



SAN ANTONIO WATER SYSTEM
San Antonio River Outfall Pipeline Project No. 2B
SAWS Job No. 13-4510 (Sewer)
Solicitation No. CO-00017

ADDENDUM NO. 1
September 9, 2015

TO BIDDER OF RECORD:

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents for the construction of the San Antonio River Outfall Pipeline Project No. 2B, for the San Antonio Water System, San Antonio, Texas, dated August 2015, as fully and completely as if the same were set forth therein.

PART 1 - BIDDING AND CONTRACT DOCUMENTS

1. SPECIAL CONDITIONS:

REPLACE Paragraph 1.5, Sentence 2 with the following:

“At the beginning of the project and prior to performing any excavation and construction activities in the area of the fiber optic line, Contractor must coordinate with AT&T by calling Darren Jones (AT&T) at (210) 283-1603 to confirm the fiber optic line location and method for relocation as needed.”

PART 2 - TECHNICAL SPECIFICATIONS

1. SECTION 02623 – FIBERGLASS REINFORCED PIPE (FRP):

REPLACE Paragraph 2.02 E with the following:

“E. Tee Based Manhole fittings shall be made with fiberglass pipe and shall include a 36-inch diameter outlet connecting the manhole riser to the pipe.”

2. SECTION 15113 – STOP LOG AND FRAMES:

REPLACE this section in its entirety with the attached section.

PART 3 – DRAWINGS

1. SHEET G2 – GENERAL NOTES:

REPLACE this sheet in its entirety with the attached sheet.

2. SHEET PL4 – LINE ‘C’ PLAN & PROFILE STA. 153+00 TO STA. 162+00:

REPLACE this sheet in its entirety with the attached sheet.

3. SHEET PL9 – LINE ‘C’ PLAN & PROFILE STA. 200+00 TO STA. 210+00:

REPLACE this sheet in its entirety with the attached sheet.

4. SHEET DT3 – MANHOLE DETAILS - 1:

REPLACE this sheet in its entirety with the attached sheet.

5. SHEET DT6 – MANHOLE DETAILS - 5:

REPLACE this sheet in its entirety with the attached sheet.

6. SHEET S1 – SIPHON NO. 3 - INLET STRUCTURE PLANS & SECTIONS:

REPLACE this sheet in its entirety with the attached sheet.

7. SHEET S2 – SIPHON NO. 3 - OUTLET STRUCTURE PLANS & SECTIONS:

REPLACE this sheet in its entirety with the attached sheet.

8. SHEET S3 – SIPHON NO. 4 - INLET STRUCTURE PLANS & SECTIONS:

REPLACE this sheet in its entirety with the attached sheet.

9. SHEET S4 – SIPHON NO. 4 - OUTLET STRUCTURE PLANS & SECTIONS:

REPLACE this sheet in its entirety with the attached sheet.

10. SHEET S5 – SIPHON NO. 5 - INLET STRUCTURE PLANS & SECTIONS:

REPLACE this sheet in its entirety with the attached sheet.

11. SHEET S6 – SIPHON NO. 5 - OUTLET STRUCTURE PLANS & SECTIONS:

REPLACE this sheet in its entirety with the attached sheet.

12. SHEET SDT3 – STRUCTURAL DETAILS III:

REPLACE this sheet in its entirety with the attached sheet.

13. SHEET SDT4 – STRUCTURAL DETAILS IV:

REPLACE this sheet in its entirety with the attached sheet.

SECTION 15113

STOP LOG AND FRAMES

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section includes the furnishing and the subsequent installation of fabricated stainless steel stop log frames and stop logs, complete with all other appurtenances necessary for a complete and operating installation, as shown on Plans and as specified herein.

1.02 RELATED WORK

- A. Division 1: General Requirements.
- B. Division 5: Metals.
- C. Division 3: Concrete.

1.03 SUBMITTALS

- A. Submittals shall be prepared and submitted in accordance with San Antonio Water System General Conditions.
- B. Submittals shall include a firm production and delivery schedule of stop logs, frames, and all accessories. The production and delivery schedule shall consider normal submittal review time as specified in San Antonio Water System General Conditions and shall be in accordance with the construction schedule specified in Specification Item No. 1110 – Progress Schedule.
- C. The following submittals are required, at a minimum, in addition to the applicable requirements of San Antonio Water System General Conditions.
 - 1. Detailed drawings specific to the stop logs and frames provided with dimensions and weights.
 - 2. Construction features and materials of construction with ASTM designations.
 - 3. List of any deviations from the requirements of these specifications.
 - 4. Design and detail of the stop log frame brackets and anchor bolts.
 - 5. Engineering data and descriptive literature for all stop logs.
 - 6. MANUFACTURER's installation and testing instructions, including leakage testing instructions and storage recommendations.
 - 7. Welding procedures and qualifications. Stop log frames shall be welded using the welding process described in AWS D1.6 or ASME Section IX. Welders and welding processes shall be qualified and maintained as required by AWS D1.6 Section 4. Visual inspections shall be according to AWS D1.6 Section 6.
 - 8. Other information necessary for complete review by ENGINEER.
- D. Start-up and test schedule.
- E. Field test data and test records.
- F. Provide an Affidavit of Compliance according to AWWA C561, Article 6.3.
- G. O&M Manuals in accordance with San Antonio Water System General Conditions.
- H. Partial or incomplete submittals will not be reviewed by the ENGINEER.

1.04 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
- B. AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
 - 1. ASTM A240 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
 - 2. ASTM A276 Standard Specification for Stainless Steel Bars and Shapes
 - 3. ASTM B584 Standard Specification for Copper Alloy Sand Castings for General Applications
 - 4. ASTM D2000 Standard Classification System for Rubber Products in Automotive Applications
 - 5. ASTM D3935 Standard Specification for Polycarbonate (PC) Unfilled and Reinforced Material
 - 6. ASTM D4020 Standard Specification for Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials
 - 7. ASTM F593 Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
 - 8. ASTM F594 Standard Specification for Stainless Steel Nuts
- C. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
- D. AMERICAN WELDING SOCIETY (AWS)
- E. INTERNATIONAL STANDARD ORGANIZATION (ISO)

1.05 QUALITY ASSURANCE

- A. Minimum 10 years' experience in production of equipment substantially similar to the equipment specified
- B. Stop log frame MANUFACTURER shall have experience in the production of substantially similar equipment, and shall provide evidence of satisfactory operation in at least 20 separate installations. At least 5 installations shall have a minimum of 5 years in service.
- C. MANUFACTURER's shop welds, welding procedures, and welders shall be qualified and certified in accordance with the requirements of the latest edition of ASME, Section IX or AWS D1.6.
- D. Stop log frames and stop logs shall be shop inspected for proper operation prior to shipping.
- E. Stop log frame MANUFACTURER shall be ISO 9001 certified or approved equal quality control measures.
- F. The stop log frame MANUFACTURER shall furnish a qualified field representative for a minimum of 1 working day per structure to inspect all equipment described herein after installation, to advise CONTRACTOR and OWNER during start-up and testing, and to instruct OWNER's personnel in routine maintenance and troubleshooting procedures. CONTRACTOR shall coordinate the scheduling of such training and start-up assistance with the OWNER.
- G. MANUFACTURER's installation report is required prior to final acceptance.
- H. All stop log frames and stop logs specified in this section shall be supplied by a single MANUFACTURER.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Handle all appurtenances with care. Frames, stop logs and appurtenances which are cracked, chipped, distorted or otherwise damaged or dropped will not be acceptable. Protect all threads, seats, ends, etc. from damage and corrosion.
- B. Store all frames, stop logs and appurtenances in approved enclosed shelter or properly covered and off the ground, and in accordance with MANUFACTURER's recommendations.
- C. Stop log frames shall be delivered to the site fully assembled. Stop log frames shall not be delivered to the site in sections for assembly by the CONTRACTOR.

1.07 WARRANTY

- A. Provide two year warranty under provisions of the General Conditions.

PART 2 PRODUCTS

2.01 MANUFACTURER(S)

- A. Fabricated stainless steel stop log frames and stop logs shall be manufactured by one of the following:
 - 1. Fontaine Industries, Ltd.
 - 2. Whipps
 - 3. HydroGate Corp.

2.02 MATERIALS AND/OR EQUIPMENT

- A. General
 - 1. All materials used in the fabrication of stop logs and frames for shall be inherently corrosion resistant where exposed to raw wastewater.
 - 2. Minimum thickness of any structural member, shall be 0.25 inches unless otherwise specified.
 - 3. All welds shall be passivated.
 - 4. Stop logs and frames shall be designed for installation and operation to accommodate the clearances and limitations available in the proposed structure.
 - 5. Stop logs and frames shall be substantially watertight with leakage not to exceed 0.1 gpm per foot of seating perimeter at design seating head.
 - 6. Field welding is not permitted.
- B. Performance
 - 1. Stop logs and frames shall be substantially watertight under the design head conditions as shown in the Stop Log Frame Schedule.
 - a. Under design seating head, leakage shall not exceed 0.10 gallons per minute per foot of seating perimeter.
 - b. Under design unseating head, leakage shall not exceed 0.10 gallons per minute per foot of seating perimeter.
 - 2. The stop log's sealing system shall have been tested through a cycle test in an abrasive environment and should show the leakage requirements are still obtained after 25,000 cycles with minimum deterioration. Documentation of testing shall be provided with submittal drawings.
- C. Materials
 - 1. Frame: Stainless steel, ASTM A276, Type 316/316L
 - 2. Stop Log: Stainless steel, ASTM A276, Type 316L
 - 3. Guides: Ultra-high-molecular-weight polyethylene (UHMWPE), ASTM D-4020

4. Side and Top Seals: UHMWPE, ASTM D4020
 5. Bottom Seal: Resilient neoprene, ASTM D2000 Grade 2 BC 510
 6. Fasteners: Stainless steel, ASTM F593 or F594 GR2
 7. Gasket (between frame and wall): EPDM
- D. All required attaching bolts; anchor bolts and accessories shall be furnished with the equipment and shall be Type 316 stainless steel. Anchor bolts shall be minimum diameter of 0.75 inches.
- E. Frame
1. Frame shall be constructed of 316/316L structural members or formed plate welded to form a rigid one-piece frame. Minimum thickness 0.25 inches.
 2. Frame shall be of a design suitable for mounting as detailed in the project plans. Should structural modifications be necessary, CONTRACTOR shall be required to retain the services of an Engineer licensed in the State of Texas, at no additional cost to the OWNER, to design the revisions, signed and sealed plans and calculations shall be submitted to ENGINEER for review. Necessary work required to meet the revised design shall be completed by CONTRACTOR at no additional cost to OWNER.
 3. Frame configuration shall be of the flush-bottom type and shall allow the replacement of the top and side seals without removing the frame from the wall.
 4. Design for maximum design head specified in the stop log schedule, with a minimum safety factor of 5 for the ultimate tensile, compressive and shear strength.
- F. Stop Log
1. Stop Log shall consist of a type 316L flat plate reinforced with formed plates or structural members to limit deflection to 1/1000 of the stop log's span under the maximum design head or 0.0625 inch whichever is less. Minimum thickness 0.25 inch.
 2. Provide two lifting hooks/bars and stoppers welded to the stop log to allow an alternate lifting method to be used to unseat and lift the stop log. Design each hook/bar to be capable of lifting the stop log against maximum design head conditions.
 3. Each stop log shall be limited to a maximum of 6.25 inches in height.
 4. Provide a lifting devise capable of locking and lifting the stop logs provided.
- G. Guides and Seals
1. Guides shall be of such length as to support the slide fully in the open position.
 2. Minimum face width of 1-inch
 3. J-seals shall not be acceptable
 4. Field replaceable without removing frame.
 5. Anchor bolts shall not pass through guides and seals
 6. Seating and sliding surface shall provide a low coefficient of friction with the surface of the slide
 7. Side and top seals shall be of one of the alternative designs below
 - a. Seal Design A shall be a UHMWPE fixed sealing surface that surrounds the clear opening. It shall be held in place in the guide by 316 stainless steel fasteners. The seal compression may be maintained by UHMWPE filed adjustable pressure pads mounted to the slide with 316 stainless steel fasteners.
 - b. Seal Design B shall be a neoprene crown seal with UHMWPE bearing bars attached to the slide with 316 stainless steel fasteners. The crown seal shall be actuated by water pressure in either the seating or unseating direction. Primary contact with the slide shall be through the UHMWPE bearing bar. The neoprene shall not be solely relied upon for the contact seal. Seal compression may be maintained by UHMWPE field adjustable pressure pads mounted to the guide with 316 stainless steel fasteners.
 - c. Seal Design C shall be UHMWPE self-adjusting type seals utilizing a continuous compression cord or pad to ensure contact between the seals and the slide. Side seals shall be held in place between the front and back angles of the guide or within a

single piece mounting. Side seal held in place in the guide with 316 stainless steel bolts. Top seal UHMWPE self-adjusting type with compression cord or pad.

8. The sealing system shall maintain efficient sealing in any position of the slide and allow the water to flow only in the opened part of the frame from either direction.
9. The bottom seal shall be set into the bottom member of the frame or mounted on the bottom of the slide and shall form a flush-bottom. The bottom seal shall be mechanically fastened to the bottom member of the frame or the slide. Bottom seals that are attached through the use of adhesives only are not acceptable.

H. Protective Coating

1. Coat all moving surfaces with waterproof grease. Paint is not required for stainless steel surfaces.

2.03 STOP LOG AND FRAME SCHEDULE

A. Stop Log and Frame Schedule

1

<i>Tag No.</i>	<i>Location</i>	<i>Type</i>	<i>Stop Log Size (WxH)</i>	<i>Design Water Depth</i>
N/A	Siphon No. 3 Inlet	Stop Log and Frame*	56" x 96"	96"
N/A	Siphon No. 3 Outlet	Stop Log and Frame*	72" x 114"	114"
N/A	Siphon No. 4 Inlet	Stop Log and Frame*	56" x 108"	108"
N/A	Siphon No. 4 Outlet	Stop Log and Frame*	72" x 132"	132"
N/A	Siphon No. 5 Inlet	Stop Log and Frame*	56" x 114"	114"
N/A	Siphon No. 5 Outlet	Stop Log and Frame*	72" x 90"	90"

***FRAME SHALL EXTEND TO TOP OF STRUCTURE**

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install gates and appurtenances per MANUFACTURER's detailed instructions in such a manner that will prevent leakage around the seats and binding of the stop logs during operation.
- B. Metals surfaces shall be free from oil, grease, loose mill scale, loose paint, surface rust, and other debris or objectionable coatings prior to placing concrete against surface.
- C. Anchor bolts, and flanged frames shall be secured in true position in the forms and held in alignment during placement of concrete in accordance with approved MANUFACTURERs drawings.
- D. Concrete surfaces shall be finished to provide smooth and uniform contact surfaces for installation of frames and stop logs.
- E. Stop logs shall be carefully aligned so that the stop logs are parallel to the guide bars or angles on the frame after installation.
- F. Coordinate stop log frame installation with installation of siphon box concrete protective coating system. Providing a totally sealed, corrosion-resistant system is required.

- G. After the frame has been installed, clean, lubricate, and otherwise service the frame and stop logs per MANUFACTURER's instructions.

3.02 SHOP TESTING

- A. Each frame and stop log shall be fully assembled and shop-inspected in the vertical position for proper seating.
- B. Stop logs shall be fully installed and removed from frame to ensure that it operates freely.

3.03 PAINTING AND COATINGS

- A. All machined iron surfaces including drilled and tapped holes shall be completed with a heavy coat of protective grease.

3.04 FIELD TESTING

- A. Operate installed frame and stop logs a minimum of three full cycles in the presence of the OWNER to demonstrate satisfactory operation. CONTRACTOR shall make any changes and/or adjustments necessary to ensure satisfactory operation of the frame and stop log system. All testing equipment required shall be provided by the CONTRACTOR.
- B. Perform leakage test in presence of the OWNER per the requirements of this Specification Section.

3.05 MANUFACTURER'S SERVICE

Provide the service of qualified, factory-trained representative of the MANUFACTURER to check and approve each part of the installation before it is placed in operation. He shall instruct the OWNER personnel in operation, care and maintenance of all frames, stop logs and appurtenances and supervise initial operation. Special tools, if required for normal operations and maintenance, shall be furnished with the equipment by the MANUFACTURER.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Description
 - 1. This item shall be for furnishing all design, submittals, labor, materials, tools, equipment and incidentals required to approve and construct the structures. The item applies to the following structures listed:
 - a. Siphon Inlet Structure #3
 - b. Siphon Outlet Structure #3
 - c. Siphon Inlet Structure #4
 - d. Siphon Outlet Structure #4
 - e. Siphon Inlet Structure #5
 - f. Siphon Outlet Structure #5

4.02 MEASUREMENT

- A. Measurement of the item "Stop Log and Frames" is measured by the dimensions provided in the plans drawings and materials stated herein or as indicated by OWNER and ENGINEER, and is incidental to the Bid Items identified by the following:
 - a. Siphon Inlet Structure #3 measured by each
 - b. Siphon Outlet Structure #3 measured by each
 - c. Siphon Inlet Structure #4 measured by each

- d. Siphon Outlet Structure #4 measured by each
- e. Siphon Inlet Structure #5 measured by each
- f. Siphon Outlet Structure #5 measured by each

4.03 PAYMENT

- A. Payment shall constitute full compensation to the CONTRACTOR for furnishing all labor, equipment, tools, and materials, and for performing all operations required to furnish to the OWNER. Payment for this item shall be incidental to the following Bid Items:
 - a. Siphon Inlet Structure #3
 - b. Siphon Outlet Structure #3
 - c. Siphon Inlet Structure #4
 - d. Siphon Outlet Structure #4
 - e. Siphon Inlet Structure #5
 - f. Siphon Outlet Structure #5
- B. There shall be no separate pay item for this work

END OF SECTION

GENERAL CONSTRUCTION NOTES

- 1. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
2. CONTRACTOR SHALL DISPOSE OF ALL EXCESS MATERIAL, CONSTRUCTION, RUBBLE, AND TRASH. ALL TRASH SHALL BE PICKED-UP AND REMOVED AT THE END OF EACH DAY. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT AS REQUIRED FROM THE U.S. CORPS OF ENGINEERS.
3. CONTRACTOR SHALL INSTALL PIPELINE MARKER POSTS AT ALL PROPERTY LINES, ROAD CROSSINGS, WATERWAY CROSSINGS, AND HORIZONTAL PI'S AS SHOWN ON PLANS.
4. ALL WORK IN THE CITY/COUNTY RIGHT OF WAYS SHALL PROCEED DURING WORKING HOURS AGREED UPON BY CITY/COUNTY INSPECTORS.
5. CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC ON THE COUNTY ROAD AT ALL TIMES, AND BOTH LANES OF TRAFFIC AFTER CONSTRUCTION DUTIES ARE COMPLETE EACH DAY.
6. CONTRACTOR SHALL PROVIDE APPROPRIATE SIGNAGE, BARRICADES, FLAGMEN, ETC. REQUIRED TO MAINTAIN SAFE TRAFFIC FLOW AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH TxDOT'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO SAWS AND THE RIGHT-OF-WAY OWNER FOR THE ROADWAY FOR APPROVAL NO LESS THAN 14 DAYS IN ADVANCE OF THE PROPOSED ROADWAY CLOSURE. ANY COMMENTS RECEIVED ON THE PLAN BY SAWS OR RIGHT-OF-WAY OWNER SHALL BE INCORPORATED INTO THE PLAN. THE PLAN SHALL BE PREPARED SPECIFICALLY FOR THIS PROJECT AND SHALL BE SEALED AND SIGNED BY AN ENGINEER LICENSED IN THE STATE OF TEXAS. NO SEPARATE PAY ITEM.
7. CONTRACTOR SHALL NOTIFY ALL CIVIC AUTHORITIES, EMERGENCY UNITS AND SCHOOL DISTRICTS OPERATING WITHIN THE AREA OF THE PROPOSED WORK OF LINE CLOSURES, ROAD CONSTRUCTION AND INSTALLATION SCHEDULES.
8. CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS AT LEAST 48 HOURS PRIOR TO PERFORMING ANY WORK ON THEIR PROPERTY. CONTRACTOR SHALL ALSO DISTRIBUTE A LETTER TO ALL AFFECTED PROPERTY OWNERS THAT INCLUDES NAMES AND TELEPHONE NUMBERS OF CONTRACTOR'S CONTACTS, A DESCRIPTION OF WORK TO BE DONE, AND THE TIME FRAME FOR DOING THE WORK. A COPY OF THE NOTICE LETTERS SHALL BE FORWARDED TO SAWS'S REPRESENTATIVE.
9. CONTRACTOR SHALL NOTIFY THE TxDOT MAINTENANCE INSPECTOR AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO COORDINATE A TRAFFIC CONTROL PLAN WITH THE INSPECTOR. TRAFFIC CONTROL PLANS ARE NOT APPROVED WITH THE PERMIT IN SAN ANTONIO DISTRICT. CONTRACTOR IS REQUIRED TO KEEP A COPY OF THE APPROVAL, THE NOTICE OF PROPOSED INSTALLATION AND ANY APPROVED AMENDMENTS AT THE JOB SITE AT ALL TIMES.
10. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST TWO (2) WORKING DAYS PRIOR TO ANY CONSTRUCTION:
SAWS UTILITY LOCATES TO REQUEST A LOCATE, SEND AN EMAIL TO LOCATES@SAWS.ORG
SAWS PRODUCTION CONTROL CENTER 1-210-233-2016
CITY OF SAN ANTONIO (STORMWATER) 1-210-207-8047
CITY OF SAN ANTONIO (TRANSPORTATION PLANNING) 1-210-207-8022
BEXAR COUNTY (CONTACT): JAMES BRANNON 1-210-335-6700
TEXAS ONE-CALL 1-800-545-6005 OR 811
11. FOR ALL WORK WITHIN UNION PACIFIC RAILROAD RIGHT-OF-WAY, REFER TO SPECIAL CONDITIONS PARAGRAPH 1.5. CONTRACTOR SHALL NOTIFY THE FOLLOWING UNION PACIFIC RAIL ROAD (UPRR) CONTACTS AT LEAST TEN (10) WORKING DAYS PRIOR TO ANY CONSTRUCTION.
UPRR COMMUNICATIONS 1-800-336-9193
UPRR TRACK MAINTENANCE (CONTACT): PAUL B. JONES 1-210-889-5480
UPRR SIGNAL MAINTENANCE (CONTACT): MARIO ALCALA 1-402-596-5638
12. IF EXISTING FIBER OPTIC CONDUIT SYSTEMS ARE LOCATED DURING EXCAVATION, A FIBER-OPTIC REPRESENTATIVE IS REQUIRED TO BE ON SITE, THE CONTRACTOR MUST PROVIDE SUPPORT AND/OR PROTECTION FOR THE CONDUIT AT ALL TIMES DURING BACKFILLING, WHICH IS SUITABLE TO THE FIBER-OPTIC REPRESENTATIVE. THE FIBER-OPTIC REPRESENTATIVE MAY PLACE UNDERGROUND MARKING DEVICES AS REQUIRED. REPAIR OF ANY DAMAGES TO THE CONDUIT SYSTEM AND ASSOCIATED FACILITIES SHALL BE MADE BY THE FIBER-OPTIC COMPANY PERSONNEL; AND THE CONTRACTOR SHALL REIMBURSE THEM FOR ALL COSTS OF SUCH REPAIRS, IF REQUIRED. THE CONTRACTOR SHALL CONTACT THE FIBER-OPTIC COMPANY 48 HOURS PRIOR TO THE START OF EXCAVATION. LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY AND NOT GUARANTEED TO BE ACCURATE.
VERIZON 1-800-624-9675
AT&T 1-800-344-8377
TIME WARNER CABLE 1-800-344-8877
13. CONTRACTOR SHALL NOTIFY THE APPROPRIATE CONTACTS LISTED BELOW AT LEAST TWO (2) WORKING DAYS BUT NOT MORE THAN FOURTEEN (14) CALENDAR DAYS PRIOR TO CROSSING ANY MARKED OR SHOWN UTILITIES.
ENTERPRISE GAS (CONTACT): CHESTER BLAIR 1-210-240-1157
CALUMET (CONTACT): FRANK SALINAS 1-210-918-7414
14. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DEPTHS OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES PRIOR TO THE MAKE AND LAY OF THE PROPOSED 48 INCH DIA. SEWER MAIN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT, AND TO PROTECT ALL UTILITIES DURING CONSTRUCTION.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SERVICE LINES, CULVERTS OR UTILITIES CROSSED OR EXPOSED BY HIS CONSTRUCTION OPERATIONS. WHERE EXISTING SERVICE LINES ARE CUT, BROKEN OR DAMAGED THE CONTRACTOR SHALL IMMEDIATELY REPLACE THE SERVICE LINES WITH LIKE OR BETTER MATERIALS. NO SEPARATE PAY ITEM.
16. CONTRACTOR SHALL PROTECT ALL UNDERGROUND IRRIGATION SYSTEMS ENCOUNTERED WITHIN THE CONSTRUCTION AREA. ALL DAMAGE SHALL BE REPAIRED BY IRRIGATOR LICENSED IN THE STATE OF TEXAS. NO SEPARATE PAY ITEM.
17. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND REPAIRING ANY UTILITIES DAMAGED DURING CONSTRUCTION. NO SEPARATE PAY ITEM.
18. NO MATERIAL OR EQUIPMENT SHALL BE STORED OVER ANY EXISTING UTILITY.
19. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, UTILITY COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
20. CONTRACTOR SHALL PROTECT OR REMOVE AND REPLACE ROAD SIGNS AND OTHER SIGNS. ANY DAMAGE TO SIGNS SHALL BE REPAIRED TO ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR. NO SEPARATE PAY ITEM.
21. WHEN THE PLANS OR EASEMENTS INDICATE THE DEMOLITION OR REMOVAL OF AN EXISTING STRUCTURE OR FACILITY BY THE CONTRACTOR, THE CONTRACTOR SHALL PROVIDE AT LEAST 30 DAYS NOTICE TO THE PROPERTY OWNER AND SAWS OF THE PENDING REMOVAL.
22. WHERE IT IS NECESSARY FOR LANDOWNERS TO MOVE TRAILERS, SHEDS, OR OTHER FACILITIES OR IMPROVEMENTS, THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER AND SAWS NO LESS THAN 30 DAYS PRIOR TO THE NEED FOR MOVING THE FACILITIES OR IMPROVEMENTS.
23. CONTRACTOR SHALL FLAG THE EASEMENT AND SHALL STAY WITHIN THE FLAGGED AREA.
24. CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL PROPERTY OWNERS AT ALL TIMES DURING CONSTRUCTION.
25. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE. NO SEPARATE PAY ITEM.

GENERAL CONSTRUCTION NOTES (CONTINUED)

- 26. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFE ACCESS TO RESIDENCES AND BUSINESSES. NO SEPARATE PAY ITEM.
27. WHEREVER POWER POLES ARE WITHIN 15' OF THE PROPOSED SEWER LINE OR OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE PROPER SHORING AND OTHER SUITABLE SUPPORT DURING CONSTRUCTION OF THE SEWER LINES. THE UTILITY COMPANY MAINTENANCE DEPARTMENT MUST APPROVE SHORING PRIOR TO INSTALLATION. NO SEPARATE PAY ITEM.
28. IN THE EVENT THAT OTHER CONTRACTORS ARE DOING WORK IN THE SAME AREA SIMULTANEOUSLY WITH THIS PROJECT, CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OTHER CONTRACTORS. THIS INCLUDES, BUT IS NOT LIMITED TO ALL CONNECTIONS TO EXISTING PIPING, BYPASS PUMPING, TESTING OR ALL OTHER WORK.
29. CONTRACTOR SHALL COORDINATE LINE B AND LINE C BEGINNING AND END POINTS WITH SAWS INSPECTOR AND PROJECT 2A CONTRACTOR FOR SEQUENCING AND SCHEDULING OF ALL WORK.

ENVIRONMENTAL NOTES

- 1. THE CONTRACTOR IS REQUIRED TO RE-SEED DISTURBED AREAS WITH NATIVE VEGETATION SEED IN ACCORDANCE WITH COSA ITEM 520 - HYDROMULCHING EXCEPT IN AREAS OF FARM CROPS WHERE THEY ARE TO DISC THE TOPSOIL WITH NO REVEGETATION; IN ADDITION, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGES TO PROPERTY OUTSIDE OF THE EASEMENT LIMITS, INCLUDING REVEGETATION COST.
2. CONTRACTOR TO ESTABLISH SILT FENCING AND/OR ROCK BERM IN ALL AREAS TO BE IMPACTED BY CONSTRUCTION AND MAINTAIN UNTIL SUITABLE GROUND COVER/VEGETATION IS ACCEPTED.
3. IF A THREATENED OR ENDANGERED PLANT OR ANIMAL SPECIES AND/OR CULTURAL/ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY SAWS.
4. DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT WHICH MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED ON ANY WETLANDS, WATER BODY, OR STREAM BED. THE CONTRACTOR SHALL LOCATE AND CONSTRUCT CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AND PARKING AREAS IN A MANNER TO MINIMIZE POLLUTANT RUNOFF.
5. THE CONTRACTOR SHALL CLEAR ALL WATER WAYS AS SOON AS PRACTICABLE OF ALL TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING, DEBRIS, AND OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS WHICH ARE NOT PART OF THE FINISHED WORK.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR FILING A NOTICE OF INTENT (NOI) AT THE START OF CONSTRUCTION WITH THE TCEQ AND A NOTICE OF TERMINATION (NOT) AT THE END, ALSO WITH THE TCEQ.
7. TRIMMING OF TREES SHALL BE ACCOMPLISHED USING A SAW OR PRUNING SHEARS. ALL CUT LIMBS OVER 1 INCH IN DIAMETER SHALL BE PAINTED WITH TREE WOUND PAINT IMMEDIATELY AFTER TREE TRIMMING.
8. ALL NEW TREES SHALL BE PLANTED BY A NURSERYMAN LICENSED IN THE STATE OF TEXAS. DOCUMENTATION OF TYPE, SIZE, AND LOCATION STATION SHALL BE PROVIDED TO SAWS WITH RECORD DRAWINGS AND PRIOR TO FINAL PAYMENT.

COSA FLOOD PLAIN AND R.O.W. NOTES

- 1. PRIOR TO CONSTRUCTION, THE ENGINEER SHALL OBTAIN ALL REQUIRED STORM WATER PERMITS, FEES, AND APPROVALS. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PERMITS REQUIRED FOR CONSTRUCTION IN DRAINAGE EASEMENTS, RIGHT-OF-WAYS, AND FLOODPLAINS.
2. THE CONTRACTOR SHALL NOTIFY COSA OR BEXAR COUNTY STORM WATER ENGINEERING AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET RIGHT-OF-WAY NOT INDICATED ON THE CONSTRUCTION PLANS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING DRAINAGE FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING DRAINAGE SYSTEMS, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT HIS EXPENSE. THE CONTRACTOR SHALL NOTIFY COSA OR BEXAR COUNTY STORM WATER ENGINEERING AS SOON AS CONFLICTS WITH UTILITIES ARE ENCOUNTERED OR ANY DRAINAGE SYSTEM IS DAMAGED DURING CONSTRUCTION.
4. WITHIN 5 WORKING DAYS OF A STORM EVENT, CONTRACTOR IS RESPONSIBLE FOR BOTH
1. REPAIRING ANY DAMAGE THAT MAY OCCUR AND
2. REMOVING ANY MATERIALS THAT MAY BE DEPOSITED DOWNSTREAM OF THE SUBJECT SITE AS A RESULT OF CONSTRUCTION ACTIVITIES.
1. CONSTRUCTION SPOILS WILL NOT BE ALLOWED TO BE DEPOSITED ANYWHERE WITHIN A DRAINAGE EASEMENT, RIGHT-OF-WAY OR FLOODPLAIN WITHIN THE LIMITS OF THE PROJECT AND SHALL BE DISPOSED OFFSITE IN COMPLIANCE WITH CURRENT APPLICABLE REGULATIONS.
2. NO STRUCTURE, FENCES, WALLS, LANDSCAPING, OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THE CONSTRUCTION DOCUMENTS.
3. UPON COMPLETION OF TRENCHING, THE AREA WILL BE BACKFILLED AND COMPACTED TO ITS ORIGINAL CONDITION. TRENCHES/BORE PITS OPEN AND UNATTENDED LONGER THAN 24 HOURS SHALL BE PROTECTED TO WITHSTAND ALL HYDRODYNAMIC AND HYDROSTATIC FORCES AND PREVENT DOWNSTREAM IMPACTS. TRENCHES/BORE PITS TO BE OPEN LONGER THAN 30 DAYS AFTER STARTING EXCAVATION SHALL BE BACKFILLED WITH A SEMI-PERMANENT REPAIR BACKFILL.
4. IMPROVED SECTIONS OF EARTHEN CHANNELS AND/OR WATERWAYS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.

FLOOD PLAIN NOTES

- 1. CONTRACTOR IS TO MAINTAIN UNRESTRICTED DRAINAGE OF THE PROJECT SITE AND ADJACENT AREAS DURING CONSTRUCTION.
2. NO CONSTRUCTION MATERIALS, CONSTRUCTION SPOILS OR WASTE MATERIALS SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF THE EXISTING NATURAL DRAINAGE OR PLACED WITHIN THE LIMITS OF THE EXISTING FLOOD PLAIN.

NATIONAL PARK SERVICE (NPS) NOTE

- 1. FOR ALL WORK WITHIN THE NATIONAL PARK SERVICE BOUNDARY, CONTRACTOR SHALL PROVIDE 72-HOUR NOTIFICATION PRIOR TO ENTERING THE PROPERTY AND CONTACT:
NPS (CONTACT): MR. JAMES OLIVER 1-210-534-8833
MR. GREGORY SMITH

WATER AND WASTEWATER NOTES

- 1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE FOLLOWING:
A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS [TAC 217]".
B. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR CONSTRUCTION".
C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD MATERIALS SPECIFICATIONS".
D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION"
E. CURRENT CITY OF SAN ANTONIO "RIGHT-OF-WAY ORDINANCE AND UNDERGROUND UTILITY EXCAVATION MANUAL".
F. CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES".
2. CONTRACTOR SHALL COMPLY WITH ALL SAWS GENERAL NOTES AND SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION (WWW.SAWS.ORG).
3. CONTRACTOR SHALL FIELD VERIFY PRECISE LOCATION, ELEVATION, AND ARRANGEMENT OF CONNECTIONS OF NEW PIPELINES WITH EXISTING PIPELINES BASED ON FIELD CONDITIONS, INCLUDING EXPOSING EXISTING PIPING PRIOR TO FABRICATING NEW PIPING, CONTRACTOR SHALL PROVIDE FITTINGS, ADAPTERS, SOLID SLEEVE CLOSURES AND HARNESS MECHANICAL COUPLING; ROTATE FITTINGS; DEFLECT JOINTS; AND MODIFY EXISTING PIPING AS APPLICABLE AND AS REQUIRED TO MAKE CONNECTIONS, INCLUDING ADJUSTMENTS FOR ANY OFFSETS IN CENTERLINE ELEVATIONS BETWEEN PIPELINES. CONTRACTOR SHALL PROVIDE TEMPORARY PLUG WITH FACTORY OUTLET SIZED AS REQUIRED FOR CONTRACTOR'S TESTING AND DISINFECTION WORK BEFORE MAKING CONNECTION, WHEN APPLICABLE. CONTRACTOR SHALL COORDINATE MAKING EACH CONNECTION WITH THE OWNER.
4. EXISTING SEWER SHOWN ON PROFILES IS FOR REFERENCE ONLY, ELEVATIONS SHALL BE FIELD VERIFIED BY CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
6. ALL WATER AND WASTEWATER INSTALLATIONS SHALL BE IN ACCORDANCE WITH TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REQUIREMENTS. WHERE A MINIMUM OF NINE (9) FEET OF SEPARATION CANNOT BE MAINTAINED BETWEEN SEWER LINES AND WATER LINES/MAINS, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ TAC 217.
7. WHERE A NEW WATER OR WASTEWATER LINE CROSSES WITHIN 18 INCHES UNDER A STORM DRAIN, THE WATER OR WASTEWATER LINE SHALL BE CONCRETE ENCASED FOR AT LEAST ONE (1) FOOT OUTSIDE EACH SIDE OF THE STORM DRAIN DITCH LINE. NO SEPARATE PAY ITEM.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEWAGE FLOW DURING ALL PHASES OF CONSTRUCTION. A BYPASS PUMPING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOWS (SSO) OCCUR AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER IMMEDIATELY AT 210-233-2015. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT POSSIBLE TO PREVENT CONTAMINATION OF WATERWAYS.
D. CLEAN UP THE SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND DISPOSE OF CONTAMINATED SOIL / MATERIALS.
E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
F. MEET ALL POST-SSO REQUIREMENTS PER THE EPA CONSENT DEGREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.
SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL ADDITIONAL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA.

CPS ENERGY NOTES

- 1. CONTRACTOR SHALL NOTIFY ONE OF THE CONTACTS LISTED BELOW AT LEAST SEVEN (7) WORKING DAYS PRIOR TO CROSSING ANY MARKED OR SHOWN UTILITIES.
(CONTRACT): CLAUDIA TOVAR 1-210-353-2226
ANA ESQUIVEL 1-210-353-4537
JOHN OFFER 1-210-353-2012
2. CALL THE TEXAS STATE WIDE ONE CALL NUMBER 1-800-245-4545, 48 HOURS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA. THE PROJECT MUST BE GAS LEAK SURVEYED PRIOR TO THE FINAL OVERLAY. ALLOW 10 WORKING DAYS FOR THE LEAK SURVEY AND ALLOW AN ADDITIONAL 10 WORKING DAYS FOR VALVE ADJUSTMENTS. THE CONTRACTOR MUST COORDINATE THE SURVEY AND THE ADJUSTMENTS THROUGH THE PROJECT INSPECTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS ENERGY OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.

AT&T NOTES

- 1. THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-344-8377. CONTRACTOR IS TO PROTECT AND SUPPORT TELEPHONE COMPANY POLES DURING CONSTRUCTION.
2. THE EXISTING FIBER OPTIC LINE NEAR STA. 205+34 IS IN CONFLICT WITH THE PROPOSED SAN ANTONIO RIVER OUTFALL PIPELINE. AT THE BEGINNING OF THE PROJECT AND PRIOR TO PERFORMING ANY EXCAVATION AND CONSTRUCTION ACTIVITIES IN THE AREA OF THE FIBER OPTIC LINE, CONTRACTOR MUST COORDINATE WITH AT&T BY CALLING DARREN JONES (AT&T) AT (210) 283-1603 TO CONFIRM THE FIBER OPTIC LINE LOCATION AND METHOD FOR RELOCATION AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS AND TIME ASSOCIATED WITH FIBER OPTIC LINE RELOCATION WHICH MAY INCLUDE DESIGN AND RELOCATION BY AT&T. CONTRACTOR SHALL ACCOUNT FOR COORDINATION AND UTILITY RELOCATION TIME IN THE PROJECT SCHEDULE AND SEQUENCING OF WORK.

Freese And Nichols, Inc. Job No. SWB11467
Revisions: ADDENDUM NO. 1
Date: 9/9/15
Texas Registered Engineering Firm F-2144

Date: 9/9/2015
Designed by: DDH
Drawn by: DDH
Checked by: BCT
Scale: N.T.S.

Freese and Nichols, Inc.
4040 Broadway Street, Suite 600
San Antonio, Texas 78209-6350
Phone - (210) 298-3800
Fax - (210) 298-3801

SAN ANTONIO WATER SYSTEM

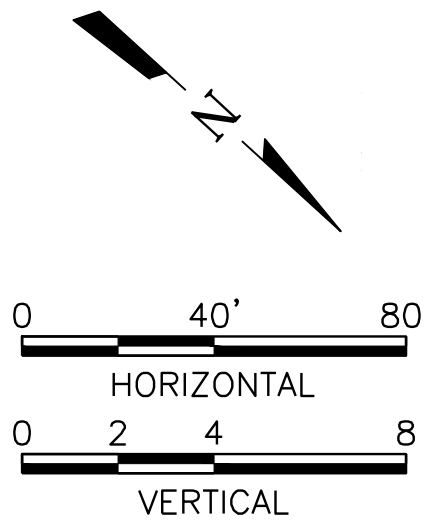
SAWS JOB NO. 13-4510 (SS)
SAN ANTONIO RIVER OUTFALL PIPELINE, PROJECT NO. 2B
GENERAL NOTES

SWB11467 / San Antonio Server / ACAD CIVIL 3D_2014

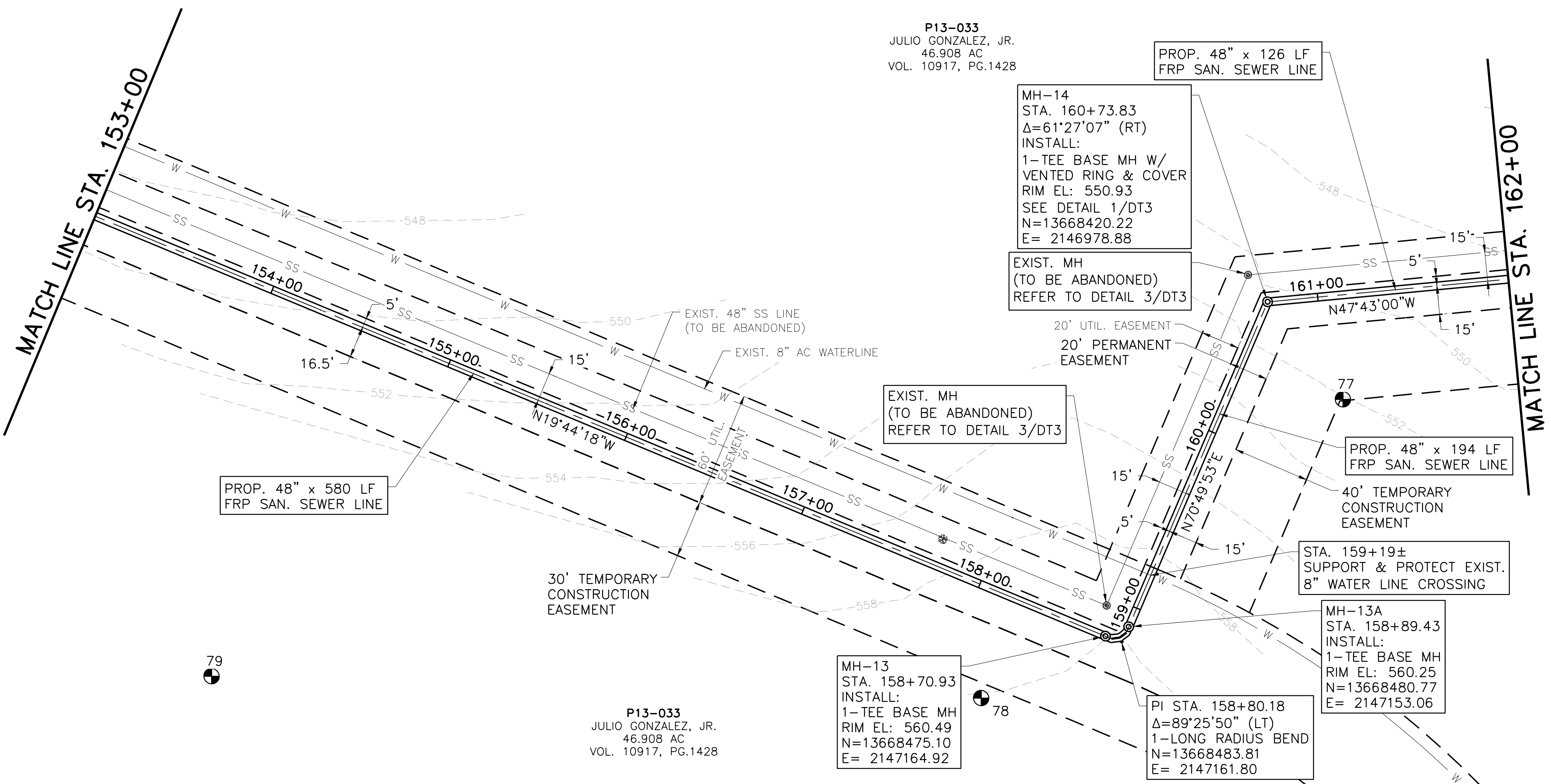
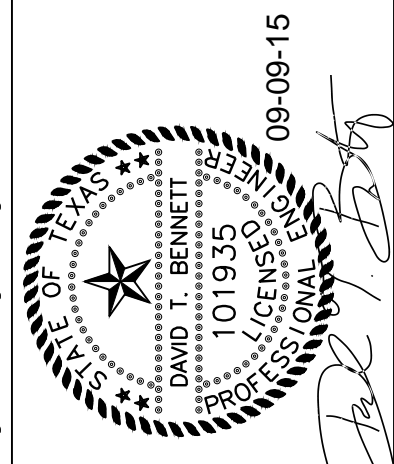
P13-033
 JULIO GONZALEZ, JR.
 46.908 AC
 VOL. 10917, PG.1428

Freese And Nichols, Inc.
 Job No.

SWB11467



App.	DTB
Revisions	ADDENDUM NO. 1
Date	9/9/15
No.	



BID QUANTITIES			
ITEM NO	DESCRIPTION	QUANTITY	UNIT
02623-48a	48" FRP GRAVITY SEWER LINE (INSTALL BY OPEN CUT), SN 46 (ALL DEPTHS)	900	LF
550	TRENCH EXCAVATION SAFETY PROTECTION	900	LF
SS-853-1	48" FRP TEE BASE MANHOLE	3	EA
SS-853-4	TEE BASE MANHOLE EXTRA DEPTH > 15 FT	15	VF
862-2	ABANDON EXISTING MANHOLE	2	EA
520	SEEDING	8700	SY

- NOTES:**
1. BYPASS PUMPING AND TRANSFER OF FLOWS SHALL BE IN ACCORDANCE WITH SECTIONS 864 AND 01030.
 2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES.

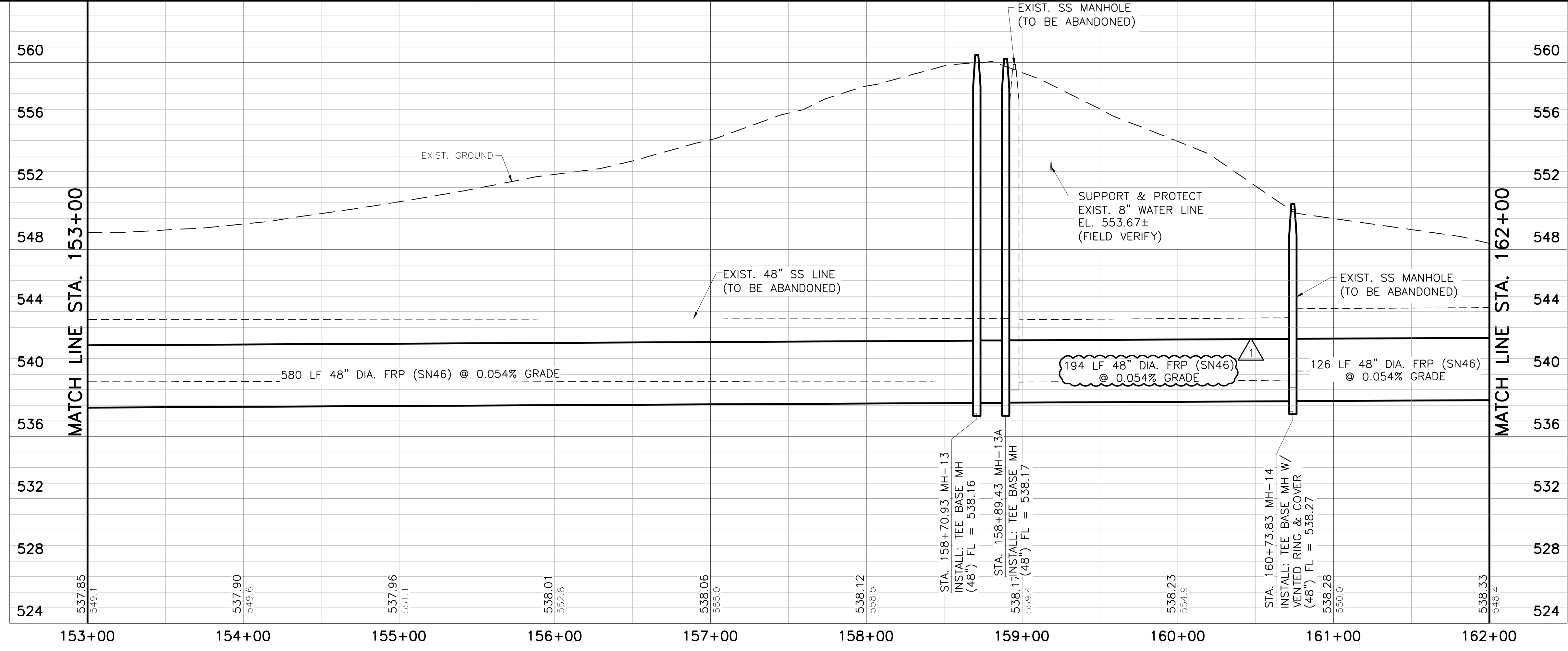
CAUTION!!
 UNDERGROUND UTILITY LINES EXIST WITHIN THE WORK AREA. THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA AND MAY NOT BE INDICATED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.

Date: 9/8/2015
 Designed by: DTB
 Drawn by: DDH
 Checked by: BCT
 Scale: HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=4'

FREES & NICHOLS
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 Fax - (210) 298-3801

SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 13-4510 (SS)
 SAN ANTONIO RIVER OUTFALL PIPELINE,
 PROJECT NO. 2B
 LINE 'C' PLAN AND PROFILE
 STA. 153+00 TO STA. 162+00



SWB11467 / San Antonio Server / ACAD CIVIL 3D 2014

P13-037
USA NATIONAL PARK SERVICE
N.C.B. 10918, 11.517 AC
VOL. 17258, PG.10918

MH-21
STA. 203+92.83
Δ=54'42"42" (RT)
INSTALL:
1-TEE BASE MH
RIM EL: 555.77
SEE DETAIL 1/DT3
N=13671264.00
E= 2144458.28

EXIST. MH
(TO BE ABANDONED)
REFER TO DETAIL 3/DT3

PIPELINE MARKER
SEE DETAIL 4/DT8

GROUT FILL 150 LF OF
EXIST. 48" SS LINE ACROSS
S. PRESA ST. R.O.W.

PROP. TUNNEL/BORE PIT
SEE NOTE 4

REMOVE AND REPLACE
EXIST. WIRE FENCE (50 LF)
INSTALL 16' GATE
SEE DTL. SHTS. DT11 & DT12

PROP. TUNNEL/BORE PIT
SEE NOTE 4

EXIST. MH
(TO BE ABANDONED)
REFER TO DETAIL 3/DT3

PROP. 48" x 393 LF
FRP SAN. SEWER LINE

STA. 204+34±
12" WATERLINE CROSSING
SEE NOTE 2

STA. 205+34±
10" SS LINE CROSSING
(FIELD VERIFY)
SEE NOTE 2

STA. 205+42±
MULTIPLE UNDERGROUND FIBER,
AND TELEPHONE CABLE CROSSINGS
(FIELD VERIFY) SEE NOTE 2

PROP. 66" x 151 LF, STEEL
CASING (TUNNEL/BORE)

REMOVE AND REPLACE
EXIST. WIRE FENCE (50 LF)
INSTALL 16' GATE
SEE DTL. SHTS. DT11 & DT12

PIPELINE MARKER
SEE DETAIL 4/DT8

PROP. 48" x 235 LF
FRP SAN. SEWER LINE

P13-038
FRANK MONACO, JR.
14.802 AC
VOL. 6183, PG.1299

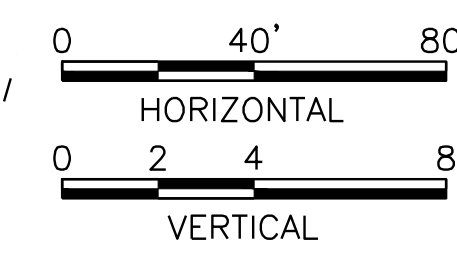
CONNECT TO EXIST. MH
RIM: 552.51'
EX. 10" (IN) EL: 545.61 (FIELD VERIFY)
PROP. 10" (OUT) EL: 545.07

PROP. 10" x 15 LF, PVC SAN. SEWER
LINE, CONNECT TO EXIST. MH, @ 5.00% GRADE

MH-22
STA. 206+27.99
Δ=09'27"06" (LT)
INSTALL:
1-TEE BASE MH
RIM EL: 553.50
W/ 10" CONNECTION
SEE DETAIL 1/DT3
N=13671497.73
E= 2144432.30

PROP. 48" x 372 LF
FRP SAN. SEWER LINE

P13-038
FRANK MONACO, JR.
VOL. 7000, PG.109



App.	DTB	Freese And Nichols, Inc. Job No.
Revisions	ADDENDUM NO. 1	SWB11467
Date	9/9/15	Freese and Nichols, Inc. Texas Registered Engineering Firm F-2144
No.		DAVID T. BENNETT 101935 PROFESSIONAL ENGINEER 09-09-15

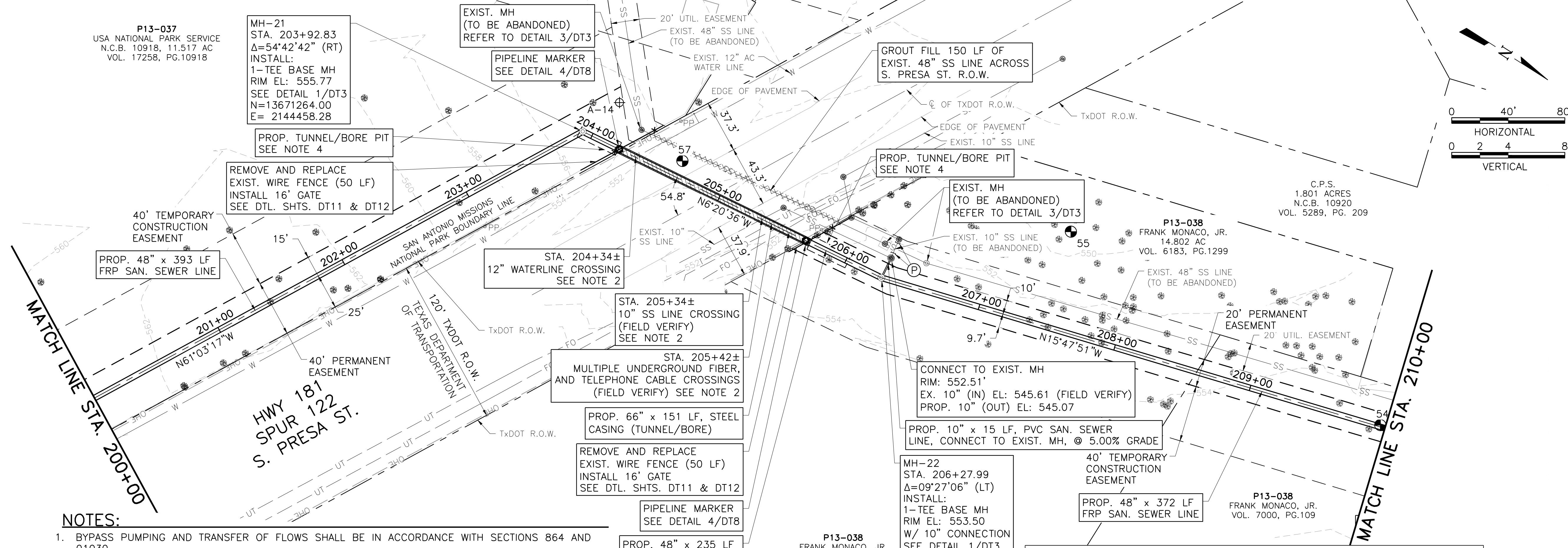
Date: 9/8/2015
Designed by: DTB
Drawn by: DDH
Checked by: BCT
Scale: HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

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**SAN ANTONIO
WATER SYSTEM**

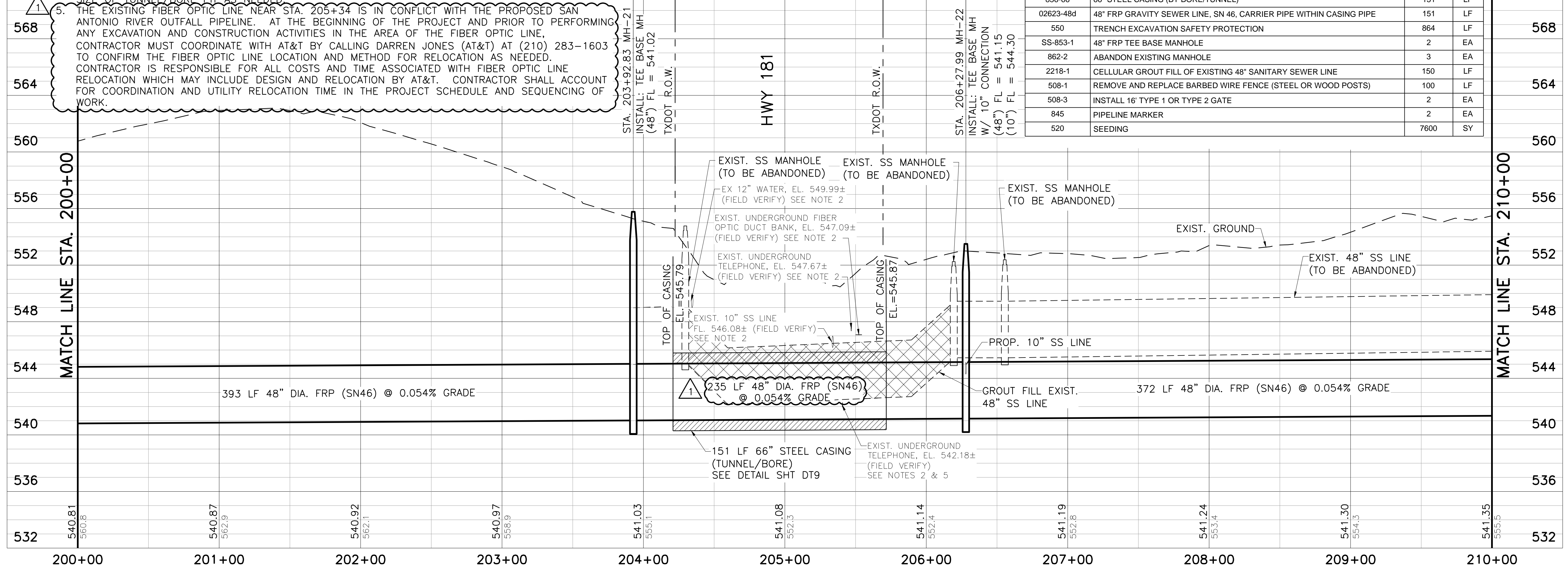
SAWS JOB NO. 13-4510 (SS)
SAN ANTONIO RIVER OUTFALL PIPELINE,
PROJECT NO. 2B
LINE 'C' PLAN AND PROFILE
STA. 200+00 TO STA. 210+00

Sheet PLg



NOTES:

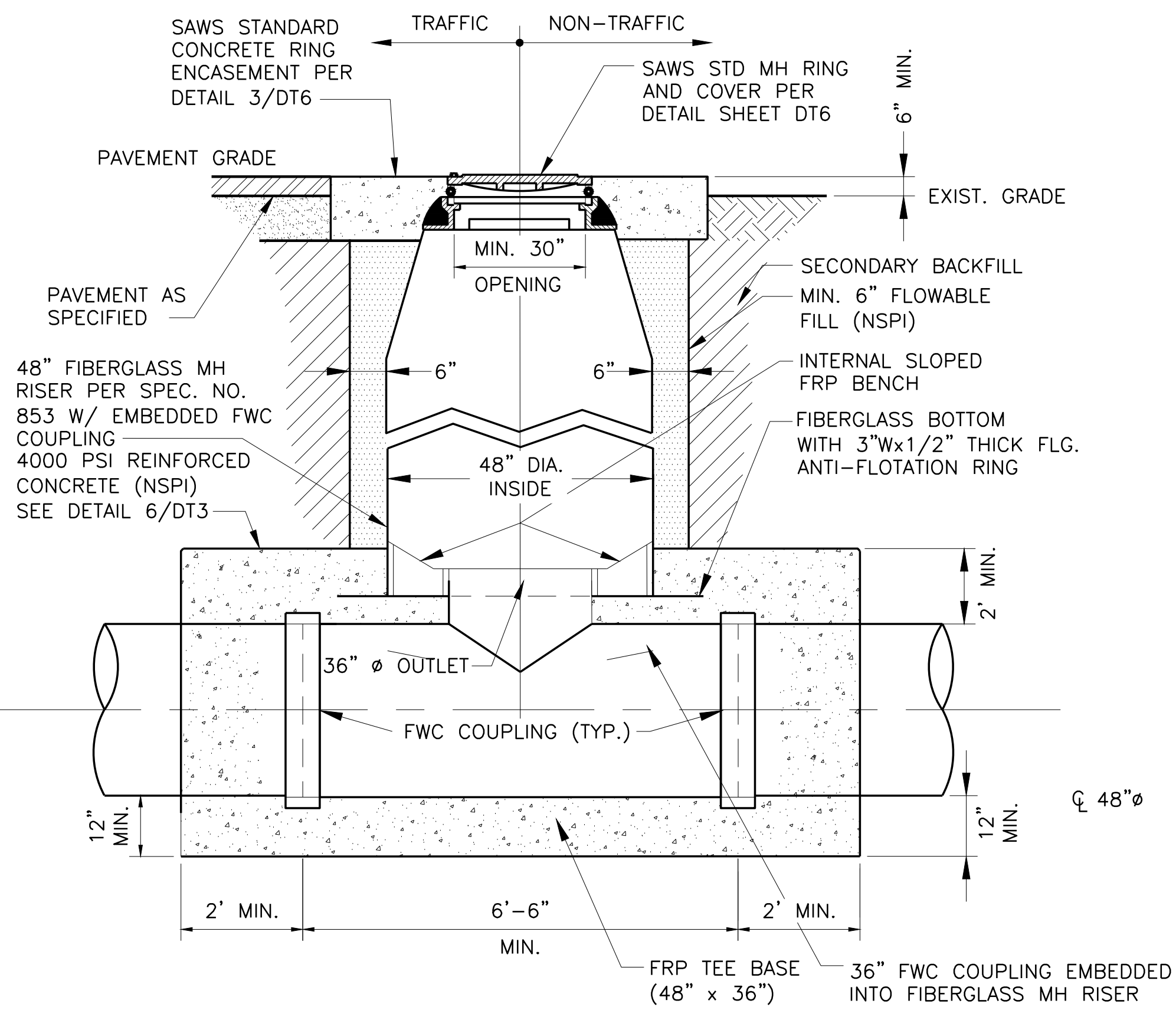
1. BYPASS PUMPING AND TRANSFER OF FLOWS SHALL BE IN ACCORDANCE WITH SECTIONS 864 AND 01030.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES.
3. ANY EXCAVATION MADE 10 FT OR LESS FROM TXDOT PAVEMENT REQUIRES FLOWABLE FILL (NSPI).
4. TUNNEL/BORE PITS ARE SHOWN FOR GENERAL LOCATION ONLY. CONTRACTOR SHALL DETERMINE THE SIZE OF TUNNEL/BORE PIT AS NEEDED.
5. THE EXISTING FIBER OPTIC LINE NEAR STA. 205+34 IS IN CONFLICT WITH THE PROPOSED SAN ANTONIO RIVER OUTFALL PIPELINE. AT THE BEGINNING OF THE PROJECT AND PRIOR TO PERFORMING ANY EXCAVATION AND CONSTRUCTION ACTIVITIES IN THE AREA OF THE FIBER OPTIC LINE, CONTRACTOR MUST COORDINATE WITH AT&T BY CALLING DARREN JONES (AT&T) AT (210) 283-1603 TO CONFIRM THE FIBER OPTIC LINE LOCATION AND METHOD FOR RELOCATION AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS AND TIME ASSOCIATED WITH FIBER OPTIC LINE RELOCATION WHICH MAY INCLUDE DESIGN AND RELOCATION BY AT&T. CONTRACTOR SHALL ACCOUNT FOR COORDINATION AND UTILITY RELOCATION TIME IN THE PROJECT SCHEDULE AND SEQUENCING OF WORK.



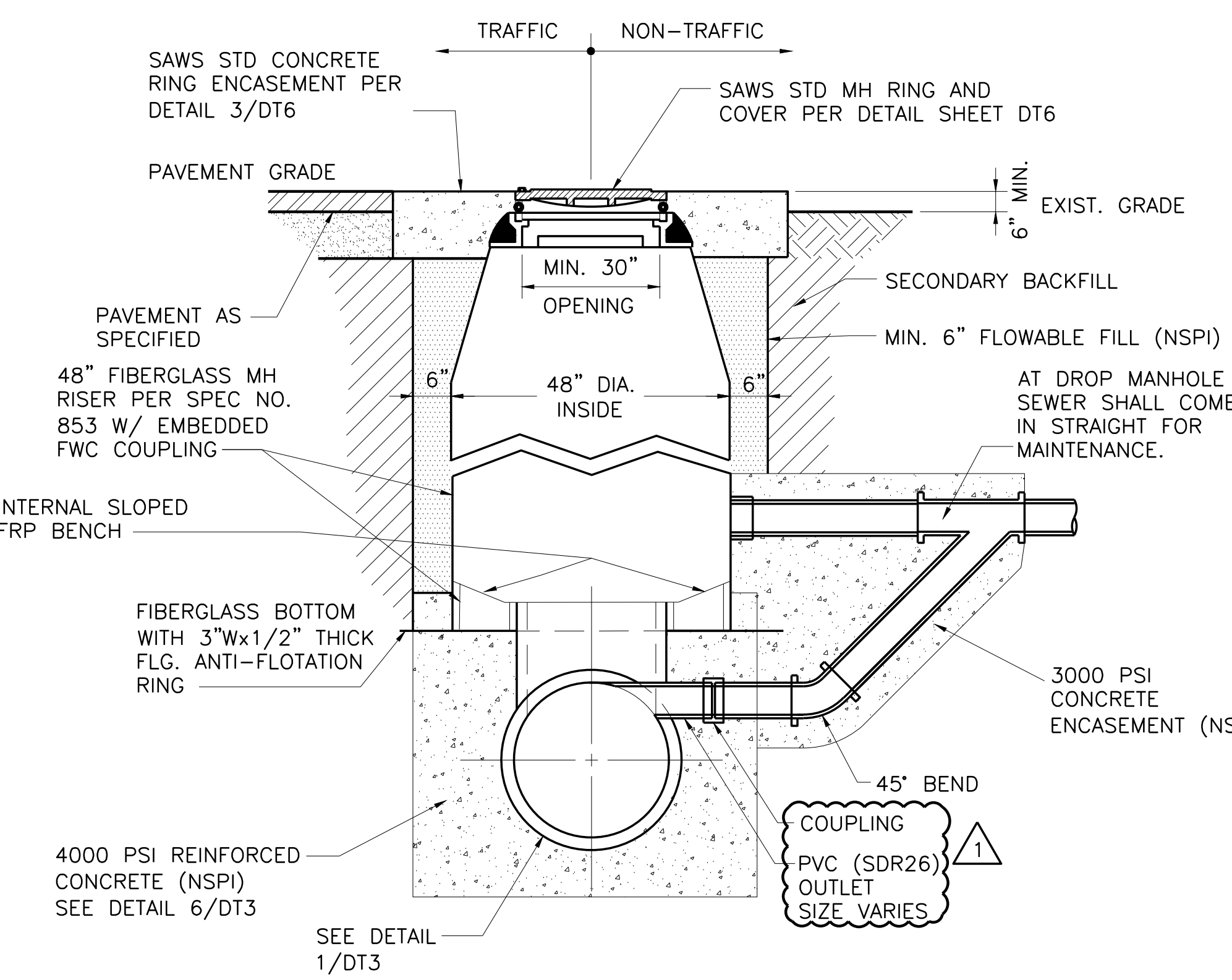
BID QUANTITIES			
ITEM NO	DESCRIPTION	QUANTITY	UNIT
02623-48a	48" FRP GRAVITY SEWER LINE (INSTALL BY OPEN CUT), SN 46 (ALL DEPTHS)	849	LF
848-10	10" PVC GRAVITY SEWER LINE, D3034, SDR-26 (ALL DEPTHS)	15	LF
856-66	66" STEEL CASING (BY BORE/TUNNEL)	151	LF
02623-48d	48" FRP GRAVITY SEWER LINE, SN 46, CARRIER PIPE WITHIN CASING PIPE	151	LF
550	TRENCH EXCAVATION SAFETY PROTECTION	864	LF
SS-853-1	48" FRP TEE BASE MANHOLE	2	EA
862-2	ABANDON EXISTING MANHOLE	3	EA
2218-1	CELLULAR GROUT FILL OF EXISTING 48" SANITARY SEWER LINE	150	LF
508-1	REMOVE AND REPLACE BARBED WIRE FENCE (STEEL OR WOOD POSTS)	100	LF
508-3	INSTALL 16' TYPE 1 OR TYPE 2 GATE	2	EA
845	PIPELINE MARKER	2	EA
520	SEEDING	7600	SY

TEE-BASE MANHOLE NOTES:

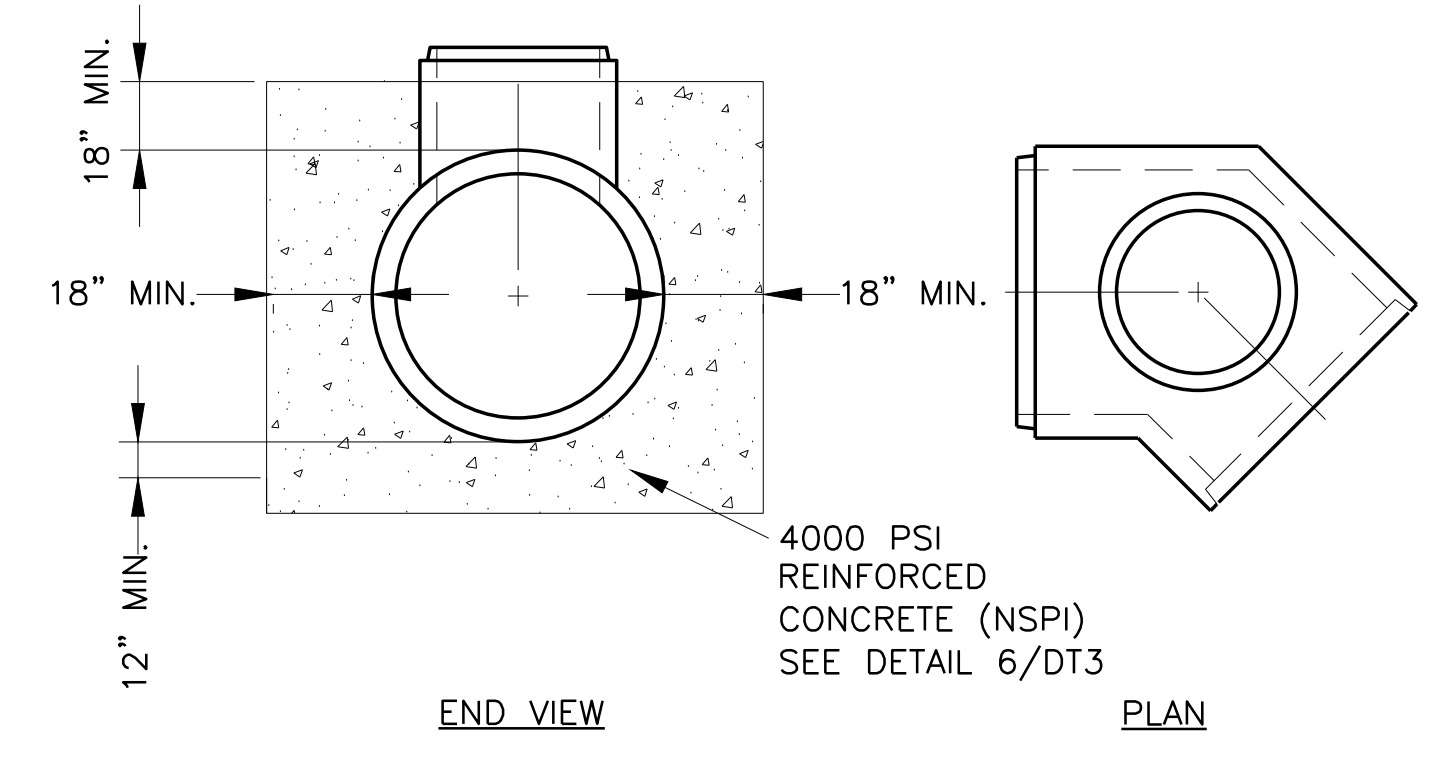
1. ALL TEE-BASE MANHOLES SHALL CONSIST OF FIBERGLASS RISER AND WITH PREFABRICATED FRP TEES.
2. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND MAKE NECESSARY ALLOWANCES FOR RISER LENGTHS, BEARINGS PADS, SPACE FILLERS AND RING & COVER (N.S.P.I.).
4. TEE-BASE MANHOLE SHALL BE CONCRETE ENCASED TO CONFORM H2O LOADING, SEE DETAIL 6 THIS SHEET.
5. REFER TO SANITARY SEWER SPECIFICATIONS FOR ALL STANDARDS GOVERNING T-BASE MANHOLES.
6. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DEFORMATION WHILE POURING ENCASEMENT. FIBERGLASS RISER TO BE SUPPORTED BY CONCRETE ENCASEMENT. FLOTATION TO BE PREVENTED DURING ENCASEMENT CONCRETE POURS.
7. ALL CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4000 PSI.
8. TEE-BASE MH AT RILLING ROAD SITE SHALL BE CONSTRUCTED WITH 78"x48" TEE BASE AND AT 60" FIBERGLASS MH RISER. ALL OTHER MH REQUIREMENTS PER DETAIL 1 THIS SHEET.



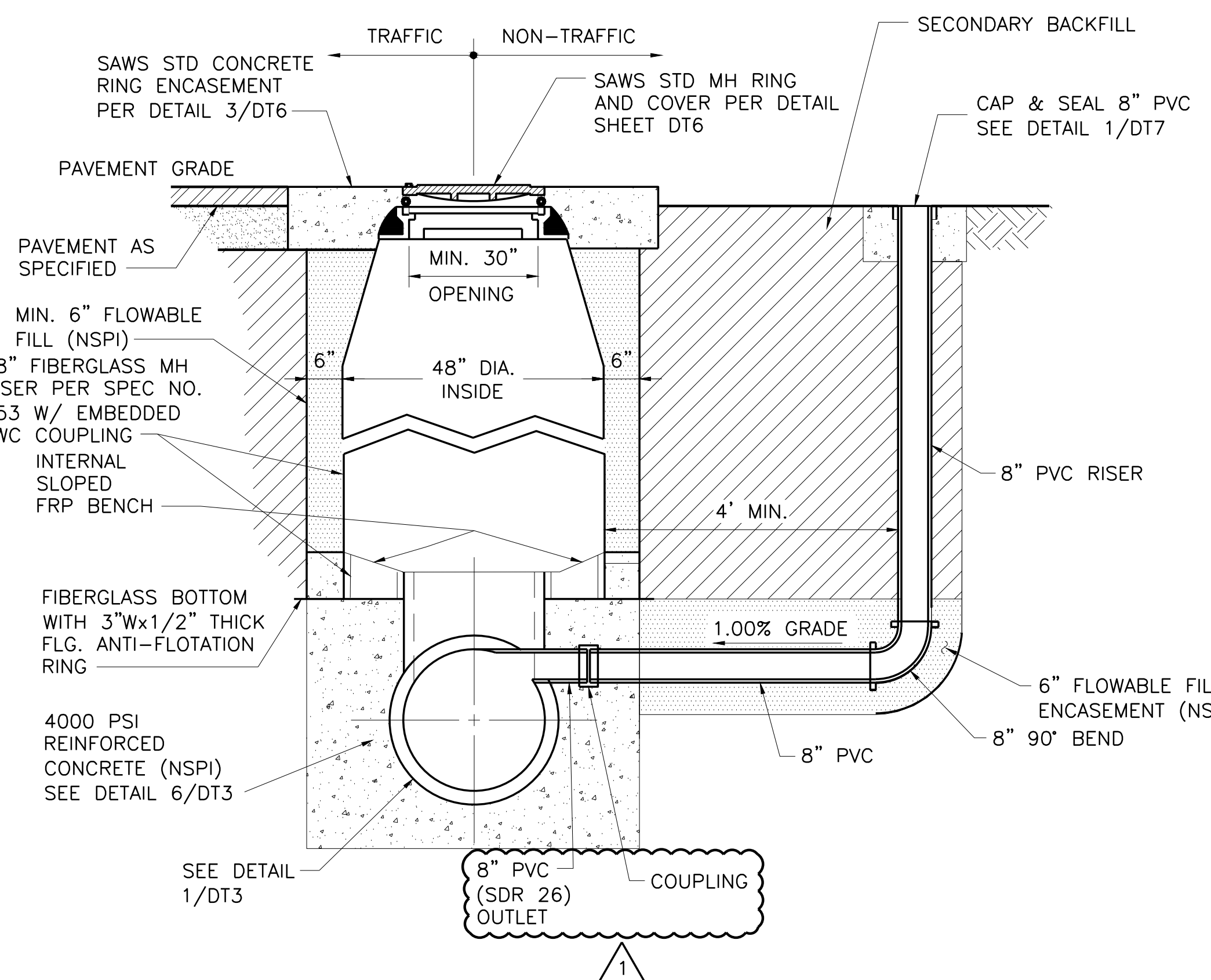
1 - FRP TEE BASE MANHOLE SYSTEM WITH RISER & CONE
NOT TO SCALE



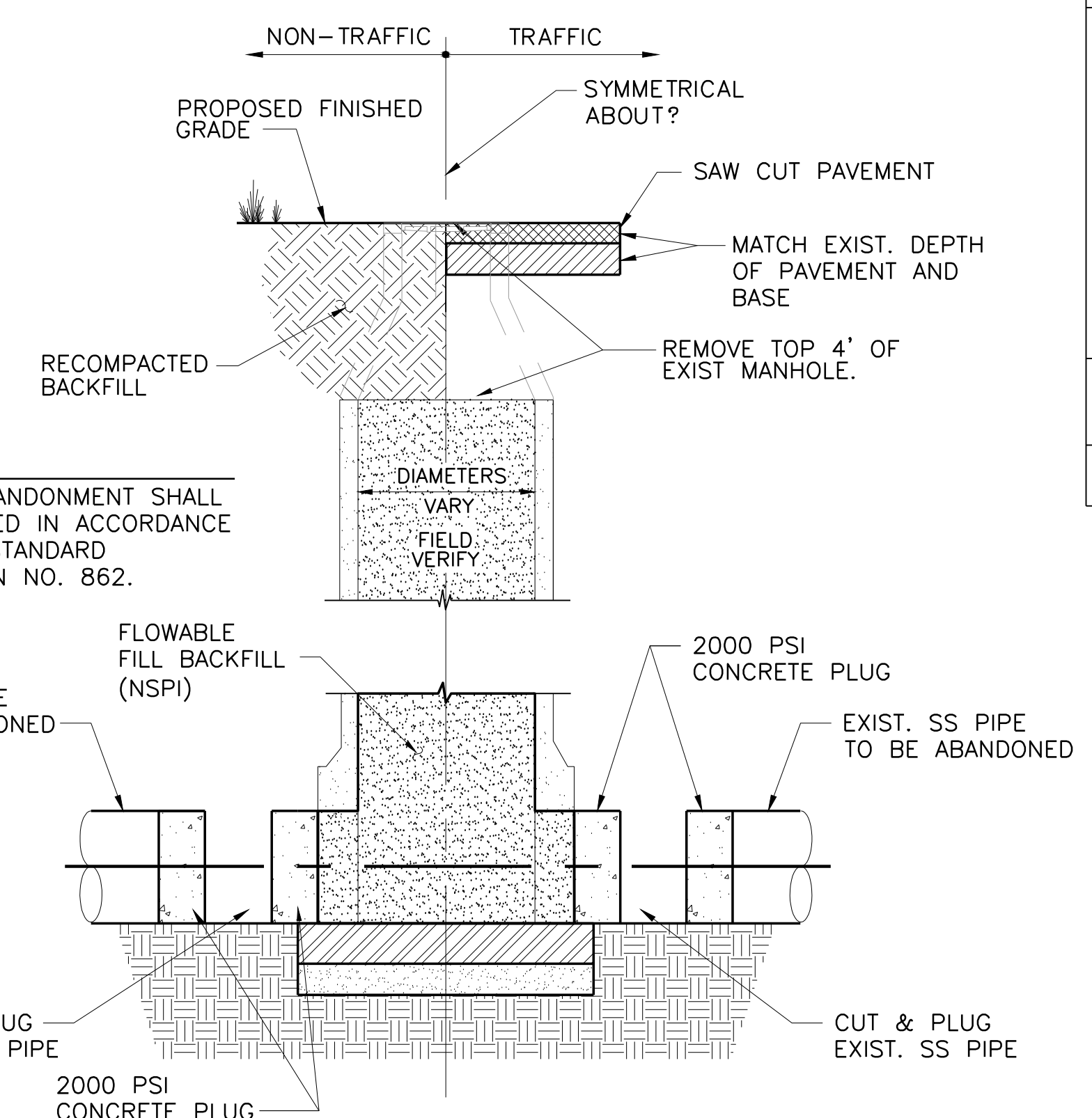
4 - FRP TEE BASE DROP MANHOLE
NOT TO SCALE



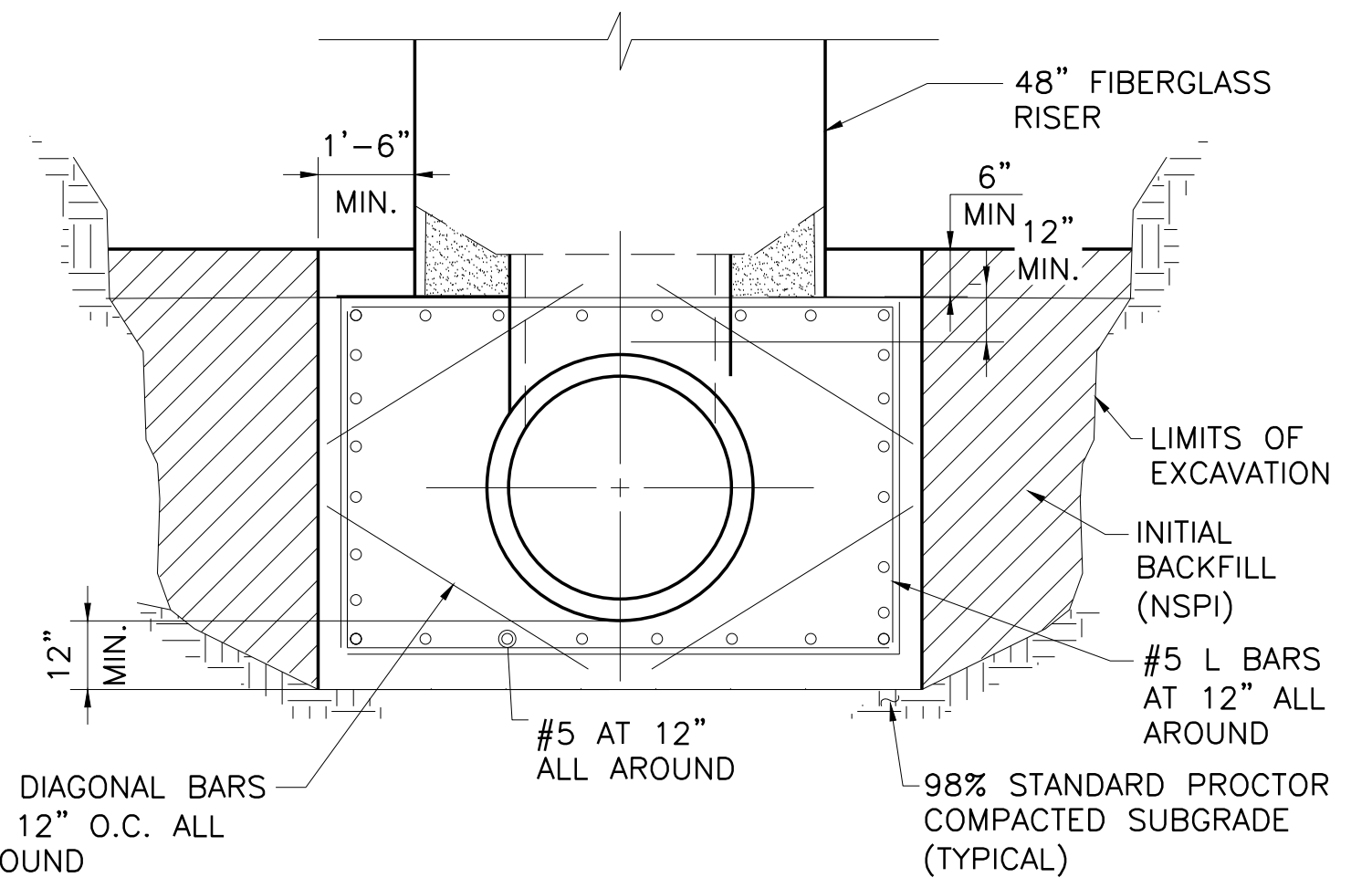
2 - BEND W/48" FRP TEE BASE MANHOLE
NOT TO SCALE



5 - 8" MH CONNECTION FOR FUTURE SERVICE
NOT TO SCALE



3 - TYPICAL ABANDONED MANHOLE
NOT TO SCALE



6 - TEE BASE CONCRETE REINFORCEMENT SECTION THROUGH PIPE
NOT TO SCALE

Freese And Nichols, Inc.
Texas Registered Engineering Firm F-2144

9/9/2015
Designed by: DTB
Drawn by: DDH
Checked by: BCT
Scale: N.T.S.

FREES & NICHOLS
4040 Broadway Street, Suite 600
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SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 13-4510 (SS)
SAN ANTONIO RIVER OUTFALL PIPELINE,
PROJECT NO. 2B
MANHOLE DETAILS - 1

SWB11467 / San Antonio Server / ACAD CIVIL 3D 2014

MANHOLE COVER NOTES:

- VENTED MH RING AND COVER (PER DETAIL 1 - THIS SHEET) INSTALLED AT THE FOLLOWING MH LOCATIONS:
 - STA 92+78.73 (LINE 'A')
 - STA 150+00.74 (LINE 'B')
 - STA 160+73.85 (LINE 'C')
 - STA 172+61.00 (LINE 'C')
 - STA 212+40.42 (LINE 'C')

2. MANHOLE RING & COVER DIMENSION TABLE:

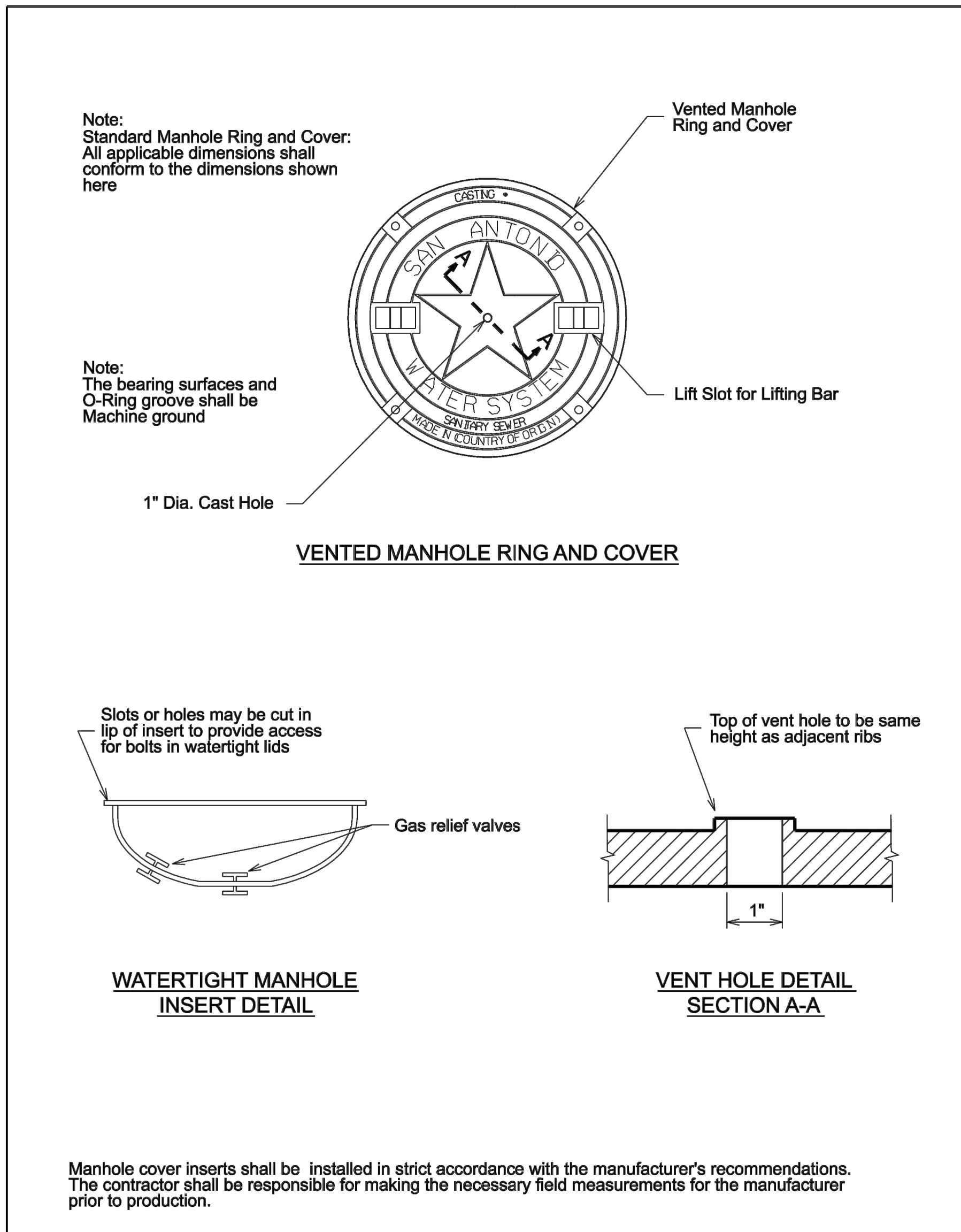
	A	B	C
30" MH	32"-35"	32 1/4" - 35 1/4"	30"
36" MH	38"-41"	38 1/4" - 41 1/4"	36"

App.	DTB
Revisions	9/9/15 ADDENDUM NO. 1
Date	9/9/15
No.	

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

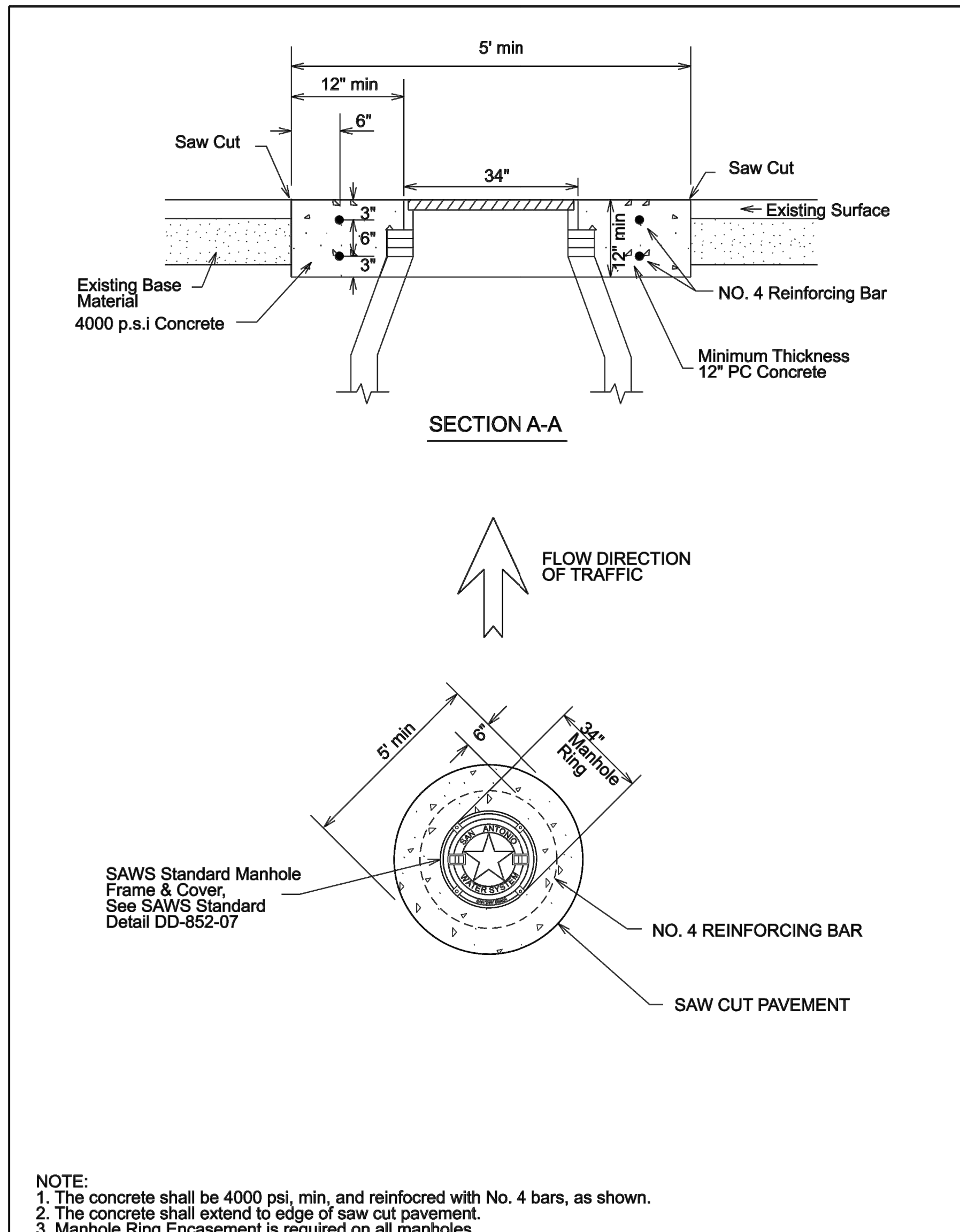
DAVID T. BENNETT
101935
PROFESSIONAL ENGINEER
STATE OF TEXAS
09-09-15

SWB11467



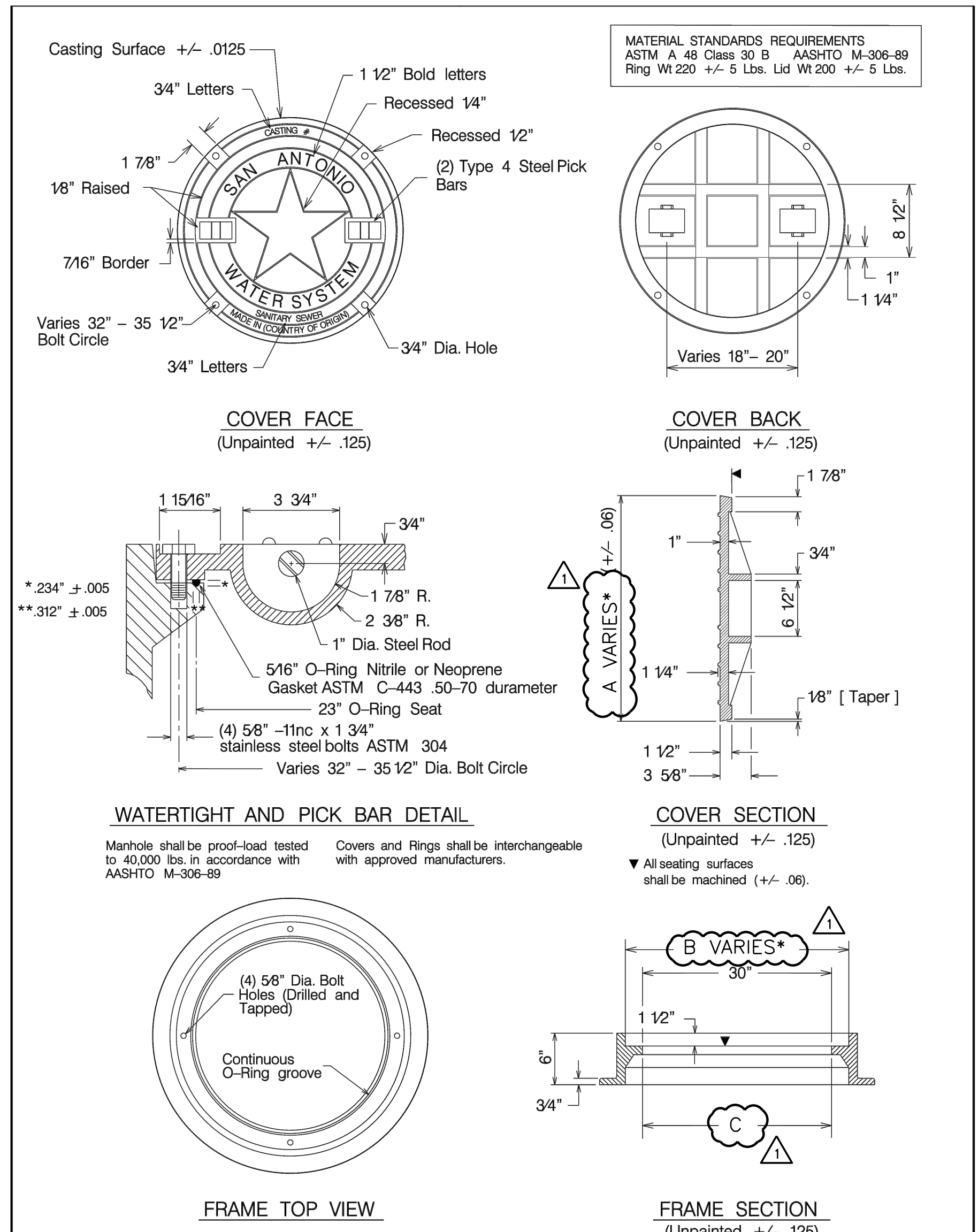
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED)	APPROVED JANUARY 2005	REVISED APRIL 2014
		DD-852-02	
			SHEET 1 OF 1

1 VENTED MANHOLE RING AND COVER DETAIL
NOT TO SCALE



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING ENCASEMENT DETAIL	APPROVED AUGUST 2009	REVISED APRIL 2014
		DD-852-03	
			SHEET 1 OF 2

2 MANHOLE RING ENCASEMENT DETAIL
NOT TO SCALE



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	MODIFIED
		DD-852-07
		SHEET 1 OF 1

3 MANHOLE RING & COVER DETAIL
NOT TO SCALE

Date: 9/9/2015
Designed by: DTB
Drawn by: DDH
Checked by: BCJ
Scale: N.T.S.

FREES & NICHOLS
4040 Broadway Street, Suite 600
San Antonio, Texas 78209-6350
Phone - (210) 298-3800
Fax - (210) 298-3801

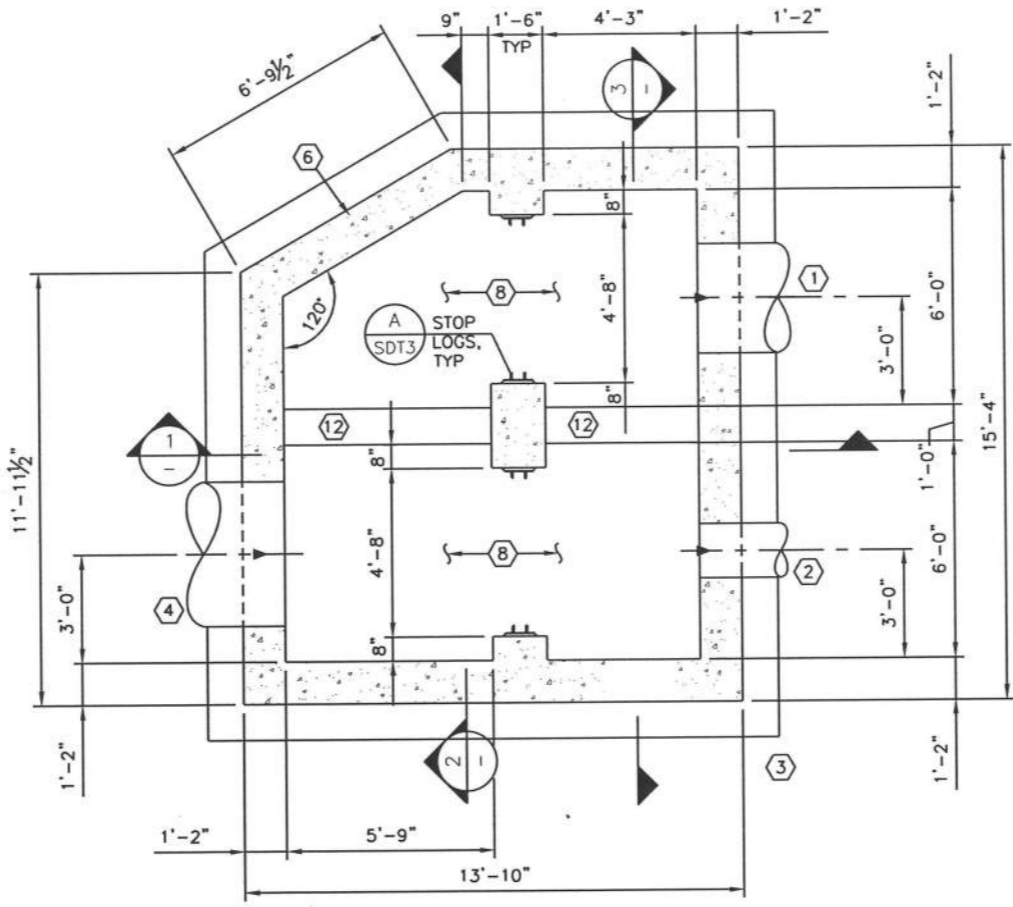
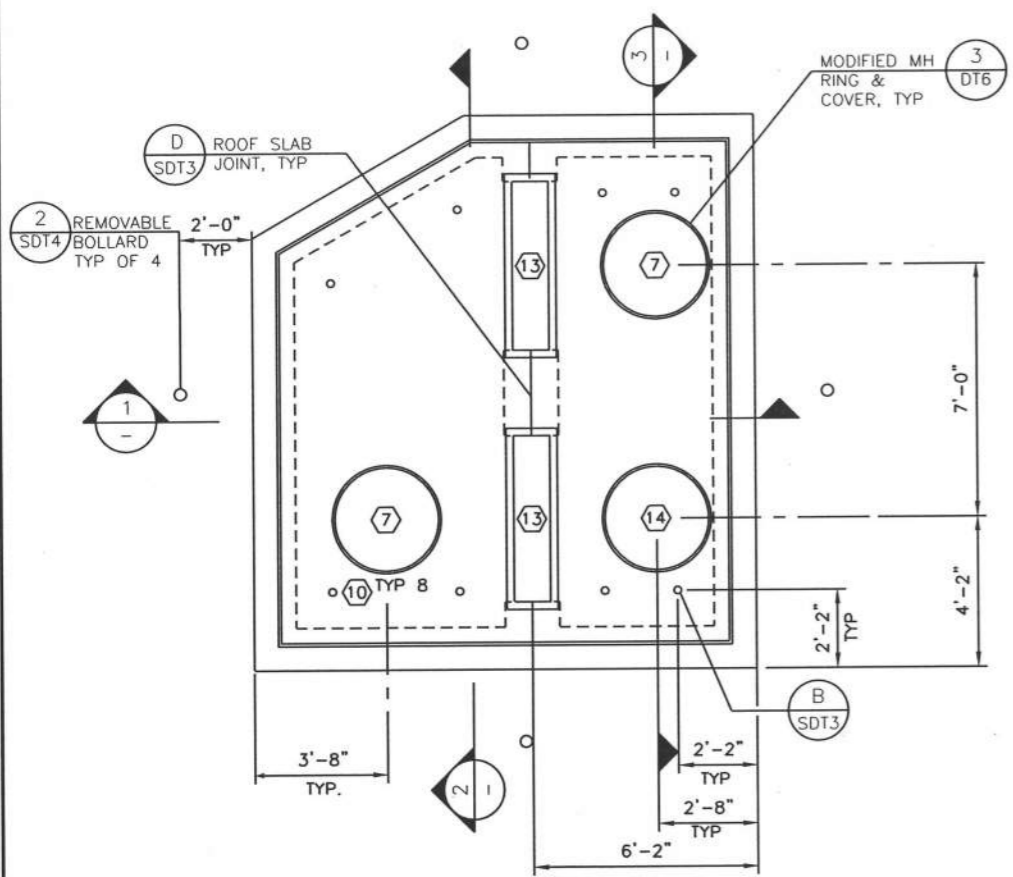
SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 13-4510 (SS)
SAN ANTONIO RIVER OUTFALL PIPELINE,
PROJECT NO. 2B
MANHOLE DETAILS - 5

SWB11467 / San Antonio Server / ACAD CIVIL_3D_2014

COVER PLATES MUST BE REMOVED PRIOR TO LIFTING ROOF SLABS. ROOF SLABS MUST BE LIFTED PIECE BY PIECE.

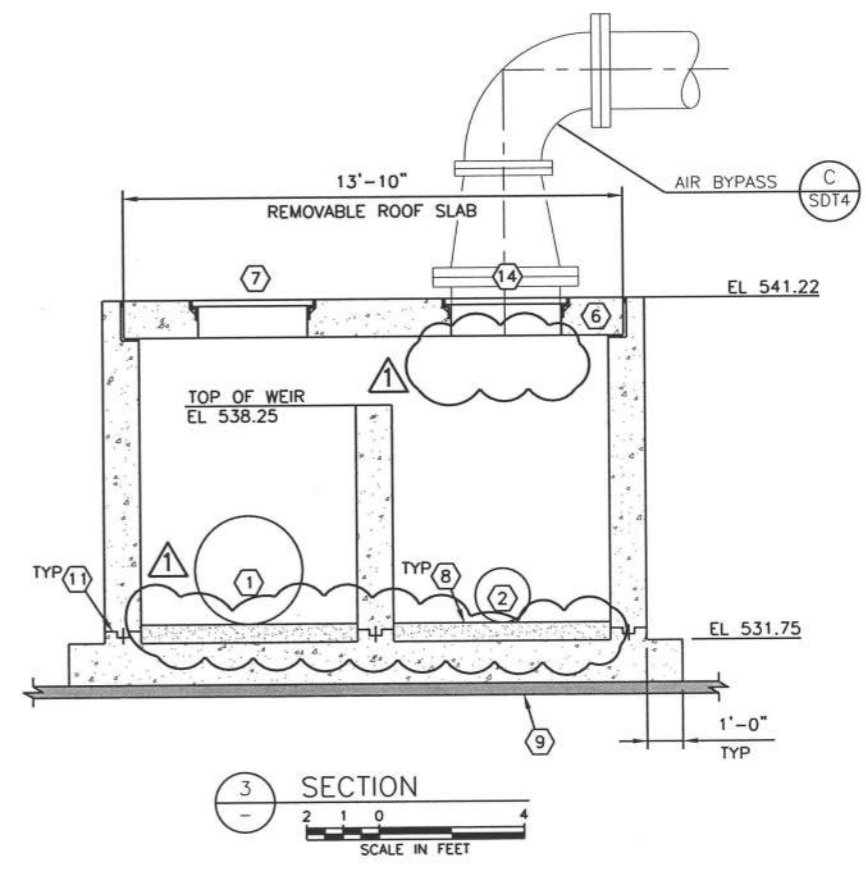
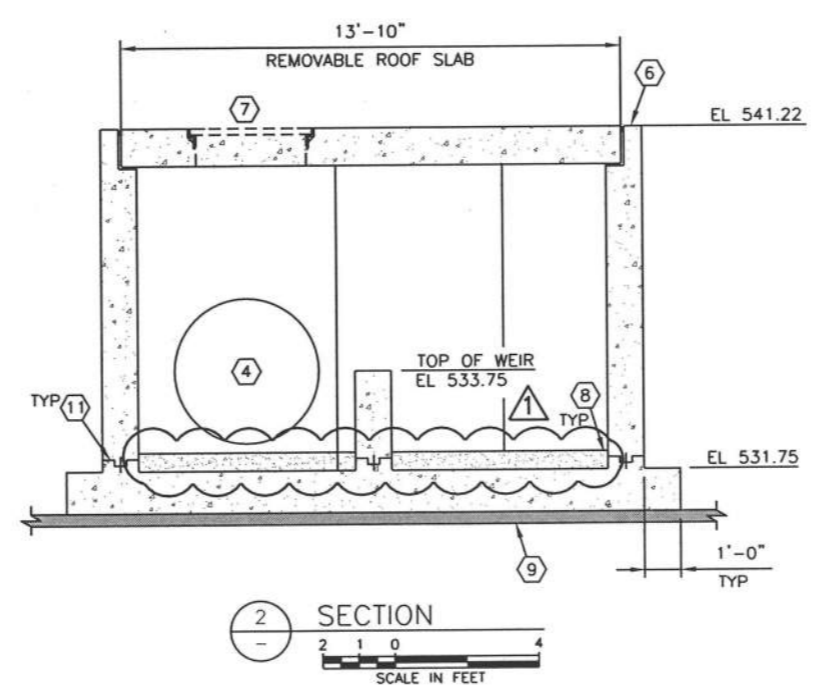
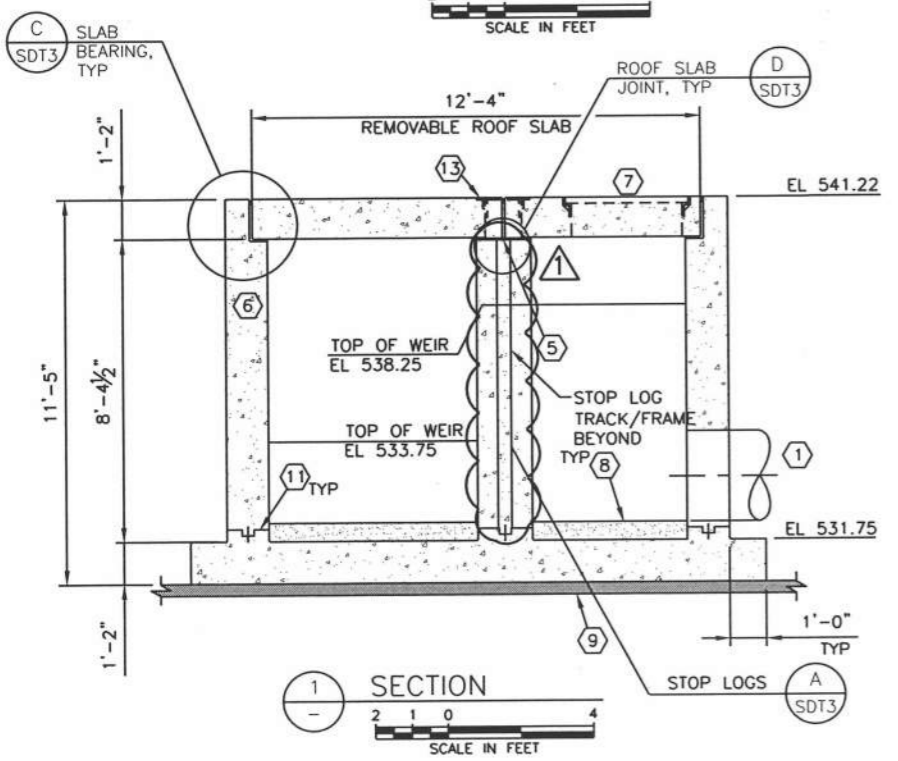
App.	GWM	Freese And Nichols, Inc.
Revisions	ADDENDUM 1	Job No.
No.	Date	09/09/15
CP&Y, Inc.		Texas Registered Engineering Firm F-1741
CP&Y, Inc.		80701
CP&Y, Inc.		PROFESSIONAL SEAL
CP&Y, Inc.		99-015



- NOTES:
- SEE SHEET SG1 AND SG2 FOR STRUCTURAL GENERAL NOTES.
 - SEE SHEET SDT2 FOR ADDITIONAL REINFORCEMENT AT OPENINGS.
 - INTERIOR OF STRUCTURE SHALL BE COATED IN ACCORDANCE WITH SECTION 09981.
 - STOP LOGS ARE TO BE PROVIDED AT NO ADDITIONAL COST TO OWNER. REFER TO SHEET SDT3 AND SECTION 15113.
 - BACKFILL THE EXCAVATION WITH IMPORTED SAND OR GRAVEL IN ACCORDANCE WITH SECTION 02220. BACKFILL UNDER ROADWAYS SHALL BE FLOWABLE FILL IN ACCORDANCE WITH COSA ITEM 413.
 - INSTALL 4" MUD SLAB AS SHOWN BEFORE UNDERLYING MATERIAL IS ALLOWED TO DESICCATE OR SOFTEN.
 - ORIENTATION OF NORTH VARIES PER SITE. REFER TO SITE PLAN FOR DIRECTION OF NORTH AT EACH SIPHON STRUCTURE.
 - ELEVATIONS PRESENTED ON THIS SHEET ARE FOR THE STRUCTURE ONLY, REFER TO PLAN AND PROFILE SHEETS FOR INVERT ELEVATIONS OF LINES ENTERING AND LEAVING THE STRUCTURE.
 - AIR BYPASS & ROPE ACCESS NOT SHOWN FOR CLARITY. REFER TO SHEET SDT4 DETAIL C.

NOTES BY SYMBOL (X)

1.	36" HDPE SIPHON PIPE (DR17)
2.	18" HDPE SIPHON PIPE (DR17)
3.	NOT USED
4.	48" FRP (SN72)
5.	16"x1/2" THK NEOPRENE BEARING PAD
6.	REINF CONC. REFER TO SHT S7 FOR REINF STL
7.	36" ACCESS MANHOLE & COVER
8.	CONC INVERT SHAPING TO DIRECT FLOW TO OUTLET PIPES
9.	4" LEAN CONCRETE MUD SLAB TO COVER BOTTOM OF EXCAVATION
10.	LIFTING HOOK INSERT
11.	CONST JT W/WATERSTOP
12.	CONC WEIR
13.	1'-0" x 4'-8" COVER PLATE
14.	36" FITTING AND FLANGE DUCTILE IRON 90' ABOVE GROUND, REFER TO DETAIL C, SHEET SDT4



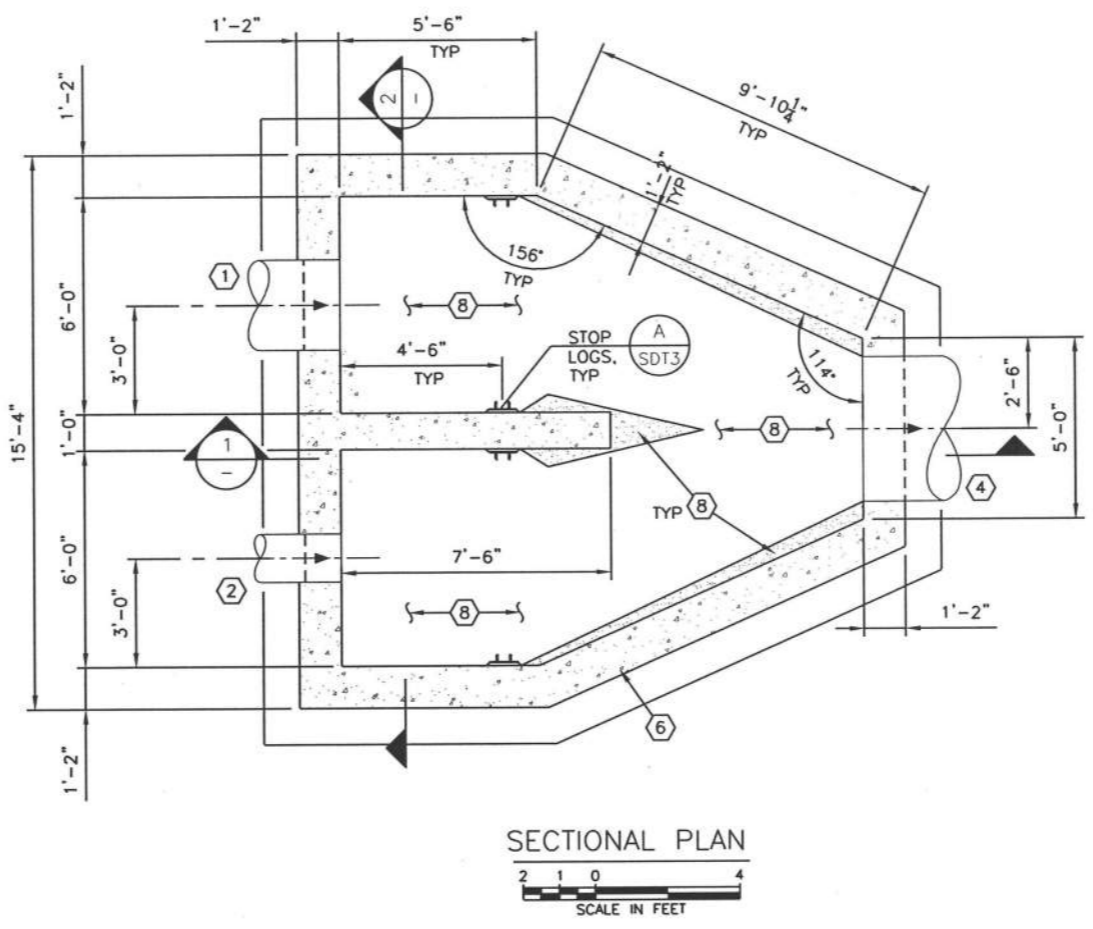
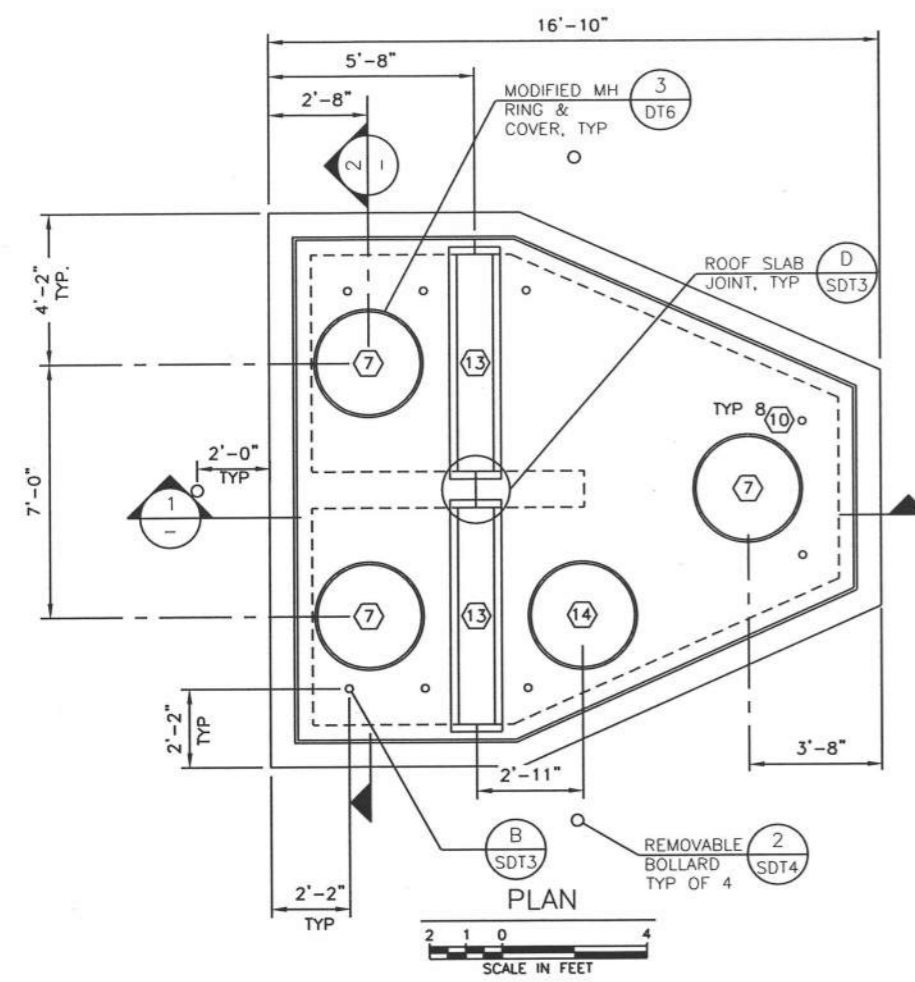
Date: SEPT 2015
 Designed by:
 Drawn by:
 Checked by:
 Scale:

CP&Y, Inc.
 CP&Y, Inc.
 TBPE FIRM No. F-1741

FRESE & NICHOLS
 4000 Broadway Street, Suite 600
 San Antonio, Texas 78209-5330
 Fax - (210) 298-3801

SAN ANTONIO WATER SYSTEM

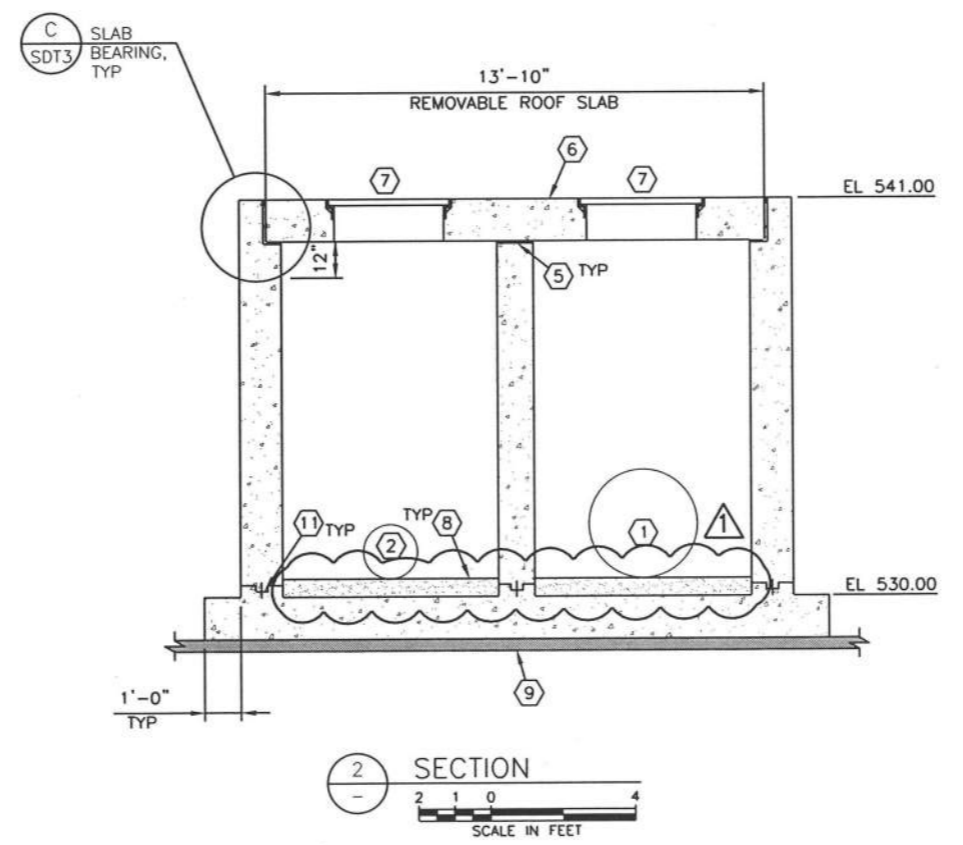
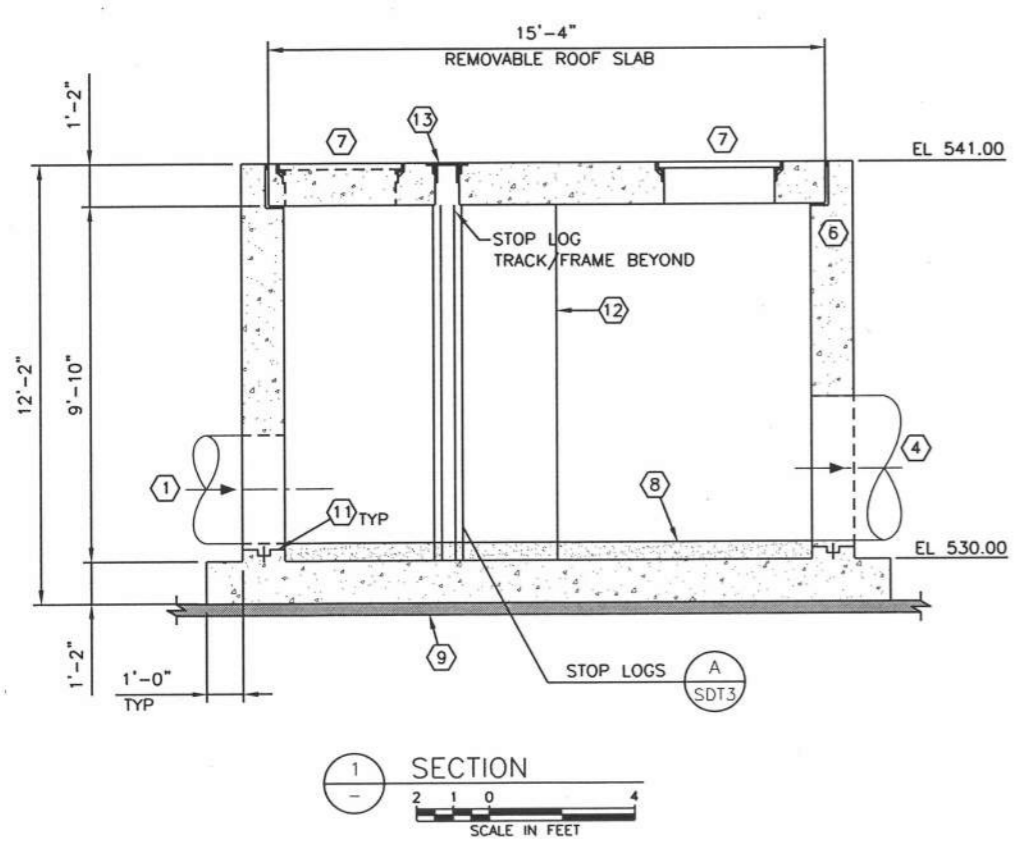
SAWS JOB NO. 13-4510 (SS)
 SAN ANTONIO RIVER OUTFALL PIPELINE,
 PROJECT NO. 2B
 SIPHON NO. 3 INLET STRUCTURE
 PLANS & SECTIONS



COVER PLATES MUST BE REMOVED PRIOR TO LIFTING ROOF SLABS. ROOF SLABS MUST BE LIFTED PIECE BY PIECE.

NOTES:

- SEE SHEET SG1 AND SG2 FOR STRUCTURAL GENERAL NOTES.
- SEE SHEET SDT2 FOR ADDITIONAL REINFORCEMENT AT OPENINGS.
- INTERIOR OF STRUCTURE SHALL BE COATED IN ACCORDANCE WITH SECTION 09981.
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- AIR BYPASS AND PULL ROPE ACCESS NOT SHOWN FOR CLARITY. REFER TO SHEET SDT4 DETAIL C.



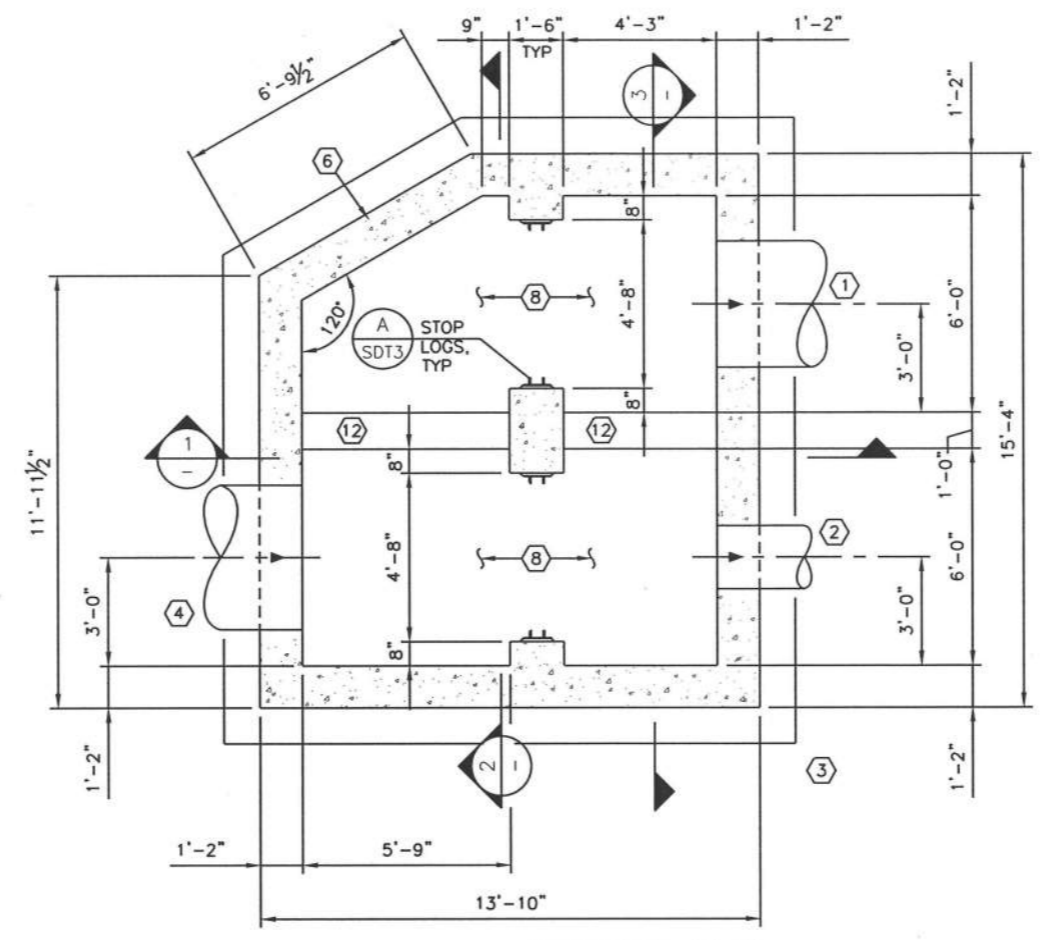
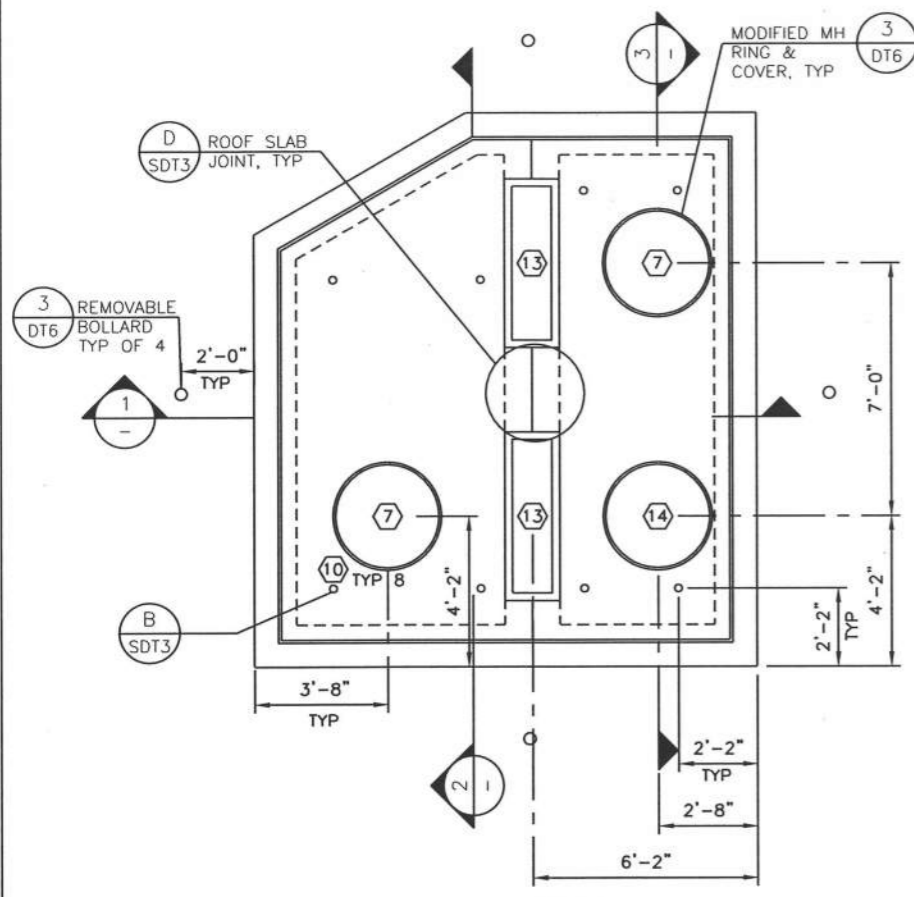
NOTES BY SYMBOL (X)

- 36" HDPE SIPHON PIPE (DR17)
- 18" HDPE SIPHON PIPE (DR17)
- NOT USED
- 48" FRP (SN72)
- 10 1/2" x 3/4" THL NEOPRENE BEARING PAD
- REINF CONC, REFER TO SHT S8 FOR REINF STL
- 36" ACCESS MANHOLE & COVER
- CONC INVERT SHAPING TO DIRECT FLOW TO OUTLET PIPES
- 4" LEAN CONCRETE MUD SLAB TO COVER BOTTOM OF EXCAVATION
- LIFTING HOOK INSERT
- CONST JT W/WATERSTOP
- END OF WALL BEYOND
- 1'-0" x 6'-0" COVER PLATE
- 36" FITTING AND FLANGE DUCTILE IRON 90° ABOVE GROUND, REFER TO DETAIL C ON SEE SHEET SDT4

Date: SEPT 2015
 Designed by: HJC
 Drawn by: GWM
 Checked by: HJC
 Scale: AS SHOWN



SAN ANTONIO WATER SYSTEM
 SAWS JOB NO. 13-4510 (SS)
 SAN ANTONIO RIVER OUTFALL PIPELINE,
 PROJECT NO. 2B
 SIPHON NO. 3 OUTLET STRUCTURE
 PLANS & SECTIONS



COVER PLATES MUST BE REMOVED PRIOR TO LIFTING ROOF SLABS. ROOF SLABS MUST BE LIFTED PIECE BY PIECE.

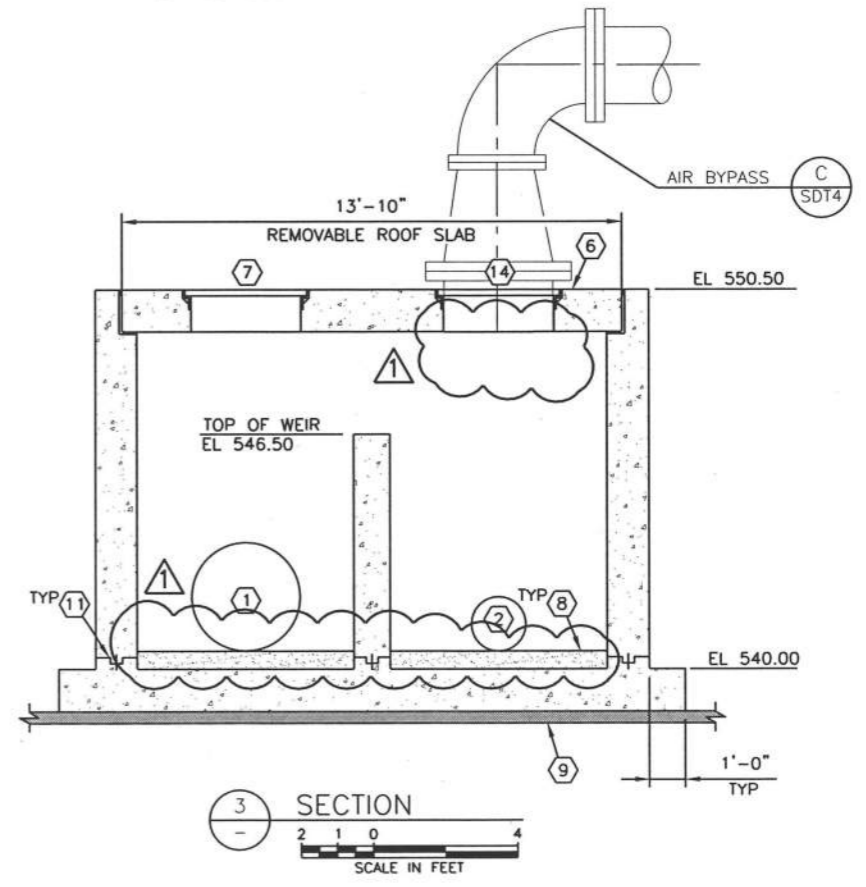
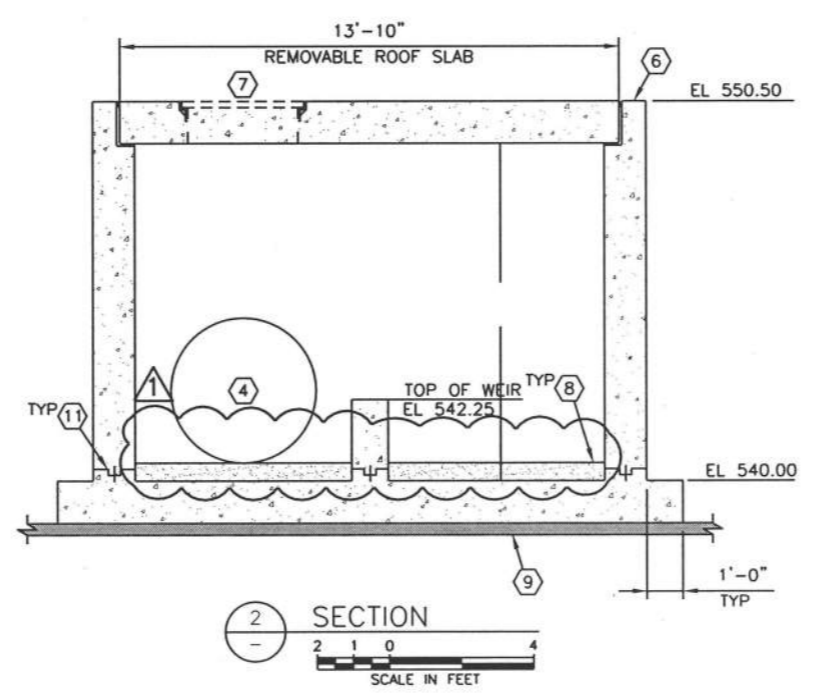
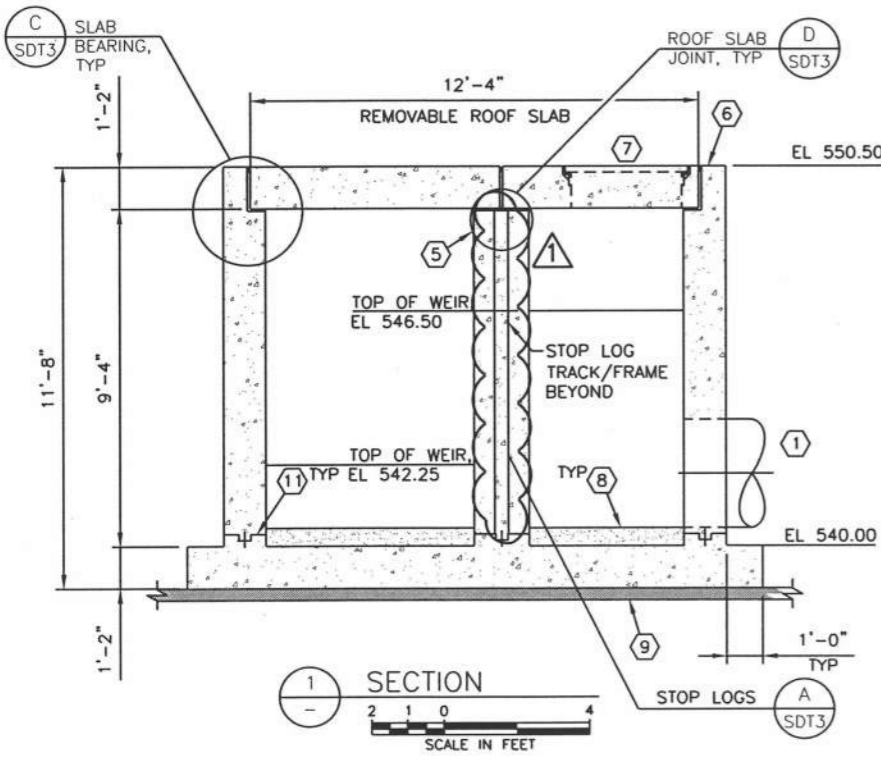
- NOTES:
- SEE SHEET SG1 AND SG2 FOR STRUCTURAL GENERAL NOTES.
 - SEE SHEET SDT2 FOR ADDITIONAL REINFORCEMENT AT OPENINGS.
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- NOTES BY SYMBOL (X)
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 - 18" HDPE SIPHON PIPE (DR17)
 - NOT USED
 - 48" FRP (SN72)
 - 16"x3/4" THK NEOPRENE BEARING PAD
 - REINF CONC, REFER TO SHT S7 FOR REINF STL
 - 36" ACCESS MANHOLE & COVER
 - CONC INVERT SHAPING TO DIRECT FLOW TO OUTLET PIPES
 - 4" LEAN CONCRETE MUD SLAB TO COVER BOTTOM OF EXCAVATION, REF NOTE 6
 - LIFTING HOOK INSERT
 - CONST JT W/WATERSTOP
 - CONC WEIR
 - 1'-0" x 4'-8" COVER PLATE
 - 36" FITTING & FLANGE DUCTILE IRON 90° ABOVE GROUND, REFER TO DETAIL C ON SHEET SDT4

Date: SEPT 2015
Designed by: HJC
Drawn by: GWM
Checked by: HJC
Scale: AS SHOWN

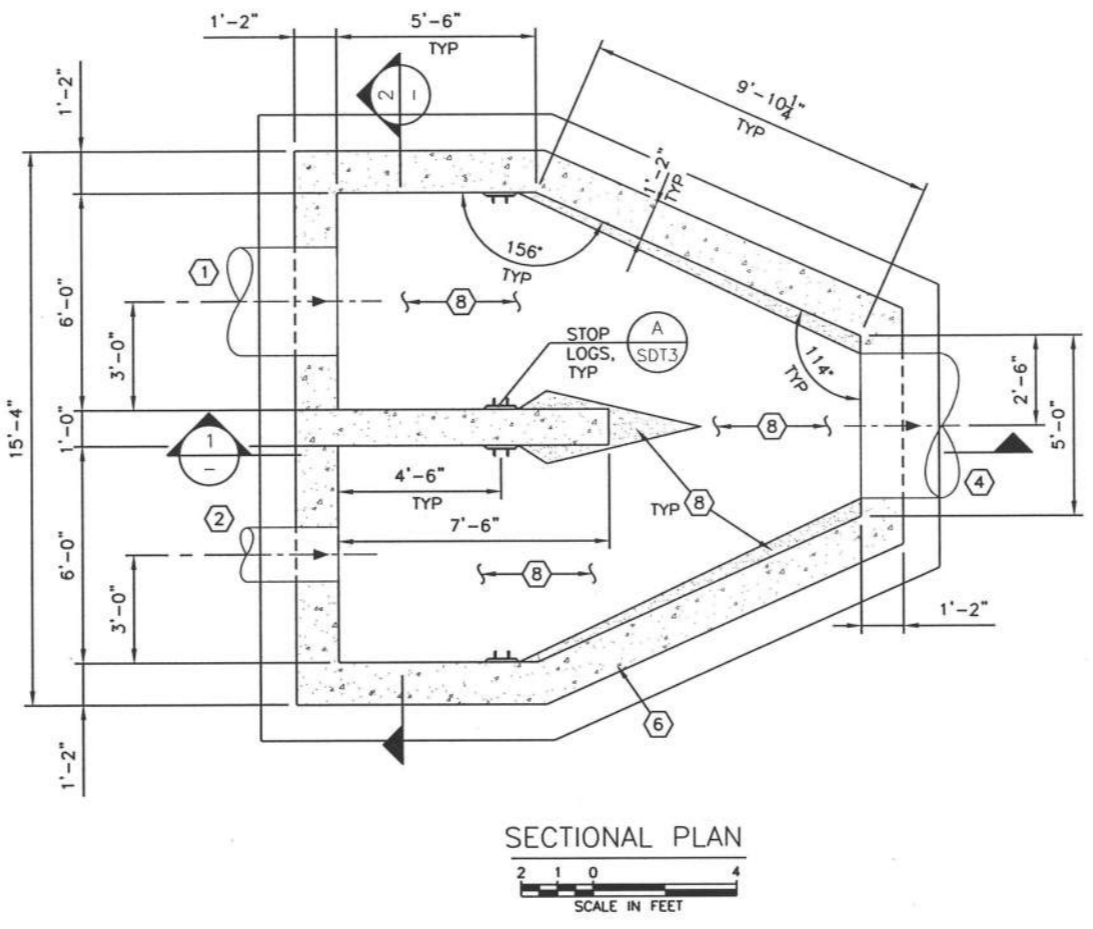
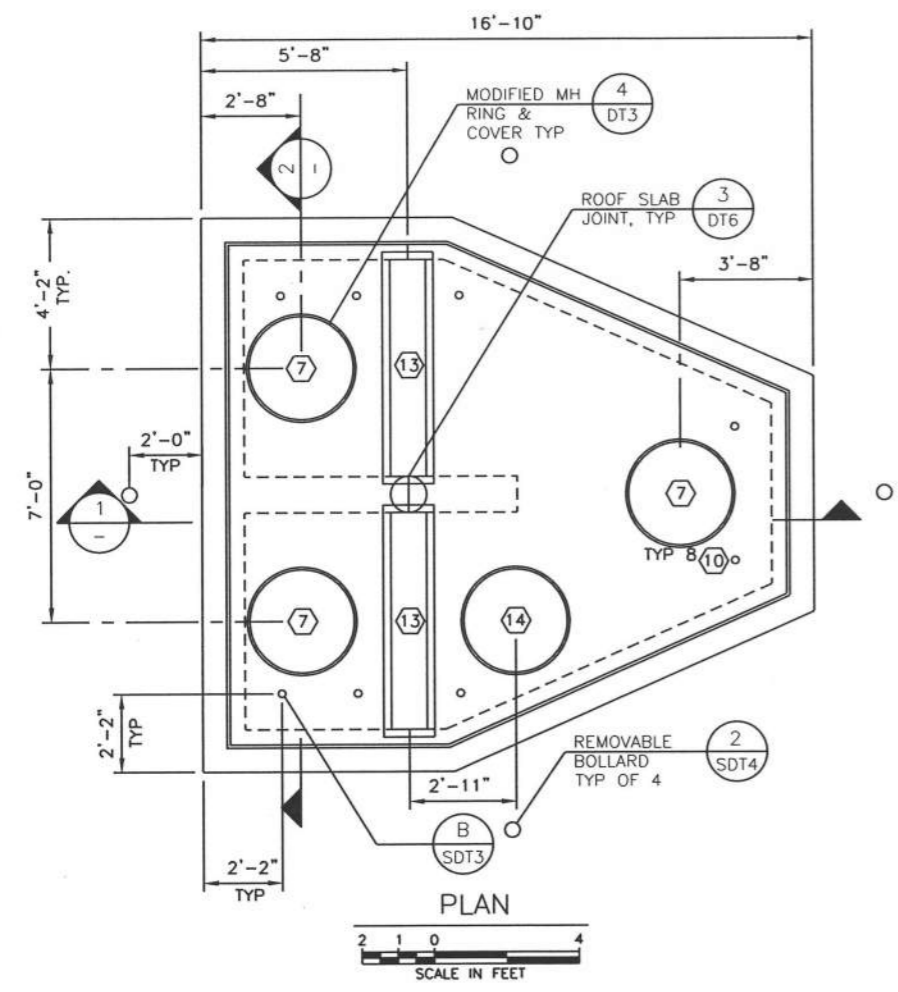
CP&Y, Inc.
CP&Y, Inc.
TBPE FIRM No. F-1741

4240 Broadway Street, Suite 600
San Antonio, Texas 78209-6550
Tel - (210) 294-3800
Fax - (210) 294-3801



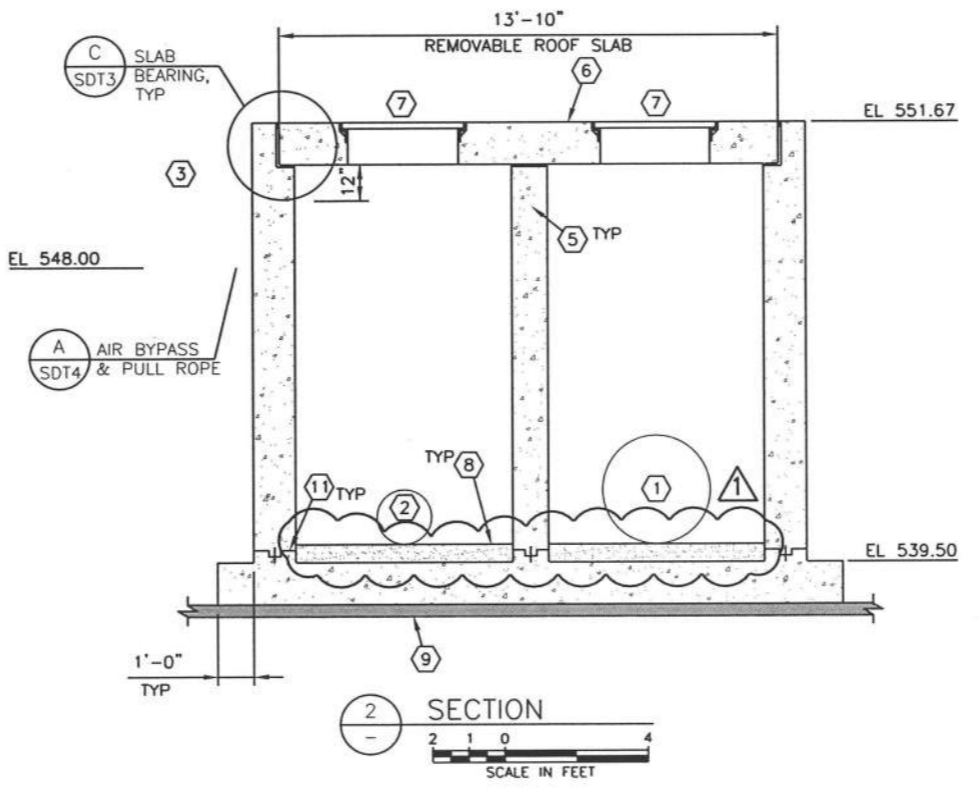
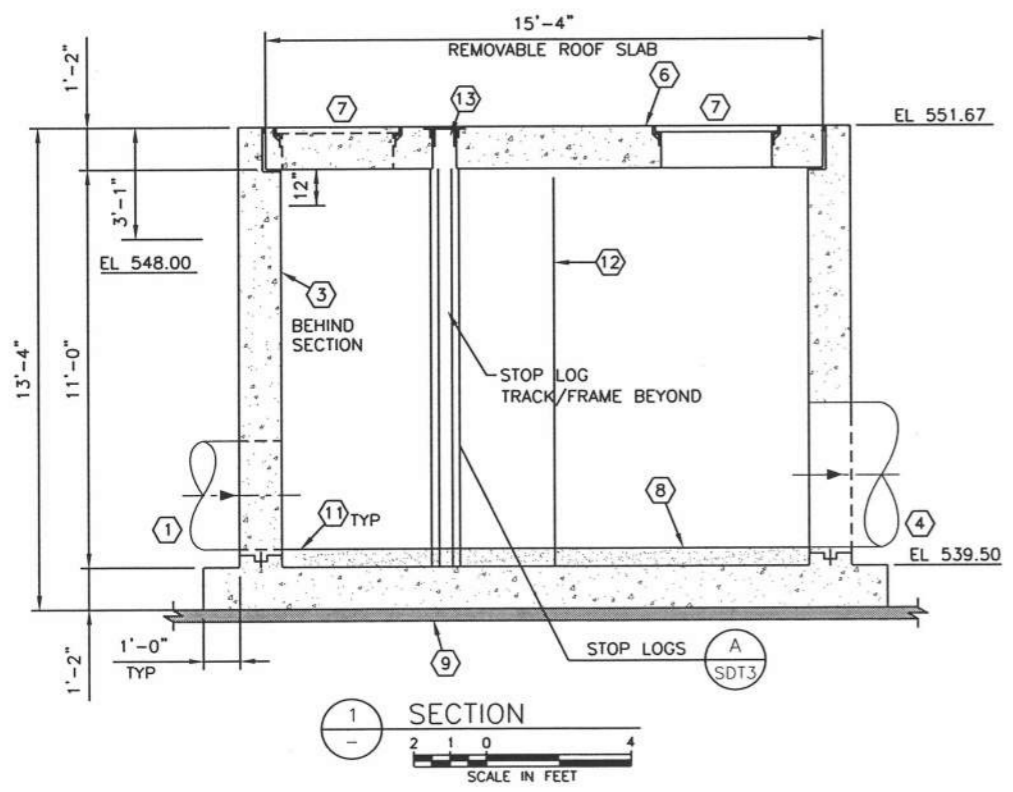
SAN ANTONIO WATER SYSTEM

SAN ANTONIO RIVER OUTFALL PIPELINE,
PROJECT NO. 2B
SIPHON NO. 4 INLET STRUCTURE
PLANS & SECTIONS



COVER PLATES MUST BE REMOVED PRIOR TO LIFTING ROOF SLABS. ROOF SLABS MUST BE LIFTED PIECE BY PIECE.

- NOTES:
- SEE SHEET SG1 AND SG2 FOR STRUCTURAL GENERAL NOTES.
 - SEE SHEET SDT2 FOR ADDITIONAL REINFORCEMENT AT OPENINGS.
 - INTERIOR OF STRUCTURE SHALL BE COATED IN ACCORDANCE WITH SECTION 09981.
 - STOP LOGS & BOLLARDS ARE TO BE PROVIDED AT NO ADDITIONAL COST TO OWNER. REFER TO SHEETS SDT3, SDT4 AND SECTION 15113.
 - BACKFILL THE EXCAVATION WITH IMPORTED SAND OR GRAVEL IN ACCORDANCE WITH SECTION 02220. BACKFILL UNDER ROADWAYS SHALL BE FLOWABLE FILL IN ACCORDANCE WITH COSA ITEM 413.
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 - AIR BYPASS & PULL ROPE ACCESS NOT SHOWN FOR CLARITY. REFER TO SHEET SDT4 DETAIL C.



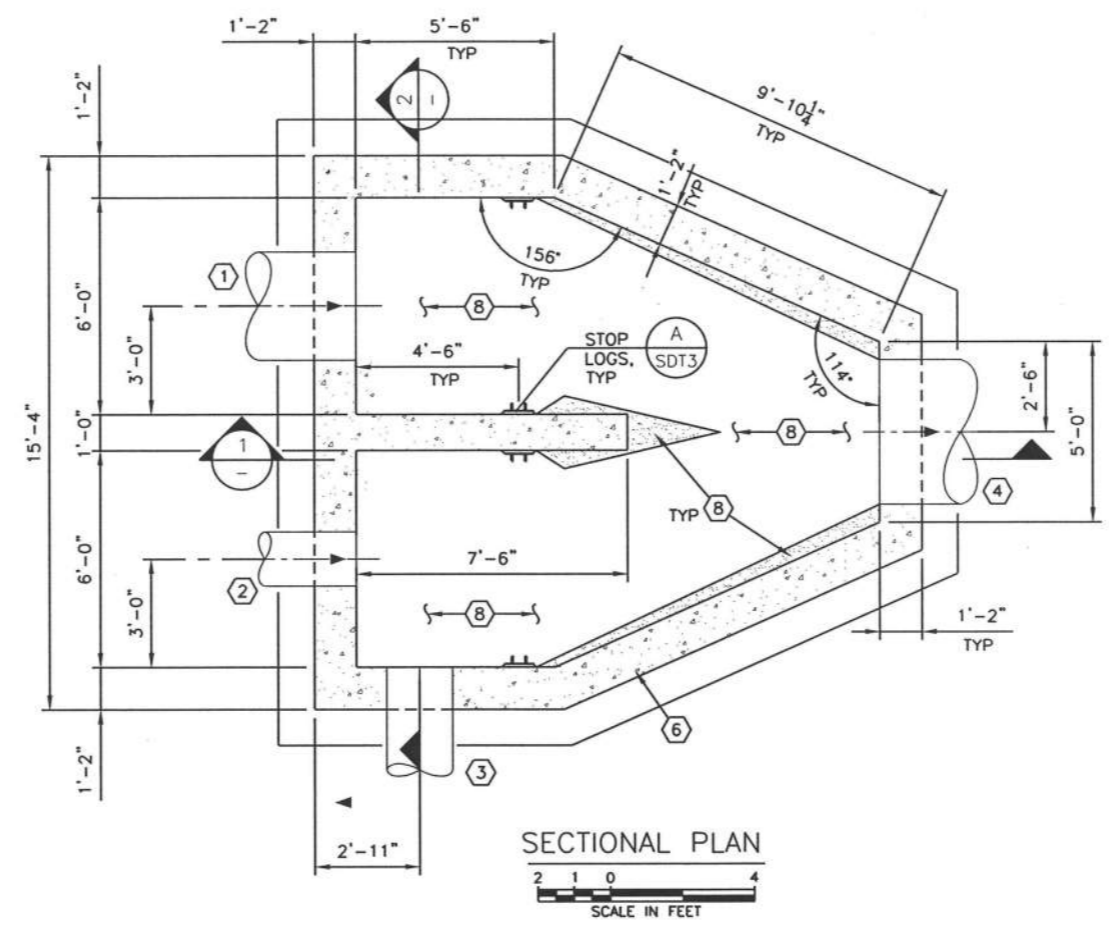
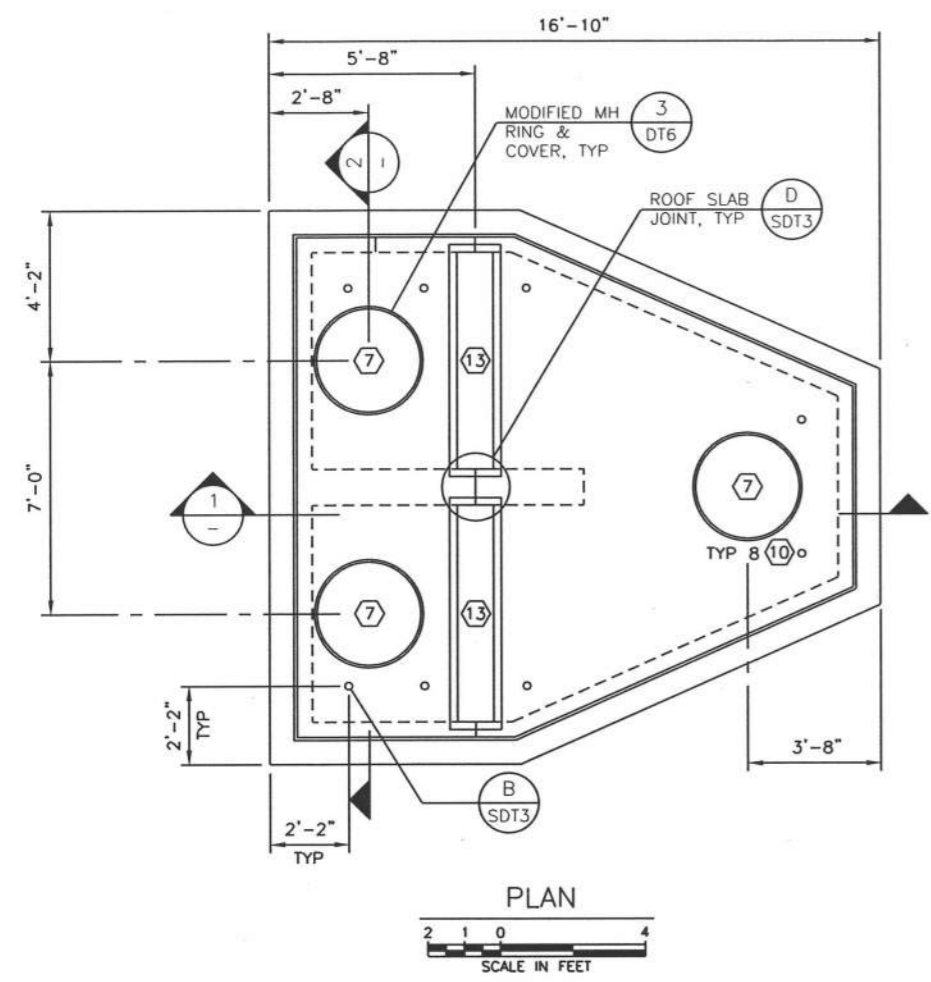
- NOTES BY SYMBOL (X)
- 36" HDPE SIPHON PIPE (DR17)
 - 18" HDPE SIPHON PIPE (DR17)
 - 22" HDPE AIR JUMPER (DR17)
 - 48" FRP (SN72)
 - 10 1/2" x 3/4" THL NEOPRENE BEARING PAD
 - REINF CONC. REFER TO SHT S8 FOR REINF STL
 - 36" ACCESS MANHOLE & COVER
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 - CONST JT W/WATERSTOP
 - END OF WALL BEYOND
 - 1'-0" x 6'-0" COVER PLATE
 - 36" FITTING AND FLANGE DUCTILE IRON 90° ABOVE GROUND. REFER TO DETAIL C ON SHEET SDT4

CP&Y, Inc.
 CP&Y, Inc.
 TBPE FIRM No. F-1741

4040 Broadway Street, Suite 600
 San Antonio, TX 78202-5000
 Tel - (210) 298-3000
 Fax - (210) 298-3801

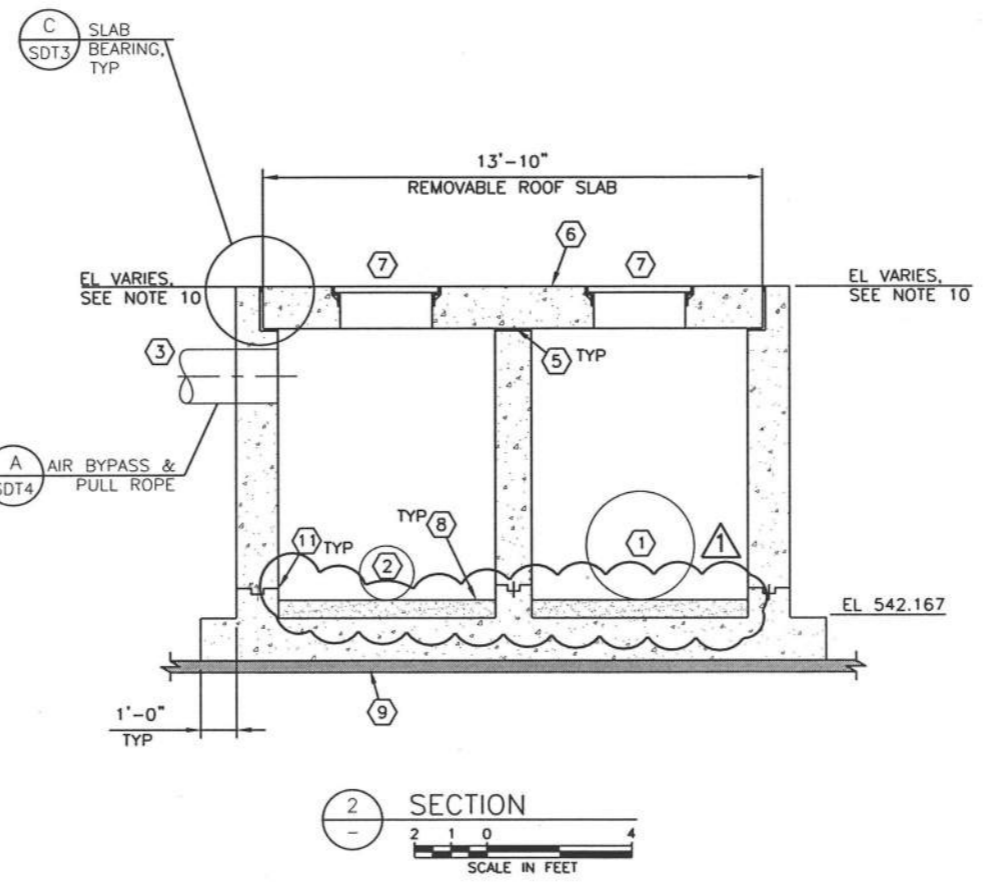
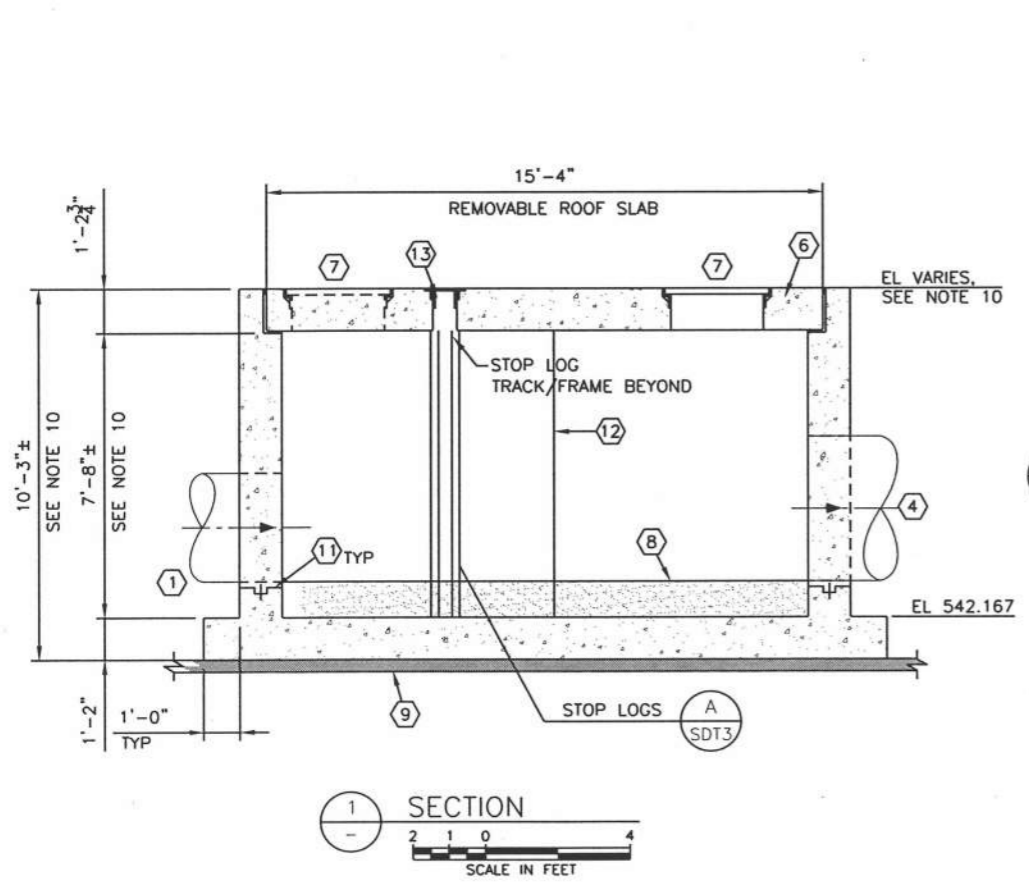
SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 13-4510 (SS)
 SAN ANTONIO RIVER OUTFALL PIPELINE,
 PROJECT NO. 2B
 SIPHON NO. 4 OUTLET STRUCTURE
 PLANS & SECTIONS



COVER PLATES MUST BE REMOVED PRIOR TO LIFTING ROOF SLABS. ROOF SLABS MUST BE LIFTED PIECE BY PIECE.

- NOTES:
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 - ELEVATIONS PRESENTED ON THIS SHEET ARE FOR THE STRUCTURE ONLY, REFER TO PLAN AND PROFILE SHEETS FOR INVERT ELEVATIONS OF LINES ENTERING AND LEAVING THE STRUCTURE.
 - AIR BYPASS AND ROPE ACCESS NOT SHOWN FOR CLARITY. REFER TO SHEET SDT4 DETAIL A.
 - ELEVATION VARIES ACROSS TOP OF SLAB IN ROADWAY. CONTRACTOR SHALL MATCH PROPOSED GRADE AND SLOPE, REFER TO THE PLAN AND PROFILE SHEETS.



- NOTES BY SYMBOL (X)
- 36" HDPE SIPHON PIPE (DR17)
 - 18" HDPE SIPHON PIPE (DR17)
 - 22" HDPE AIR JUMPER (DR17)
 - 48" FRP (SN72)
 - 10 1/2" x 1/4" THL NEOPRENE BEARING PAD
 - REINF CONC. REFER TO SHT S8 FOR REINF STL
 - 36" ACCESS MANHOLE & COVER
 - CONC INVERT SHAPING TO DIRECT FLOW TO OUTLET PIPES
 - 4" LEAN CONCRETE MUD SLAB TO COVER BOTTOM OF EXCAVATION
 - LIFTING HOOK INSERT
 - CONST JT W/WATERSTOP
 - END OF WALL BEYOND
 - 1'-0" x 6'-0" COVER PLATE

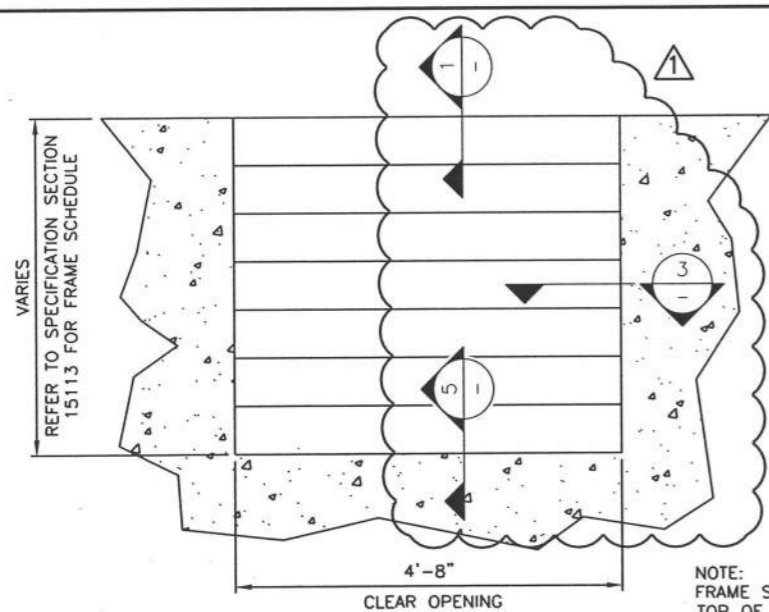
Date: SEPT 2015
 Designed by: HJC
 Drawn by: GWM
 Checked by: HJC
 Scale: AS SHOWN

CP&Y, Inc.
 CP&Y, Inc.
 TBPE FIRM No. F-1741

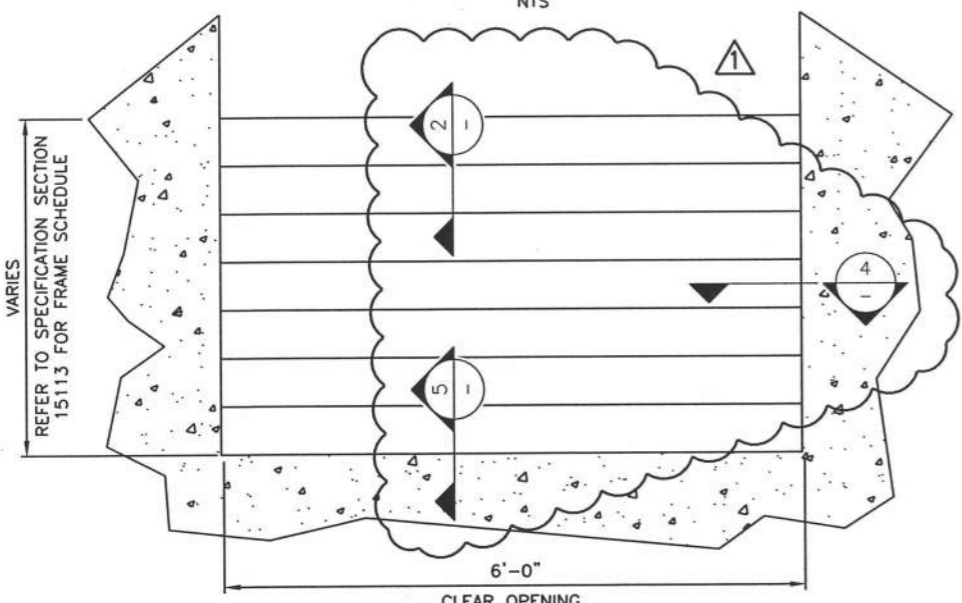
FREES & NICHOLS
 6040 Broadway Street, Suite 800
 San Antonio, Texas 78208-6550
 Fax: (210) 248-3801

SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 13-4510 (SS)
 SAN ANTONIO RIVER OUTFALL PIPELINE,
 PROJECT NO. 2B
 SIPHON NO. 5 OUTLET STRUCTURE
 PLANS & SECTIONS



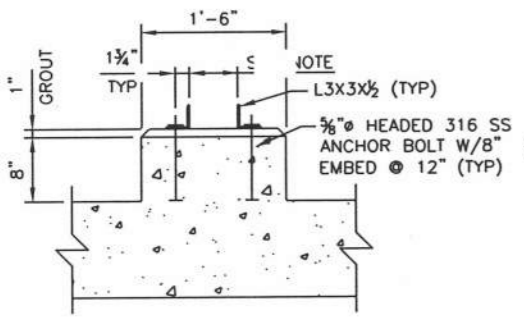
INLET STRUCTURE
NTS



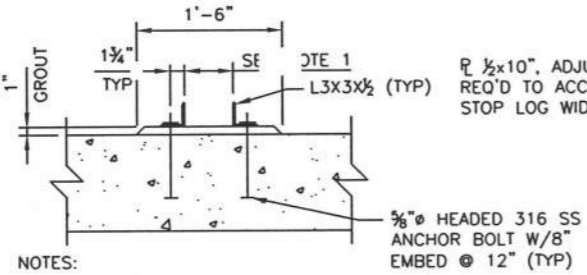
OUTLET STRUCTURE
NTS

NOTE: FRAME SHALL EXTEND TO TOP OF STRUCTURE

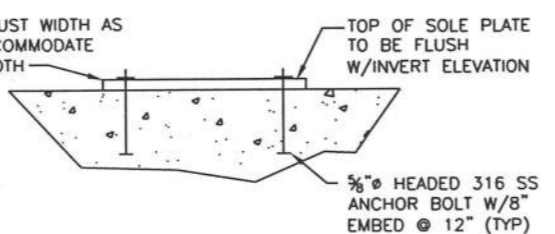
NOTE: FRAME SHALL EXTEND TO TOP OF STRUCTURE



3 SECTION
NTS



4 SECTION
NTS



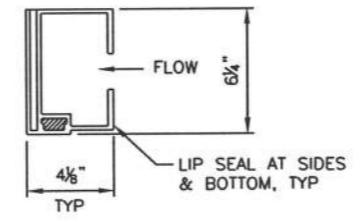
5 SECTION
NTS

- NOTES:
1. SPACING PER MANUFACTURER, 6" MAX.
 2. STAGGER ANCHOR BOLTS ON OPPOSITE SIDES OF THE CENTER WALL.

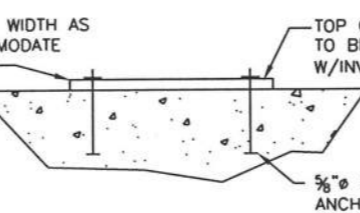
NOTE: STAINLESS STEEL STOP LOG DETAILS ARE ILLUSTRATIVE ONLY. STOP LOG DETAILS SHALL BE DETERMINED FROM APPROVED MANUFACTURER'S INFORMATION.

A STOP LOG DETAILS
NTS

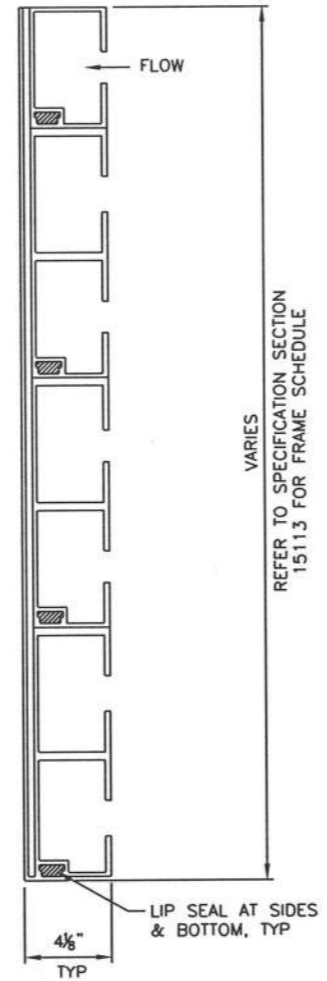
1 42" HIGH SECTION
NTS



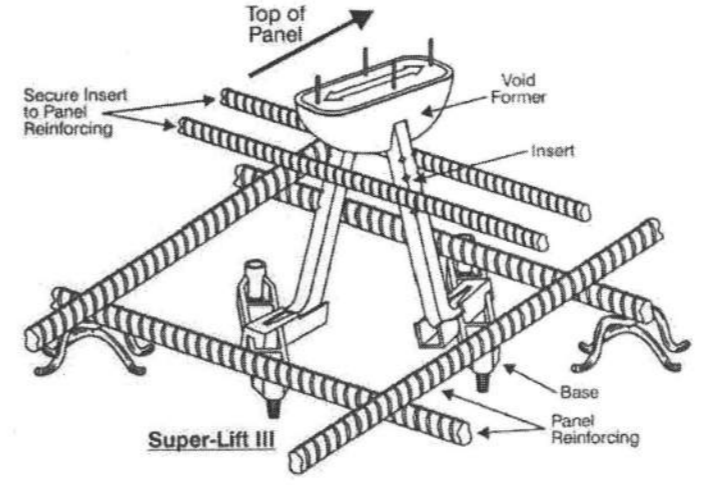
2 6" HIGH SECTION
NTS



5 SECTION
NTS

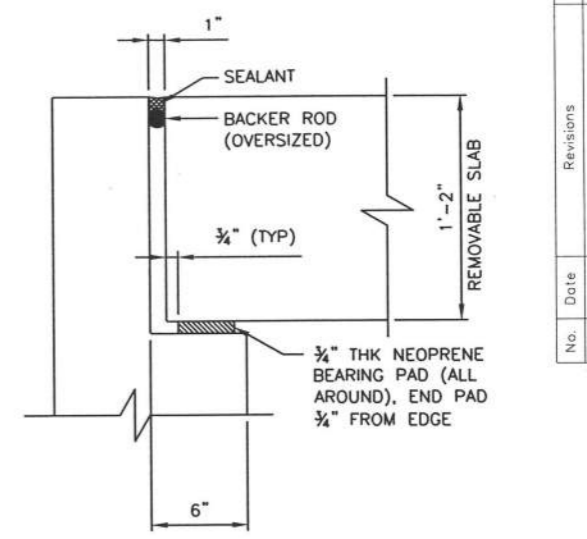


VARIES
REFER TO SPECIFICATION SECTION 15113 FOR FRAME SCHEDULE

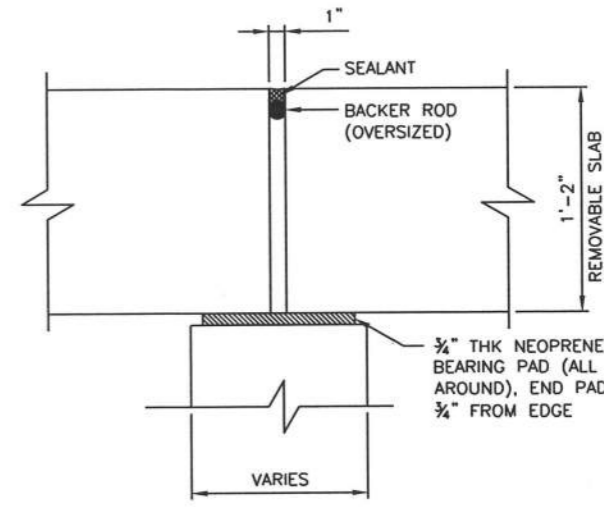


- NOTES:
1. LIFTING HOOK INSERTS SHALL BE SUPER-LIFT III INSERTS BY MEADOW BURKE.
 2. LIFTING HOOK INSERTS SHALL HAVE A WORKING TENSILE AND SHEAR CAPACITY OF 22K.
 3. PROVIDE 4 LIFTING INSERTS PER TOP SLAB. REFER TO STRUCTURAL SHEETS FOR LOCATIONS.

B LIFTING HOOK INSERT
NTS



C SLAB BEARING DETAIL
NTS



D ROOF SLAB JOINT DETAIL
NTS

- NOTES:
1. ANGLES, HARDWARE AND ANCHOR BOLTS SHALL BE 316 SS.
 2. STOP LOGS SHALL BE 316 SS.

App.		Freese And Nichols, Inc.
Revisions		Job No. SWB11467
No.	Date	ADDENDUM 1
	09/08/15	CP&Y, Inc.
		Texas Registered Engineering Firm F-1741

Date: SEPT 2015
Designed by: JPW
Drawn by: PEC
Checked by: JPW
Scale: NTS

CP&Y, Inc.
CP&Y, Inc.
TBPE Firm No. F-1741

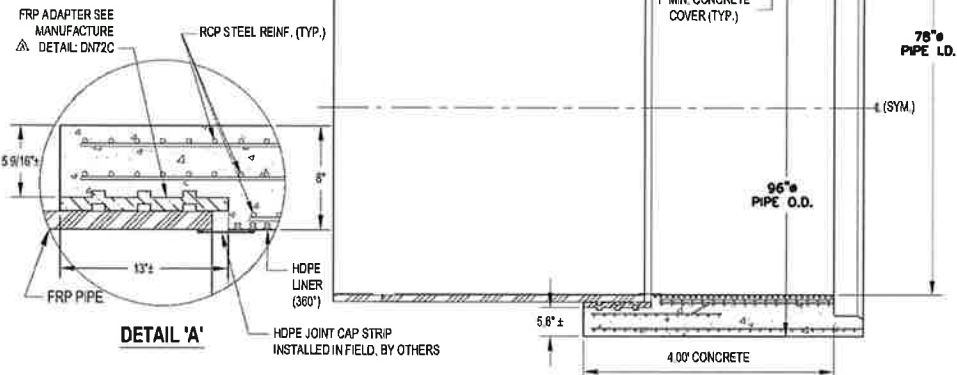
FREES NICHOLS
2000 Broadway St.
Houston, TX 77002-4550
Phone - (214) 298-3800
Fax - (214) 298-3801

SAN ANTONIO
WATER SYSTEM
STRUCTURAL DETAILS III

SAWS JOB NO. 13-4510 (SS)
SAN ANTONIO RIVER OUTFALL PIPELINE,
PROJECT NO. 2B
STRUCTURAL DETAILS III

NOTES:

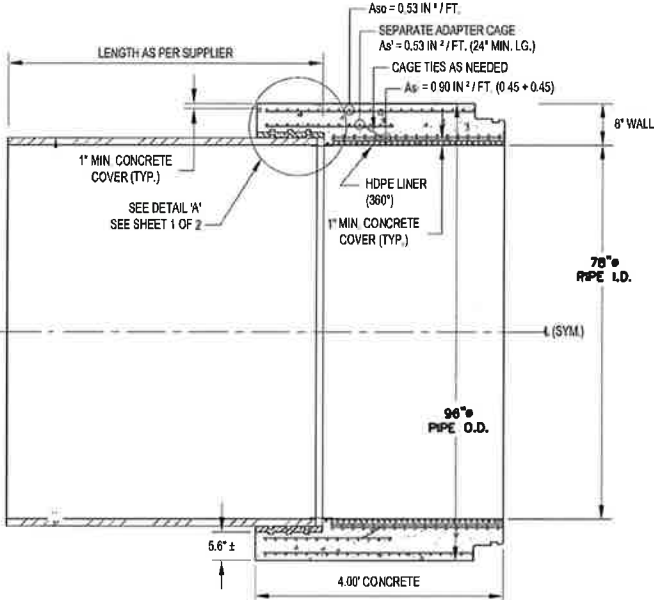
- 1) CONCRETE BELL TO BE CAST AROUND FIBER REINFORCED PLASTIC (FRP) PIPE ADAPTER, FRP ADAPTER SUPPLIED BY CONTRACTOR.
- 2) MINIMUM CONCRETE STRENGTH (f'c) = 6,000 PSI.
- 4) WELDED WIRE FABRIC (WWF) TO BE 2 X 8 SPACING WITH REINFORCEMENT MINIMUM STEEL YIELD = 65,000 PSI.



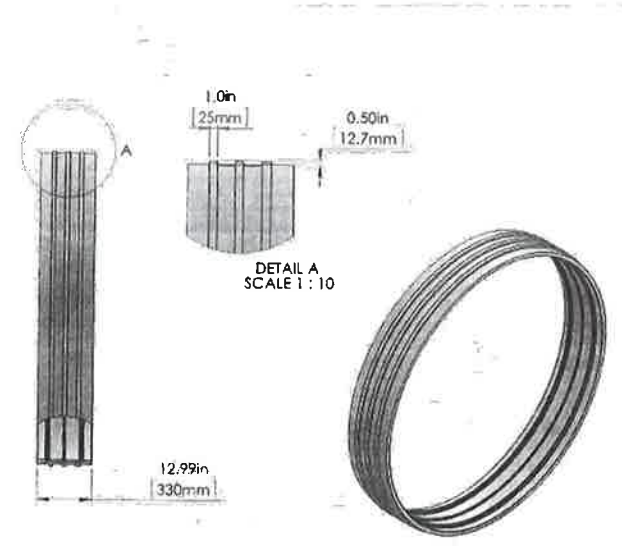
BELL

NOTES:

- 1) FOR EXACT QUANTITY & LOCATION CONTACT LOCAL RINKER MATERIALS REPRESENTATIVE
- 2) CONCRETE SPIGOT TO BE CAST AROUND FIBER REINFORCED PLASTIC (FRP) PIPE ADAPTER, FRP ADAPTER SUPPLIED BY CONTRACTOR.
- 3) MINIMUM CONCRETE STRENGTH (f'c) = 6,000 PSI.
- 4) FRP PIPE NOMINAL O.D. = 74.803"Ø
- 5) WELDED WIRE FABRIC (WWF) TO BE 2 X 8 SPACING WITH REINFORCEMENT MINIMUM STEEL YIELD = 65,000 PSI.



SPIGOT

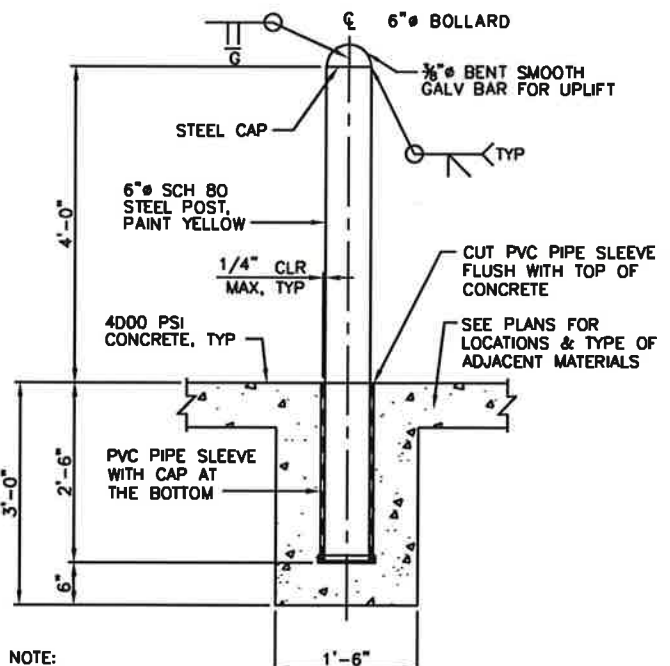


CONCRETE PIPE ADAPTER

(D) R.C. PIPE TO FRP PIPE ADAPTER
NTS

NOTE:

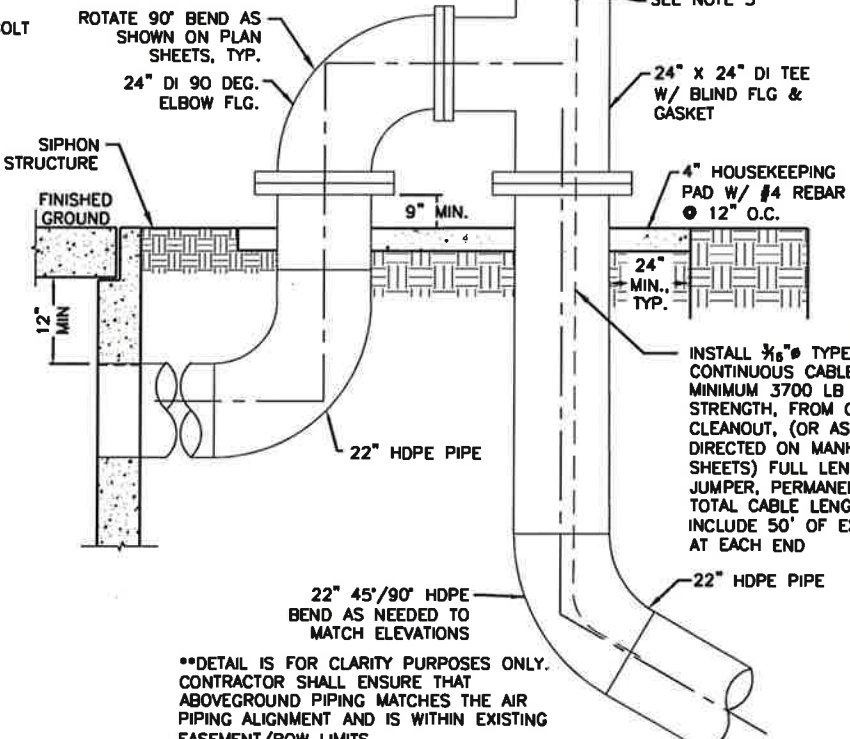
- 1. REFER TO THE FOLLOWING SHEETS FOR STRUCTURE AND AIR BYPASS PIPING ROUTING COORDINATION:
SHEET PL14 FOR SIPHON NO. 5 INLET STRUCTURE
SHEET PL13 FOR SIPHON NO. 5 OUTLET STRUCTURE
- 2. ALL ABOVE-GRADE PIPING SHALL BE SAWS APPROVED DI PIPE AND FITTINGS. ALL DI PIPE AND FITTINGS SHALL BE LINED WITH AN APPROVED CERAMIC EPOXY. ALL DI PIPE AND FITTINGS SHALL BE ZINC COATED. LININGS AND COATINGS OF THE DI PIPE AND FITTINGS SHALL BE PERFORMED BY THE DI MANUFACTURER.
- 3. CONTRACTOR SHALL PROVIDE AND INSTALL STRAUB-STEP-FLEX 2LS (559.0/549.0MM) EPDM SS WITH SS STRIP INSERT AND STIFFENING RING ID 488.9MM (INSTALLED IN HDPE PIPE) TO COMPLETE THE CONNECTION FROM 22 INCH HDPE TO DUCTILE IRON PIPE. CONTRACTOR TO COORDINATE AND CONFIRM COUPLING SIZE WITH MANUFACTURER UPON SELECTION AND APPROVAL OF PIPE MANUFACTURER. SHOULD REQUIRED COUPLING SIZE CHANGE DUE TO SELECTED MANUFACTURER, THERE SHALL BE NO ADDITIONAL COST TO OWNER.
- 4. ALL HDPE PIPE IS TO BE FUSED IN ALL LOCATIONS WITH THE EXCEPTION OF ABOVE-GRADE AIR CLEANOUT PIPING.
- 5. PROVIDE 5/8" - 11 x 1/64" 316 STAINLESS STEEL SHOULDER PATTERN MACHINERY EYE BOLT (FASTENAL) TAP BOTTOM OF BLIND FLG. FOR CONNECTION



NOTE:

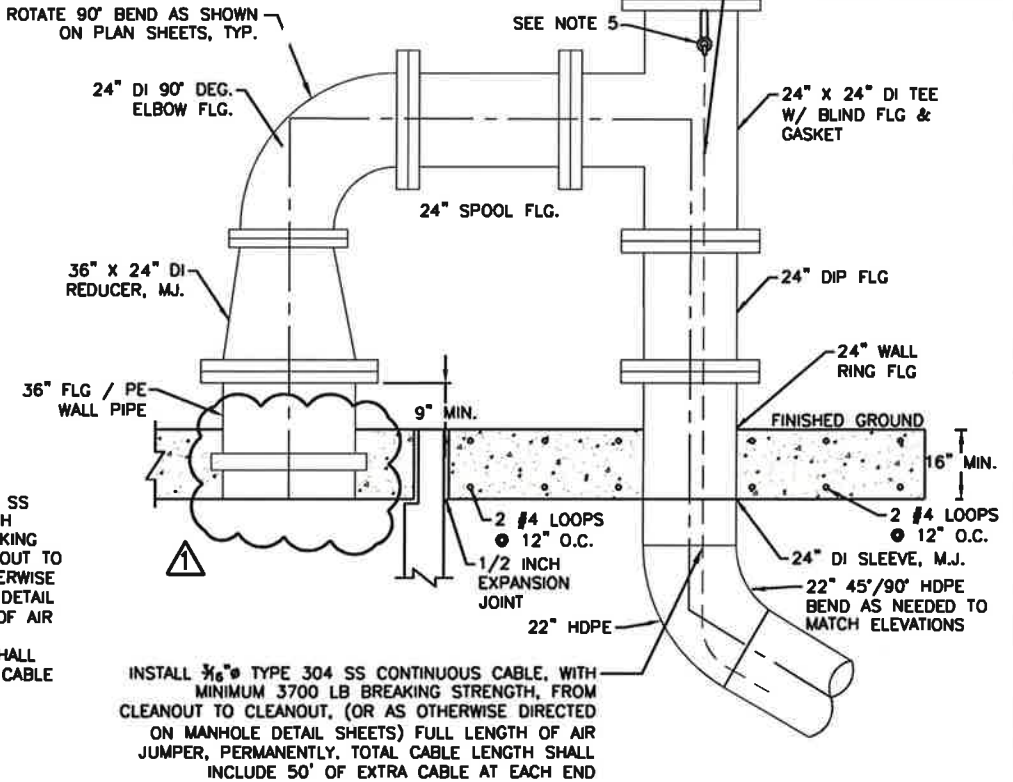
- 1. REFER TO STRUCTURAL SHEETS FOR LOCATION(S).

(B) REMOVABLE BOLLARD
NTS



**DETAIL IS FOR CLARITY PURPOSES ONLY. CONTRACTOR SHALL ENSURE THAT ABOVEGROUND PIPING MATCHES THE AIR PIPING ALIGNMENT AND IS WITHIN EXISTING EASEMENT/ROW LIMITS.

(A) AIR BYPASS & PULL ROPE
NTS SIPHON NO. 5 (INLET & OUTLET)



INSTALL 3/16" TYPE 304 SS CONTINUOUS CABLE, WITH MINIMUM 3700 LB BREAKING STRENGTH, FROM CLEANOUT TO CLEANOUT, (OR AS OTHERWISE DIRECTED ON MANHOLE DETAIL SHEETS) FULL LENGTH OF AIR JUMPER, PERMANENTLY. TOTAL CABLE LENGTH SHALL INCLUDE 50' OF EXTRA CABLE AT EACH END

(C) AIR BYPASS & PULL ROPE
NTS SIPHON NOS. 3 & 4 (INLET & OUTLET)

**DETAIL IS FOR CLARITY PURPOSES ONLY. CONTRACTOR SHALL ENSURE THAT ABOVEGROUND PIPING MATCHES THE AIR PIPING ALIGNMENT AND IS WITHIN EXISTING EASEMENT/ROW LIMITS.

App.	GWM	Freesee And Nichols, Inc. Job No. SWB11467
Revisions	ADDENDUM 1	
No.	10/09/15	CP&Y, Inc. Texas Registered Engineering Firm F-1741

Date: SEPT 2015
Designed by: HJC
Drawn by: GWM
Checked by: HJC
Scale: NTS

CP&Y, Inc.
CP&Y, Inc.
TBPE FIRM No. F-1741

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SAN ANTONIO WATER SYSTEM

SAWS JOB NO. 13-4510 (SS)
SAN ANTONIO RIVER OUTFALL PIPELINE,
PROJECT NO. 2B

STRUCTURAL DETAILS IV

QUESTIONS AND ANSWERS

1. **Question:** The Uni-Bell PVC Pipe Association on behalf of our member companies, respectfully requests that the San Antonio Water System modify the plans, specifications, and bid documents through an addendum to include the use of PVC pipe where it is applicable for the San Antonio River Outfall Pipeline Project No. 2B.

1. **Answer:** The project has been designed with FRP as the pipe material. No alternate material will be considered.

2. **Question:** I'm the local rep for Diamond Plastics. We respectfully requests that the San Antonio Water System modify the plans, specifications, and bid documents through an addendum to include the use of PVC pipe where it is applicable for the San Antonio River Outfall Pipeline Project No. 2B. I would also like to add that Diamond has experience in making PS75. We shipped over 15,000' of 30" PS75 to Austin back in 2012, and we also have the tooling available to make it in 48".

2. **Answer:** See response to Question #1.

3. **Question:** Can you please clarify the required DN48 pipe stiffness for the pipe detailed on sheet PL4 between MH-13 and MH-14. A pipe stiffness of SN72 is called out for the pipe in the profile view, however only a pipe stiffness of SN46 is shown in the bid quantities table on this page. There is similar conflicting information on sheet PL9 that requires clarification, for the pipe required between MH-21 and MH-22.

3. **Answer:** The quantities table is correct. The pipe stiffness class was mislabeled on the sheet profiles. See Addendum No. 1, Part 3, Item Nos. 2 and 3.

4. **Question:** Specifications 03740 Concrete Modification & Repair.
Is that in the specifications as incidental on an as need basis or is there repair work to be done? As specialty trade contractors, established in 1977, we repair, protect and strengthen existing concrete structures in commercial, industrial and marine environments. I have attached some information on our firm for your review.

4. **Answer:** The specification is for incidental work. There are no scheduled repairs in this project.

5. **Question:** Take a look at the attached stop log schedule under section 15113 par. 2.03. I'm trying to figure out how many 6" high logs to price.

Under “Stop Log size” the heights are shown to be 78” & 60” high, respectively and this is clear and fine. However, the next column is confusing things, because all the stop log heights based on that 30” from the center line would be slightly different. Can you get a clarification from Engineer regarding the actual distance to top stop log for each Siphon location? This will have an impact on pricing.

5. **Answer:** A revised schedule is issued with Addendum No. 1, Part 2, Item No. 2.

6. **Question:** Will SAWS offer a pre-bid meeting on site with sufficient stakes in place to establish the proposed centerline? Without granting the contractors full access to the job site, we cannot accurately bid the full scope of work. The contractor needs to establish ROW conditions, fencing conditions, livestock present in the construction areas, a possibility to dig more test holes, entrance/exit points for deliveries and low areas for spoil waste etc.

6. **Answer:** The project alignment is available for Bidders to inspect. SAWS is not providing staking.

7. **Question:** Will SAWS furnish the existing flow charts in a gallon per minute so we can accurately figure the full cost of bypassing? If not, will SAWS provide full access to all existing structures we will be bypassing from so the contractor and his pump supplies can establish what will be required in the bypassing operation? This will require the structures to be open and lids removed.

7. **Answer:** Flow information is not available. Contractor shall confirm bypass pumping flow during submittal of the Bypass Pumping Plan in accordance with ITEM NO. 864 BYPASS PUMPING, Section 864.3, which states, *“In the absence of any flow data furnished in the contract documents, the Contractor’s submitted flow data will be the only means to incorporate the to-be submitted BPP for review and acknowledgment.”*

8. **Question:** Specification Section 02623 calls for tee base neck to be 30” where plans show 36” neck size. **Please clarify.**

8. **Answer:** Tee base manhole shall have a 36” diameter outlet connecting the manhole riser to the pipe. See Addendum No. 1, Part 2, Item No. 1.

9. **Question:** Detail 4 and 5 of sheet DT-3 call for lateral out of tee base to be FRP material for connection to PVC. Standard Tee base manholes are built with PVC (SDR 26) pipe as laterals. **Please confirm lateral stub out built on tee base to be PVC pipe.**

9. **Answer:** Outlets shall be PVC (SDR 26). See Addendum No. 1, Part 3, Item No. 4.

10. **Question:** When I am requesting access, I am referring to all gates unlocked and permission to be on private properties from all the landowners as the existing gates and private roads do not appear to be on SAWS easements.
10. **Answer:** The project alignment is within an easement and the Contractor should keep all work and any access through SAWS' existing easements. If the Contractor wants to access the site through private property and gates it is their responsibility to get access from the owners at no cost to SAWS and no delay to SAWS.
11. **Question:** During the 2 year warranty period after the conditional letter of acceptance does the contractors performance bond stay open for 2 years or does the contractor have to provide like a maintenance bond?
11. **Answer:** The Performance Bond shall stay active for the 2 years.
12. **Question:** Can the Contractor submit the baseline schedule included in the bid submittal in Primavera format instead of Microsoft project format?
12. **Answer:** Baseline schedule to be submitted with bid shall be in Microsoft Project format in accordance with the Supplemental Conditions.
13. **Question:** Can an electronic/excel format of the bid items unit pricing forms be provided?
13. **Answer:** We are not providing an excel format of the bid proposal. Please use the form within the bid document.
14. **Question:** Can SAWS provide a working phone number for AT&T because the number listed on note 5 in plan sheet PL9 is not a working number.
14. **Answer:** See Addendum No. 1, Part 1, No. 1 and Addendum No. 1, Part 3, Item Nos. 1 and 3.
15. **Question:** If AT&T cannot provide a cost for relocations, design and time impact associated with fiber optic line relocation before bid time, how much time/money should contractors account for in their bid for that work?
15. **Answer:** Contractor shall account for potential relocation of utility lines in the project bid.
16. **Question:** Under item 24 (a) on page IB-7 in the specifications it states the low bidder shall provide an information packet on the company showing experience, organization and equipment. As far as the organization goes does SAWS want to know how this specific project is going to be staffed or the current structure of the company

organization. Also can items 24 (a)-(e) be provided in one binder or does each item need to be in separate binders or packets?

16. **Answer:** SAWS requires the current structure of the company organization as well as the project specific staff. Information requested can be provided in one packet.

17. **Question:** Can SAWS provide Flow charts for all the existing sewer lines to be effected during construction?

17. **Answer:** See response to Question #7.

18. **Question:** Section 01030, Special Procedures, 1.01,D references critical areas for installation, bypass pumping and sequencing of the proposed sanitary sewer line and manholes and connections. These areas are referenced lines A through F. Can the flow rate information for each of these areas be provided for bidding purposes?

18. **Answer:** See response to Question #17.