E-16: Wurzbach Parkway Sewer at Highway 281
Solicitation Number: CO-00325
Job No.: 18-4509

ADDENDUM 1

June 2, 2020

To Respondent of Record:

This addendum, applicable to work referenced above, is an amendment to the price proposal, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the price proposal.

RESPONSES TO QUESTIONS

Q1: **The 48-inch ring and cover show on the plan details sheet C34 is not an approved ring and cover for SAWS use.**

Response: *The following products have been approved by SAWS for use on this project. Sheet C34 has been updated.*

- *Neenah Foundry – R-1741 755B Double Lid*
- *Neenah Foundry – R-6099 T10 Single Lid*
- *SIP Industries – 2351 SAWS Double Lid*
- *SIP Industries – 2351 SAWSS Single Lid*

Q2: **We are being told by our fiberglass manhole manufacturer that when opening the throat of the manholes and riser section to 48-inch clear opening per the plans they can no longer maintain H20 load rating the maximum clean opening to maintain H20 rating is 38-inch clear opening. Seeing as many manholes are in the roadway this could be a very large issue.**

Response: *In discussions with manufacturer during design 48-inch clear opening as shown on plans is feasible while still maintaining H20 rating.*

Q3: **On the above project there is a traffic control plan included in the plans for bidding, because there are such detailed traffic control plans does that mean a signed and sealed TCP from an Engineer will not be required?**

Response: *Yes, the traffic control plans are suggestions and may be used by contractor. The contractor is responsible for obtaining ROW permit from CoSA and should provide their own traffic control plans that support the contractor's intended sequencing, if needed.*

Q4: **I see install of 2-inch Type D but I'm not seeing any milling. Is there not milling on this project for the 2-inch?**

Response: *Correct, no milling is anticipated for this project. Full depth pavement removal will be paid for by the Street Excavation line item.*

Q5: We would like to know if there will be a word document available for the Evaluation Criteria portion?

Response: *Yes, Evaluation Criteria document has been provided in word format and can be found at* https://apps.saws.org/Business_Center/Contractsol/Drill.cfm?id=3791&View=Yes.

Q6: **Special Provision Section SP 848A: Pipe Installation states "Sewer pipe will be paid for at the contract bid price per linear foot, that has been installed in accordance with project plans and specifications, and that has successfully passed joint testing requirements". Can the joint testing requirement be removed from this section so that the contractor can be paid for the line once it is installed, since Pipe Testing and Acceptance is a separate pay item, and joint testing is not required under this Specification?**

Response: *Language will remain as written. Please note that joint testing will still be required per Special Provision 849.*

Q7: **Will bypass pumping be necessary for the complete duration of the tunnel construction from 24+52.99 as shown on plan sheet C7/G22?**

Response: *No, the intent of bypass is to remove sewer flows from existing 42-inch sewer while actively tunneling underneath pipe. Once annular space is grouted, and utility secured without damage bypass may be removed. It is ultimately contractor's responsibility to maintain and protect the existing utility.*

Q8: **Some bypass discharge routes appear to go through wooded/semi wood areas. Has the tree removal plan taken into account the potential tree removal for equipment and bypass discharge line(s)?**

Response: *No, bypass plans shown in contract documents are suggested bypass routes. Contractor shall determine route that eliminates/minimizes tree impacts within project limits.*

Q9: **Is the contractor responsible for the CoSA ROW permit? Is the permit required, until final restoration is complete in CoSA ROW?**

Response: *Yes, contractor is responsible to obtain CoSA ROW Permit. Please refer to CoSA Right-of-Way Use Permit and Utility Excavation Criteria Manual (UECM) for permit requirements and procedures.*

Q10: **Is the CPS Energy allowance provided a "not to exceed allowance"? Has CPS Energy weighed in on the costs of pole bracing or relocations for the sanitary sewer construction?**

Response: *Yes, as stated in Special Condition 1.7 "Cost incurred by CONTRACTOR for bracing of these utility poles that exceeds the allowance is subsidiary to the respective utility work". Allowance was determined based on sewer alignment and poles identified in survey. Pole bracing cost was estimated based on prior projects. Also as stated in Special Condition 1.6 "CONTRACTOR to make provision to ensure that trench walls remain vertical throughout construction and be in compliance with SAWS Specification 804".*

Q11: **Please confirm which manholes will require a 48-inch ring and cover? Where required, will the ring and cover encasement follow 852-03 or will a top slab be required as shown on Sheet S1, MH-05A?**

Response: *Ring and cover encasement for outlet and inlet structure shall be per detail on S1 and S2. All other manholes shall have ring and cover encasement per SAWS standard construction detail DD-852-03. Only tee-base manholes will require 48-inch ring and cover.*

Q12: **At station +/- 2+75 the open cut sewer installation goes under an existing 24-inch asbestos waterline. The water line crosses between the installation of two manholes. Because of the proximity of excavation, will SAWS allow the line to be shut off to facilitate installation of the sanitary sewer and manholes?**

Response: *No, contractor to bid the project per plans.*

Q13: **Please confirm that the C35/11 is the cross section only at the station outlines in Note 1 (in the same detail) and that all other areas will be backfilled in accordance with SAWS specification 804?**

Response: *Yes, embedment and backfill detail 11 on sheet C35 is to be used between stations identified in note 1 in same detail. All other areas will require embedment and backfill per SAWS Standard Specification 804 unless otherwise identified in contract documents.*

Q14: **Can the material excavated at station 53+00 to 56+50 be re-used for secondary backfill? If not, will an allowance be provided to haul to an authorized dump site?**

Response: *Yes, excavated material may be used for secondary backfill if material complies with SAWS Standard Specification 804. Haul off of excess spoils is subsidiary to sanitary sewer line installation, no separate pay item is provided in contract documents.*

Q15: **Will a existing road survey be required prior to construction?**

Response: *Yes, per detail 5 on sheet C36. Contractor is expected to perform survey of the roadway prior to beginning any trenching within pavement.*

CHANGES TO SPECIFICATIONS

1. Include Special Provision 849 as attached in this addendum in its entirety.

2. Revise Special Provision 857 to include the additional language, as follows:

857.6 TESTING

This section shall be replaced in its entirety with Special Provision 849 Sanitary Sewer Acceptance Testing. The Referenced Standards identified in SAWS Standard Specification 849 and Special Provision 849 shall be augmented by those identified in SAWS Standard Specification 857 and Special Provision 857 for the purpose of testing of Fiberglass Reinforced Pipe.

CHANGES TO PLANS

1. Remove sheet C34 and replace with C34 attached in this addendum.

END OF ADDENDUM 1

This Addendum is 15 pages in its entirety, including attachments.

Attachments:

- Special Provision 849 – Sanitary Sewer Acceptance Testing (8 Pages)
- Non-Mandatory Pre-Proposal Meeting Minutes (3 pages)
- C34 – Sewer Details (Sheet 1 of 2) (1 page)

Mario A. Valdez, P.E.
Kimley-Horn and Associates, Inc.

SPECIAL PROVISION TO STANDARD SPECIFICATION ITEM NO. 849 (Sanitary Sewer Pipe Air and Deflection Testing) – REPLACE IN ITS ENTIRETY WITH THE FOLLOWING:

ITEM NO. 849
SANITARY SEWER ACCEPTANCE TESTING

849.1 **DESCRIPTION:** This item shall consist of air, infiltration/exfiltration, deflection, and settlement tests in accordance with this specification and as directed by the Engineer.

849.2 **REFERENCED STANDARDS:** Reference standards cited in this Specification Item No. 849 refer to the current reference standard published at the time of the latest revision date logged at the end of this Specification Item No. 849, unless a date of specifically cited.

1. San Antonio Water System (SAWS)
    a. Specifications for Water and Sanitary Sewer Construction
    b. SAWS Materials Specifications
2. City of San Antonio (COSA) Standard Specification for Construction
3. Texas Commission of Environmental Quality (TCEQ)
    a. 217 Design Criteria for Domestic Wastewater Systems
4. American Society for Testing and Materials (ASTM) International:
    a. ASTM C 828 – Standard Test Method for Low Pressure Air Test of Vitrified Clay Pipe Lines.
    b. ASTM C 924 – Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method.
    c. ASTM D 3034 – Standard Specification for Type PSM Polyethylene (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
    d. ASTM F 794 – Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.
    e. ASTM F 1417 – Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air.
    f. ASTM C 1244 Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.

849.3 **SUBMITTALS:** Contractor shall submit manufacturer's product data instructions, recommendations, shop drawings, and certifications.

1. Test Plan: Before testing begins and in adequate time to obtain approval through submittal process, prepare, and submit test plan for approval by

Engineer.

2. Include testing procedures, methods, equipment, and tentative schedule. Obtain advance written approval for deviations from Drawings and Specifications.
3. Submit test reports for each test on each segment of sanitary sewer.

849.4 **MATERIALS:** The materials installed for air and deflection tests shall conform to the appropriate specifications contained within the latest revision of SAWS' Material Specifications.

849.5 **TESTING OF INSTALLED PIPE:** The Contractor shall perform a low-pressure air test or an infiltration/exfiltration test, and, for pipe installed by open cut method, a settlement test before the installed work shall be considered accepted. If a gravity collection main is composed of flexible pipe, a deflection test will also be required. Flexible pipe is defined as pipe that will deflect at least 2% without structural distress. Contractor shall insure that all testing is performed in the presence of the Inspector, with copies of all written test results made available to the Inspector. Tests shall conform to the following requirements:

1. Low-Pressure Air Test: The procedure for the low-pressure air test shall conform to the procedures described in ASTM C828, ASTM C924, and ASTM F1417 (or other appropriate procedures), except for testing times. The test times shall be as outlined in this section. For sections of pipe less than 36-inch average inside diameter, the following procedure shall apply. The pipe shall be pressurized to 3.5 psi greater than the pressure exerted by groundwater above the pipe. Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 pounds per square inch gauge to 2.5 pounds per square inch gauge shall be computed from the following equation:

$$T = \frac{0.085 \times D \times K}{Q}$$

T = Time for pressure to drop 1.0 pound per square inch gauge in seconds;

K = 0.000419xDxL, but not less than 1.0;

D = Average inside pipe diameter, in inches;

L = Length of line of same pipe size being tested, in feet;

Q = Rate of loss, 0.0015 cubic feet per minute per square foot internal surface shall be used since a K value of less than 1.0 shall not be used.

The minimum testing times for each pipe diameter is as follows:

Pipe Diameter	Minimum Time	Length for Minimum Time	Time for Longer Length
Inches	Seconds	Feet	Seconds/Ft
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1,020	133	7.693
21	1,190	114	10.471
24	1,360	100	13.676
27	1,530	88	17.309
30	1,700	80	21.369
33	1,870	72	25.856

* Note: Test time starts after the required 60 seconds of stabilization time has transpired.

The test may be stopped if no pressure loss has occurred during the first 25% of the calculated testing time. If any pressure loss or leakage has occurred during the first 25% of the testing period, then the test shall continue for the entire test duration as outlined above or until failure.

Mains with a 27-inch or larger average inside diameter may be air tested at each joint instead of air testing entire pipe.

Mains with a 36 inch average inside diameter and larger must be air tested at each joint. If the joint test is used, a visual inspection of the joint shall be performed immediately after testing. The pipe is to be pressurized to 3.5

psi greater than the pressure exerted by groundwater above the pipe. Once the pressure has stabilized, the minimum time allowable for the pressure to drop from 3.5 pounds per square inch gauge to 2.5 pounds per square inch gauge shall be 10 seconds.

2. Infiltration/Exfiltration Test: The total exfiltration, as determined by a hydrostatic head test, must not exceed 10 gallons per inch of diameter per mile of main per 24 hours, at a minimum test head of 2 feet above the crown of the main at an upstream manhole. The Contractor shall use an infiltration test in lieu of an exfiltration test when mains are installed below the ground water level. In such cases, the total exfiltration, as determined by a hydrostatic head test, must not exceed 10 gallons per inch diameter per mile of main 24 hours at a minimum test head of 2 feet above the crown of the main at an upstream manhole, or at least 2 feet above the existing groundwater level, whichever is greater. For construction work occurring within a 25-year floodplain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of main per 24 hours at the same minimum test head as stated in the previous sentence. If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, the Contractor shall propose to the Engineer, and receive approval therefrom, all necessary remedial action, solely at the Contractor's own cost, in order to reduce the infiltration or exfiltration to an amount within the limits specified herein.

3. Deflection Testing: As stated in the 30 TAC § 217, deflection test shall be performed on all flexible pipe installed.

   a. For mains with inside diameters less than 36 inches, a rigid mandrel shall be used to measure deflection.
   b. For main with an inside diameter 36 inches and greater, a method approved by the Engineer shall be used to test for vertical deflections.
   c. For rigid pipe, a manufacturer approved "Go, No Go" deflection rod may be used to test deflection, but must be approved by Engineer or Inspector prior to testing.
   d. The deflection test must be accurate to within $\pm$ 0.2% deflection. The test shall be conducted after the final backfill has been in place at least 30 days. No pipe shall exceed a deflection of five percent. If a pipe should fail to pass the deflection test, the problem shall be corrected, and a second test shall be conducted after the failed area's final backfill has been in place an additional 30 days. The tests shall be performed without mechanical pulling devices. The Engineer should recognize that this is a maximum deflection

criterion for all pipes and a deflection test less than 5 % may be more appropriate for specific types and sizes of pipe. Upon completion of construction, the Engineer or other Texas Registered Professional Engineer appointed by the owner shall certify to the Inspector, that the entire installation has passed the deflection test. This certification may be made in conjunction with the notice of completion required in 30 TAC § 217.14. (1) of this title (relating to General Provisions). This certification shall be provided for the Owner to consider the requirements of the approval have been met.

e. Contractor shall provide 24 hr. notice to Engineer and Inspector prior to any testing.

f. Engineer of Record must witness all tests over the EARZ.

g. Mandrel Sizing. The rigid mandrel shall have an outside diameter (O.D.) not less than 95% of the inside diameter (I.D.) of the pipe.

h. The inside diameter of the pipe, for the purpose of determining the outside diameter of the mandrel, shall be the average outside diameter minus two minimum wall thicknesses for O.D. controlled pipe and the average inside diameter for I.D. controlled pipe. All dimensions shall be per appropriate standard. Statistical or other "tolerance packages" shall not be considered in mandrel sizing.

   i. Mandrel Design: The rigid mandrel shall be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.

   ii. The mandrel shall have nine or more "runners" or "legs" as long as the total number of legs is an odd number.

   iii. The barrel section of the mandrel shall have a length of at least 75% of the inside diameter of the pipe.

   iv. A proving ring shall be provided and used for each size mandrel in use.

   v. Method Options: Adjustable or flexible mandrels are prohibited. A television inspection is not a substitute for the deflection test.

i. Test Reports: Submit reports from tests in accordance with relevant standards.

4. Settlement Testing: For all gravity sanitary sewer pipe installed by open-cut method the Contractor shall conduct settlement testing of the newly installed sewer to determine whether excessive sagging of the pipe has

occurred. This test does **not** identify the precise threshold at which pipe is properly installed. Rather, it provides a simple, easily interpretable means to identify grossly unacceptable installation of gravity sewer pipe. As such, passing this test shall not excuse poor workmanship identified by other means. Contractor shall follow construction QC/QA program established for the specified project per SAWS Standard Specification 903 and follow best practices to maintain horizontal and vertical alignment control.

a. This test involves television inspection. Requirement for televising, video format, and submittals shall be governed by SAWS Standard Specification 866. If suitable to the project in question the settlement test televising efforts can be combined with but are in addition to and do not in any way replace or nullify, the efforts or requirements associated with SAWS Standard Specification 866.
b. Unless otherwise directed by Engineer or Owner, no sewer flow should be introduced into the system when performing settlement test.
c. This test shall be conducted no earlier than 30 days after installation of the sanitary sewer pipe and final backfill.
d. For the purpose of this test the term "**segment**" is defined as all pipe between two manholes and/or structures and "**pipe section**" is defined as a single piece of pipe up to an including where it joins adjacent pipe(s).
e. Segment must be isolated and cleaned to ensure no flow through pipe and that it is free of dirt, rocks, scale, mud, silt, and any other foreign matter prior to performing this test.
f. Contact the Inspector prior to testing so that they may witness flooding of the system and testing.
g. Water shall be introduced into the pipe to provide meaningful observations. To accomplish this, after cleaning, and immediately before performing this test, contractor shall flood system with an amount of water sufficient to flow from the upstream manhole through the segment to be tested and be observed flowing into the downstream manhole. Introduction of water will then be stopped and any standing water allowed to remain in the segment being tested. Testing shall commence when flow is no longer observed in downstream manhole. The established unit cost for pipe testing shall be inclusive of any and all water and work necessary to deliver water to test site and shall thus be provided by contractor at no additional cost to Owner.
h. Settlement testing varies by pipe diameter:

i. **For pipes from 8 to 42 inches in diameter:** After advancing television unit through pipe to be tested, connect golf ball with rigid wire and string as necessary for golf ball to be fully visible within CCTV footage and maintain contact with bottom of pipe as golf ball is pulled back through each segment. The golf ball shall have a diameter of 1.68 inches or 42.7 mm. Any and all points along the pipe segment at which the golf ball becomes fully submerged in standing water shall be defined as excessive sag.

ii. **For pipes 48 inches in diameter and larger:** Manned entry to the pipe will be made. A rigid steel ruler with zero (0) inch mark at the extreme end shall be placed in all areas of standing water in the pipe such that it is in contact with the lowest portion of the pipe's circumference and a reading of the depth of standing water shall be taken. All such readings shall be documented, including, at a minimum, the depth of water and location (STA or upstream or downstream distance from manhole/structure) of each reading taken. Any and all points along the pipe segment at which the measured depth of standing water exceeds 4.0% of the nominal diameter of the pipe in question shall be defined as excessive sag.

i. Any and all pipe section(s) of gravity sanitary sewer in which excessive sag is identified shall be rejected. Contractor shall correct each and every such pipe section, including as many upstream or downstream sections or segments as necessary to eliminate excessive sag(s) while maintaining grade required by the contract documents.

j. No segment, regardless of length, shall have more than three (3) excessive sags. Identification of more than three (3) excessive sags in a segment of pipe shall be cause for rejection and Contractor shall reinstall the segment in its entirety at no cost to Owner.

k. All corrected sections and/or segments of pipe shall be retested at no additional cost to Owner until all pipe segments pass this and other tests required by SAWS Standard Specifications and contract documents for the project in question.

l. Excessive sags shall be documented in video and shall be in accordance with NASSCO-(PACP) requirements per SAWS

Specification 866.

m. Provide televising and associated reports documenting the occurrence of the test and its results to Owner no later than 3 days following the test.

849.6 **MEASUREMENT:** Measurement for the work specified herein will be by linear foot of successful test and as required by the contract documents.

849.7 **PAYMENT:**

1. Payment for Sanitary Sewer Air Testing, Infiltration/Exfiltration Testing, Deflection, and Settlement Testing shall be per linear foot of successful test.
2. Any effort required for multiple set-ups shall be included in the price.
3. All documentation and data, as required in this specification, must be provided to warrant payment.

- End of Specification -

NON-MANDATORY PRE-PROPOSAL MEETING MINUTES

Project:	E-16: Wurzbach Parkway Sewer Project at US 281 SAWS Project No.: 18-4509 KHA Project No.: 068665046	**Meeting Date:**	Monday, May 18, 2020 (2:30 P.M.)
Design Firm:	Kimley-Horn and Associates, Inc.	**Place/Room:**	WEBEX
Attendees:	See SAWS Sign-In Sheet		

I. Introduction

- SAWS noted that the power point for the meeting had been posted on the solicitation website.
- SAWS noted that attendees should send their first and last name, vendor name, and email address in the meeting chat to record attendance.

II. Oral Statements

Oral statements or discussion during the pre-proposal meeting will not be binding, nor will it change or affect the terms or conditions within the Plans and Specifications for this Project. Changes, if any, will be addressed only via an Addendum.

III. Project Overview

- Construction of 24, 27, 36, and 78-inch gravity sanitary sewer pipeline at depths of up to 29 feet via open cut or tunneling installation methods.
- Construction of 2,300 LF of 6"-8" DI water line
- Challenges
  A. EPA Consent Decree
  B. Installation of gravity sewer within the 100-year floodplain and City of San Antonio Parks Property.
  C. Open-cut installation of 78-inch gravity sewer along narrow right-of-way (North Loop Rd) at depths over 25-feet. Overhead electric in close proximity.
  D. Geotechnical Site Conditions
  E. Limited Access
  F. In-line Storage Structures
  G. Tunneling under existing sewer main at N Loop Road creek crossing

IV. Contract Requirements

- Prevailing Wage Rate and Labor Standards – Section 2.10 of the General Conditions
- Insurance – Section 5.7 of the General Conditions

V. Evaluation Process

- Technical Evaluation Committee (TEC) will score the proposals based on the evaluation criteria published in the Supplementary Instructions to Respondents to determine the Respondent who can provide the best value to SAWS
- Price will be calculated (lowest price receives the highest points) and added to final scores
- SMWVB will be added to final scores
- Selection Evaluation Committee reviews final scores
- Negotiations, if any
- Board award

VI. Required Experience

- Large diameter wastewater pipe installation is primary business focus and service, such services successful for at a minimum of 5 continuous years
- Installing large diameter 54-inch and larger gravity sanitary sewer pipeline at depths > 25 ft. via open cut or trenchless
- Installing sewer pipelines in narrow corridors along creek ways
- Complex sequencing across multiples sites within the same project
- Managing bypass pumping of large flows (10 MGD or >)
  *See page SIR-2 of the SIR for full details

VII. Evaluation Criteria

CRITERIA	MAX POINTS	SIR PAGES
Team Qualifications and Experience	20	SIR-2 to SIR-5
Quality, Reputation, and Ability to Deliver Projects on Schedule and within Budget	25	SIR-6 to SIR-8
Project Approach including Delivery Schedule	15	SIR-8 to SIR-9
Price	30	SIR-9
Small, Minority, and Woman-Owned Business Participation (SMWB)	10	SIR-10 to SIR-12 and GFEP
TOTAL	**100**	

- SAWS noted that all of the instructions for evaluation criteria can be found in the SIR.
- SAWS noted that respondents should utilize the evaluation criteria form to submit all of their information.

VIII. SMWVB

- SAWS noted that the aspirational non-mandatory SMWB goal for the project is 20% of the total bid price.
- SAWS noted that SBE are not additional, M/WBE can be combined with SBE for a total maximum of 10 points.
- SAWS noted that they reserve the right to remove points for past non-compliance with SMWVB for Contractors who have previously worked with SAWS.

IX. Proposal Packet Preparation

X. Additional and Communication Reminders

XI. Key Dates

- May 18, 2020 – Non-Mandatory Pre-Proposal Meeting
- May 27, 2020 by 2:00 PM – Questions Due
- June 2, 2020 by 5:00 PM – Addendum Posted to SAWS Website
- June 17, 2020 by 2:00 PM – Proposals Due
- June 2020 – Proposals Evaluate
- July 2020 – Selected Contractor Notified
- August 4, 2020 – SAWS Board Approval and Award
- August 24, 2020 – NTP Issued

XII. Contract Background

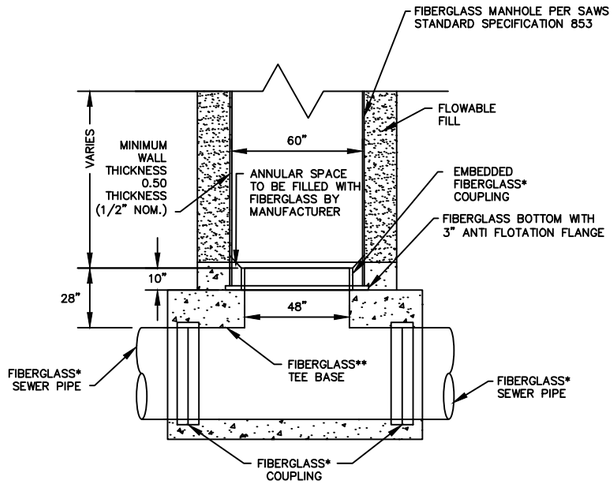
- Kimley-Horn noted that the payment for SP 848 and SP 857 testing would be per LF and would be per EA for SP 853.
- Kimley-Horn noted that special provision 849 will be coming out via an addendum for additional sewer testing requirements.

XIII. Additional Project Information

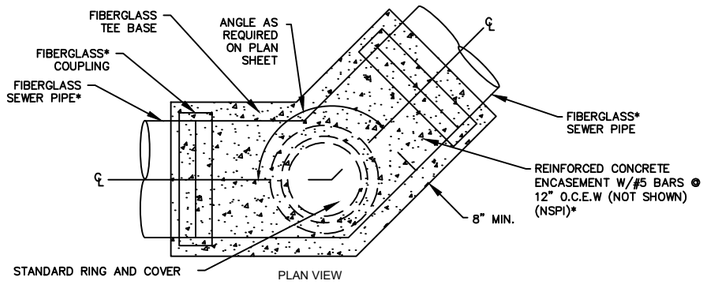
- Kimley-Horn noted that the project is located within SAWS eastern sewershed and contains in-line storage entirely within North Loop Road right-of-way.
- Kimley-Horn mentioned the importance of visiting the site to all contractors to get a sense of the area and complexities of the project.
- Kimley-Horn noted that there is narrow right-of-way along North Loop Road, with trees along the corridor that are to be preserved that limit the amount of usable right-of-way, contractors should look at the tree preservation plans when visiting the site. Kimley-Horn also noted that there are private easements along North Loop Road and coordination with private property owners will be required to facilitate construction access.
- Kimley-Horn noted that there is a low water crossing along North Loop Rd where tunneling is proposed underneath an existing 42-inch sewer main that's in close proximity to the tunnel casing. Bypass will be required to be installed prior to tunneling.
- Aside from trees, contractor will also need to avoid overhead electric when installing sewer line along North Loop Rd. specifically where 78-inch sewer will be installed at depth exceeding 20-feet. It is expected that the contractor maintains vertical walls when trenching. The geotechnical report is not included in the contract documents but is available through SAWS.
- Kimley-Horn noted that there is a CPS Energy Allowance for the project to include pole bracing for installation of the water and sewer line. Any additional costs surpassing the pole bracing allowance will be at the contractor's expense.
- Kimley-Horn noted that construction access to the west of West Ave is limited to Vista Valet. Additionally, due to the project's location within the 100-year floodplain, there are limited staging areas and spoils may need to be hauled offsite.
    - Kimley-Horn noted that there are CoSA trail crossings that will need to remain open. The contractor will need to have flaggers as equipment is traversing across the CoSA trail.
    - Kimley-Horn noted that there is an existing CoSA Pedestrian bridge crossing the alignment. The contractor should ensure tat their equipment will be able to clear the bridge – the clearance is shown in the plans.
- Kimley-Horn noted that there are two scenarios for the CoSA Senior Center tie-in sequencing and respondents should refer to the special conditions.
    - Kimley-Horn noted that the contractor will be required to demobilize from the area behind the senior center on the day of the ribbon cutting and no construction activities will be allowed.
- TXDOT and Coker Cemetery have trees that will be required to be preserved.
- Kimley-Horn noted that the contractor will be required to obtain the CoSA ROW and SWPPP permits.

XIV. Questions

- No questions were asked by any of the meeting attendees.



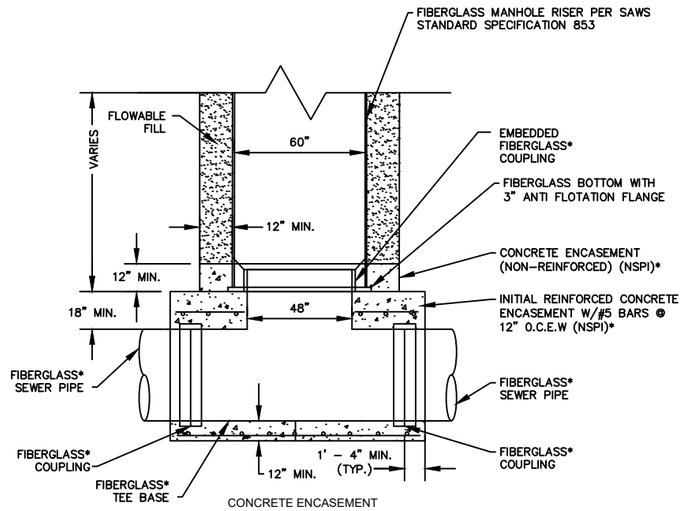
SECTION VIEW



PLAN VIEW

1 TEE-BASE FIBERGLASS MANHOLE DETAIL

SCALE: NTS

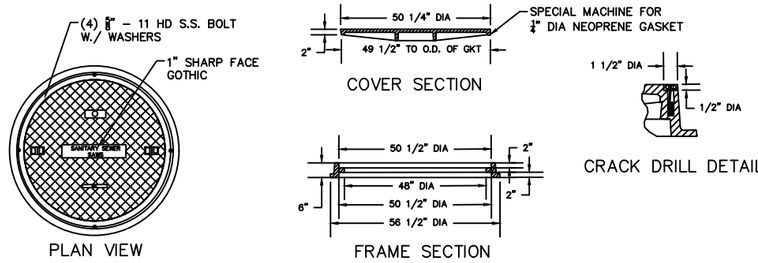


CONCRETE ENCASEMENT

* FIBERGLASS (FRP) SEWER PIPE MEETING THE REQUIREMENTS OF SAWS STANDARD SPECIFICATION 857.

NOTES:

1. ENCASEMENT TO BE DESIGNED TO RESIST ALL TEE BASE DEFORMATIONS AND IS TO EXTEND PAST THE FIRST JOINT ON EITHER SIDE OF THE TEE BASE BY 1' TO 3'.
2. ALL CONCRETE ENCASEMENT REQUIRED FOR TEE BASE MANHOLES SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE MANHOLES.
3. THE TEE BASE IS TO BE FULLY CONCRETE ENCASED AND ALLOWED TO CURE PRIOR TO INSTALLATION OF MANHOLE RISER.
4. THE TEE BASE THROAT SHALL BE FLUSH WITH THE UPPER EDGE OF THE EMBEDDED FWC COUPLING CONNECTING THE MANHOLE RISER TO THE TEE BASE.
5. BACKFILL AROUND MANHOLE SHALL BE FLOWABLE WITH A MINIMUM THICKNESS OF 12-INCHES AND FILL SHALL BE PLACED TO WITHIN 12-INCHES OF FINAL GRADE. THIS COST SHALL BE SUBSIDIARY TO THE COST OF THE MANHOLE.

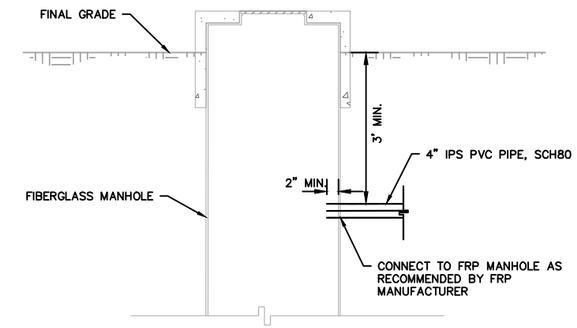


NOTES:

1. MAHNHOLE LID SHALL CONFORM WITH SAWS SPECIFICATION 852.
1. 2. SAWS PRODUCT STANDARDS COMMITTEE HAS APPROVED THE FOLLOWING MANHOLE RING AND COVER PRODUCTS FOR TESTING ON THIS PROJECT:
   - NEENAH FOUNDRY - R-1741 755B DOUBLE LID
   - NEENAH FOUNDRY - R-6099 T10 SINGLE LID
   - SIP INDUSTRIES - 2351 SAWS DOUBLE LID
   - SIP INDUSTRIES - 2351 SAWS SINGLE LID

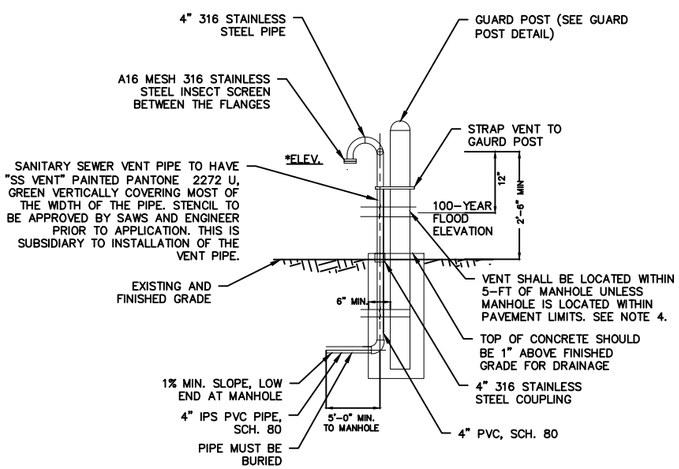
2 TEE BASE FIBERGLASS MANHOLE LID DETAIL

SCALE: NTS

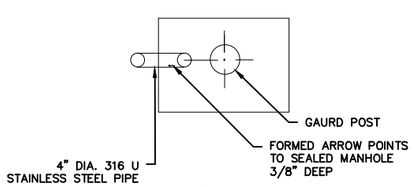


5 SEWER MAIN VENTED MANHOLE DETAIL

SCALE: NTS



PROFILE



PLAN

3 SEWER MAIN VENTED MANHOLE DETAIL

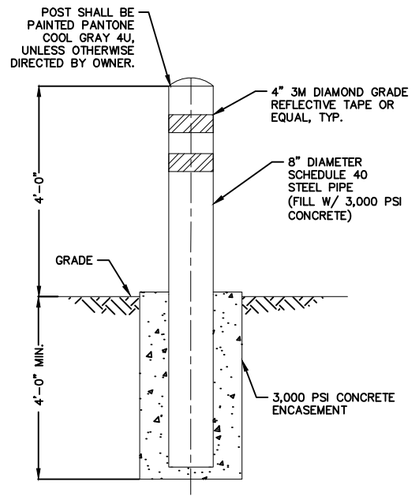
SCALE: NTS

NOTES:

1. REFER TO TABLE FOR MINIMUM ELEVATIONS OF VENT OPENING.
2. ALL PIPING BETWEEN MANHOLE AND GUARD POST MUST BE UNDERGROUND.
3. BACKFILL AROUND 4" IPS PVC PIPE, SCH. 80 SHALL BE FLOWABLE FILL WITH A MINIMUM THICKNESS OF 12-INCHES AT NO SEPARATE PAY ITEM.
4. IF THE MANHOLE IS LOCATED WITHIN THE ULTIMATE 100 YEAR FLOOD PLAIN ELEVATION, A THREADED OR FLANGED BALL CHECK VALVE WITH FLOATING TYPE BALL, SHALL BE INSTALLED AT DOWN TURNED OPENING OF VENT. A 16 MESH 304 STAINLESS STEEL INSECT SCREEN SHALL BE PLACED IN THE OPENING.
5. MANHOLE VENTS SHALL BE SUBSIDIARY TO THE COST OF THE MANHOLE.
6. MANHOLES AT THE FOLLOWING STATIONS ARE TO BE VENTED.

   OUTSIDE OF THE FLOOD PLAIN
   - 7+95.02
   - 38+61.14
   - 67+55.04

   WITHIN THE FLOODPLAIN
   - 20+55.67
   - 54+63.54



4 GUARD POST DETAIL

SCALE: NTS

STATE OF TEXAS
MARIO A. VALDEZ
121595
LICENSED PROFESSIONAL ENGINEER
06/02/2020

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No.	Revision	By	Date
1	ADDENDUM NO. 1	MAV	06/02/2020

SAN ANTONIO WATER SYSTEM

E-16: WURZBACH PARKWAY SEWER AT HIGHWAY 281

SHEET

SEWER DETAILS (SHEET 1 OF 2)

DATE: APRIL 2020	SAWS PROJECT NO.	SHEET NO.
DESIGN: MAV	18-4509	C34
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	