

FINAL DESIGN REPORT FOR SAND CREEK RESTORATION

Prepared For:

SR Land, LLC
20 Boulder Crescent, 2nd Floor
Colorado Springs, CO 80903
(719) 491-3024

Prepared By:

JR Engineering, LLC
5475 Tech Center Drive
Colorado Springs, CO 80919
(303) 267-6240
Contact: Mike Bramlett, PE

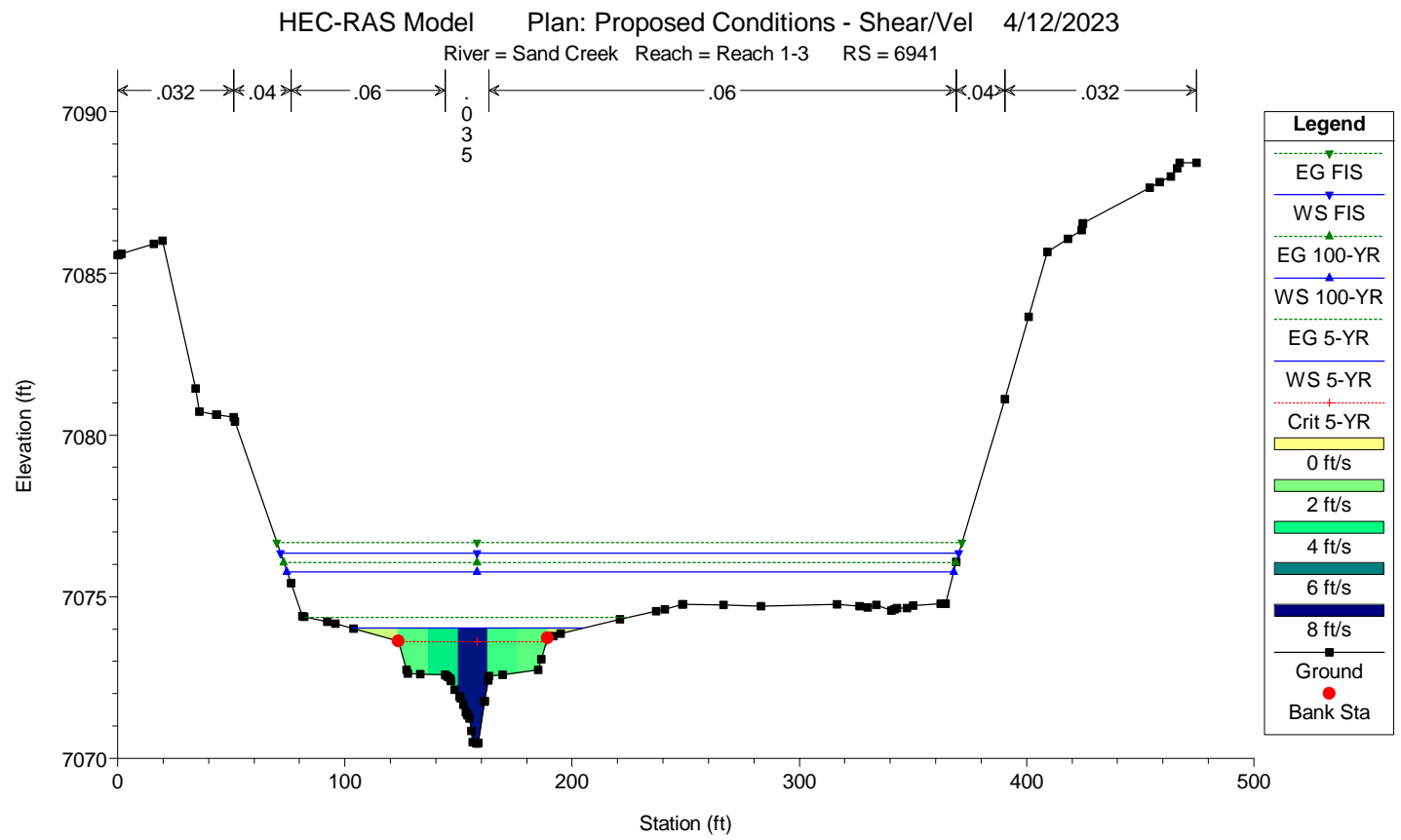
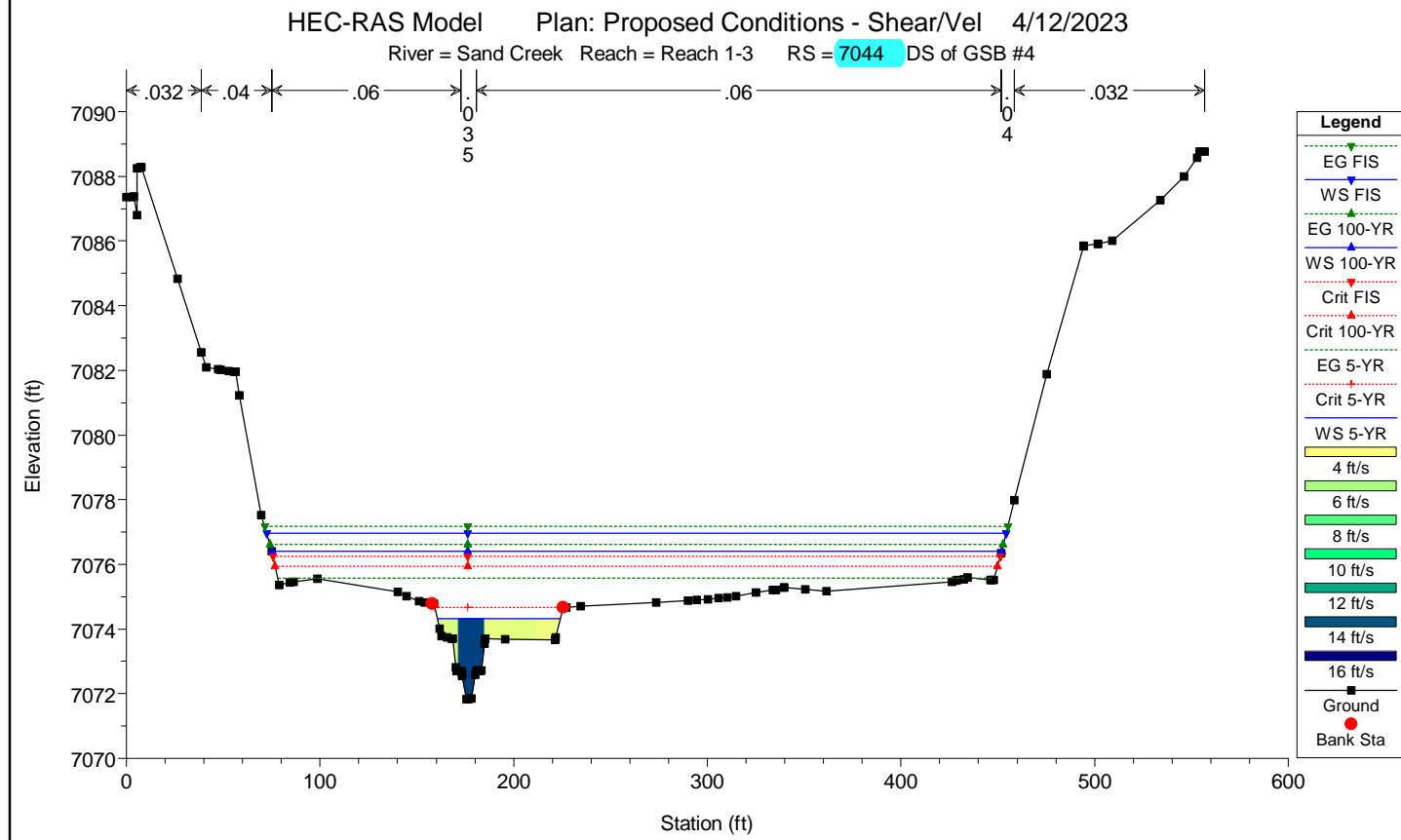
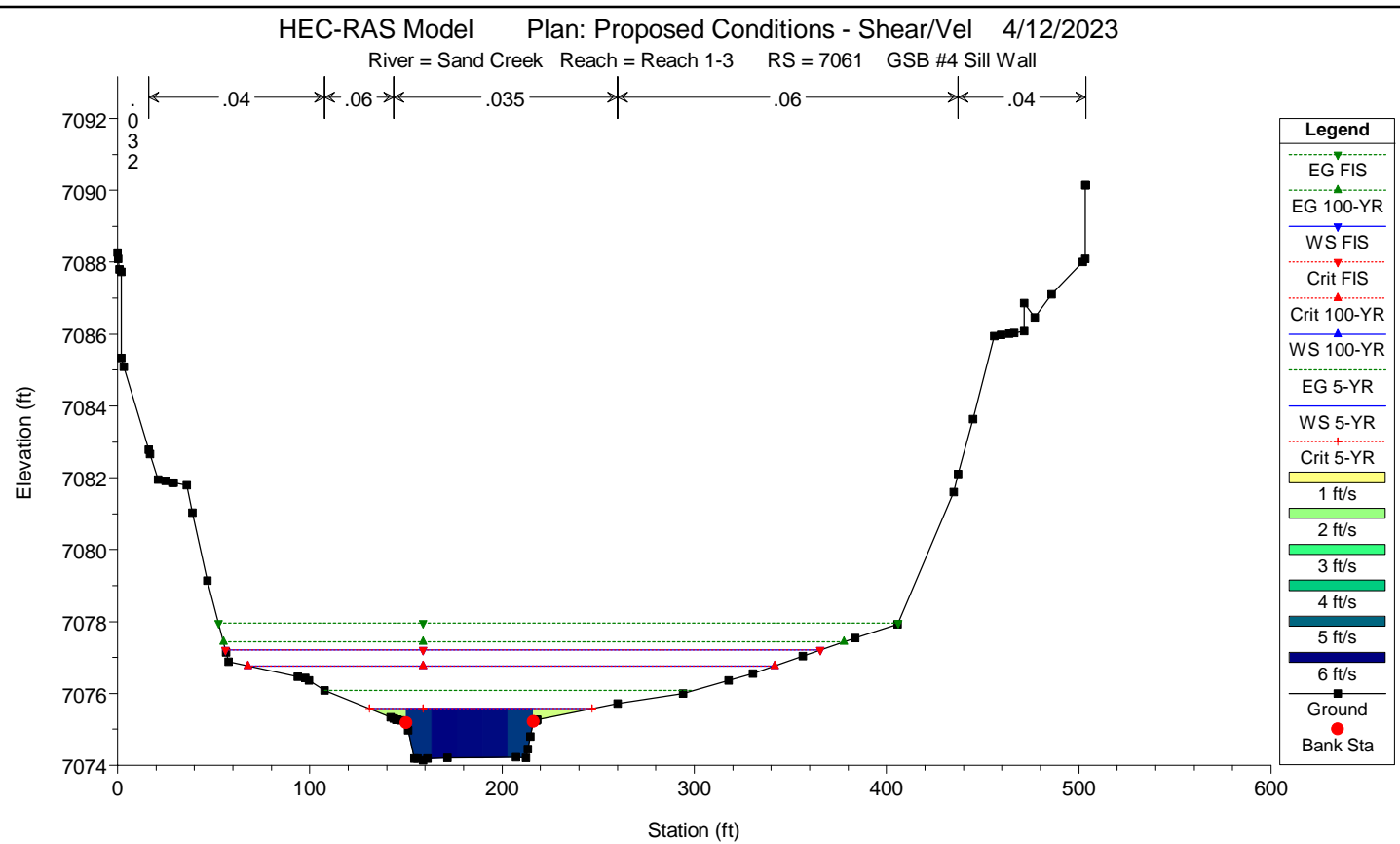
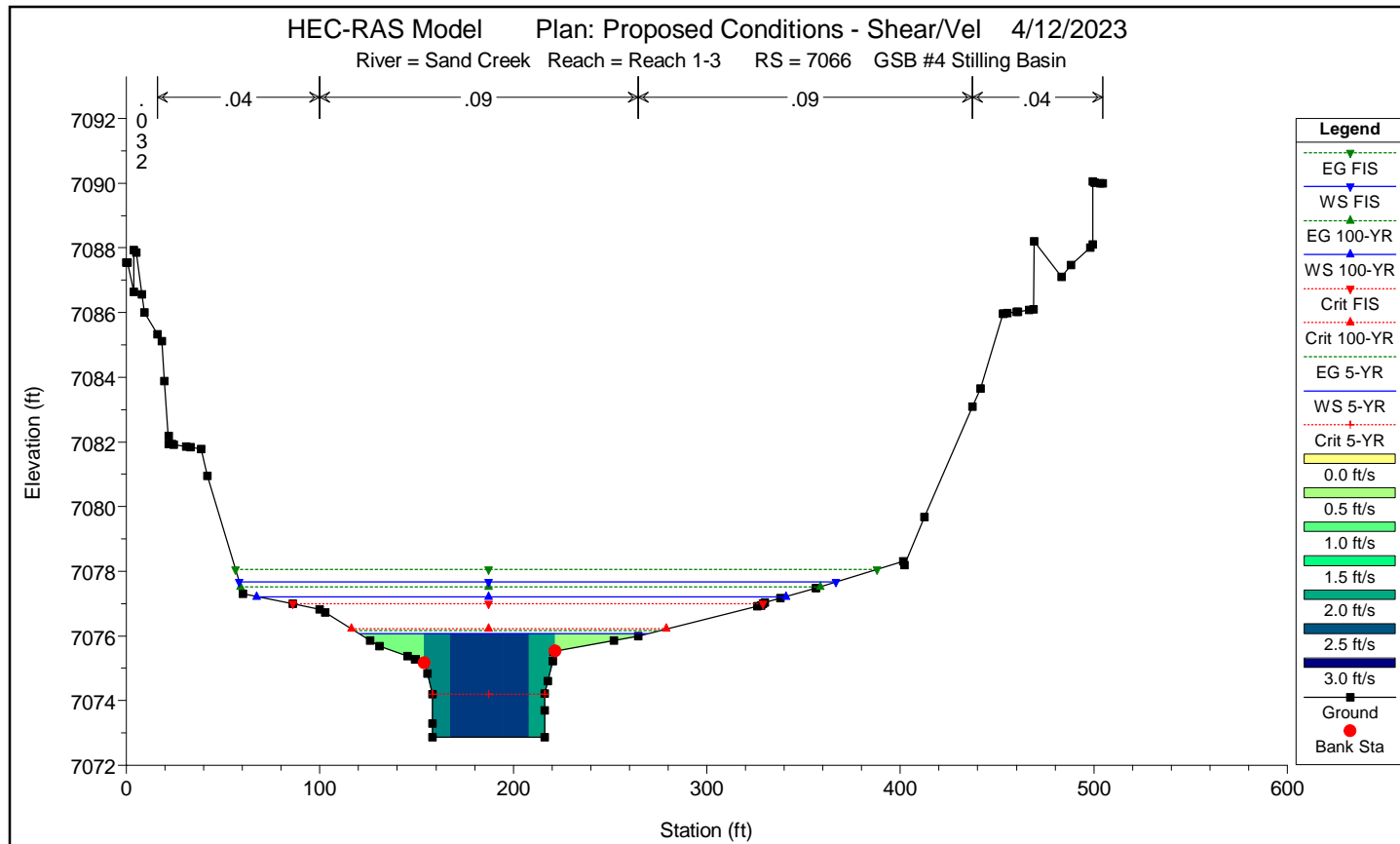
April 18, 2023

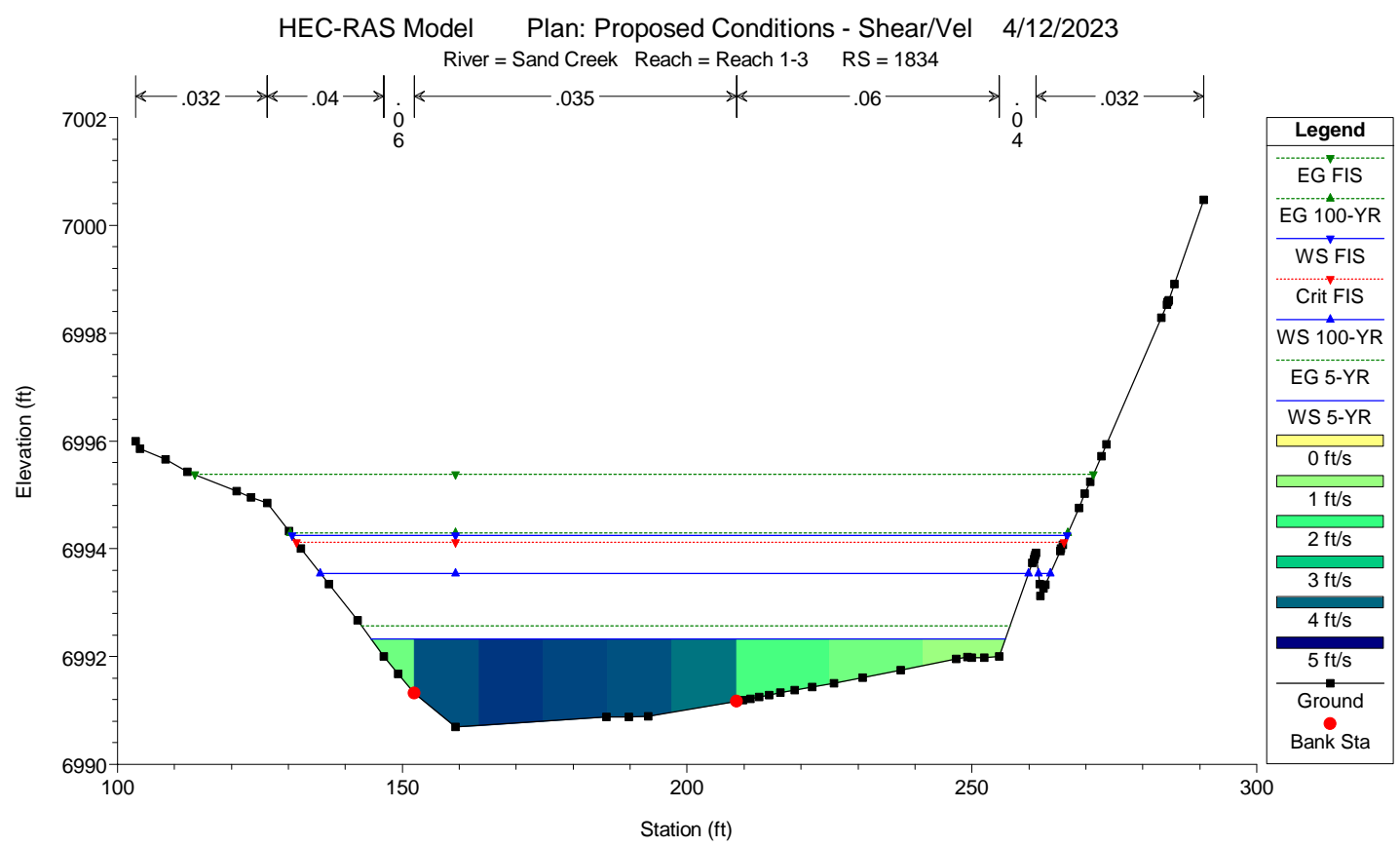
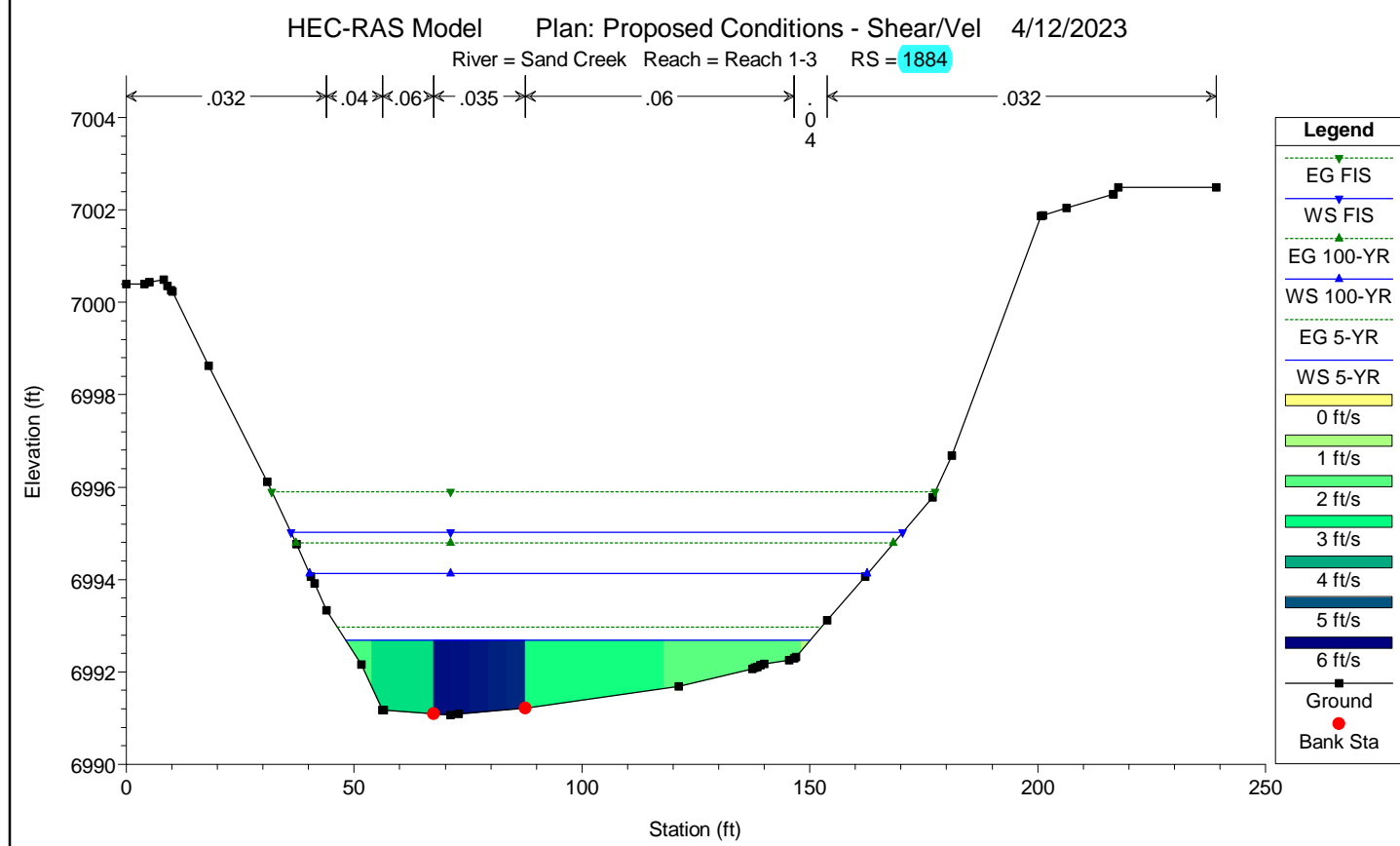
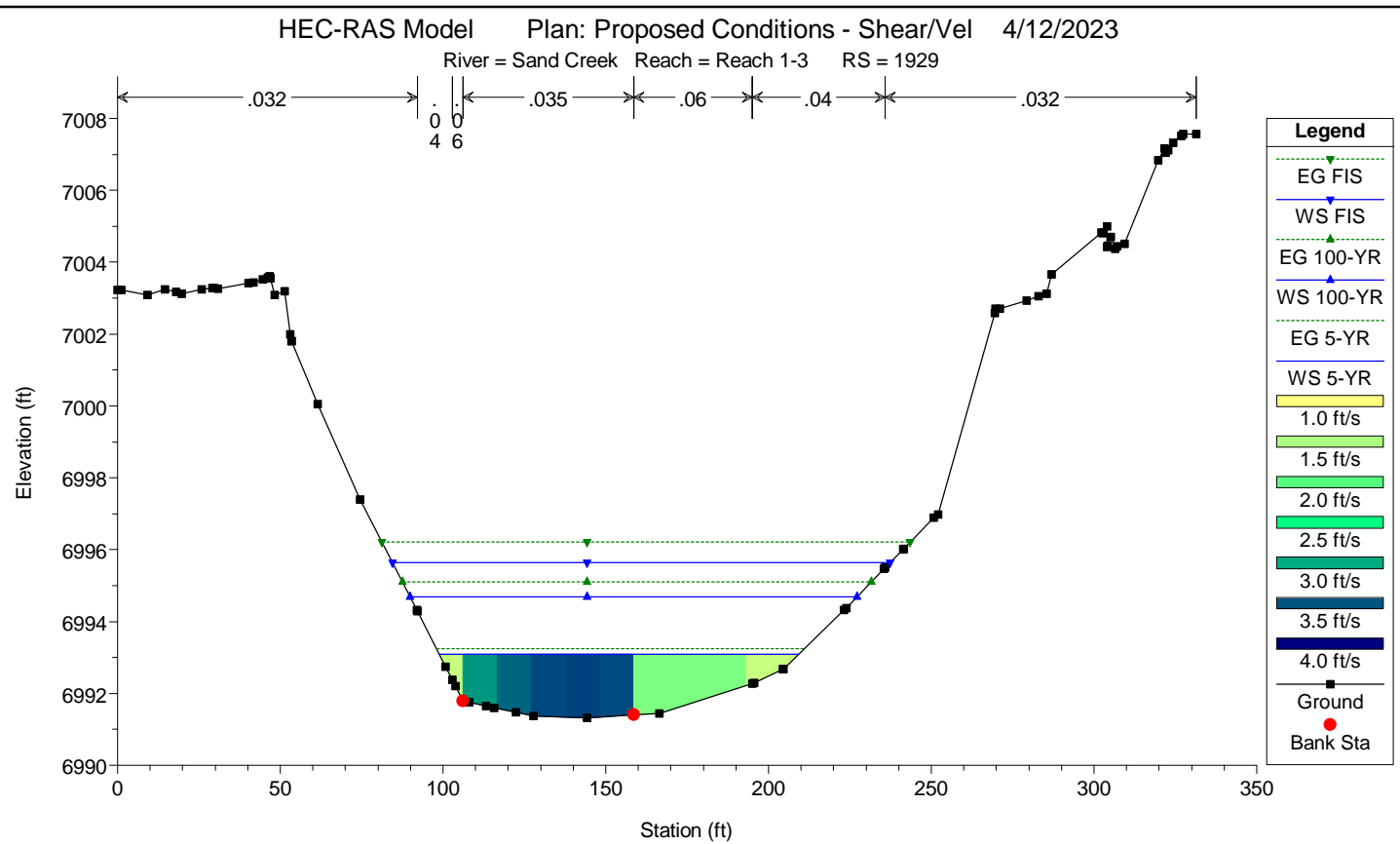
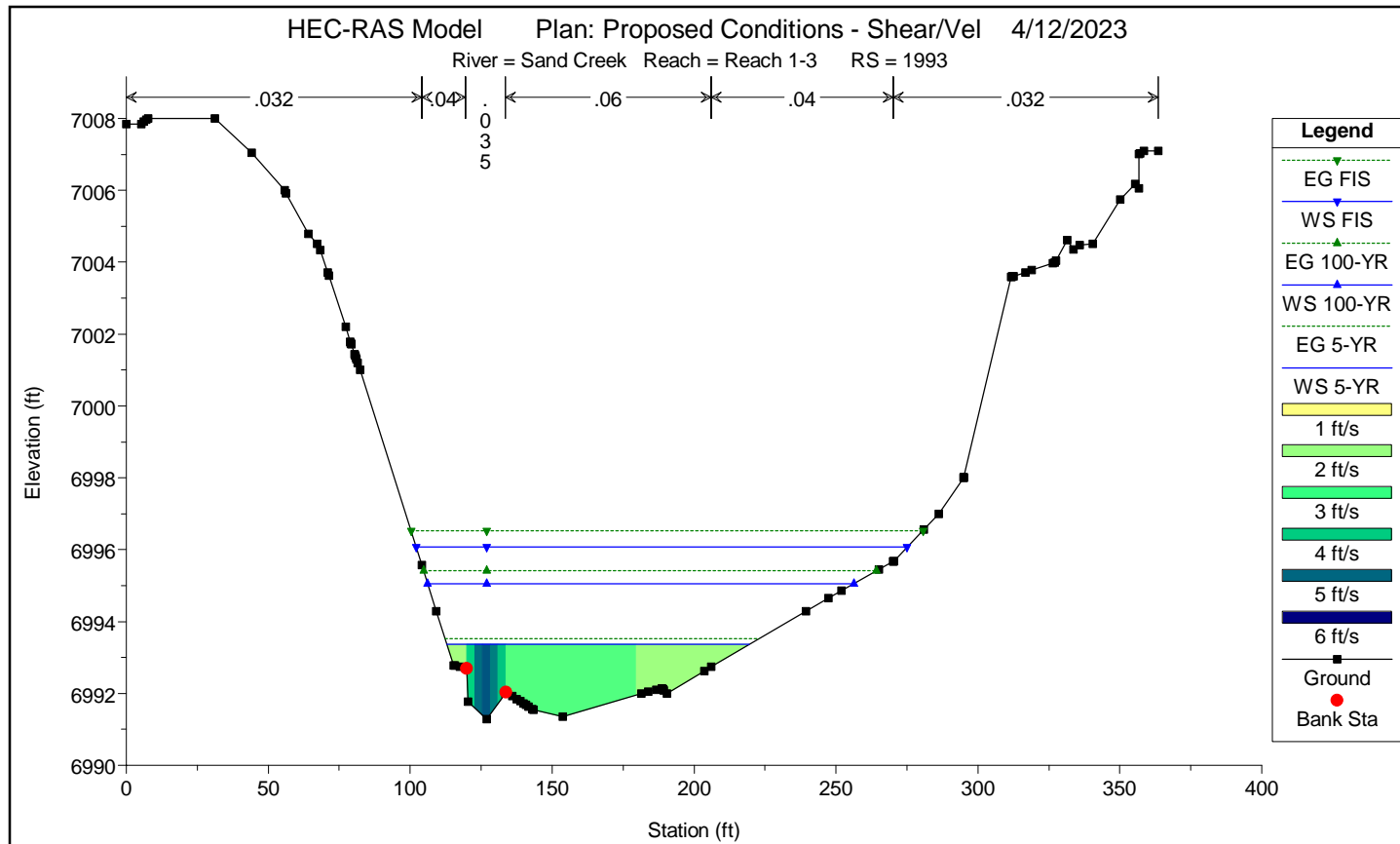
HEC-RAS Plan: PROP - Shear River: Sand Creek Reach: Reach 1-3 (Continued)

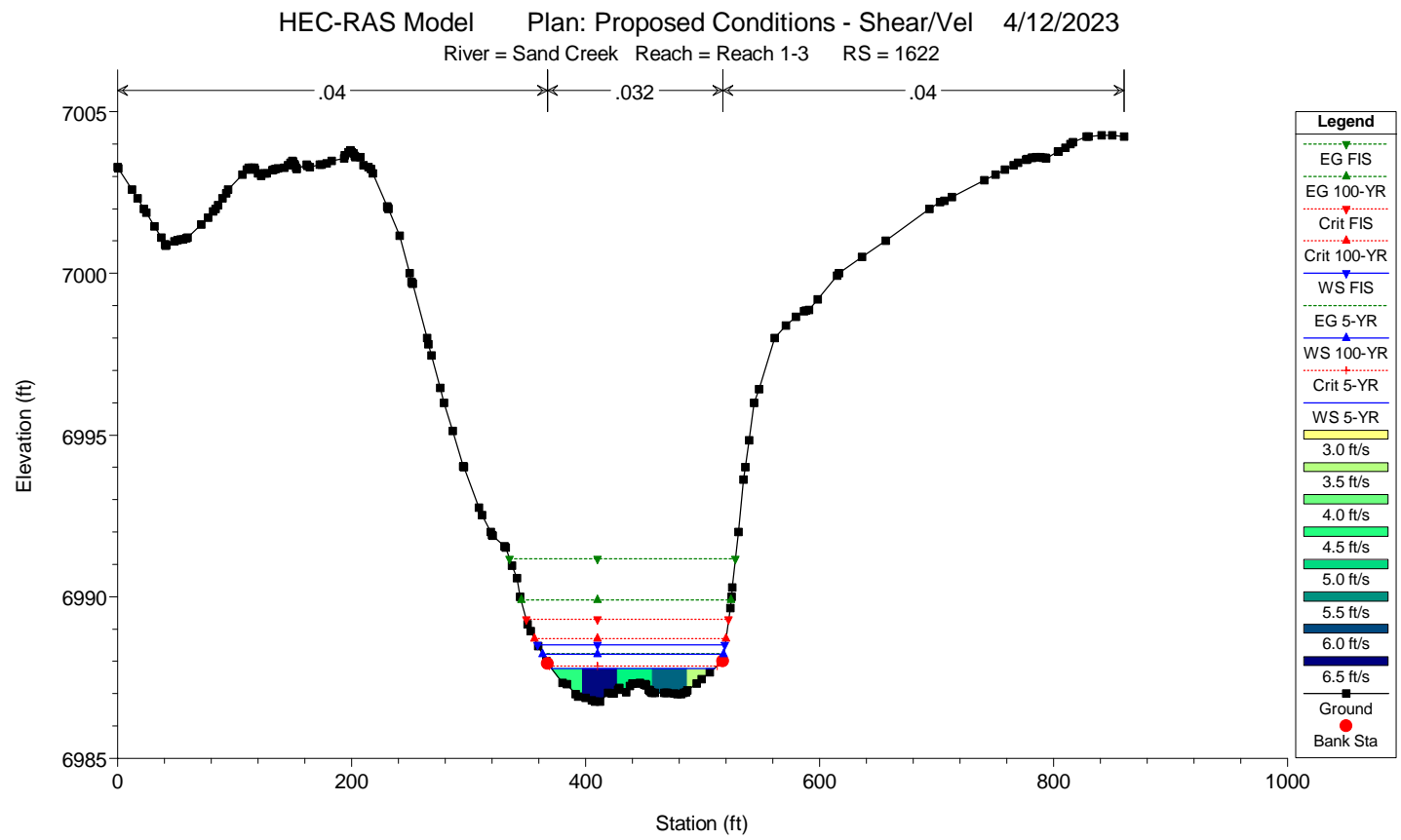
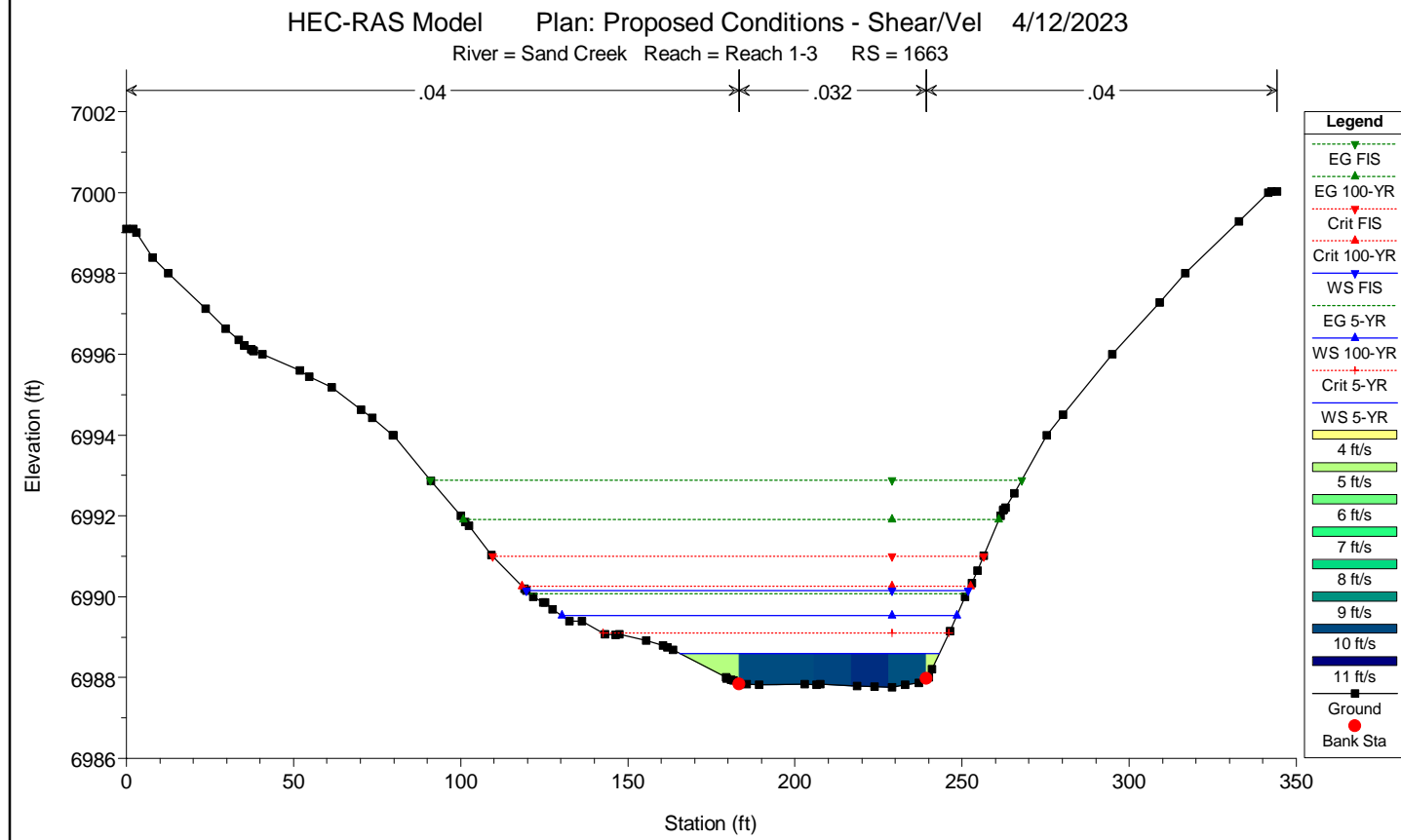
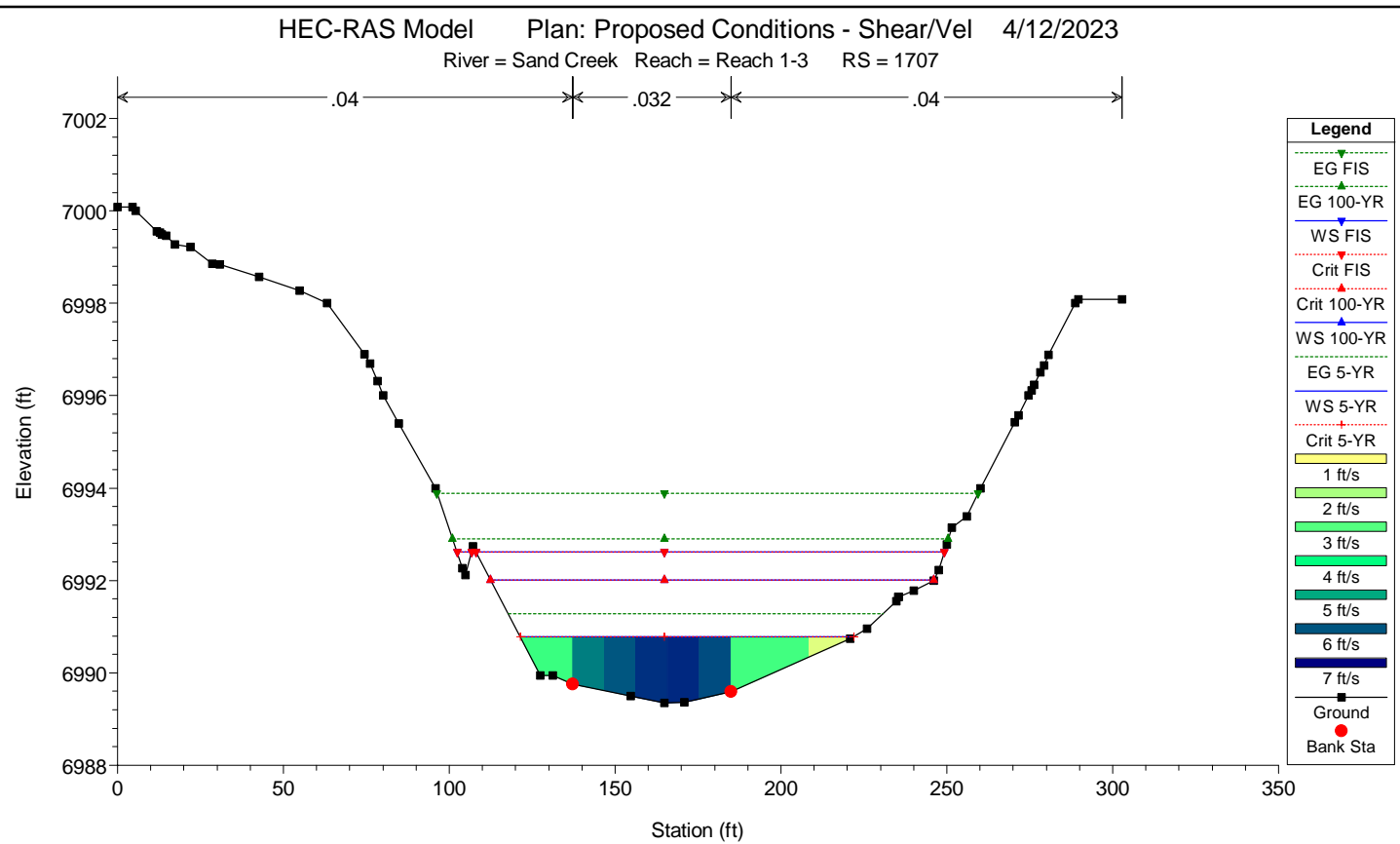
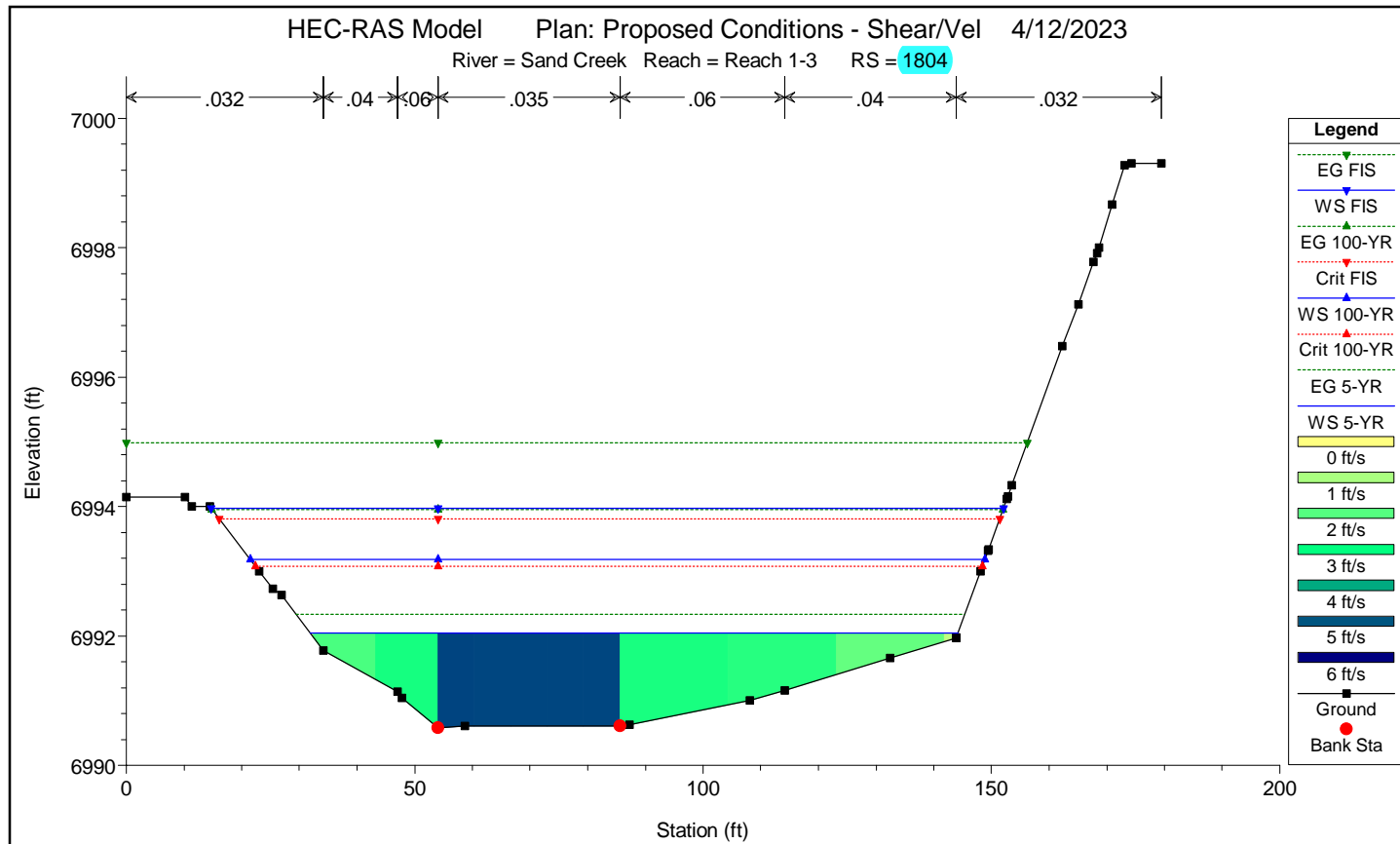
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Shear LOB (lb/sq ft)	Shear Chan (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)
Reach 1-3	2246	5-YR	398.70	6993.16	6995.47		6995.55	0.007248	2.73	189.89	233.72	0.48	0.10	0.45	0.33	0.37
Reach 1-3	2246	100-YR	1562.40	6993.16	6996.63		6996.80	0.006503	3.84	488.72	281.21	0.46	0.32	0.87	0.67	0.70
Reach 1-3	2246	FIS	2600.00	6993.16	6997.46		6997.67	0.005141	4.14	732.67	301.74	0.42	0.39	0.95	0.75	0.78
Reach 1-3	2181	5-YR	398.70	6992.99	6994.81		6994.94	0.015439	3.44	141.60	196.64	0.74		0.65	0.72	0.69
Reach 1-3	2181	100-YR	1562.40	6992.99	6996.23		6996.41	0.006454	3.78	463.03	253.91	0.46	0.26	0.84	0.72	0.73
Reach 1-3	2181	FIS	2600.00	6992.99	6997.16		6997.37	0.004687	4.02	713.14	280.52	0.41	0.32	0.88	0.73	0.74
Reach 1-3	2112	5-YR	398.70	6992.58	6994.25		6994.32	0.005522	2.49	189.38	165.50	0.35	0.37	0.54	0.35	0.39
Reach 1-3	2112	100-YR	1562.40	6992.58	6995.91		6996.05	0.003969	3.41	512.96	225.20	0.33	0.51	0.80	0.52	0.56
Reach 1-3	2112	FIS	2600.00	6992.58	6996.90		6997.09	0.003359	3.75	746.87	240.30	0.32	0.55	0.89	0.62	0.65
Reach 1-3	2046	5-YR	398.70	6991.97	6993.65		6993.90	0.006871	4.91	124.24	114.24	0.68	0.43	0.71	0.37	0.47
Reach 1-3	2046	100-YR	1562.40	6991.97	6995.33		6995.73	0.005230	6.81	362.33	166.62	0.66	0.72	1.08	0.59	0.71
Reach 1-3	2046	FIS	2600.00	6991.97	6996.32		6996.80	0.004637	7.64	542.14	194.56	0.65	0.83	1.24	0.69	0.81
Reach 1-3	1993	5-YR	398.70	6991.29	6993.36		6993.52	0.006017	4.61	140.92	106.59	0.62	0.19	0.63	0.50	0.49
Reach 1-3	1993	100-YR	1562.40	6991.29	6995.06		6995.42	0.005932	7.19	357.93	150.12	0.68	0.56	1.22	0.87	0.88
Reach 1-3	1993	FIS	2600.00	6991.29	6996.08		6996.53	0.005323	8.10	523.89	173.01	0.68	0.68	1.42	1.00	1.00
Reach 1-3	1929	5-YR	398.70	6991.32	6993.09		6993.24	0.003442	3.47	145.97	110.40	0.48	0.14	0.35	0.23	0.28
Reach 1-3	1929	100-YR	1562.40	6991.32	6994.68		6995.10	0.004151	5.99	343.88	137.27	0.59	0.37	0.84	0.57	0.65
Reach 1-3	1929	FIS	2600.00	6991.32	6995.64		6996.22	0.004246	7.19	481.96	152.80	0.62	0.50	1.11	0.74	0.83
Reach 1-3	1884	5-YR	398.70	6991.07	6992.68		6992.97	0.010106	5.71	113.55	101.92	0.81	0.75	0.98	0.60	0.70
Reach 1-3	1884	100-YR	1562.40	6991.07	6994.13		6994.79	0.010382	8.98	275.84	122.31	0.92	1.34	1.94	1.37	1.46
Reach 1-3	1884	FIS	2600.00	6991.07	6995.02		6995.90	0.009870	10.42	390.70	134.25	0.93	1.61	2.39	1.70	1.79
Reach 1-3	1834	5-YR	398.70	6990.69	6992.33		6992.57	0.006123	4.23	117.76	111.41	0.62	0.20	0.55	0.26	0.40
Reach 1-3	1834	100-YR	1562.40	6990.69	6993.55		6994.30	0.009141	7.78	261.45	126.55	0.84	0.64	1.51	0.98	1.17
Reach 1-3	1834	FIS	2600.00	6990.69	6994.25	6994.12	6995.38	0.010347	9.68	354.19	136.06	0.93	0.95	2.17	1.46	1.67
Reach 1-3	1804	5-YR	398.70	6990.58	6992.05		6992.33	0.009181	5.18	109.93	112.32	0.76	0.42	0.82	0.47	0.56
Reach 1-3	1804	100-YR	1562.40	6990.58	6993.19	6993.08	6993.96	0.012176	8.81	246.28	127.37	0.97	1.10	1.96	1.41	1.47
Reach 1-3	1804	FIS	2600.00	6990.58	6993.97	6993.81	6994.99	0.011343	10.15	350.67	137.38	0.98	1.36	2.38	1.79	1.80
Reach 1-3	1707	5-YR	480.40	6989.35	6990.79	6990.79	6991.28	0.012597	6.15	94.90	100.66	0.96	0.56	1.01	0.47	0.74
Reach 1-3	1707	100-YR	1585.20	6989.35	6992.01	6992.01	6992.90	0.010246	8.68	237.51	133.63	0.97	0.93	1.60	0.85	1.14
Reach 1-3	1707	FIS	2600.00	6989.35	6992.61	6992.61	6993.89	0.011525	10.61	320.97	145.48	1.06	1.14	2.23	1.33	1.58
Reach 1-3	1663	5-YR	480.40	6987.76	6988.60	6989.10	6990.07	0.064971	10.05	52.00	77.73	2.00	1.56	3.17	1.41	2.71
Reach 1-3	1663	100-YR	1585.20	6987.76	6989.54	6990.26	6991.90	0.040217	13.37	144.14	118.24	1.80	1.90	4.32	2.06	3.06
Reach 1-3	1663	FIS	2600.00	6987.76	6990.14	6990.99	6992.88	0.032855	14.78	220.18	132.07	1.71	2.44	4.78	2.30	3.41
Reach 1-3	1622	5-YR	480.40	6986.76	6987.79	6987.86	6988.24	0.024467	5.39	89.16	139.48	1.19		0.98		0.98
Reach 1-3	1622	100-YR	1585.20	6986.76	6988.21	6988.71	6989.90	0.049243	10.41	152.82	154.72	1.82	0.44	3.12	0.32	3.03
Reach 1-3	1622	FIS	2600.00	6986.76	6988.52	6989.31	6991.17	0.054804	13.08	200.87	160.24	2.01	1.01	4.52	0.86	4.28
Reach 1-3	1411	5-YR	480.40	6982.00	6983.34	6983.37	6983.78	0.018379	5.34	90.34	119.39	1.06	0.18	0.90	0.09	0.87
Reach 1-3	1411	100-YR	1585.20	6982.00	6984.33	6984.35	6985.19	0.012411	7.56	219.52	139.83	1.00	0.56	1.37	0.49	1.21
Reach 1-3	1411	FIS	2600.00	6982.00	6990.04	6985.00	6990.11	0.000175	2.35	1397.28	286.43	0.15	0.03	0.08	0.04	0.05

HEC-RAS Plan: PROP - Shear River: Sand Creek Reach: Reach 1-3 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Shear LOB (lb/sq ft)	Shear Chan (lb/sq ft)	Shear ROB (lb/sq ft)	Shear Total (lb/sq ft)
Reach 1-3	2246	5-YR	398.70	6993.16	6995.47		6995.55	0.007248	2.73	189.89	233.72	0.48	0.10	0.45	0.33	0.37
Reach 1-3	2246	100-YR	1562.40	6993.16	6996.63		6996.80	0.006503	3.84	488.72	281.21	0.46	0.32	0.87	0.67	0.70
Reach 1-3	2246	FIS	2600.00	6993.16	6997.46		6997.67	0.005141	4.14	732.67	301.74	0.42	0.39	0.95	0.75	0.78
Reach 1-3	2181	5-YR	398.70	6992.99	6994.81		6994.94	0.015439	3.44	141.60	196.64	0.74		0.65	0.72	0.69
Reach 1-3	2181	100-YR	1562.40	6992.99	6996.23		6996.41	0.006454	3.78	463.03	253.91	0.46	0.26	0.84	0.72	0.73
Reach 1-3	2181	FIS	2600.00	6992.99	6997.16		6997.37	0.004687	4.02	713.14	280.52	0.41	0.32	0.88	0.73	0.74
Reach 1-3	2112	5-YR	398.70	6992.58	6994.25		6994.32	0.005522	2.49	189.38	165.50	0.35	0.37	0.54	0.35	0.39
Reach 1-3	2112	100-YR	1562.40	6992.58	6995.91		6996.05	0.003969	3.41	512.96	225.20	0.33	0.51	0.80	0.52	0.56
Reach 1-3	2112	FIS	2600.00	6992.58	6996.90		6997.09	0.003359	3.75	746.87	240.30	0.32	0.55	0.89	0.62	0.65
Reach 1-3	2046	5-YR	398.70	6991.97	6993.65		6993.90	0.006971	4.91	124.24	114.24	0.68	0.43	0.71	0.37	0.47
Reach 1-3	2046	100-YR	1562.40	6991.97	6995.33		6995.73	0.005230	6.81	362.33	166.62	0.66	0.72	1.08	0.59	0.71
Reach 1-3	2046	FIS	2600.00	6991.97	6996.32		6996.80	0.004637	7.64	542.14	194.56	0.65	0.83	1.24	0.69	0.81
Reach 1-3	1993	5-YR	398.70	6991.29	6993.36		6993.52	0.006017	4.61	140.92	106.59	0.62	0.19	0.63	0.50	0.49
Reach 1-3	1993	100-YR	1562.40	6991.29	6995.06		6995.42	0.005932	7.19	357.93	150.12	0.68	0.56	1.22	0.87	0.88
Reach 1-3	1993	FIS	2600.00	6991.29	6996.08		6996.53	0.005323	8.10	523.89	173.01	0.68	0.68	1.42	1.00	1.00
Reach 1-3	1929	5-YR	398.70	6991.32	6993.09		6993.24	0.003442	3.47	145.97	110.40	0.48	0.14	0.35	0.23	0.28
Reach 1-3	1929	100-YR	1562.40	6991.32	6994.68		6995.10	0.004151	5.99	343.88	137.27	0.59	0.37	0.84	0.57	0.65
Reach 1-3	1929	FIS	2600.00	6991.32	6995.64		6996.22	0.004246	7.19	481.96	152.80	0.62	0.50	1.11	0.74	0.83
Reach 1-3	1884	5-YR	398.70	6991.07	6992.68		6992.97	0.010106	5.71	113.55	101.92	0.81	0.75	0.98	0.60	0.70
Reach 1-3	1884	100-YR	1562.40	6991.07	6994.13		6994.79	0.010382	8.98	275.84	122.31	0.92	1.34	1.94	1.37	1.46
Reach 1-3	1884	FIS	2600.00	6991.07	6995.02		6995.90	0.009870	10.42	390.70	134.25	0.93	1.61	2.39	1.70	1.79
Reach 1-3	1834	5-YR	398.70	6990.69	6992.33		6992.57	0.006123	4.23	117.76	111.41	0.62	0.20	0.55	0.26	0.40
Reach 1-3	1834	100-YR	1562.40	6990.69	6993.55		6994.30	0.009141	7.78	261.45	126.55	0.84	0.64	1.51	0.98	1.17
Reach 1-3	1834	FIS	2600.00	6990.69	6994.25	6994.12	6995.38	0.010347	9.68	354.19	136.06	0.93	0.95	2.17	1.46	1.67
Reach 1-3	1804	5-YR	398.70	6990.58	6992.05		6992.33	0.009181	5.18	109.93	112.32	0.76	0.42	0.82	0.47	0.56
Reach 1-3	1804	100-YR	1562.40	6990.58	6993.19	6993.08	6993.96	0.012176	8.81	246.28	127.37	0.97	1.10	1.96	1.41	1.47
Reach 1-3	1804	FIS	2600.00	6990.58	6993.97	6993.81	6994.99	0.011343	10.15	350.67	137.38	0.98	1.36	2.38	1.79	1.80
Reach 1-3	1707	5-YR	480.40	6989.35	6990.79	6990.79	6991.28	0.012597	6.15	94.90	100.66	0.96	0.56	1.01	0.47	0.74
Reach 1-3	1707	100-YR	1585.20	6989.35	6992.01	6992.01	6992.90	0.010246	8.68	237.51	133.63	0.97	0.93	1.60	0.85	1.14
Reach 1-3	1707	FIS	2600.00	6989.35	6992.61	6992.61	6993.89	0.011525	10.61	320.97	145.48	1.06	1.14	2.23	1.33	1.58
Reach 1-3	1663	5-YR	480.40	6987.76	6988.60	6989.10	6990.07	0.064971	10.05	52.00	77.73	2.00	1.56	3.17	1.41	2.71
Reach 1-3	1663	100-YR	1585.20	6987.76	6989.54	6990.26	6991.90	0.040217	13.37	144.14	118.24	1.80	1.90	4.32	2.06	3.06
Reach 1-3	1663	FIS	2600.00	6987.76	6990.14	6990.99	6992.88	0.032855	14.78	220.18	132.07	1.71	2.44	4.78	2.30	3.41
Reach 1-3	1622	5-YR	480.40	6986.76	6987.79	6987.86	6988.24	0.024467	5.39	89.16	139.48	1.19		0.98		0.98
Reach 1-3	1622	100-YR	1585.20	6986.76	6988.21	6988.71	6989.90	0.049243	10.41	152.82	154.72	1.82	0.44	3.12	0.32	3.03
Reach 1-3	1622	FIS	2600.00	6986.76	6988.52	6989.31	6991.17	0.054804	13.08	200.87	160.24	2.01	1.01	4.52	0.86	4.28
Reach 1-3	1411	5-YR	480.40	6982.00	6983.34	6983.37	6983.78	0.018379	5.34	90.34	119.39	1.06	0.18	0.90	0.09	0.87
Reach 1-3	1411	100-YR	1585.20	6982.00	6984.33	6984.35	6985.19	0.012411	7.56	219.52	139.83	1.00	0.56	1.37	0.49	1.21
Reach 1-3	1411	FIS	2600.00	6982.00	6990.04	6985.00	6990.11	0.000175	2.35	1397.28	286.43	0.15	0.03	0.08	0.04	0.05







Subdivision: Sterling Ranch
 Project Name: Sand Creek Channel Improvements
 Project No.: 25188.04
 Calculated By: DJV
 Date: April 13, 2023

POINT #	FLOW DEPTH (FT)	SLOPE (FT/FT)	SHEAR (LB/FT^2)	
RS 9955	1	0.35	0.05	1.09
	2	0.93	0.12	6.96
	3	0.96	0.12	7.19
	4	0.8	0.03	1.50
RS 9943	1	0.3	0.05	0.94
	2	0.68	0.12	5.09
	3	0.82	0.12	6.14
	4	0.55	0.02	0.69
RS 9913	1	1.22	0.05	3.81
	2	0.8	0.03	1.50
	3	0.41	0.03	0.77
RS 9910	1	0.75	0.03	1.40
	2	0.49	0.03	0.92
RS 9626	1	0.57	0.12	4.27
	2	0.8	0.12	5.99
	3	0.98	0.02	1.22
RS 9600	1	1.33	0.12	9.96
RS 9587	1	0.75	0.08	3.74
RS 9584	1	0.78	0.08	3.89
RS 7445	1	1.09	0.13	8.84
	2	0.87	0.075	4.07
RS 7430	1	0.83	0.19	9.84
	2	0.68	0.1	4.24
RS 7406	1	0.33	0.04	0.82
	2	0.51	0.095	3.02
RS 7093	1	0.72	0.0175	0.79
RS 7073	1	0.61	0.083	3.16
RS 7061	1	0.55	0.085	2.92
	2	0.63	0.08	3.14
RS 6223	1	0.55	0.12	4.12
	2	1	0.15	9.36
	3	0.42	0.15	3.93
RS 6212	1	0.74	0.14	6.46
RS 6199	1	1.47	0.13	11.92
	2	0.56	0.15	5.24
RS 6184	1	1.19	0.13	9.65
	2	0.92	0.14	8.04
RS 2405	1	1.41	0.01	0.88
	2	0.9	0.01	0.56
	3	0.51	0.01	0.32
RS 2399	1	1.24	0.12	9.29
	2	0.73	0.047	2.14
	3	0.25	0.057	0.89
RS 2377	1	1.24	0.12	9.29
	2	0.73	0.047	2.14
	3	0.25	0.057	0.89

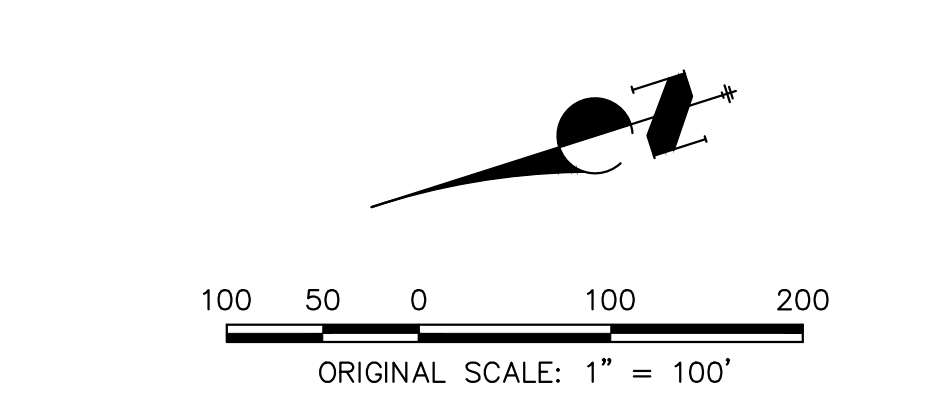
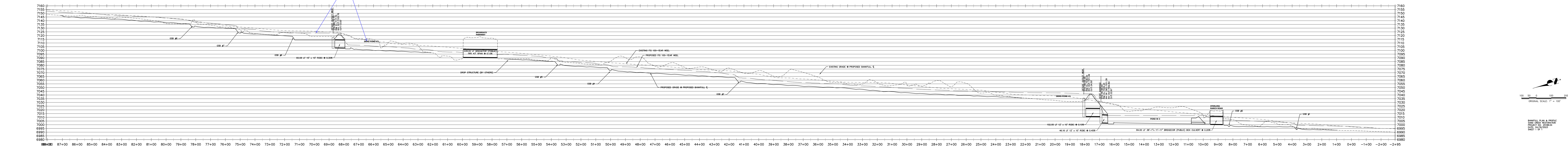
JR Response: GSB 2 is fully armored below the 100-YR WSEL due to being close to the culvert. GSB 6 is completely within the high water mark for SRMD Pond 2. The purpose of this table is to identify areas along both banks where soil riprap or just vegetation will provide adequate shear protection. In the case of GSB 2 there is no place where we could substitute soil riprap for grouted boulders. In the case of GSB 6, slopes outside of the GSB will be underwater and not a concern for erosion. The GSB is there to protect the pond slope during periods where it is drained.

Should 2856 and 9256 be included?

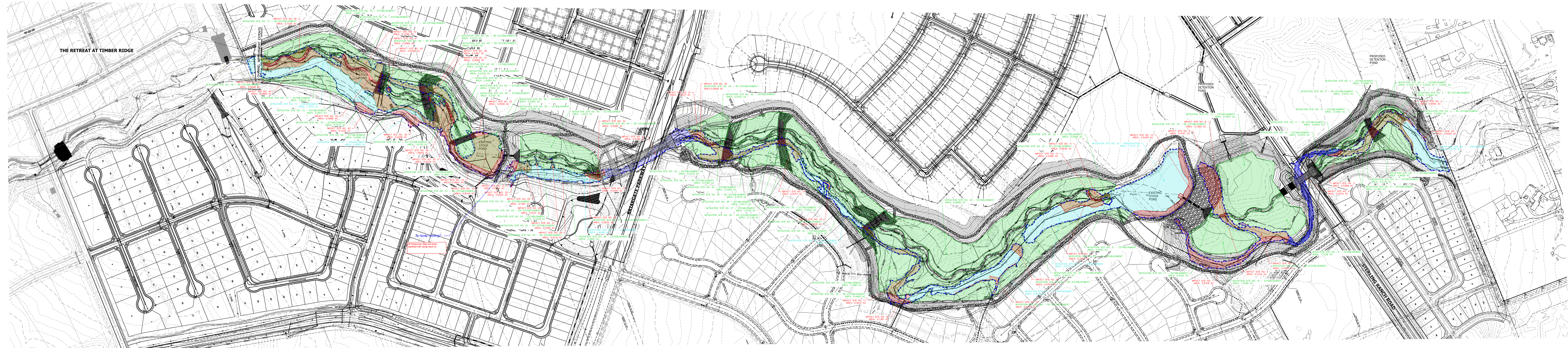
SAND CREEK PLAN & PROFILE



**SAND CREEK MASTER BANKFULL ALIGNMENT PROFILE
STA -2+95.01 TO 88+08.42**



SAND CREEK RESTORATION – WETLANDS EXHIBIT



Sand Creek Wetlands Disturbances		
Category	Sq Ft	Acres
Total Existing Disturbance	706,020	16.20
Reach 1 Permanent Loss	54,081	1.236
Reach 2 Permanent Loss	20,081	0.462
Reach 3 Permanent Loss	108,000	2.460
Permanent Loss Total	182,162	4.158
Reach 1 Wetlands Preserved	180,076	4.111
Reach 2 Wetlands Preserved	180,076	4.111
Reach 3 Wetlands Preserved	180,076	4.111
Total Wetlands Preserved	540,228	12.333
Reach 1 Mitigation	117,101	2.690
Reach 2 Mitigation	117,101	2.690
Reach 3 Mitigation	117,101	2.690
Mitigation Total	351,303	8.070
Mitigation to Permanent Loss Ratio	1.928	1.928

FINAL GRADING TOTALS:
 REACH 1 – 30,764 CY CUT
 32,587 CY FILL
 26,162 NET
 REACH 2 – 646,436 CY CUT
 24,523 CY FILL
 621,913 CY NET
 REACH 3 – 129,591 CY CUT
 3,462 CY FILL
 126,229 CY NET
**TOTAL – 806,891 CY CUT
 32,587 CY FILL
 774,304 CY NET**

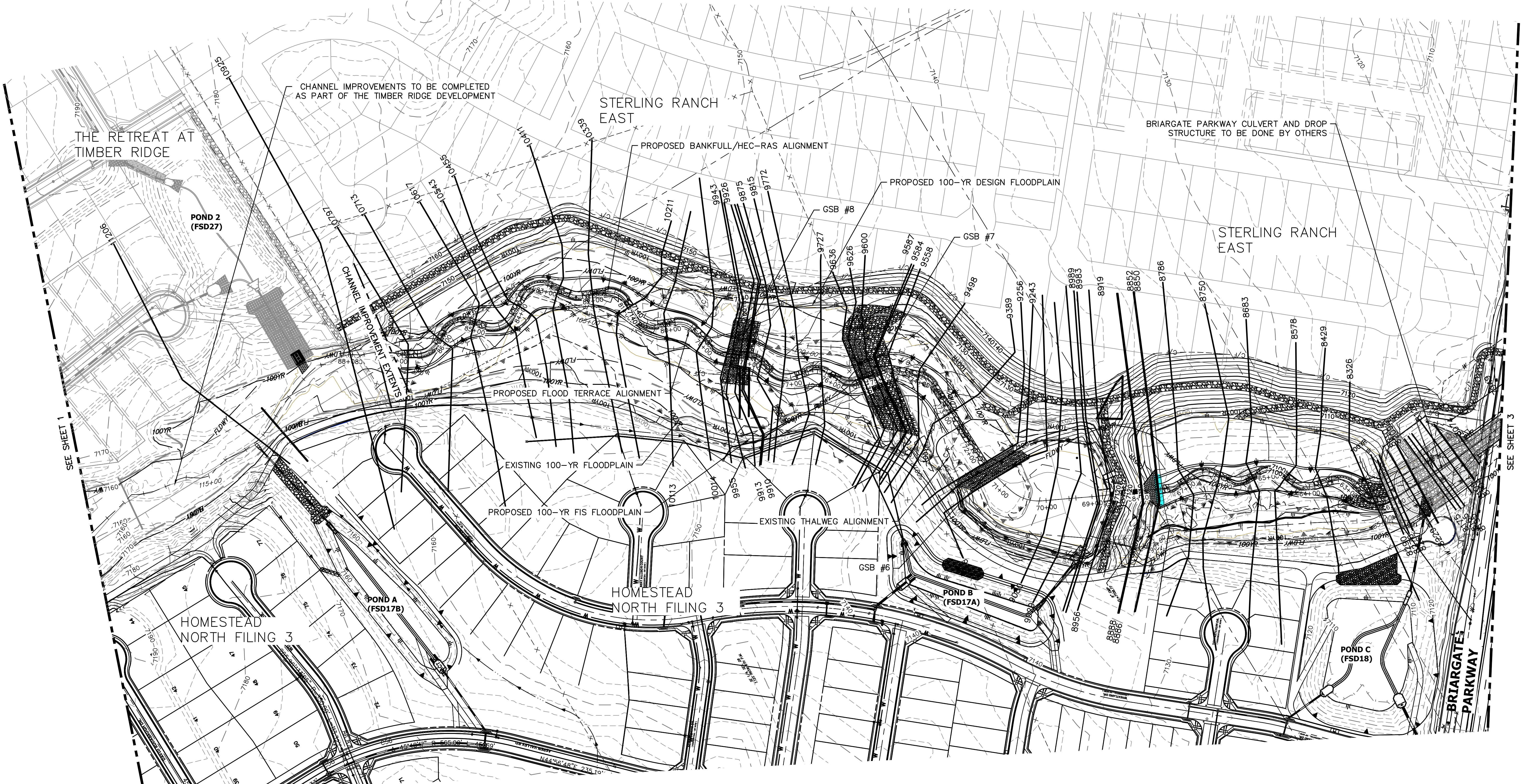
LEGEND

- PERMANENT LOSSES FROM CHANNEL
- PERMANENT LOSSES FROM BRIDGE
- MITIGATION AREAS
- PRESERVED WETLANDS

Wetlands Impacts Summary	
Total Permanent Loss	182,162
Total Establishment	26,172
Total Enhancement	2,276
Total Preservation	2,313
Total Mitigation	351,303
Mitigation to Permanent Loss Ratio	1.928

Permanent Impacts		Total Mitigation		Establishment	
Mitigation Area (Acres)	Area (Ac)	Mitigation Area (Acres)	Area (Ac)	Mitigation Area (Acres)	Area (Ac)
1	0.004	1	0.004	1	0.004
2	0.004	2	0.008	2	0.008
3	0.008	3	0.024	3	0.024
4	0.008	4	0.032	4	0.032
5	0.012	5	0.048	5	0.048
6	0.012	6	0.072	6	0.072
7	0.016	7	0.112	7	0.112
8	0.016	8	0.160	8	0.160
9	0.020	9	0.216	9	0.216
10	0.020	10	0.288	10	0.288
11	0.024	11	0.384	11	0.384
12	0.024	12	0.512	12	0.512
13	0.032	13	0.672	13	0.672
14	0.032	14	0.912	14	0.912
15	0.040	15	1.200	15	1.200
16	0.040	16	1.600	16	1.600
17	0.048	17	2.112	17	2.112
18	0.048	18	2.848	18	2.848
19	0.056	19	3.808	19	3.808
20	0.056	20	5.088	20	5.088
21	0.064	21	6.784	21	6.784
22	0.064	22	9.088	22	9.088
23	0.072	23	12.288	23	12.288
24	0.072	24	16.416	24	16.416
25	0.080	25	21.600	25	21.600
26	0.080	26	28.800	26	28.800
27	0.096	27	39.360	27	39.360
28	0.096	28	52.800	28	52.800
29	0.112	29	71.360	29	71.360
30	0.112	30	95.040	30	95.040
31	0.128	31	128.640	31	128.640
32	0.128	32	172.320	32	172.320
33	0.144	33	232.320	33	232.320
34	0.144	34	310.400	34	310.400
35	0.160	35	411.200	35	411.200
36	0.160	36	544.000	36	544.000
37	0.176	37	731.200	37	731.200
38	0.176	38	974.400	38	974.400
39	0.192	39	1305.600	39	1305.600
40	0.192	40	1744.000	40	1744.000
41	0.208	41	2313.600	41	2313.600
42	0.208	42	3057.600	42	3057.600
Total	88.060	88.060	88.060	88.060	88.060
Enhancement		No Establishment		Mitigation Area (Acres)	
Mitigation Area (Acres)	Area (Ac)	Mitigation Area (Acres)	Area (Ac)	Mitigation Area (Acres)	Area (Ac)
43	0.004	43	0.004	43	0.004
44	0.008	44	0.008	44	0.008
45	0.012	45	0.012	45	0.012
46	0.016	46	0.016	46	0.016
47	0.020	47	0.020	47	0.020
48	0.024	48	0.024	48	0.024
49	0.028	49	0.028	49	0.028
50	0.032	50	0.032	50	0.032
51	0.036	51	0.036	51	0.036
52	0.040	52	0.040	52	0.040
53	0.044	53	0.044	53	0.044
54	0.048	54	0.048	54	0.048
55	0.052	55	0.052	55	0.052
56	0.056	56	0.056	56	0.056
57	0.060	57	0.060	57	0.060
58	0.064	58	0.064	58	0.064
59	0.068	59	0.068	59	0.068
60	0.072	60	0.072	60	0.072
61	0.076	61	0.076	61	0.076
62	0.080	62	0.080	62	0.080
63	0.084	63	0.084	63	0.084
64	0.088	64	0.088	64	0.088
65	0.092	65	0.092	65	0.092
66	0.096	66	0.096	66	0.096
67	0.100	67	0.100	67	0.100
68	0.104	68	0.104	68	0.104
69	0.108	69	0.108	69	0.108
70	0.112	70	0.112	70	0.112
71	0.116	71	0.116	71	0.116
72	0.120	72	0.120	72	0.120
73	0.124	73	0.124	73	0.124
74	0.128	74	0.128	74	0.128
75	0.132	75	0.132	75	0.132
76	0.136	76	0.136	76	0.136
77	0.140	77	0.140	77	0.140
78	0.144	78	0.144	78	0.144
79	0.148	79	0.148	79	0.148
80	0.152	80	0.152	80	0.152
Total	2.313	2.313	2.313	2.313	2.313

SAND CREEK RESTORATION WORK MAP

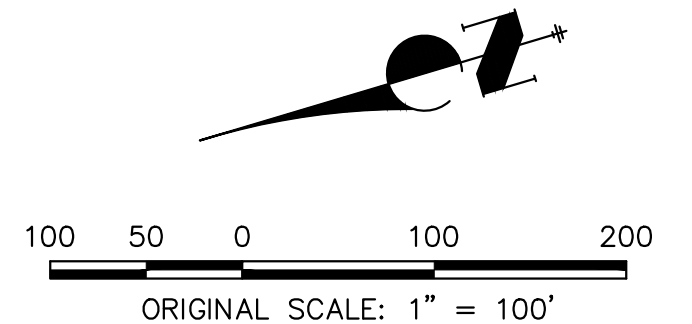


SEE SHEET 1

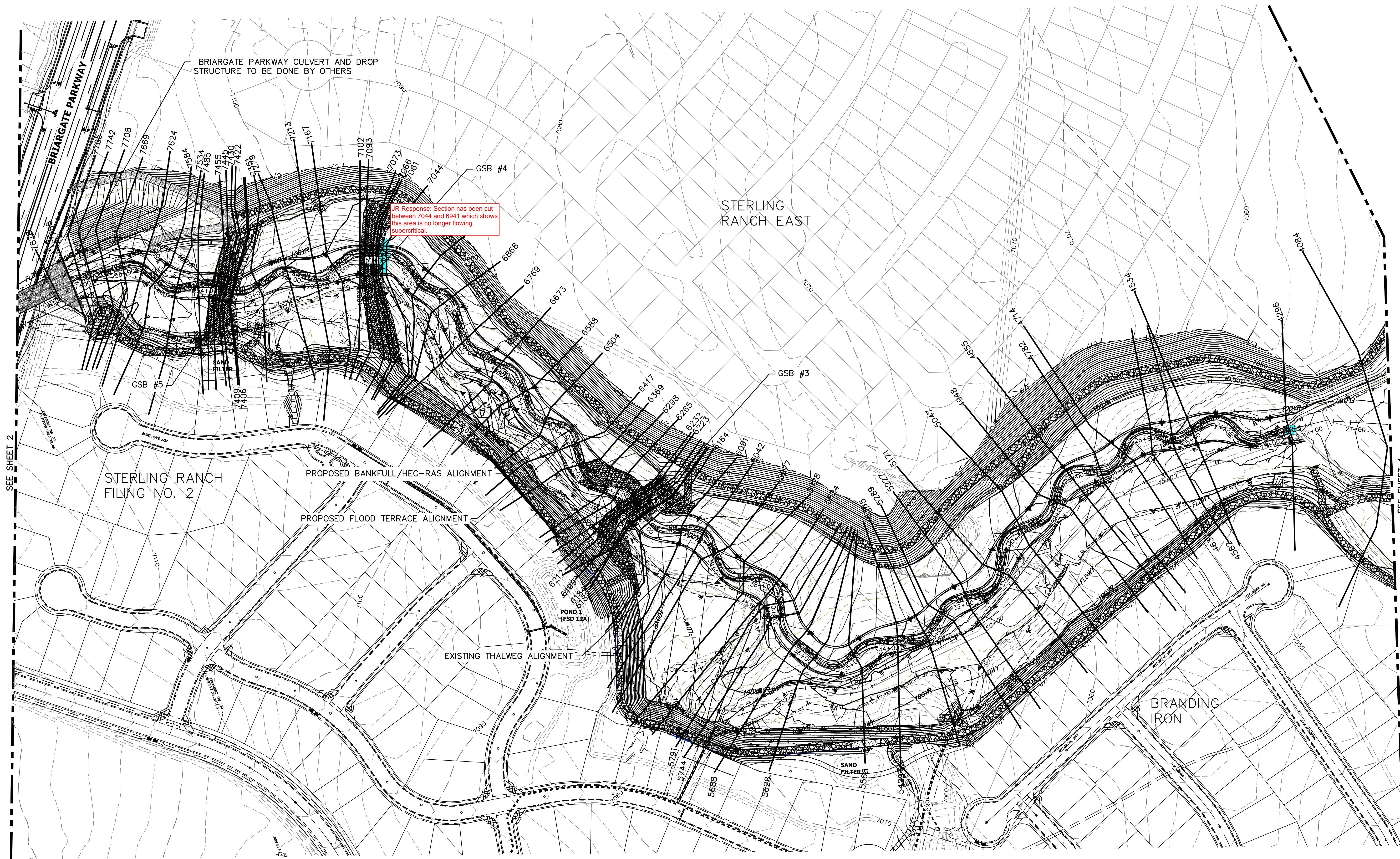
SEE SHEET 3

LEGEND

	HEC-RAS CROSS SECTION
	EXISTING CHANNEL C
	PROPOSED CHANNEL C
	100-YR FIS
	100-YR DESIGN WSEL
	100-YR EXISTING WSEL



SAND CREEK RESTORATION WORK MAP



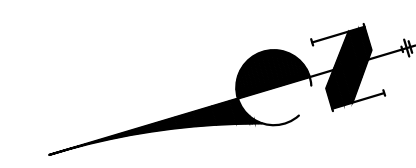
SEE SHEET 2

STERLING RANCH FILING NO. 2

SEE SHEET 4

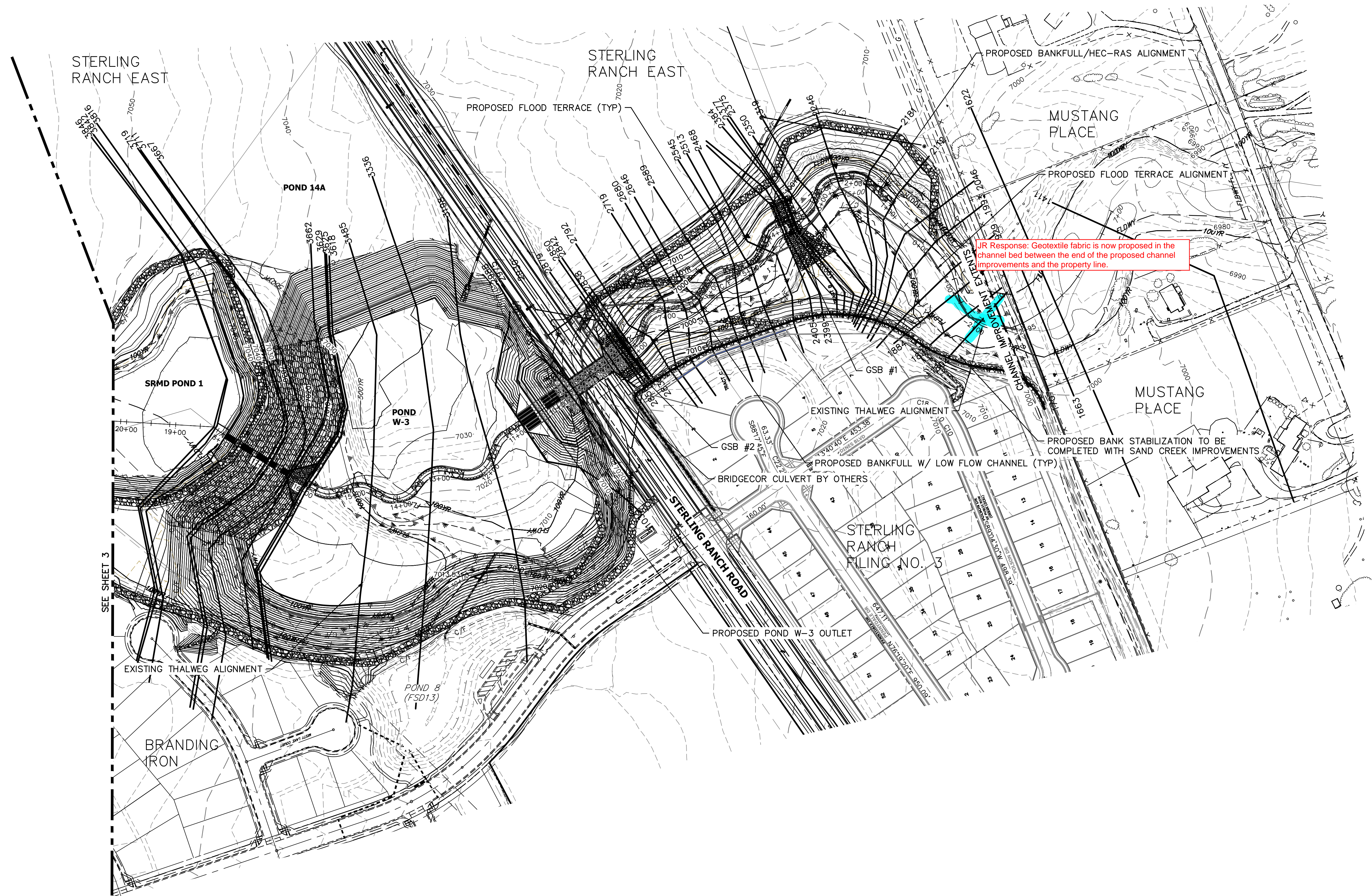
LEGEND

	HEC-RAS CROSS SECTION
	EXISTING CHANNEL C
	PROPOSED CHANNEL C
	100-YR FIS
	100-YR DESIGN WSEL
	100-YR EXISTING WSEL



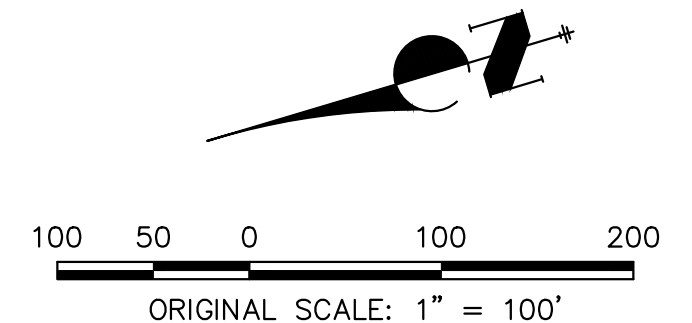
100 50 0 100 200
ORIGINAL SCALE: 1" = 100'

SAND CREEK RESTORATION WORK MAP



LEGEND

	HEC-RAS CROSS SECTION
	EXISTING CHANNEL C
	PROPOSED CHANNEL C
	100-YR FIS
	100-YR DESIGN WSEL
	100-YR EXISTING WSEL



X:\2510000\25188\HEC-RAS\HEC-RAS Base Files\2022-24-08-Sand Creek\HEC-RAS Work Map_Angel Layout (5) - 4/13/2023 5:54:35 PM_Vaughn.D