

# ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

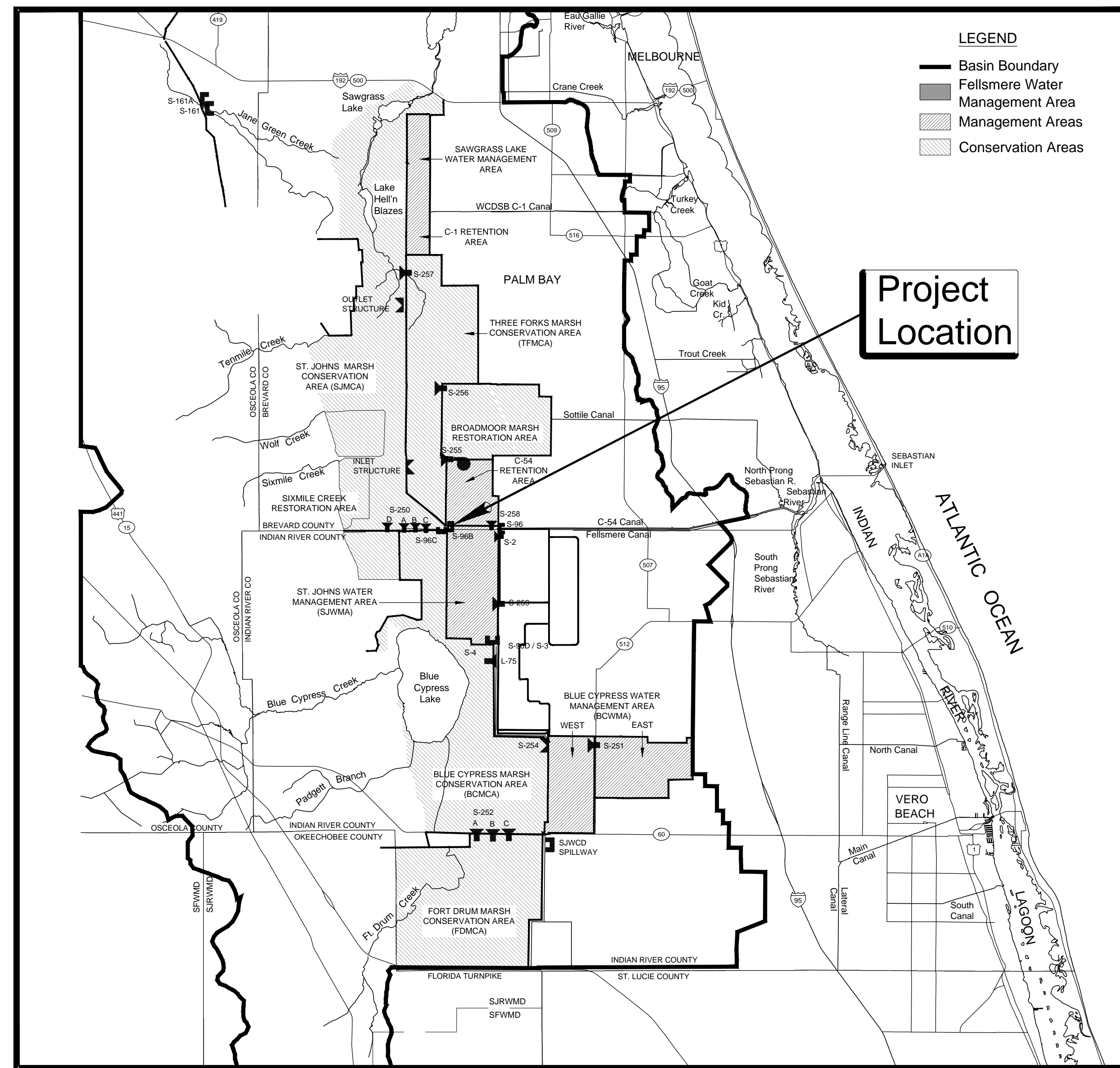
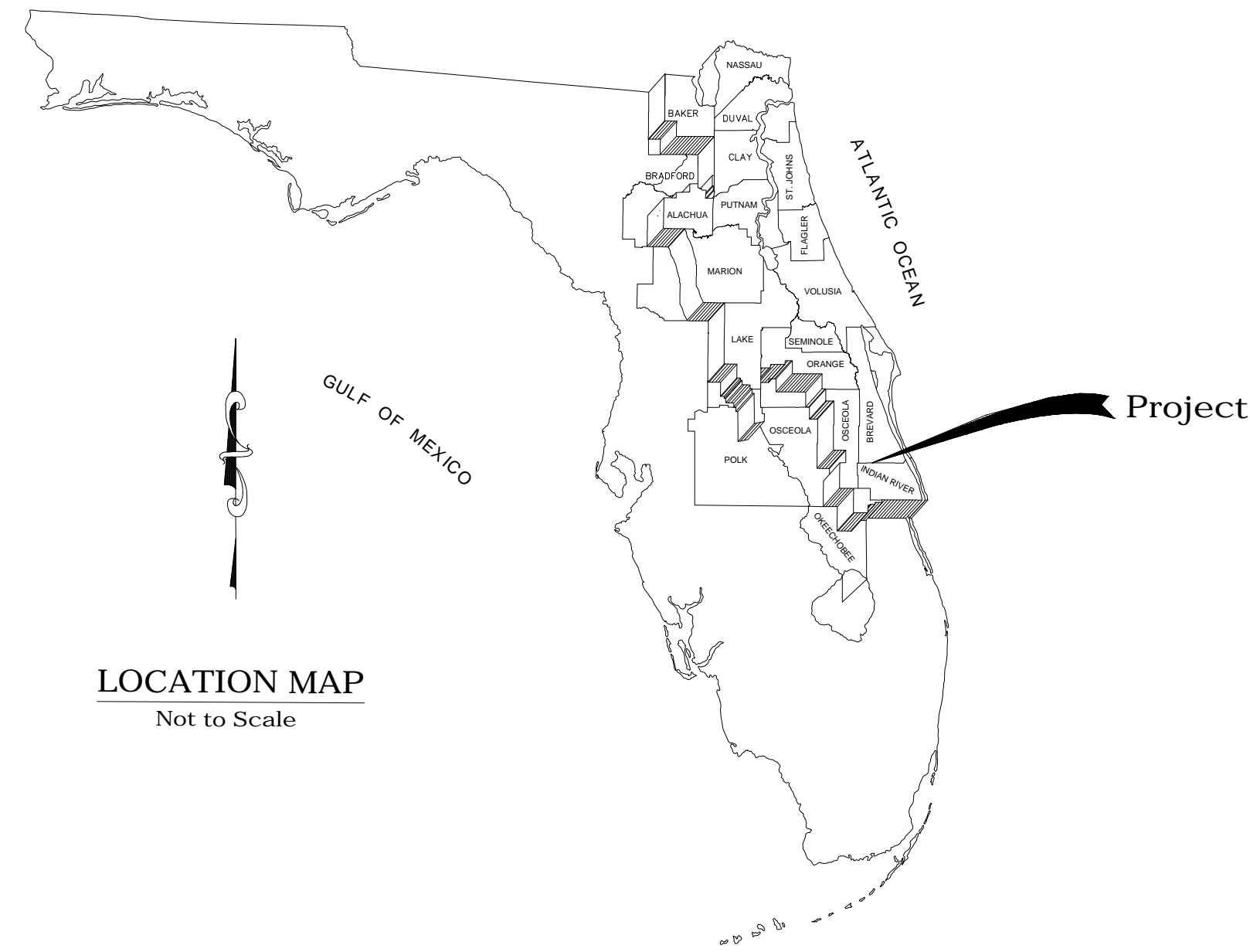
## UPPER ST. JOHNS RIVER BASIN

### STRUCTURE 96B REHABILITATION

#### INDIAN RIVER COUNTY, FLORIDA

NGVD 1929

ALL ELEVATIONS DEPICTED HEREIN  
REFERENCE NGVD 1929 UNLESS  
OTHERWISE NOTED. THE CONVERSION  
FACTOR TO NAVD 1988 IS -1.47.



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VICINITY MAP  
NOT TO SCALE

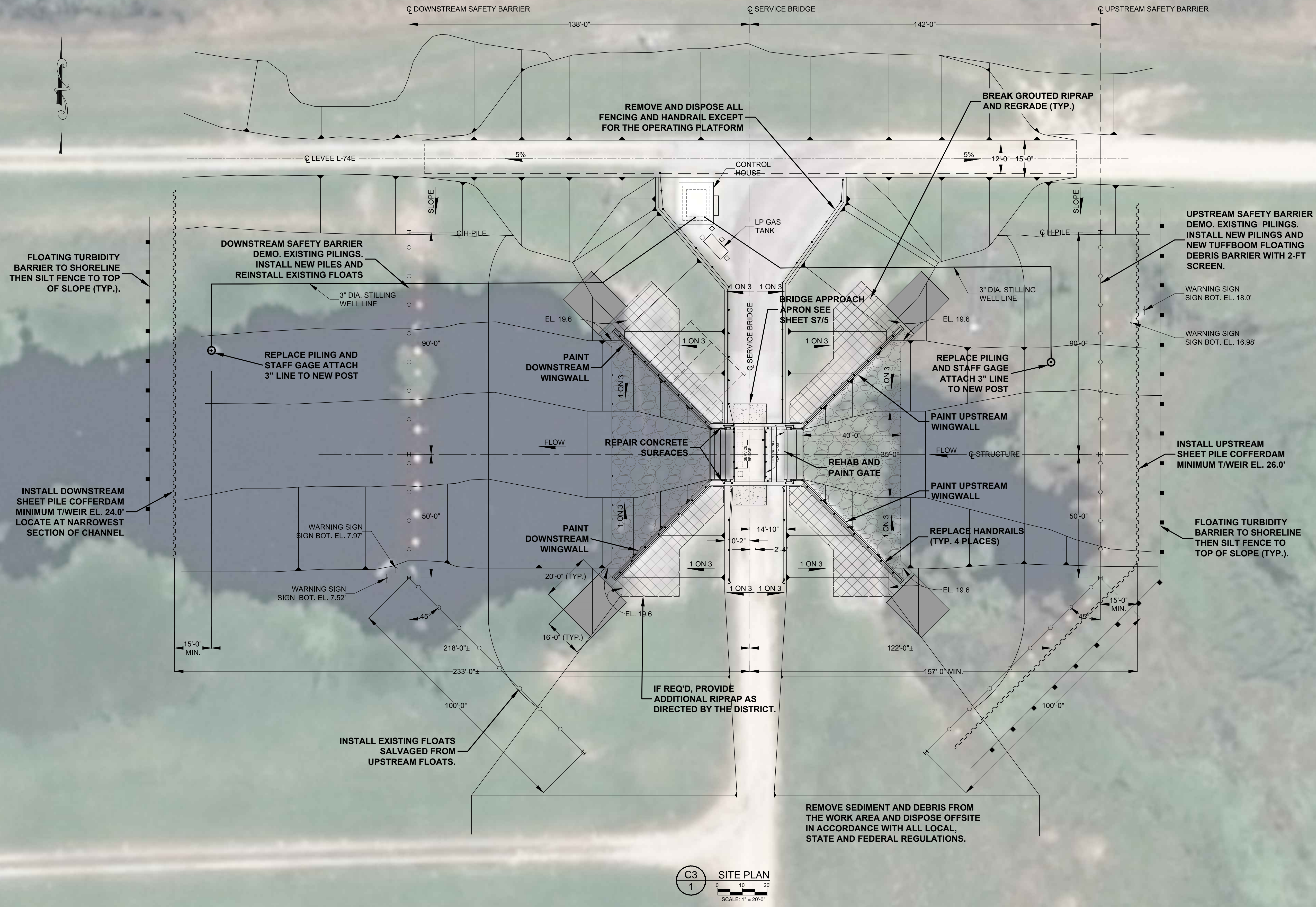
NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	NJG	07/24/18	WRC	07/24/18

**FOR BID PURPOSES ONLY  
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CERTIFICATION:	DRAWING FILENAME:
WILLIAM R. COTE	96-B PLAN.dwg
P.E. NUMBER: 53746	SHEET:
DATE: JULY 24, 2018	C1







**LEGEND**

- FLOATING TURBIDITY BARRIER
- SHEET PILE
- ▲— DIRECTION OF SLOPE
- LIMITS OF RIPRAP AND BEDDING OR BANK PROTECTION STONE
- ▨ EXISTING RIPRAP
- ▩ EXISTING RIPRAP WITH CONCRETE FILL
- NEW RIPRAP (18" RIPRAP ON 12" BEDDING)
- 1 on 10 RATIO OF SLOPE
- +— FENCING

**FOR BID PURPOSES ONLY  
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**C3**  
1  
**SITE PLAN**  
SCALE: 1" = 20'-0"

NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	NJC	07/24/18	WRC	07/24/18

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96B REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC/NJC DATE: JULY 24, 2018 REVIEWER: WRC  
SCALE: 1" = 20'-0" DESIGNER: WRC SECTION CHIEF: WRC

**SITE PLAN (WITH AERIAL)**

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B PLAN.dwg  
PROJECT NO.:  
SHEET:  
**C3**





**NOTE SPECIFICATIONS:**

**REFERENCE DOCUMENTS:**

1. AS-BUILT DRAWINGS PREPARED BY THE US ARMY CORPS OF ENGINEERS, "STRUCTURE 96B AND TIEBACK LEVEE ", DATED MARCH 1993.
2. REPORT PREPARED BY ARDAMAN & ASSOCIATES, INC., "ENGINEERING EVALUATION OF CONCRETE CONDITION AND STEEL SHEET PILE WING WALL THICKNESS, STRUCTURE S-96B", DATED JULY 9, 2014.

**GENERAL:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO FAMILIARIZE HIMSELF WITH THE NATURE AND EXTENT OF THE CONTRACT DOCUMENTS, SCOPE OF WORK, LOCAL CONDITIONS, ALL FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS THAT MAY AFFECT THE WORK. THE CONTRACTOR SHALL PROVIDE A GANTT CHART SCHEDULE FOR ALL THE PROPOSED WORK PRIOR TO THE START OF CONSTRUCTION.
2. THE EXISTING CONDITIONS REPRESENTED IN THESE DRAWINGS AND THE REFERENCED DRAWINGS ARE BELIEVED TO BE ACCURATE ACCORDING TO THE INFORMATION AVAILABLE TO THE DISTRICT. HOWEVER, IT IS THE SOLE RESPONSIBILITY OF THE BIDDER (CONTRACTOR) TO VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE DISTRICT PRIOR TO SUBMITTAL OF THE BID.
3. PERMITS:

THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS CONTAINED IN THE FOLLOWING PERMITS WHICH HAVE BEEN OBTAINED BY THE DISTRICT:

- U.S. DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS, NATIONWIDE PERMIT.
- FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, NOTICED GENERAL PERMIT.

THE CONTRACTOR SHALL OBTAIN ANY AND ALL REMAINING PERMITS AS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN AN NPDES PERMIT IF HIS CONSTRUCTION ACTIVITIES WILL DISTURB AN ACRE OR MORE OF LAND.

4. THE CONTRACTOR SHALL CARRY OUT ALL CONSTRUCTION OPERATIONS IN A MANNER WHICH DOES NOT CAUSE VIOLATIONS OF STATE WATER QUALITY STANDARDS. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCE, HAY BALES, TURBIDITY BARRIER, ETC.) AS REQUIRED FOR COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS.
5. ALL ERODIBLE GROUND AREAS AND SLOPES DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED WITH SOD, MULCH, SEED, WETLAND SPECIES, OR OTHERWISE APPROPRIATELY STABILIZED WITHIN 72 HOURS AFTER COMPLETION OF THE CONSTRUCTION ACTIVITY AND AT ANY OTHER TIME AS NECESSARY TO PREVENT VIOLATIONS OF STATE WATER QUALITY STANDARDS. ANY DISTURBED SLOPES STEEPER THAN 4:1 SHALL BE SODDED.
6. THE CONTRACTOR SHALL PROVIDE THE NECESSARY WATER CONTROL SUCH THAT ALL CONSTRUCTION IS PERFORMED IN THE DRY. FOR THE PURPOSES OF THIS WORK, THE TERM "DRY" SHALL BE DEFINED AS SURFACES FREE OF MOISTURE, STANDING WATER, FLOWING WATER, RAIN, OR GROUNDWATER SEEPAGE EXCEPT AS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS OR AS OTHERWISE APPROVED BY THE DISTRICT. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO CONTROL THE FLOW OF WATER.
7. THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER SITE IMPROVEMENTS FROM DAMAGE WHETHER OR NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS TO UTILITIES AND OTHER SITE IMPROVEMENTS DAMAGED DURING CONSTRUCTION. ADDITIONALLY, THE WORK WILL BE CONSIDERED COMPLETE ONLY AFTER ALL RUBBISH AND UNUSED MATERIAL DUE TO OR CONNECTED WITH THE WORK HAS BEEN REMOVED AND THE PREMISES LEFT IN A CONDITION SATISFACTORY TO THE DISTRICT.
8. THE CONTRACTOR SHALL REPAIR ALL AREAS DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL OR BETTER CONDITION.
9. THE CONTRACTOR SHALL PROVIDE ALL SAFETY AND TRAFFIC CONTROL NECESSARY FOR ACCESS TO THE SITE AND WORK WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR THE DISTRICT AND ITS SUB-CONTRACTORS ALONG L-74N AND ACROSS S-96B TO L-74W THROUGHOUT THE DURATION OF THE PROJECT.
10. THE CONTRACTOR SHALL COORDINATE ACTIVITIES AND COOPERATE WITH OTHER CONTRACTORS AND DISTRICT PERSONNEL PERFORMING WORK WITHIN THE PROJECT LIMITS.
11. CONSTRUCTION INSPECTION WILL BE PERFORMED BY THE DISTRICT. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AT LEAST 48 HOURS PRIOR TO THE REQUIRED TIME OF INSPECTION FOR EACH AND EVERY PHASE OF WORK.
12. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF CONTRACT DOCUMENTS INCLUDING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE CLEARLY MARKED TO REFLECT ALL AS-BUILT CONDITIONS. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT THESE ANNOTATED DRAWINGS AND SPECIFICATIONS TO THE DISTRICT.

**CONCRETE REPAIR:**

1. THE SCOPE AND EXTENT OF ALL CONCRETE REPAIR WORK SHALL BE FIELD DETERMINED DURING THE JOINT INSPECTION BY THE DISTRICT AND THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR, AND PROVIDE, THE SERVICES OF THE PRODUCT MANUFACTURER'S TECHNICAL REPRESENTATIVE FOR THIS MEETING TO REVIEW AND DISCUSS THE REPAIR SCOPE OF WORK, TECHNIQUES, AND PROCEDURES. THE PRODUCT REPRESENTATIVE SHALL ALSO BE PRESENT FOR AN INITIAL CONCRETE REPAIR OPERATION SITE VISIT FOR THE PURPOSE OF CONFIRMING THAT THE CONTRACTOR'S PERSONNEL ARE PROPERLY APPLYING THE REPAIR MATERIAL AND TO WITNESS THE FIRST APPLICATION OF EACH TYPE OF REPAIR MATERIAL INSTALLED.
  2. THE CONTRACTOR SHALL INSPECT AND PROBE CONCRETE SURFACES TO IDENTIFY AND LOCATE ALL AREAS OF DETERIORATION. REPAIR AREAS SHALL INCLUDE CONCRETE FOUND TO BE CRACKED, SPALLED, OR OTHERWISE SHOWING EVIDENCE OF DISINTEGRATION OR STRUCTURAL FAILURE.
  3. SURFACE PREPARATION: ALL ERODED, DAMAGED, DETERIORATED, LOOSENED, OR UNBONDED PORTIONS OF EXISTING CONCRETE SHALL BE REMOVED BY HIGH PRESSURE HYDROBLASTING (8000-15000 PSI) TO ACHIEVE A SOUND EXPOSED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE EQUAL TO CSP 6 - 9 IN ACCORDANCE WITH ICRI GUIDELINE 310.2. THE PRODUCT REPRESENTATIVE SHALL INSPECT AND APPROVE IN WRITING THAT THE SURFACE PREPARATION IS ACCEPTABLE FOR THE APPLICATION OF THE REPAIR PRODUCTS. GENERALLY, THE CONCRETE AREAS TO BE HYDROBLASTED WILL BE TO A DEPTH OF LESS THAN 1 INCH. THE FINAL EXTENT OF THE HYDRODEMOLITION AREA WILL BE DETERMINED DURING CONSTRUCTION AS DICTATED BY THE EXISTING CONDITIONS ENCOUNTERED.
- REMOVAL OF DETERIORATED CONCRETE BY MECHANICAL MEANS SUCH AS BUSH HAMMERING, JACK HAMMERING, SCABBLER, OR OTHER APPROPRIATE MEANS MAY BE USED SUBJECT TO DISTRICT APPROVAL. IF MECHANICAL METHODS ARE USED, THE SURFACES SHALL BE FINISHED BY HYDROBLASTING, SHOTBLASTING, OR WET SANDBLASTING WITH NON-METALLIC ABRASIVES TO REMOVE ANY MICROFRACTURED SURFACES RESULTING FROM THE INITIAL REMOVAL PROCESS.
- ALL REPAIR SURFACES SHALL BE THOROUGHLY CLEANED WITH WATER UNDER PRESSURE. THE SURFACE MUST BE CLEAN AND FREE OF LOOSE CONCRETE, LAITANCE, DIRT, GREASE, FORM OIL, EFFLORESCENCE, PAINT, AND ANY OTHER FOREIGN MATERIAL.
4. CONCRETE SURFACE REPAIRS MAY GENERALLY CONSIST OF EITHER HAND-APPLIED OR MACHINE APPLIED METHODS.
  5. ALL SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. CONTRACTOR SHALL CONSULT IN THE FIELD WITH MANUFACTURER AND DISTRICT PRIOR TO SURFACE PREPARATION AND REPAIR. FOR SPECIFIC SURFACE PREPARATION REQUIREMENTS, REFER TO INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI) GUIDELINE NO. 03732.

6. ALL LOOSE SCALE, RUST, CORROSION BY PRODUCTS, OR CONCRETE SHALL BE REMOVED FROM EXPOSED REINFORCING STEEL (REBAR) BY MECHANICAL CLEANING METHODS. REBAR EXPOSED FOR MORE THAN ONE-THIRD OF ITS CIRCUMFERENCE SHALL BE COMPLETELY EXPOSED TO PROVIDE 1-INCH MINIMUM CLEARANCE BETWEEN THE REBAR AND THE CONCRETE. DAMAGED OR DETERIORATED REBAR SHALL BE REMOVED AND REPLACED. REPLACEMENT REBAR SHALL BE GRADE 60 DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A-615. REINFORCEMENT SPLICES SHALL BE AS FOLLOWS:

BAR SIZE	SPLICE LENGTH (IN)
#3	12
#4	12
#5	15
#6	18
#7	24
#8	30

ALTERNATIVELY, MECHANICAL SPLICES MAY BE USED SUBJECT TO DISTRICT APPROVAL.

7. ALL EXPOSED AND REPLACEMENT REBAR SHALL BE COATED WITH DURALPREP AC AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL, PRIOR TO PATCHING WITH THE REPAIR MORTAR.
8. ISOLATED SPALLS SHALL BE HAND PATCHED WITH TAMMS STRUCTURAL MORTAR AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL. EDGES OF SPALLS SHALL BE SAWCUT DURING SURFACE PREPARATION TO A MINIMUM DEPTH OF 1/2 INCH. THE REPAIR AREA SHALL NOT BE LESS THAN 1/8" IN DEPTH. SUBSTRATE SHALL BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING APPLICATION. THE PREPARED CONCRETE SUBSTRATE SHALL BE PRIMED WITH A BRUSH OR SPRAY APPLIED COAT OF DURALPREP AC. THE PRIMER COAT OF DURALPREP AC MUST BE ALLOWED TO THOROUGHLY DRY BEFORE APPLICATION OF THE TAMMS STRUCTURAL MORTAR. ALTERNATIVELY, AN SSD CONCRETE SURFACE CAN BE PRIMED WITH A SCRUB COAT OF TAMMS STRUCTURAL MORTAR FOR HAND APPLICATIONS. THE REPAIR MUST BE MADE BEFORE THE SCRUB COAT DRIES OUT.
9. OPEN CRACKS IN CONCRETE SHALL BE SAWCUT 1/4-INCH WIDE X 1/4-INCH DEEP AND REPAIRED WITH TAMMS STRUCTURAL MORTAR. APPLY A PRIMER COAT OF DURALPREP AC OR A SCRUB COAT OF TAMMS STRUCTURAL MORTAR TO THE CONCRETE SUBSTRATE PRIOR TO PATCHING.
10. CRACKS WITH FLOWING WATER SHALL BE REPAIRED WITH CHEMICAL GROUT ACCORDING TO DETAIL S7/4 PRIOR TO CONCRETE SURFACE REPAIR. CUT AND REMOVE EXCESS CHEMICAL GROUT PRIOR TO CONCRETE REPAIR. WHEN SEALING VERTICAL CRACKS, BEGIN AT THE BOTTOM AND WORK UP. WHERE WATER FLOW IS PRESENT, BEGIN INJECTING CRACK AT THE POINT OF LEAST FLOW AND WORK TOWARDS AREA OF HEAVIEST FLOW. CHEMICAL GROUT SHALL BE HYDRO ACTIVE FLEX AS MANUFACTURED BY DE NEEF CONSTRUCTION CHEMICALS, INC., OR APPROVED EQUAL.
11. ERODED CONCRETE SURFACES SHALL BE REPAIRED WITH TAMMS STRUCTURAL MORTAR. APPLICATION MAY BE BY TROWEL OR LOW PRESSURE WET SPRAY PROCESS. AN EVAPORATION RETARDANT, SUCH AS EUCOBAR AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL, SHALL BE USED IF REQUIRED BY WEATHER CONDITIONS. SURFACE PREPARATION, APPLICATION, AND CURING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. THE REPAIR AREA SHALL NOT BE LESS THAN 1/8" IN DEPTH. SUBSTRATE SHALL BE SSD WITH NO STANDING WATER DURING APPLICATION. FOR HAND APPLICATION, THE PREPARED CONCRETE SUBSTRATE SHALL BE PRIMED WITH A BRUSH OR SPRAY APPLIED COAT OF DURALPREP AC. THE PRIMER COAT OF DURALPREP AC MUST BE ALLOWED TO THOROUGHLY DRY BEFORE APPLICATION OF THE TAMMS STRUCTURAL MORTAR. ALTERNATIVELY, AN SSD CONCRETE SURFACE CAN BE PRIMED WITH A SCRUB COAT OF TAMMS STRUCTURAL MORTAR FOR HAND APPLICATIONS. THE REPAIR MUST BE MADE BEFORE THE SCRUB COAT DRIES OUT. AT NO TIME SHALL THE REPAIR MORTAR MIX BE ALLOWED TO EXCEED 90 DEGREES FAHRENHEIT, COLD WATER SHALL BE USED IN THE MIX AS REQUIRED TO MAINTAIN THE PROPER TEMPERATURE.
12. FOLLOWING COMPLETION OF MORTAR REPAIRS, ALL CONCRETE SURFACES SHALL BE COATED WITH SIKATOP 144 (CEMENT-GRAY COLOR), AS MANUFACTURED BY SIKA CORPORATION, OR APPROVED EQUAL, TO PROVIDE A UNIFORM APPEARANCE. APPLICATION SHALL BE WITH BRUSHES, ROLLERS, OR HOPPER-TYPE SPRAY EQUIPMENT. SURFACE SHALL BE SSD BEFORE APPLICATION. APPLY A MINIMUM OF TWO COATS, 8-16 MILS DFT PER COAT, SUCH THAT THE SURFACE HAS A UNIFORM APPEARANCE.
13. CURING: ALL MORTAR REPAIRS SHALL BE WATER CURED FOR 7 DAYS FOLLOWING APPLICATION. MOIST CURE IMMEDIATELY AFTER FINISHING WITH WET BURLAP AND POLYETHYLENE OR A FINE MIST OF WATER. IF NECESSARY, PROTECT NEWLY APPLIED MATERIAL FROM DIRECT SUNLIGHT, WIND, RAIN, AND FROST. AT NO TIME DURING THIS INITIAL CURING PERIOD SHALL THE MORTAR BE ALLOWED TO DRY. FOLLOWING THE 7-DAY CURING PERIOD AND WHILE THE REPAIR IS STILL SATURATED, THE SURFACE OF THE REPAIR SHALL RECEIVE TWO COATS OF THE SPECIFIED PROTECTIVE COATING.
14. SUBMITTALS: BEFORE BEGINNING ANY REPAIR WORK, THE CONTRACTOR SHALL SUBMIT A DETAILED LIST OF THE EQUIPMENT, PROCEDURES, AND MATERIALS PROPOSED FOR USE IN CONCRETE REPAIR TO THE DISTRICT FOR APPROVAL.
15. POTABLE WATER SHALL BE USED FOR THE FINAL CLEANING OF CONCRETE SURFACES, FOR MIXING WITH REPAIR PRODUCTS, AND FOR CURING REPAIRED SURFACES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING POTABLE WATER AS REQUIRED FOR COMPLETION OF THE PROJECT.

**CONCRETE TESTING SERVICES:**

1. TESTING LABORATORY: THE DISTRICT SHALL RETAIN AN INDEPENDENT TESTING LABORATORY FOR THE SAMPLING AND TESTING OF THE REPAIR MORTAR. THE LABORATORY'S INSPECTORS SHALL HAVE FREE ACCESS TO ALL POINTS WHERE CONCRETE MATERIALS ARE STORED, PROPORTIONED, MIXED AND PLACED.
2. TEST SCHEDULING: CONTRACTOR SHALL ADVISE THE LABORATORY WITH TWENTY-FOUR (24) HOURS ADVANCE NOTICE OF THE TIME AND LOCATION OF ALL CONCRETE PLACEMENT OR OTHERWISE MAKE ARRANGEMENTS WITH THE LABORATORY SO THAT SAMPLES MAY BE OBTAINED.
3. CUBE TESTS: CUBE SAMPLES (2" MORTAR CUBES) SHALL BE TAKEN IN ACCORDANCE WITH ASTM C109 FOR COMPRESSIVE STRENGTH TESTING. CUBE TESTING SHALL INCLUDE ONE (1) AT 7-DAYS AND THREE (3) AT 28-DAYS. AN ADDITIONAL SAMPLE SHALL BE TESTED AT 56 DAYS IF DEEMED NECESSARY.
4. SAMPLING FREQUENCY: SAMPLING FOR BOTH PANELS AND CUBES SHALL BE ONE PER DAY OR A MINIMUM OF ONE PER WORK AREA, WHICHEVER IS GREATER. THE WORK AREAS ARE DEFINED AS EACH SEPARATE WALL AND FLOOR AREA.
5. COMPRESSIVE STRENGTH: THE REPAIR MATERIAL SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 7000 PSI. COMPRESSION STRENGTH OF A SAMPLE SHALL BE DETERMINED BY THE AVERAGE OF THE THREE (3) SAMPLES TESTED AT TWENTY-EIGHT (28) DAYS. COMPLIANCE WITH THE STRENGTH REQUIREMENTS OF THESE SPECIFICATIONS SHALL BE VERIFIED IF THE AVERAGE COMPRESSIVE STRENGTH OF THREE (3) CONSECUTIVE SAMPLES IS NOT LESS THAN THE SPECIFIED STRENGTH FOR THE CLASS OF CONCRETE, PROVIDED NO INDIVIDUAL SAMPLE SHALL HAVE A STRENGTH TEST RESULT THAT FALLS BELOW THE SPECIFIED STRENGTH BY MORE THAN SEVEN-HUNDRED (700) PSI. CONCRETE WHICH FAILS TO MEET STRENGTH REQUIREMENTS SHALL BE FURTHER TESTED AS PROVIDED IN ACI 318 AT THE EXPENSE OF CONTRACTOR OR SHALL BE REMOVED AS DETERMINED BY THE DISTRICT.
6. REPORTS: THE DISTRICT'S TESTING LABORATORY SHALL SUBMIT A REPORT OF EACH TEST MADE, SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER. INDIVIDUAL TEST REPORTS SHALL BE SUBMITTED TO THE DISTRICT AS SOON AS THEY ARE AVAILABLE. A FINAL REPORT THAT SUMMARIZES THE TESTING AND SAMPLING PROCEDURES AND COMPILES ALL THE INDIVIDUAL TESTS SHALL ALSO BE SUBMITTED TO THE DISTRICT UPON CONCLUSION OF THE WORK.

**STEEL:**

1. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", NINTH EDITION.
2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1.
3. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE NEW AND CONFORM TO THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) STANDARD A36 UNLESS NOTED OTHERWISE.
4. ALL BOLTS SHALL BE STAINLESS STEEL CONFORMING TO ASTM A276, TYPE 304. THE SIZE AND LOCATION OF REPLACEMENT BOLTS SHALL MATCH EXISTING UNLESS NOTED OTHERWISE.
5. ALL WELDING SHALL UTILIZE E70XX LOW-HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE.
6. ALL REMOVABLE STEEL ITEMS WHICH WERE PREVIOUSLY GALVANIZED SHALL BE REMOVED AND REPLACED WITH STAINLESS STEEL TYPE 304.
7. FIELD CORRECTING OF FABRICATED STEEL SHALL NOT BE PERMITTED ON MAJOR STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF THE DISTRICT.

**REPAIR OF EXISTING STEEL SHEET PILING WING WALLS:**

1. EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO SUBGRADE.
2. INSPECT AND REPAIR STEEL SHEET PILING AS NEEDED.
3. PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES. REFER TO NOTES FOR PAINTS AND PROTECTIVE COATINGS.
4. AFTER PAINTING, REPLACE THE BEDDING STONE AND RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.

**PAINTS AND PROTECTIVE COATINGS:**

1. ALL STEEL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) "STEEL STRUCTURES PAINTING MANUAL".
2. PREPARE SURFACES AND PAINT ALL EXPOSED STEEL COMPONENTS. ITEMS TO BE PAINTED INCLUDE THE SHEET PILING WING WALLS AND ALL EMBEDDED STEEL (EXCLUDING STAINLESS STEEL AND ALUMINUM ITEMS).
3. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:  
  
SHEET PILING AND EMBEDDED STEEL: SSPC-SP10 NEAR WHITE BLAST CLEANING.  
  
THE USE OF 100% SILICA BLAST MEDIA SHALL NOT BE ALLOWED ON THE CONSTRUCTION SITE. BLAST MEDIA IF USED ON SITE WILL BE SUBJECT TO APPROVAL BY THE DISTRICT.  
  
DURING SURFACE PREPARATION, CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO CAPTURE PAINT PARTICLES AND BLAST MEDIA AND DISPOSE OFFSITE AT A MUNICIPAL OR COMMERCIAL LANDFILL.
4. PROTECTIVE COATING FOR STRUCTURAL STEEL AND SHEET PILING SHALL BE AS MANUFACTURED BY SHERWIN-WILLIAMS, OR EQUAL, AS FOLLOWS:

FIRST COAT (PRIMER):	DURA-PLATE 235, 4-8 MILS DFT
SECOND COAT:	DURA-PLATE 235, 4-8 MILS DFT
THIRD (FINAL) COAT:	DURA-PLATE 235, 4-8 MILS DFT

COLOR TO BE SILVER OR LIGHT GRAY. CONTRACTOR SHALL SUBMIT COLOR SAMPLES FOR DISTRICT APPROVAL. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

5. ALL EMBEDDED GALVANIZED ITEMS SHALL BE PAINTED WITH ZRC COLD GALVANIZING COMPOUND AS MANUFACTURED BY ZRC WORLDWIDE, MARSHFIELD, MA, OR EQUAL. SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH SSPC-SP3 POWER TOOL CLEANING. APPLY 2 COATS 1.5 MILS DFT EACH IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

**BRIDGE EXPANSION JOINT CAULK:**

1. THE CAULK FOR THE BRIDGE EXPANSION JOINT SHALL BE SIKAFLEX-2C SL AS MANUFACTURED BY SIKA CORPORATION, OR EQUAL.

**RIPRAP:**

1. PROVIDE RUBBLE RIPRAP AND BEDDING STONE AT THE LOCATIONS SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE DISTRICT. THE WORK SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, (FDOT) LATEST EDITION, CONFORMING TO FDOT SECTIONS 514, 530, AND 985, UNLESS OTHERWISE NOTED HEREIN.
2. PROVIDE ADDITIONAL BEDDING STONE SUCH THAT THE FINAL BLANKET THICKNESS IS A MINIMUM OF 9 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY). THE STONE SHALL BE REASONABLY WELL GRADED WITHIN THE FOLLOWING LIMITS:

STONE SIZE (IN) OR SIEVE NUMBER	% FINER
6 IN	100
1 IN	30-75
3/8 IN	5-45
NO. 10	1-10

3. PROVIDE ADDITIONAL RIPRAP SUCH THAT THE FINAL BLANKET THICKNESS IS A MINIMUM OF 18 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY). THE STONE SHALL BE REASONABLY WELL GRADED WITHIN THE FOLLOWING LIMITS:

STONE WEIGHT (LBS)	% LIGHTER BY WEIGHT
165	100
45	45-65
15	10-30
5	0-15

THE MATERIAL SHALL BE SOUND AND DURABLE, AND SHALL BE FREE OF CRACKS, SOFT SEAMS OR OTHER STRUCTURAL DEFECTS. THE PIECES SHALL BE ROUGHLY ANGULAR, AND THE LOT SHALL BE REASONABLY FREE OF THIN, FLAT OR ELONGATED PIECES.

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NOTE SPECIFICATIONS

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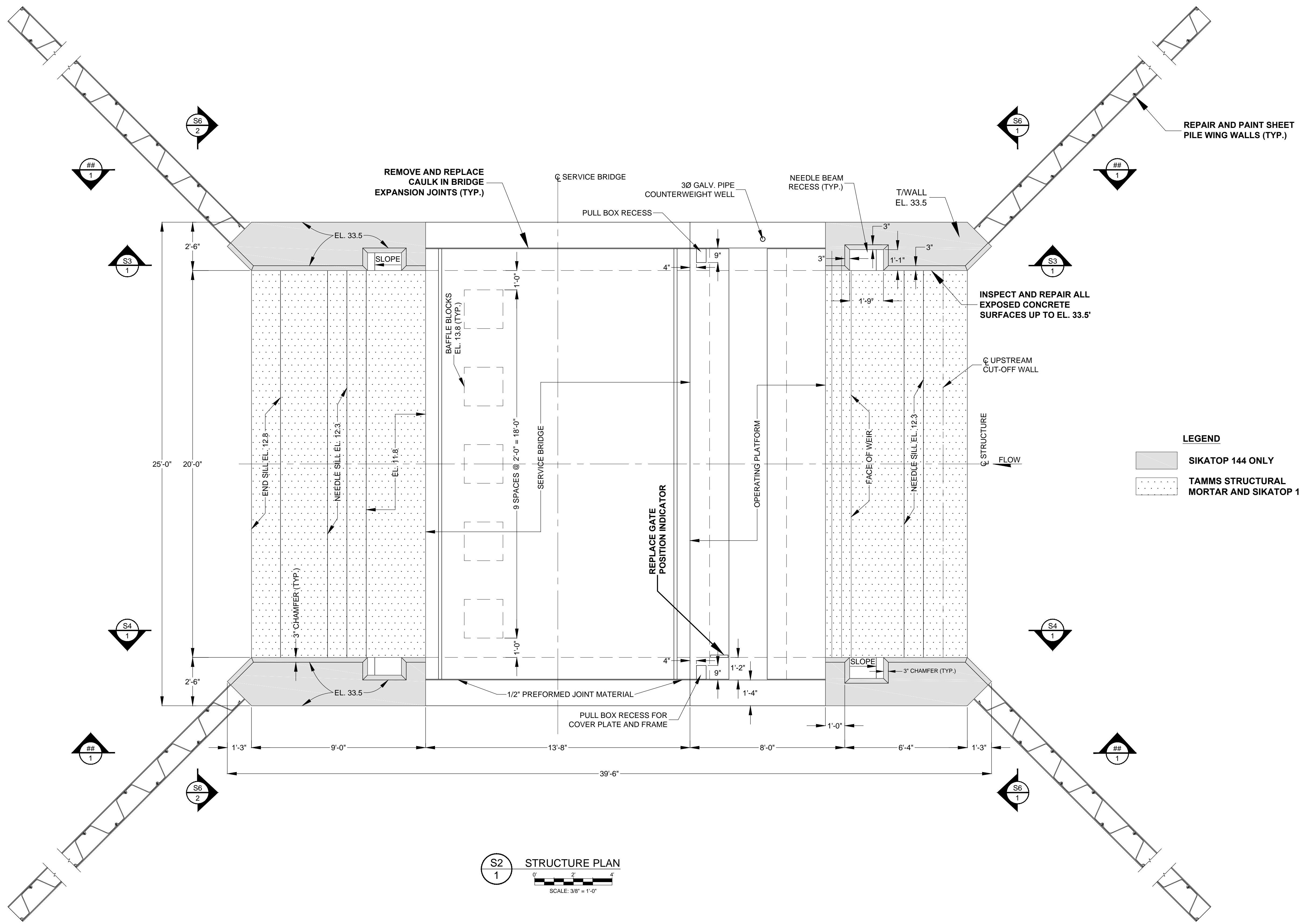
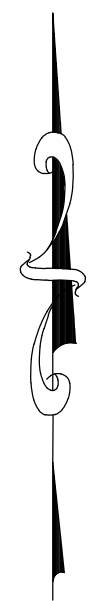
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FILE NAME:  
96-B STRUCTURE.dwg

PROJECT NO.:

SHEET:  
**S1**



**LEGEND**

█ SIKATOP 144 ONLY

▨ TAMMS STRUCTURAL MORTAR AND SIKATOP 144

**S2**  
1  
STRUCTURE PLAN  
SCALE: 3/8" = 1'-0"

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

NO.	REVISION	BY	DATE	APPROVED	DATE

ISSUED FOR BID

N/J 07/24/18 WRC 07/24/18

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96B REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC

SCALE: 3/8" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

CONCRETE REPAIR - STRUCTURE PLAN

CERTIFICATION:

WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B STRUCTURE.dwg

PROJECT NO.:

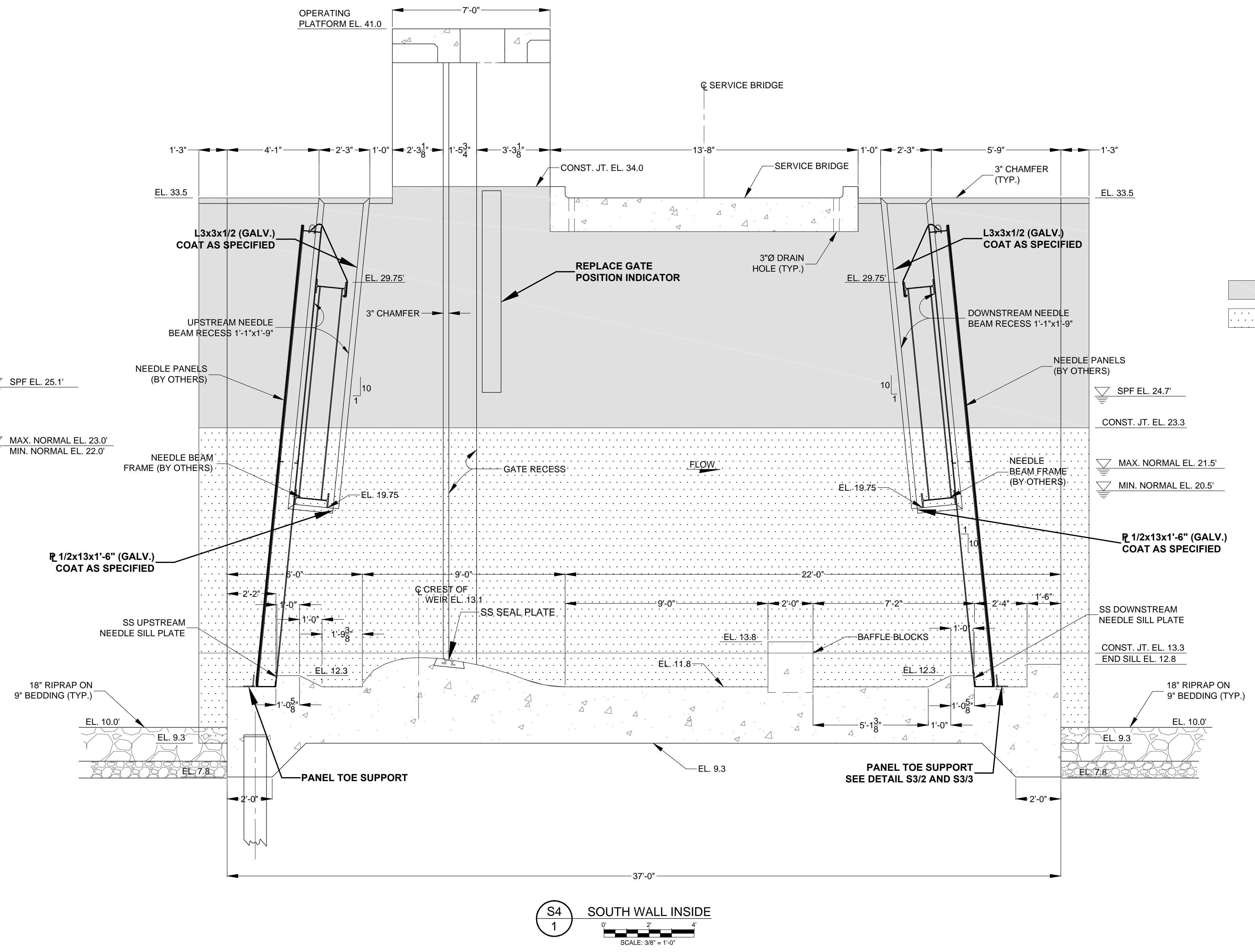
SHEET:  
**S2**

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**LEGEND**  
 [Pattern] SIKATOP 144 ONLY  
 [Pattern] TAMMS STRUCTURAL MORTAR AND SIKATOP 144

**S4**  
**1**  
 SOUTH WALL INSIDE  
 SCALE: 3/8" = 1'-0"

**FOR BID PURPOSES ONLY  
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NO.	REVISION	BY	DATE	APPROVED	DATE

UPPER ST. JOHNS RIVER BASIN  
 STRUCTURE 96B REHABILITATION  
 INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT**  
 P.O. BOX 1429 PALATKA, FLORIDA

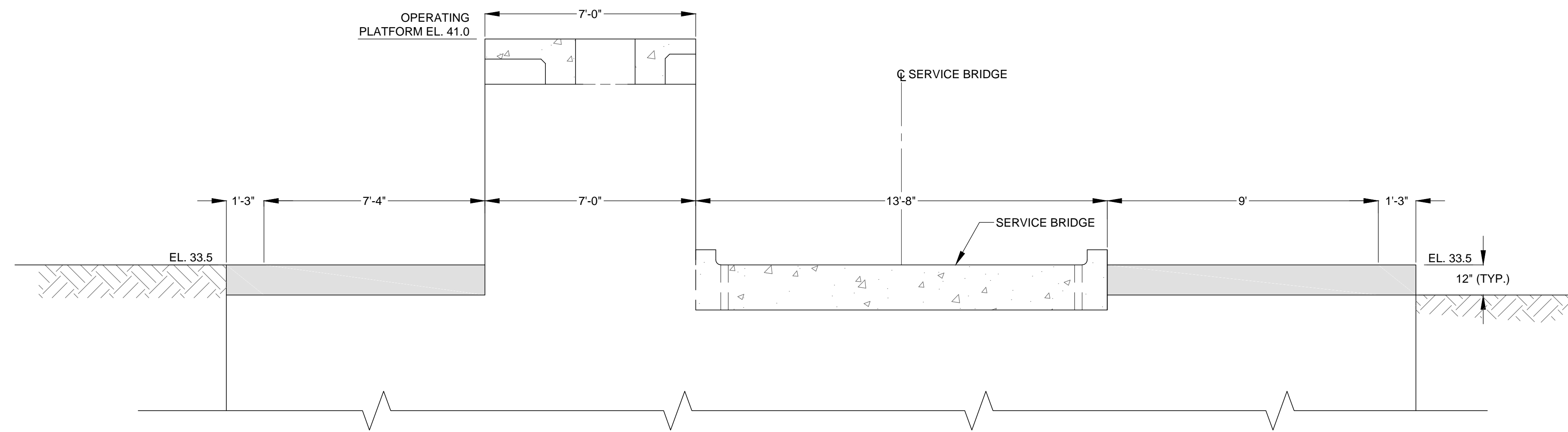
DRAWN: PLC    DATE: JULY 24, 2018    REVIEWER: WRC  
 SCALE: 3/8" = 1'-0"    DESIGNER: WRC    SECTION CHIEF: WRC

CONCRETE REPAIR - SOUTH WALL INSIDE



CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: JULY 24, 2018

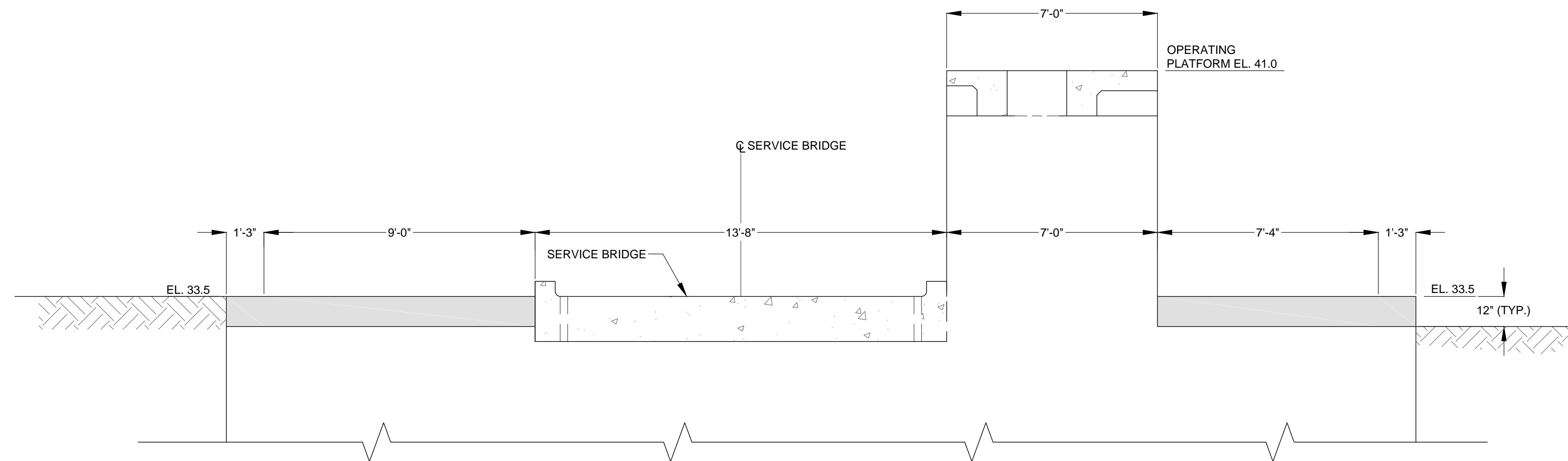
FILE NAME:  
 96-B STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
**S4**





S5  
1 NORTH WALL OUTSIDE  
SCALE: 3/8" = 1'-0"

**LEGEND**  
 SIKATOP 144 ONLY  
 TAMMS STRUCTURAL MORTAR AND SIKATOP 144



S5  
2 SOUTH WALL OUTSIDE  
SCALE: 3/8" = 1'-0"

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NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	NJG	07/24/18	WRC	07/24/18

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96B REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

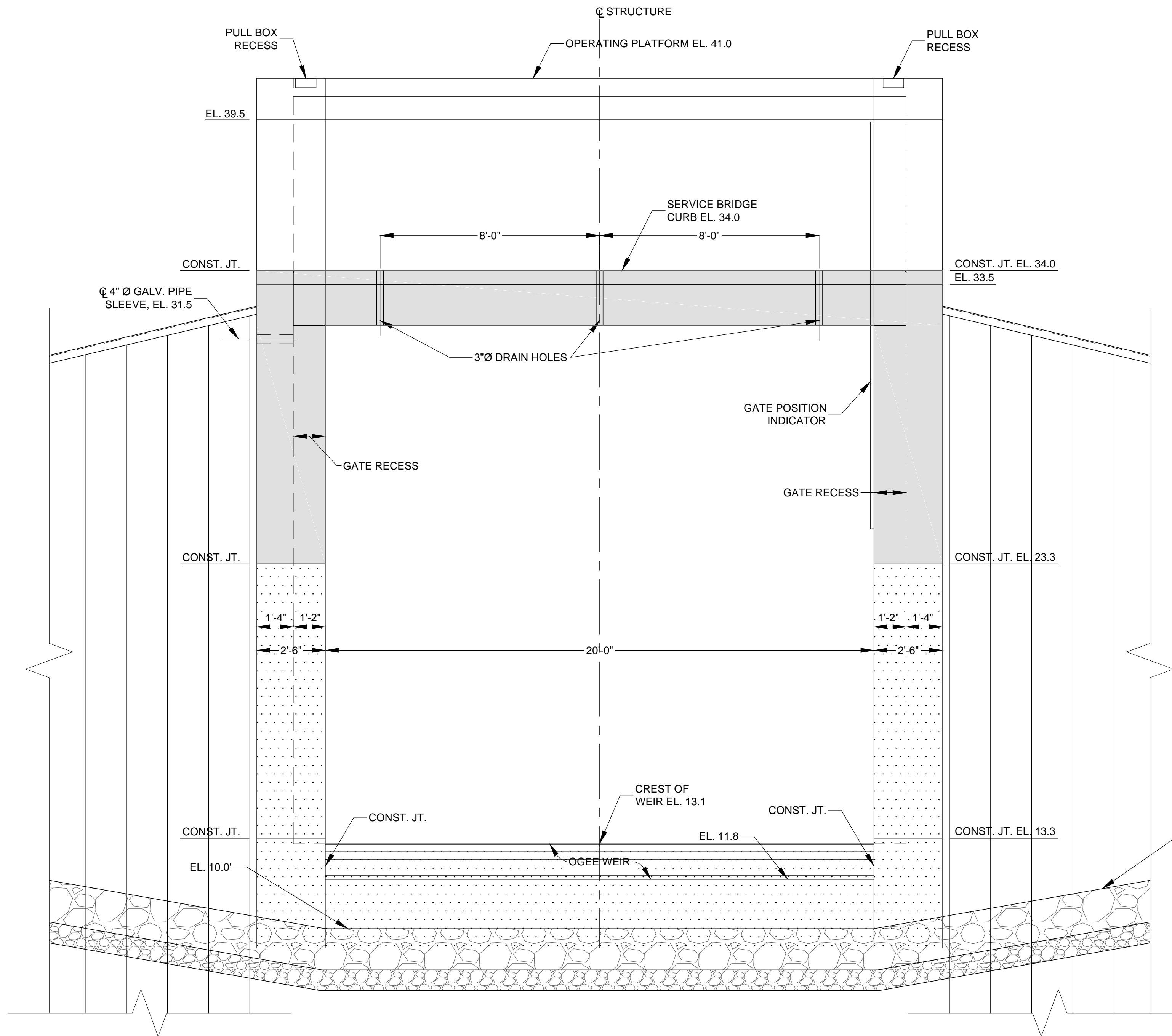
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC/NJG    DATE: JULY 24, 2018    REVIEWER: WRC  
 SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

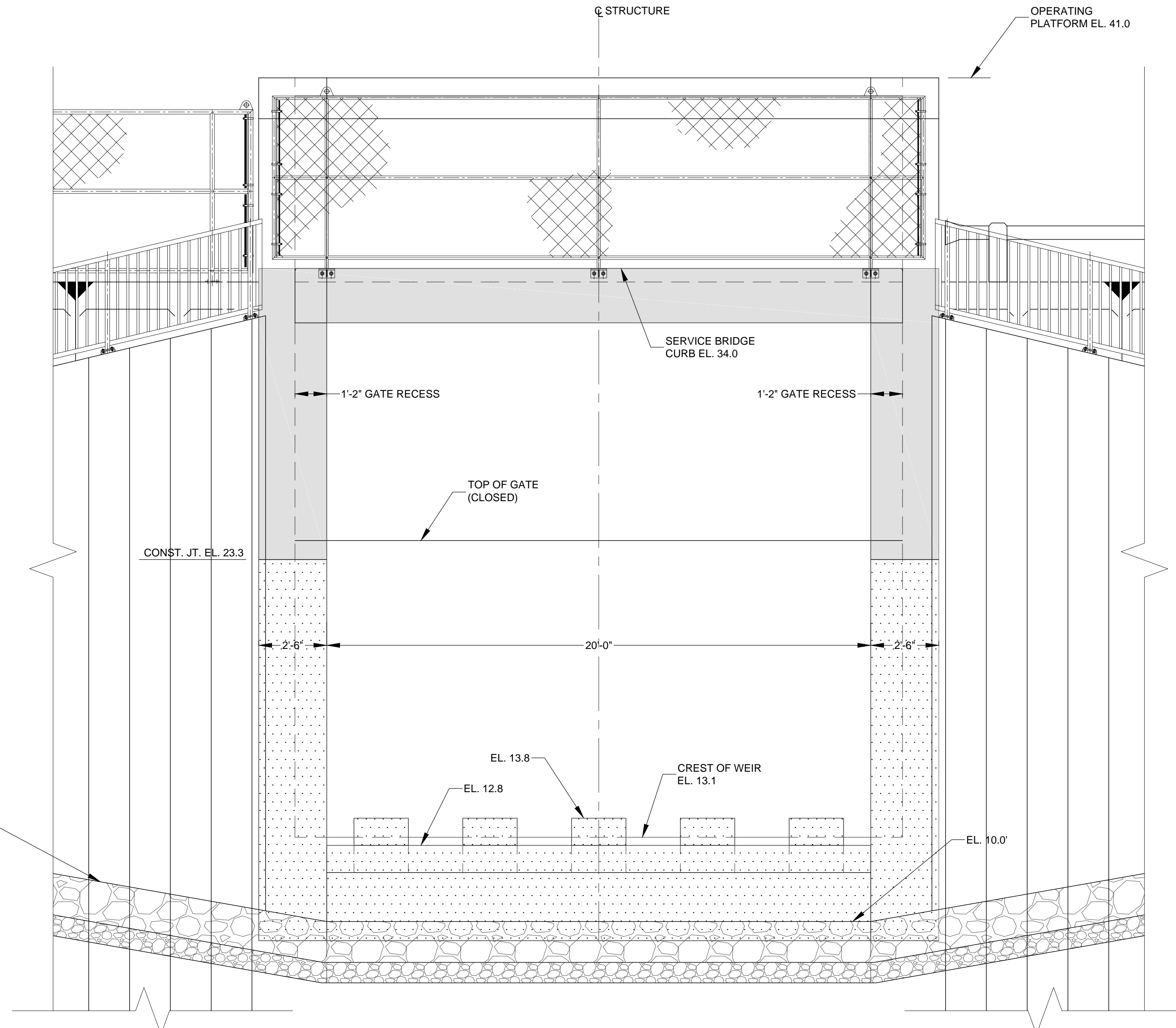
CONCRETE REPAIR - NORTH AND SOUTH WALLS OUTSIDE

CERTIFICATION:  
 WILLIAM R. COTE  
 P. E. NUMBER: 53746  
 DATE: JULY 24, 2018

FILE NAME:  
96-B STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
S5



S6  
1  
UPSTREAM - ELEVATION  
SCALE: 3/8" = 1'-0"



S6  
2  
DOWNSTREAM - ELEVATION  
SCALE: 3/8" = 1'-0"

**LEGEND**  
 SIKATOP 144 ONLY  
 TAMMS STRUCTURAL MORTAR AND SIKATOP 144

**FOR BID PURPOSES ONLY  
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 INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT**  
 P.O. BOX 1429 PALATKA, FLORIDA

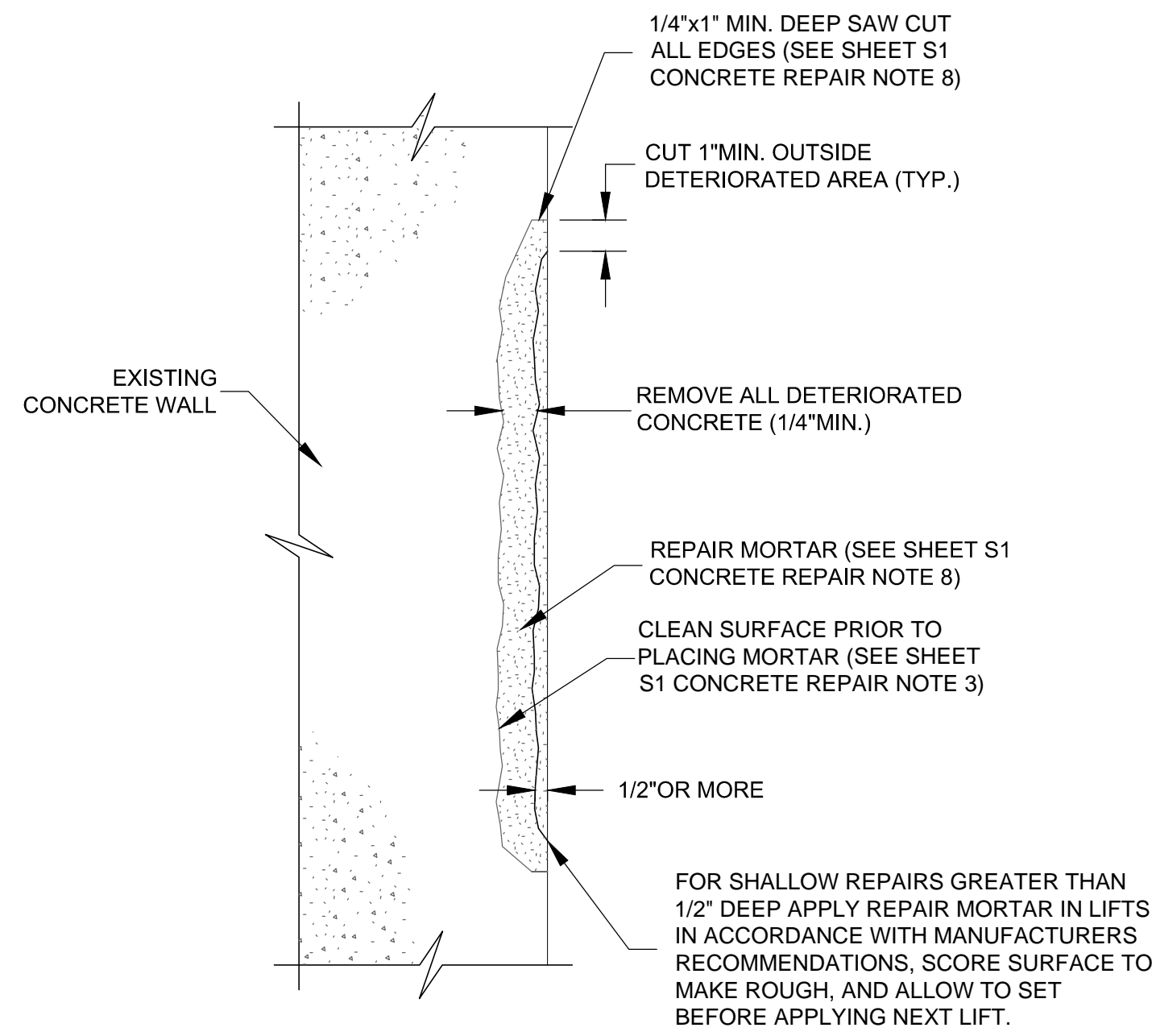
DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC  
 SCALE: 3/8" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

CONCRETE REPAIR  
 UPSTREAM AND DOWNSTREAM ELEVATION

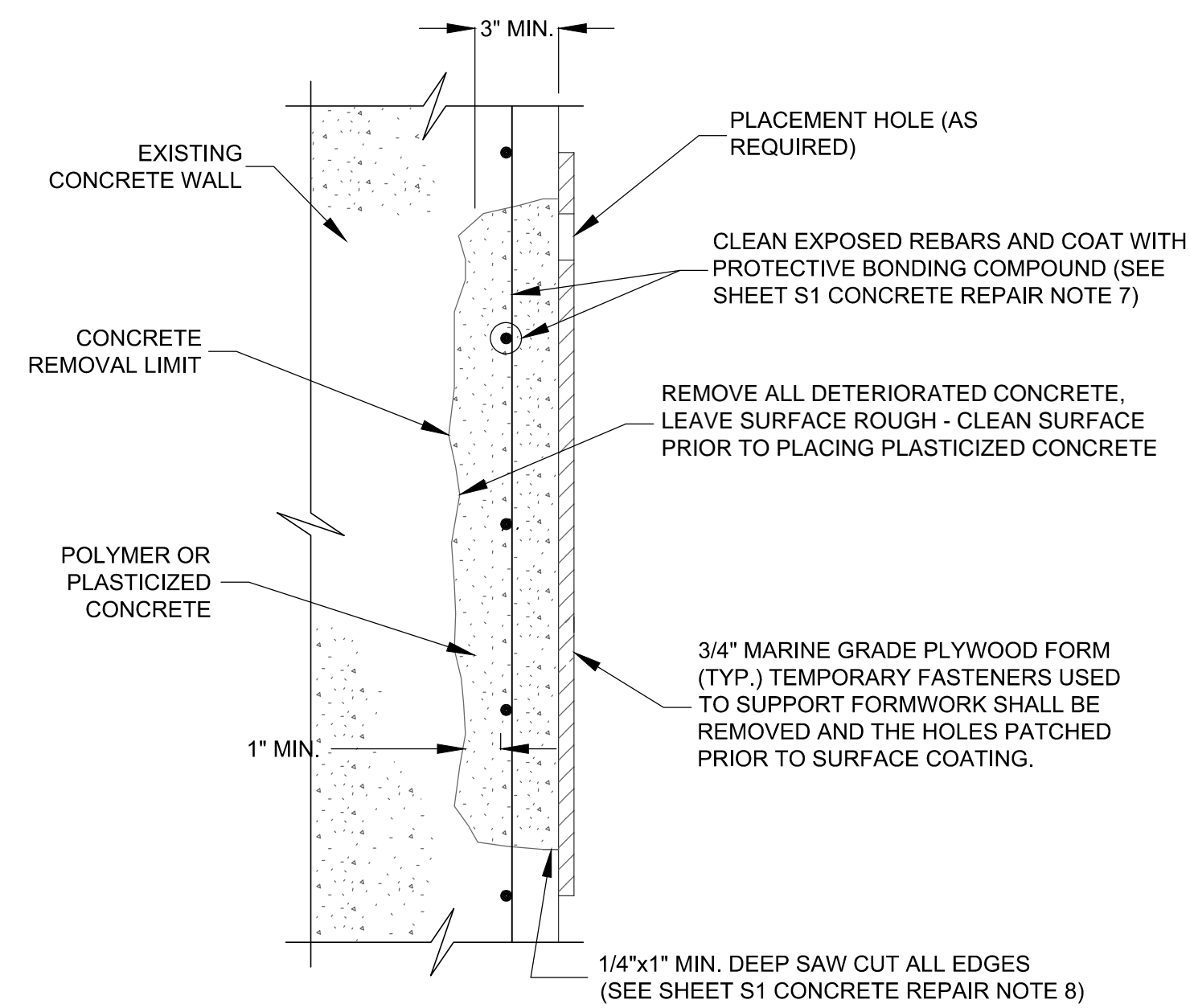
CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: JULY 24, 2018

FILE NAME:  
 96-B STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
**S6**

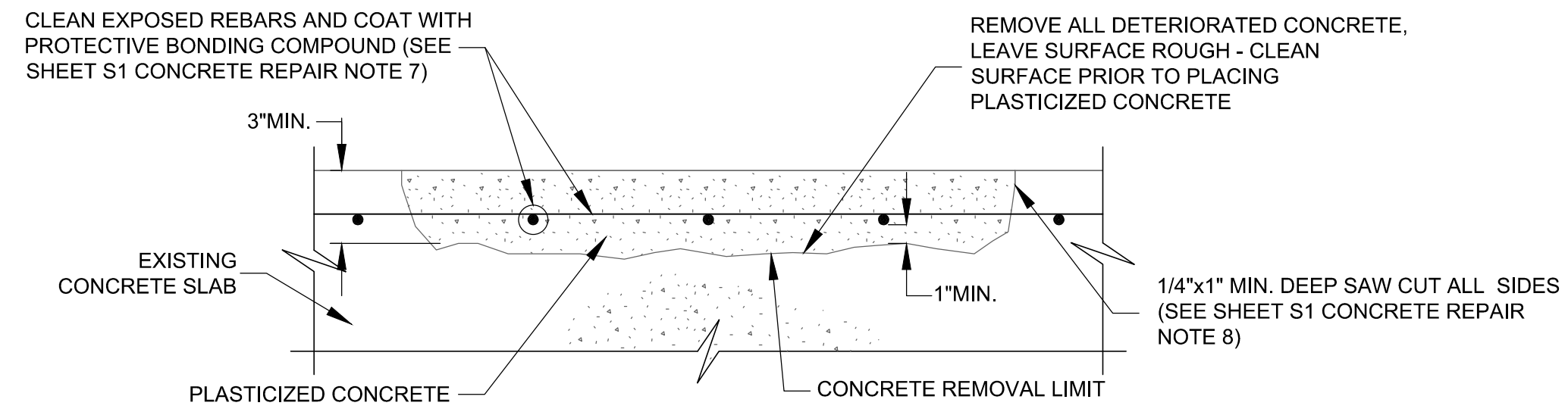




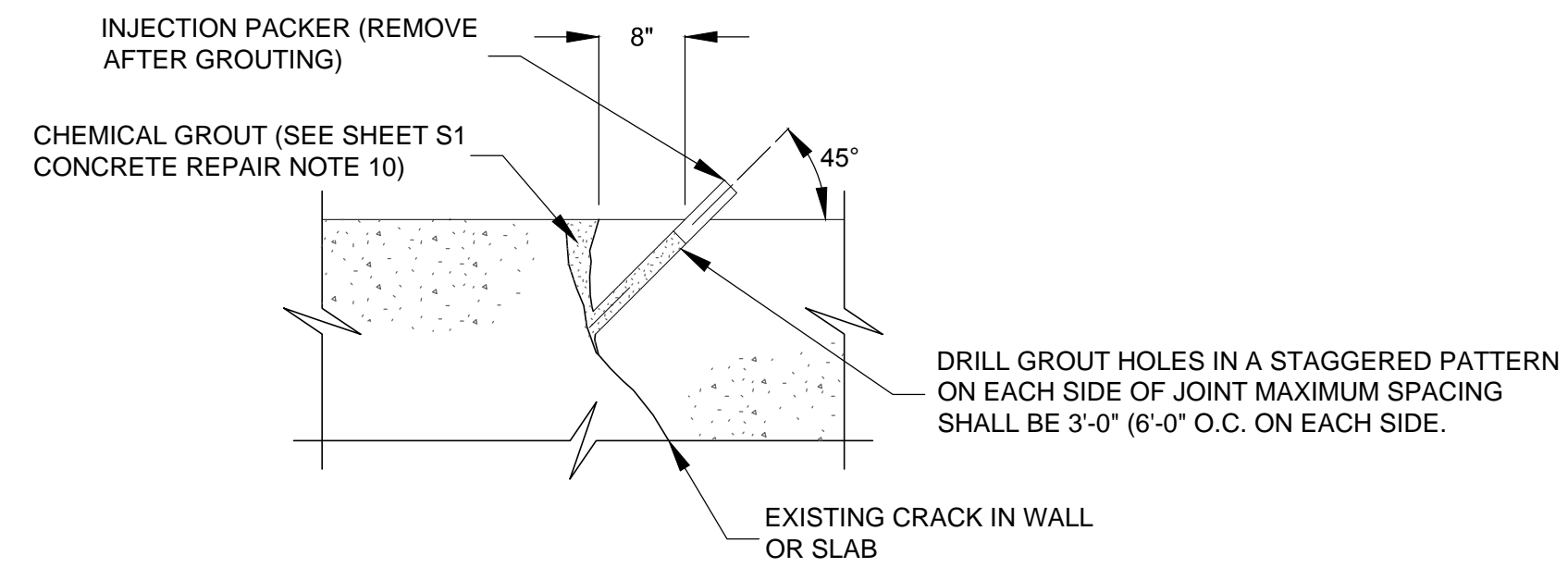
**S7 1**  
 SHALLOW MORTAR REPAIR  
 FOR WALL / SLAB  
 CONCRETE SURFACES  
 NOT TO SCALE



**S7 2**  
 DEEP CONCRETE  
 REPAIR FOR WALLS  
 NOT TO SCALE



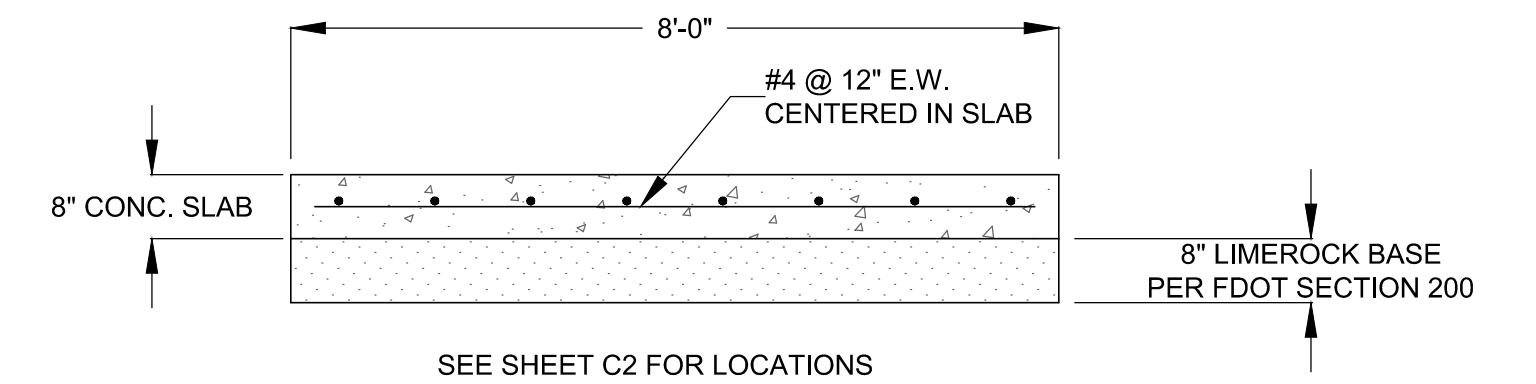
**S7 3**  
 DEEP CONCRETE REPAIR FOR SLABS  
 NOT TO SCALE



**S7 4**  
 CHEMICAL GROUTING DETAIL FOR  
 CONCRETE CRACKS WITH FLOWING WATER  
 NOT TO SCALE

**CONCRETE:**

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 400 WITH SUPPLEMENTS AND ALL PERTINENT SPECIFICATIONS CONTAINED THEREIN.
2. ALL CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,500 PSI. PORTLAND CEMENT SHALL BE TYPE II IN ACCORDANCE WITH ASTM C-150. CONCRETE SHALL BE AIR ENTRAINED WITH TOTAL AIR AS PERCENT BY VOLUME OF CONCRETE EQUAL TO 4%. THE AIR ENTRAINING ADMIXTURE SHALL BE MICRO AIR, AS MANUFACTURED BY MASTER BUILDERS, OR EQUAL, CONFORMING TO ASTM C-260. THE AGGREGATES SHALL CONFORM TO ASTM C-33 AND SHALL HAVE A 3/4-INCH MAXIMUM SIZE.
3. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A-615.
4. THE MINIMUM CLEAR CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR FORMED SURFACES AND 4.5 INCHES FOR CONCRETE CAST AGAINST EARTH.
5. CRACKS WITH FLOWING WATER SHALL BE REPAIRED WITH CHEMICAL GROUT ACCORDING TO DETAIL S7/4 PRIOR TO CONCRETE SURFACE REPAIR. CUT AND REMOVE EXCESS CHEMICAL GROUT PRIOR TO CONCRETE REPAIR. WHEN SEALING VERTICAL CRACKS, BEGIN AT THE BOTTOM AND WORK UP. WHERE WATER FLOW IS PRESENT, BEGIN INJECTING CRACK AT THE POINT OF LEAST FLOW AND WORK TOWARDS AREA OF HEAVIEST FLOW. CHEMICAL GROUT SHALL BE HYDRO ACTIVE FLEX AS MANUFACTURED BY DE NEEF CONSTRUCTION CHEMICALS, INC., OR APPROVED EQUAL.



**S7 5**  
 8'x13'-8" CONCRETE APPROACH APRON (2 REQ'D)  
 SCALE: 1/2"=1'-0"

**FOR BID PURPOSES ONLY  
 NOT FOR CONSTRUCTION**

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 STRUCTURE 96B REHABILITATION  
 INDIAN RIVER COUNTY, FLORIDA

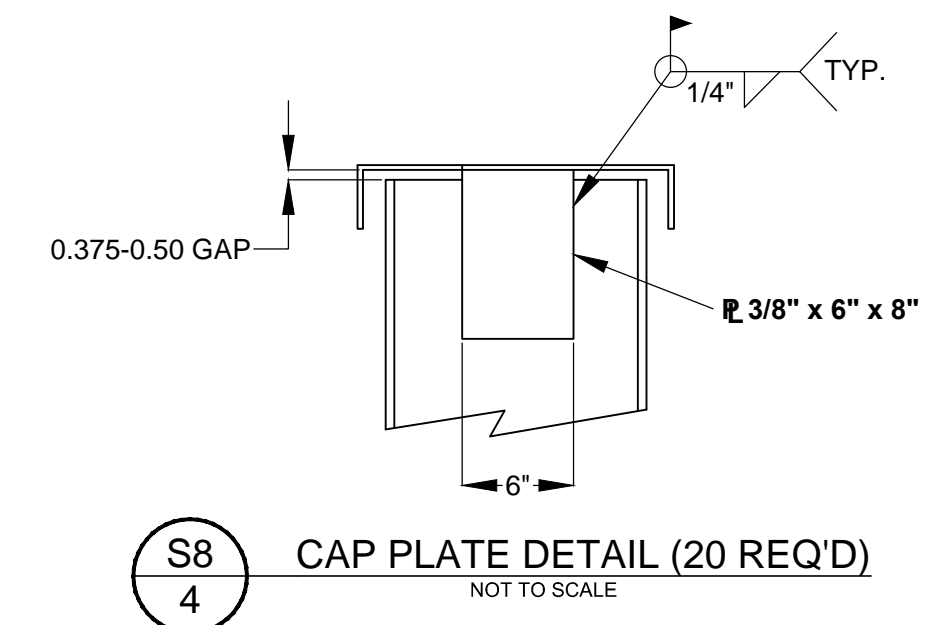
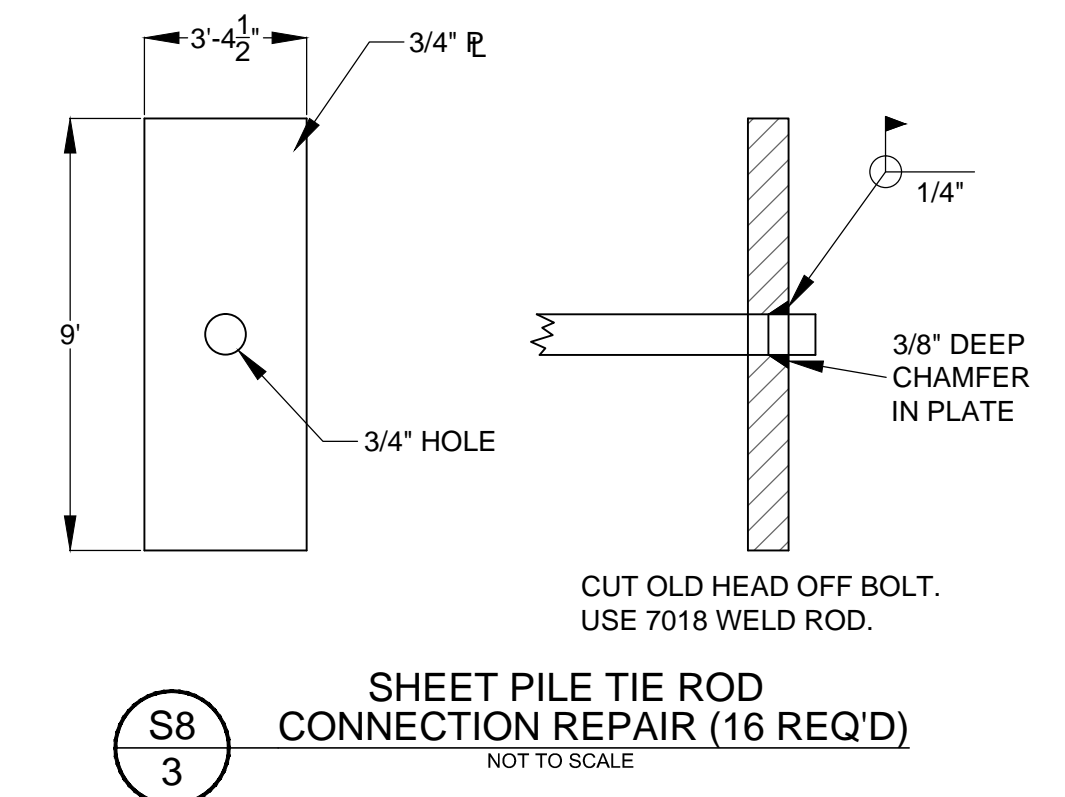
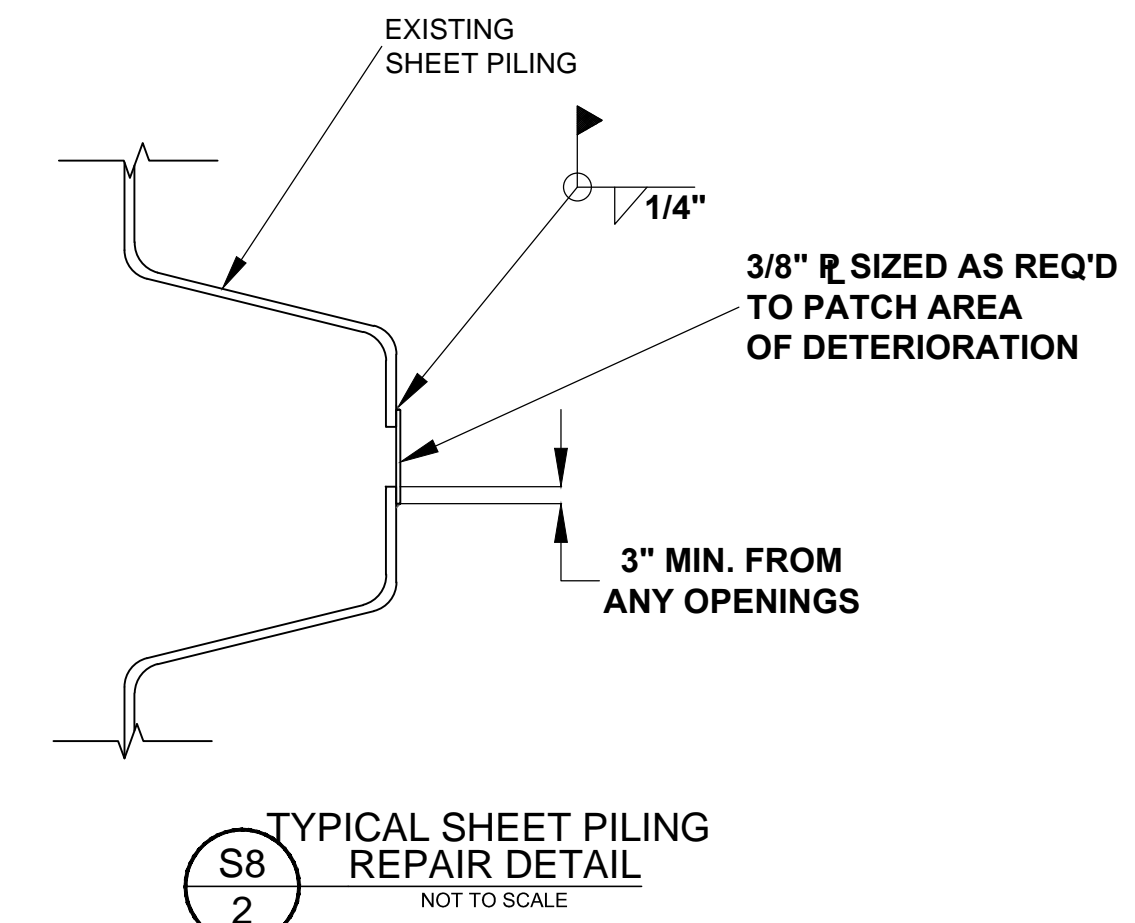
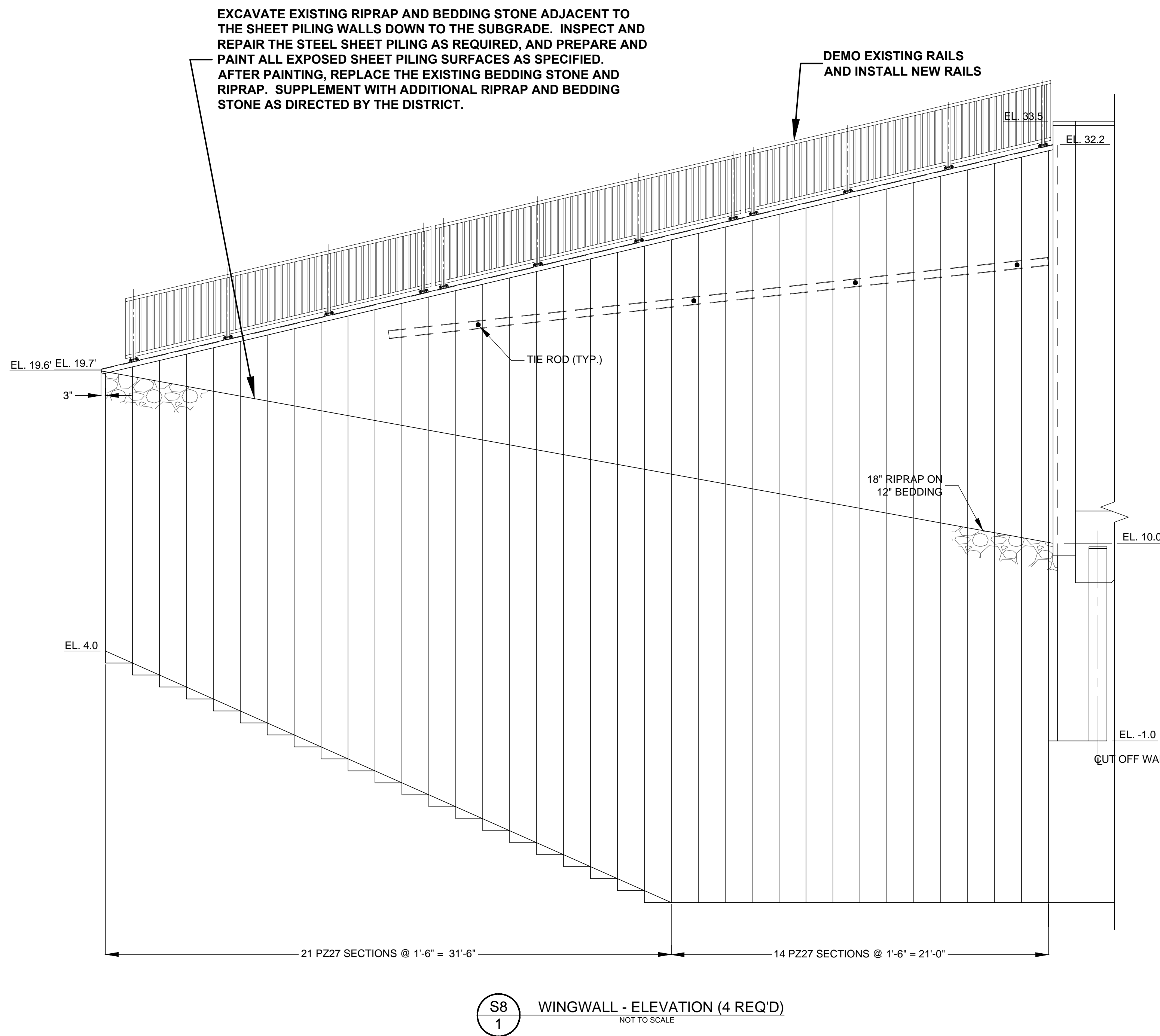
**ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT**  
 P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC/NJG    DATE: JULY 24, 2018    REVIEWER: WRC  
 SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

CONCRETE REPAIR - TYPICAL DETAILS

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: JULY 24, 2018

FILE NAME:  
 96-B STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
**S7**



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UPPER ST. JOHNS RIVER BASIN  
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INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
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P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC

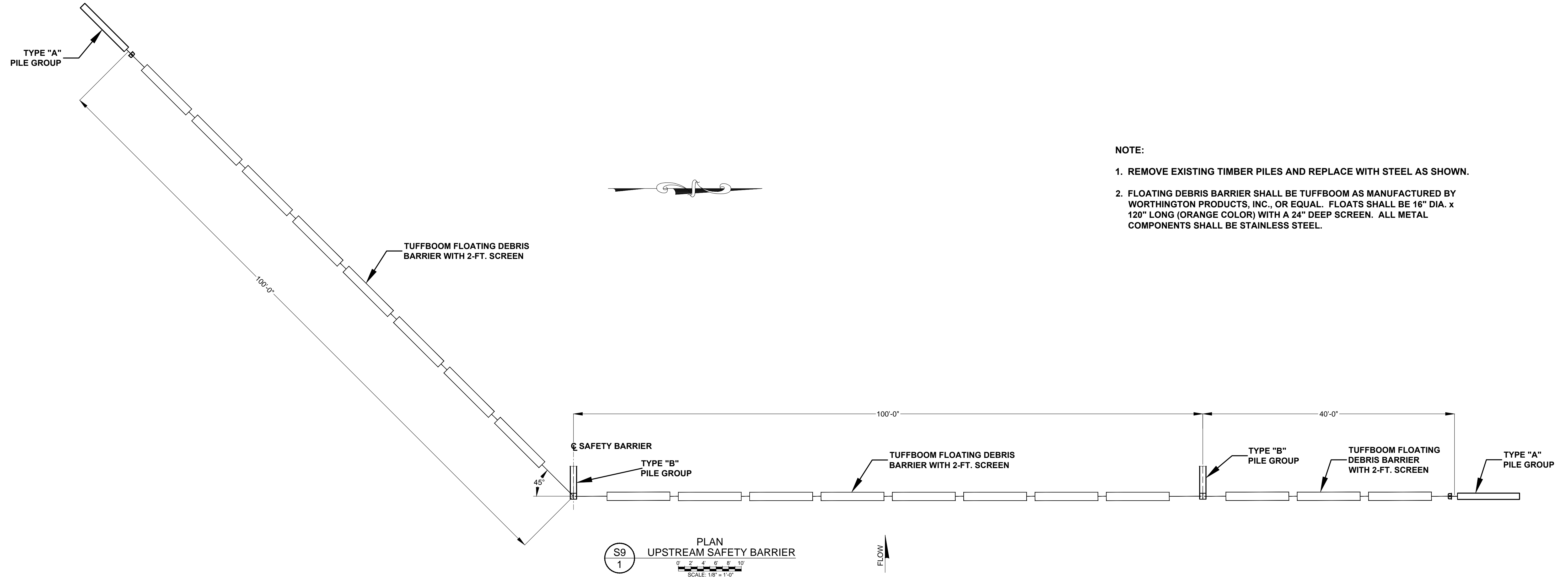
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

SHEET PILING REPAIR - WINGWALL ELEVATION

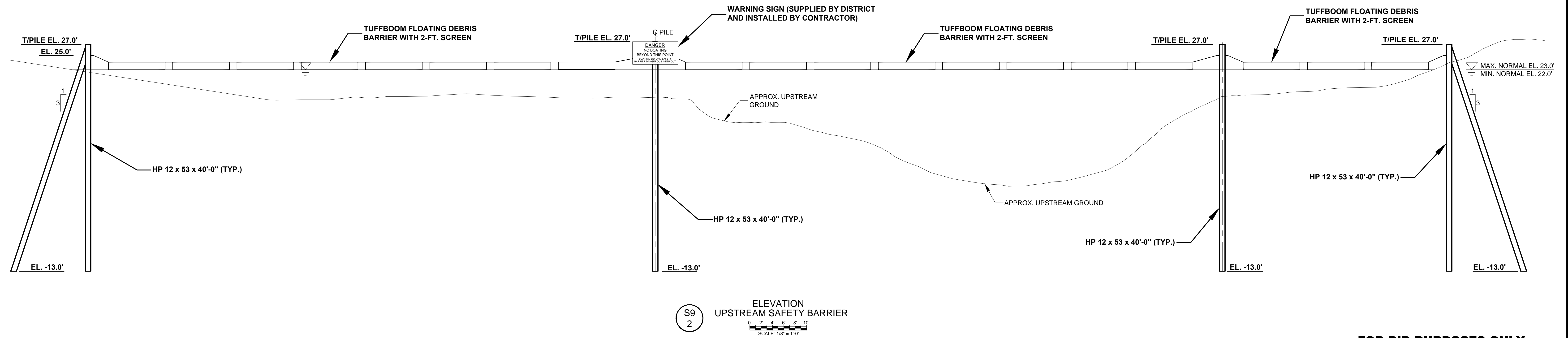
CERTIFICATION:  
WILLIAM R. COTE  
P. E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
S8





- NOTE:
1. REMOVE EXISTING TIMBER PILES AND REPLACE WITH STEEL AS SHOWN.
  2. FLOATING DEBRIS BARRIER SHALL BE TUFFBOOM AS MANUFACTURED BY WORTHINGTON PRODUCTS, INC., OR EQUAL. FLOATS SHALL BE 16" DIA. x 120" LONG (ORANGE COLOR) WITH A 24" DEEP SCREEN. ALL METAL COMPONENTS SHALL BE STAINLESS STEEL.



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UPPER ST. JOHNS RIVER BASIN  
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WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC

SCALE: 1/8" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

UPSTREAM DEBRIS BARRIER

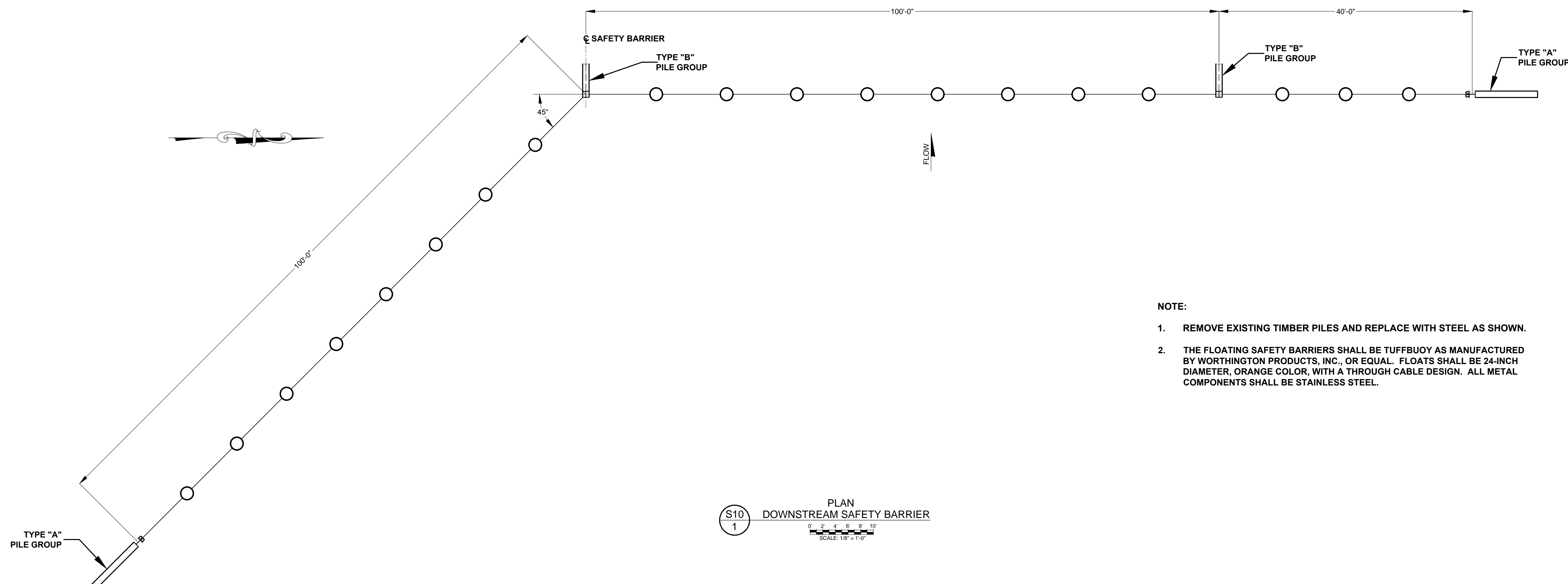
CERTIFICATION:

WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B STRUCTURE.dwg

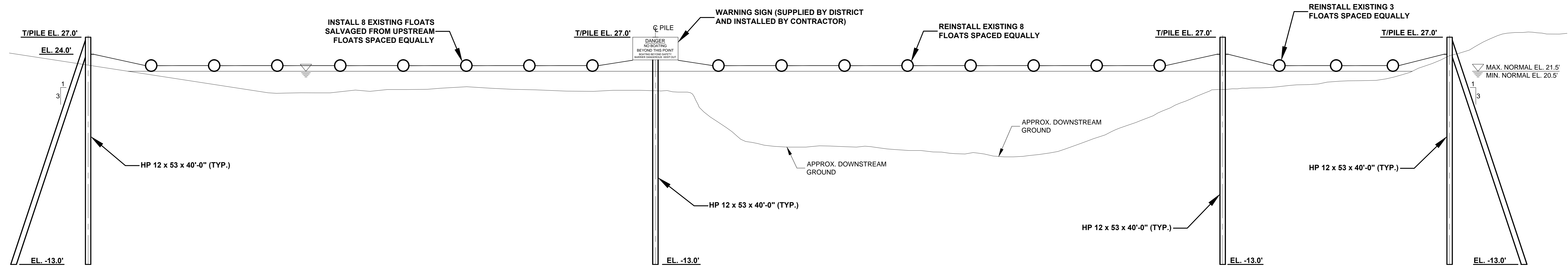
PROJECT NO.:

SHEET:  
S9



- NOTE:**
1. REMOVE EXISTING TIMBER PILES AND REPLACE WITH STEEL AS SHOWN.
  2. THE FLOATING SAFETY BARRIERS SHALL BE TUFFBUOY AS MANUFACTURED BY WORTHINGTON PRODUCTS, INC., OR EQUAL. FLOATS SHALL BE 24-INCH DIAMETER, ORANGE COLOR, WITH A THROUGH CABLE DESIGN. ALL METAL COMPONENTS SHALL BE STAINLESS STEEL.

**S10**  
1  
PLAN  
DOWNSTREAM SAFETY BARRIER  
SCALE: 1/8" = 1'-0"



**S10**  
2  
ELEVATION  
DOWNSTREAM SAFETY BARRIER  
SCALE: 1/8" = 1'-0"

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UPPER ST. JOHNS RIVER BASIN  
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INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

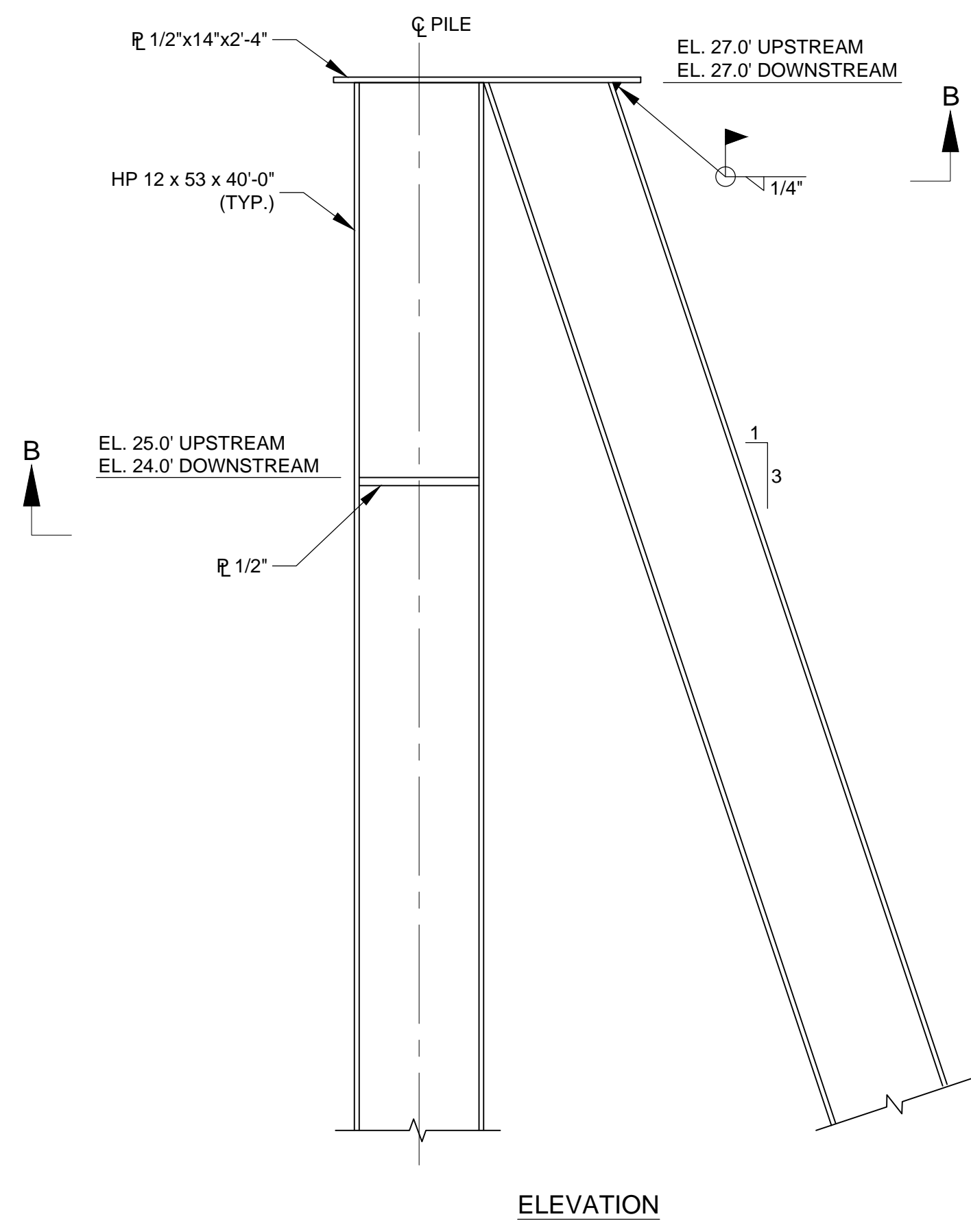
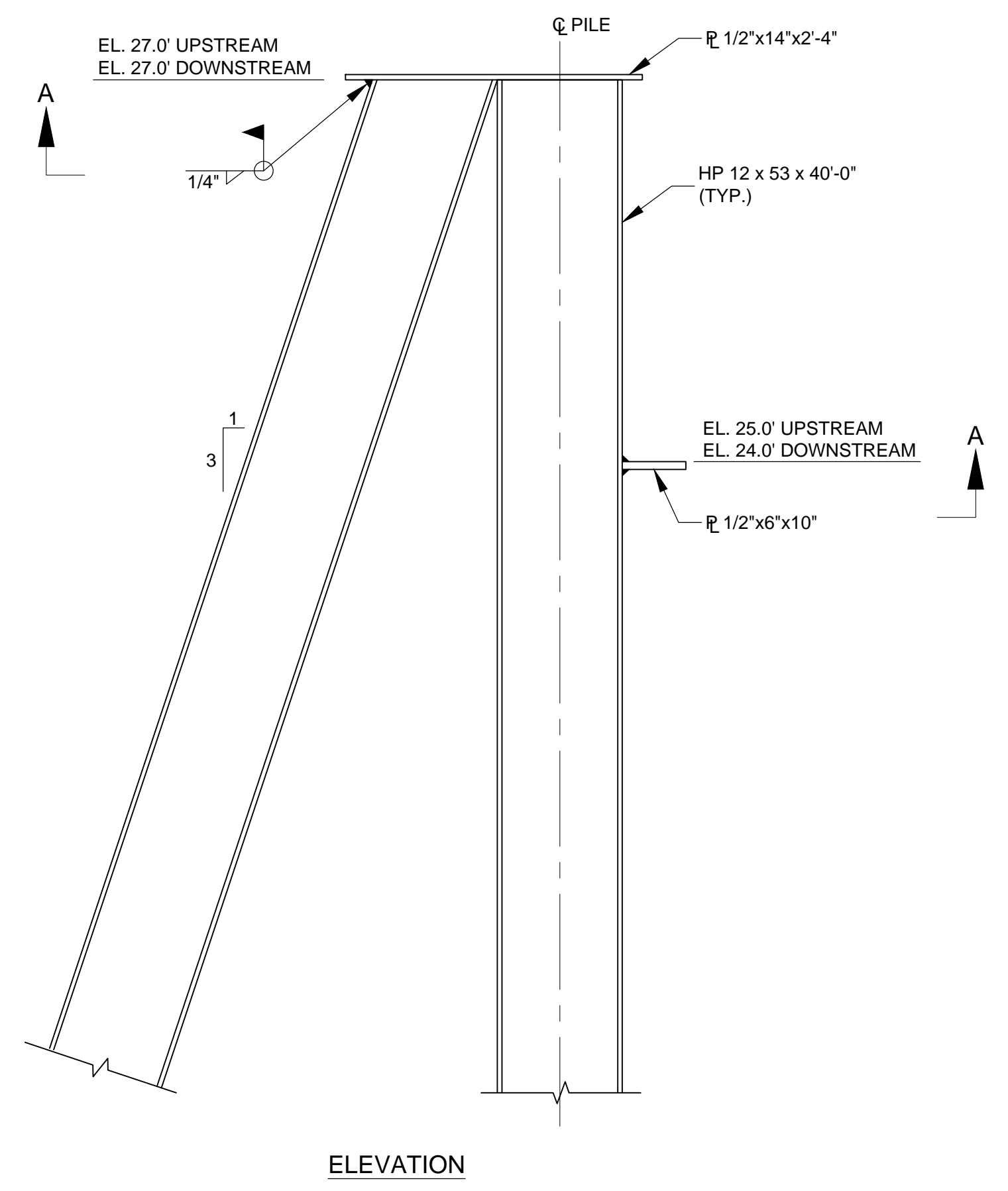
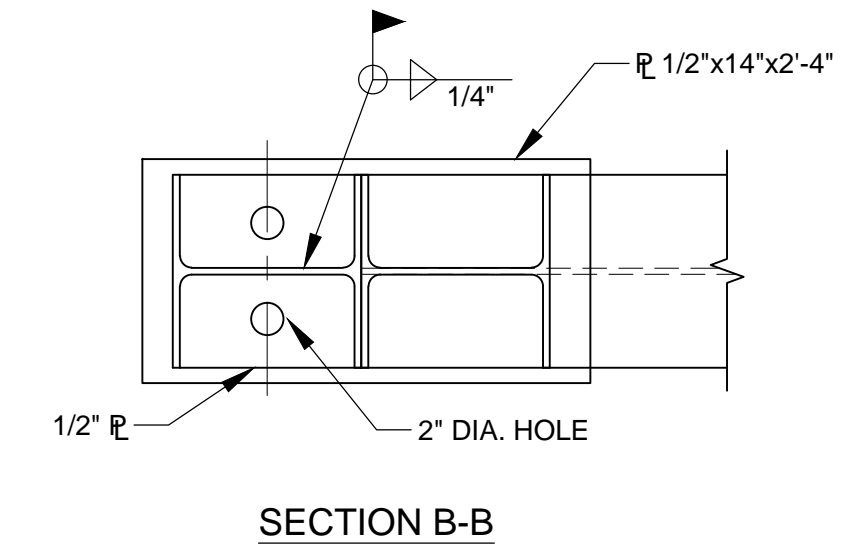
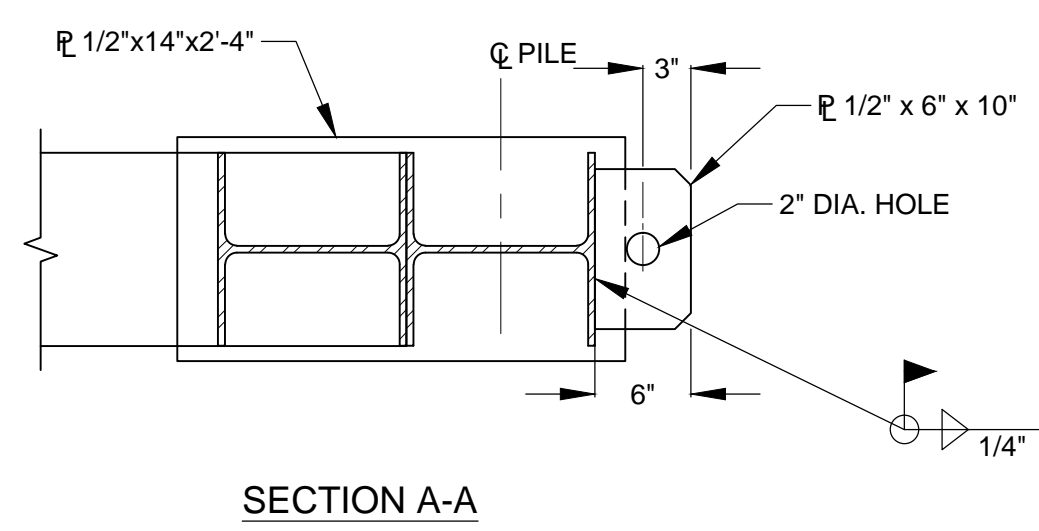
DRAWN: PLC/NJG    DATE: JULY 24, 2018    REVIEWER: WRC  
SCALE: 1/8" = 1'-0"    DESIGNER: WRC    SECTION CHIEF: WRC

DOWNSTREAM SAFETY BARRIER

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
S10





(S11) 1 TYPE "A" PILE GROUP (4 REQ'D)  
SCALE: 1"=1'-0"

(S11) 2 TYPE "B" PILE GROUP (4 REQ'D)  
SCALE: 1"=1'-0"

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P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC  
SCALE: 1" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

NEW PILE GROUP DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P. E. NUMBER: 53746  
DATE: JULY 24, 2018

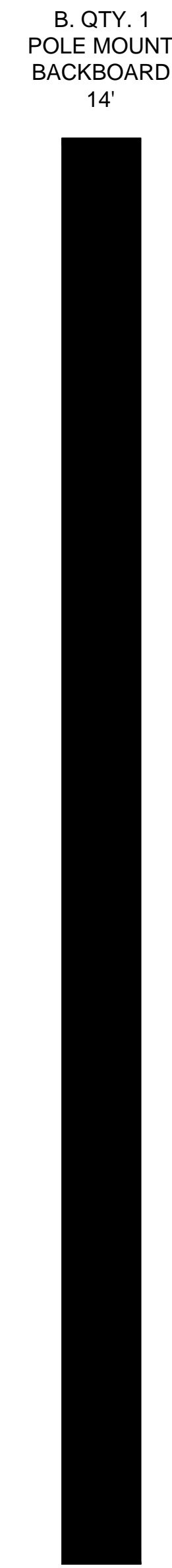
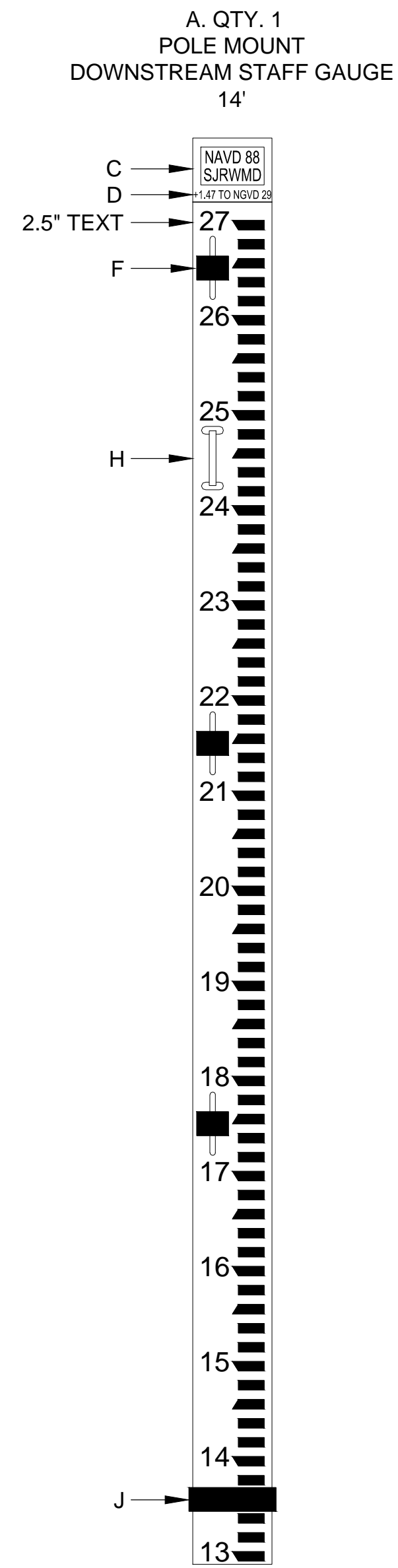
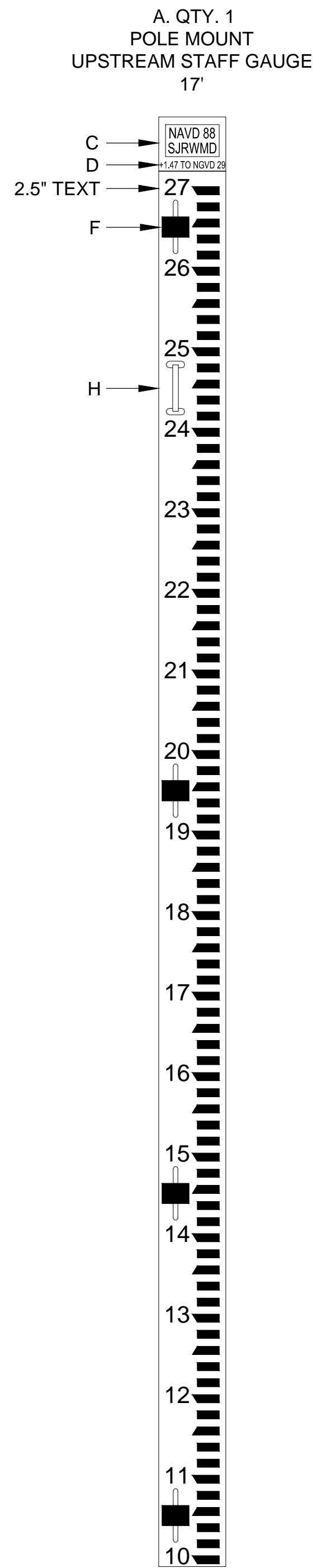
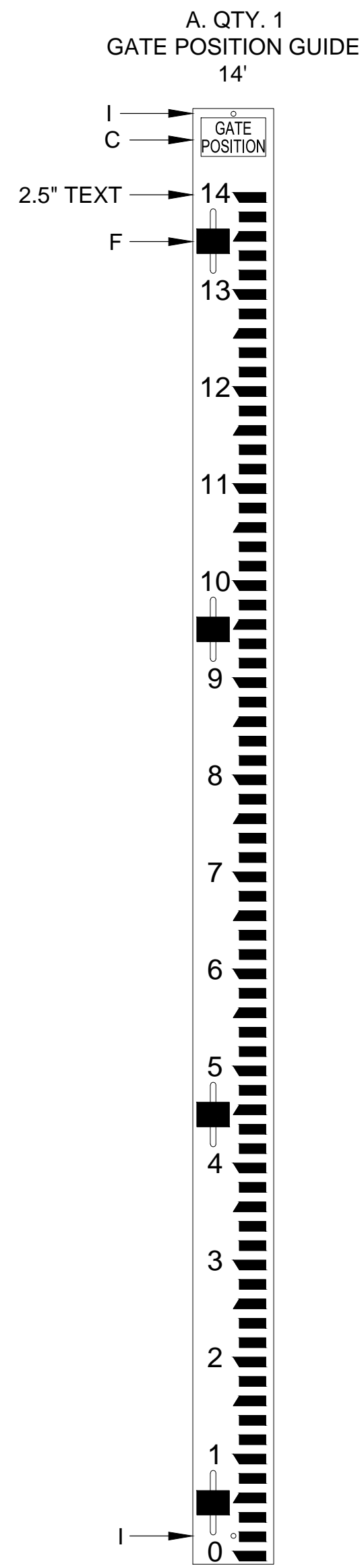
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96-B STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
S11

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ALL HASH MARKS ARE  
1.2" IN HEIGHT

4" WIDE

3.25" WIDE



**MATERIALS KEY:**

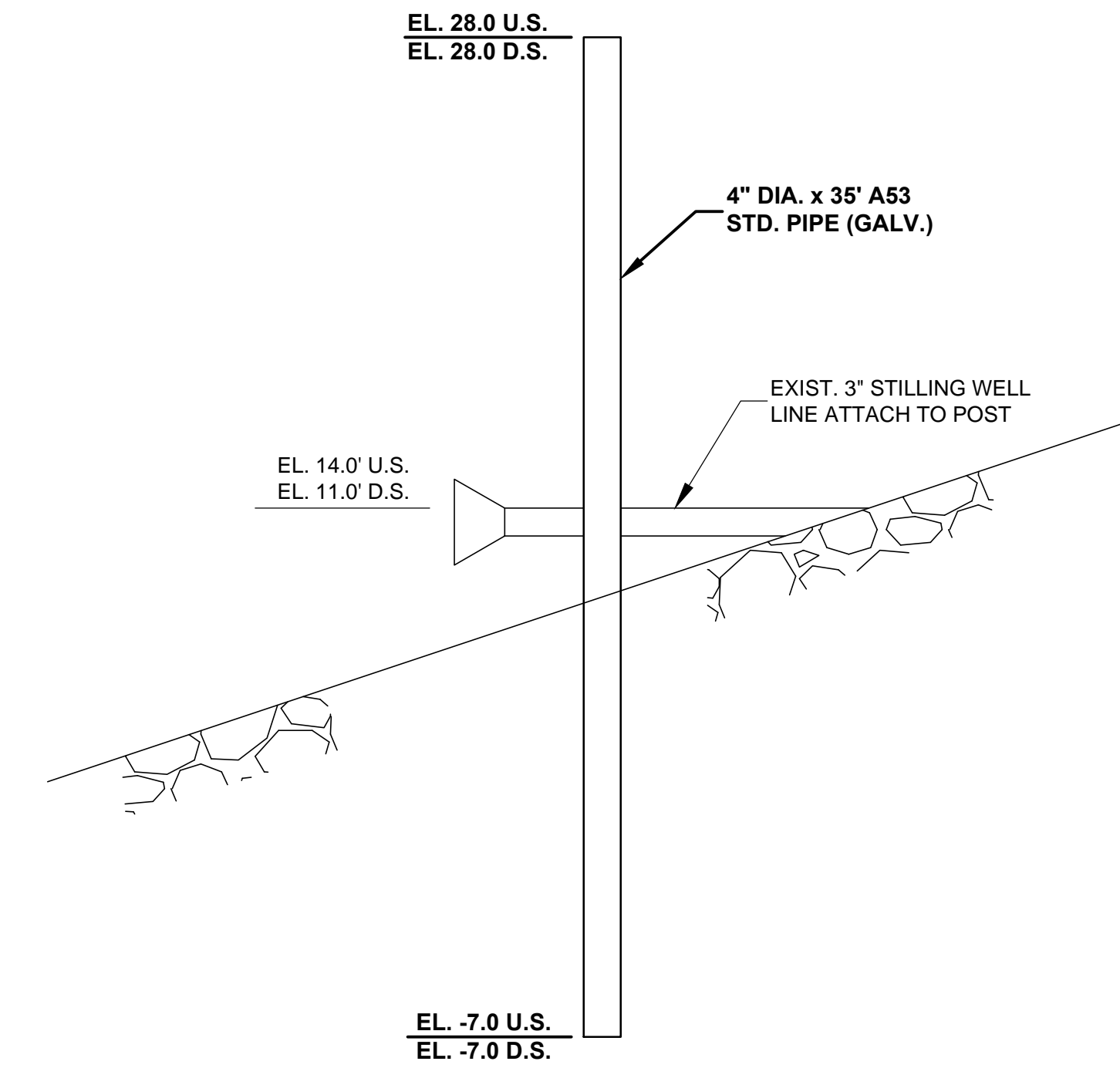
- A. STAFF GAUGES & GATE POSITION GUIDES 2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
- B. BACKBOARDS: SOLID BLACK POLYFORCE 2"x12" BY TANGENT TECHNOLOGIES. (1.5" THICK x 11.75" WIDE), OR EQUAL.
- C. TITLE PLAQUE INSERT, WHITE WITH RED LETTERING.
- D. NGVD29 OFFSET: +1.47
- E. STAFF GAUGE SECTION LINES.
- F. SLOTS ARE .8875" x 7.3125" AND ARE SUPPLIED WITH SS WASHERS AT: 1/4" x 3" x 4". PROVIDE MOUNTING BOLTS/ANCHORS.
- G. THRU HOLES ARE 5/8" DIAMETER AND ARE SUPPLIED WITH SS WASHERS AT: 1/4" x 3" x 4". PROVIDE MOUNTING BOLTS/ANCHORS.
- H. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
- I. THRU HOLES ARE 5/16" DIAMETER. PROVIDE MOUNTING BOLTS/ANCHORS.
- J. ABS BRACKET WITH SS SCREWS. MOUNTS OVER STAFF GAUGE TO BACKBOARDS.

**HARDWARE:**

ALL HARDWARE SHALL BE STAINLESS STEEL.

**DATUM:**

ELEVATIONS ON THIS SHEET ARE IN NAVD88.



STAFF GAGE POLE

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P.O. BOX 1429 PALATKA, FLORIDA

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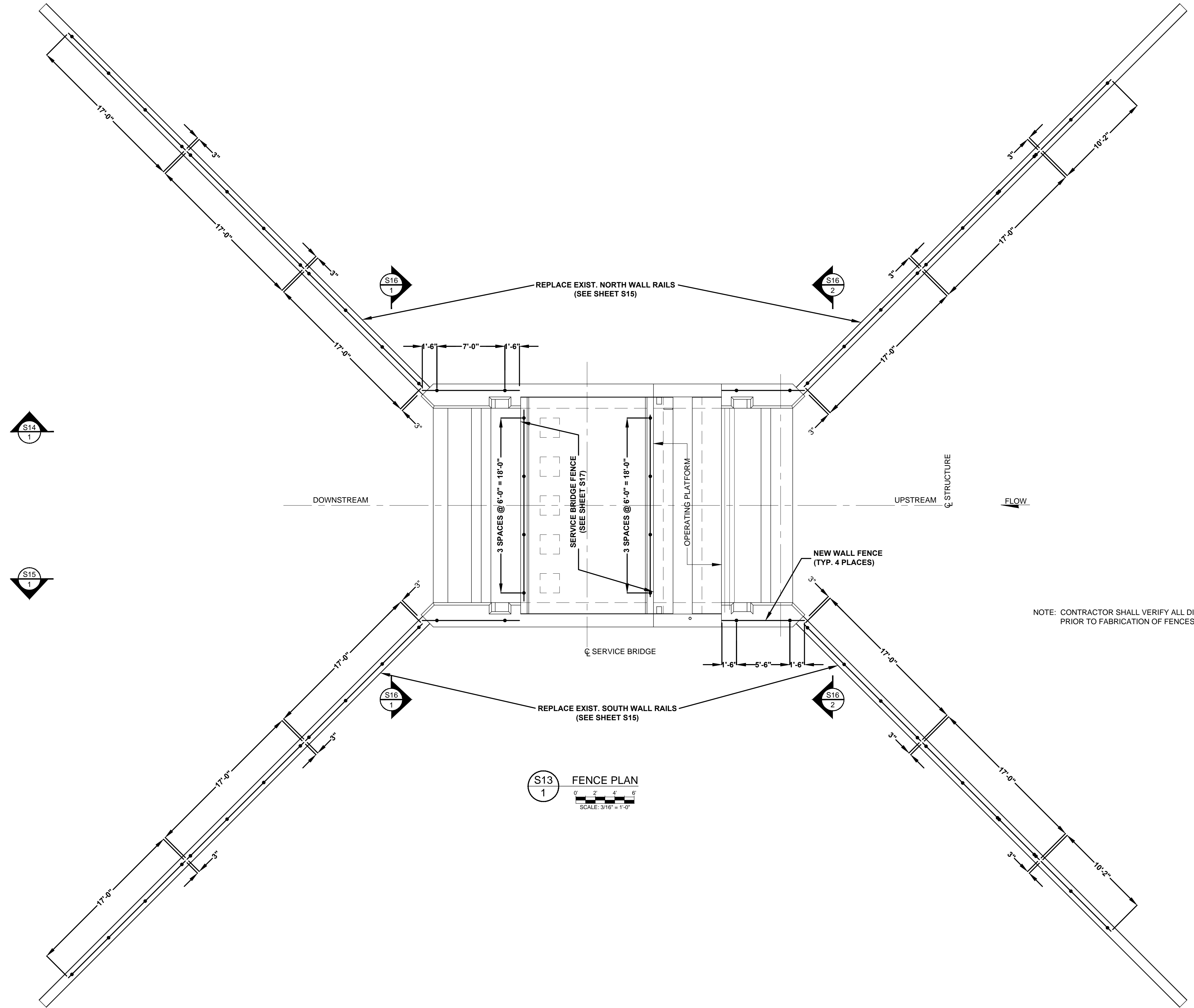
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

NEW STAFF GAUGES AND GATE POSITION GUIDE

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B FENCING.dwg  
PROJECT NO.:  
SHEET:  
S12





- FENCE NOTE SPECIFICATIONS:**
- ALL NEW FENCING COMPONENTS SHALL BE AS FOLLOWS:
1. POSTS: 2" NOMINAL DIAMETER SCHEDULE 80 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  2. VEHICULAR GATE POSTS: 3.5" NOMINAL DIAMETER SCHEDULE 40 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  3. FENCE RAIL: 2" NOMINAL DIAMETER SCHEDULE 40 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  4. CHAIN LINK FABRIC: 2" x 9 GAGE x 6'-0" NOMINAL, ASTM F1183, ALUMINUM ALLOY 6061-T94.
  5. TENSION WIRE: MINIMUM 3/16" DIAMETER, ASTM B211, ALUMINUM ALLOY 5056-H38 OR 5056-H192.
  6. TIE WIRE AND HOG RINGS: MINIMUM 9 GAGE, ASTM B211, ALUMINUM ALLOY 5056-H38 OR 5056-H192.
  7. TENSION BARS: 1/4" x 3/4", ASTM B210, ALUMINUM ALLOY 6061 T-6.
  8. TENSION POST CONNECTORS AND FENCING TIES SHALL BE ALUMINUM.
  9. ALL HINGES, LATCH ASSEMBLIES, POST BASE PLATES, AND LIFTING EYES: ASTM B209, ALUMINUM ALLOY 6061 T-6.
  10. ALL CONNECTION HARDWARE: 316 STAINLESS STEEL.
  11. PROVIDE 1/4" NEOPRENE GASKET UNDER ALL FENCE POST FOOT PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.
  12. ALL FENCING SHALL BE CONNECTED TO THE EXISTING GROUNDING SYSTEM.

NOTE: CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF FENCES.

**S13**  
1  
**FENCE PLAN**  
SCALE: 3/16" = 1'-0"

**FOR BID PURPOSES ONLY  
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ISSUED FOR BID	N/J	07/24/18	WRC	07/24/18
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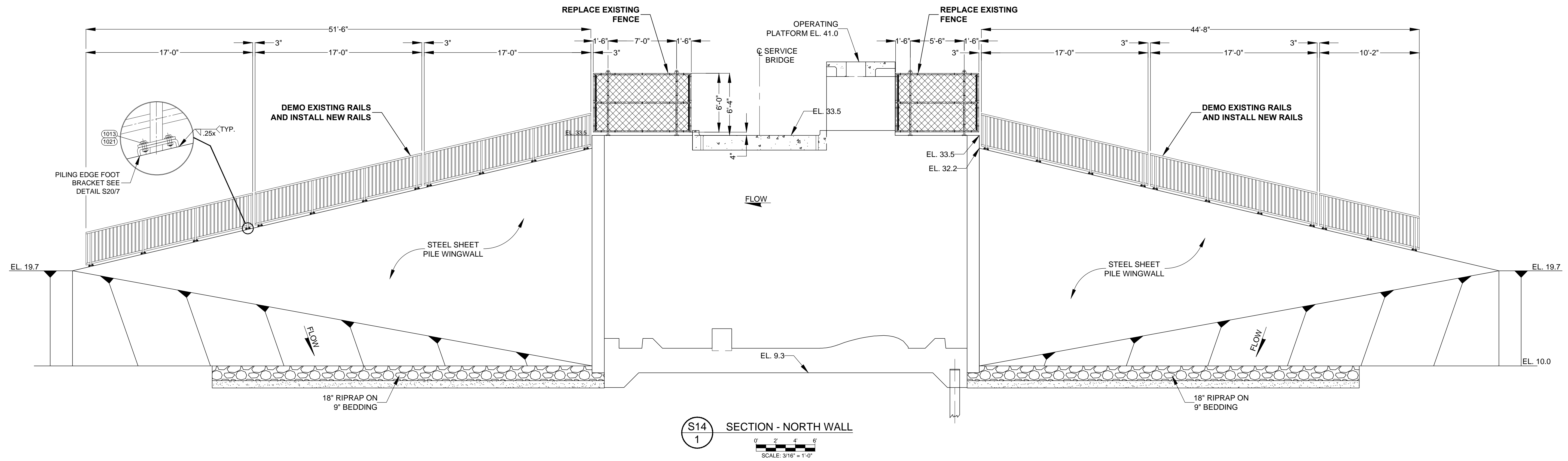
DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC  
SCALE: 3/16" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

**FENCE AND HANDRAIL REPLACEMENT PLAN**

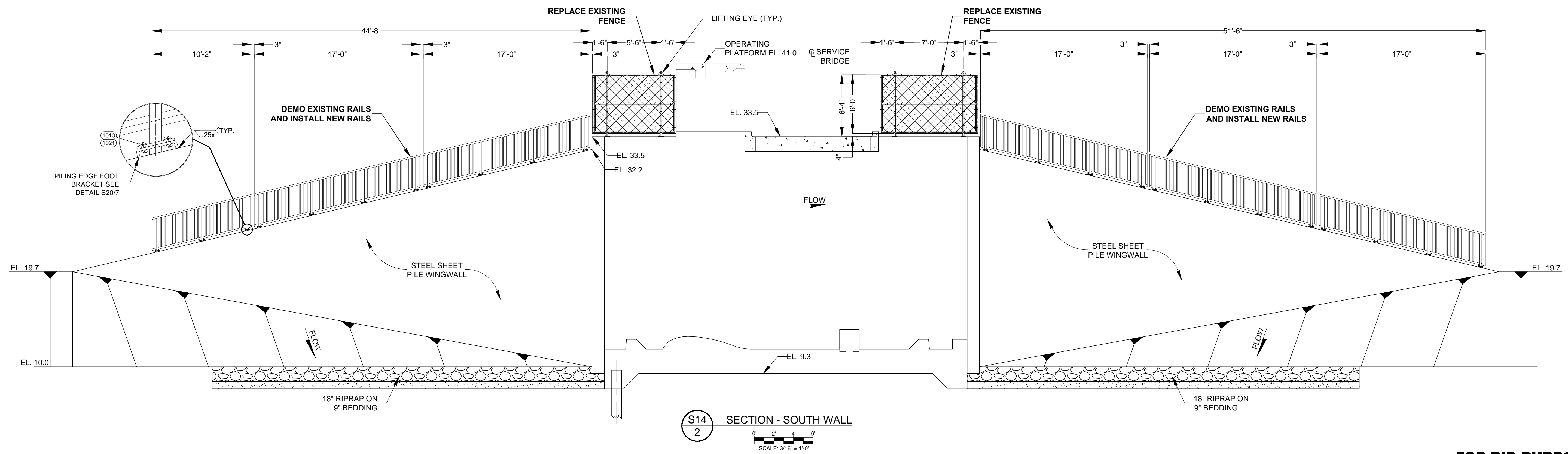
CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B FENCING.dwg  
PROJECT NO.:  
SHEET:  
**S13**

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S14 SECTION - NORTH WALL  
1  
SCALE: 3/16" = 1'-0"



S14 SECTION - SOUTH WALL  
2  
SCALE: 3/16" = 1'-0"

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UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96B REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

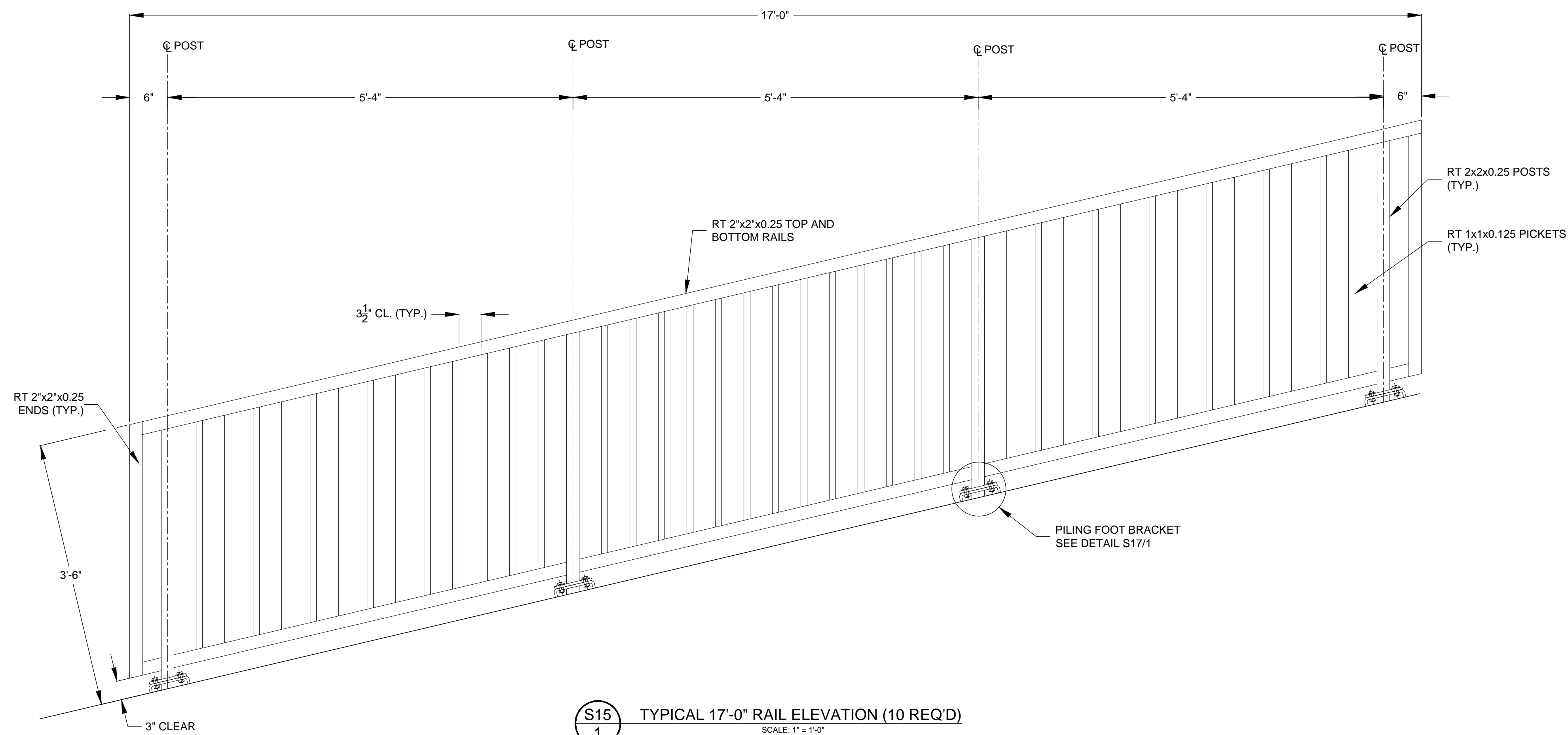
DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC  
SCALE: 3/16" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

NEW WALL FENCE AND HANDRAILS

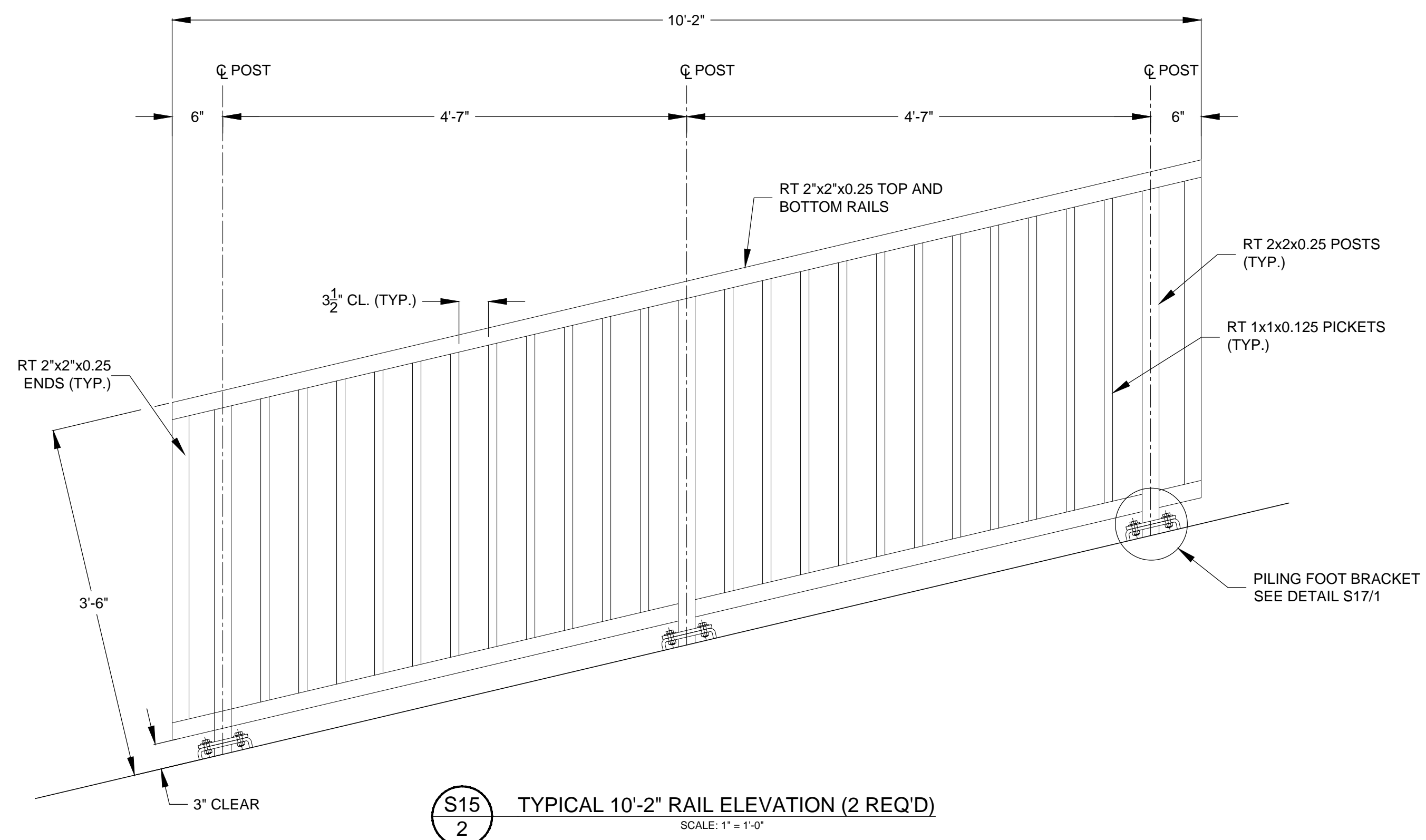
CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B FENCING.dwg  
PROJECT NO.:  
SHEET:  
S14

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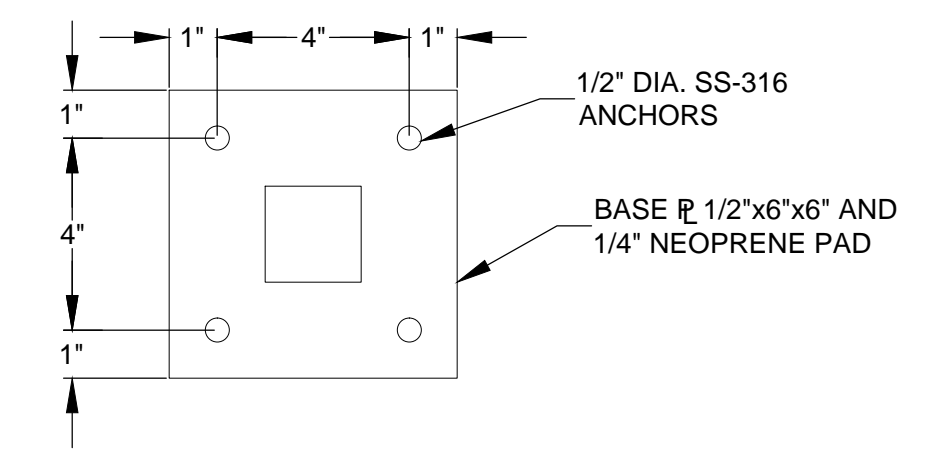
**S15**  
1 TYPICAL 17'-0" RAIL ELEVATION (10 REQ'D)  
SCALE: 1" = 1'-0"



**S15**  
2 TYPICAL 10'-2" RAIL ELEVATION (2 REQ'D)  
SCALE: 1" = 1'-0"

ALUMINUM PEDESTRIAN RAIL NOTE SPECIFICATIONS:

1. STRUCTURAL ALUMINUM DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION, INC. "SPECIFICATIONS FOR ALUMINUM STRUCTURES", LATEST EDITION.
2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE - ALUMINUM" AWS D1.2.
3. ALUMINUM STRUCTURAL SHAPES SHALL BE NEW AND CONSIST OF ALLOY 6061-T6 CONFORMING TO THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) STANDARD B308.
4. ALUMINUM BARS, RODS, AND WIRE SHALL BE NEW AND CONSIST OF ALLOY 6061-T6 CONFORMING TO THE REQUIREMENTS OF ASTM STANDARD B211.
5. ALUMINUM PLATE SHALL BE NEW AND CONSIST OF ALLOY 5052-H32 CONFORMING TO THE REQUIREMENTS OF ASTM STANDARD B209.
6. ALL BOLTS, NUTS, AND WASHERS SHALL CONSIST OF SS316 STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM STANDARDS F593 AND F594.
7. ALL WELDING SHALL UTILIZE ER4043 FILLER ALLOY AND SHALL BE SHOP WELDED TO THE GREATEST EXTENT POSSIBLE.
8. ALL WELDED JOINTS SHALL BE GROUND SMOOTH.
9. THE ALUMINUM RAILING SHALL BE MILL FINISH.
10. PROVIDE 1/4" NEOPRENE PADS UNDER ALL RAIL POST FOOT PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.



**S15**  
3 BASE PLATE DETAIL  
SCALE: 3" = 1'-0"

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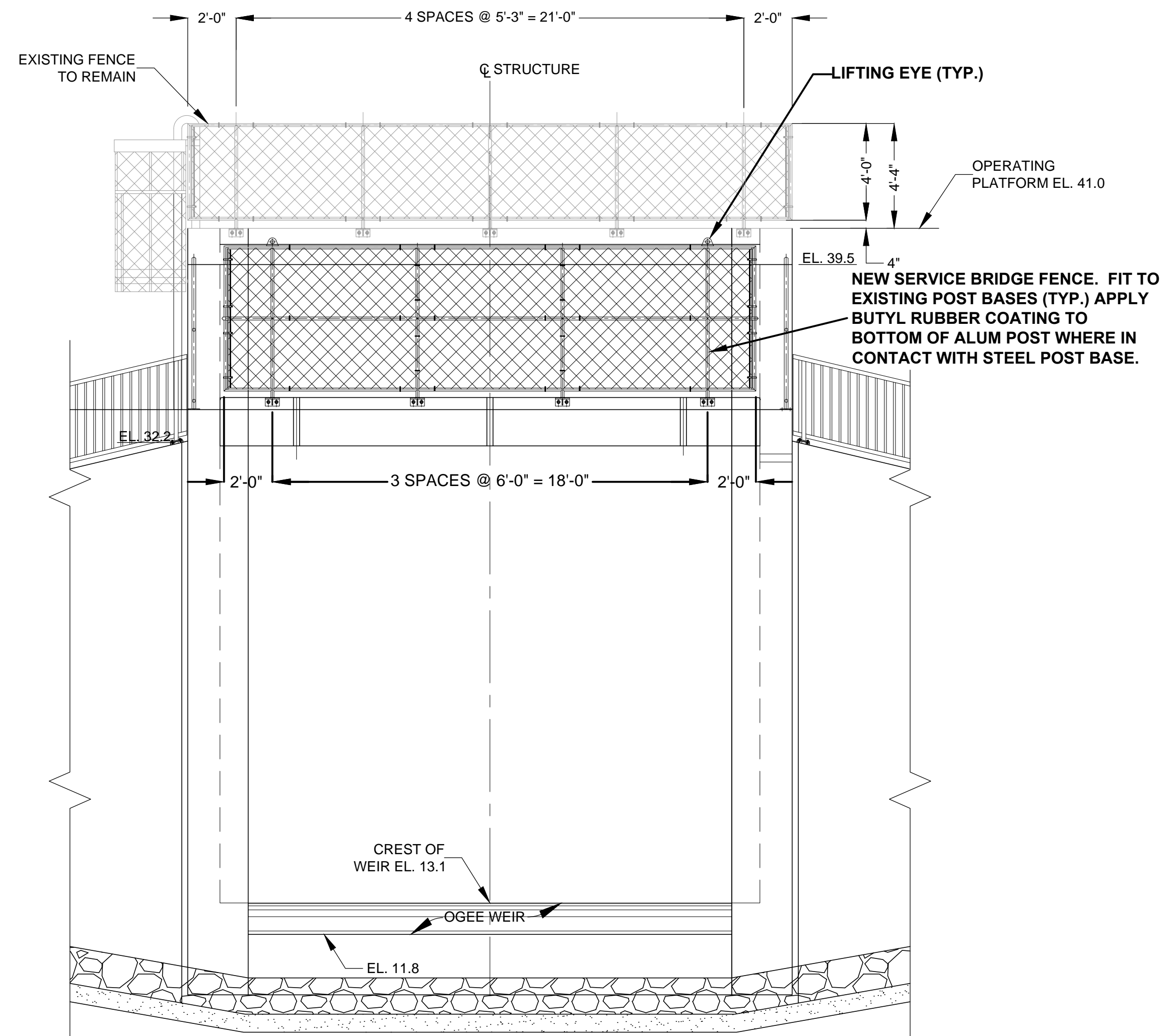
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SCALE: 3/16" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

NEW WINGWALL HANDRAIL DETAILS

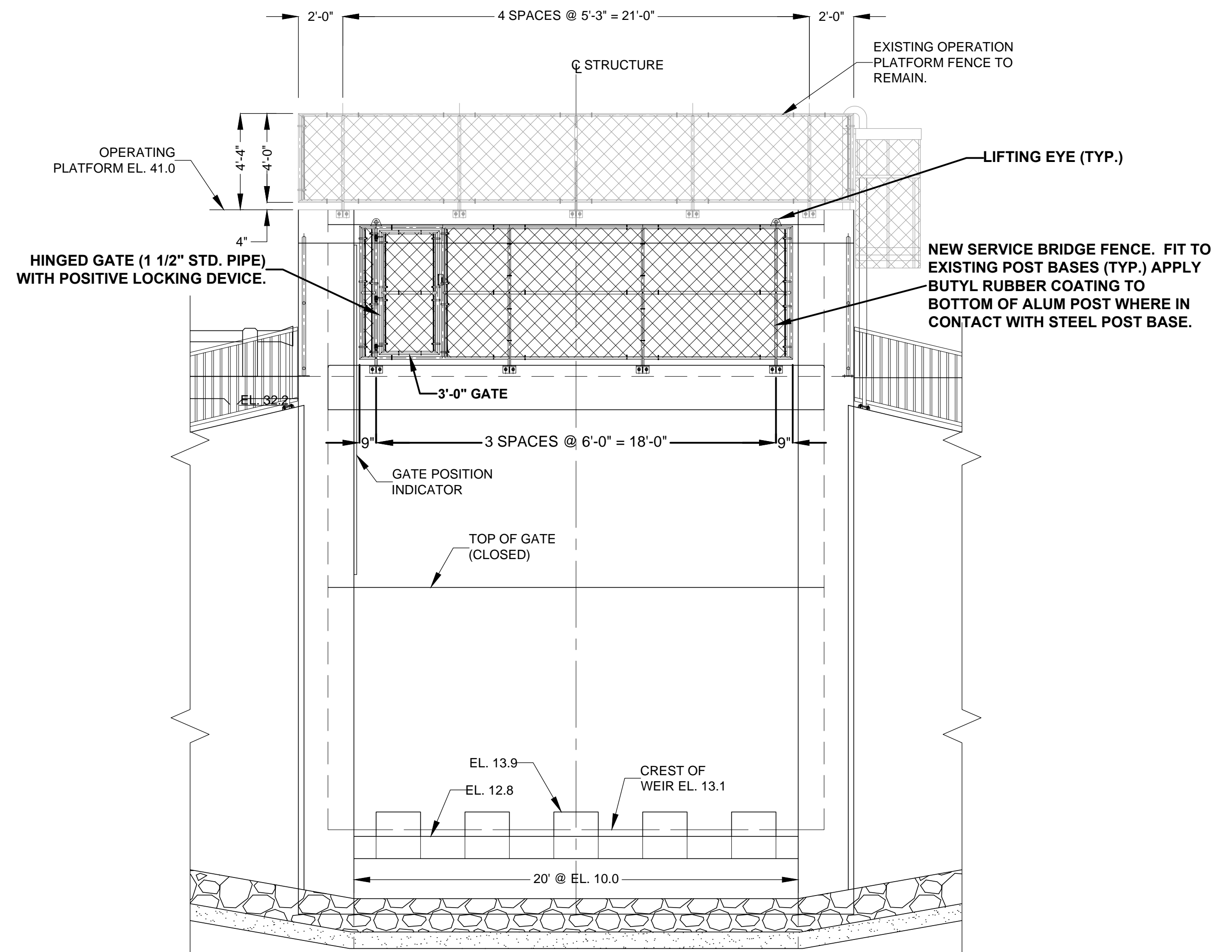
CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
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PROJECT NO.:  
SHEET:  
S15





S16 UPSTREAM ELEVATION  
1  
SCALE: 1/4" = 1'-0"



S16 DOWNSTREAM ELEVATION  
3  
SCALE: 1/4" = 1'-0"

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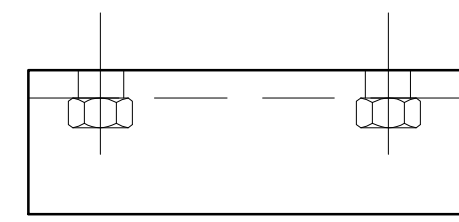
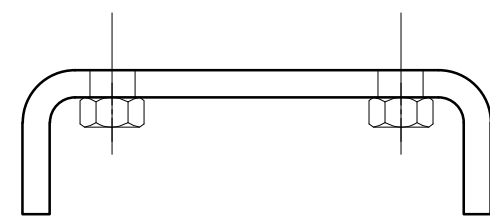
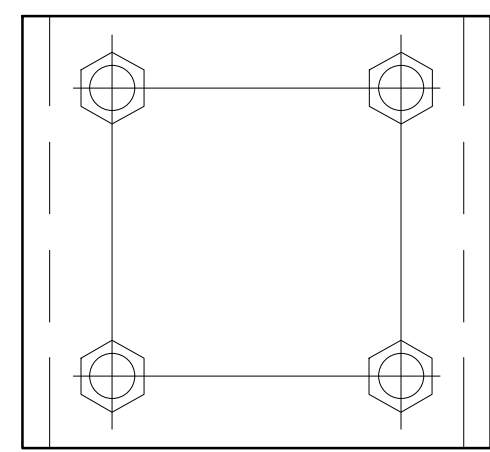
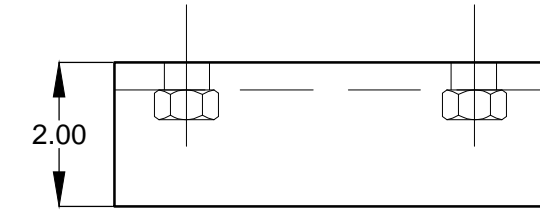
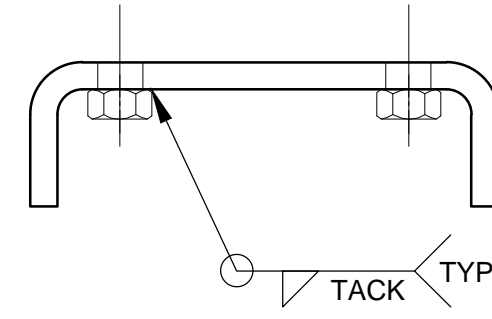
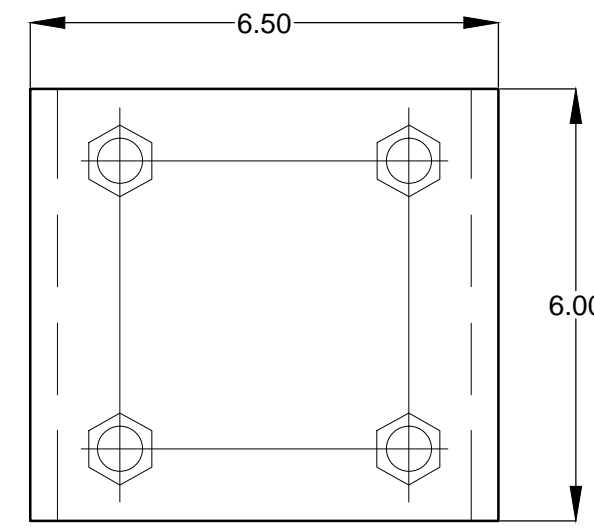
DRAWN: PLC DATE: JULY 24, 2018 REVIEWER: WRC

SCALE: 1/4" = 1'-0" DESIGNER: WRC SECTION CHIEF: WRC

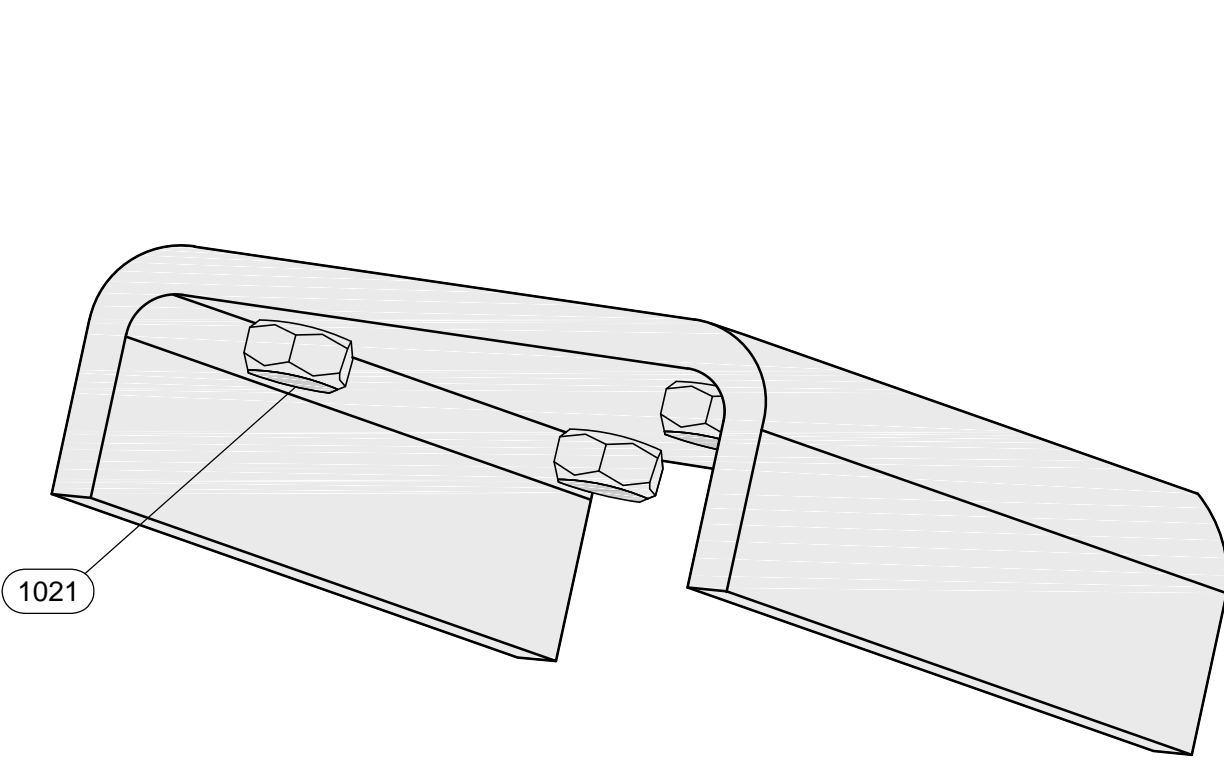
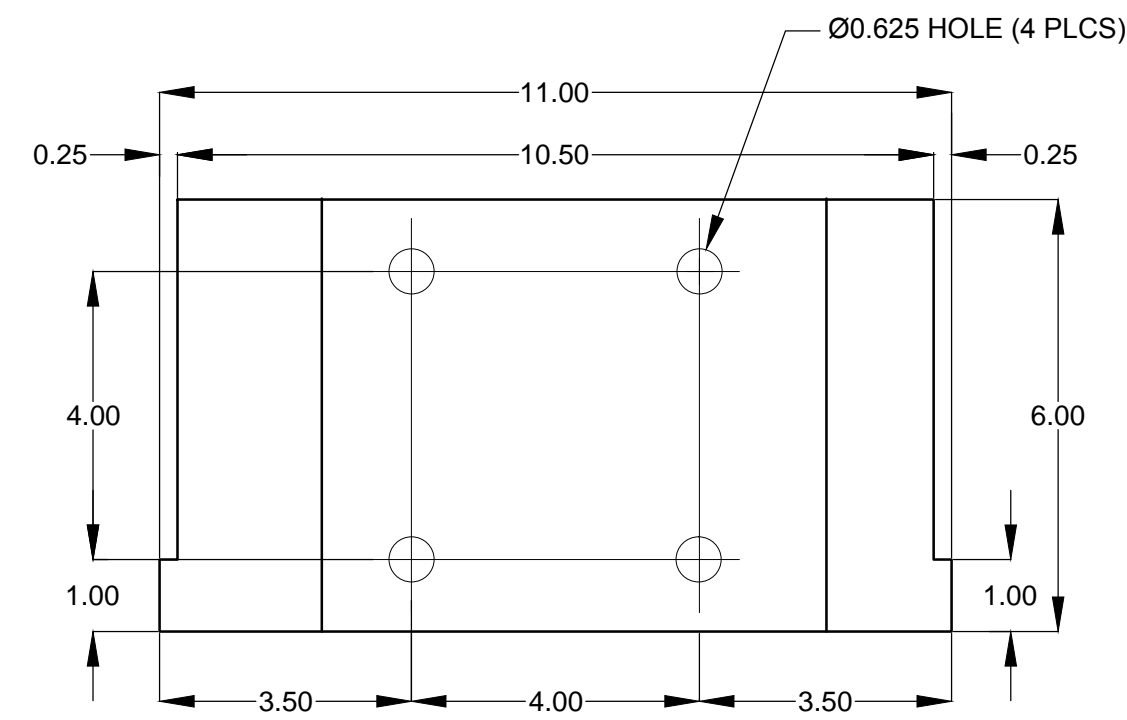
NEW SERVICE BRIDGE FENCE

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

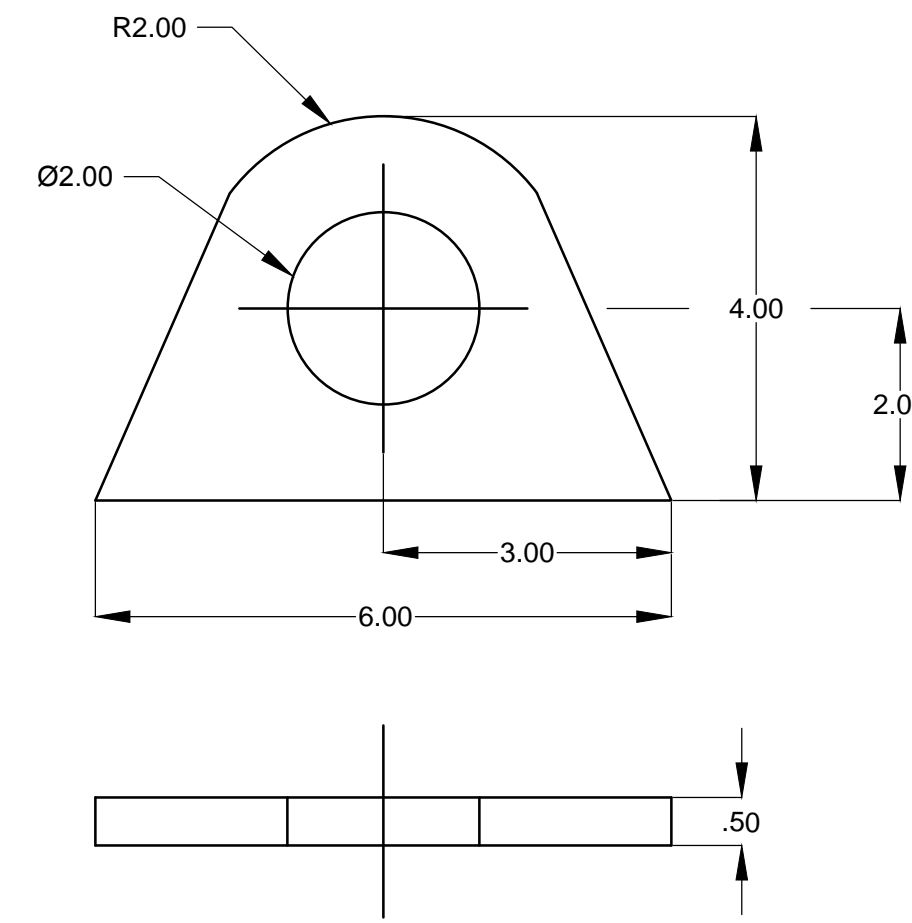
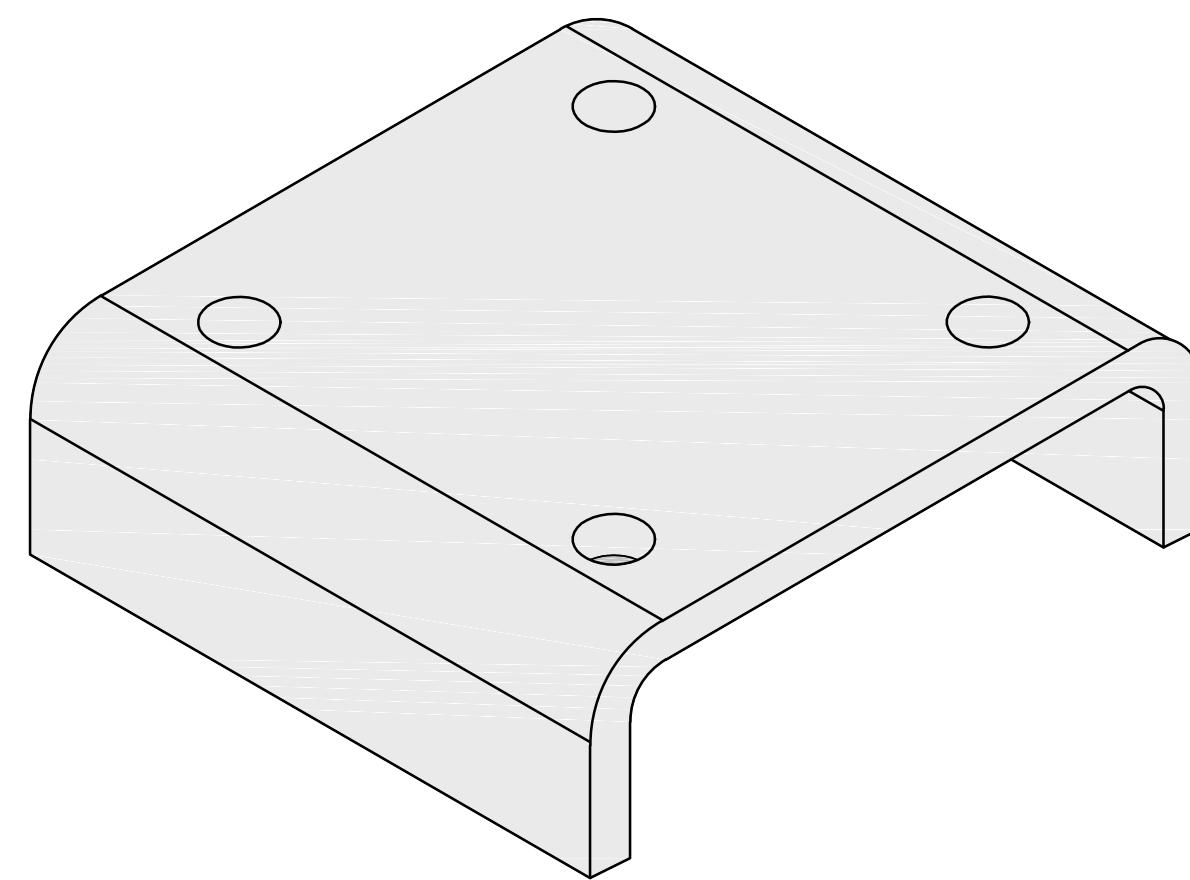
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96-B FENCING.dwg  
PROJECT NO.:  
SHEET:  
S16



0.375" A36 CARBON STEEL PLATE

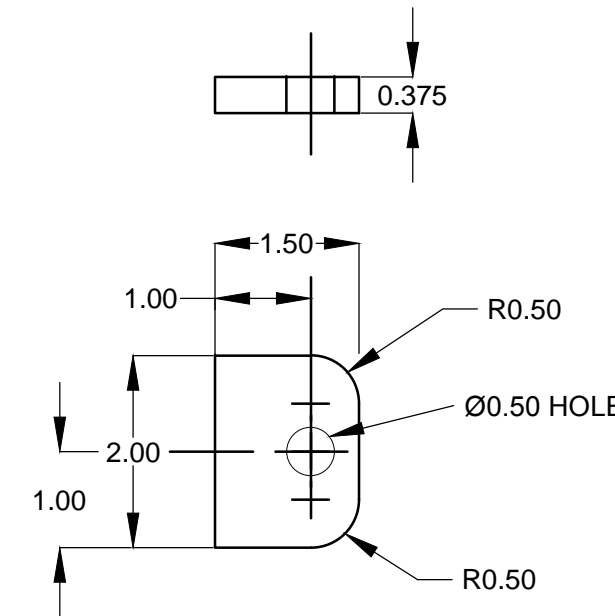


S17  
1 PILING FOOT BRACKET  
NOT TO SCALE



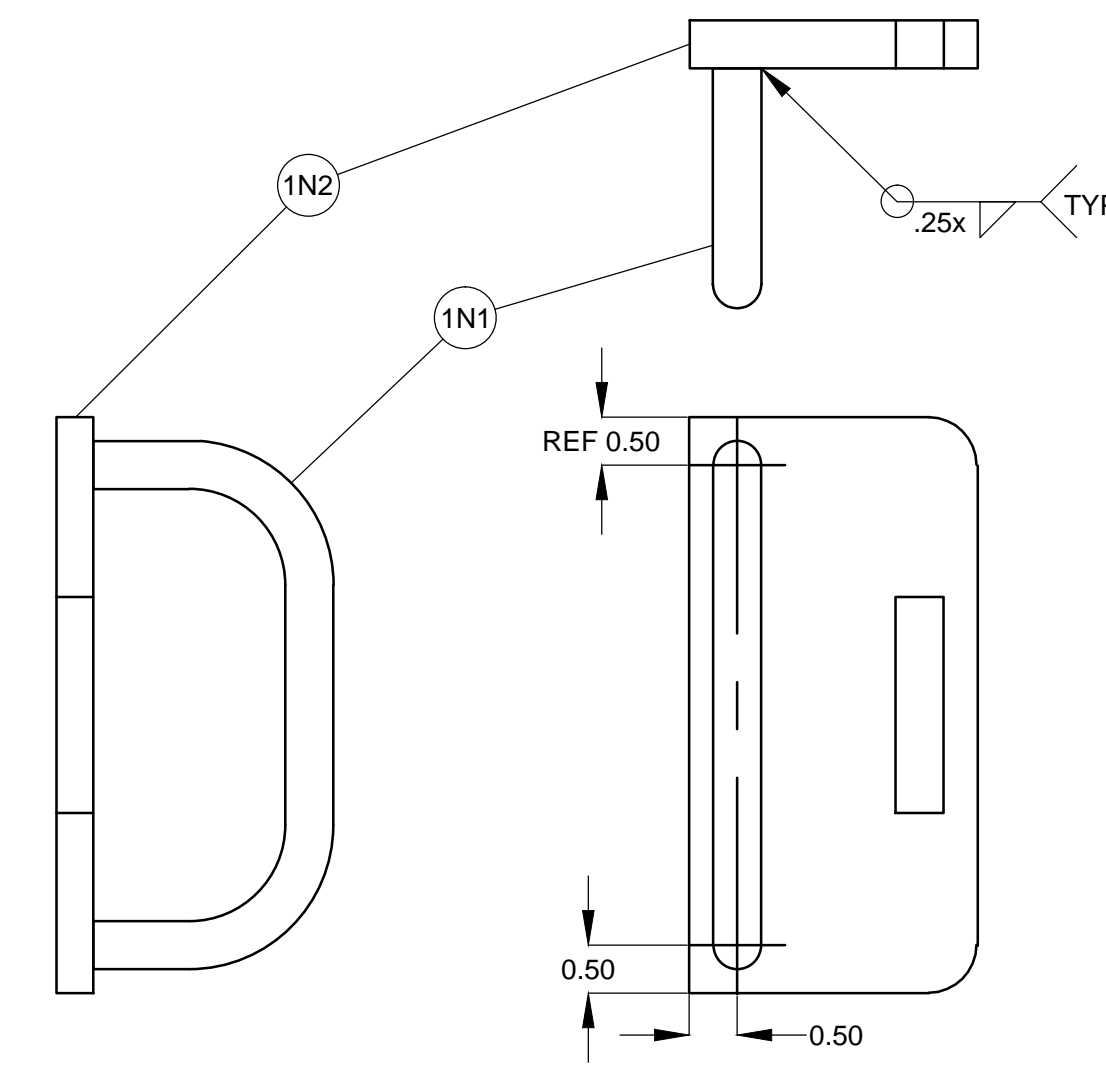
ASTM B210 6061 ALUMINUM PLATE

S17  
2 LIFTING EYE  
NOT TO SCALE



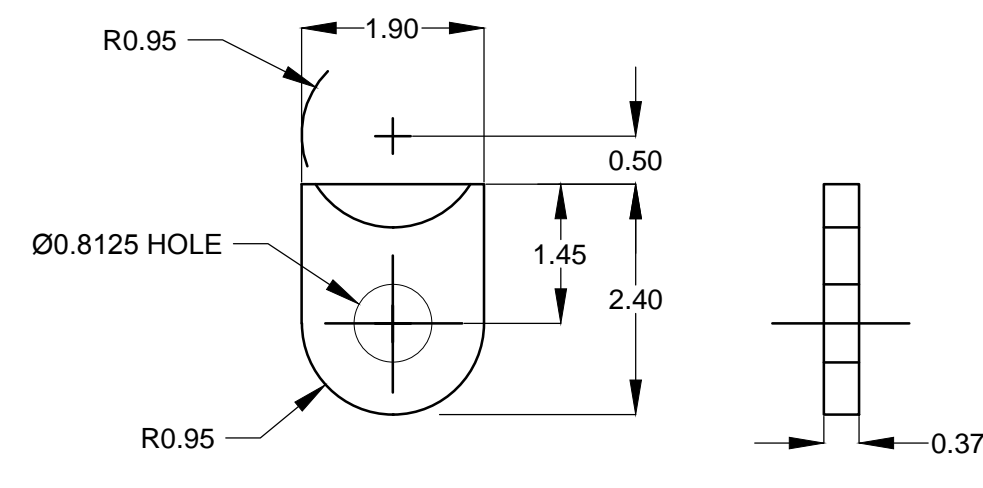
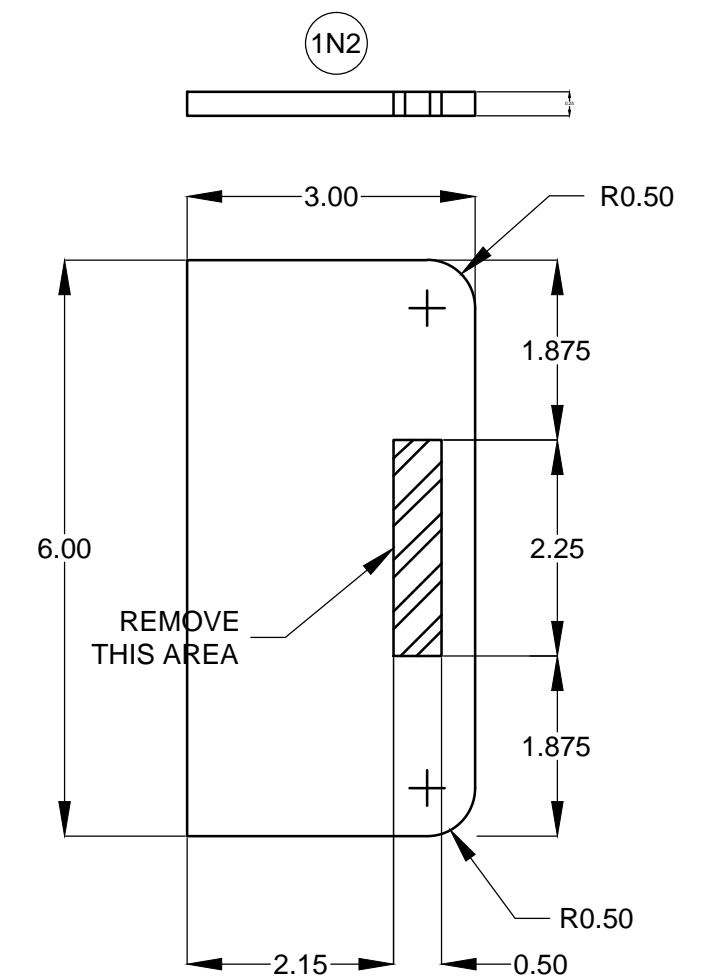
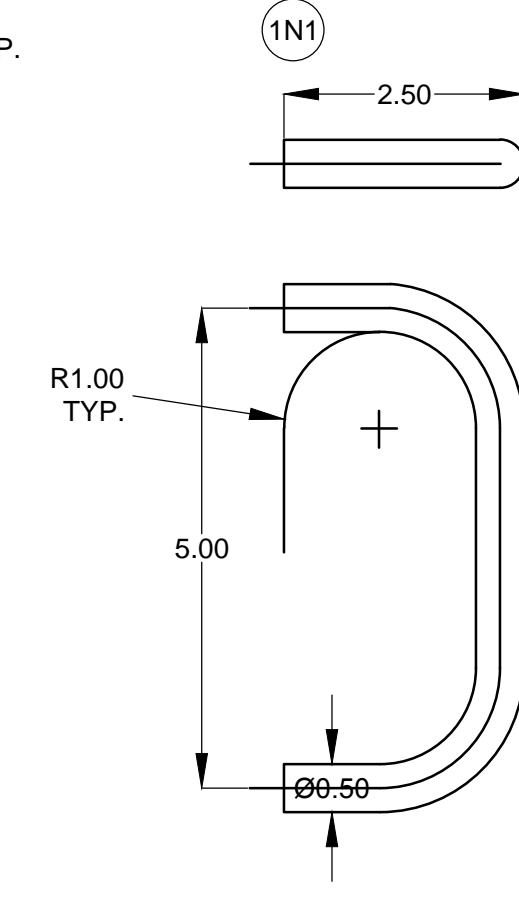
ASTM B210 6061 ALUMINUM

S17  
4 LOCKING EYELET  
NOT TO SCALE



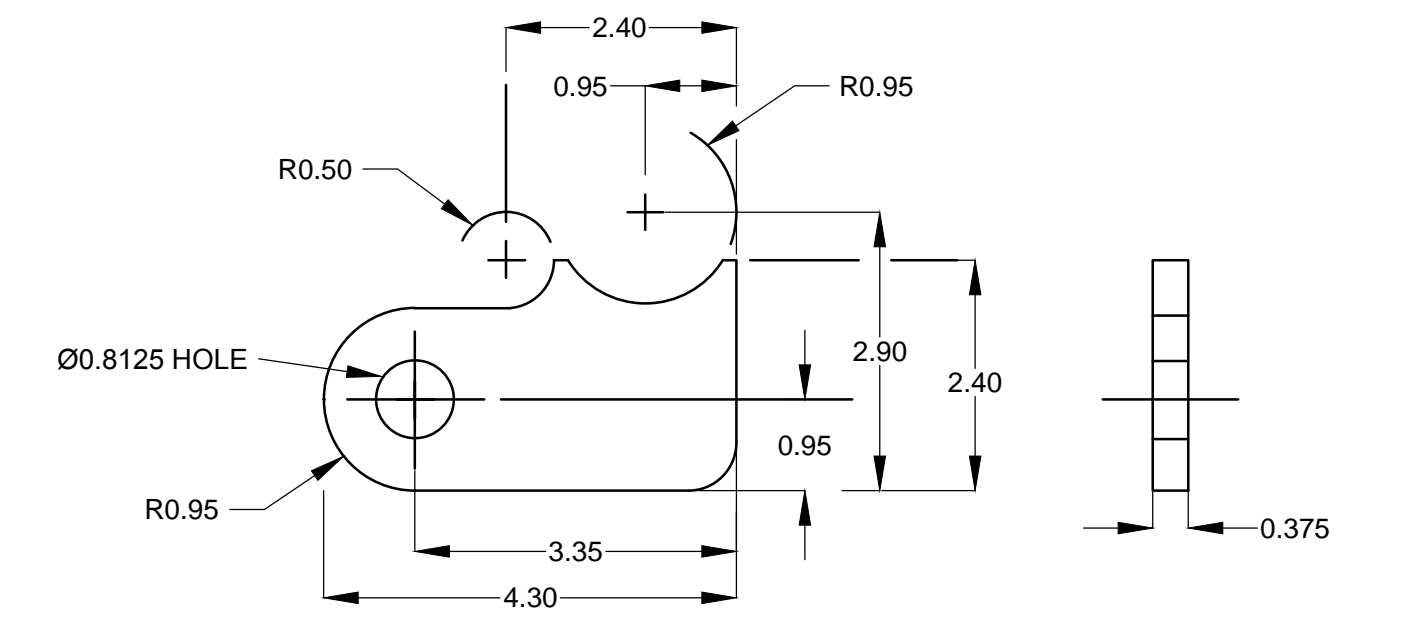
ASTM B210 6061 ALUMINUM

S17  
3 LATCH ASSEMBLY  
NOT TO SCALE



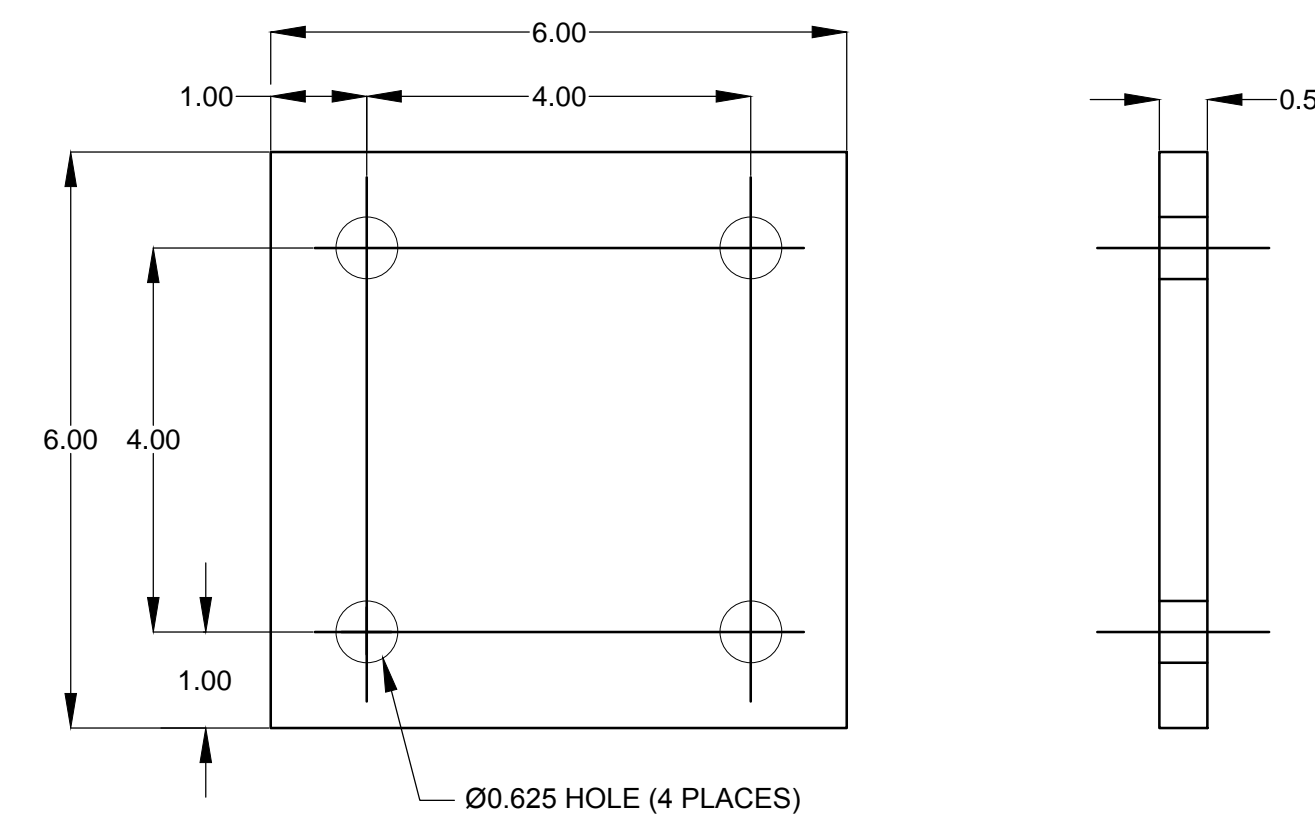
ASTM B210 6061 ALUMINUM

S17  
5 HINGE HALF - DOOR SIDE  
NOT TO SCALE



ASTM B210 6061 ALUMINUM

S17  
6 HINGE HALF - FENCE SIDE  
NOT TO SCALE



ASTM 6061 ALUMINUM PLATE

S17  
7 POST FOOT PLATE  
NOT TO SCALE

NOTE:  
PROVIDE 1/4" NEOPRENE PAD BETWEEN  
ALUMINUM POST PLATE AND STEEL  
BRACKET.

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UPPER ST. JOHNS RIVER BASIN  
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INDIAN RIVER COUNTY, FLORIDA

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WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

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SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

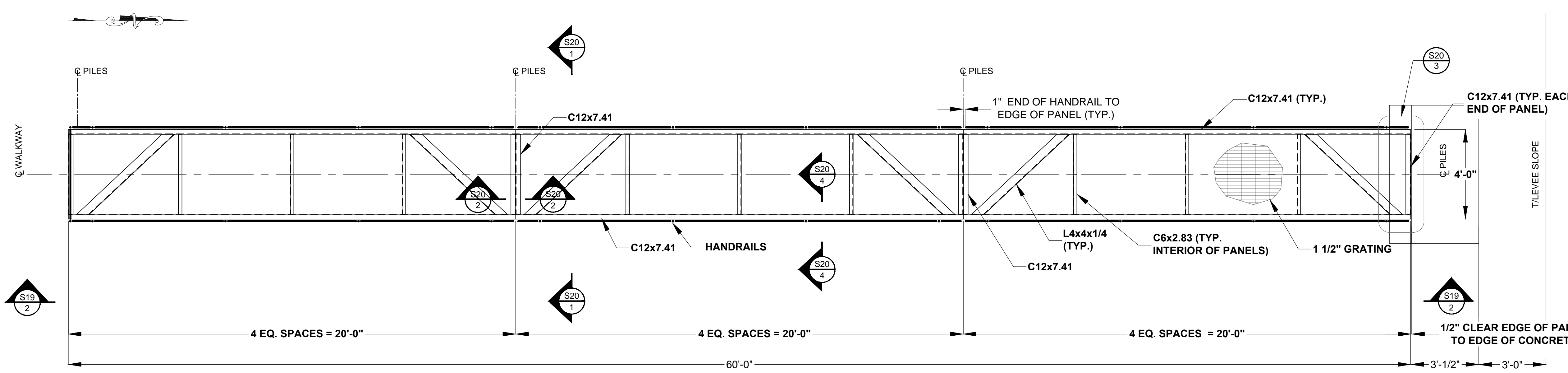
NEW FENCE DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

FILE NAME:  
96-B FENCING.dwg  
PROJECT NO.:  
SHEET:  
S17

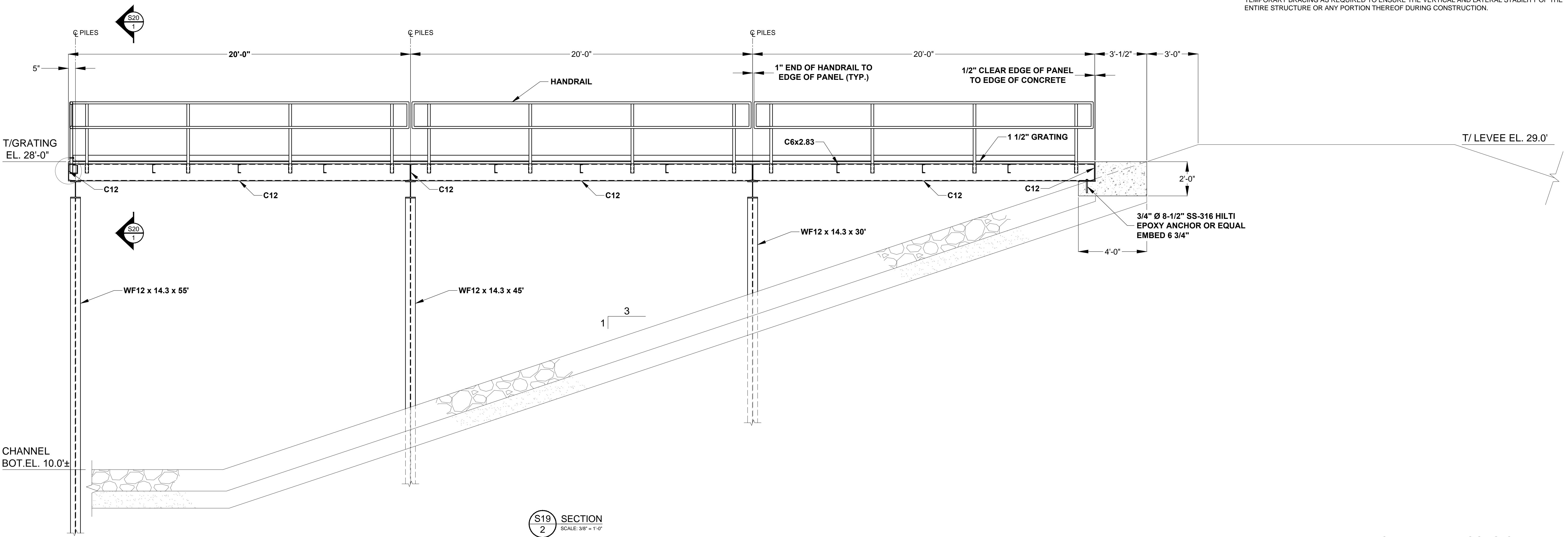






S19 PLAN  
SCALE: 3/8" = 1'-0"

- NOTE SPECIFICATIONS:**
- STRUCTURAL ALUMINUM:**
- STRUCTURAL ALUMINUM DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION, INC. "SPECIFICATIONS FOR ALUMINUM STRUCTURES", LATEST EDITION.
  - WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE - ALUMINUM" AWS D1.2.
  - ALUMINUM STRUCTURAL SHAPES SHALL BE NEW AND CONSIST OF ALLOY 6061-T6 CONFORMING TO THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) STANDARD B308.
  - ALUMINUM BARS, RODS, AND WIRE SHALL BE NEW AND CONSIST OF ALLOY 6061-T6 CONFORMING TO THE REQUIREMENTS OF ASTM STANDARD B211.
  - ALUMINUM PLATE SHALL BE NEW AND CONSIST OF ALLOY 5052-H32 CONFORMING TO THE REQUIREMENTS OF ASTM STANDARD B209.
  - ALL BOLTS, NUTS, AND WASHERS SHALL CONSIST OF SS316 STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM STANDARDS F593 AND F594. MINIMUM BOLT SIZE SHALL BE 3/4-INCH UNLESS OTHERWISE NOTED.
  - ALL WELDING SHALL UTILIZE ER4043 FILLER ALLOY AND SHALL BE SHOP WELDED TO THE GREATEST EXTENT POSSIBLE.
  - THE MINIMUM THICKNESS OF ALL CONNECTION ANGLES AND GUSSET PLATES SHALL BE 1/4-INCH UNLESS NOTED OTHERWISE.
  - FIELD CORRECTING OF FABRICATED COMPONENTS SHALL NOT BE PERMITTED ON STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
  - ALUMINUM GRATING SHALL BE RECTANGULAR BAR TYPE (SERRATED), SWAGE-LOCKED, AND CONSIST OF ALUMINUM ALLOY 6063-T6. THE BEARING BARS SHALL BE 1-1/2" X 3/16" AT 1-3/16" ON CENTER. RECTANGULAR CROSS BARS SHALL BE 4" ON CENTER.
  - THE HANDRAIL POSTS AND RAILS SHALL BE 1-1/2 INCH DIAMETER SCHEDULE 40 PIPE FORMED FROM EXTRUDED 6063-T6 ALUMINUM EXCEPT THAT FORMED ELBOWS SHALL BE 6063-T4 ALUMINUM. THE MAXIMUM POST SPACING SHALL BE 6'-0" CENTER TO CENTER.
  - THE STRUCTURES ARE DESIGNED AS STABLE UNITS AFTER ALL COMPONENTS, INCLUDING BRACING, ARE IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING AS REQUIRED TO ENSURE THE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE OR ANY PORTION THEREOF DURING CONSTRUCTION.



S19 SECTION  
SCALE: 3/8" = 1'-0"

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UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96B REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

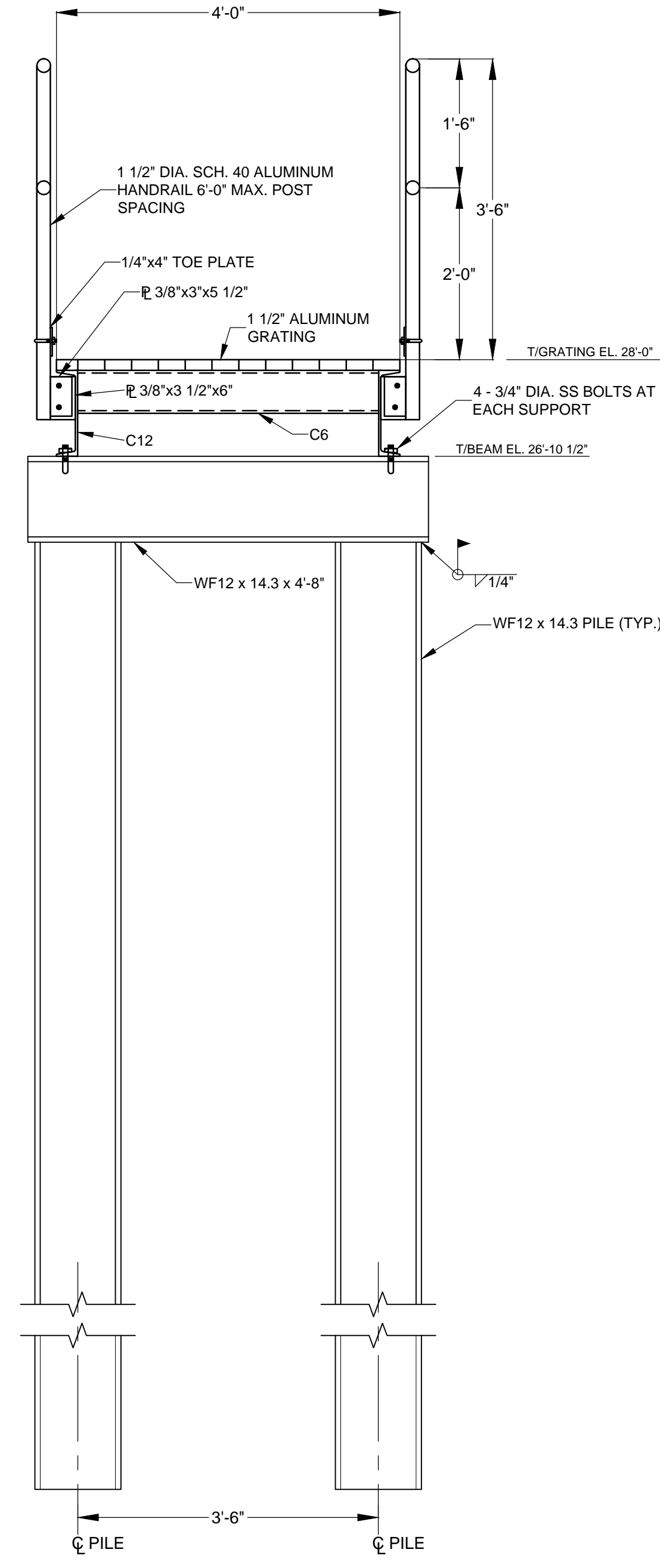
ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: NJG DATE: JULY 24, 2018 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

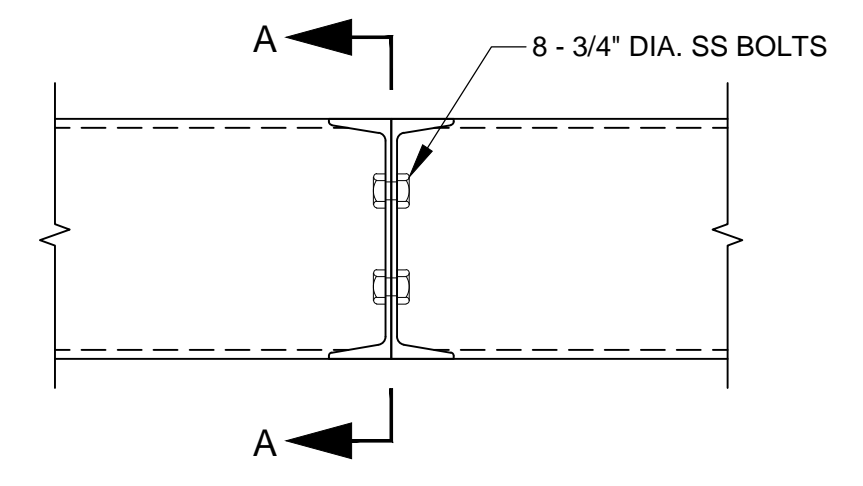
WRI PLATFORM PLAN AND SECTION

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JULY 24, 2018

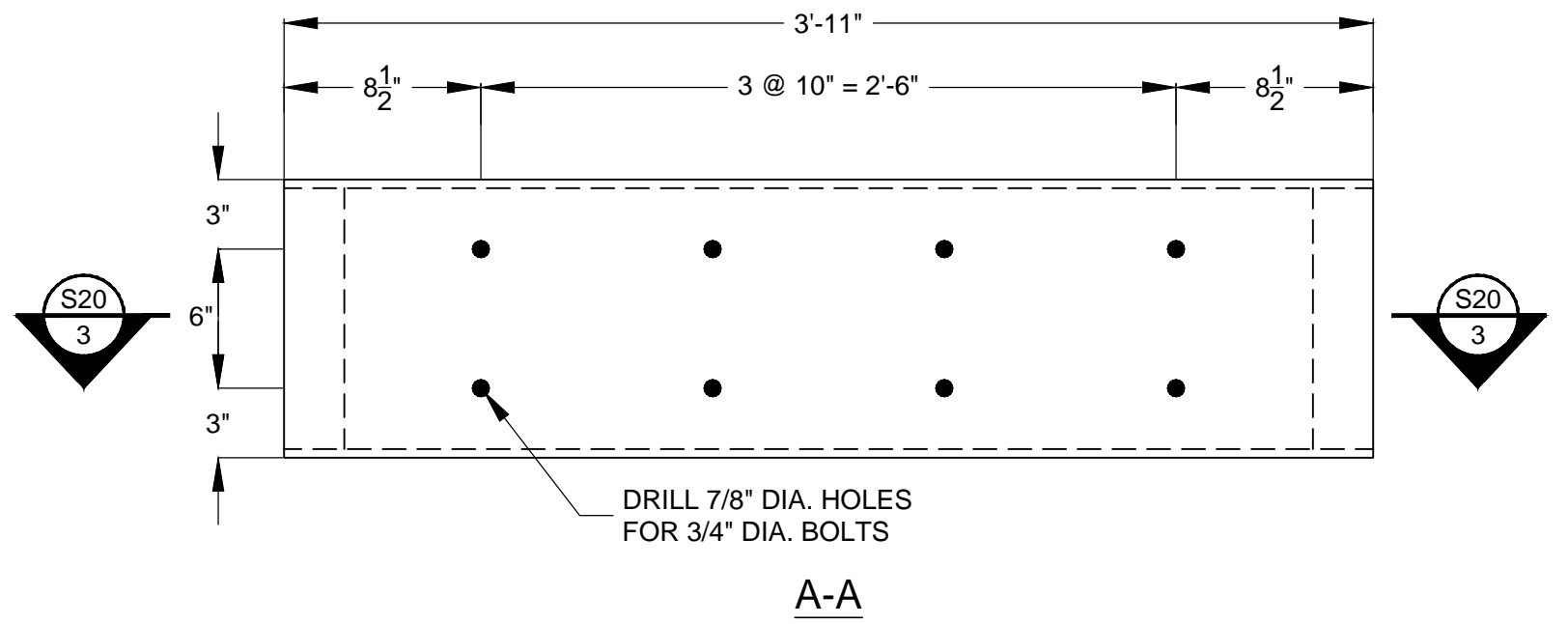
FILE NAME:  
96-B WALKWAY.dwg  
PROJECT NO.:  
SHEET:  
S19



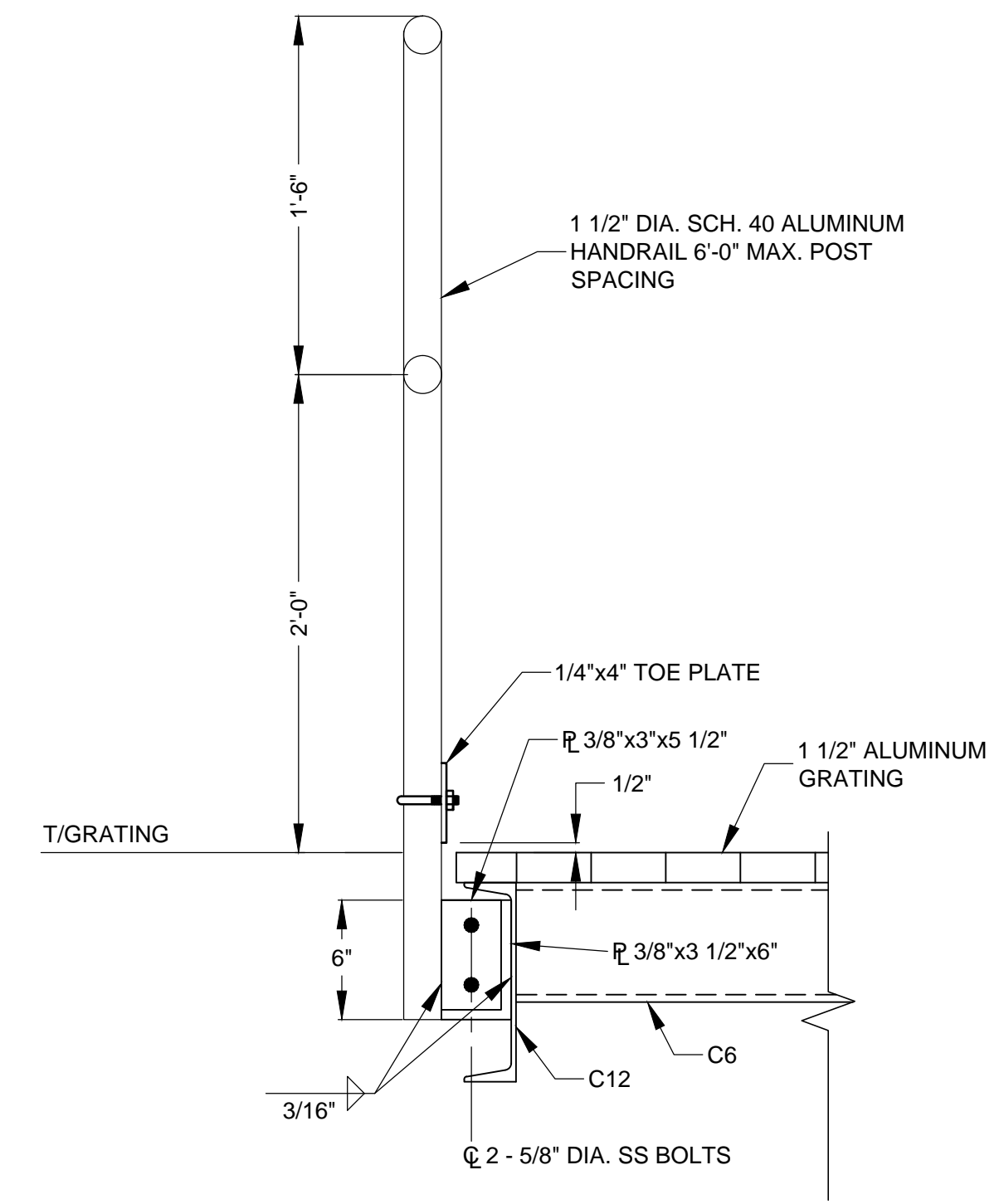
**S20 1** TYPICAL SECTION  
SCALE: 3/4" = 1'-0"



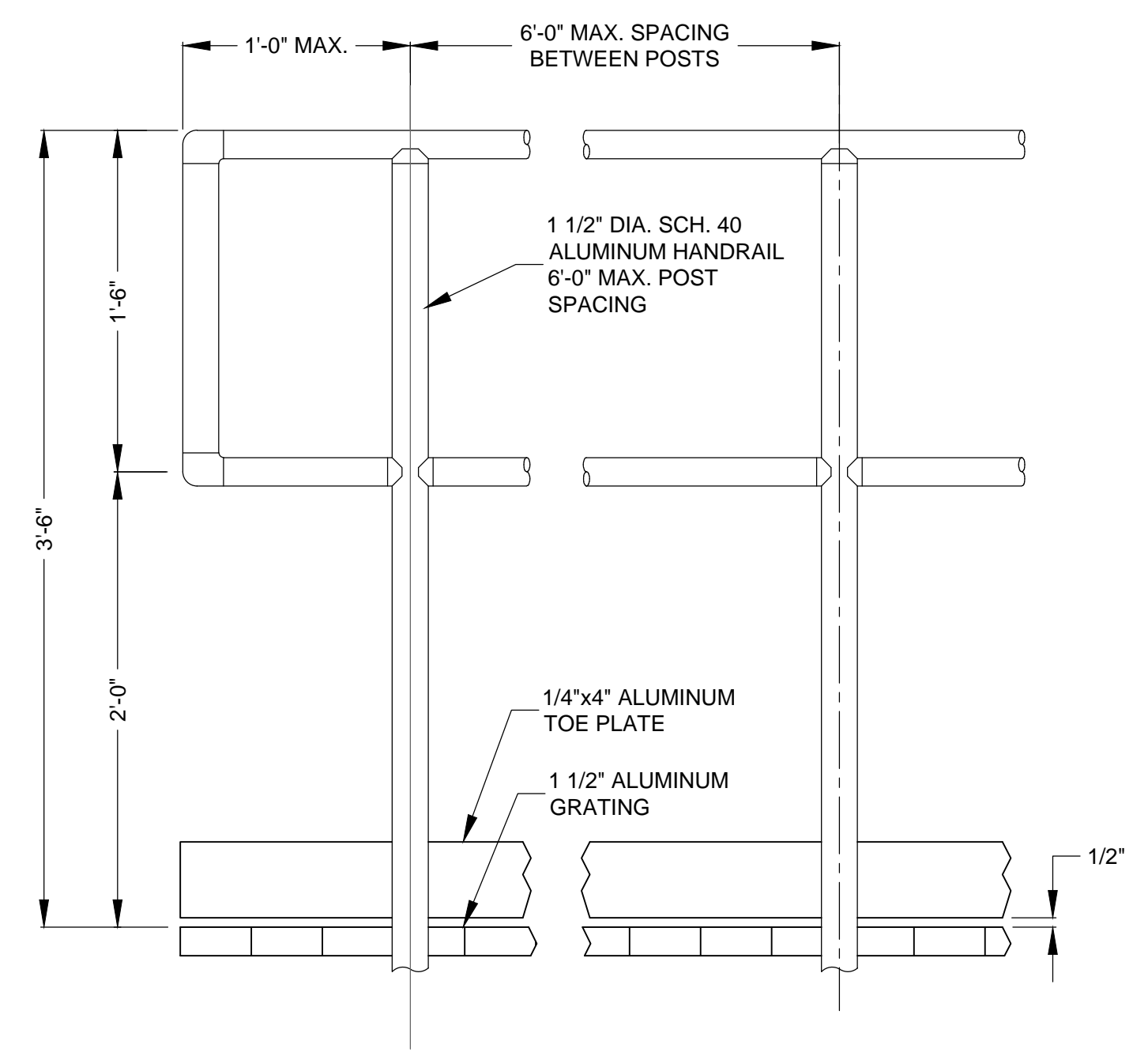
**S20 2** TYPICAL WALKWAY PANEL CONNECTION  
SCALE 1 1/2" = 1'-0"



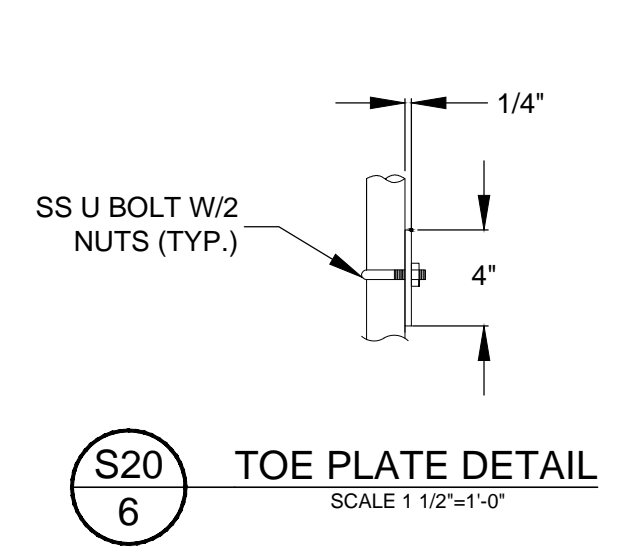
**S20 3** END PANEL DETAIL AT CONCRETE FOOTING ONLY  
SCALE 1 1/2" = 1'-0"



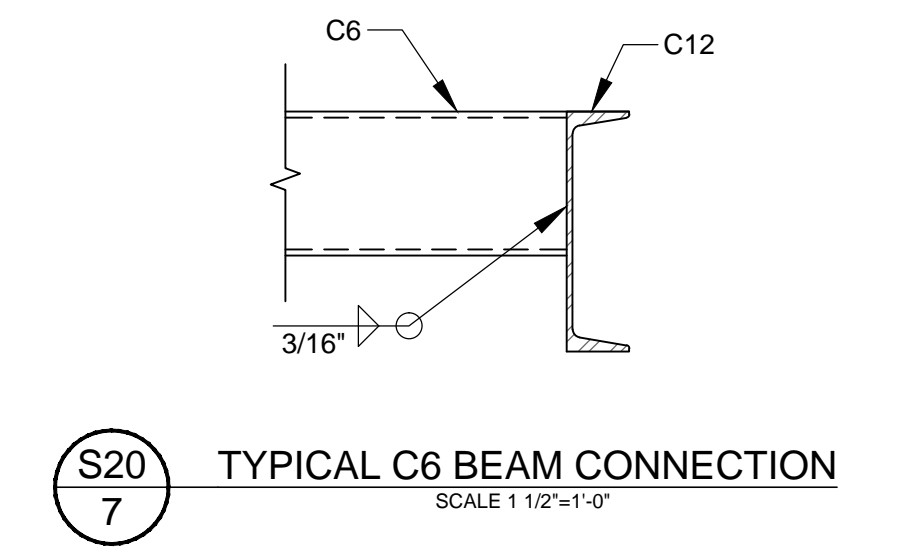
**S20 4** HANDRAIL DETAIL  
SCALE 1 1/2" = 1'-0"



**S20 5** TYPICAL HANDRAIL END DETAIL  
SCALE 1 1/2" = 1'-0"



**S20 6** TOE PLATE DETAIL  
SCALE 1 1/2" = 1'-0"

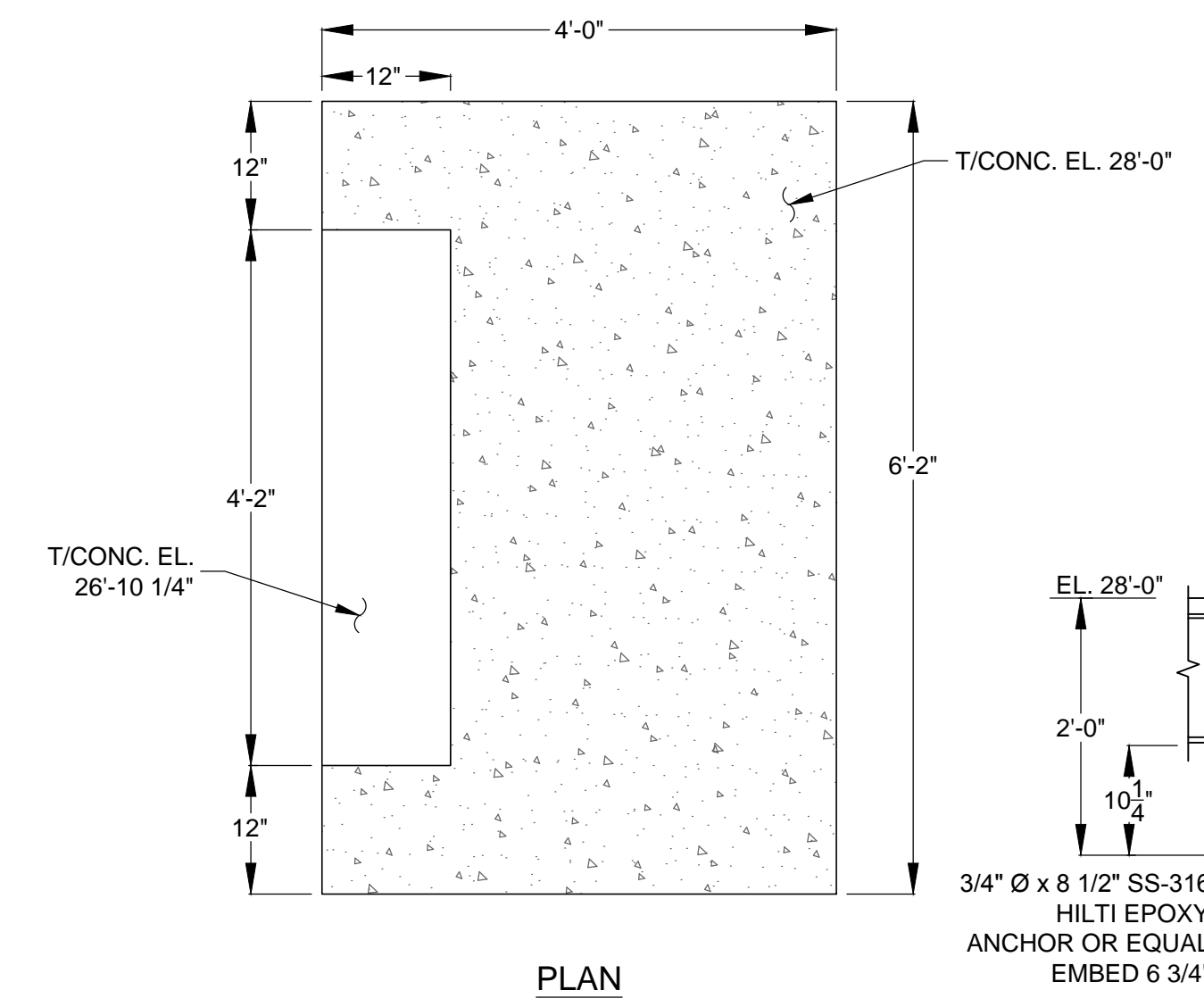


**S20 7** TYPICAL C6 BEAM CONNECTION  
SCALE 1 1/2" = 1'-0"

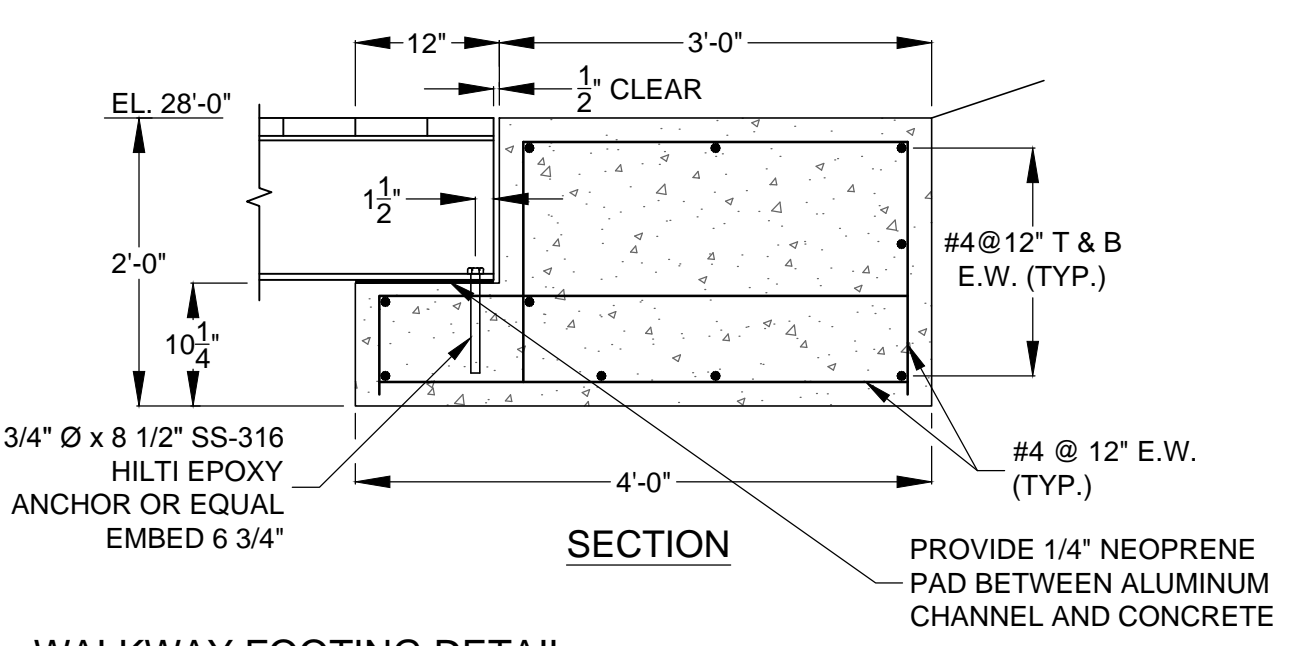
**NOTE SPECIFICATIONS:**

**CONCRETE:**

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 400 WITH SUPPLEMENTS AND ALL PERTINENT SPECIFICATIONS CONTAINED THEREIN.
2. ALL CONCRETE SHALL BE FDOT CLASS I WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. PORTLAND CEMENT SHALL BE TYPE II IN ACCORDANCE WITH ASTM C-150. THE AGGREGATES SHALL CONFORM TO ASTM C-33 AND SHALL HAVE A 3/4-INCH MAXIMUM SIZE.
3. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A-615.
4. THE MINIMUM CLEAR CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR CONCRETE CAST AGAINST EARTH AND 2 INCHES ELSEWHERE, UNLESS OTHERWISE NOTED.
5. CONCRETE ANCHORS SHALL UTILIZE THE HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM, OR EQUAL. THREADED ANCHOR RODS, SHALL BE 1/2" DIA. X 8-1/2" LONG HAS-R 316 STAINLESS STEEL WITH A MINIMUM EMBEDMENT DEPTH OF 6-3/4". NUTS AND WASHERS SHALL ALSO BE SS-316.



**S20 8** WALKWAY FOOTING DETAIL  
SCALE 3/4" = 1'-0"



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UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B WALKWAY DETAILS.dwg

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WRI PLATFORM DETAILS

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P.E. NUMBER: 53746  
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96-B WALKWAY DETAILS.dwg  
PROJECT NO.:  
SHEET:  
**S20**