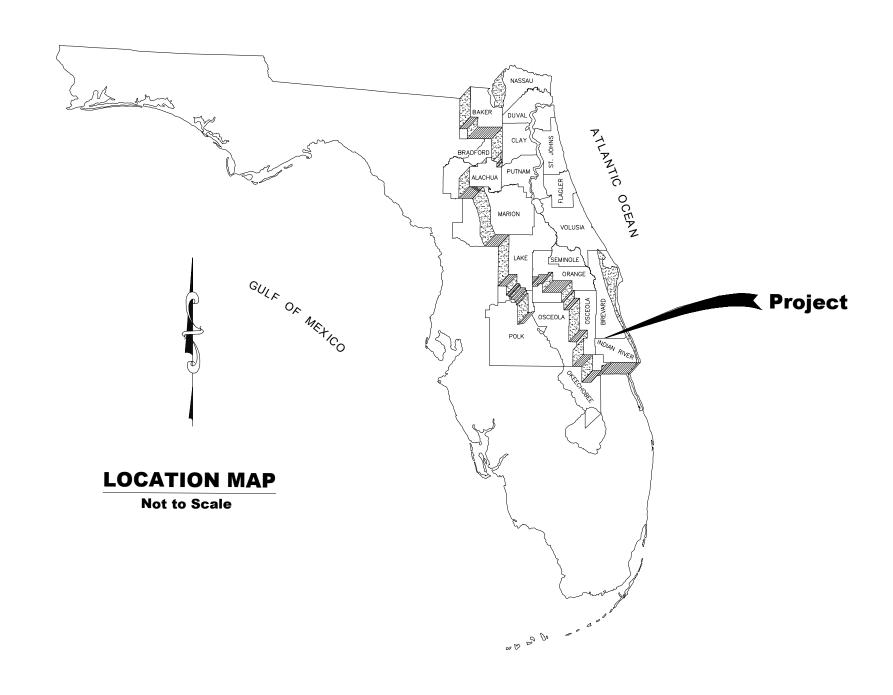
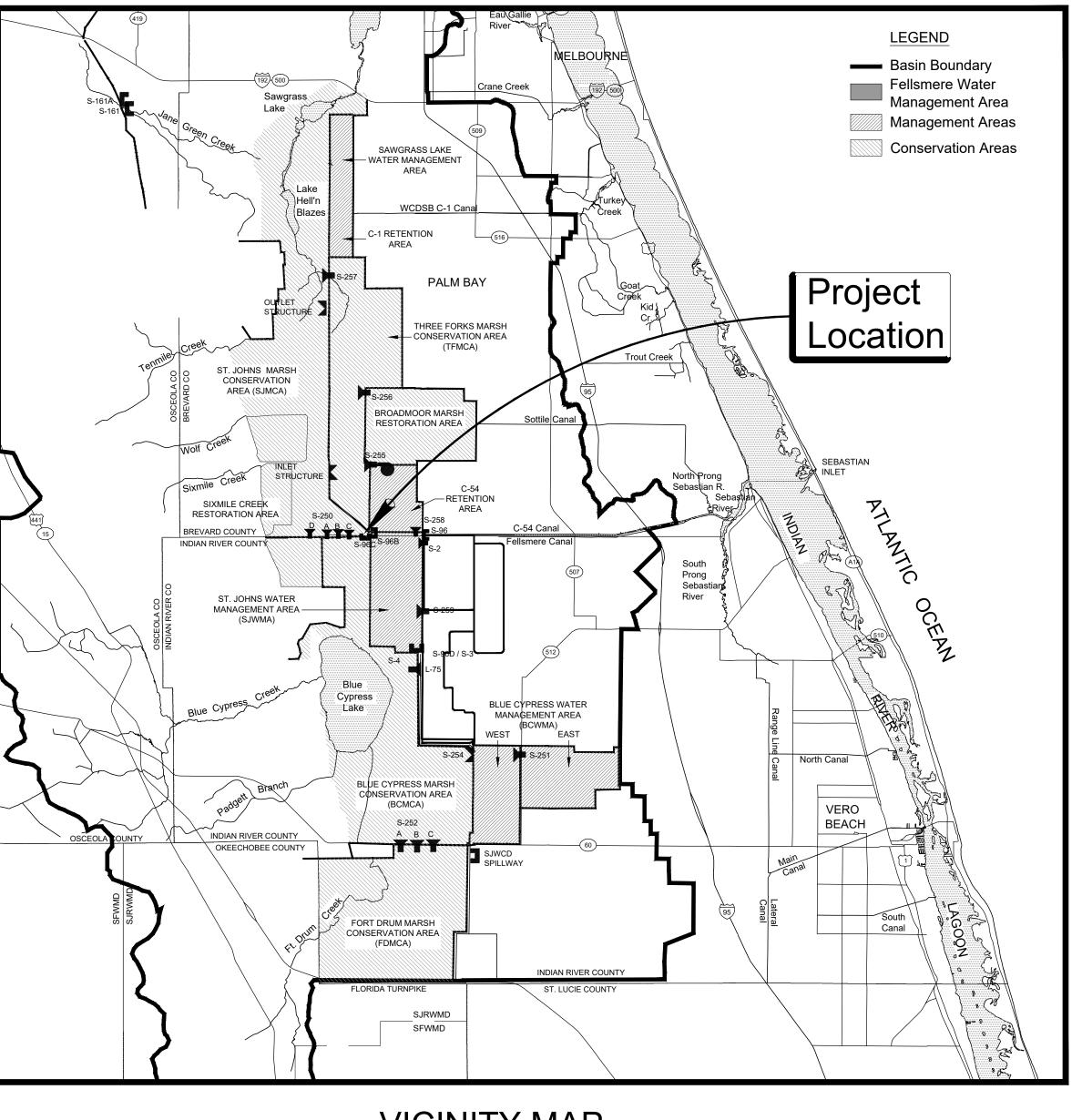
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT UPPER ST. JOHNS RIVER BASIN STRUCTURE 96C REHABILITATION INDIAN RIVER COUNTY, FLORIDA

NGVD 1929

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



	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
NO.	REVISION	BY	DATE	APPROVED	DATE



VICINITY MAP NOT TO SCALE



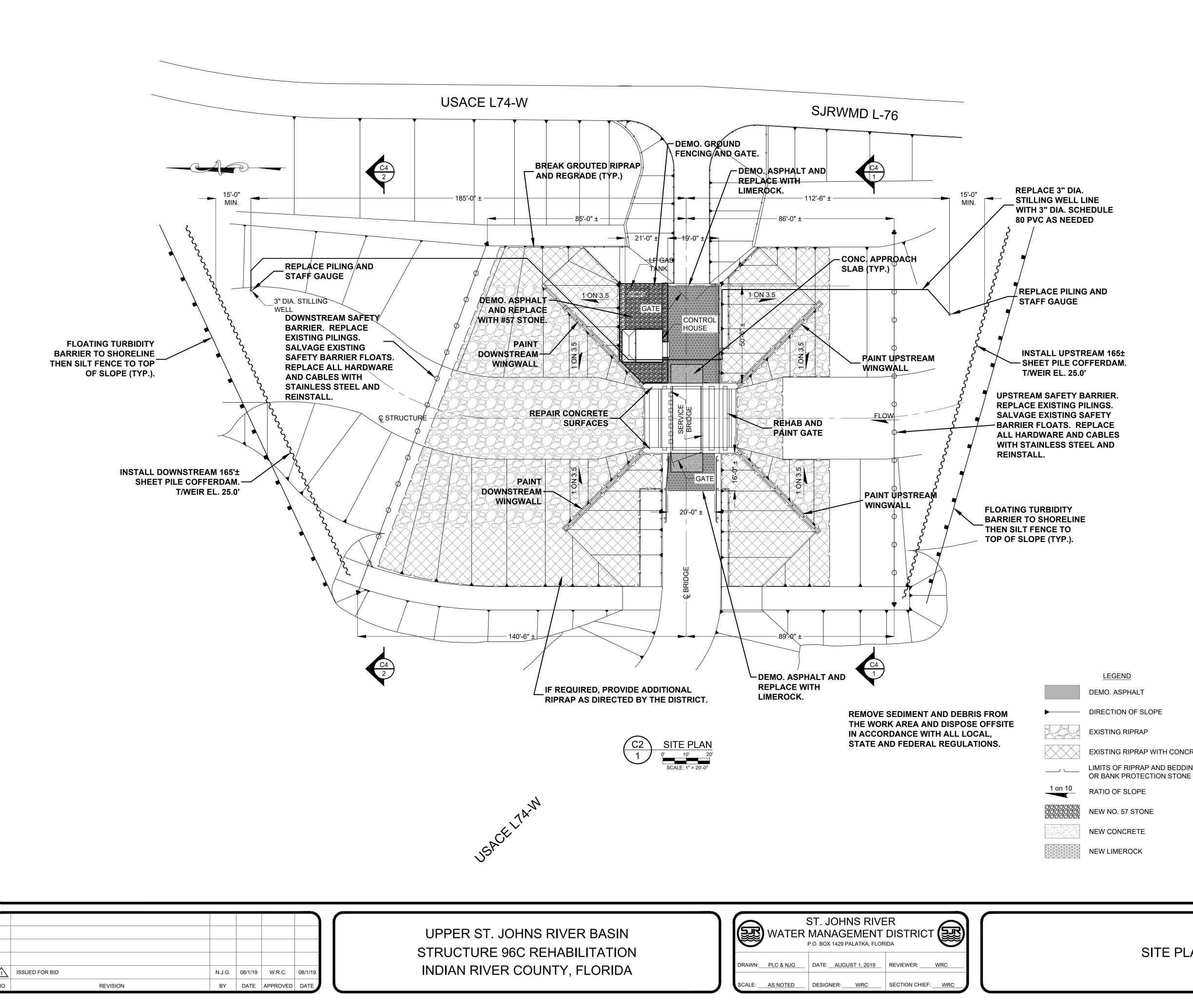
Sheet List Table

Sheet Title

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- SITE PLAN C2
- SITE PLAN (WITH AERIAL) C3
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- BYPASS SPILLWAY SITE PLAN C5
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- CONCRETE REPAIR EAST AND WEST WALLS S5 OUTSIDE
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- S12 NEW STAFF GAUGES AND GATE POSITION GUIDE
- S13 FENCE AND HANDRAIL REPLACEMENT PLAN
- S14 NEW EAST WALL FENCE AND DETAILS
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- S20 **GATE REHABILITATION - ELEVATION**
- S21 GATE REHABILITATION SECTION AND NOTES
- S22 NEW NEEDLE BEAM FRAME

CERTIFICATION DRAWING FILENAME S-96C PLAN.dwg FOR BID PURPOSES ONLY SHEET: WILLIAM R. COTE **NOT FOR CONSTRUCTION** P.E. NUMBER: 53746 C1 AUGUST 1, 2019 DATE:



SUMMARY OF WORK / CONSTRUCTION SEQUENCE:

- 1. MOBILIZE MEN AND EQUIPMENT TO THE SITE. ESTABLISH ON-SITE OFFICE AND STORAGE SPACES.
- 2. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES.
- 3. CONSTRUCT BYPASS SPILLWAY IN LEVEE L-76 TO PROVIDE TEMPORARY WATER DIVERSION.
- 4. INSTALL COFFERDAMS UPSTREAM AND DOWNSTREAM OF STRUCTURE.
- 5. PUMP WATER FROM THE WORK AREA AND PROVIDE CONTINUOUS PUMPING TO KEEP THE WORK AREA DEWATERED.
- 6. REMOVE SEDIMENT AND DEBRIS FROM THE STRUCTURE WORK AREA.
- 7. 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 HYDRO BLASTED AND THE REMAINING SURFACES POWERWASHED.
- 8. REMOVE FENCING FROM THE CONCRETE STRUCTURE AND SHEET PILING WALLS.
- 9. INSPECT AND REPAIR CONCRETE SURFACES AS NEEDED.
- 10. REMOVE HYDRAULIC GATE OPERATORS AND LOAD ONTO DISTRICT FLATBED.
- 11. REMOVE ROLLER GATES, INSPECT AND REPAIR AS NEEDED, AND PAINT.
- 12. REPAIR AND PAINT ALL EXPOSED SURFACES OF EMBEDDED STEEL COMPONENTS.
- 13. REPLACE ALL REMOVABLE GALVANIZED ITEMS WITH STAINLESS STEEL.
- 14. REPAIR AND PAINT ALL EXPOSED SURFACES OF EXISTING SHEET PILING.
- 15. FABRICATE NEEDLE BEAM FRAME AND INSTALL PANEL TOE SUPPORTS.
- 16. REPLACE UPSTREAM AND DOWNSTREAM SAFETY BARRIER PILES. SALVAGE AND REINSTALL EXISTING BARRIERS.
- 17. INSTALL NEW STAFF GAGES AND PILES. REPLACE STILLING WELL LINES AS NEEDED.
- 18. REPLACE UPSTREAM AND DOWNSTREAM WARNING SIGNS AND INSTALL SOLAR LIGHTS.
- 19. BREAK GROUTED RIPRAP AND REGRADE. INSTALL ADDITIONAL RIPRAP AS NEEDED.
- 20. REINSTALL ROLLER GATES.
- 21. INSTALL NEW CABLE DRUM HOIST.
- 22. PERFORM DRY TEST OPERATION OF GATES AND OPERATORS.
- 23. ALLOW WORK AREA TO FILL WITH WATER AND REMOVE COFFERDAMS
- 24. REMOVE BYPASS SPILLWAY AND RESTORE LEVEE L-76 TO ORIGINAL CONDITION.
- 25. TEST OPERATION OF GATES AND OPERATORS UNDER NORMAL OPERATING CONDITIONS.
- 26. DEMO ASPHALT AND REPLACE. CONSTRUCT BRIDGE APPROACH SLABS.
- 27. INSTALL NEW ALUMINUM FENCING AND RAILS ON CONCRETE STRUCTURE AND SHEET PILING WALLS.
- 28. 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. FILL IS AVAILABLE FROM THE SOUTH SIDE OF THE C-54 CANAL EAST OF THE FELLSMERE GRADE RECREATION AREA. EXCAVATION OF THE EXISTING LEVEE L-74W SLOPES SHALL NOT BE PERMITTED AND THE SLOPES AND TOP OF ALL LEVEES 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 RIVER.
- 6. DURING INSTALLATION AND REMOVAL OF COFFERDAMS, CARE SHALL BEING 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 L-74 EAST LEVEE BEGINNING AT 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.

SITE PLAN

FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:

WILLIAM R. COTE P.E. NUMBER: 53746

AUGUST 1, 2019 DATE:

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

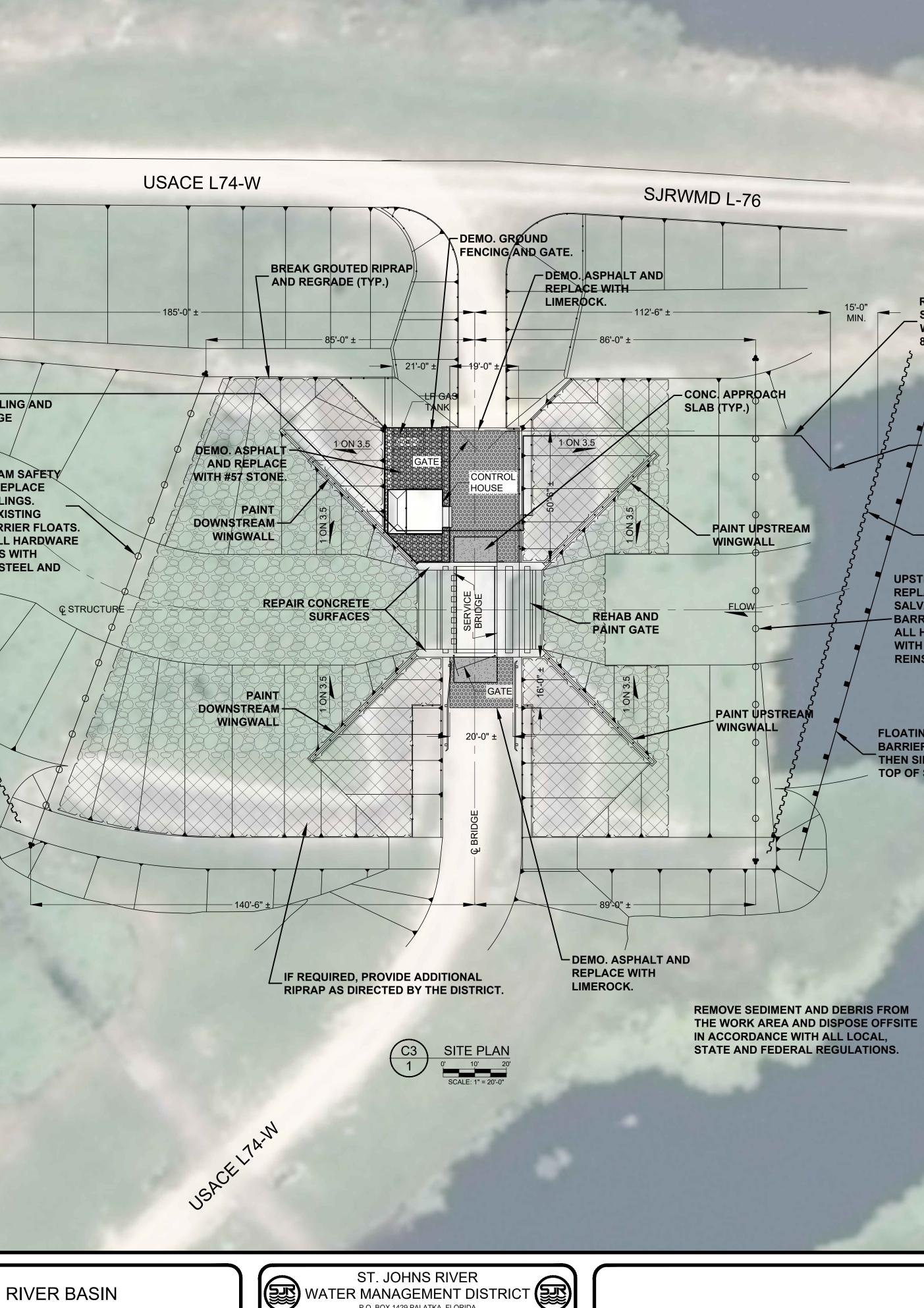
- EXISTING RIPRAP WITH CONCRETE FILL
- LIMITS OF RIPRAP AND BEDDING

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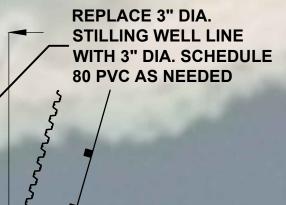
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ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
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RIVER BASIN EHABILITATION INDIAN RIVER COUNTY, FLORIDA



	MANAGEMENT P.O. BOX 1429 PALATKA, FLOR	
DRAWN: PLC & NJG	DATE: <u>AUGUST 1, 2019</u>	REVIEWER: WRC
SCALE: <u>AS NOTED</u>	DESIGNER: WRC	SECTION CHIEF: WRC



15'-0"

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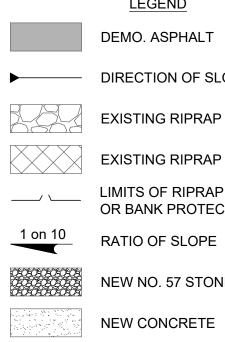
REPLACE PILING AND STAFF GAUGE

INSTALL UPSTREAM 165± - SHEET PILE COFFERDAM. T/WEIR EL. 25.0'

UPSTREAM SAFETY BARRIER. **REPLACE EXISTING PILINGS.** SALVAGE EXISTING SAFETY BARRIER FLOATS. REPLACE ALL HARDWARE AND CABLES WITH STAINLESS STEEL AND **REINSTALL**.

FLOATING TURBIDITY BARRIER TO SHORELINE THEN SILT FENCE TO TOP OF SLOPE (TYP.).

REMOVE SEDIMENT AND DEBRIS FROM



LEGEND

DEMO. ASPHALT

DIRECTION OF SLOPE

EXISTING RIPRAP

EXISTING RIPRAP WITH CONCRETE FILL LIMITS OF RIPRAP AND BEDDING OR BANK PROTECTION STONE

NEW NO. 57 STONE

NEW CONCRETE

NEW LIMEROCK

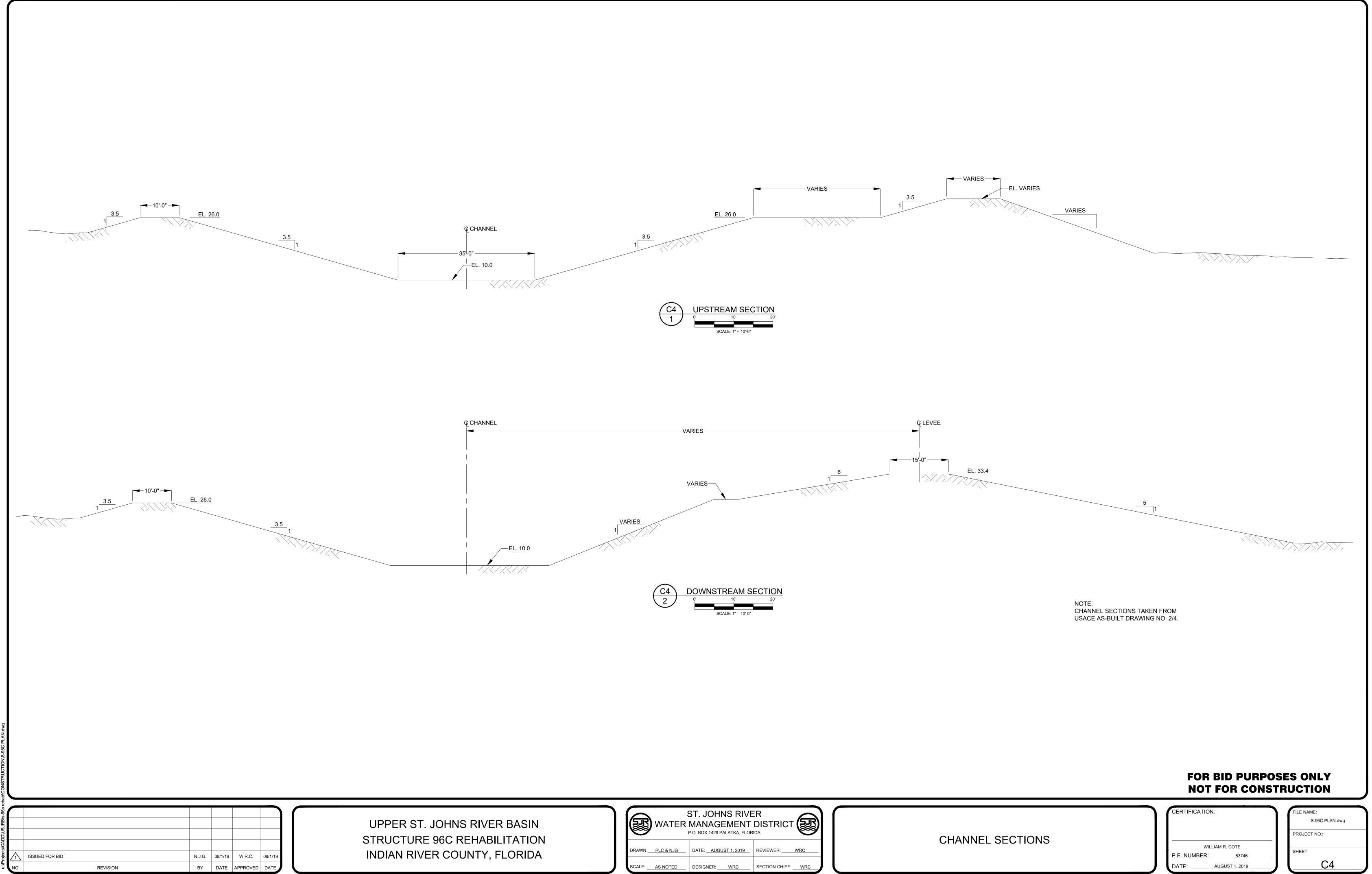
FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:

WIL	LIAM R. COTE
P.E. NUMBER:	53746
DATE:	AUGUST 1, 2019

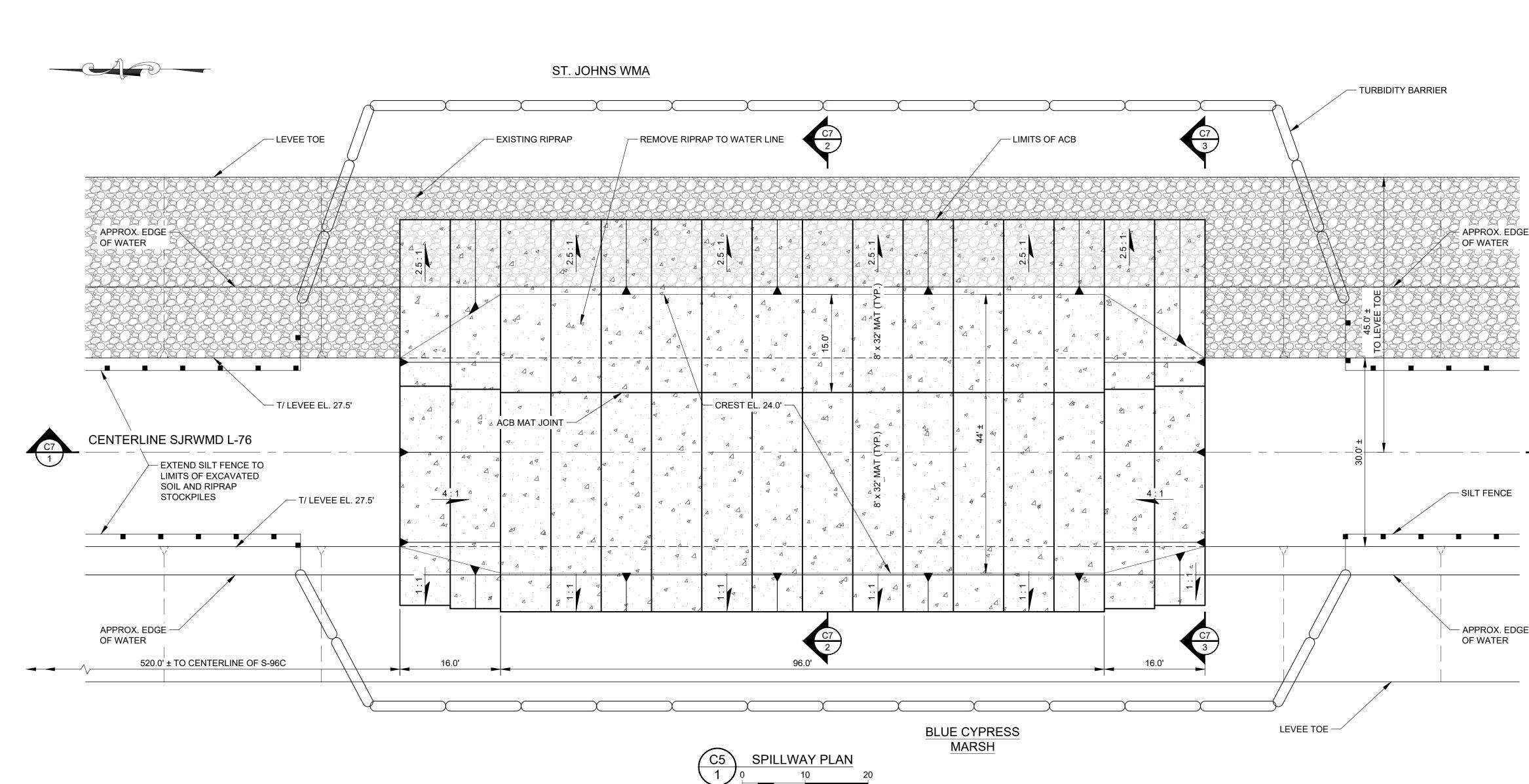
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PROJECT NO.:
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C3

SITE PLAN (WITH AERIAL)



WIL	LIAM R. COTE
P.E. NUMBER:	53746

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SCALE: 1" = 10'



BYPASS SPILLWAY SUMMARY OF WORK

- 1. THE BYPASS SPILLWAY SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF TEMPORARY COFFERDAMS AT S-96C.
- 2. EROSION AND SEDIMENT CONTROL: INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES.
- 3. EARTHWORK: EXCAVATE THE TOP OF LEVEE L-76 TO THE GRADES SHOWN ON THE DRAWINGS. STOCKPILE EXCAVATED MATERIAL (SOIL AND RIPRAP) ON TOP OF THE LEVEE ADJACENT TO THE SPILLWAY AT LOCATIONS AS DIRECTED BY THE DISTRICT. CONTRACTOR SHALL MAINTAIN A MINIMUM 15-FEET WIDE ACCESS ROAD ON TOP OF THE LEVEE.
- 4. GEOTEXTILE: INSTALL GEOTEXTILE TO THE LIMITS SHOWN ON THE DRAWINGS.
- 5. ARTICULATING CONCRETE BLOCK (ACB): INSTALL ACB MATS TO THE GRADES AND LIMITS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DRAWINGS DEPICTING DESIGN AND INSTALLATION DETAILS SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
- 6. RESTORE LEVEE: FOLLOWING COMPLETION OF THE S-96C REHABILITATION AND REMOVAL OF THE COFFERDAMS, RESTORE THE LEVEE TO ORIGINAL GRADES AND CONDITION. REMOVE ACB MATS, REMOVE GEOTEXTILE, PLACE COMPACTED FILL, AND PLACE RIPRAP ON LEVEE SLOPE. THE DISTRICT SHALL RETAIN OWNERSHIP OF THE ACB MATS AND THE CONTRACTOR SHALL DELIVER THE MATS TO THE DISTRICT'S REWORK SITE LOCATED AT 9555 SOUTH BABCOCK ROAD, PALM BAY, FL.

EARTHWORK:

- 1. SITE PREPARATION SHALL CONSIST OF STRIPPING ACTIVITIES PRIOR TO EXCAVATION AND BACKFILLING. STRIPPING INCLUDES COMPLETE REMOVAL OF LOW-GROWING VEGETATION, ORGANIC TOPSOILS, PEAT/MUCK (PT), AND ANY CONCENTRATED ROOT ZONES AND ROOT MATS.
- 2. THE SOILS BELOW THE BOTTOM OF THE EXCAVATION SHALL NOT BE DISTURBED BY THE EXCAVATION PROCESS. IF SOILS BECOME DISTURBED AND DIFFICULT TO COMPACT, THEY SHALL BE OVER EXCAVATED TO A DEPTH NECESSARY TO REMOVE ALL DISTURBED SOILS. OVER EXCAVATED AREAS SHALL BE REPLACED WITH COMPACTED BACKFILL.
- 3. AREAS TO RECEIVE COMPACTED BACKFILL AND ARTICULATING BLOCK SHALL BE PROOF-ROLLED TO IMPROVE THE OVERALL UNIFORMITY AND BEARING CONDITIONS OF THE EXPOSED SOILS. INITIAL COMPACTION OPERATIONS SHALL CONSIST OF AT LEAST 4 OVERLAPPING PASSES IN EACH DIRECTION WITH A SELF-PROPELLED ROLLER. PROOFROLLING SHALL CONTINUE UNTIL ALL SOFT, WET, OR YIELDING AREAS HAVE BEEN IDENTIFIED, OVER-EXCAVATED, AND BACKFILLED. PROOF-ROLLING SHALL OCCUR AFTER CUTTING AND BEFORE FILLING.
- 4. COMPACTED BACKFILL REQUIRED TO REPLACE ANY DISTURBED SOILS AND/OR BACKFILL IN THE LEVEE SHALL BE FINE SAND WITH CLAY OR CLAYEY FINE SAND HAVING A FINES CONTENT BETWEEN 8 AND 18 PERCENT PASSING THE U.S. STANDARD NO. 200 SIEVE. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS. EACH LIFT SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D-1557). MOISTURE CONTENT OF THE SOILS SHALL BE MANIPULATED AS NECESSARY TO MEET THE PERCENT COMPACTION REQUIREMENT. THE BACKFILL SOIL SHALL BE OF A HOMOGENOUS NATURE SUCH THAT LAYERS OF RELATIVELY PERMEABLE SOIL ARE NOT PLACED BENEATH RELATIVELY LOW PERMEABLE SOILS. ORGANIC SOILS, PEAT, MUCK, OR CLAY (CL OR CH) SHALL NOT BE USED AS FILL.
- THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING LABORATORY, APPROVED BY THE DISTRICT, FOR THE SAMPLING AND TESTING OF SOILS. FIELD DENSITY TESTS SHALL BE PERFORMED AS NECESSARY WITH EITHER THE DRIVE CYLINDER METHOD (ASTM D2937) OR NUCLEAR METHOD (ASTM D2922). PENETROMETER PROBES SHALL ALSO BE PERFORMED TO VERIFY THE UNIFORMITY OF COMPACTION. LABORATORY COMPACTION PROCTOR TESTS SHALL BE PERFORMED WHENEVER CHANGES IN SOIL COMPOSITION ARE OBSERVED, OR ON NEW MATERIAL FROM A DIFFERENT SOURCE. MOISTURE CONTENT AND PERCENT FINES (-200) TESTS SHALL BE PERFORMED ON EACH BAG SAMPLE RECOVERED FOR PROCTER TESTING. LIQUID AND PLASTIC LIMITS SHALL BE PERFORMED AS NECESSARY WHEN PLASTIC FINES ARE PRESENT. THE NECESSITY AND FREQUENCY OF THE SOIL TESTS OUTLINED HEREIN MAY BE ADJUSTED BY THE DISTRICT. ANY FAILING TEST RESULTS SHALL BE ACCOMPANIED BY RETESTS SHOWING PASSING RESULTS.
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR GIVING ADVANCE NOTICE (MINIMUM 24 HOURS) TO THE DESIGNATED CONTACT WHEN TESTING SERVICES ARE REQUIRED.
- 7. 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.

ARTICULATING CONCRETE BLOCK

- 1. THE ARTICULATING CONCRETE BLOCK MATS SHALL CONSIST OF 6-INCH CLOSED CELL BLOCK, ARMORFLEX CLASS 55-S AS MANUFACTURED BY CONTECH ENGINEERED SOLUTIONS, OR APPROVED EQUAL. ANY SUBSTITUTION SHALL SATISFY THE REQUIREMENTS OF SECTION 530 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DRAWINGS DEPICTING DESIGN AND INSTALLATION DETAILS SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
- 2. GEOTEXTILE FABRIC SHALL BE MIRAFI FILTERWEAVE WOVEN NO. FW 404 (OR APPROVED EQUAL) AND SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 514 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION). ADDITIONALLY, THE GEOTEXTILE FABRIC MATERIAL SHALL CONFORM TO THE REQUIREMENTS FOR TYPE D-2 OF THE FDOT SPECIFICATIONS SECTION 985.

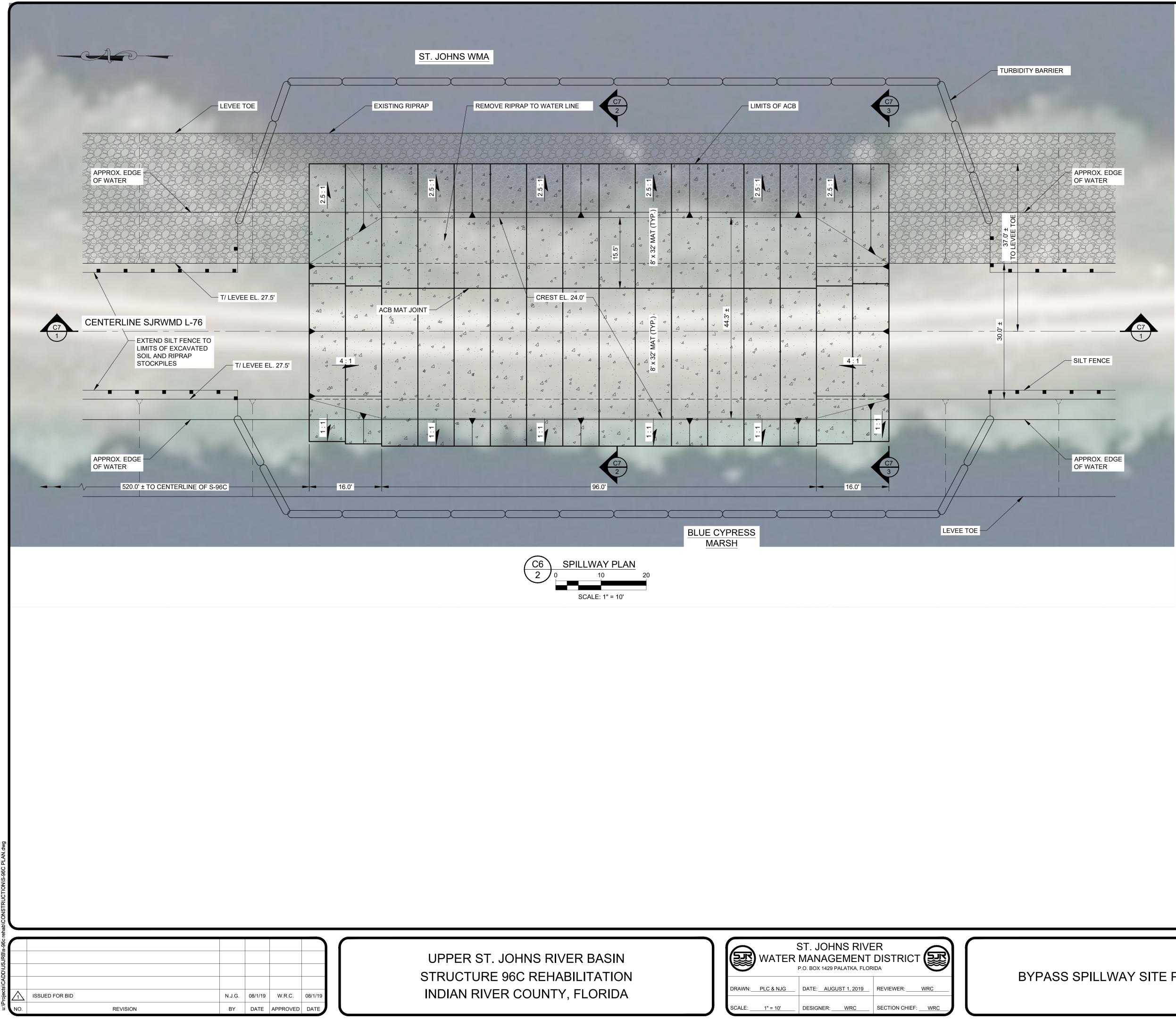
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WILLIAM R. COTE P.E. NUMBER: _ 53746 AUGUST 1, 2019 DATE:

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REHABILITATION	P.O. BOX 1429 PALA	ATKA, FLORIDA	В
UNTY, FLORIDA	DRAWN: PLC & NJG DATE: AUGUST	T 1, 2019 REVIEWER: WRC	
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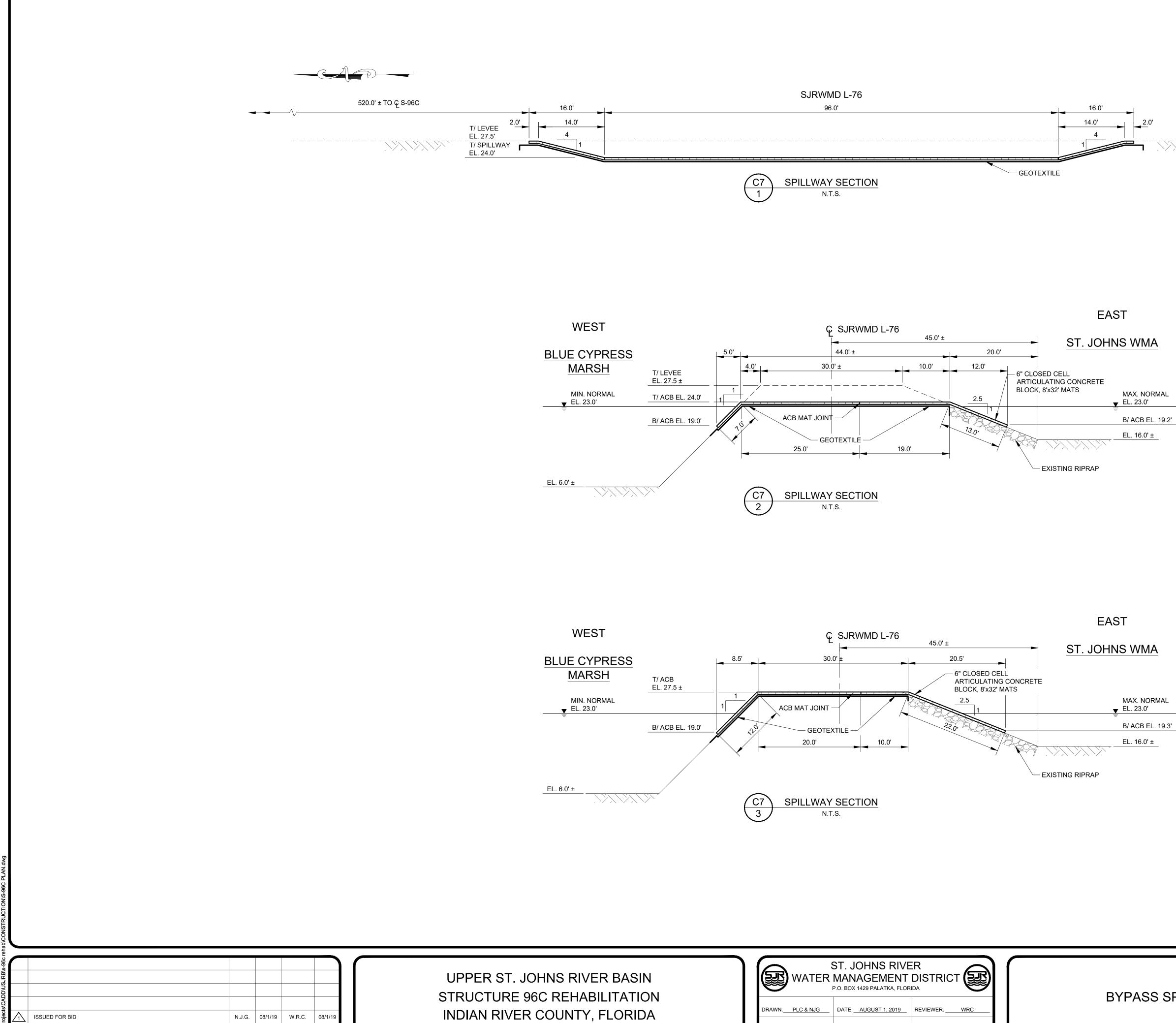
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BYPASS SPILLWAY SITE PLAN WITH AERIAL

WILLIAM R. COTE P.E. NUMBER: 53746 AUGUST 1, 2019 DATE:

CERTIFICATION:

FILE NAME:
S-96C PLAN.dwg
PROJECT NO.:
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REVISION

BY DATE APPROVED DATE

S RIVER BASIN	ST. JOHNS RIVER WATER MANAGEMENT DISTRIC P.O. BOX 1429 PALATKA, FLORIDA	
REHABILITATION UNTY, FLORIDA	DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF	WRC

BYPASS SPILLWAY SECTIONS

FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

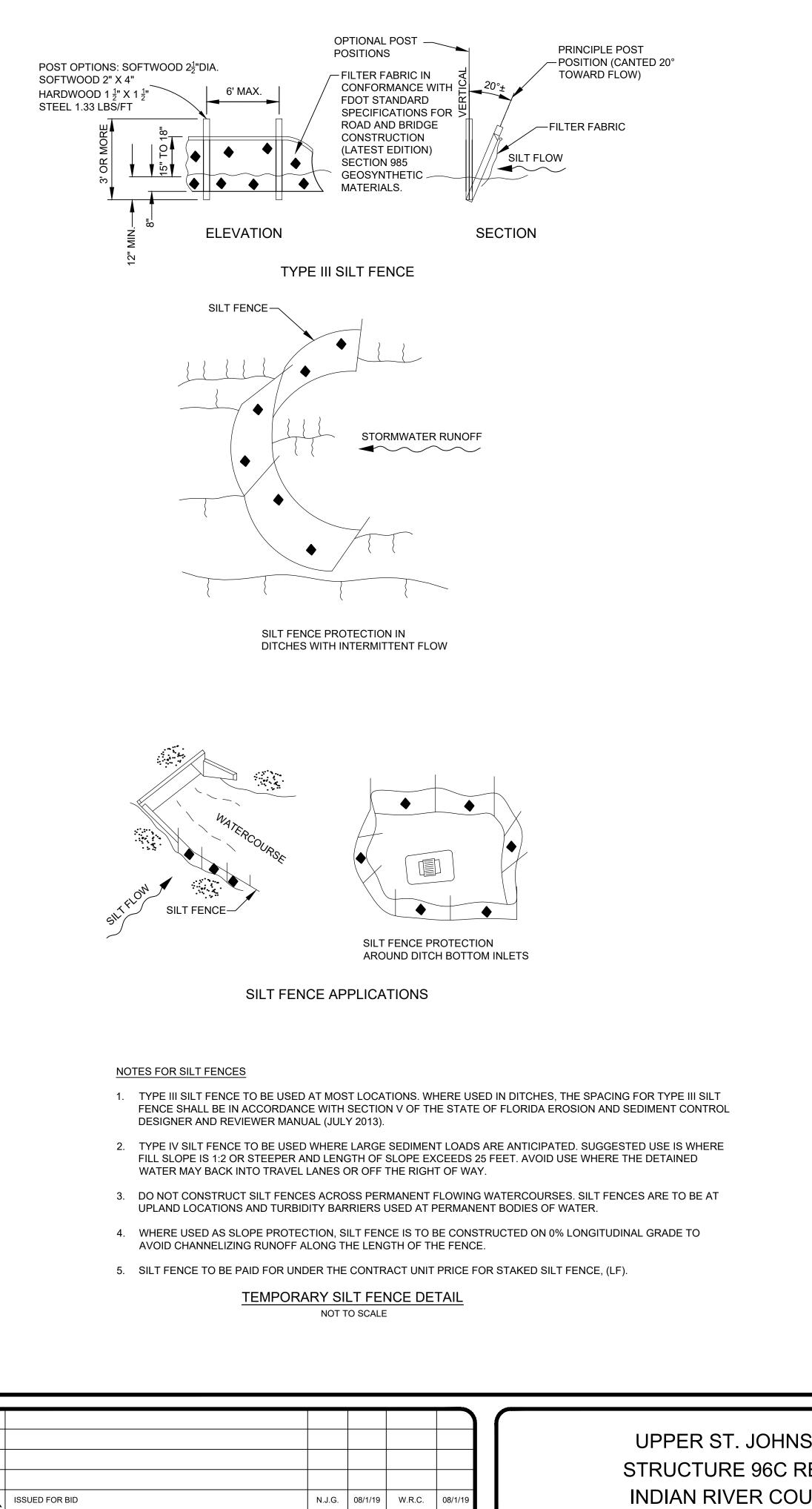
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WILLIAM R. COTE P.E. NUMBER: 53746

AUGUST 1, 2019 DATE:

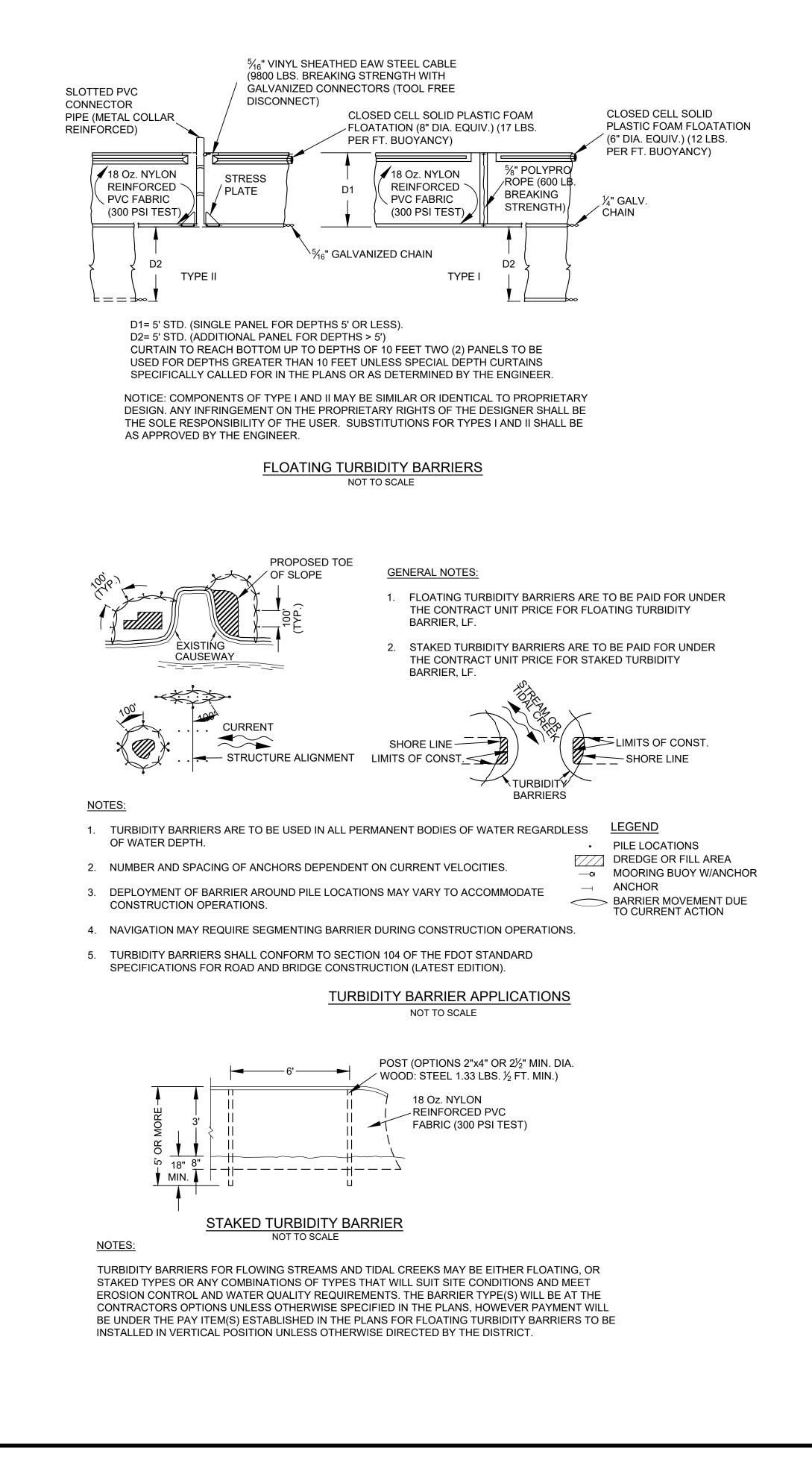
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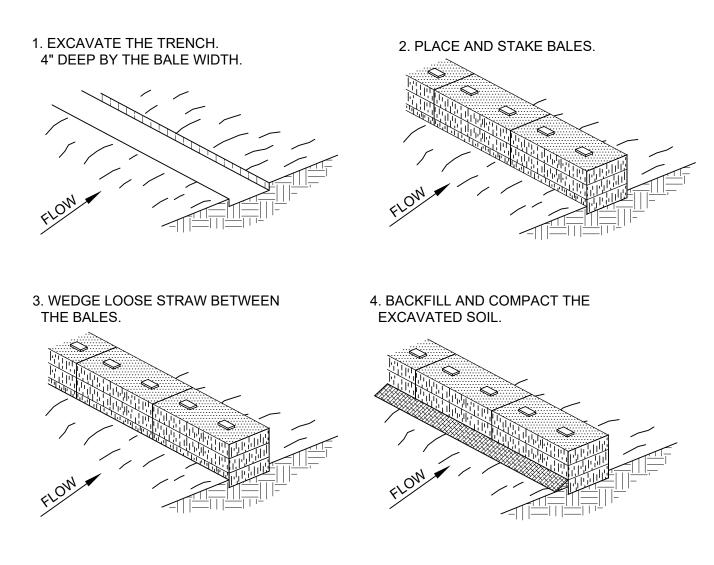


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UNTY, FLORIDA	DRAWN:	PLC & NJG	DATE: <u>AUGUST 1, 2019</u> DESIGNER: <u>WRC</u>	REVIEWER: WRC SECTION CHIEF: WRC	ERUSIU



NOTES:

- 1. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- 2. 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:

- 1. 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.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL (LATEST EDITION).
- 9. 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 FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITIONS). NOTE THAT OTHER GRASSING ALTERNATIVES MAY BE USED WITH PRIOR DISTRICT APPROVAL.

FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:

WILLIAM R. COTE P.E. NUMBER: _ 53746 AUGUST 1, 2019 DATE

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ON AND SEDIMENT CONTROL

NOTE SPECIFICATIONS:

REFERENCE DOCUMENTS:

- 1. BORING LOGS AND GRADATION CURVES EXCERPTED FROM "USACE DETAIL DESIGN MEMORANDUM, S-96C AND S-96D, APPENDIX A", DATED FEBRUARY 1989.
- 2. AS-BUILT DRAWINGS PREPARED BY THE US ARMY CORPS OF ENGINEERS, "STRUCTURE 96C AND STRUCTURE 96D", DATED JANUARY 1994.
- 3. REPORT PREPARED BY ARDAMAN & ASSOCIATES, INC., "ENGINEERING EVALUATION OF CONCRETE CONDITION AND STEEL SHEET PILE WING WALL THICKNESS, STRUCTURE S-96C", DATED JUNE 25, 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:

- 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 THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS CONTAINED IN THE FOLLOWING PERMITS WHICH HAVE BEEN OBTAINED BY THE PRIMER COAT OF DURALPREP AC MUST BE ALLOWED TO THOROUGHLY DRY BEFORE APPLICATION OF THE TAMMS STRUCTURAL MORTAR. DISTRICT: 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.
- 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.
- 11. ERODED CONCRETE SURFACES SHALL BE REPAIRED WITH TAMMS STRUCTURAL MORTAR. APPLICATION MAY BE BY TROWEL OR LOW PRESSURE 5. ALL ERODIBLE GROUND AREAS AND SLOPES DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED WITH SOD, MULCH, SEED, WETLAND WET SPRAY PROCESS. AN EVAPORATION RETARDANT, SUCH AS EUCOBAR AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR SPECIES, OR OTHERWISE APPROPRIATELY STABILIZED WITHIN 72 HOURS AFTER COMPLETION OF THE CONSTRUCTION ACTIVITY AND AT ANY APPROVED EQUAL, SHALL BE USED IF REQUIRED BY WEATHER CONDITIONS. SURFACE PREPARATION, APPLICATION, AND CURING SHALL BE IN OTHER TIME AS NECESSARY TO PREVENT VIOLATIONS OF STATE WATER QUALITY STANDARDS. ANY DISTURBED SLOPES STEEPER THAT 4:1 SHALL ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. THE REPAIR AREA SHALL NOT BE LESS THAN 1/8" IN DEPTH. SUBSTRATE SHALL BE BE SODDED. 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 PURPOSES OF THIS WORK, THE TERM "DRY" SHALL BE DEFINED AS SURFACES FREE OF MOISTURE, STANDING WATER, FLOWING WATER, RAIN, OR TAMMS STRUCTURAL MORTAR FOR HAND APPLICATIONS. THE REPAIR MUST BE MADE BEFORE THE SCRUB COAT DRIES OUT. AT NO TIME SHALL GROUNDWATER SEEPAGE EXCEPT AS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS OR AS OTHERWISE APPROVED BY THE DISTRICT. THE THE REPAIR MORTAR MIX BE ALLOWED TO EXCEED 90 DEGREES FAHRENHEIT. COLD WATER SHALL BE USED IN THE MIX AS REQUIRED TO CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO CONTROL THE FLOW OF WATER. MAINTAIN THE PROPER TEMPERATURE.
- 6. THE CONTRACTOR SHALL PROVIDE THE NECESSARY WATER CONTROL SUCH THAT ALL CONSTRUCTION IS PERFORMED IN THE DRY. FOR THE
- 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.
- 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.

7	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
) .	REVISION	BY	DATE	APPROVED	DATE

UPPER ST. JOHNS STRUCTURE 96C RE **INDIAN RIVER COUN**

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.
- 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 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.
- 12. 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.
- 13. 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.
- 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 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.
- 2. 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.
- 3. 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. AN ADDITIONAL SAMPLE 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.
- 4. 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.
- 5. 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 THREE (3) STANDARD COMPRESSION CYLINDERS FROM EACH SAMPLE, ONE (1) OF WHICH WILL BE TESTED AT SEVEN (7) DAYS AND TWO (2) TESTS AT TWENTY-EIGHT (28) DAYS.
- 6. 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 TWO (2) 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.
- 7. 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.

RIVER BASIN HABILITATION	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT	NC
NTY, FLORIDA	DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC	
	SCALE: <u>AS NOTED</u> DESIGNER: <u>WRC</u> SECTION CHIEF: <u>WRC</u>	

STEEL:

PAINTS AND PROTECTIVE COATINGS:

- PAINTING MANUAL".

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:

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.

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.

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. 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 ADJACENT TO THE SHEET PILING WALLS DOWN TO THE BEDDING STONE.

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 RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.

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

2. 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).

3. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:

STRUCTURAL STEEL, SHEET PILING, AND EMBEDDED STEEL: SSPC-10 NEAR WHITE BLAST CLEANING.

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

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

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 SYSTEM SPECIFICATIONS:

1. 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.

2. 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 FDOT TYPE D-2 OF THE STANDARD INDEX NO. 199, LATEST EDITION. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

3. BEDDING STONE SHALL BE NO. 57 AGGREGATE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 901 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION, LATEST EDITION, THE FINAL BLANKET THICKNESS SHALL BE A MINIMUM OF 6 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY).

4. 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 FDOT SPECIFICATIONS SECTION 530.

5. 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 6-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.

FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:

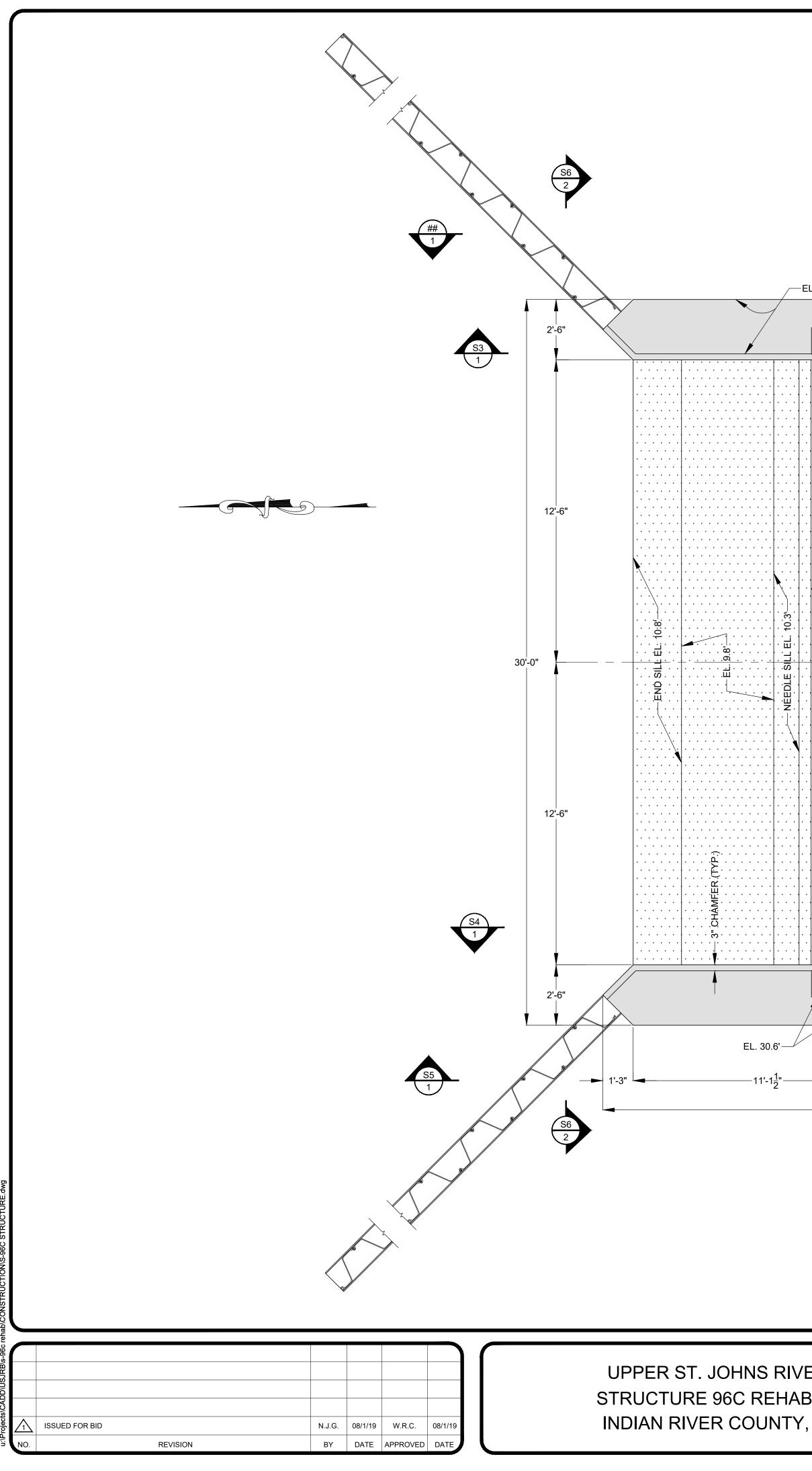
WILLIAM R. COTE

P.E. NUMBER: 53746 AUGUST 1, 2019

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

S1

TE SPECIFICATIONS



		1'-4"				\searrow
SLOPE						
	15 SPACES @ 1-8" = 25-10"		REPLACE GATE POSITION INDICATOR OPERATING PLATFORM EL. 47.0'	SLOPE SLOPE		
		1'-2"			14" (TYP.)	
	' CHAMFER (TYP.)	1'-4"				
	- 13 S2 1	1/2" EXPANSION JOINT MATERIAL 41'-6" STRUCTURE PLAN 0 2' 4' SCALE: 3/8" = 1'-0"	7'-0"		7'-2 <u>1</u> "►	1

REMOVE AND REPLACE

EXPANSION JOINTS (TYP.)

/---EL. 30.6'

CAULK IN BRIDGE —

Ç SERVICE

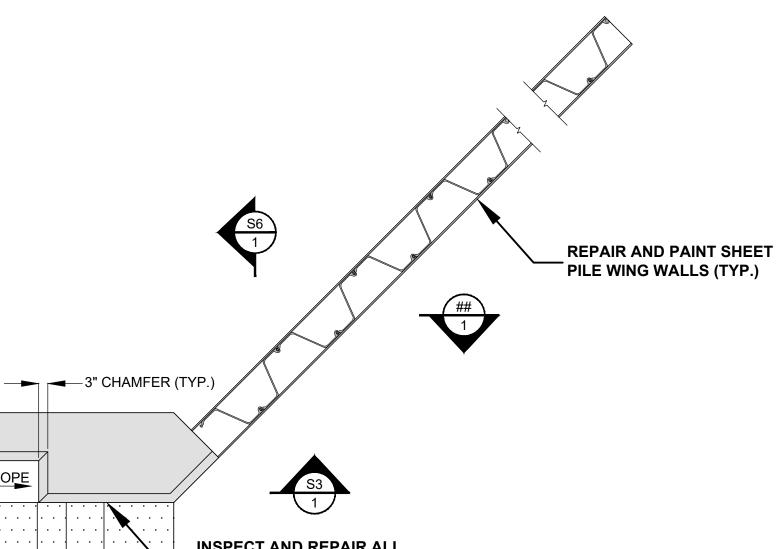
BRIDGE

1/2" EXPANSION

JOINT MATERIAL

		ST. JOHNS RIV	ER
R BASIN	WA	TER MANAGEMENT	
		P.O. BOX 1429 PALATKA, FLC	RIDA
LORIDA	DRAWN: PLC &	NJG DATE: AUGUST 1, 2019	REVIEWER: WRC
	SCALE: AS NO	TED DESIGNER: WRC	SECTION CHIEF: WRC

CONCRETE REPAIR - STRUCTURE PLAN

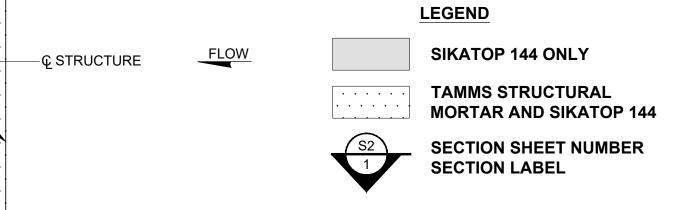


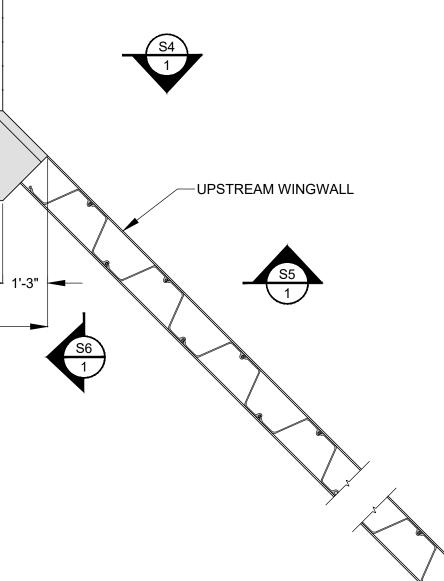
INSPECT AND REPAIR ALL - EXPOSED CONCRETE SURFACES UP TO EL. 30.6'

NEEDLE BEAM RECESS (TYP.)

3"Ø GAL. PIPE

WELL OPENING





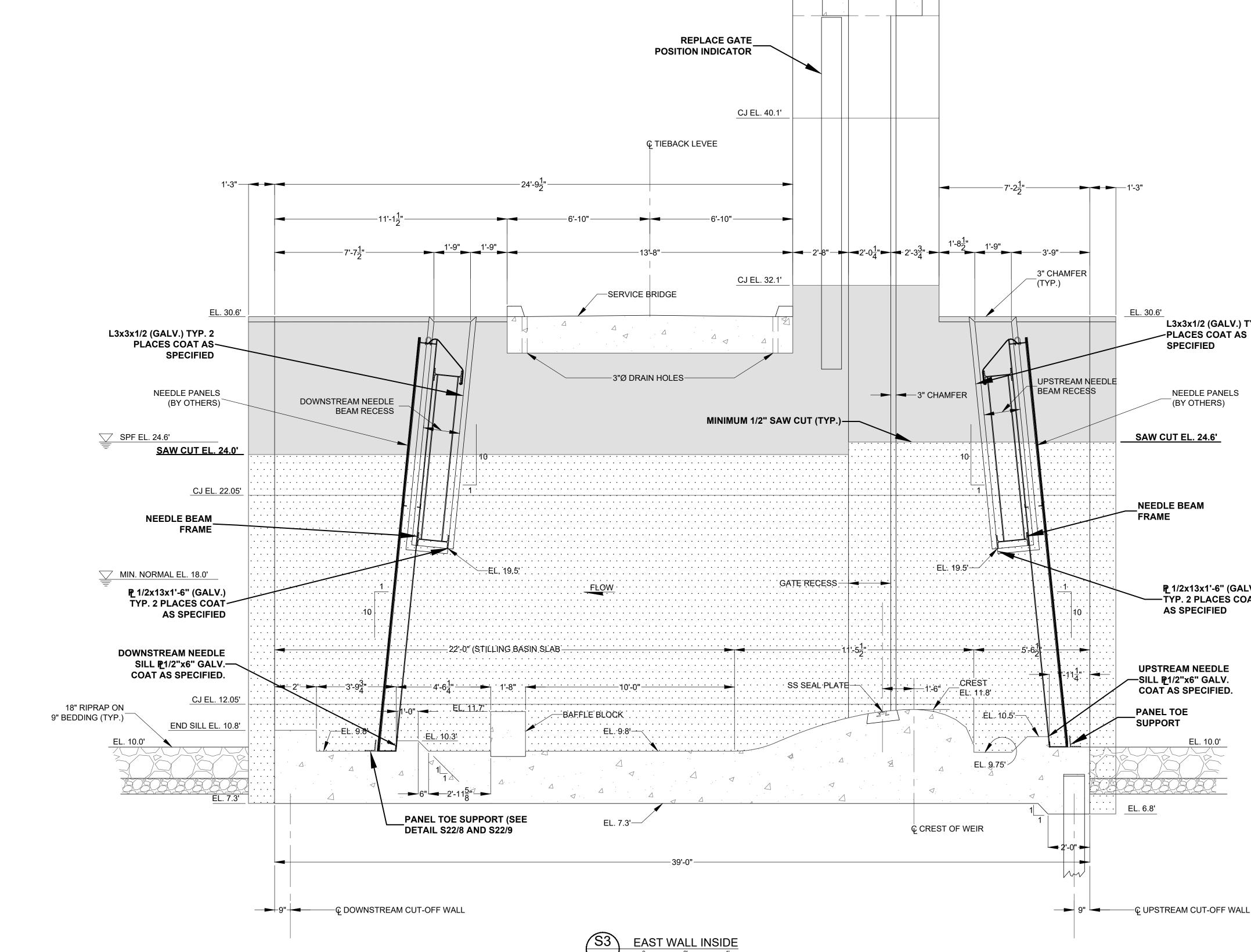
FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

CERTIFICATION:

WILLIAM R. COTE P.E. NUMBER: 53746

AUGUST 1, 2019 DATE:

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UPPER ST. JOHNS
STRUCTURE 96C RE
INDIAN RIVER COUN

\wedge	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
NO.	REVISION	BY	DATE	APPROVED	DATE

RIVER BASIN EHABILITATION INTY, FLORIDA

WATER	ST. JOHNS RIVE MANAGEMENT P.O. BOX 1429 PALATKA, FLOR	DISTRICT (STR)
DRAWN: PLC & NJG	DATE: <u>AUGUST 1, 2019</u>	REVIEWER: WRC
SCALE: AS NOTED	DESIGNER: WRC	SECTION CHIEF: WRC

-7'-0"

OPERATING PLATFORM EL. 47.0'

CONCRETE REPAIR - EAST WALL INSIDE

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CERTIFICATION:

WILLIAM R. COTE

P.E. NUMBER: 53746 AUGUST 1, 2019 DATE:

FILE NAME: S-96C STRUCTURE.dwg PROJECT NO .: SHEET: **S**3

TAMMS STRUCTURAL MORTAR AND SIKATOP 144

LEGEND

SIKATOP 144 ONLY

UPSTREAM NEEDLE ──SILL ₱1/2"x6" GALV. COAT AS SPECIFIED.

PANEL TOE SUPPORT

EL. 10.0'

₽ 1/2x13x1'-6" (GALV.) ─TYP. 2 PLACES COAT AS SPECIFIED

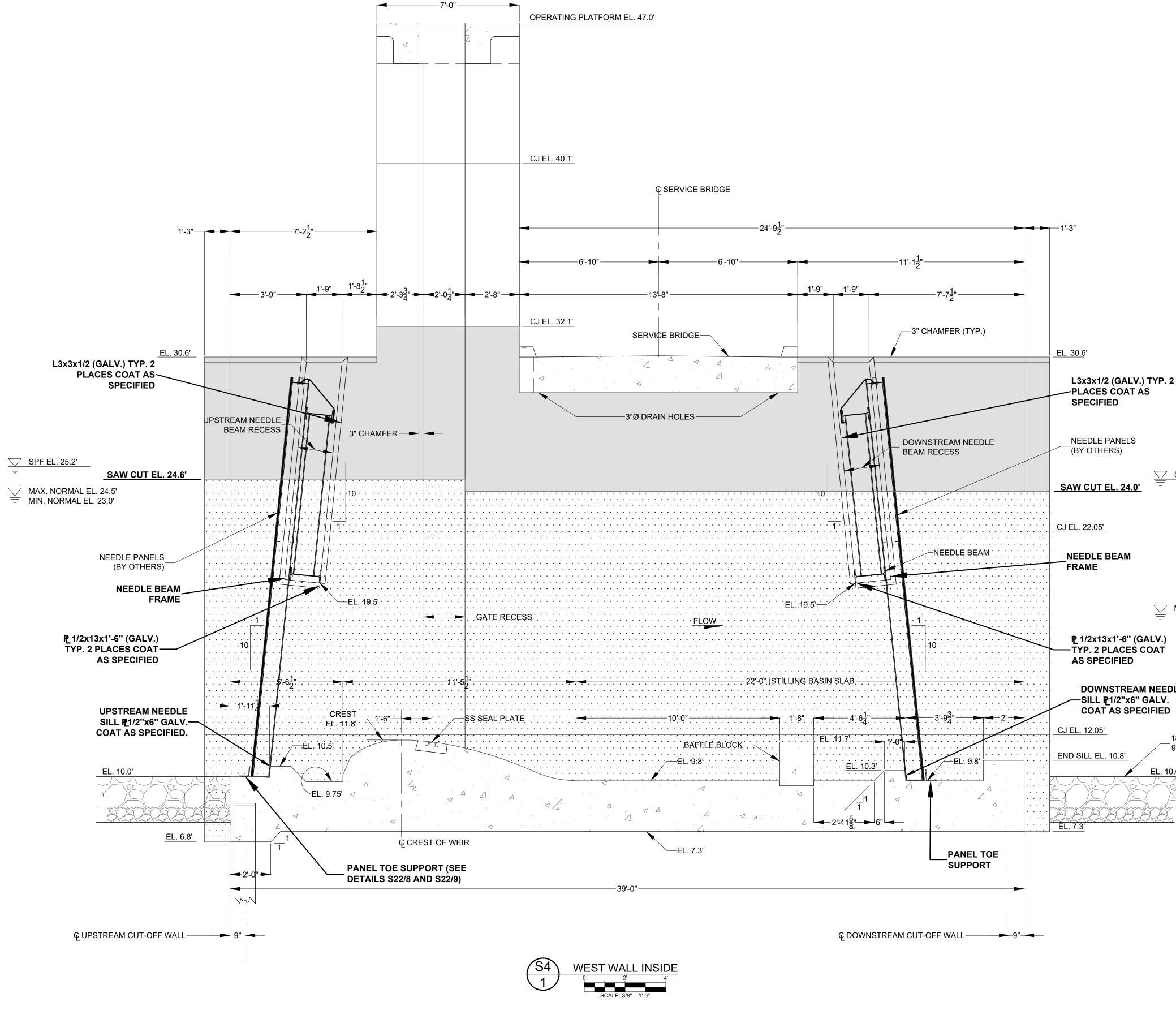
SAW CUT EL. 24.6'

SPF EL. 25.2'

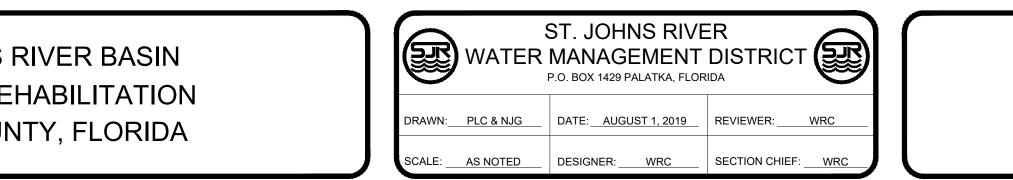
MAX. NORMAL EL. 24.5'

NEEDLE PANELS (BY OTHERS)

L3x3x1/2 (GALV.) TYP. 2 -PLACES COAT AS SPECIFIED



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CONCRETE REPAIR - WEST WALL INSIDE

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WILLIAM R. COTE P.E. NUMBER: 53746

AUGUST 1, 2019 DATE:

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NEEDLE BEAM FRAME
MIN. NORMAL EL. 18.0
₽ 1/2x13x1'-6" (GALV.) -TYP. 2 PLACES COAT AS SPECIFIED
DOWNSTREAM NEEDLE SILL P1/2"x6" GALV. COAT AS SPECIFIED
18" RIPRAP ON 9" BEDDING (TYP.)
EL. 10.0'

NEEDLE PANELS (BY OTHERS) SPF EL. 24.6' SAW CUT EL. 24.0'

-PLACES COAT ÁS SPECIFIED

EL. 30.6' L3x3x1/2 (GALV.) TYP. 2

.

LEGEND

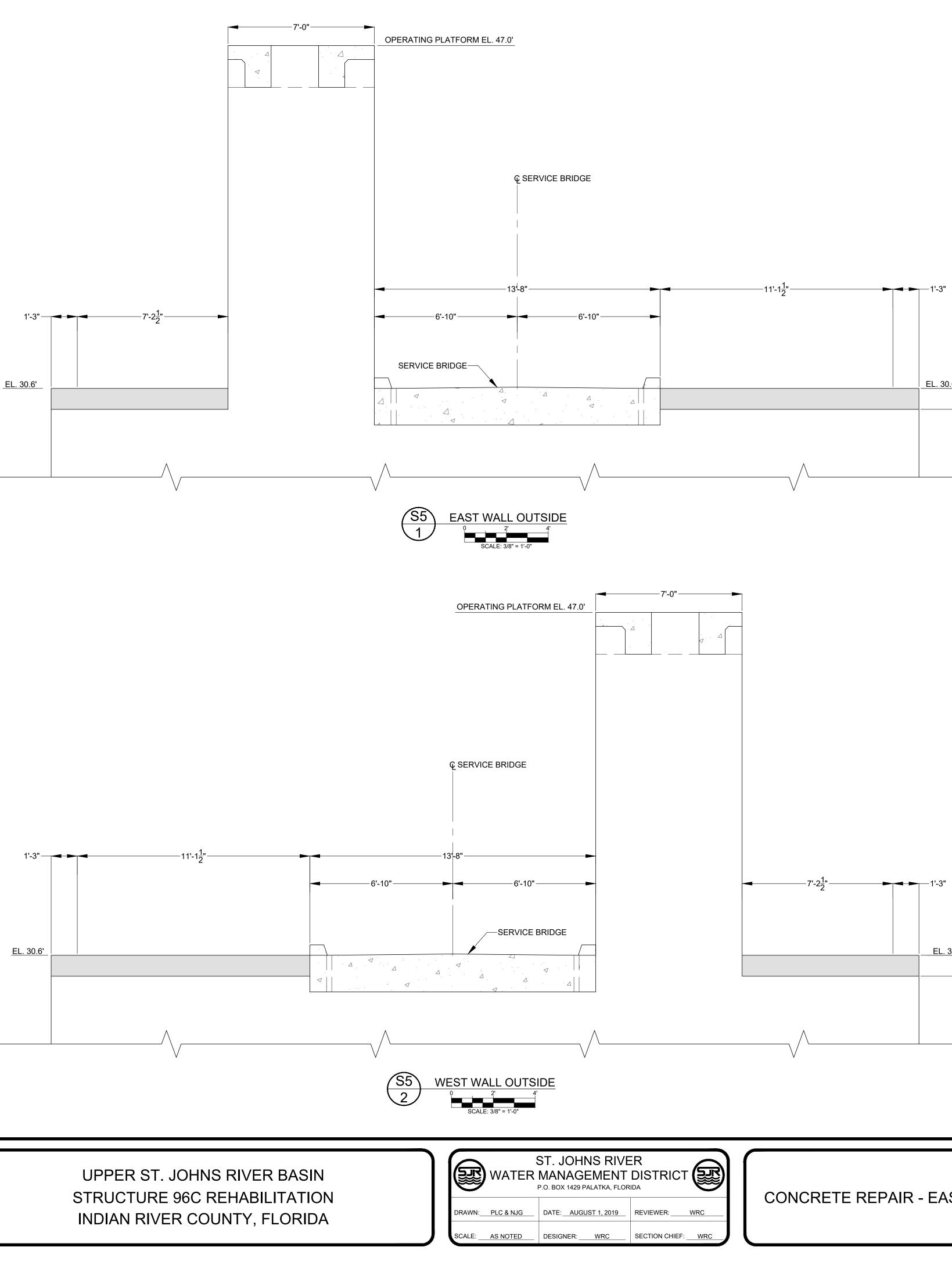
AND SIKATOP 144

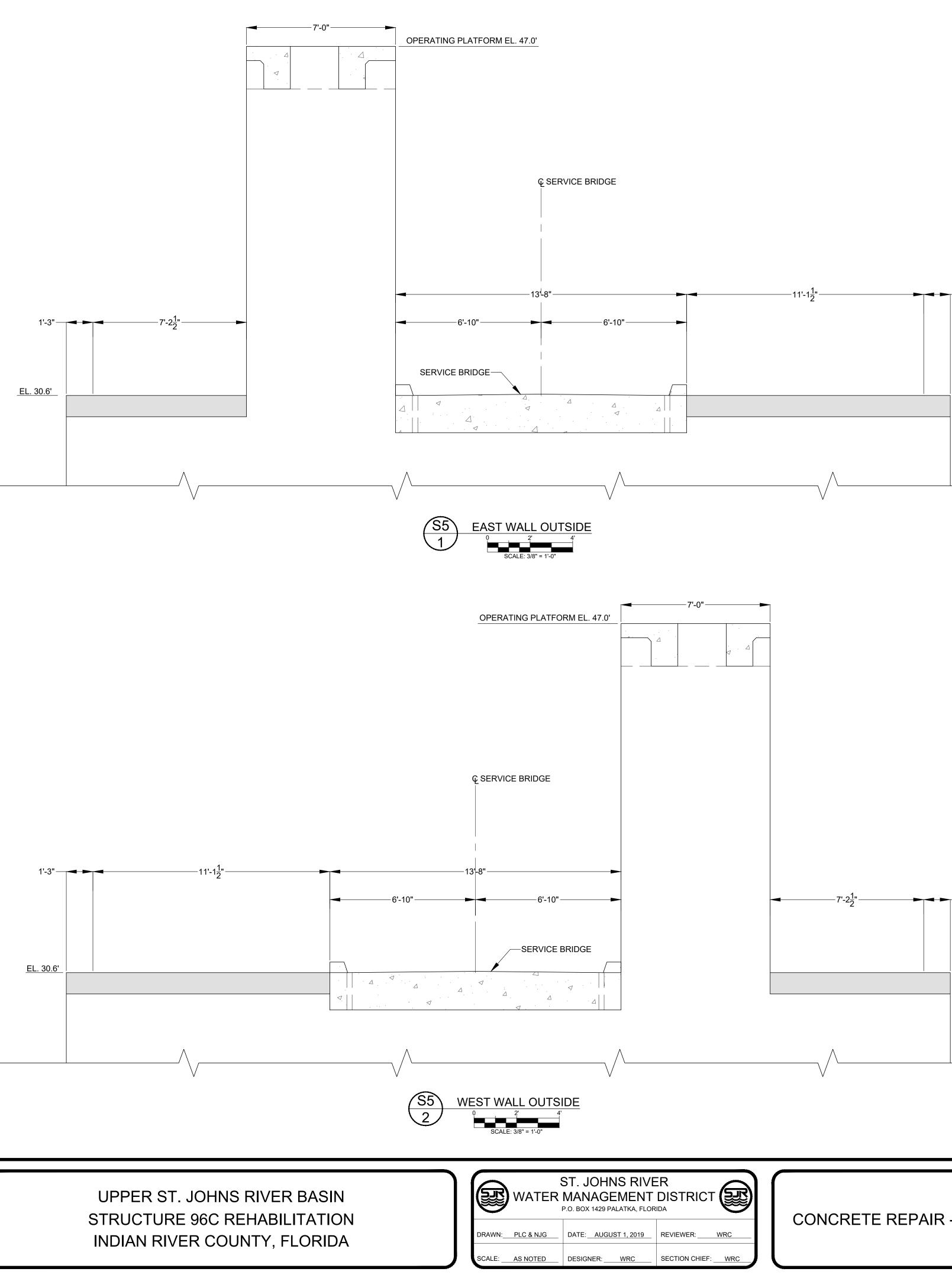
SIKATOP 144 ONLY

TAMMS STRUCTURAL MORTAR

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VCONSTRUCTION/S-96C STRUCTURE	
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NO.	REVISION	BY	DATE	APPROVED	DATE





EL. 30.6' 12" (TYP.)

LEGEND

SIKATOP 144 ONLY

· · · · · ·

EL. 30.6'

12" (TYP.)

TAMMS STRUCTURAL MORTAR AND SIKATOP 144

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

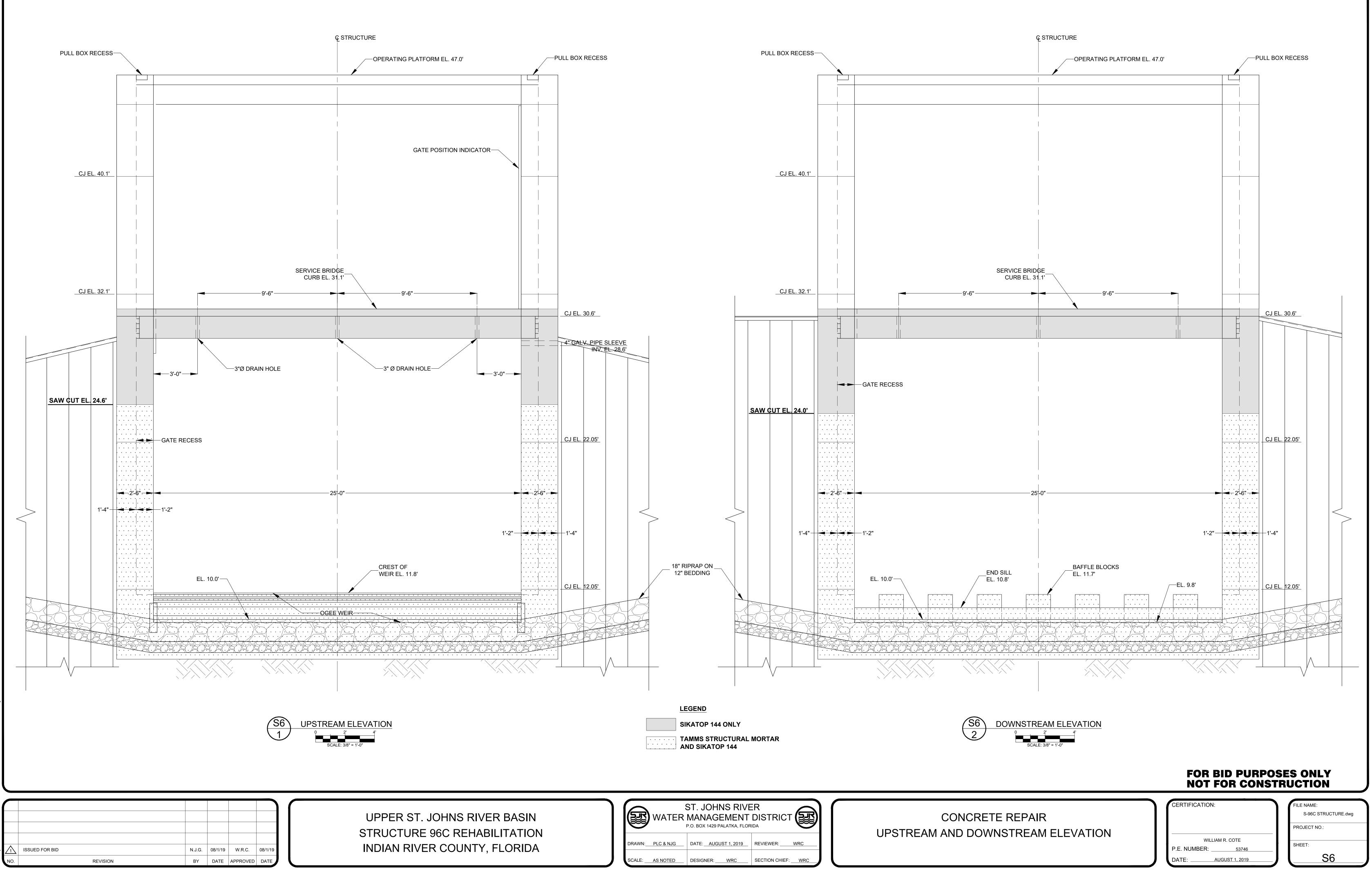
CERTIFICATION:

WILLIAM R. COTE P.E. NUMBER: _____53746

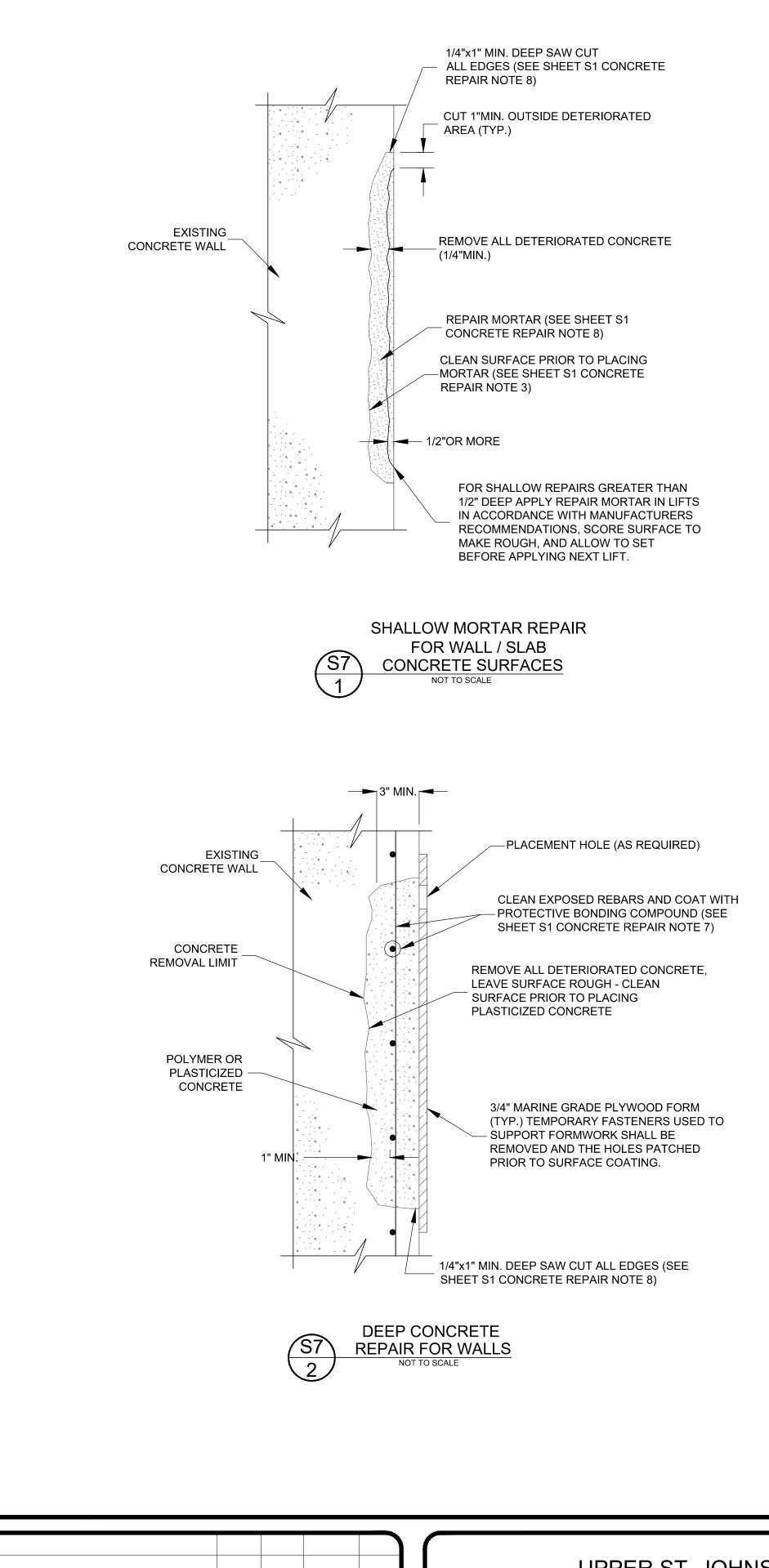
AUGUST 1, 2019 DATE:

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CONCRETE REPAIR - EAST AND WEST WALLS OUTSIDE

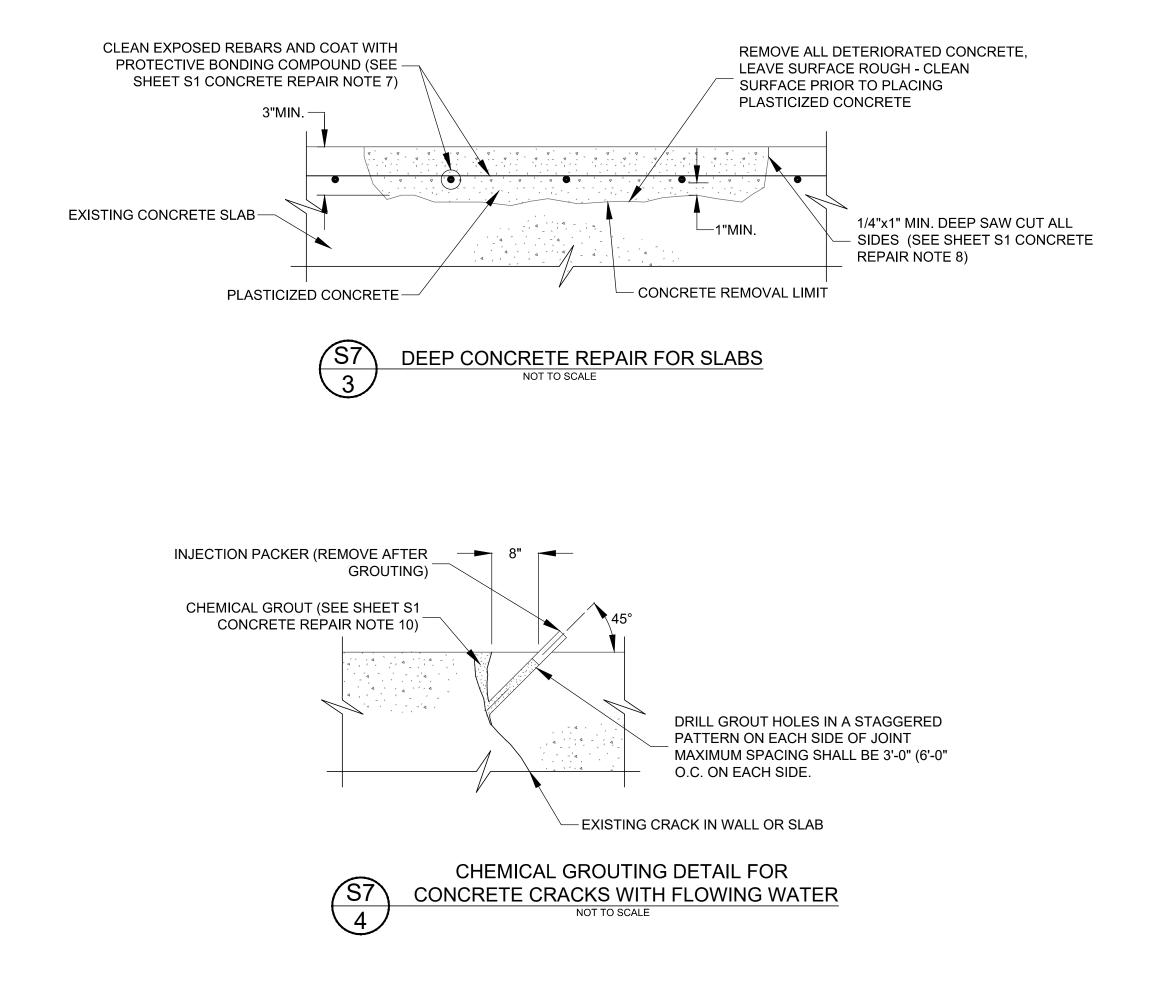


RIVER BASIN HABILITATION		ATER MANAG	NS RIVER EMENT DISTRIC PALATKA, FLORIDA		
NTY, FLORIDA	DRAWN: PLC	<u>& NJG</u> DATE: <u>AUG</u>	UST 1, 2019 REVIEWER:	WRC	
	SCALE: AS N	OTED DESIGNER:	WRC SECTION CHI	EF: WRC	



ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
REVISION	BY	DATE	APPROVED	DATE

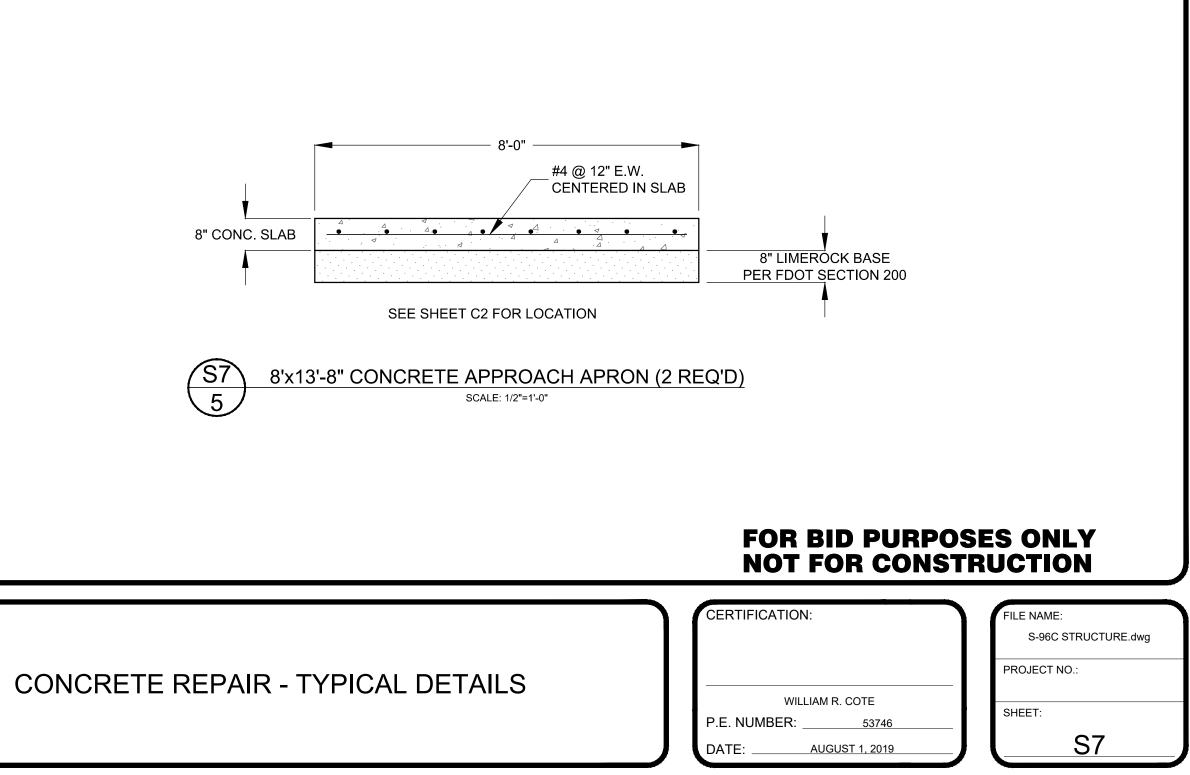
UPPER ST. JOHN STRUCTURE 96C **INDIAN RIVER CO**

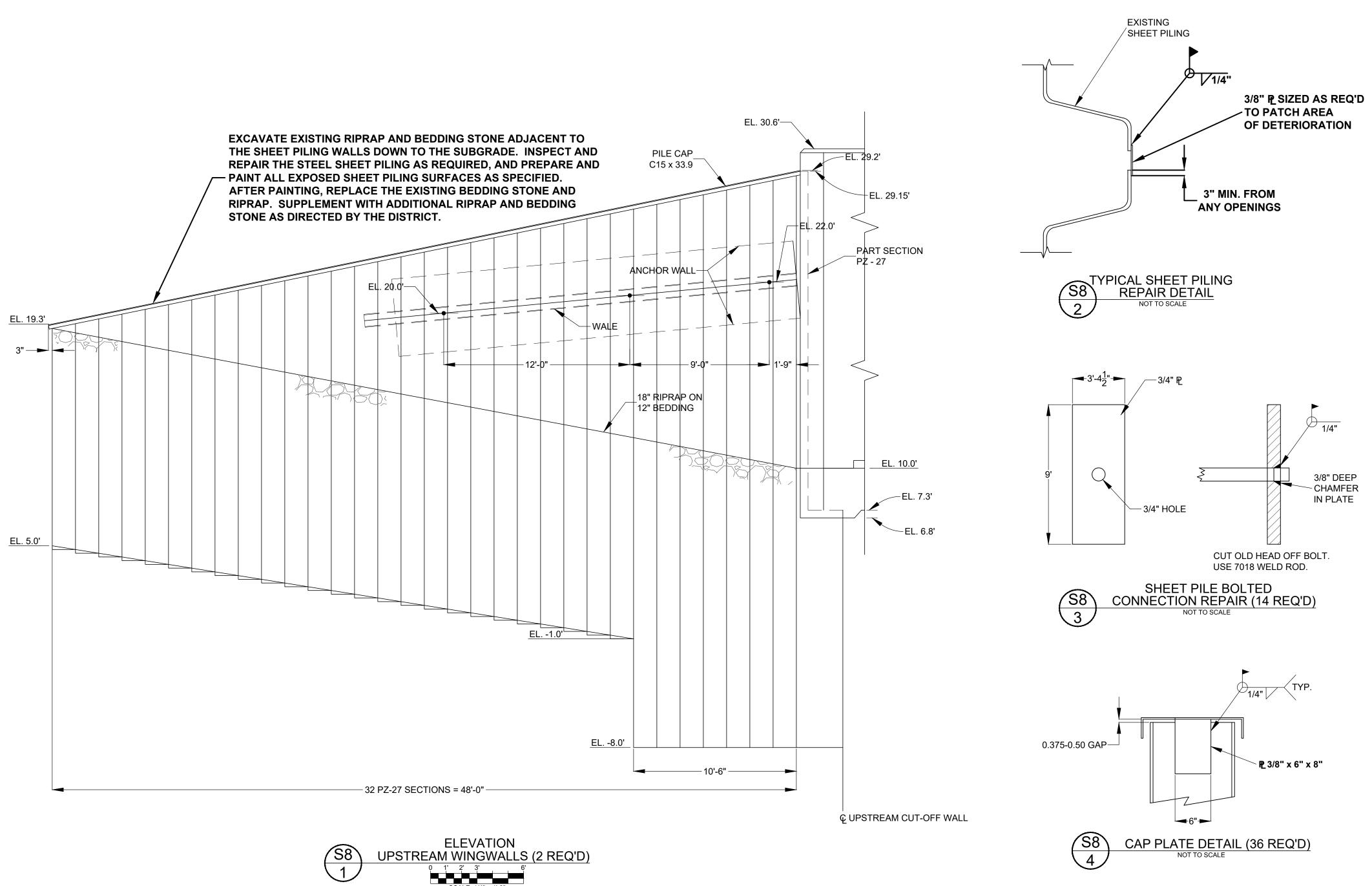


	ST. JOHNS RIVER
IS RIVER BASIN	WATER MANAGEMENT DISTRICT (SEC)
REHABILITATION	P.O. BOX 1429 PALATKA, FLORIDA
UNTY, FLORIDA	DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC
, ,	SCALE: <u>AS NOTED</u> DESIGNER: <u>WRC</u> SECTION CHIEF: <u>WRC</u>

CONCRETE:

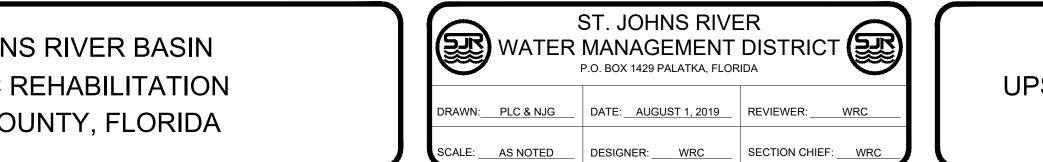
- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 400 WITH SUPPLEMENTS AND ALL PERTINENT SPECIFICATIONS CONTAINED THEREIN.
- 2. ALL CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE 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.







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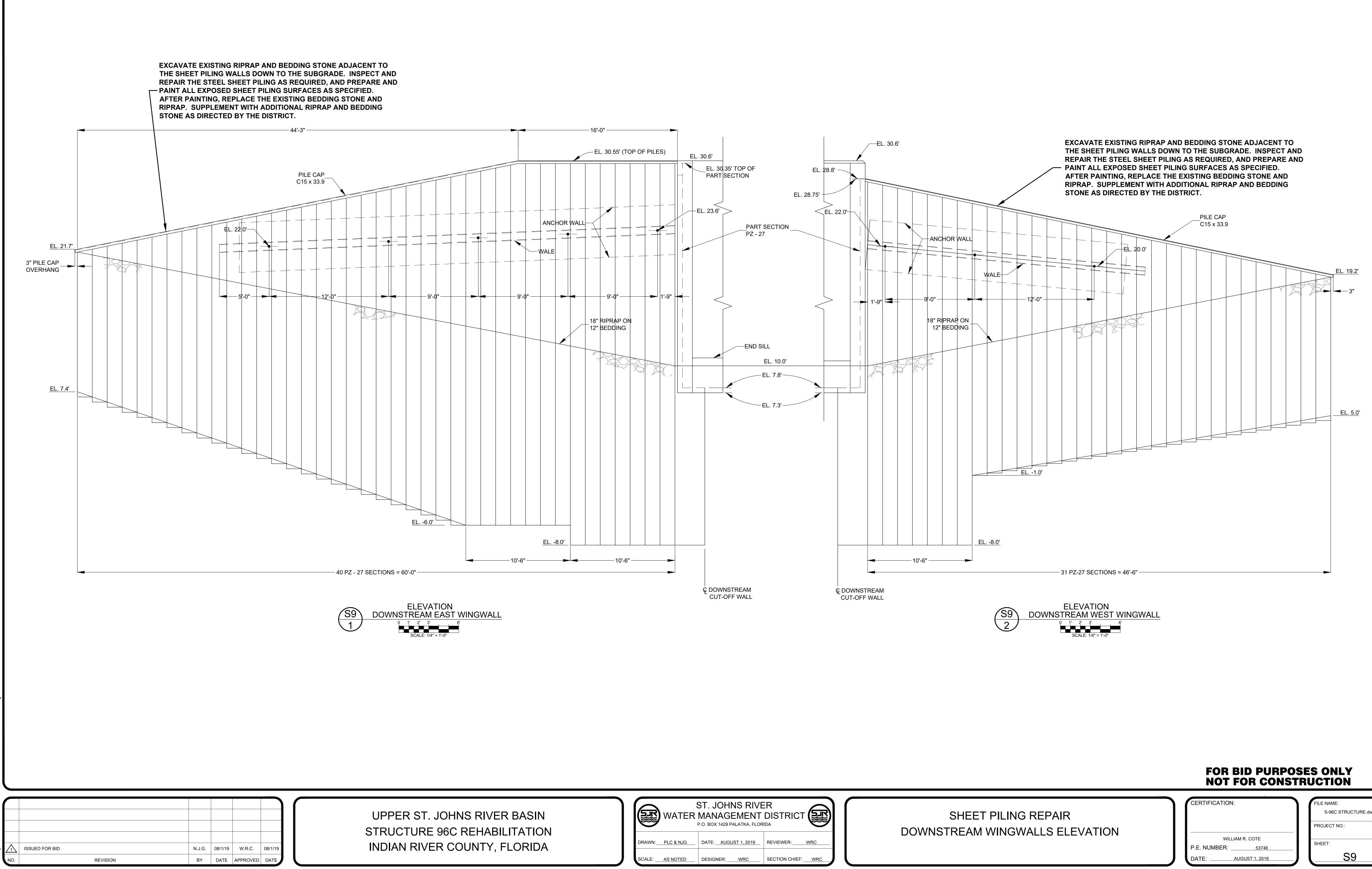
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WILLIAM	M R. COTE
P.E. NUMBER:	53746

AUGUST 1, 2019 DATE:

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	PROJECT NO.:
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SHEET PILING REPAIR UPSTREAM WINGWALLS ELEVATION AND DETAILS

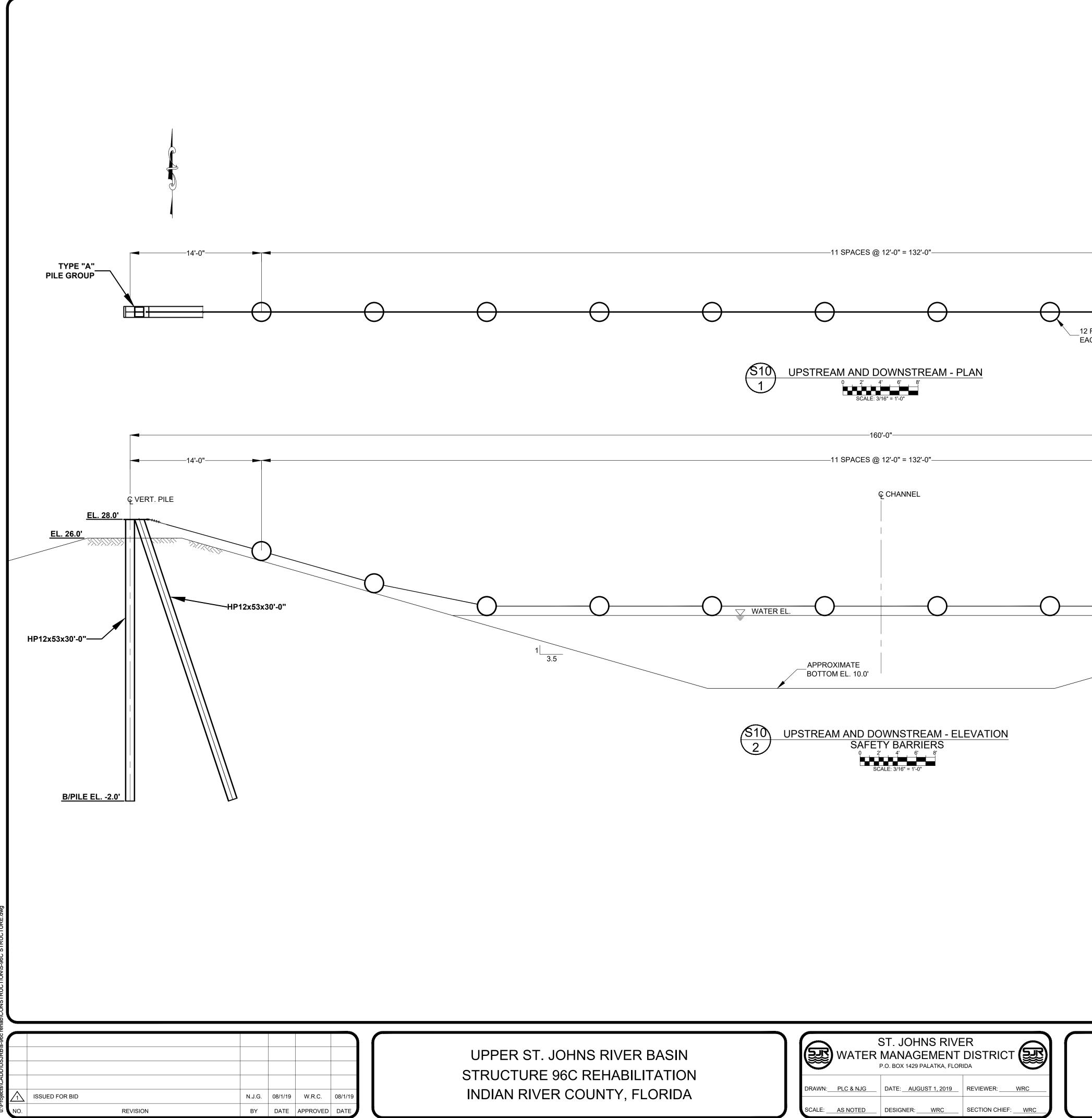


NS RIVER BASIN REHABILITATION	WATER	ST. JOHNS RIVE MANAGEMENT P.O. BOX 1429 PALATKA, FLOF	DISTRICT (SEC)	DC
DUNTY, FLORIDA		DATE: <u>AUGUST 1, 2019</u> DESIGNER: <u>WRC</u>	REVIEWER: WRC	

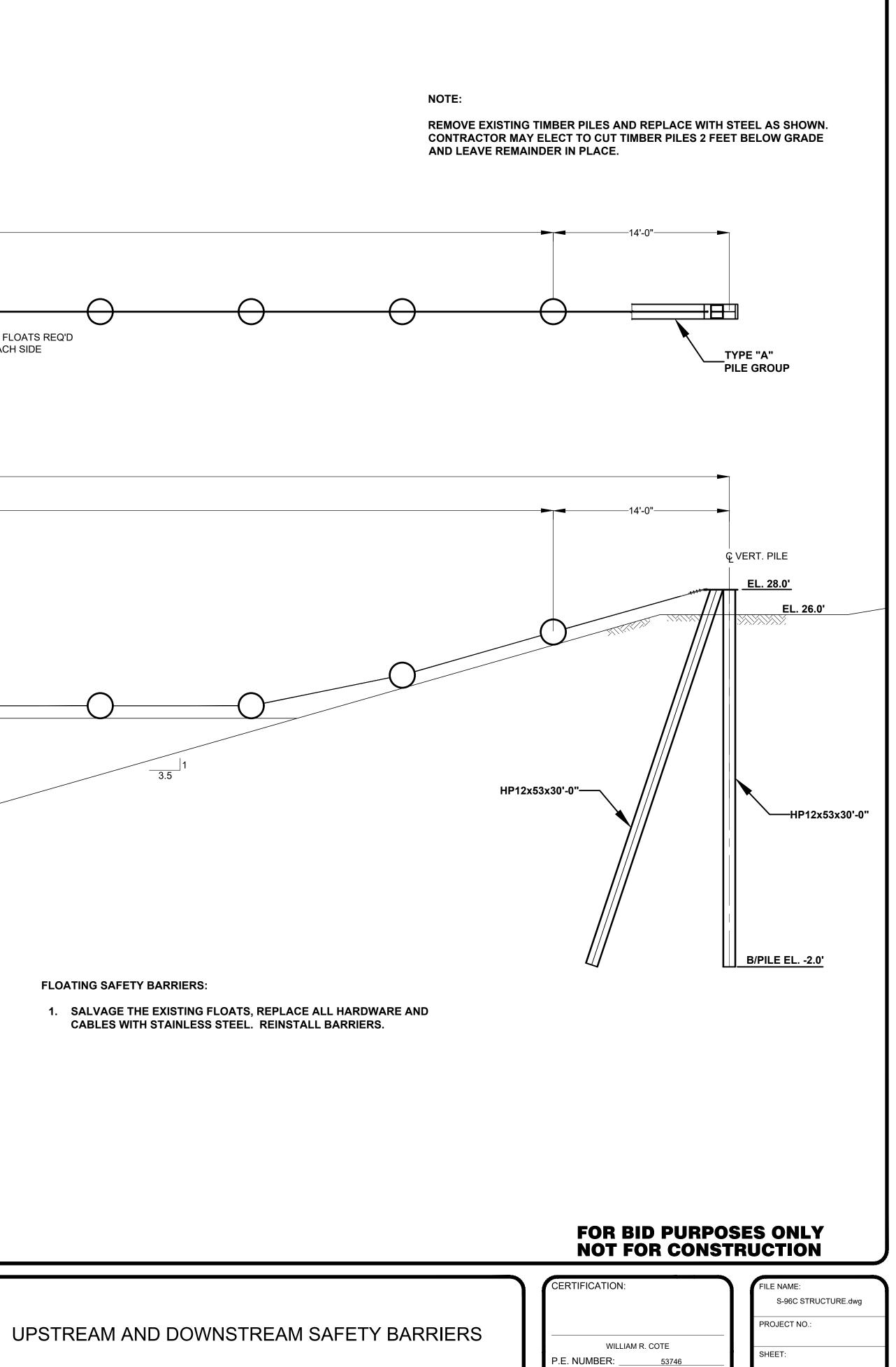
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WILLIAM R. COTE

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	ES @ 12'-0" = 132'-0"		
) — ()	———	12 FLOAT EACH SID	
	DOWNSTREAM - PLAN 4' 6' 8' ALE: 3/16" = 1'-0"		
	—160'-0"——————		
	ES @ 12'-0" = 132'-0"		
	င့ CHANNEL		
		O	O
APPROXIMATE BOTTOM EL. 10.0), 		3.5
	DOWNSTREAM - ELEVA FETY BARRIERS	<u>TION</u>	
			FLOATING SAFETY BARRI
			1. SALVAGE THE EXIST



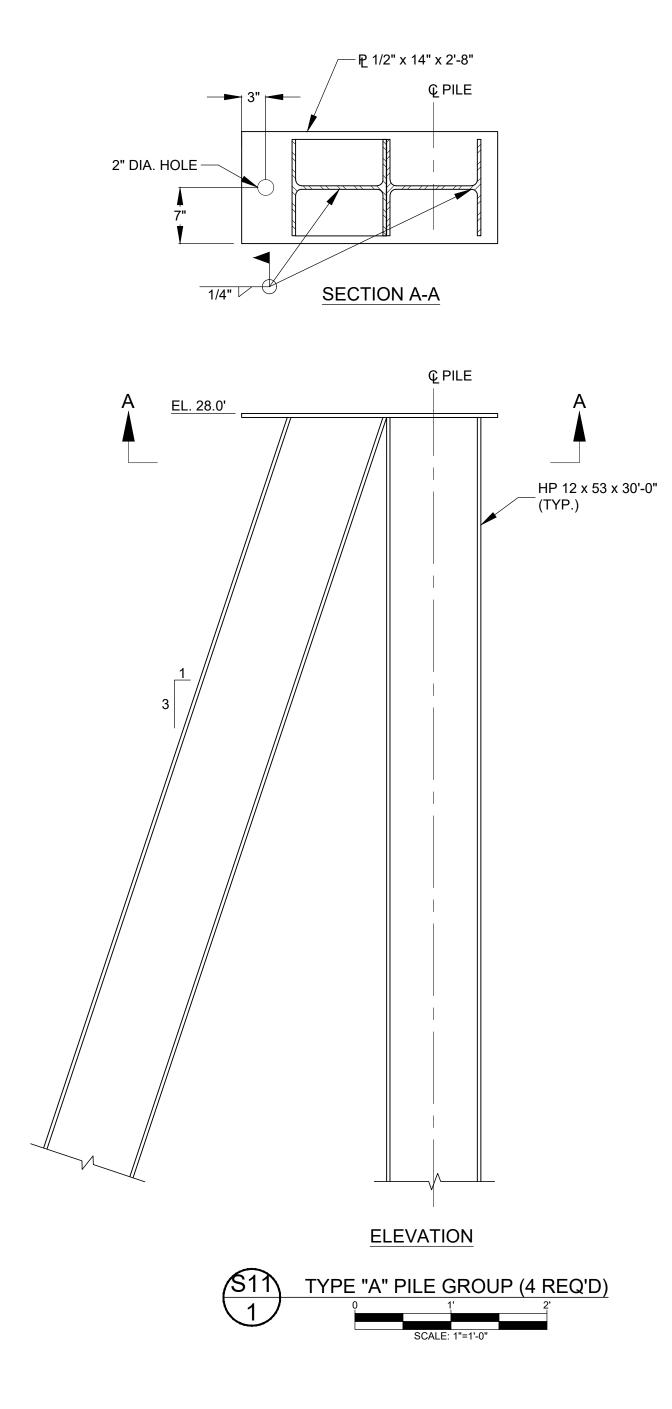
53746 AUGUST 1, 2019

DATE:

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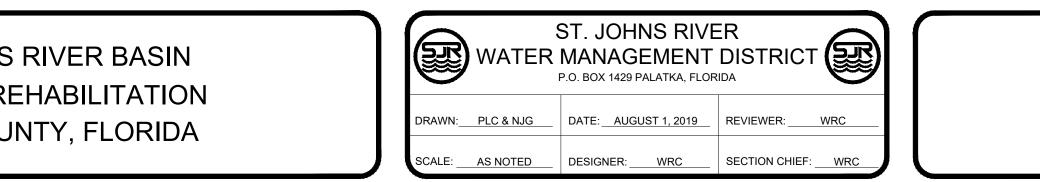
NOTE SPECIFICATIONS:

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.



NEW PILE GROUP DETAILS

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

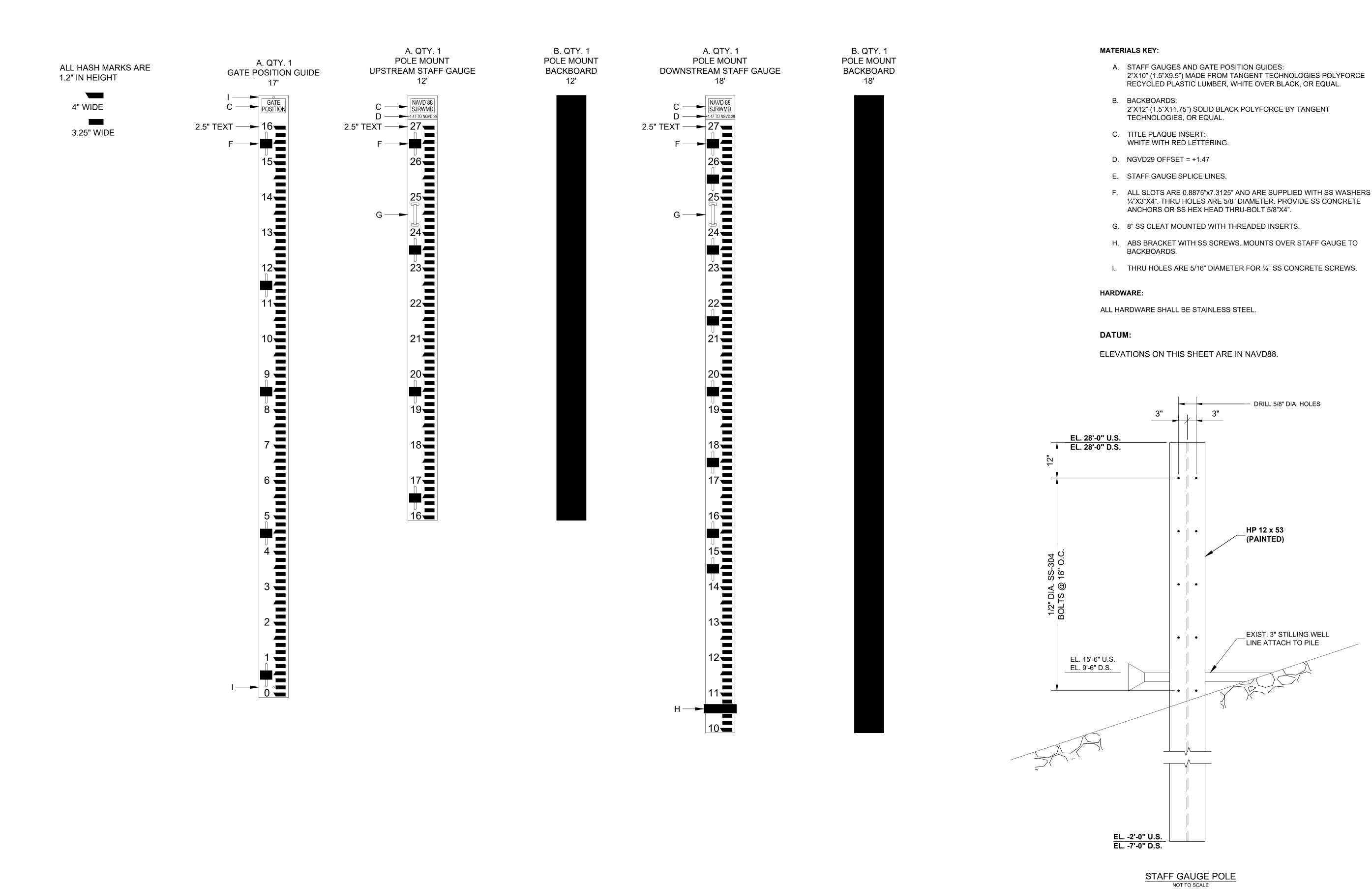
CERTIFICATION:

WILLIAM R. COTE

AUGUST 1, 2019 DATE:

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P.E. NUMBER: 53746



ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
REVISION	BY	DATE	APPROVED	DATE

WATER	ST. JOHNS RIVE MANAGEMENT P.O. BOX 1429 PALATKA, FLOR	DISTRICT
DRAWN:PLC & NJG	DATE:AUGUST 1, 2019	REVIEWER: WRC
SCALE: <u>AS NOTED</u>	DESIGNER: WRC	SECTION CHIEF: WRC

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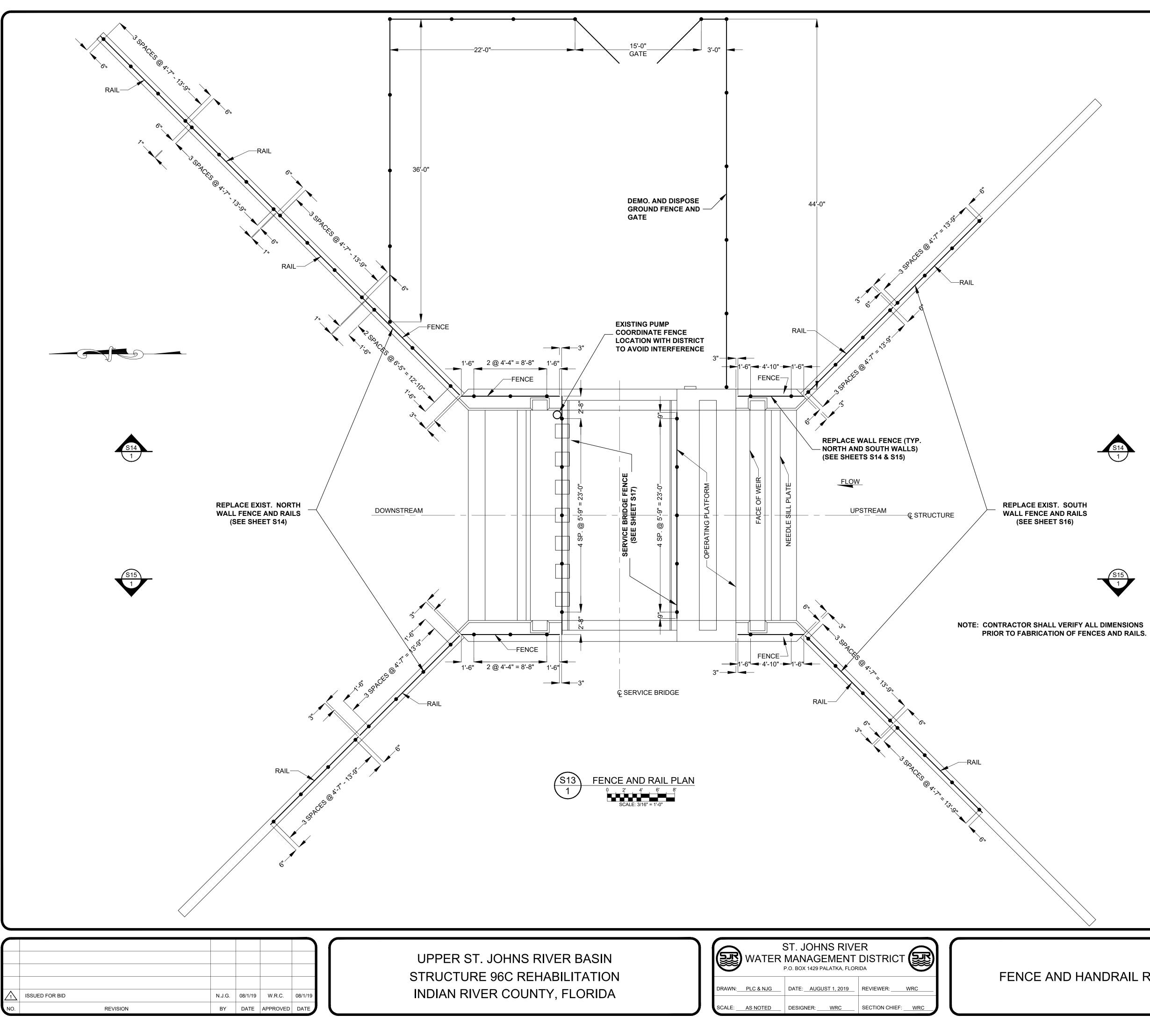
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P.E. NUMBER:	53746

AUGUST 1, 2019

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NEW STAFF GAUGES AND GATE POSITION GUIDE



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.
- 13. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF FENCES AND RAILS.





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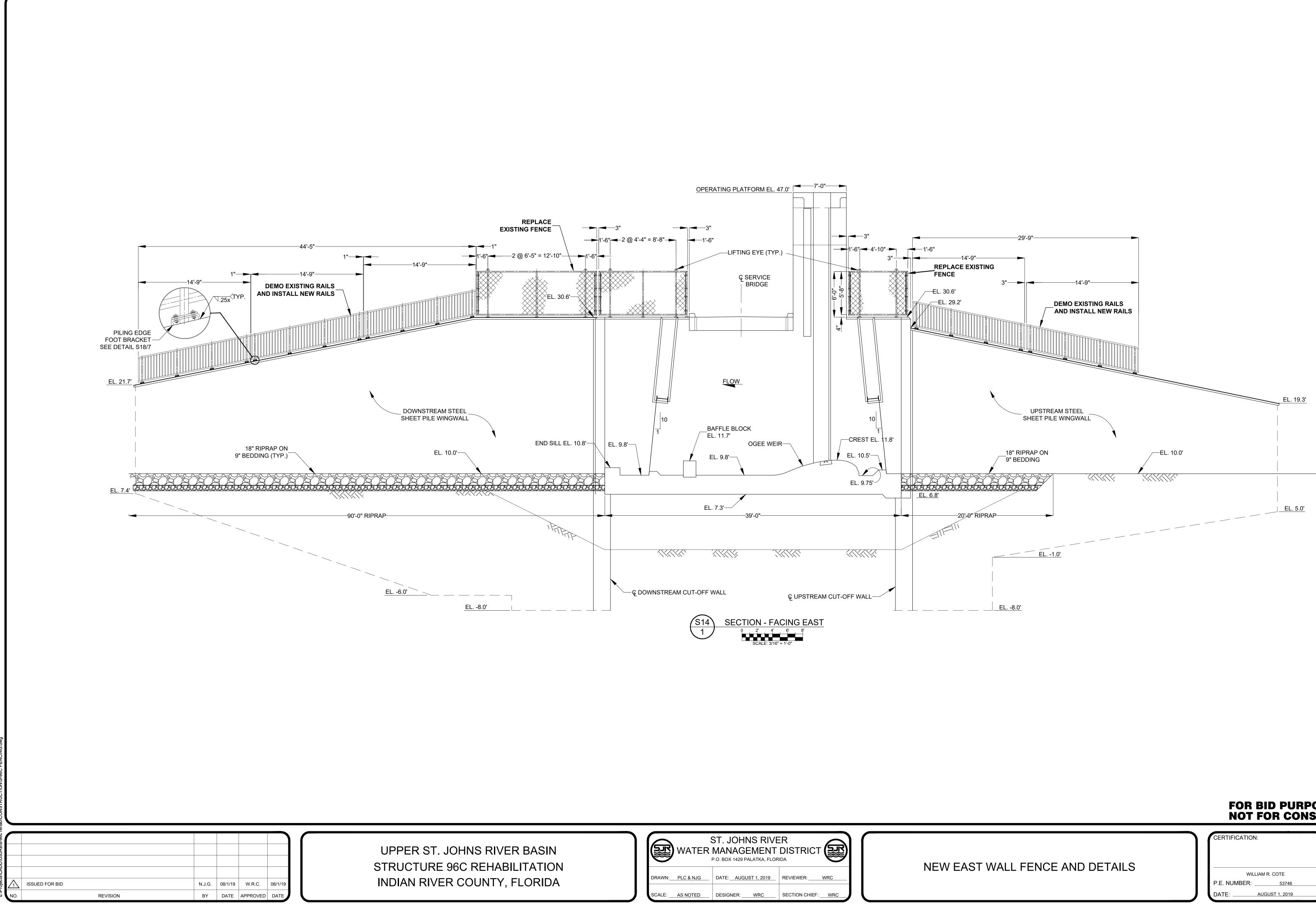
WILLIAM R. COTE

P.E. NUMBER: 53746

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FENCE AND HANDRAIL REPLACEMENT PLAN

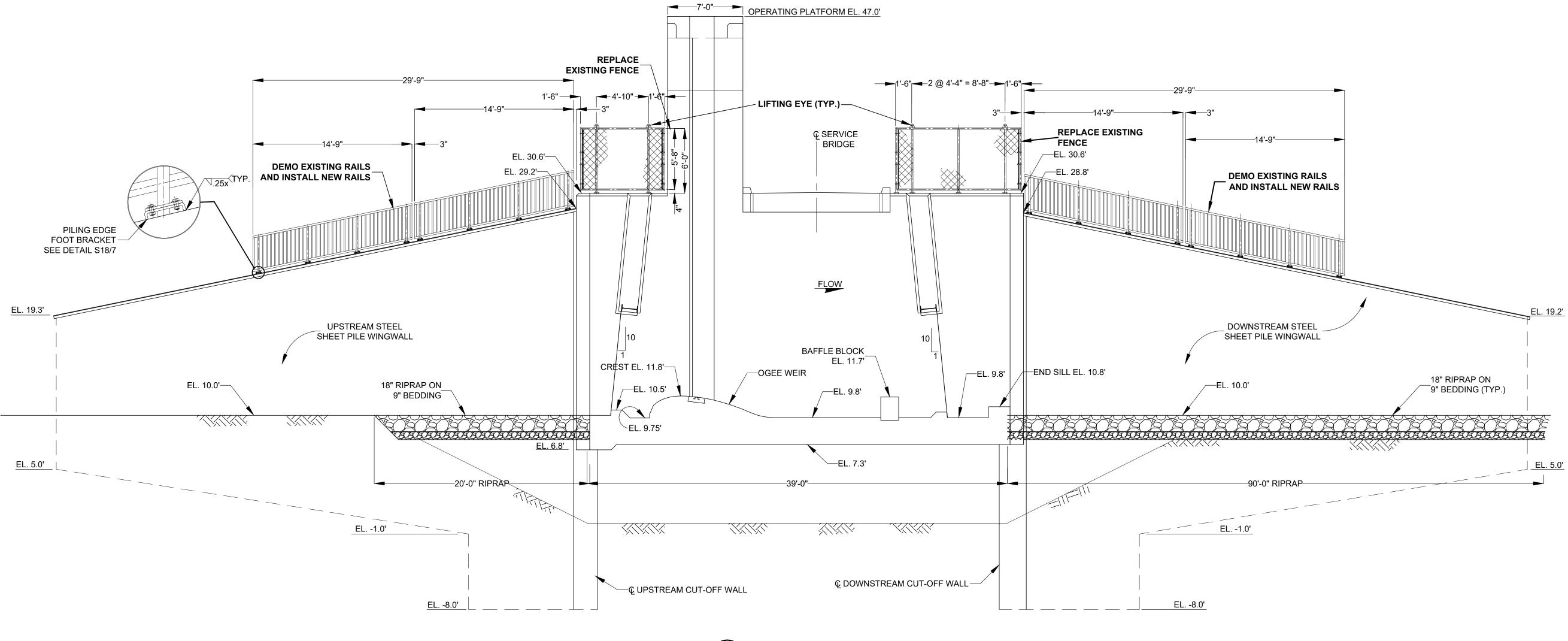


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SECTION - FACING WEST S15 1

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

NEW WEST WALL FENCE AND HANDRAILS

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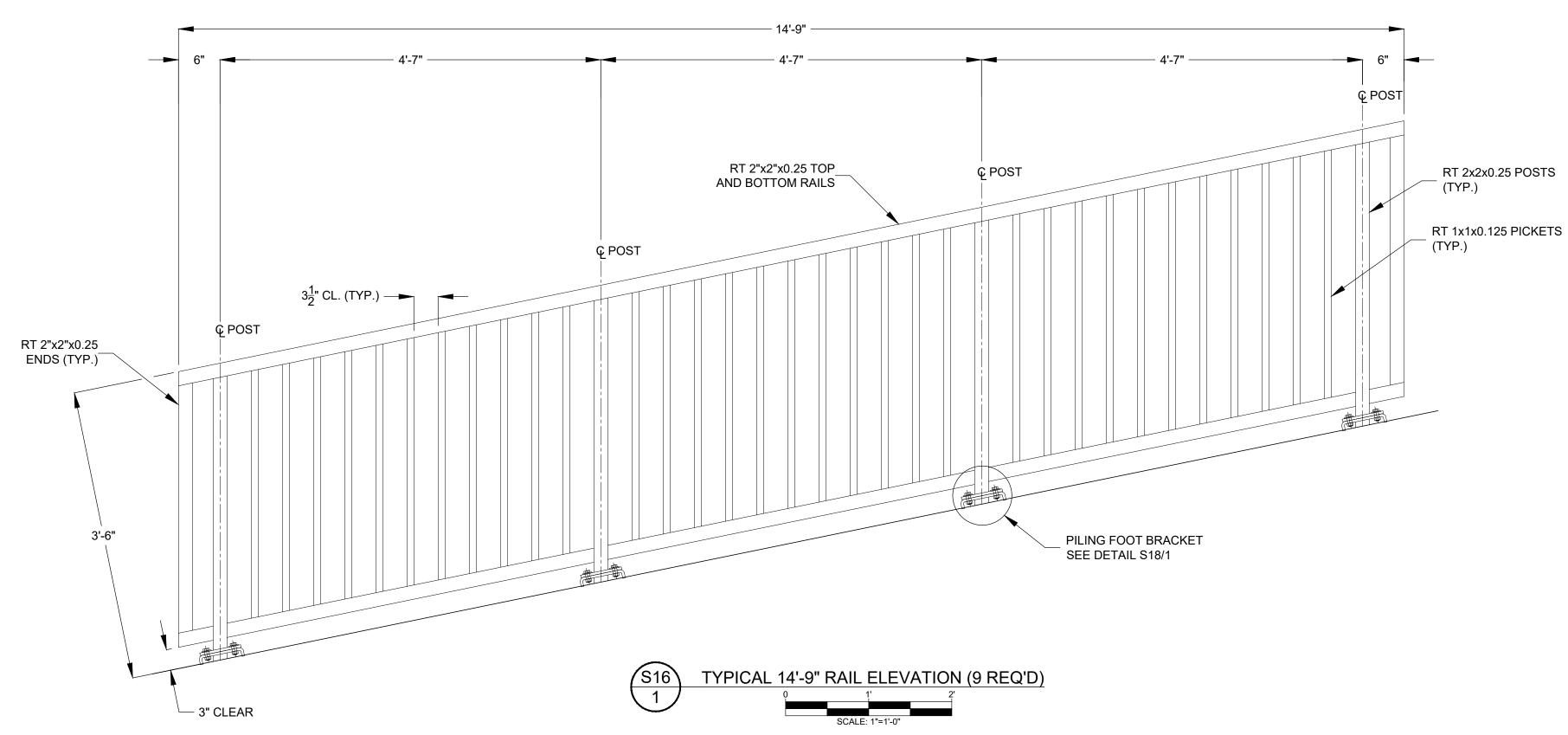
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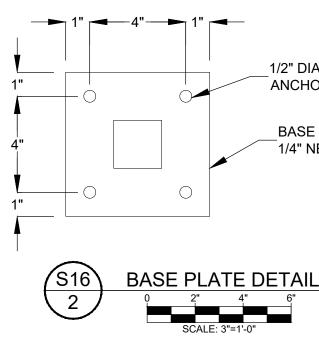
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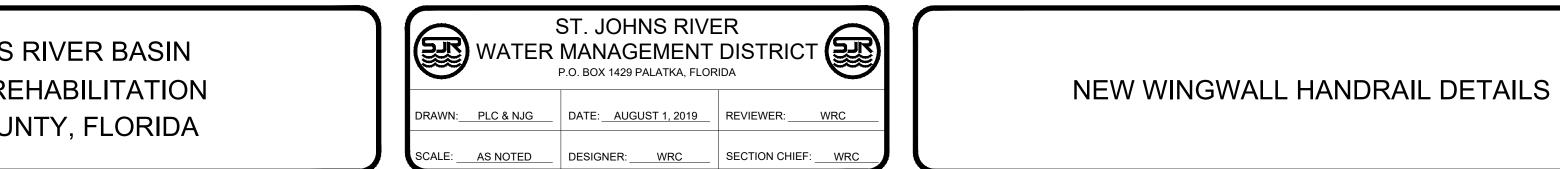
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AUGUST 1, 2019



1	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
10.	REVISION	BY	DATE	APPROVED	DATE





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 BASE PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.

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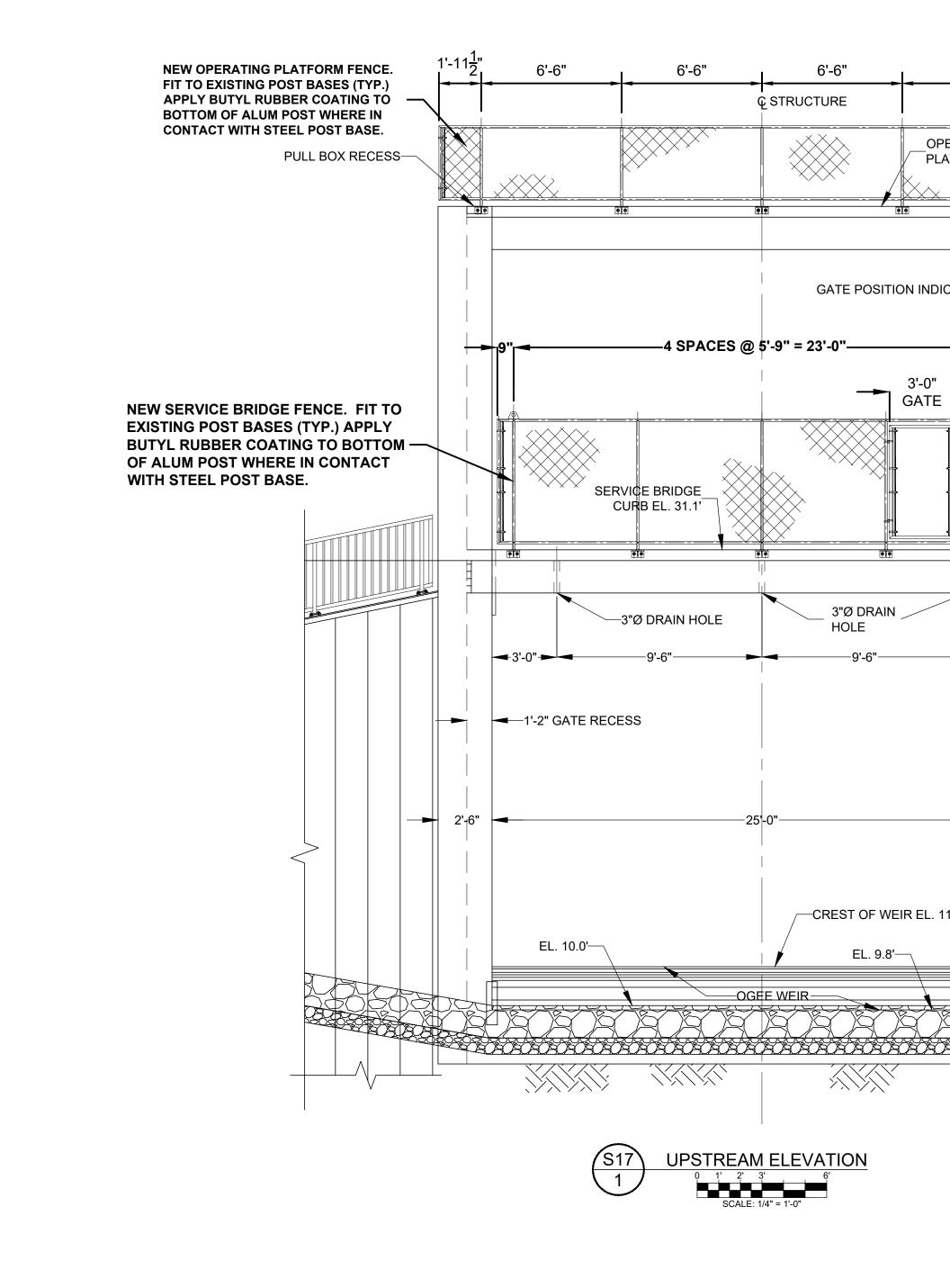
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1/2" DIA. SS-316 ANCHORS

____BASE IP 1/2"x6"x6" AND 1/4" NEOPRENE PAD

UPPER ST. JOHNS RIVER
STRUCTURE 96C REHABILI
INDIAN RIVER COUNTY, FL

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	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
NO.	REVISION	BY	DATE	APPROVED	DATE



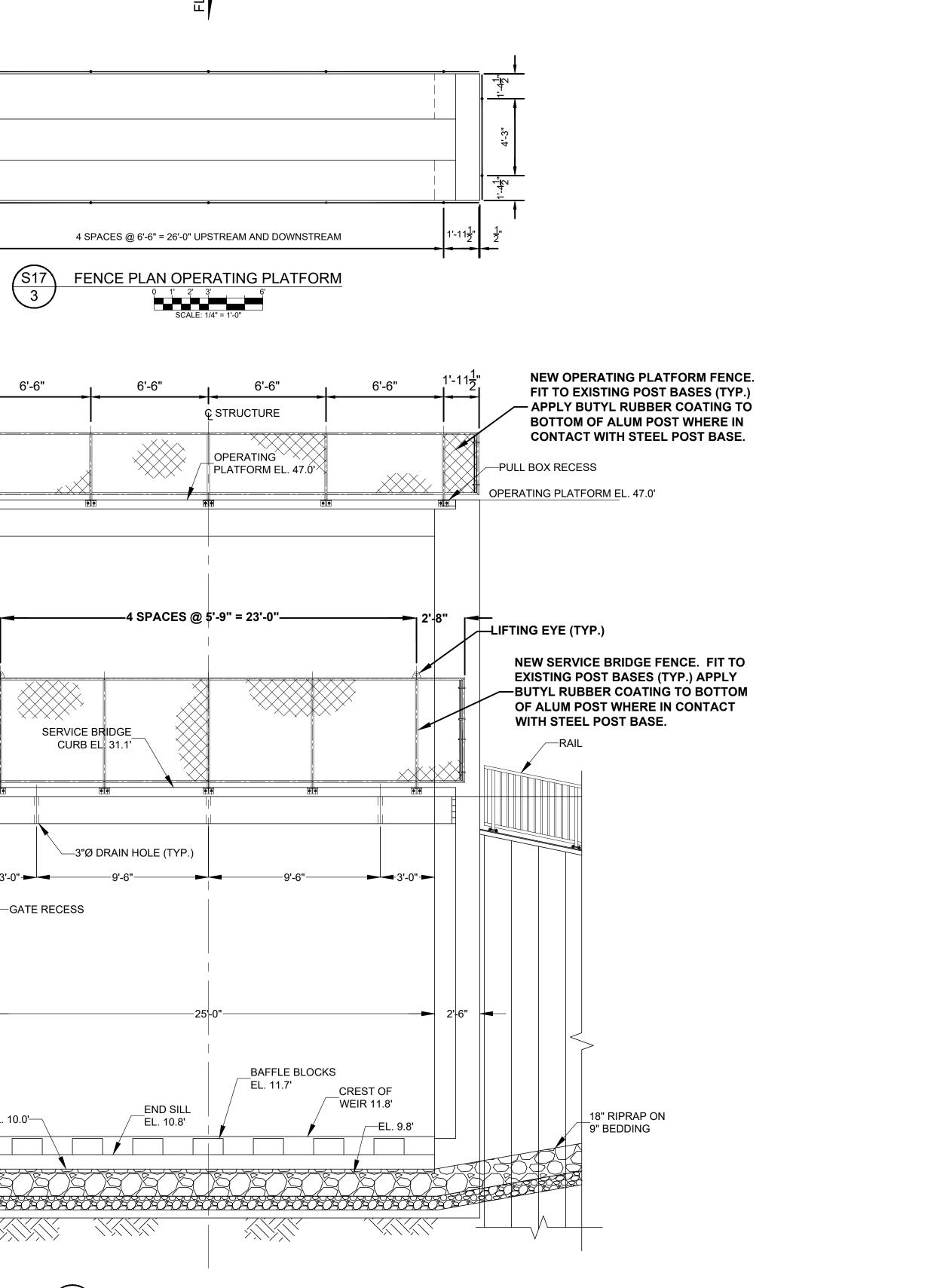
			S17 FENCE PLAN OPERATING PL 3 0 1' 2' 3' 6' SCALE: 1/4" = 1'-0" SCALE: 1/4" = 1'-0" SCALE: 1/4" = 1'-0" SCALE: 1/4" = 1'-0"
0" E OPERATING PLATFORM EL. 47.0 PULL BC	ER OX RECESS	LADDER PULL BOX RECESS	6'-6" 6'-6" C STRUCTURE OPERATING PLATFORM E
TE POSITION INDICATOR	EYE (TYP.)		4 SPACES @ 5'-9" = 23'-0"
ST OF WEIR EL. 11.8'	18" RIPRAP ON 9" BEDDING		25-0"BAFF EL. 10.0'END SILL EL. 10.8'
ION			S17 DOWNSTREAM ELEVAT 2 0 1' 2' 3' 6' SCALE: 1/4" = 1'-0"
IS RIVER BASIN REHABILITATION JUNTY, FLORIDA	WATER MANAC P.O. BOX 1429	HNS RIVER GEMENT DISTRICT 9 PALATKA, FLORIDA	NEW SERVICE BE PLATE

SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

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VICE BRIDGE AND OPERATING PLATFORM FENCE

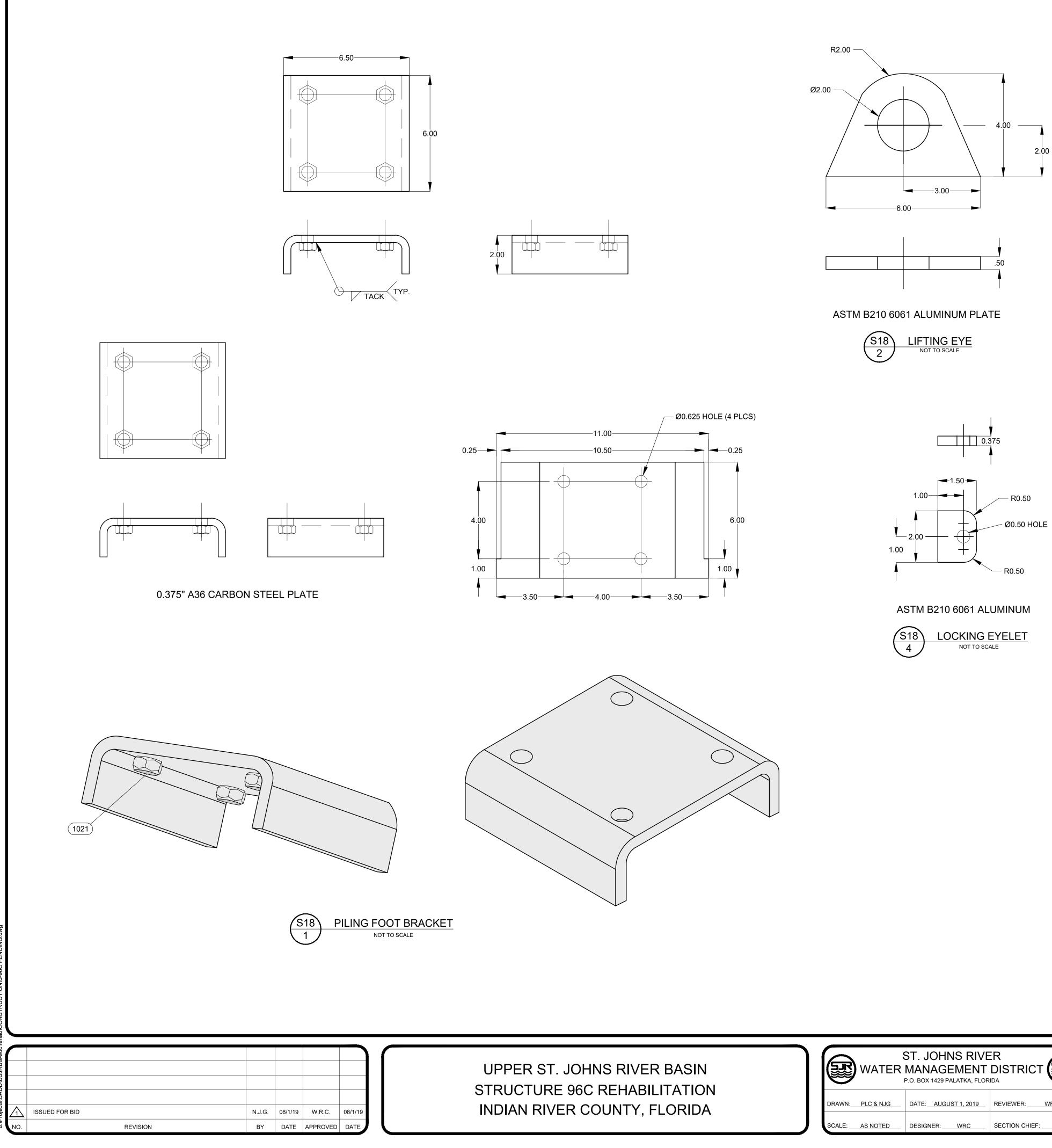
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WILLIAM R. COTE	

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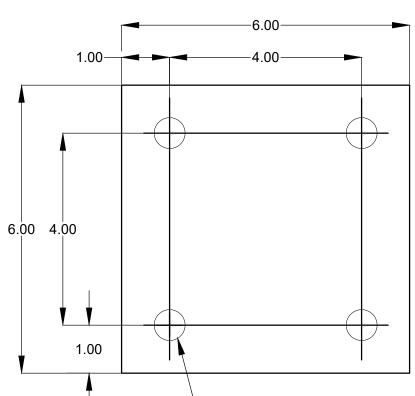


WATER MANAGE P.O. BOX 1429 PAL	
P.O. BOX 1429 PAL	ATKA, FLORIDA
	-
DRAWN: PLC & NJG DATE: AUGUS	[1, 2019 REVIEWER: WRC

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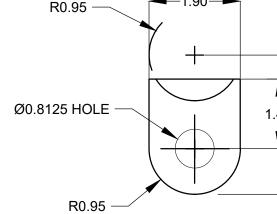




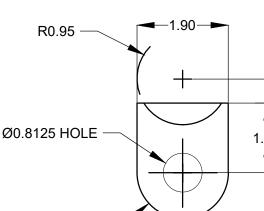


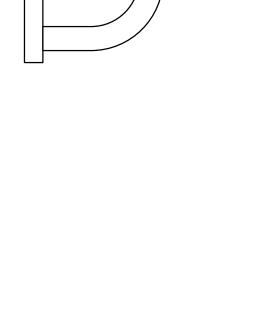
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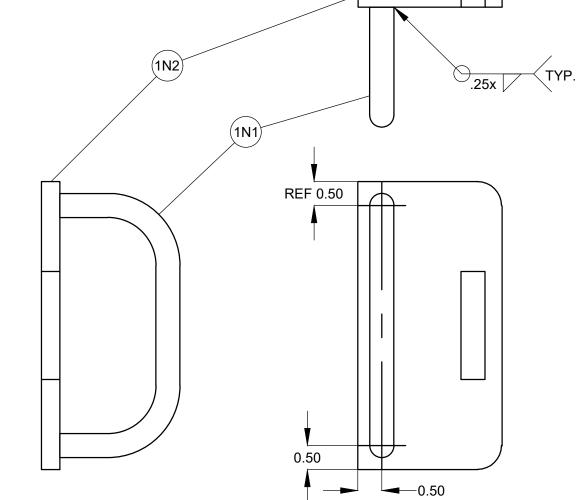
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W FENCE DETAILS

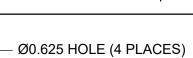
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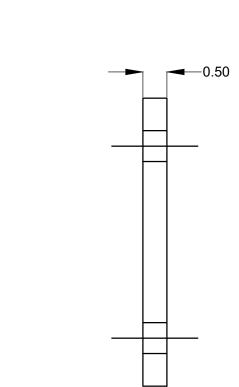
WILLIAM R. COTE P.E. NUMBER: 53746 AUGUST 1, 2019 DATE:

FILE NAME:
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S18

POST FOOT PLATE

ASTM 6061 ALUMINUM PLATE

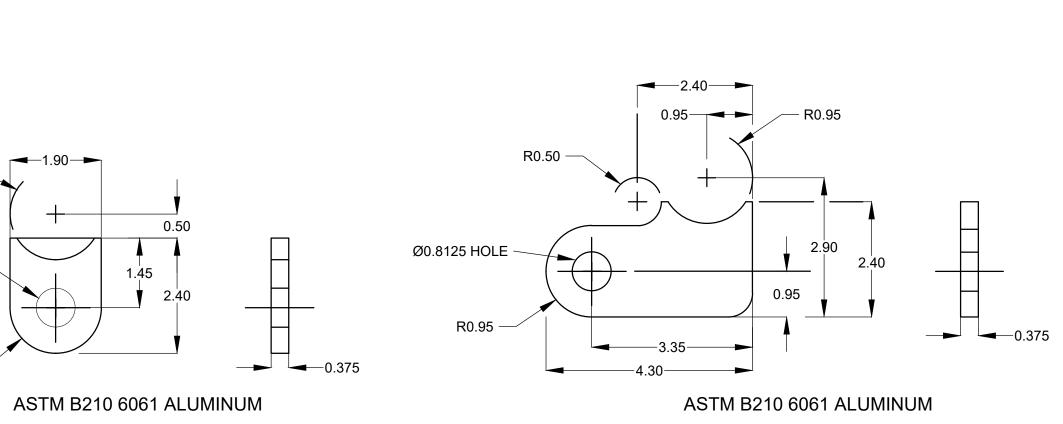




NOTE: PROVIDE 1/4" NEOPRENE PAD BETWEEN ALUMINUM POST PLATE AND STEEL BRACKET.

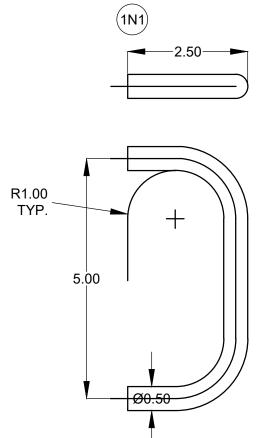
HINGE HALF - FENCE SIDE

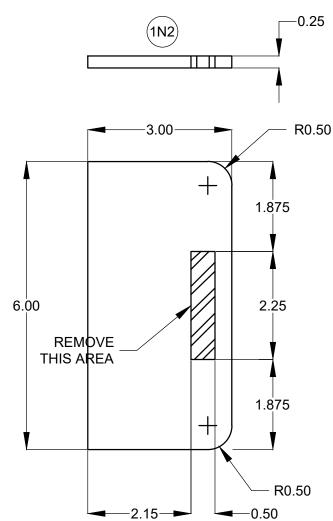


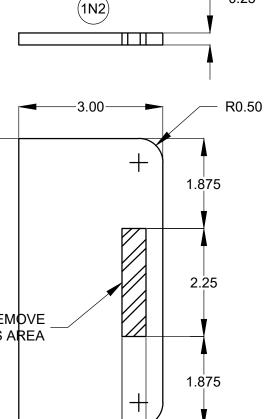


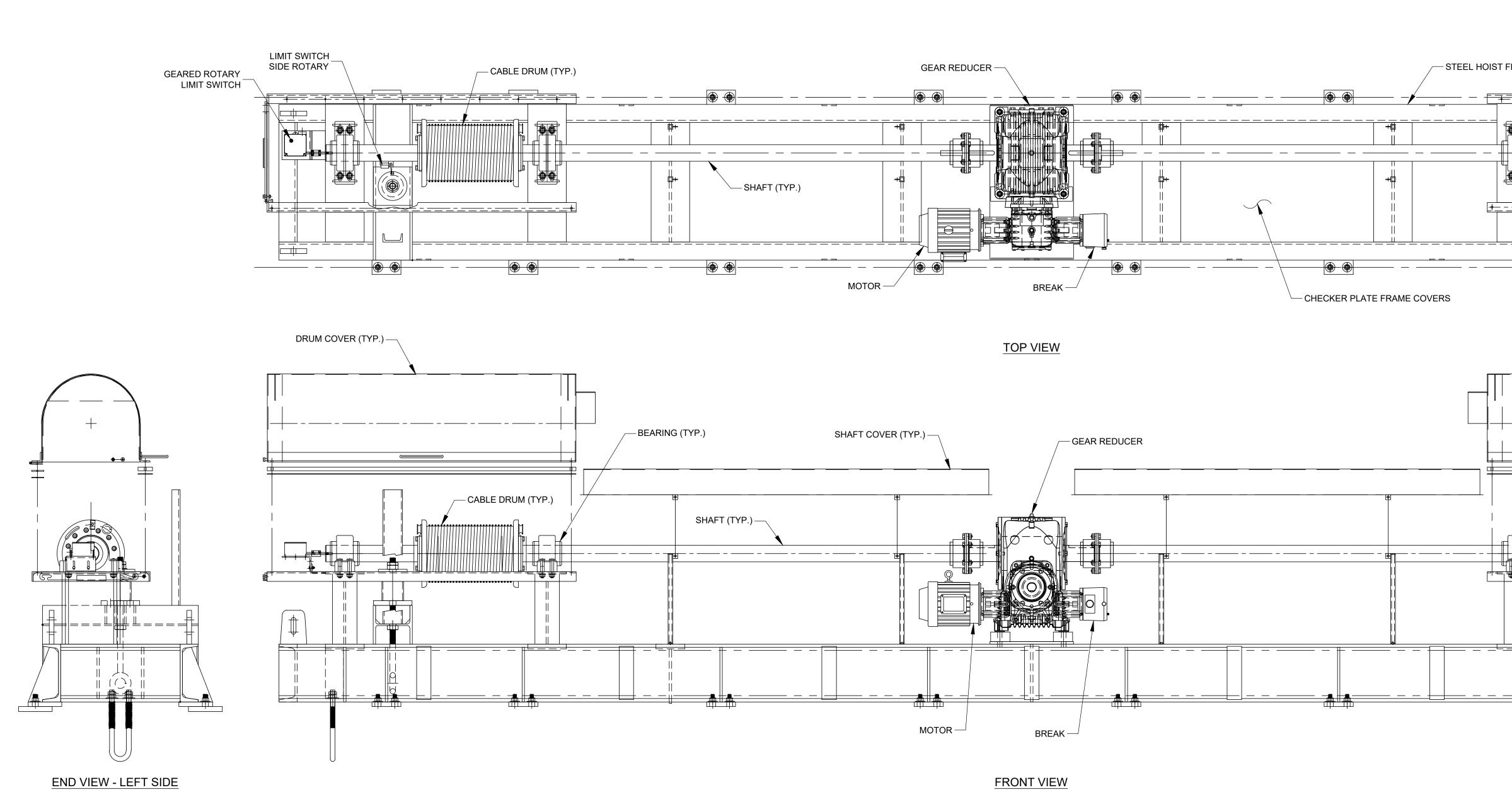
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$\overline{1}$	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
10.	REVISION	BY	DATE	APPROVED	DATE

UPPER ST. JOHNS STRUCTURE 96C REI INDIAN RIVER COUN

FRONT VIEW



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.
- CREST.
- FABRICATION OF THE HOIST.
- 8. THE OPERATING FORCES FOR THE GATE HOIST SHALL BE DETERMINED BASED ON AN UNBALANCED HEAD CONDITION OF 16 FEET.

RIVER BASIN
EHABILITATION
NTY, FLORIDA

WATER	ST. JOHNS RIVE MANAGEMENT P.O. BOX 1429 PALATKA, FLOR	DISTRICT (SEC)
DRAWN: PLC & NJG	DATE: AUGUST 1, 2019	REVIEWER: WRC
SCALE: AS NOTED	DESIGNER: WRC	SECTION CHIEF: WRC



NEW CABLE DRUM HOIST

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION CERTIFICATION:

AUGUST 1, 2019

WILLIAM R. COTE P.E. NUMBER: 53746

DATE:

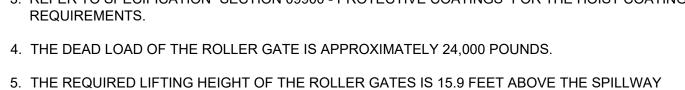
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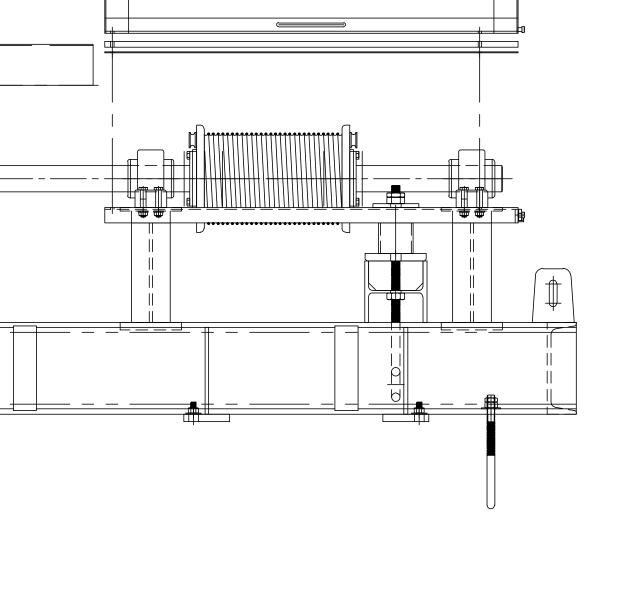
7. FOR HOIST POWER SUPPLY, CONTRACTOR SHALL CONNECT TO THE ELECTRICAL PANEL

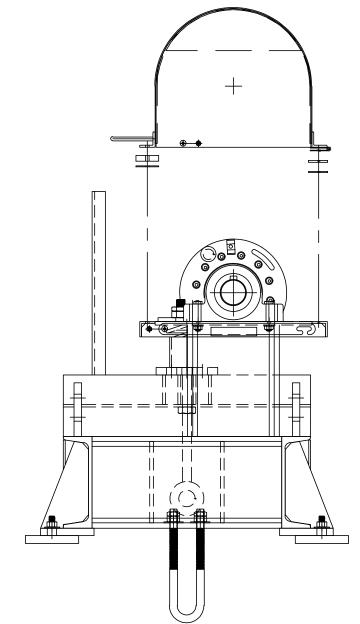
6. THE CONTRACTOR SHALL CONFIRM ALL PERTINENT STRUCTURE DIMENSIONS PRIOR TO

LOCATED IN THE CONTROL HOUSE ADJACENT TO THE STRUCTURE. THE EXISTING SERVICE IS 150 AMP, SINGLE PHASE 120/240 VOLTS.

5. THE REQUIRED LIFTING HEIGHT OF THE ROLLER GATES IS 15.9 FEET ABOVE THE SPILLWAY

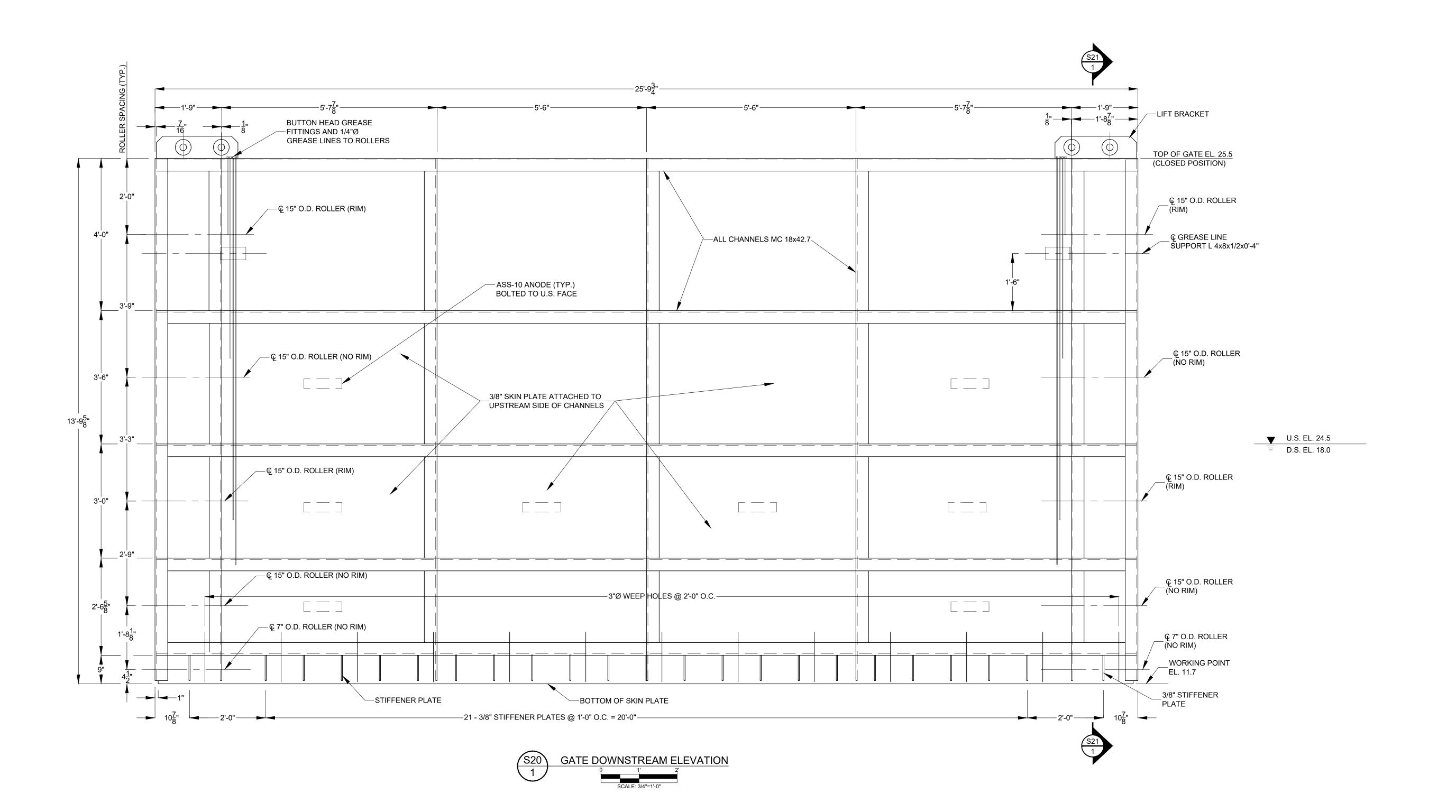




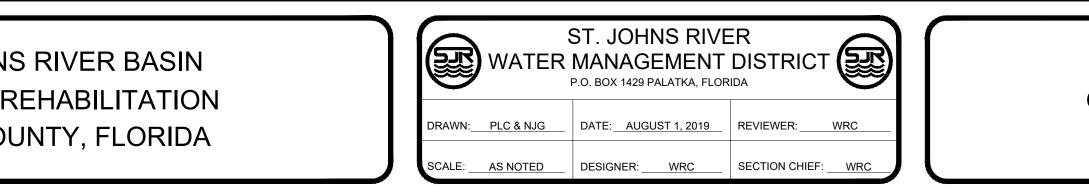


END VIEW - RIGHT SIDE

- STEEL HOIST FRAME ╫╟ ____ _ _ _ _ _ _ _ <u>_ _</u>



Λ	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/1
NO.	REVISION	BY	DATE	APPROVED	DATE



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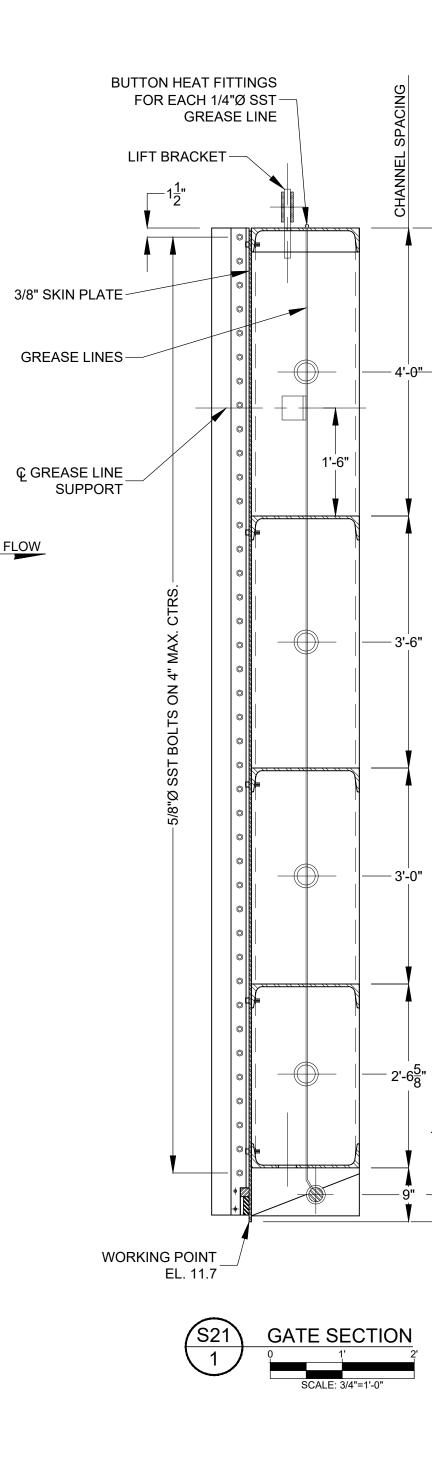
WILLIAM R. COTE P.E. NUMBER: 53746

DATE: _ AUGUST 1, 2019

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GATE REHABILITATION - ELEVATION

S20



2'-0"

3'-9"

3'-3"

2'-9"

1	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
10.	REVISION	BY	DATE	APPROVED	DATE

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

GATE REHABILITATION NOTES:

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. 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 BABCOCK ROAD, PALM BAY, FL. THE CONTRACTOR SHALL PROVIDE A PORTABLE TOILET IF THE REWORK SITE IS UTILIZED.
- REMOVE RAILS AND SPLICE BARS AS REQUIRED. WHEN REMOVING RAILS, CARE SHALL BE TAKEN TO MEASURE AND DOCUMENT SHIM THICKNESS AT EACH LOCATION AND TO 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 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.
- 22. REINSTALL THE ROLLER GATE GREASE LINES AND FITTINGS.
- 23. PERFORM DRY TEST OPERATION OF GATES.
- 24. TEST OPERATION OF GATES UNDER NORMAL OPERATING CONDITIONS.

E W	ATER MAN	OHNS RIV AGEMENT 1429 palatka, flo	DISTRICT	
DRAWN: PLC	<u>& NJG</u> DATE:	AUGUST 1, 2019	REVIEWER:	WRC
CALE: AS N	NOTED DESIGN	ER: WRC	SECTION CHIEF:	WRC

GATE REHABILITATION SECTION AND NOTES

PA	AINTS 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.
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.

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 1BC605, 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.

FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:

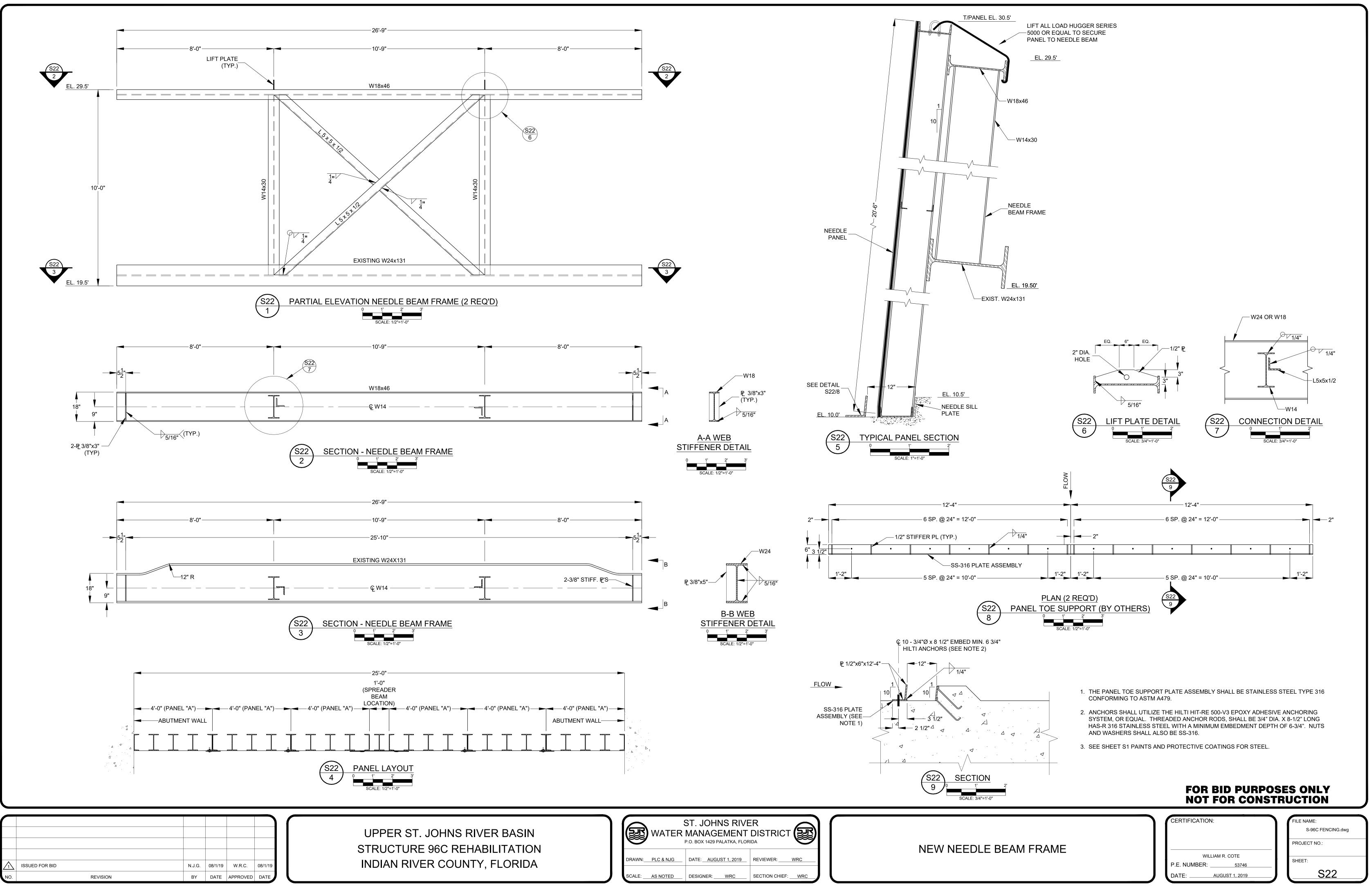
WILLIAM R. COTE

P.E. NUMBER: 53746

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S-96C FENCING.dw

AUGUST 1, 2019 DATE:

FILE NAME:
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Projects\CADD\USJRB\s-96c rehab\CONSTRUCTION\S-96C FENCINC