

# ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

## UPPER ST. JOHNS RIVER BASIN

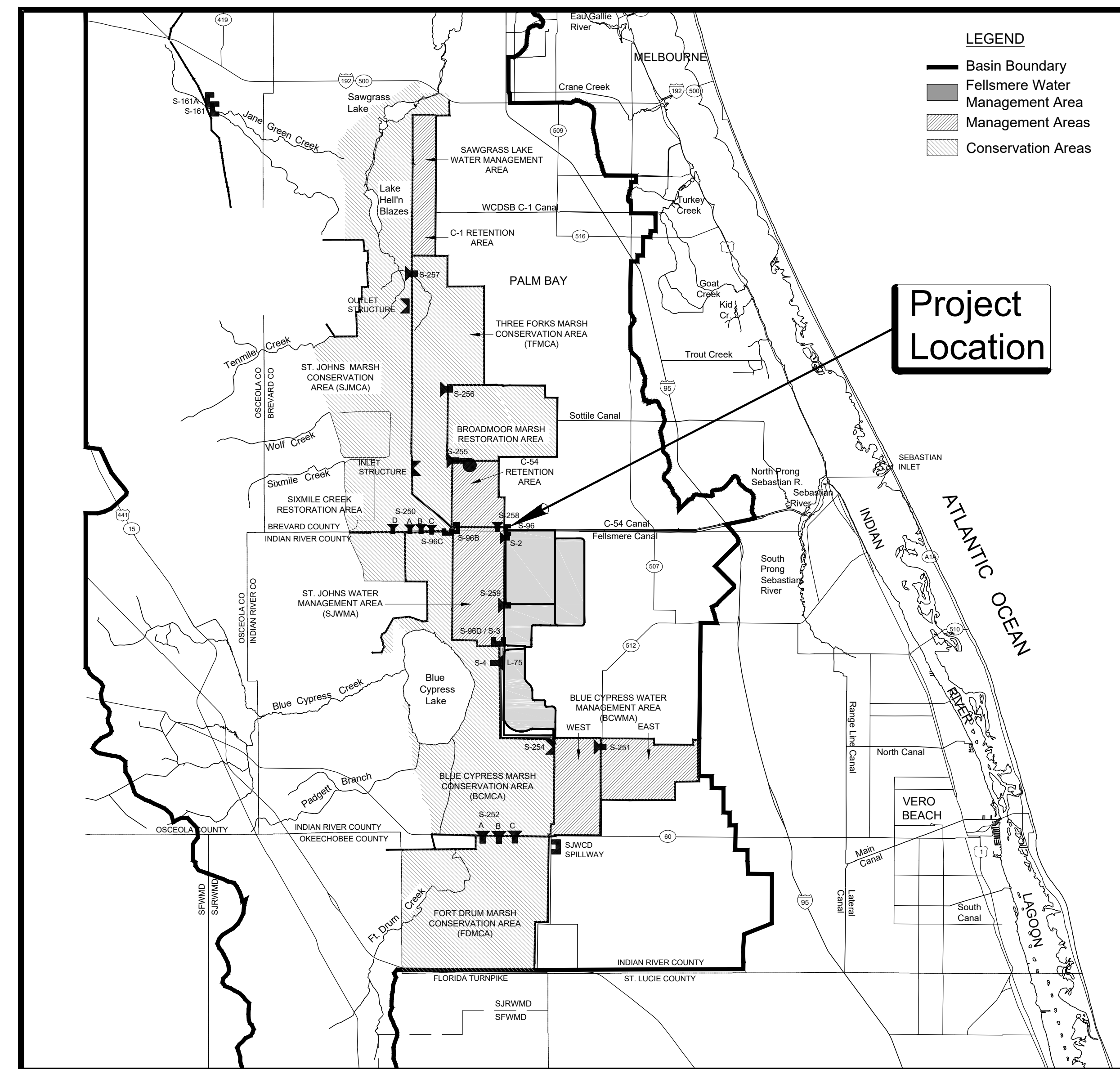
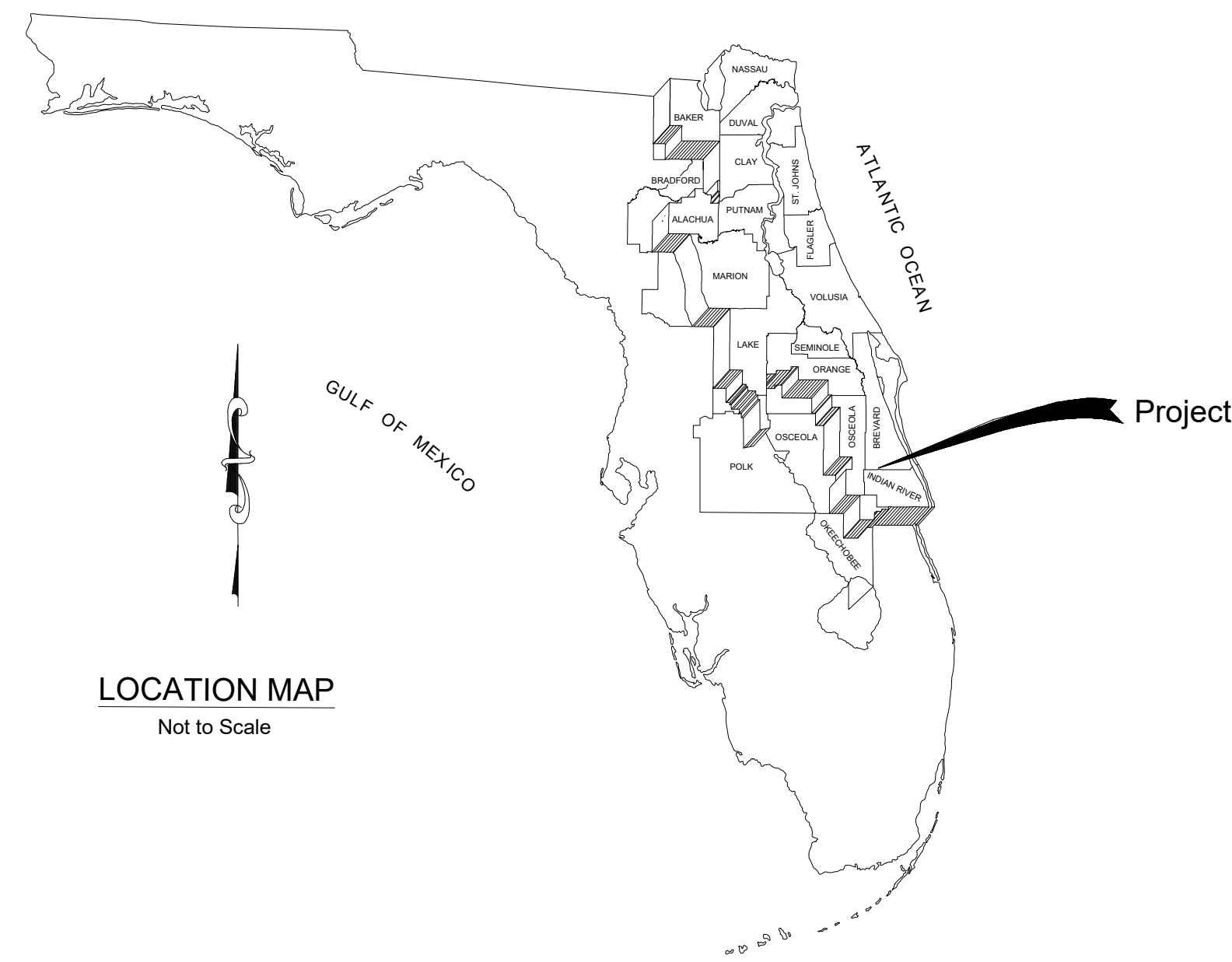
### STRUCTURE 96 REHABILITATION

#### BREVARD COUNTY, FLORIDA



### NGVD 1929

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



SHEET NO.	SHEET TITLE
C1	COVER SHEET & VICINITY MAP
C2	SITE PLAN
C3	SITE PLAN (WITH AERIAL)
C4	DOWNSTREAM GRADING PLAN
C5	CHANNEL SECTIONS AND DOWNSTREAM GRADING SECTION
C6	EROSION & SEDIMENT CONTROL
S1	NOTE SPECIFICATIONS
S2	CONCRETE REPAIR - STRUCTURE PLAN
S3	CONCRETE REPAIR - NORTH WALL INSIDE
S4	CONCRETE REPAIR - SOUTH WALL INSIDE
S5	CONCRETE REPAIR - CENTER PIER NORTH SIDE
S6	CONCRETE REPAIR - CENTER PIER SOUTH SIDE
S7	CONCRETE REPAIR - NORTH AND SOUTH WALL OUTSIDE
S8	CONCRETE REPAIR - UPSTREAM ELEVATION
S9	CONCRETE REPAIR - DOWNSTREAM ELEVATION
S10	CONCRETE REPAIR - TYPICAL DETAILS
S11	SHEET PILING REPAIR - WINGWALL ELEVATION AND DETAILS
S12	UPSTREAM SAFETY BARRIER
S13	DOWNSTREAM SAFETY BARRIER
S14	UPSTREAM TYPE A AND TYPE B PILE GROUP DETAILS
S15	DOWNSTREAM TYPE C AND TYPE D PILE GROUP AND SIGN DETAILS
S16	NEW STAFF GAUGES & GATE POSITION GUIDES
S17	FENCE, HANDRAIL, AND GUARDRAIL REPLACEMENT PLAN
S18	NEW NORTH WALL FENCE AND HANDRAILS
S19	NEW SOUTH WALL FENCE AND HANDRAILS
S20	NEW UPSTREAM FENCE ELEVATION
S21	NEW DOWNSTREAM FENCE ELEVATION
S22	TYPE 1 AND TYPE 2 HANDRAILS
S23	TYPE 3 AND TYPE 4 HANDRAILS
S24	TYPE 5 HANDRAIL
S25	NEW FENCE DETAILS
S26	NEW CABLE DRUM HOIST
S27	GATE REHABILITATION ELEVATION, SECTIONS, DETAILS & NOTES

- ENGINEER'S NOTES:
- These drawings are prepared for the sole and exclusive use of the St. Johns River Water Management District and shall not be relied upon by any other entity or individual.
  - Reproductions of these drawings are "NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL SEAL OF A FLORIDA LICENSED ENGINEER."

NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

CERTIFICATION:	DRAWING FILENAME:
WILLIAM R. COTE P.E. NUMBER: 53746	S-96 PLAN.dwg
DATE: MAY 14, 2021	SHEET: C1

TO TM GOODWIN WATER FOWL MANAGEMENT AREA

**SUMMARY OF WORK / CONSTRUCTION SEQUENCE:**

1. MOBILIZE LABOR AND EQUIPMENT TO THE SITE. ESTABLISH ON-SITE OFFICE AND STORAGE SPACES.
2. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES.
3. INSTALL COFFERDAMS UPSTREAM AND DOWNSTREAM OF STRUCTURE.
4. PUMP WATER FROM THE WORK AREA AND PROVIDE CONTINUOUS PUMPING TO KEEP THE WORK AREA DEWATERED. PUMPING SHALL BE IN A MANNER THAT WILL MINIMIZE SILTATION INTO THE WATERWAYS.
5. REMOVE SEDIMENT AND DEBRIS FROM THE STRUCTURE WORK AREA.
6. THE DISTRICT AND CONTRACTOR SHALL PERFORM A JOINT INSPECTION TO DETERMINE THE FULL EXTENT AND SCOPE OF THE REPAIR WORK. ERODED CONCRETE SURFACES SHALL BE HYDROBLASTED AND THE REMAINING SURFACES POWER WASHED.
7. INSPECT AND REPAIR CONCRETE SURFACES AS NEEDED.
8. DISCONNECT POWER, REMOVE HYDRAULIC GATE OPERATORS AND TRANSPORT TO THE DISTRICT REWORK SITE.
9. REMOVE ROLLER GATES, PERFORM JOINT INSPECTION, AND REPAIR AS NEEDED, AND PAINT.
10. PREPARE SURFACE AND PAINT ALL EXPOSED SURFACES OF EMBEDDED STEEL COMPONENTS EXCEPT FOR STAINLESS STEEL ITEMS. STAINLESS STEEL SHALL BE POWERWASHED.
11. REMOVE RAILS FROM THE SHEET PILE WINGWALLS.
12. REPAIR AND PAINT ALL EXPOSED SURFACES OF EXISTING SHEET PILING.
13. INSTALL NEW RAILS ON THE SHEET PILE WINGWALLS.
14. REPLACE UPSTREAM AND DOWNSTREAM SAFETY BARRIERS AND PILES.
15. BREAK GROUTED RIPRAP AND REGRADE.
16. STRIP AREAS WHERE NEW RIPRAP IS REQUIRED. PROVIDE ADDITIONAL RIPRAP AND BEDDING STONE TO EXISTING RIPRAP AREAS AS DIRECTED BY THE DISTRICT.
17. INSTALL NEW PILES, STAFF GAGES, AND SOLAR MARINE BEACONS. INSTALL NEW GATE POSITION GUIDES.
18. REPLACE UPSTREAM AND DOWNSTREAM WARNING SIGNS AND INSTALL SOLAR LIGHTS. INSTALL SOLAR MARINE BEACON ATOP UPSTREAM CENTER PILE GROUP.
19. INSTALL/REPLACE STILLING WELL LINES AS SHOWN OR DIRECTED BY DISTRICT.
20. INSTALL ROLLER GATES AND NEW CABLE DRUM HOISTS. RECONNECT POWER.
21. PERFORM DRY TEST OPERATION OF GATES AND OPERATORS. ADJUST AS NEEDED.
22. ALLOW WORK AREA TO FILL WITH WATER AND TEST OPERATION OF GATES AND OPERATORS UNDER NORMAL OPERATING CONDITIONS ADJUST AS NEEDED. REMOVE COFFERDAMS.
23. REMOVE FENCING AND RAILS FROM THE CONCRETE STRUCTURE AND INSTALL NEW ALUMINUM FENCING AND RAILS. REMOVE AND REPLACE GUARD RAILS.
24. DEMOBILIZE INCLUDING SITE CLEAN UP, RESTORATION OF FINAL GRADE AND GRASSING TO ORIGINAL CONDITION, AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS.

**COFFERDAMS:**

1. THE CONTRACTOR SHALL DESIGN, SUPPLY, INSTALL, AND REMOVE ALL TEMPORARY COFFERDAMS AS NECESSARY TO PERFORM THE WORK. THE DESIGN SHALL BE SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
2. COFFERDAMS SHALL BE DESIGNED FOR ADEQUATE DEPTHS AND HEIGHTS, SHALL BE SAFELY DESIGNED AND CONSTRUCTED, AND SHALL BE AS WATERTIGHT AS NECESSARY FOR THE PROPER PERFORMANCE OF THE WORK WHICH MUST BE DONE BEHIND THEM.
3. ANY FILL REQUIRED FOR CRANE ACCESS SHALL BE LIMITED TO AREAS ABOVE THE WATER LINE. OFF ROAD TRUCKS FOR HAULING FILL SHALL NOT BE PERMITTED. EXCAVATION OF THE EXISTING LEEVEE SLOPES SHALL NOT BE PERMITTED AND THE SLOPES AND TOP OF ALL LEEVES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF THE WORK.
4. THE CONSTRUCTION AND MAINTENANCE OF ALL COFFERDAMS SHALL BE IN CONFORMANCE WITH ALL FEDERAL, STATE, AND LOCAL PERMITS AND REGULATIONS.
5. FOLLOWING COMPLETION OF THE COFFERDAMS, THE CONTRACTOR SHALL PUMP OUT THE AREA BEHIND THE COFFERDAMS IN A MANNER THAT WILL MINIMIZE SILTATION INTO THE WATERWAYS.
6. DURING INSTALLATION AND REMOVAL OF COFFERDAMS, CARE SHALL BE TAKEN NOT TO DISTURB OR OTHERWISE INJURE ANY ADJACENT STRUCTURES.

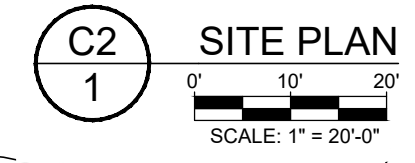
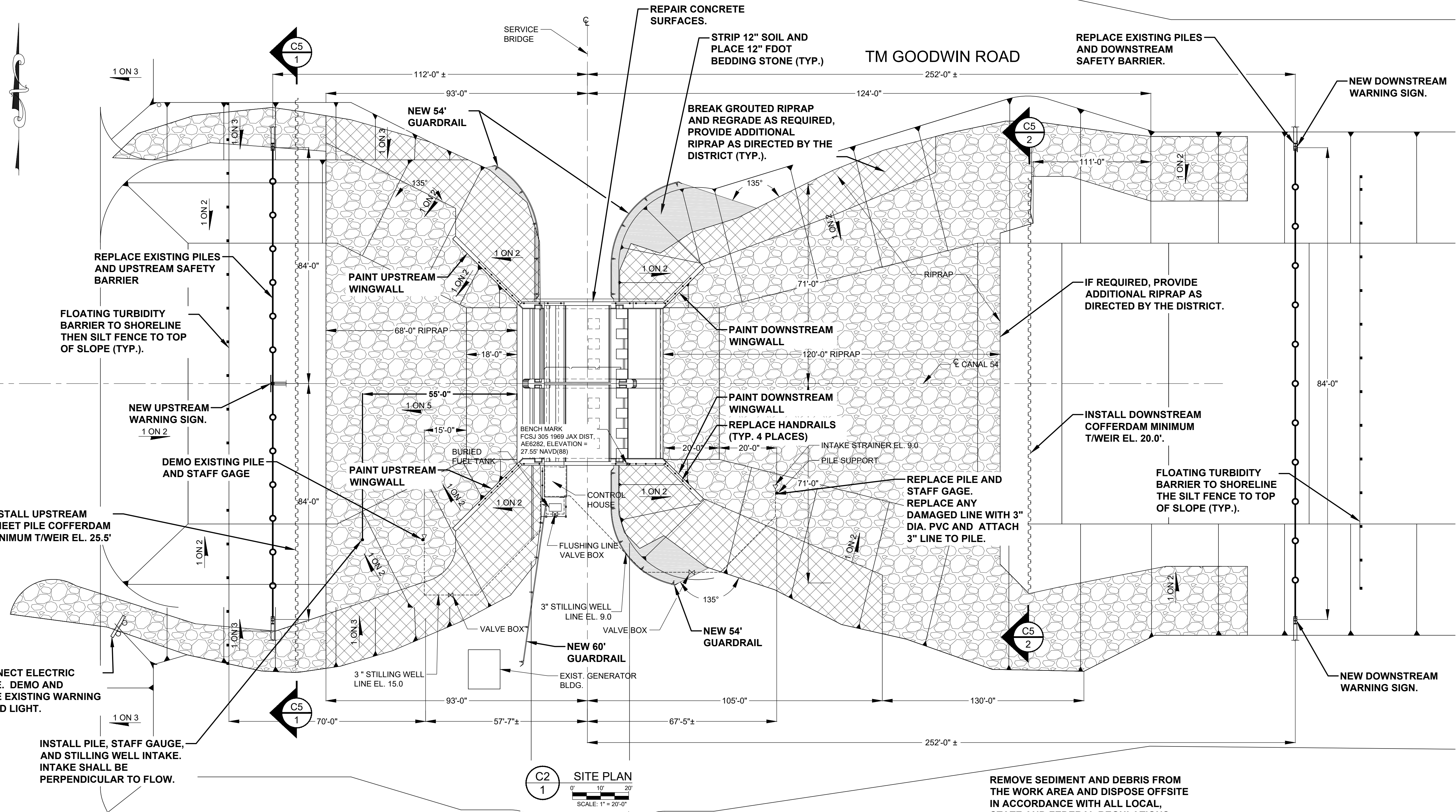
**GENERAL:**

1. ALL PROPOSED WORK IS SHOWN IN BOLD.
2. ALL ELEVATIONS ARE NGVD1929. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SURVEY CONTROL AS REQUIRED FOR COMPLETION OF THE WORK.
3. ACCESS TO THE PROJECT SITE SHALL BE VIA THE FELLSMERE GRADE RECREATION AREA.
4. THE CONTRACTOR SHALL PROVIDE ON SITE STORAGE AS NECESSARY TO HOUSE EQUIPMENT AND SUPPLIES. THE USE OF DISTRICT CONTROL BUILDINGS FOR STORAGE WILL NOT BE ALLOWED.
5. THE CONTRACTOR SHALL LOCATE AND 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.

**LEGEND**

- FLOATING TURBIDITY BARRIER
- SHEET PILE
- DIRECTION OF SLOPE
- EXISTING RIPRAP
- EXISTING RIPRAP WITH CONCRETE FILL
- NEW RIPRAP (12" FDOT BEDDING)
- 1 on 10 RATIO OF SLOPE
- FENCING

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

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: 1" = 20'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

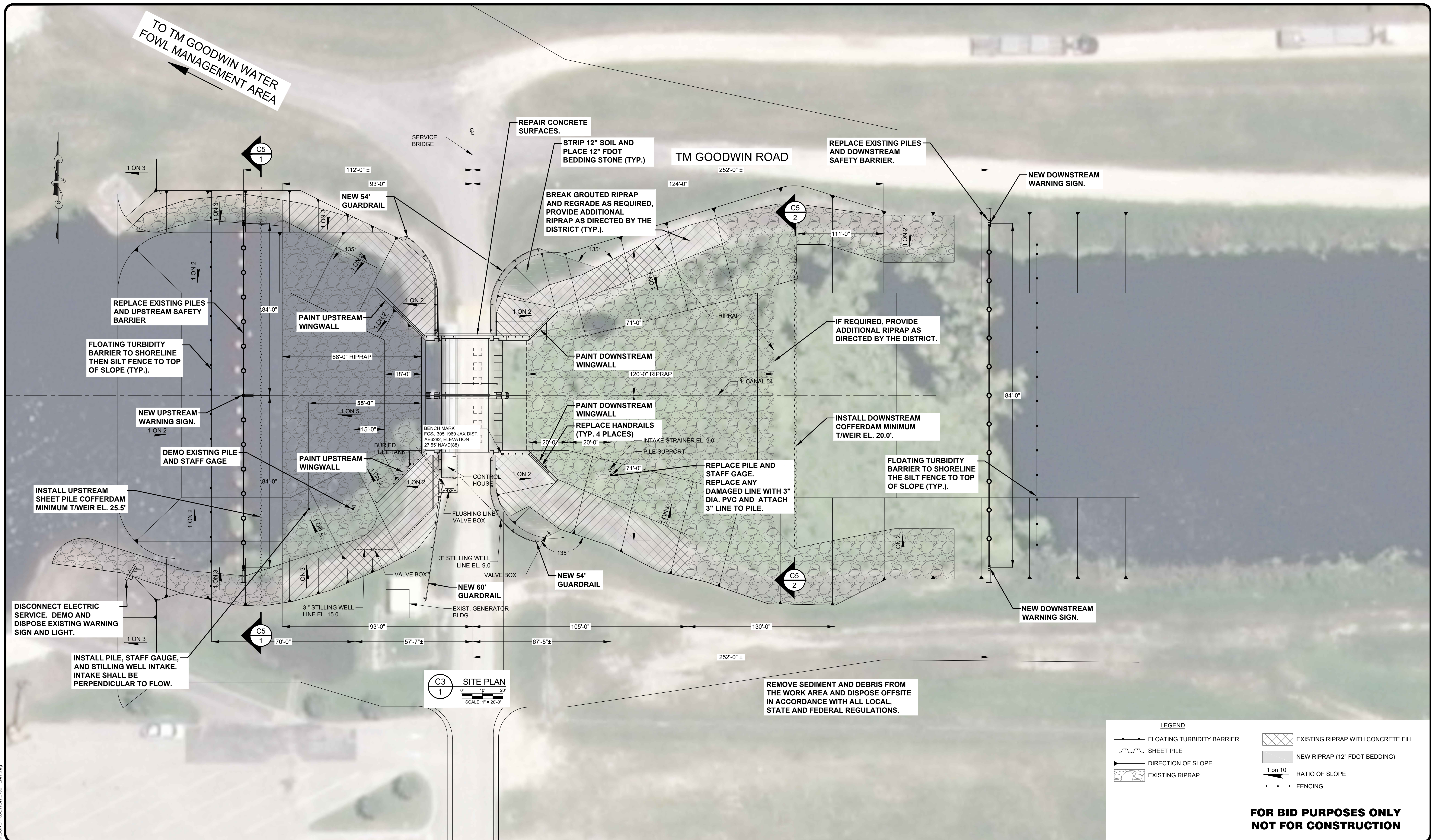
SITE PLAN

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

FILE NAME:  
S-96 PLAN.dwg  
PROJECT NO.:  
SHEET:  
C2



TO TM GOODWIN WATER FOWL MANAGEMENT AREA



**LEGEND**

	FLOATING TURBIDITY BARRIER		EXISTING RIPRAP WITH CONCRETE FILL
	SHEET PILE		NEW RIPRAP (12" FDOT BEDDING)
	DIRECTION OF SLOPE		RATIO OF SLOPE
	EXISTING RIPRAP		FENCING

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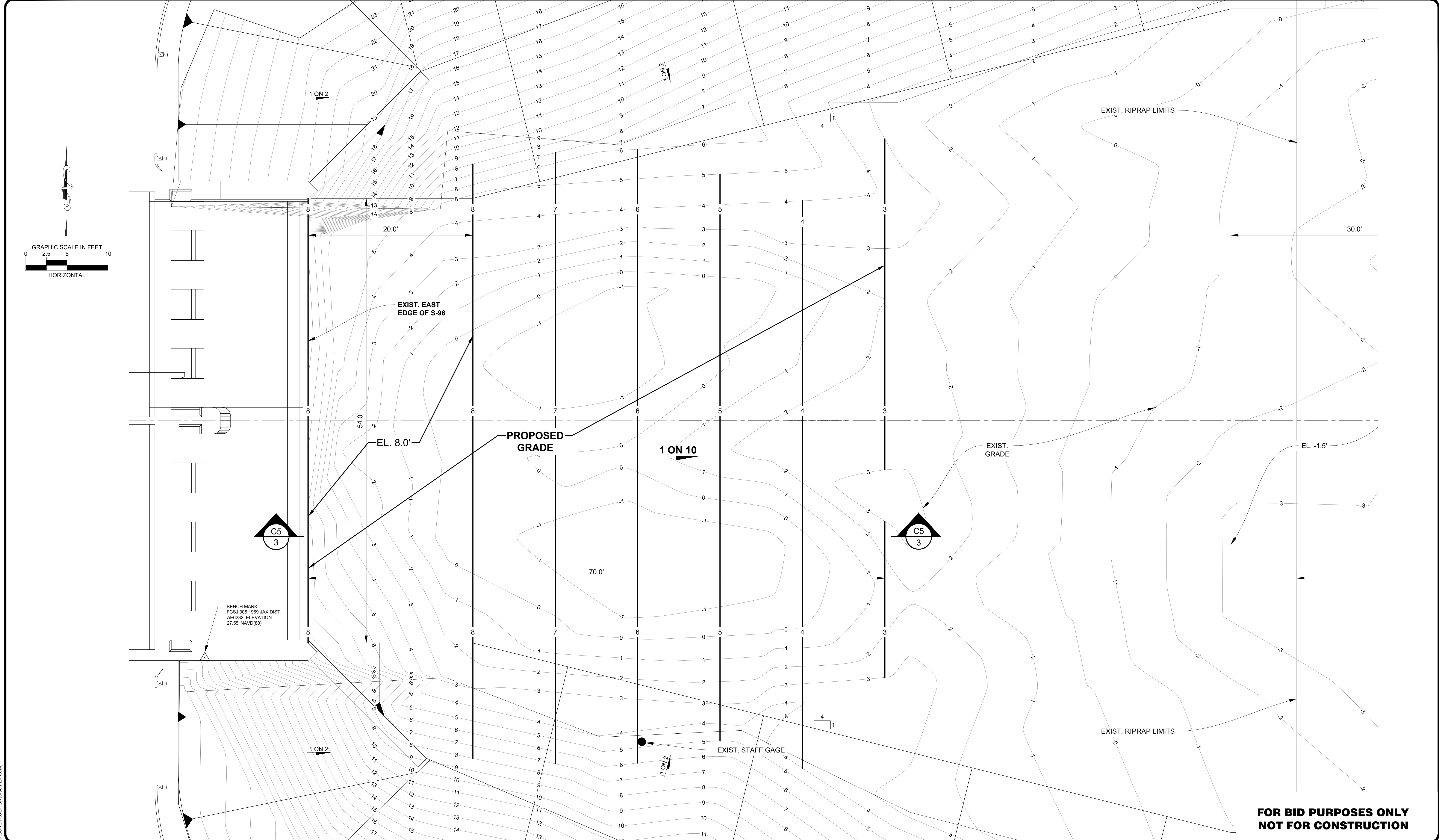
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SCALE: 1" = 20'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

SITE PLAN (WITH AERIAL)

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

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





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BREVARD COUNTY, FLORIDA

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

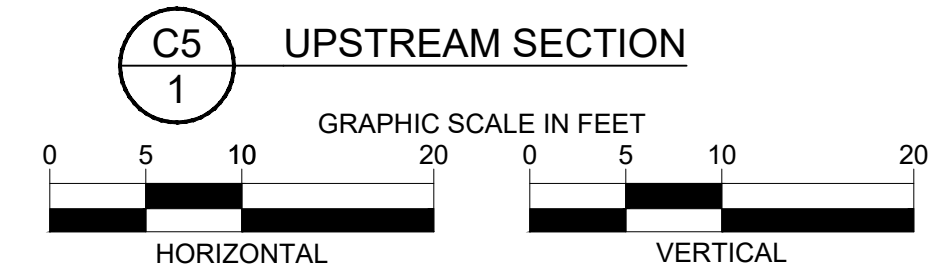
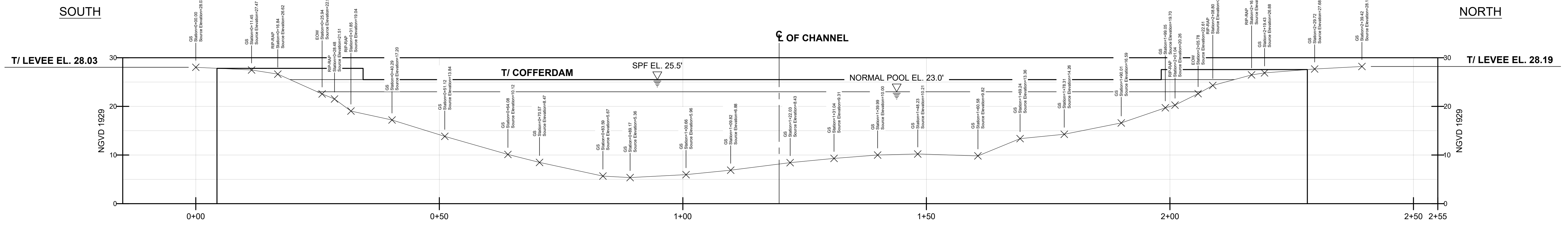
DRAWN: N.J.G.    DATE: MAY 14, 2021    REVIEWER: W.R.C.  
SCALE: AS NOTED    DESIGNER: W.R.C.    SECTION CHIEF: W.R.C.

DOWNSTREAM GRADING PLAN

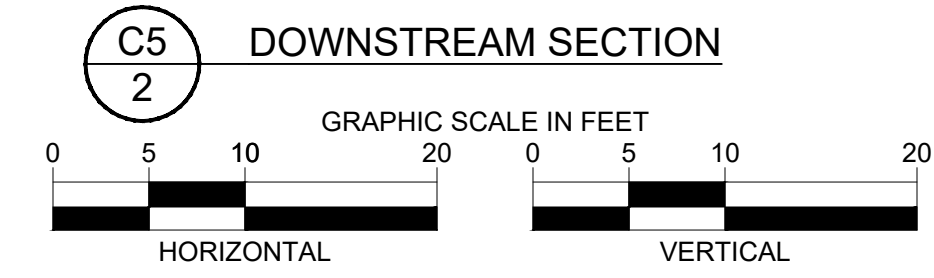
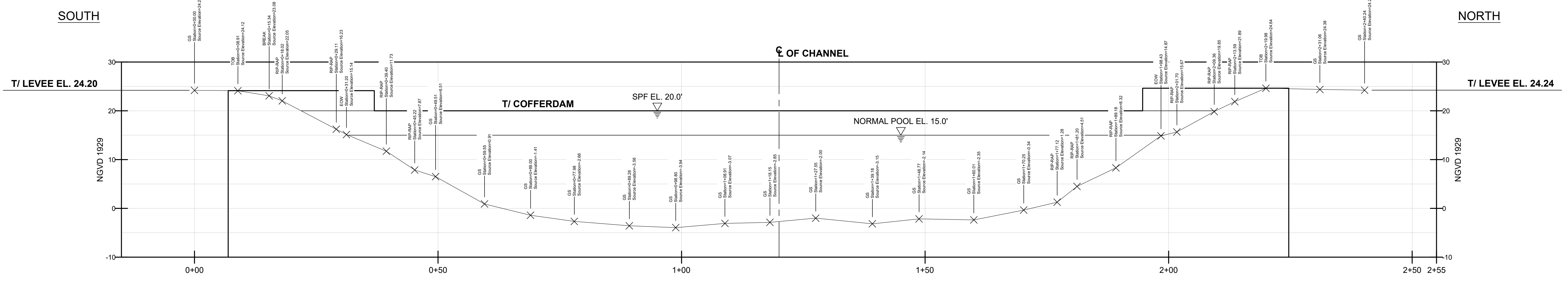
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FILE NAME:  
S-96 PLAN.dwg  
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SHEET:  
C4

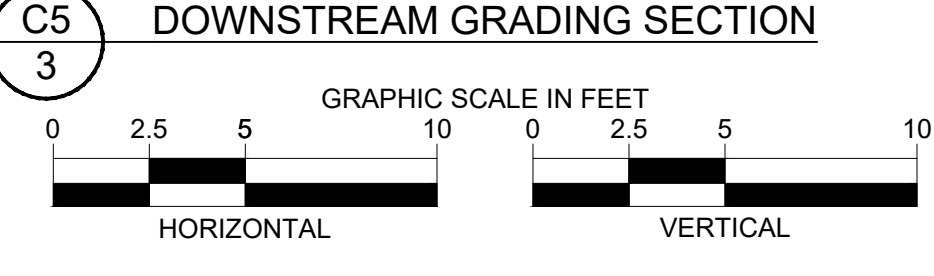
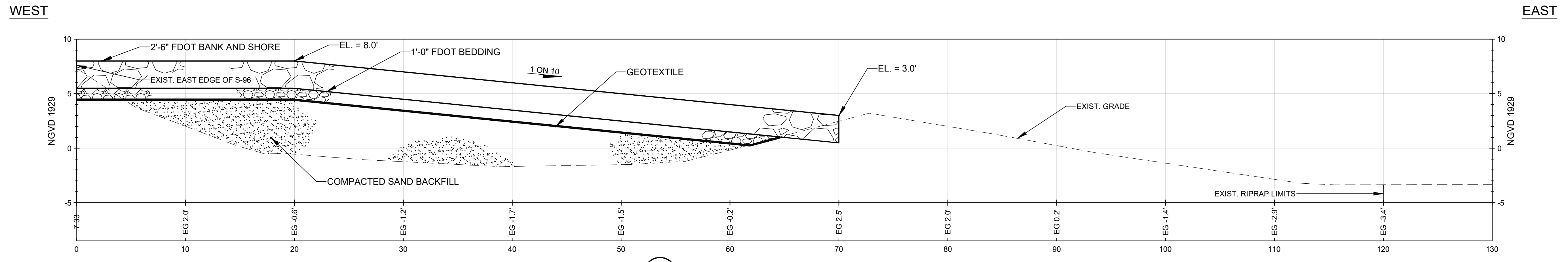
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NOTE:  
THIS CHANNEL SECTION IS BASED ON MARCH 1, 2021  
SJRWMD SURVEY WORK ORDER NO. 7205-21.



NOTE:  
THIS CHANNEL SECTION IS BASED ON MARCH 9, 2021  
SJRWMD SURVEY WORK ORDER NO. 7205-21.



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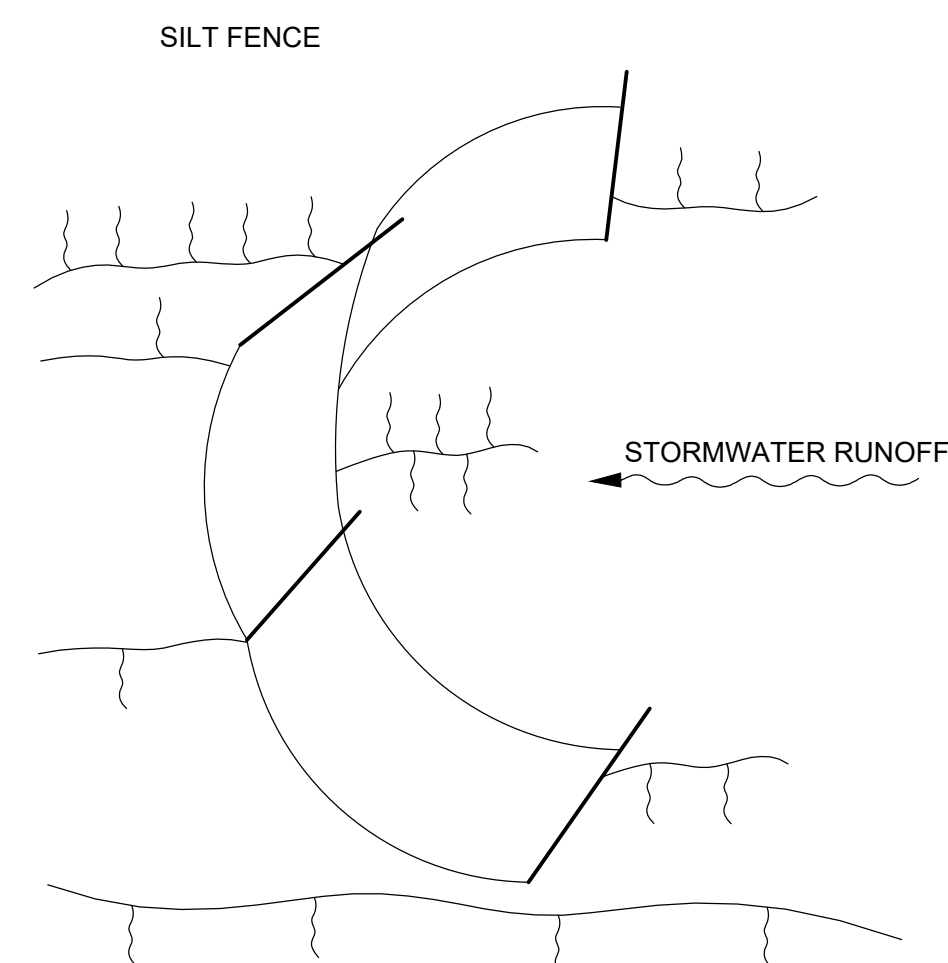
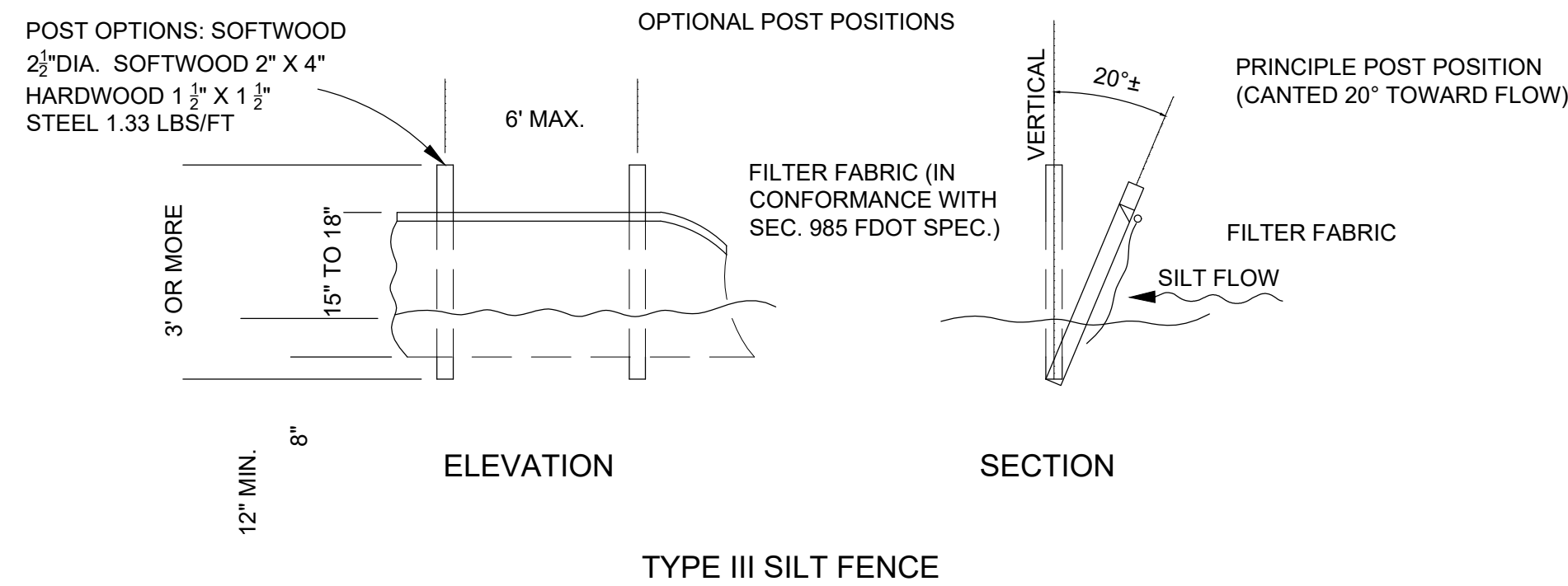
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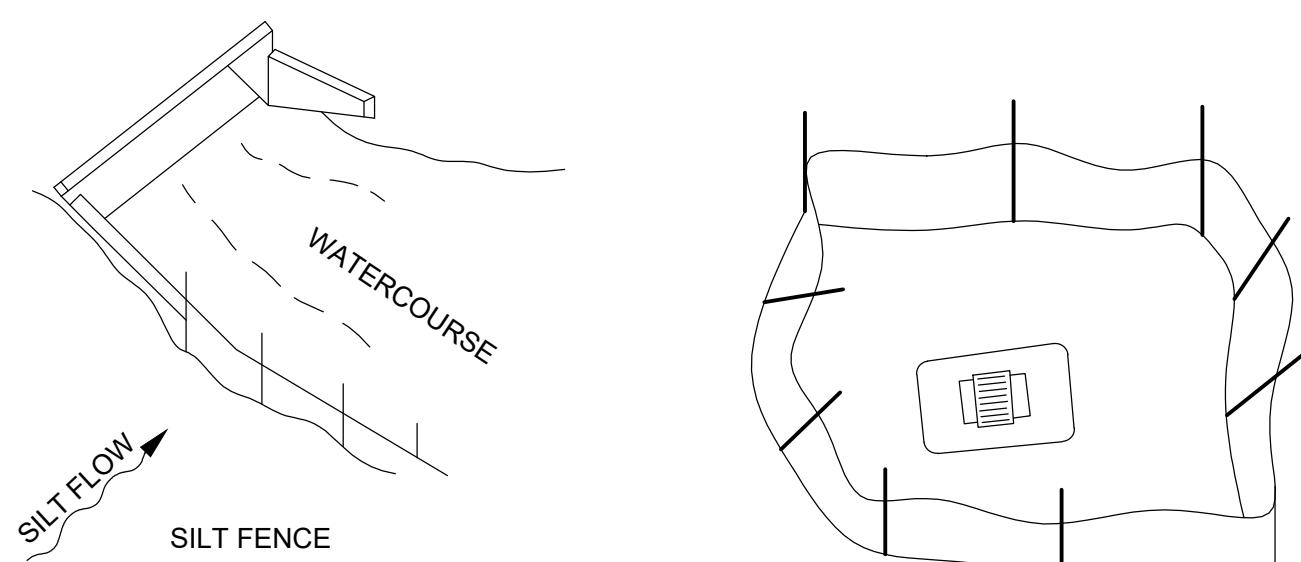
CHANNEL SECTIONS AND  
DOWNSTREAM GRADING SECTION

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FILE NAME:  
S-96 PLAN.dwg  
PROJECT NO.:  
SHEET:  
C5



SILT FENCE PROTECTION IN DITCHES WITH INTERMITTENT FLOW



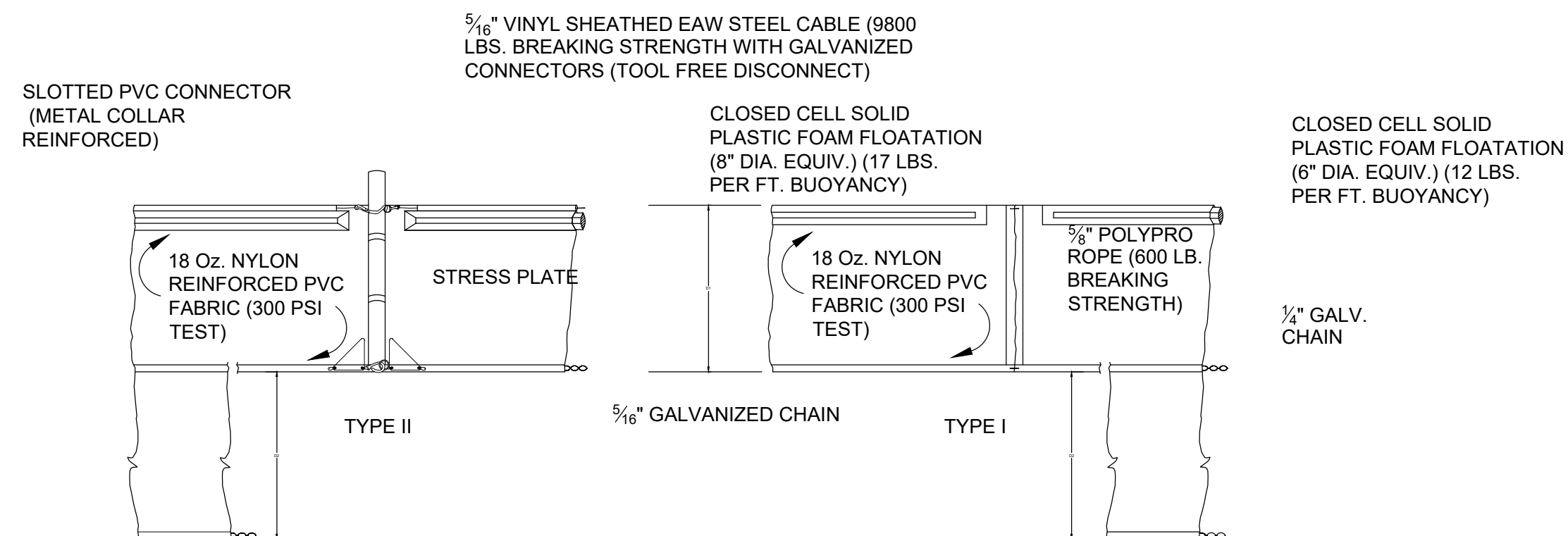
SILT FENCE APPLICATIONS

NOTES FOR SILT FENCES

- TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS. WHERE USED IN DITCHES, THE SPACING FOR TYPE III SILT FENCE SHALL BE IN ACCORDANCE WITH CHART 1, SHEET 1 (FDOT INDEX NO. 102).
- TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEEDS 25 FEET. AVOID USE WHERE THE DETAINED WATER MAY BACK INTO TRAVEL LANES OR OFF THE RIGHT OF WAY.
- DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
- WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.
- SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE, (LF).

TEMPORARY SILT FENCE DETAIL

NOT TO SCALE

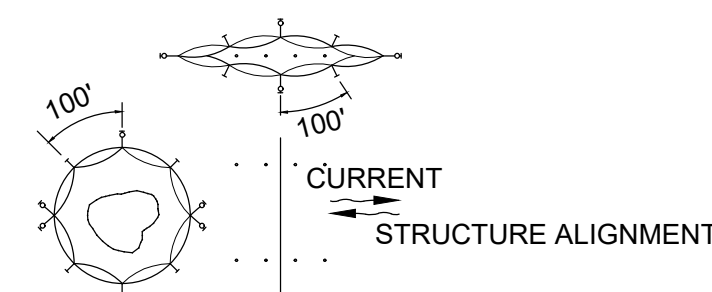
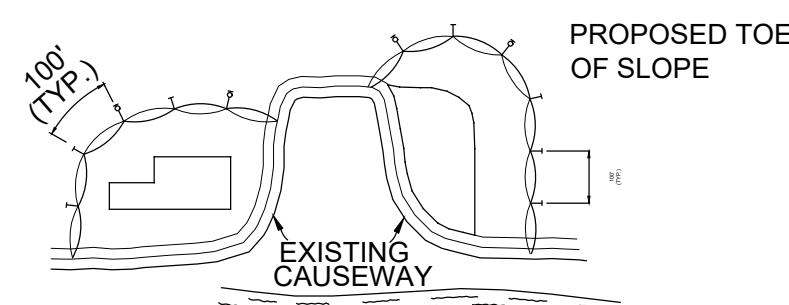


D1= 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).  
D2= 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5')  
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET  
TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPE I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGN. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS

NOT TO SCALE



NOTES:

- TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
- NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
- DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
- NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
- TURBIDITY BARRIERS SHALL CONFORM TO SECTION 104 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

GENERAL NOTES:

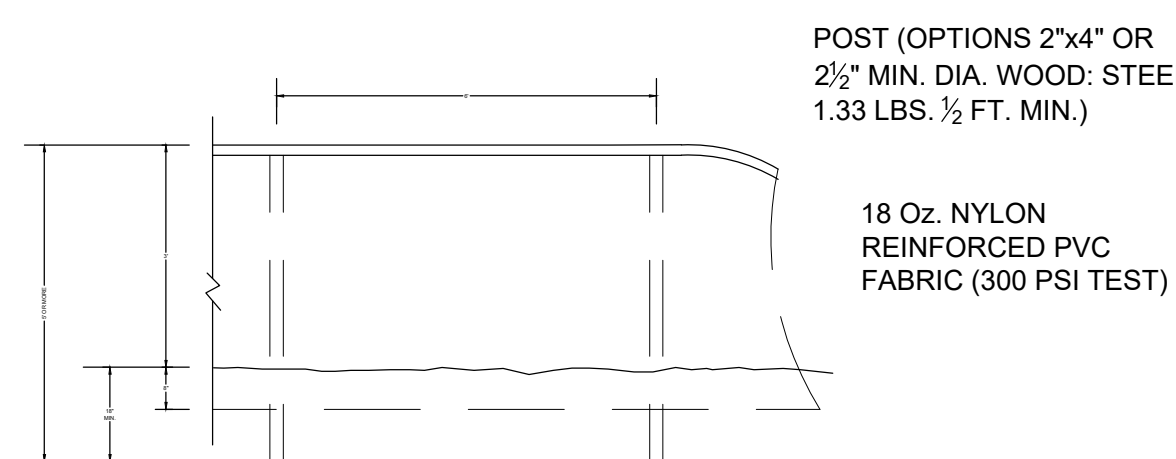
- FLOATING TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR FLOATING TURBIDITY BARRIER, LF.
- STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER, LF.

LEGEND

- PILE LOCATIONS
- DREDGE OR FILL AREA
- MOORING BUOY/WANCHOR
- ANCHOR
- BARRIER MOVEMENT DUE TO CURRENT ACTION

TURBIDITY BARRIER APPLICATIONS

NOT TO SCALE



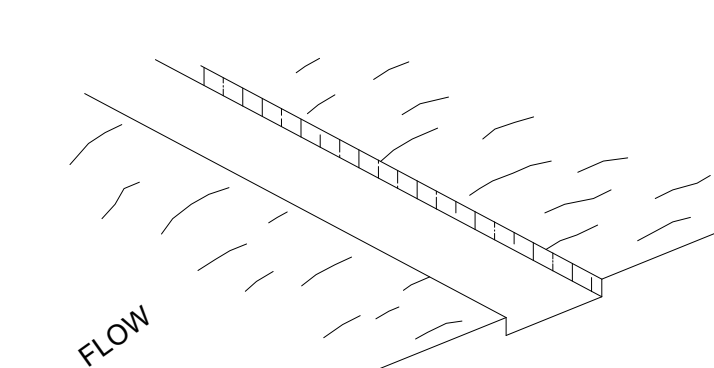
STAKED TURBIDITY BARRIER

NOT TO SCALE

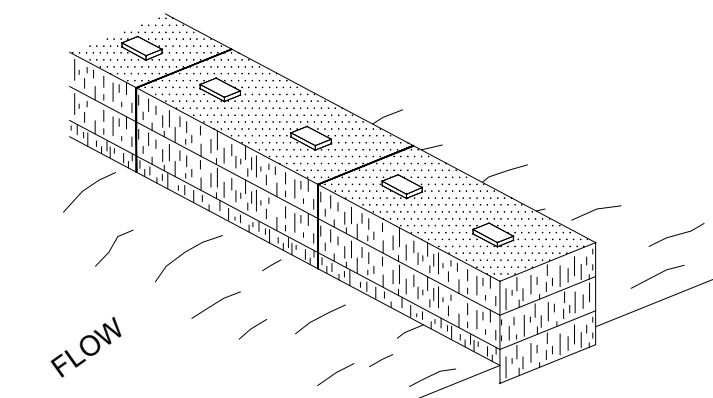
NOTES:

TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTIONS UNLESS OTHERWISE SPECIFIED IN THE PLANS. HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE DISTRICT.

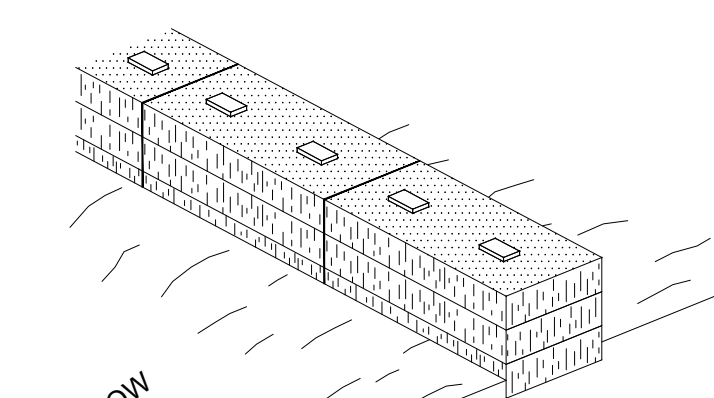
1. EXCAVATE THE TRENCH. 4" DEEP BY THE BALE WIDTH.



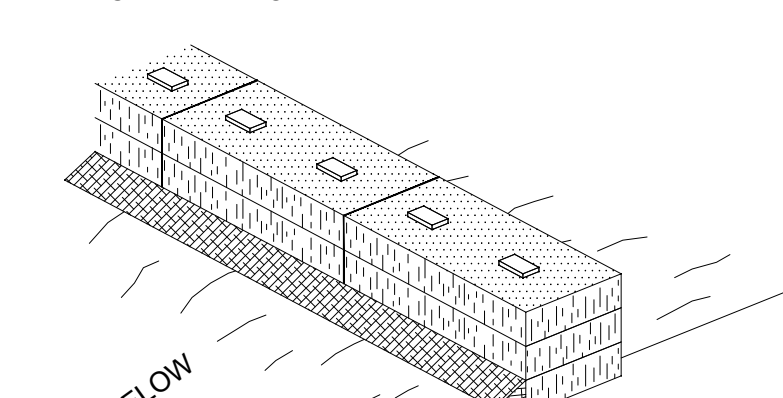
2. PLACE AND STAKE BALES.



3. WEDGE LOOSE STRAW BETWEEN THE BALES.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



NOTES:

- INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAY BALE BARRIER

NOT TO SCALE

EROSION AND SEDIMENT CONTROL NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL WORK AT COMPLETION OF CONSTRUCTION.
- ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNSEEN CONDITIONS OR ACCIDENTS.
- THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 8 INCHES. THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND GRASSED.
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS, PERMITS, AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT CRITERIA.
- FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO SOUND LAND AND WATER MANAGEMENT FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) CHAPTER 6, LATEST EDITION.
- ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED, WATERED AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED. GRASSING SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 570 AND 981 THRU 983 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITIONS. NOTE THAT OTHER GRASSING ALTERNATIVES MAY BE USED WITH PRIOR DISTRICT APPROVAL.

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EROSION & SEDIMENT CONTROL

CERTIFICATION:

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PROJECT NO.:

SHEET:  
C6



**NOTE SPECIFICATIONS:**

**REFERENCE DOCUMENTS:**

- AS-BUILT DRAWINGS PREPARED BY THE US ARMY CORPS OF ENGINEERS, "STRUCTURE 96", DATED AUGUST 1970. THE BORING LOGS AND GRADATION CURVES ARE INCLUDED IN THESE DRAWINGS.
- REPORTS PREPARED BY ARDAMAN & ASSOCIATES, INC., "ENGINEERING EVALUATION OF CONCRETE CONDITION AND STEEL SHEET PILE WING WALL THICKNESS, STRUCTURE S-96", DATED AUGUST 30, 2013 AND JUNE 25, 2014.

**GENERAL:**

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL REPAIR ALL AREAS DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL OR BETTER CONDITION.
- THE CONTRACTOR SHALL PROVIDE ALL SAFETY AND TRAFFIC CONTROL NECESSARY FOR ACCESS TO THE SITE AND WORK WITHIN THE PROJECT LIMITS.
- THE CONTRACTOR SHALL COORDINATE ACTIVITIES AND COOPERATE WITH OTHER CONTRACTORS AND DISTRICT PERSONNEL PERFORMING WORK WITHIN THE PROJECT LIMITS.
- 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.
- 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. CONTRACTOR SHALL ALSO SUBMIT AN AS-BUILT SURVEY SIGNED AND SEALED BY A FLICENSED LAND SURVEYOR.

**CONCRETE REPAIR:**

- 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.
- 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.
- 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.

THE BOUNDARIES BETWEEN THE ERODED AND SOUND CONCRETE SURFACES SHALL BE SAWCUT AS SHOWN ON THE DRAWINGS IN ORDER TO PROVIDE A SMOOTH TRANSITION FOR THE MORTAR REPAIR AREAS.

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.

CONCRETE SURFACE REPAIRS MAY GENERALLY CONSIST OF EITHER HAND-APPLIED OR MACHINE APPLIED METHODS.

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.

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.

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.

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.

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.

CRACKS WITH FLOWING WATER SHALL BE REPAIRED WITH CHEMICAL GROUT AS DETAILED ON THE DRAWINGS 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.

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.

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.

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. MOIST CURE WITH WET BURLAP AND POLYETHYLENE OR A FINE MIST OF WATER FOR A MINIMUM OF 3 DAYS IN AREAS THAT WILL BE SUBJECT TO IMMERSION.

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.

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:**

TESTING LABORATORY: THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING LABORATORY, APPROVED BY THE DISTRICT, FOR THE SAMPLING AND TESTING OF THE REPAIR MORTAR AND CAST IN PLACE CONCRETE. THE LABORATORY'S INSPECTORS SHALL HAVE FREE ACCESS TO ALL POINTS WHERE CONCRETE MATERIALS ARE STORED, PROPORTIONED, MIXED AND PLACED.

TEST SCHEDULING: CONTRACTOR SHALL ADVISE THE LABORATORY WITH TWENTY-FOUR (24) HOURS ADVANCE NOTICE OF THE TIME AND LOCATION OF ALL REPAIR MORTAR AND CONCRETE PLACEMENT OR OTHERWISE MAKE ARRANGEMENTS WITH THE LABORATORY SO THAT SAMPLES MAY BE OBTAINED.

REPAIR MORTAR CUBE TESTS: CUBE SAMPLES (2" MORTAR CUBES) SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ASTM C109 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS." CUBE TESTING SHALL INCLUDE ONE (1) AT 7-DAYS AND THREE (3) AT 28-DAYS. TWO (2) ADDITIONAL SAMPLES SHALL BE TESTED AT 56 DAYS IF DEEMED NECESSARY. SAMPLING FREQUENCY FOR 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.

REPAIR MORTAR 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.

CONCRETE CYLINDER TESTS: CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." SAMPLING FREQUENCY FOR CONCRETE SHALL BE FOR EACH FIFTY (50) CUBIC YARDS OR PORTION THEREOF OF CONCRETE PLACED EACH DAY. THE LABORATORY SHALL TAKE A SAMPLE FROM A BATCH OF ITS SELECTION AS THE CONCRETE IS BEING PLACED. NO WATER SHALL BE ADDED OR OTHER CHANGE MADE IN ANY BATCH AFTER IT HAS BEEN SAMPLED. IN ADDITION TO OTHER TESTS, THE LABORATORY WILL MAKE A SET OF FIVE (5) STANDARD COMPRESSION CYLINDERS FROM EACH SAMPLE, ONE (1) OF WHICH WILL BE TESTED AT SEVEN (7) DAYS AND THREE (3) TESTS AT TWENTY-EIGHT (28) DAYS AND AN ADDITIONAL SAMPLE SHALL BE TESTED AT 56 DAYS IF DEEMED NECESSARY.

CONCRETE COMPRESSIVE STRENGTH: CAST-IN-PLACE CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5500 PSI. COMPRESSION STRENGTH OF A SAMPLE SHALL BE DETERMINED BY THE AVERAGE OF THE THREE (3) CYLINDERS 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 FIVE HUNDRED (500) PSI. CONCRETE WHICH FAILS TO MEET STRENGTH REQUIREMENTS MAY BE FURTHER TESTED AS PROVIDED IN ACI 318 AT THE EXPENSE OF CONTRACTOR OR SHALL BE REMOVED AS DETERMINED BY DISTRICT'S PROJECT MANAGER.

REPORTS: THE 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:**

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", LATEST EDITION.

WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1.

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.

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.

ALL WELDING SHALL UTILIZE E70XX LOW-HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE.

ALL REMOVABLE STEEL ITEMS WHICH WERE PREVIOUSLY GALVANIZED SHALL BE REMOVED AND REPLACED WITH STAINLESS STEEL TYPE 304.

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:**

EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO THE SUBGRADE.

INSPECT AND REPAIR STEEL SHEET PILING AS NEEDED.

PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES. REFER TO NOTES FOR PAINTS AND PROTECTIVE COATINGS.

AFTER PAINTING, REPLACE THE RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.

**PAINTS AND PROTECTIVE COATINGS:**

ALL STEEL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) "STEEL STRUCTURES PAINTING MANUAL".

PREPARE SURFACES AND PAINT ALL EXPOSED STEEL COMPONENTS. ITEMS TO BE PAINTED INCLUDE STRUCTURAL STEEL, SHEET PILING WING WALLS, AND ALL EMBEDDED STEEL (EXCLUDING STAINLESS STEEL AND ALUMINUM ITEMS).

STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:

STRUCTURAL STEEL, SHEET PILING, AND EMBEDDED STEEL: SSPC-10 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.

WHERE LEAD PAINT IS FOUND TO BE PRESENT, APPROPRIATE REMOVAL MEASURES SHALL BE UNDERTAKEN IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATORY REQUIREMENTS.

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

PROTECTIVE COATING FOR ALL EMBEDDED GALVANIZED ITEMS SHALL BE AS FOLLOWS:

FIRST COAT (PRIMER): WASSER MC-ZINC 3-5 MILS DFT  
SECOND COAT: S-W DURA-PLATE 235 4-8 MILS DFT  
THIRD (FINAL) COAT: S-W DURA-PLATE 235 4-8 MILS DFT

SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

**BRIDGE EXPANSION JOINT CAULK:**

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

**RIPRAP SYSTEM SPECIFICATIONS:**

PROVIDE RUBBLE RIPRAP, BEDDING STONE, AND GEOTEXTILE FABRIC AT THE LOCATIONS SHOWN ON THE DRAWINGS. 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.

GEOTEXTILE FABRIC WHERE REQUIRED SHALL BE MIRAFI FILTERWEAVE WOVEN NO. FW 404 (OR APPROVED EQUAL) AND SHALL COMPLY WITH THE REQUIREMENTS SECTION 514 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. ADDITIONALLY, THE GEOTEXTILE FABRIC MATERIAL SHALL CONFORM TO THE REQUIREMENTS FOOT TYPE D-2 OF THE FDOT SPECIFICATION SECTION 985. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

BEDDING STONE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 530 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION, LATEST EDITION, THE FINAL BLANKET THICKNESS SHALL BE A MINIMUM OF 12 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY).

RUBBLE RIPRAP SHALL COMPLY WITH THE REQUIREMENTS OF FDOT SECTION 530-2.1.3.1 BANK AND SHORE PROTECTION OR 530-2.1.3.2 DITCH LINING, AS DIRECTED BY THE DISTRICT. THE MATERIAL SHALL BE WELL-GRADED, SOUND AND DURABLE, AND SHALL HAVE A MINIMUM SPECIFIC GRAVITY OF 2.3. THE MATERIAL SHALL BE FREE OF CRACKS, SOFT SEAMS OR OTHER STRUCTURAL DEFECTS. THE PIECES SHALL BE ROUGHLY ANGULAR, AND THE LOT SHALL REASONABLY FREE OF THIN, FLAT OR ELONGATED PIECES. CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH FOOT SPECIFICATIONS SECTION 530.

COMPACTED SAND BACKFILL WHERE REQUIRED SHALL CONSIST OF CLEAN SAND CLASSIFIED AS SW OR SP WITH LESS THAN 5% PASSING THE NO. 200 SIEVE.

CONSTRUCTION REQUIREMENTS: ALL SLOPES TO BE TREATED WITH RIPRAP SHALL BE TRIMMED TO THE LINES AND GRADES INDICATED BY THE PLANS OR DIRECTED BY THE DISTRICT. THE SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE EARTHWORK SPECIFICATIONS. ALL OUTER EDGES AND THE TOP OF RIPRAP WHERE THE RIPRAP TERMINATES SHALL BE FORMED SO THAT THE SURFACE OF THE RIPRAP WILL BE EMBEDDED AND EVEN WITH THE SURFACE OF THE GROUND AND/OR SLOPE. ALL RIPRAP CONSTRUCTION SHALL BEGIN AT THE BOTTOM OF THE SLOPE AND PROGRESS UPWARD.

PLACE A MINIMUM 12-INCH THICK LAYER OF BEDDING STONE UNDER ALL RUBBLE RIPRAP WITHOUT PUNCTURING OR TEARING THE GEOSYNTHETIC MATERIAL. REMOVE AND REPLACE GEOTEXTILE FABRIC DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.

PLACE RIPRAP FORMING A COMPACT LAYER CONFORMING TO THE NEAT LINES AND THICKNESS SPECIFIED ON THE DRAWINGS. ENSURE THAT RIPRAP DOES NOT SEGREGATE SO THAT SMALLER PIECES EVENLY FILL THE VOIDS BETWEEN THE LARGER PIECES.

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21	
NO.	REVISION	BY	DATE	APPROVED	DATE

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

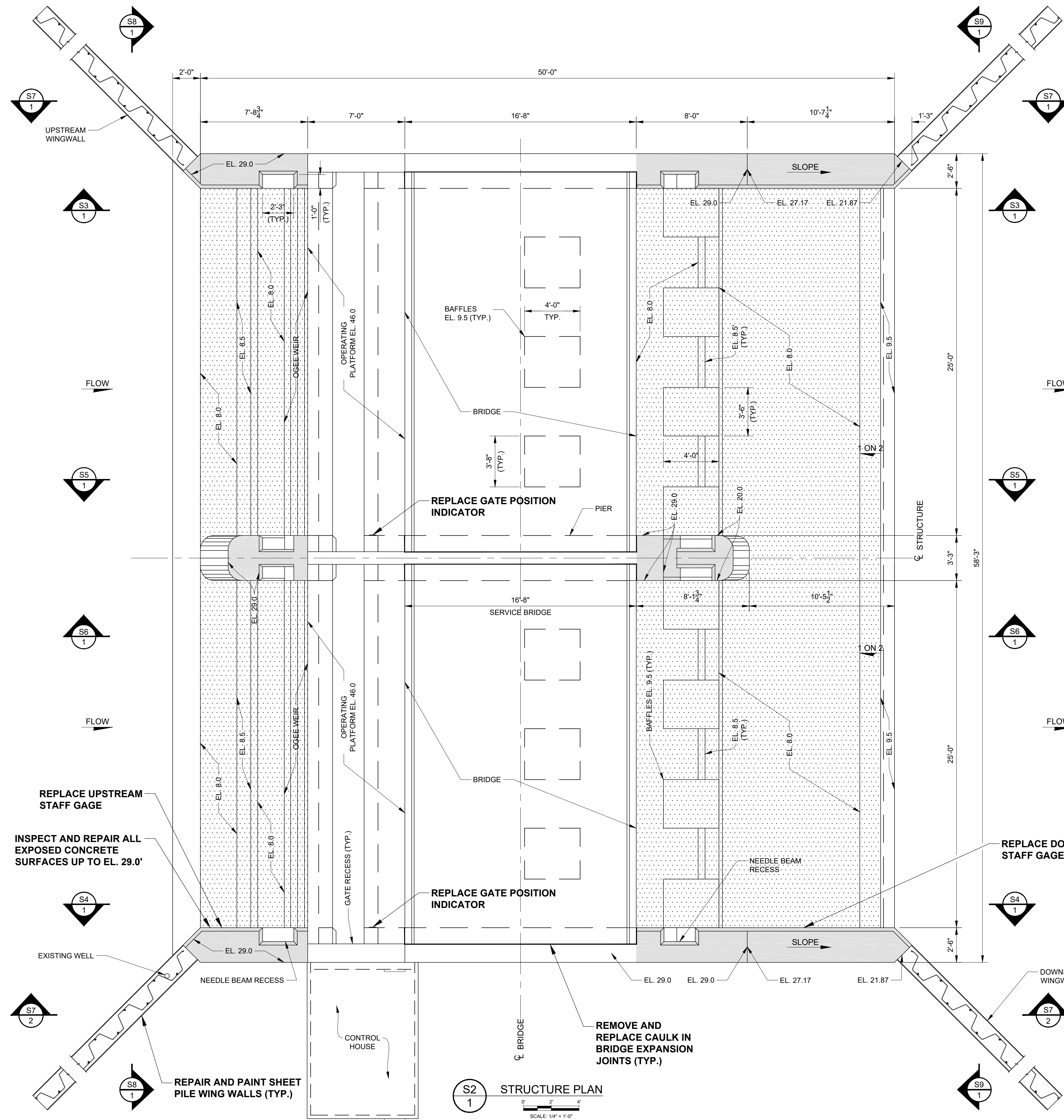
ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G.	DATE: MAY 14, 2021	REVIEWER: W.R.C.
SCALE: NONE	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.

NOTE SPECIFICATIONS

CERTIFICATION:	
WILLIAM R. COTE	
P.E. NUMBER:	53746
DATE:	MAY 14, 2021

FILE NAME: S-96 STRUCTURE.dwg
PROJECT NO.:
SHEET: <b>S1</b>



- LEGEND**
- SIKATOP 144 ONLY
  - TAMMS STRUCTURAL MORTAR AND SIKATOP 144
  - S3 SECTION SHEET NUMBER
  - 1 SECTION LABEL

**NOTE:**  
THE SERVICE BRIDGE WAS DESIGNED FOR DEAD LOAD PLUS AN H20-44 LIVE LOAD

**S2**  
STRUCTURE PLAN  
SCALE: 1/4" = 1'-0"

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE

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

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

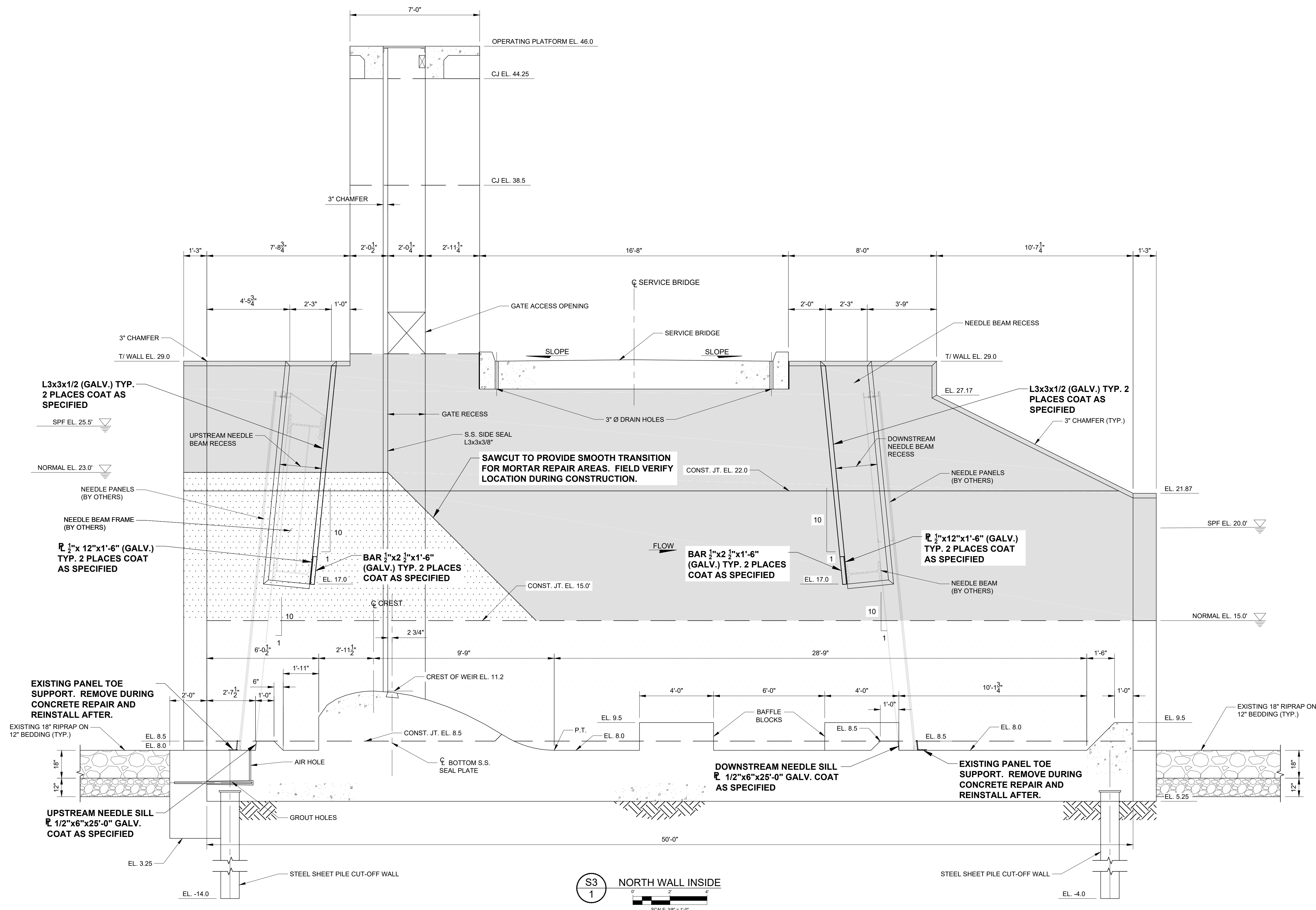
DRAWN: N.J.G.	DATE: MAY 14, 2021	REVIEWER: W.R.C.
SCALE: 1/4" = 1'-0"	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.

CONCRETE REPAIR - STRUCTURE PLAN

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

FILE NAME:  
S-96 STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S2**





**LEGEND**

SIKATOP 144 ONLY

TAMMS STRUCTURAL MORTAR AND SIKATOP 144

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

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

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.

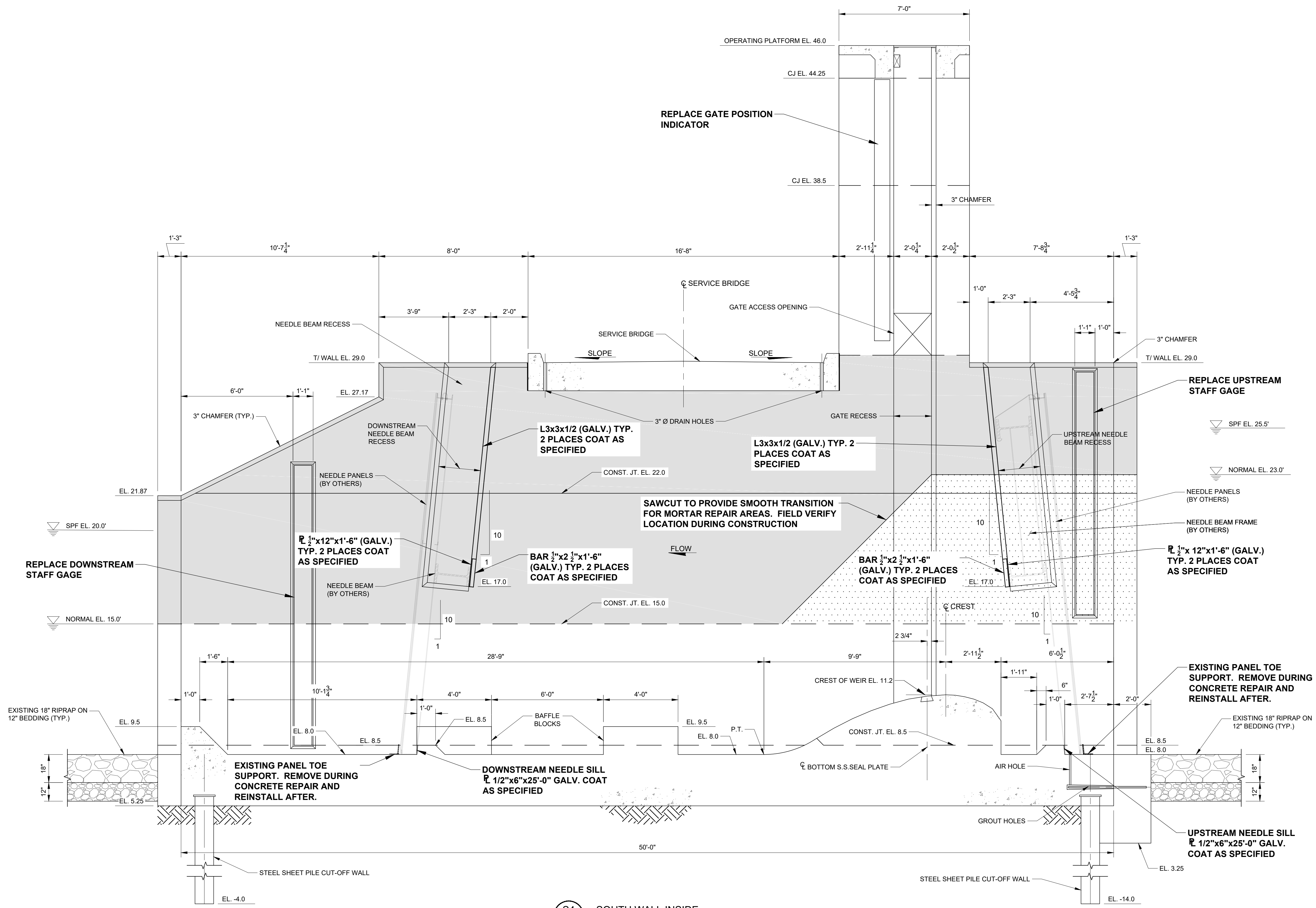
SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

CONCRETE REPAIR - NORTH WALL INSIDE



CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

FILE NAME:  
S-96 STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
S3

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**LEGEND**

 SIKATOP 144 ONLY  
 TAMMS STRUCTURAL MORTAR AND SIKATOP 144

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

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

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

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

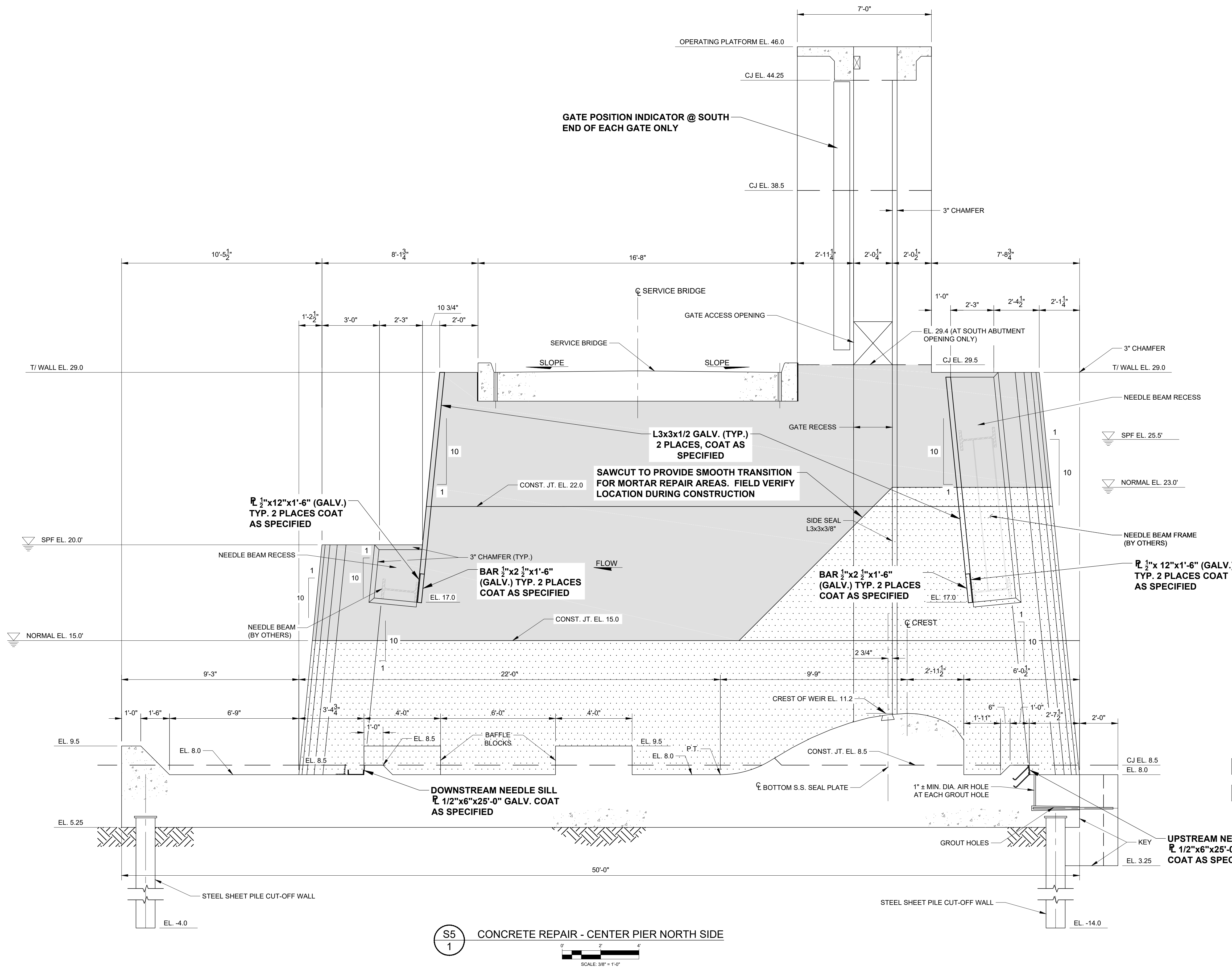
DRAWN: N.J.G.    DATE: MAY 14, 2021    REVIEWER: W.R.C.  
 SCALE: 3/8" = 1'-0"    DESIGNER: W.R.C.    SECTION CHIEF: W.R.C.

CONCRETE REPAIR - SOUTH WALL INSIDE

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

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





**S5**  
**1**  
**CONCRETE REPAIR - CENTER PIER NORTH SIDE**

**LEGEND**

■ SIKATOP 144 ONLY

▨ TAMMS STRUCTURAL MORTAR AND SIKATOP 144

**FOR BID PURPOSES ONLY**  
**NOT FOR CONSTRUCTION**

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

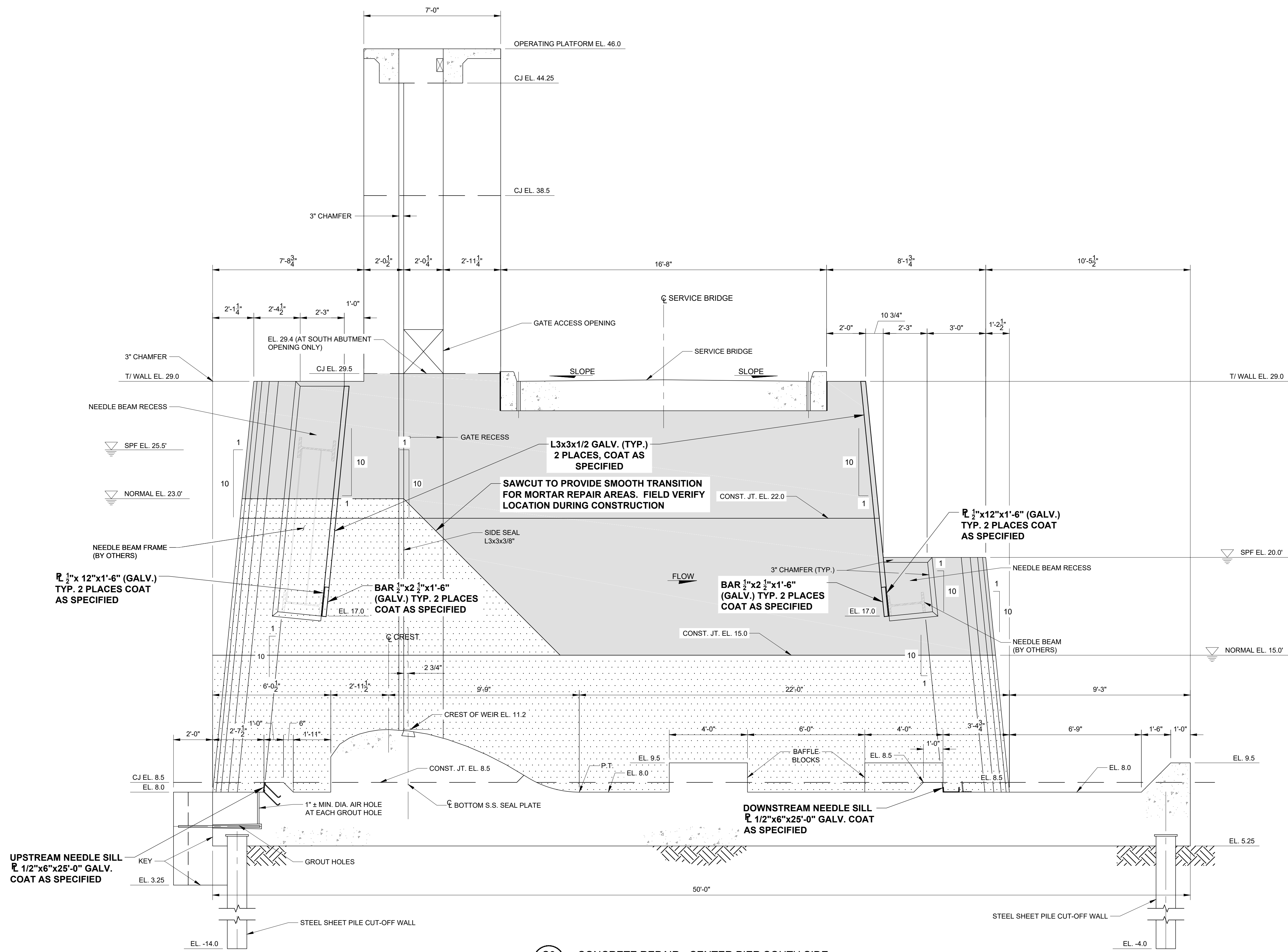
ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT  
 P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
 SCALE: 3/8" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

CONCRETE REPAIR - CENTER PIER NORTH SIDE

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

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



S6  
1  
CONCRETE REPAIR - CENTER PIER SOUTH SIDE  
SCALE: 3/8" = 1'-0"

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

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

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

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

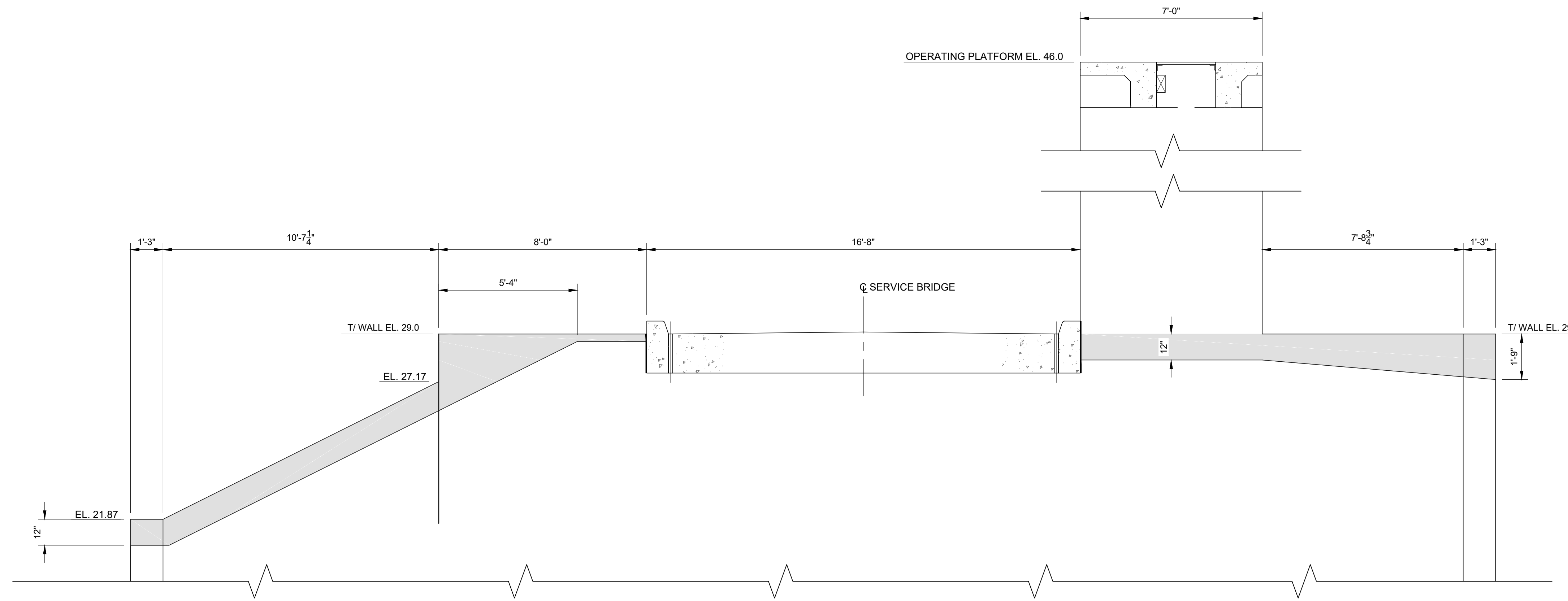
DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
 SCALE: 3/8" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

CONCRETE REPAIR - CENTER PIER SOUTH SIDE

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

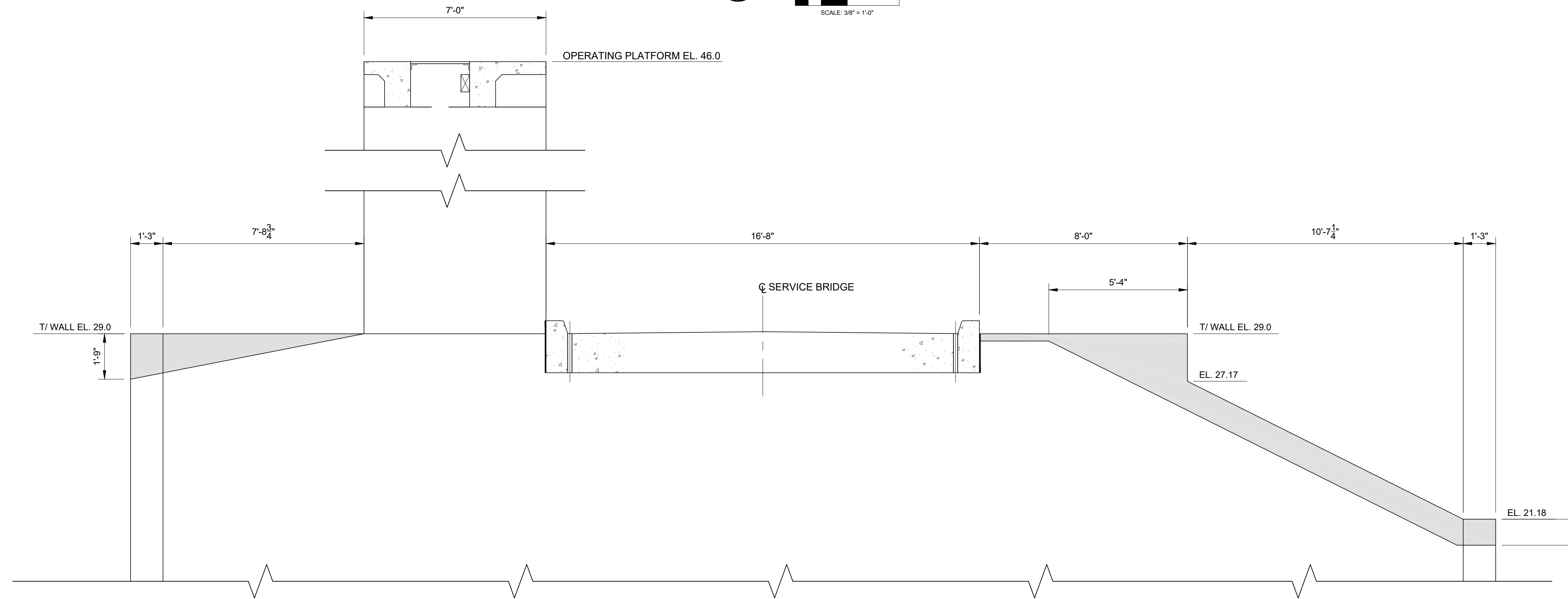
FILE NAME:  
S-96 STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
S6





S7  
1  
NORTH WALL OUTSIDE  
SCALE: 3/8" = 1'-0"

**LEGEND**  
 [Solid Gray Box] SIKATOP 144 ONLY  
 [Dotted Box] TAMMS STRUCTURAL MORTAR AND SIKATOP 144



S7  
2  
SOUTH WALL OUTSIDE  
SCALE: 3/8" = 1'-0"

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE

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

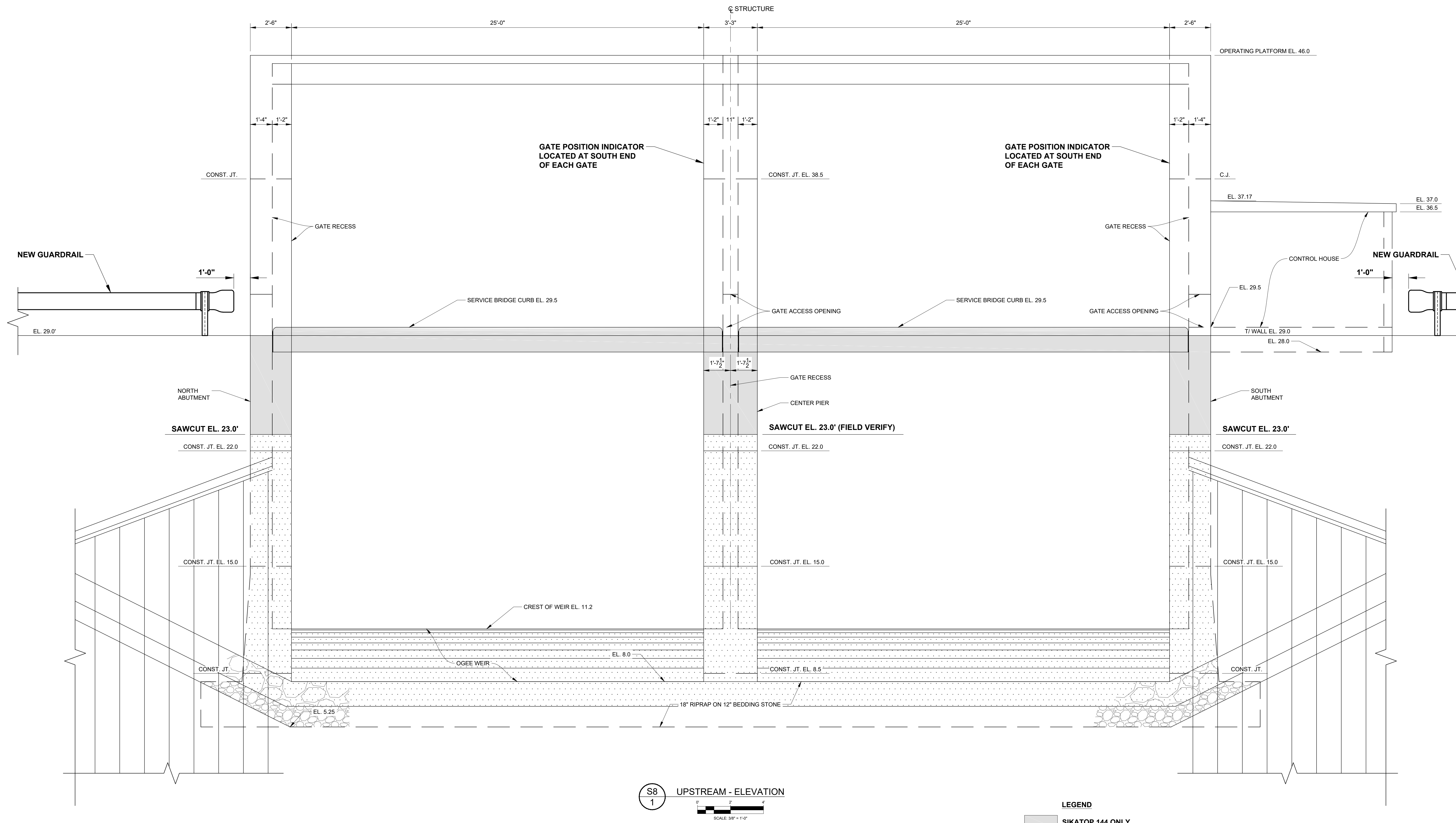
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G.    DATE: MAY 14, 2021    REVIEWER: W.R.C.  
 SCALE: 3/8" = 1'-0"    DESIGNER: W.R.C.    SECTION CHIEF: W.R.C.

CONCRETE REPAIR - NORTH  
AND SOUTH WALL OUTSIDE

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

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



S8  
1  
UPSTREAM - ELEVATION  
SCALE: 3/8" = 1'-0"

LEGEND  
 [Solid Grey Box] SIKATOP 144 ONLY  
 [Dotted Box] TAMMS STRUCTURAL MORTAR AND SIKATOP 144

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE

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

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

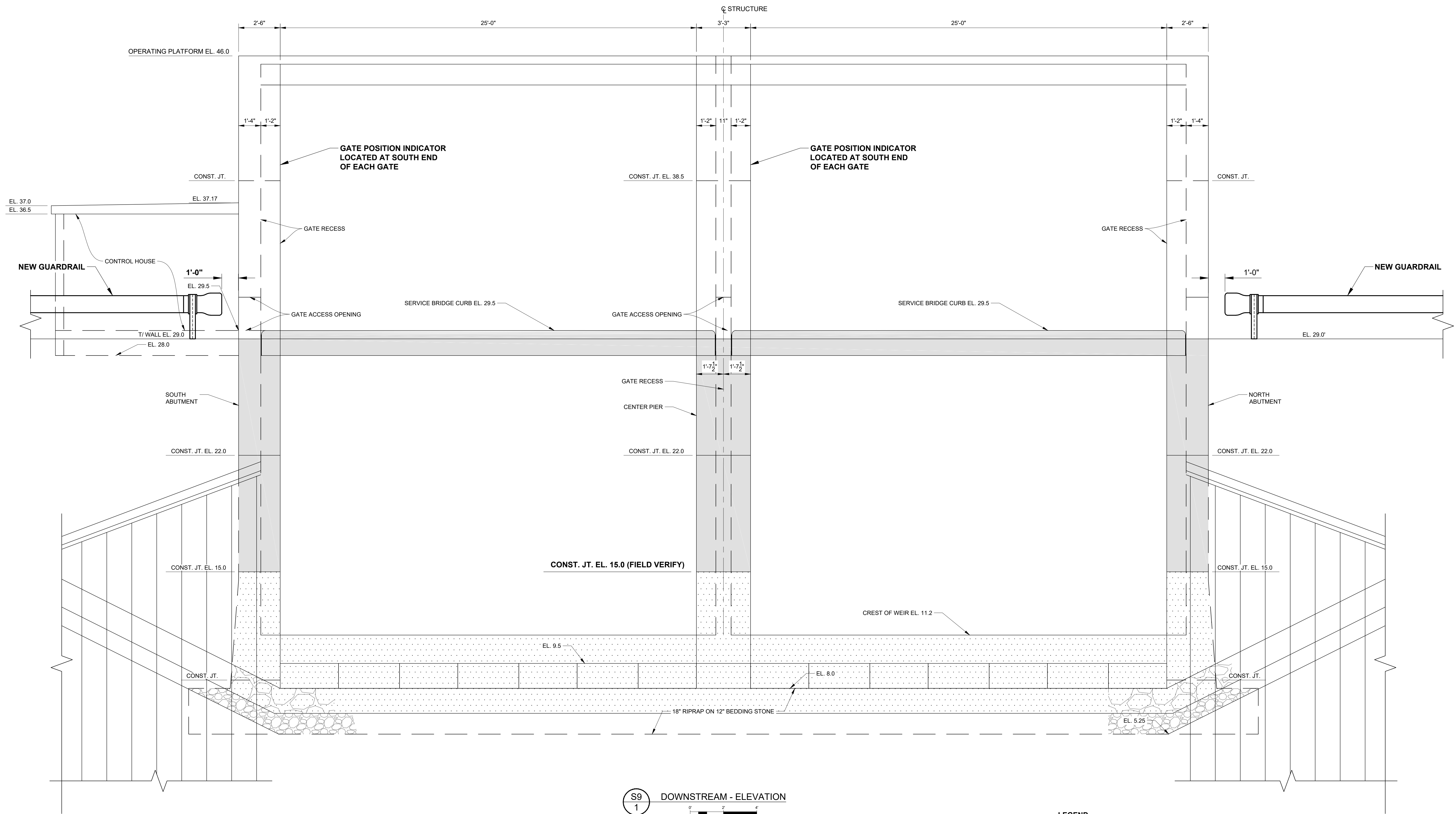
DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
 SCALE: 3/8" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

CONCRETE REPAIR - UPSTREAM ELEVATION

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

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





S9 DOWNSTREAM - ELEVATION  
 SCALE: 3/8" = 1'-0"

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

**FOR BID PURPOSES ONLY  
 NOT FOR CONSTRUCTION**

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1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

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

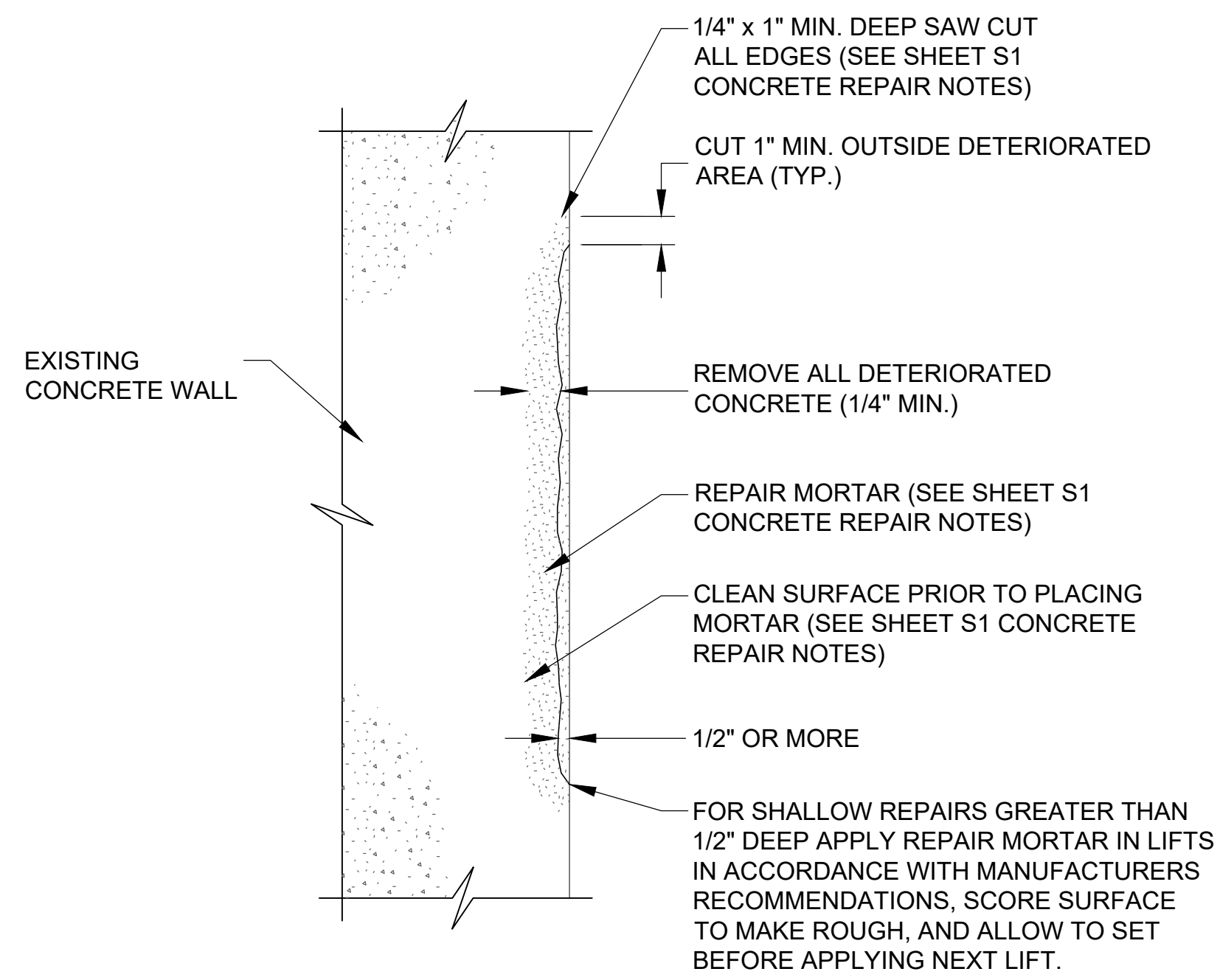
**ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT**  
 P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G.    DATE: MAY 14, 2021    REVIEWER: W.R.C.  
 SCALE: 3/8" = 1'-0"    DESIGNER: W.R.C.    SECTION CHIEF: W.R.C.

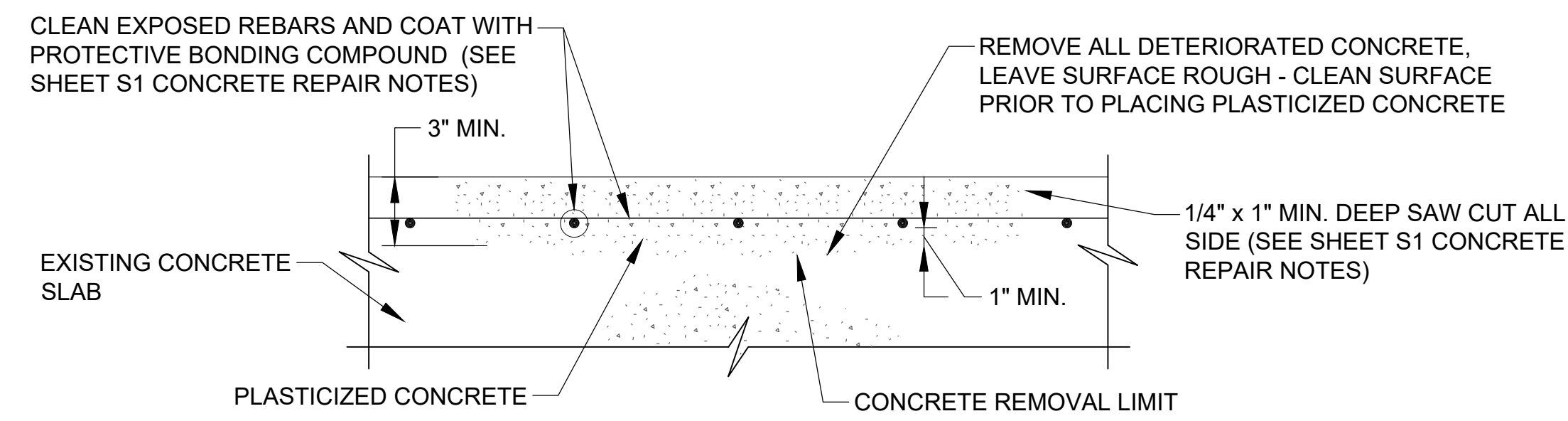
CONCRETE REPAIR - DOWNSTREAM ELEVATION

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

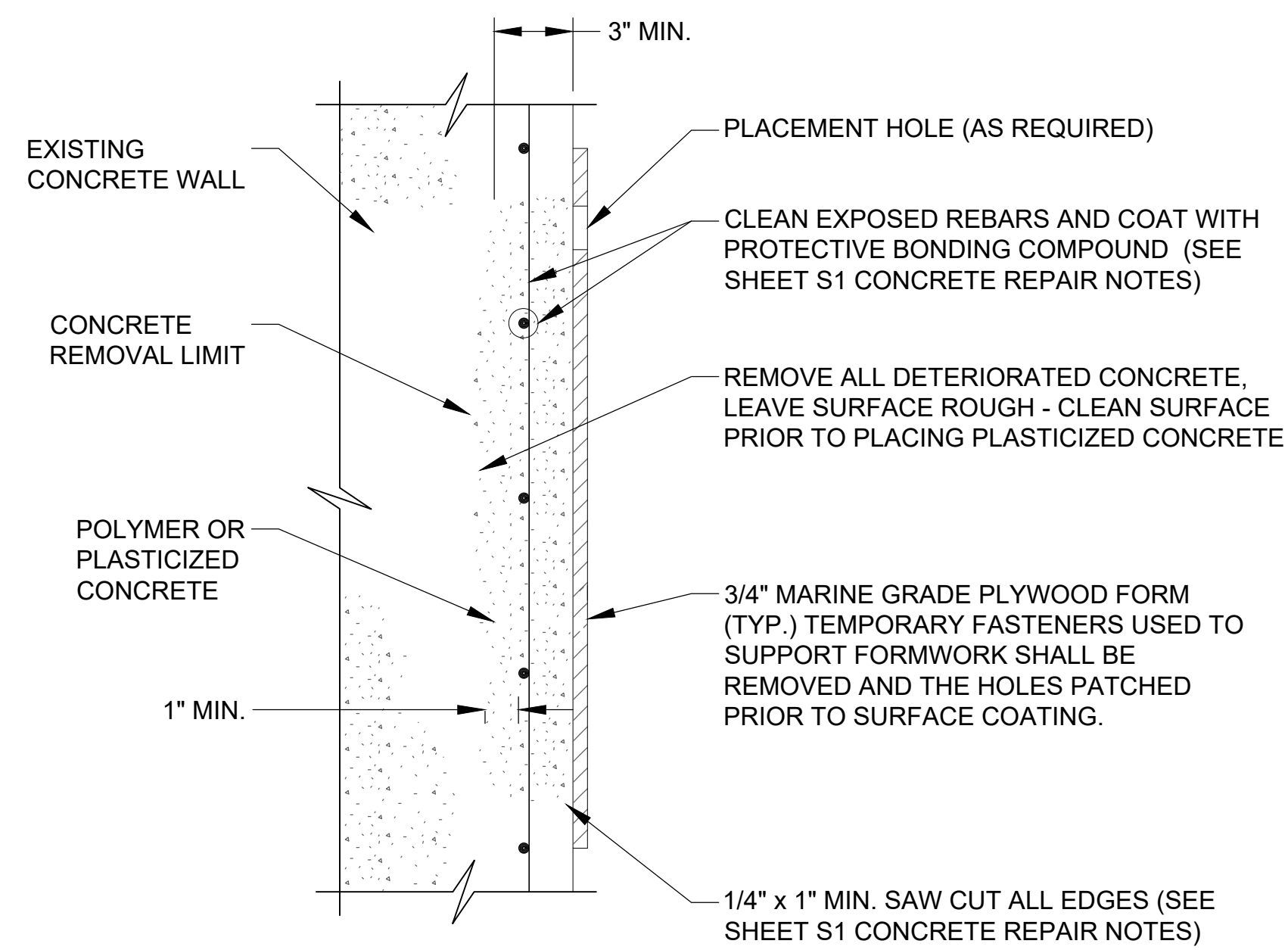
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 PROJECT NO.:  
 SHEET:  
**S9**



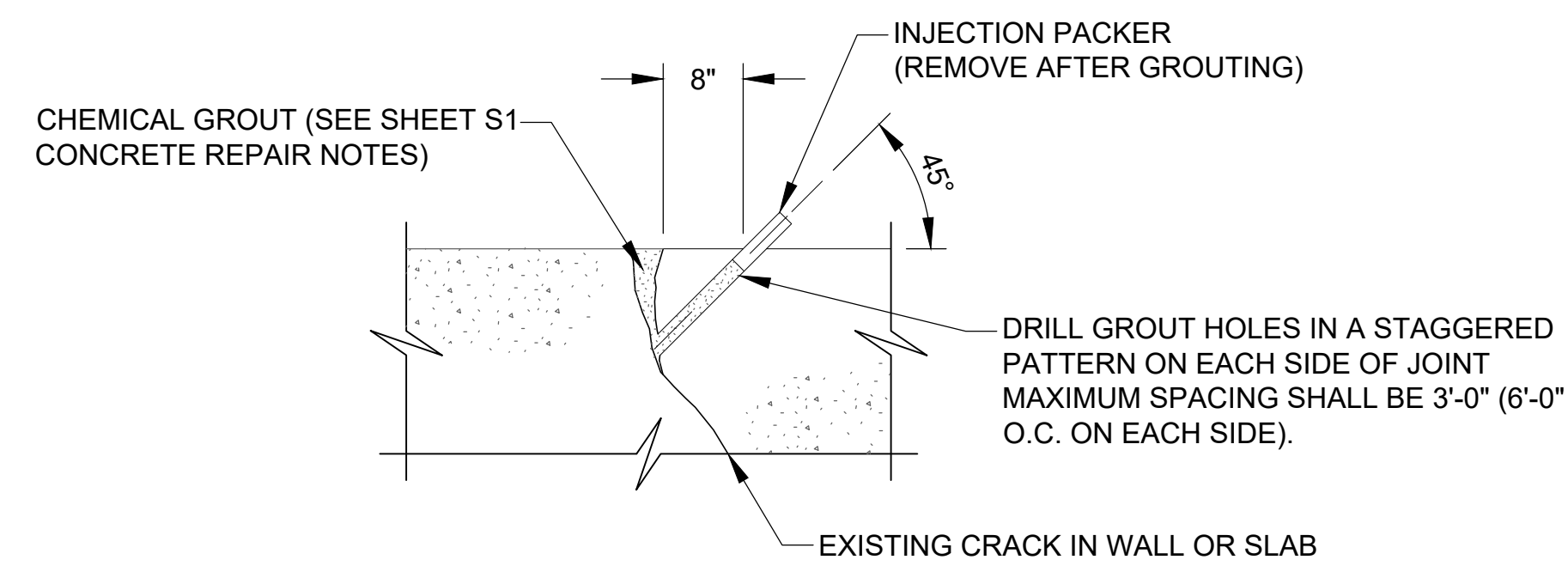
**S10**  
1  
SHALLOW MORTAR REPAIR  
FOR WALL / SLAB  
CONCRETE SURFACES  
NOT TO SCALE



**S10**  
3  
DEEP CONCRETE REPAIR FOR SLABS  
NOT TO SCALE



**S10**  
2  
DEEP CONCRETE REPAIR FOR WALLS  
NOT TO SCALE



**S10**  
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 AS DETAILED 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 DENEUF CONSTRUCTION CHEMICALS, INC., OR APPROVED EQUAL.

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

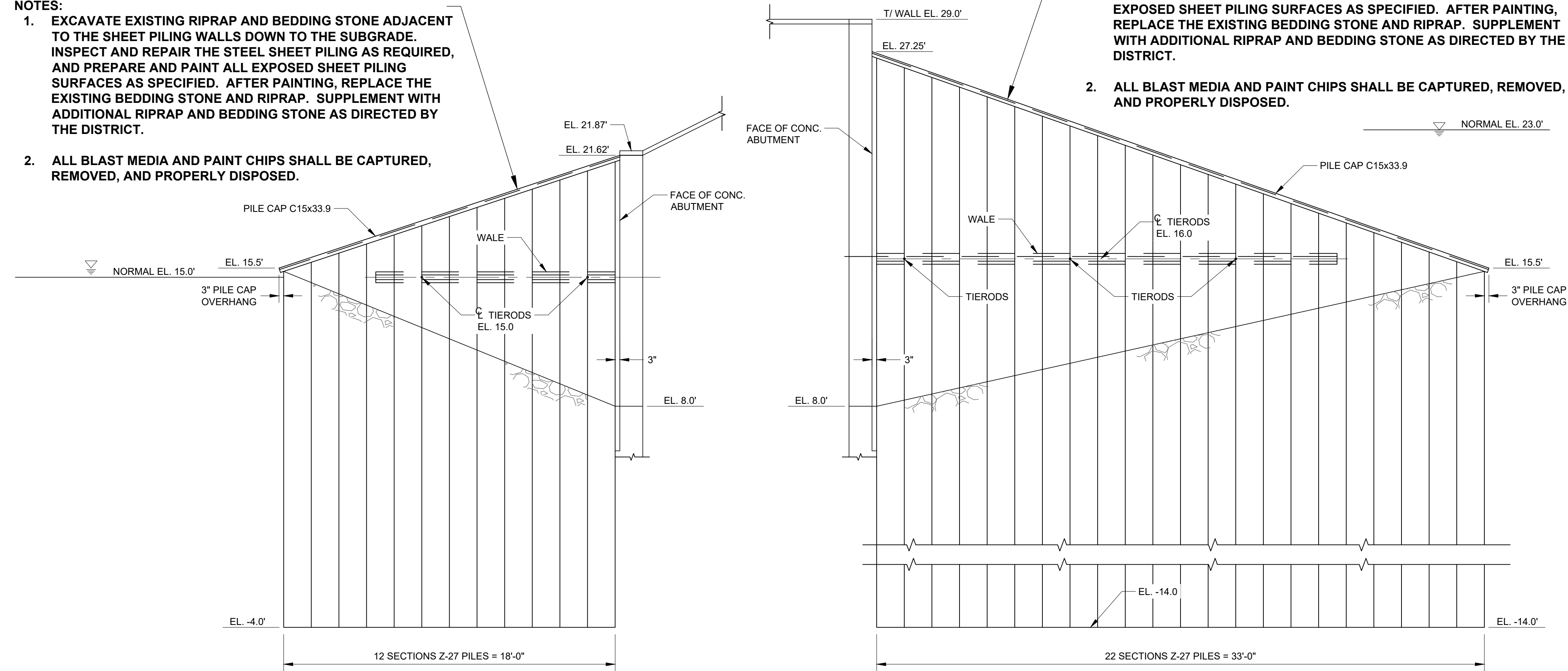
CONCRETE REPAIR - TYPICAL DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

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

**NOTES:**

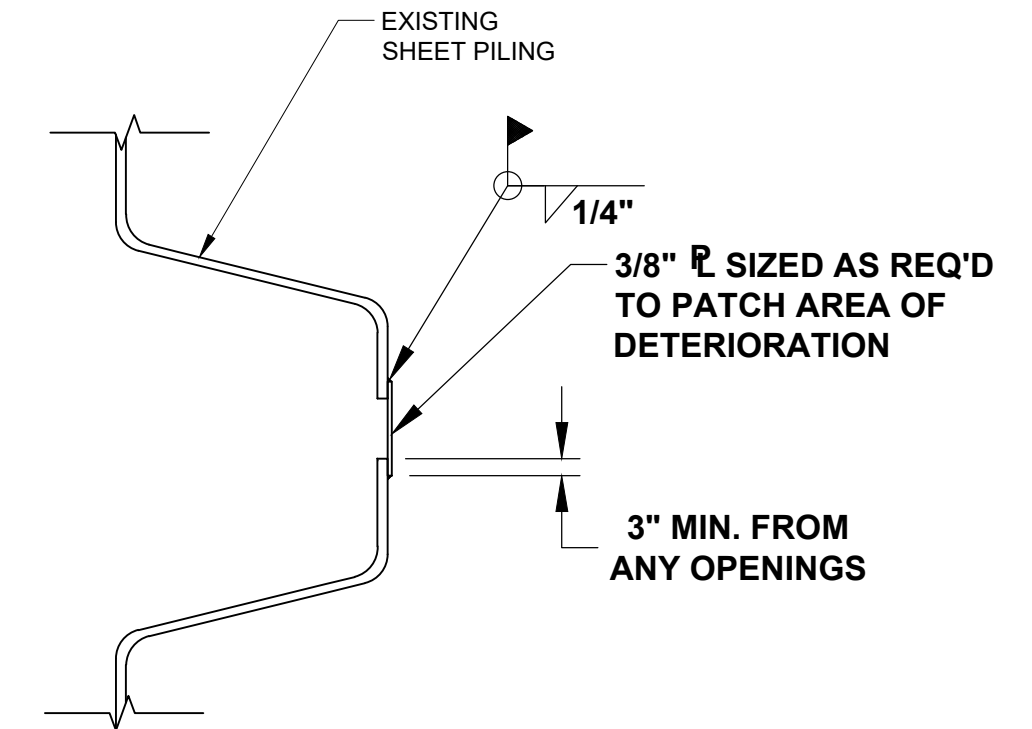
- EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO THE SUBGRADE. INSPECT AND REPAIR THE STEEL SHEET PILING AS REQUIRED, AND PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES AS SPECIFIED. AFTER PAINTING, REPLACE THE EXISTING BEDDING STONE AND RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.
- ALL BLAST MEDIA AND PAINT CHIPS SHALL BE CAPTURED, REMOVED, AND PROPERLY DISPOSED.



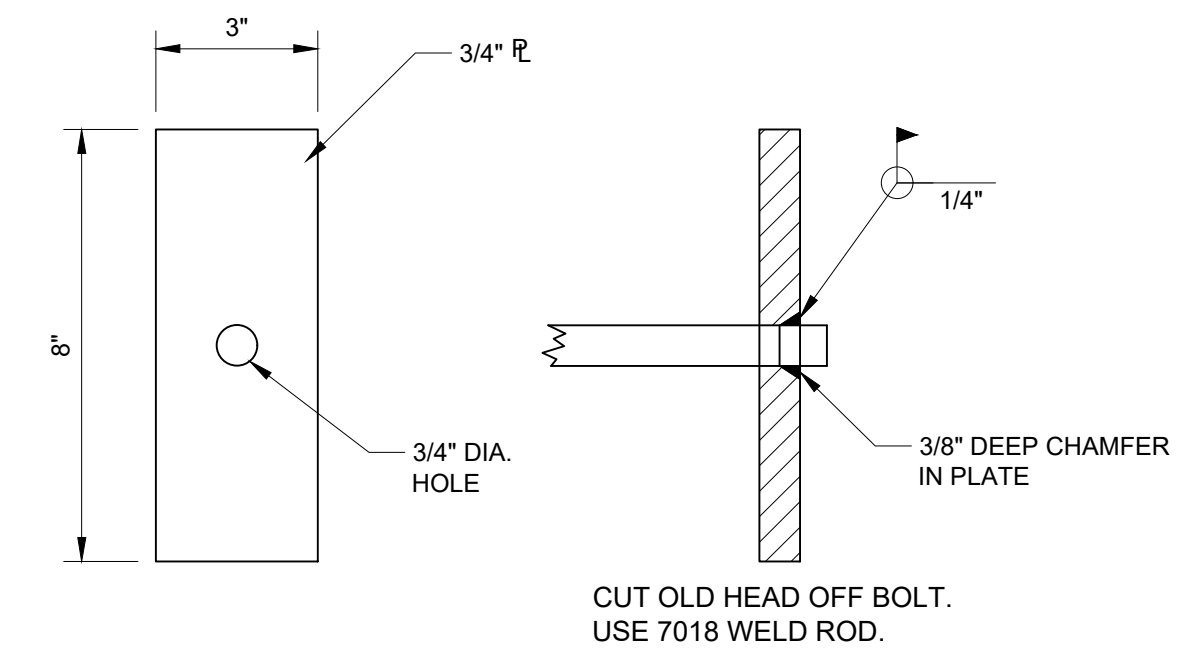
**S11 1** SOUTH WINGWALLS ELEVATION  
NORTH WINGWALLS ELEVATION (OPPOSITE HAND)  
SCALE: 1/4" = 1'-0"

**NOTES:**

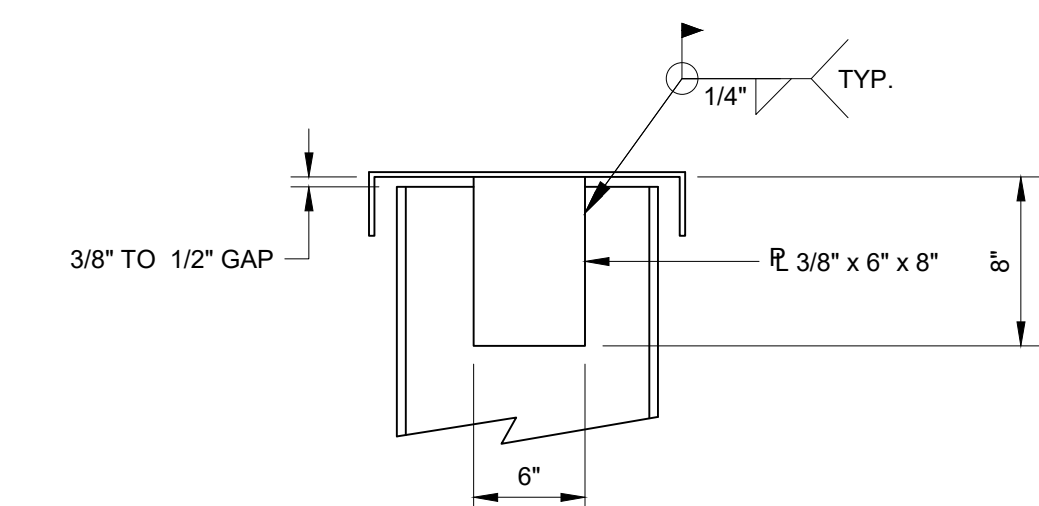
- EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO THE SUBGRADE. INSPECT AND REPAIR THE STEEL SHEET PILING AS REQUIRED, AND PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES AS SPECIFIED. AFTER PAINTING, REPLACE THE EXISTING BEDDING STONE AND RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.
- ALL BLAST MEDIA AND PAINT CHIPS SHALL BE CAPTURED, REMOVED, AND PROPERLY DISPOSED.



**S11 2** TYPICAL SHEET PILING REPAIR DETAIL  
NOT TO SCALE



**S11 3** SHEET PILE BOLTED CONNECTION REPAIR (10 REQ'D)  
NOT TO SCALE



**S11 4** CAP PLATE DETAIL (34 REQ'D)  
NOT TO SCALE

**FOR BID PURPOSES ONLY  
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UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96 REHABILITATION  
BREVARD COUNTY, FLORIDA

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

SHEET PILING REPAIR - WINGWALL  
ELEVATION AND DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

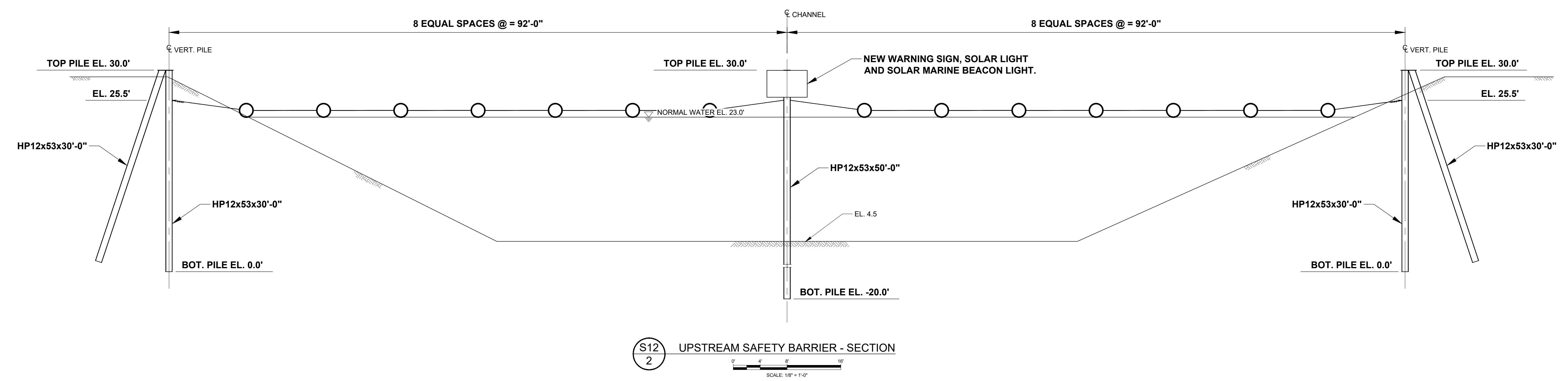
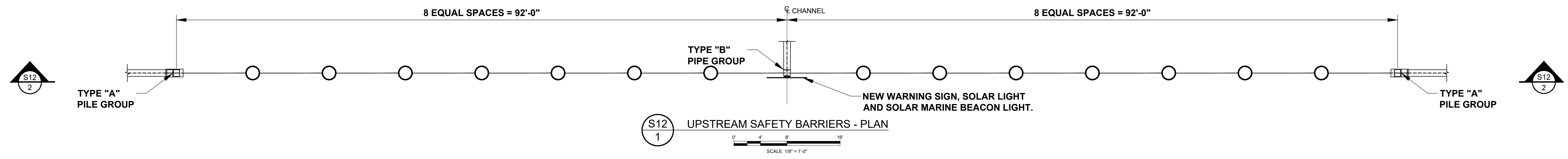
FILE NAME:  
S-96 STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S11**





**NOTES:**

1. REMOVE AND DISPOSE EXISTING TIMBER PILES AND REPLACE WITH STEEL PILES AS SHOWN.
2. REMOVE AND DISPOSE EXISTING SAFETY BARRIERS. NEW FLOATING SAFETY BARRIERS SHALL BE TUFFBUOY AS MANUFACTURED BY WORTHINGTON PRODUCTS, INC., OR EQUAL. FLOATS SHALL 24" X 36" OVAL TYPE PT THROUGH CABLE DESIGN, AND ORANGE COLOR WITH REFLECTIVE STRIPE. ALL METAL COMPONENTS SHALL BE STAINLESS STEEL.
3. SOLAR MARINE BEACON LIGHT (1) FOR THE TYPE B PILE GROUP SHALL BE MODEL SNL-003 WHITE COLOR AS MANUFACTURED BY BRITTA PRODUCTS INC., OR EQUAL. THIS PRODUCT IS AVAILABLE AT PILOTLIGHT.NET.
4. SOLAR LIGHTS FOR THE WARNING SIGNS (3) SHALL BE MODEL C5SN07 AS MANUFACTURED BY LEDLIGHTING SOLUTIONS (LEDLIGHTING-SOLUTIONS.COM), OR EQUAL.



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NO.	REVISION	BY	DATE	APPROVED	DATE

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

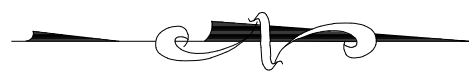
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G.	DATE: MAY 14, 2021	REVIEWER: W.R.C.
SCALE: 1/8" = 1'-0"	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.

UPSTREAM SAFETY BARRIER

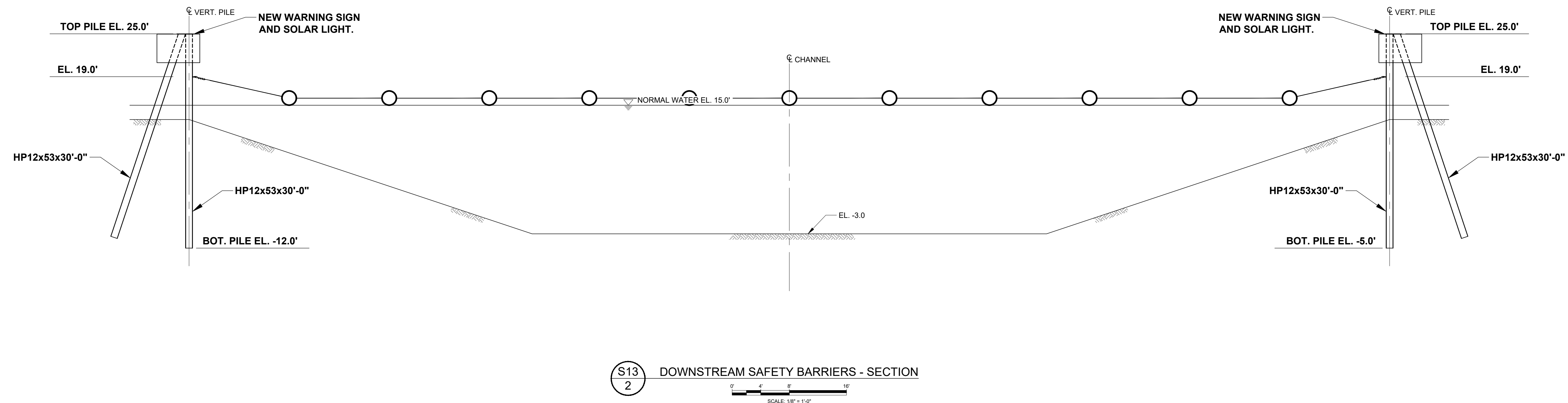
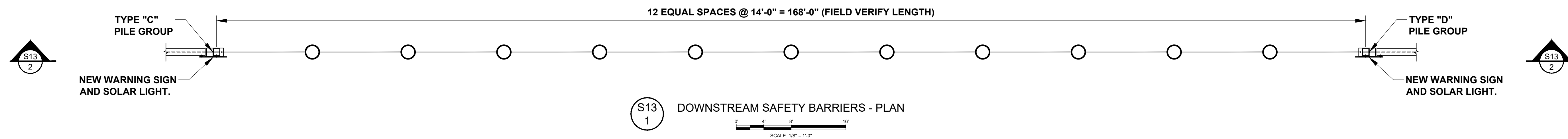
CERTIFICATION:	WILLIAM R. COTE
P.E. NUMBER:	53746
DATE:	MAY 14, 2021

FILE NAME:	S-96 STRUCTURE.dwg
PROJECT NO.:	
SHEET:	S12



**NOTES:**

1. REMOVE AND DISPOSE EXISTING TIMBER PILES AND REPLACE WITH STEEL PILES AS SHOWN.
2. REMOVE AND DISPOSE EXISTING SAFETY BARRIERS. NEW FLOATING SAFETY BARRIERS SHALL BE TUFFBUOY AS MANUFACTURED BY WORTHINGTON PRODUCTS, INC., OR EQUAL. FLOATS SHALL 24" X 36" OVAL TYPE PT THROUGH CABLE DESIGN, AND ORANGE COLOR WITH REFLECTIVE STRIPE. ALL METAL COMPONENTS SHALL BE STAINLESS STEEL.
3. SOLAR LIGHTS FOR THE WARNING SIGNS (3) SHALL BE MODEL C5SN07 AS MANUFACTURED BY LEDLIGHTING SOLUTIONS (LEDLIGHTING-SOLUTIONS.COM), OR EQUAL.



**FOR BID PURPOSES ONLY  
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UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96 REHABILITATION  
BREVARD COUNTY, FLORIDA

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.

SCALE: 1/8" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

DOWNSTREAM SAFETY BARRIER

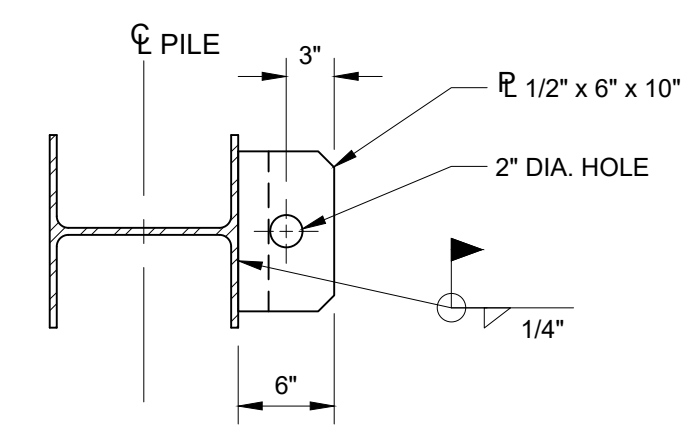
CERTIFICATION:

WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

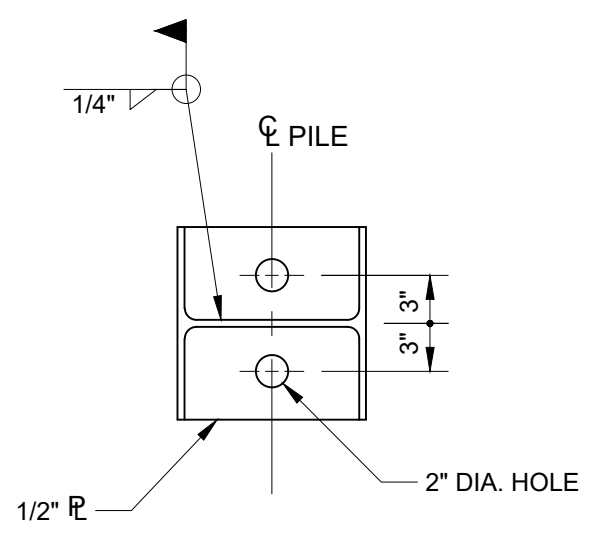
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S-96 STRUCTURE.dwg

PROJECT NO.:

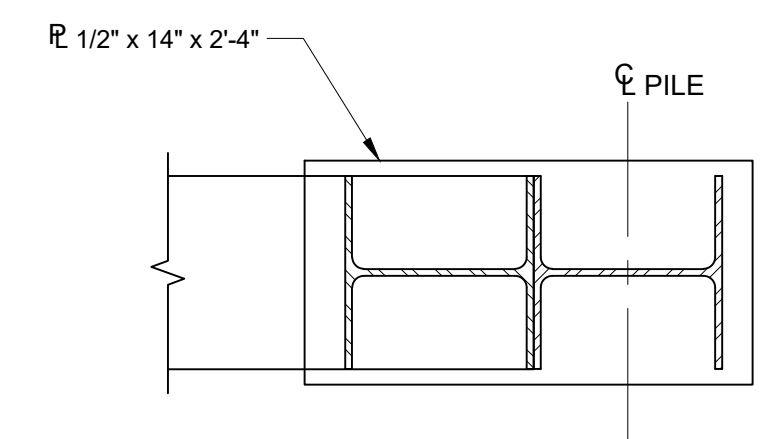
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**S13**



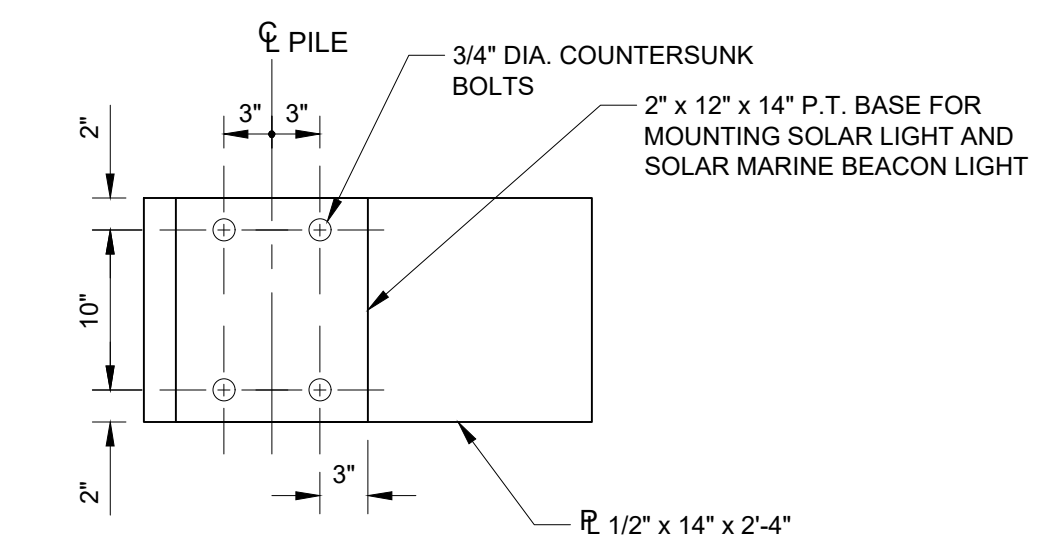
SECTION A-A



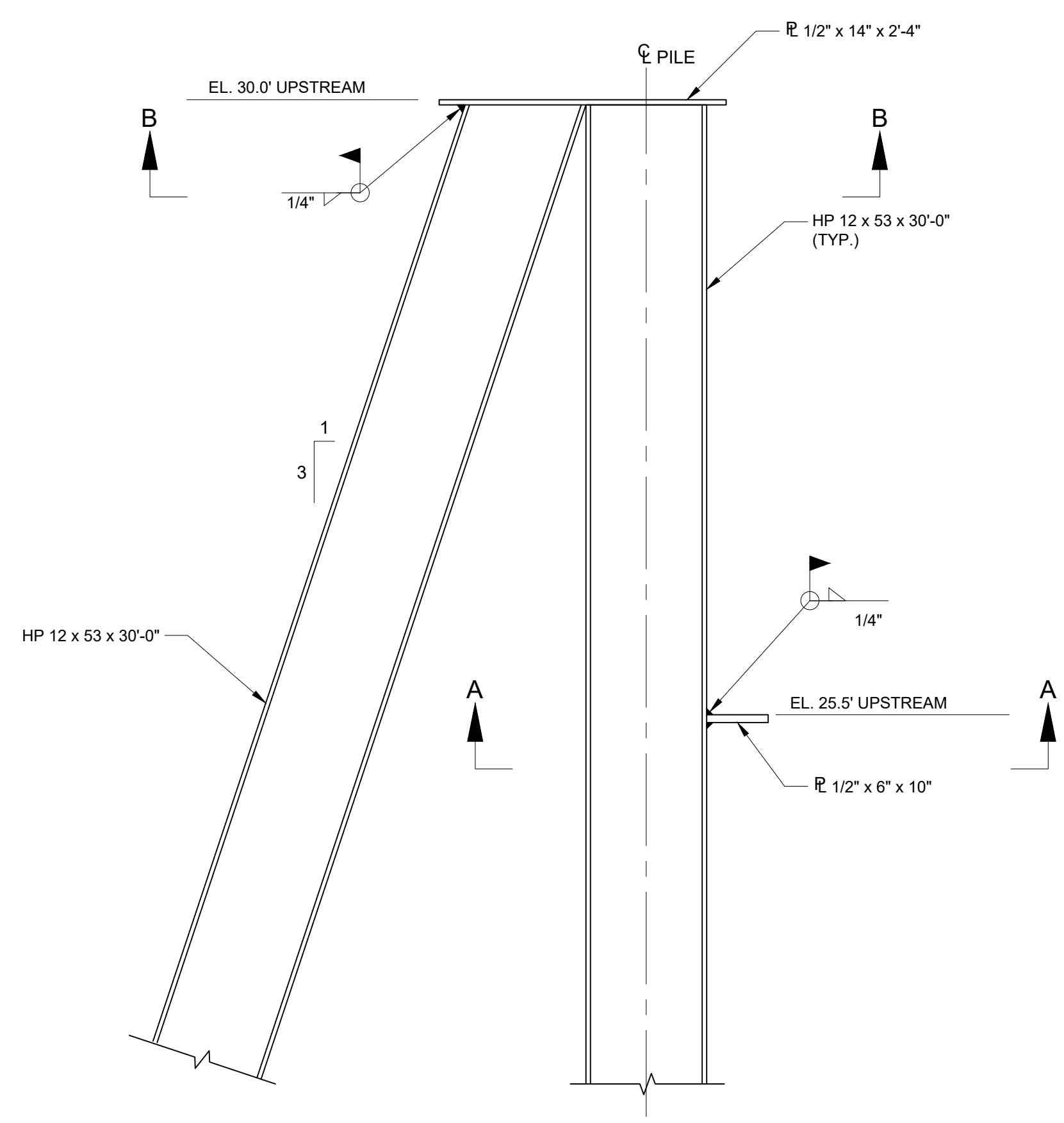
SECTION C-C



SECTION B-B

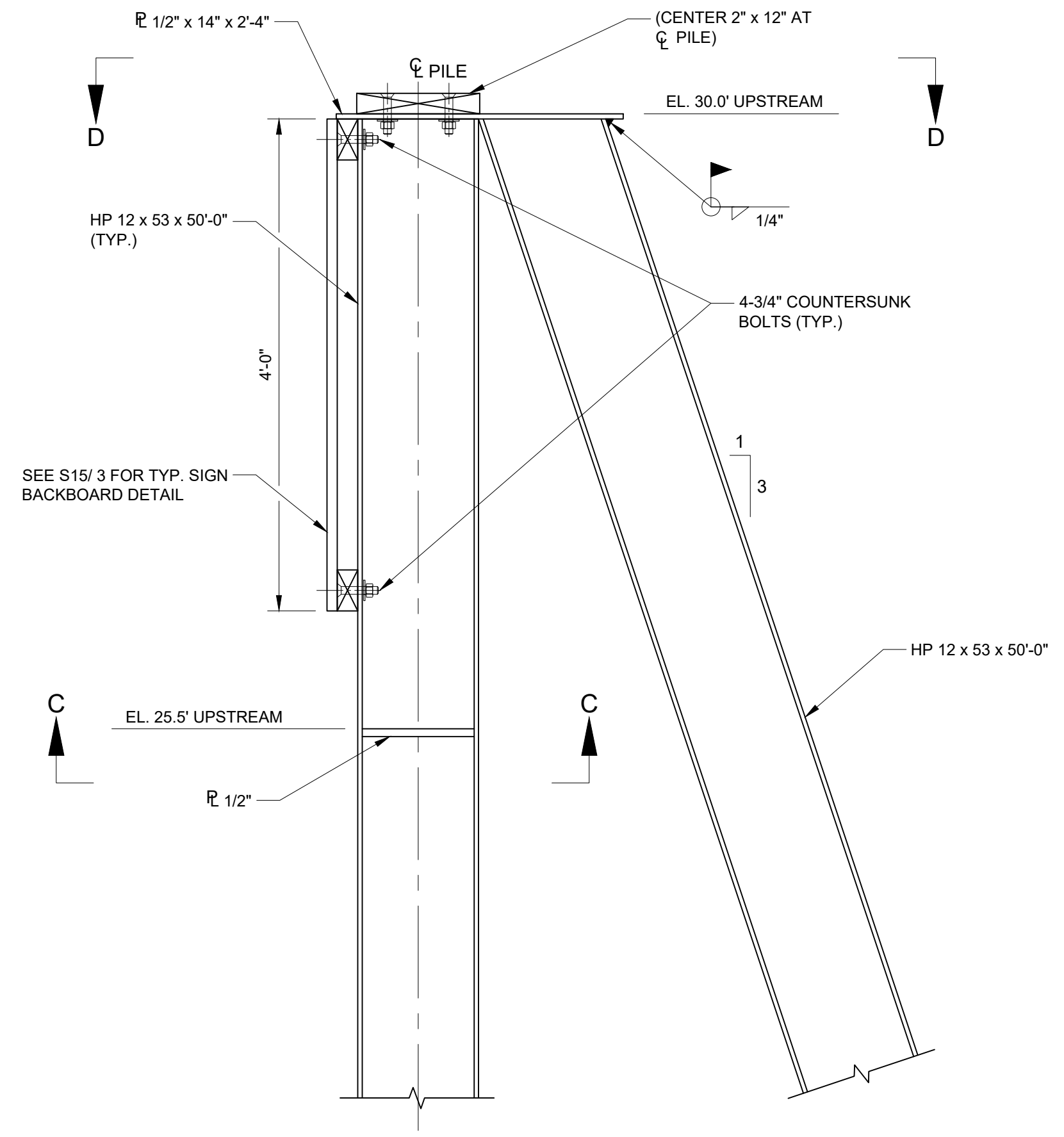


SECTION D-D



ELEVATION

S14 1 TYPE "A" PILE GROUP (2 REQ'D) (1 AS SHOWN), (1 OPP. HAND)  
SCALE: 1" = 1'-0"



ELEVATION

S14 2 TYPE "B" PILE GROUP (1 REQ'D)  
SCALE: 1" = 1'-0"

**NOTE SPECIFICATIONS:**

**STRUCTURAL 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", LATEST EDITION.
2. 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.
3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1. ALL WELDING SHALL UTILIZE E70XX ELECTRODES UNLESS NOTED OTHERWISE.

**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". STEEL SURFACE PREPARATION SHALL BE SSPC-10 NEAR WHITE BLAST CLEANING.
2. PROTECTIVE COATING FOR STRUCTURAL STEEL 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: LIGHT GRAY  
 SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

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1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

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

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
 SCALE: 1" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

UPSTREAM TYPE A AND TYPE B  
PILE GROUP DETAILS

CERTIFICATION:

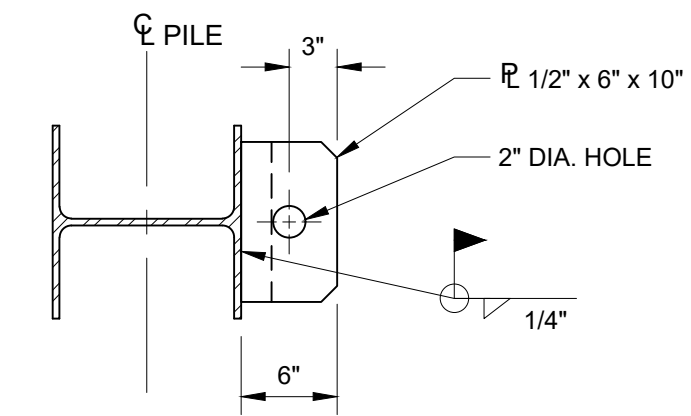
WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

FILE NAME:  
S-96 STRUCTURE.dwg

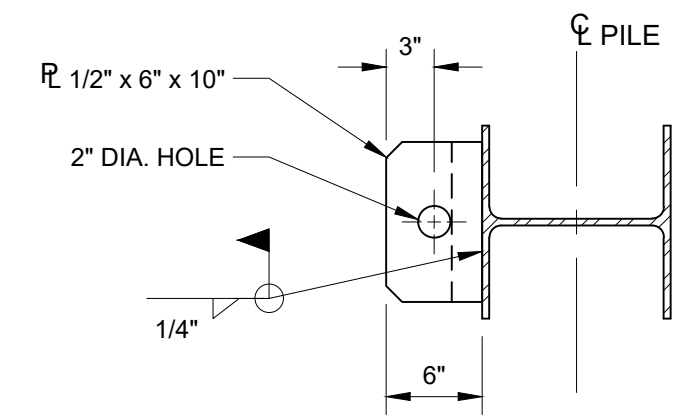
PROJECT NO.:

SHEET:  
S14

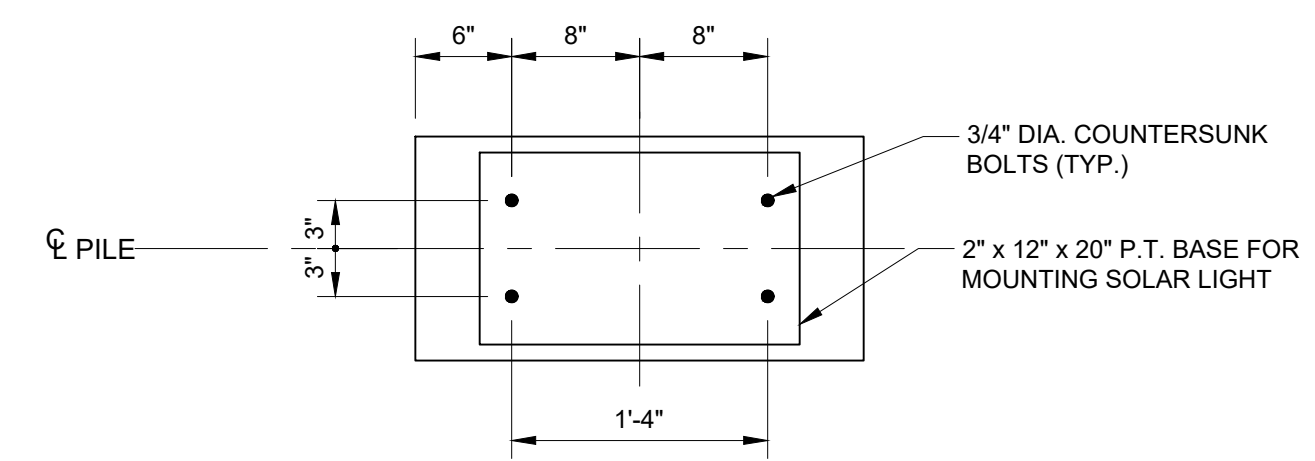




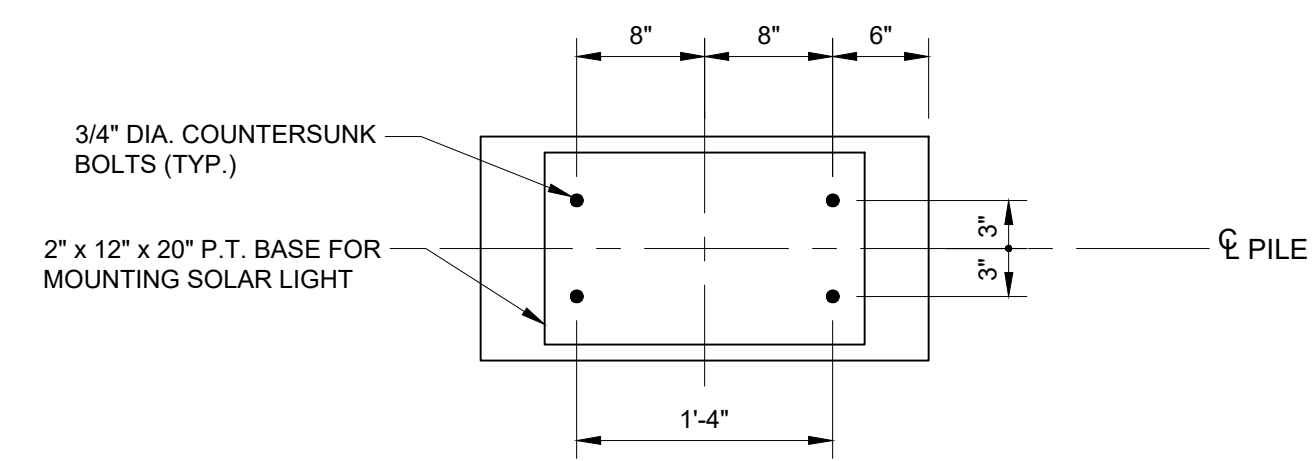
SECTION E-E



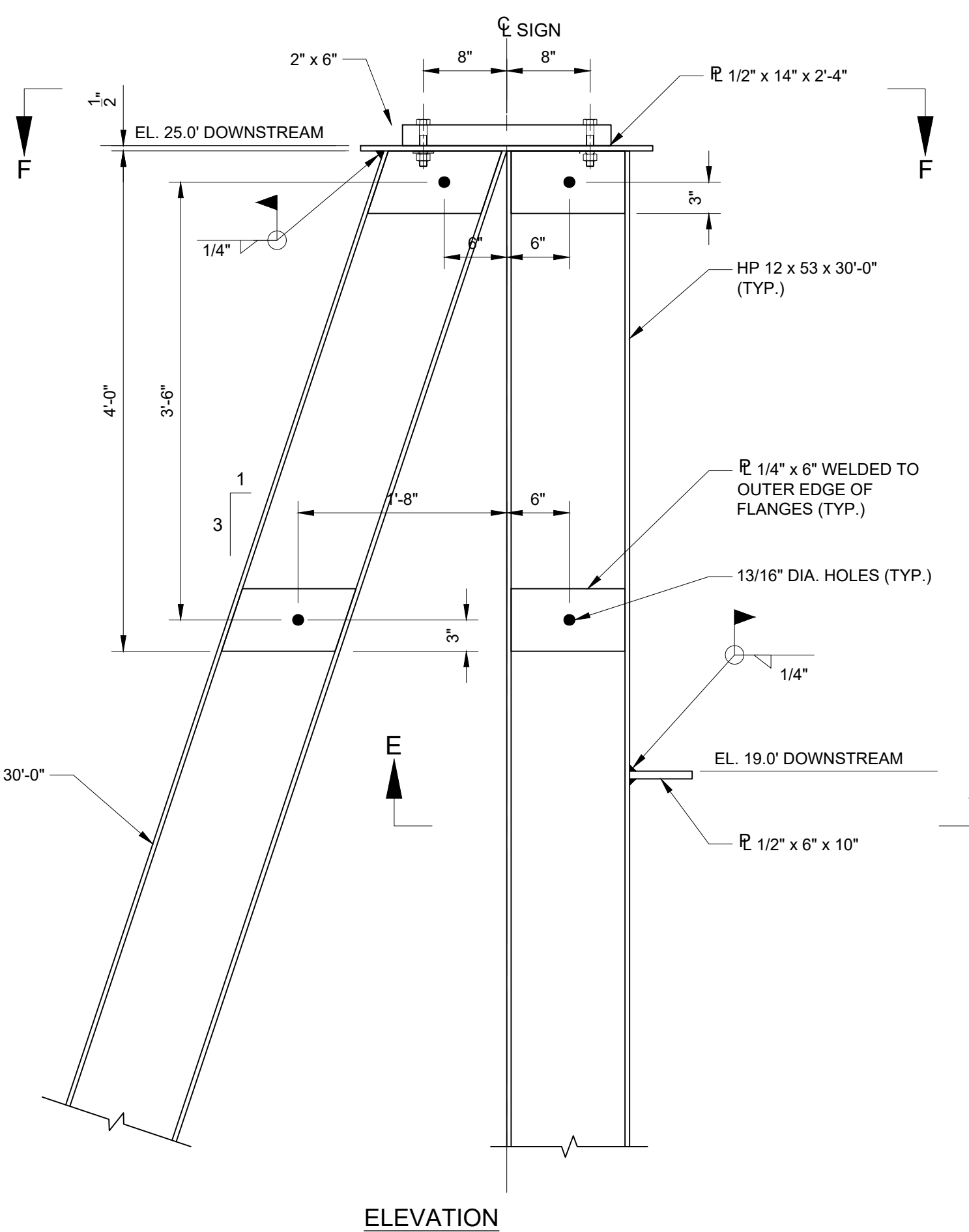
SECTION E-E



SECTION F-F

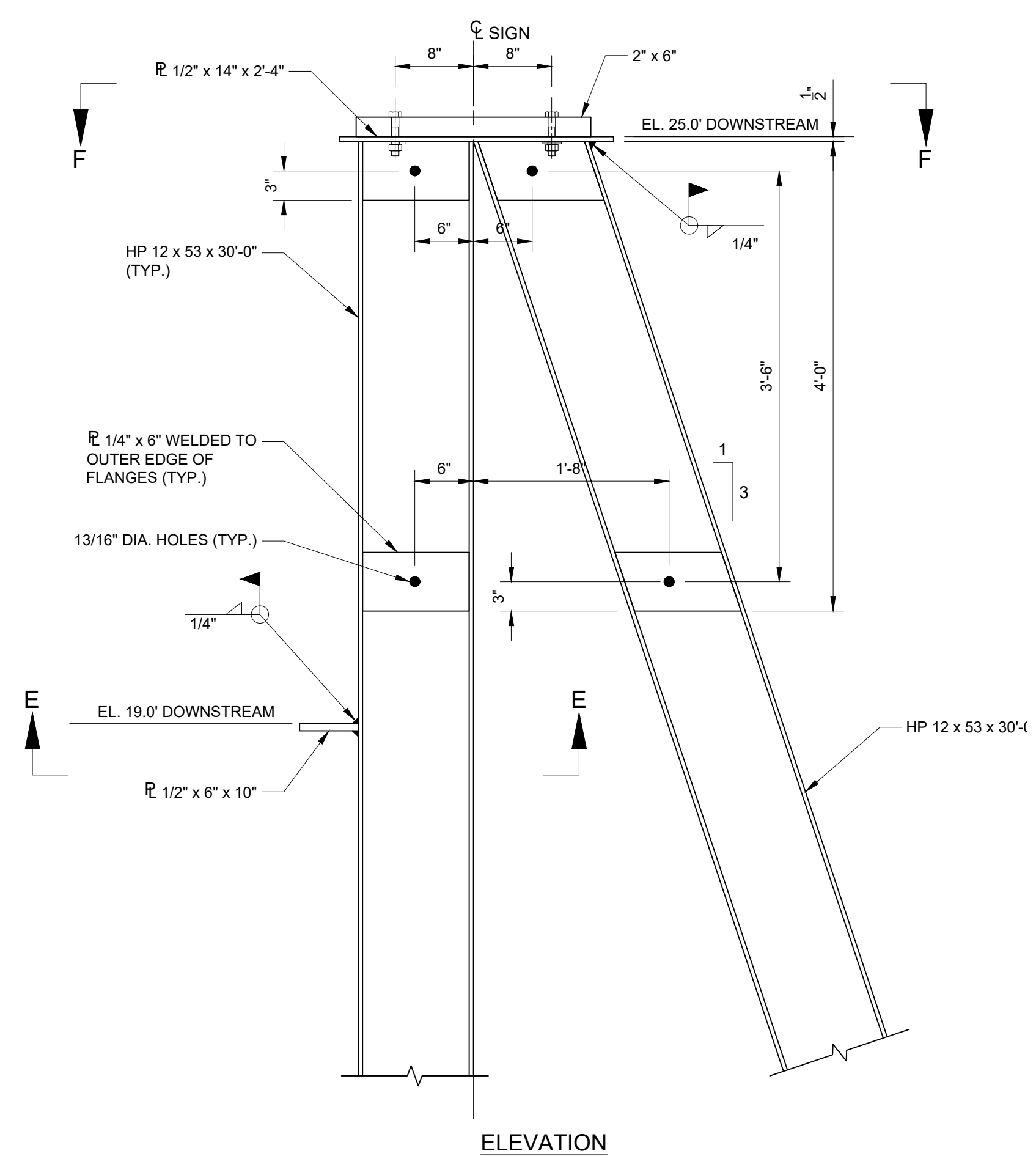


SECTION F-F



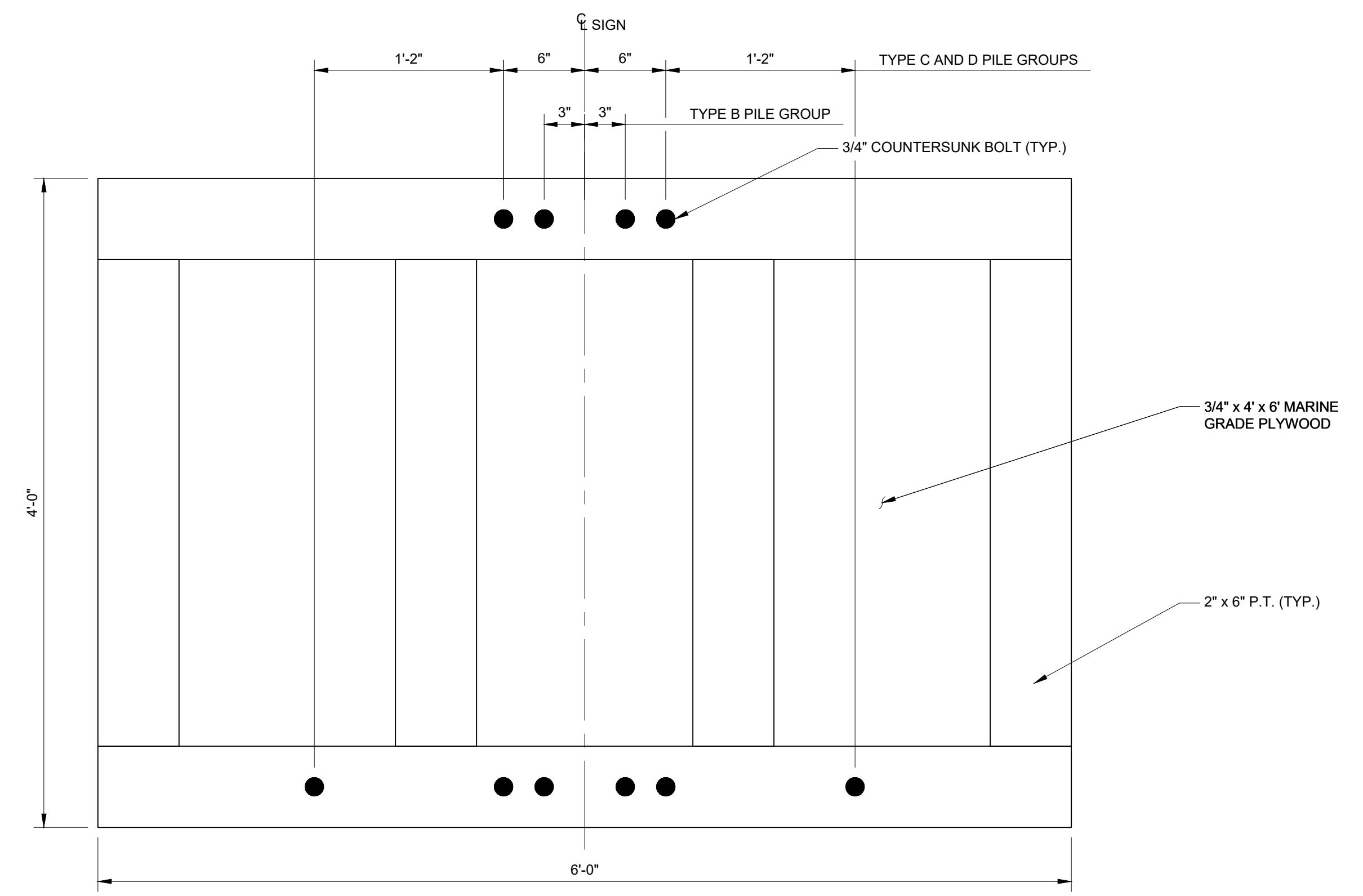
ELEVATION

S15 1 TYPE "C" PILE GROUP (1 REQ'D) (SOUTH BANK)  
SCALE: 1" = 1'-0"

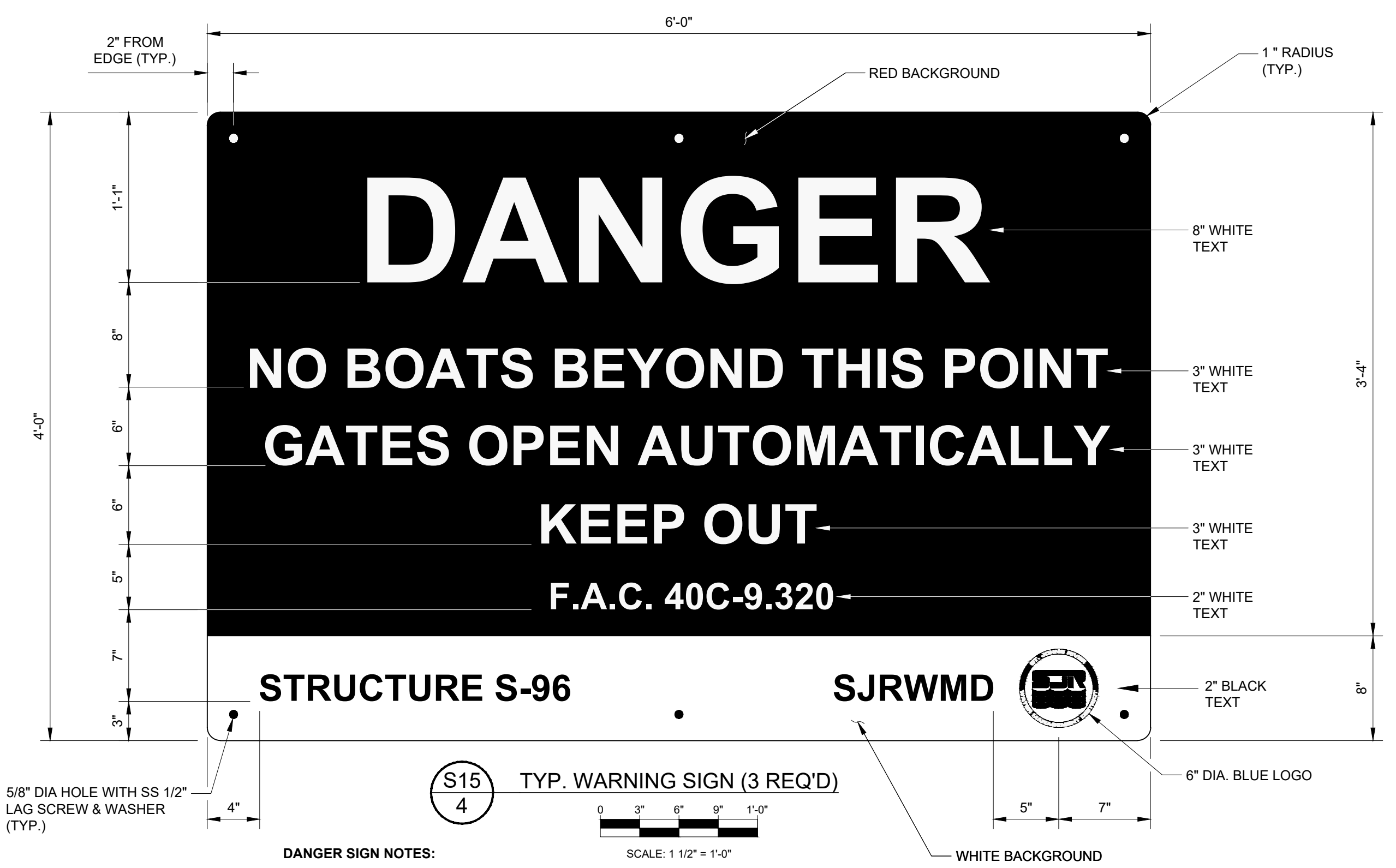


ELEVATION

S15 2 TYPE "D" PILE GROUP (1 REQ'D) (NORTH BANK)  
SCALE: 1" = 1'-0"



S15 3 TYP. SIGN BACKBOARD (3 REQ'D)  
SCALE: 1 1/2" = 1'-0"



S15 4 TYP. WARNING SIGN (3 REQ'D)  
SCALE: 1 1/2" = 1'-0"

- DANGER SIGN NOTES:**
- SIGN MATERIAL SHALL BE 0.08" THICK ALUMINUM.
  - THE RED AND WHITE BACKGROUNDS SHALL BE RETROREFLECTIVE.
  - THE TEXT FONT STYLE SHALL BE AERIAL BOLD AND ALL TEXT SHALL BE RETROREFLECTIVE.
  - COLOR OF LOGO SHALL BE DEVCOE DC9800 SAFETY BLUE.

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

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

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

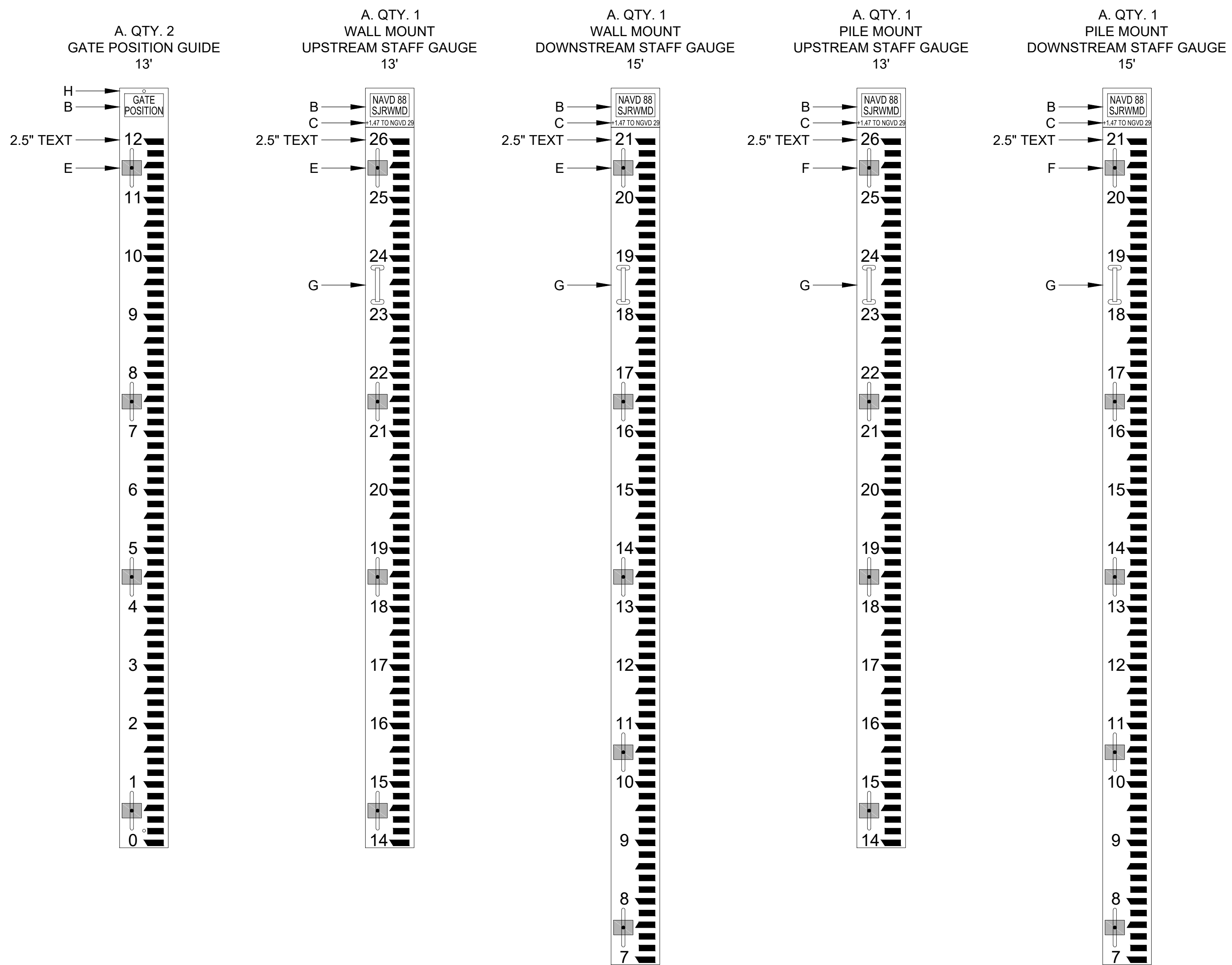
DOWNSTREAM TYPE C AND TYPE D  
PILE GROUP AND SIGN DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

FILE NAME:  
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PROJECT NO.:  
SHEET:  
S15

ALL HASH MARKS ARE  
1.2" IN HEIGHT

4" WIDE  
3.25" WIDE



**MATERIALS KEY:**

- A. STAFF GAUGES AND GATE POSITION GUIDES:  
2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
- B. TITLE PLAQUE INSERT:  
WHITE WITH RED LETTERING.
- C. NGVD29 OFFSET = +1.47
- D. STAFF GAUGE SPLICE LINES (IF REQUIRED).
- E. WALL MOUNTED STAFF GAUGES AND GATE POSITION GUIDES:  
ALL SLOTS ARE 0.6875"x7.3125". THRU HOLES ARE 5/8" DIAMETER.  
PROVIDE SS WASHERS 1/2"x3"x4" AND SS CONCRETE ANCHORS.
- F. PILE MOUNTED STAFF GAUGES:  
ALL SLOTS ARE 0.6875"x7.3125". THRU HOLES ARE 5/8" DIAMETER.  
PROVIDE SS WASHERS 1/2"x3"x4" AND SS HEX HEAD THRU-BOLT 5/8"x4" FOR MOUNTING TO H-PILES.
- G. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
- H. 5/16" DIAMETER THRU HOLE WITH CONCRETE SCREW.

**HARDWARE:**

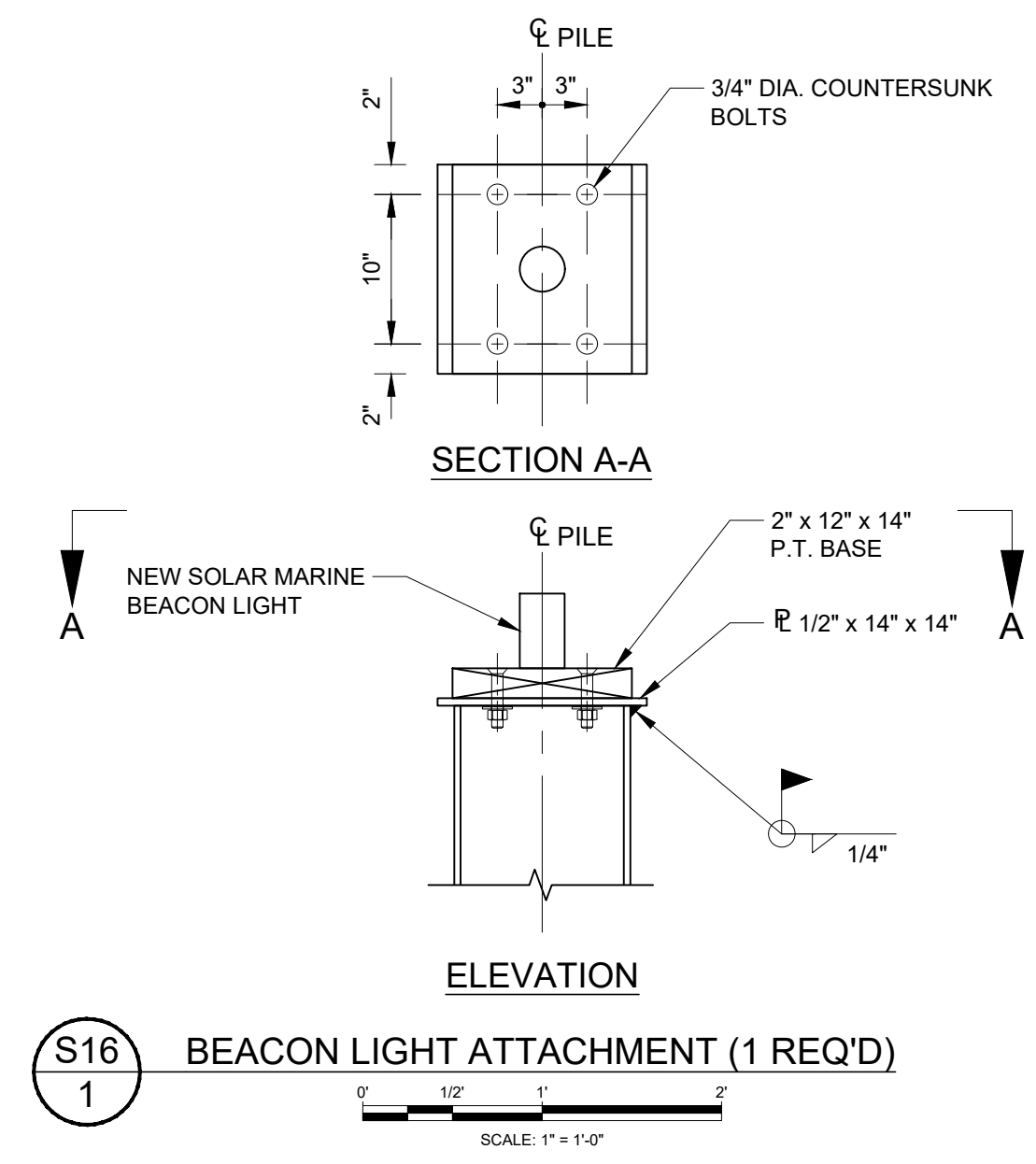
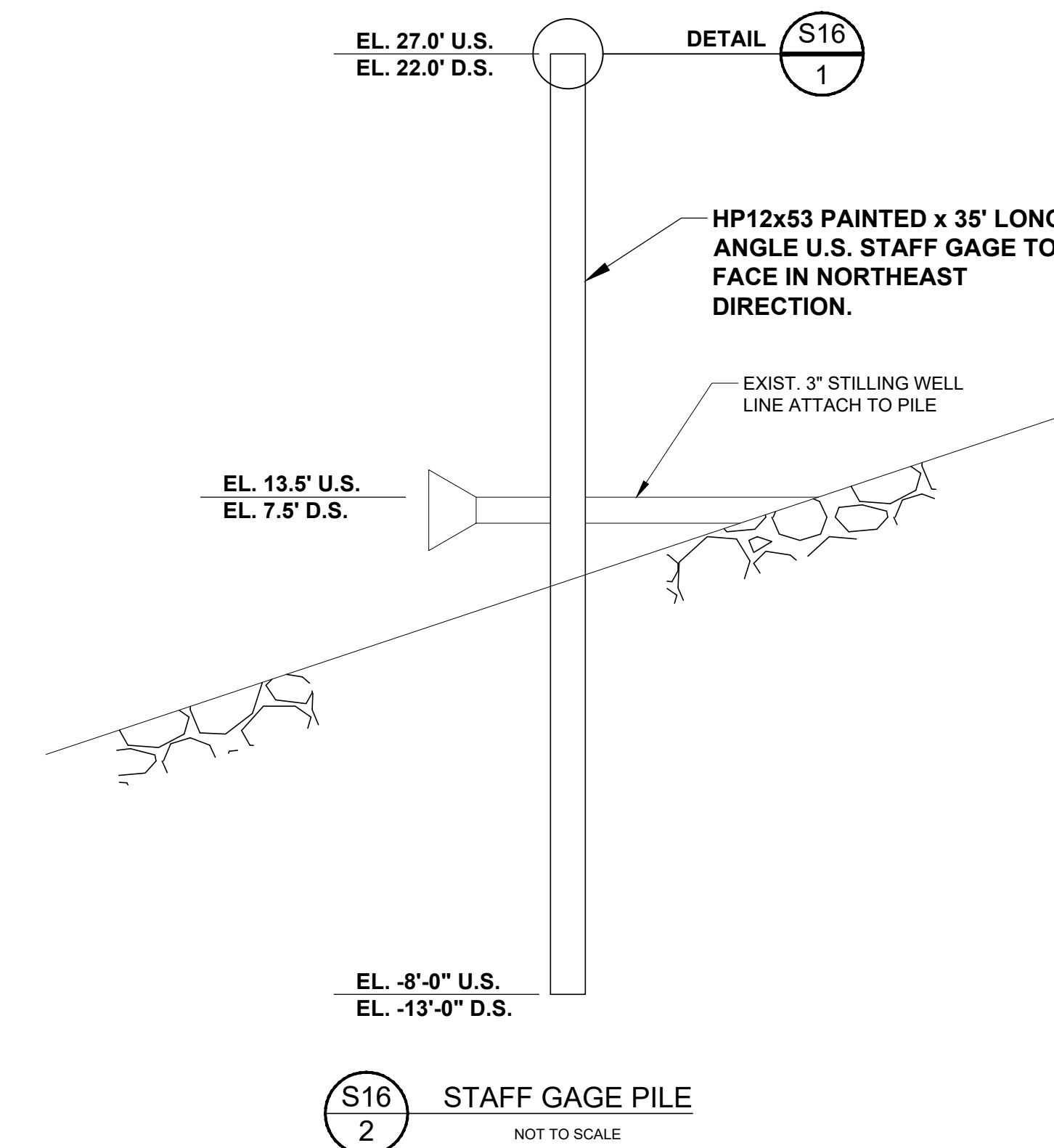
ALL HARDWARE SHALL BE STAINLESS STEEL.

**SOLAR LIGHTS:**

SOLAR MARINE BEACON LIGHTS (2) FOR THE STAFF GAUGE PILES SHALL BE MODEL SNL-003 WHITE COLOR AS MANUFACTURED BY BRITTA PRODUCTS INC., OR EQUAL. THIS PRODUCT IS AVAILABLE AT PILOTLIGHT.NET.

**DATUM:**

**ELEVATIONS ON THIS SHEET ARE IN NAVD88.  
NAVD88 = NGVD29 - 1.47 FEET.**



**S16 1** BEACON LIGHT ATTACHMENT (1 REQ'D)  
SCALE: 1" = 1'-0"

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

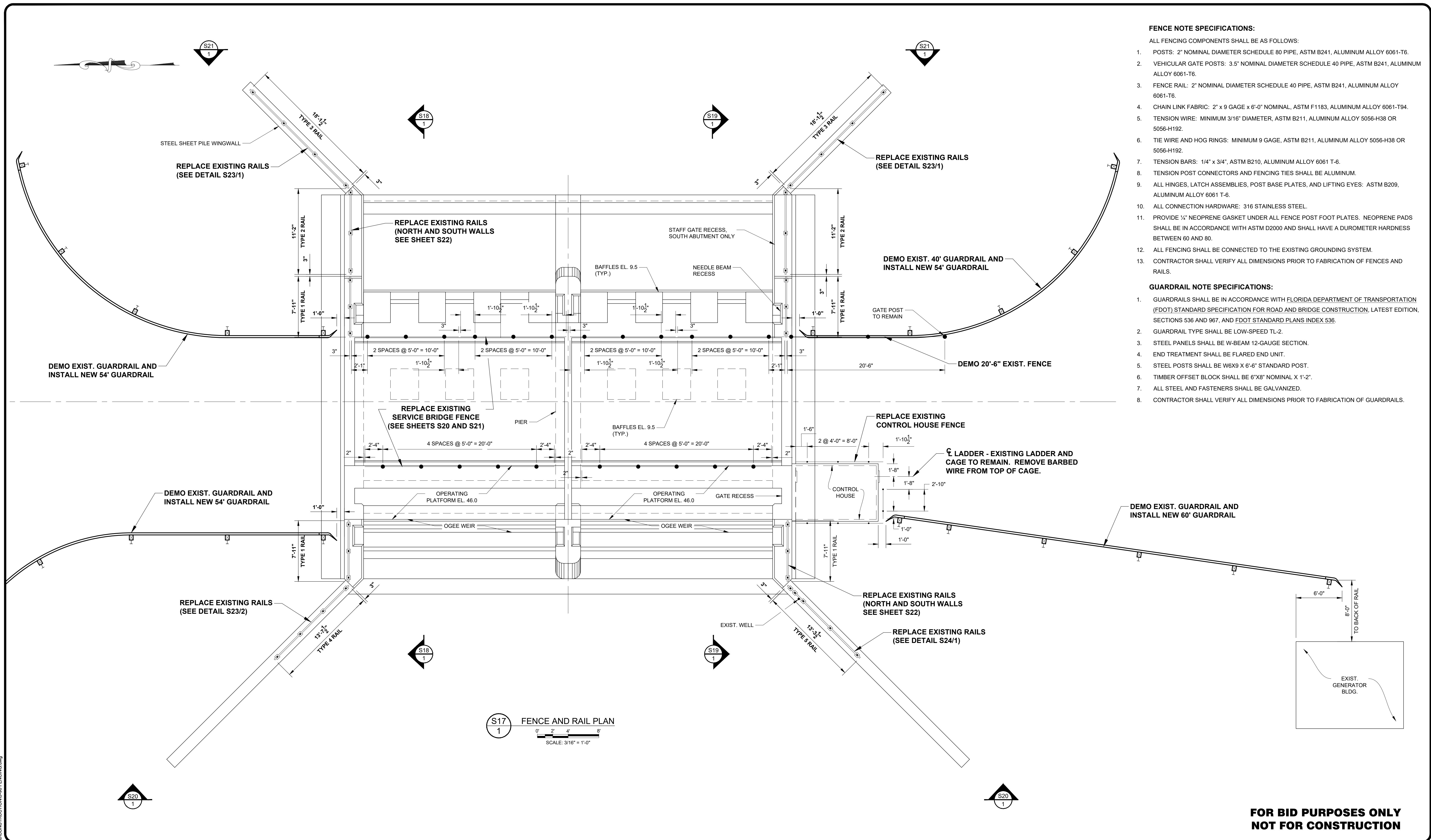
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

**NEW STAFF GAUGES & GATE POSITION GUIDES**

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

FILE NAME:  
S-96 FENCING.dwg  
PROJECT NO.:  
SHEET:  
**S16**



- FENCE NOTE SPECIFICATIONS:**
- ALL FENCING COMPONENTS SHALL BE AS FOLLOWS:
- POSTS: 2" NOMINAL DIAMETER SCHEDULE 80 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  - VEHICULAR GATE POSTS: 3.5" NOMINAL DIAMETER SCHEDULE 40 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  - FENCE RAIL: 2" NOMINAL DIAMETER SCHEDULE 40 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  - CHAIN LINK FABRIC: 2" x 9 GAGE x 6'-0" NOMINAL, ASTM F1183, ALUMINUM ALLOY 6061-T94.
  - TENSION WIRE: MINIMUM 3/16" DIAMETER, ASTM B211, ALUMINUM ALLOY 5056-H38 OR 5056-H192.
  - TIE WIRE AND HOG RINGS: MINIMUM 9 GAGE, ASTM B211, ALUMINUM ALLOY 5056-H38 OR 5056-H192.
  - TENSION BARS: 1/4" x 3/4", ASTM B210, ALUMINUM ALLOY 6061 T-6.
  - TENSION POST CONNECTORS AND FENCING TIES SHALL BE ALUMINUM.
  - ALL HINGES, LATCH ASSEMBLIES, POST BASE PLATES, AND LIFTING EYES: ASTM B209, ALUMINUM ALLOY 6061 T-6.
  - ALL CONNECTION HARDWARE: 316 STAINLESS STEEL.
  - 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.
  - ALL FENCING SHALL BE CONNECTED TO THE EXISTING GROUNDING SYSTEM.
  - CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF FENCES AND RAILS.

- GUARDRAIL NOTE SPECIFICATIONS:**
- GUARDRAILS SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTIONS 536 AND 967, AND FDOT STANDARD PLANS INDEX 536.
  - GUARDRAIL TYPE SHALL BE LOW-SPEED TL-2.
  - STEEL PANELS SHALL BE W-BEAM 12-GAUGE SECTION.
  - END TREATMENT SHALL BE FLARED END UNIT.
  - STEEL POSTS SHALL BE W6X9 X 6'-6" STANDARD POST.
  - TIMBER OFFSET BLOCK SHALL BE 6"X8" NOMINAL X 1'-2".
  - ALL STEEL AND FASTENERS SHALL BE GALVANIZED.
  - CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF GUARDRAILS.

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

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

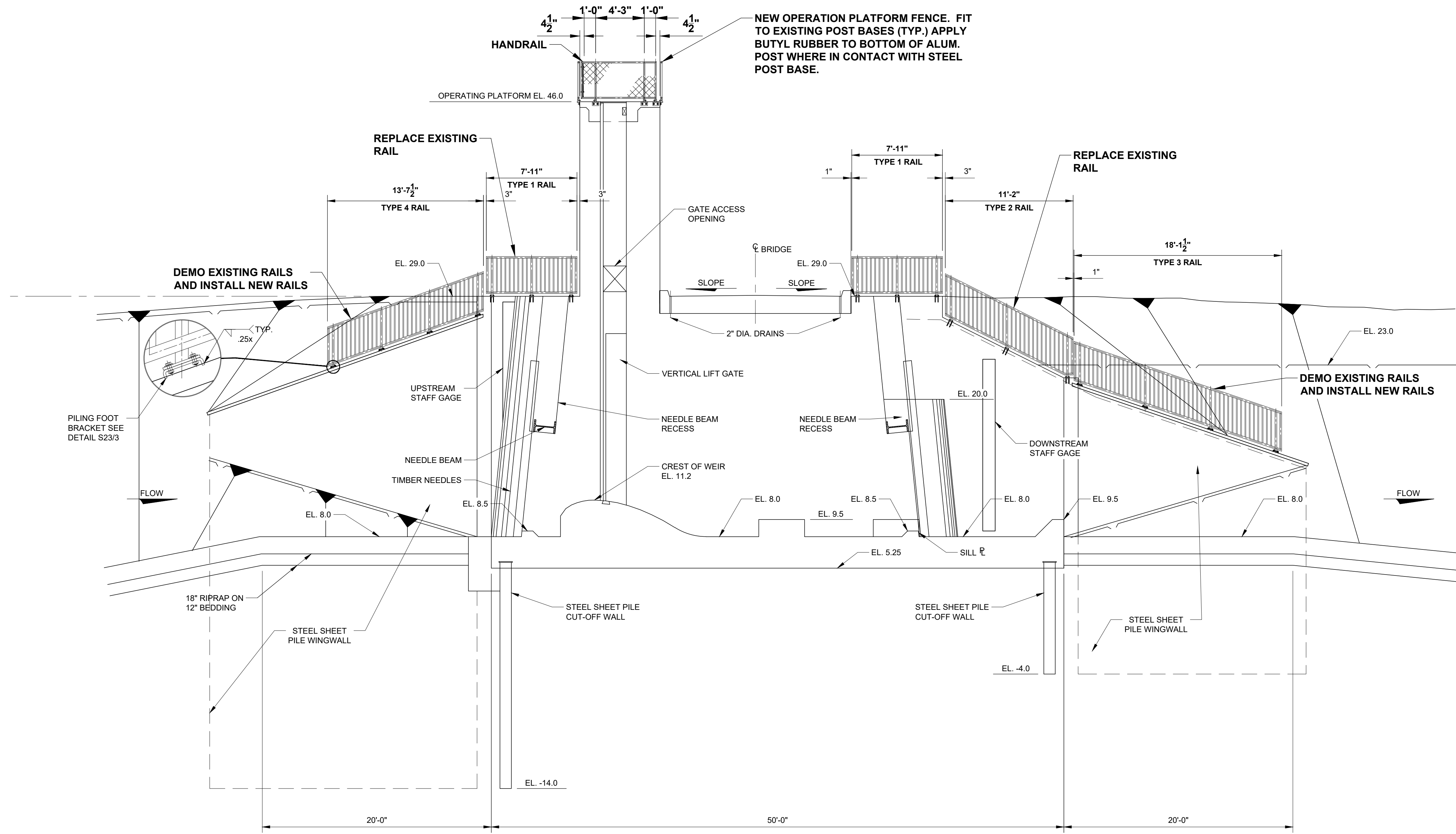
DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: 3/16" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

FENCE, HANDRAIL, AND GUARDRAIL  
REPLACEMENT PLAN

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

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





S18 SECTION - INSIDE NORTH ABUTMENT  
 1  
 SCALE: 3/16" = 1'-0"

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

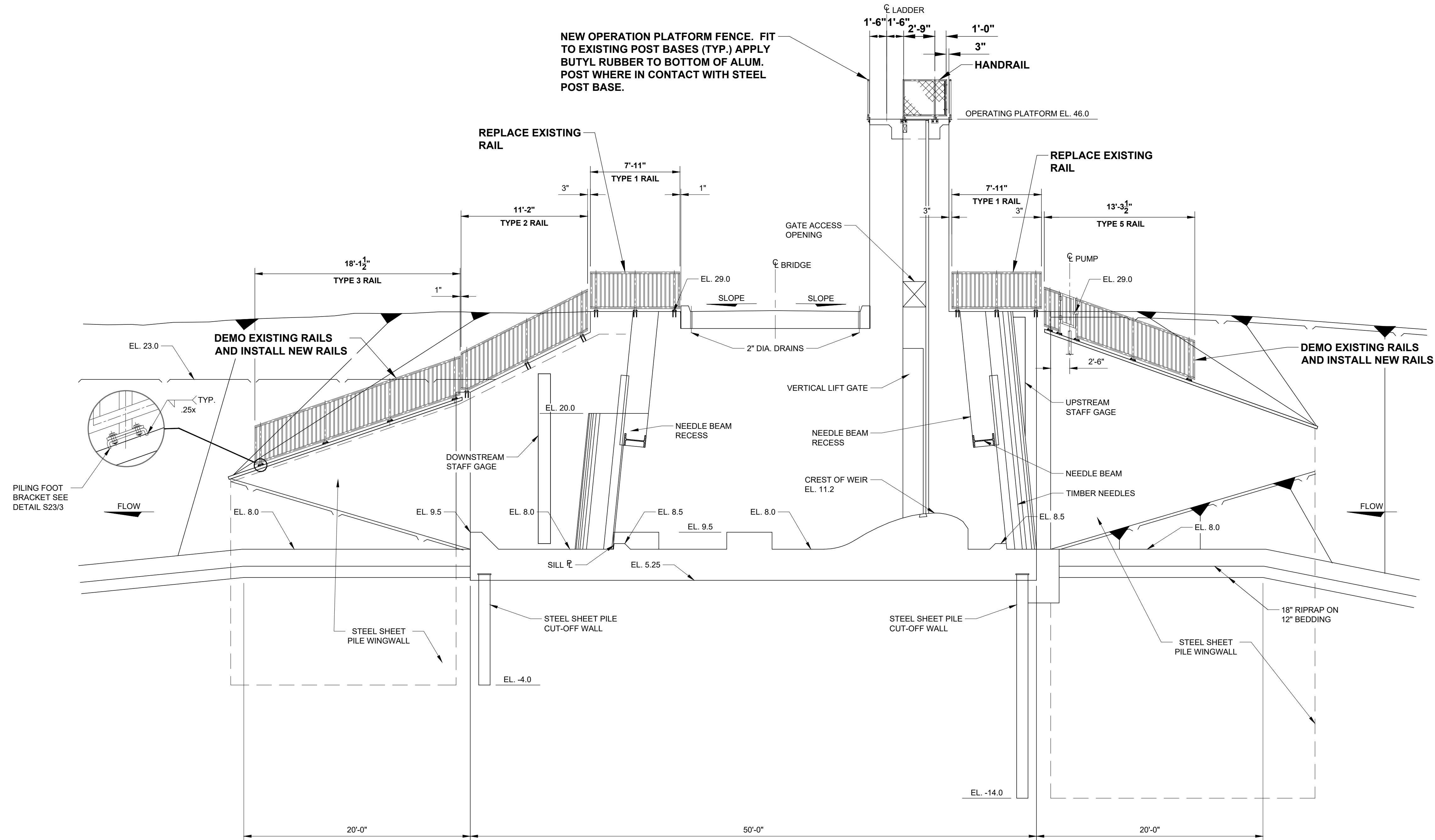
**ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT**  
 P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
 SCALE: 3/16" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

NEW NORTH WALL FENCE AND HANDRAILS

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

FILE NAME:  
 S-96 FENCING.dwg  
 PROJECT NO.:  
 SHEET:  
**S18**



**S19**  
1 SECTION - INSIDE SOUTH ABUTMENT  
SCALE: 3/16" = 1'-0"

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BREVARD COUNTY, FLORIDA

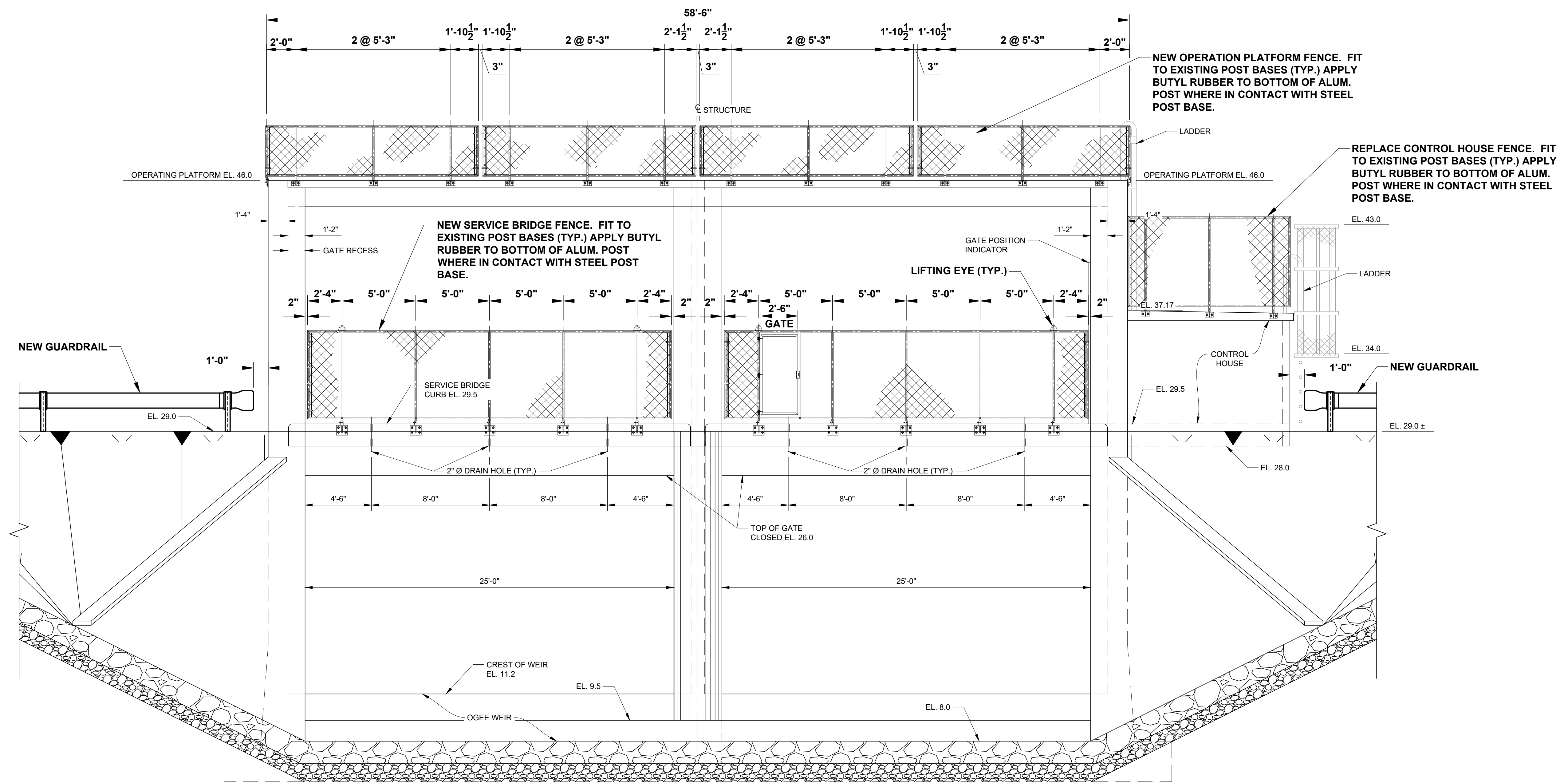
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: 3/16" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

NEW SOUTH WALL FENCE AND HANDRAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

FILE NAME:  
S-96 FENCING.dwg  
PROJECT NO.:  
SHEET:  
**S19**



S20  
1  
UPSTREAM ELEVATION  
SCALE: 1/4" = 1'-0"

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

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

DRAWN: P.L.C. & N.J.G. DATE: JANUARY 20, 2021 REVIEWER: W.R.C.  
DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

SCALE: 1/4" = 1'-0"

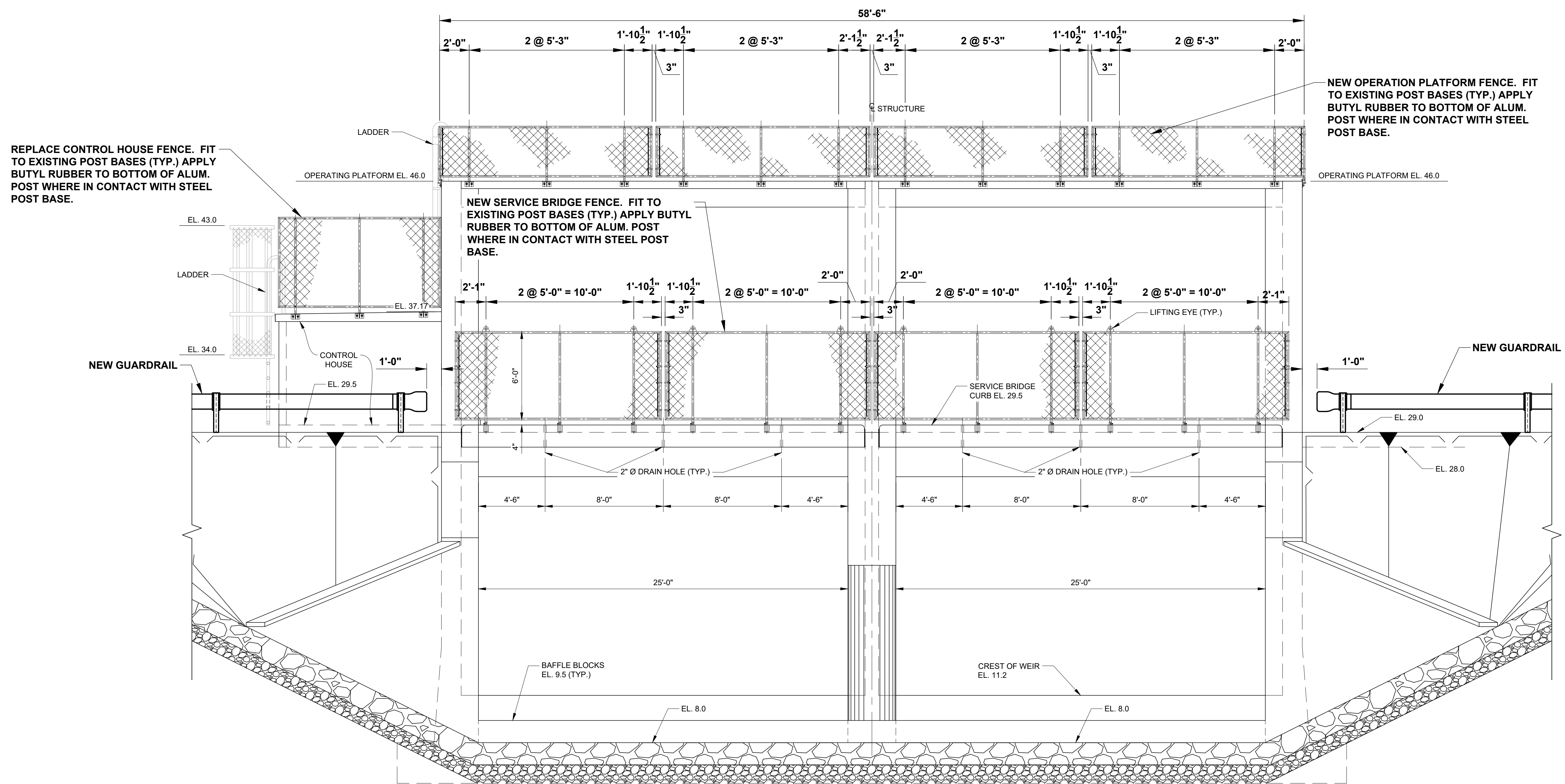
NEW UPSTREAM FENCE ELEVATION

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: JANUARY 20, 2021

FILE NAME:  
S-96 FENCING.dwg  
PROJECT NO.:  
SHEET:  
S20

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S21 DOWNSTREAM ELEVATION  
 SCALE: 1/4" = 1'-0"

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 STRUCTURE 96 REHABILITATION  
 BREVARD COUNTY, FLORIDA

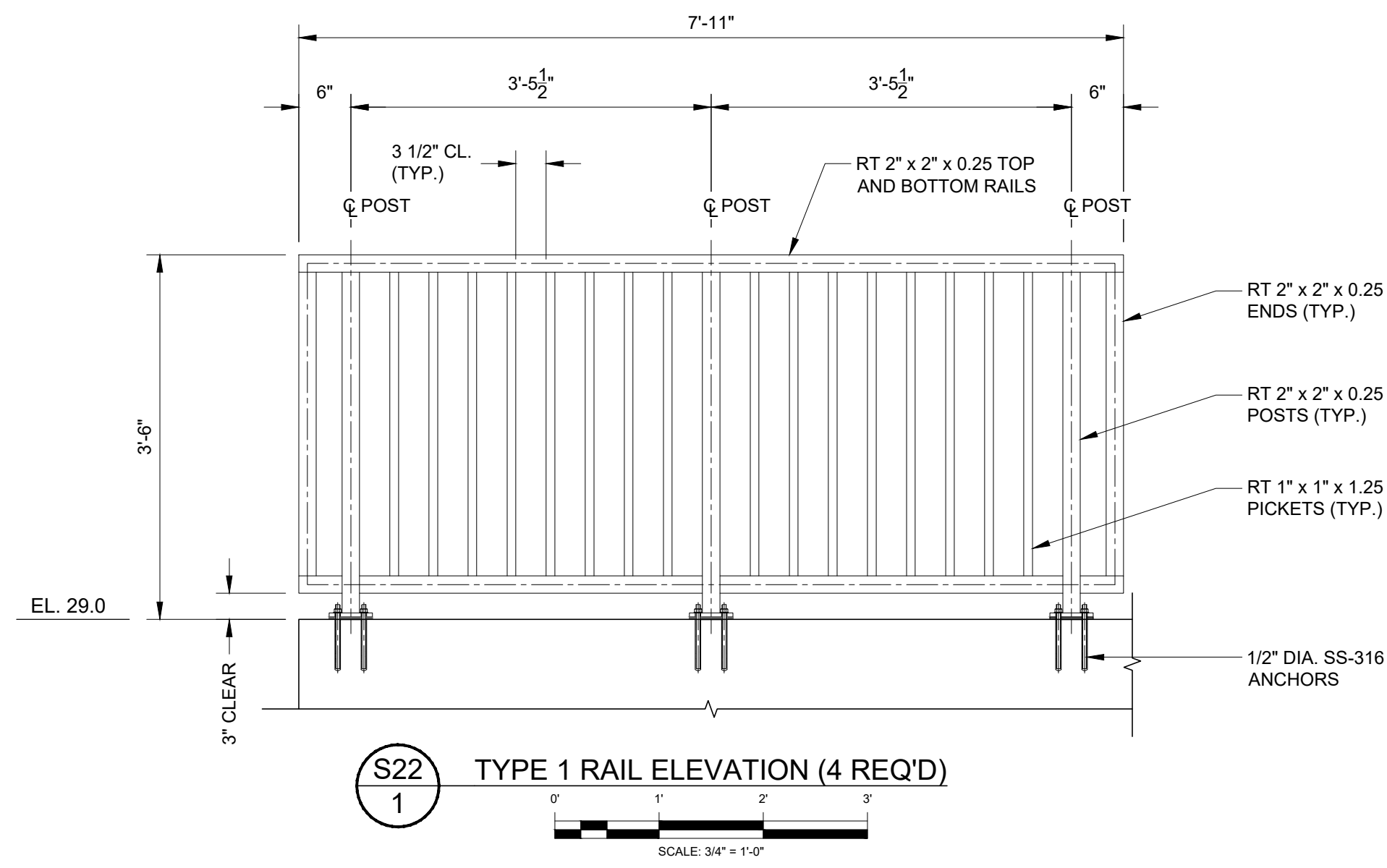
ST. JOHNS RIVER  
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 SCALE: 1/4" = 1'-0" DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

NEW DOWNSTREAM FENCE ELEVATION

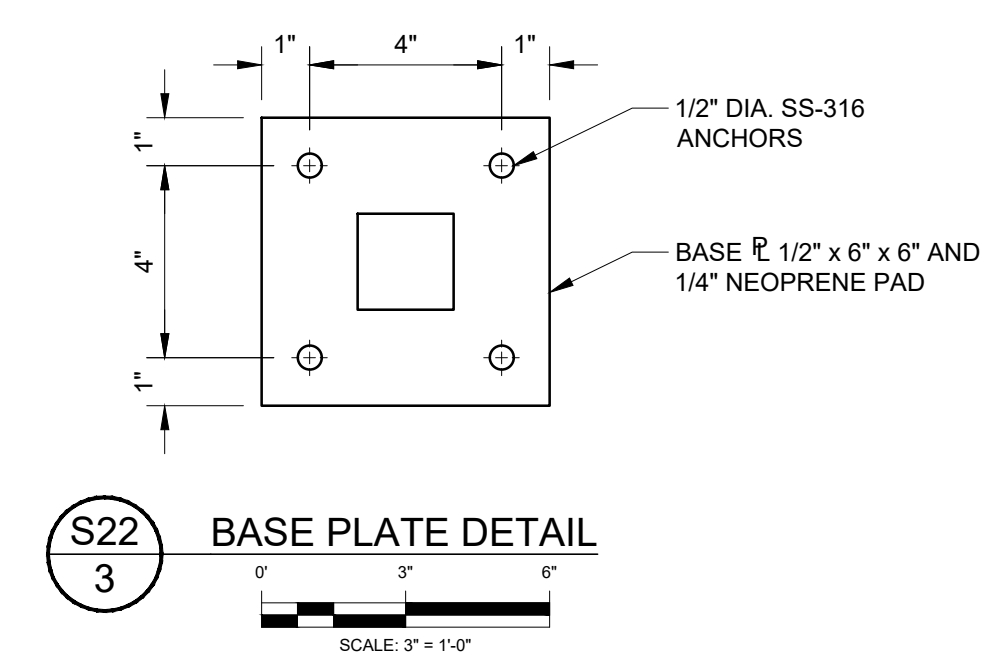
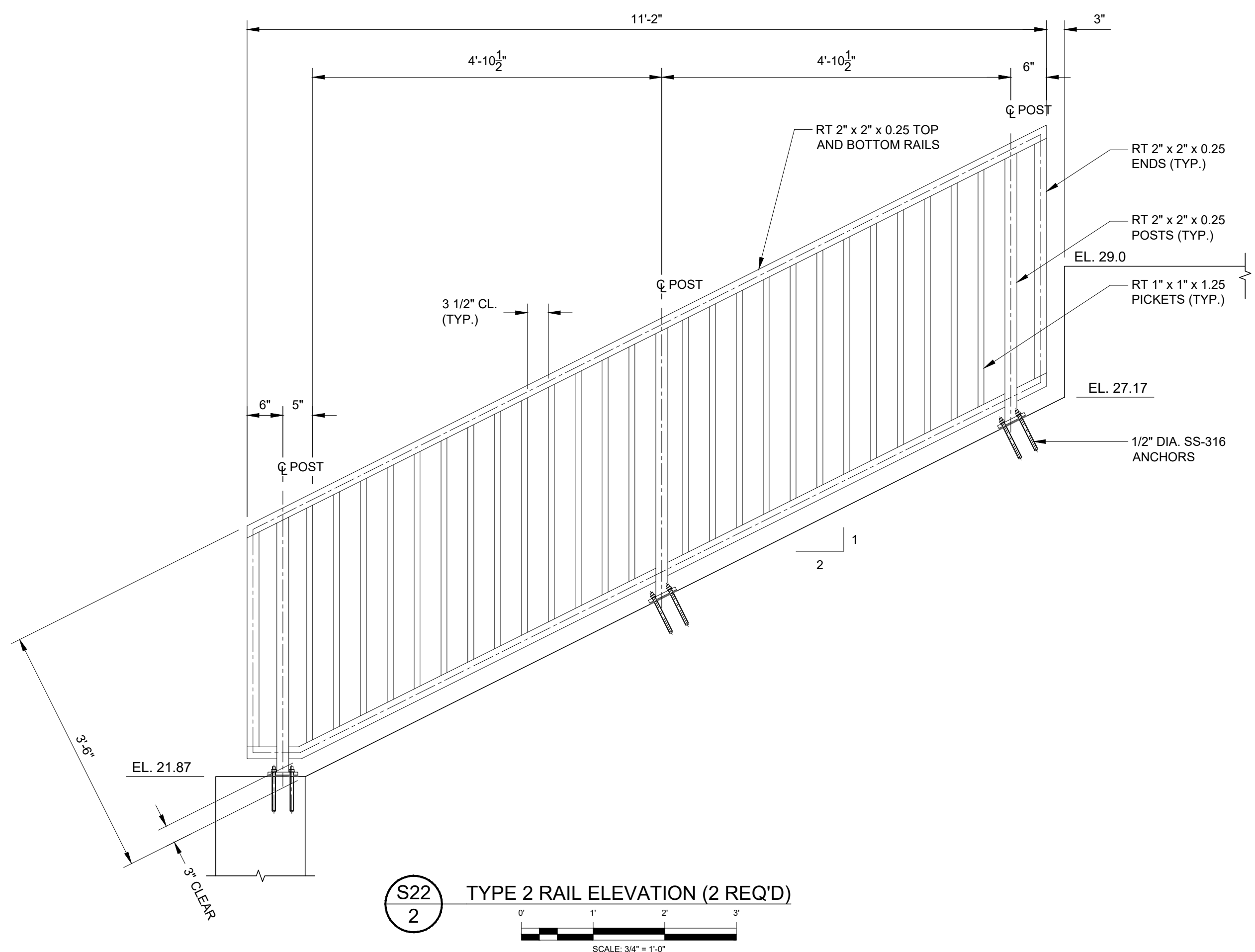
CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

FILE NAME:  
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 PROJECT NO.:  
 SHEET:  
**S21**



**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-INCH NEOPRENE PADS UNDER ALL RAIL POST BASE PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.
11. ALL RAILS SHALL BE CONNECTED TO THE EXISTING GROUNDING SYSTEM. ANY ADDITIONAL GROUNDING WIRES THAT ARE REQUIRED SHALL MATCH THE EXISTING.



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STRUCTURE 96 REHABILITATION  
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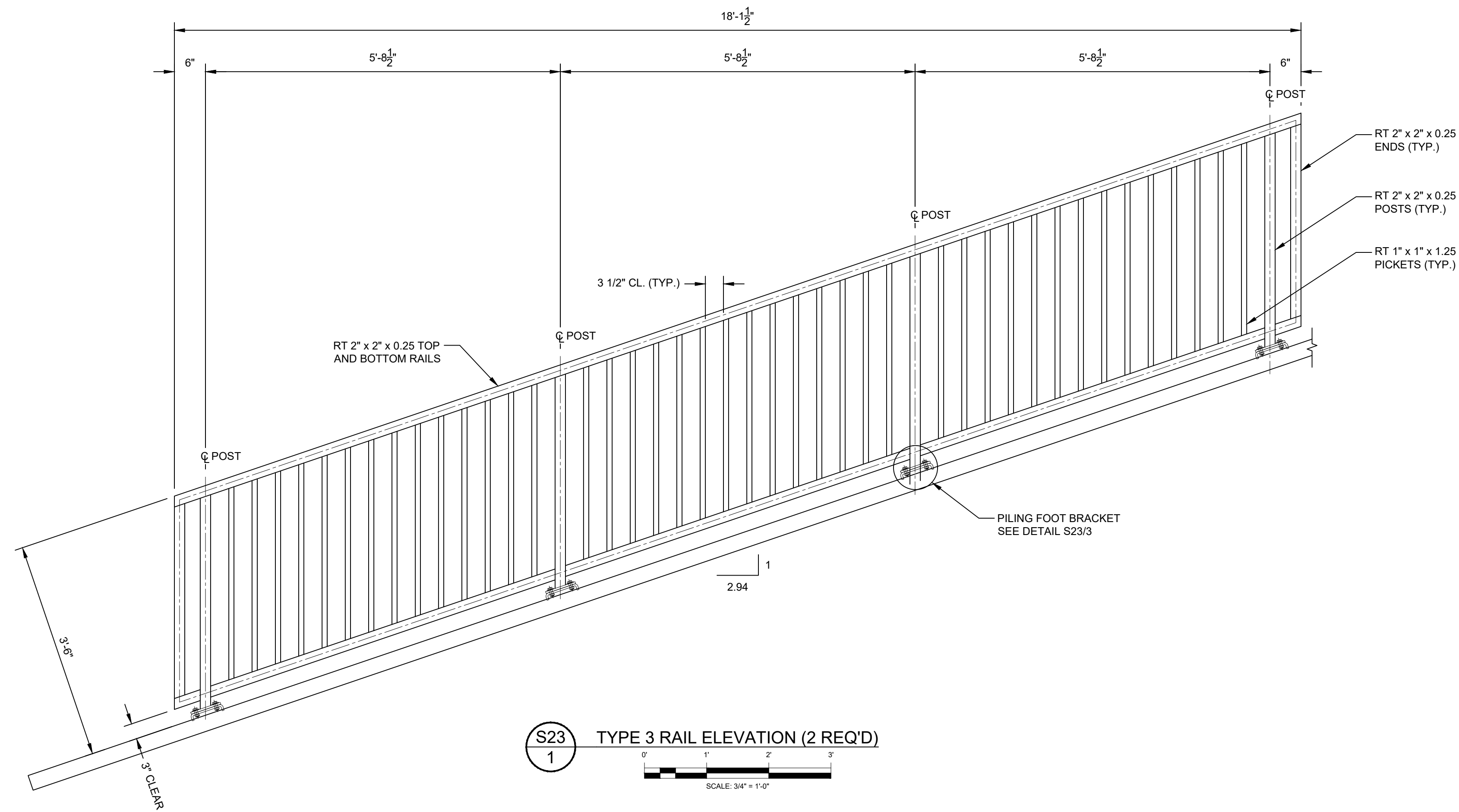
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
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DRAWN: N.J.G.    DATE: MAY 14, 2021    REVIEWER: W.R.C.  
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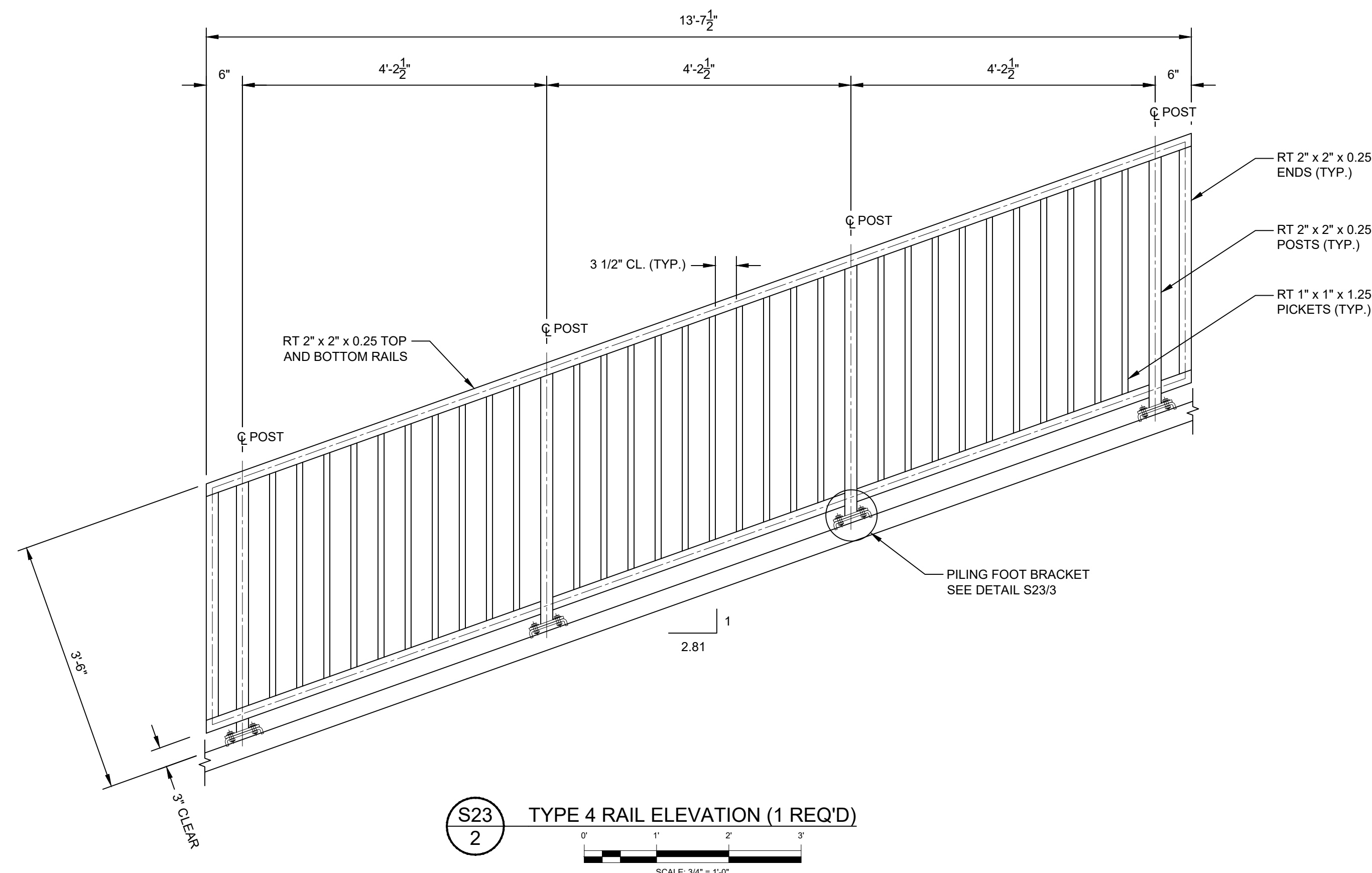
TYPE 1 AND TYPE 2 HANDRAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: MAY 14, 2021

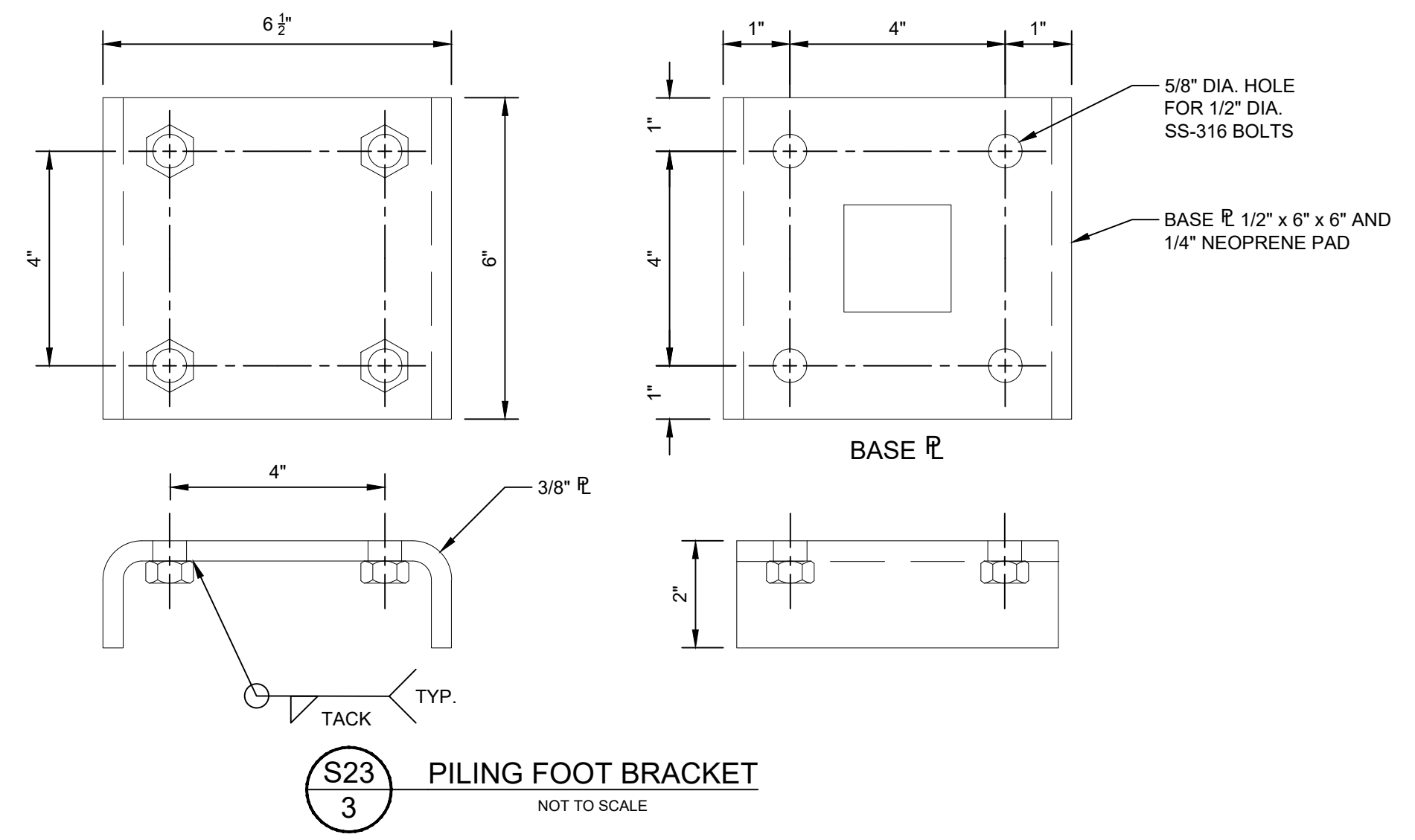
FILE NAME:  
S-96 FENCING.dwg  
PROJECT NO.:  
SHEET:  
**S22**



S23  
1 TYPE 3 RAIL ELEVATION (2 REQ'D)



S23  
2 TYPE 4 RAIL ELEVATION (1 REQ'D)



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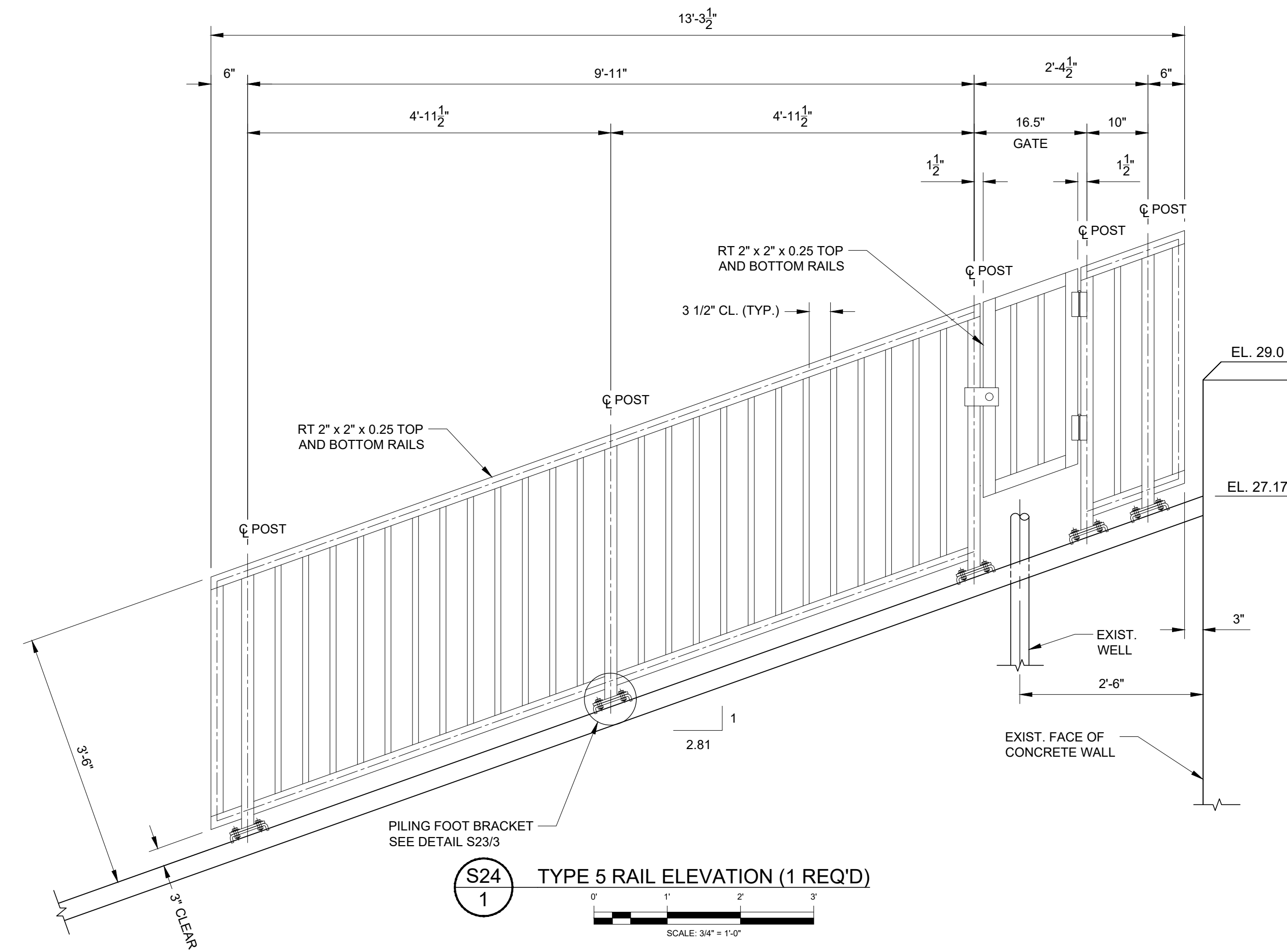
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 SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

TYPE 3 AND TYPE 4 HANDRAILS

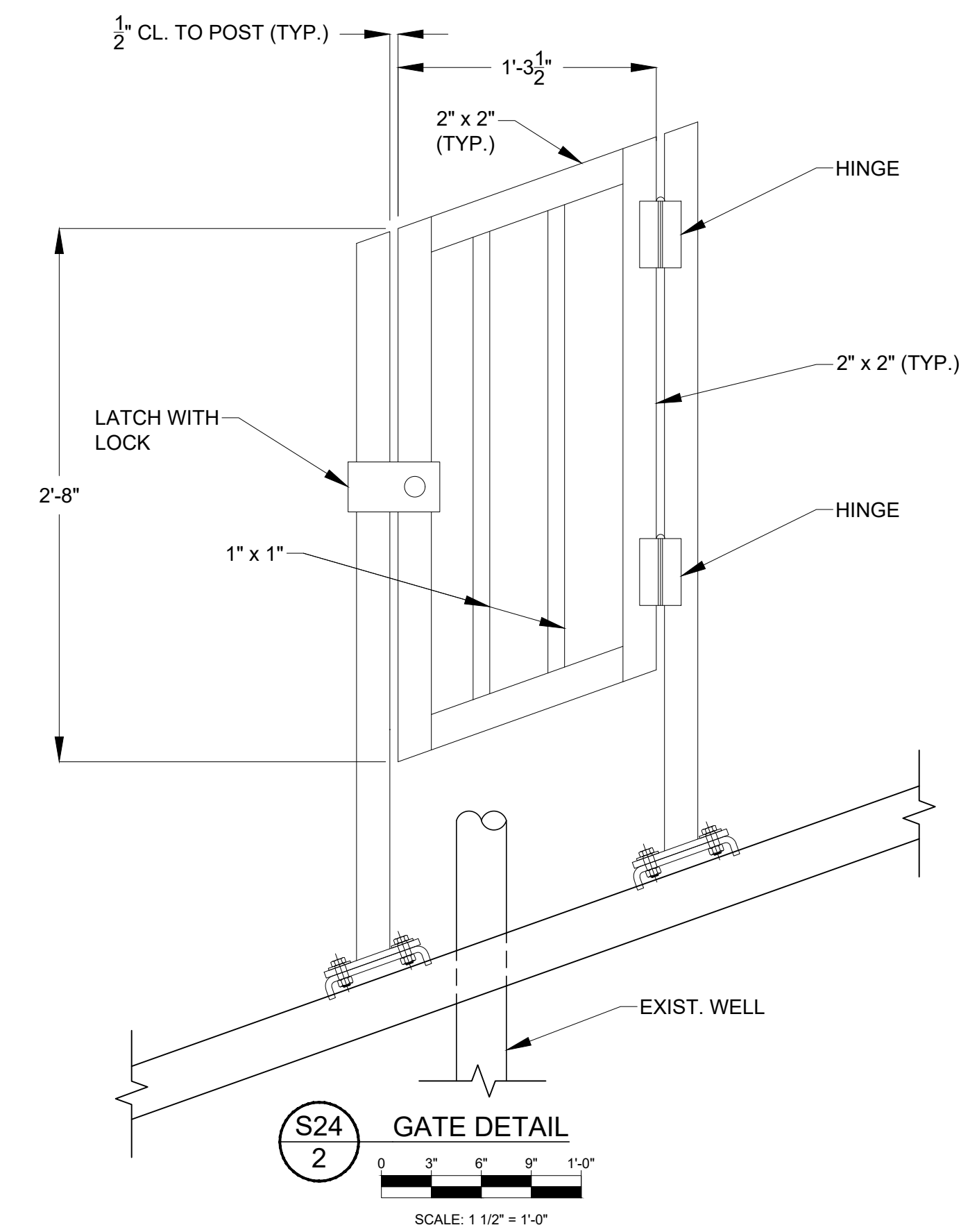
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 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: MAY 14, 2021

FILE NAME:  
 S-96 FENCING.dwg  
 PROJECT NO.:  
 SHEET:  
 S23





**S24**  
1  
TYPE 5 RAIL ELEVATION (1 REQ'D)  
SCALE: 3/4\" = 1'-0\"



**S24**  
2  
GATE DETAIL  
SCALE: 1 1/2\" = 1'-0\"

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

NO.	REVISION	BY	DATE	APPROVED	DATE

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

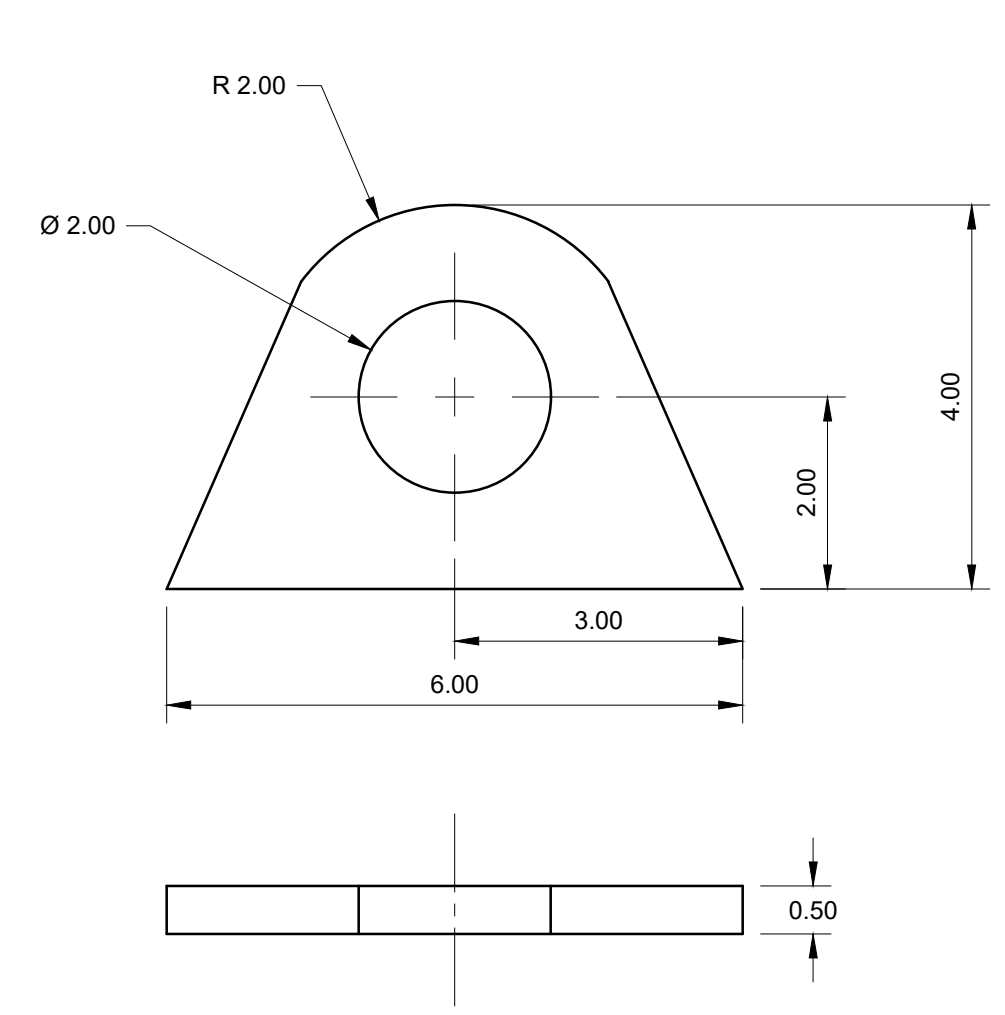
ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
SCALE: AS NOTED DESIGNER: W.R.C. SECTION CHIEF: W.R.C.

TYPE 5 HANDRAIL

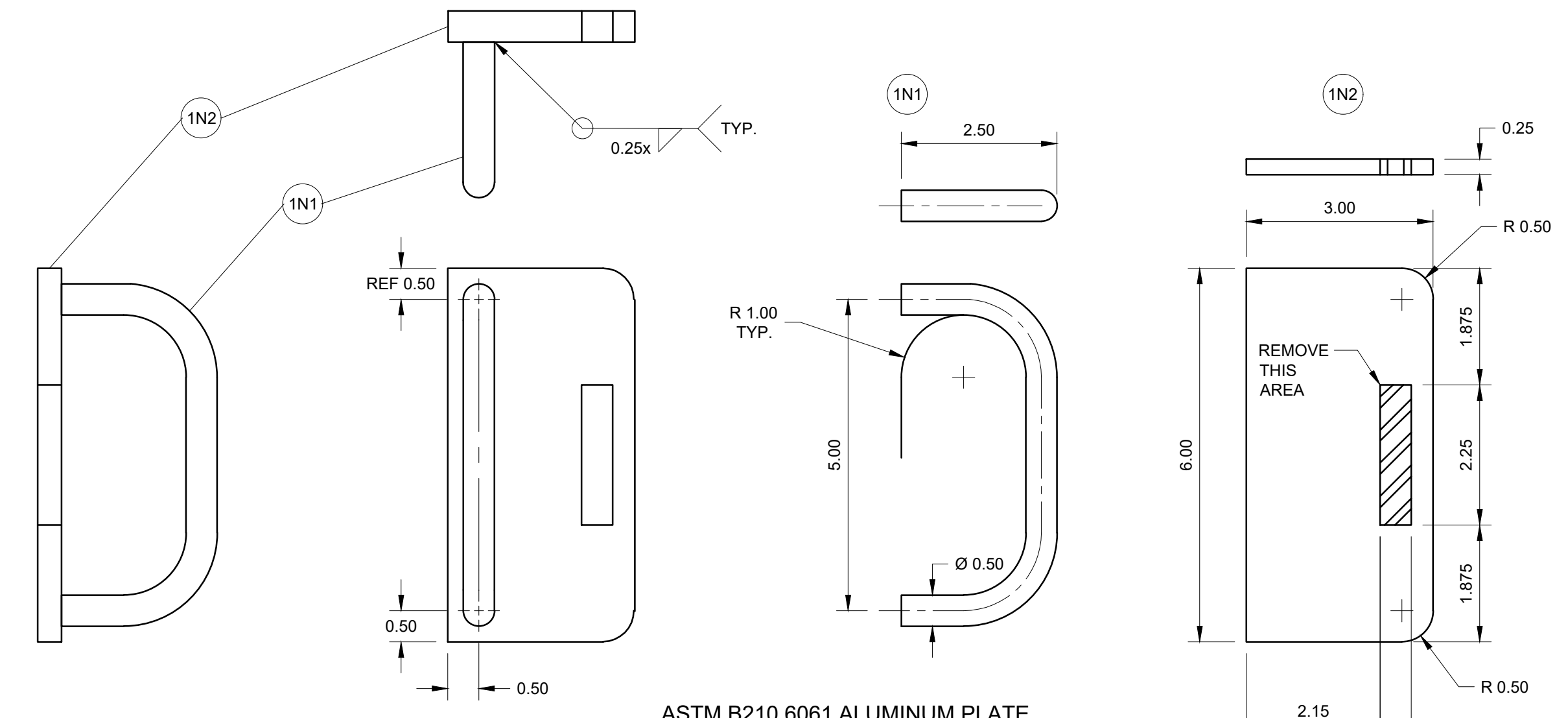
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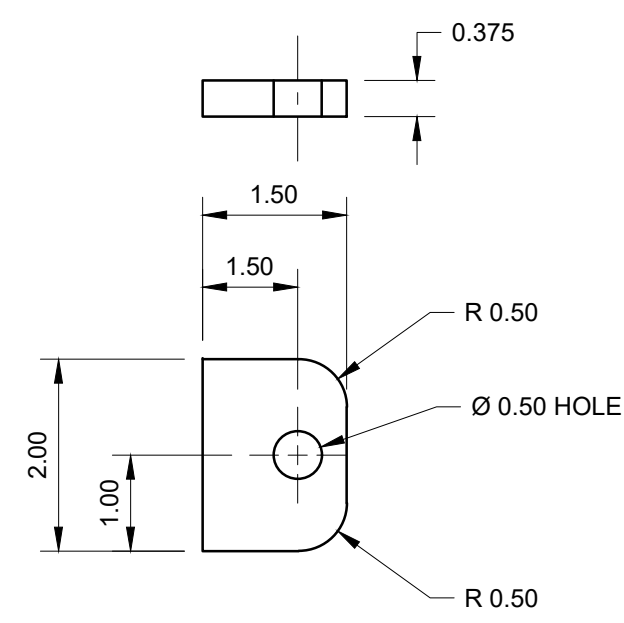
ASTM B210 6061 ALUMINUM PLATE

**S25**  
1  
LIFTING EYE  
NOT TO SCALE



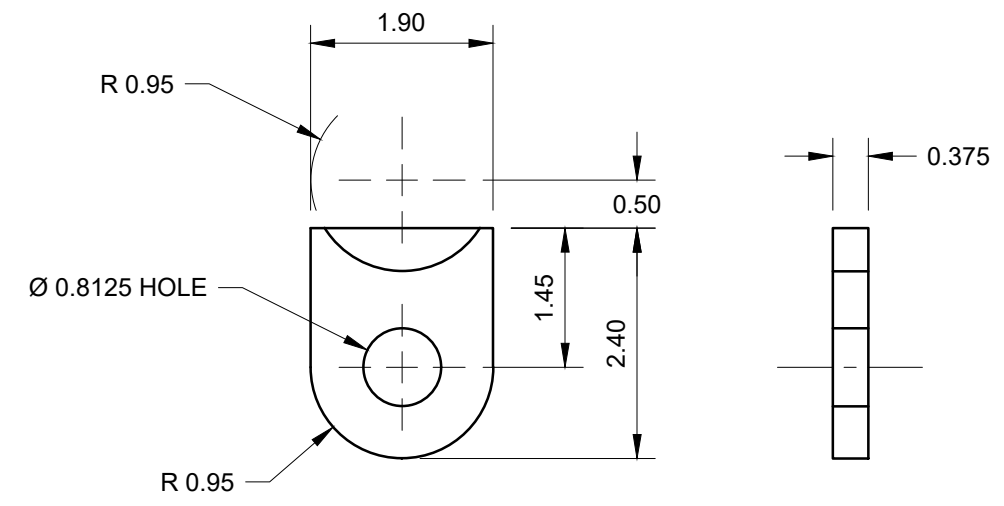
ASTM B210 6061 ALUMINUM PLATE

**S25**  
2  
LATCH ASSEMBLY  
NOT TO SCALE



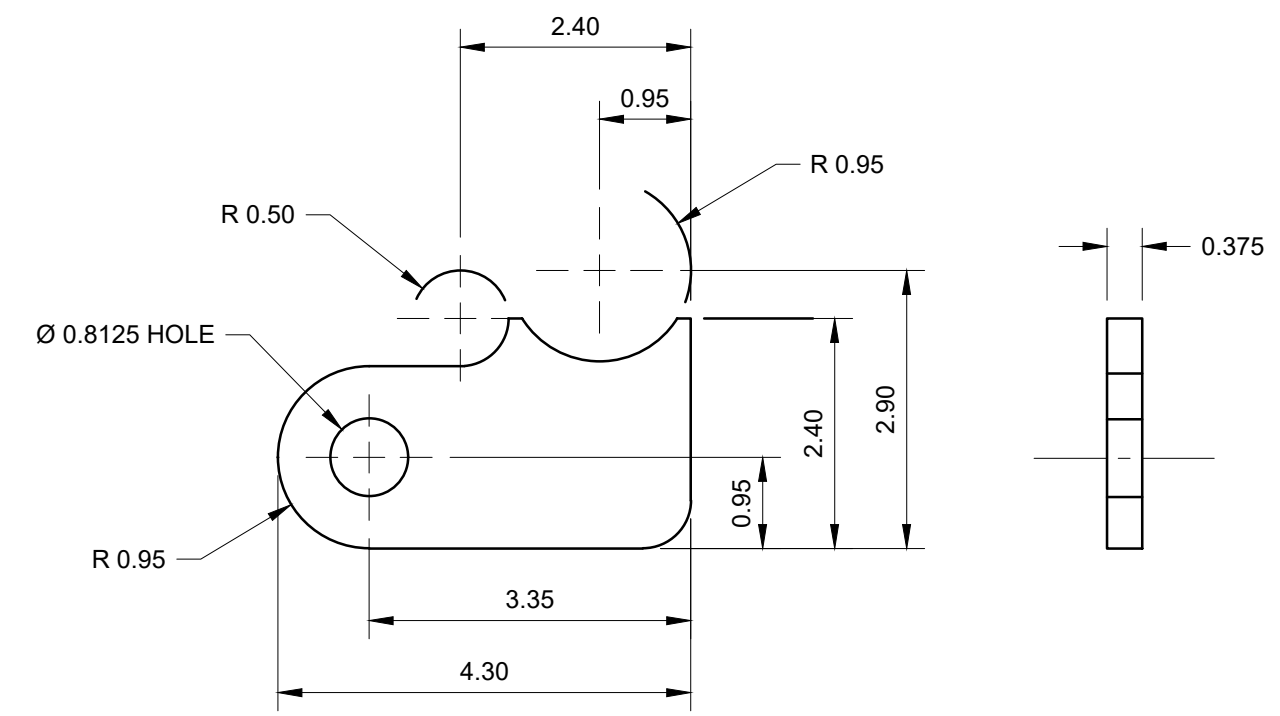
ASTM B210 6061 ALUMINUM

**S25**  
3  
LOCKING EYELET  
NOT TO SCALE



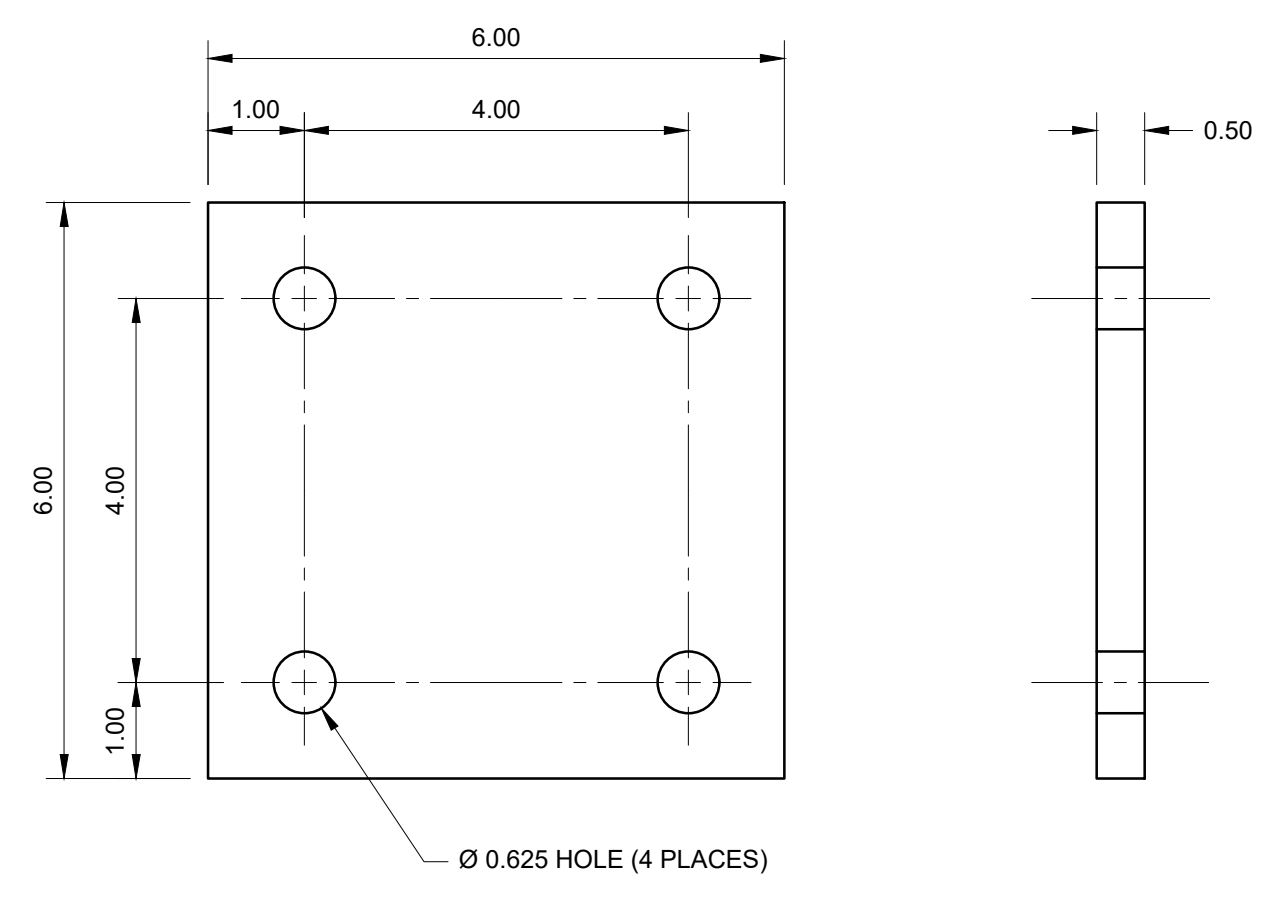
ASTM B210 6061 ALUMINUM

**S25**  
4  
HINGE HALF - DOOR SIDE  
NOT TO SCALE



ASTM B210 6061 ALUMINUM

**S25**  
5  
HINGE HALF - FENCE SIDE  
NOT TO SCALE



ASTM 6061 ALUMINUM PLATE

**S25**  
6  
POST FOOT PLATE  
NOT TO SCALE

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

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STRUCTURE 96 REHABILITATION  
BREVARD COUNTY, FLORIDA

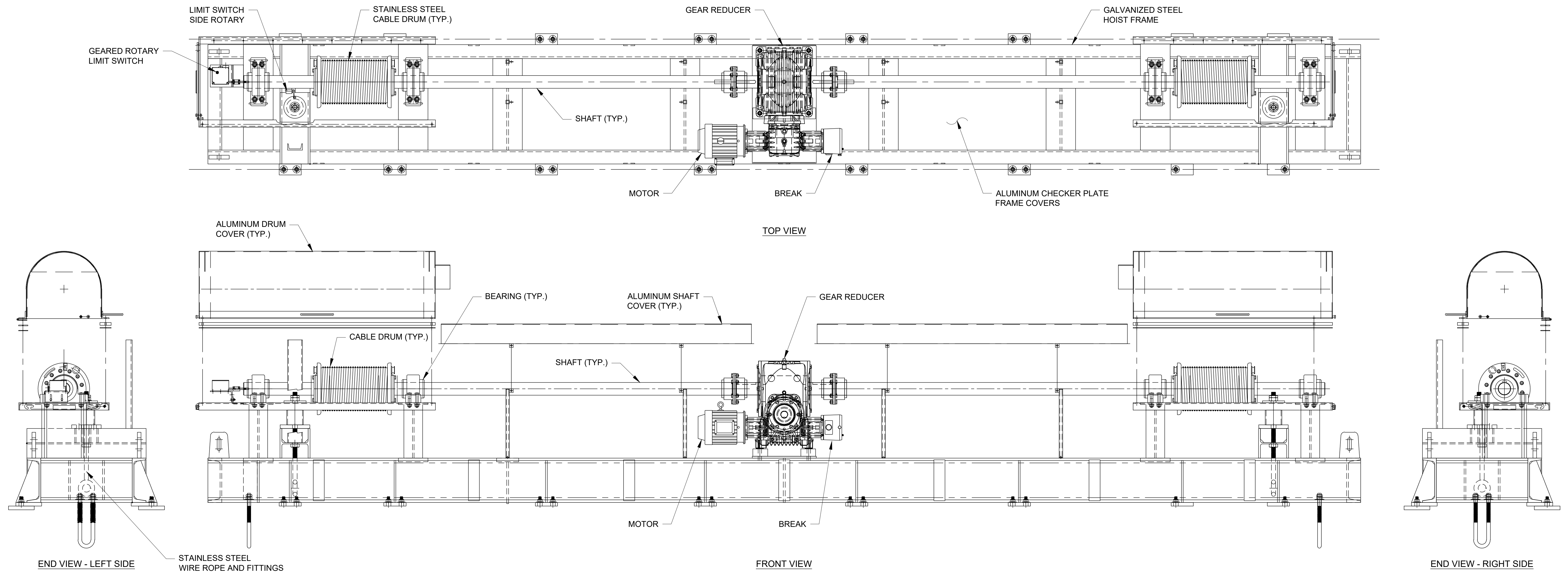
ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
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NEW FENCE DETAILS

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**S25**



**S26**  
1  
**CABLE HOIST ASSEMBLY**  
NOT TO SCALE

**CABLE DRUM HOIST**

1. THE PLAN AND ELEVATION SHOWN ARE A GENERAL ARRANGEMENT FOR A CABLE DRUM HOIST SYSTEM. ALTERNATIVE DESIGNS WILL BE CONSIDERED ACCEPTABLE PROVIDED THAT THE SPECIFICATIONS ARE MET.
2. REFER TO SPECIFICATION SECTION 14611 - VERTICAL LIFT GATE OPERATING SYSTEMS FOR PRODUCT REQUIREMENTS.
3. REFER TO SPECIFICATION "SECTION 09900 - PROTECTIVE COATINGS" FOR THE HOIST COATING REQUIREMENTS.
4. THE DEAD LOAD OF THE ROLLER GATES ARE ESTIMATED AT 32,000 POUNDS EACH.
5. THE REQUIRED LIFTING HEIGHT OF THE ROLLER GATES IS 15.8 FEET ABOVE THE SPILLWAY CREST.
6. THE CONTRACTOR SHALL CONFIRM ALL PERTINENT STRUCTURE DIMENSIONS PRIOR TO FABRICATION OF THE HOIST.
7. FOR HOIST POWER SUPPLY, CONTRACTOR SHALL CONNECT TO THE ELECTRICAL PANEL LOCATED IN THE CONTROL HOUSE ADJACENT TO THE STRUCTURE. THE EXISTING SERVICE IS 100 AMP, SINGLE PHASE 120/240 VOLTS.
8. THE OPERATING FORCES FOR THE GATE HOIST SHALL BE DETERMINED BASED ON AN UNBALANCED HEAD CONDITION OF 15.8 FEET.

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1	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21

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

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

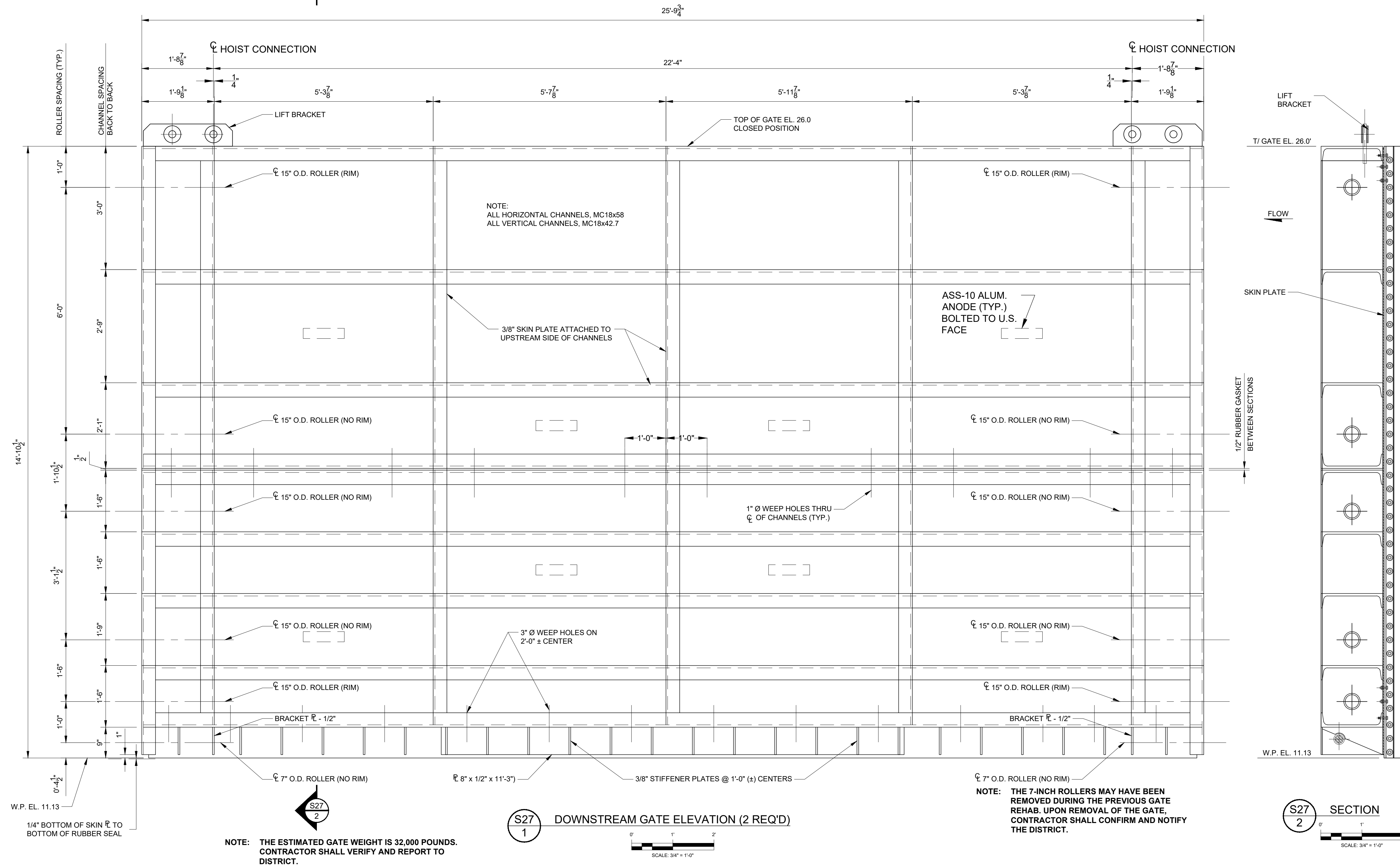
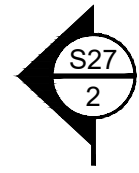
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NEW CABLE DRUM HOIST

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
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FILE NAME:  
S-96 CABLE DRUM HOIST.dwg  
PROJECT NO.:  
SHEET:  
**S26**





**GATE REHABILITATION  
STRUCTURAL 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. FIELD CORRECTING OF FABRICATED STEEL SHALL NOT BE PERMITTED ON MAJOR STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF THE DISTRICT.

**GATE OVERHAUL:**

1. DISCONNECT POWER. PRESSURE WASH THE GATES TO REMOVE ALL ORGANIC GROWTH, LOOSE PARTICLES, AND OTHER EXTRANEOUS MATERIALS.
2. MARK ALL GATE COMPONENTS PRIOR TO REMOVAL FOR EASE OF REASSEMBLY.
3. REMOVE GREASE LINES AND FITTINGS FROM THE ROLLER GATE. REMOVE OLD HYDRAULIC LINES, EVACUATE AND GROUT.
4. REMOVE ALL SHEAVE HANGERS, SHEAVES, AND SHEAVE PINS FROM HOIST COFFINS. DISASSEMBLE THE HOIST LIFT SYSTEMS.
5. REMOVE THE HOIST SYSTEMS AND ROLLER GATES FROM THE STRUCTURE. AT THE CONTRACTOR'S OPTION, THE DISTRICT'S REWORK SITE AND/OR GATE SUPPORT BRACING MAY BE USED FOR THE GATE REHABILITATION. THE REWORK SITE IS LOCATED AT 9555 SOUTH BARCOCK ROAD, PALM BAY, FL. THE CONTRACTOR SHALL PROVIDE A PORTABLE TOILET IF THE REWORK SITE IS UTILIZED.
6. REMOVE RAILS AND SPLICE BARS AS REQUIRED. WHEN REMOVING RAILS, CARE SHALL BE TAKEN TO MEASURE AND DOCUMENT SHIM THICKNESS AT EACH LOCATION. CLEAN OR REPLACE WITH SS-304 SAME SIZE AND NUMBER OF SHIMS, AS NEEDED. REPLACE RAILS AND RAIL CLIPS USING ASCE 60# RAIL AND NO. 106 RAIL CLIPS, IF REQUIRED. REPLACE ALL NUTS WITH SILICON BRONZE NUTS CONFORMING TO ASTM F467.
7. REMOVE ALL BOLTS, RETAINING PLATES, AND SEALS FROM THE ROLLER GATES.
8. REMOVE WHEELS FROM THE ROLLER GATE.
9. PRESS OUT SHAFTS WITH PORTA POWER WHILE MAKING SURE NOT TO DAMAGE GATE STRUCTURE. IF SHAFTS ARE NOT MOVING, USE HEAT ON COLLARS WHILE PRESSING OUT.
10. INSPECT WHEELS, COLLARS, AXLES, AND BEARINGS AND REPAIR AS NEEDED.
11. ALL GATE COLLARS SHALL BE INSPECTED AND REPLACED IF NECESSARY. IF COLLARS NEED TO BE REPLACED, ABRASIVE BLASTING AROUND THE COLLAR IS REQUIRED TO PREPARE FOR INSTALLATION OF THE NEW COLLAR.
12. WHEELS SHALL BE BLASTED, INSPECTED, AND TURNED DOWN IF NECESSARY FOR BANDING. IF REQUIRED, THE BANDS SHALL BE SIZED AND THE WHEEL PLACED IN AN OVEN OVERNIGHT IN PREPARATION OF THE WELDING PROCESS. AFTER WELDING, THE WHEEL SHALL BE COOLED SLOWLY TO PREVENT FRACTURING OF THE WELDS AND THEN MACHINED TO THE REQUIRED DIAMETER.
13. AXLES AND WHEELS SHALL BE MEASURED FOR "THORDON THORPLAS" BEARING FABRICATION. THE "THORDON THORPLAS" BEARINGS SHALL BE INSERTED AND THE WHEELS BLASTED AND PAINTED. THE CONTRACTOR SHALL COORDINATE WITH THE BEARING MANUFACTURER IN DETERMINING THE PROPER SIZING OF THE BEARINGS.
14. AXLES SHALL BE ABRASIVE BLASTED (EXCEPT FOR STAINLESS STEEL) AND INSPECTED FOR SERVICEABILITY. IF NECESSARY, THE AXLES SHALL BE REPAIRED. UPON COMPLETION, AXLES SHALL BE BLASTED AND PAINTED.
15. INSPECT ALL COMPONENTS TO ENSURE THEY ARE CLEAN OF DEBRIS AND GREASE.
16. MARK THE WEIGHT OF THE GATE ON THE TOP CHANNEL USING A FILLET WELD.
17. ALL STEEL COMPONENTS (EXCEPT FOR STAINLESS STEEL ITEMS) SHALL BE BLASTED AND PAINTED. ITEMS TO BE PAINTED SHALL INCLUDE THE ROLLER GATES, WHEELS, SEAL RETAINING PLATES, AND RAILS.
18. REASSEMBLE THE ROLLER GATES, INCLUDING THE WHEELS, SEALS, RETAINING PLATES, AND ALL NEW HARDWARE.
19. PROVIDE AND INSTALL CATHODIC PROTECTION ANODES AT THE LOCATIONS SHOWN. ANODES SHALL BE ASS-10 CONFORMING TO MIL SPEC A-24779. THE ANODE MOUNTING STRAP SHALL HAVE 5/8" DRILLED HOLES AND SHALL BE BOLTED TO THE UPSTREAM FACE OF THE GATE WITH 1/2" DIAMETER SS-304 BOLTS. THE CONTACT SURFACES BETWEEN THE GATE AND THE ANODES SHALL BE BARE METAL. THE ANODES SHALL NOT BE PAINTED.
20. REINSTALL RAILS. REPLACE SHIMS OF SAME SIZE WITH SS-304 PLATES AS REQUIRED. REPLACE ANCHOR BOLTS OF SAME SIZE WITH SS-304 BOLTS AS REQUIRED.
21. REINSTALL THE COMPLETED ROLLER GATES AND HOIST SYSTEMS. RECONNECT POWER.
22. PERFORM DRY TEST OPERATION OF GATES. ADJUST AS NEEDED.
23. TEST OPERATION OF GATES UNDER NORMAL OPERATING CONDITIONS. ADJUST AS NEEDED.

**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. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:  
SSPC-10 NEAR WHITE BLAST CLEANING. ALL BLAST MEDIA AND PAINT CHIPS SHALL BE CAPTURED, REMOVED, AND PROPERLY DISPOSED.
3. PAINT SHALL BE BY THE WASSER CORPORATION, OR EQUAL, AS FOLLOWS:  
FIRST COAT: MC-ZINC 100 GRAY 3-5 MILS DFT MINIMUM  
SECOND COAT: MC-TAR 100 RED 5-7 MILS DFT MINIMUM  
THIRD COAT: MC-TAR 100 BLACK 5-7 MILS DFT MINIMUM  
FOURTH COAT: MC-LUSTER 100 SILVER 2-4 MILS DFT MINIMUM

SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

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NOTE: THE ESTIMATED GATE WEIGHT IS 32,000 POUNDS. CONTRACTOR SHALL VERIFY AND REPORT TO DISTRICT.

S27 1 DOWNSTREAM GATE ELEVATION (2 REQ'D)

**GATE REHABILITATION  
RUBBER SEALS:**

1. THE EXISTING J-SEALS SHALL BE REPLACED WITH SOLID BULB TYPE J-SEAL NO. 2514 (1-3/4"X5'X9/16") AS MANUFACTURED BY SEALS UNLIMITED, INC., OR EQUAL. DRILL HOLES TO CONFORM WITH THE SIZE AND SPACING ON THE GATE.
2. THE NEW 4"X1" BOTTOM SEAL SHALL BE BLACK NEOPRENE SHEET COMMERCIAL GRADE 60 DURO PLATE FINISH IN ACCORDANCE WITH ASTM D2000 18C605, AS MANUFACTURED BY TAMPA RUBBER AND GASKET COMPANY, INC., OR EQUAL. DRILL HOLES TO CONFORM WITH THE SIZE AND SPACING ON THE GATE.
3. REPLACE ALL SEAL FASTENERS. BOLTS SHALL CONFORM TO ASTM A276, TYPE SS-304 AND SILICON BRONZE NUTS SHALL CONFORM TO ASTM F467.
4. GAPS BETWEEN J-SEALS AND BOTTOM SEALS SHALL BE FILLED WITH 3M 5200 MARINE CAULK, OR EQUAL.

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WATER MANAGEMENT DISTRICT  
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DRAWN: N.J.G. DATE: MAY 14, 2021 REVIEWER: W.R.C.  
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GATE REHABILITATION ELEVATION,  
SECTIONS, DETAILS & NOTES

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