



EAST SEWERSHED LARGE DIAMETER PACKAGE III
Solicitation Number: CO-00147
SAWS Sewer Job No.: 16-4520

ADDENDUM 2
October 30, 2017

To Bidder of Record:

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

MODIFICATIONS TO SPECIFICATIONS

1. Bid Proposal – Remove the bid proposal in its entirety and replace with the attached. This revised version should be used by bidders when submitting a bid for this project. The following items were updated:
 - a. Item 164
 - b. Item 169
 - c. Item 540.6
 - d. Item 540.9
 - e. Item SP552 added
2. Replace Statement of Bidder’s Experience (SBE-1 through SBE-5) in its entirety with attached Statement of Bidder’s Experience (SBE-1 through SBE-6). This revised version should be used by bidders when submitting a bid for this project. The following items were updated:
 - a. Added requirements related to CIPP Installer’s project manager and superintendent experience.
3. Replace Special Provisions to Specifications (SPTS–1 through SPTS-6) in its entirety with attached Special Provisions (SPTS –1 through SPTS -7). The following items were updated:
 - a. Item 552 – added pay item for temporary livestock fencing
 - b. Item 901 – revised soil modulus and groundwater requirements
4. Appendix A – Add the following Right of Entry documents
 - a. CLN/WWMK
 - b. Five ACS, Inc.

MODIFICATIONS TO PLANS

1. Plan sheet 3 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
2. Plan sheet 6 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
3. Plan sheet 9 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
4. Plan sheet 10 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
5. Plan sheet 11 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
6. Plan sheet 27 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
7. Plan sheet 28 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
8. Plan sheet 30 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17

9. Plan sheet 45 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
10. Plan sheet 46 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
11. Plan sheet 50 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
12. Plan sheet 55 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
13. Plan sheet 56 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
14. Plan sheet 69 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17
15. Plan sheet 70 – Replace sheet dated 10/11/17 with attached sheet dated 10/26/17

RESPONSES TO QUESTIONS

1. Since this is a very large project, we were wondering if you would consider giving a week or two extension on the bid due date to allow for us and subcontractors to put together competitive pricing?

Answer: No extension in the bid date will be provided.

2. I'm contacting you in reference to the East Sewershed Large Diameter Package III project and I was trying to determine if any of the 30-42 inch sewer mains being installed in the project will be installed via open cut?

Answer: Limited portions of the existing pipeline shall be repaired using open cut under pay item 1103 "Point Repairs".

3. Can you tell me if this project will need boring work?

Answer: Refer to the bid items in the bid proposal and plan quantities on sheet 3.

4. Will staking of the R.O.W. be provided by SAWS? If no, then will it be required and at whose expense?

Answer: Staking of the edges of the right of entry areas and temporary construction easements shown on the plans is required and shall be the responsibility of the Contractor. Refer to Note 8 on sheet 3 and the Special Conditions Item SC-2.2.

5. Can SAWS please provide any manufacture/model of the radio tracking device/plug required or that has met this spec for previously constructed projects; according to spec 864.4 (1)?

Answer: No vendor information will be provided for the radio transmitting device, as this will be the responsibility of the Contractor. The Contractor shall provide a submittal for an applicable transmitting device to SAWS for approval prior to the start of construction.

6. Can SAWS please provide any manufacture/model of the float monitoring system required or that has met this spec for previously constructed projects; according to spec 864.6 (4)?

Answer: No vendor information will be provided for the float monitoring system, as this will be the responsibility of the Contractor. Multiple options and approaches are available to the Contractor to meet the Float Monitoring System requirement of the specification.

7. Can SAWS please verify that to comply with Specification 864-S2 if the bypass system is over 1,500' and pipe being bypassed is larger than 24" that there will be three people on-site who's only duty is the bypass system; anytime the system is running?

- One qualified pump personnel 864.5 (1)
- One pipe attendant 864.5 (1)
- One Float Monitor Attendant/Recorder 864.6 (4)

Answer: Per 864.5.1, Contractor shall have a minimum of two personnel on site while the bypass system is in operation. At least one attendant shall be assigned to the pump operation, and one additional attendant shall be assigned to walk and monitor the pipeline. This response does not change any other requirement of specification 864-S2.

8. There are 2 subdivisions near the project that have fire hydrants that are not shown on the plans. Are these hydrants private, or does SAWS maintain control over all hydrants in the area?

Answer: Fire hydrants and water lines are not shown in the plans for the mobile home parks near WWL A STA 190+00 to STA 195+00 and WWL B STA 57+00 to STA 67+00 because these areas are not part of the SAWS system.

9. Would SAWS consider obtaining a permit to allow the contractor to utilize creek water for construction? This could potentially save SAWS a considerable amount of money on the contract.

Answer: Use of the creek water for construction will not be permitted.

10. Will design consideration according to ASTM F-1216 regarding design criteria for enhanced materials (higher strength) and more specifically about the soil modulus of 500 psi. These lines were installed and backfilled (bedding, backfill, compaction, etc.) should be at least 750 psi. SAWS has used 1000 psi for soil types in San Antonio in the past.

Answer: The CIPP shall be designed according to the structural requirements listed in Specification 901, Section 901.7(3). Per 901.7(3)(e), the parameters in the table on page 6 of 12 are minimum values. Contractor must provide calculations showing that the CIPP thickness meets the strength requirements listed in ASTM F1216 and 901.7(3)(d). See attached revision to Special Provisions to Specifications Item 901 for soil modulus requirement revisions.

11. Can creek water be used for construction?

Answer: Use of the creek water for construction will not be permitted.

12. Will S.A. ROW require permits since very little of this job is close to (or impacts) and roadways. (specifically permits for easement (private property) access, etc.)

Answer: City of San Antonio ROW department requires permits for items such as (but not limited to) temporary driveways, traffic control signage, and street cuts. This project is also subject to the requirements of a tree permit and floodplain development permit, which the Owner will acquire prior to NTP. Contractor shall comply with the terms of the COSA tree permit that SAWS is obtaining; requirements for tree protection and clearing limits are shown in the plans.

13. Do we have access to the entire easement now since there are rights of entry in the specs. (foot traffic, mule, etc.)

Answer: No. Contractor access to the right of entry areas shall begin when the contract is awarded.

14. Please define "jurisdictional waters". There are notes on the plans where they refer to "avoiding or limiting impact to" jurisdictional waters.

Answer: Jurisdictional waters are waters that fall under the jurisdiction of the United States Army Corps of Engineers and Section 404 of the Clean Water Act. Limits are typically referenced as the ordinary high water mark and are denoted in the plans. Contractor shall minimize impacts to the waters in the creek and adjacent wetlands as identified in the plans.

15. Verify that "pump and haul" small diameter bypass pumping can't be decanted into the sewer system downstream.

Answer: Per 864-S1, pump and haul shall be disposed of at a licensed disposal facility. Reference section 864.3.4.r.

16. Will SAWS extend the question deadline given the size and scope of the project?

Answer: Deadline for questions will not be extended.

17. Can the bid be postponed for a short time given the size and scope of the project?

Answer: No extension in the bid date will be provided.

18. Can a map be provided showing the location of fire hydrants in the vicinity of the project?

Answer: Fire hydrants in the project vicinity are shown in the project layouts on sheets 5-8.

19. Are there any water mains or treated effluent pipes in the vicinity of the project? If yes, then please provide a map showing location.

Answer: Water mains in the project vicinity are shown in the project layouts on sheets 5-8.

20. If a water main or treated effluent is in the vicinity, then can it be accessed by the contractor for use? If yes, then please state the method of accessing that SAWS will allow, i.e. contractor can install a hydrant at contractor's expense.

Answer: Water mains in the project vicinity can be accessed by the Contractor for use. Access to mains is subject to the General Conditions, Article V, section 5.24, and Standard Specification Item 906 "Water Use Accountability."

21. Can a pay item be added for temporary livestock fencing? It is uncertain if the property owner will require temporary livestock fencing during construction to protect livestock from the construction area. The contractor should not have to assume that pastures containing livestock or the potential for livestock will all require temporary fencing.

Answer: See attached revisions to bid proposal and special provisions to add temporary livestock fencing.

22. Other than the segments where point repairs are identified, which will require an additional clean and video after the point repair is complete, will SAWS pay the contractor for an additional clean and video after any point repairs that may be required but are not shown on the plans?

Answer: Post-cleaning video inspection of point repairs is included in Specification Item 1103 "Point Repairs and Obstruction Removals". Point repairs authorized by SAWS but not shown on the plans will be paid for at the bid price for Item 1103.3 "Point Repairs (All Depths) (All Sizes)" and shall include post-cleaning video inspection per the standard specification.

23. We have the following questions regarding the CIPP design parameters contained in section 901.4.3.e.

- a. The soil modulus for design is shown to be a blanket 500 psi, regardless of location. This is an extremely low value for almost all design situations and will unnecessarily increase the CIPP design thickness, which increases difficulty of installation and overall project cost. Typical values for soil modulus are often 700 psi in shallow unconsolidated easements, 1,000 psi at shallow to moderate depths under streets or in deeper more consolidated easements, and with values as high as 1,500 psi or higher in deeper &/or well consolidated soils. We request that an increased soil modulus be provided specifically for this project that is applicable for the areas where this project is located.
- b. The groundwater level for design is specified to be at the surface. However, it is also specified so that it will be required to be at the 100-year floodplain water surface level, if that level is higher than the ground surface. This assumes that a floodwater situation would be a permanent loading situation, which it never is. Since floodwater is a temporary situation, standard practice for handling it in CIPP design, when it is a factor, is to design with the long-term retention of flexural modulus at 75% instead of 50% to reflect the temporary nature of this extra loading. We request that the specification which requires the 100-year floodplain water surface level be used as the groundwater level in the CIPP design either be eliminated, or at the very least, be rewritten so that 100-year floodwater loading, when applicable, will be treated as a temporary condition that is accounted for with 75% long-term retention of the initial flexural modulus.
- c. If we will need to use the 100-year floodplain in the CIPP designs, please provide the 100-year floodplain water surface level elevations required to be used as the groundwater level in the CIPP design for any area where the 100-year floodplain will be applicable. Although, the 100-year floodplain is marked on the plan

view drawings, it is not marked on the profiles, and its elevation on the plan views is difficult to determine since the topographical lines are not all marked, and the floodplain does not appear to follow the topographical lines. Unless the 100-year floodplain elevations are provided in a manner that can be tied to the individual sewer segments, it will be difficult, if not impossible, to use the 100-year floodplain levels in the design for the CIPP.

Answer:

- a. *Soil modulus requirements have been revised. See attached revision to Special Provisions to Specifications Item 901.*
- b. *Groundwater elevation requirements have been revised. See attached revision to Special Provisions to Specifications Item 901.*
- c. *See attached revisions to sheets 9-11.*

24. Are there video inspections available of the pipelines? If so, please make them available to the bidders for review.

Answer: Yes, videos are available for download. To access the videos the bidder must complete and submit the attached release form; the password required to view the videos will be provided on receipt of this form. Please submit the form to Jessica GoForth, Contract Administrator, via email to: Jessica.GoForth@saws.org or by fax to (210) 233-4466. NOTE: These videos are provided for information purposes only, and are not included in the bid documents. The deterioration is an ongoing process, so the condition at the time of construction may be substantially different from that shown in the videos.

25. Aside from the CoSA ROW permits that the Contractor will be obtaining, are there any other permits anticipated to be needed on the project? If so, what permits will be required, which permits will SAWS be obtaining, and which will the Contractor be responsible for obtaining? For the permits that SAWS will be obtaining, are there any permit fees or other associated permit expenses that the Contractor will be responsible for paying? For the permits the Contractor is responsible for obtaining, are there any permit fees or other associated permit expenses that will be reimbursable by SAWS?

Answer: The Contractor is responsible for obtaining all ROW permits with COSA as required and for any permits related to obtaining water from SAWS for use during construction. Contractor shall comply with the terms of the COSA tree permit that SAWS is obtaining; requirements for tree protection and clearing limits are shown in the plans. Contractor is not responsible for any fees related to permits that SAWS is obtaining. Any permitting fees or expenses related to permits obtained by Contractor are the Contractor's responsibility and will not be measured separately for payment in accordance with General Conditions 5.3.7.

26. Aside from the ROE agreements in the Appendix that SAWS has obtained, are there any other ROE agreements anticipated to be needed on the project? If so, for which properties, and will the Contractor or SAWS be responsible for obtaining them?

Answer: SAWS has obtained ROEs for all properties shown as such in the plans. Two additional ROEs have recently been obtained by SAWS. Revised plan sheets and the ROE documents are included with this addendum. A ROE for the Jaime Rios property (STA 206+90 to STA 212+70) has not been obtained. Additional ROEs that the Contractor elects to obtain for his purposes shall be the responsibility of the Contractor.

27. For all manholes shown to be rehabilitated, it appears the manhole ring, cover, and encasement will also be required to be replaced. Will this ring & cover replacement work be paid per each structure under a separate bid item (i.e. manhole reconstruction), or will this work be incidental to the manhole rehab item?

Answer: Per specification Item 910, ring and cover replacement and concrete encasement will not be measured separately and is included in Item 910.

28. Will the new or reconstructed manholes be required to be coated? If so, are there any which will not need to be coated? When a new or reconstructed manhole is required to be coated, will this coating be paid for under the manhole rehab bid item no. 22(SS910), or will the coating be incidental to the manhole installation or reconstruction, and not paid separately?

Answer: Per specification Item 850, new manholes shall be coated with a SAWS approved sewer coating. Coating shall be incidental to Item 850 (see part 850.7). Per specification Item 855, reconstructed manholes shall be coated with a SAWS approved sewer coating. Coating shall be incidental to Item 855 (see part 855.8).

29. For the manholes to be reconstructed under bid item 10(855), please clarify the limits of the reconstruction. Will the entire manhole need to be removed and replaced, or only portions?

Answer: Manhole reconstruction is limited to the removal of the necessary portions required for installation of the liner.

30. There appears to be conflicting elevation data between the profile drawings and the plan view drawings. The stated top & invert elevations on the profiles mostly do not match where the profiles are physically drawn, and often do not match the stated rim and invert elevations on the plan views. In case of conflict between the 3 sources of profile information, which would prevail – the stated tops & inverts on the profiles, the profiles as physically drawn, or the stated rims and inverts on the plan views?


Answer: See revised sheets 9-11 issued with this addendum.

31. It is our understanding that none of the tree canopy shown to be removed on the Tree Canopy Assessment drawings will need to be replaced after construction. Is this correct? If this is not correct, please clarify any tree replacement requirements.

Answer: That is correct. No tree replacement is included in the project.

CLARIFICATIONS

1. The cost estimate for this project has been updated to \$16,991,810.00.


Michael Persyn, P.E.
K Friese + Associates, Inc. (TBPE F-6535)



END OF ADDENDUM 2

This Addendum, including these six (6) pages, is forty-five (45) pages with attachments in its entirety.

Attachments: Bid Proposal (BP-1)
Bid Proposal Line Items
Statement of Bidder's Experience
Special Provisions to Technical Specifications
CCTV Video Release Form
Appendix A Right of Entries
Plan sheets 3, 6, 9, 10, 11, 27, 28, 30, 45, 46, 50, 55, 56, 69, and 70

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 to wit:

(PLEASE SEE ATTACHED PDF LIST OF BID ITEMS)

TOTAL BID PRICE

\$ _____

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

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.

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price, and to complete the Project within **480** 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.

SAWS EAST SEWERSHED LARGE DIAMETER PACKAGE III

SAWS Job No. 16-4520

Solicitation No. CO-00147

Item Bid Items						
Item No.	Spec No.	Specification No. & Description	Unit	Qty.	Unit Price	Total Price
1	164	DRILL SEED PLANTING (PERM)	SY	125000	\$	\$
2	169	SOIL RETENTION BLANKETS	SY	125000		
3	530	BARRICADES, SIGNS, AND TRAFFIC HANDLING	LS	1	\$	\$
4	540	TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND WATER POLLUTION PREVENTION AND CONTROL	LS	1	\$	\$
5	540.1	ROCK FILTER DAM	LF	220	\$	\$
6	540.6	STABILIZED CONSTRUCTION ENTRANCE	SY	252	\$	\$
7	540.9	SILT FENCE	LF	44914	\$	\$
8	550	TRENCH EXCAVATION SAFETY PROTECTION	LF	260	\$	\$
9	850	6' DIA SANITARY SEWER STRUCTURE	EA	1	\$	\$
10	855	RECONSTRUCTION OF EXISTING MANHOLES (6' DIAMETER)	EA	21	\$	\$
11	866	SEWER MAIN PRE-TELEVISION INSPECTION (ALL SIZES)	LF	29179	\$	\$
12	866	SEWER MAIN POST-TELEVISION INSPECTION (ALL SIZES)	LF	29122	\$	\$
13	901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 30 IN	LF	12966	\$	\$
14	901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 36 IN	LF	4748	\$	\$
15	901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 42 IN	LF	11408	\$	\$
16	1103.2	OBSTRUCTION REMOVAL BY REMOTE DEVICE	EA	5	\$	\$
17	1103.3	POINT REPAIR (ALL DEPTHS) (ALL SIZES)	EA	9	\$	\$
18	1103.4	EXTRA LENGTH POINT REPAIR (ALL DEPTHS) (ALL SIZES)	LF	179	\$	\$
19	864-S1	BYPASS PUMPING SMALL DIAMETER SANITARY SEWERS	LS	1	\$	\$
20	864-S2	BYPASS PUMPING LARGE DIAMETER SANITARY SEWERS	LS	1	\$	\$
21	SP552	16' UTILITY GATE	EA	17	\$	\$
22	SP552	TEMPORARY BARBED WIRE FENCE	LF	18000		
23	SS910	MANHOLE REHABILITATION (6' DIAMETER)	SF	8910	\$	\$
24	SS1850	MANHOLE VENT	EA	11	\$	\$
25	SS4000	TEMPORARY HAUL ROAD	LS	1	\$	\$
26	100	MOBILIZATION (MAXIMUM OF 10% OF THE TOTAL OF LINE ITEMS 1-25)	LS	1	\$	\$
27	101	PREPARING RIGHT-OF-WAY (MAXIMUM OF 5% OF THE TOTAL OF LINE ITEMS 1-25)	LS	1	\$	\$

STATEMENT OF BIDDER'S EXPERIENCE
East Sewershed Large Diameter Package III, SAWS Job No. 16-4520
SAWS Solicitation No. CO-00147

A. Please complete **all** the fields below. Projects A-1 and A-2 can utilize the same project experience. Projects A-1, A-3, A-4, and A-5 shall be separate projects.

Bidder must answer all questions completely and all information must be clear, accurate and comprehensive.

If all fields are not completed, the Bid is at risk for being rejected due to non-responsiveness. It is not acceptable to indicate "See attached".

- CIPP Installer's Project Manager has a minimum of five (5) years of CIPP installation experience.
- CIPP Installer's Project Manager's resume is attached
- CIPP Installer's Superintendent has a minimum of ten (10) years of CIPP installation experience.
- CIPP Installer's Superintendent's resume is attached

Project A-1 is to have been completed by the Bidder.

- Project A-1 demonstrates construction of a minimum of 10,000 LF by CIPP construction for sanitary sewer mains 24-inches or larger.
- Project A-1 shall have been completed between 2007 and 2017.

Project A-1 Description

Name of Project: _____ Location: _____

Scope of Work: _____

Pipe Sizes: _____ Pipe Lengths: _____

Owner Name: _____ Owner Title: _____

Owner Phone Number: _____ Bid Amount: _____

Final Contract Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Project A-2 is to have been completed by the Bidder.

- Project A-2 demonstrates construction of a minimum of 5,000 LF by CIPP construction for sanitary sewer mains 24-inches or larger.
- Project A-2 shall be along a natural creekway.
- Project A-2 shall have been completed between 2007 and 2017.

Project A-2 Description

Name of Project: _____ Location: _____

Scope of Work: _____

Pipe Sizes: _____ Pipe Lengths: _____

Owner Name: _____ Owner Title: _____

Owner Phone Number: _____ Bid Amount: _____

Final Contract Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Project A-3 is to have been completed by the Bidder.

- Project A-3 demonstrates construction of a minimum of 10,000 LF by CIPP construction for sanitary sewer mains 24-inches or larger.
- Project A-3 shall have been completed between 2007 and 2017.

Project A-3 Description

Name of Project: _____ Location: _____

Scope of Work: _____

Pipe Sizes: _____ Pipe Lengths: _____

Owner Name: _____ Owner Title: _____

Owner Phone Number: _____ Bid Amount: _____

Final Contract Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Project A-4 is to have been completed by the Bidder.

- Project A-4 demonstrates construction of a minimum of 10,000 LF by CIPP construction for sanitary sewer mains 24-inches or larger.
- Project A-4 shall have been completed between 2007 and 2017.

Project A-1 Description

Name of Project: _____ Location: _____

Scope of Work: _____

Pipe Sizes: _____ Pipe Lengths: _____

Owner Name: _____ Owner Title: _____

Owner Phone Number: _____ Bid Amount: _____

Final Contract Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Project A-5 is to have been completed by the Bidder.

- Project A-5 demonstrates construction of a minimum of 10,000 LF by CIPP construction for sanitary sewer mains 24-inches or larger.
- Project A-5 shall have been completed between 2007 and 2017.

Project A-1 Description

Name of Project: _____ Location: _____

Scope of Work: _____

Pipe Sizes: _____ Pipe Lengths: _____

Owner Name: _____ Owner Title: _____

Owner Phone Number: _____ Bid Amount: _____

Final Contract Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Special Provisions to Technical Specifications

A. Revision to TxDOT Specification Item 552 Wire Fence

552.2.3 MATERIALS: DELETE this section in its entirety and **REPLACE** with the following:

Gates Furnish materials to the dimensions shown on the plans or as directed. Gates shall be 50” tall (minimum) and shall be utility or farm style. Utility style gates shall be 19 gauge, 1 3/4” tubular steel construction (minimum). Panel style farm gates shall be 5 panel, 22 gauge, galvanized steel construction. Include all hardware such as hinges, chains, and latches as needed to fully operate and secure gate.

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

Fence shall consist of 4 strand barbed wire (minimum) and shall be sturdy to contain livestock and shall be maintained for the duration of construction.

Posts may be metal or wood per this specification. Post spacing shall not exceed 16 feet without stays. Post spacing may not exceed 30 feet where stays are spaced evenly between posts.

Set fence posts plumb and firm to maintain integrity of the fence for the duration of construction. Brace fence posts as needed to maintain tension on the fence. Sagging fences or inadequate tension to contain livestock shall be corrected to the satisfaction of the Inspector.

Fasten fence to posts while pulling wire taut. Temporary fence shall be securely connected to existing fences to eliminate gaps and prevent livestock from escaping. Install pull post assemblies as needed to maintain tension on the fence.

Remove temporary fencing upon completion of construction and dispose of properly.

All other language in this specification 552 remains in full force.

B. Revision to CoSA Specification Item 508 Relocating Wire Fence

508.6 MEASUREMENT: DELETE this section in its entirety and **REPLACE** with the following:

“Relocating Wire Fence” will not be measured for payment.

508.6 PAYMENT: DELETE this section in its entirety and **REPLACE** with the following:

Special Provisions to Technical Specifications

The work and materials prescribed herein will not be paid for directly, but shall be included in the unit bid price for the items of construction to which it relates.

All other language in this specification 508 remains in full force.

C. 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 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.*

540.5.A MEASUREMENT: DELETE this section in its entirety and **REPLACE** with the following:

A. Rock Filter Dams. Installation and removal of rock filter dams will be measured by the foot.

- 1. Linear Measurement. Measurement shall be along the centerline of the top of the dam.*

540.6.A PAYMENT: DELETE this section in its entirety and **REPLACE** with the following:

Special Provisions to Technical Specifications

- A. *Rock Filter Dams: The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" shall include full compensation for installation and removal and shall include furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, and incidentals.*

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

D. Revision to Standard Specification Item No. 855 Reconstruction of Existing Manholes

855.4.3 MATERIALS: ADD the following:

3. Manhole Ring and Cover:

- f. Manhole covers located outside the floodplain shall be vented as indicated in the plans. Vent shall consist of a single one (1) inch hole drilled in the center of the manhole cover. Hole shall be drilled by manufacturer or at a machine shop. No field drilling of the cover shall be allowed.

E. 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.

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

Before construction of the sanitary sewer main, if required, 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,

Special Provisions to Technical Specifications

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.

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

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

Each video shall be submitted with the following information:

- 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.*

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

Special Provisions to Technical Specifications

F. Revision to SAWS Standard Specification 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 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:

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

901.3.6 SUBMITTALS: **ADD** the following:

- 6. Map shall provide sufficient detail to indicate which pipe segments will be installed from each 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 cured by hot water. Indicate location for any site built towers or other temporary structures needed to obtain sufficient pressure head for liner installation.*

901.4.3.e.6 MATERIALS: **DELETE** this section in its entirety and **REPLACE** with the following:

- 6) Soil Modulus: 500 psi. Contractor may submit calculations signed and sealed by a Texas Professional Engineer utilizing other values for soil modulus so long as those values are part of the sealed calculations, and the calculation method complies with ASTM F1216. Allowable soil modulus shall not exceed 1,000 psi.*

901.4.3.e.7 MATERIALS: **DELETE** this section in its entirety and **REPLACE** with the following:

- 7) Groundwater depth shall be assumed at ground surface.*

901.4.4 MATERIALS: **DELETE** this section in its entirety and **REPLACE** with the following:

Special Provisions to Technical Specifications

4. Acceptable Manufacturer

- a. *CIPP product must meet all requirements set forth in this Specification Item No.901.*

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

1. *Installer Qualification Requirements*

- 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 five (5) years total experience with the product.*
- b. *Contractor shall also submit to Owner at least five (5) recent references of the CIPP installer, indicating successful installation of proposed hot water cured CIPP on projects of at least 5,000 linear feet of 36" or larger pipe. References shall include date completed, bid amount, final contract amount (including change orders), and reference contact information (owner, contact name, title, and phone number).*
- c. *CIPP installer's project manager shall have a minimum of five (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).*
- d. *Installer's superintendent shall have a minimum of ten (10) 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).*

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

G. Revision to Standard Specification Item No. 1114 (Pre-Construction Video)

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

Special Provisions to Technical Specifications

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

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

- END -

SPTS -7

DISCLAIMER

The video clips being provided through the FTP site are for the East Sewershed Large Diameter Package III project. Since these videos have been compiled over a period of time, many of the images may be outdated and no longer accurate. The video clips are being made available for the sole purpose of providing historical background information that may assist Respondents in preparing their response to this solicitation. As planning for any project evolves, important aspects often change. This project is no exception. SAWS makes no representations about the accuracy of this information and disclaims any responsibility for its use.

The FTP details will be provided upon return of this form.

AGREED TO:

Printed Name

Signature

Typed/Printed Firm Name

Date: _____

RIGHT OF ENTRY AGREEMENT

THIS RIGHT OF ENTRY AGREEMENT (this "Agreement") is entered into this 20 day of October, 2017 by and between the SAN ANTONIO WATER SYSTEM ("Grantee") whose address is 2800 Highway 281 North, San Antonio, Bexar County, Texas 78212, and CLN/WWMK, L.P., a Texas Limited Partnership whose address is 3318 Beverly Drive, Dallas, Dallas County, Texas 75205 (referred to as "OWNER," whether one or more).

Property: SE Loop 410, San Antonio, Texas; BCAD Property ID 466943; as depicted in Exhibit A attached hereto and incorporated herein.

Legal Description: NCB 10852 BLK LOT P-7 (1.463 AC) & P-45 (11.546 AC)

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

Grantee and its contractors and subcontractors shall have sixteen (16) months from the effective date of this Agreement, for the purposes of (i) ingress and egress to and from Grantee's sewer easement and (ii) bypass pumping operations, at the locations shown on Exhibit B attached hereto and incorporated herein. Grantee shall not unreasonably interfere with any existing operations on the Property, and Owner shall not unreasonably interfere with Grantee's operations permitted under this Agreement. Furthermore, Grantee shall reasonably repair any physical damage to the Property resulting from such ingress, egress, and bypass pumping operations so as to cause the Property to be in substantially the same condition as of the date hereof.

Grantee shall make reasonable efforts to provide reasonable notice to OWNER of the dates and anticipated durations of the necessary investigations.

This Agreement shall be construed and enforced in accordance with the laws of the State of Texas.

The effective date of this Agreement shall be the last date that this Agreement is executed either by Grantee or Owner.

OWNER:

CLN/WWMK, a Texas Limited Partnership
By: WWMK (GP), LLC, a Texas Limited Liability Company, its General Partner

By: Robert Nichols
Robert Nichols, Director

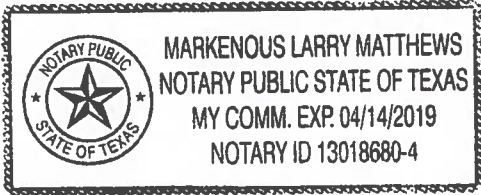
GRANTEE:

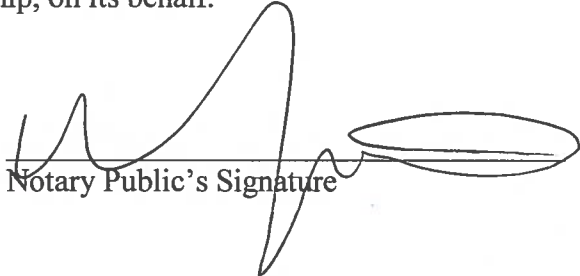
SAN ANTONIO WATER SYTEM

By: Nancy Belinsky
Name: Nancy Belinsky
Title: Vice President and General Counsel

THE STATE OF TEXAS §
 §
COUNTY OF Dallas §

This instrument was acknowledged before me on October 14, 2017, 2017, by Robert Nichols, Director of WWMK (GP), LLC, a Texas Limited Liability Company, General Partner of CLN/WWMK, a Texas Limited Partnership, on its behalf.

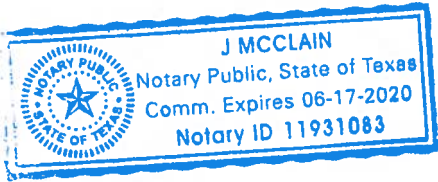




Notary Public's Signature

THE STATE OF TEXAS §
 §
COUNTY OF BEXAR §

This instrument was acknowledged before me on October 20, 2017, by Nancy Belinsky, Vice President and General Counsel of San Antonio Water System, on its behalf.





Notary Public's Signature

After recording, return original document to:
San Antonio Water System
Corporate Real Estate Department
2800 Hwy. 281 North
San Antonio, TX 78212

EXHIBIT A

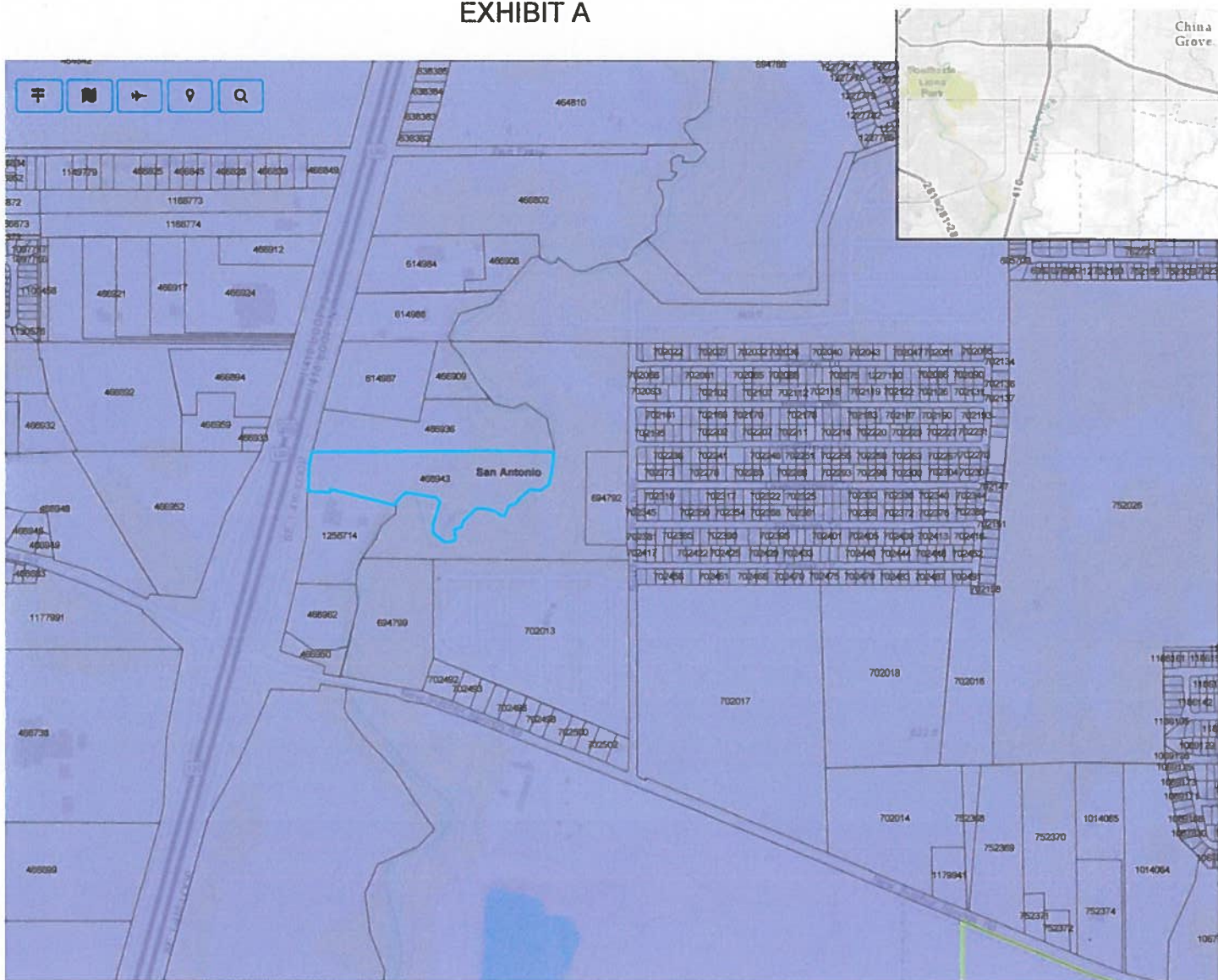
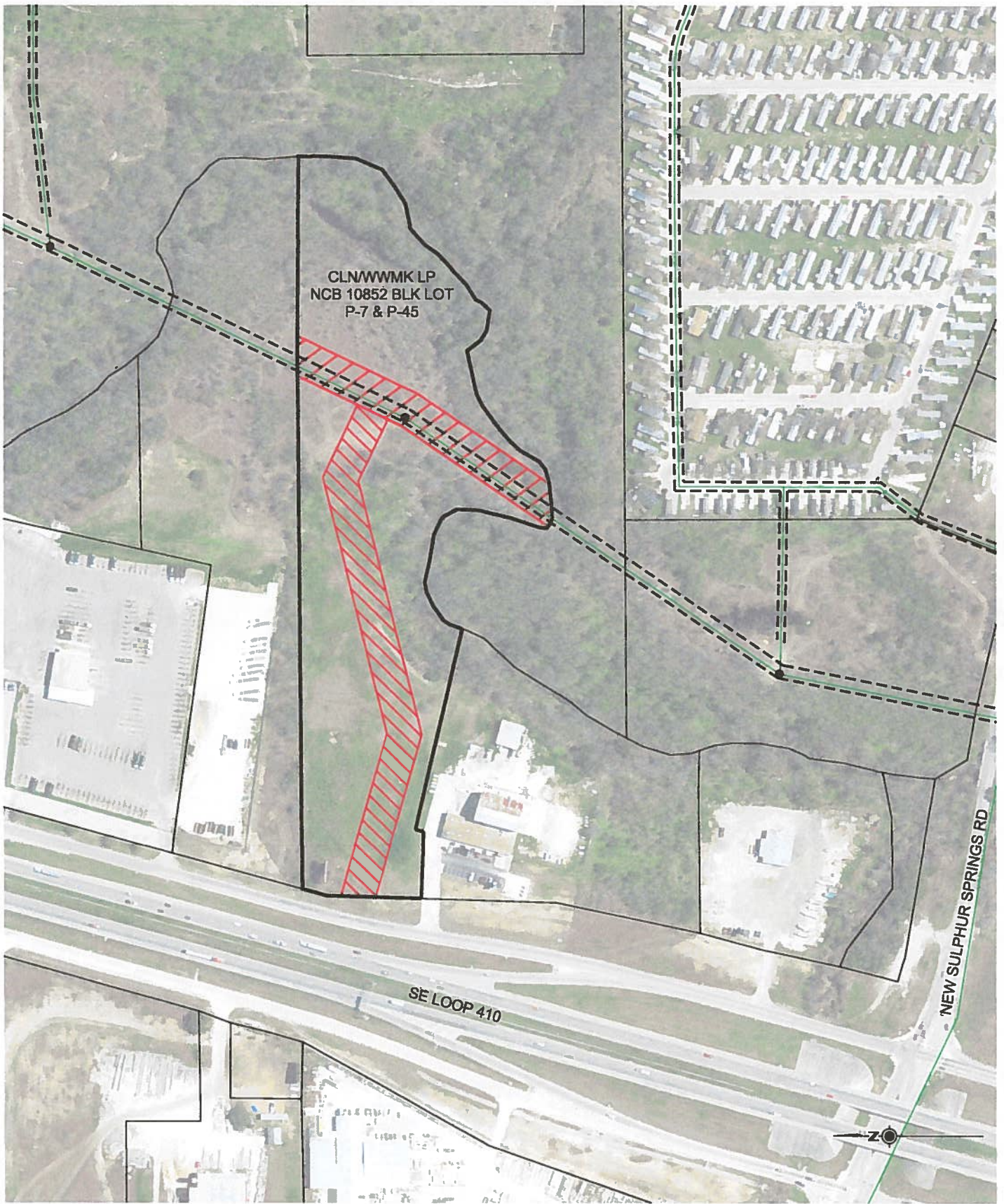


EXHIBIT B



LEGEND

 WORK AREA &
CONSTRUCTION ROUTE

EAST SEWERSHED PKG 3



TEMPORARY WORKSPACE PERMIT

This TEMPORARY WORKSPACE PERMIT (this "Permit") is entered into and made effective as of the 20 day of October, 2017 (the "Effective Date") between the undersigned, hereinafter called "Grantor" (whether one or more) and SAN ANTONIO WATER SYSTEM (hereinafter called the "Company").

1. **Grant of Permit.** Grantor is the titleholder of the land described in Exhibit "A", which is attached hereto and incorporated herein by reference for all purposes, (the "Land"). For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Grantor, does hereby covenant access to and grant, and convey unto Company a non-exclusive temporary workspace, depicted in Exhibit "A" (the "Workspace"), upon, over, and across the Land for the benefit of the Company.

2. **Permitted Uses.** The Company is specifically granted pedestrian, vehicular and equipment ingress and egress over and across the Workspace, including use by employees, contractors, subcontractors and other agents of the Company, together with the right to conduct bypass pumping operations and as temporary workspace incident to construction activities in the area of the Workspace adjacent to Company's existing sewer line, as shown on Exhibit "A".

3. **Term.** This Permit and all rights and privileges herein granted shall be appurtenant to the Land, and shall inure to the benefit of the Company and the Company's successors and assigns until expiration of said Permit, which shall be on January 1, 2020 (the "Expiration Date") or the earlier completion of Company's activities.

4. **Dimensions of Workspace.** As further identified on Exhibit "A", attached hereto, the dimensions of the portion of the Workspace to be utilized for bypass pumping and as workspace incident to construction activities, being on either side of Company's existing sewer easement, shall be approximately 80 feet in width and 300 feet in length on one side and approximately 20 feet in width and 100 feet length on the other side. The portion of the Workspace to be utilized for ingress and egress is 25' feet in width.

5. **Maintenance of Workspace.** The Company shall be responsible, at its sole cost and expense, for operations, and maintenance as are necessary for the use of the Workspace by Company consistent with the terms of this Permit.

6. **Damages.** Any direct damages to the Land that are caused by Company, its employees, contractors, subcontractors and other agents shall be properly restored in accordance with the terms of this Permit.

7. **Restoration of Land.** In conjunction of the exercise of Company's rights under this Permit, in the event Company damages the Land or any of Grantor's property located on the Land, Company shall restore the Land and any such property of Grantor to substantially the condition existing prior to Company's disturbance thereof.

8. **Grantor's Reserved Rights.** Grantor shall have the right to continue to enjoy the use of the Land for any and all purposes which (i) do not unreasonably interfere with, or prevent

the exercise of the rights of the Company under this Permit or (ii) would not be deemed to be a safety hazard to Company and its employees, contractors, subcontractors and other agents of Company.

9. **Assignment.** This Permit, the Workspace and the rights granted herein may not be assigned in whole or in part by the Company without written consent of Grantor.

10. **Governing Law.** This Permit shall be governed by, and interpreted in accordance with, the laws of the State of Texas, excluding any choice of law provisions thereof.

EXECUTED to be effective as of the Effective Date.

GRANTOR:

FIVE ACS Inc. DEFINED BENEFIT PLAN,
a Texas corporation

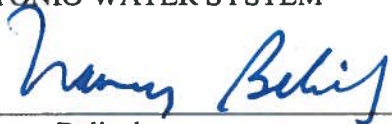
By: 

Name: Currie Smith

Title: Administrator

COMPANY:

SAN ANTONIO WATER SYSTEM

By: 

Nancy Belinsky,
Vice President and General Counsel

EXHIBIT "A"

DESCRIPTION AND DEPICTION OF THE LAND AND WORKSPACE

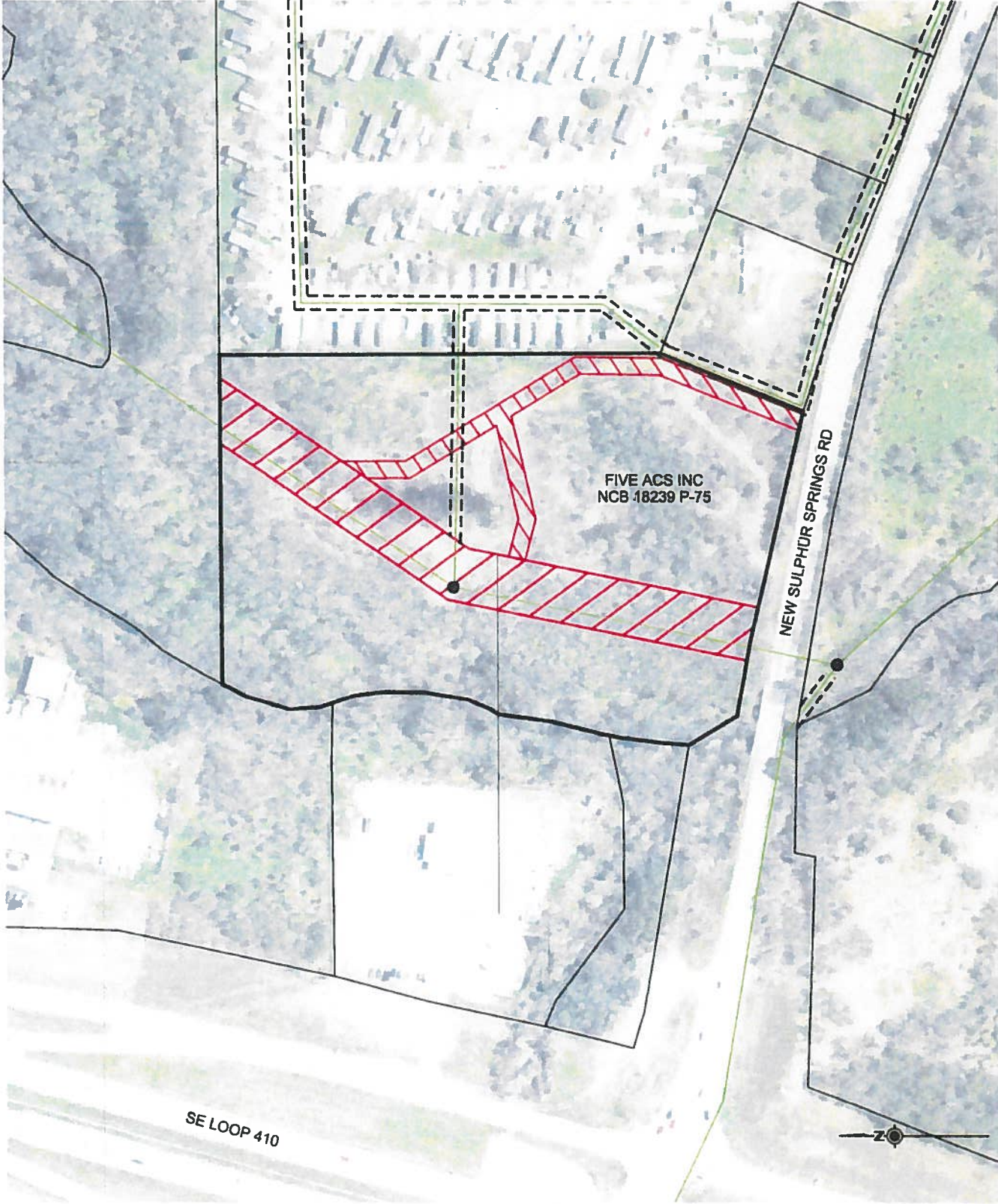
(In the event of any inaccuracy in this Exhibit "A", the Company and Grantor shall correct such inaccuracy in order to accomplish the intent of the Company and Grantor.)

P-75 LAKESIDE SOUTH ANNEXATION, SITUATED IN NEW CITY BLOCK 18239, BLOCK A IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, AS SHOWN IN VOLUME 3915, PAGE 1001 OF THE DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS, ALSO KNOWN AS 5367 NEW SULPHUR SPRINGS RD.


The following survey/sketch represents the Workspace

See following page

EXHIBIT "A"



LEGEND

 WORK AREA & CONSTRUCTION ROUTE

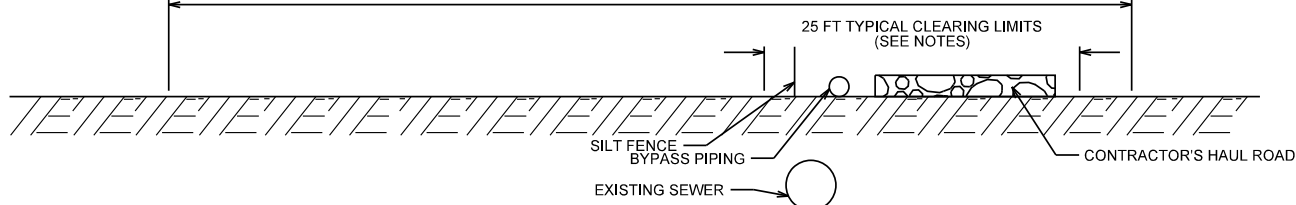
EAST SEWERSHED PKG 3



PROJECT SPECIFIC NOTES

- THESE PLANS WERE PREPARED WITH LIMITED ON THE GROUND SURVEY. AERIAL IMAGERY MAY NOT REFLECT ALL RECENT IMPROVEMENTS. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS AND SITE CONDITIONS PRIOR TO CONSTRUCTION.
- MUCH OF THIS PROJECT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN OF ROSILLO CREEK AND PARTS OF IT ARE LOCATED VERY NEAR TO THE STREAM BANK ITSELF. NO FILL MATERIAL SHALL BE PLACED IN THE 100-YEAR FLOODPLAIN. CONTRACTOR SHALL RETURN ALL CONTOURS TO THEIR PRE-CONSTRUCTION CONDITION UPON COMPLETION OF CONSTRUCTION.
- CONTRACTOR TO LIMIT INGRESS/EGRESS WHEREVER POSSIBLE TO MINIMIZE THE AMOUNT OF REMOVAL OF EXISTING VEGETATION AND DISTURBED AREA FOR THE PROJECT.
- HAUL ROAD SHOWN IS CONCEPTUAL AND LOCATED TO MINIMIZE AMOUNT OF EXISTING TREES TO BE CLEARED. CONTRACTOR MAY MODIFY BASED ON FIELD CONDITIONS AND HIS OPERATIONS, BUT IN NO CASE SHALL TREE CLEARING EXCEED LIMITS SHOWN ON SHEETS 63-77 IN ORDER TO MAINTAIN COMPLIANCE WITH TREE PERMIT FROM CITY OF SAN ANTONIO. ALL HAUL ROADS BUILT FOR CONTRACTOR CONVENIENCE SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION. DISTURBED AREAS SHALL BE RESTORED TO PRECONSTRUCTION CONTOURS AND SEEDED AND RESTORED PER THE SPECIFICATIONS AND NOTE 13 THIS SHEET.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING ANY CONSTRUCTION MATERIALS FROM WATERWAYS AFTER ANY FLOOD EVENT AND PROTECTING EXISTING DRAINAGE SYSTEMS.
- CONTRACTOR SHALL MINIMIZE CLEARING WITHIN THE RIGHT OF ENTRY AREA TO MAINTAIN EXISTING TREE CANOPY IN NO INSTANCE SHALL HERITAGE TREES (24" DIAMETER AND LARGER) BE REMOVED. HERITAGE TREES ARE SHOWN IN THE PLANS AND TAGGED IN THE FIELD. HERITAGE TREES AND TREES TO REMAIN SHALL BE PROTECTED PER CITY OF SAN ANTONIO TREE PROTECTION DETAILS IN THE PLANS (NSPI). TREES/VEGETATION REMOVED FOR CONSTRUCTION ACCESS MAY BE MULCHED WITHIN THE RIGHT OF ENTRY AREA AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR. IN NO INSTANCE SHALL TREES BE PILED WITHIN THE 100-YEAR FLOODPLAIN. ALL TREES/VEGETATION/MULCH SHALL BE REMOVED FROM THE 100-YEAR FLOODPLAIN WITHIN 24 HOURS.
- CONTRACTOR IS ADVISED THAT PROJECT CROSSES ROSILLO CREEK AND JURISDICTIONAL WETLANDS. THIS PROJECT IS SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT. CONTRACTOR SHALL LIMIT THE EXTENT OF CONSTRUCTION OPERATIONS IN THE VICINITY OF JURISDICTIONAL WATERS AS SHOWN IN THE PLANS TO MAINTAIN COMPLIANCE WITH NATIONWIDE PERMIT NO. 12 "UTILITY LINE ACTIVITIES." CONTRACTOR SHALL MARK LIMITS OF IMPACT IN JURISDICTIONAL WATERS USING ORANGE SAFETY FENCING OR SIMILAR (NSPI) TO ENSURE VISIBILITY TO ALL CONSTRUCTION PERSONNEL.
- PRIOR TO CLEARING ROW AND CONSTRUCTION OF ANY HAUL ROADS, CONTRACTOR SHALL STAKE BOTH SIDES OF RIGHT OF ENTRY AREA AT 50 FOOT INTERVALS. IN WETLAND AREAS STAKES SHALL BE SET AT 25 FOOT INTERVALS. STAKING SHALL BE BY 'SURVEY LATH' OR SIMILAR AND SHALL INCLUDE CENTERLINE STATION. STAKING SHALL BE NO SEPARATE PAY ITEM.
- ROSILO CREEK IS SUBJECT TO FLOODING. CONTRACTOR SHALL REPAIR/REBUILD HIS HAUL ROAD OR CREEK CROSSING AS NEEDED FOLLOWING RAIN EVENTS AT HIS EXPENSE. NO EXTRA MEASUREMENT SHALL BE MADE FOR HAUL ROAD REPAIRS.
- CONTRACTOR IS ADVISED THAT LIVESTOCK MAY BE PRESENT ON PROPERTIES WITHIN THE PROJECT. CONTRACTOR SHALL KEEP ALL GATES CLOSED AT ALL TIMES. OPEN EXCAVATIONS SHALL BE FENCED OFF OR COVERED WHEN CONTRACTOR IS NOT ACTIVELY WORKING.
- LOCATIONS FOR MANHOLE RECONSTRUCTION AND MANHOLE REHABILITATION ARE BASED UPON ESTIMATED LOCATIONS FOR LINER INSERTION. CONTRACTOR MAY MODIFY LOCATIONS TO SUIT HIS OPERATIONS. REFERENCE SPECIAL PROVISION TO SPECIFICATION 901 "REHABILITATION OF SANITARY SEWER BY CURED-IN-PLACE PIPE (HOT WATER OR STREAM CURED)" FOR DETAILS ON SUBMITTAL REQUIREMENTS FOR CONTRACTOR'S INSTALLATION PLAN. RECONSTRUCTED MANHOLES THAT ARE CHANGED FROM THE LOCATIONS SHOWN IN THE PLANS MAY REQUIRE ADJUSTMENT TO SET THE MH RIM ELEVATION AT TWO FEET ABOVE EXISTING GRADE. COORDINATE WITH ENGINEER.
- MANHOLES SHALL RECEIVE NEW RING AND COVER PER THE TABLE ON THIS SHEET. RECONSTRUCTED MANHOLE COVERS SHALL BE REPLACED WITH A NEW 30" COVER, REGARDLESS OF EXISTING COVER SIZE. REHABILITATED MANHOLE COVERS SHALL BE REPLACED WITH A NEW RING AND COVER TO MATCH EXISTING SIZE. MANHOLE COVERS OUTSIDE THE FLOODPLAIN SHALL BE VENTED PER THE SPECIFICATIONS. MANHOLE COVERS IN THE FLOODPLAIN SHALL BE WATERTIGHT PER SAWS STD. DWG DD-852 SERIES DETAIL. SELECT MANHOLES IN THE FLOODPLAIN AS INDICATED IN THE DRAWINGS SHALL BE VENTILATED WITH GOOSENECK AND BALL-CHECK VALVE PER DETAIL ON SHEET 50.
- PERMANENT STABILIZATION OF DISTURBED AREAS SHALL CONSIST OF DRILL SEEDING OF NATIVE SEED MIXES PER TXDOT SPECIFICATION ITEM 164 "DRILL SEEDING (PERM)". AFTER SEEDING, INSTALL SOIL RETENTION BLANKET (SRB) PER TXDOT SPECIFICATION ITEM 169 "SOIL RETENTION BLANKET". SRB SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS. VEGETATIVE WATERING IS NOT REQUIRED WHEN SRB AND SEEDING ARE USED IN CONJUNCTION.
- CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY CONSTRUCTION FENCING ON PROPERTIES WITH LIVESTOCK WHERE DIRECTED BY THE INSPECTOR PER ITEM SP552. PROVIDE DETAILS ON FENCING AS SUBMITTAL TO ENGINEER AND INSPECTOR. REFER TO SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

80 FT RIGHT OF ENTRY AREA



- NOTES:
- AT LINER INSERTION POINTS, CLEARING LIMITS ASSUME 100 FT ALONG THE ALIGNMENT. WIDTH IS VARIABLE AND EXTENDS TO TEMPORARY HAUL ROUTE SHOWN.
 - CONTRACTOR TO SELECT ROUTE TO MINIMIZE CLEARING. SEE NOTE 4 THIS SHEET.

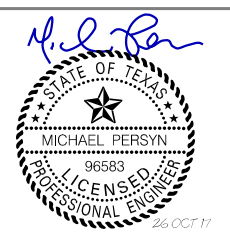
MANHOLE COVER TABLE

WWL A					
STA	MH NO	MH DIA	FLOODPLAIN	MANHOLE COVER	VENTILATION
1+57.30	New	30"	No	Vented per specs	-
13+19.30	42421	24"	No	Vented per specs	-
23+07.10	55949	24"	No	Vented per specs	-
32+34.49	55950	24"	No	Vented per specs	-
41+77.18	55951	24"	No	Vented per specs	-
51+22.29	55946	24"	No	Vented per specs	-
54+46.56	55945	24"	No	Vented per specs	-
57+13.64	55940	24"	Yes	Watertight	-
62+65.96	42410	24"	Yes	Watertight	-
65+26.35	42316	24"	No	Vented per specs	-
68+34.79	42409	24"	No	Vented per specs	-
77+73.97	42315	24"	Yes	Watertight	-
87+43.15	43313	24"	No	Vented per specs	-
91+62.54	43312	24"	No	Vented per specs	-
96+13.94	55939	24"	No	Vented per specs	-
104+99.46	55938	24"	Yes	Watertight	-
111+51.92	55937	24"	Yes	Watertight	-
115+64.56	55936	24"	Yes	Watertight	-
123+68.80	56387	24"	Yes	Watertight	See Detail Sheet 50
131+75.84	47582	24"	Yes	Watertight	-
139+68.20	43158	24"	No	Vented per specs	-
148+99.88	43042	24"	Yes	Watertight	-
152+14.76	56046	24"	Yes	Watertight	See Detail Sheet 50
157+31.27	47587	24"	Yes	Watertight	-
163+13.18	44743	24"	Yes	Watertight	See Detail Sheet 50
173+26.30	44745	24"	Yes	Watertight	-
182+05.32	44744	24"	Yes	Watertight	-
187+85.66	56507	24"	No	Vented per specs	-
188+49.58	56508	24"	Yes	Watertight	-
190+54.82	44849	24"	Yes	Watertight	-
193+88.16	44848	24"	Yes	Watertight	-
202+25.29	44847	24"	Yes	Watertight	See Detail Sheet 50
208+37.95	47556	24"	Yes	Watertight	-
215+93.43	47557	24"	Yes	Watertight	-
218+96.5	47555	24"	Yes	Watertight	-

WWL B					
STA	MH NO	MH DIA	FLOODPLAIN	MANHOLE COVER	VENTILATION
1+00.00	43627	24"	Yes	Watertight	-
9+95.74	44478	24"	Yes	Watertight	See Detail Sheet 50
18+78.07	44004	24"	Yes	Watertight	See Detail Sheet 50
25+43.80	56320	30"	Yes	Watertight	-
32+29.94	56319	24"	Yes	Watertight	See Detail Sheet 50
40+45.77	56318	24"	Yes	Watertight	-
48+48.50	56317	24"	Yes	Watertight	See Detail Sheet 50
57+00.02	44003	24"	Yes	Watertight	-
62+35.32	44477	24"	Yes	Watertight	See Detail Sheet 50
67+99.65	56224	24"	Yes	Watertight	-
74+81.32	56225	24"	Yes	Watertight	See Detail Sheet 50

*MH COVER DIAMETER SHOWN IS EXISTING

TOTAL ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
164	DRILL SEEDING (PERM)	SY	125000
169	SOIL RETENTION BLANKET (CLASS 1, TYPE A)	SY	125000
530	BARRICADES, SIGNS, AND TRAFFIC HANDLING	LS	1
	TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND WATER POLLUTION PREVENTION AND CONTROL	LS	1
540	ROCK FILTER DAM	LF	220
540.6	STABILIZED CONSTRUCTION ENTRANCE	SY	252
540.9	SILT FENCE	LF	44914
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	260
850	6' DIA SANITARY SEWER STRUCTURE	EA	1
	RECONSTRUCTION OF EXISTING MANHOLES (6' DIAMETER)	EA	21
866	SEWER MAIN PRE-TELEVISION INSPECTION (ALL SIZES)	LF	29179
866	SEWER MAIN POST-TELEVISION INSPECTION (ALL SIZES)	LF	29122
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 30 IN	LF	12966
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 36 IN	LF	4748
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 42 IN	LF	11408
1103.2	OBSTRUCTION REMOVAL BY REMOTE DEVICE	EA	5
1103.3	POINT REPAIR (ALL DEPTHS) (ALL SIZES)	EA	9
1103.4	EXTRA LENGTH POINT REPAIR (ALL DEPTHS) (ALL SIZES)	LF	179
864-S1	BYPASS PUMPING SMALL DIAMETER SANITARY SEWERS	LS	1
864-S2	BYPASS PUMPING LARGE DIAMETER SANITARY SEWERS	LS	1
SP552	16' UTILITY GATE	EA	17
SP552	TEMPORARY BARBED WIRE FENCE	LF	18000
SS1850	MANHOLE VENT	EA	11
SS4000	TEMPORARY HAUL ROAD	LS	1
SS910	MANHOLE REHABILITATION (6' DIAMETER)	SF	8910



EA	EASEMENT UPDATE	AD	MRP	0/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

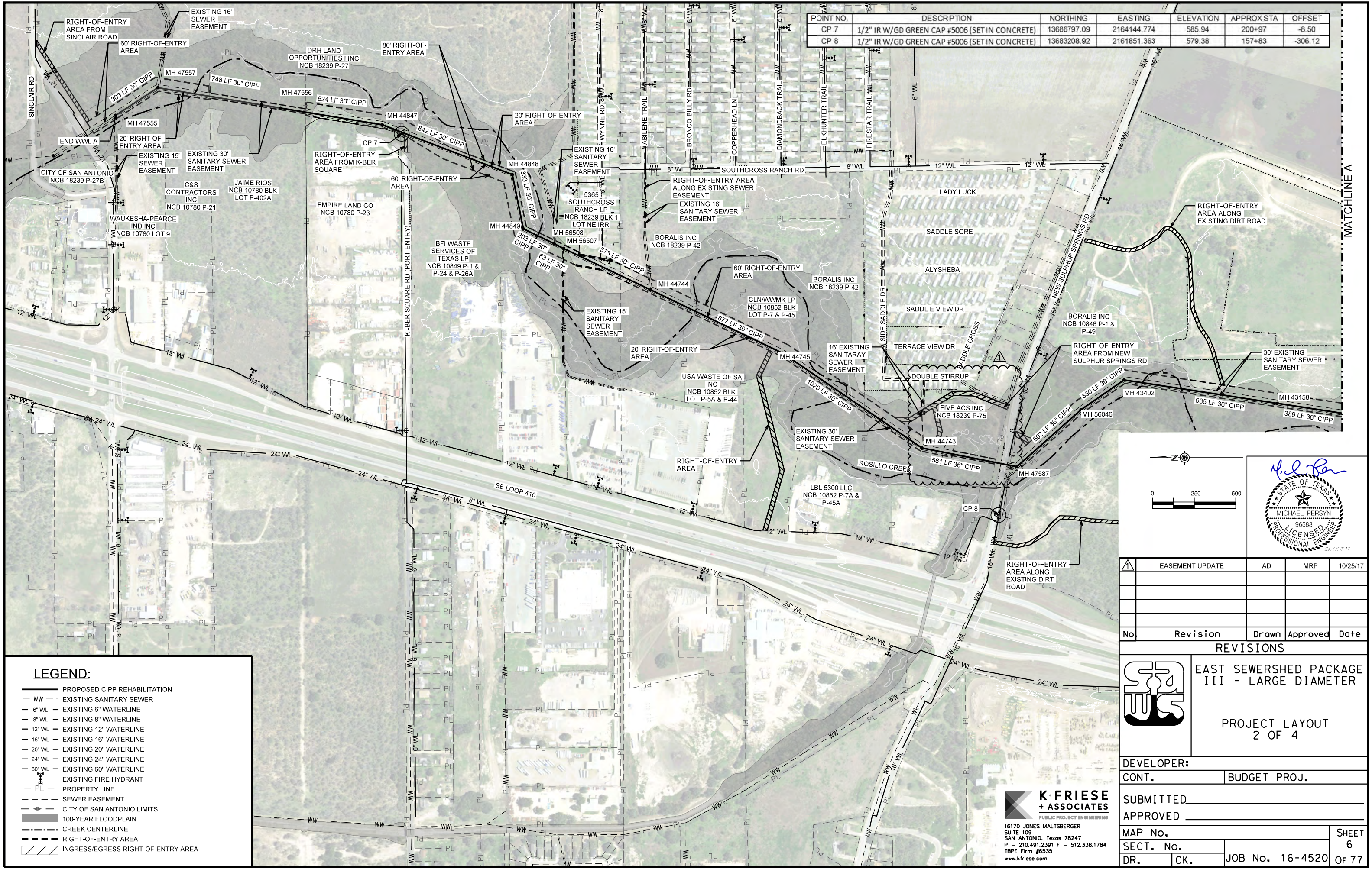
EAST SEWERSHED PACKAGE III - LARGE DIAMETER

QUANTITIES AND PROJECT SPECIFIC NOTES

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _____	
APPROVED _____	
MAP No.	SHEET 3
SECT. No.	OF 77
DR.	CK.
JOB No. 16-4520	

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POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	APPROX STA	OFFSET
CP 7	1/2" IR W/GD GREEN CAP #5006 (SET IN CONCRETE)	13686797.09	2164144.774	585.94	200+97	-8.50
CP 8	1/2" IR W/GD GREEN CAP #5006 (SET IN CONCRETE)	13683208.92	2161851.363	579.38	157+83	-306.12



LEGEND:

- PROPOSED CIPP REHABILITATION
- - - EXISTING SANITARY SEWER
- 6" WL - EXISTING 6" WATERLINE
- 8" WL - EXISTING 8" WATERLINE
- 12" WL - EXISTING 12" WATERLINE
- 16" WL - EXISTING 16" WATERLINE
- 20" WL - EXISTING 20" WATERLINE
- 24" WL - EXISTING 24" WATERLINE
- 60" WL - EXISTING 60" WATERLINE
- EXISTING FIRE HYDRANT
- PL - PROPERTY LINE
- - - SEWER EASEMENT
- - - CITY OF SAN ANTONIO LIMITS
- 100-YEAR FLOODPLAIN
- - - CREEK CENTERLINE
- - - RIGHT-OF-ENTRY AREA
- ▨ INGRESS/EGRESS RIGHT-OF-ENTRY AREA

▲	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

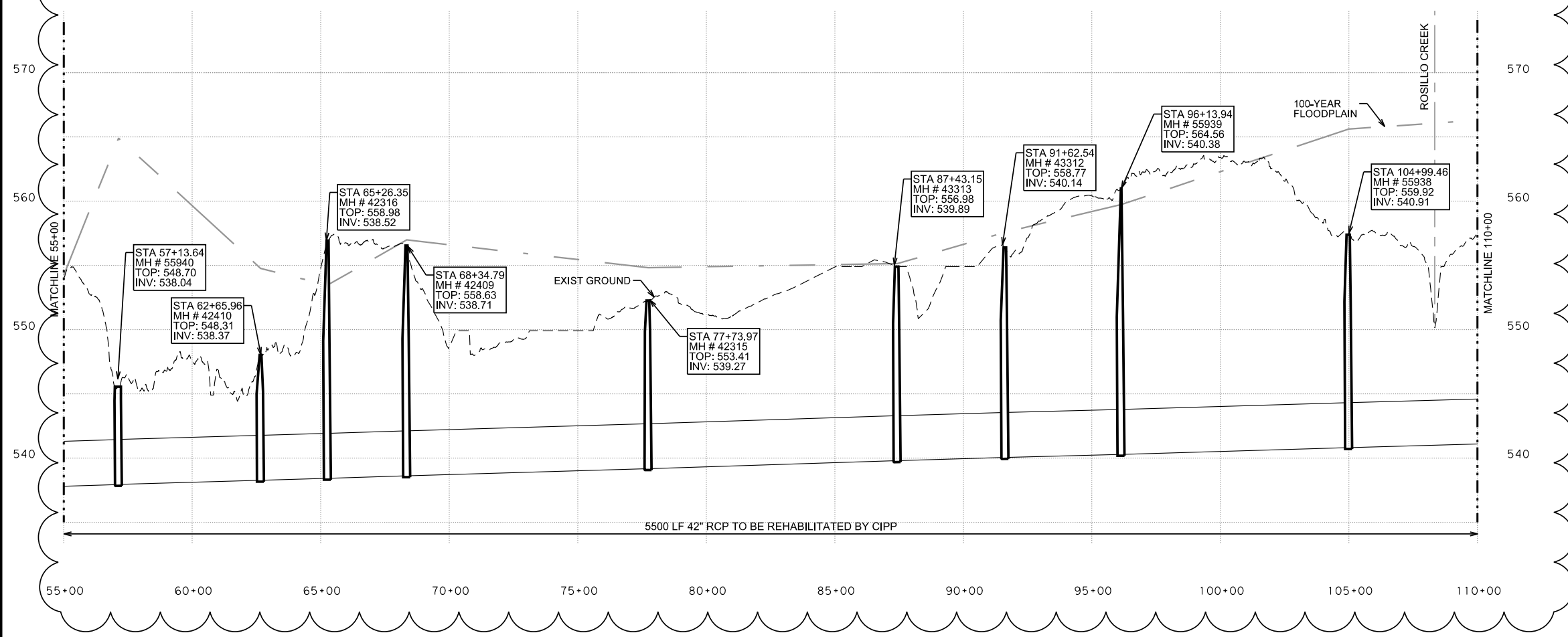
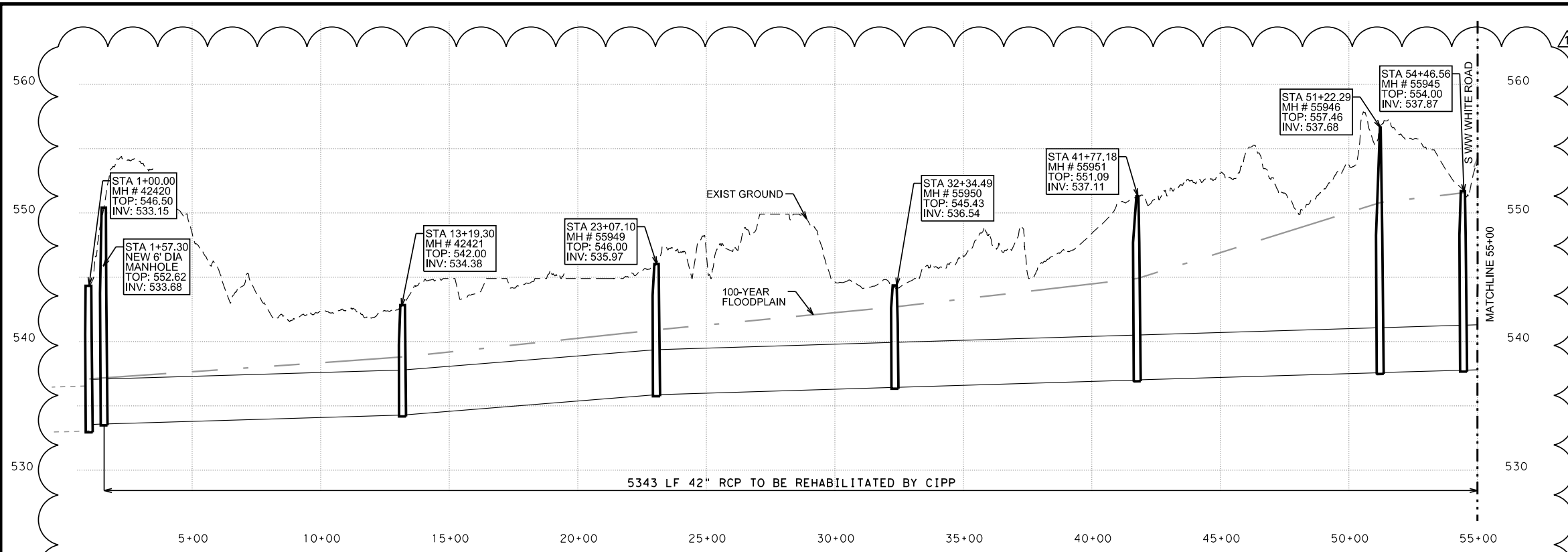
EAST SEWERSHED PACKAGE III - LARGE DIAMETER

PROJECT LAYOUT 2 OF 4

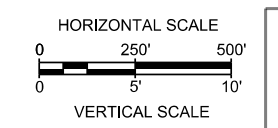
DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _____	
APPROVED _____	
MAP No.	SHEET 6
SECT. No.	OF 77
DR.	CK.
JOB No. 16-4520	

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NOTES:
 1. PROFILES ARE BASED UPON THE BEST INFORMATION AVAILABLE. INVERTS ARE BASED ON SAWS GIS DATA AND WERE NOT VERIFIED BY SURVEY. INFORMATION IS PROVIDED TO ASSIST CONTRACTOR WITH PLANNING INSTALLATION. SLIGHT DISCREPANCIES WITH MANHOLE ELEVATIONS IN THE FIELD MAY BE ENCOUNTERED. CONTRACTOR TO FIELD VERIFY.



No.	Revision	Drawn	Approved	Date

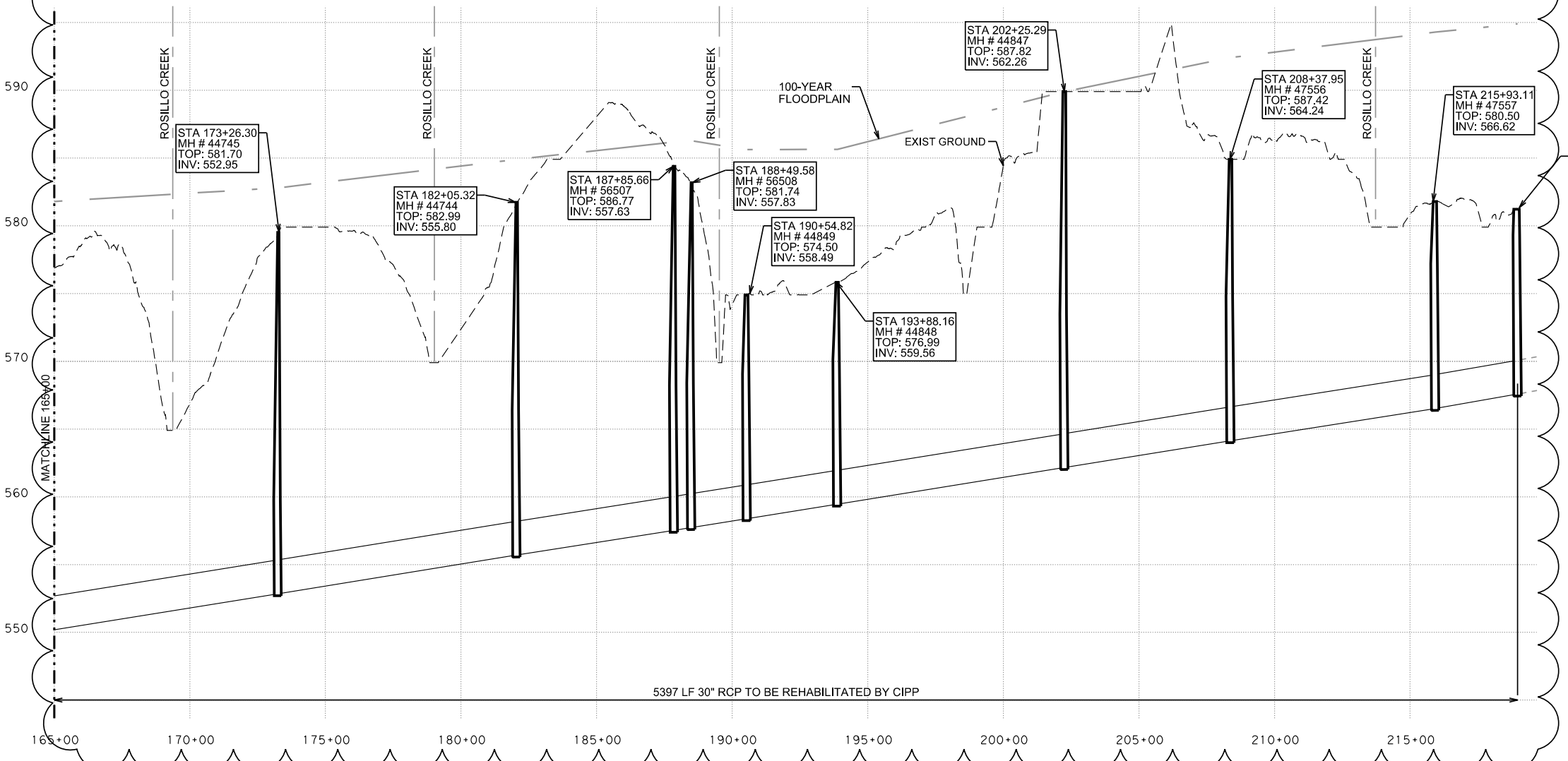
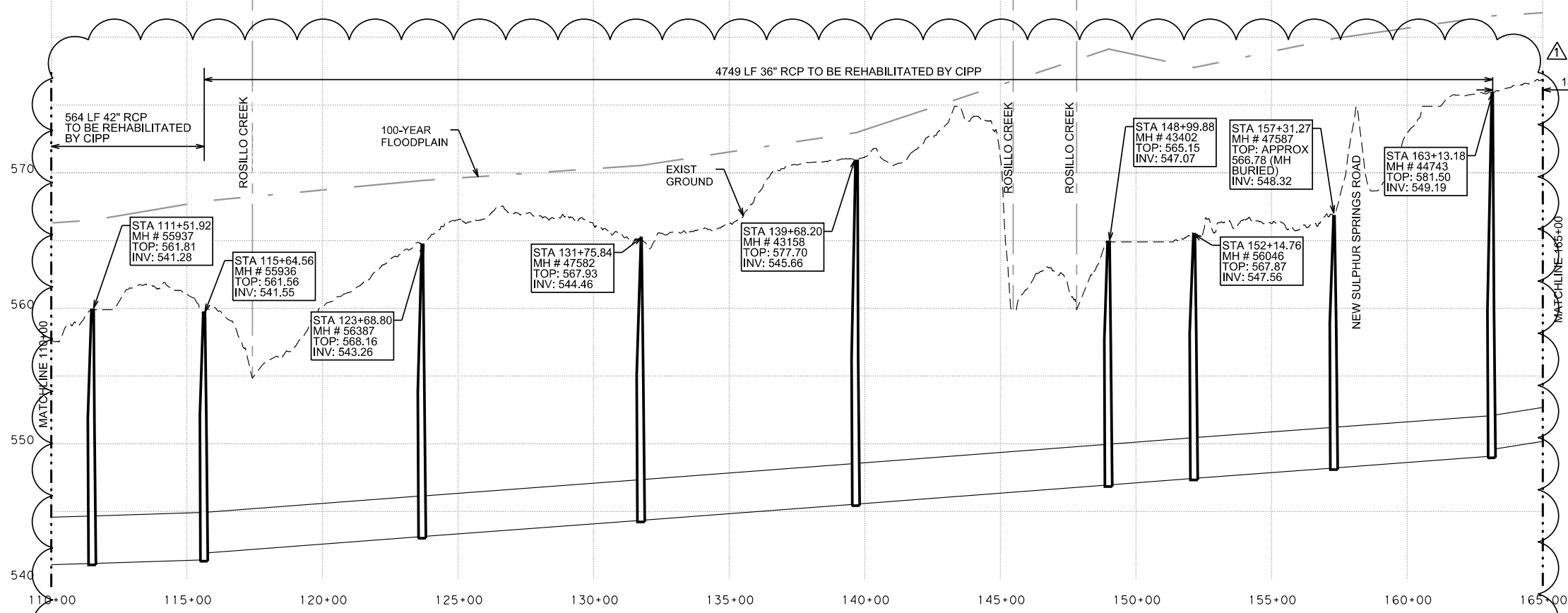
REVISIONS

STW EAST SEWERSHED PACKAGE III - LARGE DIAMETER

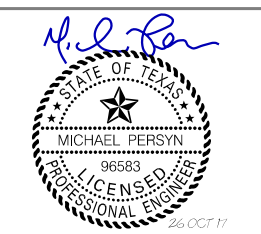
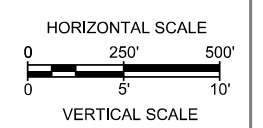
EXISTING WASTEWATER LINE A PROFILE 1 OF 2

DEVELOPER:			
CONT.		BUDGET PROJ.	
SUBMITTED _____			
APPROVED _____			
MAP No.		SHEET 9	
SECT. No.		JOB No. 16-4520 OF 77	
DR.	CK.		

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INVERT UPDATE	AD	MRP	10/25/17	
No.	Revision	Drawn	Approved	Date

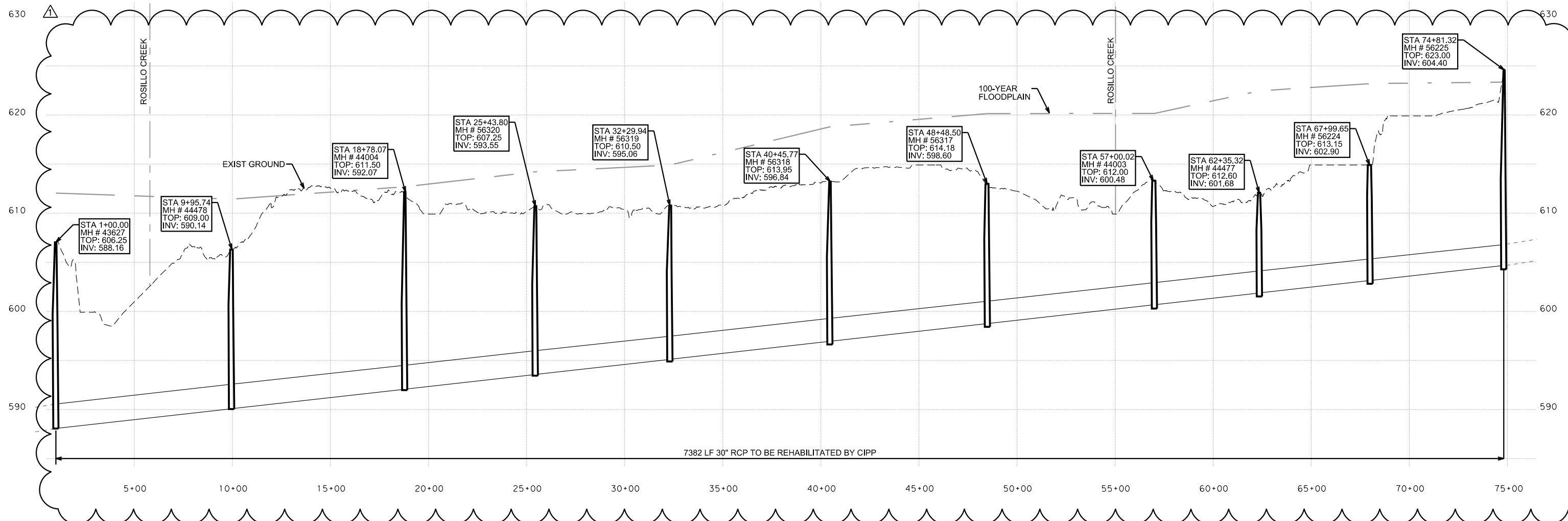
REVISIONS

EAST SEWERSHED PACKAGE III - LARGE DIAMETER

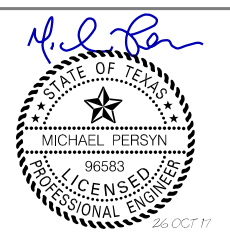
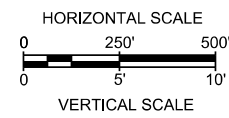
EXISTING WASTEWATER LINE A PROFILE 2 OF 2

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _____	
APPROVED _____	
MAP No.	SHEET 10
SECT. No.	OF 77
DR.	CK.
JOB No. 16-4520	

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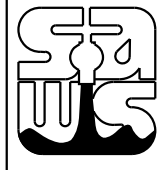


NOTES:
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△	FLOODPLAIN ADDITION	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS



EAST SEWERSHED PACKAGE III - LARGE DIAMETER

EXISTING WASTEWATER LINE B PROFILE

DEVELOPER: _____

CONT. BUDGET PROJ.

SUBMITTED _____

APPROVED _____

















MAP No. _____ **SHEET** 11

SECT. No. _____

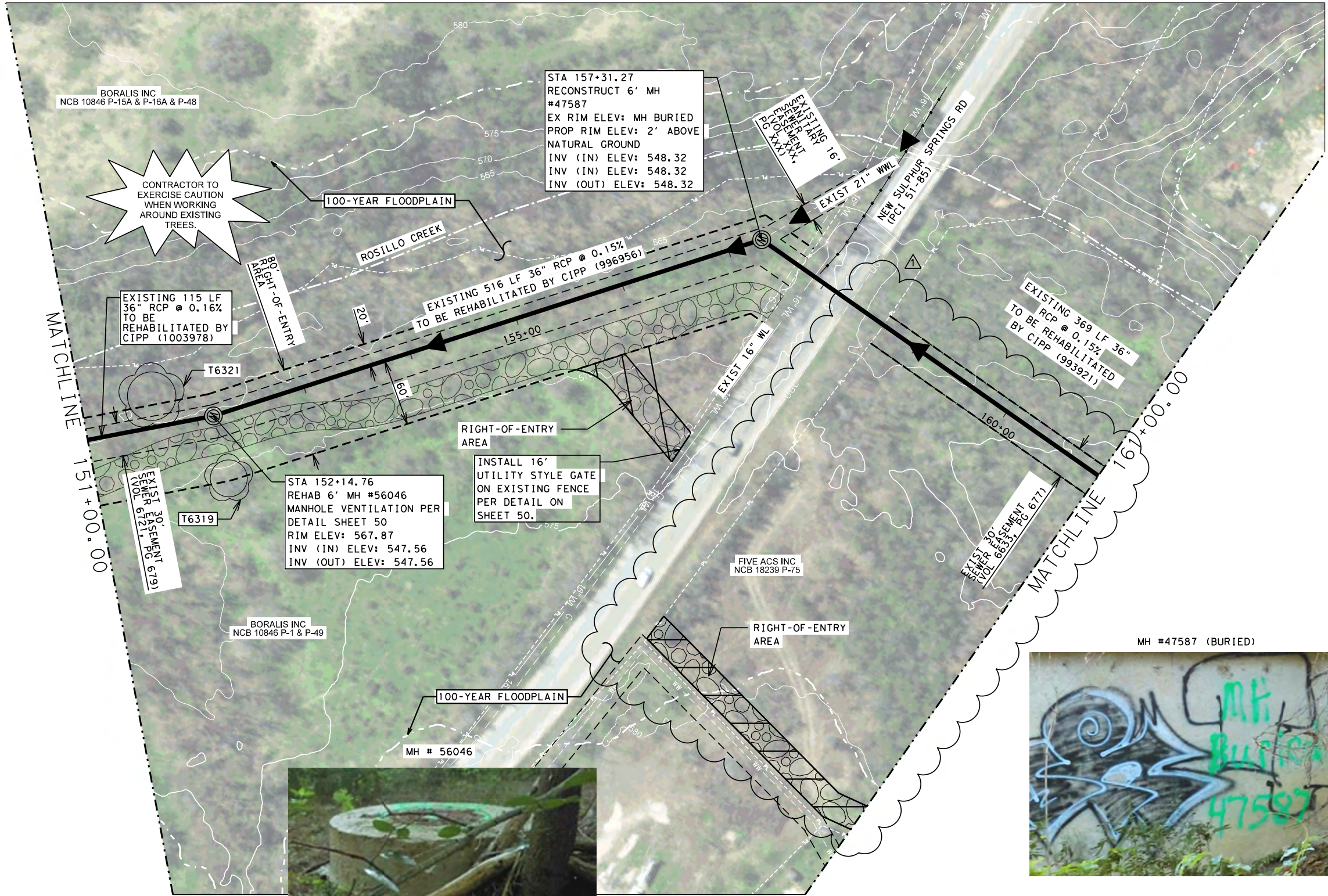
DR. _____ **CK.** _____ **JOB No.** 16-4520 **OF 77**

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LEGEND

-  EXIST WASTEWATER LINE TO BE REHABILITATED
-  EXIST EDGE OF PAVEMENT
-  EXIST BARBED WIRE FENCE
-  EXIST CHAIN LINK FENCE
-  EXIST OVERHEAD UTILITIES
-  EXIST WATER LINE
-  EXIST WASTEWATER LINE
-  EXIST STORM SEWER LINE
-  EXIST GAS LINE
-  EXIST TELEPHONE LINE
-  EXIST RECYCLED WATER LINE
-  PROPERTY LINE
-  CITY OF SAN ANTONIO BOUNDARY
-  100-YEAR FLOODPLAIN
-  CREEK CENTERLINE
-  CONCEPTUAL HAUL ROUTE

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
855	RECONSTRUCTION OF EXISTING MANHOLES (6' DIAMETER)	EA	1
866	SEWER MAIN PRE-TELEVISION INSPECTION (ALL SIZES)	LF	1000
866	SEWER MAIN POST-TELEVISION INSPECTION (ALL SIZES)	LF	1000
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 36 IN	LF	1000
SP552	16' UTILITY GATE	EA	1
SS1850	MANHOLE VENT	EA	1
SS910	MANHOLE REHABILITATION (6' DIAMETER)	SF	320



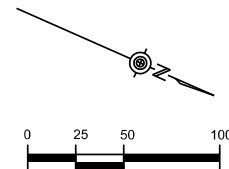
CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND EXISTING TREES.

STA 152+14.76
REHAB 6' MH #56046
MANHOLE VENTILATION PER
DETAIL SHEET 50
RIM ELEV: 567.87
INV (IN) ELEV: 547.56
INV (OUT) ELEV: 547.56

STA 157+31.27
RECONSTRUCT 6' MH
#47587
EX RIM ELEV: MH BURIED
PROP RIM ELEV: 2' ABOVE
NATURAL GROUND
INV (IN) ELEV: 548.32
INV (IN) ELEV: 548.32
INV (OUT) ELEV: 548.32

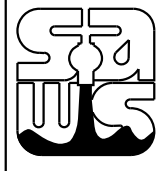
EXISTING 16' RCP
TO BE REHABILITATED BY CIPP

EXISTING 369 LF 36" RCP @ 0.15% TO BE REHABILITATED BY CIPP (993921)



No.	Revision	Drawn	Approved	Date

REVISIONS

 EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A SEWER PLANS

STA 151+00.00 TO STA 161+00.00

DEVELOPER: _____

CONT. _____ BUDGET PROJ. _____

SUBMITTED _____

APPROVED _____
















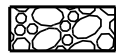
MAP No. _____ SHEET 27

SECT. No. _____

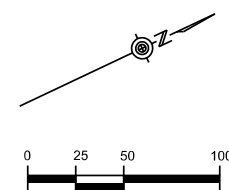
DR. _____ CK. _____ JOB No. 16-4520 OF 77


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LEGEND

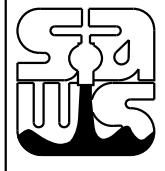
-  EXIST WASTEWATER LINE TO BE REHABILITATED
-  EXIST EDGE OF PAVEMENT
-  EXIST BARBED WIRE FENCE
-  EXIST CHAIN LINK FENCE
-  EXIST OVERHEAD UTILITIES
-  EXIST WATER LINE
-  EXIST WASTEWATER LINE
-  EXIST STORM SEWER LINE
-  EXIST GAS LINE
-  EXIST TELEPHONE LINE
-  EXIST RECYCLED WATER LINE
-  PROPERTY LINE
-  CITY OF SAN ANTONIO BOUNDARY
-  100-YEAR FLOODPLAIN
-  CREEK CENTERLINE
-  CONCEPTUAL HAUL ROUTE

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
855	RECONSTRUCTION OF EXISTING MANHOLES (6' DIAMETER)	EA	1
866	SEWER MAIN PRE-TELEVISION INSPECTION (ALL SIZES)	LF	1000
866	SEWER MAIN POST-TELEVISION INSPECTION (ALL SIZES)	LF	1000
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 30 IN	LF	787
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 36 IN	LF	213
1103.3	POINT REPAIR (ALL DEPTHS) (ALL SIZES)	EA	1
1103.4	EXTRA LENGTH POINT REPAIR (ALL DEPTHS) (ALL SIZES)	LF	13
SS1850	MANHOLE VENT	EA	1



	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

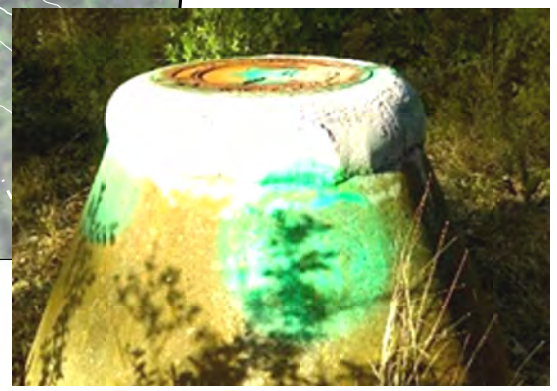
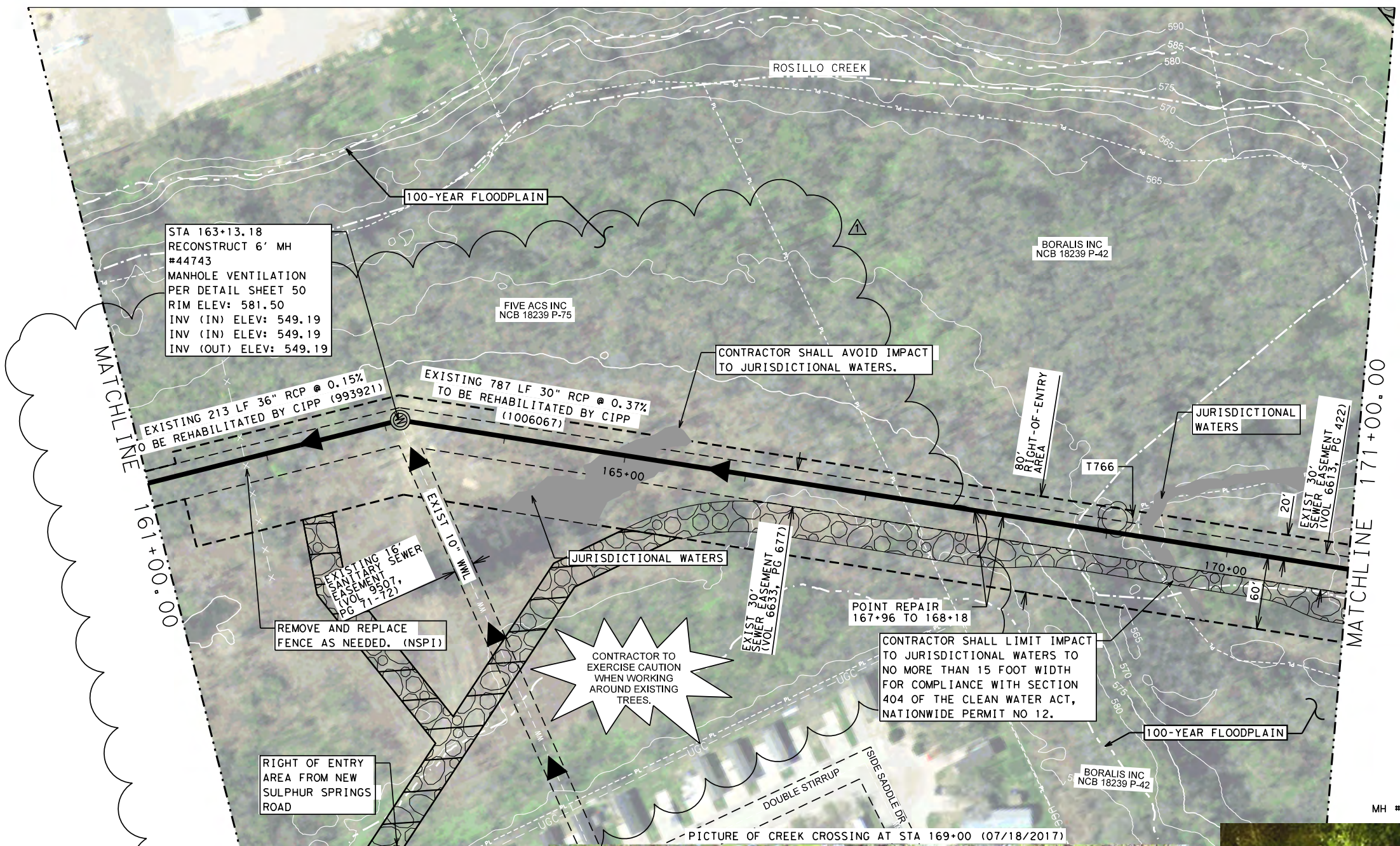


EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A SEWER PLANS

STA 161+00.00 TO STA 171+00.00

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _____	
APPROVED _____	
MAP No.	SHEET
SECT. No.	28
DR.	CK.
JOB No. 16-4520 OF 77	

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STA 163+13.18
RECONSTRUCT 6' MH #44743
MANHOLE VENTILATION PER DETAIL SHEET 50
RIM ELEV: 581.50
INV (IN) ELEV: 549.19
INV (IN) ELEV: 549.19
INV (OUT) ELEV: 549.19

EXISTING 213 LF 36" RCP @ 0.15% TO BE REHABILITATED BY CIPP (993921)

EXISTING 787 LF 30" RCP @ 0.37% TO BE REHABILITATED BY CIPP (1006067)

CONTRACTOR SHALL AVOID IMPACT TO JURISDICTIONAL WATERS.

REMOVE AND REPLACE FENCE AS NEEDED. (NSPI)


CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND EXISTING TREES.

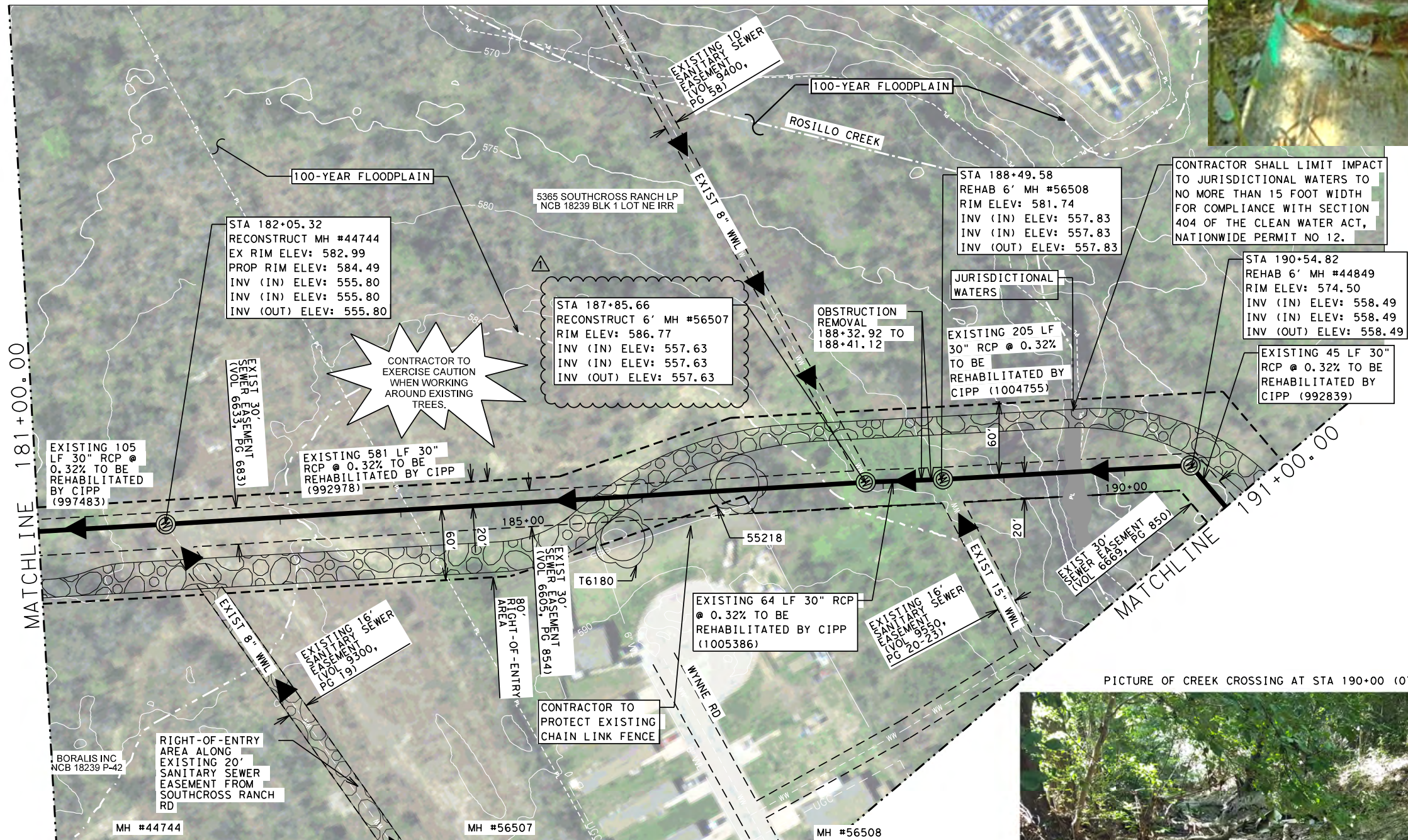
POINT REPAIR 167+96 TO 168+18
CONTRACTOR SHALL LIMIT IMPACT TO JURISDICTIONAL WATERS TO NO MORE THAN 15 FOOT WIDTH FOR COMPLIANCE WITH SECTION 404 OF THE CLEAN WATER ACT, NATIONWIDE PERMIT NO 12.

MH #44743

MH #44849

LEGEND

- EXIST WASTEWATER LINE TO BE REHABILITATED
- - - EXIST EDGE OF PAVEMENT
- × - × - × - EXIST BARBED WIRE FENCE
- ○ — EXIST CHAIN LINK FENCE
- - - OHE - - - EXIST OVERHEAD UTILITIES
- - - WL - - - EXIST WATER LINE
- - - WW - - - EXIST WASTEWATER LINE
- - - SS - - - EXIST STORM SEWER LINE
- - - G - - - EXIST GAS LINE
- - - T - - - EXIST TELEPHONE LINE
- - - RWL - - - EXIST RECYCLED WATER LINE
- - - PL - - - PROPERTY LINE
- - - - - CITY OF SAN ANTONIO BOUNDARY
- - - - - 100-YEAR FLOODPLAIN
- - - - - CREEK CENTERLINE
-  CONCEPTUAL HAUL ROUTE



ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
855	RECONSTRUCTION OF EXISTING MANHOLES (6' DIAMETER)	EA	2
866	SEWER MAIN PRE-TELEVISION INSPECTION (ALL SIZES)	LF	1000
866	SEWER MAIN POST-TELEVISION INSPECTION (ALL SIZES)	LF	1000
901	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER CURED) 30 IN	LF	1000
1103.2	OBSTRUCTION REMOVAL BY REMOTE DEVICE	EA	1
SS910	MANHOLE REHABILITATION (6' DIAMETER)	SF	890

CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND EXISTING TREES.

CONTRACTOR SHALL LIMIT IMPACT TO JURISDICTIONAL WATERS TO NO MORE THAN 15 FOOT WIDTH FOR COMPLIANCE WITH SECTION 404 OF THE CLEAN WATER ACT, NATIONWIDE PERMIT NO 12.

JURISDICTIONAL WATERS

OBSTRUCTION REMOVAL 188+32.92 TO 188+41.12

EXISTING 45 LF 30" RCP @ 0.32% TO BE REHABILITATED BY CIPP (992839)

EXISTING 205 LF 30" RCP @ 0.32% TO BE REHABILITATED BY CIPP (1004755)

EXISTING 64 LF 30" RCP @ 0.32% TO BE REHABILITATED BY CIPP (1005386)

EXISTING 16' SANITARY SEWER EASEMENT (VOL 9550, PG 20-23)

EXIST 30' SEWER EASEMENT (VOL 6669, PG 850)

EXIST 15' WWL

EXIST 30' SEWER EASEMENT (VOL 6605, PG 854)

RIGHT-OF-ENTRY AREA

EXISTING 16' SANITARY SEWER EASEMENT (VOL 91300, PG 19)

EXIST 30' SEWER EASEMENT (VOL 6831, PG 883)

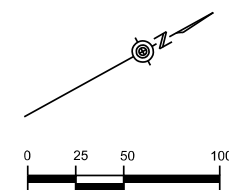
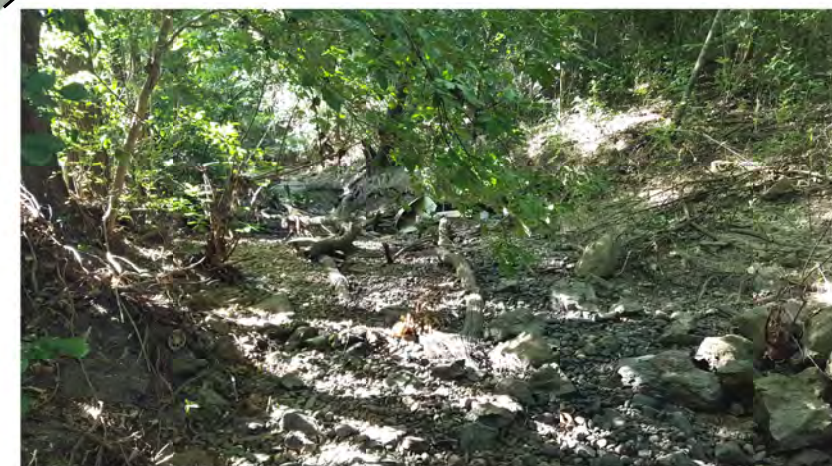
EXISTING 105 LF 30" RCP @ 0.32% TO BE REHABILITATED BY CIPP (997483)

EXISTING 581 LF 30" RCP @ 0.32% TO BE REHABILITATED BY CIPP (992978)

RIGHT-OF-ENTRY AREA ALONG EXISTING 20' SANITARY SEWER EASEMENT FROM SOUTHCROSS RANCH RD


BORALIS INC NCB 18239 P-42

PICTURE OF CREEK CROSSING AT STA 190+00 (07/18/2017)



▲	INVERT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

 EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A SEWER PLANS

STA 181+00.00 TO STA 191+00.00

DEVELOPER: _____

CONT. _____ BUDGET PROJ. _____

SUBMITTED _____

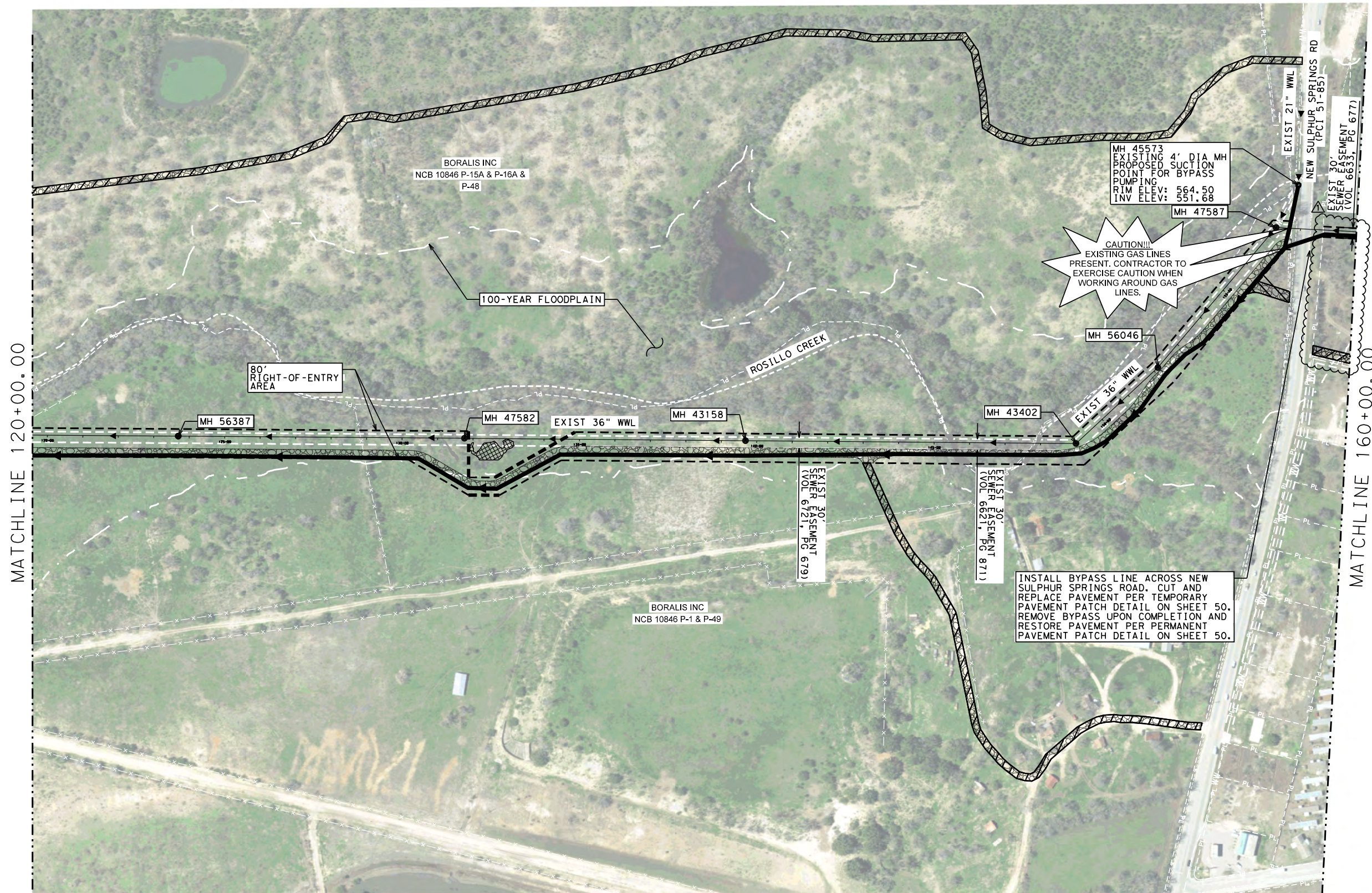
APPROVED _____

MAP No. _____ SHEET 30

SECT. No. _____

DR. _____ CK. _____ JOB No. 16-4520 OF 77

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LEGEND

- EXIST WASTEWATER LINE TO BE REHABILITATED
- EXIST EDGE OF PAVEMENT
- X — X — X — EXIST BARBED WIRE FENCE
- O — O — O — EXIST CHAIN LINK FENCE
- OHE — EXIST OVERHEAD UTILITIES
- WL — EXIST WATER LINE
- WW — EXIST WASTEWATER LINE
- SS — EXIST STORM SEWER LINE
- G — EXIST GAS LINE
- T — EXIST TELEPHONE LINE
- RWL — EXIST RECYCLED WATER LINE
- PL — PROPERTY LINE
- CITY OF SAN ANTONIO BOUNDARY
- 100-YEAR FLOODPLAIN
- CREEK CENTERLINE
- CONCEPTUAL HAUL ROUTE
- SUGGESTED BYPASS ROUTE

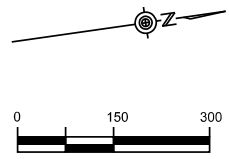
NOTES:

1. BYPASS ROUTE AND PHASING SHOWN IS CONCEPTUAL. CONTRACTOR RESPONSIBLE FOR PREPARING BYPASS PUMPING PLAN PER SPECIFICATION 864-S2
2. CONTRACTOR IS ADVISED THAT ROSILLO CREEK IS SUBJECT TO RAPID RISE IN WATER SURFACE ELEVATION IN STORM EVENTS. CONTRACTOR SHALL IMPLEMENT NECESSARY PRECAUTIONS TO ANCHOR AND SECURE BYPASS PIPING TO ENSURE INTEGRITY OF BYPASS SYSTEM DURING WET WEATHER EVENTS.
3. FLOW RATES FOR AVERAGE DRY WEATHER FLOW (ADWF), PEAK DRY WEATHER FLOW (PDWF), AND PEAK WET WEATHER FLOW (PWWF) FOR PHASING SHOWN.

PHASE #	ADWF (MGD)	PDWF (MGD)	PWWF (MGD)
A. PHASE 1:	2.75	3.54	11.45
B. PHASE 2:	3.25	4.14	14.57
C. PHASE 3:	4.17	5.18	17.18
D. PHASE 4:	4.17	5.18	17.30
E. PHASE 5:	4.17	5.18	17.30
4. CONTRACTOR TO BURY BYPASS PIPE AS NEEDED TO MAINTAIN ACCESS FOR HIS OPERATIONS OR FOR PRIVATE PROPERTY OWNERS.

CAUTION!!!
EXISTING GAS LINES PRESENT. CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND GAS LINES.

INSTALL BYPASS LINE ACROSS NEW SULPHUR SPRINGS ROAD. CUT AND REPLACE PAVEMENT PER TEMPORARY PAVEMENT PATCH DETAIL ON SHEET 50. REMOVE BYPASS UPON COMPLETION AND RESTORE PAVEMENT PER PERMANENT PAVEMENT PATCH DETAIL ON SHEET 50.



▲	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A BYPASS LAYOUT

STA 120+00.00 TO 160+00.00

DEVELOPER: _____

CONT. BUDGET PROJ.

SUBMITTED _____

APPROVED _____

MAP No. _____ **SHEET** 45

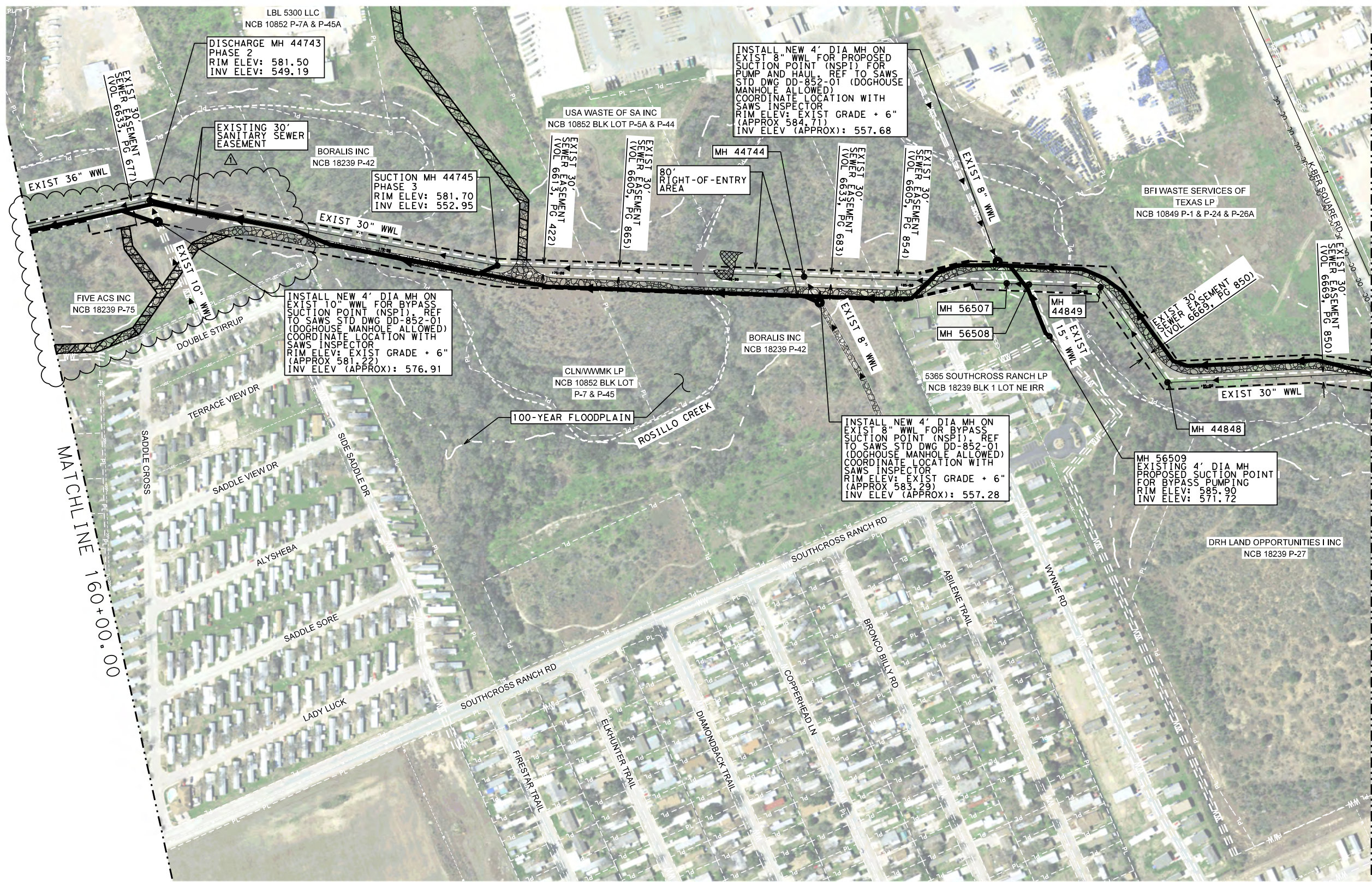
SECT. No. _____

DR. _____ **CK.** _____ **JOB No.** 16-4520 **OF 77**

MATCHLINE 120+00.00

MATCHLINE 160+00.00

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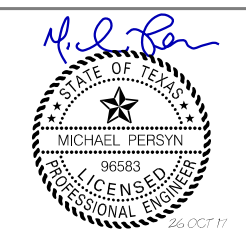
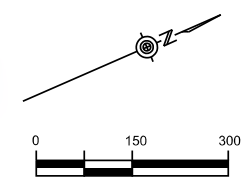
LEGEND

- EXIST WASTEWATER LINE TO BE REHABILITATED
- - - EXIST EDGE OF PAVEMENT
- × - × - × EXIST BARBED WIRE FENCE
- ○ — EXIST CHAIN LINK FENCE
- - - OHE - - - EXIST OVERHEAD UTILITIES
- - - WL - - - EXIST WATER LINE
- - - WW - - - EXIST WASTEWATER LINE
- - - SS - - - EXIST STORM SEWER LINE
- - - G - - - EXIST GAS LINE
- - - T - - - EXIST TELEPHONE LINE
- - - RWL - - - EXIST RECYCLED WATER LINE
- - - PL - - - PROPERTY LINE
- - - CITY OF SAN ANTONIO BOUNDARY
- - - 100-YEAR FLOODPLAIN
- - - CREEK CENTERLINE
- ⊠ CONCEPTUAL HAUL ROUTE
- ↔ SUGGESTED BYPASS ROUTE

NOTES:

1. BYPASS ROUTE AND PHASING SHOWN IS CONCEPTUAL. CONTRACTOR RESPONSIBLE FOR PREPARING BYPASS PUMPING PLAN PER SPECIFICATION 864-S2
2. CONTRACTOR IS ADVISED THAT ROSILLO CREEK IS SUBJECT TO RAPID RISE IN WATER SURFACE ELEVATION IN STORM EVENTS. CONTRACTOR SHALL IMPLEMENT NECESSARY PRECAUTIONS TO ANCHOR AND SECURE BYPASS PIPING TO ENSURE INTEGRITY OF BYPASS SYSTEM DURING WET WEATHER EVENTS.
3. FLOW RATES FOR AVERAGE DRY WEATHER FLOW (ADWF), PEAK DRY WEATHER FLOW (PDWF), AND PEAK WET WEATHER FLOW (PWWF) FOR PHASING SHOWN.

PHASE #	ADWF (MGD)	PDWF (MGD)	PWWF (MGD)
A. PHASE 1:	2.75	3.54	11.45
B. PHASE 2:	3.25	4.14	14.57
C. PHASE 3:	4.17	5.18	17.18
D. PHASE 4:	4.17	5.18	17.30
E. PHASE 5:	4.17	5.18	17.30
4. CONTRACTOR TO BURY BYPASS PIPE AS NEEDED TO MAINTAIN ACCESS FOR HIS OPERATIONS OR FOR PRIVATE PROPERTY OWNERS.



△	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A BYPASS LAYOUT

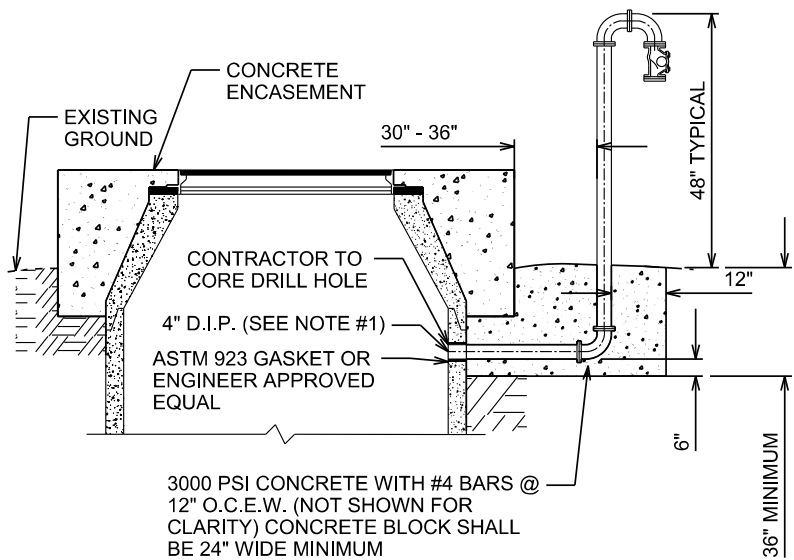
STA 160+00.00 TO STA 200+00.00

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED	
APPROVED	
MAP No.	SHEET
SECT. No.	46
DR.	CK.
JOB No. 16-4520 OF 77	

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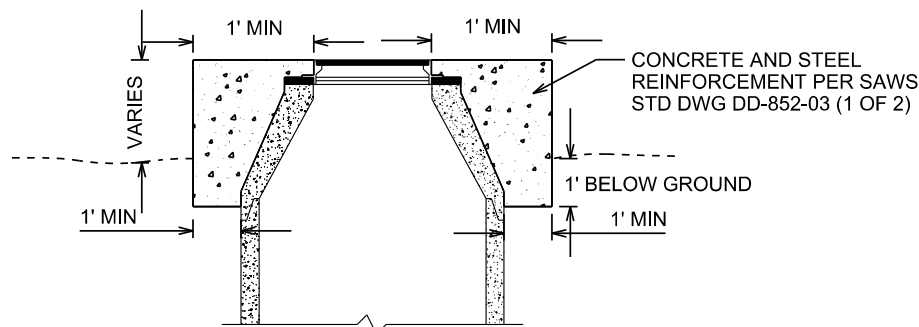
MATCHLINE 160+00.00

MATCHLINE 200+00.00

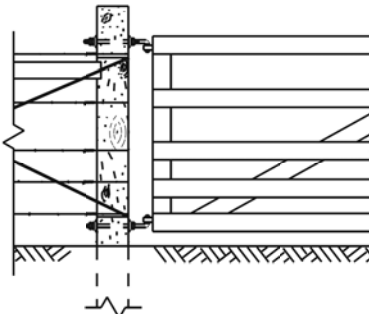


- NOTES:
- AIR VENT PIPE TO BE 4" D.I.P., CLASS 53 WITH FLANGED CONNECTIONS. INSIDE OF PIPE AND FITTINGS TO BE EPOXY LINED.
 - ALL FITTINGS TO BE 150 PSIG RATED & ANSI/AWWA C110/A21.10.
 - AIR VENT PIPE RISER SHALL BE INSTALLED TO A MINIMUM DEPTH FROM GROUND SURFACE AS POSSIBLE, PREFERABLY LOCATED IN THE CONCENTRIC CONCRETE CONE.
 - 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 BETWEEN THE FLANGES. VALVES SHALL BE MOUNTED WITH SEAT IN THE UP POSITION.
 - VENT TO BE ORIENTED ON DOWNSTREAM SIDE OF MANHOLE.
 - PIPE COATINGS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

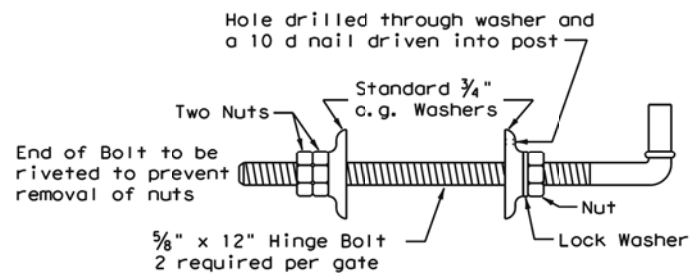
MANHOLE VENTILATION DETAIL
N.T.S.



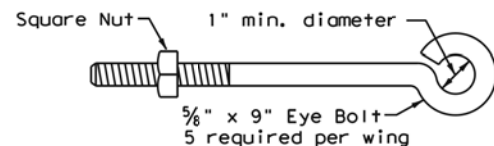
MANHOLE ENCASEMENT DETAIL FOR REHAB AND RECONSTRUCTION
N.T.S.



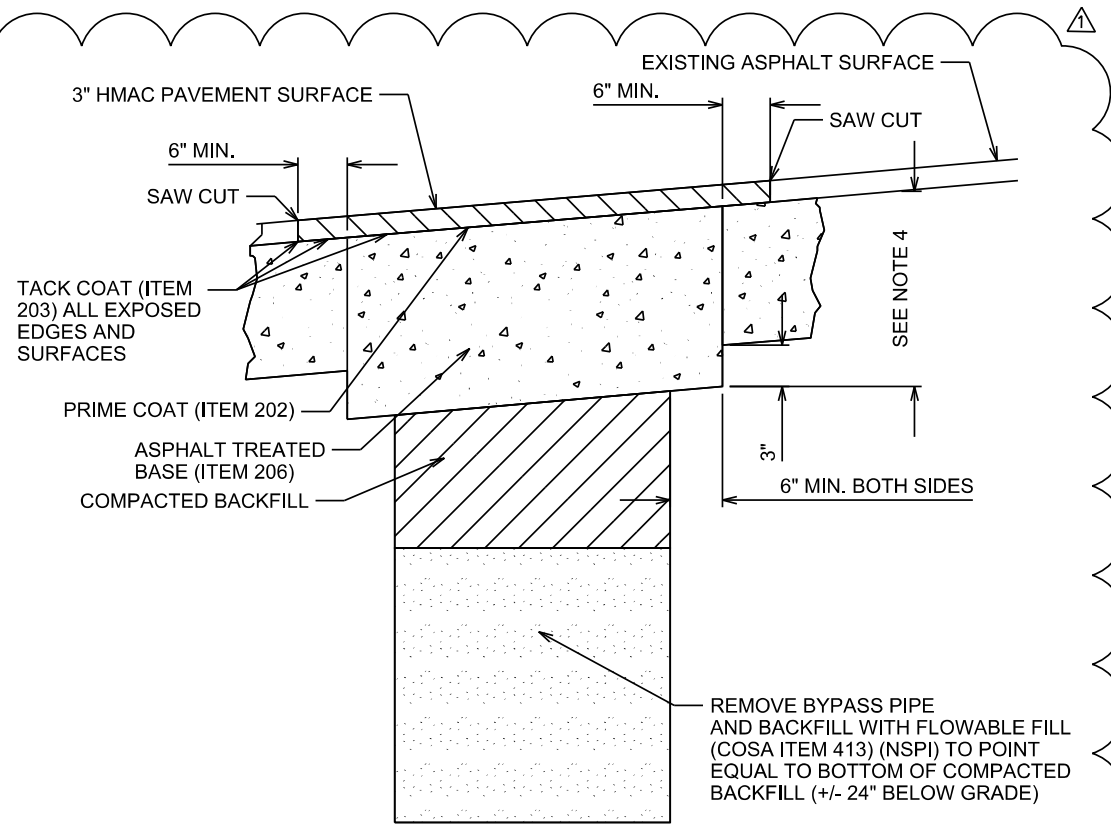
DETAIL SHOWING INSTALLATION
OF HINGES OF GATE



DETAIL OF GATE HINGE BOLT ASSEMBLY

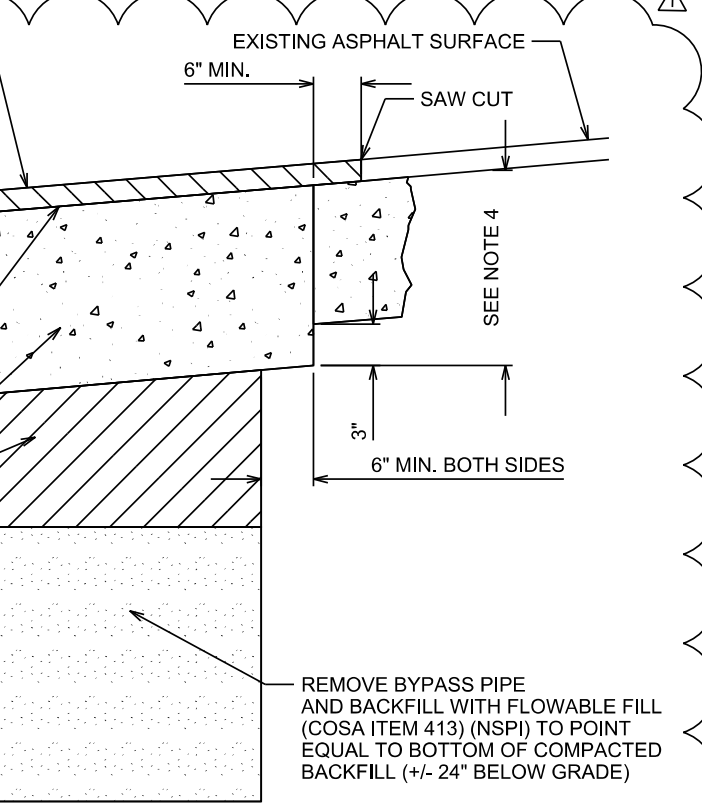


DETAIL OF EYE BOLT



PERMANENT PAVEMENT PATCH DETAIL
N.T.S.

- NOTES:
- THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
 - ANY CONCRETE PAVING SHALL BE SAW CUT 6" WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
 - IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAc.
 - LOCAL STREETS SHALL BE 10" AND MAJOR/MINOR STREETS SHALL BE 12"
 - DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A BASE THICKNESS OF 10" OR A THICKNESS MATCHING EXISTING.



TEMPORARY PAVEMENT PATCH DETAIL
N.T.S.

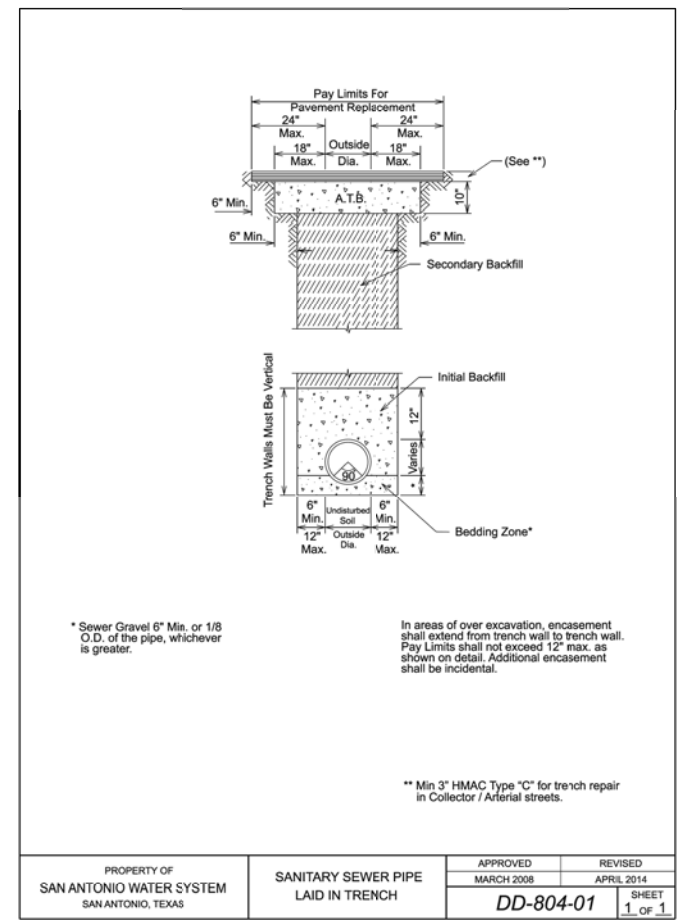
- NOTES:
- BYPASS PUMPING TO HAVE MINIMUM OF THREE (3) FEET OF COVER UNDER ROADWAY.

DETAIL	UPDATE	AD	MRP	DATE
				0/25/17

No.	Revision	Drawn	Approved	Date

REVISIONS	
	EAST SEWERSHED PACKAGE III - LARGE DIAMETER
DETAILS	

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED	
APPROVED	
MAP No.	SHEET
SECT. No.	50
DR.	CK.
JOB No. 16-4520 OF 77	



* Sewer Gravel 6" Min. or 1/8 G.D. of the pipe, whichever is greater.

In areas of over excavation, encasement shall extend from trench wall to trench wall. Pay Limits shall not exceed 12" max. as shown on detail. Additional encasement shall be incidental.

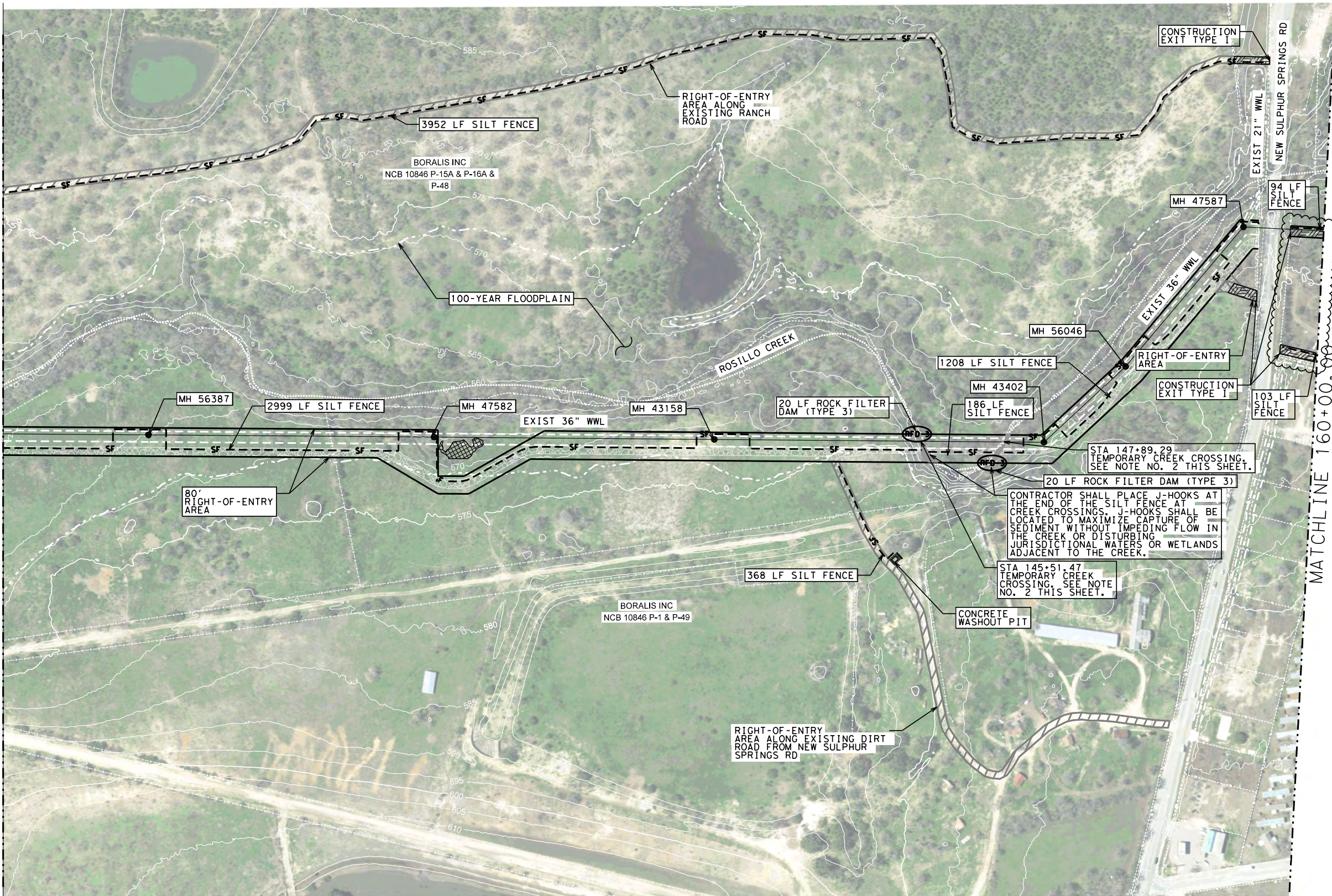
** Min 3" HMAc Type "C" for trench repair in Collector / Arterial streets.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	SANITARY SEWER PIPE LAID IN TRENCH	APPROVED MARCH 2008	REVISED APRIL 2014
		DD-804-01	SHEET 1 OF 1

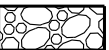


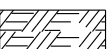
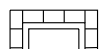
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MATCHLINE 120+00.00

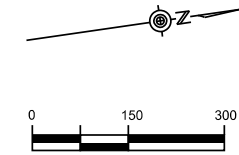



LEGEND

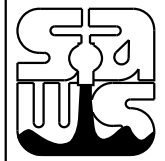
-  CONCEPTUAL HAUL ROUTE
-  SILT FENCE
-  ROCK FILTER DAM (TYPE 3)
-  CONSTRUCTION EXIT TYPE I
-  CONCRETE WASHOUT PIT

NOTES:

1. SEDIMENT CONTROL FENCE (SILT FENCE) LOCATION SHOWN IS BASED ON CONCEPTUAL ACCESS/HAUL ROUTE DEPICTED IN THESE PLANS AND IS REPRESENTATIVE OF INTENT. CONTRACTOR TO PLACE SEDIMENT CONTROL FENCES IMMEDIATELY ADJACENT TO CONSTRUCTION LIMITS. CONTRACTOR SHALL ADJUST SILT FENCE LOCATION BASED ON HIS ACTUAL HAUL ROUTE TO ENSURE SILT FENCE IS DOWN SLOPE OF ALL SOIL DISTURBING ACTIVITIES.
2. FOR ANY CROSSING OF ROSILLO CREEK CONTRACTOR CHOOSES TO MAKE, CONTRACTOR SHALL INSTALL TEMPORARY BRIDGE TO MAINTAIN FLOW OF WATER IN CREEK AND AVOID IMPOUNDING OF WATER. ROCK FILTER DAM LOCATIONS SHOWN ASSUME CROSSINGS AS SHOWN AND DO NOT NEED TO BE INSTALLED IF NO CREEK CROSSING IS MADE. FILTER DAM LENGTH IS ASSUMED AND SHALL BE FIELD VERIFIED.
3. ALL DISTURBED AREAS SHALL BE HYDROMULCHED PER THE SPECIFICATIONS.

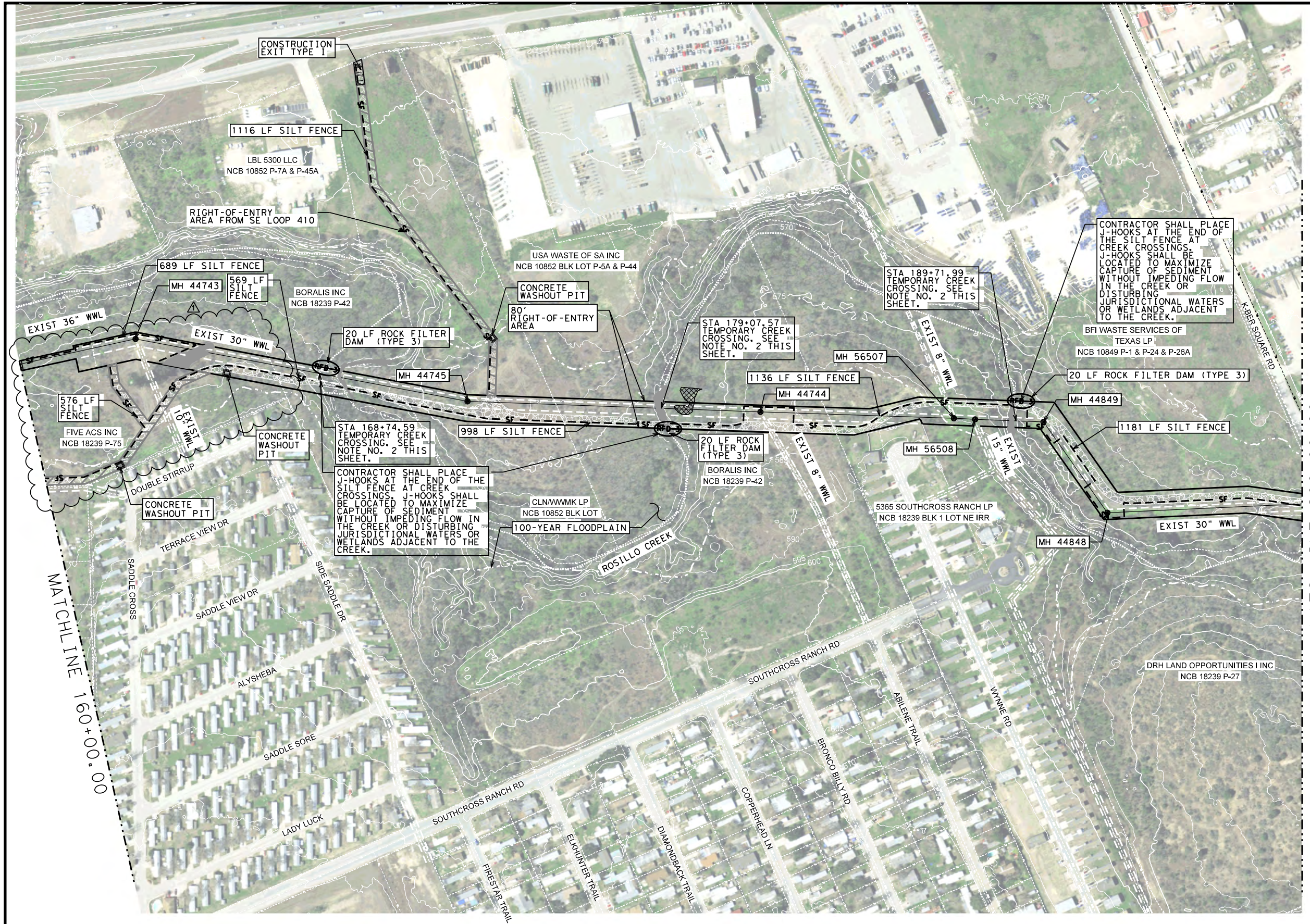


	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

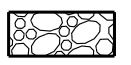

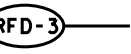
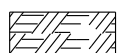
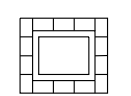
REVISIONS	
	EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A EROSION AND SEDIMENTATION CONTROL PLAN STA 120+00.00 TO 160+00.00

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _____	
APPROVED _____	
MAP No.	SHEET 55
SECT. No.	DR. CK. JOB No. 16-4520 OF 77

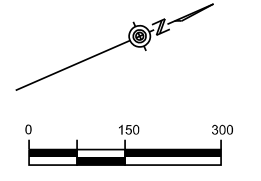
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LEGEND

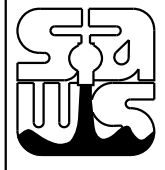
-  CONCEPTUAL HAUL ROUTE
-  **SF** SILT FENCE
-  **RFD-3** ROCK FILTER DAM (TYPE 3)
-  CONSTRUCTION EXIT TYPE I
-  CONCRETE WASHOUT PIT

- NOTES:**
1. SEDIMENT CONTROL FENCE (SILT FENCE) LOCATION SHOWN IS BASED ON CONCEPTUAL ACCESS/HAUL ROUTE DEPICTED IN THESE PLANS AND IS REPRESENTATIVE OF INTENT. CONTRACTOR TO PLACE SEDIMENT CONTROL FENCES IMMEDIATELY ADJACENT TO CONSTRUCTION LIMITS. CONTRACTOR SHALL ADJUST SILT FENCE LOCATION BASED ON HIS ACTUAL HAUL ROUTE TO ENSURE SILT FENCE IS DOWN SLOPE OF ALL SOIL DISTURBING ACTIVITIES.
 2. FOR ANY CROSSING OF ROSILLO CREEK CONTRACTOR CHOOSES TO MAKE, CONTRACTOR SHALL INSTALL TEMPORARY BRIDGE TO MAINTAIN FLOW OF WATER IN CREEK AND AVOID IMPOUNDING OF WATER. ROCK FILTER DAM LOCATIONS SHOWN ASSUME CROSSINGS AS SHOWN AND DO NOT NEED TO BE INSTALLED IF NO CREEK CROSSING IS MADE. FILTER DAM LENGTH IS ASSUMED AND SHALL BE FIELD VERIFIED.
 3. ALL DISTURBED AREAS SHALL BE HYDROMULCHED PER THE SPECIFICATIONS.



	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

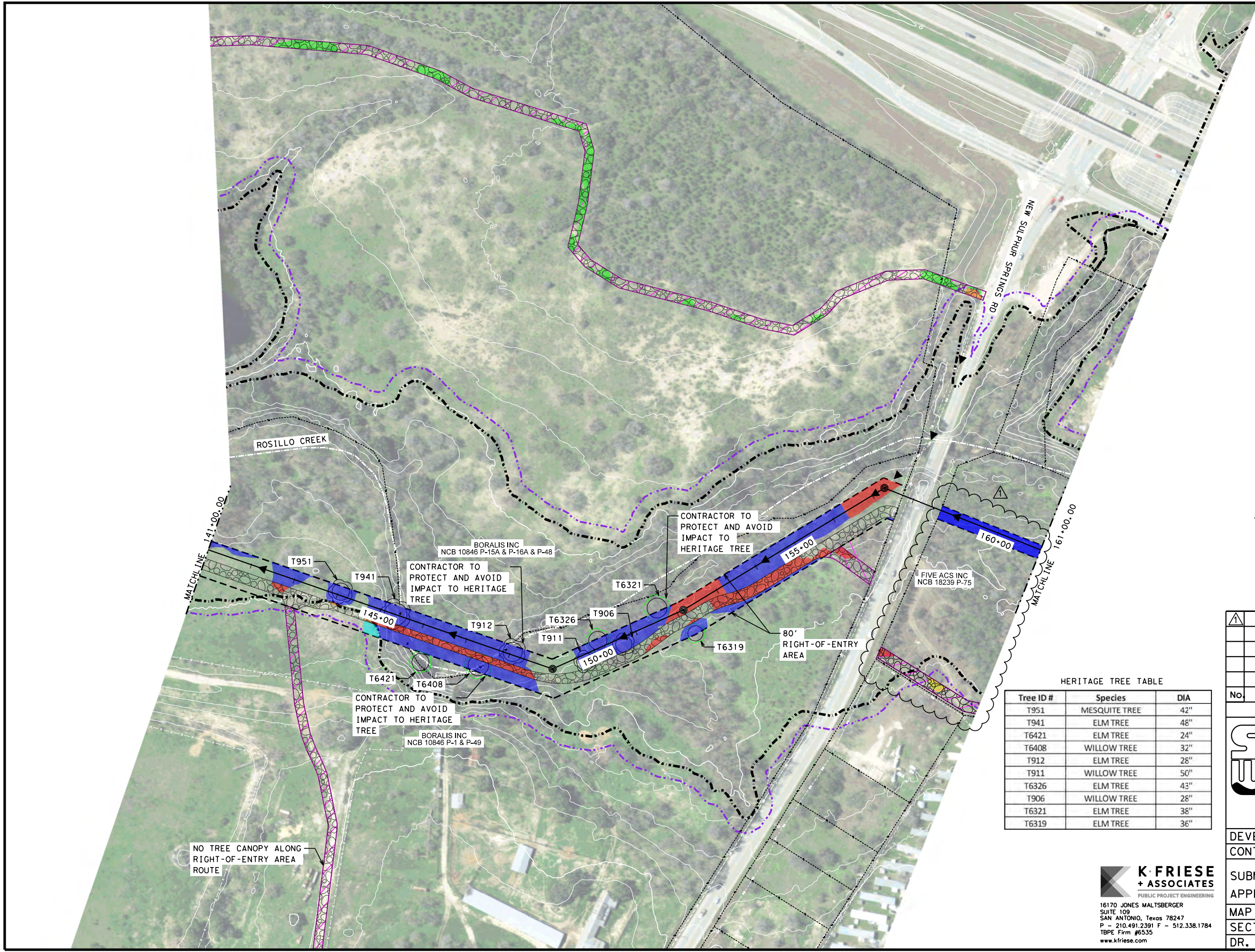
	EAST SEWERSHED PACKAGE III - LARGE DIAMETER WASTEWATER LINE A EROSION AND SEDIMENTATION CONTROL PLAN STA 160+00.00 TO STA 200+00.00
---	--

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _____	
APPROVED _____	
MAP No.	SHEET 56
SECT. No.	OF 77
DR.	CK.
JOB No. 16-4520	

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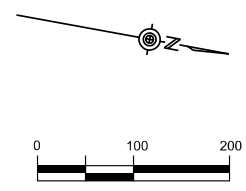
MATCHLINE 200+00.00

MATCHLINE 160+00.00



LEGEND

- PL --- PROPERTY LINE
- [Red Box] TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
- [Blue Box] TREE CANOPY TO REMAIN (IN FLOODPLAIN)
- [Orange Box] TREE CANOPY TO BE REMOVED (IN 30 FOOT RIPARIAN BUFFER)
- [Cyan Box] TREE CANOPY TO REMAIN (IN 30 FOOT RIPARIAN BUFFER)
- [Yellow Box] TREE CANOPY TO BE REMOVED (NOT IN FLOODPLAIN)
- [Green Box] TREE CANOPY TO REMAIN (NOT IN FLOODPLAIN)
- [Circle with Dotted Line] HERITAGE TREE (24" OR LARGER)
- 100-YEAR FLOODPLAIN
- 30 FT FLOODPLAIN BUFFER



▲	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

HERITAGE TREE TABLE

Tree ID #	Species	DIA
T951	MESQUITE TREE	42"
T941	ELM TREE	48"
T6421	ELM TREE	24"
T6408	WILLOW TREE	32"
T912	ELM TREE	28"
T911	WILLOW TREE	50"
T6326	ELM TREE	43"
T906	WILLOW TREE	28"
T6321	ELM TREE	38"
T6319	ELM TREE	36"

REVISIONS

EAST SEWERSHED PACKAGE III - LARGE DIAMETER TREE CANOPY ASSESMENT

WWL A STA 141+00.00 TO STA 161+00.00

DEVELOPER: _____

CONT. _____ BUDGET PROJ. _____

SUBMITTED _____

APPROVED _____

MAP No. _____ SHEET 69

SECT. No. _____

DR. _____ CK. _____ JOB No. 16-4520 OF 77

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NO TREE CANOPY ALONG RIGHT-OF-ENTRY AREA ROUTE

CONTRACTOR TO PROTECT AND AVOID IMPACT TO HERITAGE TREE

CONTRACTOR TO PROTECT AND AVOID IMPACT TO HERITAGE TREE

CONTRACTOR TO PROTECT AND AVOID IMPACT TO HERITAGE TREE

80' RIGHT-OF-ENTRY AREA

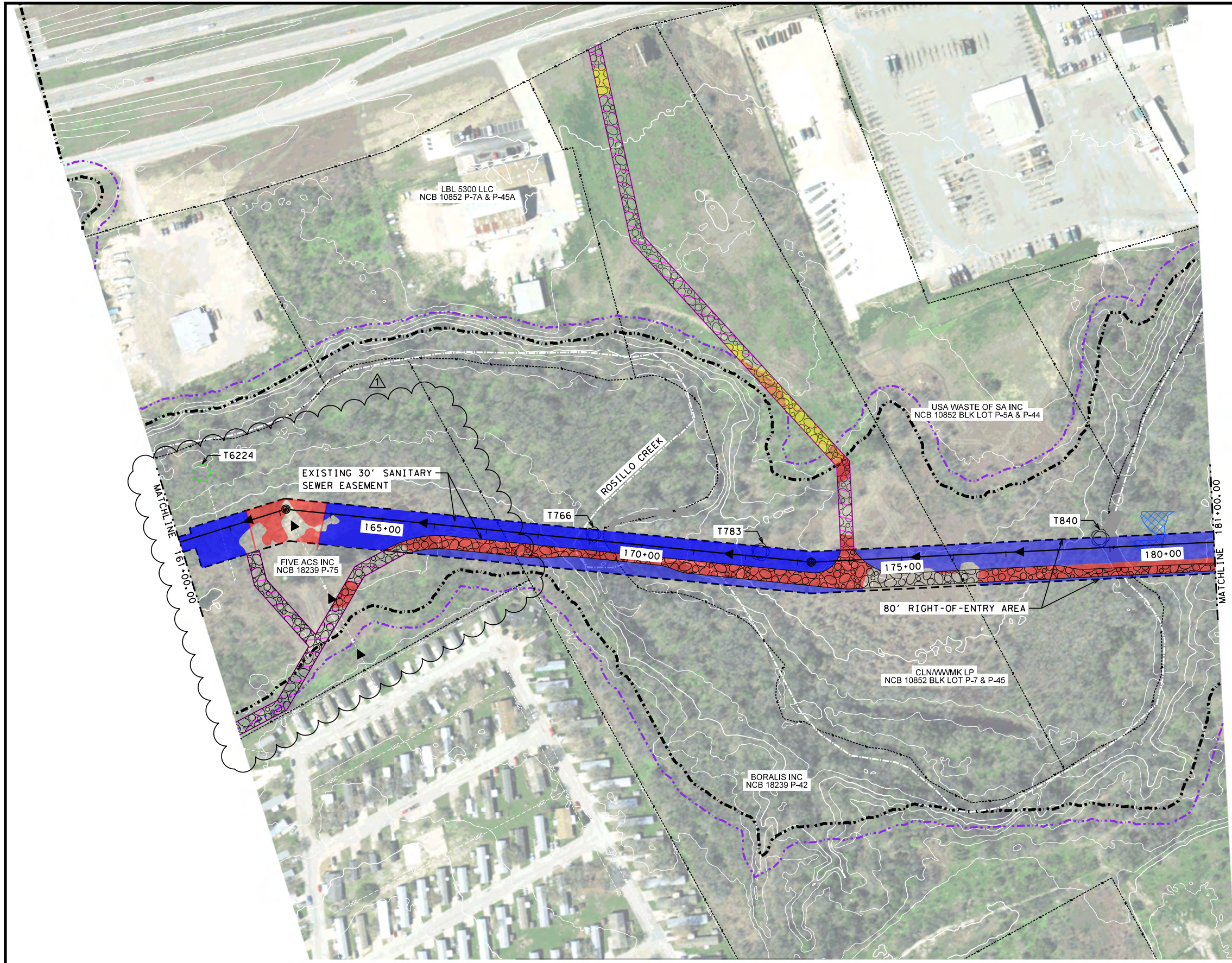
MATCH LINE 141+00.00

MATCH LINE 161+00.00

BORALIS INC NCB 10846 P-15A & P-16A & P-48

FIVE ACS INC NCB 18239 P-75

BORALIS INC NCB 10846 P-1 & P-49



LEGEND

- PL --- PROPERTY LINE
- [Red Box] TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
- [Blue Box] TREE CANOPY TO REMAIN (IN FLOODPLAIN)
- [Orange Box] TREE CANOPY TO BE REMOVED (IN 30 FOOT RIPARIAN BUFFER)
- [Cyan Box] TREE CANOPY TO REMAIN (IN 30 FOOT RIPARIAN BUFFER)
- [Yellow Box] TREE CANOPY TO BE REMOVED (NOT IN FLOODPLAIN)
- [Green Box] TREE CANOPY TO REMAIN (NOT IN FLOODPLAIN)
- [Circle with Dotted Line] HERITAGE TREE (24" OR LARGER)
- 100-YEAR FLOODPLAIN
- 30 FT FLOODPLAIN BUFFER

HERITAGE TREE TABLE

Tree ID #	Species	DIA
T6224	ELM TREE	36"
T766	COTTONWOOD TREE	26"
T783	MESQUITE TREE	25"
T840	WILLOW TREE	24"

⚠	EASEMENT UPDATE	AD	MRP	10/25/17
No.	Revision	Drawn	Approved	Date

REVISIONS

EAST SEWERSHED PACKAGE III - LARGE DIAMETER TREE CANOPY ASSESMENT

WWL A STA 161+00.00 TO STA 181+00.00

DEVELOPER: _____

CONT. _____ BUDGET PROJ. _____

SUBMITTED _____

APPROVED _____

MAP No. _____ SHEET 70

SECT. No. _____

DR. _____ CK. _____ JOB No. 16-4520 OF 77

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