



**Multiple Sewershed Package 7B**  
**Solicitation Number: CO-00308**  
**Job No.: 17-4534**

**ADDENDUM 2**  
**October 25, 2019**

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the bid 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 bid proposal.

<b>CHANGES TO THE SPECIFICATIONS</b>
--------------------------------------

1. The estimated cost for this project has changed to **\$1,892,000**, which is also now reflected on SAWS website at the following:  
  
[https://apps.saws.org/Business\\_Center/Contractsol/Drill.cfm?id=3663&View=Yes](https://apps.saws.org/Business_Center/Contractsol/Drill.cfm?id=3663&View=Yes)
2. Remove the "Bid Proposal Form", Pages BP1 and BP-2, and replace with the revised Pages BP-1 and BP-2 attached to this addendum. This version should be used by Bidders when submitting a bid for this project. The following changes have been made:
  - Quantity for Item 200 Flexible Base, compacted in Place (6") – Install and Removal has been revised.
  - Item 860 Vertical Stacks has been added.
  - Item 1109 Service Reconnection, All Depths (W/Remote Control Cut Device) has been added.
  - Item 1109 Service Reconnection, All Depths (W/ Open Cut Excavation) has been added.
3. Remove and replace the Special Provisions in entirety with the revised version attached to this Addendum. Section 901.4 Materials has been revised for soil modulus requirements, and Sections 1109.3 and 1109.4 have been revised to correct section references to Standard Specification 1109.
4. Add the following to Special Conditions, Section 2 – Project Requirements, Page SC-2:  
  
"If artifacts are found during excavation, excavation should be stopped immediately until Joint Base San Antonio (JBSA) Cultural Resources are notified and they advise how to proceed."
5. Add the following to Special Conditions, Section 2.2 – Permits, Page SC-2:  
  
"Contractor shall comply with the City of San Antonio Tree Ordinance and with all requirements within attached COSA Tree Protection and Management Memo. No separate payment will be made for compliance with these requirements".
6. Insert COSA Tree Protection and Management Memo attached to this addendum into Appendix A Permits.

## MODIFICATIONS TO PLANS

1. Plan sheet 02 (Sheet G02 General Notes and Index of Drawings) – Replace sheet dated 10/4/19 with attached sheet dated 10/23/19.
2. Plan sheet 03 (Sheet G03 Symbols, Abbreviations, and Summary of Quantities) – Replace sheet dated 10/4/19 with attached sheet dated 10/23/19.
3. Plan sheet 06 (Sheet C02 Fort Sam Houston AW47 Site Access Plan) – Replace sheet dated 10/4/19 with attached sheet dated 10/23/19.

## RESPONSES TO QUESTIONS

### 1. Question 1

**Regarding access to MH #48376, the caliche road was washed out and muddy due to a watermain leak. Can the pay item for matting (SP 4000) be extended for use on the caliche road and pad around the MH, should the condition of the road still be unsuitable for heavy truck use at the time of construction ?**

*Response: Contractor to regrade and repair existing gravel road and place new compacted base material (6" depth) as needed within temporary easement limits for access. Quantities for Item 200 – Flexible Base Compacted in Place (6") have been revised. See attached revised Bid Proposal and plan sheet 6 as part of this Addendum.*

### 2. Question 2

**SAWS has allowed the wall thickness design to be based on a Soil Modulus of 1000 psi in lieu of 500 psi. We are requesting that the same appropriate allowance be made for this project. Please see the example below of a previous SAWS response. (No 500 psi required but designs shall be stamped by 3<sup>rd</sup> party P.E.)**

*Response: Minimum soil modulus requirements have been revised. As part of this addendum, see attached revision to Special Provision Item 901.4, page SPTS-10.*

### 3. Question 3

**1. Will all workers be subjected to thorough background checks?**

*Response: Yes all workers will be subject to thorough background checks in order to obtain a base security pass.*

### 4. Question 4

**Will the worker background check include inquiries of criminal history, outstanding warrants and status of U.S. citizenship?**

*Response: Yes, worker background checks will include criminal history, outstanding warrants and US citizenship status.*

### 5. Question 5

**1. Are any laterals expected to be encountered on this project that will need to be reinstated after lining? If there will be laterals, can they be reinstated internally, or will they be required to be reconnected by open-cut methods? There is no bid item for reinstating laterals, but section 1109 is included in the Special**

Provisions to Technical Specifications, and it outlines the method for reconnecting laterals by open-cut and indicates that there would be no payment for reconnecting laterals to the CIPP by this method. Also, please clarify which portion of the standard specification this special provision is replacing since SP-1109.3 says to replace the "Reconnection by Remove Method", but there does not appear to be any section with that title in the standard specification for 1109.3, and SP-1109.4 says to add the payment clarification to item 2, but there does not appear to be an item 2 under standard specification 1109.4.

*Response: Based on available information, there are no known laterals that will need to be reinstated after lining. CCTV data is not complete for some sections of existing sewer main to be lined, therefore it is possible there are unanticipated laterals that will need to be reinstated. Contractor shall submit an RFI for any laterals encountered during cleaning and televising of existing sewer main. The existing condition of any unknown laterals will determine the method of reconnection. Special Provision SP-1109.3 and SP-1109.4 have been revised to correct references to Standard Specification 1109.3 and 1109.4. The following bid items have been added to the bid proposal in case service laterals are encountered:*


- *Item 860 Vertical Stacks*
- *Item 1109 Service Reconnection, All Depths (W/Remote Control Cut Device)*
- *Item 1109 Service Reconnection, All Depths (W/ Open Cut Excavation).*

**END OF ADDENDUM**

This Addendum, including these three (3) pages, is twenty five (25) pages in its entirety.

Attachments:

Bid Proposal Form (Page BP-2)  
Special Provisions to Technical Specifications  
COSA Tree Protection and Management Memo  
Plan sheet 02 (Sheet G02 General Notes and Index of Drawings)  
Plan sheet 03 (Sheet G03 Symbols, Abbreviations, and Summary of Quantities)  
Plan sheet 06 (Sheet C02 Fort Sam Houston AW47 Site Access Plan)

  
\_\_\_\_\_  
Jeffrey E. Reck, P.E.  
Arcadis US, Inc.  
TBPE Firm No. F-533



10-24-19

BID PROPOSAL

PROPOSAL OF \_\_\_\_\_, a corporation  
a partnership consisting of \_\_\_\_\_  
an individual doing business as \_\_\_\_\_

THE SAN ANTONIO WATER SYSTEM:

Pursuant to Instructions and Invitation to Bidders, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the project as specified, in accordance with the Plans and Specifications for the following prices in the bid proposal to wit:

**PLEASE SEE ATTACHED LIST OF BID ITEMS.**

\_\_\_\_\_  
BIDDER'S SIGNATURE & TITLE  
\_\_\_\_\_  
FIRM'S NAME (TYPE OR PRINT)  
\_\_\_\_\_  
FIRM'S ADDRESS  
\_\_\_\_\_  
FIRM'S PHONE NO. /FAX NO.  
\_\_\_\_\_  
FIRM'S EMAIL ADDRESS

The Contractor herein acknowledges receipt of the following:  
Addendum Nos. \_\_\_\_\_

OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID OR PROPOSAL.

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price, and to complete the Project within **270** calendar days after the start date, as set forth in the Authorization to Proceed. **The bidder understands and accepts the provisions of the contract Documents relating to liquidated damages of the project if not completed on time.**

Complete the additional requirements of the Bid Proposal which are included on the following pages.

ITEM	SPEC NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	100.1	Intermediate Mobilization/Demobilization	LS	1	\$	\$
2	107.1	Embarkment	CY	707	\$	\$
3	200	Flexible Base, compacted in place (6") - Install and Removal	SY	5962	\$	\$
4	502	Concrete Sidewalks	SY	79	\$	\$
5	515.1	Topsoil (4 inches)	CY	562	\$	\$
6	516.4	Tiffway 418 Bermuda Sod (Golf Course Quality, Sand Based)	SY	2496	\$	\$
7	SS 518.2	Tree Protection- Level IIB (per CoSA Tree Ordinance Requirements)	EA	53	\$	\$
8	520.1	Hydromulching	SY	17354	\$	\$
9	530.1	Barricades, signs and traffic handling	LS	1	\$	\$
10	540.6	Construction Exits (Install/ Remove)	SY	889	\$	\$
11	540.9	Temporary Sediment Control Fence (Install/Remove)	LF	641	\$	\$
12	550	Trench Excavation Safety Protection	LF	275	\$	\$
13	551	Temporary Special Shoring	SF	4975	\$	\$
14	554.1	Erosion Control Matting	SY	247	\$	\$
15	855	Reconstruction of Existing Manhole	EA	2	\$	\$
16	858	Concrete Encasement, Craddles, Saddles and Collars	CY	5	\$	\$
17	860	Vertical Stacks	VF	10	\$	\$
18	864-S2	Bypass Pumping (Large Diameter Sanitary Sewers)	LS	1	\$	\$
19	866	Sewer Main Television Inspection (18"-24")	LF	3577	\$	\$
20	901	Install cured in place pipe (CIPP) Sanitary Sewer Pipe (Hot water cured) 24-inch diameter	LF	3577	\$	\$
21	SS 910.1	Sanitary Sewer Manhole Rehabilitation (Standard Manholes 4 ft diameter)	VF	78	\$	\$
22	1103.1	Point repairs for 24" Diameter & larger, (all depths) including up to 20 LF of piping	EA	9	\$	\$
23	1103.2	Extra Length Point repairs for 24" Diameter & larger, all depths	LF	30	\$	\$
24	1103.3	Obstruction removal by remote device	EA	8	\$	\$
25	1109	Service Reconnection, All Depths (W/ Remote Control Cut Device)	EA	1	\$	\$
26	1109	Service Reconnection, All Depths (W/ Open Cut Excavation)	EA	1	\$	\$
27	SP 4000	Composite Construction Matting	SY	2496	\$	\$
<b>SUBTOTAL (ITEMS 1 - 27)</b>					\$	\$
28	100	Mobilization and Demobilization; Max of 10% of Line Items 1 - 27	LS	1	\$	\$
29	101	Preparing Right of Way; Max 5% of Line Items 1 - 27	LS	1	\$	\$

Mobilization and Preparing of Right of Way shall be limited to the maximum percentage shown. **If the percentage exceeds the allowable maximum stated for mobilization and/or preparation of Right of Way, SAWS reserves the right to cap the amount at the percentages shown and adjust the extensions of the bid items accordingly.**

**TOTAL BID PRICE (ITEMS 1 - 27 AND 28 - 29)** \$ \_\_\_\_\_

# Special Provisions to Technical Specifications

## A. Revision to SAWS Standard Specification Item 100 Mobilization

**100.1 DESCRIPTION: ADD** the following paragraph at the end of the section:

*The Intermediate Demobilization and Remobilization item shall govern the demobilization and remobilization of personnel, equipment, and supplies as indicated and directed by Owner. Intermediate demobilization and remobilization shall include all of the associated expenses and fees incurred by the Contractor for an Owner approved/directed intermediate demobilization to include stabilization of the project area to safe conditions during the demobilization time and a remobilization for project completion upon re-authorization from Owner. The demobilization and remobilization shall be approved as a written directive from the Owner only if delay outside the Contractor's control and that are otherwise not described would impede any road closures, detours, etc. if such road closure is required for the completion of any work for the Fort Sam Golf Course site, Contractor shall perform the proposed work at this site without hindering any events beyond what is approved on the permits*

**100.2 MEASUREMENT: ADD** the following paragraph at the end of the section:

*Measurement of the Intermediate Demobilization and Remobilization item shall be by "Lump Sum," but requires written approval from SAWS. If there is no event(s) requiring the intermediate demobilization and remobilization there shall be no measurement and payment for this item.*

**100.3 PAYMENTS: ADD** the following paragraph at the end of the section:

*Payment of the Intermediate Demobilization and Remobilization item shall only be paid if prior authorization in writing was given by SAWS. Payment of this item is limited to delays outside the Contractor's control and that are not otherwise described and provided in the General Conditions. Contractor shall be paid 50% for this item upon demobilization and 50% of this item upon remobilization. There shall be no payment of this item if the Owner does not approve any intermediate demobilization and remobilization for the project.*

All other language in this specification 100 remains in full force.

## B. Revision to SAWS Standard Specification Item 101 Preparing Right-Of-Way

**101.2 CONSTRUCTION METHODS: ADD** the following:

*Contractor shall stake each edge of the 20-foot temporary construction easement at a minimum interval of every 50-foot and at all deflection points using survey*

# Special Provisions to Technical Specifications

*lathes or equivalent prior to starting any work at the site. Contractor shall coordinate with Fort Sam Houston Golf Course to schedule dates for staking work to take place.*

All other language in this specification 101 remains in full force.

## **C. Revision to CoSA Specification Item 516 Sodding**

**516.1 DESCRIPTION: DELETE** this section in its entirety and **REPLACE** with the following:

*This item shall govern for the furnishing and planting of Bermuda, Tiffway 419 Bermuda Sod (Golf Course Quality, Sand Based), St. Augustine, Buffalo 609 or other acceptable grass sod on the areas designated on the plans or as directed by the Engineer. All planting shall be completed as soon as practical to avoid erosion of topsoil and graded areas in advance of acceptable of the work. Sodding restoration for the site on the golf course, requires coordination and approval of the Fort Sam Houston Golf Course.*

**516.7 BID ITEM: ADD** the following item at the end of the section:

*Item 516.4 Tiffway 419 Bermuda Sod (Golf Course Quality, Sand Based) – per square yard*

All other language in this specification 516 remains in full force.

## **D. Revision to CoSA Specification Item 540 Temporary Erosion, Sedimentation and Water Pollution Prevention and Control**

**540.1 DESCRIPTION: ADD** the following:

*For additional Stormwater Pollution Prevention Requirements, reference the attached SW3P Notice to Permit Holder regarding updates to the Construction Stormwater Ordinance (Ord. 94002) effective January 1, 2017 attached to the end of the Special Provisions to Technical Specifications.*

**540.4.A CONSTRUCTION: DELETE** this section in its entirety and **REPLACE** with the following:

### *A. Contractor Responsibilities*

- 1. SW3P. Contractor shall provide Storm Water Pollution Prevention Plan (SW3P) designed in accordance with the specific or general storm water requirements. SW3P shall be sealed by a professional engineer licensed in*

# Special Provisions to Technical Specifications

*the state of Texas. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site. The Contractor shall effectively prevent and control erosion and sedimentation on the site at the earliest practicable time as outlined in the approved schedule. Control measures, where applicable, will be implemented prior to the commencement of each construction operation or immediately after the area has been disturbed.*

All other language in this specification 540 remains in full force.

## **E. Revision to Standard Specification Item 550 Trench Excavation Safety Protection**

**550.2 CONSTRUCTION: ADD** the following to the end of the section:

*Contractor shall submit a Trench Excavation System Plan, designed and sealed by a professional engineer licensed in the State of Texas (Contractor's Engineer), for review by the Engineer and SAWS as product data. The Trench Excavation System Plan shall comply with the Occupational Safety and Health Administration (OSHA) Part 1926 – Safety and Health Regulations for Construction, Subpart P – Excavations section 652 – Requirements for protective systems. If applicable, this item shall be provided as a submittal to the Engineer and SAWS prior to mobilizing to the project site(s).*

**550.3 MEASUREMENT: ADD** the following to the end of the section:

*If applicable, the Trench Excavation Safety Protection measurement shall include the Trench Excavation System Plan, designed and sealed by a professional engineer licensed in the State of Texas (Contractor's Engineer). Contractor shall provide as a product data submittal to the Engineer and SAWS.*

**550.4 PAYMENT: ADD** the following to the end of the section:

*If applicable, the Trench Excavation System Plan, designed and sealed by a professional engineer licensed in the State of Texas (Contractor's Engineer), shall be subsidiary to the Trench Excavation Safety Protection pay item. There shall be no additional payment for the successful completion of this work.*

All other language in this specification 550 remains in full force.



# Special Provisions to Technical Specifications

## F. Revision to Standard Specification Item No. 850 Sanitary Sewer Structures

**850.7 PAYMENT: DELETE** this paragraph in its entirety and **REPLACE** with the following:

*The work as described in this specification, shall be paid for at the unit price bid per each for “Sanitary Sewer Structures”, and where noted as “Cast-In-Place Concrete Base Sanitary Sewer Structure with Precast Concrete Manhole Sections”, which price shall be full compensation for furnishing and placing all materials, manipulations, bases (whether cast-in place or precast) with pipe cradles, rings and covers, cones, throat rings, I/I barrier, testing precast sections, concrete, flowable fill, manhole ring encasement, mortar, diversion of flows within structure installation, labor, tools, equipment and incidentals necessary to complete the work.*

*Please note there shall be no separate measurement and payment for manhole coatings.*

*Concrete cradles for pipes entering and leaving a structure shall not be measured separately for payment and shall be considered subsidiary to the structure installation.*

All other language in this specification 850 remains in full force.

## G. Revision to Standard Specification Item No. 854 Sanitary Sewer Laterals

**854.6 PAYMENT: DELETE** the first paragraph which reads:

*Sanitary sewer laterals shall be paid for at the contract bid price per linear foot complete in place for the type, and size constructed. Price shall be full compensation for furnishing all materials, including pipe, pipe fittings (to include wyes, tees, bends), pumping, bedding, trenching or boring, trench protection, backfilling, tamping, cutting pavement and surface structures of whatever type encountered and replacement with whatever type specified and other incidentals required to complete the work.*

**ADD** the following as the first paragraph:

*Sanitary sewer laterals shall be paid for at the contract bid price per linear foot complete in place for the type, and size constructed. Price shall be full compensation for furnishing all materials, including pipe, cleanout covers/lids (typical type, unless otherwise noted in contract documents or by SAWS Inspector), pipe fittings (to include wyes, tees, bends), pumping, bedding, trenching or boring, trench protection, backfilling, tamping, cutting pavement and surface structures of whatever*

# Special Provisions to Technical Specifications

*type encountered and replacement with whatever type specified and other incidentals required to complete the work.*

All other language in this specification 854 remains in full force.

## **H. Revision to Standard Specification Item No. 855 Reconstruction of Existing Manholes**

**855.4.3 MATERIALS: ADD** the following:

### *3. Manhole Ring and Cover:*

- f. Specific manhole covers located inside the floodplain shall be vented as indicated on the plans. Vent configuration shall follow the detail provided in the plans. Contractor shall submit the vent material submittal with the manhole submittal for review and approval by Engineer and SAWS. This work shall be considered incidental to manhole reconstruction and shall not be a separate pay item.*

All other language in this specification 855 remains in full force.

## **I. Revision to Standard Specification Item No. 864-S2 Bypass Pumping Large Diameter Sanitary Sewers**

**864.7 MEASUREMENT AND PAYMENT: DELETE** this section in its entirety and **REPLACE** with the following:

- 1. Measurement for the work specified herein will be by lump sum as stated in the contract documents and plans. Payment of the "LUMP SUM" bid item for Bypass Pumping shall be in accordance with the following: Any effort required shall be included in the per lump sum bid price. Said effort shall include, as noted on the plans, the bypassing of large diameter mains. There will be no separate pay item for the bypassing of small diameter mains discharging into the proposed sewer pipeline rehab section(s).*
- 2. When initial set-up and operation of the bypass pumping system begins at the site (including the passing of required testing), 20% of the "LUMP SUM" cost will be paid as applicable to stationary bypass pumping to include flow diversion if used.*
- 3. 60% of the "LUMP SUM" cost will be paid over equal monthly payments (estimated from the BPP or other documentation approved by the Inspector) during the bypass pumping operation/course per site, as applicable to*

# Special Provisions to Technical Specifications

- stationary bypass pumping to include flow diversion if used.*
4. *20% of the remaining "LUMP SUM" cost will be paid upon an acceptable removal and/or disassembly of all components of the BPP per site, including site cleanup as applicable to stationary bypass pumping to include flow diversion if used.*
  5. *For multi-bypass pumping setups required per site, payment will be proportional to the overall amount of the established bid line item.*
  6. *Any damages, repairs, etc., to private or public property will not be considered for any additional payment.*
  7. *Measurement of the work for pipe plugs and transmitter shall be incidental to the work and will not have a separate pay item.*
  8. *Measurement of the work for burying bypass piping, installing flowable fill, temporary pavement, removing buried bypass piping and flowable fill, disposing of said items, permanent flowable fill, pavement restoration (including road markings, i.e. striping) shall be incidental to the work under this bid price and will not have a separate pay item, unless otherwise stated in contract documents.*
  9. *Measurement of the work for paving restoration, CoSA trails, or as noted on the plans shall be paid under the specified line items. The noted restoration items with separate payment are following the bypass plans included in the contract documents. There shall be no additional payment for any items to account for the Contractor's own designed bypass pumping system. Also, there shall be no payment of these items if the Contractor's own designed bypass pumping system doesn't require the noted restoration items.*

All other language in this specification 864-S2 remains in full force.

## **J. Revision to Standard Specification Item No. 866 Sewer Main Television Inspection**

**866.1 DESCRIPTION: DELETE** this section in its entirety and **REPLACE** with the following:

*The Contractor shall furnish all labor, materials, equipment, and incidentals to provide the closed-circuit televising. All inspections shall be in accordance with NASSCO PACP requirements and a NASSCO PACP database shall be submitted. All digital video files shall be color, closed-circuit TV in MPEG-1 format. The video shall include an inclinometer, visible on the video being viewed, noting the slope of the main being televised. The contractor shall provide all inspection data of mains and manholes written to a single storage device.*

General Clarification: All references to DVD should be replaced with a single data storage device.

# Special Provisions to Technical Specifications

**8662 GENERAL: DELETE** this section in its entirety and **REPLACE** with the following:

*Before construction of the sanitary sewer main, the main shall be televised to locate laterals, observe existing conditions and immediately upon cleaning or clearing existing main. The Contractor shall furnish all labor, equipment, appliances, and materials necessary for cleaning the sewer system including the removal of all*

*debris, solids, sand, grease, grit, etc. from the sewer and manholes to facilitate television inspection. Televising shall be observed by the Inspector or Engineer and contractor as the camera is run through the system and shall be in accordance with*

*NASSCO PACP guidelines. No additional compensation shall be provided for cleaning, clearing, or re-televising.*

*After construction of the sanitary sewer main and prior to placement of the final course of asphalt or other final surface, the newly constructed sanitary sewer shall be televised immediately upon cleaning. Televising shall be observed by the Inspector or Engineer, and contractor as the camera is run through the system. Any abnormalities such as, but not limited to, misaligned joints, cracked/defected pipe, rolled gaskets, shall be repaired by the Contractor solely at his expense. Sections requiring repair shall be re-televised to verify condition of repair. No additional compensation shall be provided for all needed repairs, re-cleaning, or re-televising efforts.*

**8663 EXECUTION: DELETE** the following section:

*The television unit shall also have the capability of displaying in color, on DVD, pipe inspection observations such as pipe defects, sags, points of root intrusion, offset joints, service connection locations, and any other relevant physical attributes. Each DVD shall be permanently labeled with the following:*

1. *Project name / SAWS Job # / Work Order #;*
2. *Date of television inspection;*
3. *Station to station location and size of sanitary sewer;*
4. *Street/easement location;*
5. *Name of Contractor;*
6. *Date DVD submitted;*
7. *DVD number;*
8. *SAWS Inspector Name.*

The section above shall be **REPLACED** with the following:

*The television unit shall also have the capability of displaying in color, on videos,*

# Special Provisions to Technical Specifications

*pipe inspection observations such as pipe defects, sags, points of root intrusion, offset joints, service connection locations, and any other relevant physical attributes. Each video shall be permanently labeled at the beginning of the video with the following:*

1. *Project name / SAWS Job # / Work Order #;*
2. *Date of television inspection;*
3. *Manhole UNITIDs (as labeled on plans and size of sanitary sewer);*
4. *Street/easement location;*
5. *Name of Contractor;*
6. *Date video submitted;*
7. *Data storage device number;*
8. *SAWS Inspector Name.*

**8668 MEASUREMENT AND PAYMENT: DELETE** this section in its entirety and **REPLACE** with the following:

*Measurement and payment will be made for the work to be done on the basis of the unit bid price per linear foot of pipe diameters 8" through 15," 18" through 24," and 30" and larger, unless otherwise noted by item and shall be considered full compensation for all labor, materials, equipment, tools, logging, cleaning, bypass pumping and incidentals necessary to complete the work, as illustrated below, except as noted in the following paragraph.*

1. 866: *Sewer Main Television Inspection*
2. Category:  
  
866.1 *8" through 15"*  
  
866.2 *18" through 24"*  
  
866.3 *30" and larger*

All other language in this specification 866 remains in full force.

## **K. Revision to Standard Specification Item No. 901 Rehabilitation of Sanitary Sewer By Cured-In-Place Pipe (Hot Water or Steam Cured)**

**901.1 DESCRIPTION: DELETE** this section in its entirety and **REPLACE** with the following:

*This specification includes requirements to rehabilitate existing sanitary sewers by*

# Special Provisions to Technical Specifications

*the installation of a resin-impregnated flexible tube, which is formed to the original conduit. The liner is inserted via an existing manhole or other access. The lining shall be installed using the following insertion method:*

1. *Water inversion – where the lining is inverted under the pressure of water and cured by circulating hot water.*

**901.3.4 SUBMITTALS: ADD** the following sentence to the end of item 4 in this section:

4. *Design calculations shall be identified by Manhole Numbers and segment identifiers in the plans.*

**901.3.6 SUBMITTALS: ADD** the following sentence to the end of item 6 in this section:

6. *Map shall provide sufficient detail to indicate the proposed liner insertion location/manhole and which pipe segments will be installed through said insertion location. Map shall also show any locations for field wet-out (“over the hole”) insertion locations. Indicate source of water and pipeline route for each segment. Indicate location for any site-built towers or such temporary structures required to obtain sufficient pressure head for liner installation.*

**901.3 SUBMITTALS: ADD** the following item to the end of this section:

17. *Contractor shall submit installer qualifications for review and approval by Engineer for compliance with specification requirements (Five (5) recent references and/or projects of the CIPP installer indicating pipe diameter, construction type using hot water, length, year completed, and project cost). The information shall indicate Key Personnel assigned on those past projects, and at least the superintendent or project manager shall be Key Personnel on this project and on site or readily accessible during CIPP installation per site.*
18. *Contractor shall submit resumes for Key Personnel staff assigned to project for review and approval by Engineer for compliance with specification requirements.*

# Special Provisions to Technical Specifications

**901.4 MATERIALS: ADD** the following sentence to the end of item 6 in paragraph 3.e. in this section:

- 6). *A soil modulus of 1000 psi may be used if documented site specific soil data (signed and sealed by a professional Engineer registered in the State of Texas) is provided with liner thickness design calculations required in 901.3 Submittals, Section 4.*

**901.5.1 CONSTRUCTION: DELETE** this section in its entirety and **REPLACE** with the following:

- a. *Installation of the CIPP products shall be performed by a work force that is experienced and certified in installation of the products. The installer shall be certified by the CIPP product manufacturer to have been trained and approved in the installation of their CIPP products and have a minimum of fiver (5) years total experience with the product.*
- b. *CIPP installer's project manager shall have a minimum of three (3) years of CIPP installation experience and must be on-site during the installation of the CIPP products. Experience shall be documented to the Owner's satisfaction in the form of a resume of work experience detailing scope of work (linear footage and pipe diameters), location of work, and reference contact information (owner, contact name, title, and phone number).*
- c. *Installer's superintendent shall have a minimum of fiver (5) years of CIPP installation experience and must be on-site during the installation of the CIPP products. Experience shall be documented to the Owner's satisfaction in the form of a resume of work experience detailing scope of work (linear footage and pipe diameters), location of work, and reference contact information (owner, contact name, title, and phone number).*

**901.5.2 CONSTRUCTION: DELETE** this section in its entirety and **REPLACE** with the following:

- a. *Installer shall only use hot water curing equipment that has been certified and approved for use by the CIPP product manufacturer.*

All other language in this specification 901 remains in full force.

## **L. Revision to Standard Specification Item No. 1103 Point Repairs and Obstruction Removals**

**1103.3 CONSTRUCTION: DELETE** the section "2. Obstruction Removal" and

# Special Provisions to Technical Specifications

**REPLACE** with the following:

2. Obstruction Removal - Remove obstructions using one of the following methods:

a. *Obstruction Removal by remote device:*

(1) *Protruding taps: Service laterals that protrude more than one inch into the sewer main*

(2) *Other obstructions: Fixed debris, stabilized sand, hardened mineral deposits, roots, rust scale, tuberculation, etc.*

b. *Obstruction Removal by excavation: Obstructions encountered during liner insertion that need to be removed by digging and exposing the damaged section of the main to be rehabbed.*

**1103.4 MEASUREMENT AND PAYMENT: DELETE** the section “1. Unit Prices – Point Repairs” and **REPLACE** with the following:

1. *Unit Prices- Point Repairs:*

a. *Measurement for sewer line point repair is on a unit price basis for each repair performed. Minimum length of pipe to be replaced for each repair, determined by depth of sewer line measured from natural ground to flow line at point of repair.*

b. *9 feet minimum length.*

c. *Measurement for sewer line extra length point repair is on a linear foot basis in excess of 20 feet.*

d. *Payment for service lateral point repair is on a linear foot basis for all sizes of service laterals and for all depths (same unit price per linear foot, regardless of size and depth). No separate payment will be made for point repair done within the limits of a service lateral reconnection as defined in this Section. Minimum length of service lateral point repair is 3 feet.*

e. *Measurement for hand excavation: When authorized by the Inspector in locations where excavation by machine is not suitable, no direct payment shall be made for hand excavation.*

f. *Measurement for abandonment of point repair by excavation: No direct payment shall be made for abandonment of point repair.*



# Special Provisions to Technical Specifications

- g. *Measurement for abandonment of point repair by video inspection: No direct payment shall be made for abandonment of point repair by video inspection.*
- h. *The cost of the following items of work are included in the unit prices for point repairs, and all associated work:*
  - 1) *Excavation, embedment and backfill;*
  - 2) *Hauling away and lawful disposal of excess excavated materials and debris;*
  - 3) *Pipe, pipe fittings, adapters and concrete collars;*
  - 4) *Smoke testing and any required retesting;*
  - 5) *Post-cleaning video inspection;*
  - 6) *All other necessary work to complete.*
- i. *Payment for site restoration (HMAC, sodding, etc) for each point repair shall be considered subsidiary to the site paving restoration shown on the plans, unless it is specifically called out for payment on the plans or contract documents. There will be no separate pay item for this restoration.*

**1103.4 MEASUREMENT AND PAYMENT: DELETE** the section “2. Unit Prices – Obstruction Removal” and **REPLACE** with the following:

**2. Unit Prices- Obstruction Removal:**

- a. *Obstruction removal by excavation will be paid per each obstruction removal performed. Obstruction removal can be submitted for payment when the obstruction has been cleared from the sewer line to be lined. Liner work must proceed at least six (6) feet before payment for removal of another obstruction will be considered (i.e., all obstruction within a distance of six (6) feet is considered to be a part of the same obstruction.)*
- b. *Obstruction removal by remote device will be paid on a unit price basis, except that additional obstruction removal within six (6) feet of the obstruction shall not be measured separately for payment.*
- c. *The cost of the following work items are included in the unit prices for obstruction removal:*
  - (1) *Cleaning of sanitary sewers due to broken pipe, roots, dirt, loose deposits, etc.;*

# Special Provisions to Technical Specifications

- (2) *Post television inspection;*
- (3) *Excavation, embedment and backfill;*
- (4) *Hauling away and lawful disposal of excess excavated material and debris;*
- (5) *For obstruction removal by open cut excavation, restoration of site improvements, including sodding, except for paved areas which shall be measured separately per this section.*
- (6) *All other necessary effort to complete work.*

*Payment will not be made for obstruction removal if the existing sewer line, service line or tap is damaged and a point repair is required. Payment for paving restoration for each obstruction removal by shall be considered subsidiary to the line item, unless otherwise noted and quantified on the design plans or contract documents.*

*Removal of hard deposits, concrete, debris, pipes or any other material in a manhole, or that is accessible from the manhole wall, will be cleared under work items for rehabilitation of sanitary sewer manholes.*

- d. *Hanging gaskets shall not be measured separately for payment and shall be considered subsidiary to the pay item to which it relates.*
- e. *Obstruction removal locations shown on plans are based upon available CCTV videos dated 2014 through 2016. Contractor shall plan for the potential need for fine root removal being necessary at locations not indicated on plans. Additional fine root removals not shown on plans will not be paid for separately but shall be subsidiary to bid item 866.2 Sewer Main Television Inspections (18"-24") or bid item 866.3 Sewer Main Television Inspection (30" and larger).*

All other language in this specification 1103 remains in full force.

## **M. Revision to Standard Specification Item No. 1109 Sanitary Sewer Lateral Stub Outs or Reconnections**

**1109.3 CONSTRUCTION: DELETE** the "Reconnection by Excavation Method" section in its entirety and **REPLACE** with the following:

3. *Reconnection by Excavation Method:*
  - a. *Remove a portion of existing sanitary sewer main or carrier pipe to expose the CIPP liner. Provide sufficient working space for installing Inserta Tee (or Engineer approved equal) in accordance with manufacturer instructions.*
  - b. *Carefully cut the CIPP liner pipe to make a neat hole for installation*

# Special Provisions to Technical Specifications

*of rubber boot for Inserta Tee (or Engineer approved equal). Install Inserta Tee in accordance with manufacturer instructions.*

- c. Remove and replace cracked, offset, or leaking service lines for up to 5 feet, measured horizontally, from the center of the new main or liner.*
- d. Employ method and equipment that restore the service connection capacity to not less than 90 percent of original capacity.*
- e. Make up the connection between new main or liner and lateral using PVC sewer pipe, with approved fittings and couplings.*
- f. Encase the entire lateral connection in flowable fill (200 psi minimum) or Engineer approved equal.*
- g. Where noted on the design plans, full lateral replacement and cleanout shall be performed and paid under the applicable line items.*
- h. Test each lateral connection before backfilling.*

**1109.4 MEASUREMENT AND PAYMENT: ADD** the following to item 1:

- k. No separate payment shall be made for Inserta Tees (or Engineer approved equal) when reconnection by excavation is required.*

All other language in this specification 1109 remains in full force.

## **N. Revision to Standard Specification Item No. 1114 (Pre-Construction Video)**

**1114.3 EXECUTION: DELETE** this section in its entirety and **REPLACE** with the following:

*Prior to beginning the project, the contractor shall submit two copies of the completed DVD for the entire project prior to submission of request for mobilization for review and approval. Failure to submit DVD will result in denial of any request for payment under the Mobilization line item or Preparation of Right-of-Way. Contractor shall ensure to document pre-construction conditions of all sites (i.e. Golf Courses, Private Properties, CoSA Parks Trails, etc.) to confirm any discrepancies in what the Contractor restores to match pre-construction, existing conditions and what the property owner or stakeholders deems as the required restoration.*

# Special Provisions to Technical Specifications

All other language in this specification 1114 remains in full force.

**- END -**



**Development Services Department**  
Land Development - Environmental

**TO:** Mr. Reck  
**FROM:** Charles Johnson  
**SUBJECT:** Tree Protection and Management  
**PROJECT:** Case #CIP173309 SAWS 17-4534 MSP Package 7B  
**DATE:** Date

Dear Mr. Reck and Team

Thank you very much for the opportunity to review and comment on the CIP173309 SAWS 17-4534 MSP Package 7B project. I appreciate the attentiveness given to the tree preservation issues related to this project. The City of San Antonio does not have direct author on non-city owned property unless granted via other mechanisms. However, we greatly appreciate the opportunity to provide input and advice on this project to help ensure the project meets the Uniform Development Code's tree requirements. Based on the currently available information, the project may proceed as a coordination project.

Notes & General Comments:

- 1) Prior to the start of work, call 207-1111 and reference Case #CIP173309 SAWS 17-4534 MSP Package 7B to schedule a pre- construction and fencing inspection. [Sec. 35-477 (5) (c)]
- 2) 35-477 (h) Amendments. Notification and review by the city arborist should be obtained if changes need to be made to the plans that will impact protected trees or the root protection zone of protected trees.
- 3) Contractor should provide a licensed Tree Maintenance Professional throughout the project for tree related activities per City of San Antonio Ordinance Article VIII Sec. 21-171.
- 4) Tree roots shall be cut with a saw and painted prior to excavation with equipment.
- 5) **35-477 (j)** The plan holder should maintain a copy of the data and drawings, and the conditions of the City Arborist, readily available at the site at all times during which the authorized work is in progress.
- 6) **35-523 (k) (4)** All broken branches & exposed roots of Significant, Heritage or mitigation trees should be cut cleanly
- 7) Staging, Parking, Storage, Employee Parking, etc.,:
  - a) All construction access and staging areas will need to be surveyed and associated tree impacts will need to be accounted for in the preservation plan.
  - b) Staging, parking, and material storage areas and project limits of clearance must be discussed and approved with the inspector during the pre-construction/fencing inspection.
  - c) 35-523 (k) (5) All offsite staging, storage, project trailers, employee parking, etc. are required to obtain and comply with a Temporary Uses Certificate of Occupancy.
- 8) **21-170 (b)** All wounds to the trunk, limbs, and root system of oak trees in the city that expose sapwood shall be painted within 30 min. of the wound with asphaltic, exterior oil or latex based paint.
- 9) **35-523 (j) (1)** Root Protection Zone:
  - a) A root protection zone must be established around the trunk of each tree preserved or mitigation tree. The root protection zone shall be an area defined by an average radius extending outward from the trunk of the tree a distance of one (1) linear foot for each inch (DBH).

- b) The root protection zone area shall be preserved at natural grade, with natural groundcover.
- c) No cutting, filling, trenching, root disturbance, soil disturbance, or construction impacts shall occur closer to the trunk than one-half (½) the root protection zone radius except in parking areas where approved alternative materials and methods are used, construction may be as close as five (5) feet from the root flares on one (1) side of the tree. The impervious cover may encroach within the root protection zone if said encroachment is approved by the city arborist.
- d) Filling shall be allowed to accomplish water conservation goals established by the City of San Antonio or by a public utility.

Please do not hesitate to contact me if you have questions regarding this communication of I may be of further assistance.

Thanks much, Charles

Charles G Johnson  
Development Services Department – Land Development  
Office: 210-207-0170  
Email: [Charles.johnson2@sanantonio.gov](mailto:Charles.johnson2@sanantonio.gov)



**Development Services Department**  
Land Development – Environmental

***Partnering with our community to build and maintain a safer San Antonio***

Please take a moment and tell us how we are doing by taking our [survey](#)



CIVIL SYMBOLS

**EXISTING**

- Water Valve
- Fire Hydrant
- Bollard
- Road Guard Post
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- Sanitary Sewer Lateral
- Telephone Junction Box
- E.G.B. Electrical Ground Box
- Comm Box
- Gas Line
- Overhead Electric
- Water Line
- Storm Drain
- Sanitary Sewer
- Underground Telephone
- Reclaimed Water
- Contour
- Chain Link Fence
- Wire Fence
- Sign
- Trees or Dense Vegetation
- Tree
- Right-of-Way or Property Boundary
- Existing Easement Boundary
- Concrete
- Existing Exposed Pipeline
- Power Pole w/ Light
- Service / Power Pole
- Ditch Line

**PROPOSED**

- Existing Sanitary Manhole to be Rehab/Reconstructed
- Proposed Sanitary Manhole
- Prop. Sanitary Line (>12")
- Ex SS Line to be CIPP Lined
- Project Affected Sanitary Sewer Line
- Prop. Sanitary Sewer Cleanout
- Prop. Sanitary Sewer Lateral
- Prop. Sanitary Easement
- Temp. Construction Easement
- FEMA 100YR Floodplain
- Flexible Base Access Path
- Traverse Turn Point / Control Point
- B-X Soil Boring

**SHEET CATEGORY**

- G - GENERAL
- C - CIVIL
- BP - BYPASS PUMPING PLAN
- DTR - DETOUR PLAN
- TCP - TRAFFIC CONTROL PLAN
- DET - DETAILS

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
ARV	AIR RELEASE VALVE	MAX	MAXIMUM
APPROX	APPROXIMATE	MECH	MECHANICAL
@	AT	MJ	MECHANICAL JOINT
AWWA	AMERICAN WATER WORKS ASSOCIATION	MIN	MINIMUM
AS	ASPHALT	MG	MILLION GALLON
ASPH	ASPHALT	N	NORTH
BP	BOOSTER PUMP	NO. OR #	NUMBER
BM	BENCH MARK	NPT	NATIONAL PIPE THREAD
BF	BLIND FLANGE	NPW	NON POTABLE WATER
BFV	BUTTERFLY VALVE	NTS	NOT TO SCALE
BFP	BACKFLOW PREVENTER	OC	ON CENTER
BLDG	BUILDING	OD	OUTSIDE DIAMETER
BV	BALL VALVE	OF	OVERFLOW
BWF	BARBED WIRE FENCE	OHE	OVERHEAD ELECTRIC
CCFRPM	CENTRIFUGALLY CAST FIBERGLASS-REINFORCED POLYMER MORTAR CLEAN OUT	O.P.R.P.B.C.T.	OFFICIAL PUBLIC RECORDS OF REAL PROPERTY BEXAR COUNTY, TEXAS
COSA	CITY OF SAN ANTONIO	PVMT	PAVEMENT PLUS OR MINUS
CO	CITY OF SAN ANTONIO	±	PLUS OR MINUS
COV	CONE VALVE	PT. OR PNT	POINT
CAV	COMBINATION AIR VALVE	PC	POINT OF CURVATURE
CML	CEMENT MORTAR LINED	PI	POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	PT	POINT OF TANGENCY
€	CENTERLINE	PVI	POINT OF VERTICAL INTERSECTION
CONC.	CONCRETE	PSI	POUNDS PER SQUARE INCH
CCP	CONCRETE CYLINDER PIPE	PCCP	PRECAST CONCRETE CYLINDER PIPE
CPLG	CONCRETE COUPLING	OR	OR PORTLAND CEMENT
CJ	CONSTRUCTION JOINT	CONCRETE PAVEMENT	CONCRETE PAVEMENT
C	CURVE	PG	PRESSURE GAUGE
CONST.	CONSTRUCTION	PSF	POUND PER SQUARE FOOT
CLF	CHAIN LINK FENCE	PL OR R	PROPERTY LINE
CV	CHECK VALVE	PRC	POINT OF REVERSE CURVATURE
CI	CORROSION INHIBITOR	PLMK	PIPELINE MARKER
CNP	CONTROL CONSTRUCTION POINT	POLY	POLYMER
CP	CONTROL PANEL	PROP	PROPOSED
CSC	CONCRETE STEEL CYLINDER	PVC	POLYVINYL CHLORIDE
CTI	CONCEPT THERAPY INSTITUTE	PW	POTABLE WATER
		PRV	PRESSURE REDUCING VALVE
D	DRAIN	R	RADIUS
DV	DENSE VEGETATION	RED OR RED'R	REDUCER
DIA	DIAMETER	RED'G	REDUCING
DIM	DIMENSION	REINF	REINFORCE
DWGS	DRAWINGS	RCCP	REINFORCED CONCRETE CYLINDER PIPE
DI OR DIP	DUCTILE IRON PIPE	REQD	REQUIRED
DGW	DISINFECTED GROUNDWATER	RJ	RESTRAINED JOINT
DCO	DOUBLE CLEAN OUT	ROW	RIGHT-OF-WAY
		RT	RIGHT
E	EAST	SA	SAMPLE
EXIST.	EXISTING	SAWS	SAN ANTONIO WATER SYSTEM
EA	EACH	S	SOUTH
E.W.	EACH WAY	SHT	SHEET
E.F.	EACH FACE	SD	STORM DRAIN
E.G.B.	ELECTRICAL GROUND BOX	SF	SILT FENCE
ELEC.	ELECTRIC	SLG	SLUDGE
EL. OR ELEV.	ELEVATION	SPEC.	SPECIFICATION
EP	EDGE OF PAVEMENT	SS, SST	STAINLESS STEEL
ESMT OR ESMT.	EASEMENT	STD	STANDARD
		STN	STATION
FF	FINISHED FLOOR	STL	STEEL
FL	FLOOR LEVEL	SP	STOCK PILE
FLG	FLANGE	SSK	SECONDARY SKIMMINGS
FCA	FLANGED COUPLING ADAPTER	SW	SURFACE WATER
FLEX	FLEXIBLE	SWBD	SWITCHBOARD
FH	FIRE HYDRANT		
FT	FOOT OR FEET	TBM	TEMPORARY BENCHMARK
		TEL	TELEPHONE
GV	GATE VALVE	TEMP.	TEMPORARY OR TEMPERATURE
GW	GROUNDWATER	TR	TRUNNION
		TYP.	TYPICAL
HMAC	HOT MIX ASPHALTIC CONCRETE	UG	UNDERGROUND
		UW	UTILITY WATER
ID	INSIDE DIAMETER	VERT.	VERTICAL
INV	INVERT		
IE	INVERT ELEVATION	WL	WATER LINE
		WIF	WROUGHT IRON FENCE
JT	JOINT	WTR	WATER
		W	WEST
KG	THOUSAND GALLON	WV	WATER VALVE
LOC	LIMIT OF CONSTRUCTION		
LT	LEFT		
L	LENGTH		
LF	LINEAR FEET		

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	EST QTY
100.00	Mobilization (10% MAX)	LS	1
100.10	Intermediate Mobilization/Demobilization	LS	1
101.00	Preparation of Right of Way (5% MAX)	LS	1
107.10	Embankment	CY	707
200.00	Flexible Base, compacted in place (6") - Install and Removal	SY	5962
502.00	Concrete Sidewalks	SY	79
515.10	Topsoil (4 inches)	CY	562
516.40	Tiffway 419 Bermuda Sod (Golf Course Quality, Sand Based)	SY	2496
SS 518.2	Tree Protection- Level IIB (per CoSA Tree Ordinance Requirements)	EA	53
520.10	Hydromulching	SY	17354
530.10	Barricades, signs and traffic handling	LS	1
540.60	Construction Exits (Install/ Remove)	SY	889
540.90	Temporary Sediment Control Fence (Install/Remove)	LF	641
550.00	Trench Excavation Safety Protection	LF	275
551.00	Temporary Special Shoring	SF	4975
554.10	Erosion Control Matting	SY	247
855.00	Reconstruction of Existing Manhole	EA	2
858.00	Concrete Encasement, Cradles, Saddles and Collars	CY	5
864-S1	Bypass Pumping (Large Diameter Sanitary Sewers)	LS	1
866.00	Sewer Main Television Inspection (18"-24")	LF	3577
901.00	Install cured in place pipe (CIPP) Sanitary Sewer Pipe (Hot water cured) 24-inch diameter	LF	3577
SS 910.1	Sanitary Sewer Manhole Rehabilitation (Standard Manholes 4 ft diameter)	VF	78
1103.10	Point repairs for 24" Diameter & larger, (all depths) including up to 20 LF of piping	EA	9
1103.20	Extra Length Point repairs for 24" Diameter & larger, all depths	LF	30
1103.30	Obstruction removal by remote device	EA	8
SP 4000	Composite Construction Matting	SY	2496



**SAN ANTONIO WATER SYSTEM**

**MULTIPLE SEWERSHED PACKAGE 7B**  
JOB NO. 17-4534

NO.	DATE	REVISION	BY
1	10/25/19	ADDENDUM NO. 2	JR

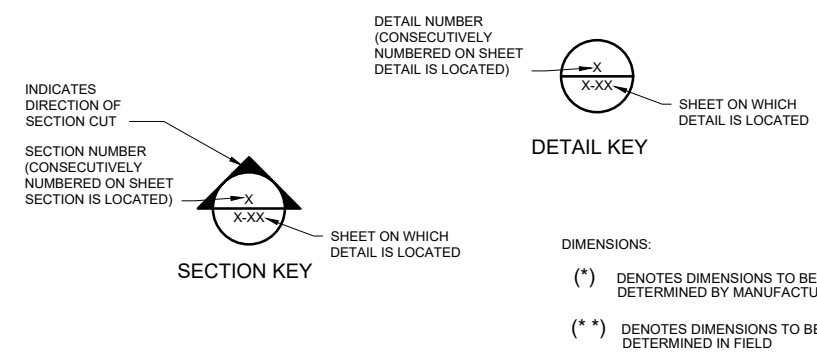
COPYRIGHT: ARCADIS U.S., INC.  
DATE: OCTOBER 2019  
PROJECT NO.: 02196052B.0000  
DESIGNED BY: J. RECK  
DRAWN BY: K. COBABE  
CHECKED BY: M. KRISHNAMOORTHUJATHA

SHEET TITLE

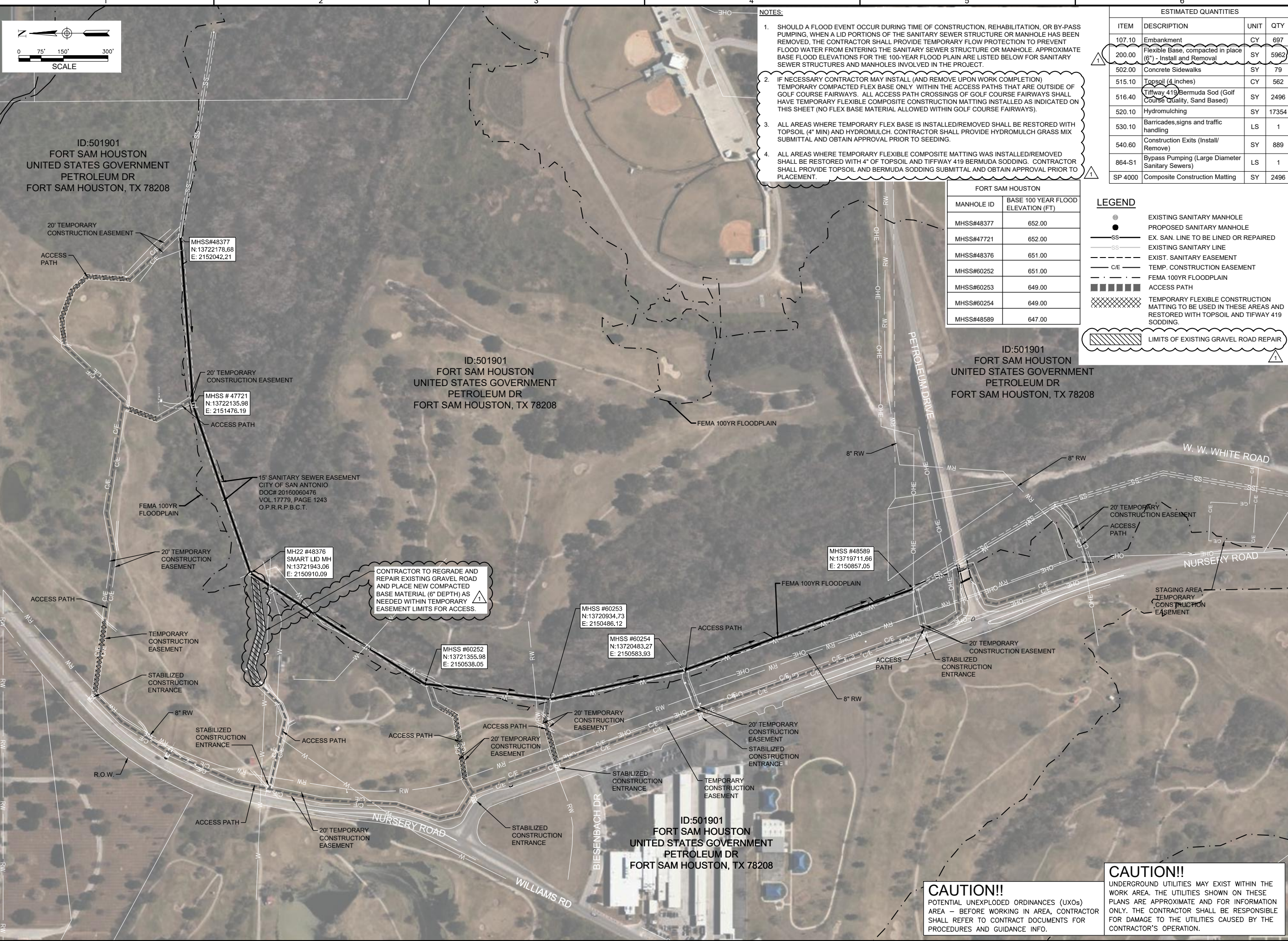
**SYMBOLS, ABBREVIATIONS AND SUMMARY OF QUANTITIES**

SCALE: AS SHOWN  
SHEET **G-03**  
03 OF 35

MISCELLANEOUS SYMBOLS







- NOTES:**
1. SHOULD A FLOOD EVENT OCCUR DURING TIME OF CONSTRUCTION, REHABILITATION, OR BY-PASS PUMPING, WHEN A LID PORTIONS OF THE SANITARY SEWER STRUCTURE OR MANHOLE HAS BEEN REMOVED, THE CONTRACTOR SHALL PROVIDE TEMPORARY FLOW PROTECTION TO PREVENT FLOOD WATER FROM ENTERING THE SANITARY SEWER STRUCTURE OR MANHOLE. APPROXIMATE BASE FLOOD ELEVATIONS FOR THE 100-YEAR FLOOD PLAIN ARE LISTED BELOW FOR SANITARY SEWER STRUCTURES AND MANHOLES INVOLVED IN THE PROJECT.
  2. IF NECESSARY CONTRACTOR MAY INSTALL (AND REMOVE UPON WORK COMPLETION) TEMPORARY COMPACTED FLEX BASE ONLY WITHIN THE ACCESS PATHS THAT ARE OUTSIDE OF GOLF COURSE FAIRWAYS. ALL ACCESS PATH CROSSINGS OF GOLF COURSE FAIRWAYS SHALL HAVE TEMPORARY FLEXIBLE COMPOSITE CONSTRUCTION MATTING INSTALLED AS INDICATED ON THIS SHEET (NO FLEX BASE MATERIAL ALLOWED WITHIN GOLF COURSE FAIRWAYS).
  3. ALL AREAS WHERE TEMPORARY FLEX BASE IS INSTALLED/REMOVED SHALL BE RESTORED WITH TOPSOIL (4" MIN) AND HYDROMULCH. CONTRACTOR SHALL PROVIDE HYDROMULCH GRASS MIX SUBMITTAL AND OBTAIN APPROVAL PRIOR TO SEEDING.
  4. ALL AREAS WHERE TEMPORARY FLEXIBLE COMPOSITE MATTING WAS INSTALLED/REMOVED SHALL BE RESTORED WITH 4" OF TOPSOIL AND TIFFWAY 419 BERMUDA SODDING. CONTRACTOR SHALL PROVIDE TOPSOIL AND BERMUDA SODDING SUBMITTAL AND OBTAIN APPROVAL PRIOR TO PLACEMENT.

FORT SAM HOUSTON	
MANHOLE ID	BASE 100 YEAR FLOOD ELEVATION (FT)
MHSS#48377	652.00
MHSS#47721	652.00
MHSS#48376	651.00
MHSS#60252	651.00
MHSS#60253	649.00
MHSS#60254	649.00
MHSS#48589	647.00

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QTY
107.10	Embankment	CY	697
200.00	Flexible Base, compacted in place (6") - Install and Removal	SY	5962
502.00	Concrete Sidewalks	SY	79
515.10	Topsoil (4 inches)	CY	562
516.40	Tiffway 419 Bermuda Sod (Golf Course Quality, Sand Based)	SY	2496
520.10	Hydromulching	SY	17354
530.10	Barricades, signs and traffic handling	LS	1
540.60	Construction Exits (Install/Remove)	SY	889
864-S1	Bypass Pumping (Large Diameter Sanitary Sewers)	LS	1
SP 4000	Composite Construction Matting	SY	2496

**LEGEND**

- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- SS — EX. SAN. LINE TO BE LINED OR REPAIRED
- SS — EXISTING SANITARY LINE
- - - - - EXIST. SANITARY EASEMENT
- - - - - TEMP. CONSTRUCTION EASEMENT
- - - - - FEMA 100YR FLOODPLAIN
- ■ ■ ■ ■ ACCESS PATH
- ▨ TEMPORARY FLEXIBLE CONSTRUCTION MATTING TO BE USED IN THESE AREAS AND RESTORED WITH TOPSOIL AND TIFFWAY 419 SODDING.
- ▨ LIMITS OF EXISTING GRAVEL ROAD REPAIR



SAN ANTONIO WATER SYSTEM

MULTIPLE SEWERSHED PACKAGE 7B  
JOB NO. 17-4534

NO.	DATE	REVISION	BY
1	10/25/19	ADDENDUM NO. 2	JR

COPYRIGHT: ARCADIS U.S., INC.  
 DATE: OCTOBER 2019  
 PROJECT NO.: 02196052B.0000  
 DESIGNED BY: M. KRISHNAMOORTHUSUJATHA  
 DRAWN BY: K. COBABE  
 CHECKED BY: J. RECK

**SHEET TITLE**

FORT SAM HOUSTON (AW47) SITE ACCESS PLAN  
 COMPKEYS 998119, 1000203, 1008438, 1008439, 996692, 998839

SCALE: AS SHOWN  
 SHEET C-02  
 06 OF 35

**CAUTION!!**  
 POTENTIAL UNEXPLODED ORDINANCES (UXOs) AREA - BEFORE WORKING IN AREA, CONTRACTOR SHALL REFER TO CONTRACT DOCUMENTS FOR PROCEDURES AND GUIDANCE INFO.

**CAUTION!!**  
 UNDERGROUND UTILITIES MAY EXIST WITHIN THE WORK AREA. THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.