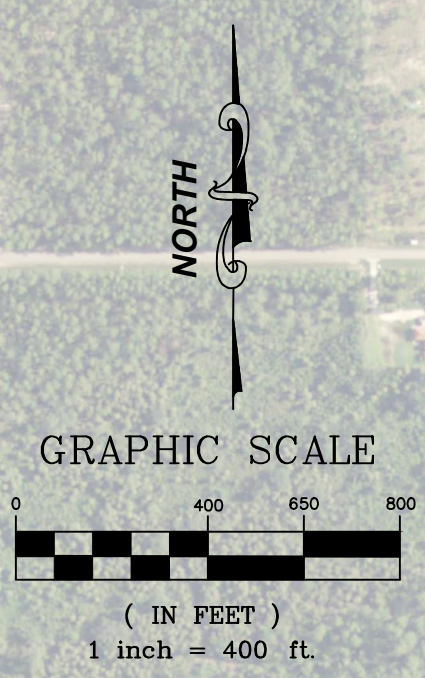


NOTE: NO WORK IS TO BE PERFORMED WITHIN THIS AREA.



Author: 2/2/12  
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PROJECT

NORTH GOLDEN GATE ESTATES  
 FLOWWAY RESTORATION PROJECT  
 ALTERNATIVE 2

TASK

PROJECT AREA 13  
 SITE PLAN

ORIGINAL DECEMBER 2012

- REVISIONS:
- 1 \_\_\_\_\_
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GEORGE G. WISE  
 FLORIDA P.E. NO. 24486

JOB NO. 100024759

DRAWN NJS  
 PE CGW  
 CHECKED PD  
 QC

SHEET C-14



RECOMMENDED STRUCTURES							
STRUCTURE ID	DESCRIPTION	X COORDINATE	Y COORDINATE	UPSTREAM INVERT	DOWNSTREAM INVERT	DIAMETER (IN)	LENGTH (FT)
RS-77	CULVERT	480245	672700	9.0	9.0	24	40
RS-78	CULVERT	480317	671383	8.7	8.7	24	40
RS-79	CULVERT	480346	670060	8.4	8.4	24	40
RS-80	CULVERT	480693	668744	8.5	8.5	24	40



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PROJECT

NORTH GOLDEN GATE ESTATES  
 FLOWWAY RESTORATION PROJECT  
 ALTERNATIVE 2

TASK

PROJECT AREA 14  
 SITE PLAN

ORIGINAL REVISIONS: DECEMBER 2012

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GEORGE G. WISE  
 FLORIDA P.E. NO. 24486

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 PE CGW  
 CHECKED PD  
 QC \_\_\_\_\_

SHEET C-15



NOTE: NO WORK IS TO BE PERFORMED WITHIN THIS AREA.



Author: 24737  
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PROJECT

NORTH GOLDEN GATE ESTATES  
FLOWWAY RESTORATION PROJECT  
ALTERNATIVE 2

TASK

PROJECT AREA 15  
SITE PLAN

ORIGINAL DECEMBER 2012

REVISIONS:

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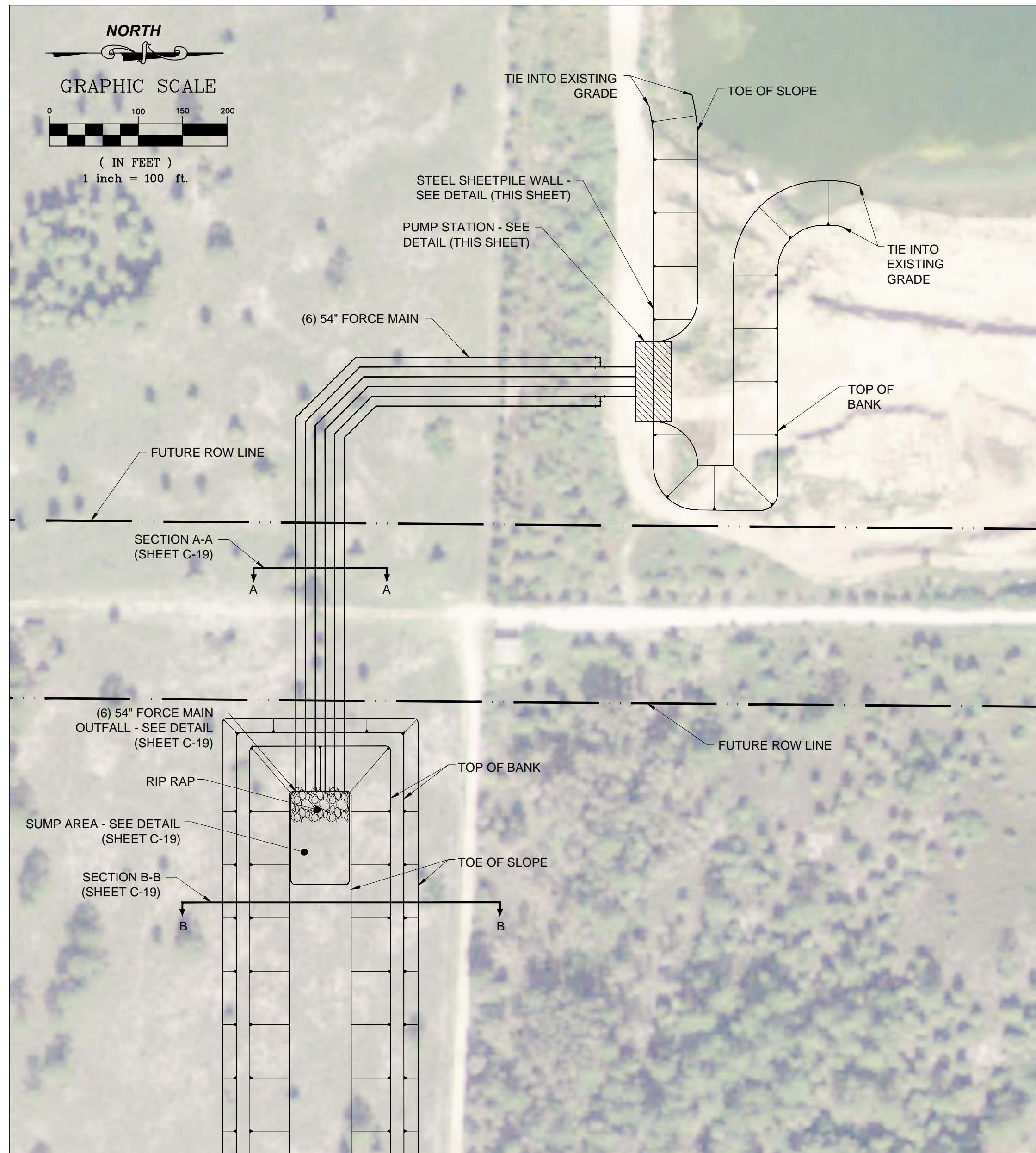
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FLORIDA P.E. NO. 24486

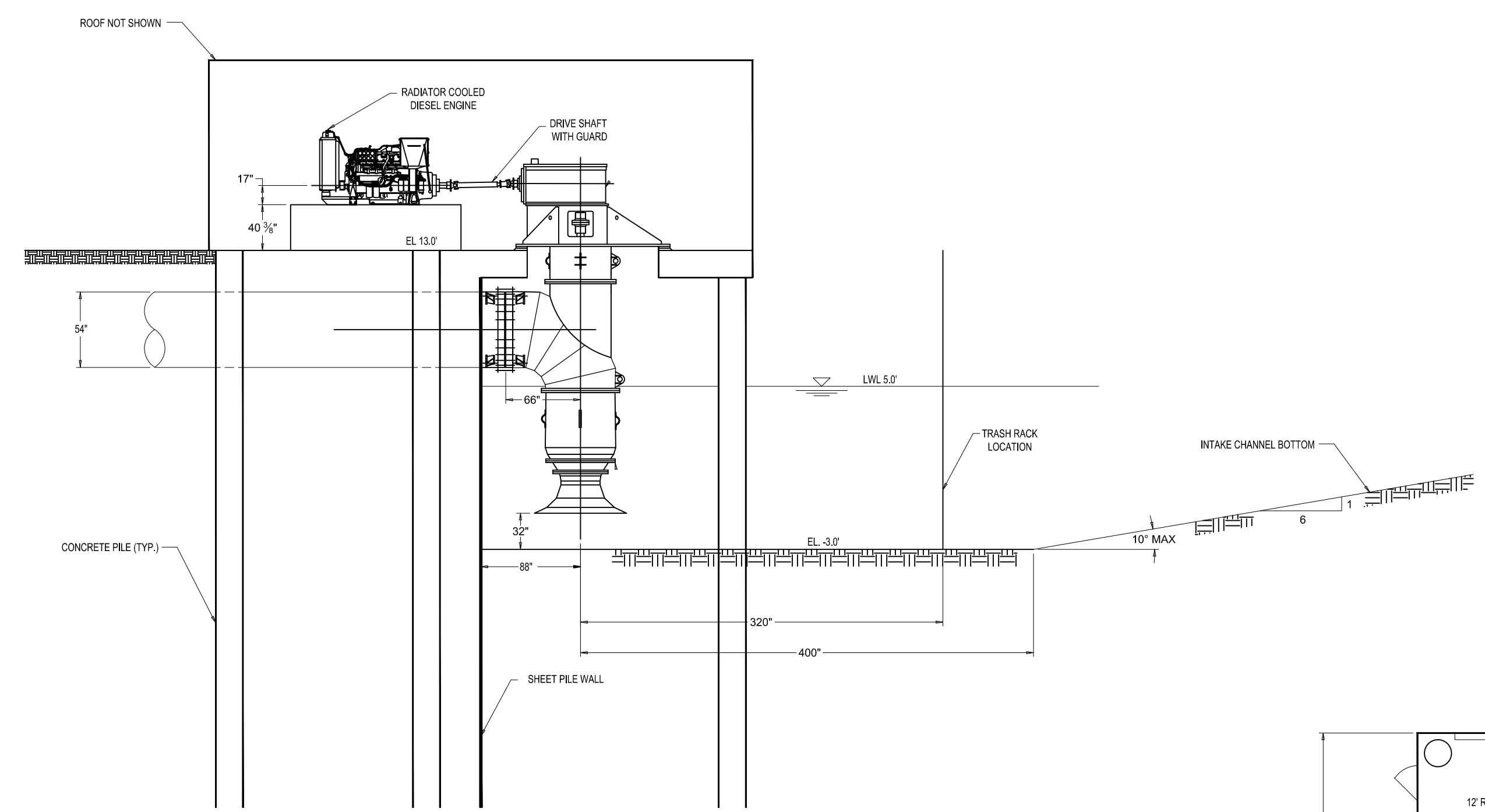
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PE GGW  
CHECKED PD  
QC \_\_\_\_\_

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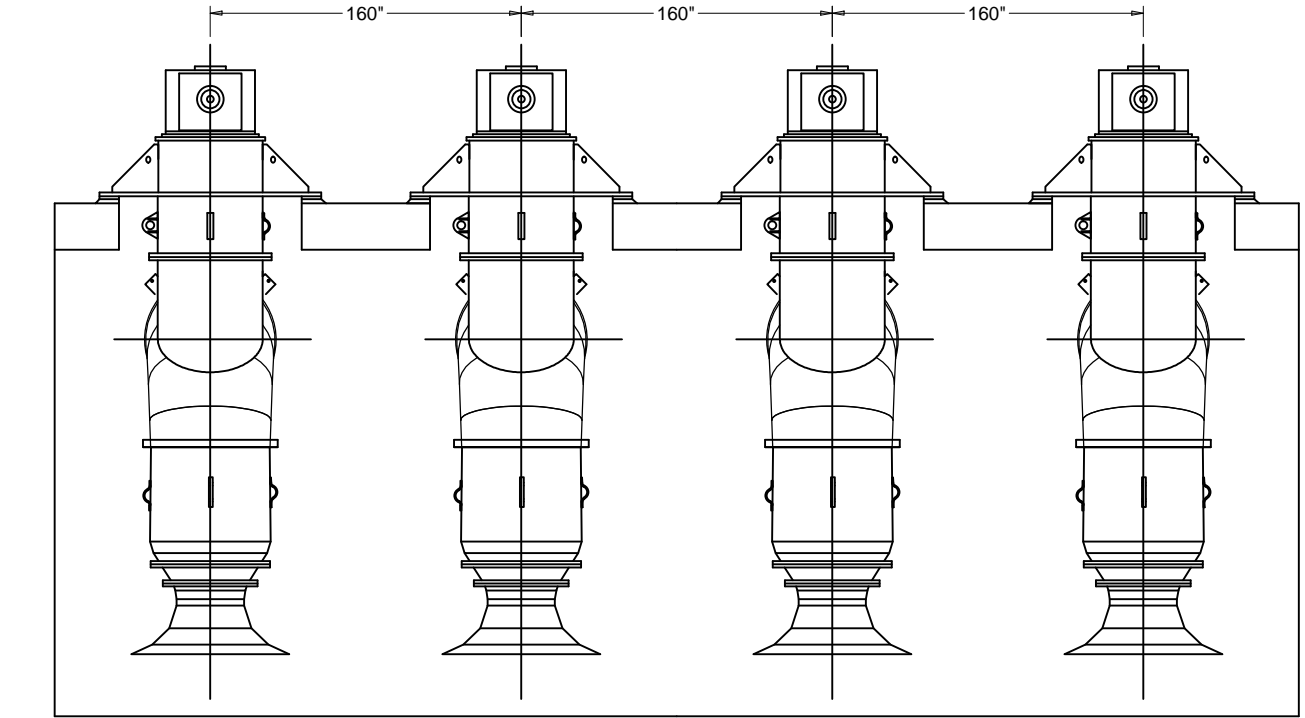




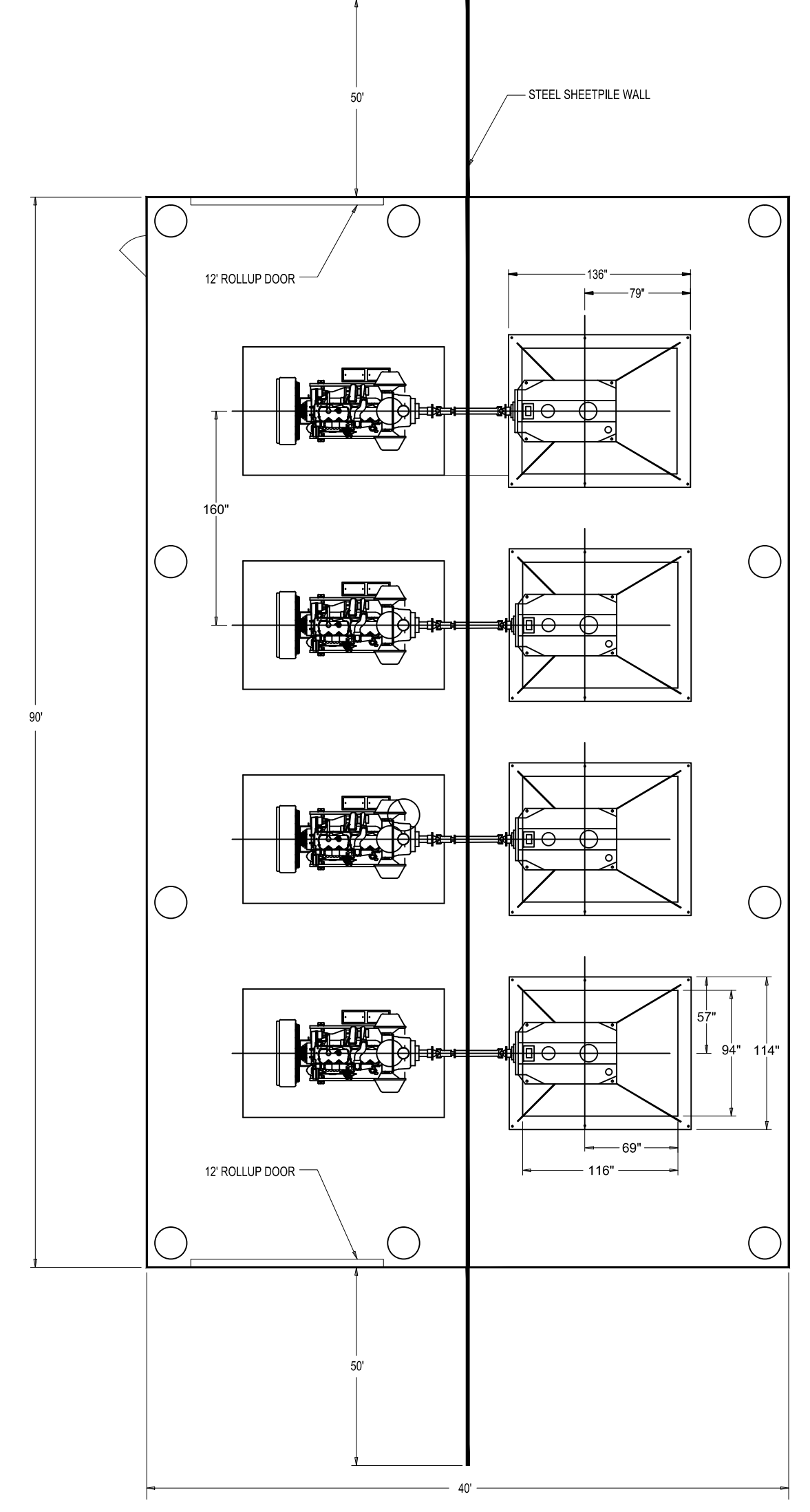
**PUMP STATION - PLAN VIEW**



**SIDE ELEVATION N.T.S.**



**FRONT ELEVATION N.T.S.**



**PLAN VIEW N.T.S.**

NOTE: PUMP STATION LAYOUT IS BASED ON MWI VERTICAL LINE SHAFT PUMPS WITH DIESEL POWERED DRIVE UNIT.



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PROJECT

NORTH GOLDEN GATE ESTATES  
FLOWWAY RESTORATION PROJECT  
ALTERNATIVE 2

TASK

PUMP STATION

ORIGINAL DECEMBER 2012

REVISIONS:

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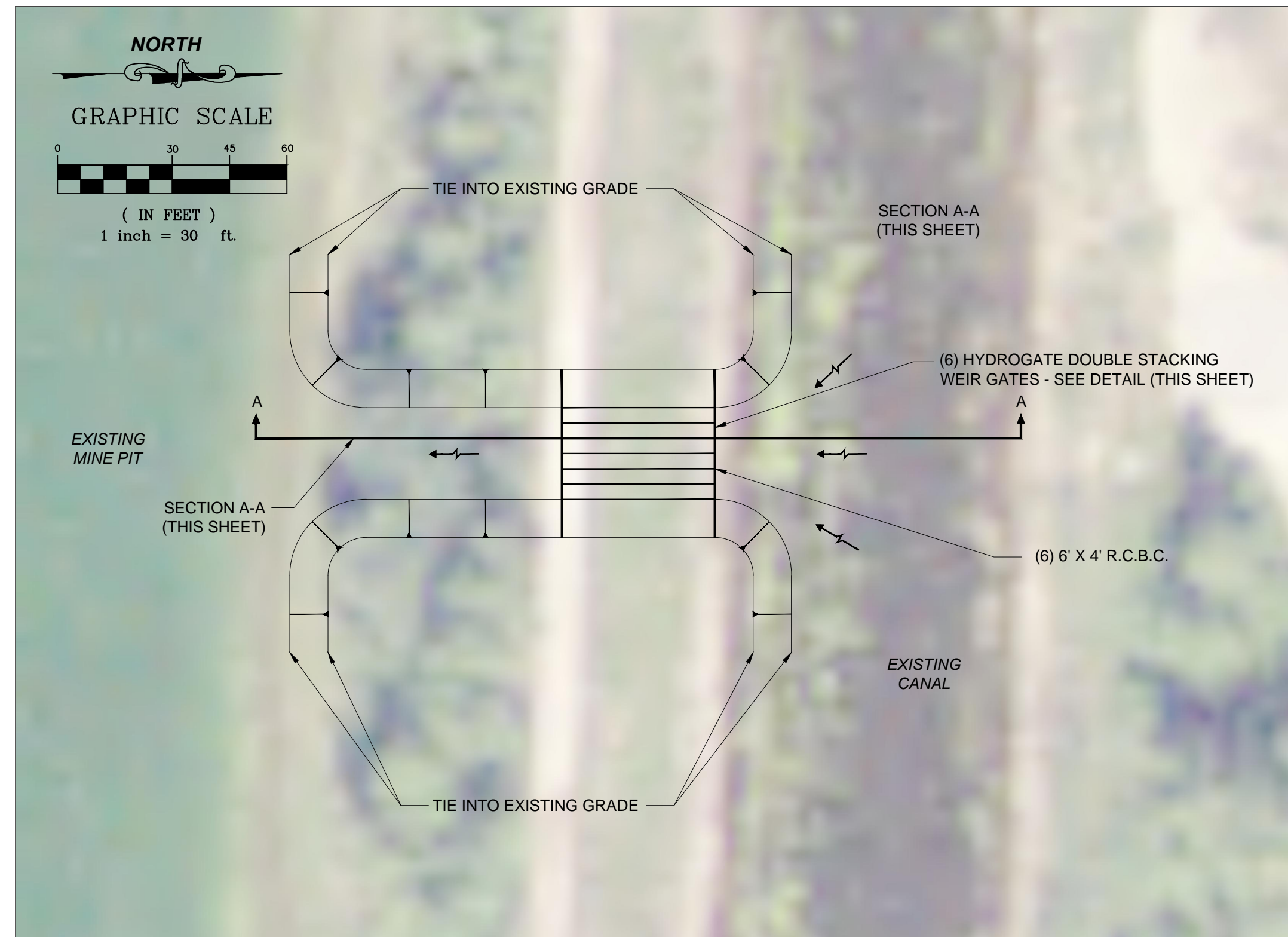
GEORGE G. WISE  
FLORIDA P.E. NO. 24486

JOB NO. 100024759  
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PE CGW  
CHECKED PD  
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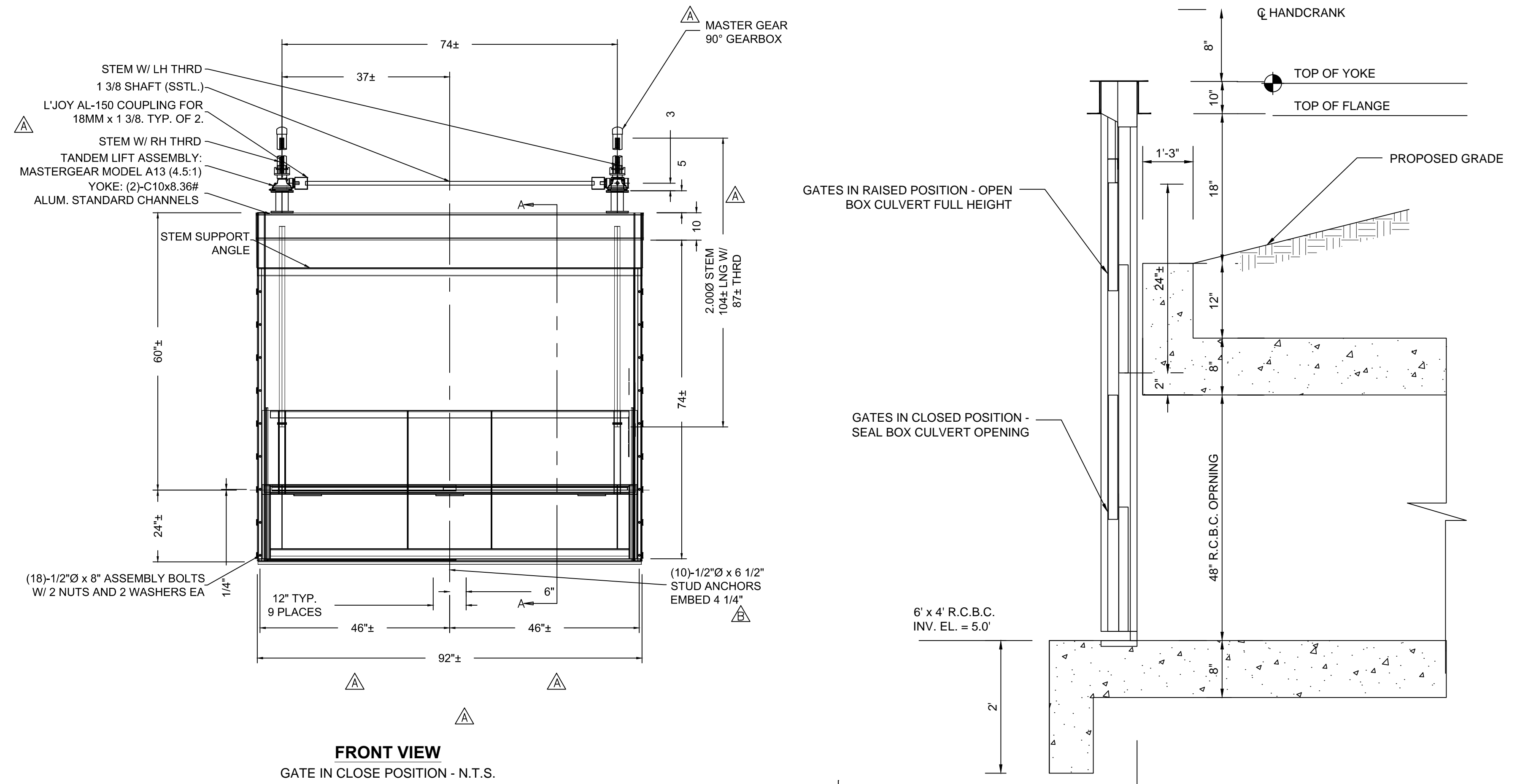
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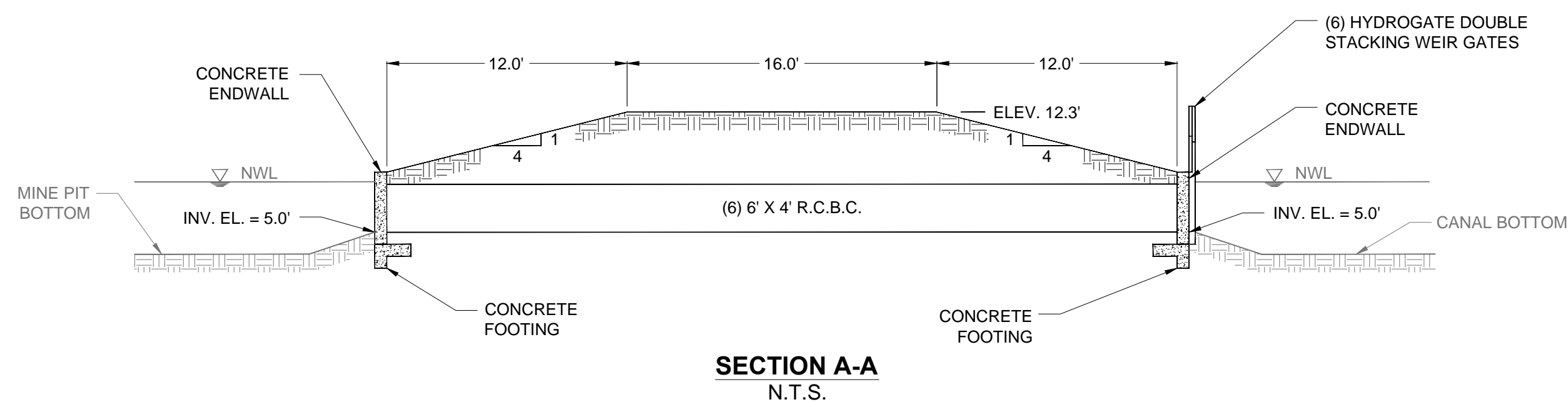


**DIVERSION STRUCTURE - PLAN VIEW**



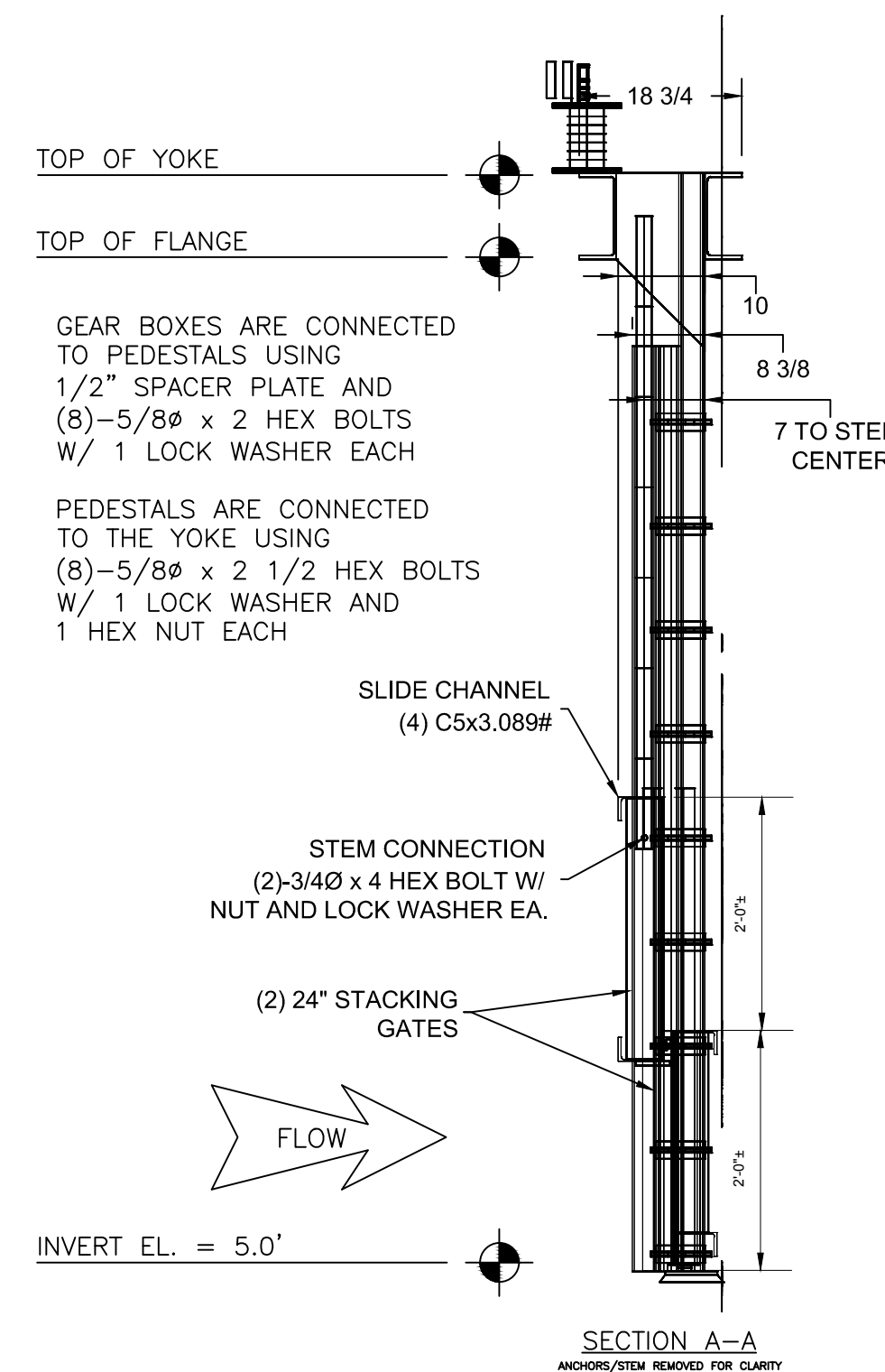
**FRONT VIEW  
GATE IN CLOSE POSITION - N.T.S.**

**HYDROGATE DOUBLE STACKING WEIR GATE DETAIL  
N.T.S.**



**SECTION A-A  
N.T.S.**

NOTE: DIVERSION STRUCTURE BASED ON HYDROGATE DOUBLE STACKING WEIR GATES OR EQUAL WITH SCADA CONTROLLED OPERATION.



**SECTION A-A  
HYDROGATE STEM REMOVED FOR CLARITY**



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PROJECT

NORTH GOLDEN GATE ESTATES  
FLOWWAY RESTORATION PROJECT  
ALTERNATIVE 2

TASK

DIVERSION STRUCTURE

ORIGINAL DECEMBER 2012

REVISIONS:

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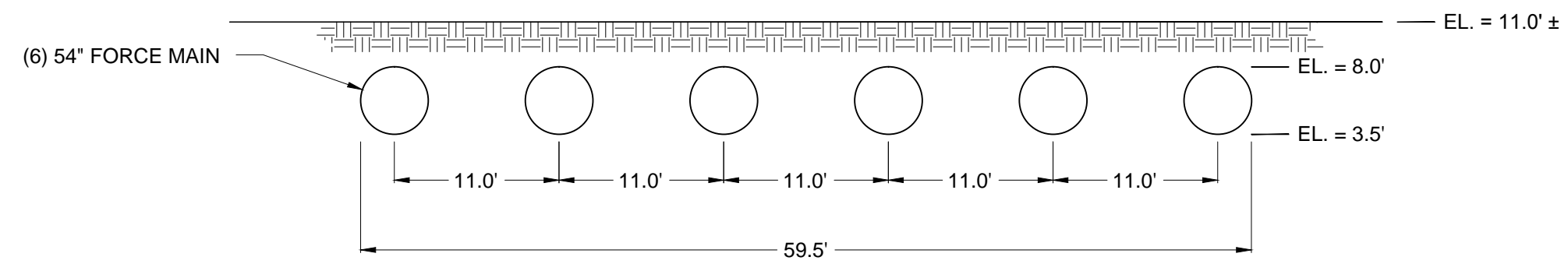
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GEORGE G. WISE  
FLORIDA P.E. NO. 24486

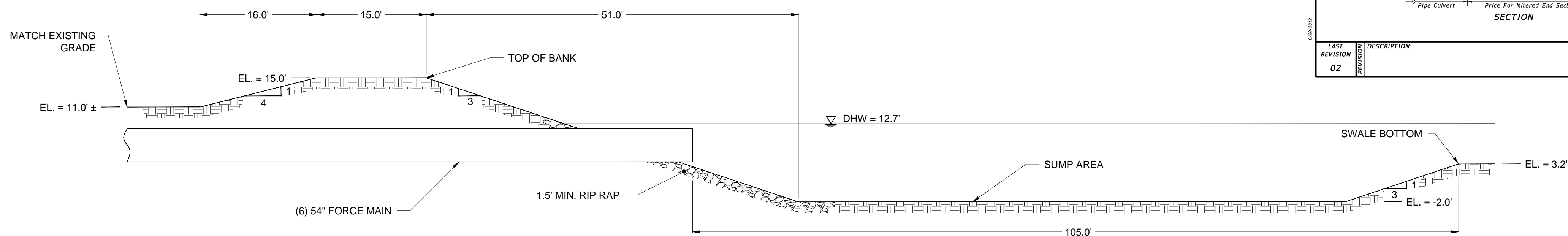
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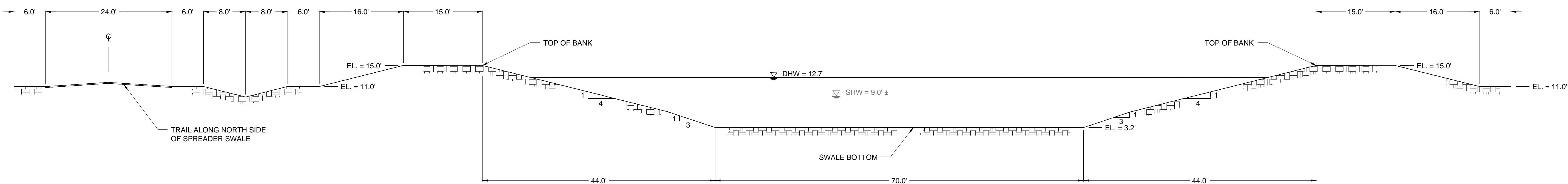




**PUMP STATION FORCE MAIN - SECTION A-A**  
1" = 10'

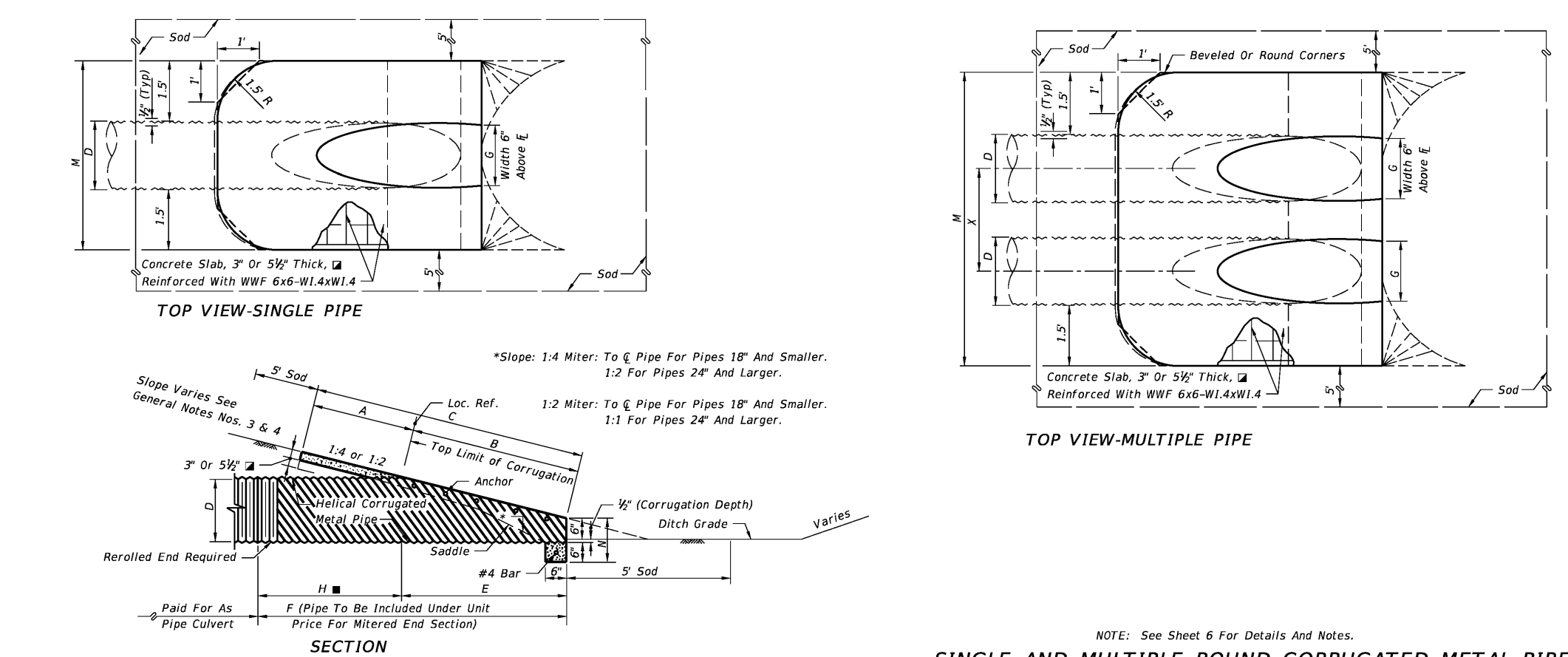


**FORCE MAIN OUTFALL - TYPICAL SECTION**  
1" = 10'



**SPREADER SWALE - SECTION B-B**  
1" = 10'

D	X	A	B	C	E	F	G	H	M				5/8" CONCRETE SLAB (CY) $\square$				SODDING (SY)				
									Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	
15"	2'-3"	2.5	1.68	4.18	1.5	5.0	1.22	3.5	4.33	6.92	9.56	12.08	1.04	0.35	0.54	0.74	0.94	21	24	27	29
18"	2'-10"	2.5	2.24	4.74	2.0	6.0	1.41	4	4.58	7.42	10.25	13.08	1.04	0.38	0.62	0.87	1.12	22	25	28	31
24"	3'-3"	2.5	3.35	5.85	3.0	7.0	1.77	4	5.08	8.50	11.92	15.33	1.04	0.47	0.76	1.05	1.34	23	27	31	35
30"	4'-3"	2.5	4.47	6.97	4.0	8.0	2.00	4	5.58	9.63	14.08	18.33	1.04	0.57	0.96	1.37	1.77	25	30	35	39
36"	5'-1"	2.5	5.59	8.09	5.0	9.0	2.24	4	6.08	11.17	16.25	21.33	1.04	0.67	1.10	1.72	2.26	27	33	38	44
42"	6'-0"	2.5	6.71	9.21	6.0	10.0	2.48	4	6.58	12.58	18.58	24.58	1.04	0.78	1.40	2.17	2.87	29	36	42	49
48"	6'-0"	2.5	7.83	10.33	7.0	11.0	2.65	4	7.08	13.83	20.58	27.33	1.04	0.89	1.71	2.54	3.36	31	38	46	53
54"	7'-0"	2.5	8.94	11.44	8.0	12.0	2.82	4	7.58	15.23	22.58	30.58	1.04	1.02	2.06	3.10	4.14	33	41	50	58
60"	8'-0"	2.5	10.06	12.56	9.0	13.0	3.00	4	8.08	16.58	25.08	33.58	1.04	1.14	2.38	3.63	4.89	34	44	53	63
15"	2'-3"	2.5	3.09	5.59	3.0	7.0	1.22	4	4.33	6.92	9.56	12.08	1.04	0.44	0.68	0.91	1.15	22	25	28	31
18"	2'-10"	2.5	4.12	6.62	4.0	8.0	1.41	4	4.58	7.42	10.25	13.08	1.04	0.49	0.77	1.03	1.31	24	27	30	33
24"	3'-3"	2.5	6.18	8.68	6.0	10.0	1.77	4	5.08	8.50	11.92	15.33	1.04	0.65	1.06	1.36	1.77	25	30	34	38
30"	4'-3"	2.5	8.25	10.75	8.0	12.0	2.00	4	5.58	9.63	14.08	18.33	1.04	0.81	1.34	1.90	2.44	29	34	39	44
36"	5'-1"	2.5	10.31	12.81	10.0	14.0	2.24	4	6.08	11.17	16.25	21.33	1.04	0.97	1.68	2.41	3.14	32	38	44	49
42"	6'-0"	2.5	12.37	14.87	12.0	16.0	2.48	4	6.58	12.58	18.58	24.58	1.04	1.13	2.08	3.06	4.02	35	42	48	55
48"	6'-0"	2.5	14.43	16.93	14.0	18.0	2.65	4	7.08	13.83	20.58	27.33	1.04	1.29	2.49	3.69	4.88	36	46	53	60
54"	7'-0"	2.5	16.49	18.99	16.0	20.0	2.82	4	7.58	15.23	22.58	30.58	1.04	1.48	2.98	4.47	5.98	41	49	58	66
60"	8'-0"	2.5	18.55	21.05	18.0	22.0	3.00	4	8.08	16.58	25.08	33.58	1.04	1.66	3.45	5.31	7.13	44	53	63	72



**SINGLE AND MULTIPLE ROUND CORRUGATED METAL PIPE**

LAST REVISION	DESCRIPTION	FDOT DESIGN STANDARDS 2013	CROSS DRAIN MITERED END SECTION	INDEX NO. 272	SHEET NO. 2
02	REVISION				

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**Collier County**

PROJECT  
NORTH GOLDEN GATE ESTATES  
FLOWWAY RESTORATION PROJECT  
ALTERNATIVE 2

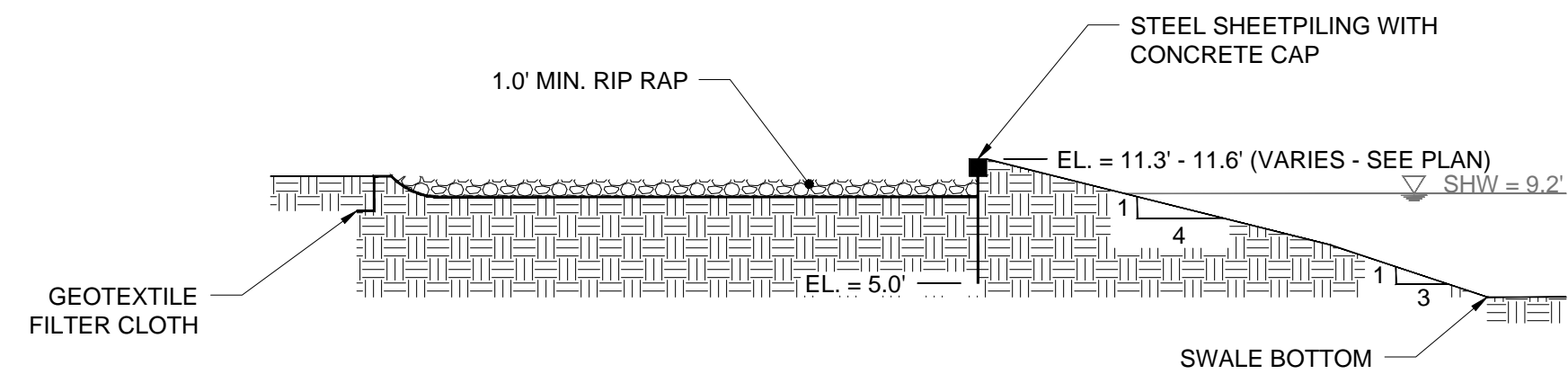
TASK  
TYPICAL DETAILS & CROSS SECTIONS

ORIGINAL DECEMBER 2012  
REVISIONS:  
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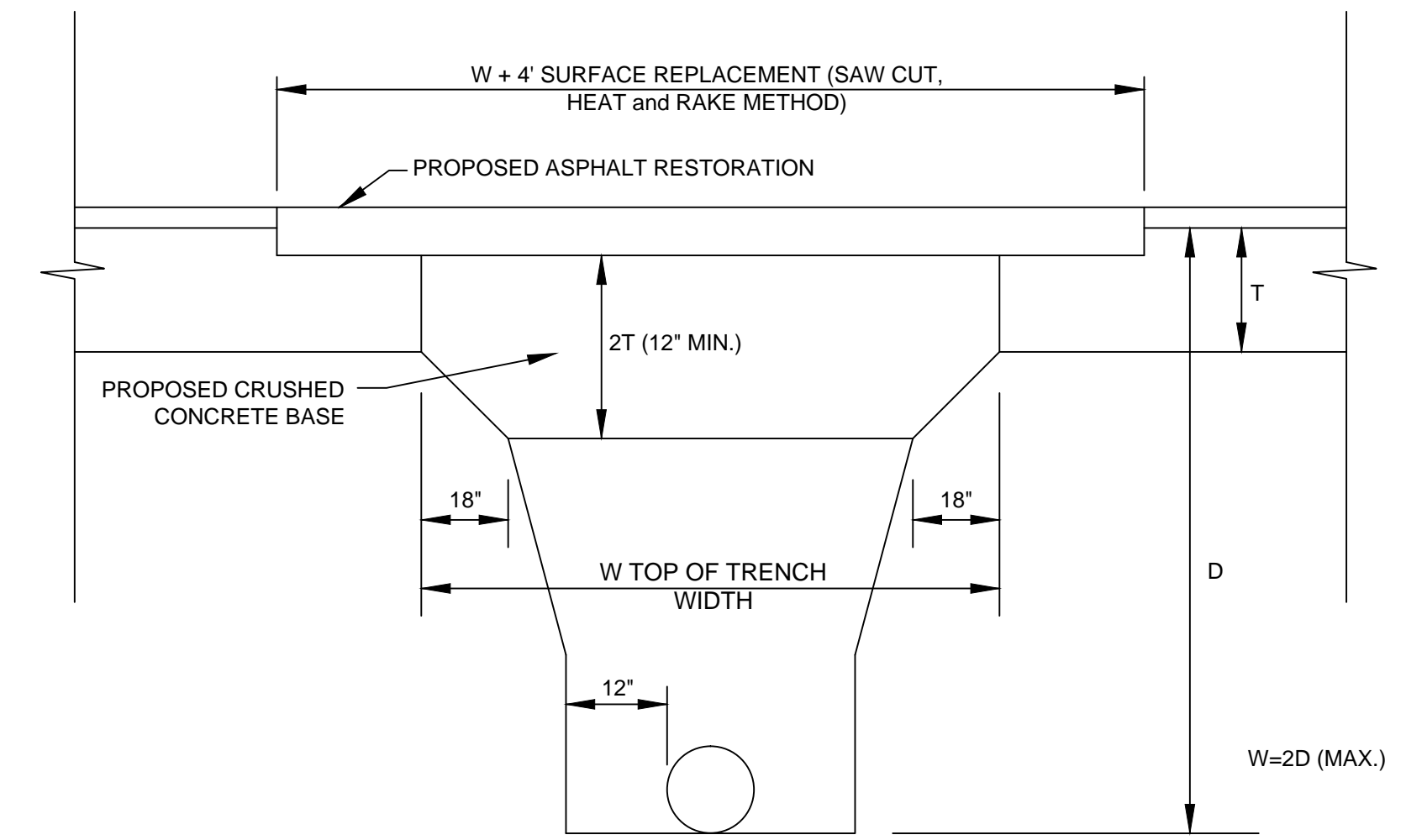
JOB NO. 100024759  
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PE CGW  
CHECKED PD  
QC \_\_\_\_\_  
GEORGE G. WISE  
FLORIDA P.E. NO. 24486  
SHEET C-19

Author: 24737  
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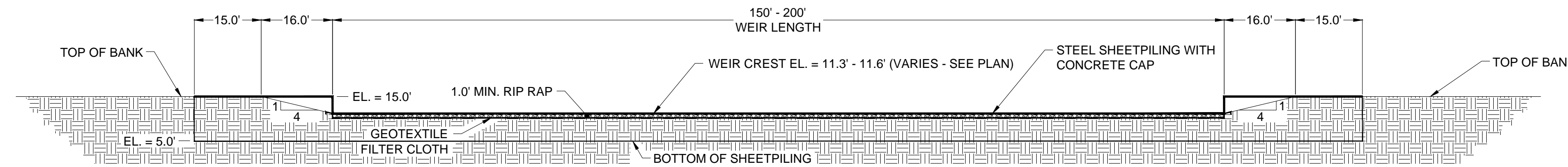




**WEIR TYPICAL DETAIL**  
1" = 10'



STANDARD DETAILS FOR ROADWAY RESTORATION FOR A PERPENDICULAR UTILITY CROSSING  
N.T.S.



**WEIR TYPICAL SECTION**  
1" = 20'

**PAVEMENT AND BASE REPLACEMENT**

CRUSHED CONCRETE, INSTALLED TO A THICKNESS OF TWO TIMES THE THICKNESS OF THE EXISTING BASE OR 12" WHICHEVER IS GREATER, SHALL BE INSTALLED IN 6" LIFTS. THE CRUSHED CONCRETE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. A MINIMUM OF TWO DENSITY TESTS PER LIFT IS REQUIRED.

THE SURFACE COURSE SHALL BE F.D.O.T. SP-12.5 WITH A THICKNESS EQUAL TO THE EXISTING OR 1-1/2", WHICHEVER IS GREATER. PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED BUTT JOINTS HEATED, RAKED AND SPRAYED WITH A REJUVENATING AGENT. THE PATCH AREA SHALL BE A SMOOTH PLANE SUCH THAT A STRAIGHT EDGE PLACED ACROSS THE PATH, PARALLEL TO TRAFFIC FLOW AND EXTENDING TO UNDISTURBED PAVEMENT SHALL SHOW NO MORE THAN 1/4" IRREGULARITY. ANY IRREGULARITIES SHALL BE CORRECTED IN SUBSTANTIAL COMPLIANCE WITH F.D.O.T. SPECS. IN LIEU OF HEATING AND RAKING.

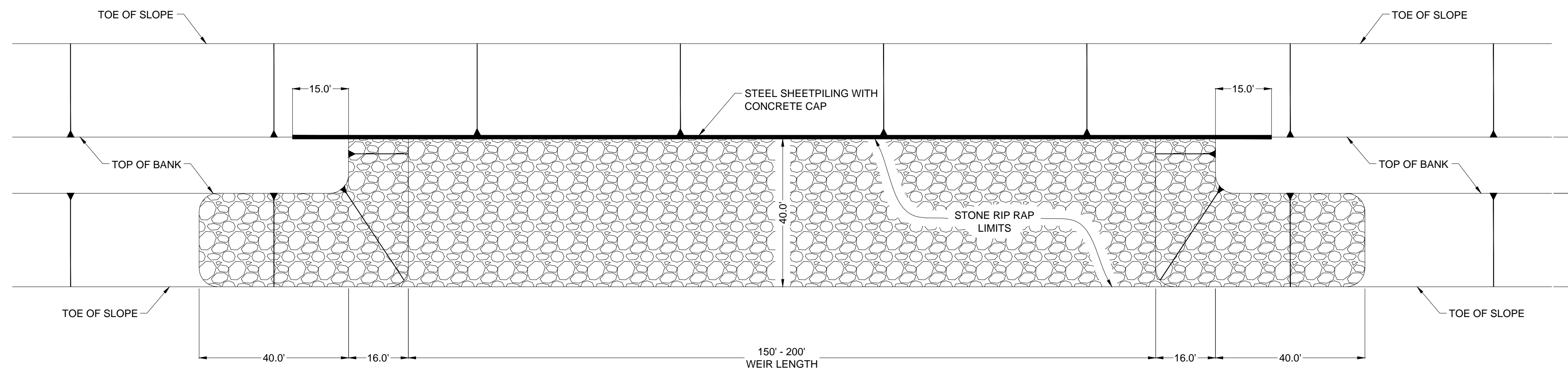
DISTURBED ROADWAYS CONSTRUCTED OF FULL DEPTH ASPHALT SHALL BE REPLACED IN KIND.

**BACKFILL PROCEDURE**

THE BACKFILL AND BEDDING MATERIAL SHALL BE OF THE A-1, A-2, A-3 OR A-2-4 CLASSIFICATION AS PER AASHTO, UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER.

THE BACKFILL SHALL BE COMPACTED IN 12" LAYERS WITH MECHANICAL TAMPERS TO THE FULL WIDTH OF THE TRENCH AND UP TO THE BOTTOM OF THE ROADWAY BASE. PARTICULAR ATTENTION MUST BE GIVEN TO THE ADEQUATE COMPACTION OF THE FILL BENEATH THE HAUNCHES OF THE PIPE. THE BACKFILL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99. ONE DENSITY TEST SHALL BE TAKEN AT THE SPRING LINE OF THE PIPE, AT ONE FOOT ABOVE THE CROWN OF THE PIPE, AND EVERY FOOT VERTICALLY THEREAFTER. A MINIMUM OF TWO COMPLETE SETS OF BACKFILL DENSITY TESTS ARE REQUIRED. FLOWABLE FILL IN ACCORDANCE WITH SECTION 121 OF THE F.D.O.T. STANDARD SPECIFICATIONS MAY BE SUBSTITUTED.

IF WELL POINTS ARE USED TO PROVIDE A DRY TRENCH FOR LAYING THE UTILITY, THEY SHALL REMAIN IN OPERATION UNTIL THE BACKFILL IS COMPLETE AND TESTED.



**SPREADER SWALE WEIR - PLAN VIEW**  
1" = 20'



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PROJECT

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FLOWWAY RESTORATION PROJECT  
ALTERNATIVE 2

TASK

TYPICAL DETAILS & CROSS SECTIONS

ORIGINAL DECEMBER 2012

REVISIONS:

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GEORGE G. WISE  
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SHEET C-20