

STRUCTURAL GENERAL NOTES:

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING ACI CODE REQUIREMENTS:
 - A. ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - B. ACI 360-10 GUIDE TO DESIGN OF SLABS-ON-GRADE
 - C. ACI 301-14 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
 - D. ACI 305R-10 GUIDE TO HOT WEATHER CONCRETING
 - E. ACI 306R-16 GUIDE TO COLD WEATHER CONCRETING
 - F. ACI 315-18 GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:

CONCRETE WALLS:	4,000 PSI NORMAL WT.
-----------------	----------------------
3. REINFORCING STEEL: ASTM A615, GRADE 60.
4. MINIMUM CLEAR CONCRETE COVER ON REINFORCING:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	3/4"
SLABS, WALLS, JOISTS:	3/4"
5. DOWELS, CONTINUOUS REINFORCING, AND ALL SPICES SHALL BE PROVIDED IN ACCORDANCE WITH ACI MINIMUM LAP SPLICE REQUIREMENTS.
6. REBAR SHALL NOT BE HEATED WITH A TORCH IN THE FIELD.
7. WALL REINFORCING SHALL BE CONTINUOUS AT CORNERS.
8. AIR ENTRAINMENT: 5% +/- 1%
9. CONCRETE FINISH: WALLS - WOOD FLOAT;
10. CURING COMPOUND: WET CURE IN ACCORDANCE WITH ACI 308.1 AND ACI 301/ACI 306.1 (FOR COLD-WEATHER PROTECTION) AND ACI 301/ACI 305.1 (FOR HOT-WEATHER PROTECTION).
 - A. CURE CONCRETE FOR NOT LESS THAN SEVEN (7) DAYS.
11. WATER SHALL NOT BE ADDED TO CONCRETE AT THE JOB SITE BEYOND THE MIX DESIGN AMOUNT. ADDITIONAL WATER SERIOUSLY REDUCES CONCRETE STRENGTH AND INCREASES SHRINKAGE. REQUEST A "HIGH RANGE WATER REDUCER" (SUPERPLASTICIZER) FOR MORE WORKABLE CONCRETE.
12. ALL CONCRETE SHALL BE REINFORCED WITH DEFORMED STEEL REINFORCING BARS. ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO ACI 315.
13. UNLESS OTHERWISE NOTED, CHAMFER ALL EXPOSED CONCRETE CORNERS WITH A 3/4" x 45 DEGREE CHAMFER.
14. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
15. ALL EMBEDDED STEEL SHALL CONFORM TO ASTM A36.
16. EPOXY BONDING ADHESIVE: ASTM C881, TWO-COMPONENT EPOXY RESIN, CAPABLE OF HUMID CURING AND BONDING TO DAMP SURFACES, OF CLASS SUITABLE FOR APPLICATION TEMPERATURE AND OF GRADE AND CLASS TO SUIT REQUIREMENTS AS FOLLOWS:
 - A. TYPES I AND II, NONLOAD BEARING FOR BONDING HARDENED OR FRESHLY MIXED CONCRETE TO HARDENED CONCRETE.
17. CONTRACTOR SHALL GRP SCAN ALL LOCATIONS TO CONFIRM AREA TO BE CLEAR OF EXISTING REINFORCING BARS PRIOR TO DRILLING. ADHESIVE ANCHOR LAYOUTS MAY BE FIELD ADJUSTED TO MISS EXISTING REINFORCEMENT.

POST-INSTALLED ANCHORS:

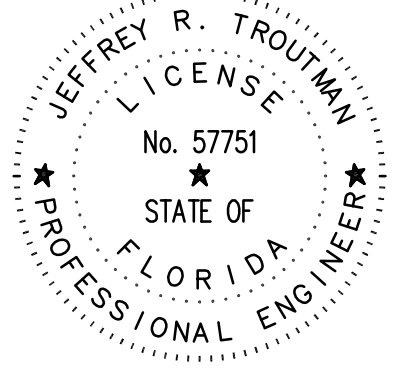
1. INSTALLATION AND INSPECTION OF ALL POST-INSTALLED ANCHORS SHALL CONFORM TO THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, THE EQUIPMENT MANUFACTURER'S REQUIREMENTS, THE REQUIREMENTS OF THE RESPECTIVE ICC-ES REPORT, AND THE APPLICABLE BUILDING CODE.
2. A MANUFACTURER'S TECHNICAL REPRESENTATIVE (NOT A DISTRIBUTOR OR AGENT) SHALL TRAIN INSTALLERS ON THE PROPER INSTALLATION PROCEDURES AND SHALL OBSERVE INITIAL INSTALLATION OF THE ANCHORS.
3. ADHESIVE ANCHORING SYSTEMS IN CONCRETE SHALL BE AS FOLLOWS:
 - A. HIT-RE 500 V3 BY HILTI, INC. (ICC-ES ESR-3814)
 - B. HIT-HY 200 SAFE SET BY HILTI, INC. (ICC-ES ESR-3187)
 - C. SET-XP BY SIMPSON STRONG-TIE ANCHOR SYSTEMS (ICC-ES ESR-2508)
 - D. APPROVED EQUAL WITH ICC-ES REPORT
 - E. ANCHOR ELEMENTS SHALL CONFORM WITH THE RESPECTIVE ICC-ES REPORT.
4. MECHANICAL ANCHORING SYSTEMS IN CONCRETE SHALL BE AS FOLLOWS:
 - A. KWIK BOLT TZ BY HILTI, INC. (ICC-ES ESR-1917)
 - B. STRONG-BOLT BY SIMPSON STRONG-TIE ANCHOR SYSTEMS (ICC-ES ESR-1771)
 - C. APPROVED EQUAL WITH ICC-ES REPORT
 - D. ANCHORS SHALL BE INSTALLED AND TORQUED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
8. ANCHOR RODS USED IN ADHESIVE ANCHORING SYSTEMS SHALL CONFORM WITH ASTM A193, GRADE B7, 316 STAINLESS STEEL.
9. MECHANICAL ANCHORING SYSTEMS SHALL BE 316 STAINLESS STEEL, UNLESS NOTED OTHERWISE.
10. PROVIDE THE MINIMUM EMBEDMENT DEPTHS INDICATED IN THE FOLLOWING SCHEDULES, UNLESS NOTED OTHERWISE IN A SPECIFIC SECTION OR DETAIL.

ADHESIVE ANCHORS (MINIMUM EMBEDMENT)	
THREADED ANCHOR DIAMETER	CONCRETE
1/2"	4"
5/8"	5"
3/4"	6"
7/8"	7"
1"	8"

MECHANICAL ANCHORS (MINIMUM EMBEDMENT)	
ANCHOR DIAMETER	CONCRETE
1/2"	3 1/2"
5/8"	4 1/2"
3/4"	5 1/2"

CONCRETE TESTING

1. THE CONTRACTOR SHALL WORK WITH THE OWNER'S ITL FOR TESTING THE CONCRETE IN ACCORDANCE WITH ASTM C172, C31 (COMPRESSION TEST SPECIMEN) & C39 (COMPRESSIVE-STRENGTH TESTS) FOR EACH DAY'S PLACEMENT AS FOLLOWS: 1 SET OF 4 STANDARD CYLINDERS FOR EACH SET OF CYLINDERS, TEST 1 SPECIMEN AT 7 DAYS, 2 SPECIMENS AT 28 DAYS. THE FOURTH SPECIMEN SHALL REMAIN IN CASE ADDITIONAL TESTS ARE REQUIRED.
2. CAST AND LABORATORY CURE TWO SETS OF TWO STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE. CAST AND FIELD CURE TWO SETS OF TWO STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.
3. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF EVERY AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI.
4. THE CONTRACTOR SHALL WORK WITH THE OWNER'S ITL FOR TESTING SLUMP IN ACCORDANCE WITH ASTM C143 AND AIR CONTENT IN ACCORDANCE WITH ASTM C143 CONSISTING OF ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
5. TEST RESULTS SHALL BE REPORTED IN WRITING TO THE ENGINEER, CONCRETE MANUFACTURER AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, LOCATION OF CONCRETE BATH IN WORK, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIXTURE PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK FOR BOTH 7- AND 28-DAY TESTS.
6. ADDITIONAL TESTING FOR CONCRETE NOT UP TO STRENGTH OR WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT OR OTHER REQUIREMENTS HAVE NOT BEEN MET AND SHALL BE PAID FOR BY THE CONTRACTOR. TESTING AND INSPECTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C42 OR MY OTHER METHODS AS DIRECTED BY THE ENGINEER.
7. WHEN STRENGTH OF FIELD-CURED CYLINDERS IS LESS THAN 85% OF COMPANION LABORATORY-CURED CYLINDERS, CONTRACTOR SHALL EVALUATE OPERATIONS AND PROVIDE CORRECTIVE PROCEDURES FOR PROTECTING AND CURING IN-PLACE CONCRETE.
8. CORRECT DEFICIENCIES IN THE WORK THAT TEST REPORTS AND INSPECTIONS INDICATE DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.



Jeffrey R Troutman, PE
 FL License #57751
 Florida Engineering Firm Registry No.: 2610

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JEFFREY R TROUTMAN, PE ON THE DATE AS SHOWN ABOVE. THE OFFICIAL RECORD OF THIS SHEET IS AN ELECTRONIC SIGNATURE FILE DIGITALLY SIGNED AND SEALED UNDER 61G15-23.004, FAC. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



3809 Peachtree Avenue, Suite 102
 Wilmington, North Carolina 28403
 Phone: (910) 397-2929
 www.Ardurra.com
 License #2610

9/25/2023 4:39 PM, P:\2018-1721-00 (8427) Ardurra Tampa - Cleanwater - East WRF Influent Pump Station Rehab - Structural\Structural\Current Working Drawings\2018-1721-00 General Notes.dwg

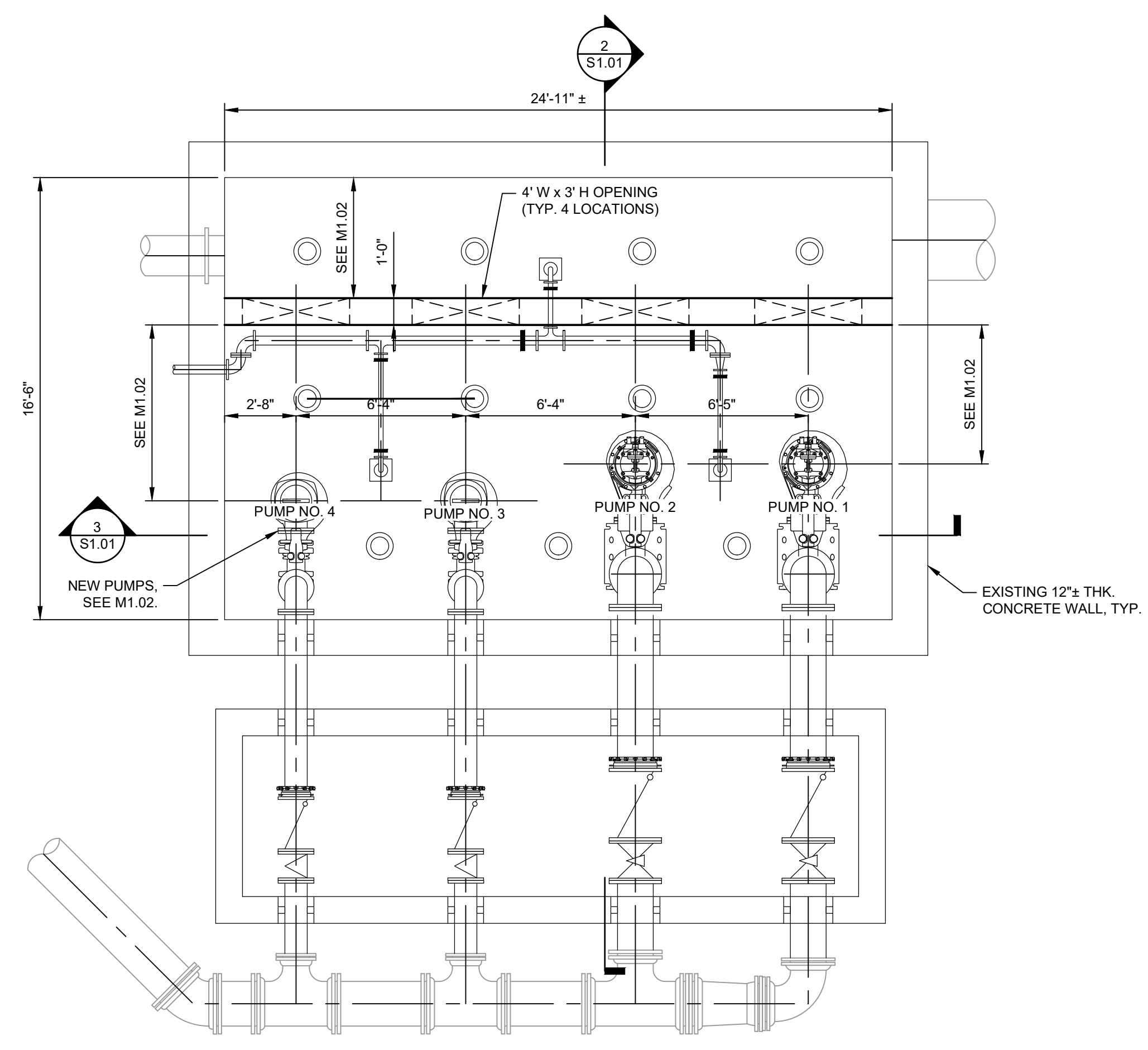
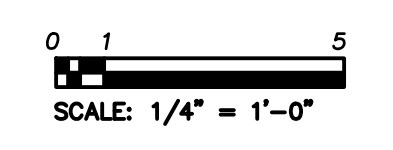
RECORD DRAWINGS	BID DOCUMENTS	JRT	9/28/2023
SURVEYED BY: _____ DRAWN BY: _____			
REVIEWED BY: _____			
APPROVED BY: _____ PROJECT ENGINEER _____ DATE _____			
ENGINEER _____ DATE _____	REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
 ENGINEERING DEPARTMENT
 100 S. MYRTLE AVE.
 CLEARWATER, FL 33756

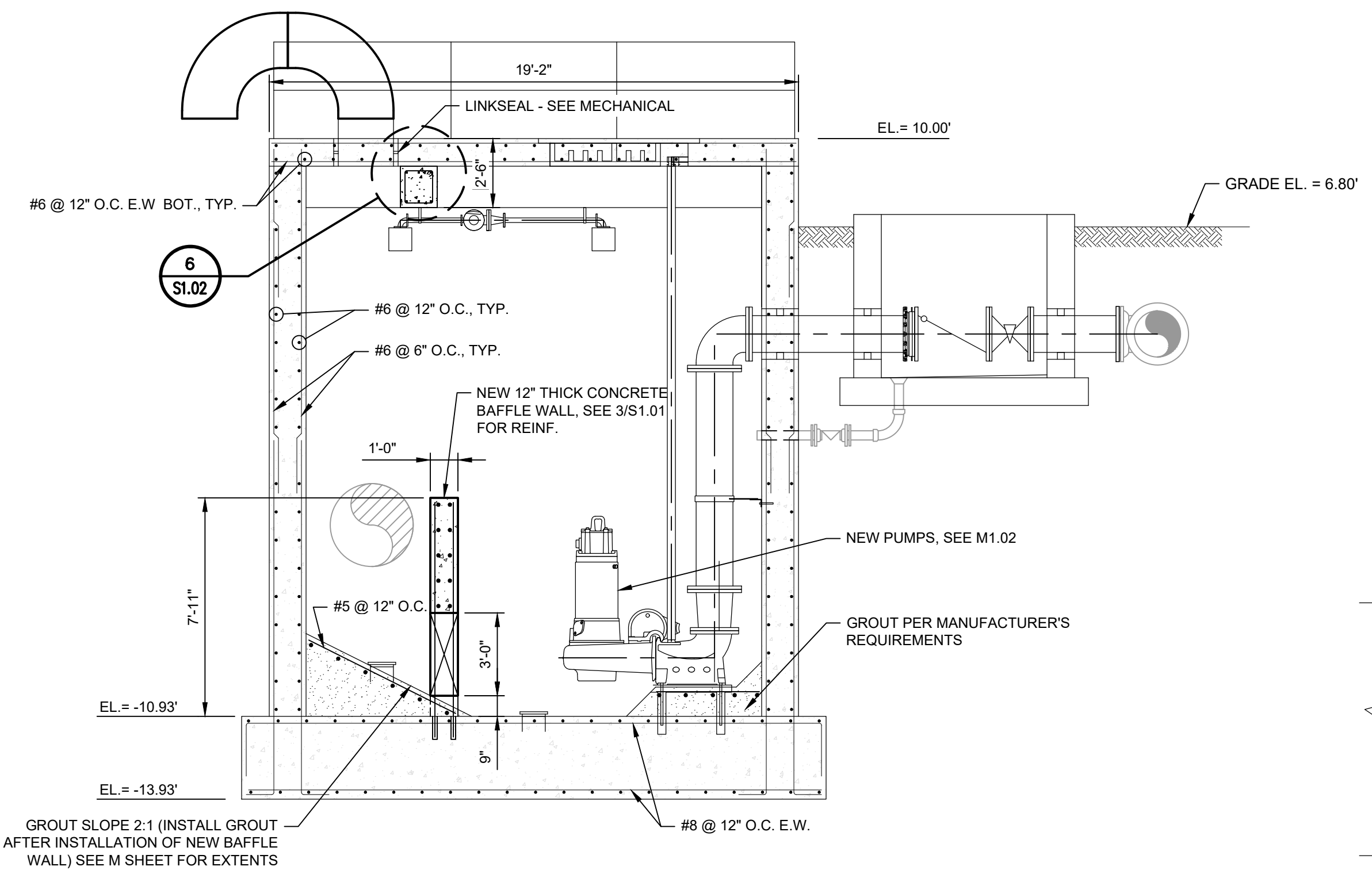


EAST WRF INFLUENT PUMP STATION
 REHABILITATION PROJECT
 STRUCTURAL GENERAL NOTES

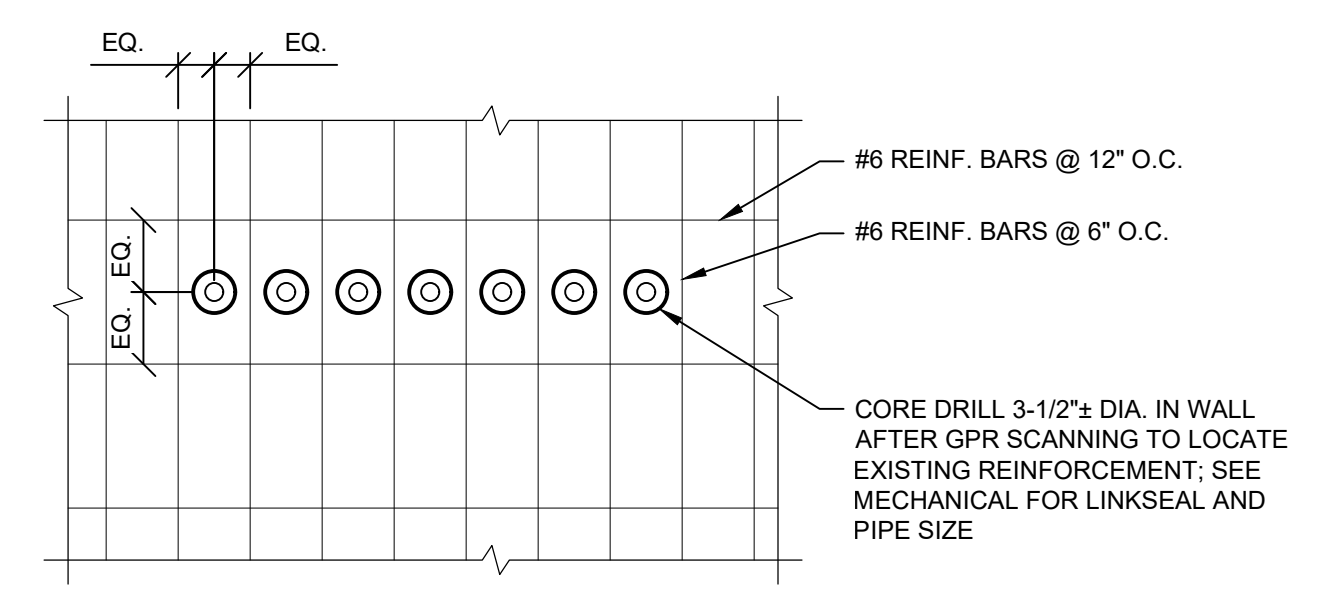
DWG NAME:	FIELD BOOK:	SURVEYED BY:	SCALE:
S0.0.dwg			VERT. N/A
CONTRACT NO.:	DATE DRAWN:	DRAWN BY:	
	9/25/2023	LMN	HORIZ. AS SHOWN
JOB NO.:	DESIGNED BY:	CHECKED BY:	SHEET NO.:
2018-1721-01	JRT	JRT	25 OF 40
APPROVED FOR CONSTRUCTION _____			



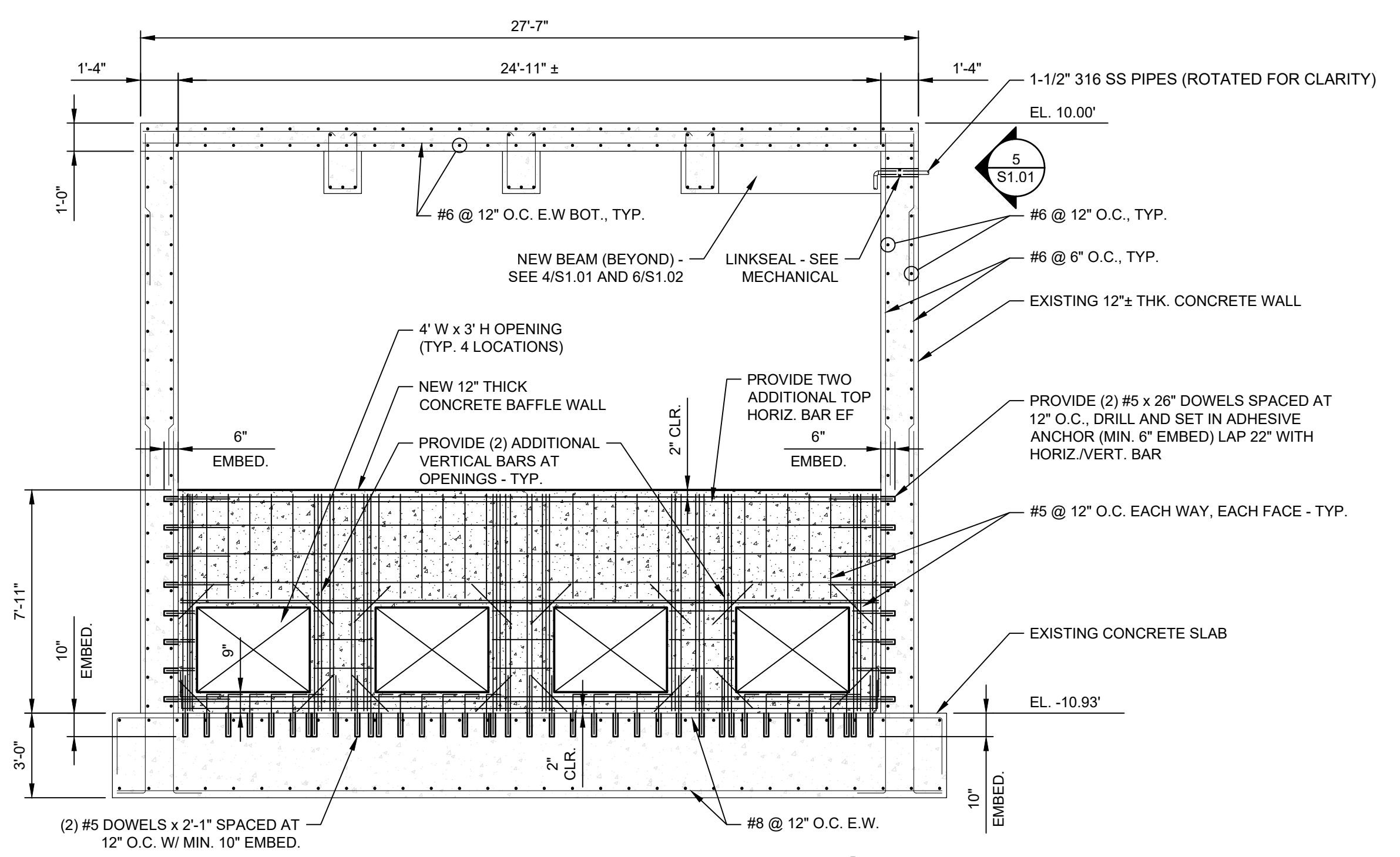
BASE SLAB PLAN
SCALE: 1/4"=1'-0"



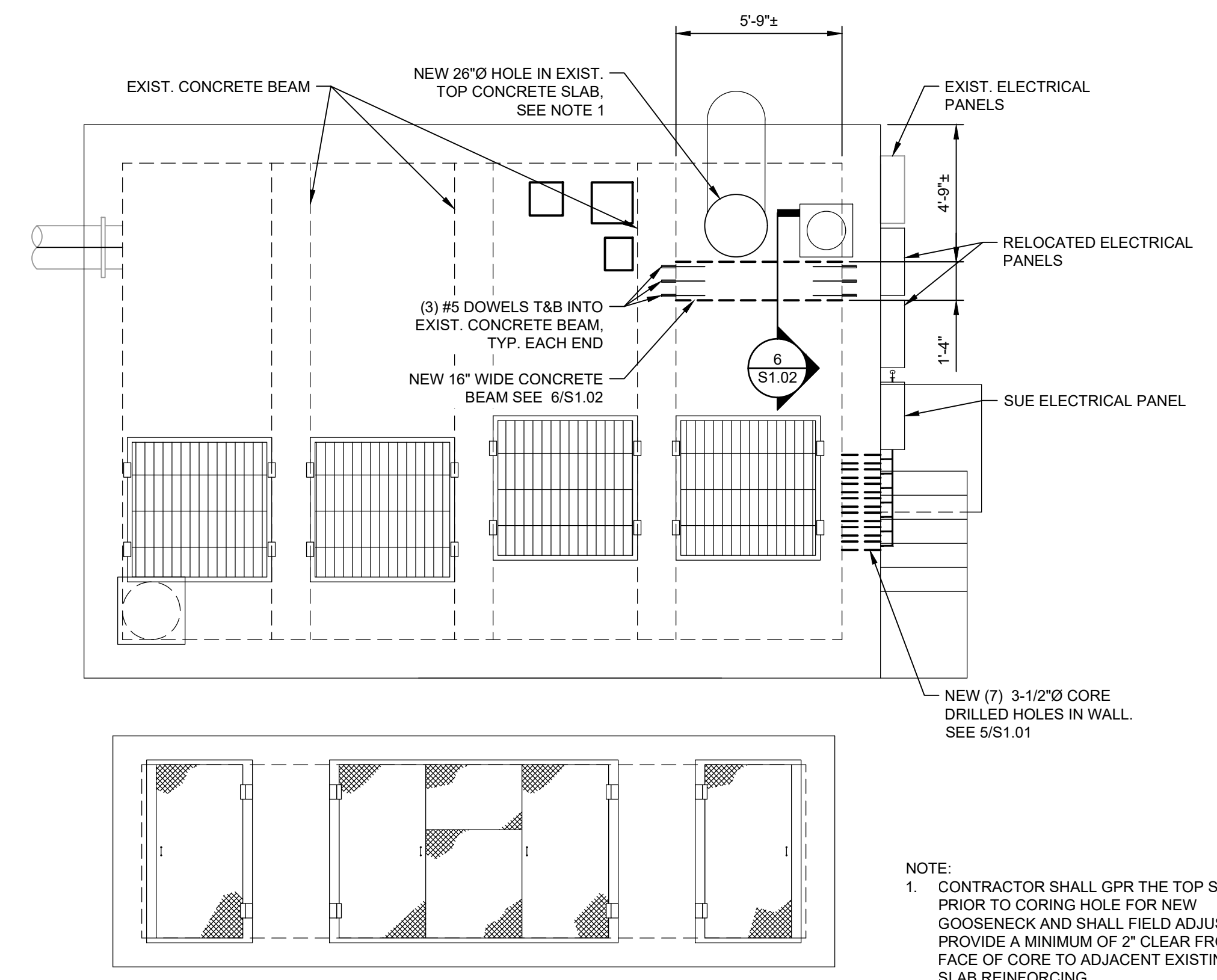
SECTION
SCALE: 1/4"=1'-0"



CORE REINF. WALL FOR AIR LINE - PENETRATION DETAIL
SCALE: 1/4"=1'-0"
REF. CIVIL DRAWING FOR LOCATION

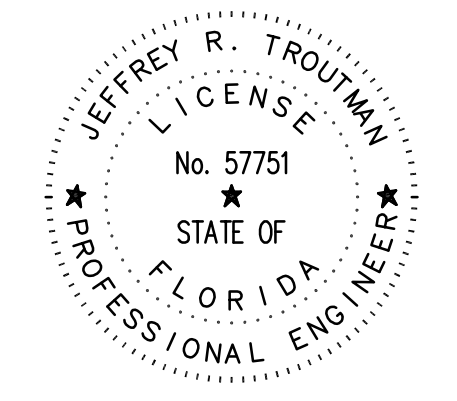


SECTION THRU WET WELL
SCALE: 1/4"=1'-0"



TOP SLAB PLAN
SCALE: 1/4"=1'-0"

NOTE:
1. CONTRACTOR SHALL GPR THE TOP SLAB PRIOR TO CORING HOLE FOR NEW GOOSENECK AND SHALL FIELD ADJUST TO PROVIDE A MINIMUM OF 2" CLEAR FROM FACE OF CORE TO ADJACENT EXISTING SLAB REINFORCING.



Jeffrey R Troutman, PE
FL License #57751
Florida Engineering Firm Registry No.: 2610
THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JEFFREY R. TROUTMAN, PE ON THE DATE AS SHOWN ABOVE. THE OFFICIAL RECORD OF THIS SHEET IS AN ELECTRONIC SIGNATURE FILE DIGITALLY SIGNED AND SEALED UNDER 61G15-23.004, F.A.C. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



3809 Peachtree Avenue, Suite 102
Wilmington, North Carolina 28403
Phone: (910) 397-2929
www.Arduarra.com
License #2610

9/25/2023 4:39 PM, P:\2018-1721-00 (8427) Arduarra Tampa - Cleanwater - East WRF Influent Pump Station Rehab - Structural\Current\Working Drawings\2018-1721-00 Struct Plans.dwg

RECORD DRAWINGS		BID DOCUMENTS		JRT	9/28/2023
SURVEYED BY:	DRAWN BY:				
REVIEWED BY:					
APPROVED BY:	PROJECT ENGINEER	DATE			
	ENGINEER	DATE	REVISION	BY	DATE

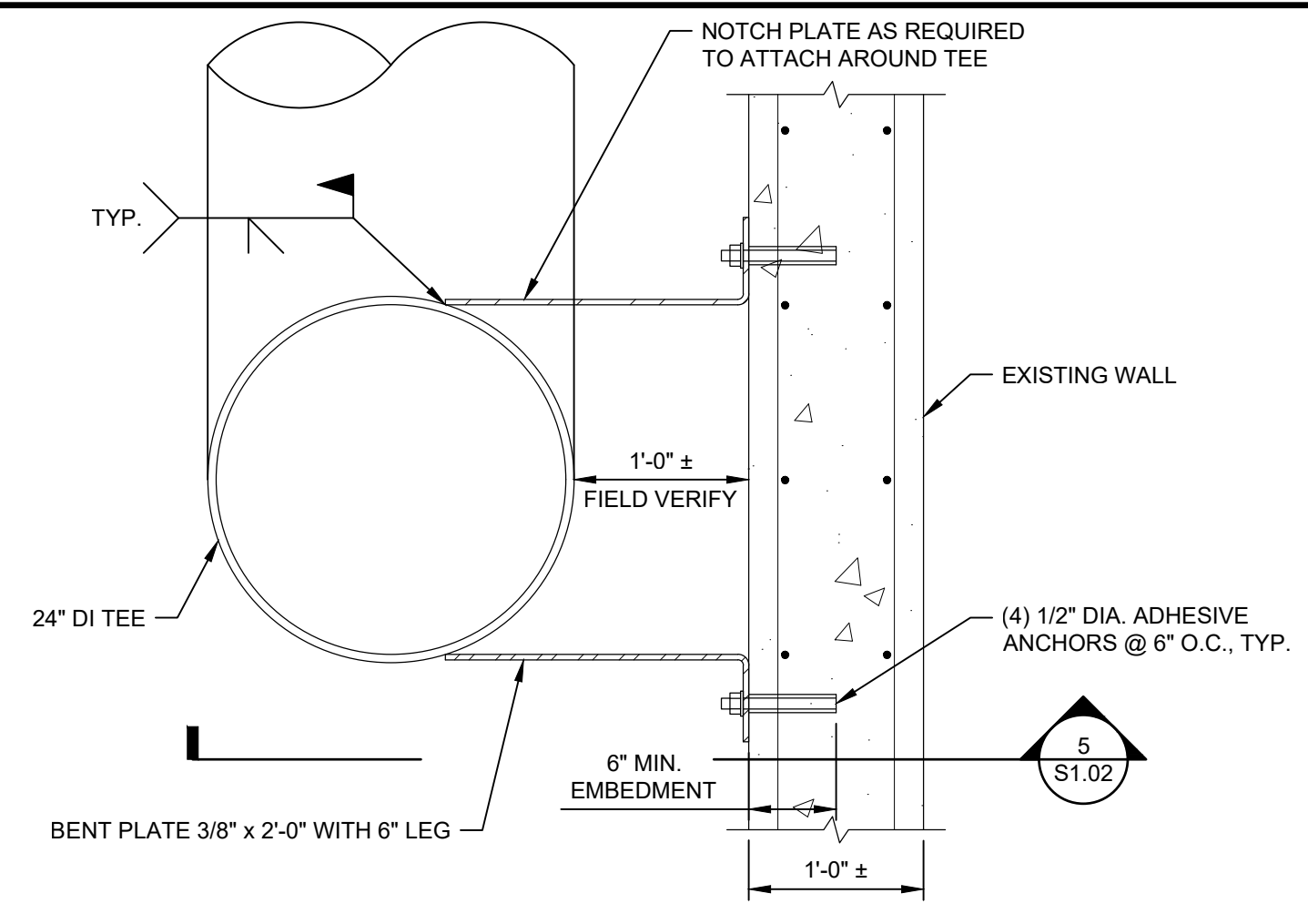
CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756



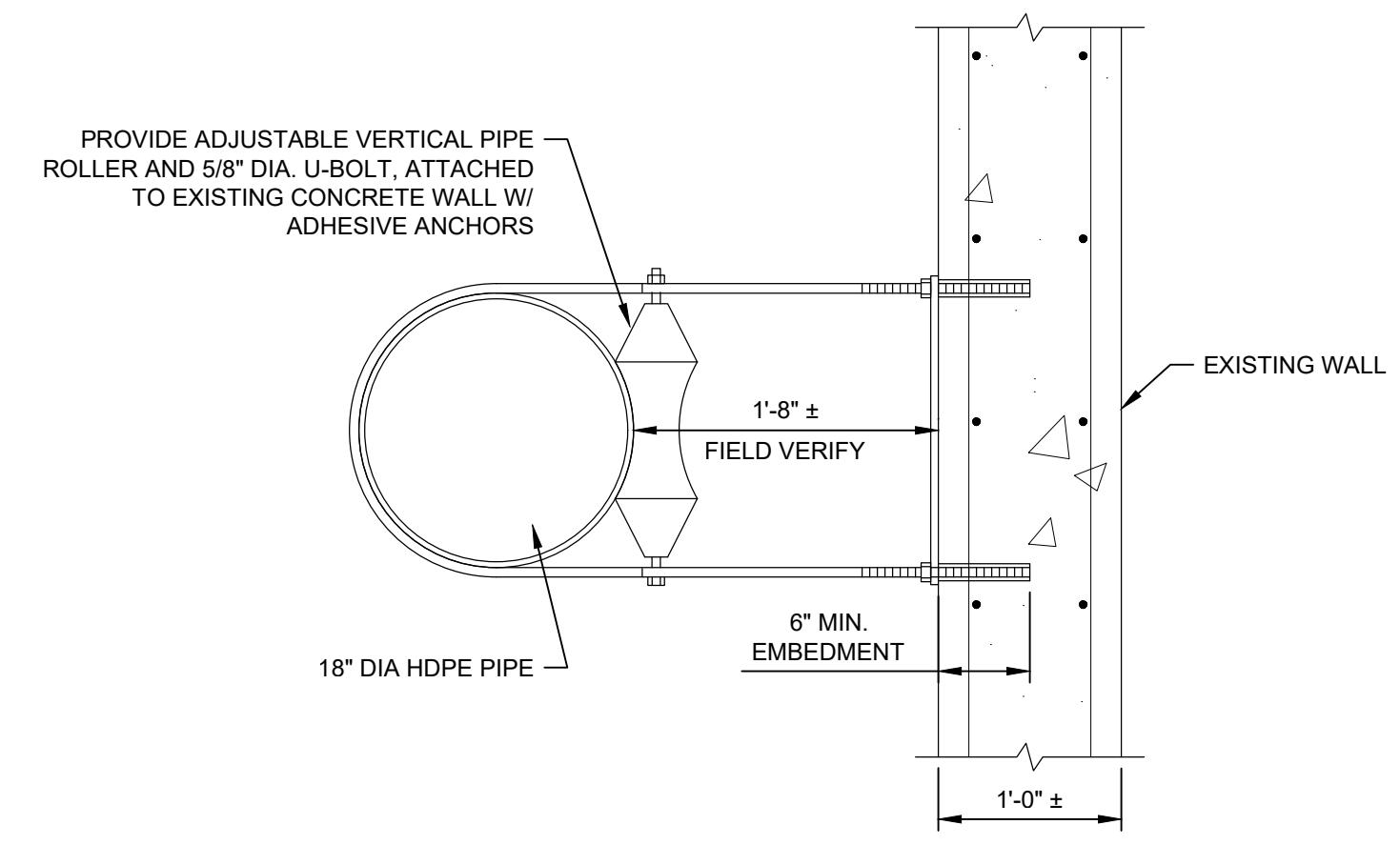
**EAST WRF INFLUENT PUMP STATION
REHABILITATION PROJECT**
HEADWORKS INFLUENT STRUCTURE PIPE SUPPORTS

DWG NAME: S0.0.dwg	FIELD BOOK:	SURVEYED BY:	SCALE: VERT. N/A
CONTRACT NO.:	DATE DRAWN: 9/25/2023	DRAWN BY: LMN	HORIZ. AS SHOWN
JOB NO.:	DESIGNED BY: JRT	CHECKED BY: JRT	SHEET NO.:
2018-1721-01			26 OF 40

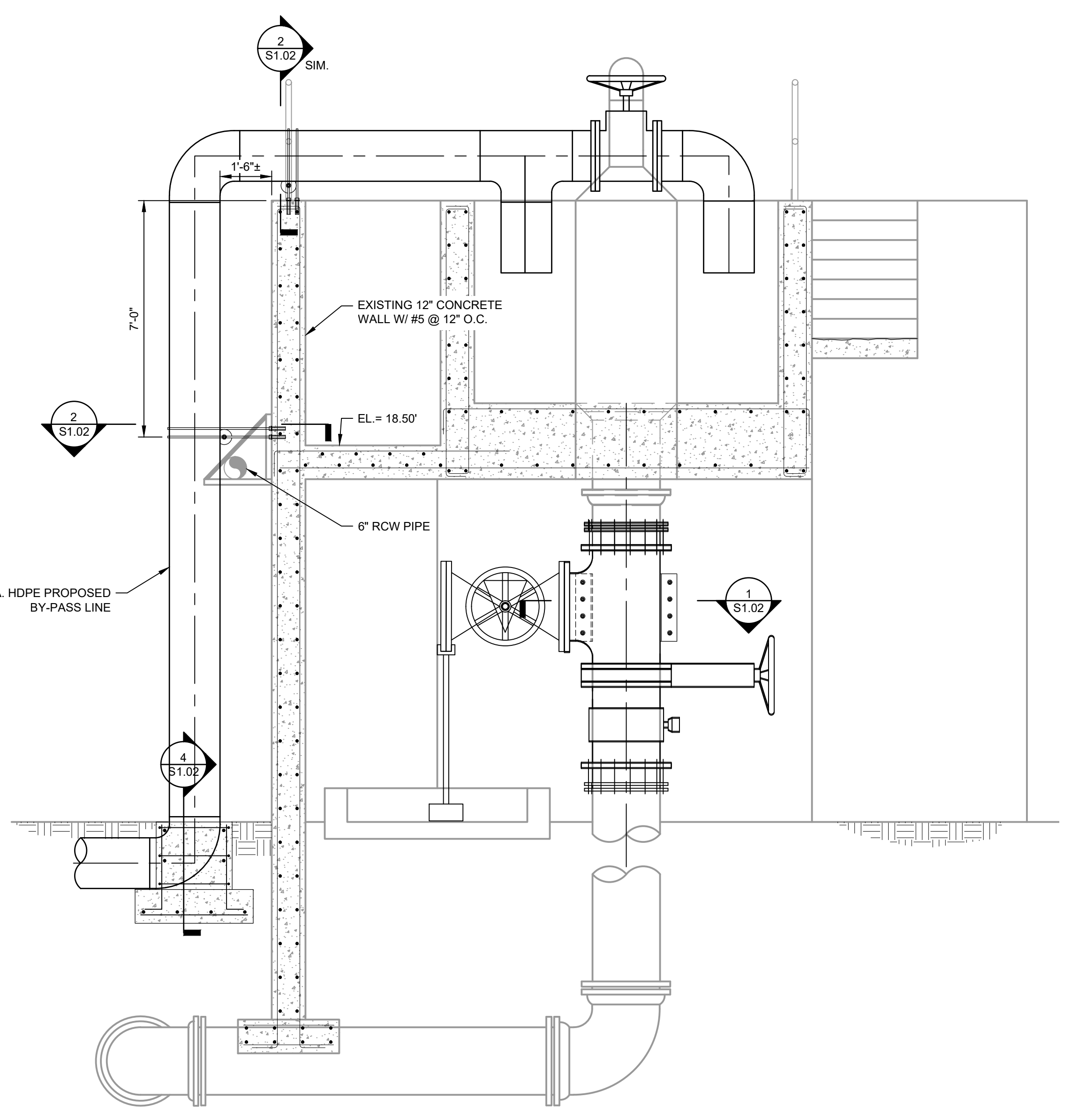
APPROVED FOR CONSTRUCTION



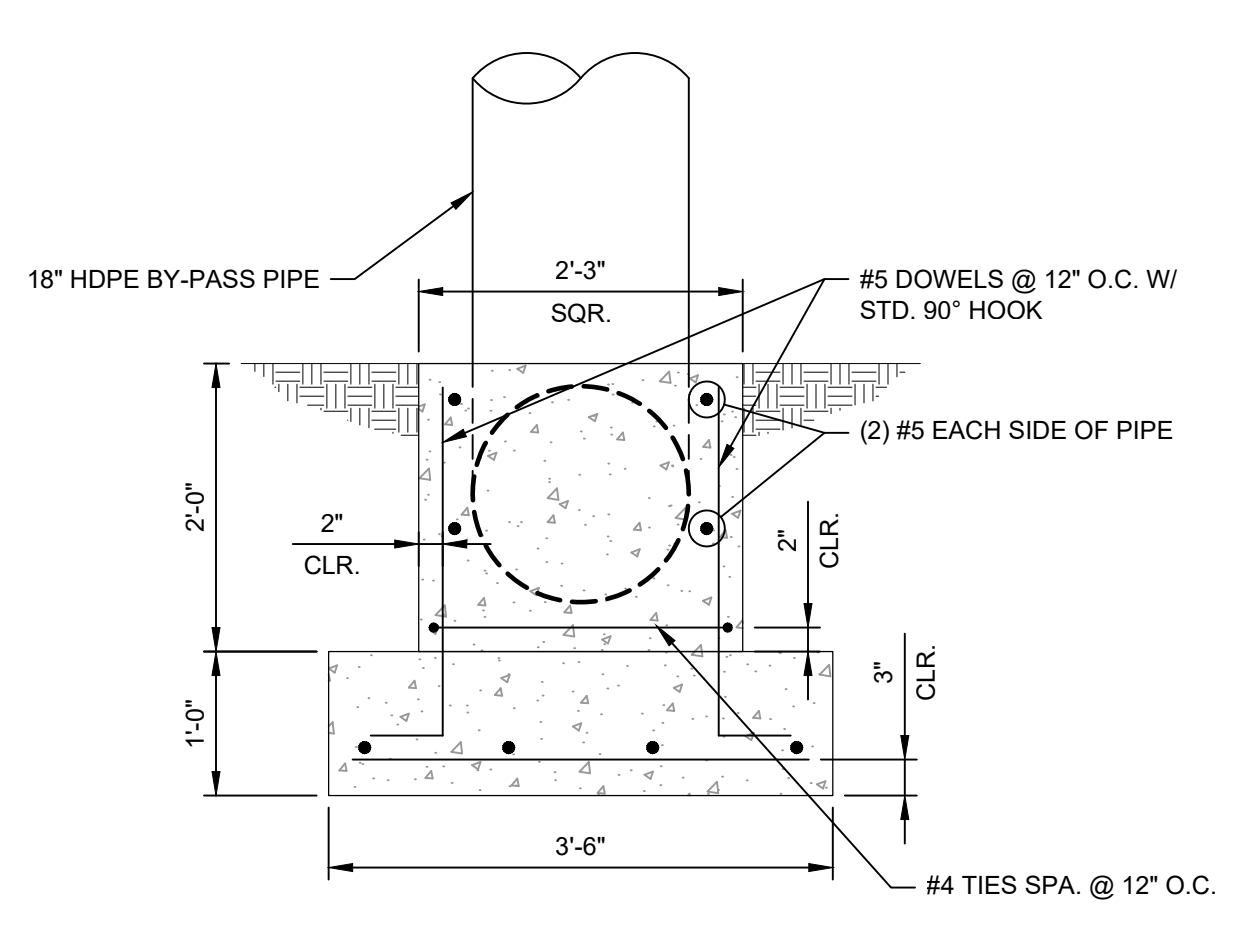
DETAIL - PLAN TEE SUPPORT
SCALE: 1"=1'-0"



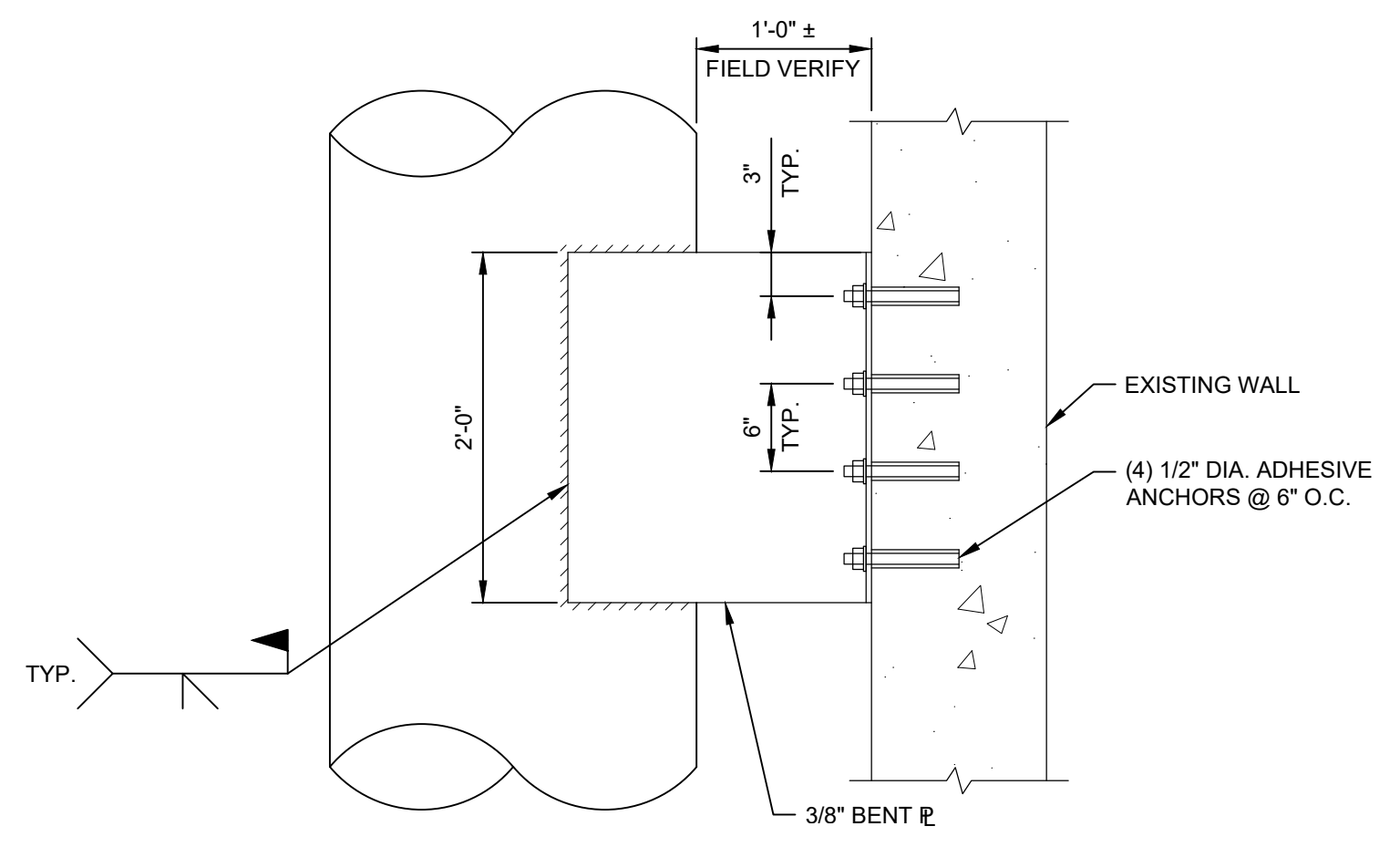
DETAIL - PIPE ROLLER SUPPORT
SCALE: 1"=1'-0"



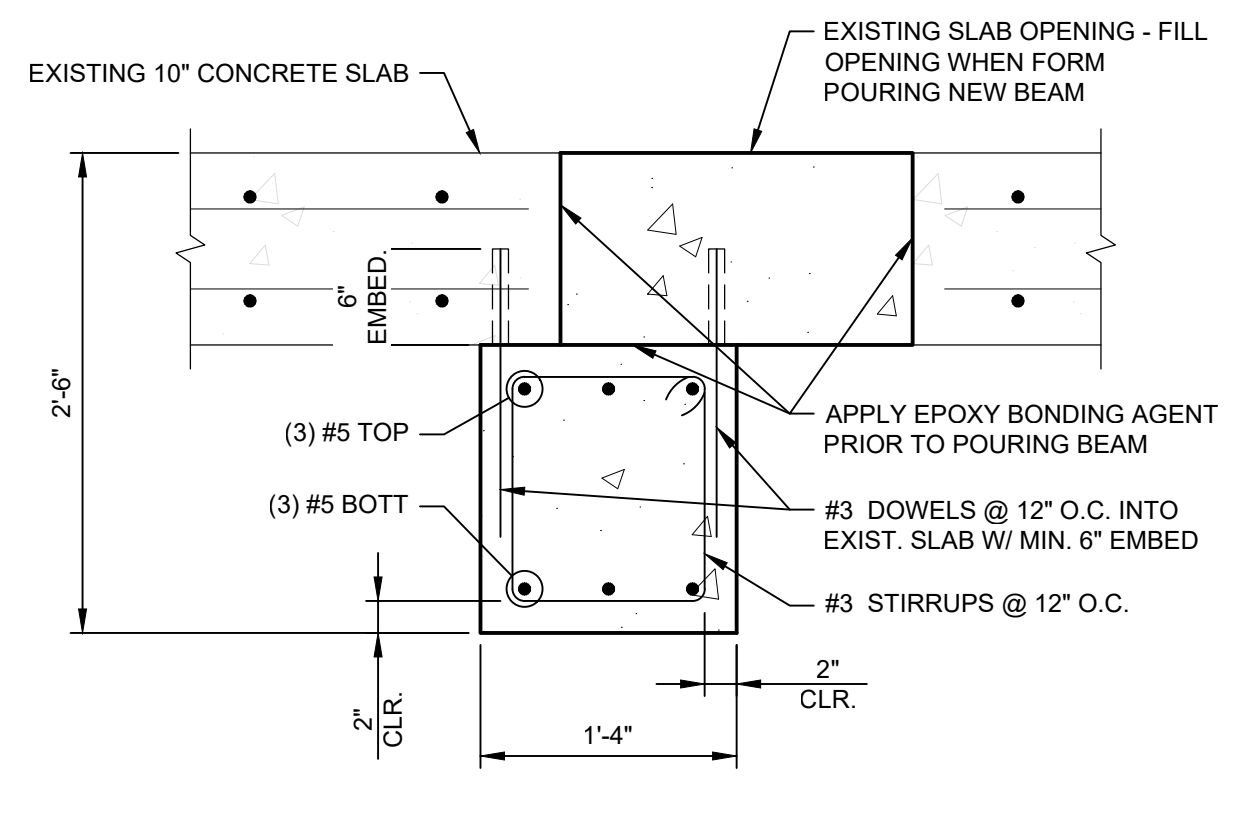
SECTION
SCALE: 3/8"=1'-0"



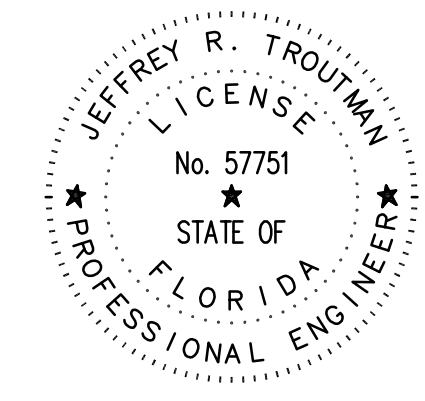
SECTION - PIPE SUPPORT
SCALE: 3/4"=1'-0"



DETAIL - SECTION TEE SUPPORT
SCALE: 1"=1'-0"



SECTION THRU CONCRETE BEAM
SCALE: 1"=1'-0"



Jeffrey R Troutman, PE
FL License #57751
Florida Engineering Firm Registry No.: 2610
THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JEFFREY R. TROUTMAN, PE ON THE DATE AS SHOWN ABOVE. THE OFFICIAL RECORD OF THIS SHEET IS AN ELECTRONIC SIGNATURE FILE DIGITALLY SIGNED AND SEALED UNDER 61G15-23.004, F.A.C. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



3809 Peachtree Avenue, Suite 102
Wilmington, North Carolina 28403
Phone: (910) 397-2929
www.Arduro.com
License #2610

9/25/2023 4:39 PM, P:\2018-1721-00 (8427) Arduro Tampa - Clearwater - East WRF Influent Pump Station Rehab - Structural\Structural\Current Working Drawings\2018-1721-00 Struct Plans.dwg

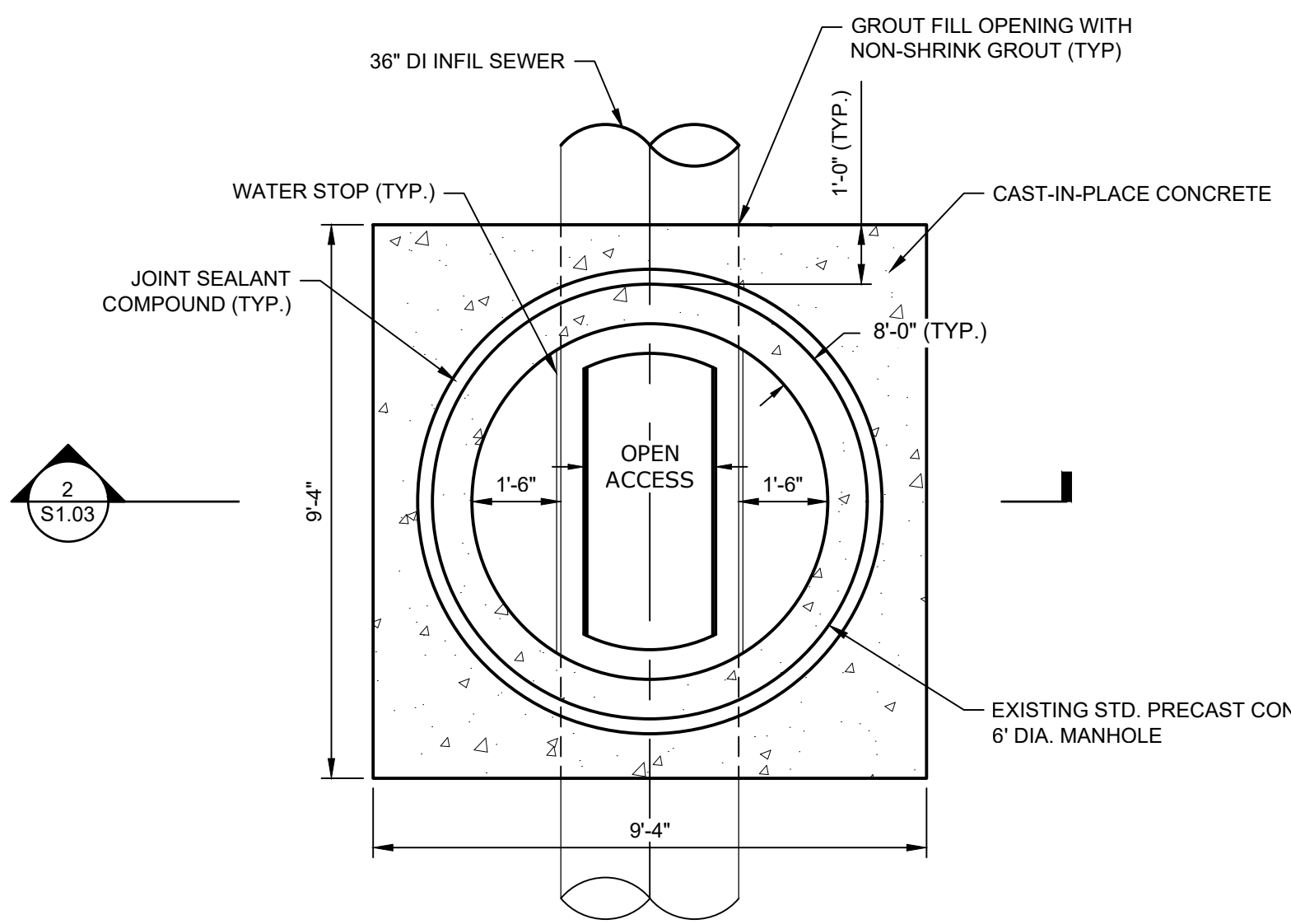
RECORD DRAWINGS		BID DOCUMENTS		JRT	9/28/2023
SURVEYED BY:	DRAWN BY:				
REVIEWED BY:					
APPROVED BY:	PROJECT ENGINEER	DATE			
	ENGINEER	DATE			
REVISION			BY	DATE	

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756

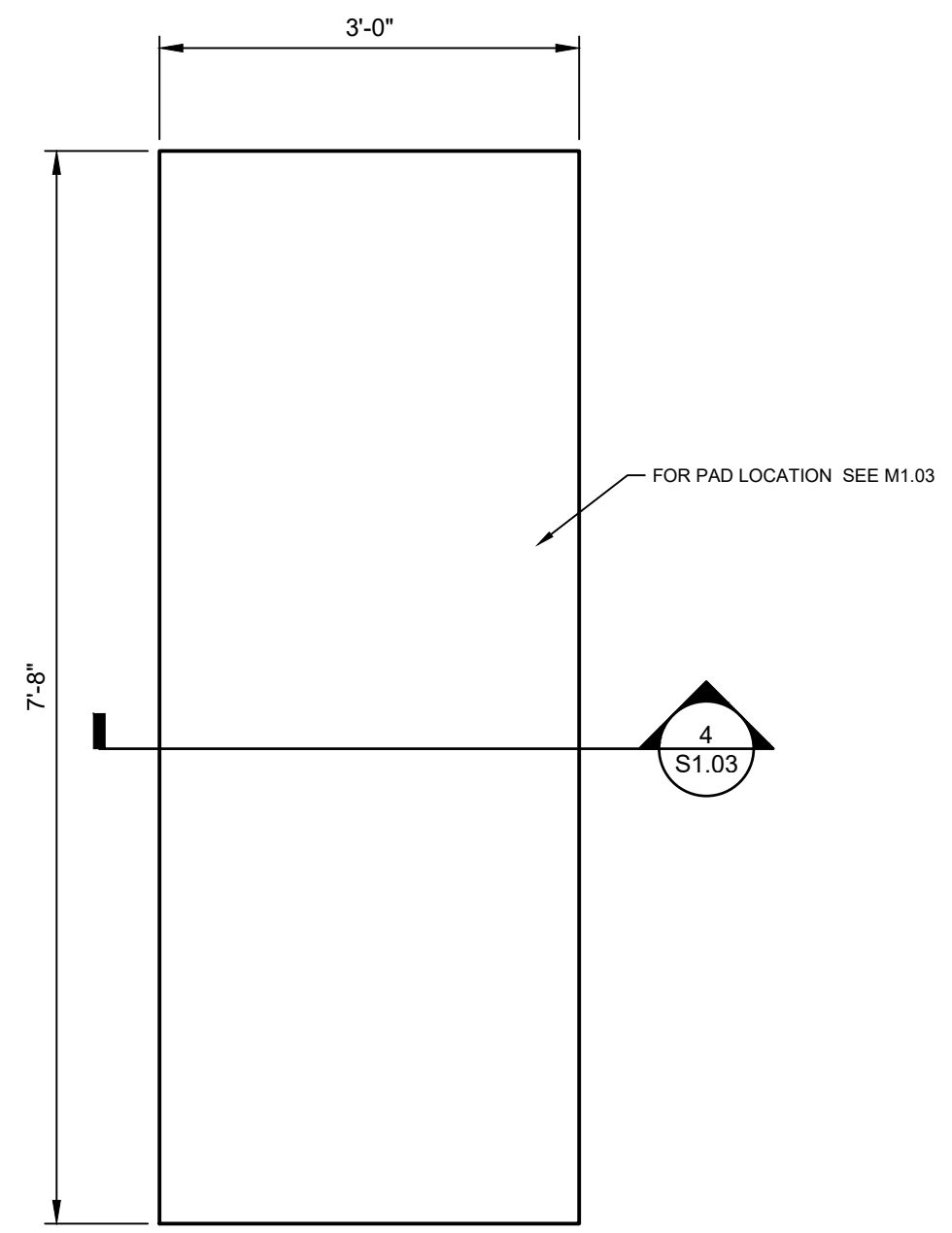


EAST WRF INFLUENT PUMP STATION
REHABILITATION PROJECT
HEADWORKS INFLUENT STRUCTURE PIPE SUPPORTS

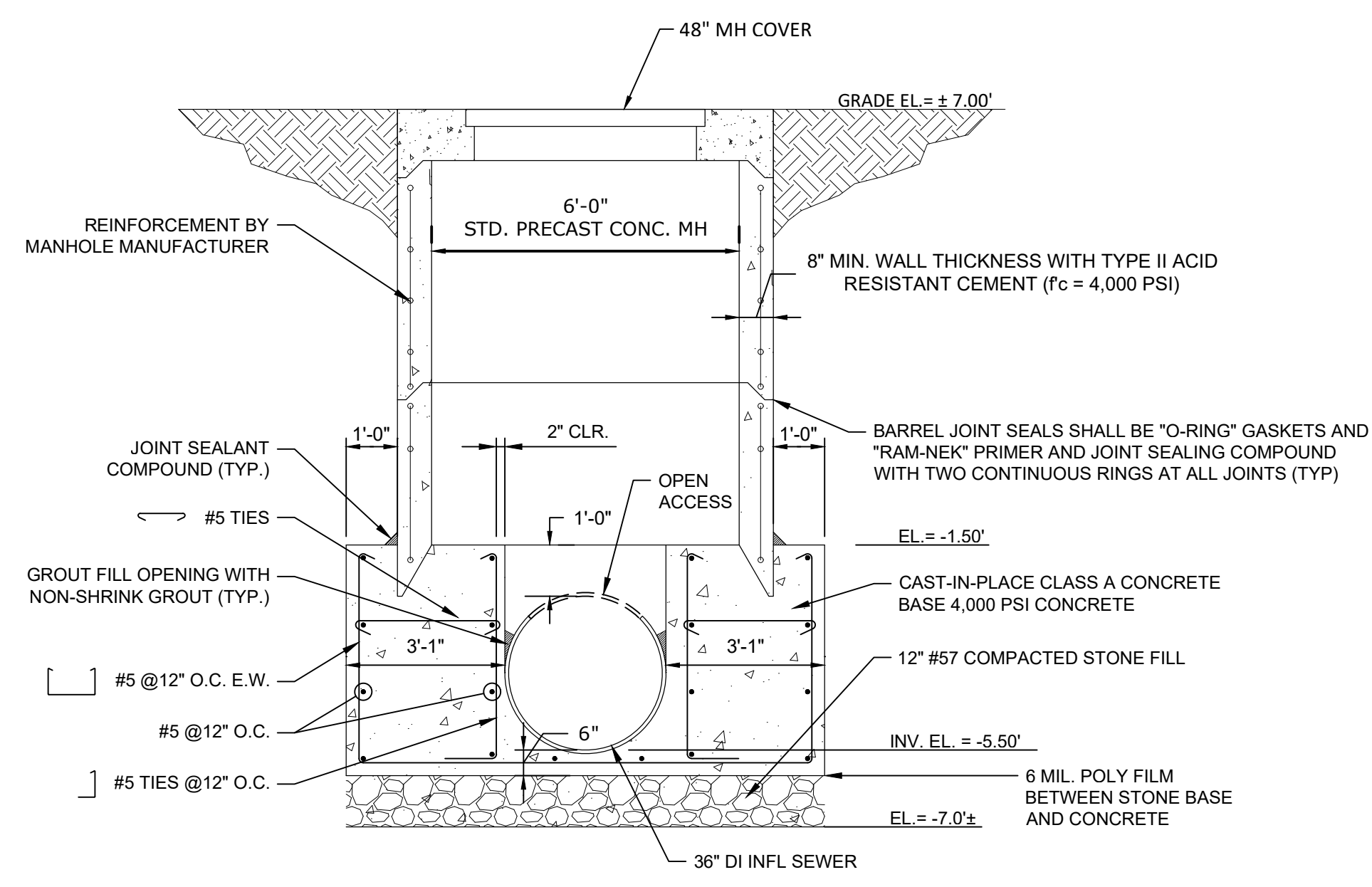
DWG NAME: S0.0.dwg	FIELD BOOK:	SURVEYED BY:	SCALE: VERT. N/A
CONTRACT NO.:	DATE DRAWN: 9/25/2023	DRAWN BY: LMN	HORIZ. AS SHOWN
JOB NO.:	DESIGNED BY: JRT	CHECKED BY: JRT	SHEET NO.:
2018-1721-01			27 OF 40
APPROVED FOR CONSTRUCTION			



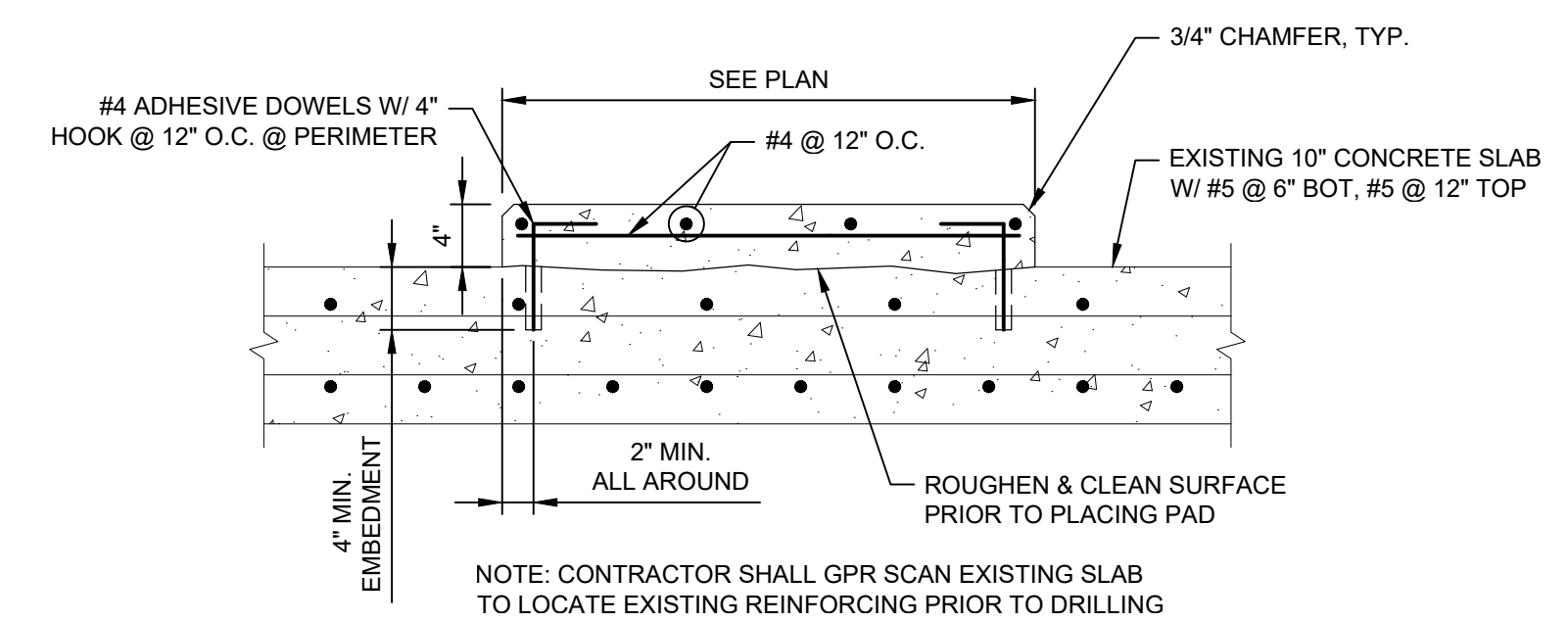
BYPASS MANHOLE PLAN
SCALE: 3/8"=1'-0" 1



EQUIPMENT HOUSEKEEPING PAD
SCALE: 3/4"=1'-0"
REF. SHEET M1.03 3

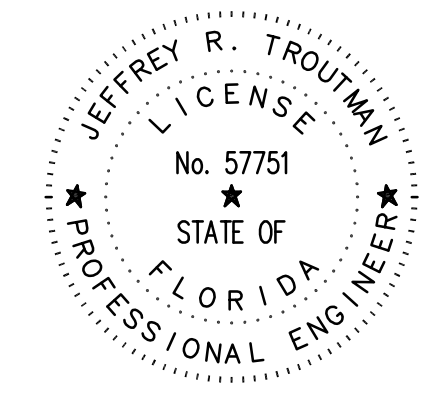


SECTION
SCALE: 3/8"=1'-0" 2



BLOWER ROOM HOUSEKEEPING PAD
SCALE: 1"=1'-0" 4

9/25/2023 4:39 PM, P:\2018-1721-00 (8427) Ardurra Tampa - Cleanwater - East WRF Influent Pump Station Rehab - Structural\Structural\Current Working Drawings\2018-1721-00 Struct Plans.dwg



Jeffrey R Troutman, PE
FL License #57751
Florida Engineering Firm Registry No.: 2610
THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JEFFREY R TROUTMAN, PE ON THE DATE AS SHOWN ABOVE. THE OFFICIAL RECORD OF THIS SHEET IS AN ELECTRONIC SIGNATURE FILE DIGITALLY SIGNED AND SEALED UNDER 61G15-23.004, FAC. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



3809 Peachtree Avenue, Suite 102
Wilmington, North Carolina 28403
Phone: (910) 397-2929
www.Ardurra.com
License #2610

RECORD DRAWINGS		BID DOCUMENTS		JRT	9/28/2023
SURVEYED BY:	DRAWN BY:				
REVIEWED BY:					
APPROVED BY:	PROJECT ENGINEER	DATE			
	ENGINEER	DATE	REVISION	BY	DATE

CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. MYRTLE AVE.
CLEARWATER, FL 33756



**EAST WRF INFLUENT PUMP STATION
REHABILITATION PROJECT
BYPASS MANHOLE PLAN AND SECTION**

DWG NAME: S0.0.dwg	FIELD BOOK:	SURVEYED BY:	SCALE: VERT. N/A
CONTRACT NO.:	DATE DRAWN: 9/25/2023	DRAWN BY: LMN	HORIZ. AS SHOWN
JOB NO.: 2018-1721-01	DESIGNED BY: JRT	CHECKED BY: JRT	SHEET NO.: 28 OF 40
APPROVED FOR CONSTRUCTION			