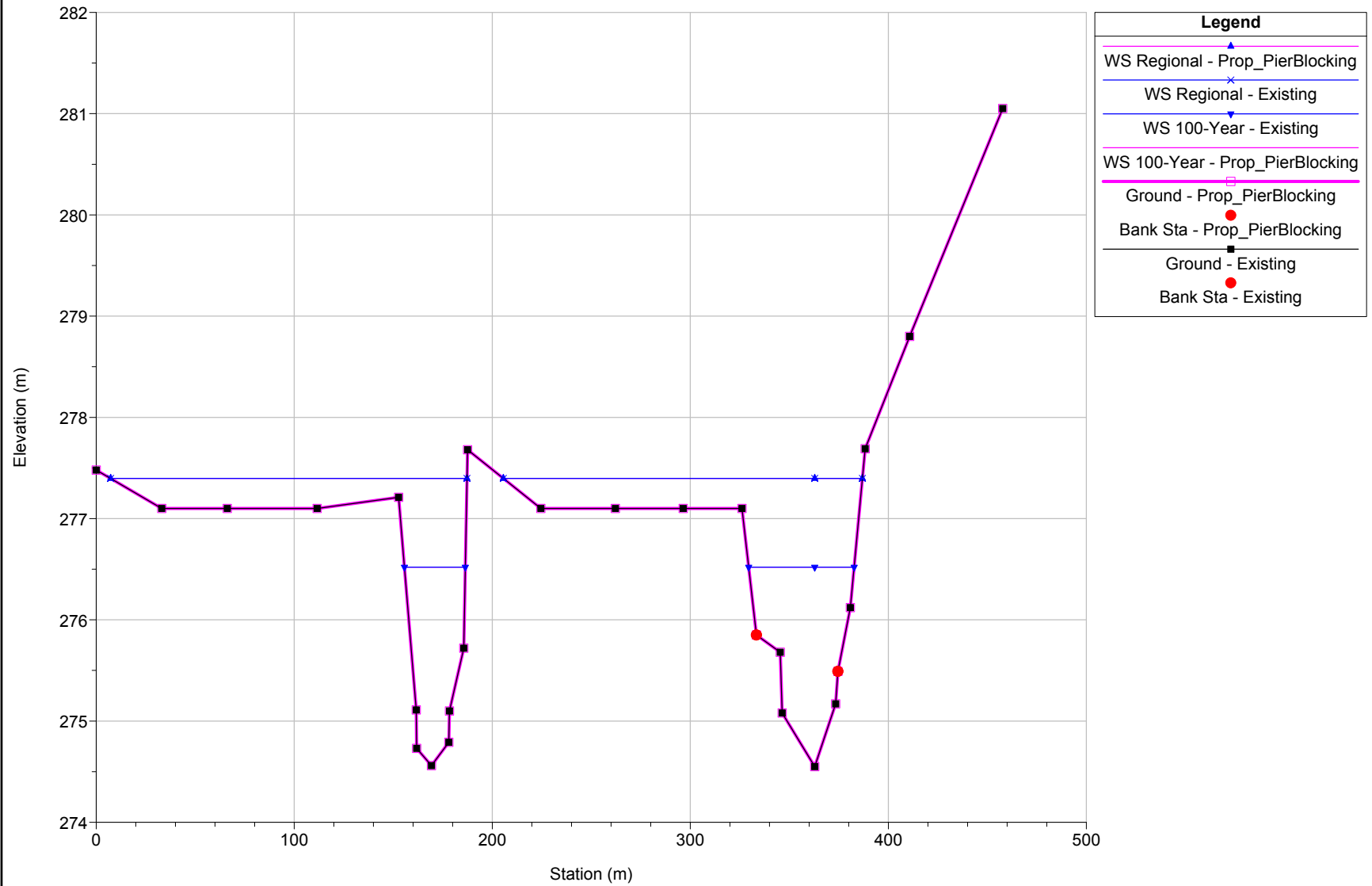
River = RIVER-1 Reach = Reach-1 RS = 3034 3034



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

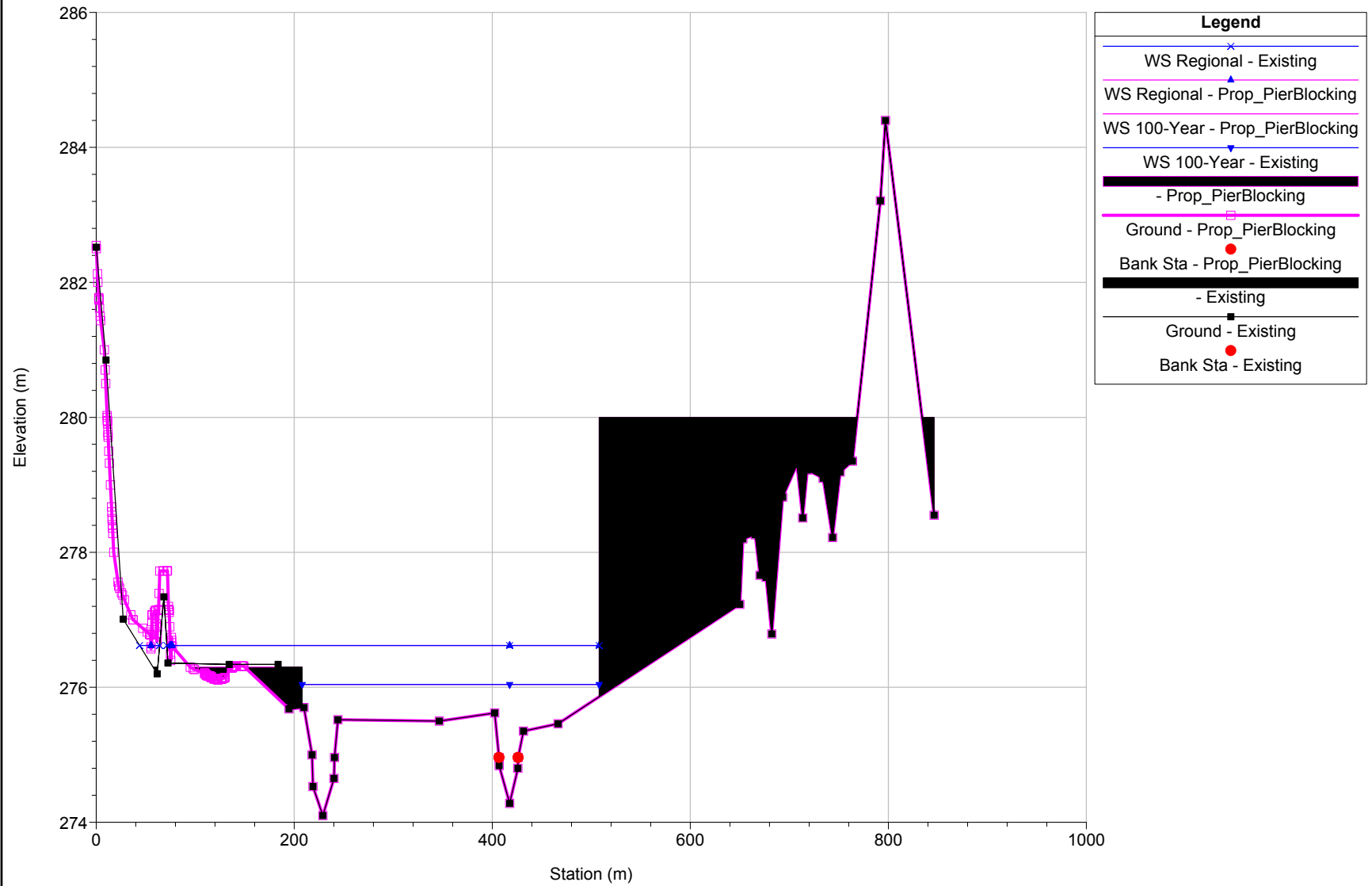
River = RIVER-1 Reach = Reach-1 RS = 3032 3032



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

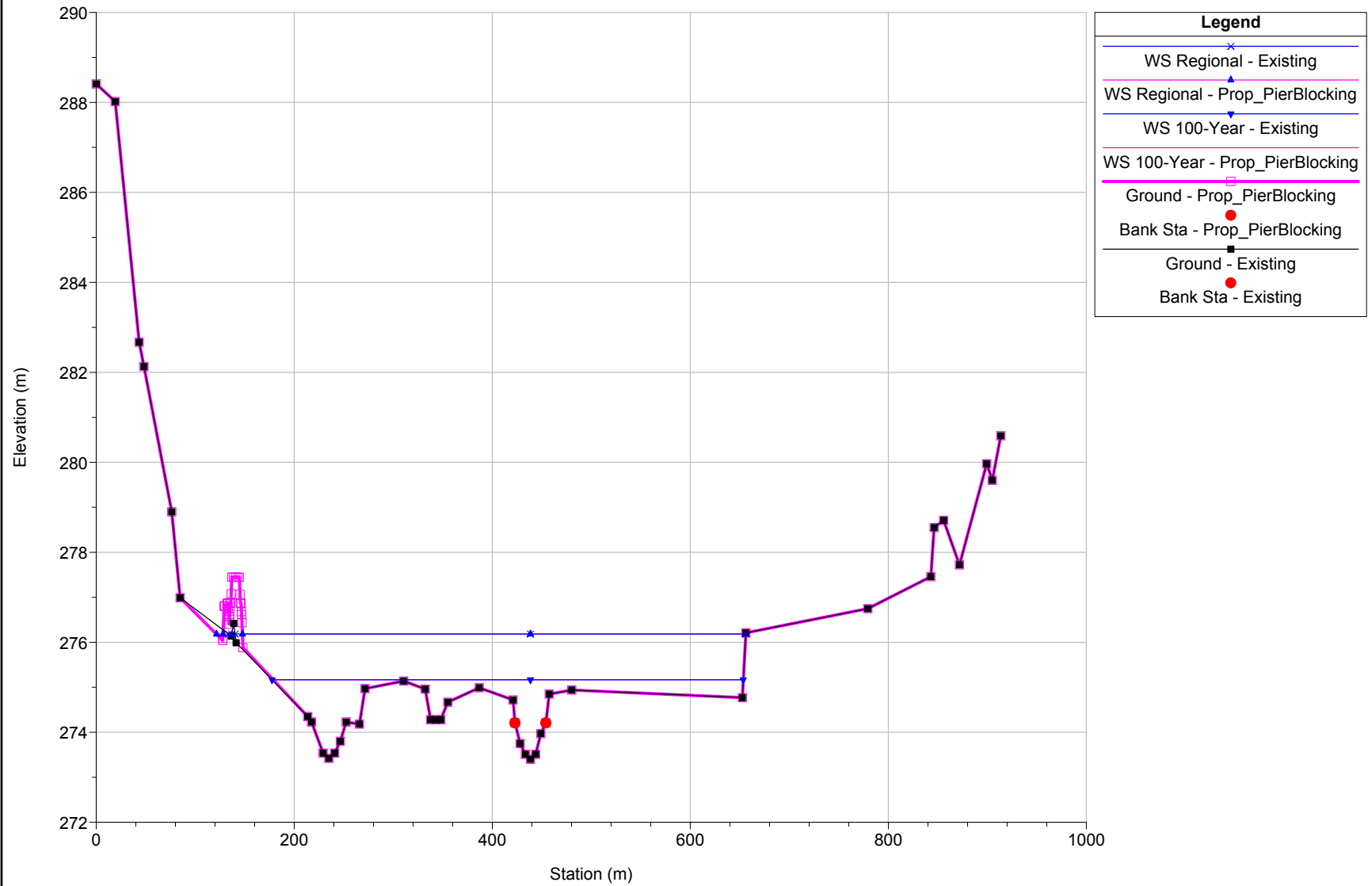
River = RIVER-1 Reach = Reach-1 RS = 2912 2912, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

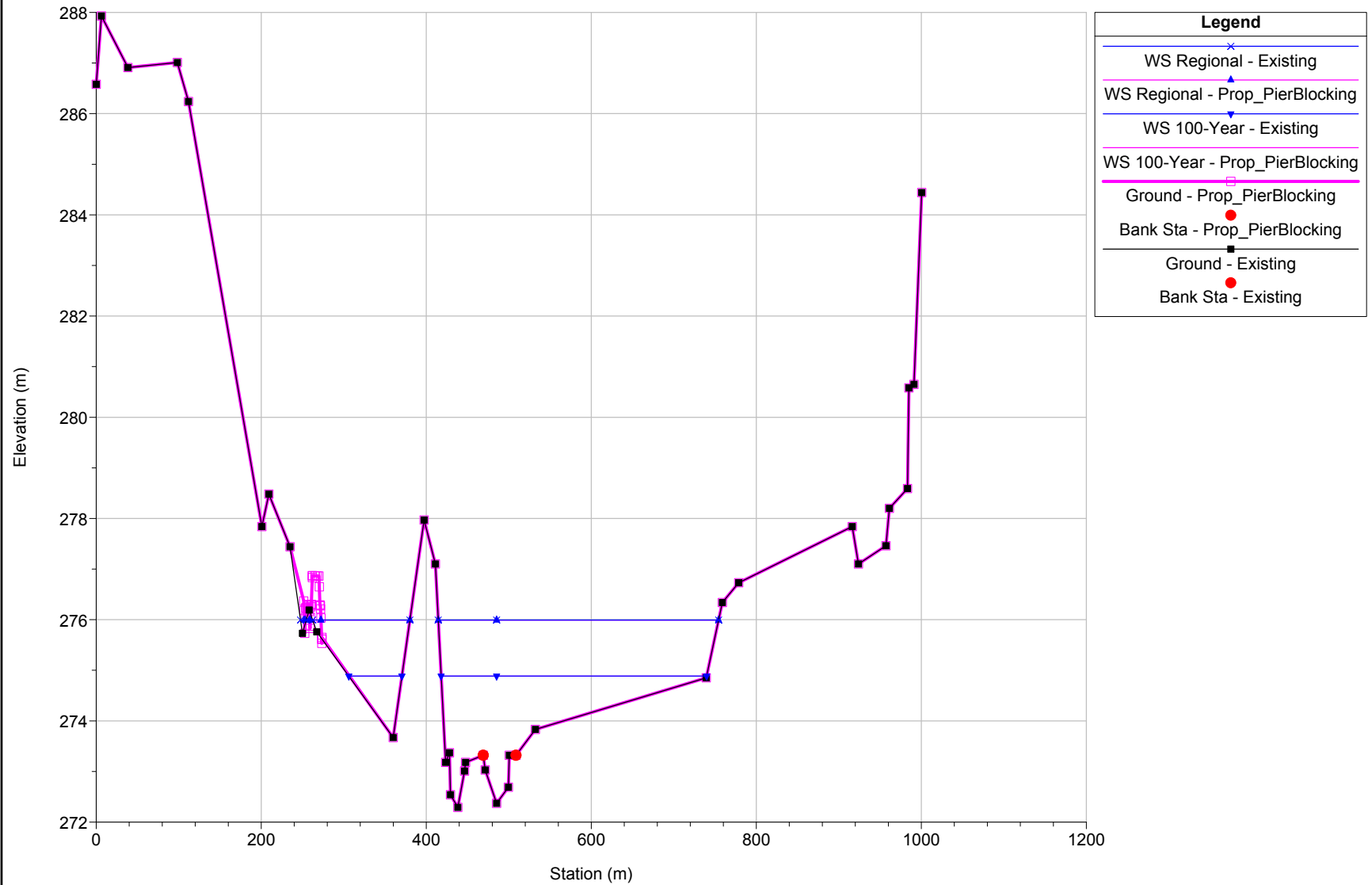
River = RIVER-1 Reach = Reach-1 RS = 2662 2662, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

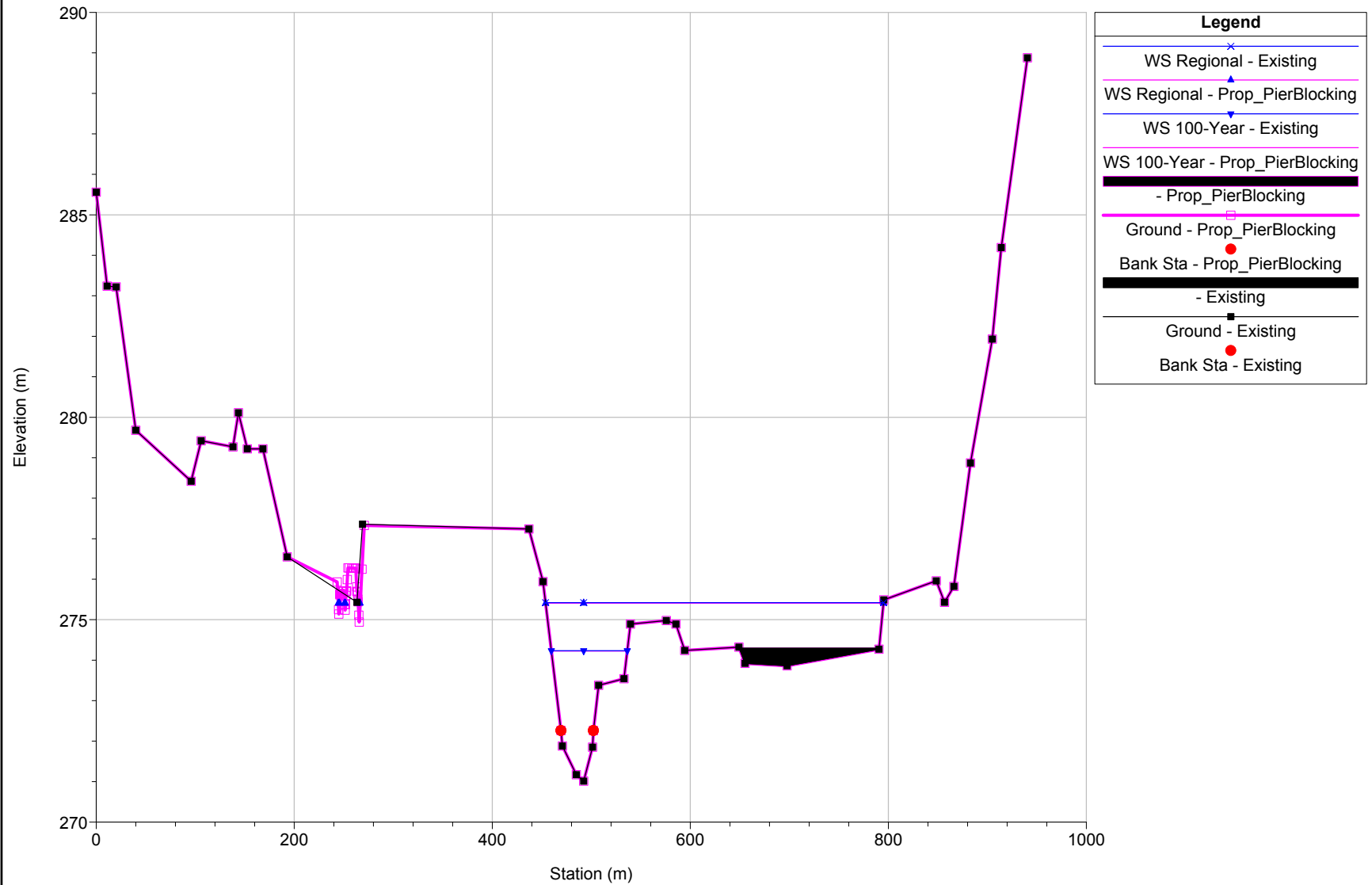
River = RIVER-1 Reach = Reach-1 RS = 2422 2422, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

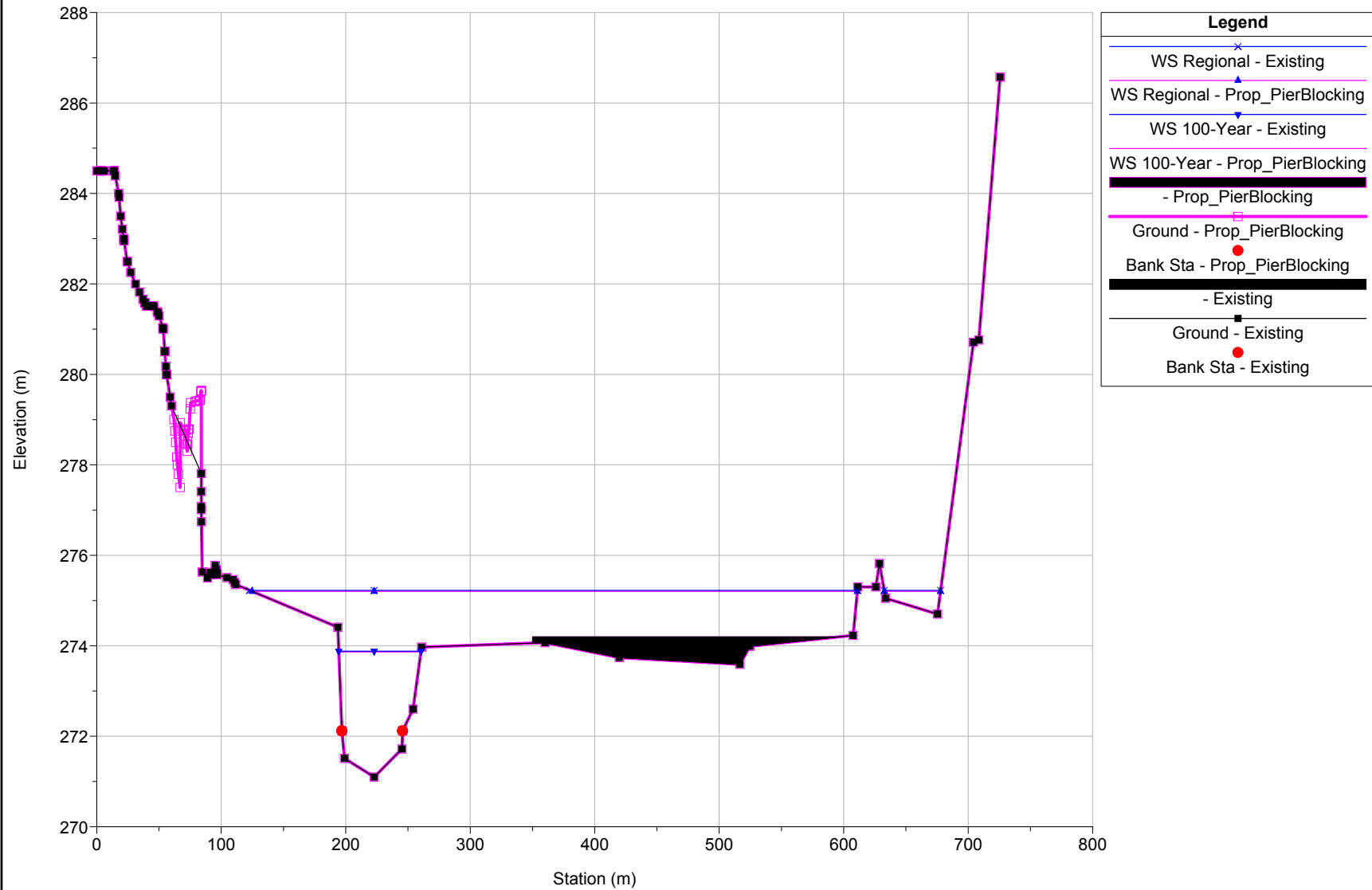
River = RIVER-1 Reach = Reach-1 RS = 2132 2132, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

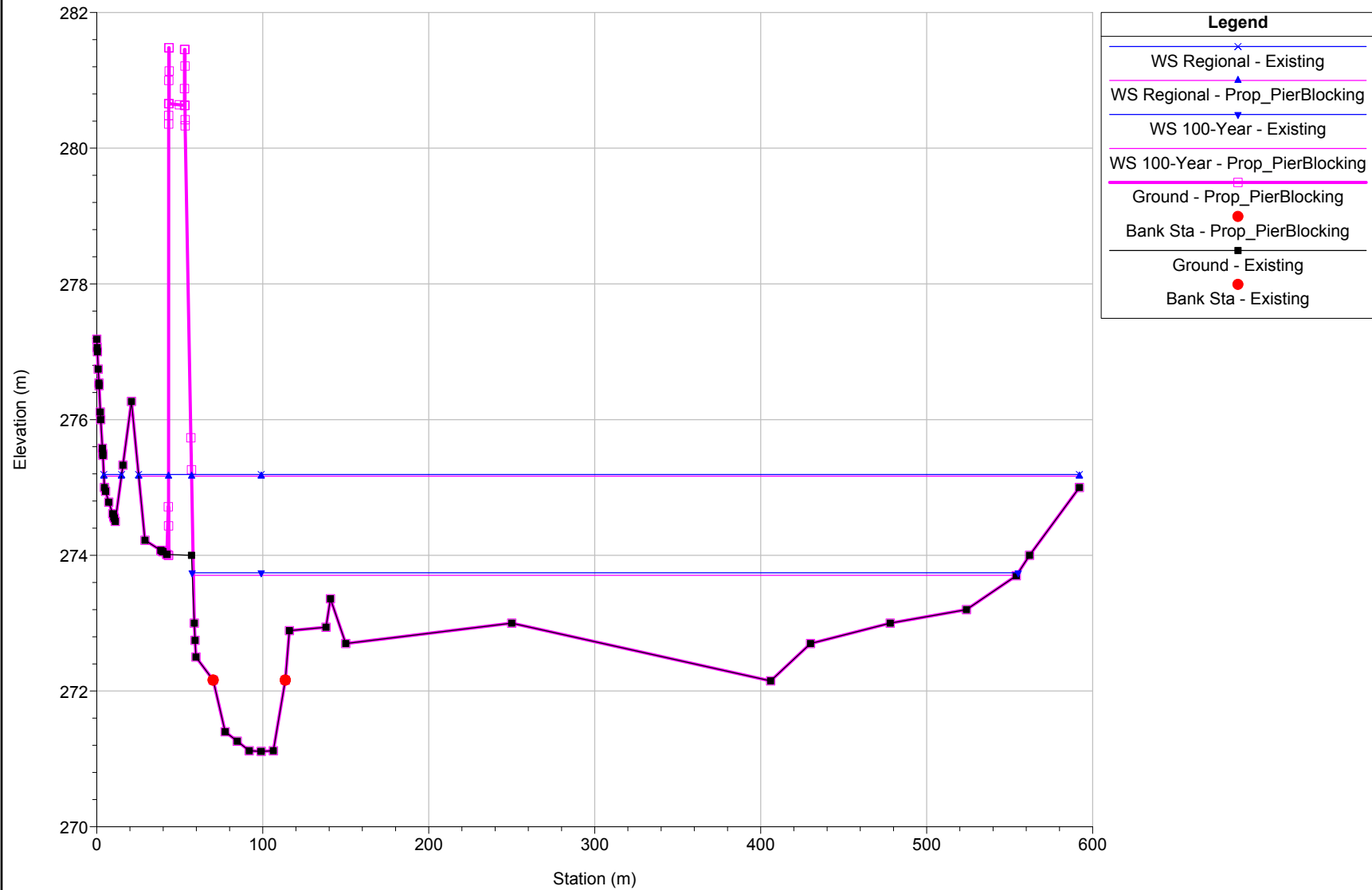
River = RIVER-1 Reach = Reach-1 RS = 1898 1898, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

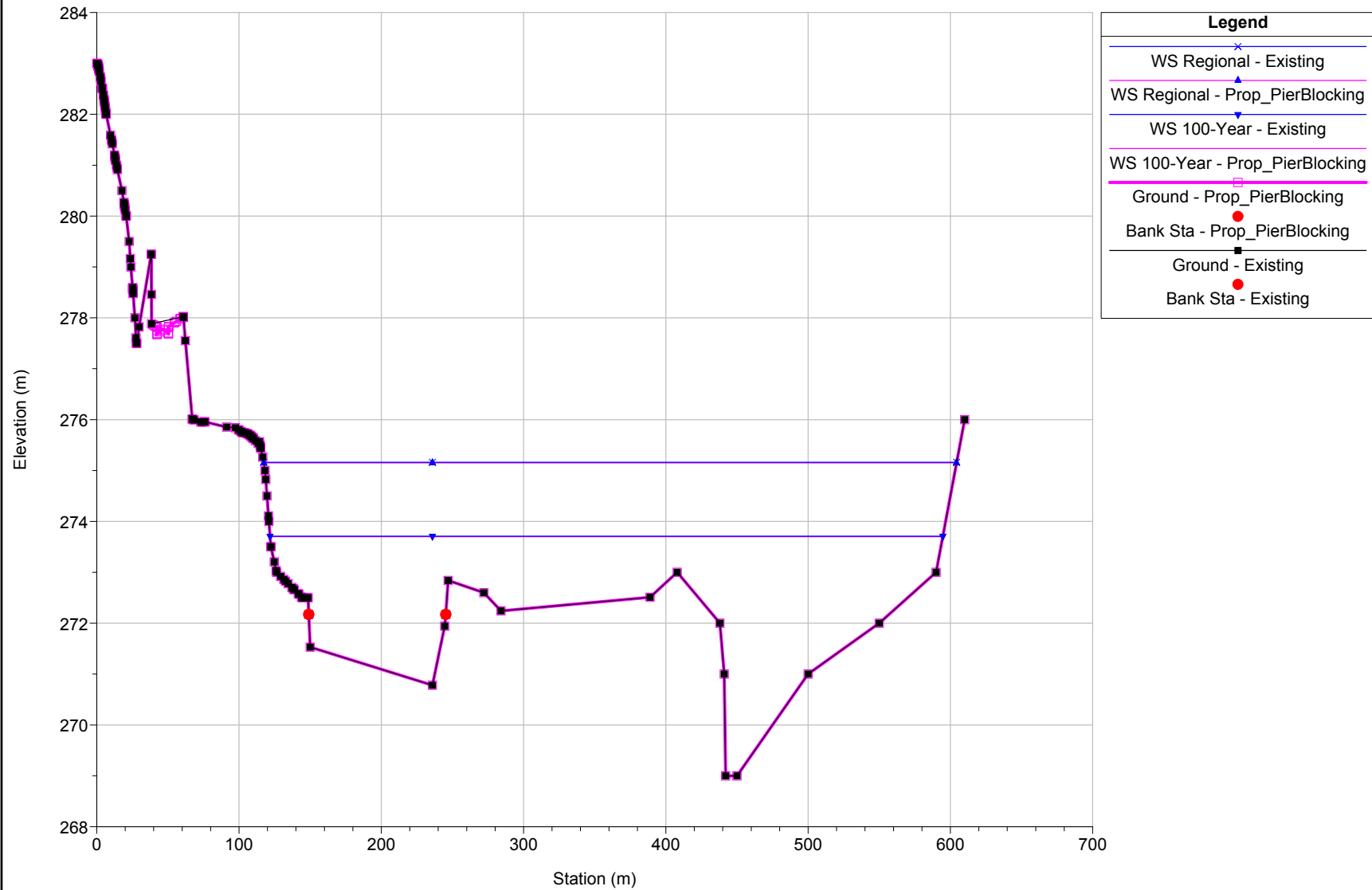
River = RIVER-1 Reach = Reach-1 RS = 1552 1552, added CP Spur by WSP on Aug. 2, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

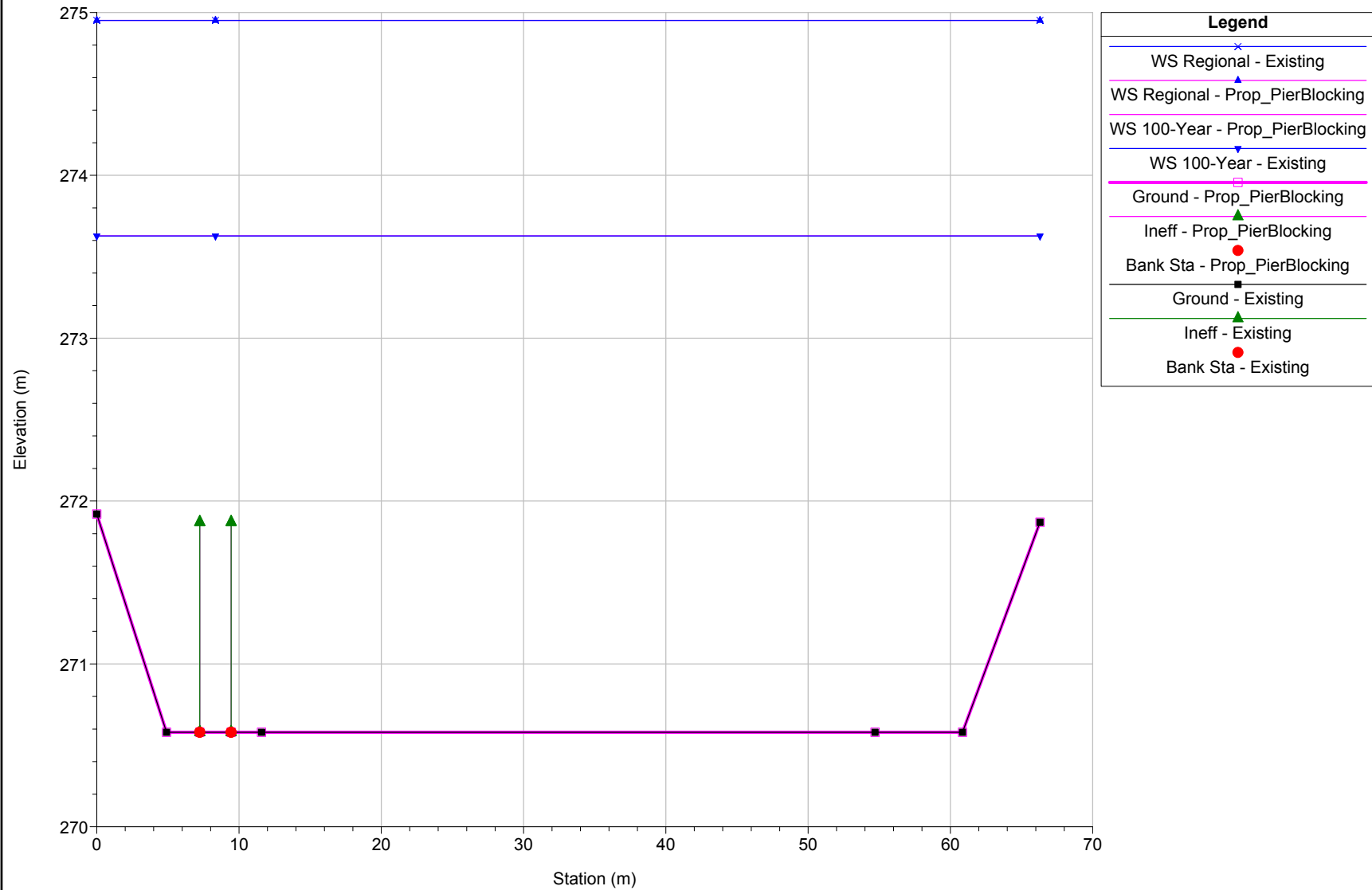
River = RIVER-1 Reach = Reach-1 RS = 1304 U/S OF STRUCTURES IN PRESTON - DIVERGENCE SECTION



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

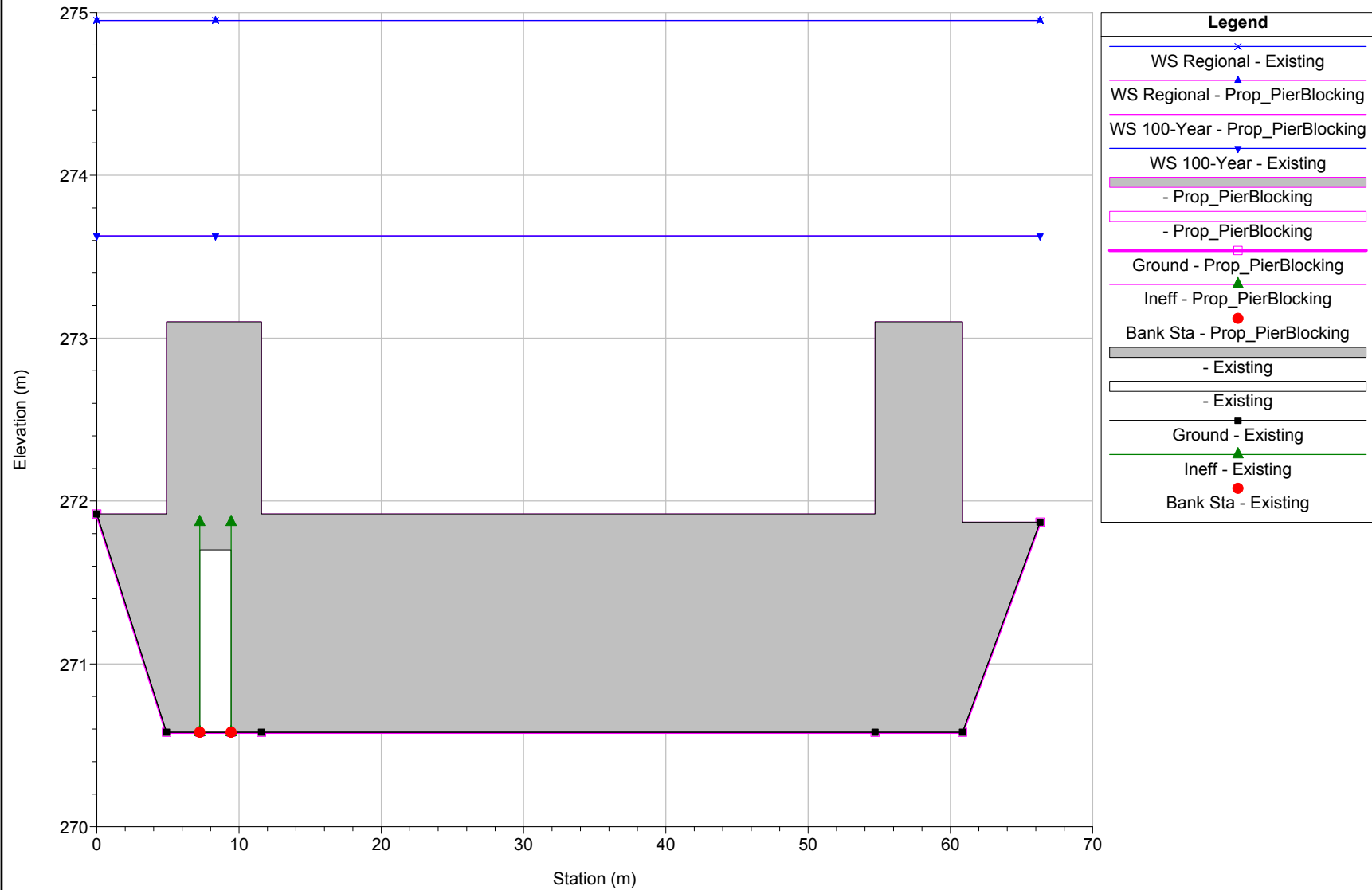
River = RIVER-1 Reach = Reach-1 RS = 1161 1161



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

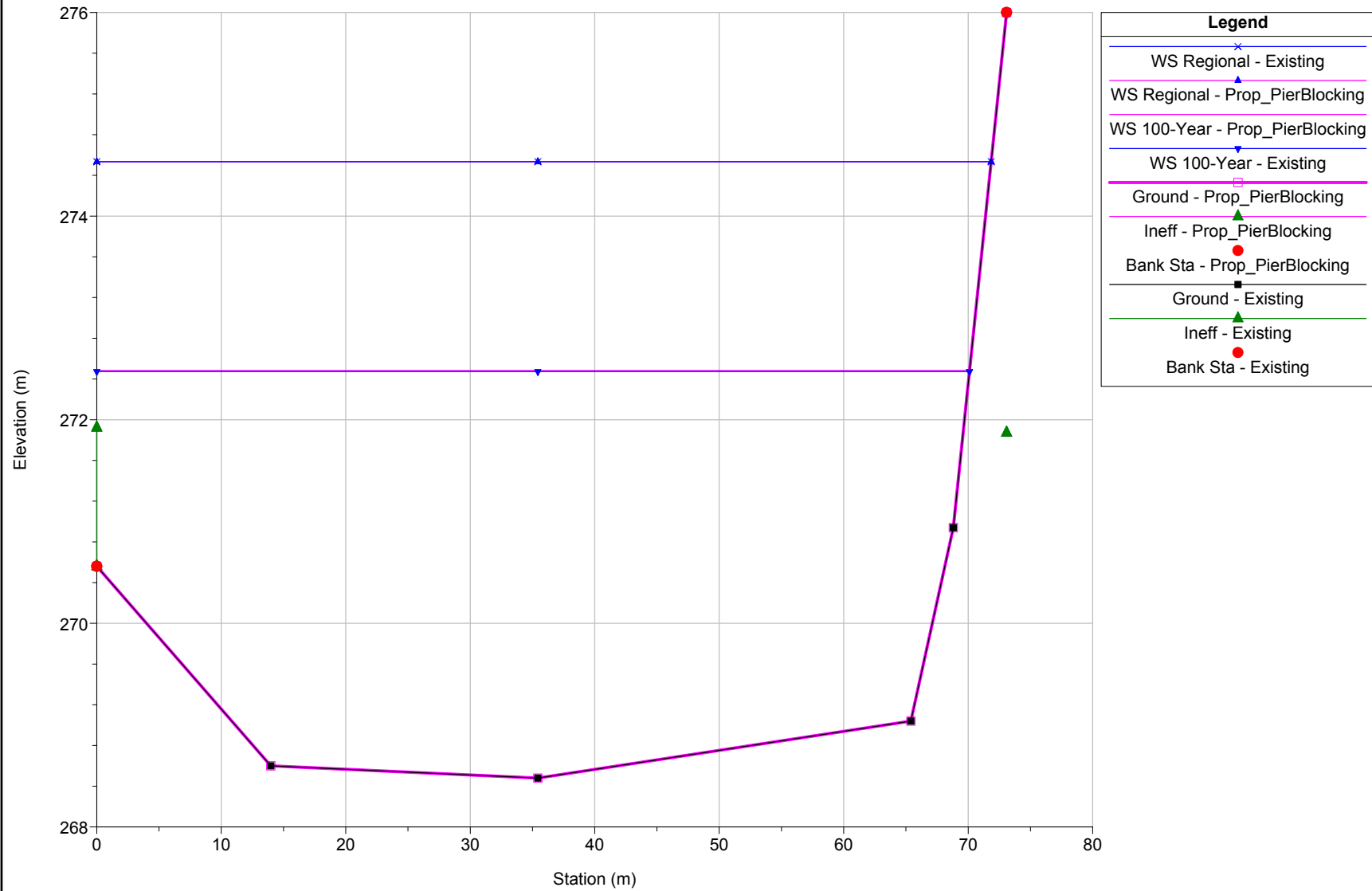
River = RIVER-1 Reach = Reach-1 RS = 1151.5 IS



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

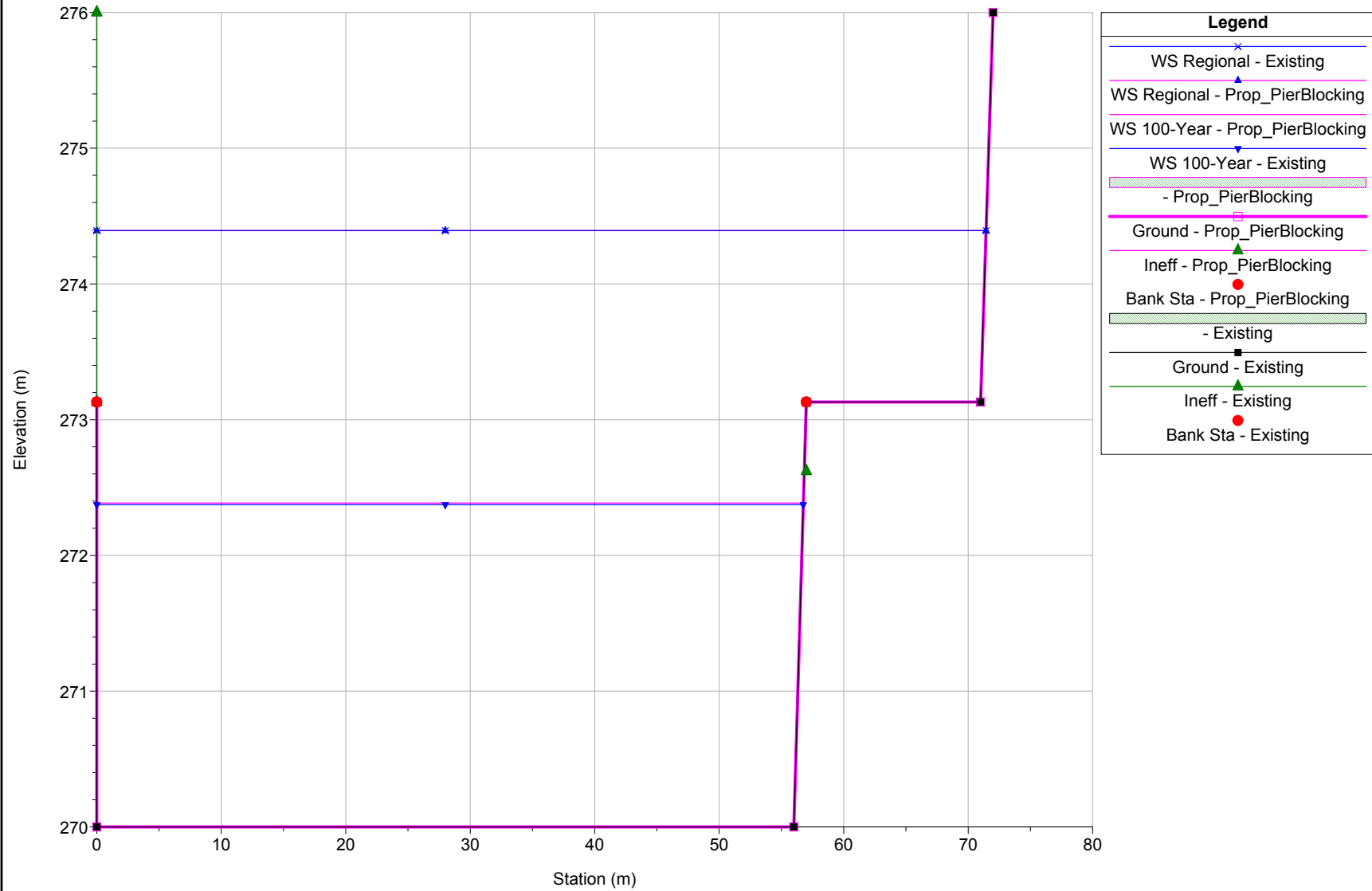
River = RIVER-1 Reach = Reach-1 RS = 1151 1151



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

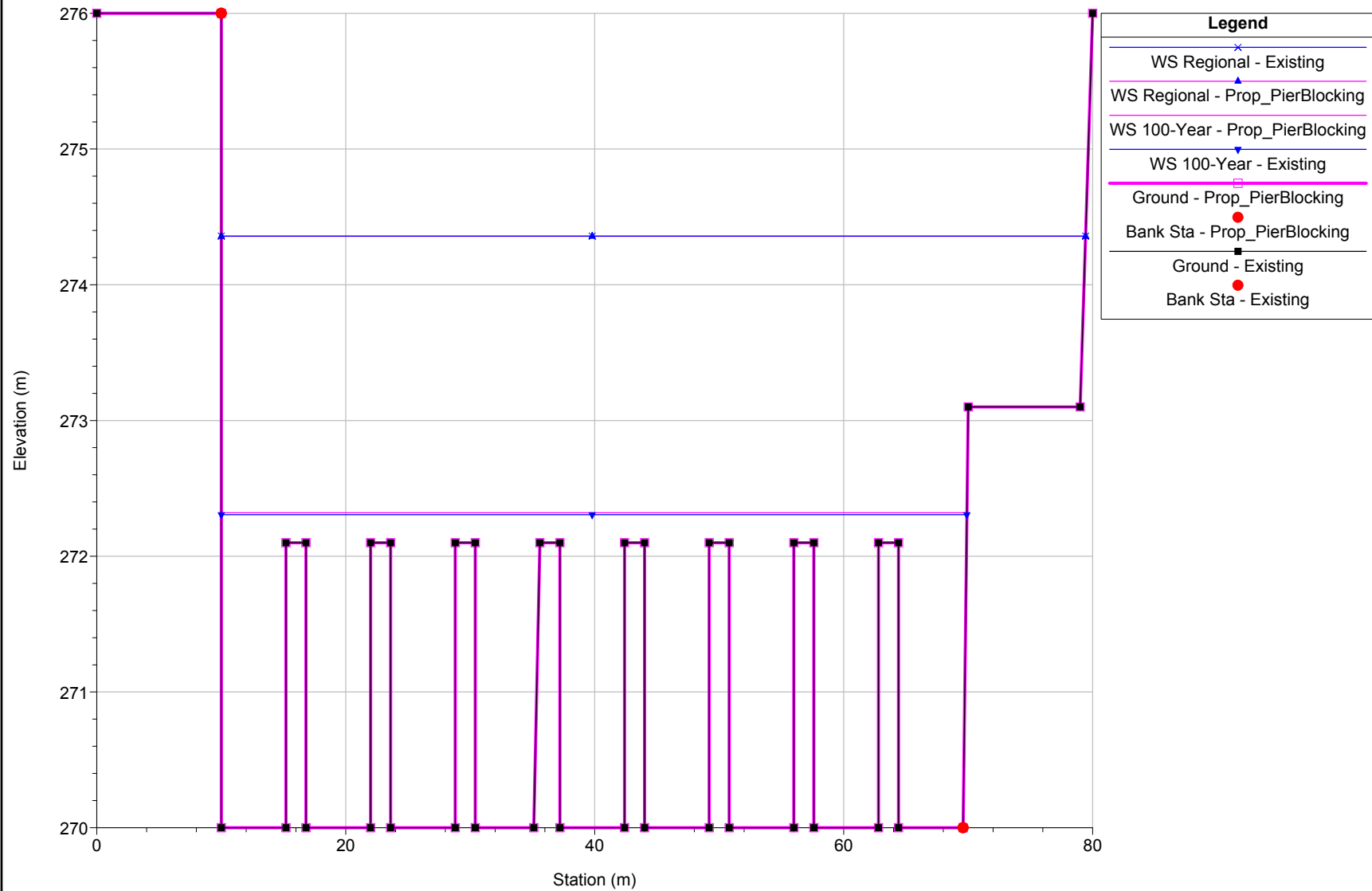
River = RIVER-1 Reach = Reach-1 RS = 1145 1145



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

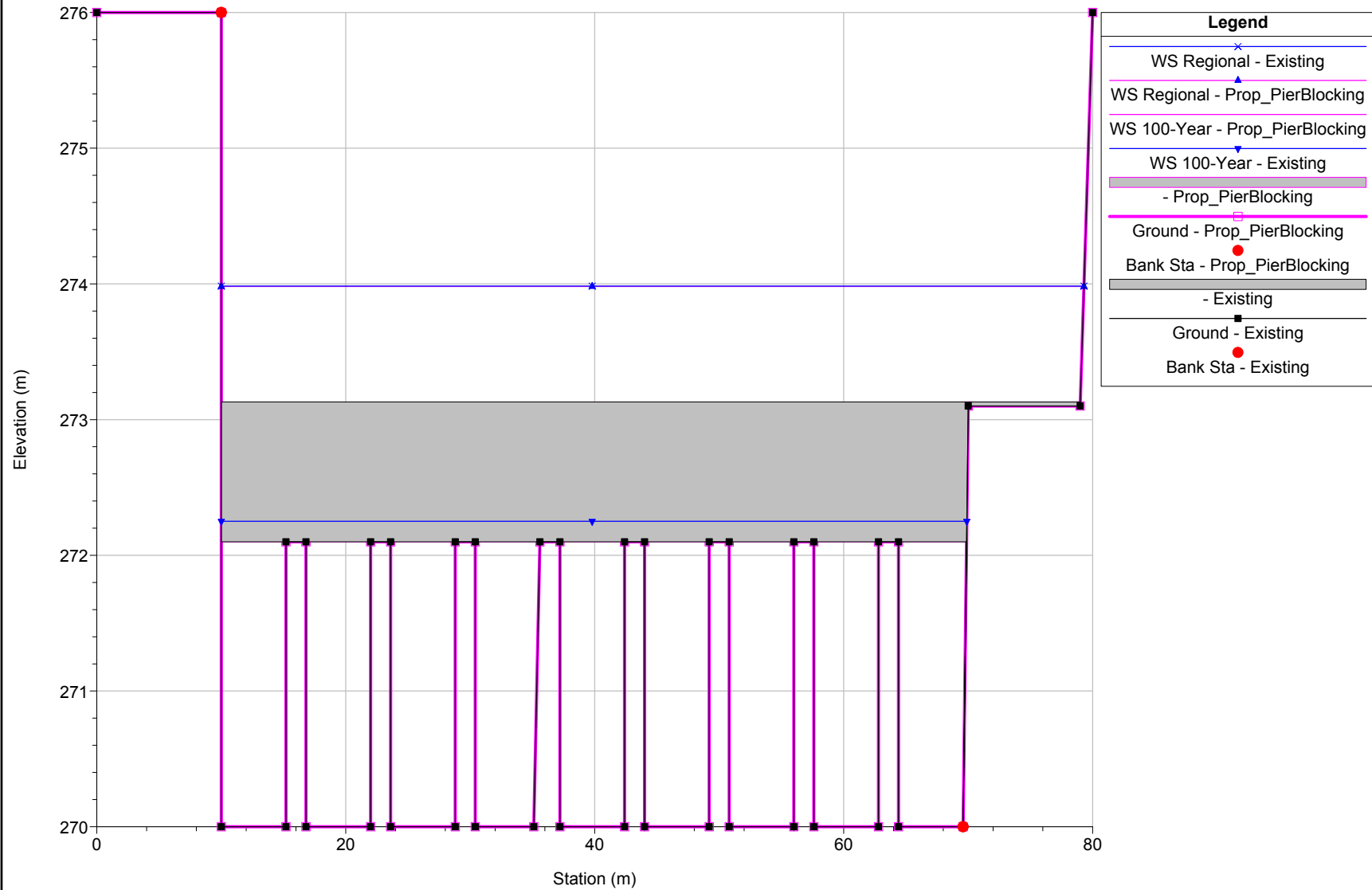
River = RIVER-1 Reach = Reach-1 RS = 1144 1144



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

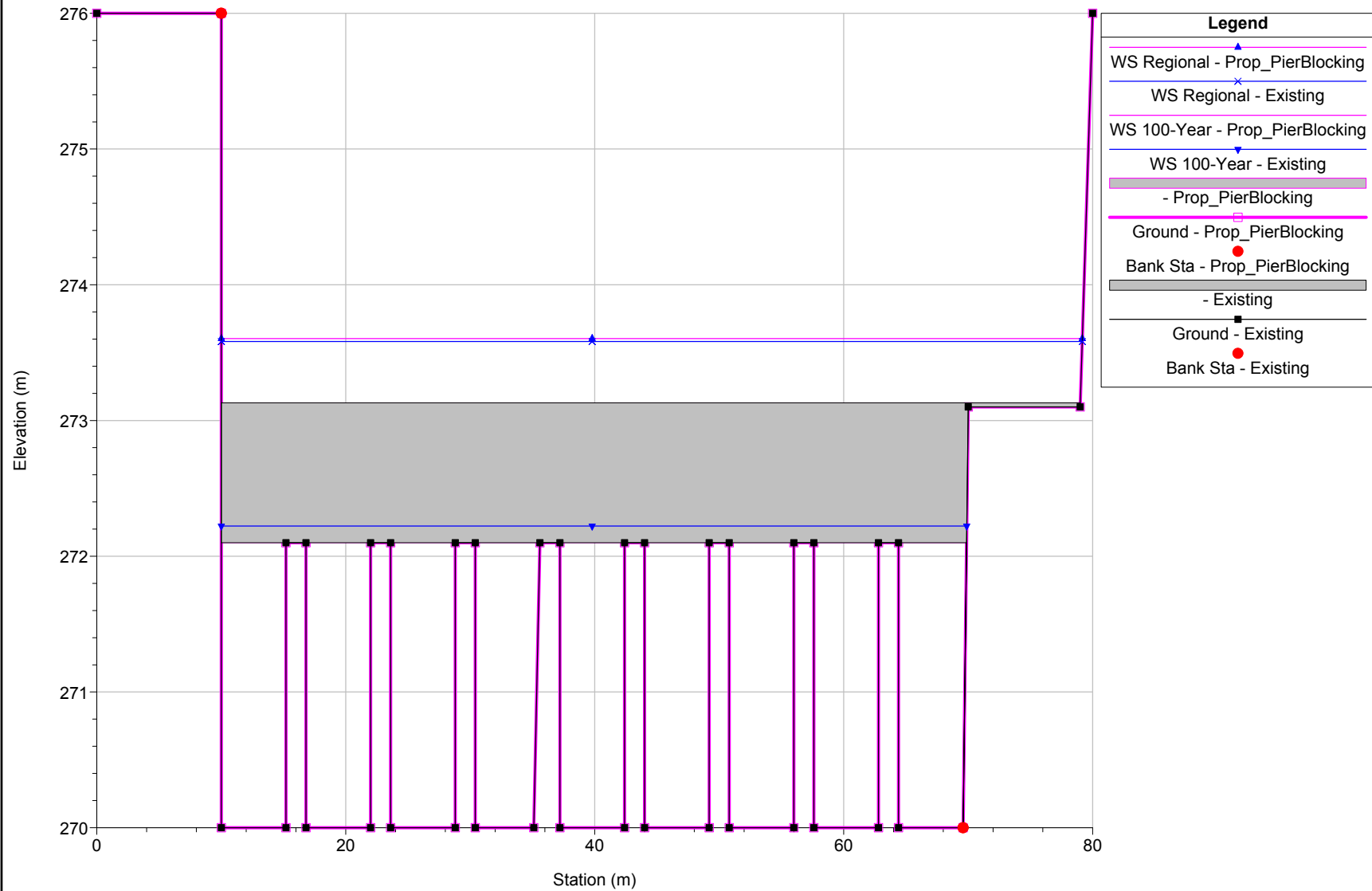
River = RIVER-1 Reach = Reach-1 RS = 1140.5 BR Bridge #2



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

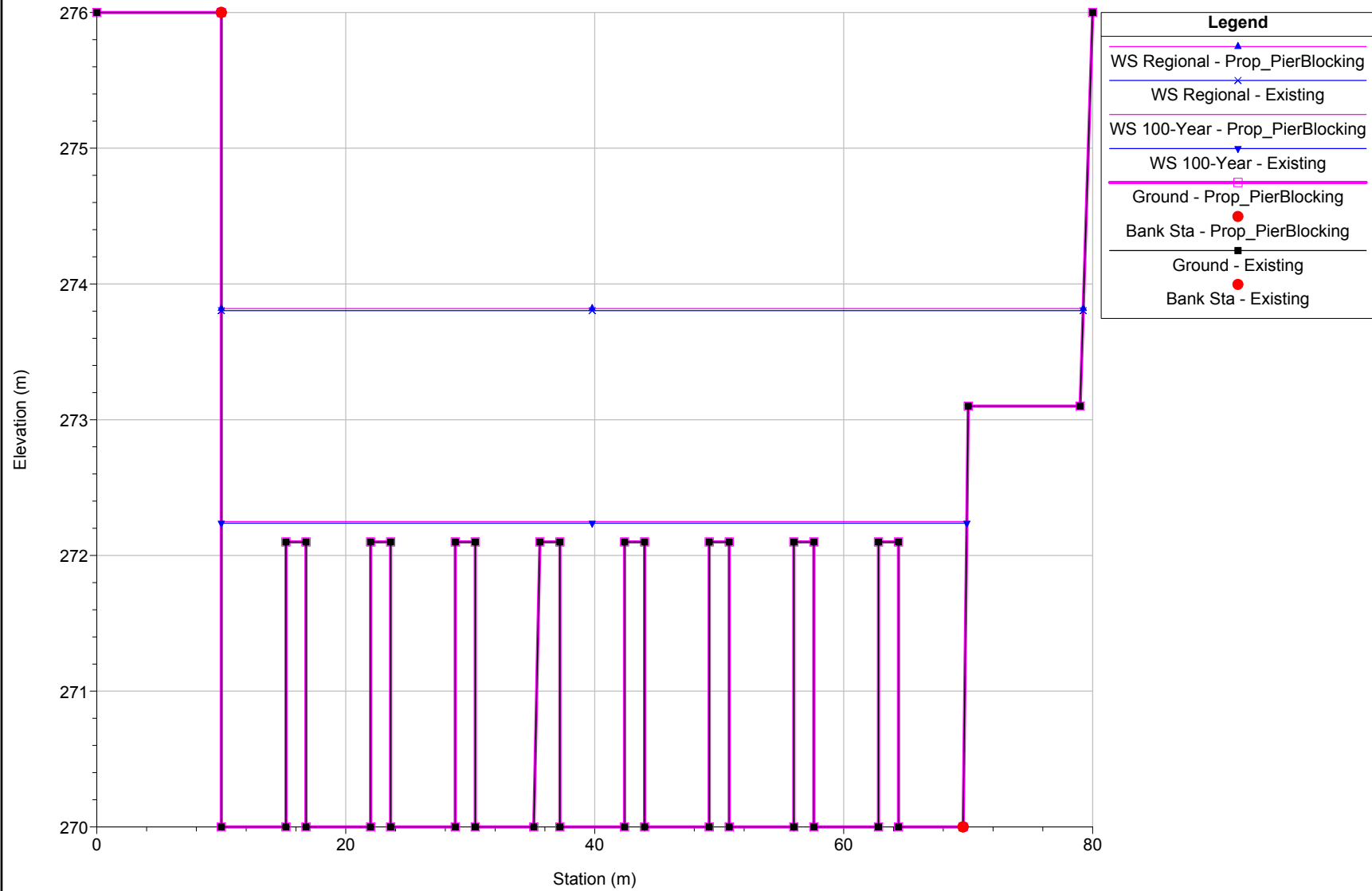
River = RIVER-1 Reach = Reach-1 RS = 1140.5 BR Bridge #2



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

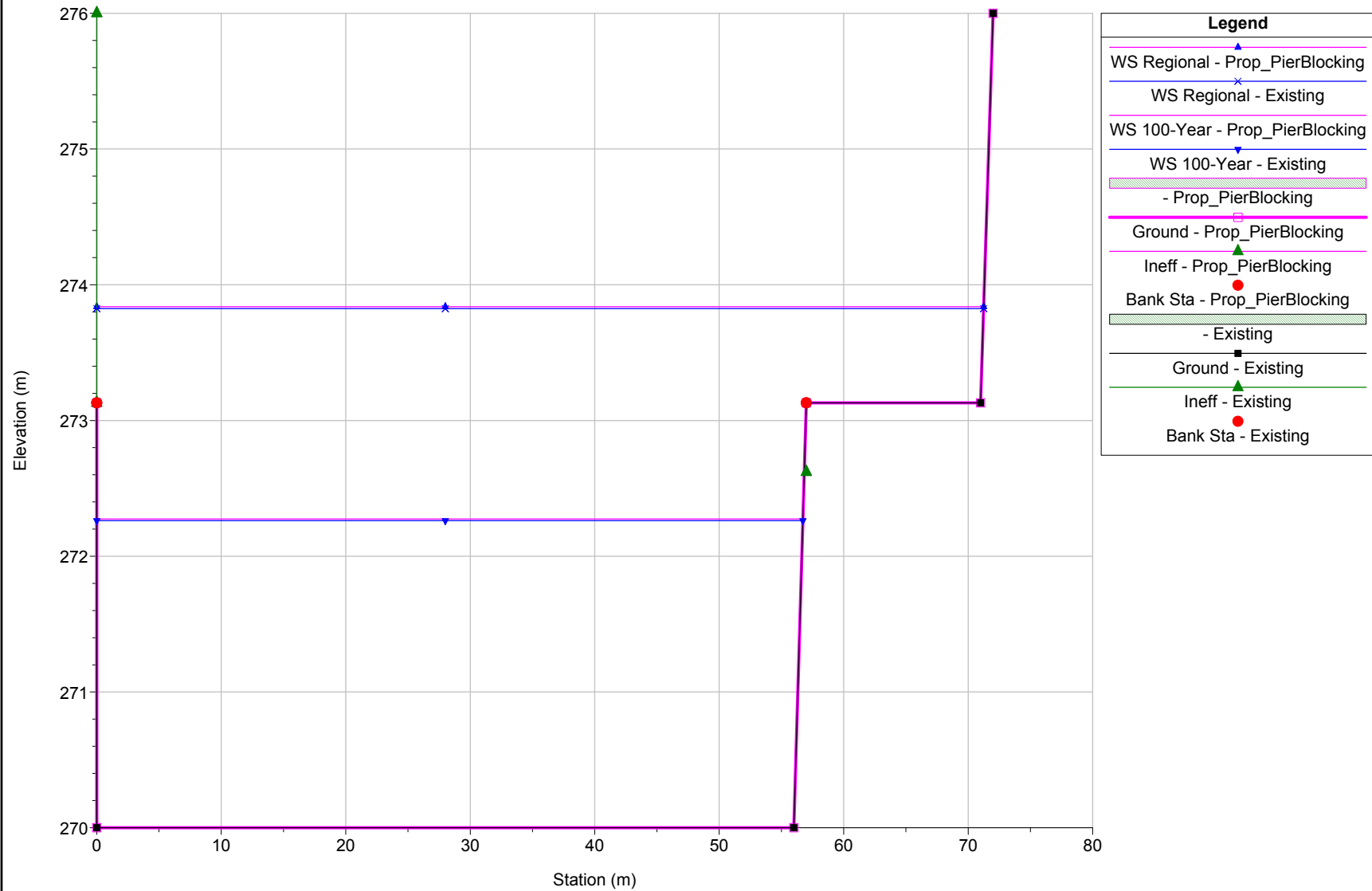
River = RIVER-1 Reach = Reach-1 RS = 1140 1140



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

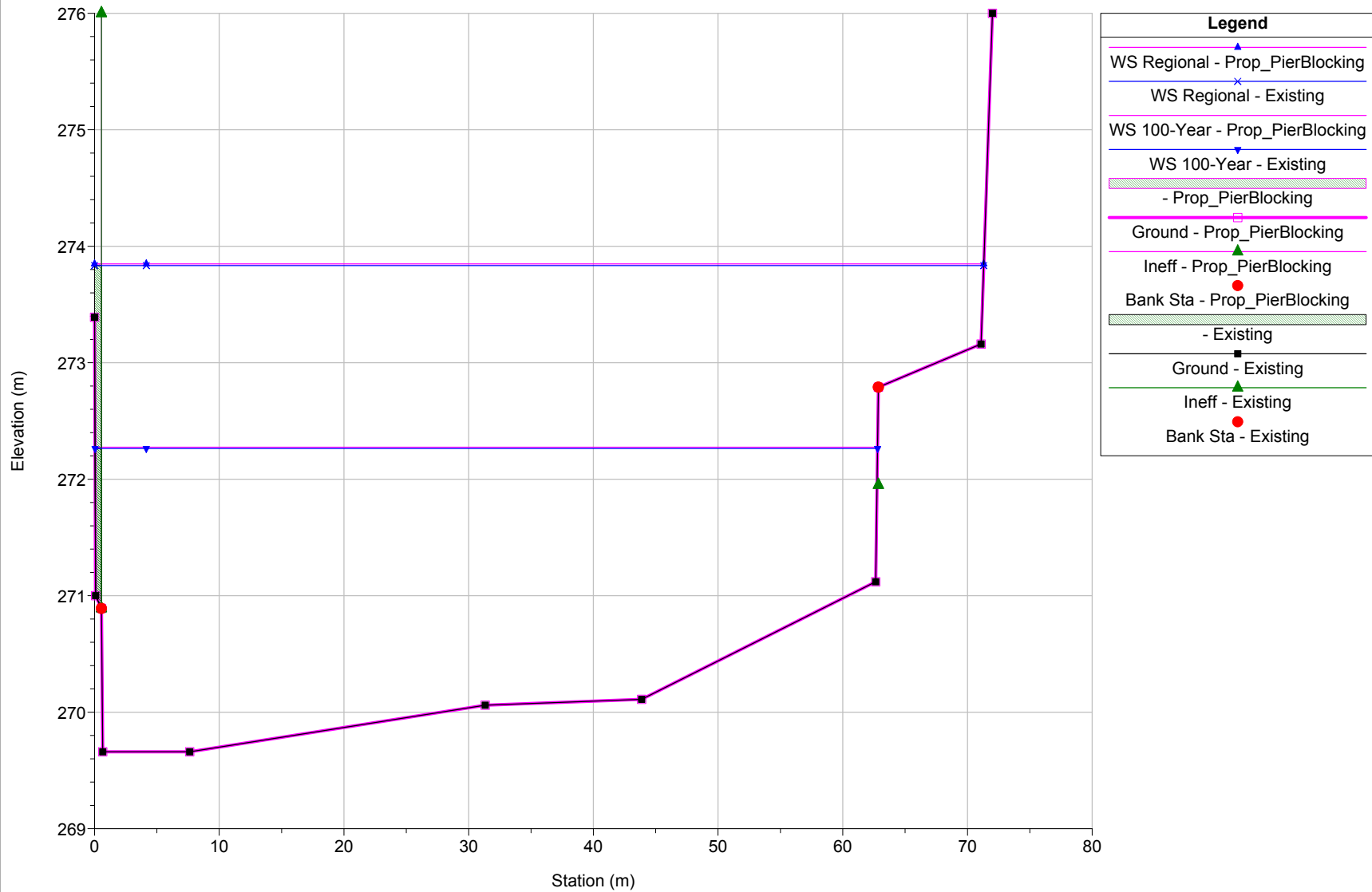
River = RIVER-1 Reach = Reach-1 RS = 1139 1139



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

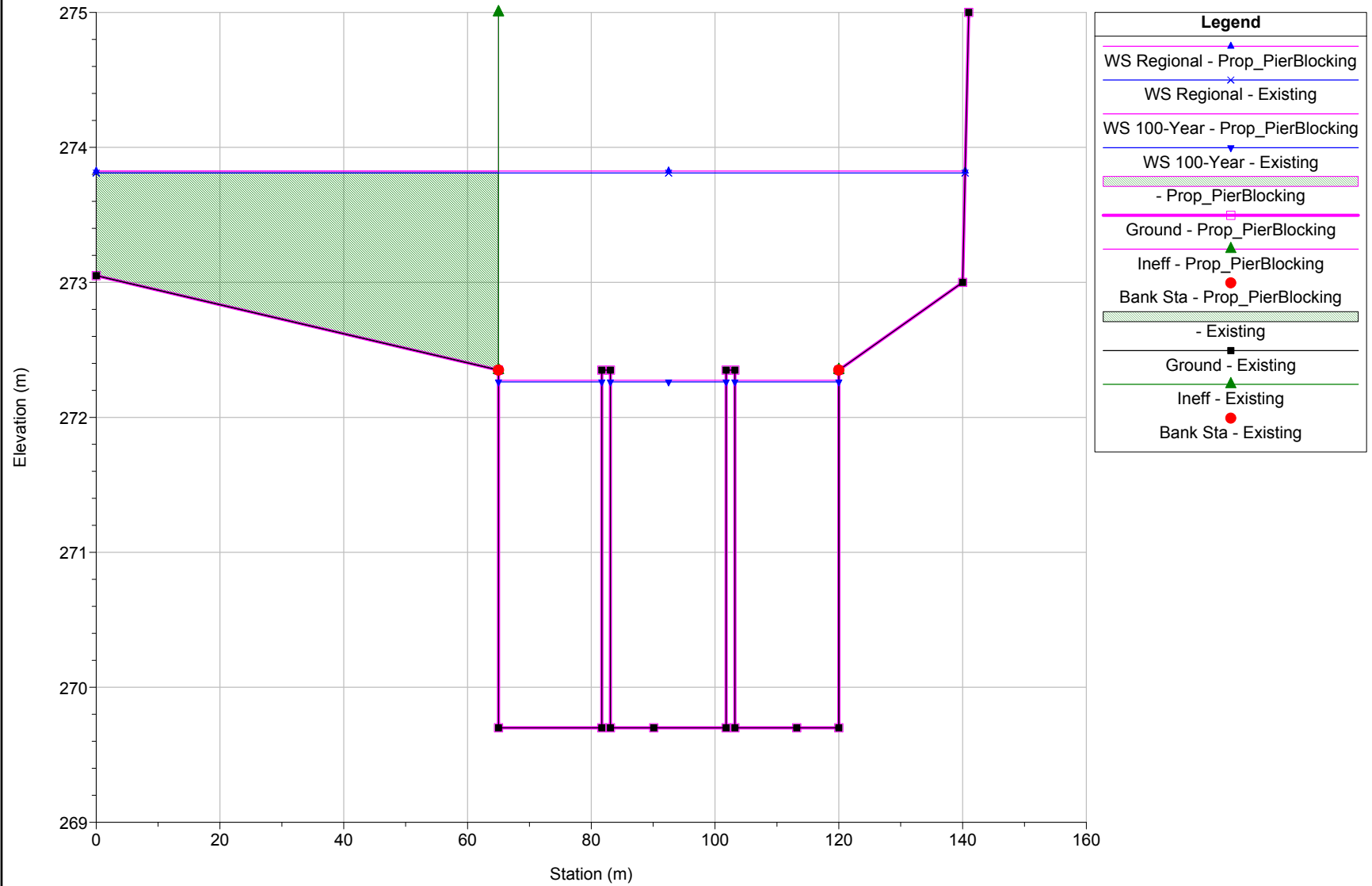
River = RIVER-1 Reach = Reach-1 RS = 1133 1133



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

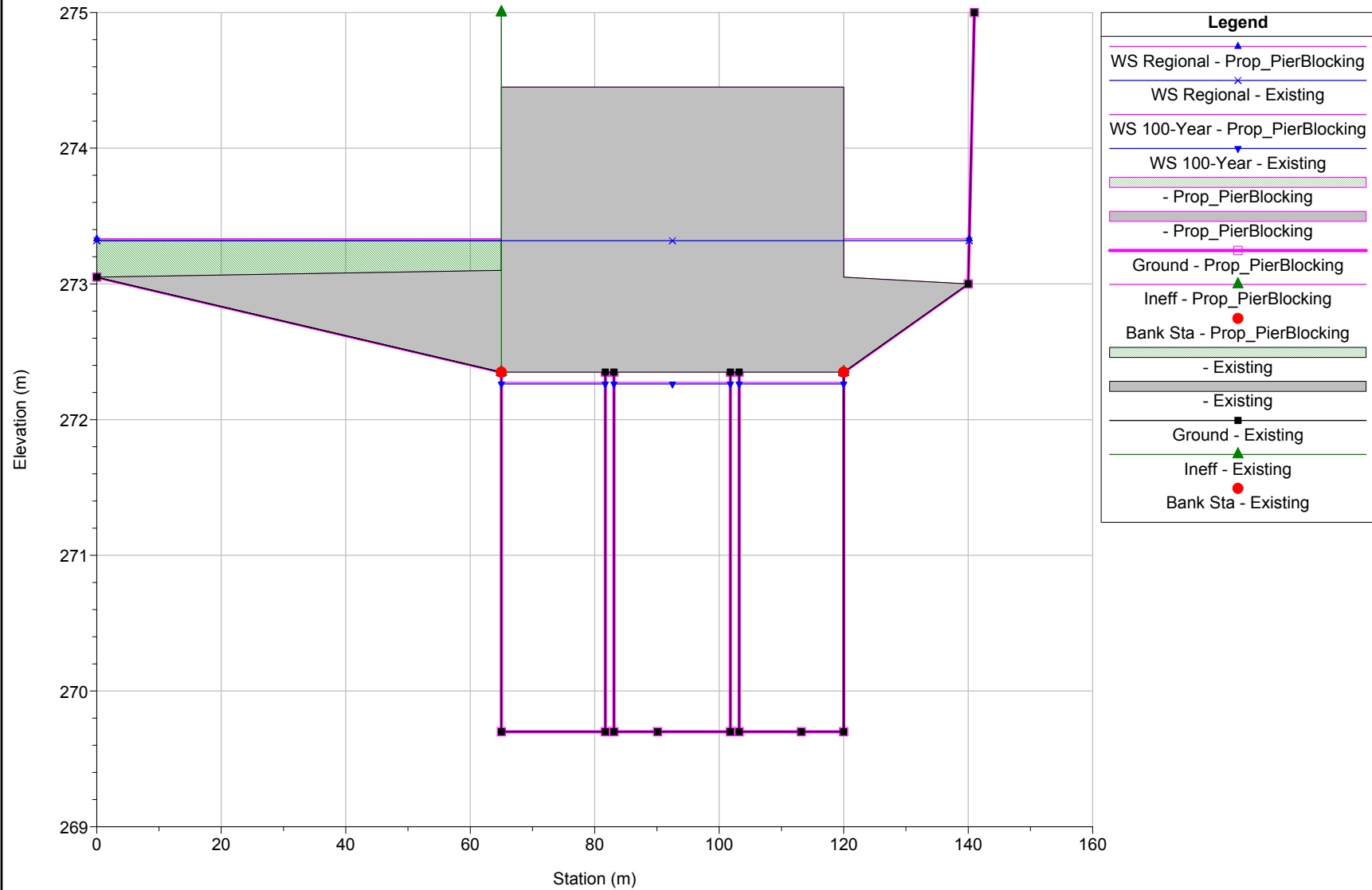
River = RIVER-1 Reach = Reach-1 RS = 1132 1132



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

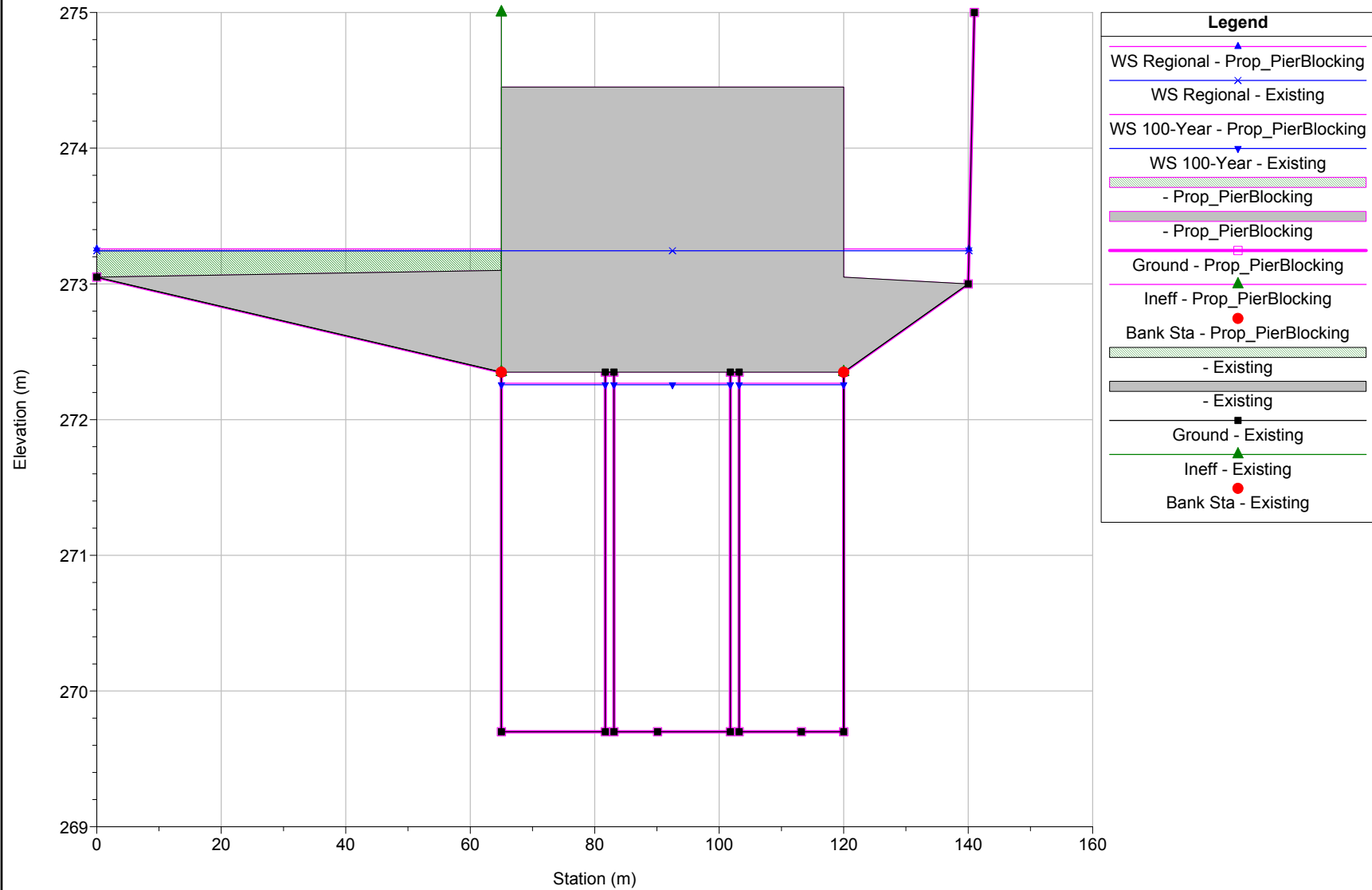
River = RIVER-1 Reach = Reach-1 RS = 1115.5 BR Bridge #1



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

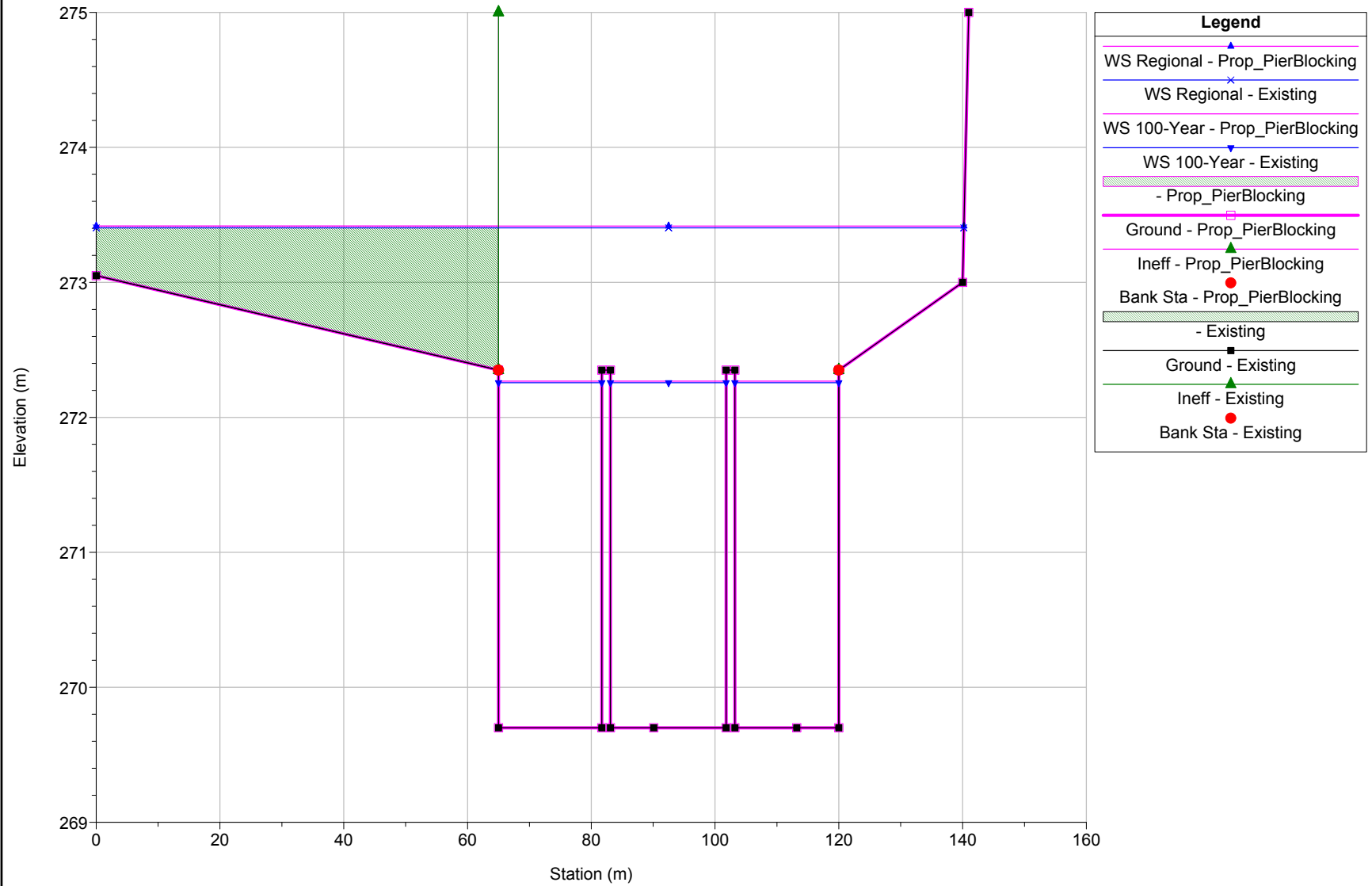
River = RIVER-1 Reach = Reach-1 RS = 1115.5 BR Bridge #1



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

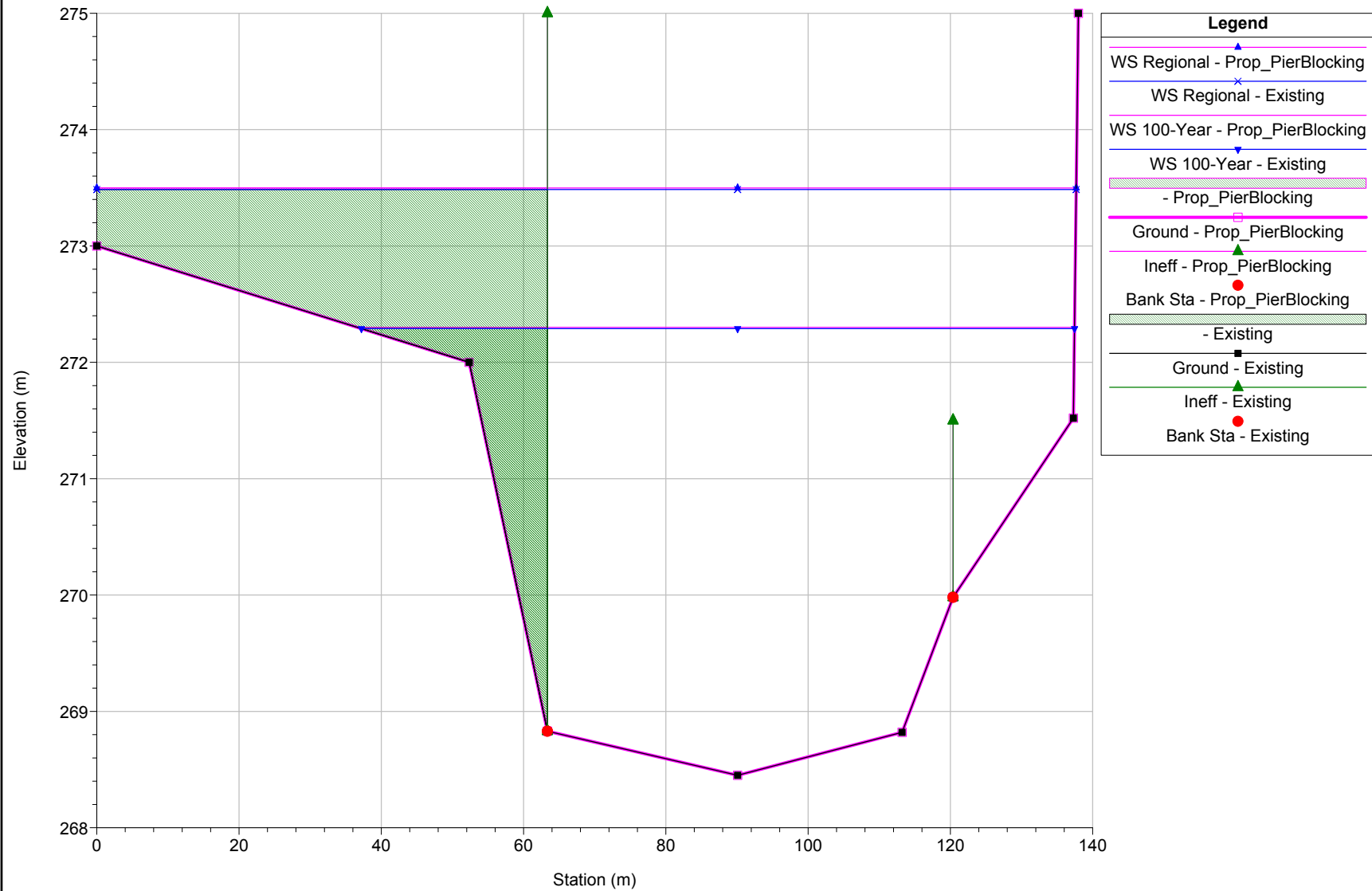
River = RIVER-1 Reach = Reach-1 RS = 1115 1115



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

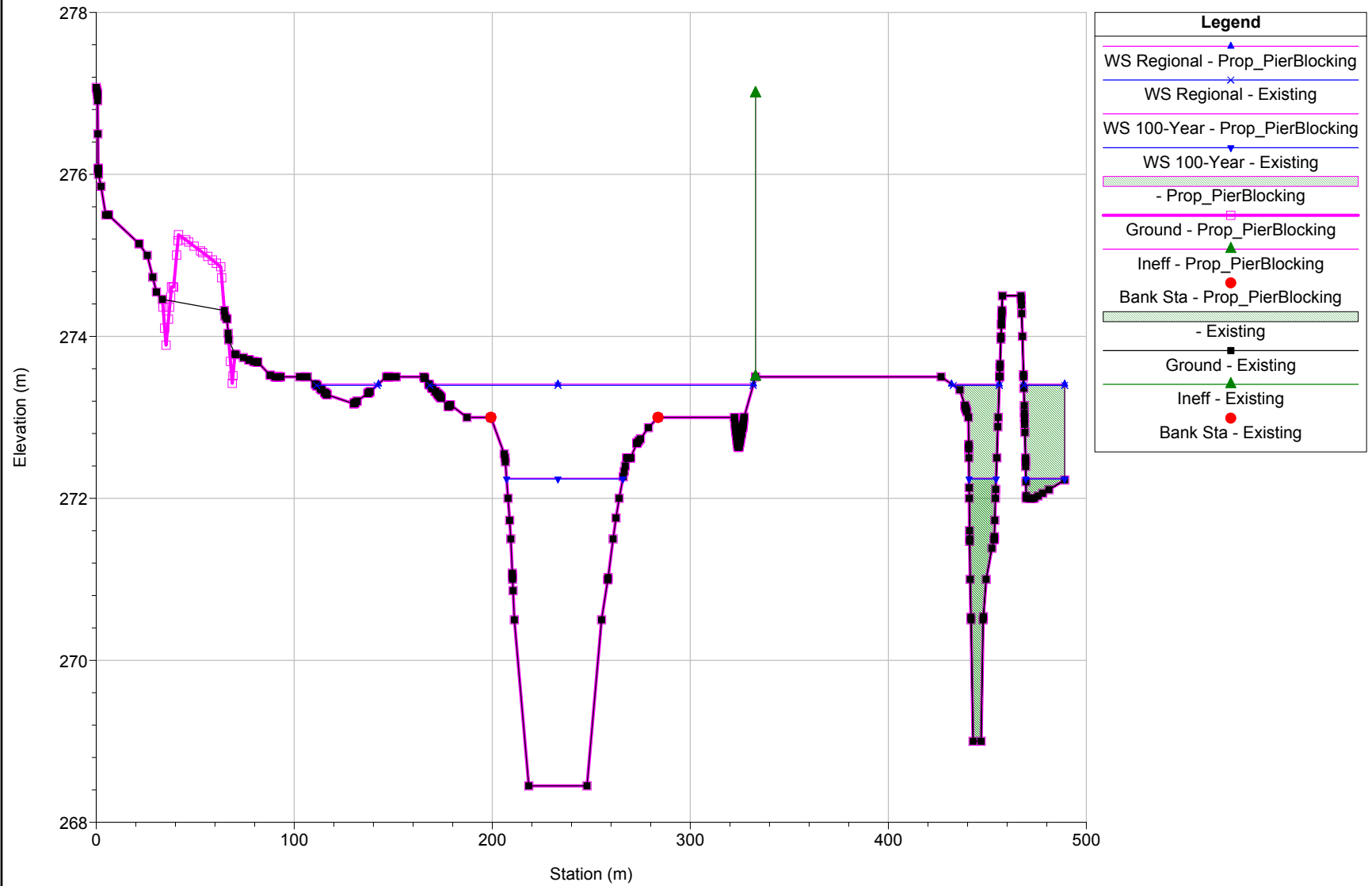
River = RIVER-1 Reach = Reach-1 RS = 1114 1114



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

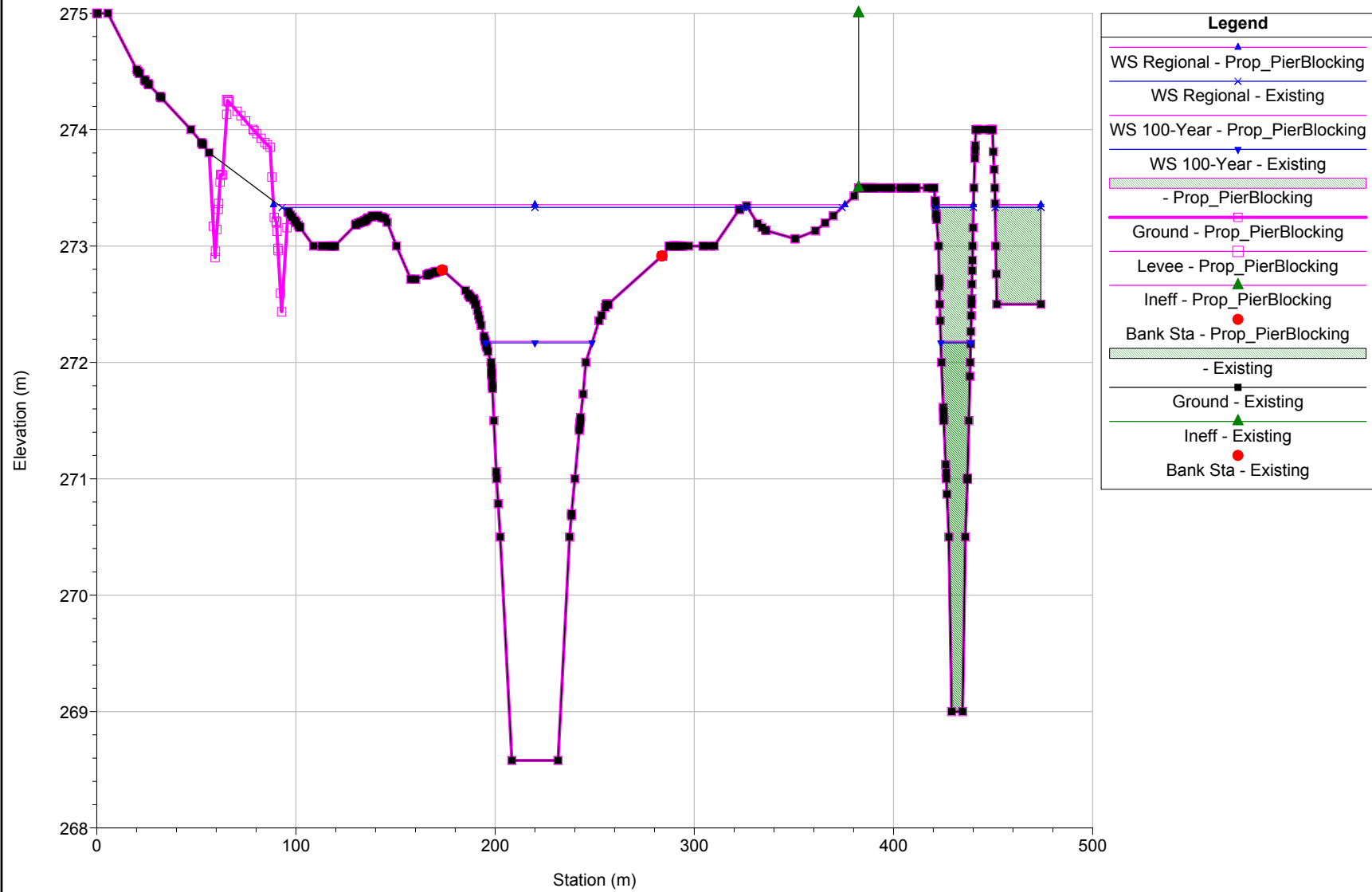
River = RIVER-1 Reach = Reach-1 RS = 1016



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

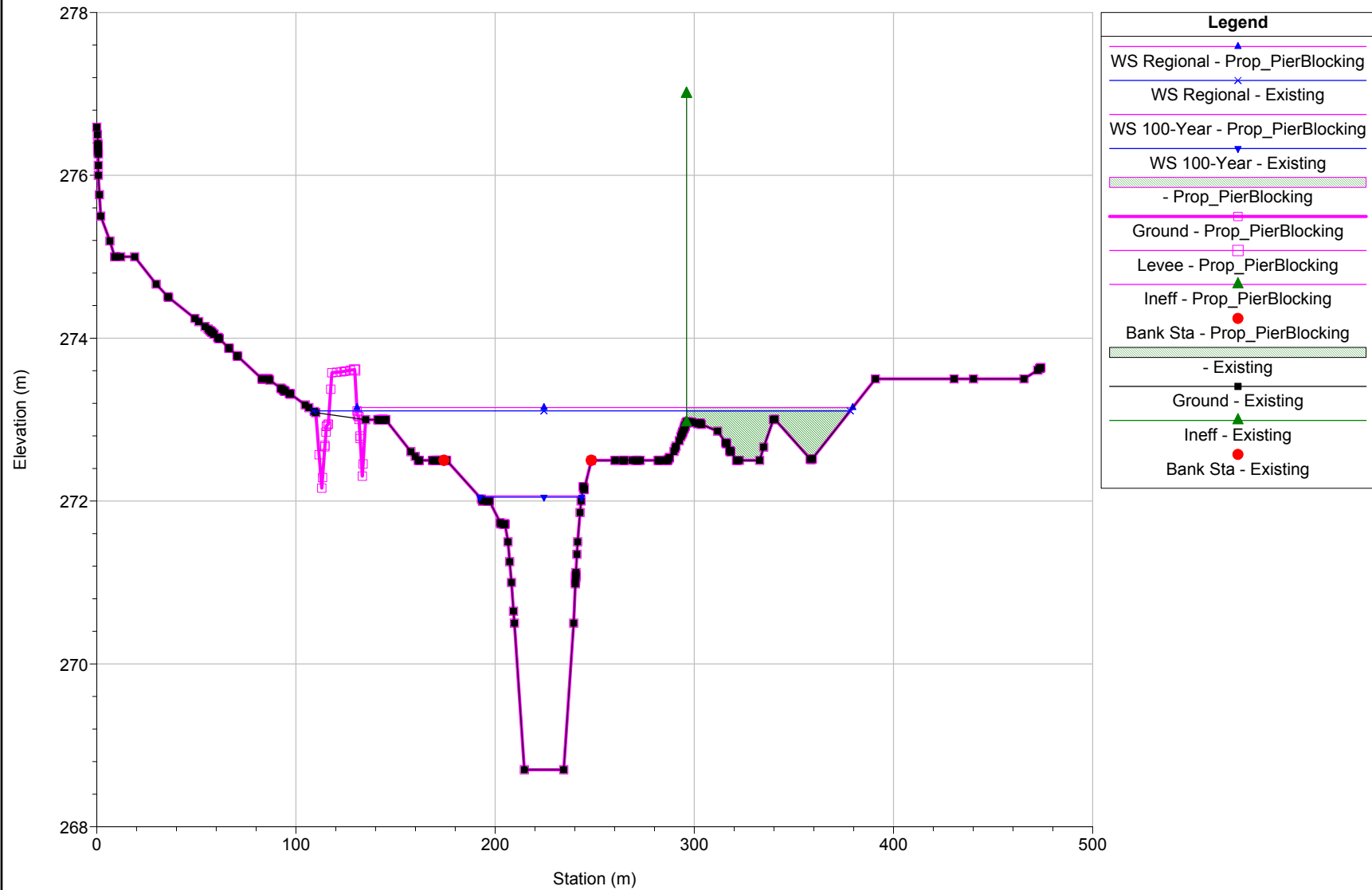
River = RIVER-1 Reach = Reach-1 RS = 1015



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

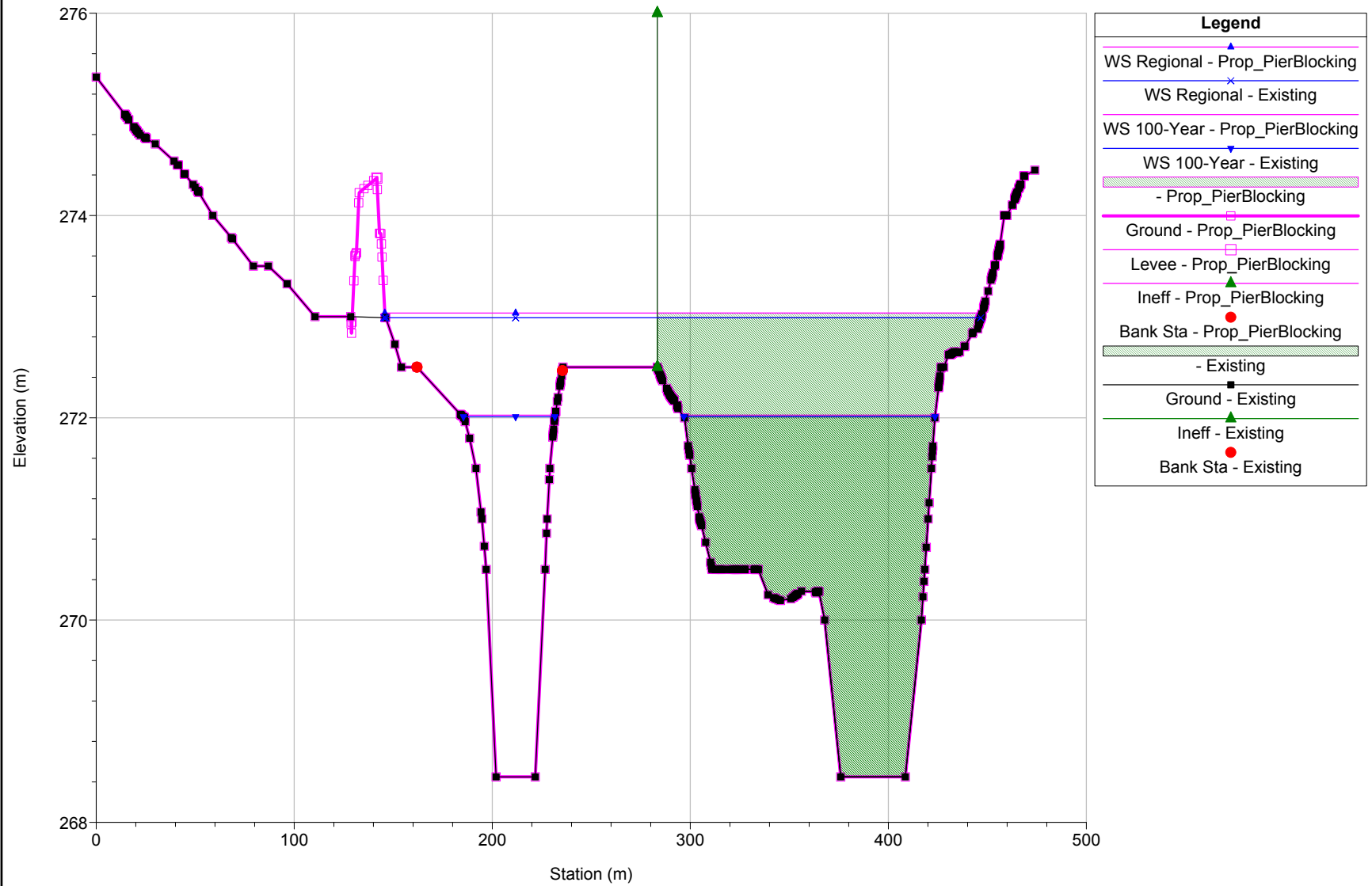
River = RIVER-1 Reach = Reach-1 RS = 1014



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

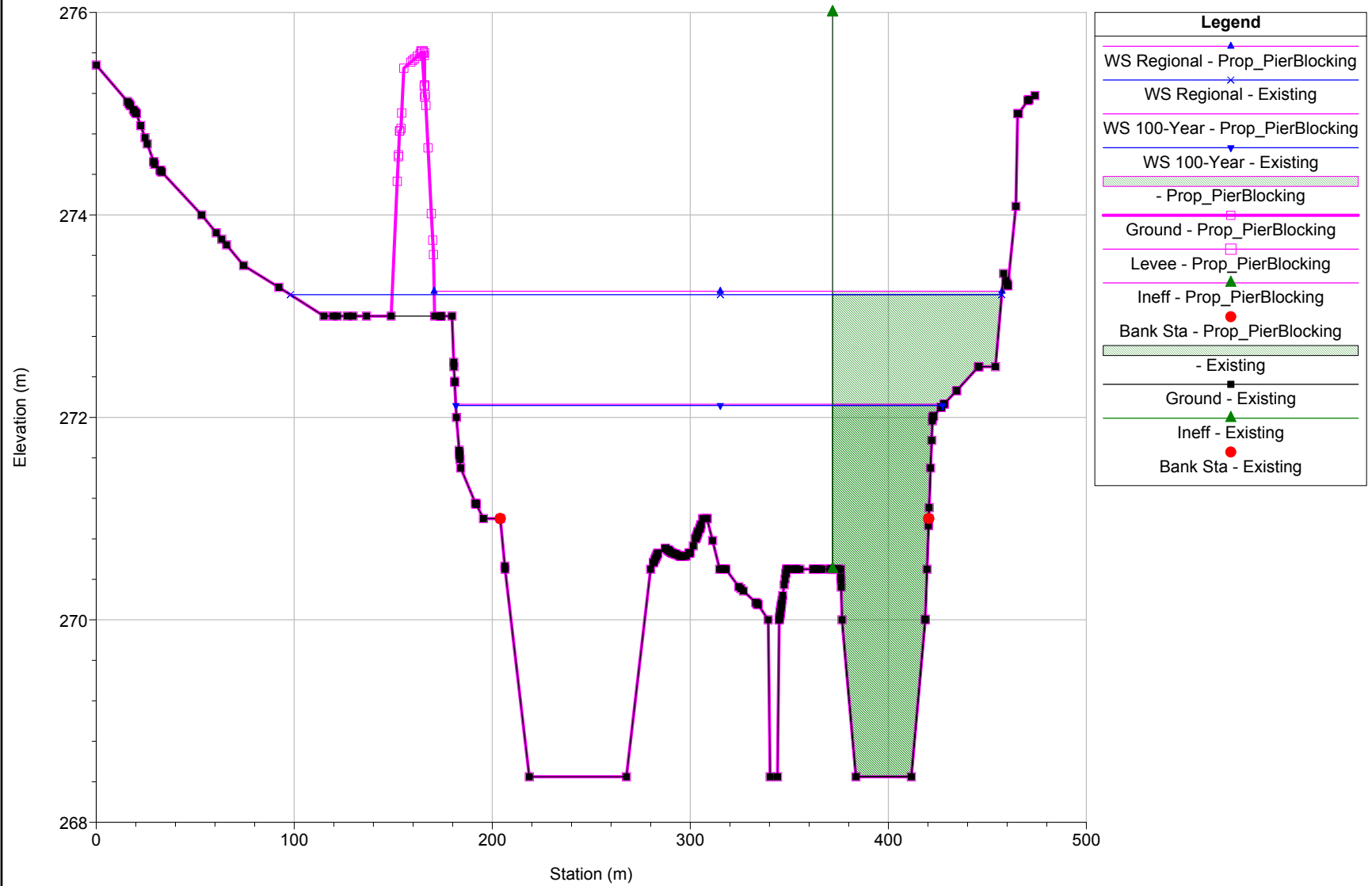
River = RIVER-1 Reach = Reach-1 RS = 1013



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

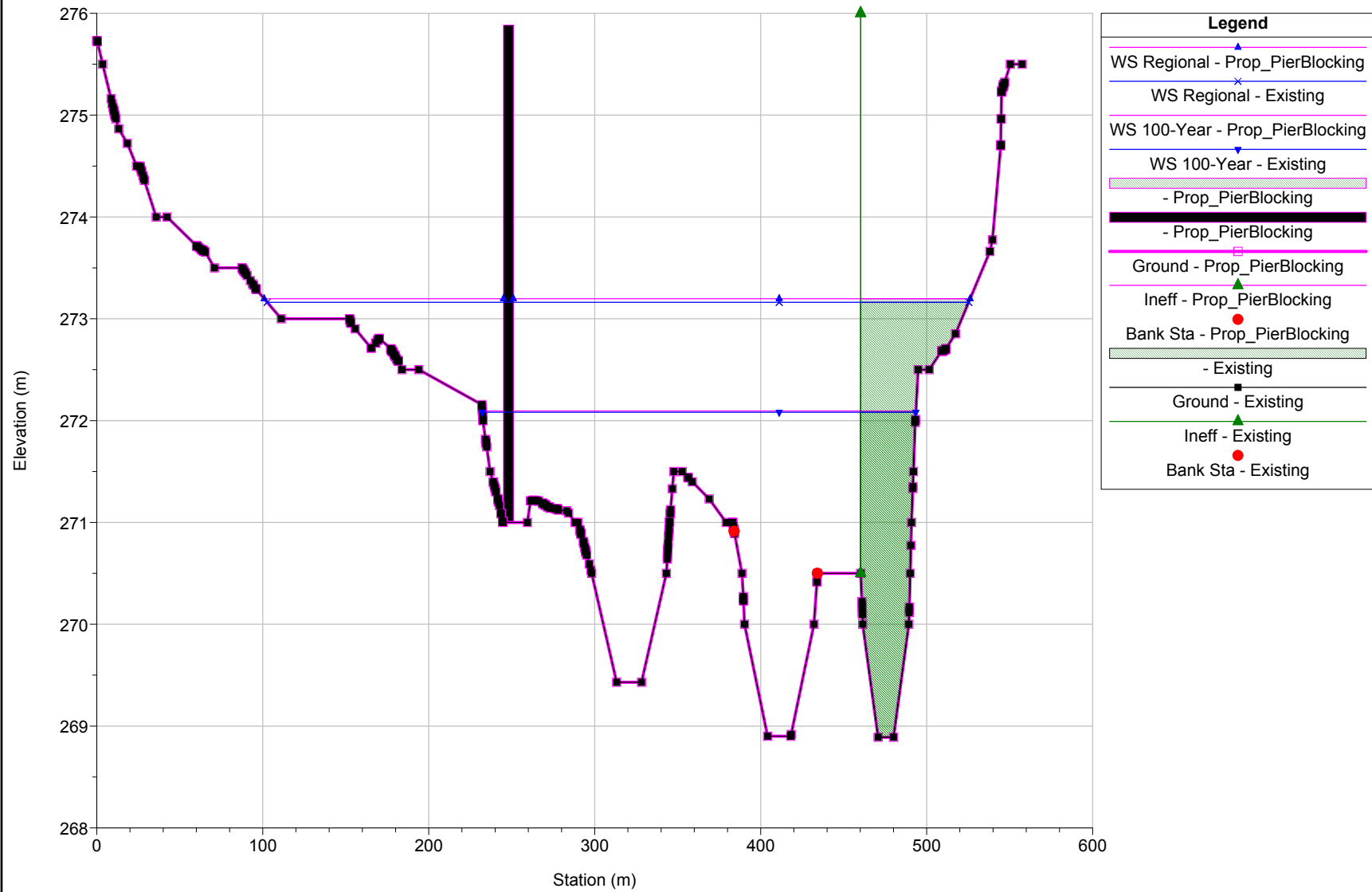
River = RIVER-1 Reach = Reach-1 RS = 1012



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

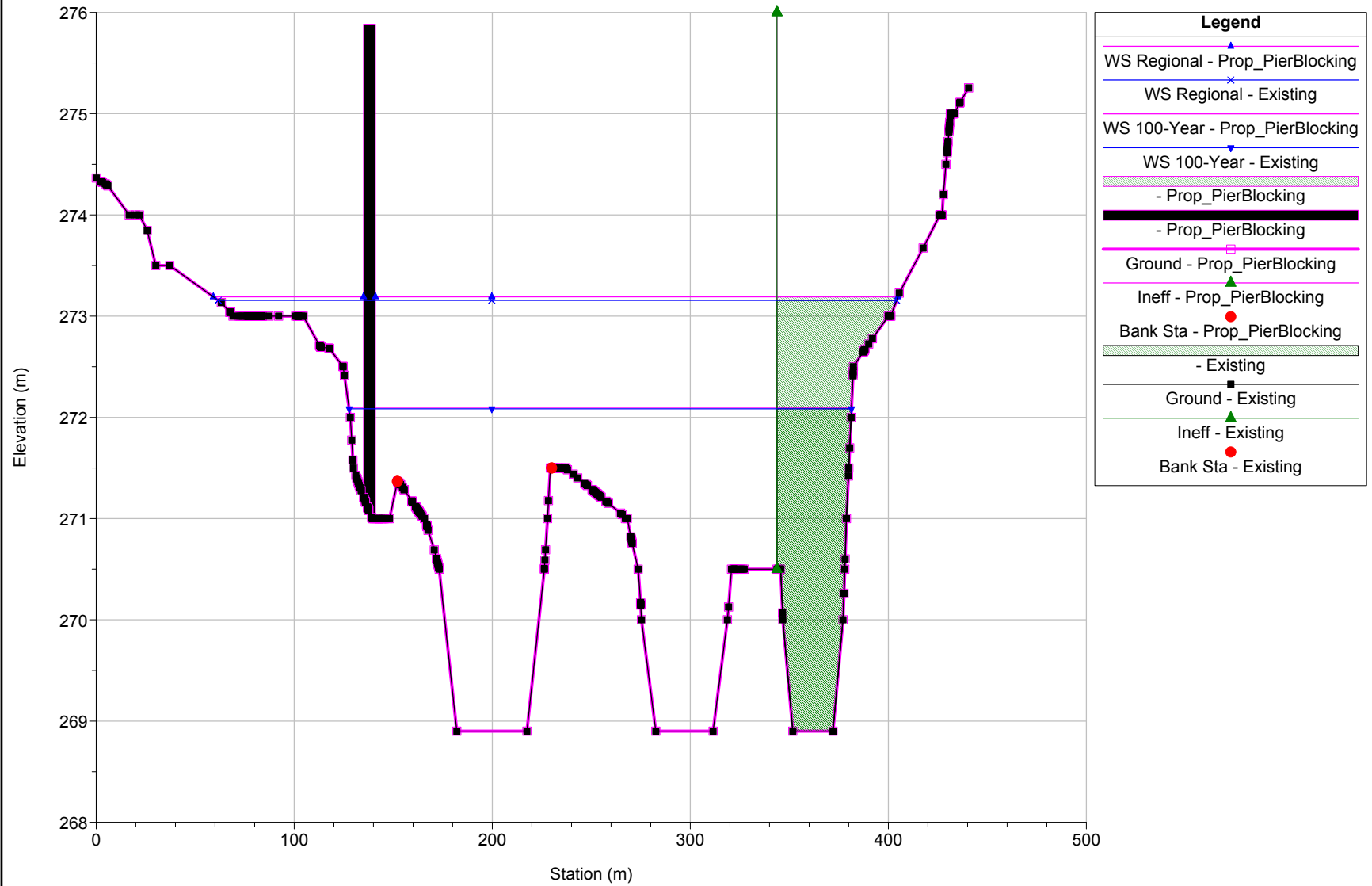
River = RIVER-1 Reach = Reach-2 RS = 906 906 Revised on May 17, 2019



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

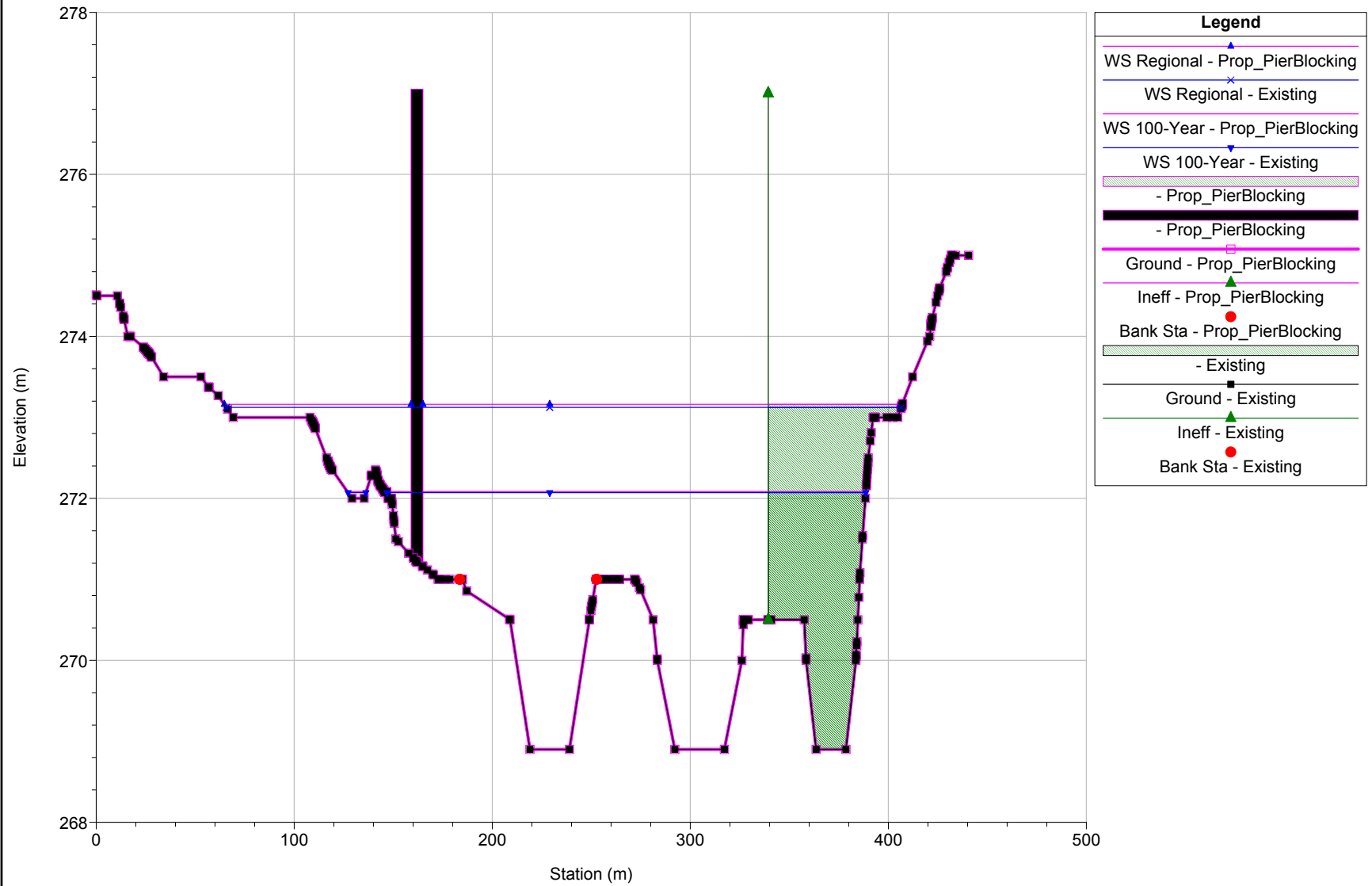
River = RIVER-1 Reach = Reach-2 RS = 811



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

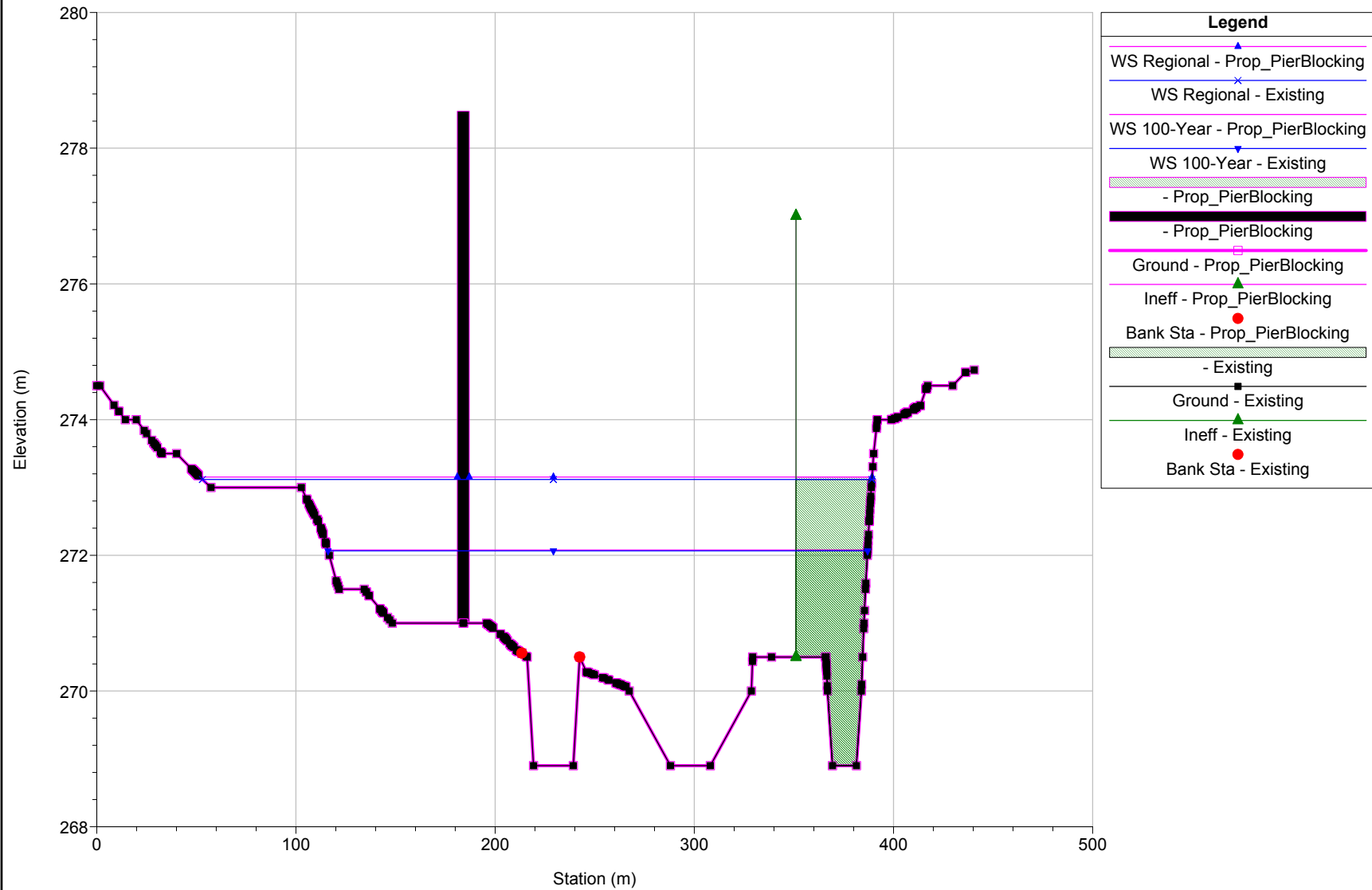
River = RIVER-1 Reach = Reach-2 RS = 810



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

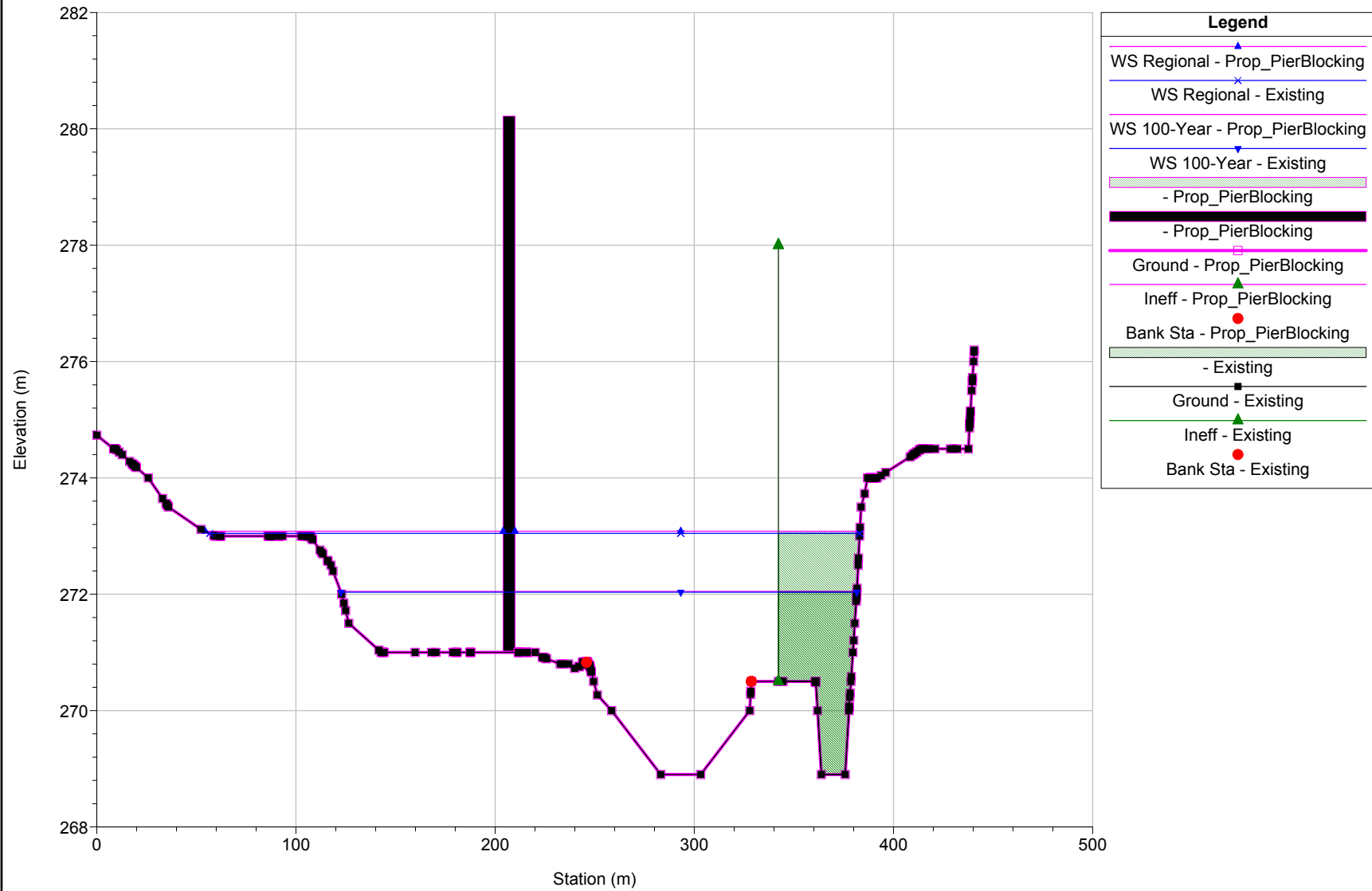
River = RIVER-1 Reach = Reach-2 RS = 809



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

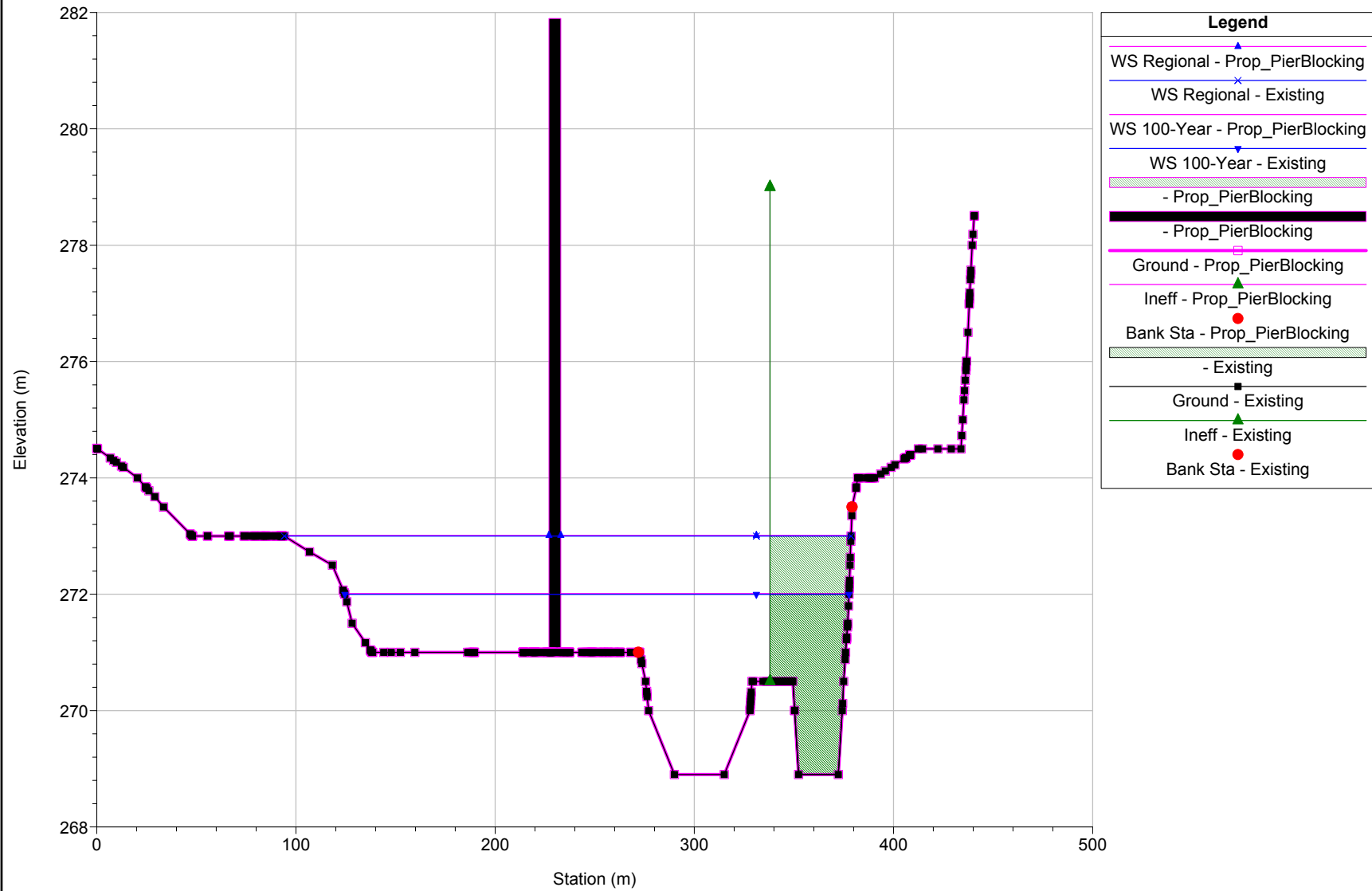
River = RIVER-1 Reach = Reach-2 RS = 808



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

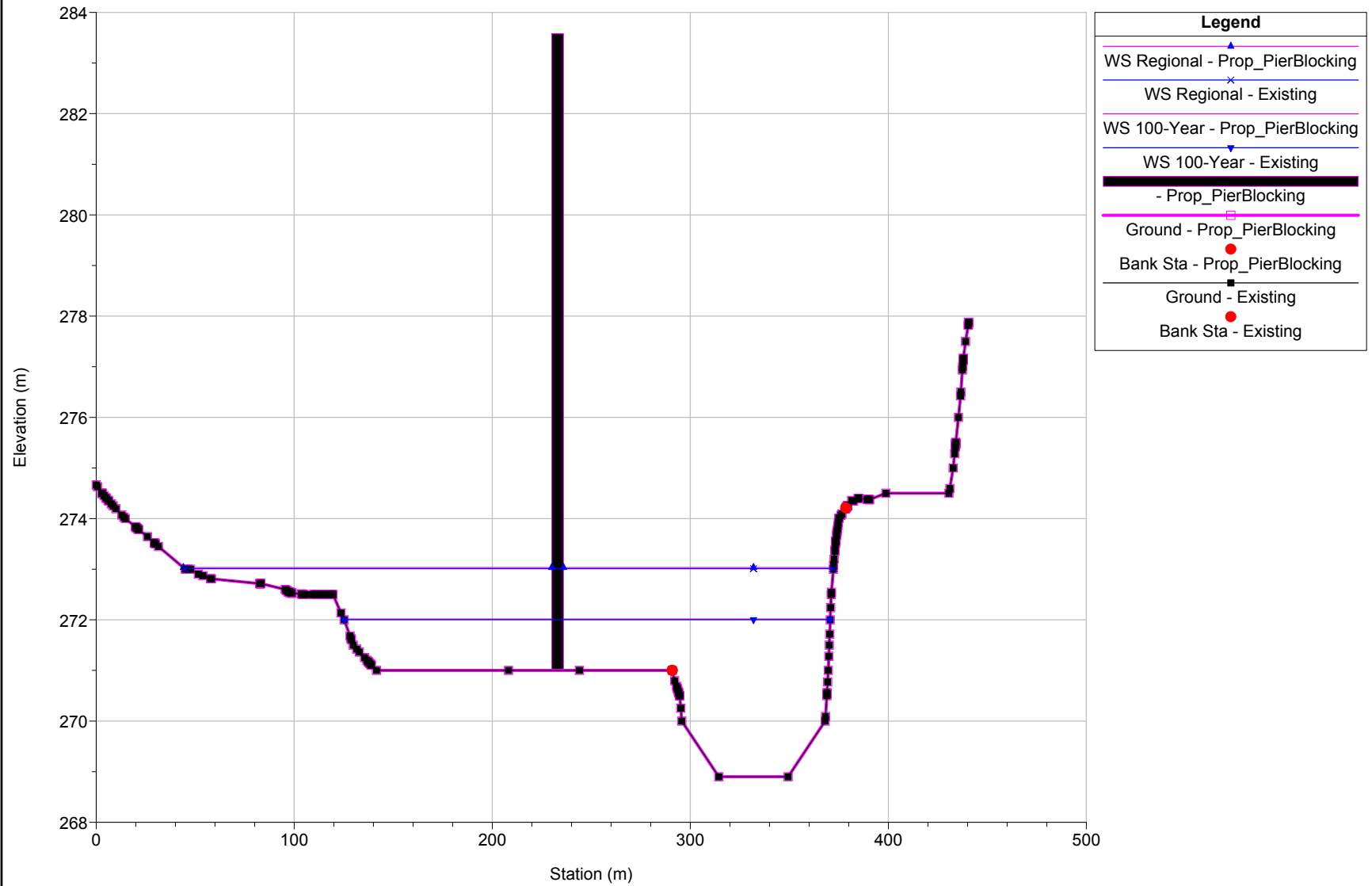
River = RIVER-1 Reach = Reach-2 RS = 807



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

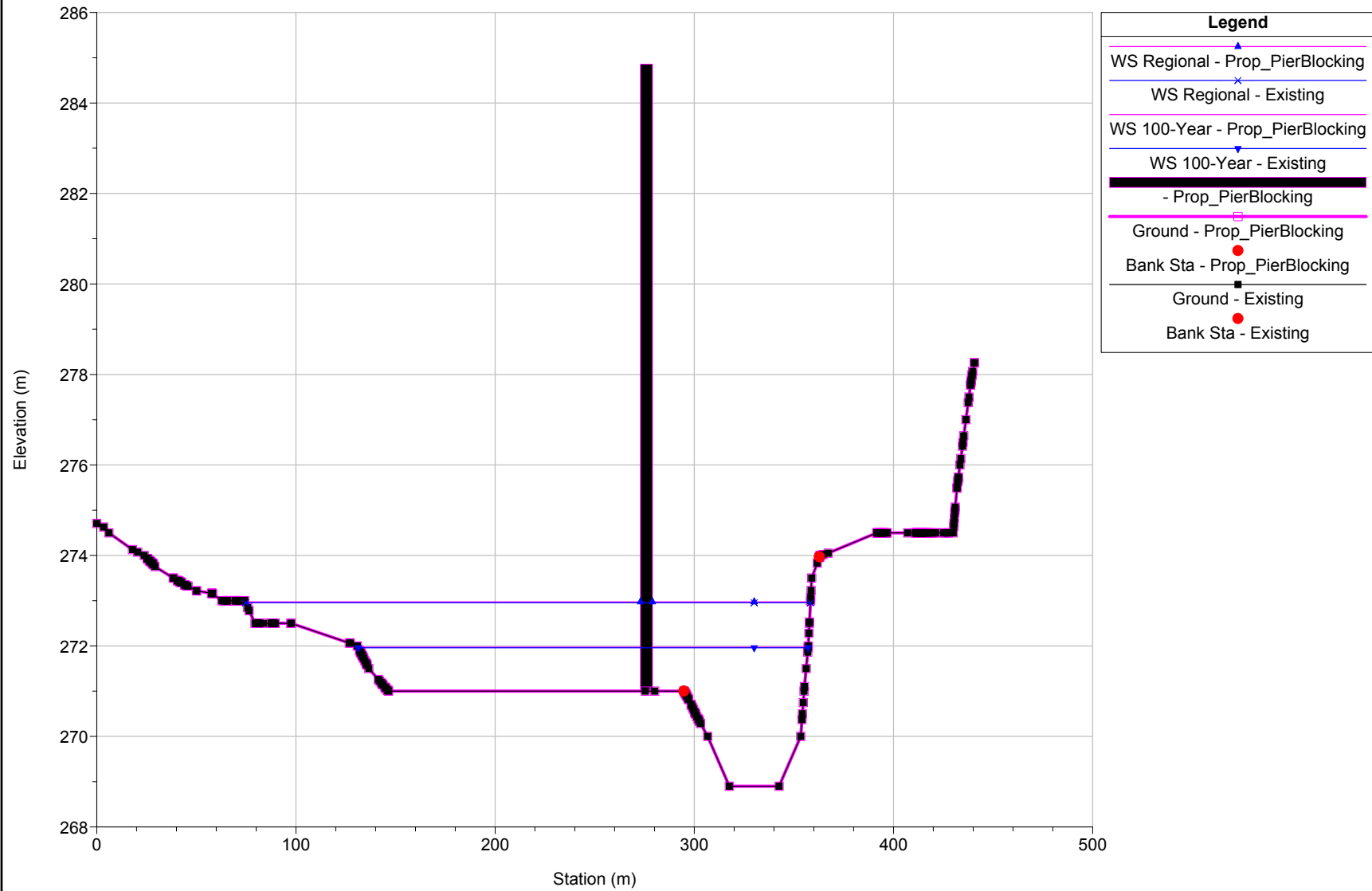
River = RIVER-1 Reach = Reach-2 RS = 806



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

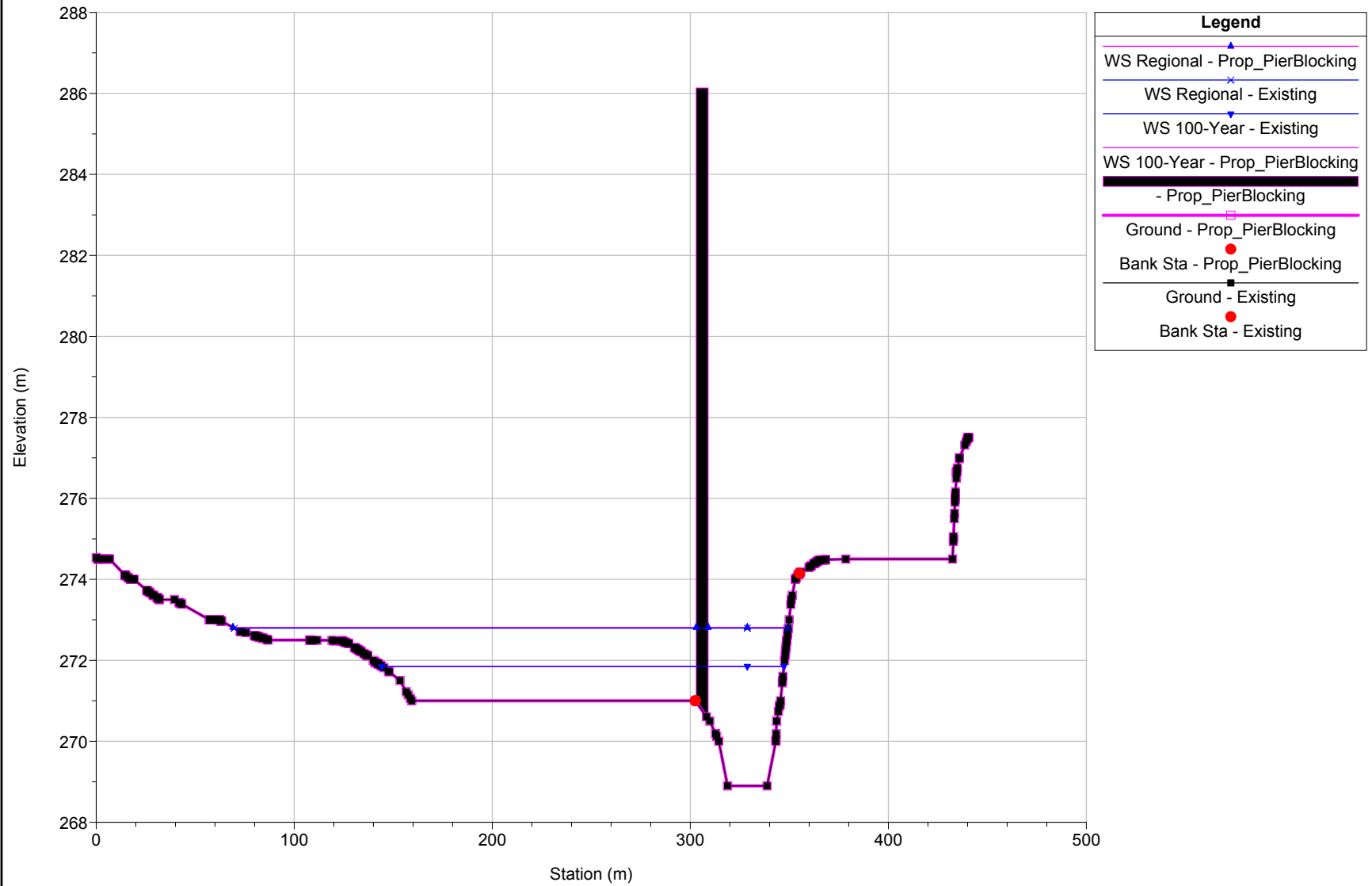
River = RIVER-1 Reach = Reach-2 RS = 805



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

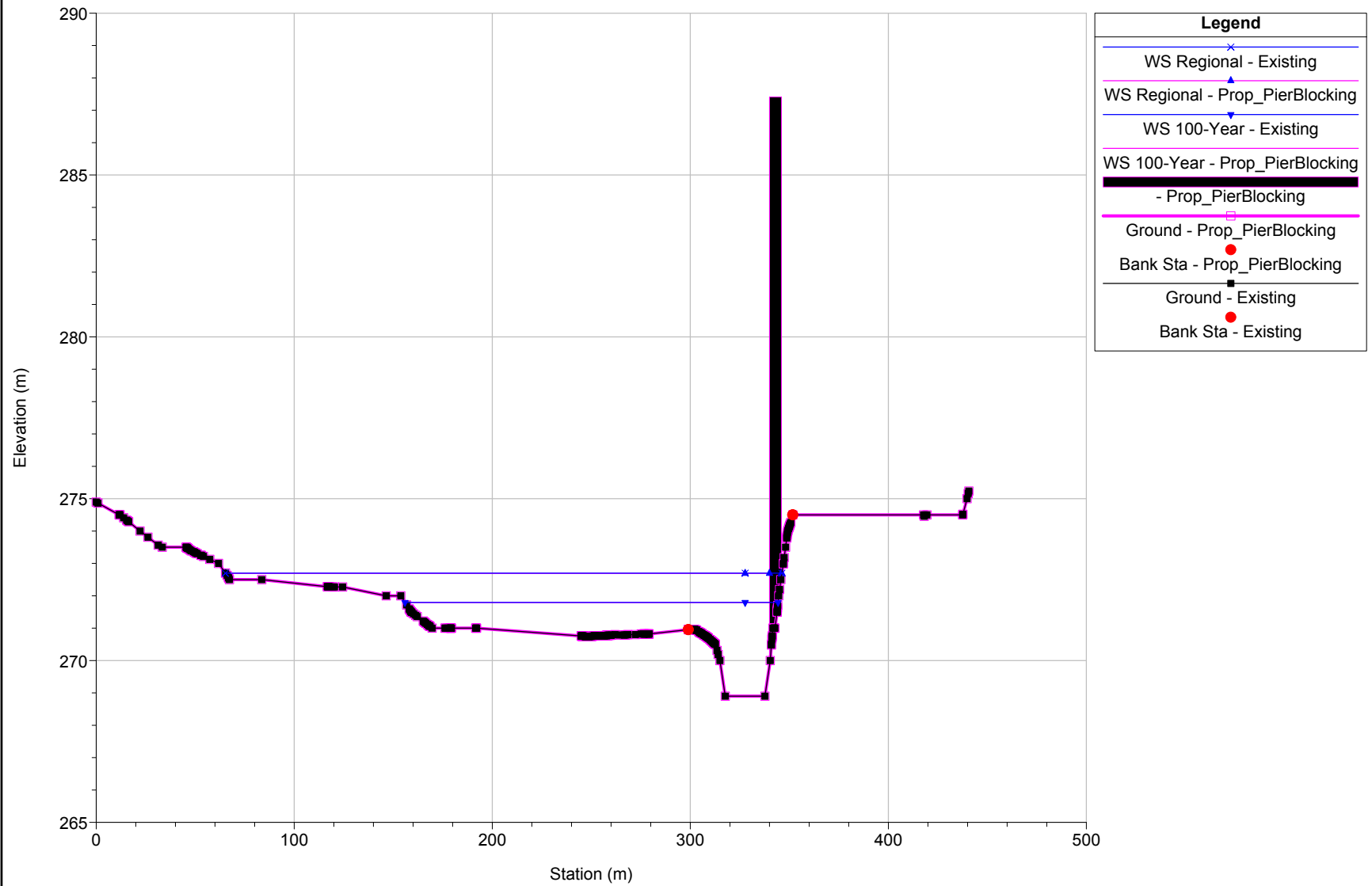
River = RIVER-1 Reach = Reach-2 RS = 804



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

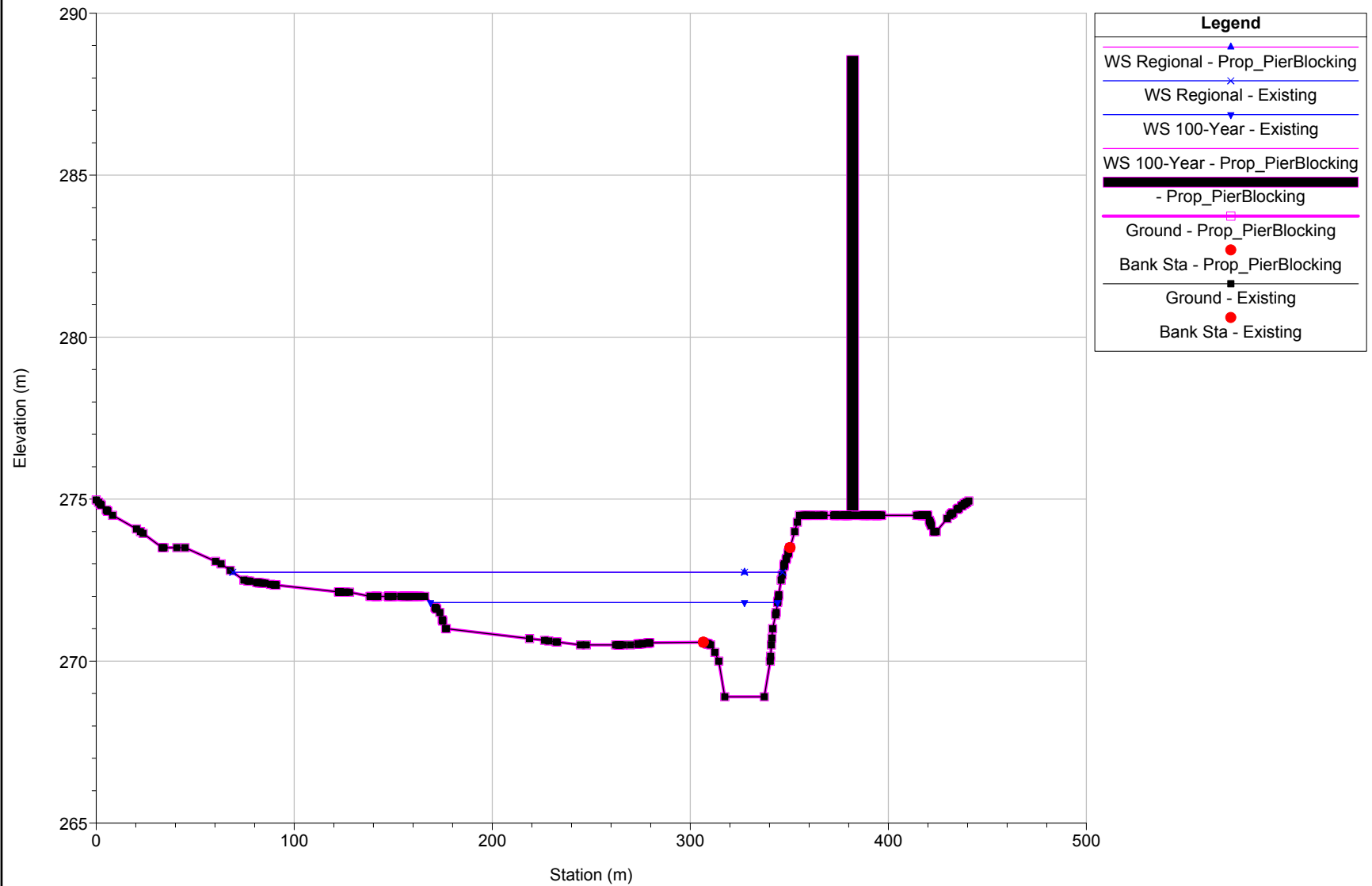
River = RIVER-1 Reach = Reach-2 RS = 803



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

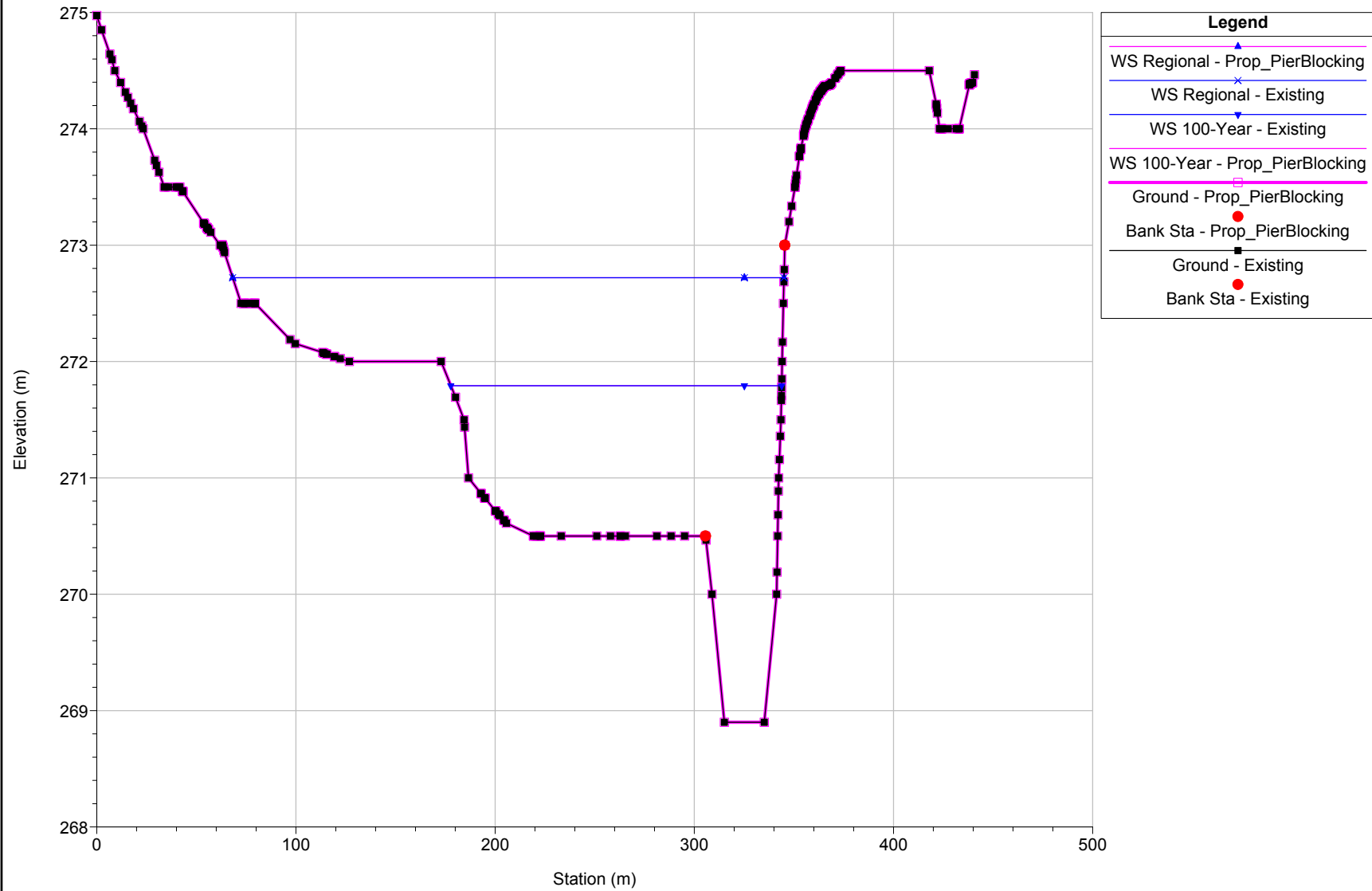
River = RIVER-1 Reach = Reach-2 RS = 802



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

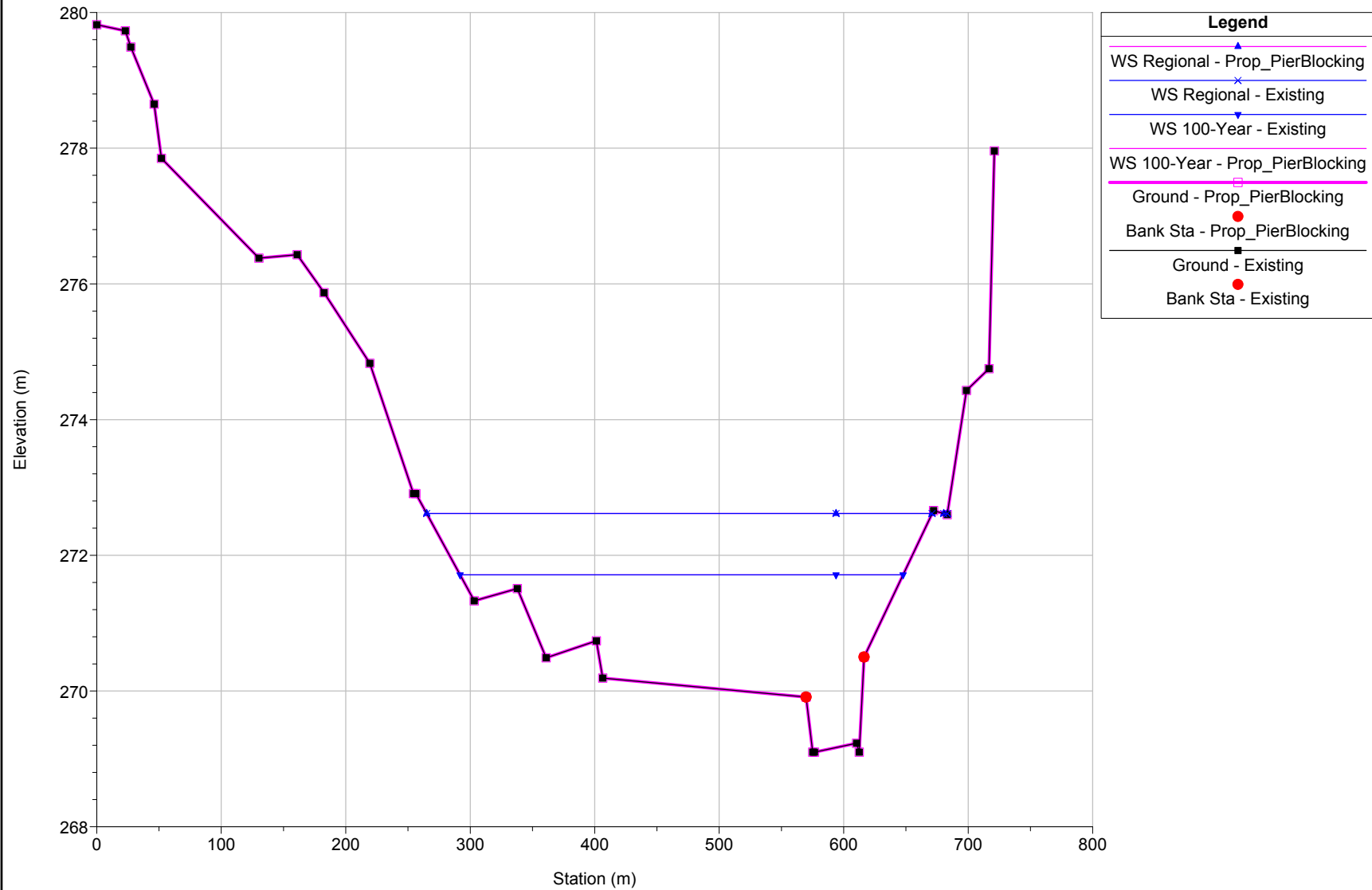
River = RIVER-1 Reach = Reach-2 RS = 801 At the location of old XS 728



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

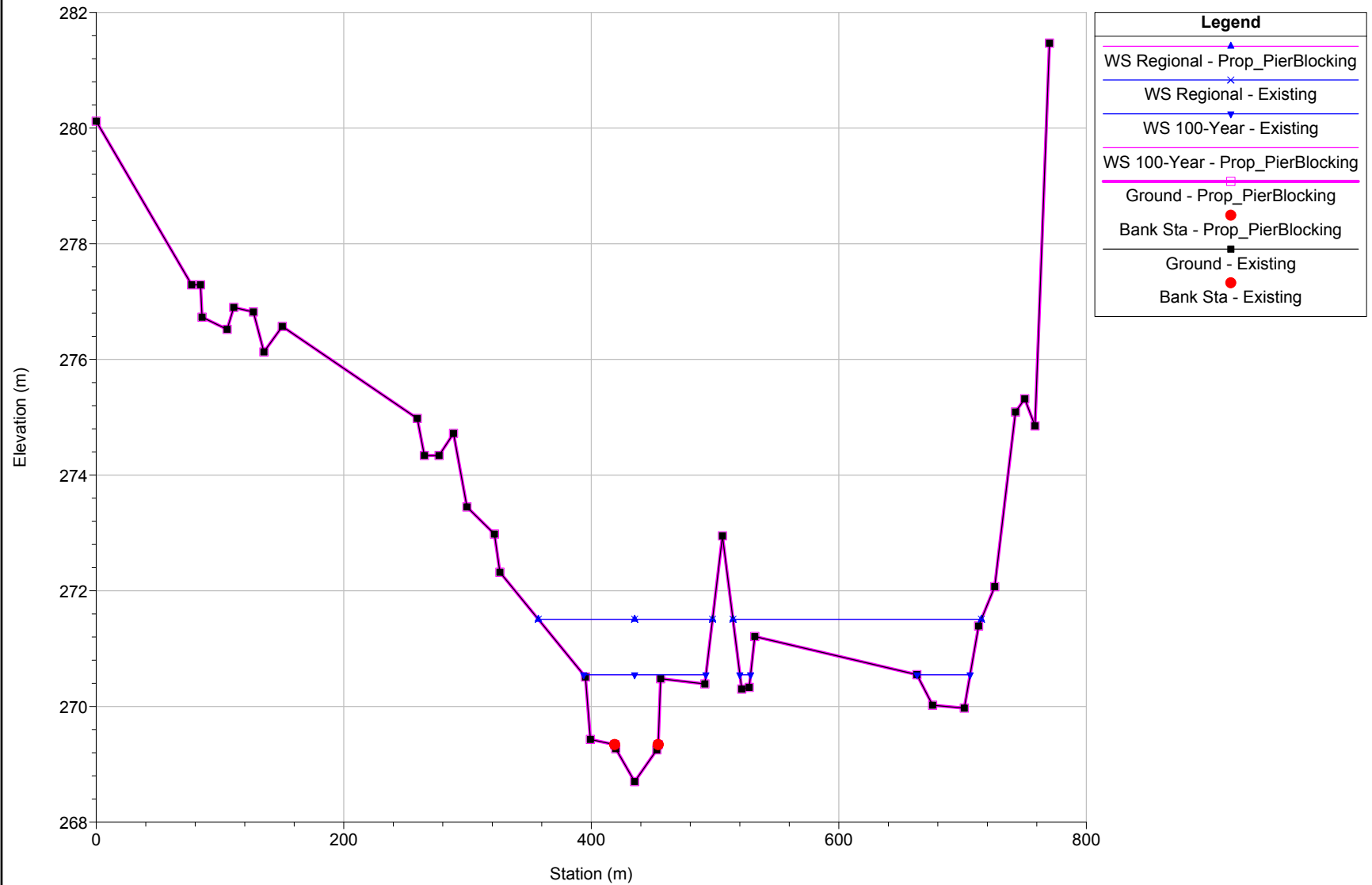
River = RIVER-1 Reach = Reach-2 RS = 516



H2S1_SpeedRiver Plan: 1) Existing 10:24:12 AM 2) Prop_PierBlocking 10:28:12 AM

Geom: Ex_Geometry_XS_Passing_No_Pier_Blocking Flow: Imported Flow 01

River = RIVER-1 Reach = Reach-2 RS = 0.1 0.1



APPENDIX

D

Groff Mill Creek Hydraulic
Modelling Output

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1

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
Reach #1	4970	2	4.30	290.50	291.57		291.62	0.002004	0.92	4.66	7.21	0.37
Reach #1	4970	5	7.41	290.50	291.98		292.03	0.001374	0.92	8.06	9.41	0.32
Reach #1	4970	10	9.60	290.50	292.31		292.34	0.000921	0.84	11.42	11.32	0.27
Reach #1	4970	25	11.17	290.50	292.52		292.55	0.000729	0.80	13.98	13.35	0.24
Reach #1	4970	50	11.69	290.50	292.61		292.64	0.000627	0.77	15.40	17.42	0.23
Reach #1	4970	100	14.51	290.50	293.04		293.06	0.000340	0.66	28.72	89.71	0.17
Reach #1	4970	Reg	15.91	290.50	293.37		293.38	0.000142	0.49	65.92	132.21	0.12
Reach #1	4889	2	4.30	290.38	291.44		291.47	0.001529	0.84	5.11	7.38	0.32
Reach #1	4889	5	7.41	290.38	291.89		291.93	0.000994	0.82	9.02	9.74	0.27
Reach #1	4889	10	9.60	290.38	292.25		292.28	0.000656	0.75	12.81	11.61	0.23
Reach #1	4889	25	11.17	290.38	292.47		292.50	0.000529	0.72	15.56	12.80	0.21
Reach #1	4889	50	11.69	290.38	292.57		292.60	0.000469	0.69	16.84	13.31	0.20
Reach #1	4889	100	14.51	290.38	293.01		293.03	0.000307	0.63	23.19	15.91	0.16
Reach #1	4889	Reg	15.91	290.38	293.35		293.37	0.000183	0.55	30.45	26.66	0.13
Reach #1	4816	2	4.30	290.20	291.27	290.82	291.34	0.002091	1.21	3.54	5.89	0.39
Reach #1	4816	5	7.41	290.20	291.73	291.04	291.83	0.001693	1.42	5.23	8.03	0.38
Reach #1	4816	10	9.60	290.20	292.10	291.18	292.20	0.001321	1.46	6.58	9.74	0.35
Reach #1	4816	25	11.17	290.20	292.32	291.28	292.44	0.001209	1.51	7.40	10.92	0.34
Reach #1	4816	50	11.69	290.20	292.42	291.31	292.54	0.001123	1.50	7.78	11.45	0.33
Reach #1	4816	100	14.51	290.20	292.86	291.46	292.99	0.000922	1.54	9.39	13.67	0.31
Reach #1	4816	Reg	15.91	290.20	293.22	291.54	293.34	0.000717	1.49	10.71	17.03	0.28
Reach #1	4805		Culvert									
Reach #1	4800	2	4.30	290.15	291.15		291.22	0.001695	1.18	3.66	6.45	0.38
Reach #1	4800	5	7.41	290.15	291.56		291.67	0.001595	1.44	5.16	7.34	0.39
Reach #1	4800	10	9.60	290.15	291.89		292.01	0.001318	1.50	6.39	8.96	0.36
Reach #1	4800	25	11.17	290.15	292.08		292.20	0.001283	1.58	7.05	9.83	0.36
Reach #1	4800	50	11.69	290.15	292.17		292.30	0.001200	1.58	7.39	10.27	0.36
Reach #1	4800	100	14.51	290.15	292.46		292.61	0.001190	1.72	8.44	11.61	0.36
Reach #1	4800	Reg	15.91	290.15	292.70		292.85	0.001021	1.70	9.33	12.69	0.34
Reach #1	4782	2	4.30	290.07	291.13	290.59	291.19	0.001411	1.11	3.86	6.54	0.35
Reach #1	4782	5	7.41	290.07	291.54	290.82	291.64	0.001396	1.38	5.37	7.03	0.36
Reach #1	4782	10	9.60	290.07	291.88	290.96	291.98	0.001174	1.45	6.61	7.42	0.34
Reach #1	4782	25	11.17	290.07	292.06	291.05	292.18	0.001153	1.53	7.28	7.82	0.35
Reach #1	4782	50	11.69	290.07	292.15	291.08	292.27	0.001082	1.53	7.63	8.23	0.34
Reach #1	4782	100	14.51	290.07	292.44	291.24	292.58	0.001086	1.67	8.67	9.47	0.35
Reach #1	4782	Reg	15.91	290.07	292.69	291.31	292.83	0.000937	1.66	9.58	10.84	0.33
Reach #1	4775		Culvert									
Reach #1	4767	2	4.30	290.07	290.95	290.59	291.04	0.002558	1.33	3.23	7.90	0.45
Reach #1	4767	5	7.41	290.07	291.30	290.82	291.44	0.002508	1.64	4.51	8.56	0.47
Reach #1	4767	10	9.60	290.07	291.62	290.96	291.76	0.001967	1.70	5.66	9.69	0.44
Reach #1	4767	25	11.17	290.07	291.74	291.05	291.91	0.002045	1.82	6.13	10.51	0.45
Reach #1	4767	50	11.69	290.07	291.84	291.08	292.00	0.001870	1.81	6.47	11.11	0.43
Reach #1	4767	100	14.51	290.07	291.99	291.24	292.21	0.002180	2.06	7.04	12.11	0.47
Reach #1	4767	Reg	15.91	290.07	292.18	291.31	292.39	0.001927	2.06	7.72	13.26	0.45
Reach #1	4667	2	4.30	289.69	290.75	290.30	290.80	0.001981	0.93	4.63	6.94	0.36
Reach #1	4667	5	7.41	289.69	291.16	290.51	291.21	0.001439	0.93	7.99	9.51	0.32
Reach #1	4667	10	9.60	289.69	291.56	290.64	291.59	0.000761	0.78	12.28	12.09	0.24
Reach #1	4667	25	11.17	289.69	291.71	290.72	291.74	0.000665	0.80	14.12	13.02	0.23
Reach #1	4667	50	11.69	289.69	291.81	290.75	291.84	0.000543	0.76	15.58	13.72	0.21
Reach #1	4667	100	14.51	289.69	291.99	290.87	292.02	0.000550	0.84	18.01	14.81	0.22
Reach #1	4667	Reg	15.91	289.69	292.19	290.92	292.22	0.000421	0.80	21.21	16.13	0.20
Reach #1	4566	2	4.30	289.32	290.50		290.56	0.002886	1.04	4.14	7.03	0.43
Reach #1	4566	5	7.41	289.32	291.04		291.07	0.001160	0.84	8.84	10.47	0.29
Reach #1	4566	10	9.60	289.32	291.50		291.52	0.000534	0.67	14.38	13.44	0.21
Reach #1	4566	25	11.17	289.32	291.66		291.68	0.000461	0.68	16.55	14.57	0.20
Reach #1	4566	50	11.69	289.32	291.78		291.80	0.000369	0.65	18.34	15.44	0.18
Reach #1	4566	100	14.51	289.32	291.95		291.97	0.000379	0.71	21.09	16.68	0.18
Reach #1	4566	Reg	15.91	289.32	292.17		292.19	0.000272	0.66	32.88	87.32	0.16
Reach #1	4468	2	4.30	288.94	290.31	289.68	290.35	0.001498	0.86	5.02	6.64	0.31
Reach #1	4468	5	7.41	288.94	290.96	289.93	290.98	0.000676	0.70	10.66	10.84	0.22
Reach #1	4468	10	9.60	288.94	291.47	290.08	291.49	0.000281	0.59	16.97	14.02	0.15
Reach #1	4468	25	11.17	288.94	291.63	290.18	291.64	0.000268	0.61	19.26	15.01	0.15
Reach #1	4468	50	11.69	288.94	291.75	290.21	291.77	0.000227	0.59	21.18	15.79	0.14
Reach #1	4468	100	14.51	288.94	291.92	290.36	291.94	0.000253	0.67	23.94	16.85	0.15
Reach #1	4468	Reg	15.91	288.94	292.14	290.41	292.16	0.000206	0.65	27.88	18.30	0.14
Reach #1	4365	2	4.30	288.56	290.21	289.26	290.24	0.000801	0.71	6.07	6.17	0.23
Reach #1	4365	5	7.41	288.56	290.91	289.52	290.93	0.000392	0.65	11.89	10.58	0.17
Reach #1	4365	10	9.60	288.56	291.44	289.67	291.46	0.000216	0.59	18.36	13.66	0.14

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	4365	25	11.17	288.56	291.60	289.77	291.62	0.000221	0.63	20.58	14.58	0.14
Reach #1	4365	50	11.69	288.56	291.73	289.80	291.75	0.000196	0.62	22.49	15.36	0.13
Reach #1	4365	100	14.51	288.56	291.89	289.96	291.92	0.000232	0.71	25.10	16.35	0.15
Reach #1	4365	Reg	15.91	288.56	292.12	290.04	292.14	0.000199	0.70	28.99	17.76	0.14
Reach #1	4282	2	8.01	288.25	290.13		290.17	0.000894	0.87	9.22	7.48	0.25
Reach #1	4282	5	13.08	288.25	290.86		290.89	0.000521	0.80	16.74	13.20	0.20
Reach #1	4282	10	16.76	288.25	291.41		291.44	0.000300	0.74	25.23	17.55	0.16
Reach #1	4282	25	21.48	288.25	291.55		291.59	0.000390	0.89	27.82	18.63	0.19
Reach #1	4282	50	24.92	288.25	291.67		291.72	0.000436	0.97	30.06	19.46	0.20
Reach #1	4282	100	28.16	288.25	291.84		291.89	0.000435	1.01	33.37	20.62	0.20
Reach #1	4282	Reg	34.23	288.25	292.05		292.11	0.000500	1.14	43.24	141.35	0.22
Reach #1	4272	2	8.01	288.21	290.08	289.00	290.15	0.000807	1.17	6.84	4.97	0.27
Reach #1	4272	5	13.08	288.21	290.78	289.30	290.88	0.000749	1.39	9.39	5.91	0.28
Reach #1	4272	10	16.76	288.21	291.31	289.50	291.42	0.000655	1.48	11.34	143.68	0.27
Reach #1	4272	25	21.48	288.21	291.48	289.74	291.58	0.001661	1.49	36.49	216.19	0.31
Reach #1	4272	50	24.92	288.21	291.68	289.89	291.71	0.000727	1.04	83.54	270.24	0.21
Reach #1	4272	100	28.16	288.21	291.86	290.03	291.87	0.000344	0.75	137.35	319.00	0.15
Reach #1	4272	Reg	34.23	288.21	292.08	290.28	292.09	0.000174	0.56	215.69	364.47	0.11
Reach #1	4255		Culvert									
Reach #1	4243	2	8.01	288.01	289.94		290.01	0.000714	1.14	7.02	8.40	0.26
Reach #1	4243	5	13.08	288.01	290.40		290.51	0.000937	1.51	8.69	10.46	0.31
Reach #1	4243	10	16.76	288.01	290.68		290.83	0.001056	1.72	9.73	11.80	0.34
Reach #1	4243	25	21.48	288.01	291.13	289.54	291.29	0.002084	1.78	17.05	63.87	0.40
Reach #1	4243	50	24.92	288.01	291.68		291.70	0.000407	0.92	90.13	206.66	0.18
Reach #1	4243	100	28.16	288.01	291.85		291.87	0.000270	0.79	131.27	265.61	0.15
Reach #1	4243	Reg	34.23	288.01	292.08		292.09	0.000168	0.65	201.13	335.06	0.12
Reach #1	4227	2	8.01	287.97	289.93		289.99	0.001212	1.03	7.80	5.44	0.27
Reach #1	4227	5	13.08	287.97	290.40		290.48	0.001272	1.25	10.85	7.98	0.29
Reach #1	4227	10	16.76	287.97	290.69		290.79	0.001246	1.37	13.46	9.76	0.30
Reach #1	4227	25	21.48	287.97	291.14		291.23	0.001019	1.40	18.40	12.39	0.28
Reach #1	4227	50	24.92	287.97	291.59		291.67	0.000731	1.32	24.63	14.97	0.24
Reach #1	4227	100	28.16	287.97	291.75		291.84	0.000765	1.40	27.00	15.81	0.25
Reach #1	4227	Reg	34.23	287.97	291.94		292.05	0.000890	1.57	30.18	16.88	0.27
Reach #1	4145	2	8.01	287.79	289.50		289.75	0.010072	2.22	3.61	3.94	0.74
Reach #1	4145	5	13.08	287.79	290.03		290.27	0.005485	2.22	6.69	7.70	0.59
Reach #1	4145	10	16.76	287.79	290.39		290.61	0.003814	2.15	9.94	10.19	0.51
Reach #1	4145	25	21.48	287.79	290.96		291.11	0.002018	1.88	16.91	14.17	0.39
Reach #1	4145	50	24.92	287.79	291.50		291.60	0.001116	1.60	25.58	18.16	0.30
Reach #1	4145	100	28.16	287.79	291.65		291.76	0.001132	1.67	28.48	19.45	0.30
Reach #1	4145	Reg	34.23	287.79	291.84	290.60	291.96	0.001284	1.85	32.19	20.98	0.33
Reach #1	4047	2	8.01	287.56	289.41		289.46	0.000991	0.94	8.50	6.27	0.26
Reach #1	4047	5	13.08	287.56	289.99		290.05	0.000802	1.06	13.18	10.38	0.25
Reach #1	4047	10	16.76	287.56	290.37		290.43	0.000685	1.10	17.55	13.03	0.23
Reach #1	4047	25	21.48	287.56	290.95		291.00	0.000470	1.06	26.32	17.22	0.20
Reach #1	4047	50	24.92	287.56	291.49		291.53	0.000312	0.97	36.68	21.13	0.17
Reach #1	4047	100	28.16	287.56	291.63		291.68	0.000375	1.10	41.61	50.93	0.19
Reach #1	4047	Reg	34.23	287.56	291.81		291.87	0.000439	1.23	54.53	92.48	0.20
Reach #1	3935	2	8.01	287.31	289.26		289.33	0.001376	1.13	7.33	6.85	0.30
Reach #1	3935	5	13.08	287.31	289.87		289.95	0.001004	1.22	12.80	11.01	0.27
Reach #1	3935	10	16.76	287.31	290.27		290.34	0.000823	1.25	17.64	13.50	0.26
Reach #1	3935	25	21.48	287.31	290.88		290.94	0.000536	1.17	27.19	17.76	0.21
Reach #1	3935	50	24.92	287.31	291.45		291.49	0.000345	1.05	38.30	21.62	0.18
Reach #1	3935	100	28.16	287.31	291.58		291.64	0.000431	1.20	56.77	233.87	0.20
Reach #1	3935	Reg	34.23	287.31	291.79		291.82	0.000327	1.09	112.75	305.18	0.17
Reach #1	3843	2	8.01	287.10	289.15		289.21	0.001174	1.14	7.92	7.74	0.29
Reach #1	3843	5	13.08	287.10	289.79		289.86	0.000858	1.22	14.12	11.61	0.26
Reach #1	3843	10	16.76	287.10	290.20		290.27	0.000709	1.24	19.40	13.99	0.24
Reach #1	3843	25	21.48	287.10	290.84		290.90	0.000465	1.16	29.41	17.44	0.21
Reach #1	3843	50	24.92	287.10	291.43		291.46	0.000268	0.99	60.65	71.08	0.16
Reach #1	3843	100	28.16	287.10	291.55		291.60	0.000339	1.13	90.36	468.21	0.18
Reach #1	3843	Reg	34.23	287.10	291.78		291.80	0.000189	0.88	202.88	535.52	0.14
Reach #1	3749	2	8.01	286.89	289.12		289.14	0.000374	0.72	12.15	9.92	0.17
Reach #1	3749	5	13.08	286.89	289.77		289.80	0.000319	0.81	20.00	14.00	0.17
Reach #1	3749	10	16.76	286.89	290.19		290.22	0.000286	0.85	26.32	16.47	0.16
Reach #1	3749	25	21.48	286.89	290.83		290.86	0.000208	0.83	38.17	20.52	0.14
Reach #1	3749	50	24.92	286.89	291.42		291.44	0.000131	0.73	100.95	219.22	0.12
Reach #1	3749	100	28.16	286.89	291.55		291.57	0.000131	0.75	138.95	368.31	0.12
Reach #1	3749	Reg	34.23	286.89	291.77		291.78	0.000091	0.65	224.28	413.57	0.10

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	3607	2	13.28	286.56	288.79		288.97	0.003173	2.09	9.76	9.94	0.50
Reach #1	3607	5	22.63	286.56	289.49		289.66	0.002319	2.21	17.94	13.82	0.45
Reach #1	3607	10	28.85	286.56	289.95		290.10	0.001771	2.16	24.84	16.21	0.40
Reach #1	3607	25	38.20	286.56	290.65		290.78	0.001168	2.03	37.64	20.00	0.34
Reach #1	3607	50	45.84	286.56	291.31	289.50	291.39	0.000710	1.76	114.05	227.70	0.27
Reach #1	3607	100	53.38	286.56	291.48		291.53	0.000532	1.57	152.98	233.63	0.24
Reach #1	3607	Reg	74.48	286.56	291.69		291.74	0.000613	1.73	242.38	457.41	0.26
Reach #1	3587	2	13.28	286.52	288.83	287.52	288.92	0.000719	1.33	9.99	15.07	0.28
Reach #1	3587	5	22.63	286.52	289.47	287.94	289.63	0.000920	1.77	12.77	16.73	0.33
Reach #1	3587	10	28.85	286.52	289.87	288.18	290.07	0.000978	1.99	14.51	17.31	0.35
Reach #1	3587	25	38.20	286.52	290.49	288.52	290.74	0.000971	2.22	17.21	18.91	0.36
Reach #1	3587	50	45.84	286.52	291.08	288.78	291.35	0.000882	2.32	19.76	220.42	0.35
Reach #1	3587	100	53.38	286.52	291.16	289.01	291.52	0.001122	2.65	20.14	242.49	0.39
Reach #1	3587	Reg	74.48	286.52	291.64	289.64	291.72	0.001532	1.61	143.77	366.45	0.38
Reach #1	3575		Culvert									
Reach #1	3550	2	13.28	286.38	288.79		288.88	0.000605	1.26	10.50	11.68	0.26
Reach #1	3550	5	22.63	286.38	289.26		289.42	0.000979	1.81	12.51	14.06	0.34
Reach #1	3550	10	28.85	286.38	289.46		289.70	0.001263	2.15	13.41	15.34	0.39
Reach #1	3550	25	38.20	286.38	289.67		290.04	0.001775	2.67	14.33	16.67	0.47
Reach #1	3550	50	45.84	286.38	289.87		290.33	0.002110	3.02	15.18	17.89	0.52
Reach #1	3550	100	53.38	286.38	290.15	288.86	290.60	0.009377	2.97	18.66	19.66	0.84
Reach #1	3550	Reg	74.48	286.38	290.85		291.17	0.003820	2.54	34.77	28.32	0.58
Reach #1	3531	2	13.28	286.35	288.62		288.82	0.003081	2.25	9.79	9.42	0.51
Reach #1	3531	5	22.63	286.35	289.07		289.35	0.003697	2.82	14.84	13.10	0.58
Reach #1	3531	10	28.85	286.35	289.31		289.63	0.003836	3.07	18.28	14.93	0.60
Reach #1	3531	25	38.20	286.35	289.63		289.98	0.003925	3.34	23.35	17.01	0.62
Reach #1	3531	50	45.84	286.35	289.86		290.23	0.003902	3.51	27.44	18.23	0.63
Reach #1	3531	100	53.38	286.35	290.07		290.46	0.003877	3.65	31.36	19.29	0.63
Reach #1	3531	Reg	74.48	286.35	290.73		291.09	0.003128	3.69	45.25	22.49	0.58
Reach #1	3442	2	13.28	286.22	288.49		288.59	0.001735	1.36	11.27	14.04	0.36
Reach #1	3442	5	22.63	286.22	288.98		289.10	0.001611	1.59	18.83	17.05	0.37
Reach #1	3442	10	28.85	286.22	289.24		289.37	0.001567	1.71	23.47	18.45	0.37
Reach #1	3442	25	38.20	286.22	289.56		289.71	0.001567	1.88	29.73	20.25	0.38
Reach #1	3442	50	45.84	286.22	289.80		289.96	0.001570	1.99	34.65	21.76	0.38
Reach #1	3442	100	53.38	286.22	290.01		290.18	0.001576	2.10	39.33	23.11	0.39
Reach #1	3442	Reg	74.48	286.22	290.52	289.33	290.85	0.002222	2.77	53.47	134.90	0.48
Reach #1	3338	2	13.28	286.07	288.23		288.36	0.002853	1.57	8.62	8.40	0.45
Reach #1	3338	5	22.63	286.07	288.70		288.88	0.002729	1.90	13.44	13.04	0.46
Reach #1	3338	10	28.85	286.07	288.95		289.15	0.002646	2.05	17.21	16.57	0.47
Reach #1	3338	25	38.20	286.07	289.28		289.50	0.002504	2.21	23.03	18.76	0.47
Reach #1	3338	50	45.84	286.07	289.52		289.76	0.002394	2.31	27.70	20.06	0.46
Reach #1	3338	100	53.38	286.07	289.73		289.98	0.002321	2.40	32.08	21.15	0.46
Reach #1	3338	Reg	74.48	286.07	290.24		290.52	0.002204	2.62	43.65	23.89	0.46
Reach #1	3250	2	13.28	285.95	287.99		288.12	0.002568	1.59	8.82	8.43	0.44
Reach #1	3250	5	22.63	285.95	288.45		288.64	0.002627	1.96	13.64	12.47	0.46
Reach #1	3250	10	28.85	285.95	288.71		288.92	0.002604	2.13	17.12	14.74	0.47
Reach #1	3250	25	38.20	285.95	289.02		289.28	0.002611	2.34	22.24	17.54	0.48
Reach #1	3250	50	45.84	285.95	289.27		289.54	0.002541	2.46	26.73	19.51	0.48
Reach #1	3250	100	53.38	285.95	289.48		289.76	0.002490	2.57	31.10	21.26	0.49
Reach #1	3250	Reg	74.48	285.95	290.02		290.32	0.002291	2.77	43.25	23.88	0.48
Reach #1	3174	2	13.28	285.84	287.80	287.19	287.92	0.002643	1.53	8.84	8.37	0.44
Reach #1	3174	5	22.63	285.84	288.27	287.59	288.44	0.002504	1.85	13.39	11.33	0.45
Reach #1	3174	10	28.85	285.84	288.53	287.78	288.73	0.002446	2.01	16.58	13.27	0.46
Reach #1	3174	25	38.20	285.84	288.84	288.03	289.08	0.002467	2.23	21.06	15.29	0.47
Reach #1	3174	50	45.84	285.84	289.09	288.24	289.35	0.002412	2.36	24.97	16.88	0.48
Reach #1	3174	100	53.38	285.84	289.30	288.42	289.58	0.002390	2.48	28.71	18.30	0.48
Reach #1	3174	Reg	74.48	285.84	289.77	288.88	290.13	0.002573	2.86	39.01	28.24	0.51
Reach #1	3072	2	14.99	285.69	286.87	286.87	287.32	0.015214	2.95	5.08	5.79	1.01
Reach #1	3072	5	26.05	285.69	287.29	287.29	287.88	0.012781	3.40	7.91	8.15	0.97
Reach #1	3072	10	33.51	285.69	287.54	287.54	288.19	0.011279	3.61	10.13	9.86	0.94
Reach #1	3072	25	44.01	285.69	287.84	287.84	288.56	0.010005	3.84	13.41	11.93	0.92
Reach #1	3072	50	53.18	285.69	288.07	288.07	288.84	0.009361	4.02	16.30	13.49	0.90
Reach #1	3072	100	62.15	285.69	288.27	288.27	289.08	0.008799	4.16	19.26	14.93	0.89
Reach #1	3072	Reg	85.74	285.69	288.73	288.73	289.63	0.008080	4.51	26.76	18.11	0.88
Reach #1	3060	2	14.99	285.67	287.12	286.12	287.14	0.000313	0.65	23.16	16.27	0.17
Reach #1	3060	5	26.05	285.67	287.55	286.31	287.59	0.000398	0.87	30.04	16.35	0.20
Reach #1	3060	10	33.51	285.67	287.85	286.43	287.90	0.000401	0.96	34.86	16.41	0.21
Reach #1	3060	25	44.01	285.67	288.15	286.58	288.22	0.000448	1.11	39.72	16.77	0.22
Reach #1	3060	50	53.18	285.67	288.38	286.71	288.46	0.000486	1.23	43.41	17.27	0.24

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	3060	100	62.15	285.67	288.58	286.82	288.67	0.000527	1.34	46.53	17.71	0.25
Reach #1	3060	Reg	85.74	285.67	289.14	287.10	289.26	0.000558	1.55	55.47	20.14	0.27
Reach #1	3055		Culvert									
Reach #1	3027	2	14.99	285.56	287.08		287.10	0.000376	0.68	21.97	20.55	0.18
Reach #1	3027	5	26.05	285.56	287.48		287.52	0.000489	0.92	28.30	21.08	0.22
Reach #1	3027	10	33.51	285.56	287.77		287.82	0.000493	1.02	32.83	22.58	0.23
Reach #1	3027	25	44.01	285.56	288.05		288.12	0.000560	1.18	37.20	23.85	0.25
Reach #1	3027	50	53.18	285.56	288.25		288.34	0.000619	1.31	40.45	24.48	0.26
Reach #1	3027	100	62.15	285.56	288.42		288.53	0.000684	1.44	43.10	24.99	0.28
Reach #1	3027	Reg	85.74	285.56	288.82		288.97	0.000825	1.73	49.42	30.20	0.31
Reach #1	3003	2	14.99	285.36	286.92		287.05	0.004167	1.64	10.15	15.85	0.55
Reach #1	3003	5	26.05	285.36	287.31		287.47	0.003189	1.83	16.55	16.63	0.52
Reach #1	3003	10	33.51	285.36	287.62		287.77	0.002369	1.83	21.80	17.47	0.46
Reach #1	3003	25	44.01	285.36	287.89		288.06	0.002322	2.00	26.55	18.47	0.47
Reach #1	3003	50	53.18	285.36	288.08		288.28	0.002374	2.16	30.17	19.46	0.48
Reach #1	3003	100	62.15	285.36	288.23		288.46	0.002526	2.33	33.12	20.50	0.50
Reach #1	3003	Reg	85.74	285.36	288.57	287.82	288.89	0.002918	2.76	44.02	76.21	0.55
Reach #1	2835	2	14.99	284.73	286.45		286.54	0.002089	1.55	13.86	16.18	0.41
Reach #1	2835	5	26.05	284.73	286.86		286.98	0.002171	1.87	21.78	22.50	0.43
Reach #1	2835	10	33.51	284.73	287.38		287.46	0.001164	1.61	35.87	32.26	0.33
Reach #1	2835	25	44.01	284.73	287.67		287.75	0.001145	1.72	45.89	37.84	0.33
Reach #1	2835	50	53.18	284.73	287.87		287.96	0.001140	1.80	54.16	41.89	0.34
Reach #1	2835	100	62.15	284.73	288.03		288.12	0.001191	1.91	60.74	44.85	0.35
Reach #1	2835	Reg	85.74	284.73	288.40		288.51	0.001212	2.08	79.11	52.23	0.36
Reach #1	2735	2	14.99	284.51	286.23		286.32	0.002218	1.56	13.64	15.93	0.42
Reach #1	2735	5	26.05	284.51	286.64		286.76	0.002295	1.88	20.68	19.25	0.45
Reach #1	2735	10	33.51	284.51	287.28		287.35	0.001036	1.54	35.44	27.18	0.31
Reach #1	2735	25	44.01	284.51	287.54		287.64	0.001175	1.76	43.22	33.93	0.34
Reach #1	2735	50	53.18	284.51	287.72		287.84	0.001401	2.00	50.52	49.99	0.38
Reach #1	2735	100	62.15	284.51	287.85		287.99	0.001529	2.16	58.17	62.53	0.40
Reach #1	2735	Reg	85.74	284.51	288.29		288.39	0.001193	2.08	91.91	87.84	0.36
Reach #1	2633	2	14.99	284.34	285.92		286.05	0.003101	1.84	11.71	13.97	0.50
Reach #1	2633	5	26.05	284.34	286.29		286.47	0.003388	2.26	17.27	16.34	0.55
Reach #1	2633	10	33.51	284.34	287.15		287.24	0.001133	1.71	42.77	56.24	0.34
Reach #1	2633	25	44.01	284.34	287.44		287.52	0.001006	1.73	63.54	86.20	0.33
Reach #1	2633	50	53.18	284.34	287.65		287.71	0.000820	1.64	82.82	98.16	0.30
Reach #1	2633	100	62.15	284.34	287.80		287.86	0.000740	1.61	98.33	104.55	0.29
Reach #1	2633	Reg	85.74	284.34	288.26		288.30	0.000473	1.40	150.41	120.13	0.23
Reach #1	2546	2	15.30	284.10	285.84		285.86	0.001027	1.10	28.17	47.52	0.29
Reach #1	2546	5	27.03	284.10	286.28		286.30	0.000682	1.06	53.30	66.51	0.24
Reach #1	2546	10	34.97	284.10	287.18		287.19	0.000123	0.58	131.90	112.13	0.11
Reach #1	2546	25	46.31	284.10	287.47		287.47	0.000123	0.62	166.97	133.82	0.11
Reach #1	2546	50	56.02	284.10	287.66		287.67	0.000122	0.64	194.27	144.26	0.11
Reach #1	2546	100	65.72	284.10	287.81		287.82	0.000127	0.68	216.16	151.43	0.12
Reach #1	2546	Reg	96.68	284.10	288.26		288.27	0.000128	0.74	289.24	173.07	0.12
Reach #1	2461	2	15.30	283.91	285.66		285.74	0.002424	1.64	14.84	19.09	0.43
Reach #1	2461	5	27.03	283.91	286.10		286.21	0.002375	1.93	25.12	29.56	0.45
Reach #1	2461	10	34.97	283.91	287.15		287.17	0.000327	0.96	81.06	76.07	0.18
Reach #1	2461	25	46.31	283.91	287.44		287.46	0.000312	1.00	104.56	88.23	0.18
Reach #1	2461	50	56.02	283.91	287.64		287.65	0.000299	1.02	122.49	93.17	0.17
Reach #1	2461	100	65.72	283.91	287.78		287.80	0.000305	1.05	136.39	95.73	0.18
Reach #1	2461	Reg	96.68	283.91	288.23		288.25	0.000297	1.12	181.17	103.51	0.18
Reach #1	2372	2	15.30	283.73	285.34		285.47	0.003408	1.88	12.59	19.74	0.51
Reach #1	2372	5	27.03	283.73	285.90		285.99	0.001944	1.77	26.18	29.15	0.40
Reach #1	2372	10	34.97	283.73	287.13		287.14	0.000233	0.85	88.34	75.69	0.15
Reach #1	2372	25	46.31	283.73	287.41		287.43	0.000235	0.90	111.53	86.48	0.15
Reach #1	2372	50	56.02	283.73	287.61		287.63	0.000238	0.94	129.15	92.32	0.16
Reach #1	2372	100	65.72	283.73	287.76		287.77	0.000252	0.99	142.87	95.73	0.16
Reach #1	2372	Reg	96.68	283.73	288.20		288.22	0.000279	1.13	188.67	112.45	0.17
Reach #1	2268	2	15.30	283.49	284.99		285.10	0.003670	1.76	13.45	23.76	0.52
Reach #1	2268	5	27.03	283.49	285.84		285.87	0.000641	1.06	47.78	52.56	0.24
Reach #1	2268	10	34.97	283.49	287.12		287.13	0.000073	0.50	131.23	79.73	0.09
Reach #1	2268	25	46.31	283.49	287.41		287.41	0.000084	0.57	155.07	87.90	0.10
Reach #1	2268	50	56.02	283.49	287.60		287.61	0.000093	0.62	172.77	93.63	0.10
Reach #1	2268	100	65.72	283.49	287.75		287.75	0.000106	0.67	186.59	97.94	0.11
Reach #1	2268	Reg	96.68	283.49	288.19		288.20	0.000131	0.81	233.10	112.08	0.12
Reach #1	2176	2	15.30	283.17	284.96		284.98	0.000481	0.82	33.61	45.42	0.21
Reach #1	2176	5	27.03	283.17	285.83		285.84	0.000154	0.62	80.92	63.24	0.12

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	2176	10	34.97	283.17	287.12		287.12	0.000033	0.38	180.75	95.17	0.06
Reach #1	2176	25	46.31	283.17	287.40		287.41	0.000041	0.44	209.32	106.06	0.07
Reach #1	2176	50	56.02	283.17	287.60		287.60	0.000047	0.49	230.67	112.94	0.08
Reach #1	2176	100	65.72	283.17	287.74		287.75	0.000054	0.54	247.26	117.61	0.08
Reach #1	2176	Reg	96.68	283.17	288.19		288.19	0.000072	0.66	302.65	132.72	0.10
Reach #1	2150	2	15.30	283.20	284.97		284.97	0.000179	0.53	52.37	53.19	0.13
Reach #1	2150	5	27.03	283.20	285.83		285.83	0.000081	0.47	103.75	66.97	0.09
Reach #1	2150	10	34.97	283.20	287.12		287.12	0.000024	0.34	211.27	106.22	0.06
Reach #1	2150	25	46.31	283.20	287.40		287.41	0.000031	0.40	243.18	118.62	0.06
Reach #1	2150	50	56.02	283.20	287.60		287.60	0.000036	0.45	267.00	124.96	0.07
Reach #1	2150	100	65.72	283.20	287.74		287.75	0.000041	0.49	285.21	128.08	0.07
Reach #1	2150	Reg	96.68	283.20	288.19		288.19	0.000053	0.59	344.07	137.31	0.09
Reach #1	2092	2	15.30	283.20	284.96	283.96	284.96	0.000143	0.46	59.57	72.67	0.12
Reach #1	2092	5	27.03	283.20	285.83	284.17	285.83	0.000052	0.37	133.28	96.21	0.08
Reach #1	2092	10	34.97	283.20	287.12	284.28	287.12	0.000012	0.24	279.53	130.13	0.04
Reach #1	2092	25	46.31	283.20	287.40	284.40	287.40	0.000015	0.28	317.52	137.58	0.04
Reach #1	2092	50	56.02	283.20	287.60	284.50	287.60	0.000017	0.31	344.80	142.69	0.05
Reach #1	2092	100	65.72	283.20	287.74	284.58	287.74	0.000020	0.34	368.60	146.47	0.05
Reach #1	2092	Reg	96.68	283.20	288.18	284.80	288.19	0.000028	0.43	433.08	158.10	0.06
Reach #1	2091		Culvert									
Reach #1	2090	2	15.30	282.96	284.53		284.55	0.000569	0.77	33.42	54.44	0.22
Reach #1	2090	5	27.03	282.96	284.59		284.64	0.001410	1.25	36.84	57.08	0.35
Reach #1	2090	10	34.97	282.96	284.73		284.78	0.001483	1.37	44.69	62.71	0.36
Reach #1	2090	25	46.31	282.96	284.89		284.95	0.001531	1.49	55.47	69.72	0.37
Reach #1	2090	50	56.02	282.96	285.06		285.12	0.001329	1.48	68.19	76.14	0.35
Reach #1	2090	100	65.72	282.96	285.21		285.27	0.001197	1.49	80.00	80.11	0.34
Reach #1	2090	Reg	96.68	282.96	288.14		288.15	0.000029	0.43	427.31	157.01	0.06
Reach #1	2003	2	9.93	282.48	284.54		284.54	0.000060	0.33	60.47	77.77	0.08
Reach #1	2003	5	11.27	282.48	284.61		284.62	0.000061	0.34	66.47	80.47	0.08
Reach #1	2003	10	12.13	282.48	284.75		284.75	0.000048	0.32	77.75	85.33	0.07
Reach #1	2003	25	13.13	282.48	284.92		284.92	0.000036	0.29	92.61	91.34	0.06
Reach #1	2003	50	13.86	282.48	285.09		285.09	0.000026	0.26	108.95	97.02	0.05
Reach #1	2003	100	14.43	282.48	285.24		285.24	0.000020	0.24	123.96	101.58	0.05
Reach #1	2003	Reg	96.68	282.48	288.14		288.15	0.000017	0.36	526.17	174.35	0.05
Reach #1	1920	2	9.93	281.84	284.53		284.53	0.000069	0.41	29.23	109.26	0.09
Reach #1	1920	5	11.27	281.84	284.60		284.61	0.000080	0.45	30.27	112.50	0.09
Reach #1	1920	10	12.13	281.84	284.74		284.75	0.000076	0.46	32.17	118.44	0.09
Reach #1	1920	25	13.13	281.84	284.91		284.91	0.000071	0.46	34.53	125.80	0.09
Reach #1	1920	50	13.86	281.84	285.08		285.09	0.000063	0.45	36.97	133.75	0.08
Reach #1	1920	100	14.43	281.84	285.23		285.24	0.000057	0.45	39.09	141.04	0.08
Reach #1	1920	Reg	96.68	281.84	288.07		288.14	0.000259	1.47	183.20	198.28	0.19
Reach #1	1914	2	9.93	281.84	284.18	283.31	284.45	0.002247	2.33	4.26	92.34	0.49
Reach #1	1914	5	11.27	281.84	284.13	283.44	284.50	0.003110	2.70	4.17	90.00	0.58
Reach #1	1914	10	12.13	281.84	284.24	283.52	284.63	0.003060	2.77	4.38	95.42	0.58
Reach #1	1914	25	13.13	281.84	284.39	283.61	284.79	0.002909	2.82	4.66	102.75	0.57
Reach #1	1914	50	13.86	281.84	284.59	283.67	284.97	0.002520	2.76	5.03	111.82	0.54
Reach #1	1914	100	14.43	281.84	284.76	283.72	285.13	0.002219	2.70	5.35	119.39	0.51
Reach #1	1914	Reg	96.68	281.84	287.93	287.93	288.10	0.004046	2.79	95.82	198.28	0.64
Reach #1	1900		Culvert									
Reach #1	1877	2	9.93	281.53	283.03	283.03	283.76	0.010643	3.78	2.63	12.97	1.00
Reach #1	1877	5	11.27	281.53	283.15	283.15	283.95	0.010362	3.95	2.85	13.25	1.00
Reach #1	1877	10	12.13	281.53	283.23	283.23	284.07	0.010275	4.06	2.99	13.41	1.00
Reach #1	1877	25	13.13	281.53	283.32	283.32	284.20	0.010103	4.16	3.15	13.61	1.00
Reach #1	1877	50	13.86	281.53	283.38	283.38	284.30	0.009986	4.24	3.27	13.74	1.01
Reach #1	1877	100	14.43	281.53	283.44	283.44	284.37	0.009823	4.29	3.36	13.86	1.00
Reach #1	1877	Reg	98.98	281.53	286.52	286.52	287.12	0.009764	3.80	32.99	28.79	0.96
Reach #1	1867	2	9.93	280.96	282.61	281.73	282.63	0.000430	0.66	15.18	13.30	0.19
Reach #1	1867	5	11.27	280.96	282.67	281.78	282.69	0.000471	0.72	15.98	13.43	0.20
Reach #1	1867	10	12.13	280.96	282.70	281.80	282.73	0.000498	0.75	16.45	13.51	0.21
Reach #1	1867	25	13.13	280.96	282.74	281.84	282.77	0.000538	0.79	16.88	13.58	0.22
Reach #1	1867	50	13.86	280.96	282.75	281.86	282.79	0.000572	0.83	17.14	13.62	0.23
Reach #1	1867	100	14.43	280.96	282.77	281.88	282.81	0.000596	0.85	17.36	13.65	0.23
Reach #1	1867	Reg	98.98	280.96	283.73	283.29	284.29	0.004542	3.34	31.57	17.87	0.70
Reach #1	1829	2	9.93	281.62	282.55		282.60	0.001990	1.01	12.38	28.80	0.37
Reach #1	1829	5	11.27	281.62	282.62		282.66	0.001761	1.00	14.32	29.93	0.36
Reach #1	1829	10	12.13	281.62	282.66		282.70	0.001657	1.00	15.45	30.03	0.35
Reach #1	1829	25	13.13	281.62	282.69		282.73	0.001627	1.02	16.46	30.13	0.35
Reach #1	1829	50	13.86	281.62	282.71		282.75	0.001646	1.04	17.04	30.18	0.35

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	1829	100	14.43	281.62	282.73		282.77	0.001643	1.05	17.54	30.23	0.35
Reach #1	1829	Reg	98.98	281.62	283.86		284.05	0.002574	2.21	54.20	34.63	0.49
Reach #1	1734	2	9.93	280.80	281.94	281.94	282.22	0.009960	2.48	4.78	9.37	0.85
Reach #1	1734	5	11.27	280.80	281.96	281.96	282.30	0.011328	2.70	5.04	9.69	0.91
Reach #1	1734	10	12.13	280.80	281.99	281.99	282.35	0.011588	2.79	5.32	10.03	0.93
Reach #1	1734	25	13.13	280.80	282.08	282.08	282.41	0.009591	2.70	6.37	13.79	0.86
Reach #1	1734	50	13.86	280.80	282.14	282.14	282.44	0.008324	2.61	7.31	16.59	0.80
Reach #1	1734	100	14.43	280.80	282.17	282.17	282.47	0.007897	2.60	7.87	18.06	0.79
Reach #1	1734	Reg	98.98	280.80	283.22	283.22	283.66	0.008471	4.19	44.56	46.34	0.91
Reach #1	1715	2	9.93	280.56	281.63	281.60	281.88	0.011076	2.23	4.77	12.39	0.87
Reach #1	1715	5	11.27	280.56	281.69	281.68	281.94	0.010035	2.26	5.67	15.37	0.84
Reach #1	1715	10	12.13	280.56	281.74	281.72	281.98	0.009275	2.25	6.38	17.33	0.82
Reach #1	1715	25	13.13	280.56	281.79	281.77	282.02	0.008422	2.24	7.29	19.59	0.79
Reach #1	1715	50	13.86	280.56	281.81	281.80	282.05	0.008339	2.27	7.75	20.65	0.79
Reach #1	1715	100	14.43	280.56	281.82	281.82	282.07	0.008367	2.30	8.08	21.34	0.79
Reach #1	1715	Reg	98.98	280.56	283.23		283.40	0.002873	2.56	68.39	62.69	0.54
Reach #1	1656	2	9.93	279.90	280.98	280.91	281.21	0.011269	2.12	4.69	7.70	0.87
Reach #1	1656	5	11.27	279.90	281.01	280.97	281.28	0.012570	2.29	4.93	8.02	0.92
Reach #1	1656	10	12.13	279.90	281.03	281.00	281.32	0.013356	2.40	5.07	8.35	0.95
Reach #1	1656	25	13.13	279.90	281.04	281.04	281.37	0.014305	2.53	5.22	8.70	0.99
Reach #1	1656	50	13.86	279.90	281.07	281.07	281.40	0.013941	2.56	5.46	9.23	0.98
Reach #1	1656	100	14.43	279.90	281.09	281.09	281.43	0.013500	2.58	5.68	9.70	0.97
Reach #1	1656	Reg	98.98	279.90	283.01		283.22	0.002439	2.61	63.31	56.90	0.51
Reach #1	1624	2	9.93	279.44	280.56	280.56	280.75	0.017275	1.93	5.17	14.67	1.00
Reach #1	1624	5	11.27	279.44	280.60	280.60	280.80	0.016149	1.99	5.74	15.41	0.98
Reach #1	1624	10	12.13	279.44	280.62	280.62	280.83	0.015593	2.03	6.10	15.86	0.97
Reach #1	1624	25	13.13	279.44	280.64	280.64	280.86	0.015093	2.07	6.50	16.35	0.97
Reach #1	1624	50	13.86	279.44	280.66	280.66	280.89	0.014766	2.10	6.80	16.70	0.96
Reach #1	1624	100	14.43	279.44	280.68	280.68	280.90	0.014528	2.12	7.03	16.97	0.96
Reach #1	1624	Reg	98.98	279.44	283.09		283.15	0.000515	1.30	122.12	89.95	0.24
Reach #1	1612	2	9.93	279.31	279.96	279.96	280.17	0.017103	2.04	4.87	11.69	1.01
Reach #1	1612	5	11.27	279.31	280.00	280.00	280.23	0.016806	2.10	5.37	12.21	1.01
Reach #1	1612	10	12.13	279.31	280.03	280.03	280.26	0.016458	2.12	5.72	12.55	1.00
Reach #1	1612	25	13.13	279.31	280.08	280.06	280.30	0.014260	2.06	6.38	13.19	0.94
Reach #1	1612	50	13.86	279.31	280.13	280.08	280.33	0.012262	1.97	7.02	13.77	0.88
Reach #1	1612	100	14.43	279.31	280.16		280.35	0.011032	1.92	7.52	14.21	0.84
Reach #1	1612	Reg	98.98	279.31	283.09		283.14	0.000348	1.12	128.68	90.39	0.20
Reach #1	1603	2	9.93	278.98	279.72	279.72	280.00	0.012235	2.38	4.42	8.37	0.93
Reach #1	1603	5	11.27	278.98	279.78	279.78	280.08	0.011797	2.47	4.88	8.78	0.92
Reach #1	1603	10	12.13	278.98	279.81	279.81	280.12	0.011928	2.54	5.11	8.99	0.93
Reach #1	1603	25	13.13	278.98	279.84	279.84	280.17	0.011856	2.61	5.40	9.24	0.94
Reach #1	1603	50	13.86	278.98	279.87	279.87	280.21	0.011805	2.66	5.60	9.70	0.94
Reach #1	1603	100	14.43	278.98	279.89	279.89	280.24	0.011741	2.70	5.76	10.17	0.94
Reach #1	1603	Reg	98.98	278.98	282.35	281.68	283.07	0.004021	3.94	27.81	71.19	0.69
Reach #1	1575		Culvert									
Reach #1	1550	2	9.93	278.42	279.14	279.14	279.42	0.005095	2.36	4.20	7.55	1.01
Reach #1	1550	5	11.27	278.42	279.19	279.19	279.50	0.004972	2.45	4.59	7.78	1.01
Reach #1	1550	10	12.13	278.42	279.22	279.22	279.54	0.004911	2.51	4.83	7.92	1.01
Reach #1	1550	25	13.13	278.42	279.26	279.26	279.60	0.004840	2.57	5.10	8.08	1.01
Reach #1	1550	50	13.86	278.42	279.28	279.28	279.63	0.004787	2.61	5.30	8.20	1.01
Reach #1	1550	100	14.43	278.42	279.30	279.30	279.66	0.004748	2.65	5.45	8.29	1.01
Reach #1	1550	Reg	98.97	278.42	281.11	281.11	282.37	0.003117	4.97	19.92	21.54	1.01
Reach #1	1545	2	9.93	278.37	279.04	279.04	279.33	0.005102	2.36	4.20	7.47	1.01
Reach #1	1545	5	11.27	278.37	279.10	279.10	279.40	0.005004	2.44	4.61	7.67	1.01
Reach #1	1545	10	12.13	278.37	279.13	279.13	279.45	0.004947	2.49	4.87	7.80	1.01
Reach #1	1545	25	13.13	278.37	279.17	279.17	279.50	0.004891	2.54	5.17	7.93	1.01
Reach #1	1545	50	13.86	278.37	279.20	279.20	279.53	0.004850	2.58	5.38	8.03	1.01
Reach #1	1545	100	14.43	278.37	279.22	279.22	279.56	0.004823	2.60	5.54	8.10	1.01
Reach #1	1545	Reg	98.97	278.37	280.75	280.75	281.54	0.003239	3.95	26.10	18.53	0.96
Reach #1	1452	2	9.93	277.50	278.16	278.16	278.45	0.005127	2.37	4.19	7.41	1.01
Reach #1	1452	5	11.27	277.50	278.22	278.22	278.53	0.005032	2.45	4.60	7.59	1.01
Reach #1	1452	10	12.13	277.50	278.25	278.25	278.57	0.004974	2.50	4.85	7.70	1.01
Reach #1	1452	25	13.13	277.50	278.29	278.29	278.62	0.004911	2.55	5.14	7.83	1.01
Reach #1	1452	50	13.86	277.50	278.32	278.32	278.66	0.004874	2.59	5.35	7.92	1.01
Reach #1	1452	100	14.43	277.50	278.34	278.34	278.69	0.004828	2.61	5.52	7.99	1.00
Reach #1	1452	Reg	98.97	277.50	280.33		280.56	0.000829	2.55	59.78	40.68	0.51
Reach #1	1361	2	9.93	276.43	277.06	277.06	277.33	0.005179	2.28	4.35	8.26	1.00
Reach #1	1361	5	11.27	276.43	277.12	277.12	277.40	0.005098	2.34	4.82	8.72	1.00

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	1361	10	12.13	276.43	277.15	277.15	277.44	0.005054	2.37	5.11	9.00	1.01
Reach #1	1361	25	13.13	276.43	277.19	277.19	277.48	0.004983	2.40	5.46	9.32	1.00
Reach #1	1361	50	13.86	276.43	277.22	277.22	277.52	0.004916	2.42	5.72	9.55	1.00
Reach #1	1361	100	14.43	276.43	277.26	277.26	277.54	0.004245	2.33	6.41	16.29	0.94
Reach #1	1361	Reg	98.97	276.43	280.46		280.48	0.000061	0.93	175.92	67.50	0.15
Reach #1	1302	2	9.93	275.96	276.64	276.62	276.91	0.004641	2.28	4.36	7.61	0.96
Reach #1	1302	5	11.27	275.96	276.70	276.68	276.98	0.004478	2.34	4.81	7.82	0.95
Reach #1	1302	10	12.13	275.96	276.73	276.71	277.02	0.004390	2.38	5.09	7.95	0.95
Reach #1	1302	25	13.13	275.96	276.78	276.75	277.08	0.004250	2.41	5.44	8.10	0.94
Reach #1	1302	50	13.86	275.96	276.81	276.77	277.11	0.004202	2.45	5.67	8.20	0.94
Reach #1	1302	100	14.43	275.96	276.83	276.79	277.14	0.004101	2.46	5.88	8.29	0.93
Reach #1	1302	Reg	98.97	275.96	280.45		280.48	0.000053	0.83	159.82	61.56	0.14
Reach #1	1290	2	9.93	275.85	276.66	276.52	276.84	0.002626	1.89	5.26	7.86	0.74
Reach #1	1290	5	11.27	275.85	276.71	276.57	276.91	0.002639	1.97	5.73	8.06	0.75
Reach #1	1290	10	12.13	275.85	276.75	276.60	276.96	0.002647	2.02	6.02	8.17	0.75
Reach #1	1290	25	13.13	275.85	276.79	276.64	277.01	0.002656	2.07	6.35	8.31	0.76
Reach #1	1290	50	13.86	275.85	276.82	276.67	277.04	0.002662	2.10	6.59	8.40	0.76
Reach #1	1290	100	14.43	275.85	276.84	276.69	277.07	0.002632	2.12	6.80	8.49	0.76
Reach #1	1290	Reg	98.97	275.85	280.44		280.48	0.000060	0.91	151.00	59.05	0.15
Reach #1	1283	2	9.93	275.85	276.52	276.52	276.80	0.005118	2.37	4.19	7.40	1.01
Reach #1	1283	5	11.27	275.85	276.57	276.57	276.88	0.005021	2.45	4.60	7.58	1.01
Reach #1	1283	10	12.13	275.85	276.60	276.60	276.92	0.004969	2.50	4.85	7.69	1.01
Reach #1	1283	25	13.13	275.85	276.64	276.64	276.97	0.004916	2.56	5.14	7.81	1.01
Reach #1	1283	50	13.86	275.85	276.67	276.67	277.01	0.004878	2.59	5.35	7.90	1.01
Reach #1	1283	100	14.43	275.85	276.69	276.69	277.04	0.004850	2.62	5.51	7.96	1.01
Reach #1	1283	Reg	98.97	275.85	280.43		280.48	0.000089	1.20	139.72	55.60	0.18
Reach #1	1233	2	9.93	275.00	276.35		276.42	0.000552	1.15	8.60	7.71	0.35
Reach #1	1233	5	11.27	275.00	276.48		276.55	0.000526	1.18	9.56	7.95	0.34
Reach #1	1233	10	12.13	275.00	276.55		276.62	0.000512	1.19	10.17	8.10	0.34
Reach #1	1233	25	13.13	275.00	276.64		276.71	0.000496	1.21	10.87	8.28	0.34
Reach #1	1233	50	13.86	275.00	276.70		276.78	0.000485	1.22	11.39	8.40	0.33
Reach #1	1233	100	14.43	275.00	276.75		276.82	0.000477	1.22	11.79	8.49	0.33
Reach #1	1233	Reg	98.97	275.00	280.40		280.47	0.000120	1.42	112.34	46.83	0.20
Reach #1	1229	2	9.93	275.00	275.92	275.92	276.38	0.004076	3.01	3.30	6.83	1.00
Reach #1	1229	5	11.27	275.00	276.00	276.00	276.50	0.003961	3.14	3.59	6.99	1.00
Reach #1	1229	10	12.13	275.00	276.05	276.05	276.58	0.003895	3.22	3.77	7.09	1.00
Reach #1	1229	25	13.13	275.00	276.10	276.10	276.66	0.003830	3.30	3.97	7.21	1.00
Reach #1	1229	50	13.86	275.00	276.14	276.14	276.72	0.003783	3.36	4.12	7.29	1.00
Reach #1	1229	100	14.43	275.00	276.18	276.18	276.77	0.003750	3.41	4.23	7.35	1.00
Reach #1	1229	Reg	98.97	275.00	280.06	279.91	280.44	0.001404	3.12	49.98	45.52	0.62
Reach #1	1210		Culvert									
Reach #1	1200	2	9.93	273.66	274.60	274.60	275.06	0.016935	3.01	3.30	3.65	1.01
Reach #1	1200	5	11.27	273.66	274.68	274.68	275.18	0.016821	3.14	3.59	3.65	1.00
Reach #1	1200	10	12.13	273.66	274.73	274.73	275.26	0.016771	3.22	3.77	3.66	1.00
Reach #1	1200	25	13.13	273.66	274.78	274.78	275.34	0.016798	3.31	3.97	3.66	1.01
Reach #1	1200	50	13.86	273.66	274.82	274.82	275.40	0.016781	3.37	4.12	3.66	1.01
Reach #1	1200	100	14.43	273.66	274.85	274.85	275.45	0.016776	3.41	4.23	3.66	1.01
Reach #1	1200	Reg	98.97	273.66	277.93	277.93	280.06	0.016138	6.47	15.29	17.48	1.00
Reach #1	1199	2	9.93	272.04	274.35	274.35	274.74	0.020073	2.78	3.83	5.87	0.94
Reach #1	1199	5	11.27	272.04	274.43	274.43	274.84	0.018990	2.86	4.31	6.30	0.93
Reach #1	1199	10	12.13	272.04	274.47	274.47	274.90	0.018825	2.93	4.58	6.52	0.93
Reach #1	1199	25	13.13	272.04	274.53	274.53	274.96	0.017988	2.97	4.96	6.85	0.92
Reach #1	1199	50	13.86	272.04	274.57	274.57	275.01	0.017535	3.00	5.23	7.08	0.92
Reach #1	1199	100	14.43	272.04	274.60	274.60	275.04	0.017255	3.03	5.43	7.24	0.91
Reach #1	1199	Reg	98.97	272.04	276.52	276.52	277.35	0.012164	4.94	31.41	19.71	0.90
Reach #1	1191	2	9.93	272.00	273.13	273.13	273.44	0.015676	2.45	4.05	6.77	1.01
Reach #1	1191	5	11.27	272.00	273.20	273.20	273.52	0.015314	2.51	4.48	7.06	1.01
Reach #1	1191	10	12.13	272.00	273.23	273.23	273.57	0.015196	2.56	4.74	7.23	1.01
Reach #1	1191	25	13.13	272.00	273.27	273.27	273.62	0.015038	2.60	5.04	7.42	1.01
Reach #1	1191	50	13.86	272.00	273.30	273.30	273.66	0.014957	2.64	5.25	7.56	1.01
Reach #1	1191	100	14.43	272.00	273.32	273.32	273.68	0.014893	2.66	5.42	7.66	1.01
Reach #1	1191	Reg	98.97	272.00	275.07	275.07	276.05	0.008567	4.53	25.98	15.24	0.94
Reach #1	1148	2	9.93	270.62	271.46	271.46	271.76	0.015785	2.43	4.08	6.89	1.01
Reach #1	1148	5	11.27	270.62	271.52	271.52	271.84	0.015533	2.51	4.49	7.09	1.01
Reach #1	1148	10	12.13	270.62	271.55	271.55	271.89	0.015392	2.56	4.74	7.22	1.01
Reach #1	1148	25	13.13	270.62	271.59	271.59	271.94	0.015224	2.61	5.03	7.36	1.01
Reach #1	1148	50	13.86	270.62	271.62	271.62	271.98	0.015125	2.65	5.24	7.46	1.01
Reach #1	1148	100	14.43	270.62	271.64	271.64	272.01	0.015034	2.67	5.40	7.53	1.01
Reach #1	1148	Reg	98.97	270.62	273.41	273.41	274.38	0.010351	4.40	23.60	14.29	0.96

HEC-RAS Plan: Conv+Storage River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	1051	2	9.93	267.42	268.12	268.12	268.42	0.016181	2.42	4.11	6.99	1.01
Reach #1	1051	5	11.27	267.42	268.18	268.18	268.50	0.015884	2.51	4.49	7.06	1.01
Reach #1	1051	10	12.13	267.42	268.21	268.21	268.55	0.015844	2.58	4.71	7.10	1.01
Reach #1	1051	25	13.13	267.42	268.25	268.25	268.60	0.015624	2.63	4.98	7.15	1.01
Reach #1	1051	50	13.86	267.42	268.28	268.28	268.64	0.015393	2.66	5.21	7.28	1.00
Reach #1	1051	100	14.43	267.42	268.30	268.30	268.67	0.015327	2.68	5.39	7.43	1.00
Reach #1	1051	Reg	98.97	267.42	270.11	270.11	270.99	0.009786	4.22	25.88	17.22	0.91
Reach #1	1000	2	9.93	264.90	266.19	265.91	266.33	0.005004	1.66	6.28	11.18	0.58
Reach #1	1000	5	11.27	264.90	266.26	265.97	266.41	0.005001	1.74	7.02	11.77	0.58
Reach #1	1000	10	12.13	264.90	266.30	266.01	266.45	0.005001	1.78	7.48	12.13	0.59
Reach #1	1000	25	13.13	264.90	266.34	266.06	266.51	0.005001	1.83	8.01	12.53	0.59
Reach #1	1000	50	13.86	264.90	266.37	266.09	266.54	0.005001	1.86	8.40	12.81	0.59
Reach #1	1000	100	14.43	264.90	266.39	266.11	266.57	0.005001	1.88	8.70	13.02	0.59
Reach #1	1000	Reg	98.97	264.90	267.87	267.67	268.23	0.005004	3.29	53.15	46.77	0.67

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1

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
Reach #1	4970	2	4.30	290.50	291.52	291.00	291.55	0.001104	0.72	5.97	8.65	0.28
Reach #1	4970	5	7.41	290.50	291.94	291.18	291.96	0.000798	0.74	10.03	10.90	0.25
Reach #1	4970	10	9.60	290.50	292.27	291.29	292.30	0.000556	0.68	14.12	13.25	0.21
Reach #1	4970	25	11.17	290.50	292.50	291.36	292.52	0.000460	0.65	17.41	18.23	0.19
Reach #1	4970	50	11.69	290.50	292.59	291.37	292.61	0.000395	0.62	20.73	37.33	0.18
Reach #1	4970	100	14.51	290.50	293.02	291.49	293.04	0.000208	0.51	42.59	89.94	0.14
Reach #1	4970	Reg	15.91	290.50	293.36	291.53	293.36	0.000090	0.38	74.82	103.17	0.09
Reach #1	4889	2	4.30	290.38	291.43	290.91	291.46	0.001132	0.75	5.77	7.96	0.28
Reach #1	4889	5	7.41	290.38	291.87	291.09	291.90	0.000789	0.77	9.67	9.65	0.24
Reach #1	4889	10	9.60	290.38	292.23	291.20	292.25	0.000539	0.72	13.34	10.89	0.21
Reach #1	4889	25	11.17	290.38	292.45	291.26	292.48	0.000447	0.70	15.91	11.67	0.19
Reach #1	4889	50	11.69	290.38	292.56	291.29	292.58	0.000400	0.68	17.12	12.02	0.18
Reach #1	4889	100	14.51	290.38	292.99	291.40	293.01	0.000284	0.64	22.68	13.50	0.16
Reach #1	4889	Reg	15.91	290.38	293.34	291.44	293.35	0.000148	0.52	51.75	116.87	0.12
Reach #1	4816	2	4.30	290.20	291.22	290.87	291.32	0.003377	1.36	3.16	5.63	0.47
Reach #1	4816	5	7.41	290.20	291.68	291.10	291.80	0.002456	1.54	4.82	8.77	0.43
Reach #1	4816	10	9.60	290.20	292.06	291.24	292.18	0.001767	1.55	6.21	95.69	0.38
Reach #1	4816	25	11.17	290.20	292.29	291.34	292.41	0.001569	1.58	7.05	137.52	0.36
Reach #1	4816	50	11.69	290.20	292.39	291.37	292.52	0.001429	1.57	7.45	142.30	0.35
Reach #1	4816	100	14.51	290.20	292.84	291.53	292.97	0.001146	1.60	9.06	164.28	0.32
Reach #1	4816	Reg	15.91	290.20	293.20	291.60	293.32	0.000872	1.53	10.40	250.90	0.29
Reach #1	4805		Culvert									
Reach #1	4800	2	4.30	290.15	291.10		291.18	0.001980	1.23	3.49	7.49	0.40
Reach #1	4800	5	7.41	290.15	291.51		291.62	0.001805	1.49	4.97	9.16	0.41
Reach #1	4800	10	9.60	290.15	291.86		291.98	0.001416	1.54	6.25	12.50	0.38
Reach #1	4800	25	11.17	290.15	292.05		292.18	0.001353	1.61	6.94	118.48	0.37
Reach #1	4800	50	11.69	290.15	292.15		292.28	0.001248	1.60	7.31	138.53	0.36
Reach #1	4800	100	14.51	290.15	292.44		292.59	0.001224	1.73	8.37	154.42	0.37
Reach #1	4800	Reg	15.91	290.15	292.68		292.83	0.001043	1.72	9.28	170.61	0.34
Reach #1	4782	2	4.30	290.07	291.08	290.59	291.15	0.001659	1.17	3.68	7.07	0.37
Reach #1	4782	5	7.41	290.07	291.48	290.82	291.59	0.001583	1.43	5.17	8.35	0.38
Reach #1	4782	10	9.60	290.07	291.84	290.96	291.95	0.001261	1.48	6.47	11.03	0.36
Reach #1	4782	25	11.17	290.07	292.03	291.05	292.15	0.001217	1.56	7.16	121.89	0.36
Reach #1	4782	50	11.69	290.07	292.13	291.08	292.25	0.001125	1.55	7.54	138.15	0.35
Reach #1	4782	100	14.51	290.07	292.42	291.24	292.56	0.001117	1.69	8.60	157.59	0.35
Reach #1	4782	Reg	15.91	290.07	292.67	291.31	292.81	0.000957	1.67	9.52	179.75	0.33
Reach #1	4775		Culvert									
Reach #1	4767	2	4.30	290.07	290.80	290.56	290.91	0.003994	1.47	2.93	6.80	0.55
Reach #1	4767	5	7.41	290.07	291.19	290.77	291.33	0.002849	1.65	4.49	7.23	0.50
Reach #1	4767	10	9.60	290.07	291.56	290.91	291.69	0.001878	1.61	5.95	7.63	0.42
Reach #1	4767	25	11.17	290.07	291.70	290.99	291.85	0.001885	1.72	6.51	7.78	0.43
Reach #1	4767	50	11.69	290.07	291.80	291.02	291.95	0.001675	1.69	6.93	7.90	0.41
Reach #1	4767	100	14.51	290.07	291.96	291.17	292.15	0.001926	1.92	7.57	8.07	0.45
Reach #1	4767	Reg	15.91	290.07	292.16	291.24	292.35	0.001658	1.90	8.36	8.29	0.42
Reach #1	4667	2	4.30	289.69	290.68	290.10	290.71	0.000876	0.67	6.46	8.67	0.25
Reach #1	4667	5	7.41	289.69	291.14	290.28	291.16	0.000626	0.68	10.91	11.04	0.22
Reach #1	4667	10	9.60	289.69	291.55	290.38	291.57	0.000338	0.61	15.90	13.15	0.17
Reach #1	4667	25	11.17	289.69	291.70	290.45	291.72	0.000319	0.64	17.93	14.04	0.17
Reach #1	4667	50	11.69	289.69	291.81	290.47	291.83	0.000273	0.62	19.54	14.71	0.16
Reach #1	4667	100	14.51	289.69	291.98	290.58	292.01	0.000297	0.69	22.17	15.76	0.17
Reach #1	4667	Reg	15.91	289.69	292.19	290.63	292.21	0.000243	0.67	25.60	17.12	0.15
Reach #1	4566	2	4.30	289.32	290.50		290.56	0.002886	1.04	4.14	7.03	0.43
Reach #1	4566	5	7.41	289.32	291.04		291.07	0.001160	0.84	8.84	10.47	0.29
Reach #1	4566	10	9.60	289.32	291.50		291.52	0.000534	0.67	14.38	13.44	0.21
Reach #1	4566	25	11.17	289.32	291.66		291.68	0.000461	0.68	16.55	14.57	0.20
Reach #1	4566	50	11.69	289.32	291.78		291.80	0.000369	0.65	18.34	15.44	0.18
Reach #1	4566	100	14.51	289.32	291.95		291.97	0.000379	0.71	21.09	16.68	0.18
Reach #1	4566	Reg	15.91	289.32	292.17		292.19	0.000272	0.66	32.88	87.32	0.16
Reach #1	4468	2	4.30	288.94	290.31	289.68	290.35	0.001498	0.86	5.02	6.64	0.31
Reach #1	4468	5	7.41	288.94	290.96	289.93	290.98	0.000676	0.70	10.66	10.84	0.22
Reach #1	4468	10	9.60	288.94	291.47	290.08	291.49	0.000281	0.59	16.97	14.02	0.15
Reach #1	4468	25	11.17	288.94	291.63	290.18	291.64	0.000268	0.61	19.26	15.01	0.15
Reach #1	4468	50	11.69	288.94	291.75	290.21	291.77	0.000227	0.59	21.18	15.79	0.14
Reach #1	4468	100	14.51	288.94	291.92	290.36	291.94	0.000253	0.67	23.94	16.85	0.15
Reach #1	4468	Reg	15.91	288.94	292.14	290.41	292.16	0.000206	0.65	27.88	18.30	0.14
Reach #1	4365	2	4.30	288.56	290.21	289.26	290.24	0.000801	0.71	6.07	6.17	0.23
Reach #1	4365	5	7.41	288.56	290.91	289.52	290.93	0.000392	0.65	11.89	10.58	0.17
Reach #1	4365	10	9.60	288.56	291.44	289.67	291.46	0.000216	0.59	18.36	13.66	0.14

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	4365	25	11.17	288.56	291.60	289.77	291.62	0.000221	0.63	20.58	14.58	0.14
Reach #1	4365	50	11.69	288.56	291.73	289.80	291.75	0.000196	0.62	22.49	15.36	0.13
Reach #1	4365	100	14.51	288.56	291.89	289.96	291.92	0.000232	0.71	25.10	16.35	0.15
Reach #1	4365	Reg	15.91	288.56	292.12	290.04	292.14	0.000199	0.70	28.99	17.76	0.14
Reach #1	4282	2	8.01	288.25	290.13		290.17	0.000894	0.87	9.22	7.48	0.25
Reach #1	4282	5	13.08	288.25	290.86		290.89	0.000521	0.80	16.74	13.20	0.20
Reach #1	4282	10	16.76	288.25	291.41		291.44	0.000300	0.74	25.23	17.55	0.16
Reach #1	4282	25	21.48	288.25	291.55		291.59	0.000390	0.89	27.82	18.63	0.19
Reach #1	4282	50	24.92	288.25	291.67		291.72	0.000436	0.97	30.06	19.46	0.20
Reach #1	4282	100	28.16	288.25	291.84		291.89	0.000435	1.01	33.37	20.62	0.20
Reach #1	4282	Reg	34.23	288.25	292.05		292.11	0.000500	1.14	43.24	141.35	0.22
Reach #1	4272	2	8.01	288.21	290.08	289.00	290.15	0.000807	1.17	6.84	4.97	0.27
Reach #1	4272	5	13.08	288.21	290.78	289.30	290.88	0.000749	1.39	9.39	5.91	0.28
Reach #1	4272	10	16.76	288.21	291.31	289.50	291.42	0.000655	1.48	11.34	143.68	0.27
Reach #1	4272	25	21.48	288.21	291.48	289.74	291.58	0.001661	1.49	36.49	216.19	0.31
Reach #1	4272	50	24.92	288.21	291.68	289.89	291.71	0.000727	1.04	83.54	270.24	0.21
Reach #1	4272	100	28.16	288.21	291.86	290.03	291.87	0.000344	0.75	137.35	319.00	0.15
Reach #1	4272	Reg	34.23	288.21	292.08	290.28	292.09	0.000174	0.56	215.69	364.47	0.11
Reach #1	4255		Culvert									
Reach #1	4243	2	8.01	288.01	289.94		290.01	0.000714	1.14	7.02	8.40	0.26
Reach #1	4243	5	13.08	288.01	290.40		290.51	0.000937	1.51	8.69	10.46	0.31
Reach #1	4243	10	16.76	288.01	290.68		290.83	0.001056	1.72	9.73	11.80	0.34
Reach #1	4243	25	21.48	288.01	291.13	289.54	291.29	0.002084	1.78	17.05	63.87	0.40
Reach #1	4243	50	24.92	288.01	291.68		291.70	0.000407	0.92	90.13	206.66	0.18
Reach #1	4243	100	28.16	288.01	291.85		291.87	0.000270	0.79	131.27	265.61	0.15
Reach #1	4243	Reg	34.23	288.01	292.08		292.09	0.000168	0.65	201.13	335.06	0.12
Reach #1	4227	2	8.01	287.97	289.93		289.99	0.001212	1.03	7.80	5.44	0.27
Reach #1	4227	5	13.08	287.97	290.40		290.48	0.001272	1.25	10.85	7.98	0.29
Reach #1	4227	10	16.76	287.97	290.69		290.79	0.001246	1.37	13.46	9.76	0.30
Reach #1	4227	25	21.48	287.97	291.14		291.23	0.001019	1.40	18.40	12.39	0.28
Reach #1	4227	50	24.92	287.97	291.59		291.67	0.000731	1.32	24.63	14.97	0.24
Reach #1	4227	100	28.16	287.97	291.75		291.84	0.000765	1.40	27.00	15.81	0.25
Reach #1	4227	Reg	34.23	287.97	291.94		292.05	0.000890	1.57	30.18	16.88	0.27
Reach #1	4145	2	8.01	287.79	289.50		289.75	0.010072	2.22	3.61	3.94	0.74
Reach #1	4145	5	13.08	287.79	290.03		290.27	0.005485	2.22	6.69	7.70	0.59
Reach #1	4145	10	16.76	287.79	290.39		290.61	0.003814	2.15	9.94	10.19	0.51
Reach #1	4145	25	21.48	287.79	290.96		291.11	0.002018	1.88	16.91	14.17	0.39
Reach #1	4145	50	24.92	287.79	291.50		291.60	0.001116	1.60	25.58	18.16	0.30
Reach #1	4145	100	28.16	287.79	291.65		291.76	0.001132	1.67	28.48	19.45	0.30
Reach #1	4145	Reg	34.23	287.79	291.84	290.60	291.96	0.001284	1.85	32.19	20.98	0.33
Reach #1	4047	2	8.01	287.56	289.41		289.46	0.000991	0.94	8.50	6.27	0.26
Reach #1	4047	5	13.08	287.56	289.99		290.05	0.000802	1.06	13.18	10.38	0.25
Reach #1	4047	10	16.76	287.56	290.37		290.43	0.000685	1.10	17.55	13.03	0.23
Reach #1	4047	25	21.48	287.56	290.95		291.00	0.000470	1.06	26.32	17.22	0.20
Reach #1	4047	50	24.92	287.56	291.49		291.53	0.000312	0.97	36.68	21.13	0.17
Reach #1	4047	100	28.16	287.56	291.63		291.68	0.000375	1.10	41.61	50.93	0.19
Reach #1	4047	Reg	34.23	287.56	291.81		291.87	0.000439	1.23	54.53	92.48	0.20
Reach #1	3935	2	8.01	287.31	289.26		289.33	0.001376	1.13	7.33	6.85	0.30
Reach #1	3935	5	13.08	287.31	289.87		289.95	0.001004	1.22	12.80	11.01	0.27
Reach #1	3935	10	16.76	287.31	290.27		290.34	0.000823	1.25	17.64	13.50	0.26
Reach #1	3935	25	21.48	287.31	290.88		290.94	0.000536	1.17	27.19	17.76	0.21
Reach #1	3935	50	24.92	287.31	291.45		291.49	0.000345	1.05	38.30	21.62	0.18
Reach #1	3935	100	28.16	287.31	291.58		291.64	0.000431	1.20	56.77	233.87	0.20
Reach #1	3935	Reg	34.23	287.31	291.79		291.82	0.000327	1.09	112.75	305.18	0.17
Reach #1	3843	2	8.01	287.10	289.15		289.21	0.001174	1.14	7.92	7.74	0.29
Reach #1	3843	5	13.08	287.10	289.79		289.86	0.000858	1.22	14.12	11.61	0.26
Reach #1	3843	10	16.76	287.10	290.20		290.27	0.000709	1.24	19.40	13.99	0.24
Reach #1	3843	25	21.48	287.10	290.84		290.90	0.000465	1.16	29.41	17.44	0.21
Reach #1	3843	50	24.92	287.10	291.43		291.46	0.000268	0.99	60.65	71.08	0.16
Reach #1	3843	100	28.16	287.10	291.55		291.60	0.000339	1.13	90.36	468.21	0.18
Reach #1	3843	Reg	34.23	287.10	291.78		291.80	0.000189	0.88	202.88	535.52	0.14
Reach #1	3749	2	8.01	286.89	289.12		289.14	0.000374	0.72	12.15	9.92	0.17
Reach #1	3749	5	13.08	286.89	289.77		289.80	0.000319	0.81	20.00	14.00	0.17
Reach #1	3749	10	16.76	286.89	290.19		290.22	0.000286	0.85	26.32	16.47	0.16
Reach #1	3749	25	21.48	286.89	290.83		290.86	0.000208	0.83	38.17	20.52	0.14
Reach #1	3749	50	24.92	286.89	291.42		291.44	0.000131	0.73	100.95	219.22	0.12
Reach #1	3749	100	28.16	286.89	291.55		291.57	0.000131	0.75	138.95	368.31	0.12
Reach #1	3749	Reg	34.23	286.89	291.77		291.78	0.000091	0.65	224.28	413.57	0.10

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	3607	2	13.28	286.56	288.79		288.97	0.003173	2.09	9.76	9.94	0.50
Reach #1	3607	5	22.63	286.56	289.49		289.66	0.002319	2.21	17.94	13.82	0.45
Reach #1	3607	10	28.85	286.56	289.95		290.10	0.001771	2.16	24.84	16.21	0.40
Reach #1	3607	25	38.20	286.56	290.65		290.78	0.001168	2.03	37.64	20.00	0.34
Reach #1	3607	50	45.84	286.56	291.31	289.50	291.39	0.000710	1.76	114.05	227.70	0.27
Reach #1	3607	100	53.38	286.56	291.48		291.53	0.000532	1.57	152.98	233.63	0.24
Reach #1	3607	Reg	74.48	286.56	291.69		291.74	0.000613	1.73	242.38	457.41	0.26
Reach #1	3587	2	13.28	286.52	288.83	287.52	288.92	0.000719	1.33	9.99	15.07	0.28
Reach #1	3587	5	22.63	286.52	289.47	287.94	289.63	0.000920	1.77	12.77	16.73	0.33
Reach #1	3587	10	28.85	286.52	289.87	288.18	290.07	0.000978	1.99	14.51	17.31	0.35
Reach #1	3587	25	38.20	286.52	290.49	288.52	290.74	0.000971	2.22	17.21	18.91	0.36
Reach #1	3587	50	45.84	286.52	291.08	288.78	291.35	0.000882	2.32	19.76	220.42	0.35
Reach #1	3587	100	53.38	286.52	291.16	289.01	291.52	0.001122	2.65	20.14	242.49	0.39
Reach #1	3587	Reg	74.48	286.52	291.64	289.64	291.72	0.001532	1.61	143.77	366.45	0.38
Reach #1	3575		Culvert									
Reach #1	3550	2	13.28	286.38	288.79		288.88	0.000605	1.26	10.50	11.68	0.26
Reach #1	3550	5	22.63	286.38	289.26		289.42	0.000979	1.81	12.51	14.06	0.34
Reach #1	3550	10	28.85	286.38	289.46		289.70	0.001263	2.15	13.41	15.34	0.39
Reach #1	3550	25	38.20	286.38	289.67		290.04	0.001775	2.67	14.33	16.67	0.47
Reach #1	3550	50	45.84	286.38	289.87		290.33	0.002110	3.02	15.18	17.89	0.52
Reach #1	3550	100	53.38	286.38	290.15	288.86	290.60	0.009377	2.97	18.66	19.66	0.84
Reach #1	3550	Reg	74.48	286.38	290.85		291.17	0.003820	2.54	34.77	28.32	0.58
Reach #1	3531	2	13.28	286.35	288.62		288.82	0.003081	2.25	9.79	9.42	0.51
Reach #1	3531	5	22.63	286.35	289.07		289.35	0.003697	2.82	14.84	13.10	0.58
Reach #1	3531	10	28.85	286.35	289.31		289.63	0.003836	3.07	18.28	14.93	0.60
Reach #1	3531	25	38.20	286.35	289.63		289.98	0.003925	3.34	23.35	17.01	0.62
Reach #1	3531	50	45.84	286.35	289.86		290.23	0.003902	3.51	27.44	18.23	0.63
Reach #1	3531	100	53.38	286.35	290.07		290.46	0.003877	3.65	31.36	19.29	0.63
Reach #1	3531	Reg	74.48	286.35	290.73		291.09	0.003128	3.69	45.25	22.49	0.58
Reach #1	3442	2	13.28	286.22	288.49		288.59	0.001735	1.36	11.27	14.04	0.36
Reach #1	3442	5	22.63	286.22	288.98		289.10	0.001611	1.59	18.83	17.05	0.37
Reach #1	3442	10	28.85	286.22	289.24		289.37	0.001567	1.71	23.47	18.45	0.37
Reach #1	3442	25	38.20	286.22	289.56		289.71	0.001567	1.88	29.73	20.25	0.38
Reach #1	3442	50	45.84	286.22	289.80		289.96	0.001570	1.99	34.65	21.76	0.38
Reach #1	3442	100	53.38	286.22	290.01		290.18	0.001576	2.10	39.33	23.11	0.39
Reach #1	3442	Reg	74.48	286.22	290.52	289.33	290.85	0.002222	2.77	53.47	134.90	0.48
Reach #1	3338	2	13.28	286.07	288.23		288.36	0.002853	1.57	8.62	8.40	0.45
Reach #1	3338	5	22.63	286.07	288.70		288.88	0.002729	1.90	13.44	13.04	0.46
Reach #1	3338	10	28.85	286.07	288.95		289.15	0.002646	2.05	17.21	16.57	0.47
Reach #1	3338	25	38.20	286.07	289.28		289.50	0.002504	2.21	23.03	18.76	0.47
Reach #1	3338	50	45.84	286.07	289.52		289.76	0.002394	2.31	27.70	20.06	0.46
Reach #1	3338	100	53.38	286.07	289.73		289.98	0.002321	2.40	32.08	21.15	0.46
Reach #1	3338	Reg	74.48	286.07	290.24		290.52	0.002204	2.62	43.65	23.89	0.46
Reach #1	3250	2	13.28	285.95	287.99		288.12	0.002568	1.59	8.82	8.43	0.44
Reach #1	3250	5	22.63	285.95	288.45		288.64	0.002627	1.96	13.64	12.47	0.46
Reach #1	3250	10	28.85	285.95	288.71		288.92	0.002604	2.13	17.12	14.74	0.47
Reach #1	3250	25	38.20	285.95	289.02		289.28	0.002611	2.34	22.24	17.54	0.48
Reach #1	3250	50	45.84	285.95	289.27		289.54	0.002541	2.46	26.73	19.51	0.48
Reach #1	3250	100	53.38	285.95	289.48		289.76	0.002490	2.57	31.10	21.26	0.49
Reach #1	3250	Reg	74.48	285.95	290.02		290.32	0.002291	2.77	43.25	23.88	0.48
Reach #1	3174	2	13.28	285.84	287.80	287.19	287.92	0.002643	1.53	8.84	8.37	0.44
Reach #1	3174	5	22.63	285.84	288.27	287.59	288.44	0.002504	1.85	13.39	11.33	0.45
Reach #1	3174	10	28.85	285.84	288.53	287.78	288.73	0.002446	2.01	16.58	13.27	0.46
Reach #1	3174	25	38.20	285.84	288.84	288.03	289.08	0.002467	2.23	21.06	15.29	0.47
Reach #1	3174	50	45.84	285.84	289.09	288.24	289.35	0.002412	2.36	24.97	16.88	0.48
Reach #1	3174	100	53.38	285.84	289.30	288.42	289.58	0.002390	2.48	28.71	18.30	0.48
Reach #1	3174	Reg	74.48	285.84	289.77	288.88	290.13	0.002573	2.86	39.01	28.24	0.51
Reach #1	3072	2	14.99	285.69	286.87	286.87	287.32	0.015214	2.95	5.08	5.79	1.01
Reach #1	3072	5	26.05	285.69	287.29	287.29	287.88	0.012781	3.40	7.91	8.15	0.97
Reach #1	3072	10	33.51	285.69	287.54	287.54	288.19	0.011279	3.61	10.13	9.86	0.94
Reach #1	3072	25	44.01	285.69	287.84	287.84	288.56	0.010005	3.84	13.41	11.93	0.92
Reach #1	3072	50	53.18	285.69	288.07	288.07	288.84	0.009361	4.02	16.30	13.49	0.90
Reach #1	3072	100	62.15	285.69	288.27	288.27	289.08	0.008799	4.16	19.26	14.93	0.89
Reach #1	3072	Reg	85.74	285.69	288.73	288.73	289.63	0.008080	4.51	26.76	18.11	0.88
Reach #1	3060	2	14.99	285.67	287.12	286.12	287.14	0.000313	0.65	23.16	16.27	0.17
Reach #1	3060	5	26.05	285.67	287.55	286.31	287.59	0.000398	0.87	30.04	16.35	0.20
Reach #1	3060	10	33.51	285.67	287.85	286.43	287.90	0.000401	0.96	34.86	16.41	0.21
Reach #1	3060	25	44.01	285.67	288.15	286.58	288.22	0.000448	1.11	39.72	16.77	0.22
Reach #1	3060	50	53.18	285.67	288.38	286.71	288.46	0.000486	1.23	43.41	17.27	0.24

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	3060	100	62.15	285.67	288.58	286.82	288.67	0.000527	1.34	46.53	17.71	0.25
Reach #1	3060	Reg	85.74	285.67	289.14	287.10	289.26	0.000558	1.55	55.47	20.14	0.27
Reach #1	3055		Culvert									
Reach #1	3027	2	14.99	285.56	287.08		287.10	0.000376	0.68	21.97	20.55	0.18
Reach #1	3027	5	26.05	285.56	287.48		287.52	0.000489	0.92	28.30	21.08	0.22
Reach #1	3027	10	33.51	285.56	287.77		287.82	0.000493	1.02	32.83	22.58	0.23
Reach #1	3027	25	44.01	285.56	288.05		288.12	0.000560	1.18	37.20	23.85	0.25
Reach #1	3027	50	53.18	285.56	288.25		288.34	0.000619	1.31	40.45	24.48	0.26
Reach #1	3027	100	62.15	285.56	288.42		288.53	0.000684	1.44	43.10	24.99	0.28
Reach #1	3027	Reg	85.74	285.56	288.82		288.97	0.000825	1.73	49.42	30.20	0.31
Reach #1	3003	2	14.99	285.36	286.92		287.05	0.004167	1.64	10.15	15.85	0.55
Reach #1	3003	5	26.05	285.36	287.31		287.47	0.003189	1.83	16.55	16.63	0.52
Reach #1	3003	10	33.51	285.36	287.62		287.77	0.002369	1.83	21.80	17.47	0.46
Reach #1	3003	25	44.01	285.36	287.89		288.06	0.002322	2.00	26.55	18.47	0.47
Reach #1	3003	50	53.18	285.36	288.08		288.28	0.002374	2.16	30.17	19.46	0.48
Reach #1	3003	100	62.15	285.36	288.23		288.46	0.002526	2.33	33.12	20.50	0.50
Reach #1	3003	Reg	85.74	285.36	288.57	287.82	288.89	0.002918	2.76	44.02	76.21	0.55
Reach #1	2835	2	14.99	284.73	286.45		286.54	0.002089	1.55	13.86	16.18	0.41
Reach #1	2835	5	26.05	284.73	286.86		286.98	0.002171	1.87	21.78	22.50	0.43
Reach #1	2835	10	33.51	284.73	287.38		287.46	0.001164	1.61	35.87	32.26	0.33
Reach #1	2835	25	44.01	284.73	287.67		287.75	0.001145	1.72	45.89	37.84	0.33
Reach #1	2835	50	53.18	284.73	287.87		287.96	0.001140	1.80	54.16	41.89	0.34
Reach #1	2835	100	62.15	284.73	288.03		288.12	0.001191	1.91	60.74	44.85	0.35
Reach #1	2835	Reg	85.74	284.73	288.40		288.51	0.001212	2.08	79.11	52.23	0.36
Reach #1	2735	2	14.99	284.51	286.23		286.32	0.002218	1.56	13.64	15.93	0.42
Reach #1	2735	5	26.05	284.51	286.64		286.76	0.002295	1.88	20.68	19.25	0.45
Reach #1	2735	10	33.51	284.51	287.28		287.35	0.001036	1.54	35.44	27.18	0.31
Reach #1	2735	25	44.01	284.51	287.54		287.64	0.001175	1.76	43.22	33.93	0.34
Reach #1	2735	50	53.18	284.51	287.72		287.84	0.001401	2.00	50.52	49.99	0.38
Reach #1	2735	100	62.15	284.51	287.85		287.99	0.001529	2.16	58.17	62.53	0.40
Reach #1	2735	Reg	85.74	284.51	288.29		288.39	0.001193	2.08	91.91	87.84	0.36
Reach #1	2633	2	14.99	284.34	285.92		286.05	0.003101	1.84	11.71	13.97	0.50
Reach #1	2633	5	26.05	284.34	286.29		286.47	0.003388	2.26	17.27	16.34	0.55
Reach #1	2633	10	33.51	284.34	287.15		287.24	0.001133	1.71	42.77	56.24	0.34
Reach #1	2633	25	44.01	284.34	287.44		287.52	0.001006	1.73	63.54	86.20	0.33
Reach #1	2633	50	53.18	284.34	287.65		287.71	0.000820	1.64	82.82	98.16	0.30
Reach #1	2633	100	62.15	284.34	287.80		287.86	0.000740	1.61	98.33	104.55	0.29
Reach #1	2633	Reg	85.74	284.34	288.26		288.30	0.000473	1.40	150.41	120.13	0.23
Reach #1	2546	2	15.30	284.10	285.84		285.86	0.001027	1.10	28.17	47.52	0.29
Reach #1	2546	5	27.03	284.10	286.28		286.30	0.000682	1.06	53.30	66.51	0.24
Reach #1	2546	10	34.97	284.10	287.18		287.19	0.000123	0.58	131.90	112.13	0.11
Reach #1	2546	25	46.31	284.10	287.47		287.47	0.000123	0.62	166.97	133.82	0.11
Reach #1	2546	50	56.02	284.10	287.66		287.67	0.000122	0.64	194.27	144.26	0.11
Reach #1	2546	100	65.72	284.10	287.81		287.82	0.000127	0.68	216.16	151.43	0.12
Reach #1	2546	Reg	96.68	284.10	288.26		288.27	0.000128	0.74	289.24	173.07	0.12
Reach #1	2461	2	15.30	283.91	285.66		285.74	0.002424	1.64	14.84	19.09	0.43
Reach #1	2461	5	27.03	283.91	286.10		286.21	0.002375	1.93	25.12	29.56	0.45
Reach #1	2461	10	34.97	283.91	287.15		287.17	0.000327	0.96	81.06	76.07	0.18
Reach #1	2461	25	46.31	283.91	287.44		287.46	0.000312	1.00	104.56	88.23	0.18
Reach #1	2461	50	56.02	283.91	287.64		287.65	0.000299	1.02	122.49	93.17	0.17
Reach #1	2461	100	65.72	283.91	287.78		287.80	0.000305	1.05	136.39	95.73	0.18
Reach #1	2461	Reg	96.68	283.91	288.23		288.25	0.000297	1.12	181.17	103.51	0.18
Reach #1	2372	2	15.30	283.73	285.34		285.47	0.003408	1.88	12.59	19.74	0.51
Reach #1	2372	5	27.03	283.73	285.90		285.99	0.001944	1.77	26.18	29.15	0.40
Reach #1	2372	10	34.97	283.73	287.13		287.14	0.000233	0.85	88.34	75.69	0.15
Reach #1	2372	25	46.31	283.73	287.41		287.43	0.000235	0.90	111.53	86.48	0.15
Reach #1	2372	50	56.02	283.73	287.61		287.63	0.000238	0.94	129.15	92.32	0.16
Reach #1	2372	100	65.72	283.73	287.76		287.77	0.000252	0.99	142.87	95.73	0.16
Reach #1	2372	Reg	96.68	283.73	288.20		288.22	0.000279	1.13	188.67	112.45	0.17
Reach #1	2268	2	15.30	283.49	284.99		285.10	0.003670	1.76	13.45	23.76	0.52
Reach #1	2268	5	27.03	283.49	285.84		285.87	0.000641	1.06	47.78	52.56	0.24
Reach #1	2268	10	34.97	283.49	287.12		287.13	0.000073	0.50	131.23	79.73	0.09
Reach #1	2268	25	46.31	283.49	287.41		287.41	0.000084	0.57	155.07	87.90	0.10
Reach #1	2268	50	56.02	283.49	287.60		287.61	0.000093	0.62	172.77	93.63	0.10
Reach #1	2268	100	65.72	283.49	287.75		287.75	0.000106	0.67	186.59	97.94	0.11
Reach #1	2268	Reg	96.68	283.49	288.19		288.20	0.000131	0.81	233.10	112.08	0.12
Reach #1	2176	2	15.30	283.17	284.96		284.98	0.000481	0.82	33.61	45.42	0.21
Reach #1	2176	5	27.03	283.17	285.83		285.84	0.000154	0.62	80.92	63.24	0.12

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	2176	10	34.97	283.17	287.12		287.12	0.000033	0.38	180.75	95.17	0.06
Reach #1	2176	25	46.31	283.17	287.40		287.41	0.000041	0.44	209.32	106.06	0.07
Reach #1	2176	50	56.02	283.17	287.60		287.60	0.000047	0.49	230.67	112.94	0.08
Reach #1	2176	100	65.72	283.17	287.74		287.75	0.000054	0.54	247.26	117.61	0.08
Reach #1	2176	Reg	96.68	283.17	288.19		288.19	0.000072	0.66	302.65	132.72	0.10
Reach #1	2150	2	15.30	283.20	284.97		284.97	0.000179	0.53	52.37	53.19	0.13
Reach #1	2150	5	27.03	283.20	285.83		285.83	0.000081	0.47	103.75	66.97	0.09
Reach #1	2150	10	34.97	283.20	287.12		287.12	0.000024	0.34	211.27	106.22	0.06
Reach #1	2150	25	46.31	283.20	287.40		287.41	0.000031	0.40	243.18	118.62	0.06
Reach #1	2150	50	56.02	283.20	287.60		287.60	0.000036	0.45	267.00	124.96	0.07
Reach #1	2150	100	65.72	283.20	287.74		287.75	0.000041	0.49	285.21	128.08	0.07
Reach #1	2150	Reg	96.68	283.20	288.19		288.19	0.000053	0.59	344.07	137.31	0.09
Reach #1	2092	2	15.30	283.20	284.96	283.96	284.96	0.000143	0.46	59.57	72.67	0.12
Reach #1	2092	5	27.03	283.20	285.83	284.17	285.83	0.000052	0.37	133.28	96.21	0.08
Reach #1	2092	10	34.97	283.20	287.12	284.28	287.12	0.000012	0.24	279.53	130.13	0.04
Reach #1	2092	25	46.31	283.20	287.40	284.40	287.40	0.000015	0.28	317.52	137.58	0.04
Reach #1	2092	50	56.02	283.20	287.60	284.50	287.60	0.000017	0.31	344.80	142.69	0.05
Reach #1	2092	100	65.72	283.20	287.74	284.58	287.74	0.000020	0.34	368.60	146.47	0.05
Reach #1	2092	Reg	96.68	283.20	288.18	284.80	288.19	0.000028	0.43	433.08	158.10	0.06
Reach #1	2091		Culvert									
Reach #1	2090	2	15.30	282.96	284.53		284.55	0.000569	0.77	33.42	54.44	0.22
Reach #1	2090	5	27.03	282.96	284.59		284.64	0.001410	1.25	36.84	57.08	0.35
Reach #1	2090	10	34.97	282.96	284.73		284.78	0.001483	1.37	44.69	62.71	0.36
Reach #1	2090	25	46.31	282.96	284.89		284.95	0.001531	1.49	55.47	69.72	0.37
Reach #1	2090	50	56.02	282.96	285.06		285.12	0.001329	1.48	68.19	76.14	0.35
Reach #1	2090	100	65.72	282.96	285.21		285.27	0.001197	1.49	80.00	80.11	0.34
Reach #1	2090	Reg	96.68	282.96	288.14		288.15	0.000029	0.43	427.31	157.01	0.06
Reach #1	2003	2	9.93	282.48	284.54		284.54	0.000060	0.33	60.47	77.77	0.08
Reach #1	2003	5	11.27	282.48	284.61		284.62	0.000061	0.34	66.47	80.47	0.08
Reach #1	2003	10	12.13	282.48	284.75		284.75	0.000048	0.32	77.75	85.33	0.07
Reach #1	2003	25	13.13	282.48	284.92		284.92	0.000036	0.29	92.61	91.34	0.06
Reach #1	2003	50	13.86	282.48	285.09		285.09	0.000026	0.26	108.95	97.02	0.05
Reach #1	2003	100	14.43	282.48	285.24		285.24	0.000020	0.24	123.96	101.58	0.05
Reach #1	2003	Reg	96.68	282.48	288.14		288.15	0.000017	0.36	526.17	174.35	0.05
Reach #1	1920	2	9.93	281.84	284.53		284.53	0.000069	0.41	29.23	109.26	0.09
Reach #1	1920	5	11.27	281.84	284.60		284.61	0.000080	0.45	30.27	112.50	0.09
Reach #1	1920	10	12.13	281.84	284.74		284.75	0.000076	0.46	32.17	118.44	0.09
Reach #1	1920	25	13.13	281.84	284.91		284.91	0.000071	0.46	34.53	125.80	0.09
Reach #1	1920	50	13.86	281.84	285.08		285.09	0.000063	0.45	36.97	133.75	0.08
Reach #1	1920	100	14.43	281.84	285.23		285.24	0.000057	0.45	39.09	141.04	0.08
Reach #1	1920	Reg	96.68	281.84	288.07		288.14	0.000259	1.47	183.20	198.28	0.19
Reach #1	1914	2	9.93	281.84	284.18	283.31	284.45	0.002247	2.33	4.26	92.34	0.49
Reach #1	1914	5	11.27	281.84	284.13	283.44	284.50	0.003110	2.70	4.17	90.00	0.58
Reach #1	1914	10	12.13	281.84	284.24	283.52	284.63	0.003060	2.77	4.38	95.42	0.58
Reach #1	1914	25	13.13	281.84	284.39	283.61	284.79	0.002909	2.82	4.66	102.75	0.57
Reach #1	1914	50	13.86	281.84	284.59	283.67	284.97	0.002520	2.76	5.03	111.82	0.54
Reach #1	1914	100	14.43	281.84	284.76	283.72	285.13	0.002219	2.70	5.35	119.39	0.51
Reach #1	1914	Reg	96.68	281.84	287.93	287.93	288.10	0.004046	2.79	95.82	198.28	0.64
Reach #1	1900		Culvert									
Reach #1	1877	2	9.93	281.53	283.03	283.03	283.76	0.010643	3.78	2.63	12.97	1.00
Reach #1	1877	5	11.27	281.53	283.15	283.15	283.95	0.010362	3.95	2.85	13.25	1.00
Reach #1	1877	10	12.13	281.53	283.23	283.23	284.07	0.010275	4.06	2.99	13.41	1.00
Reach #1	1877	25	13.13	281.53	283.32	283.32	284.20	0.010103	4.16	3.15	13.61	1.00
Reach #1	1877	50	13.86	281.53	283.38	283.38	284.30	0.009986	4.24	3.27	13.74	1.01
Reach #1	1877	100	14.43	281.53	283.44	283.44	284.37	0.009823	4.29	3.36	13.86	1.00
Reach #1	1877	Reg	98.98	281.53	286.52	286.52	287.12	0.009764	3.80	32.99	28.79	0.96
Reach #1	1867	2	9.93	280.96	282.61	281.73	282.63	0.000430	0.66	15.18	13.30	0.19
Reach #1	1867	5	11.27	280.96	282.67	281.78	282.69	0.000471	0.72	15.98	13.43	0.20
Reach #1	1867	10	12.13	280.96	282.70	281.80	282.73	0.000498	0.75	16.45	13.51	0.21
Reach #1	1867	25	13.13	280.96	282.74	281.84	282.77	0.000538	0.79	16.88	13.58	0.22
Reach #1	1867	50	13.86	280.96	282.75	281.86	282.79	0.000572	0.83	17.14	13.62	0.23
Reach #1	1867	100	14.43	280.96	282.77	281.88	282.81	0.000596	0.85	17.36	13.65	0.23
Reach #1	1867	Reg	98.98	280.96	283.73	283.29	284.29	0.004542	3.34	31.57	17.87	0.70
Reach #1	1829	2	9.93	281.62	282.55		282.60	0.001990	1.01	12.38	28.80	0.37
Reach #1	1829	5	11.27	281.62	282.62		282.66	0.001761	1.00	14.32	29.93	0.36
Reach #1	1829	10	12.13	281.62	282.66		282.70	0.001657	1.00	15.45	30.03	0.35
Reach #1	1829	25	13.13	281.62	282.69		282.73	0.001627	1.02	16.46	30.13	0.35
Reach #1	1829	50	13.86	281.62	282.71		282.75	0.001646	1.04	17.04	30.18	0.35

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	1829	100	14.43	281.62	282.73		282.77	0.001643	1.05	17.54	30.23	0.35
Reach #1	1829	Reg	98.98	281.62	283.86		284.05	0.002574	2.21	54.20	34.63	0.49
Reach #1	1734	2	9.93	280.80	281.94	281.94	282.22	0.009960	2.48	4.78	9.37	0.85
Reach #1	1734	5	11.27	280.80	281.96	281.96	282.30	0.011328	2.70	5.04	9.69	0.91
Reach #1	1734	10	12.13	280.80	281.99	281.99	282.35	0.011588	2.79	5.32	10.03	0.93
Reach #1	1734	25	13.13	280.80	282.08	282.08	282.41	0.009591	2.70	6.37	13.79	0.86
Reach #1	1734	50	13.86	280.80	282.14	282.14	282.44	0.008324	2.61	7.31	16.59	0.80
Reach #1	1734	100	14.43	280.80	282.17	282.17	282.47	0.007897	2.60	7.87	18.06	0.79
Reach #1	1734	Reg	98.98	280.80	283.22	283.22	283.66	0.008471	4.19	44.56	46.34	0.91
Reach #1	1715	2	9.93	280.56	281.63	281.60	281.88	0.011076	2.23	4.77	12.39	0.87
Reach #1	1715	5	11.27	280.56	281.69	281.68	281.94	0.010035	2.26	5.67	15.37	0.84
Reach #1	1715	10	12.13	280.56	281.74	281.72	281.98	0.009275	2.25	6.38	17.33	0.82
Reach #1	1715	25	13.13	280.56	281.79	281.77	282.02	0.008422	2.24	7.29	19.59	0.79
Reach #1	1715	50	13.86	280.56	281.81	281.80	282.05	0.008339	2.27	7.75	20.65	0.79
Reach #1	1715	100	14.43	280.56	281.82	281.82	282.07	0.008367	2.30	8.08	21.34	0.79
Reach #1	1715	Reg	98.98	280.56	283.23		283.40	0.002873	2.56	68.39	62.69	0.54
Reach #1	1656	2	9.93	279.90	280.98	280.91	281.21	0.011269	2.12	4.69	7.70	0.87
Reach #1	1656	5	11.27	279.90	281.01	280.97	281.28	0.012570	2.29	4.93	8.02	0.92
Reach #1	1656	10	12.13	279.90	281.03	281.00	281.32	0.013356	2.40	5.07	8.35	0.95
Reach #1	1656	25	13.13	279.90	281.04	281.04	281.37	0.014305	2.53	5.22	8.70	0.99
Reach #1	1656	50	13.86	279.90	281.07	281.07	281.40	0.013941	2.56	5.46	9.23	0.98
Reach #1	1656	100	14.43	279.90	281.09	281.09	281.43	0.013500	2.58	5.68	9.70	0.97
Reach #1	1656	Reg	98.98	279.90	283.01		283.22	0.002439	2.61	63.31	56.90	0.51
Reach #1	1624	2	9.93	279.44	280.56	280.56	280.75	0.017275	1.93	5.17	14.67	1.00
Reach #1	1624	5	11.27	279.44	280.60	280.60	280.80	0.016149	1.99	5.74	15.41	0.98
Reach #1	1624	10	12.13	279.44	280.62	280.62	280.83	0.015593	2.03	6.10	15.86	0.97
Reach #1	1624	25	13.13	279.44	280.64	280.64	280.86	0.015093	2.07	6.50	16.35	0.97
Reach #1	1624	50	13.86	279.44	280.66	280.66	280.89	0.014766	2.10	6.80	16.70	0.96
Reach #1	1624	100	14.43	279.44	280.68	280.68	280.90	0.014528	2.12	7.03	16.97	0.96
Reach #1	1624	Reg	98.98	279.44	283.09		283.15	0.000515	1.30	122.12	89.95	0.24
Reach #1	1612	2	9.93	279.31	279.96	279.96	280.17	0.017103	2.04	4.87	11.69	1.01
Reach #1	1612	5	11.27	279.31	280.00	280.00	280.23	0.016806	2.10	5.37	12.21	1.01
Reach #1	1612	10	12.13	279.31	280.03	280.03	280.26	0.016458	2.12	5.72	12.55	1.00
Reach #1	1612	25	13.13	279.31	280.08	280.06	280.30	0.014260	2.06	6.38	13.19	0.94
Reach #1	1612	50	13.86	279.31	280.13	280.08	280.33	0.012262	1.97	7.02	13.77	0.88
Reach #1	1612	100	14.43	279.31	280.16		280.35	0.011032	1.92	7.52	14.21	0.84
Reach #1	1612	Reg	98.98	279.31	283.09		283.14	0.000348	1.12	128.68	90.39	0.20
Reach #1	1603	2	9.93	278.98	279.72	279.72	280.00	0.012235	2.38	4.42	8.37	0.93
Reach #1	1603	5	11.27	278.98	279.78	279.78	280.08	0.011797	2.47	4.88	8.78	0.92
Reach #1	1603	10	12.13	278.98	279.81	279.81	280.12	0.011928	2.54	5.11	8.99	0.93
Reach #1	1603	25	13.13	278.98	279.84	279.84	280.17	0.011856	2.61	5.40	9.24	0.94
Reach #1	1603	50	13.86	278.98	279.87	279.87	280.21	0.011805	2.66	5.60	9.70	0.94
Reach #1	1603	100	14.43	278.98	279.89	279.89	280.24	0.011741	2.70	5.76	10.17	0.94
Reach #1	1603	Reg	98.98	278.98	282.35	281.68	283.07	0.004021	3.94	27.81	71.19	0.69
Reach #1	1575		Culvert									
Reach #1	1550	2	9.93	278.42	279.14	279.14	279.42	0.005095	2.36	4.20	7.55	1.01
Reach #1	1550	5	11.27	278.42	279.19	279.19	279.50	0.004972	2.45	4.59	7.78	1.01
Reach #1	1550	10	12.13	278.42	279.22	279.22	279.54	0.004911	2.51	4.83	7.92	1.01
Reach #1	1550	25	13.13	278.42	279.26	279.26	279.60	0.004840	2.57	5.10	8.08	1.01
Reach #1	1550	50	13.86	278.42	279.28	279.28	279.63	0.004787	2.61	5.30	8.20	1.01
Reach #1	1550	100	14.43	278.42	279.30	279.30	279.66	0.004748	2.65	5.45	8.29	1.01
Reach #1	1550	Reg	98.97	278.42	281.11	281.11	282.37	0.003117	4.97	19.92	21.54	1.01
Reach #1	1545	2	9.93	278.37	279.04	279.04	279.33	0.005102	2.36	4.20	7.47	1.01
Reach #1	1545	5	11.27	278.37	279.10	279.10	279.40	0.005004	2.44	4.61	7.67	1.01
Reach #1	1545	10	12.13	278.37	279.13	279.13	279.45	0.004947	2.49	4.87	7.80	1.01
Reach #1	1545	25	13.13	278.37	279.17	279.17	279.50	0.004891	2.54	5.17	7.93	1.01
Reach #1	1545	50	13.86	278.37	279.20	279.20	279.53	0.004850	2.58	5.38	8.03	1.01
Reach #1	1545	100	14.43	278.37	279.22	279.22	279.56	0.004823	2.60	5.54	8.10	1.01
Reach #1	1545	Reg	98.97	278.37	280.75	280.75	281.54	0.003239	3.95	26.10	18.53	0.96
Reach #1	1452	2	9.93	277.50	278.16	278.16	278.45	0.005127	2.37	4.19	7.41	1.01
Reach #1	1452	5	11.27	277.50	278.22	278.22	278.53	0.005032	2.45	4.60	7.59	1.01
Reach #1	1452	10	12.13	277.50	278.25	278.25	278.57	0.004974	2.50	4.85	7.70	1.01
Reach #1	1452	25	13.13	277.50	278.29	278.29	278.62	0.004911	2.55	5.14	7.83	1.01
Reach #1	1452	50	13.86	277.50	278.32	278.32	278.66	0.004874	2.59	5.35	7.92	1.01
Reach #1	1452	100	14.43	277.50	278.34	278.34	278.69	0.004828	2.61	5.52	7.99	1.00
Reach #1	1452	Reg	98.97	277.50	280.33		280.56	0.000829	2.55	59.78	40.68	0.51
Reach #1	1361	2	9.93	276.43	277.06	277.06	277.33	0.005179	2.28	4.35	8.26	1.00
Reach #1	1361	5	11.27	276.43	277.12	277.12	277.40	0.005098	2.34	4.82	8.72	1.00

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

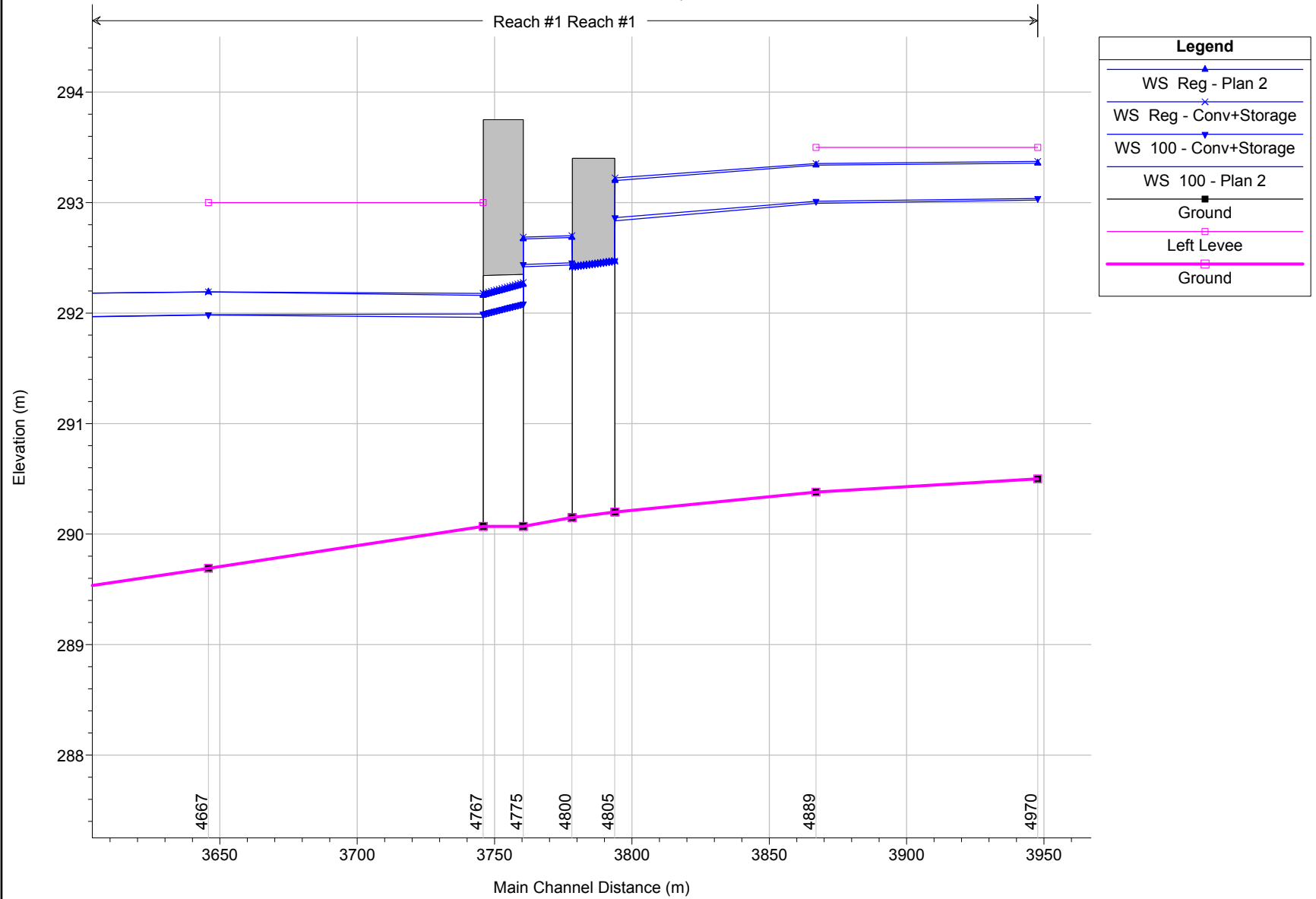
Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	1361	10	12.13	276.43	277.15	277.15	277.44	0.005054	2.37	5.11	9.00	1.01
Reach #1	1361	25	13.13	276.43	277.19	277.19	277.48	0.004983	2.40	5.46	9.32	1.00
Reach #1	1361	50	13.86	276.43	277.22	277.22	277.52	0.004916	2.42	5.72	9.55	1.00
Reach #1	1361	100	14.43	276.43	277.26	277.26	277.54	0.004245	2.33	6.41	16.29	0.94
Reach #1	1361	Reg	98.97	276.43	280.46		280.48	0.000061	0.93	175.92	67.50	0.15
Reach #1	1302	2	9.93	275.96	276.64	276.62	276.91	0.004641	2.28	4.36	7.61	0.96
Reach #1	1302	5	11.27	275.96	276.70	276.68	276.98	0.004478	2.34	4.81	7.82	0.95
Reach #1	1302	10	12.13	275.96	276.73	276.71	277.02	0.004390	2.38	5.09	7.95	0.95
Reach #1	1302	25	13.13	275.96	276.78	276.75	277.08	0.004250	2.41	5.44	8.10	0.94
Reach #1	1302	50	13.86	275.96	276.81	276.77	277.11	0.004202	2.45	5.67	8.20	0.94
Reach #1	1302	100	14.43	275.96	276.83	276.79	277.14	0.004101	2.46	5.88	8.29	0.93
Reach #1	1302	Reg	98.97	275.96	280.45		280.48	0.000053	0.83	159.82	61.56	0.14
Reach #1	1290	2	9.93	275.85	276.66	276.52	276.84	0.002626	1.89	5.26	7.86	0.74
Reach #1	1290	5	11.27	275.85	276.71	276.57	276.91	0.002639	1.97	5.73	8.06	0.75
Reach #1	1290	10	12.13	275.85	276.75	276.60	276.96	0.002647	2.02	6.02	8.17	0.75
Reach #1	1290	25	13.13	275.85	276.79	276.64	277.01	0.002656	2.07	6.35	8.31	0.76
Reach #1	1290	50	13.86	275.85	276.82	276.67	277.04	0.002662	2.10	6.59	8.40	0.76
Reach #1	1290	100	14.43	275.85	276.84	276.69	277.07	0.002632	2.12	6.80	8.49	0.76
Reach #1	1290	Reg	98.97	275.85	280.44		280.48	0.000060	0.91	151.00	59.05	0.15
Reach #1	1283	2	9.93	275.85	276.52	276.52	276.80	0.005118	2.37	4.19	7.40	1.01
Reach #1	1283	5	11.27	275.85	276.57	276.57	276.88	0.005021	2.45	4.60	7.58	1.01
Reach #1	1283	10	12.13	275.85	276.60	276.60	276.92	0.004969	2.50	4.85	7.69	1.01
Reach #1	1283	25	13.13	275.85	276.64	276.64	276.97	0.004916	2.56	5.14	7.81	1.01
Reach #1	1283	50	13.86	275.85	276.67	276.67	277.01	0.004878	2.59	5.35	7.90	1.01
Reach #1	1283	100	14.43	275.85	276.69	276.69	277.04	0.004850	2.62	5.51	7.96	1.01
Reach #1	1283	Reg	98.97	275.85	280.43		280.48	0.000089	1.20	139.72	55.60	0.18
Reach #1	1233	2	9.93	275.00	276.35		276.42	0.000552	1.15	8.60	7.71	0.35
Reach #1	1233	5	11.27	275.00	276.48		276.55	0.000526	1.18	9.56	7.95	0.34
Reach #1	1233	10	12.13	275.00	276.55		276.62	0.000512	1.19	10.17	8.10	0.34
Reach #1	1233	25	13.13	275.00	276.64		276.71	0.000496	1.21	10.87	8.28	0.34
Reach #1	1233	50	13.86	275.00	276.70		276.78	0.000485	1.22	11.39	8.40	0.33
Reach #1	1233	100	14.43	275.00	276.75		276.82	0.000477	1.22	11.79	8.49	0.33
Reach #1	1233	Reg	98.97	275.00	280.40		280.47	0.000120	1.42	112.34	46.83	0.20
Reach #1	1229	2	9.93	275.00	275.92	275.92	276.38	0.004076	3.01	3.30	6.83	1.00
Reach #1	1229	5	11.27	275.00	276.00	276.00	276.50	0.003961	3.14	3.59	6.99	1.00
Reach #1	1229	10	12.13	275.00	276.05	276.05	276.58	0.003895	3.22	3.77	7.09	1.00
Reach #1	1229	25	13.13	275.00	276.10	276.10	276.66	0.003830	3.30	3.97	7.21	1.00
Reach #1	1229	50	13.86	275.00	276.14	276.14	276.72	0.003783	3.36	4.12	7.29	1.00
Reach #1	1229	100	14.43	275.00	276.18	276.18	276.77	0.003750	3.41	4.23	7.35	1.00
Reach #1	1229	Reg	98.97	275.00	280.06	279.91	280.44	0.001404	3.12	49.98	45.52	0.62
Reach #1	1210		Culvert									
Reach #1	1200	2	9.93	273.66	274.60	274.60	275.06	0.016935	3.01	3.30	3.65	1.01
Reach #1	1200	5	11.27	273.66	274.68	274.68	275.18	0.016821	3.14	3.59	3.65	1.00
Reach #1	1200	10	12.13	273.66	274.73	274.73	275.26	0.016771	3.22	3.77	3.66	1.00
Reach #1	1200	25	13.13	273.66	274.78	274.78	275.34	0.016798	3.31	3.97	3.66	1.01
Reach #1	1200	50	13.86	273.66	274.82	274.82	275.40	0.016781	3.37	4.12	3.66	1.01
Reach #1	1200	100	14.43	273.66	274.85	274.85	275.45	0.016776	3.41	4.23	3.66	1.01
Reach #1	1200	Reg	98.97	273.66	277.93	277.93	280.06	0.016138	6.47	15.29	17.48	1.00
Reach #1	1199	2	9.93	272.04	274.35	274.35	274.74	0.020073	2.78	3.83	5.87	0.94
Reach #1	1199	5	11.27	272.04	274.43	274.43	274.84	0.018990	2.86	4.31	6.30	0.93
Reach #1	1199	10	12.13	272.04	274.47	274.47	274.90	0.018825	2.93	4.58	6.52	0.93
Reach #1	1199	25	13.13	272.04	274.53	274.53	274.96	0.017988	2.97	4.96	6.85	0.92
Reach #1	1199	50	13.86	272.04	274.57	274.57	275.01	0.017535	3.00	5.23	7.08	0.92
Reach #1	1199	100	14.43	272.04	274.60	274.60	275.04	0.017255	3.03	5.43	7.24	0.91
Reach #1	1199	Reg	98.97	272.04	276.52	276.52	277.35	0.012164	4.94	31.41	19.71	0.90
Reach #1	1191	2	9.93	272.00	273.13	273.13	273.44	0.015676	2.45	4.05	6.77	1.01
Reach #1	1191	5	11.27	272.00	273.20	273.20	273.52	0.015314	2.51	4.48	7.06	1.01
Reach #1	1191	10	12.13	272.00	273.23	273.23	273.57	0.015190	2.56	4.74	7.23	1.01
Reach #1	1191	25	13.13	272.00	273.27	273.27	273.62	0.015044	2.60	5.04	7.42	1.01
Reach #1	1191	50	13.86	272.00	273.30	273.30	273.66	0.014957	2.64	5.25	7.56	1.01
Reach #1	1191	100	14.43	272.00	273.32	273.32	273.68	0.014893	2.66	5.42	7.66	1.01
Reach #1	1191	Reg	98.97	272.00	275.07	275.07	276.05	0.008567	4.53	25.98	15.24	0.94
Reach #1	1148	2	9.93	270.62	271.46	271.46	271.76	0.015785	2.43	4.08	6.89	1.01
Reach #1	1148	5	11.27	270.62	271.52	271.52	271.84	0.015534	2.51	4.49	7.09	1.01
Reach #1	1148	10	12.13	270.62	271.55	271.55	271.89	0.015384	2.56	4.74	7.22	1.01
Reach #1	1148	25	13.13	270.62	271.59	271.59	271.94	0.015217	2.61	5.03	7.36	1.01
Reach #1	1148	50	13.86	270.62	271.62	271.62	271.98	0.015125	2.65	5.24	7.46	1.01
Reach #1	1148	100	14.43	270.62	271.64	271.64	272.01	0.015034	2.67	5.40	7.53	1.01
Reach #1	1148	Reg	98.97	270.62	273.41	273.41	274.38	0.010351	4.40	23.60	14.29	0.96

HEC-RAS Plan: Plan 2 River: Reach #1 Reach: Reach #1 (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach #1	1051	2	9.93	267.42	268.12	268.12	268.42	0.016181	2.42	4.11	6.99	1.01
Reach #1	1051	5	11.27	267.42	268.18	268.18	268.50	0.015890	2.51	4.49	7.06	1.01
Reach #1	1051	10	12.13	267.42	268.21	268.21	268.55	0.015833	2.57	4.71	7.10	1.01
Reach #1	1051	25	13.13	267.42	268.25	268.25	268.60	0.015625	2.63	4.98	7.15	1.01
Reach #1	1051	50	13.86	267.42	268.28	268.28	268.64	0.015393	2.66	5.21	7.28	1.00
Reach #1	1051	100	14.43	267.42	268.30	268.30	268.67	0.015327	2.68	5.39	7.43	1.00
Reach #1	1051	Reg	98.97	267.42	270.11	270.11	270.99	0.009786	4.22	25.88	17.22	0.91
Reach #1	1000	2	9.93	264.90	266.19	265.91	266.33	0.005004	1.66	6.28	11.18	0.58
Reach #1	1000	5	11.27	264.90	266.26	265.98	266.41	0.005001	1.74	7.02	11.77	0.58
Reach #1	1000	10	12.13	264.90	266.30	266.01	266.45	0.005001	1.78	7.48	12.13	0.59
Reach #1	1000	25	13.13	264.90	266.34	266.06	266.51	0.005001	1.83	8.01	12.53	0.59
Reach #1	1000	50	13.86	264.90	266.37	266.09	266.54	0.005001	1.86	8.40	12.81	0.59
Reach #1	1000	100	14.43	264.90	266.39	266.11	266.57	0.005001	1.88	8.70	13.02	0.59
Reach #1	1000	Reg	98.97	264.90	267.87	267.67	268.23	0.005004	3.29	53.15	46.77	0.67

Groff Mill Creek Plan: 1) Plan 2 11/09/2019 2:29:23 PM 2) Conv+Storage 12/08/2019 9:41:41 AM

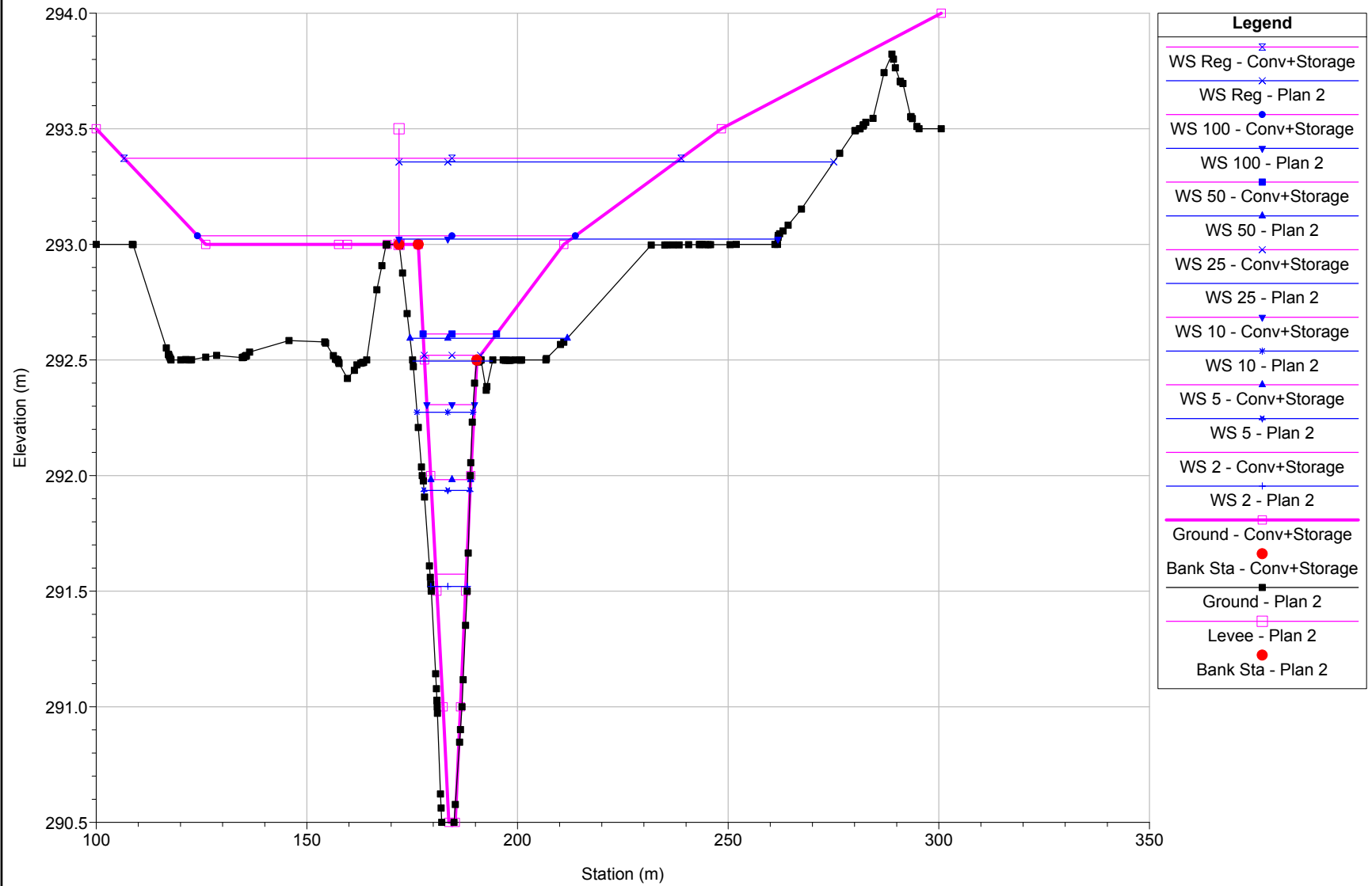
Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

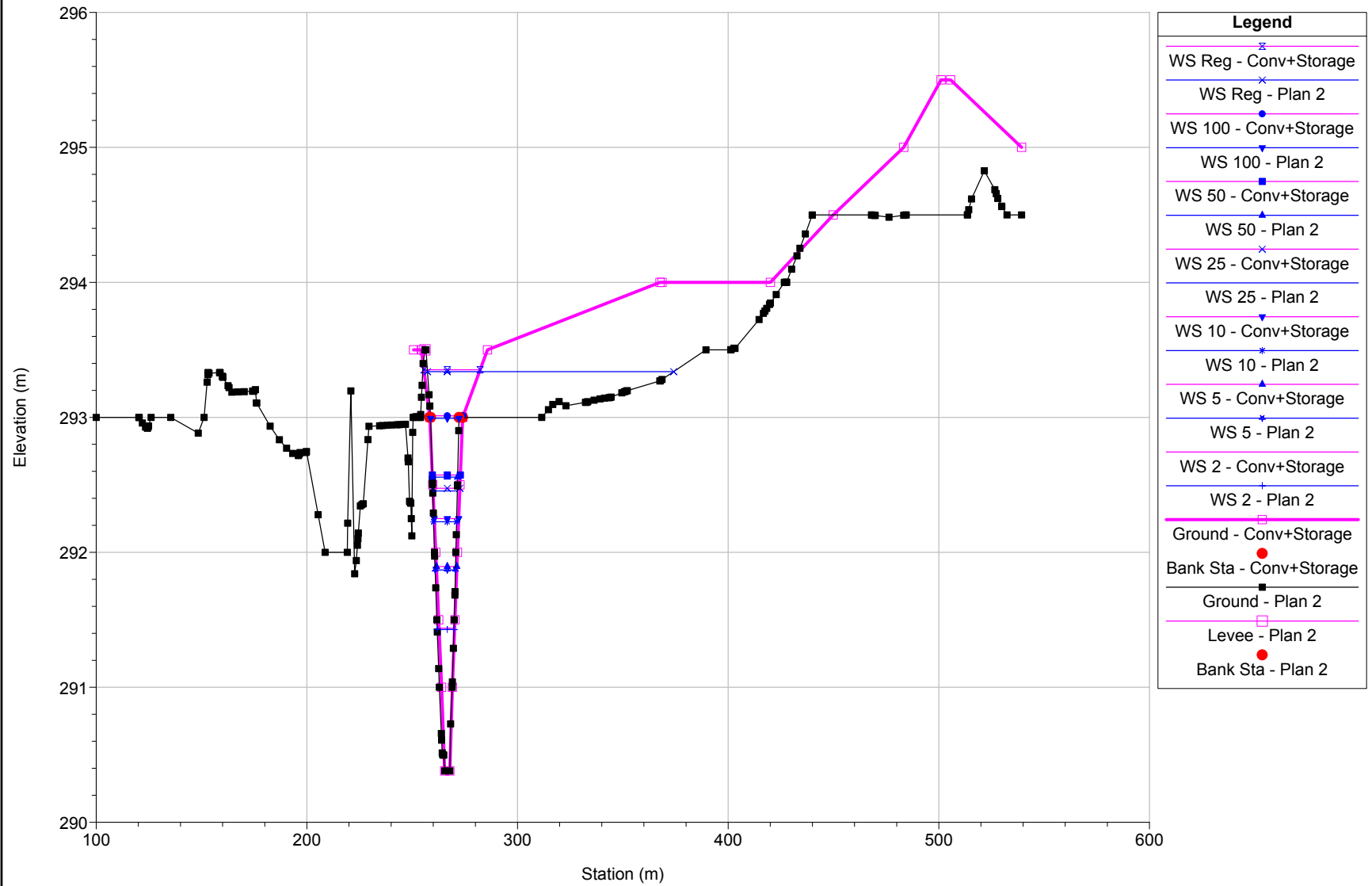
River = Reach #1 Reach = Reach #1 RS = 4970 added CP Spur by WSP on Aug. 2, 2019



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

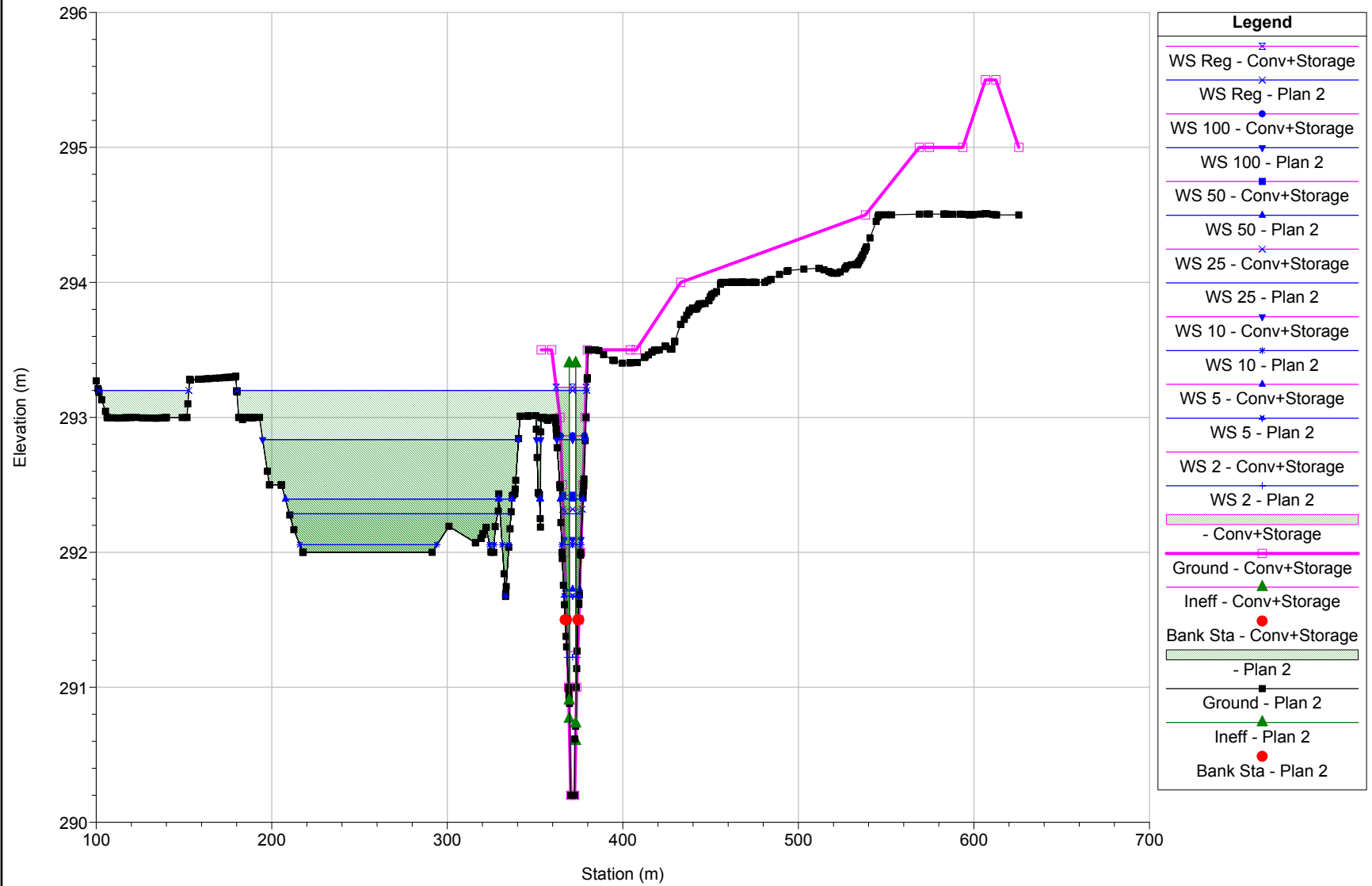
River = Reach #1 Reach = Reach #1 RS = 4889 added CP Spur by WSP on Aug. 2, 2019



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

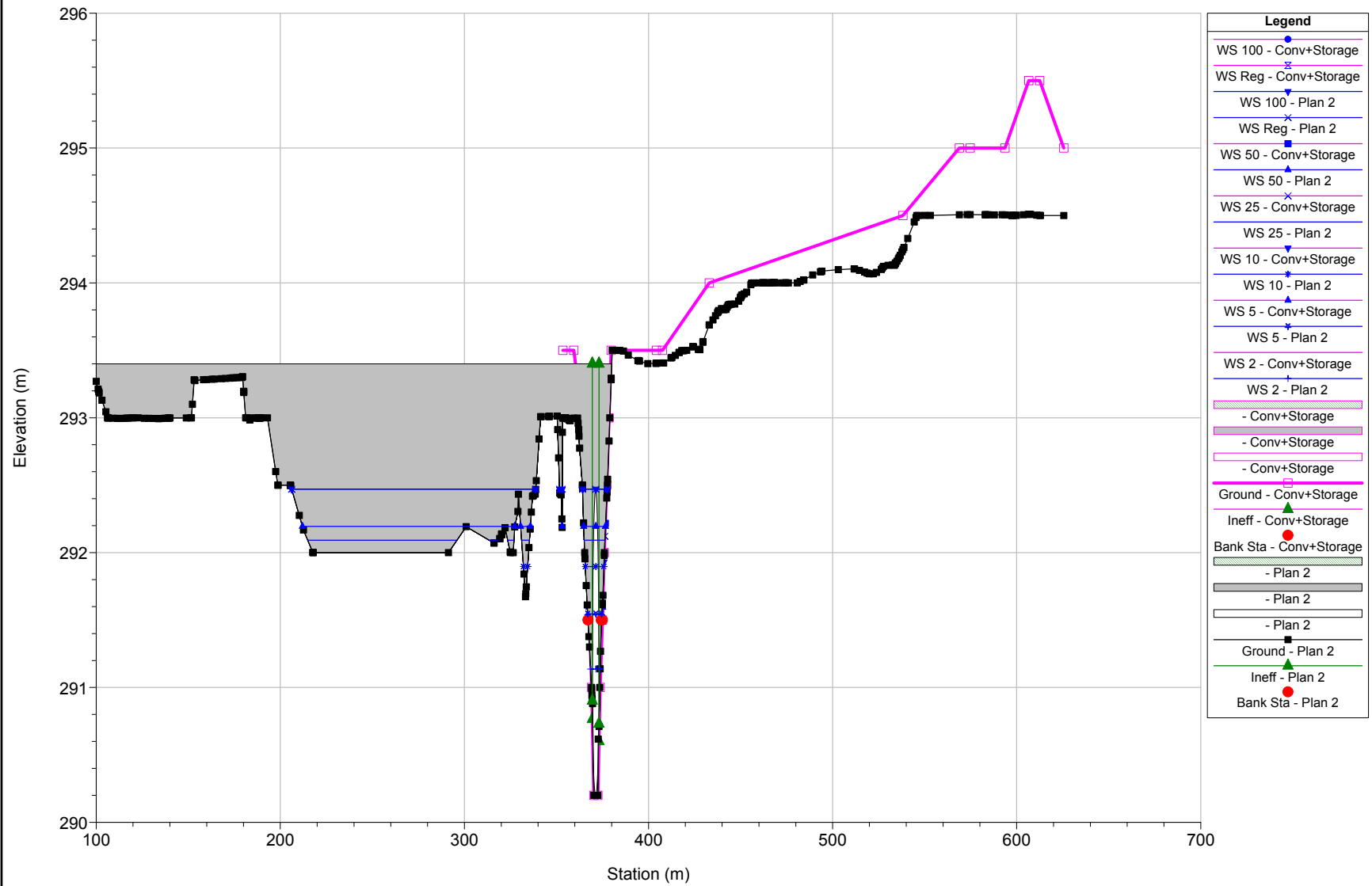
River = Reach #1 Reach = Reach #1 RS = 4816 added CP Spur by WSP on Aug. 2, 2019



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

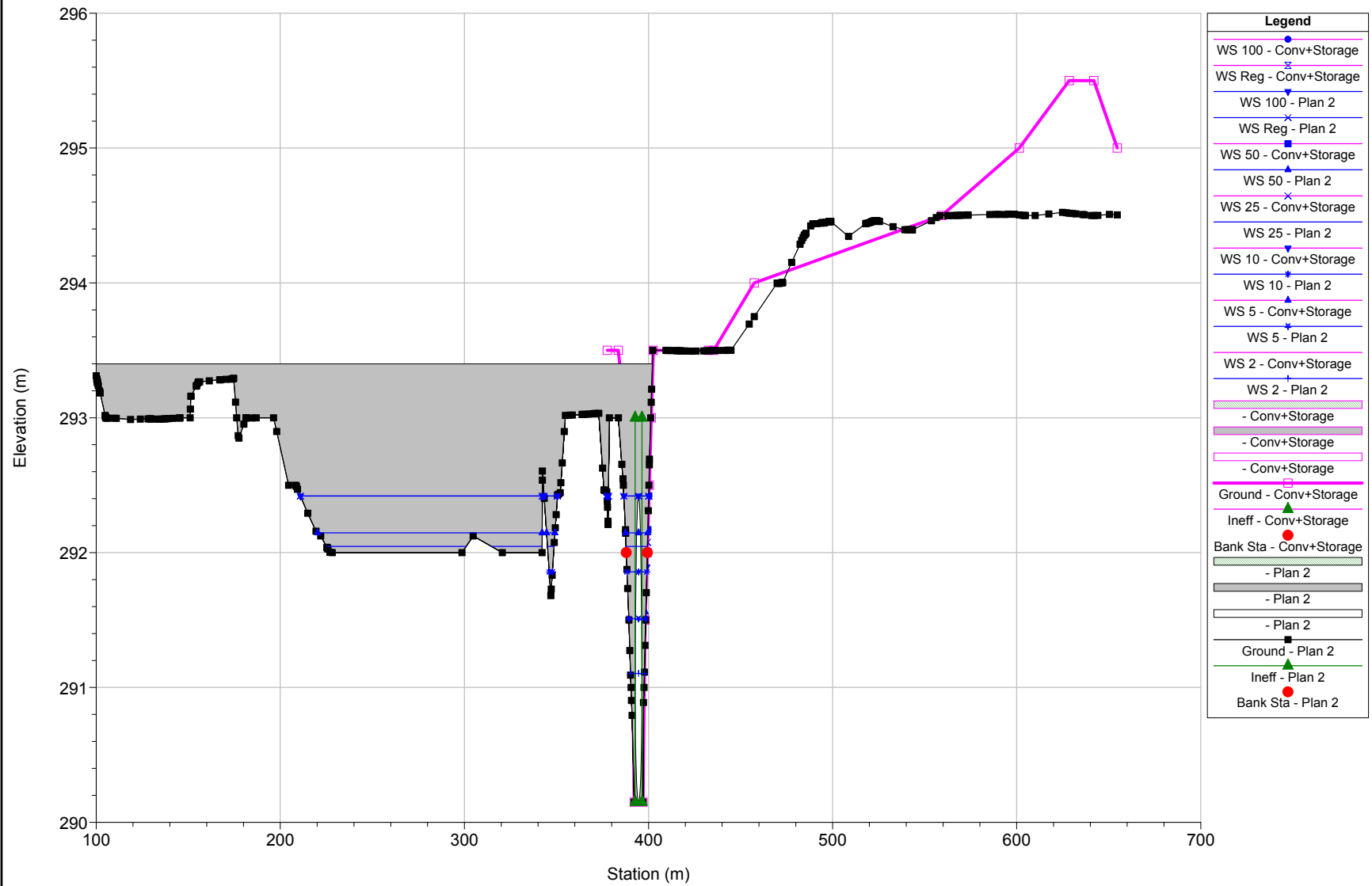
River = Reach #1 Reach = Reach #1 RS = 4805 Culv Upstream of Railway (North of Lang's Drive)



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

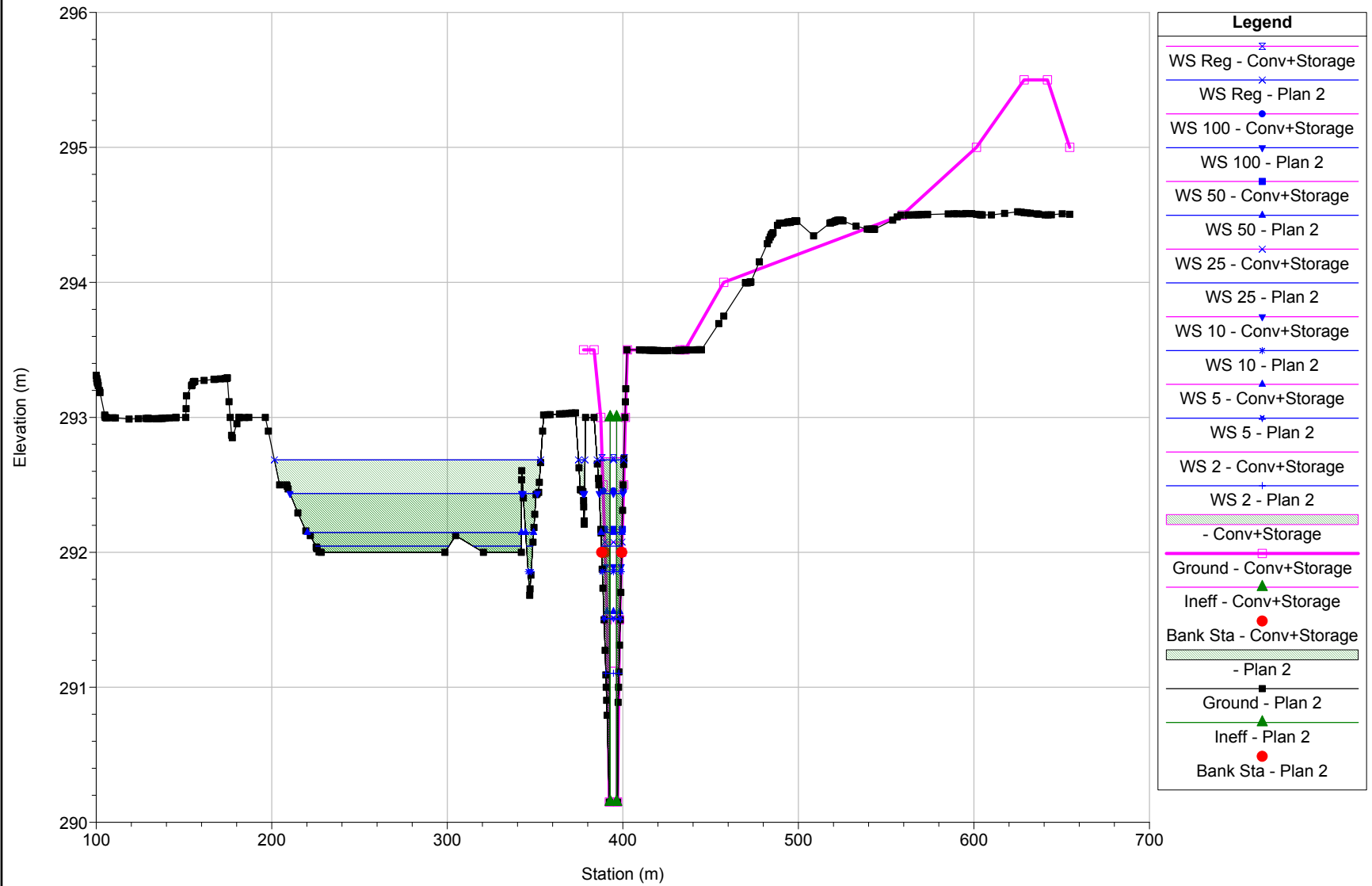
River = Reach #1 Reach = Reach #1 RS = 4805 Culv Upstream of Railway (North of Lang's Drive)



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

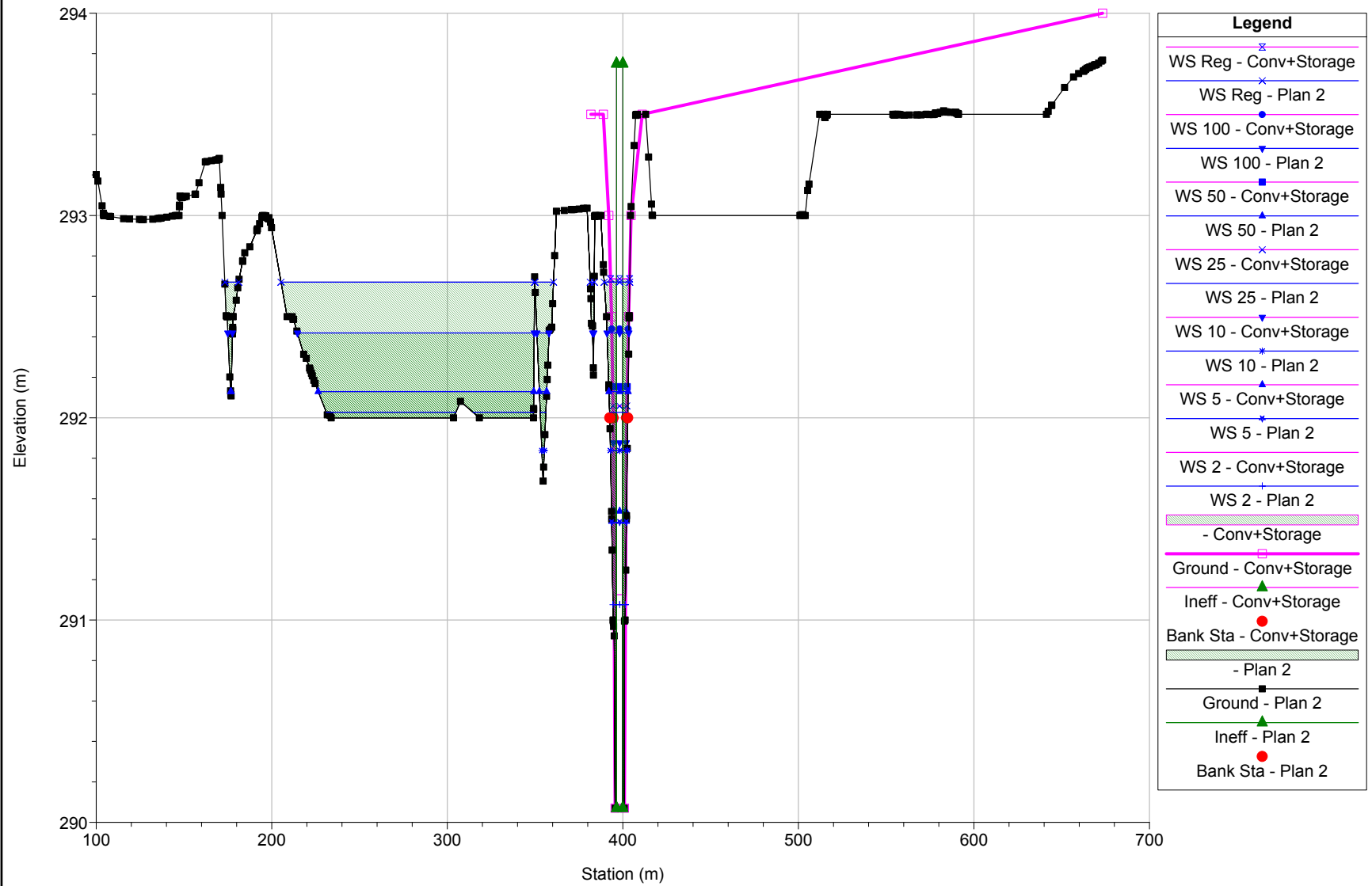
River = Reach #1 Reach = Reach #1 RS = 4800 added CP Spur by WSP on Aug. 2, 2019



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

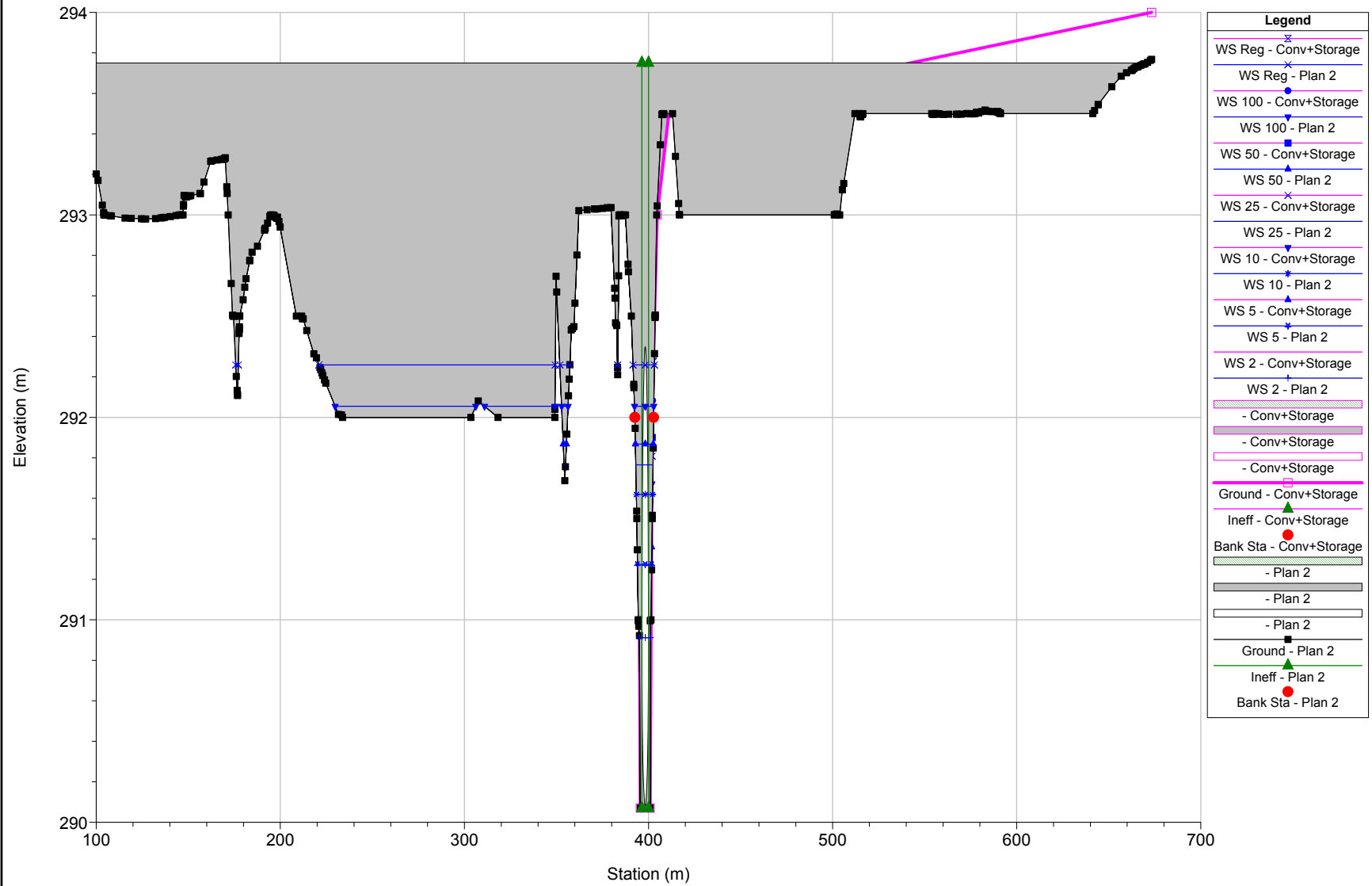
River = Reach #1 Reach = Reach #1 RS = 4782 added CP Spur by WSP on Aug. 2, 2019



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

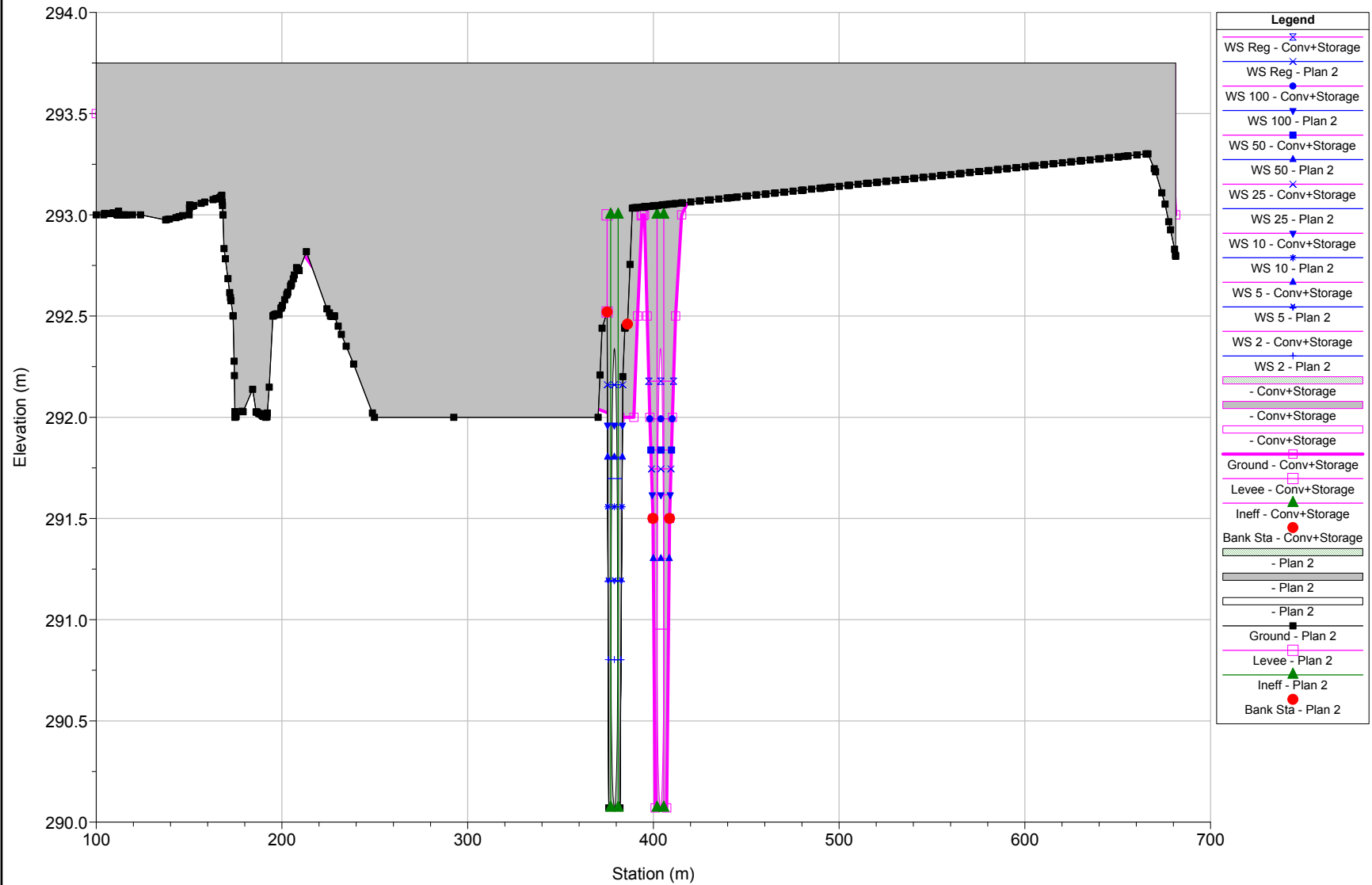
River = Reach #1 Reach = Reach #1 RS = 4775 Culv Railway (North of Lang's Drive)



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

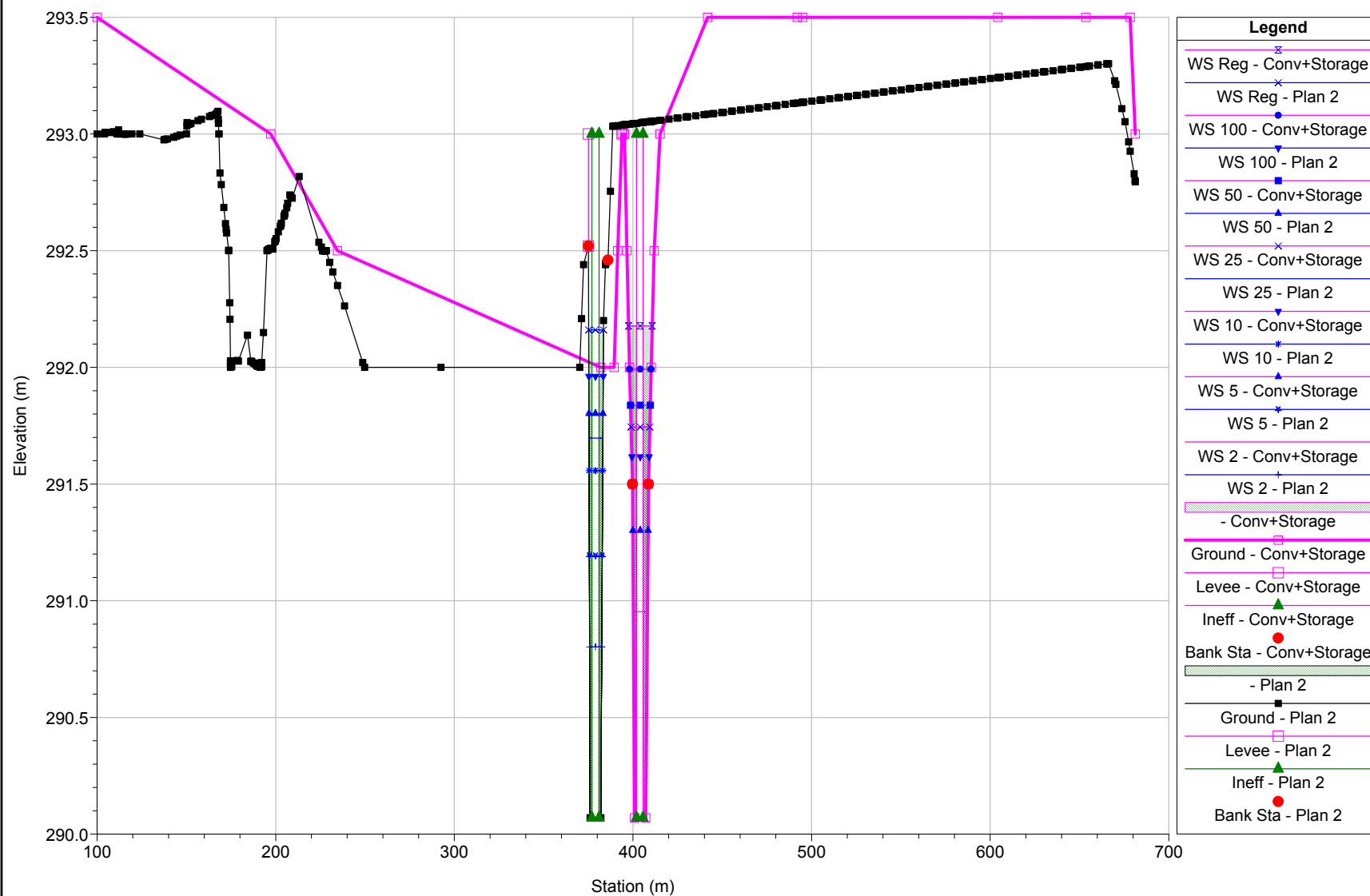
River = Reach #1 Reach = Reach #1 RS = 4775 Culv Railway (North of Lang's Drive)



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

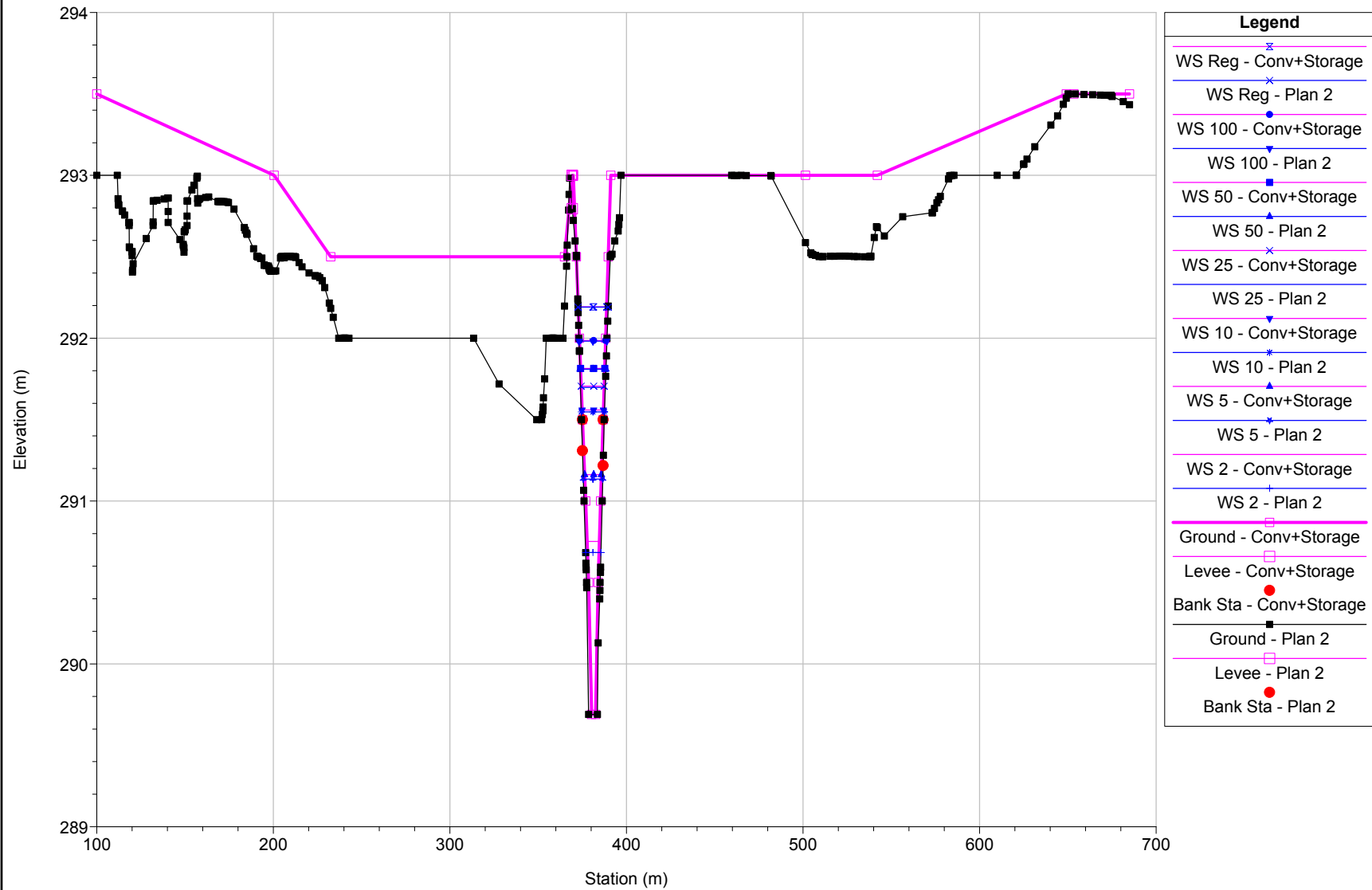
River = Reach #1 Reach = Reach #1 RS = 4767 added CP Spur by WSP on Aug. 2, 2019



Groff Mill Creek Plan: 1) Plan 2 2:29:23 PM 2) Conv+Storage 9:41:41 AM

Geom: Alt B+D3 Janet+CP Spur WSP Flow: Alt D3

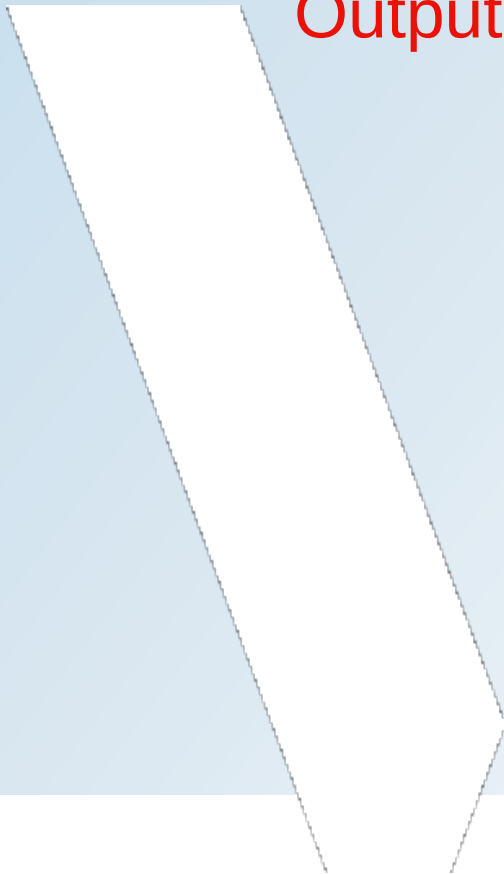
River = Reach #1 Reach = Reach #1 RS = 4667 added CP Spur by WSP on Aug. 2, 2019

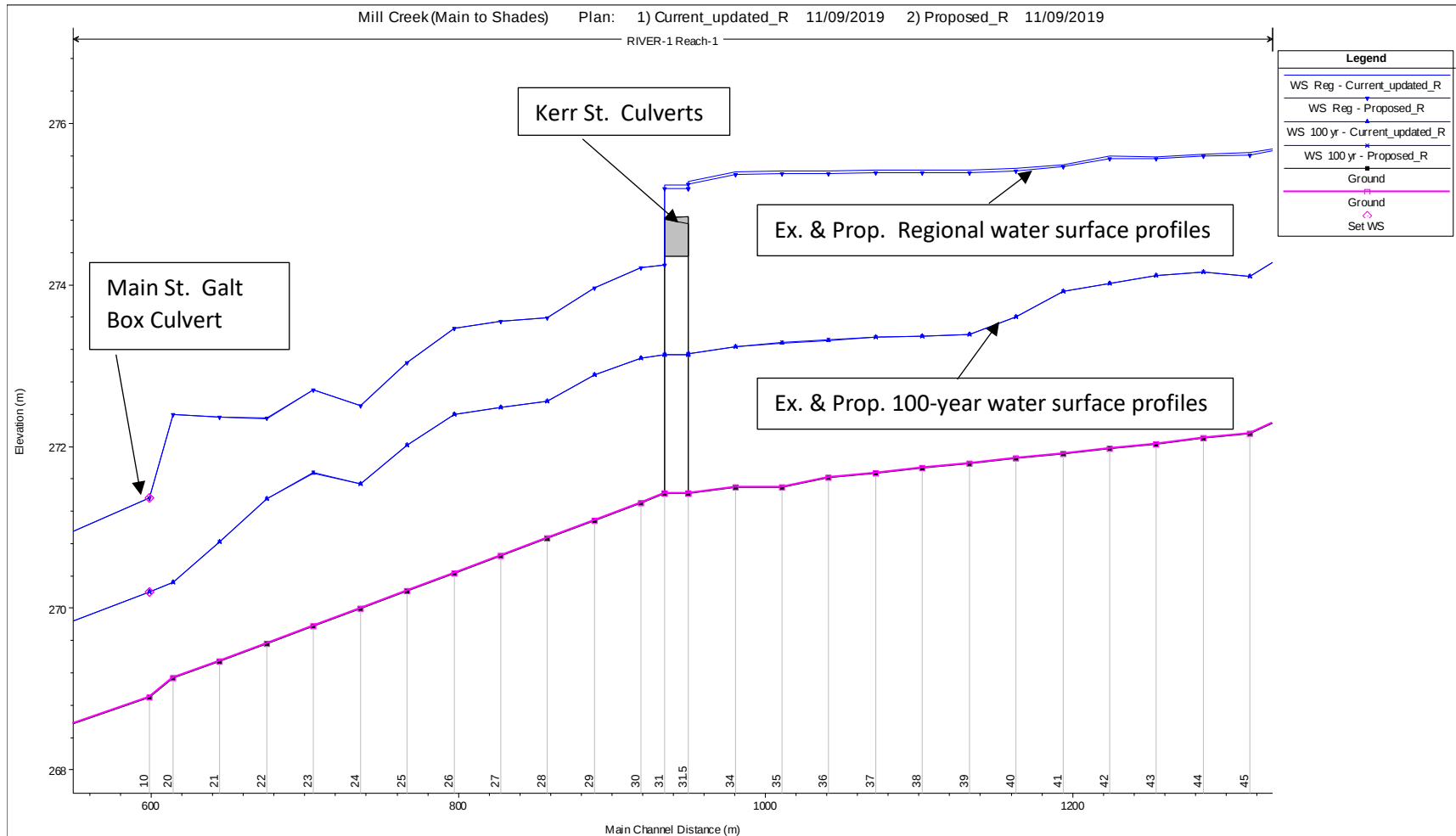


APPENDIX

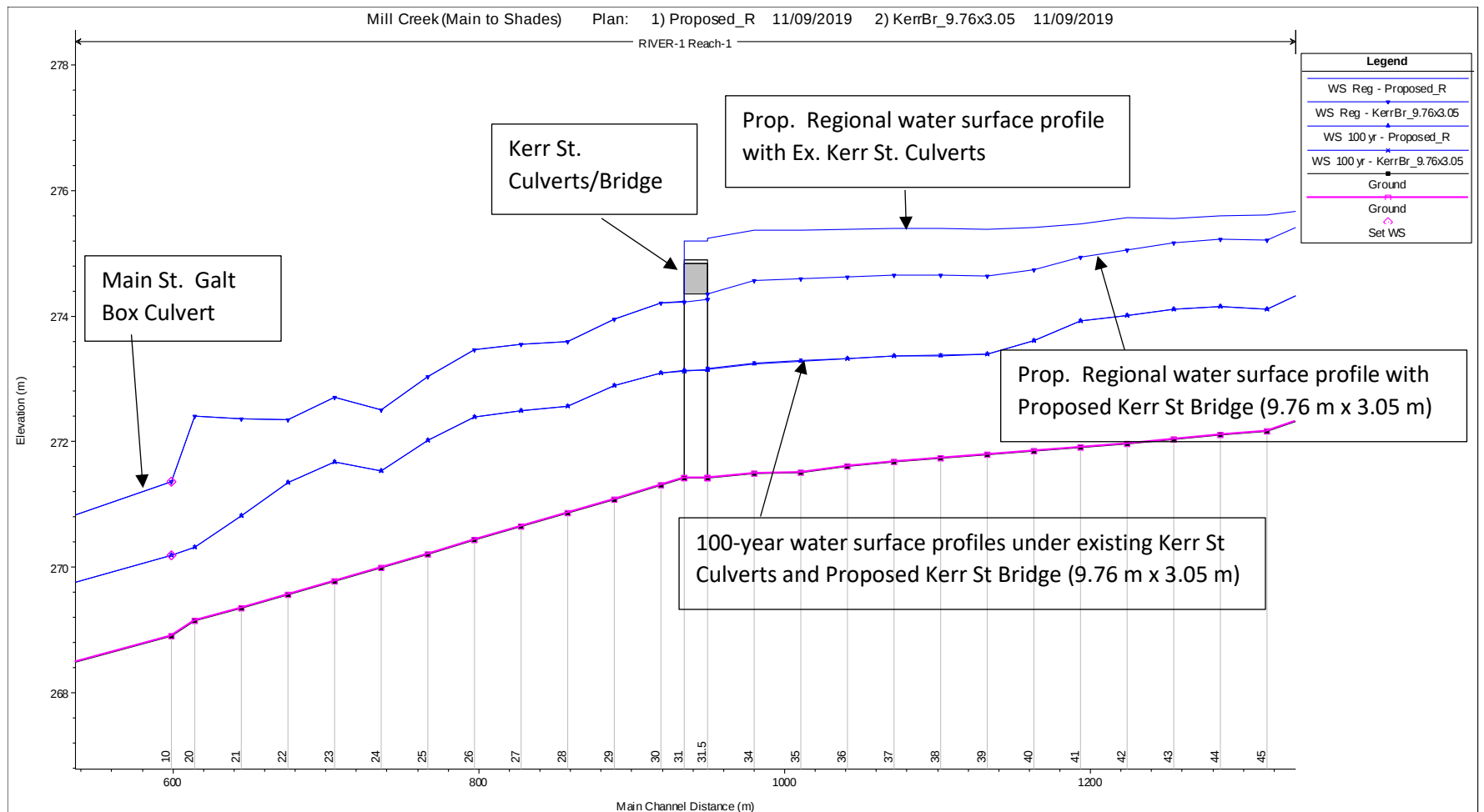
E

Mill Creek Hydraulic Modelling
Output

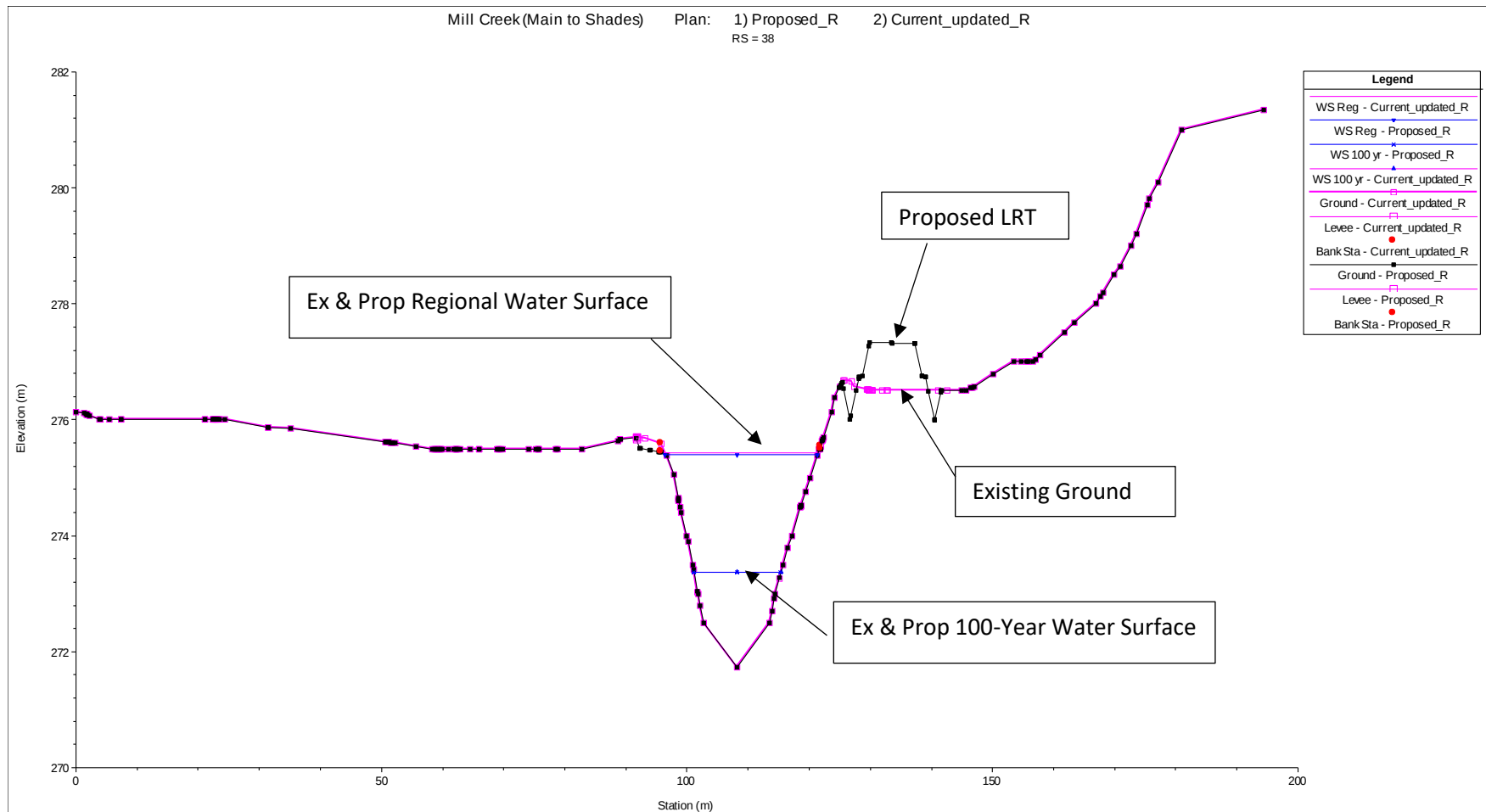




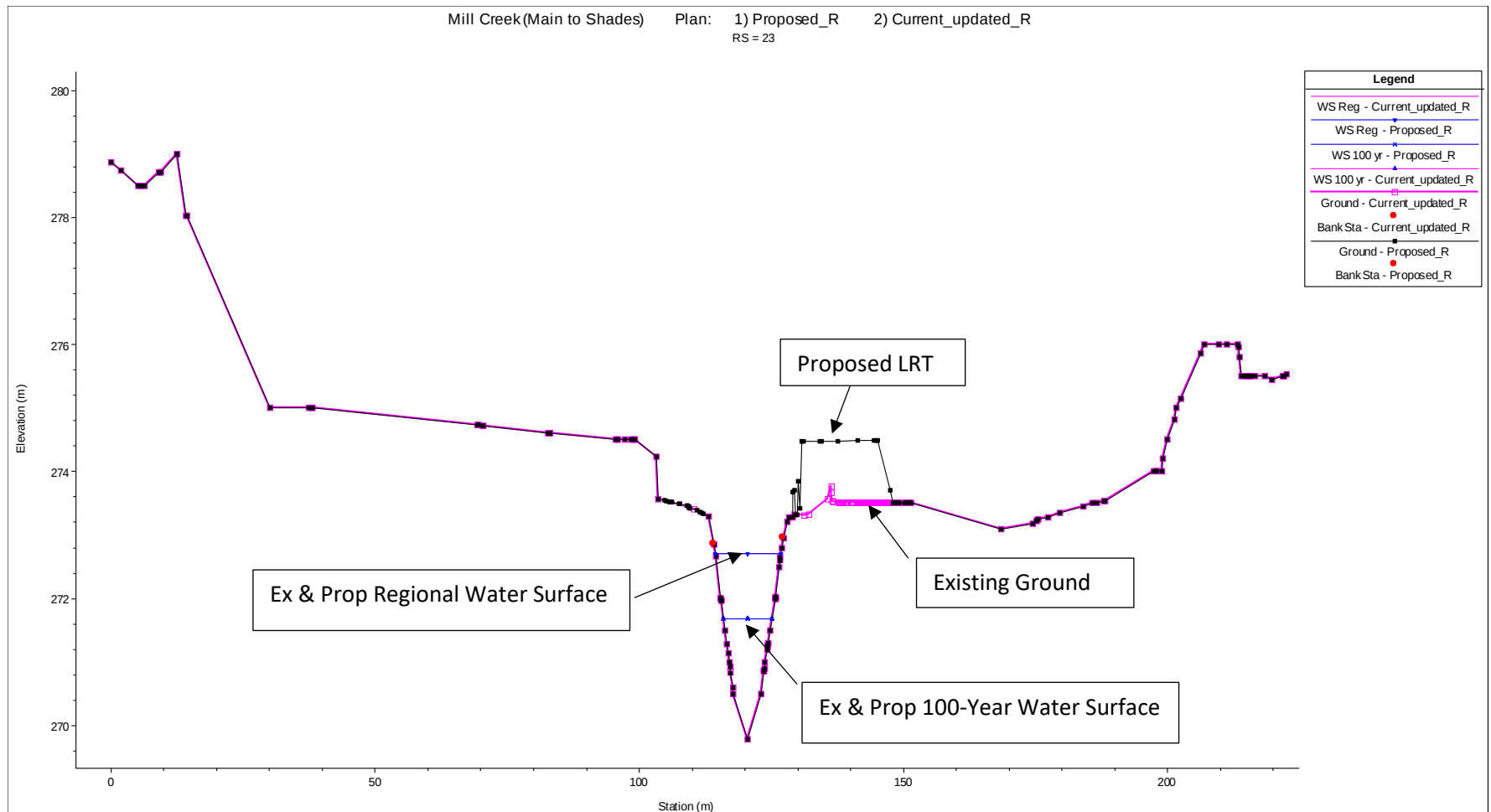
Regional and 100-Year Storm Water Surface Profiles - Existing and Proposed (LRT) Conditions



Regional and 100-Year Storm Water Surface Profiles – With Existing Kerr St. Culverts and Proposed Kerr St. Bridge



Existing and Proposed Water Surface Elevations - Cross Section 38



Existing and Proposed Water Surface Elevations - Cross Section 23

HEC-RAS Plan: Current_updated_R Locations: User Defined

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
RIVER-1	Reach-1	53	Reg	73.90	274.12	275.08	275.64	276.89	0.054612	5.96	12.41	13.10	1.95
RIVER-1	Reach-1	53	100 yr	28.30	274.12	275.71	274.91	275.81	0.001609	1.34	21.10	14.46	0.35
RIVER-1	Reach-1	53	5 yr	15.90	274.12	275.62	274.66	275.65	0.000620	0.81	19.72	14.21	0.22
RIVER-1	Reach-1	53	PF 4	20.00	274.12	275.41	274.75	275.48	0.001582	1.19	16.78	13.65	0.34
RIVER-1	Reach-1	52	Reg	73.90	273.80	276.13	275.35	276.14	0.000208	0.62	175.44	178.48	0.14
RIVER-1	Reach-1	52	100 yr	28.30	273.80	275.75	275.15	275.75	0.000108	0.38	111.84	161.41	0.10
RIVER-1	Reach-1	52	5 yr	15.90	273.80	275.63	274.66	275.63	0.000059	0.27	92.20	158.94	0.07
RIVER-1	Reach-1	52	PF 4	20.00	273.80	274.77	274.77	275.11	0.014443	2.57	7.79	11.55	1.00
RIVER-1	Reach-1	51	Reg	73.90	273.41	276.12	275.37	276.13	0.000242	0.71	163.94	175.02	0.15
RIVER-1	Reach-1	51	100 yr	28.30	273.41	275.75	274.67	275.75	0.000115	0.44	104.09	149.35	0.10
RIVER-1	Reach-1	51	5 yr	15.90	273.41	275.63	274.29	275.63	0.000061	0.31	86.17	145.74	0.07
RIVER-1	Reach-1	51	PF 4	20.00	273.41	274.67	274.44	274.92	0.007138	2.19	9.12	9.28	0.71
RIVER-1	Reach-1	50	Reg	73.90	273.10	275.88	275.88	276.11	0.001759	2.71	59.60	107.95	0.56
RIVER-1	Reach-1	50	100 yr	28.30	273.10	275.64	274.49	275.74	0.000672	1.56	34.57	101.15	0.34
RIVER-1	Reach-1	50	5 yr	15.90	273.10	275.58	274.04	275.62	0.000269	0.97	28.69	98.55	0.21
RIVER-1	Reach-1	50	PF 4	20.00	273.10	274.63	274.20	274.91	0.002147	2.33	8.60	5.76	0.61
RIVER-1	Reach-1	49.5		Bridge									
RIVER-1	Reach-1	48	Reg	73.90	273.10	275.67	275.73	275.96	0.015592	3.07	35.46	82.50	0.70
RIVER-1	Reach-1	48	100 yr	28.30	273.10	275.19	275.33	275.60	0.022820	3.08	10.77	19.87	0.81
RIVER-1	Reach-1	48	5 yr	15.90	273.10	274.40	274.66	275.31	0.069474	4.23	3.76	3.54	1.31
RIVER-1	Reach-1	48	PF 4	20.00	273.10	274.89	275.13	275.46	0.035034	3.37	6.21	10.04	0.97
RIVER-1	Reach-1	47	Reg	73.90	272.80	275.71	274.86	275.80	0.002714	1.36	65.03	102.63	0.35
RIVER-1	Reach-1	47	100 yr	28.30	272.80	273.48	273.93	274.95	0.150038	5.38	5.26	8.21	2.15
RIVER-1	Reach-1	47	5 yr	15.90	272.80	273.23	273.56	274.44	0.210975	4.87	3.27	7.90	2.42
RIVER-1	Reach-1	47	PF 4	20.00	272.80	273.29	273.69	274.72	0.209094	5.28	3.79	7.98	2.45
RIVER-1	Reach-1	46	Reg	73.90	272.34	275.70	274.82	275.77	0.002059	1.29	67.73	87.70	0.31
RIVER-1	Reach-1	46	100 yr	28.30	272.34	274.34	273.99	274.53	0.009655	1.90	14.89	15.11	0.61
RIVER-1	Reach-1	46	5 yr	15.90	272.34	273.91	273.65	274.07	0.011003	1.74	9.14	11.66	0.63
RIVER-1	Reach-1	46	PF 4	20.00	272.34	274.07	273.77	274.24	0.010591	1.81	11.03	12.88	0.63
RIVER-1	Reach-1	45	Reg	73.90	272.16	275.63	274.76	275.74	0.001224	1.48	59.50	72.35	0.39
RIVER-1	Reach-1	45	100 yr	28.30	272.16	274.11	273.87	274.38	0.005174	2.32	12.20	11.92	0.73
RIVER-1	Reach-1	45	5 yr	15.90	272.16	273.69	273.52	273.91	0.005692	2.07	7.69	9.78	0.74
RIVER-1	Reach-1	45	PF 4	20.00	272.16	273.84	273.65	274.08	0.005466	2.17	9.23	10.52	0.74
RIVER-1	Reach-1	44	Reg	73.90	272.10	275.62	274.18	275.71	0.000660	1.32	61.07	46.95	0.30
RIVER-1	Reach-1	44	100 yr	28.30	272.10	274.16	273.44	274.26	0.001345	1.41	20.08	15.52	0.40
RIVER-1	Reach-1	44	5 yr	15.90	272.10	273.72	273.16	273.79	0.001233	1.15	13.82	13.67	0.37
RIVER-1	Reach-1	44	PF 4	20.00	272.10	273.88	273.26	273.96	0.001268	1.25	16.02	14.26	0.38
RIVER-1	Reach-1	43	Reg	73.90	272.03	275.58	274.17	275.68	0.000649	1.41	55.06	31.88	0.30
RIVER-1	Reach-1	43	100 yr	28.30	272.03	274.11	273.41	274.21	0.001396	1.39	20.30	16.52	0.40
RIVER-1	Reach-1	43	5 yr	15.90	272.03	273.69	273.12	273.75	0.001283	1.15	13.77	14.01	0.37
RIVER-1	Reach-1	43	PF 4	20.00	272.03	273.84	273.23	273.92	0.001323	1.25	16.04	14.85	0.38
RIVER-1	Reach-1	42	Reg	73.90	271.97	275.59		275.66	0.000498	1.23	90.12	114.81	0.26
RIVER-1	Reach-1	42	100 yr	28.30	271.97	274.01		274.16	0.002154	1.67	16.92	14.42	0.49
RIVER-1	Reach-1	42	5 yr	15.90	271.97	273.60		273.70	0.002017	1.39	11.42	12.26	0.46
RIVER-1	Reach-1	42	PF 4	20.00	271.97	273.75		273.87	0.002078	1.50	13.33	13.05	0.47
RIVER-1	Reach-1	41	Reg	73.90	271.91	275.49		275.63	0.001084	1.64	45.38	26.19	0.38
RIVER-1	Reach-1	41	100 yr	28.30	271.91	273.92		274.08	0.002530	1.80	15.72	13.44	0.53
RIVER-1	Reach-1	41	5 yr	15.90	271.91	273.52		273.63	0.002361	1.48	10.72	11.73	0.50
RIVER-1	Reach-1	41	PF 4	20.00	271.91	273.67		273.80	0.002426	1.60	12.47	12.35	0.51
RIVER-1	Reach-1	40	Reg	73.90	271.85	275.44		275.59	0.001215	1.70	43.56	24.21	0.40
RIVER-1	Reach-1	40	100 yr	28.30	271.85	273.61	273.49	273.95	0.006916	2.58	10.98	11.68	0.85
RIVER-1	Reach-1	40	5 yr	15.90	271.85	273.24	273.16	273.50	0.007522	2.25	7.06	9.85	0.85
RIVER-1	Reach-1	40	PF 4	20.00	271.85	273.38	273.28	273.66	0.007123	2.37	8.45	10.48	0.84
RIVER-1	Reach-1	39	Reg	73.90	271.79	275.42		275.55	0.000924	1.62	46.97	28.78	0.35
RIVER-1	Reach-1	39	100 yr	28.30	271.79	273.39		273.74	0.006783	2.62	10.82	11.05	0.84
RIVER-1	Reach-1	39	5 yr	15.90	271.79	273.00		273.27	0.007378	2.30	6.92	9.22	0.85
RIVER-1	Reach-1	39	PF 4	20.00	271.79	273.13	273.04	273.44	0.007500	2.46	8.12	9.82	0.87
RIVER-1	Reach-1	38	Reg	73.90	271.73	275.43	273.75	275.52	0.000626	1.36	54.52	24.97	0.29
RIVER-1	Reach-1	38	100 yr	28.30	271.73	273.37	273.01	273.55	0.003182	1.90	14.93	14.21	0.59
RIVER-1	Reach-1	38	5 yr	15.90	271.73	272.89	272.73	273.06	0.005038	1.85	8.61	12.15	0.70
RIVER-1	Reach-1	38	PF 4	20.00	271.73	273.06	272.83	273.23	0.004158	1.87	10.70	12.80	0.65
RIVER-1	Reach-1	37	Reg	73.90	271.67	275.42	273.43	275.50	0.000476	1.18	62.83	30.19	0.26
RIVER-1	Reach-1	37	100 yr	28.30	271.67	273.36	272.70	273.46	0.001469	1.44	19.62	13.58	0.41
RIVER-1	Reach-1	37	5 yr	15.90	271.67	272.87	272.43	272.95	0.001766	1.28	12.42	15.69	0.43
RIVER-1	Reach-1	37	PF 4	20.00	271.67	273.04	272.53	273.13	0.001639	1.35	14.86	14.30	0.42
RIVER-1	Reach-1	36	Reg	73.90	271.61	275.42	273.38	275.48	0.000447	1.12	65.78	31.22	0.25

HEC-RAS Plan: Current_updated_R Locations: User Defined (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
RIVER-1	Reach-1	36	100 yr	28.30	271.61	273.32	272.67	273.42	0.001458	1.42	19.89	16.13	0.41
RIVER-1	Reach-1	36	5 yr	15.90	271.61	272.81	272.40	272.89	0.001914	1.30	12.21	14.03	0.45
RIVER-1	Reach-1	36	PF 4	20.00	271.61	272.99	272.50	273.08	0.001700	1.35	14.84	14.74	0.43
RIVER-1	Reach-1	35	Reg	73.90	271.50	275.41	273.27	275.47	0.000331	1.09	69.09	35.79	0.22
RIVER-1	Reach-1	35	100 yr	28.30	271.50	273.28	272.50	273.38	0.001237	1.34	21.11	16.49	0.38
RIVER-1	Reach-1	35	5 yr	15.90	271.50	272.77	272.20	272.84	0.001335	1.18	13.43	13.43	0.38
RIVER-1	Reach-1	35	PF 4	20.00	271.50	272.95	272.30	273.03	0.001303	1.25	16.00	14.46	0.38
RIVER-1	Reach-1	34	Reg	73.90	271.49	275.40	273.27	275.46	0.000331	1.09	68.73	35.73	0.22
RIVER-1	Reach-1	34	100 yr	28.30	271.49	273.24	272.49	273.33	0.001357	1.39	20.39	16.20	0.40
RIVER-1	Reach-1	34	5 yr	15.90	271.49	272.72	272.20	272.80	0.001525	1.24	12.79	13.14	0.40
RIVER-1	Reach-1	34	PF 4	20.00	271.49	272.90	272.30	272.99	0.001464	1.30	15.33	14.18	0.40
RIVER-1	Reach-1	33	Reg	73.90	271.42	275.28		275.43	0.000898	1.73	43.86	38.15	0.31
RIVER-1	Reach-1	33	100 yr	28.30	271.42	273.15		273.28	0.001695	1.64	17.22	11.22	0.42
RIVER-1	Reach-1	33	5 yr	15.90	271.42	272.65		272.75	0.001690	1.35	11.76	10.75	0.41
RIVER-1	Reach-1	33	PF 4	20.00	271.42	272.83		272.94	0.001681	1.46	13.72	10.98	0.42
RIVER-1	Reach-1	32	Reg	73.90	271.42	275.23	273.22	275.43	0.001879	1.95	37.93	17.66	0.35
RIVER-1	Reach-1	32	100 yr	28.30	271.42	273.14	272.37	273.28	0.002192	1.69	16.77	10.37	0.41
RIVER-1	Reach-1	32	5 yr	15.90	271.42	272.65	272.06	272.74	0.001818	1.32	12.05	10.14	0.38
RIVER-1	Reach-1	32	PF 4	20.00	271.42	272.83	272.17	272.94	0.001937	1.45	13.78	10.25	0.39
RIVER-1	Reach-1	31.5	Bridge										
RIVER-1	Reach-1	31	Reg	73.90	271.42	274.24		274.59	0.004044	2.59	28.54	10.42	0.50
RIVER-1	Reach-1	31	100 yr	28.30	271.42	273.14		273.28	0.002371	1.65	17.13	10.20	0.41
RIVER-1	Reach-1	31	5 yr	15.90	271.42	272.65		272.74	0.001948	1.30	12.23	10.06	0.38
RIVER-1	Reach-1	31	PF 4	20.00	271.42	272.83		272.94	0.002085	1.43	14.02	10.10	0.39
RIVER-1	Reach-1	30	Reg	73.90	271.30	274.21	273.27	274.54	0.001717	2.54	29.13	11.67	0.51
RIVER-1	Reach-1	30	100 yr	28.30	271.30	273.10	272.42	273.25	0.001347	1.72	16.46	10.94	0.45
RIVER-1	Reach-1	30	5 yr	15.90	271.30	272.61	272.11	272.71	0.001309	1.41	11.29	10.32	0.43
RIVER-1	Reach-1	30	PF 4	20.00	271.30	272.79	272.22	272.91	0.001312	1.52	13.14	10.55	0.44
RIVER-1	Reach-1	29	Reg	73.90	271.08	273.96	273.51	274.46	0.003118	3.12	23.68	12.52	0.72
RIVER-1	Reach-1	29	100 yr	28.30	271.08	272.89	272.55	273.17	0.003008	2.37	11.93	9.58	0.68
RIVER-1	Reach-1	29	5 yr	15.90	271.08	272.44	272.17	272.64	0.002971	2.00	7.94	8.26	0.65
RIVER-1	Reach-1	29	PF 4	20.00	271.08	272.60	272.31	272.84	0.002995	2.15	9.31	8.72	0.66
RIVER-1	Reach-1	28	Reg	73.90	270.86	273.60	273.49	274.31	0.005299	3.75	19.72	12.01	0.93
RIVER-1	Reach-1	28	100 yr	28.30	270.86	272.56	272.49	273.03	0.005790	3.04	9.31	8.45	0.92
RIVER-1	Reach-1	28	5 yr	15.90	270.86	272.14	272.10	272.50	0.006484	2.67	5.96	7.33	0.94
RIVER-1	Reach-1	28	PF 4	20.00	270.86	272.29	272.24	272.69	0.006158	2.81	7.12	7.73	0.93
RIVER-1	Reach-1	27	Reg	73.90	270.65	273.55	273.27	274.13	0.003872	3.38	21.89	12.28	0.81
RIVER-1	Reach-1	27	100 yr	28.30	270.65	272.49	272.28	272.85	0.004115	2.68	10.57	8.99	0.79
RIVER-1	Reach-1	27	5 yr	15.90	270.65	272.04	271.87	272.31	0.004292	2.32	6.87	7.58	0.78
RIVER-1	Reach-1	27	PF 4	20.00	270.65	272.20	272.02	272.51	0.004228	2.46	8.14	8.09	0.78
RIVER-1	Reach-1	26	Reg	73.90	270.43	273.46	273.12	274.01	0.003613	3.29	22.46	12.36	0.78
RIVER-1	Reach-1	26	100 yr	28.30	270.43	272.39	272.13	272.73	0.003575	2.55	11.09	9.10	0.74
RIVER-1	Reach-1	26	5 yr	15.90	270.43	271.94	271.73	272.18	0.003693	2.19	7.25	7.77	0.73
RIVER-1	Reach-1	26	PF 4	20.00	270.43	272.10	271.87	272.38	0.003646	2.33	8.58	8.25	0.73
RIVER-1	Reach-1	25	Reg	73.90	270.21	273.04	273.04	273.85	0.006110	3.96	18.64	11.61	1.00
RIVER-1	Reach-1	25	100 yr	28.30	270.21	272.02	272.02	272.56	0.006830	3.25	8.70	8.02	1.00
RIVER-1	Reach-1	25	5 yr	15.90	270.21	271.60	271.60	272.01	0.007357	2.84	5.60	6.83	1.00
RIVER-1	Reach-1	25	PF 4	20.00	270.21	271.75	271.75	272.21	0.007142	3.00	6.67	7.26	1.00
RIVER-1	Reach-1	24	Reg	73.90	269.99	272.50	272.72	273.59	0.009156	4.62	15.99	10.65	1.20
RIVER-1	Reach-1	24	100 yr	28.30	269.99	271.54	271.70	272.28	0.010391	3.83	7.39	7.22	1.21
RIVER-1	Reach-1	24	5 yr	15.90	269.99	271.14	271.26	271.72	0.011630	3.38	4.71	6.18	1.23
RIVER-1	Reach-1	24	PF 4	20.00	269.99	271.28	271.42	271.93	0.011146	3.56	5.62	6.55	1.23
RIVER-1	Reach-1	23	Reg	73.90	269.78	272.70	272.47	273.32	0.004199	3.46	21.34	12.36	0.84
RIVER-1	Reach-1	23	100 yr	28.30	269.78	271.67	271.52	272.07	0.004676	2.78	10.19	9.11	0.84
RIVER-1	Reach-1	23	5 yr	15.90	269.78	271.24	271.12	271.54	0.004885	2.41	6.59	7.59	0.83
RIVER-1	Reach-1	23	PF 4	20.00	269.78	271.40	271.27	271.73	0.004832	2.56	7.80	8.10	0.83
RIVER-1	Reach-1	22	Reg	73.90	269.56	272.35	272.35	273.14	0.006213	3.95	18.69	11.93	1.01
RIVER-1	Reach-1	22	100 yr	28.30	269.56	271.35	271.35	271.88	0.006871	3.24	8.74	8.19	1.00
RIVER-1	Reach-1	22	5 yr	15.90	269.56	270.95	270.95	271.35	0.007367	2.81	5.67	7.07	1.00
RIVER-1	Reach-1	22	PF 4	20.00	269.56	271.09	271.09	271.54	0.007157	2.97	6.73	7.47	1.00
RIVER-1	Reach-1	21	Reg	73.90	269.34	272.37	271.91	272.83	0.002896	3.02	24.45	13.14	0.71
RIVER-1	Reach-1	21	100 yr	28.30	269.34	270.82	271.02	271.58	0.012976	3.86	7.34	8.91	1.36
RIVER-1	Reach-1	21	5 yr	15.90	269.34	270.54	270.66	271.05	0.012050	3.17	5.01	7.79	1.26
RIVER-1	Reach-1	21	PF 4	20.00	269.34	270.64	270.79	271.24	0.012502	3.44	5.82	8.21	1.30
RIVER-1	Reach-1	20	Reg	73.90	269.14	272.40	271.45	272.73	0.001582	2.52	29.29	11.99	0.52
RIVER-1	Reach-1	20	100 yr	28.30	269.14	270.32	270.56	271.15	0.014457	4.03	7.01	8.65	1.43

HEC-RAS Plan: Current_updated_R Locations: User Defined (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
RIVER-1	Reach-1	20	5 yr	15.90	269.14	270.04	270.20	270.63	0.015382	3.42	4.65	7.83	1.42
RIVER-1	Reach-1	20	PF 4	20.00	269.14	270.14	270.33	270.82	0.014959	3.65	5.48	8.12	1.42
RIVER-1	Reach-1	10	Reg	73.90	268.90	271.36	271.36	272.60	0.004629	4.92	15.02	6.10	1.00
RIVER-1	Reach-1	10	100 yr	28.30	268.90	270.20	270.20	270.85	0.004209	3.58	7.90	6.10	1.00
RIVER-1	Reach-1	10	5 yr	15.90	268.90	269.78	269.78	270.23	0.004190	2.96	5.38	6.10	1.01
RIVER-1	Reach-1	10	PF 4	20.00	268.90	269.93	269.93	270.45	0.004180	3.19	6.27	6.10	1.01
RIVER-1	Reach-1	5	Reg	73.90	266.70	268.61	269.16	270.66	0.009386	6.34	11.65	6.10	1.47
RIVER-1	Reach-1	5	100 yr	28.30	266.70	267.88	268.00	268.67	0.005569	3.94	7.19	6.10	1.16
RIVER-1	Reach-1	5	5 yr	15.90	266.70	267.50	267.58	268.04	0.005620	3.26	4.88	6.10	1.16
RIVER-1	Reach-1	5	PF 4	20.00	266.70	267.63	267.73	268.26	0.005564	3.51	5.70	6.10	1.16
RIVER-1	Reach-1	4	Reg	73.90	262.11	266.83	264.57	267.00	0.000375	2.02	52.05	20.00	0.30
RIVER-1	Reach-1	4	100 yr	28.30	262.11	266.28	263.41	266.32	0.000097	0.94	41.02	20.00	0.15
RIVER-1	Reach-1	4	5 yr	15.90	262.11	262.38	262.99	266.98	0.163759	9.49	1.67	6.10	5.79
RIVER-1	Reach-1	4	PF 4	20.00	262.11	262.45	263.14	267.22	0.131817	9.68	2.07	6.10	5.31
RIVER-1	Reach-1	3	Reg	73.90	260.99	266.90		266.94	0.000089	1.14	113.62	40.00	0.15
RIVER-1	Reach-1	3	100 yr	28.30	260.99	266.29		266.30	0.000024	0.55	89.56	40.00	0.08
RIVER-1	Reach-1	3	5 yr	15.90	260.99	261.71	261.87	262.38	0.007784	3.62	4.39	6.10	1.36
RIVER-1	Reach-1	3	PF 4	20.00	260.99	261.81	262.02	262.62	0.008159	3.98	5.02	6.10	1.40
RIVER-1	Reach-1	2	Reg	73.90	260.65	266.90		266.93	0.000074	1.08	120.46	40.00	0.14
RIVER-1	Reach-1	2	100 yr	28.30	260.65	266.29		266.30	0.000019	0.52	96.37	40.00	0.07
RIVER-1	Reach-1	2	5 yr	15.90	260.65	261.88	261.53	262.11	0.001543	2.12	7.51	6.10	0.61
RIVER-1	Reach-1	2	PF 4	20.00	260.65	261.39	261.68	262.38	0.011158	4.41	4.54	6.10	1.63
RIVER-1	Reach-1	1	Reg	73.90	260.47	266.90		266.93	0.000047	0.88	145.09	40.00	0.11
RIVER-1	Reach-1	1	100 yr	28.30	260.47	266.30		266.30	0.000011	0.41	120.76	40.00	0.05
RIVER-1	Reach-1	1	5 yr	15.90	260.47	261.88		262.05	0.001041	1.85	8.59	6.10	0.50
RIVER-1	Reach-1	1	PF 4	20.00	260.47	261.78	261.50	262.10	0.002056	2.51	7.96	6.10	0.70
RIVER-1	Reach-1	0.1	Reg	73.90	257.71	266.92	258.24	266.92	0.000001	0.10	1003.10	360.03	0.01
RIVER-1	Reach-1	0.1	100 yr	28.30	257.71	266.30	257.99	266.30	0.000000	0.04	811.86	272.88	0.01
RIVER-1	Reach-1	0.1	5 yr	15.90	257.71	262.00	257.90	262.00	0.000000	0.06	276.86	75.13	0.01
RIVER-1	Reach-1	0.1	PF 4	20.00	257.71	262.00	257.93	262.00	0.000001	0.07	276.86	75.13	0.01

HEC-RAS Plan: Proposed_R Locations: User Defined

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
RIVER-1	Reach-1	53	Reg	73.90	274.12	275.08	275.64	276.89	0.054612	5.96	12.41	13.10	1.95
RIVER-1	Reach-1	53	100 yr	28.30	274.12	275.71	274.91	275.81	0.001609	1.34	21.10	14.46	0.35
RIVER-1	Reach-1	53	5 yr	15.90	274.12	275.62	274.66	275.65	0.000620	0.81	19.72	14.21	0.22
RIVER-1	Reach-1	53	PF 4	20.00	274.12	275.41	274.75	275.48	0.001582	1.19	16.78	13.65	0.34
RIVER-1	Reach-1	52	Reg	73.90	273.80	276.13	275.35	276.14	0.000208	0.62	175.44	178.48	0.14
RIVER-1	Reach-1	52	100 yr	28.30	273.80	275.75	275.15	275.75	0.000108	0.38	111.84	161.41	0.10
RIVER-1	Reach-1	52	5 yr	15.90	273.80	275.63	274.66	275.63	0.000059	0.27	92.20	158.94	0.07
RIVER-1	Reach-1	52	PF 4	20.00	273.80	274.77	274.77	275.11	0.014443	2.57	7.79	11.55	1.00
RIVER-1	Reach-1	51	Reg	73.90	273.41	276.12	275.37	276.13	0.000242	0.71	163.94	175.02	0.15
RIVER-1	Reach-1	51	100 yr	28.30	273.41	275.75	274.67	275.75	0.000115	0.44	104.09	149.35	0.10
RIVER-1	Reach-1	51	5 yr	15.90	273.41	275.63	274.29	275.63	0.000061	0.31	86.17	145.74	0.07
RIVER-1	Reach-1	51	PF 4	20.00	273.41	274.67	274.44	274.92	0.007138	2.19	9.12	9.28	0.71
RIVER-1	Reach-1	50	Reg	73.90	273.10	275.88	275.88	276.11	0.001759	2.71	59.60	107.95	0.56
RIVER-1	Reach-1	50	100 yr	28.30	273.10	275.64	274.49	275.74	0.000672	1.56	34.57	101.15	0.34
RIVER-1	Reach-1	50	5 yr	15.90	273.10	275.58	274.04	275.62	0.000269	0.97	28.69	98.55	0.21
RIVER-1	Reach-1	50	PF 4	20.00	273.10	274.63	274.20	274.91	0.002147	2.33	8.60	5.76	0.61
RIVER-1	Reach-1	49.5		Bridge									
RIVER-1	Reach-1	48	Reg	73.90	273.10	275.67	275.73	275.96	0.015592	3.07	35.46	82.50	0.70
RIVER-1	Reach-1	48	100 yr	28.30	273.10	275.19	275.33	275.60	0.022820	3.08	10.77	19.87	0.81
RIVER-1	Reach-1	48	5 yr	15.90	273.10	274.40	274.66	275.31	0.069477	4.23	3.76	3.54	1.31
RIVER-1	Reach-1	48	PF 4	20.00	273.10	274.89	275.13	275.46	0.035034	3.37	6.21	10.04	0.97
RIVER-1	Reach-1	47	Reg	73.90	272.80	275.69	274.87	275.78	0.002955	1.41	62.72	101.60	0.36
RIVER-1	Reach-1	47	100 yr	28.30	272.80	273.48	273.93	274.95	0.148678	5.37	5.27	8.17	2.14
RIVER-1	Reach-1	47	5 yr	15.90	272.80	273.23	273.57	274.44	0.209419	4.87	3.27	7.85	2.41
RIVER-1	Reach-1	47	PF 4	20.00	272.80	273.30	273.69	274.72	0.207355	5.28	3.79	7.94	2.44
RIVER-1	Reach-1	46	Reg	73.90	272.34	275.68	274.82	275.75	0.002214	1.33	65.74	86.84	0.32
RIVER-1	Reach-1	46	100 yr	28.30	272.34	274.34	273.99	274.53	0.009655	1.90	14.89	15.11	0.61
RIVER-1	Reach-1	46	5 yr	15.90	272.34	273.91	273.65	274.07	0.011003	1.74	9.14	11.66	0.63
RIVER-1	Reach-1	46	PF 4	20.00	272.34	274.07	273.77	274.24	0.010591	1.81	11.03	12.88	0.63
RIVER-1	Reach-1	45	Reg	73.90	272.16	275.61	274.76	275.72	0.001310	1.52	57.68	70.08	0.40
RIVER-1	Reach-1	45	100 yr	28.30	272.16	274.11	273.87	274.38	0.005174	2.32	12.20	11.92	0.73
RIVER-1	Reach-1	45	5 yr	15.90	272.16	273.69	273.52	273.91	0.005693	2.07	7.69	9.78	0.74
RIVER-1	Reach-1	45	PF 4	20.00	272.16	273.84	273.65	274.08	0.005466	2.17	9.23	10.52	0.74
RIVER-1	Reach-1	44	Reg	73.90	272.10	275.59	274.18	275.68	0.000692	1.34	59.88	46.27	0.31
RIVER-1	Reach-1	44	100 yr	28.30	272.10	274.16	273.44	274.26	0.001345	1.41	20.08	15.52	0.40
RIVER-1	Reach-1	44	5 yr	15.90	272.10	273.72	273.16	273.79	0.001233	1.15	13.82	13.67	0.37
RIVER-1	Reach-1	44	PF 4	20.00	272.10	273.88	273.26	273.96	0.001268	1.25	16.02	14.26	0.38
RIVER-1	Reach-1	43	Reg	73.90	272.03	275.56	274.17	275.66	0.000677	1.43	54.22	31.73	0.31
RIVER-1	Reach-1	43	100 yr	28.30	272.03	274.11	273.41	274.21	0.001396	1.39	20.30	16.52	0.40
RIVER-1	Reach-1	43	5 yr	15.90	272.03	273.69	273.12	273.75	0.001284	1.15	13.77	14.01	0.37
RIVER-1	Reach-1	43	PF 4	20.00	272.03	273.84	273.23	273.92	0.001323	1.25	16.04	14.85	0.38
RIVER-1	Reach-1	42	Reg	73.90	271.97	275.57		275.63	0.000549	1.26	86.47	114.67	0.28
RIVER-1	Reach-1	42	100 yr	28.30	271.97	274.01		274.16	0.002154	1.67	16.92	14.42	0.49
RIVER-1	Reach-1	42	5 yr	15.90	271.97	273.60		273.70	0.002017	1.39	11.42	12.26	0.46
RIVER-1	Reach-1	42	PF 4	20.00	271.97	273.75		273.87	0.002079	1.50	13.33	13.05	0.47
RIVER-1	Reach-1	41	Reg	73.90	271.91	275.46		275.60	0.001085	1.65	45.44	26.47	0.38
RIVER-1	Reach-1	41	100 yr	28.30	271.91	273.92		274.08	0.002530	1.80	15.72	13.44	0.53
RIVER-1	Reach-1	41	5 yr	15.90	271.91	273.52		273.63	0.002361	1.48	10.72	11.73	0.50
RIVER-1	Reach-1	41	PF 4	20.00	271.91	273.67		273.80	0.002427	1.60	12.47	12.35	0.51
RIVER-1	Reach-1	40	Reg	73.90	271.85	275.41		275.56	0.001266	1.72	43.17	27.56	0.41
RIVER-1	Reach-1	40	100 yr	28.30	271.85	273.61	273.48	273.95	0.006920	2.58	10.98	11.67	0.85
RIVER-1	Reach-1	40	5 yr	15.90	271.85	273.24	273.16	273.50	0.007538	2.25	7.06	9.85	0.85
RIVER-1	Reach-1	40	PF 4	20.00	271.85	273.38	273.28	273.66	0.007139	2.37	8.45	10.47	0.84
RIVER-1	Reach-1	39	Reg	73.90	271.79	275.39		275.53	0.000979	1.65	45.52	24.86	0.36
RIVER-1	Reach-1	39	100 yr	28.30	271.79	273.39		273.74	0.006775	2.61	10.83	11.06	0.84
RIVER-1	Reach-1	39	5 yr	15.90	271.79	273.01		273.27	0.007365	2.29	6.93	9.23	0.85
RIVER-1	Reach-1	39	PF 4	20.00	271.79	273.13	273.04	273.44	0.007487	2.46	8.12	9.81	0.86
RIVER-1	Reach-1	38	Reg	73.90	271.73	275.39	273.75	275.49	0.000655	1.38	53.70	24.87	0.30
RIVER-1	Reach-1	38	100 yr	28.30	271.73	273.37	273.01	273.55	0.003180	1.90	14.93	14.20	0.59
RIVER-1	Reach-1	38	5 yr	15.90	271.73	272.89	272.72	273.06	0.005031	1.85	8.61	12.15	0.70
RIVER-1	Reach-1	38	PF 4	20.00	271.73	273.06	272.83	273.23	0.004151	1.87	10.70	12.79	0.65
RIVER-1	Reach-1	37	Reg	73.90	271.67	275.39	273.43	275.47	0.000500	1.21	61.35	28.84	0.26
RIVER-1	Reach-1	37	100 yr	28.30	271.67	273.36	272.71	273.47	0.001467	1.44	19.63	15.57	0.41
RIVER-1	Reach-1	37	5 yr	15.90	271.67	272.87	272.44	272.95	0.001765	1.28	12.42	13.70	0.43
RIVER-1	Reach-1	37	PF 4	20.00	271.67	273.04	272.53	273.13	0.001637	1.35	14.87	14.30	0.42
RIVER-1	Reach-1	36	Reg	73.90	271.61	275.38	273.38	275.45	0.000467	1.14	65.04	32.35	0.25

HEC-RAS Plan: Proposed_R Locations: User Defined (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
RIVER-1	Reach-1	36	100 yr	28.30	271.61	273.32	272.67	273.42	0.001457	1.42	19.90	16.14	0.41
RIVER-1	Reach-1	36	5 yr	15.90	271.61	272.81	272.40	272.89	0.001913	1.30	12.21	14.03	0.45
RIVER-1	Reach-1	36	PF 4	20.00	271.61	272.99	272.50	273.08	0.001699	1.35	14.84	14.74	0.43
RIVER-1	Reach-1	35	Reg	73.90	271.50	275.37	273.26	275.43	0.000344	1.10	68.95	38.18	0.22
RIVER-1	Reach-1	35	100 yr	28.30	271.50	273.28	272.50	273.38	0.001235	1.34	21.13	16.51	0.38
RIVER-1	Reach-1	35	5 yr	15.90	271.50	272.77	272.20	272.84	0.001334	1.18	13.44	13.44	0.38
RIVER-1	Reach-1	35	PF 4	20.00	271.50	272.95	272.31	273.03	0.001300	1.25	16.01	14.46	0.38
RIVER-1	Reach-1	34	Reg	73.90	271.49	275.36	273.27	275.42	0.000332	1.09	71.32	40.77	0.22
RIVER-1	Reach-1	34	100 yr	28.30	271.49	273.24	272.49	273.34	0.001354	1.39	20.41	16.21	0.39
RIVER-1	Reach-1	34	5 yr	15.90	271.49	272.72	272.19	272.80	0.001525	1.24	12.80	13.16	0.40
RIVER-1	Reach-1	34	PF 4	20.00	271.49	272.90	272.30	272.99	0.001461	1.30	15.34	14.19	0.40
RIVER-1	Reach-1	33	Reg	73.90	271.42	275.24	273.22	275.40	0.000931	1.75	42.29	35.38	0.32
RIVER-1	Reach-1	33	100 yr	28.30	271.42	273.15	272.37	273.29	0.001693	1.64	17.23	11.22	0.42
RIVER-1	Reach-1	33	5 yr	15.90	271.42	272.65	272.07	272.75	0.001687	1.35	11.77	10.75	0.41
RIVER-1	Reach-1	33	PF 4	20.00	271.42	272.83	272.18	272.94	0.001680	1.46	13.72	10.98	0.42
RIVER-1	Reach-1	32	Reg	73.90	271.42	275.19	273.22	275.39	0.001939	1.98	37.43	14.33	0.35
RIVER-1	Reach-1	32	100 yr	28.30	271.42	273.14	272.37	273.28	0.002190	1.69	16.78	10.37	0.41
RIVER-1	Reach-1	32	5 yr	15.90	271.42	272.65	272.07	272.74	0.001816	1.32	12.05	10.14	0.38
RIVER-1	Reach-1	32	PF 4	20.00	271.42	272.83	272.18	272.94	0.001935	1.45	13.78	10.25	0.39
RIVER-1	Reach-1	31.5	Bridge										
RIVER-1	Reach-1	31	Reg	73.90	271.42	274.24	273.21	274.59	0.004032	2.59	28.57	10.43	0.50
RIVER-1	Reach-1	31	100 yr	28.30	271.42	273.14	272.36	273.28	0.002362	1.65	17.15	10.21	0.41
RIVER-1	Reach-1	31	5 yr	15.90	271.42	272.65	272.07	272.74	0.001941	1.30	12.25	10.07	0.38
RIVER-1	Reach-1	31	PF 4	20.00	271.42	272.83	272.17	272.94	0.002077	1.42	14.04	10.11	0.39
RIVER-1	Reach-1	30	Reg	73.90	271.30	274.21	273.27	274.54	0.001719	2.54	29.13	11.67	0.51
RIVER-1	Reach-1	30	100 yr	28.30	271.30	273.10	272.42	273.25	0.001348	1.72	16.46	10.94	0.45
RIVER-1	Reach-1	30	5 yr	15.90	271.30	272.61	272.11	272.71	0.001310	1.41	11.30	10.32	0.43
RIVER-1	Reach-1	30	PF 4	20.00	271.30	272.79	272.22	272.91	0.001314	1.52	13.14	10.55	0.44
RIVER-1	Reach-1	29	Reg	73.90	271.08	273.96	273.51	274.46	0.003118	3.12	23.67	12.51	0.72
RIVER-1	Reach-1	29	100 yr	28.30	271.08	272.89	272.55	273.17	0.003004	2.37	11.94	9.57	0.68
RIVER-1	Reach-1	29	5 yr	15.90	271.08	272.44	272.17	272.64	0.002970	2.00	7.94	8.26	0.65
RIVER-1	Reach-1	29	PF 4	20.00	271.08	272.60	272.31	272.84	0.002992	2.15	9.31	8.72	0.66
RIVER-1	Reach-1	28	Reg	73.90	270.86	273.60	273.49	274.31	0.005286	3.75	19.73	12.00	0.93
RIVER-1	Reach-1	28	100 yr	28.30	270.86	272.56	272.50	273.03	0.005794	3.04	9.31	8.45	0.92
RIVER-1	Reach-1	28	5 yr	15.90	270.86	272.14	272.10	272.50	0.006483	2.67	5.96	7.33	0.94
RIVER-1	Reach-1	28	PF 4	20.00	270.86	272.29	272.25	272.69	0.006165	2.81	7.12	7.72	0.93
RIVER-1	Reach-1	27	Reg	73.90	270.65	273.55	273.27	274.13	0.003867	3.37	21.91	12.29	0.81
RIVER-1	Reach-1	27	100 yr	28.30	270.65	272.49	272.28	272.85	0.004122	2.68	10.57	8.99	0.79
RIVER-1	Reach-1	27	5 yr	15.90	270.65	272.04	271.88	272.31	0.004299	2.32	6.86	7.58	0.78
RIVER-1	Reach-1	27	PF 4	20.00	270.65	272.20	272.03	272.51	0.004240	2.46	8.13	8.08	0.78
RIVER-1	Reach-1	26	Reg	73.90	270.43	273.46	273.12	274.01	0.003611	3.29	22.51	12.94	0.78
RIVER-1	Reach-1	26	100 yr	28.30	270.43	272.39	272.13	272.73	0.003577	2.55	11.09	9.10	0.74
RIVER-1	Reach-1	26	5 yr	15.90	270.43	271.94	271.73	272.18	0.003695	2.19	7.24	7.77	0.73
RIVER-1	Reach-1	26	PF 4	20.00	270.43	272.10	271.87	272.38	0.003655	2.33	8.57	8.25	0.73
RIVER-1	Reach-1	25	Reg	73.90	270.21	273.04	273.04	273.85	0.006134	3.97	18.62	11.60	1.00
RIVER-1	Reach-1	25	100 yr	28.30	270.21	272.02	272.02	272.56	0.006827	3.25	8.70	8.02	1.00
RIVER-1	Reach-1	25	5 yr	15.90	270.21	271.60	271.60	272.01	0.007344	2.84	5.61	6.83	1.00
RIVER-1	Reach-1	25	PF 4	20.00	270.21	271.76	271.76	272.21	0.007091	2.99	6.69	7.27	1.00
RIVER-1	Reach-1	24	Reg	73.90	269.99	272.50	272.72	273.59	0.009151	4.62	16.00	10.65	1.20
RIVER-1	Reach-1	24	100 yr	28.30	269.99	271.54	271.70	272.28	0.010391	3.83	7.39	7.22	1.21
RIVER-1	Reach-1	24	5 yr	15.90	269.99	271.14	271.26	271.72	0.011636	3.38	4.71	6.17	1.24
RIVER-1	Reach-1	24	PF 4	20.00	269.99	271.28	271.42	271.93	0.011176	3.56	5.62	6.55	1.23
RIVER-1	Reach-1	23	Reg	73.90	269.78	272.70	272.47	273.32	0.004205	3.46	21.34	12.36	0.84
RIVER-1	Reach-1	23	100 yr	28.30	269.78	271.67	271.52	272.07	0.004669	2.78	10.19	9.10	0.84
RIVER-1	Reach-1	23	5 yr	15.90	269.78	271.24	271.12	271.54	0.004875	2.41	6.59	7.58	0.83
RIVER-1	Reach-1	23	PF 4	20.00	269.78	271.40	271.27	271.73	0.004827	2.56	7.80	8.09	0.83
RIVER-1	Reach-1	22	Reg	73.90	269.56	272.35	272.35	273.14	0.006209	3.95	18.70	11.94	1.01
RIVER-1	Reach-1	22	100 yr	28.30	269.56	271.35	271.35	271.88	0.006873	3.24	8.74	8.19	1.00
RIVER-1	Reach-1	22	5 yr	15.90	269.56	270.95	270.95	271.35	0.007367	2.81	5.67	7.07	1.00
RIVER-1	Reach-1	22	PF 4	20.00	269.56	271.09	271.09	271.54	0.007158	2.97	6.73	7.47	1.00
RIVER-1	Reach-1	21	Reg	73.90	269.34	272.37	271.91	272.83	0.002896	3.02	24.45	13.14	0.71
RIVER-1	Reach-1	21	100 yr	28.30	269.34	270.82	271.02	271.58	0.012972	3.86	7.34	8.91	1.36
RIVER-1	Reach-1	21	5 yr	15.90	269.34	270.54	270.66	271.05	0.012040	3.17	5.01	7.78	1.26
RIVER-1	Reach-1	21	PF 4	20.00	269.34	270.64	270.79	271.24	0.012487	3.44	5.82	8.21	1.30
RIVER-1	Reach-1	20	Reg	73.90	269.14	272.40	271.45	272.73	0.001583	2.52	29.28	11.99	0.52
RIVER-1	Reach-1	20	100 yr	28.30	269.14	270.32	270.56	271.15	0.014448	4.03	7.02	8.64	1.43

HEC-RAS Plan: Proposed_R Locations: User Defined (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
RIVER-1	Reach-1	20	5 yr	15.90	269.14	270.04	270.20	270.63	0.015376	3.42	4.65	7.82	1.42
RIVER-1	Reach-1	20	PF 4	20.00	269.14	270.14	270.33	270.82	0.014954	3.65	5.48	8.12	1.42
RIVER-1	Reach-1	10	Reg	73.90	268.90	271.36	271.36	272.60	0.004629	4.92	15.02	6.10	1.00
RIVER-1	Reach-1	10	100 yr	28.30	268.90	270.20	270.20	270.85	0.004209	3.58	7.90	6.10	1.00
RIVER-1	Reach-1	10	5 yr	15.90	268.90	269.78	269.78	270.23	0.004190	2.96	5.38	6.10	1.01
RIVER-1	Reach-1	10	PF 4	20.00	268.90	269.93	269.93	270.45	0.004180	3.19	6.27	6.10	1.01
RIVER-1	Reach-1	5	Reg	73.90	266.70	269.03	269.16	270.41	0.005390	5.20	14.21	6.10	1.09
RIVER-1	Reach-1	5	100 yr	28.30	266.70	267.88	268.00	268.67	0.005569	3.94	7.19	6.10	1.16
RIVER-1	Reach-1	5	5 yr	15.90	266.70	267.50	267.58	268.04	0.005620	3.26	4.88	6.10	1.16
RIVER-1	Reach-1	5	PF 4	20.00	266.70	267.63	267.73	268.26	0.005564	3.51	5.70	6.10	1.16
RIVER-1	Reach-1	4	Reg	73.90	262.11	266.83	264.57	267.00	0.000375	2.02	52.05	20.00	0.30
RIVER-1	Reach-1	4	100 yr	28.30	262.11	266.28	263.41	266.32	0.000097	0.94	41.02	20.00	0.15
RIVER-1	Reach-1	4	5 yr	15.90	262.11	262.38	262.99	266.98	0.163759	9.49	1.67	6.10	5.79
RIVER-1	Reach-1	4	PF 4	20.00	262.11	262.45	263.14	267.22	0.131817	9.68	2.07	6.10	5.31
RIVER-1	Reach-1	3	Reg	73.90	260.99	266.90		266.94	0.000089	1.14	113.62	40.00	0.15
RIVER-1	Reach-1	3	100 yr	28.30	260.99	266.29		266.30	0.000024	0.55	89.56	40.00	0.08
RIVER-1	Reach-1	3	5 yr	15.90	260.99	261.71	261.87	262.38	0.007784	3.62	4.39	6.10	1.36
RIVER-1	Reach-1	3	PF 4	20.00	260.99	261.81	262.02	262.62	0.008159	3.98	5.02	6.10	1.40
RIVER-1	Reach-1	2	Reg	73.90	260.65	266.90		266.93	0.000074	1.08	120.46	40.00	0.14
RIVER-1	Reach-1	2	100 yr	28.30	260.65	266.29		266.30	0.000019	0.52	96.37	40.00	0.07
RIVER-1	Reach-1	2	5 yr	15.90	260.65	261.88	261.53	262.11	0.001543	2.12	7.51	6.10	0.61
RIVER-1	Reach-1	2	PF 4	20.00	260.65	261.39	261.68	262.38	0.011158	4.41	4.54	6.10	1.63
RIVER-1	Reach-1	1	Reg	73.90	260.47	266.90		266.93	0.000047	0.88	145.09	40.00	0.11
RIVER-1	Reach-1	1	100 yr	28.30	260.47	266.30		266.30	0.000011	0.41	120.76	40.00	0.05
RIVER-1	Reach-1	1	5 yr	15.90	260.47	261.88		262.05	0.001041	1.85	8.59	6.10	0.50
RIVER-1	Reach-1	1	PF 4	20.00	260.47	261.78	261.50	262.10	0.002056	2.51	7.96	6.10	0.70
RIVER-1	Reach-1	0.1	Reg	73.90	257.71	266.92	258.24	266.92	0.000001	0.10	1003.10	360.03	0.01
RIVER-1	Reach-1	0.1	100 yr	28.30	257.71	266.30	257.99	266.30	0.000000	0.04	811.86	272.88	0.01
RIVER-1	Reach-1	0.1	5 yr	15.90	257.71	262.00	257.90	262.00	0.000000	0.06	276.86	75.13	0.01
RIVER-1	Reach-1	0.1	PF 4	20.00	257.71	262.00	257.93	262.00	0.000001	0.07	276.86	75.13	0.01

HEC-RAS Plan: KerrBr_9.76x3.05 Locations: User Defined

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
RIVER-1	Reach-1	53	Reg	73.90	274.12	275.08	275.64	276.89	0.054612	5.96	12.41	13.10	1.95
RIVER-1	Reach-1	53	100 yr	28.30	274.12	275.71	274.91	275.81	0.001609	1.34	21.10	14.46	0.35
RIVER-1	Reach-1	53	5 yr	15.90	274.12	275.62	274.66	275.65	0.000620	0.81	19.72	14.21	0.22
RIVER-1	Reach-1	53	PF 4	20.00	274.12	275.41	274.75	275.48	0.001582	1.19	16.78	13.65	0.34
RIVER-1	Reach-1	52	Reg	73.90	273.80	276.13	275.35	276.14	0.000208	0.62	175.44	178.48	0.14
RIVER-1	Reach-1	52	100 yr	28.30	273.80	275.75	275.15	275.75	0.000108	0.38	111.84	161.41	0.10
RIVER-1	Reach-1	52	5 yr	15.90	273.80	275.63	274.66	275.63	0.000059	0.27	92.20	158.94	0.07
RIVER-1	Reach-1	52	PF 4	20.00	273.80	274.77	274.77	275.11	0.014443	2.57	7.79	11.55	1.00
RIVER-1	Reach-1	51	Reg	73.90	273.41	276.12	275.37	276.13	0.000242	0.71	163.94	175.02	0.15
RIVER-1	Reach-1	51	100 yr	28.30	273.41	275.75	274.67	275.75	0.000115	0.44	104.09	149.35	0.10
RIVER-1	Reach-1	51	5 yr	15.90	273.41	275.63	274.29	275.63	0.000061	0.31	86.17	145.74	0.07
RIVER-1	Reach-1	51	PF 4	20.00	273.41	274.67	274.44	274.92	0.007138	2.19	9.12	9.28	0.71
RIVER-1	Reach-1	50	Reg	73.90	273.10	275.88	275.88	276.11	0.001759	2.71	59.60	107.95	0.56
RIVER-1	Reach-1	50	100 yr	28.30	273.10	275.64	274.49	275.74	0.000672	1.56	34.57	101.15	0.34
RIVER-1	Reach-1	50	5 yr	15.90	273.10	275.58	274.04	275.62	0.000269	0.97	28.69	98.55	0.21
RIVER-1	Reach-1	50	PF 4	20.00	273.10	274.63	274.20	274.91	0.002147	2.33	8.60	5.76	0.61
RIVER-1	Reach-1	49.5		Bridge									
RIVER-1	Reach-1	48	Reg	73.90	273.10	275.67	275.73	275.96	0.015592	3.07	35.46	82.50	0.70
RIVER-1	Reach-1	48	100 yr	28.30	273.10	275.19	275.33	275.60	0.022820	3.08	10.77	19.87	0.81
RIVER-1	Reach-1	48	5 yr	15.90	273.10	274.40	274.66	275.31	0.069477	4.23	3.76	3.54	1.31
RIVER-1	Reach-1	48	PF 4	20.00	273.10	274.89	275.13	275.46	0.035034	3.37	6.21	10.04	0.97
RIVER-1	Reach-1	47	Reg	73.90	272.80	275.45	274.87	275.63	0.006723	1.90	41.93	64.93	0.53
RIVER-1	Reach-1	47	100 yr	28.30	272.80	273.48	273.93	274.95	0.148678	5.37	5.27	8.17	2.14
RIVER-1	Reach-1	47	5 yr	15.90	272.80	273.23	273.57	274.44	0.209419	4.87	3.27	7.85	2.41
RIVER-1	Reach-1	47	PF 4	20.00	272.80	273.30	273.69	274.72	0.207355	5.28	3.79	7.94	2.44
RIVER-1	Reach-1	46	Reg	73.90	272.34	275.42	274.82	275.57	0.004758	1.75	46.57	64.44	0.46
RIVER-1	Reach-1	46	100 yr	28.30	272.34	274.34	273.99	274.53	0.009655	1.90	14.89	15.11	0.61
RIVER-1	Reach-1	46	5 yr	15.90	272.34	273.91	273.65	274.07	0.011003	1.74	9.14	11.66	0.63
RIVER-1	Reach-1	46	PF 4	20.00	272.34	274.07	273.77	274.24	0.010591	1.81	11.03	12.88	0.63
RIVER-1	Reach-1	45	Reg	73.90	272.16	275.22	274.76	275.47	0.004144	2.25	34.21	47.09	0.68
RIVER-1	Reach-1	45	100 yr	28.30	272.16	274.11	273.87	274.38	0.005173	2.32	12.20	11.92	0.73
RIVER-1	Reach-1	45	5 yr	15.90	272.16	273.69	273.52	273.91	0.005693	2.07	7.69	9.78	0.74
RIVER-1	Reach-1	45	PF 4	20.00	272.16	273.84	273.65	274.08	0.005467	2.17	9.23	10.52	0.74
RIVER-1	Reach-1	44	Reg	73.90	272.10	275.22	274.18	275.37	0.001476	1.70	44.54	35.34	0.43
RIVER-1	Reach-1	44	100 yr	28.30	272.10	274.16	273.44	274.26	0.001345	1.41	20.08	15.52	0.40
RIVER-1	Reach-1	44	5 yr	15.90	272.10	273.72	273.16	273.79	0.001233	1.15	13.82	13.67	0.37
RIVER-1	Reach-1	44	PF 4	20.00	272.10	273.88	273.26	273.96	0.001268	1.25	16.02	14.26	0.38
RIVER-1	Reach-1	43	Reg	73.90	272.03	275.17	274.17	275.32	0.001349	1.76	42.25	27.87	0.42
RIVER-1	Reach-1	43	100 yr	28.30	272.03	274.12	273.41	274.21	0.001396	1.39	20.30	16.52	0.40
RIVER-1	Reach-1	43	5 yr	15.90	272.03	273.69	273.12	273.75	0.001284	1.15	13.77	14.01	0.37
RIVER-1	Reach-1	43	PF 4	20.00	272.03	273.84	273.23	273.92	0.001323	1.25	16.04	14.85	0.38
RIVER-1	Reach-1	42	Reg	73.90	271.97	275.05		275.27	0.002149	2.08	38.01	69.28	0.52
RIVER-1	Reach-1	42	100 yr	28.30	271.97	274.01		274.16	0.002154	1.67	16.92	14.42	0.49
RIVER-1	Reach-1	42	5 yr	15.90	271.97	273.60		273.70	0.002017	1.39	11.42	12.26	0.46
RIVER-1	Reach-1	42	PF 4	20.00	271.97	273.75		273.87	0.002079	1.50	13.33	13.05	0.47
RIVER-1	Reach-1	41	Reg	73.90	271.91	274.93		275.19	0.002598	2.25	32.84	20.56	0.57
RIVER-1	Reach-1	41	100 yr	28.30	271.91	273.92		274.08	0.002530	1.80	15.72	13.44	0.53
RIVER-1	Reach-1	41	5 yr	15.90	271.91	273.52		273.63	0.002362	1.48	10.72	11.73	0.50
RIVER-1	Reach-1	41	PF 4	20.00	271.91	273.67		273.80	0.002428	1.60	12.47	12.35	0.51
RIVER-1	Reach-1	40	Reg	73.90	271.85	274.73		275.08	0.004014	2.63	28.11	19.31	0.70
RIVER-1	Reach-1	40	100 yr	28.30	271.85	273.61	273.48	273.95	0.006913	2.58	10.98	11.67	0.85
RIVER-1	Reach-1	40	5 yr	15.90	271.85	273.24	273.16	273.50	0.007549	2.25	7.05	9.85	0.85
RIVER-1	Reach-1	40	PF 4	20.00	271.85	273.38	273.28	273.66	0.007178	2.37	8.43	10.47	0.84
RIVER-1	Reach-1	39	Reg	73.90	271.79	274.64		274.96	0.003426	2.53	29.15	18.63	0.65
RIVER-1	Reach-1	39	100 yr	28.30	271.79	273.40		273.74	0.006647	2.60	10.90	11.09	0.84
RIVER-1	Reach-1	39	5 yr	15.90	271.79	273.01		273.27	0.007305	2.29	6.95	9.24	0.84
RIVER-1	Reach-1	39	PF 4	20.00	271.79	273.14	273.04	273.44	0.007365	2.45	8.17	9.84	0.86
RIVER-1	Reach-1	38	Reg	73.90	271.73	274.65	273.75	274.85	0.001732	1.99	37.09	20.50	0.47
RIVER-1	Reach-1	38	100 yr	28.30	271.73	273.38	273.01	273.56	0.003109	1.88	15.05	14.24	0.58
RIVER-1	Reach-1	38	5 yr	15.90	271.73	272.89	272.72	273.07	0.004871	1.83	8.70	12.18	0.69
RIVER-1	Reach-1	38	PF 4	20.00	271.73	273.06	272.83	273.24	0.004033	1.85	10.81	12.83	0.64
RIVER-1	Reach-1	37	Reg	73.90	271.67	274.65	273.43	274.80	0.001119	1.71	43.18	21.33	0.38
RIVER-1	Reach-1	37	100 yr	28.30	271.67	273.37	272.71	273.47	0.001439	1.43	19.76	15.61	0.41
RIVER-1	Reach-1	37	5 yr	15.90	271.67	272.87	272.44	272.96	0.001716	1.27	12.54	13.73	0.42
RIVER-1	Reach-1	37	PF 4	20.00	271.67	273.05	272.53	273.14	0.001596	1.33	14.99	14.34	0.42
RIVER-1	Reach-1	36	Reg	73.90	271.61	274.62	273.38	274.76	0.001048	1.65	44.76	22.40	0.37

HEC-RAS Plan: KerrBr_9.76x3.05 Locations: User Defined (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
RIVER-1	Reach-1	36	100 yr	28.30	271.61	273.33	272.67	273.43	0.001425	1.41	20.05	16.18	0.40
RIVER-1	Reach-1	36	5 yr	15.90	271.61	272.82	272.40	272.90	0.001844	1.29	12.36	14.07	0.44
RIVER-1	Reach-1	36	PF 4	20.00	271.61	273.00	272.50	273.09	0.001647	1.33	15.00	14.78	0.42
RIVER-1	Reach-1	35	Reg	73.90	271.50	274.60	273.26	274.73	0.000909	1.56	47.31	23.10	0.35
RIVER-1	Reach-1	35	100 yr	28.30	271.50	273.29	272.50	273.38	0.001209	1.33	21.30	16.57	0.37
RIVER-1	Reach-1	35	5 yr	15.90	271.50	272.78	272.20	272.85	0.001290	1.17	13.60	13.51	0.37
RIVER-1	Reach-1	35	PF 4	20.00	271.50	272.97	272.31	273.04	0.001262	1.24	16.18	14.53	0.37
RIVER-1	Reach-1	34	Reg	73.90	271.49	274.57	273.27	274.70	0.000947	1.59	46.79	24.20	0.36
RIVER-1	Reach-1	34	100 yr	28.30	271.49	273.25	272.49	273.35	0.001321	1.37	20.60	16.29	0.39
RIVER-1	Reach-1	34	5 yr	15.90	271.49	272.73	272.19	272.81	0.001464	1.22	12.98	13.24	0.39
RIVER-1	Reach-1	34	PF 4	20.00	271.49	272.92	272.30	273.00	0.001411	1.29	15.54	14.26	0.39
RIVER-1	Reach-1	33	Reg	73.90	271.42	274.36		274.64	0.002006	2.36	31.27	15.24	0.47
RIVER-1	Reach-1	33	100 yr	28.30	271.42	273.16		273.30	0.001649	1.63	17.38	11.23	0.42
RIVER-1	Reach-1	33	5 yr	15.90	271.42	272.67		272.76	0.001613	1.33	11.95	10.79	0.40
RIVER-1	Reach-1	33	PF 4	20.00	271.42	272.85		272.95	0.001617	1.44	13.90	10.99	0.41
RIVER-1	Reach-1	32	Reg	73.90	271.42	274.27	273.22	274.63	0.002205	2.65	27.85	11.09	0.50
RIVER-1	Reach-1	32	100 yr	28.30	271.42	273.15	272.37	273.27	0.001507	1.67	16.91	10.69	0.41
RIVER-1	Reach-1	32	5 yr	15.90	271.42	272.67	272.07	272.76	0.001328	1.30	12.21	10.46	0.37
RIVER-1	Reach-1	32	PF 4	20.00	271.42	272.85	272.18	272.95	0.001384	1.44	13.93	10.56	0.38
RIVER-1	Reach-1	31.5		Bridge									
RIVER-1	Reach-1	31	Reg	73.90	271.42	274.22	273.22	274.59	0.002332	2.70	27.34	10.73	0.52
RIVER-1	Reach-1	31	100 yr	28.30	271.42	273.12	272.37	273.27	0.001591	1.70	16.62	10.51	0.42
RIVER-1	Reach-1	31	5 yr	15.90	271.42	272.65	272.07	272.74	0.001418	1.33	11.97	10.37	0.38
RIVER-1	Reach-1	31	PF 4	20.00	271.42	272.82	272.17	272.93	0.001469	1.46	13.67	10.41	0.39
RIVER-1	Reach-1	30	Reg	73.90	271.30	274.21	273.27	274.54	0.001719	2.54	29.13	11.67	0.51
RIVER-1	Reach-1	30	100 yr	28.30	271.30	273.10	272.42	273.25	0.001348	1.72	16.46	10.94	0.45
RIVER-1	Reach-1	30	5 yr	15.90	271.30	272.61	272.11	272.71	0.001310	1.41	11.30	10.32	0.43
RIVER-1	Reach-1	30	PF 4	20.00	271.30	272.79	272.22	272.91	0.001314	1.52	13.14	10.55	0.44
RIVER-1	Reach-1	29	Reg	73.90	271.08	273.96	273.51	274.46	0.003118	3.12	23.67	12.51	0.72
RIVER-1	Reach-1	29	100 yr	28.30	271.08	272.89	272.55	273.17	0.003004	2.37	11.94	9.57	0.68
RIVER-1	Reach-1	29	5 yr	15.90	271.08	272.44	272.17	272.64	0.002970	2.00	7.94	8.26	0.65
RIVER-1	Reach-1	29	PF 4	20.00	271.08	272.60	272.31	272.84	0.002992	2.15	9.31	8.72	0.66
RIVER-1	Reach-1	28	Reg	73.90	270.86	273.60	273.49	274.31	0.005286	3.75	19.73	12.00	0.93
RIVER-1	Reach-1	28	100 yr	28.30	270.86	272.56	272.50	273.03	0.005794	3.04	9.31	8.45	0.92
RIVER-1	Reach-1	28	5 yr	15.90	270.86	272.14	272.10	272.50	0.006483	2.67	5.96	7.33	0.94
RIVER-1	Reach-1	28	PF 4	20.00	270.86	272.29	272.25	272.69	0.006165	2.81	7.12	7.72	0.93
RIVER-1	Reach-1	27	Reg	73.90	270.65	273.55	273.27	274.13	0.003867	3.37	21.91	12.29	0.81
RIVER-1	Reach-1	27	100 yr	28.30	270.65	272.49	272.28	272.85	0.004122	2.68	10.57	8.99	0.79
RIVER-1	Reach-1	27	5 yr	15.90	270.65	272.04	271.88	272.31	0.004299	2.32	6.86	7.58	0.78
RIVER-1	Reach-1	27	PF 4	20.00	270.65	272.20	272.03	272.51	0.004240	2.46	8.13	8.08	0.78
RIVER-1	Reach-1	26	Reg	73.90	270.43	273.46	273.12	274.01	0.003611	3.29	22.51	12.94	0.78
RIVER-1	Reach-1	26	100 yr	28.30	270.43	272.39	272.13	272.73	0.003577	2.55	11.09	9.10	0.74
RIVER-1	Reach-1	26	5 yr	15.90	270.43	271.94	271.73	272.18	0.003695	2.19	7.24	7.77	0.73
RIVER-1	Reach-1	26	PF 4	20.00	270.43	272.10	271.87	272.38	0.003655	2.33	8.57	8.25	0.73
RIVER-1	Reach-1	25	Reg	73.90	270.21	273.04	273.04	273.85	0.006134	3.97	18.62	11.60	1.00
RIVER-1	Reach-1	25	100 yr	28.30	270.21	272.02	272.02	272.56	0.006827	3.25	8.70	8.02	1.00
RIVER-1	Reach-1	25	5 yr	15.90	270.21	271.60	271.60	272.01	0.007344	2.84	5.61	6.83	1.00
RIVER-1	Reach-1	25	PF 4	20.00	270.21	271.76	271.76	272.21	0.007091	2.99	6.69	7.27	1.00
RIVER-1	Reach-1	24	Reg	73.90	269.99	272.50	272.72	273.59	0.009151	4.62	16.00	10.65	1.20
RIVER-1	Reach-1	24	100 yr	28.30	269.99	271.54	271.70	272.28	0.010391	3.83	7.39	7.22	1.21
RIVER-1	Reach-1	24	5 yr	15.90	269.99	271.14	271.26	271.72	0.011636	3.38	4.71	6.17	1.24
RIVER-1	Reach-1	24	PF 4	20.00	269.99	271.28	271.42	271.93	0.011176	3.56	5.62	6.55	1.23
RIVER-1	Reach-1	23	Reg	73.90	269.78	272.70	272.47	273.32	0.004205	3.46	21.34	12.36	0.84
RIVER-1	Reach-1	23	100 yr	28.30	269.78	271.67	271.52	272.07	0.004669	2.78	10.19	9.10	0.84
RIVER-1	Reach-1	23	5 yr	15.90	269.78	271.24	271.12	271.54	0.004875	2.41	6.59	7.58	0.83
RIVER-1	Reach-1	23	PF 4	20.00	269.78	271.40	271.27	271.73	0.004827	2.56	7.80	8.09	0.83
RIVER-1	Reach-1	22	Reg	73.90	269.56	272.35	272.35	273.14	0.006209	3.95	18.70	11.94	1.01
RIVER-1	Reach-1	22	100 yr	28.30	269.56	271.35	271.35	271.88	0.006873	3.24	8.74	8.19	1.00
RIVER-1	Reach-1	22	5 yr	15.90	269.56	270.95	270.95	271.35	0.007367	2.81	5.67	7.07	1.00
RIVER-1	Reach-1	22	PF 4	20.00	269.56	271.09	271.09	271.58	0.007158	2.97	6.73	7.47	1.00
RIVER-1	Reach-1	21	Reg	73.90	269.34	272.37	271.91	272.83	0.002896	3.02	24.45	13.14	0.71
RIVER-1	Reach-1	21	100 yr	28.30	269.34	270.82	271.02	271.58	0.012972	3.86	7.34	8.91	1.36
RIVER-1	Reach-1	21	5 yr	15.90	269.34	270.54	270.66	271.05	0.012040	3.17	5.01	7.78	1.26
RIVER-1	Reach-1	21	PF 4	20.00	269.34	270.64	270.79	271.24	0.012487	3.44	5.82	8.21	1.30
RIVER-1	Reach-1	20	Reg	73.90	269.14	272.40	271.45	272.73	0.001583	2.52	29.28	11.99	0.52
RIVER-1	Reach-1	20	100 yr	28.30	269.14	270.32	270.56	271.15	0.014448	4.03	7.02	8.64	1.43

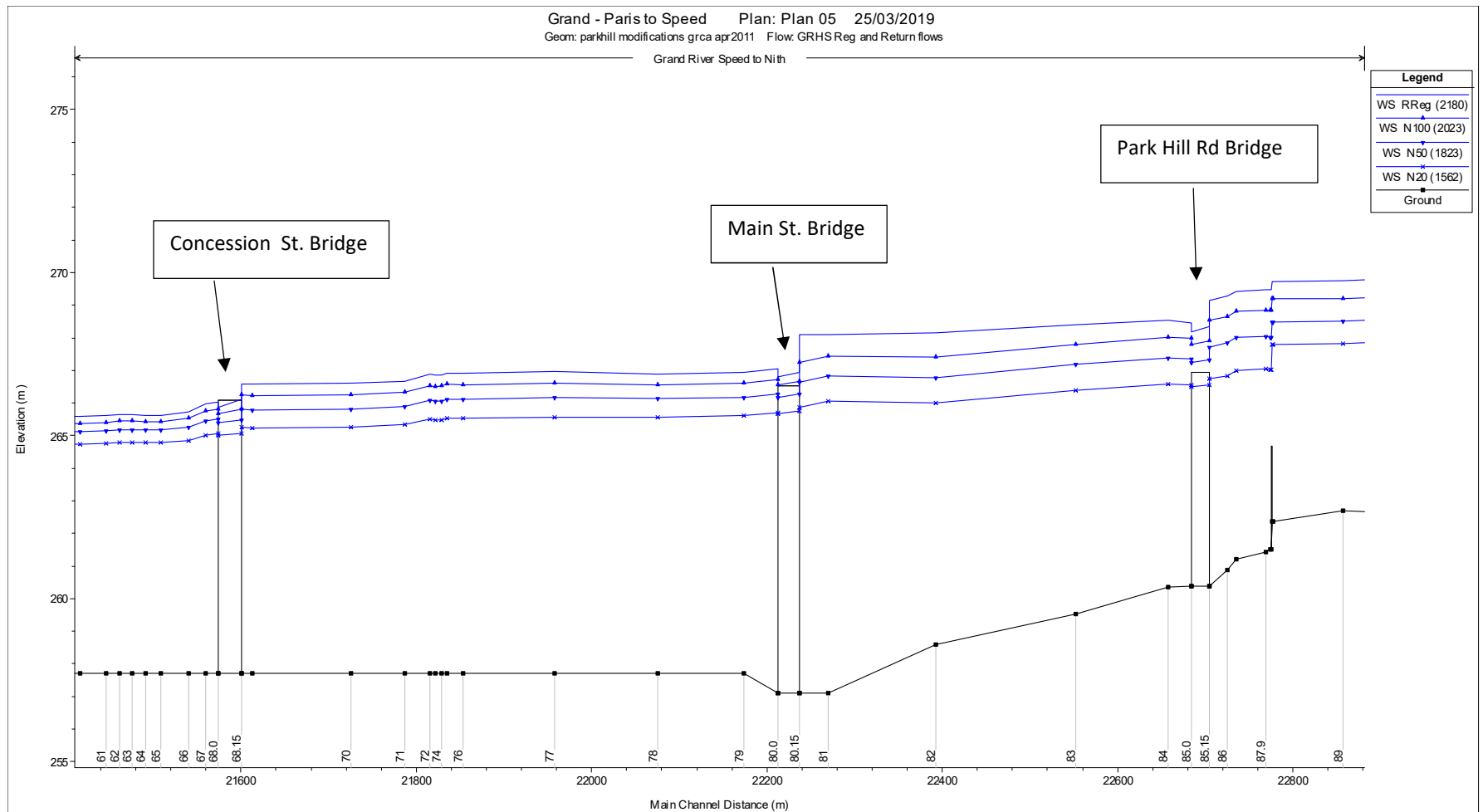
HEC-RAS Plan: KerrBr_9.76x3.05 Locations: User Defined (Continued)

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
RIVER-1	Reach-1	20	5 yr	15.90	269.14	270.04	270.20	270.63	0.015376	3.42	4.65	7.82	1.42
RIVER-1	Reach-1	20	PF 4	20.00	269.14	270.14	270.33	270.82	0.014954	3.65	5.48	8.12	1.42
RIVER-1	Reach-1	10	Reg	73.90	268.90	271.36	271.36	272.60	0.004629	4.92	15.02	6.10	1.00
RIVER-1	Reach-1	10	100 yr	28.30	268.90	270.20	270.20	270.85	0.004209	3.58	7.90	6.10	1.00
RIVER-1	Reach-1	10	5 yr	15.90	268.90	269.78	269.78	270.23	0.004190	2.96	5.38	6.10	1.01
RIVER-1	Reach-1	10	PF 4	20.00	268.90	269.93	269.93	270.45	0.004180	3.19	6.27	6.10	1.01
RIVER-1	Reach-1	5	Reg	73.90	266.70	268.61	269.16	270.66	0.009386	6.34	11.65	6.10	1.47
RIVER-1	Reach-1	5	100 yr	28.30	266.70	267.88	268.00	268.67	0.005569	3.94	7.19	6.10	1.16
RIVER-1	Reach-1	5	5 yr	15.90	266.70	267.50	267.58	268.04	0.005620	3.26	4.88	6.10	1.16
RIVER-1	Reach-1	5	PF 4	20.00	266.70	267.63	267.73	268.26	0.005564	3.51	5.70	6.10	1.16
RIVER-1	Reach-1	4	Reg	73.90	262.11	266.83	264.57	267.00	0.000375	2.02	52.05	20.00	0.30
RIVER-1	Reach-1	4	100 yr	28.30	262.11	266.28	263.41	266.32	0.000097	0.94	41.02	20.00	0.15
RIVER-1	Reach-1	4	5 yr	15.90	262.11	262.38	262.99	266.98	0.163759	9.49	1.67	6.10	5.79
RIVER-1	Reach-1	4	PF 4	20.00	262.11	262.45	263.14	267.22	0.131817	9.68	2.07	6.10	5.31
RIVER-1	Reach-1	3	Reg	73.90	260.99	266.90		266.94	0.000089	1.14	113.62	40.00	0.15
RIVER-1	Reach-1	3	100 yr	28.30	260.99	266.29		266.30	0.000024	0.55	89.56	40.00	0.08
RIVER-1	Reach-1	3	5 yr	15.90	260.99	261.71	261.87	262.38	0.007784	3.62	4.39	6.10	1.36
RIVER-1	Reach-1	3	PF 4	20.00	260.99	261.81	262.02	262.62	0.008159	3.98	5.02	6.10	1.40
RIVER-1	Reach-1	2	Reg	73.90	260.65	266.90		266.93	0.000074	1.08	120.46	40.00	0.14
RIVER-1	Reach-1	2	100 yr	28.30	260.65	266.29		266.30	0.000019	0.52	96.37	40.00	0.07
RIVER-1	Reach-1	2	5 yr	15.90	260.65	261.88	261.53	262.11	0.001543	2.12	7.51	6.10	0.61
RIVER-1	Reach-1	2	PF 4	20.00	260.65	261.39	261.68	262.38	0.011158	4.41	4.54	6.10	1.63
RIVER-1	Reach-1	1	Reg	73.90	260.47	266.90		266.93	0.000047	0.88	145.09	40.00	0.11
RIVER-1	Reach-1	1	100 yr	28.30	260.47	266.30		266.30	0.000011	0.41	120.76	40.00	0.05
RIVER-1	Reach-1	1	5 yr	15.90	260.47	261.88		262.05	0.001041	1.85	8.59	6.10	0.50
RIVER-1	Reach-1	1	PF 4	20.00	260.47	261.78	261.50	262.10	0.002056	2.51	7.96	6.10	0.70
RIVER-1	Reach-1	0.1	Reg	73.90	257.71	266.92	258.24	266.92	0.000001	0.10	1003.10	360.03	0.01
RIVER-1	Reach-1	0.1	100 yr	28.30	257.71	266.30	257.99	266.30	0.000000	0.04	811.86	272.88	0.01
RIVER-1	Reach-1	0.1	5 yr	15.90	257.71	262.00	257.90	262.00	0.000000	0.06	276.86	75.13	0.01
RIVER-1	Reach-1	0.1	PF 4	20.00	257.71	262.00	257.93	262.00	0.000001	0.07	276.86	75.13	0.01

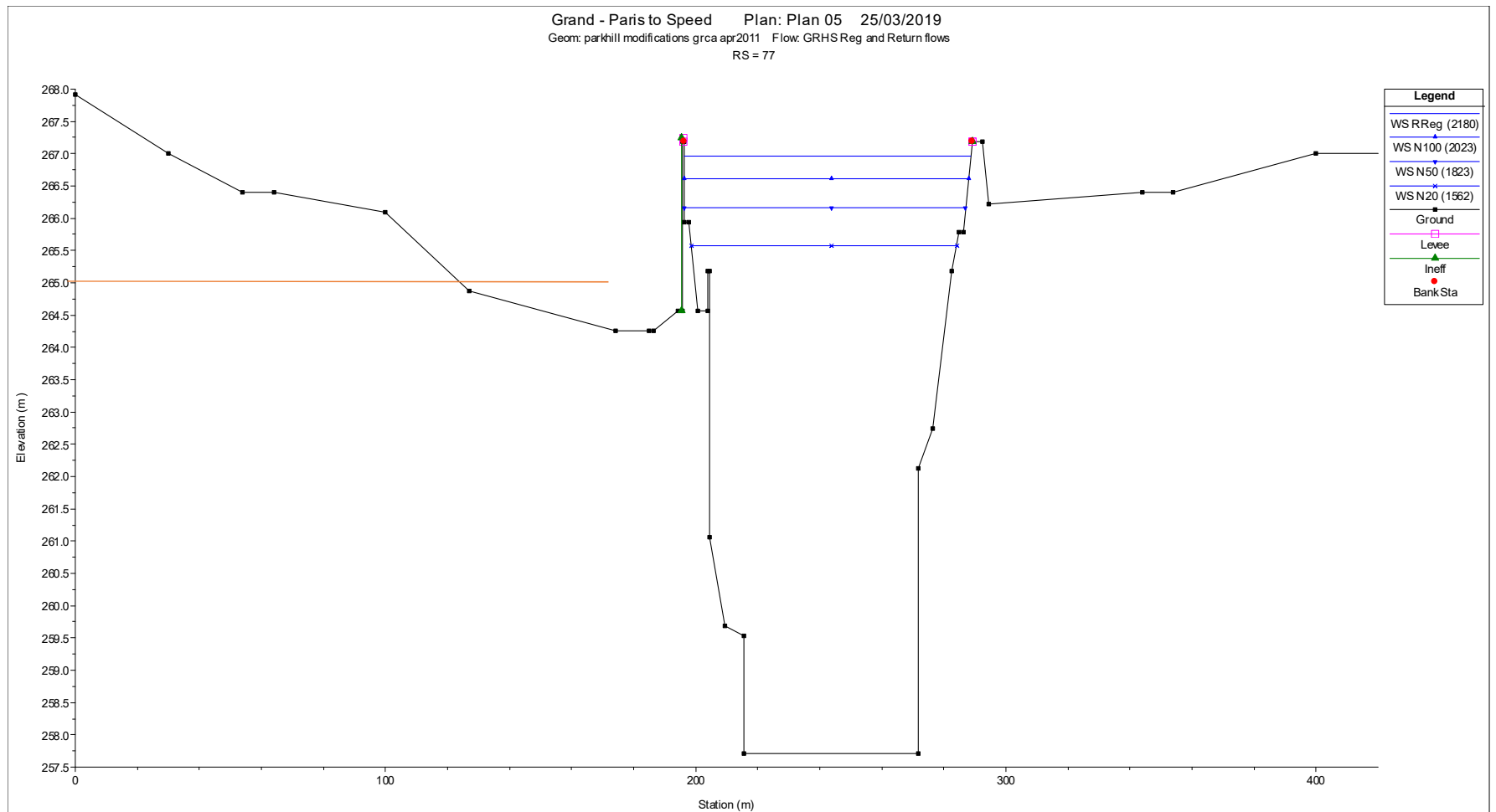
APPENDIX

F

Downtown Cambridge Hydraulic Modelling Output

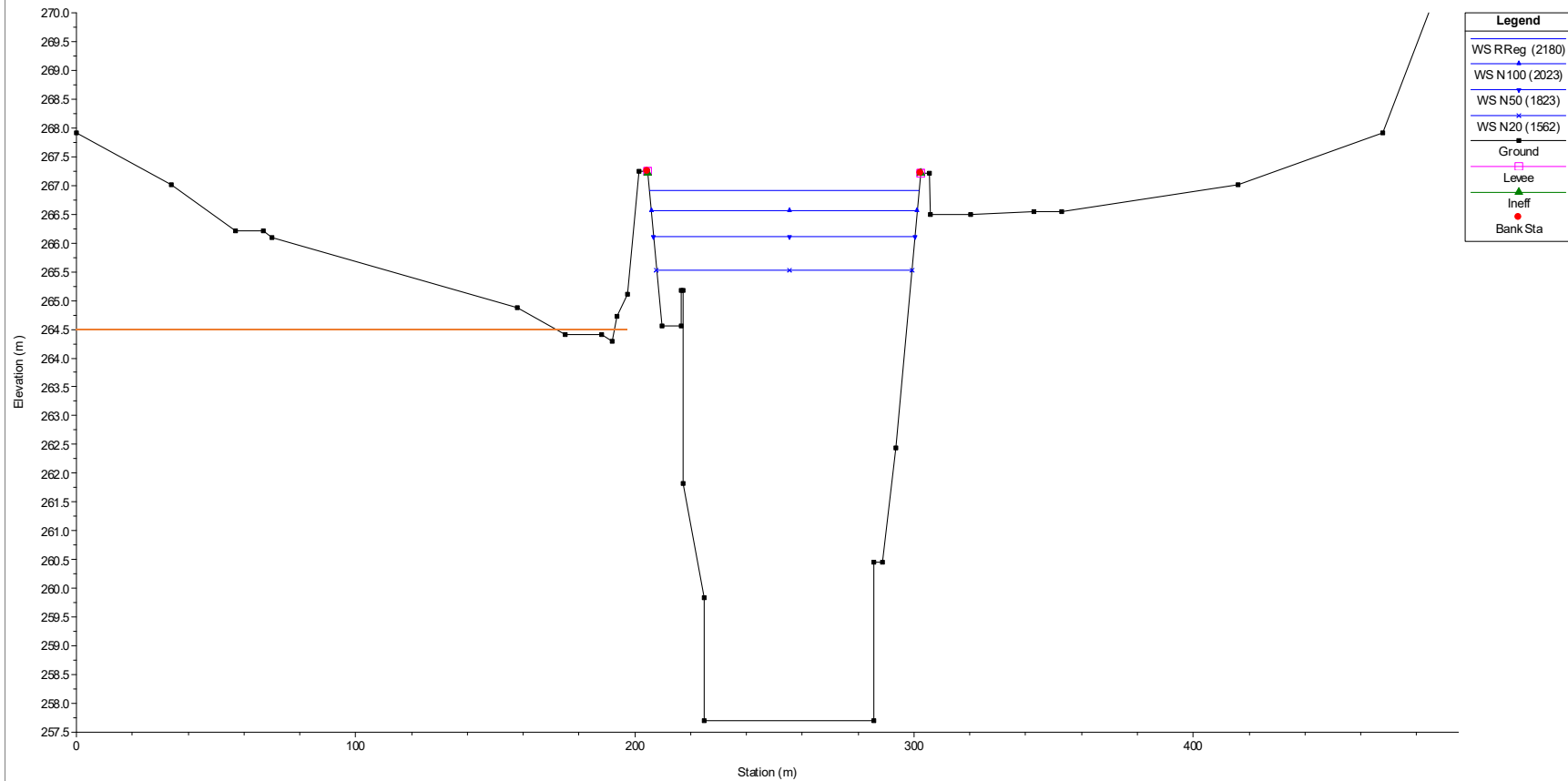


Grand River Water Surface Profiles near Downtown Cambridge (Proposed LRT Terminal) - Profile



Grand River Water Surface Profiles near Downtown Cambridge (Proposed LRT Terminal) – Cross Section 77

Grand - Paris to Speed Plan: Plan 05 25/03/2019
Geom: parkhill modifications grca apr2011 Flow: GRHS Reg and Return flows
RS = 76



Grand River Water Surface Profiles near Downtown Cambridge (Proposed LRT Terminal) – Cross Section 76