



2020 SMP Package III (Morales and E. Huff)  
Solicitation Number: CO-00230  
Job No.: 18-5012 & 18-5512

**ADDENDUM 1**  
November 26, 2018

To Bidder of Record:

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

<b>RESPONSES TO QUESTIONS</b>
-------------------------------

**1. Question: What is the anticipated Award Date?**

*Response: It is anticipated that the contract will be awarded at the January 219 Board Meeting.*

**2. Question: What is the anticipated Notice to Proceed Date?**

*Response: Tentatively for February 2019. This is subject to change.*

**3. Question: Bid Item No. 20W, 21W, 22W, 23W 6", "8", 12" & 16" PVC Waterline (Restrained). Please clarify, does this refer to the system to be restrained per SAWS Specs or does this mean 100% of all water pipe will be restrained?**

*Response: This refers to be restrained per SAWS Spec 839.*

**4. Question: If the proposed sewer lateral requires the existing curb, sidewalks or driveway to be removed and replaced, will this work be paid for under the appropriate concrete bid items for removing and replacing concrete?**

*Response: Yes, but only for what is required by CoSA that is outside the lateral trench pay limits. Everything inside the trench pay limits is inclusive to the lateral (per payment section of SAWS Spec 854).*

**5. Question: On site specific submittals - concerning the bypass plan for these residential streets, will they be required to be created and stamped by a licensed engineer? Even though the liability is on the contractor regardless?**

*Response: Yes, bypass plan shall be produced and submitted following SAWS Spec 864-S1 which does require that the bypass pumping plan be signed and sealed by a professional engineer licensed in the State of Texas.*

**6. Question: Concerning SAWS' enforcement of the specifications as they pertain to payment. When will manholes be acceptable for payment?**

*Response: Manholes will be paid once they are installed and vacuum tested per SAWS Spec 852.6.*

**7. Question: Concerning SAWS' enforcement of the specifications as they pertain to payment. When will water main be acceptable for payment? After installation? Approved densities? Temporary pavement repair? Permanent ditch patch?**

*Response: Water mains will be acceptable for payment after installation, approved densities, all weather surface and hydrostatic testing have been completed.*

**8. Question: Concerning SAWS' enforcement of the specifications as they pertain to payment. When will fire hydrants/gate valves be acceptable for payment?**

*Response: Fire hydrants and gate valves will be acceptable to payment after the system has been installed and hydrostatically tested.*

**9. Question: Concerning SAWS' enforcement of the specifications as they pertain to payment. When will sewer main be acceptable for payment? After installation? Approved densities? Temporary pavement repair? Permanent ditch patch?**

*Response: Sewer mains will be acceptable for payment after installation, approved densities and all-weather surfaces have been completed. Note that payment does not constitute acceptance of systems. All required incidentals and other requirements such as Mandrel test, final trench restoration, I&I Barrier, etc. in SAWS Specifications must be completed prior to Final Acceptance.*

**10. Question: The water plans call for existing concrete driveway, sidewalks and curb to be cut and replaced for the installation of water services, mains and fire hydrants. Will this be paid for under the appropriate concrete bid items in the bid schedule?**

*Response: Yes, but only what is required by CoSA that is outside the pipe/service/stem trench pay limits. Everything inside the trench pay limits is inclusive to the main, service and/or fire hydrant (per payment section of SAWS Spec).*

**11. Question: On the speed hump pads that the plans call to be removed and replaced, can the existing speed humps be reused? Will SAWS add the appropriate bid item for this work?**

*Response: As long as pads are not damaged when they are removed, they may be reused. CoSA will determine if the pads are in acceptable condition to be reused, or if new pads will be required. This work is called out as NSPI to the main.*

**12. Question: The plans call for flowable fill to be placed on many sewer laterals. Will the flowable fill be paid for under the flowable fill bid item?**

*Response: Yes, the flowable fill pay item includes the quantities called out for the sanitary sewer laterals.*

**13. Question: I am verifying the water services on E. Huff Street will require 5 feet of cover as well as the new main?**

*Response: Yes, all water mains, services, and hydrant leads will need to be installed with a minimum cover of 5 ft.*

**CHANGES TO THE 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 836 – Pipe Fittings, All Sizes & Types

**CHANGES TO THE PLANS**

1. Replace sheets 2, 3, and 8-10 with the attached sheets. The plans were modified to add and revise City of San Antonio notes for work within the 100-yr floodplain, and to revise the water alignment on Morales Street to avoid removing existing trees.

**CLARIFICATIONS**

1. The Engineer's Opinion of Probable Construction Cost has been revised from \$1,492,497.00 to \$1,492,943.00.

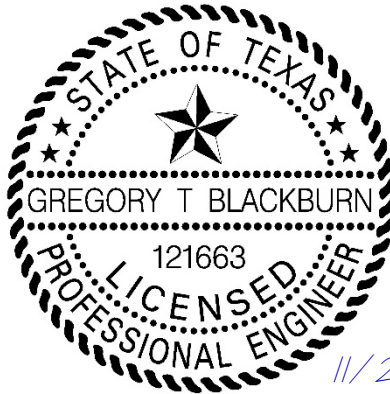
**END OF ADDENDUM**

This Addendum, including these three (3) pages, is eleven (11) pages with attachments in its entirety.

Attachments: Revised Plan Sheets 2, 3, and 8-10  
Bid Proposal



\_\_\_\_\_  
Greg Blackburn, P.E.  
K Friese + Associates, Inc. (TBPE F-6535)



*11/26/18*

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 **210** 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.

## 2020 SMP PACKAGE III (MORALES AND E. HUFF)

SAWS JOB NO 18-5012 & 18-5512

Item No.	Spec No.	Description	Unit	Qty.	Unit Price	Total Price
1w	103.1	REMOVE CONCRETE CURB	LF	310	\$	\$
2w	103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	SF	1419	\$	\$
3w	203	TACK COAT	GAL	151.2	\$	\$
4w	205.2	HOT MIX ASPHALTIC PAVEMENT – TYPE B (10" COMPACTED DEPTH)	SY	1060	\$	\$
5w	205.4	HOT MIX ASPHALTIC PAVEMENT – TYPE D (2" COMPACTED DEPTH)	SY	1512	\$	\$
6w	208.1	SALVAGING, HAULING & STOCKPILING OF RECLAIMABLE ASPHALTIC PAVEMENT (2 INCH DEPTH)	SY	155	\$	\$
7w	500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	310	\$	\$
8w	502.1	CONCRETE SIDEWALKS & WHEELCHAIR RAMPS	SY	88	\$	\$
9w	503.1	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	80	\$	\$
10w	503.5	GRAVEL DRIVEWAY (REMOVE/INSTALL)	SY	13	\$	\$
11w	530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (E HUFF)*	EA	0.5	\$	\$
12w	530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (MORALES)	EA	1	\$	\$
13w	536.2	4-INCH WIDE WHITE LINE	LF	31	\$	\$
14w	536.4	8-INCH WIDE WHITE LINE	LF	53	\$	\$
15w	536.5	12-INCH WIDE BLACK LINE	LF	250	\$	\$
16w	537	24-INCH WIDE WHITE LINE	LF	65	\$	\$
17w	537	TRAFFIC BUTTON (TYPE W)	EA	2	\$	\$
18w	550	TRENCH EXCAVATION SAFETY PROTECTION	LF	2518	\$	\$
19w	813	6" WATER SERVICE FOR FIRELINES	LF	22	\$	\$
20w	818	6" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	23	\$	\$
21w	818	8" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	808	\$	\$
22w	818	12" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	1581	\$	\$
23w	818	16" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	84	\$	\$
24w	822	CUSTOMER'S WATER YARD PIPE	LF	72	\$	\$
25w	824	NEW 3/4" SHORT UNMETERED SERVICE	EA	3	\$	\$
26w	824	NEW 3/4" LONG UNMETERED SERVICE	EA	1	\$	\$
27w	824	RELAY 3/4" SHORT SERVICE	EA	23	\$	\$
28w	824	RELAY 3/4" LONG SERVICE	EA	22	\$	\$
29w	824	RELAY 2" SHORT SERVICE	EA	3	\$	\$
30w	824	RELAY 2" LONG SERVICE	EA	1	\$	\$
31w	824	RELAY 4" SHORT SERVICE	EA	1	\$	\$
32w	828	6" GATE VALVE	EA	1	\$	\$
33w	828	8" GATE VALVE	EA	2	\$	\$
34w	828	12" GATE VALVE	EA	6	\$	\$
35w	828	16" GATE VALVE	EA	2	\$	\$
36w	833	NEW METER BOX	EA	40	\$	\$
37w	833	NEW #2 METER BOX	EA	9	\$	\$
38w	833	EXISTING 3/4" METER AND NEW METER BOX RELOCATION	EA	17	\$	\$
39w	834	FIRE HYDRANT	EA	5	\$	\$
40w	836	PIPE FITTINGS, ALL SIZES & TYPES	TN	2.3	\$	\$
41w	840	6" WATER TIE-IN	EA	2	\$	\$
42w	840	8" WATER TIE-IN	EA	1	\$	\$
43w	840	12" WATER TIE-IN	EA	2	\$	\$
44w	840	16" WATER TIE-IN	EA	2	\$	\$
45w	841	HYDROSTATIC TESTING	EA	3.0	\$	\$
46w	844	2" BLOW-OFF, TEMPORARY	EA	7	\$	\$
47w	858	CONCRETE ENCASEMENT, CRADLES, SADDLES AND COLLARS	CY	5	\$	\$
48w	3000	REMOVAL, TRANSPORTATION, AND DISPOSAL OF VARIOIUS SIZES OF AC PIPE	LF	117	\$	\$
1s	103.1	REMOVE CONCRETE CURB	LF	154	\$	\$
2s	103.3	REMOVE SIDEWALKS & DRIVEWAYS	SF	2550	\$	\$
3s	203	TACK COAT	GAL	174.1	\$	\$
4s	205.2	HOT MIX ASPHALTIC PAVEMENT – TYPE B (10" COMPACTED DEPTH)	SY	1365	\$	\$
5s	205.4	HOT MIX ASPHALTIC PAVEMENT – TYPE D (2" COMPACTED DEPTH)	SY	1741	\$	\$
6s	413	FLOWABLE FILL	CY	436	\$	\$
7s	500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	154	\$	\$
8s	502	CONCRETE SIDEWALKS	SY	136	\$	\$
9s	503.1	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	150	\$	\$
10s	503.5	GRAVEL DRIVEWAY (REMOVE/INSTALL)	SY	39	\$	\$
11s	530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (E HUFF)*	EA	0.5	\$	\$
12s	536.2	4-INCH WIDE WHITE LINE	LF	57	\$	\$
13s	536.4	8-INCH WIDE WHITE LINE	LF	106	\$	\$
14s	536.5	12-INCH WIDE BLACK LINE	LF	176	\$	\$
15s	536.7	24-INCH WIDE WHITE LINE	LF	44	\$	\$
16s	537	TRAFFIC BUTTON (TYPE W)	EA	4	\$	\$
17s	550	TRENCH EXCAVATION SAFETY PROTECTION	LF	3043	\$	\$

18s	848	8" PVC GRAVITY SANITARY SEWER PIPE (SDR 26-2241, 160 PSI), (ALL DEPTHS)	LF	3043	\$	\$
19s	852	SANITARY SEWER MANHOLE (0'-6')	EA	9.0	\$	\$
20s	852	EXTRA DEPTH MANHOLES (GREATER THAN 6')	VF	5	\$	\$
21s	854	SANITARY SEWER LATERALS, (SDR 26, ASTM 2241, 160 PSI)	LF	2575	\$	\$
22s	854	TWO-WAY SANITARY SEWER CLEANOUT	EA	92	\$	\$
23s	866	PRE SEWER MAIN TELEVISION INSPECTION (8"-24")	LF	3043	\$	\$
24s	866	POST SEWER MAIN TELEVISION INSPECTION (8"-24")	LF	3043	\$	\$
25s	864-S1	BYPASS PUMPING (SMALL DIAMETER SANITARY SEWERS) (E. HUFF)	EA	1	\$	\$
	100	MOBILIZATION (MAX OF 10% OF THE TOTAL OF ALL WATER AND SEWER LINE ITEMS)	LS	1	\$	
	101	PREPARING RIGHT-OF-WAY (MAX OF 5% OF THE TOTAL OF ALL WATER AND SEWER LINE ITEMS)	LS	1	\$	

**GENERAL NOTES**

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE: CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
- CURRENT SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
- CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."
- CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS\_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS.
- THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500, AND PROVIDE NOTIFICATION PROCEDURES THE CONTRACTOR WILL USE TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 72 HOURS PRIOR TO EXCAVATION.
- LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:  
 SAN ANTONIO WATER SYSTEM:  
 SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES  
 COSA DRAINAGE 210-206-8433  
 COSA TRAFFIC SIGNAL OPERATIONS 210-207-7720  
 TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGES DONE BY THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.  
  
 WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.  
  
 ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- PRE CON SITE VIDEO: BEFORE THE START OF ANY CONSTRUCTION, THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS. (NSPI)
- POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET, SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO THAT RESPECTIVE UTILITY COMPANY'S WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
- CONSTRUCTION SEQUENCING: IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SCHEDULE SEQUENCING FOR REMOVAL AND INSTALLATION OF EXISTING AND PROPOSED SAWS UTILITIES IN CONJUNCTION WITH GENERAL PROJECT CONSTRUCTION. SEQUENCE OF CONSTRUCTION ACTIVITIES SHALL BE CONSIDERED IN ORDER TO MINIMIZE THE EXTENT AND DURATION OF DISTURBANCES.
- WATER SECTION
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS INSPECTION AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY. SAWS PRODUCTION CONTROL CENTER 210-233-2016
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)

**CPS ENERGY NOTE:**

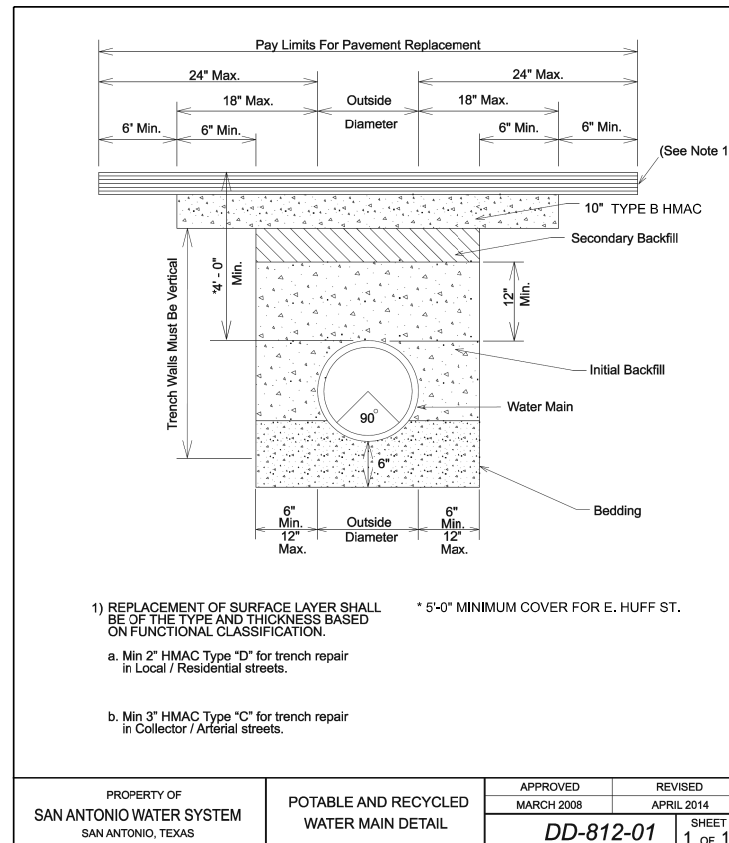
- CALL THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-545-6005, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES.
- THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN PROJECT AREA.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS ENERGY OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.
- CONTRACTOR TO FIELD VERIFY THE DEPTH OF GAS MAINS BEFORE BEGINNING OF CONSTRUCTION.

**AT&T NOTES:**

- THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE.
- THE CONTRACTOR SHOULD CALL FOR LOCATES THROUGH THE "ONE CALL" UTILITY LOCATE SERVICE (1-800-545-6005) 48 HOURS PRIOR TO CONSTRUCTION/EXCAVATION WORK, CONTRACTORS HAVE THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

**NOTES:**

- CONTRACTOR SHALL RESTRAIN ALL PROPOSED PIPES, VALVES AND FITTINGS AT NO ADDITIONAL COST. (RL-RESTRAINED LENGTH)
- CONTRACTOR TO MAINTAIN WATER SERVICE CONNECTIONS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL ALSO MAINTAIN ACCESS TO ALL EXISTING AND PROPOSED WATER VALVES AT ALL TIMES (NSPI).
- NSPI - NOT A SEPARATE PAY ITEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING OPERATION OF ALL EXISTING UTILITIES AFFECTED BY PROPOSED CONSTRUCTION.
- TREE REMOVAL IS NOT PERMITTED ON THIS PROJECT. CONTRACTOR SHALL TAKE EXTREME CARE WHEN WORKING AROUND TREES TO PREVENT DAMAGE. PRIOR TO THE START OF WORK, CALL 207-1111 TO SCHEDULE A PRE-CONSTRUCTION FENCING INSPECTION. PRUNING OF TREES REQUIRED TO CLEAR ROW WILL BE DONE AT CONTRACTOR'S EXPENSE AND IS NSPI. TREE PROTECTION IS NSPI.
- THE CONTRACTOR SHALL RE-ESTABLISH ANY PROPERTY MARKER, BENCHMARK, ETC. DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL LOCATION AND ELEVATION. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VERTICAL AND HORIZONTAL CONTROL SHOWN ON THE PLANS THROUGHOUT THE PROJECT, RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PUBLIC SURVEYOR IN THE STATE OF TEXAS AT NO ADDITIONAL COST TO SAWS.
- CONTRACTOR SHALL MAINTAIN ACCESS TO PUBLIC AND PRIVATE FACILITIES DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE AND THE SAN ANTONIO WATER SYSTEM.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING CONSTRUCTION OF THE PROJECTS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD TO OWNER AND THE CONSULTANT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPT FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR CONSULTANT.
- FOR E. HUFF ST. ONLY, WATER MAIN, WATER SERVICES, AND FIRE HYDRANT LEADS SHALL HAVE A MINIMUM COVER OF 5' WHEN UNDER PAVEMENT.



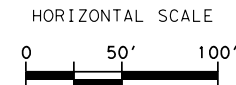
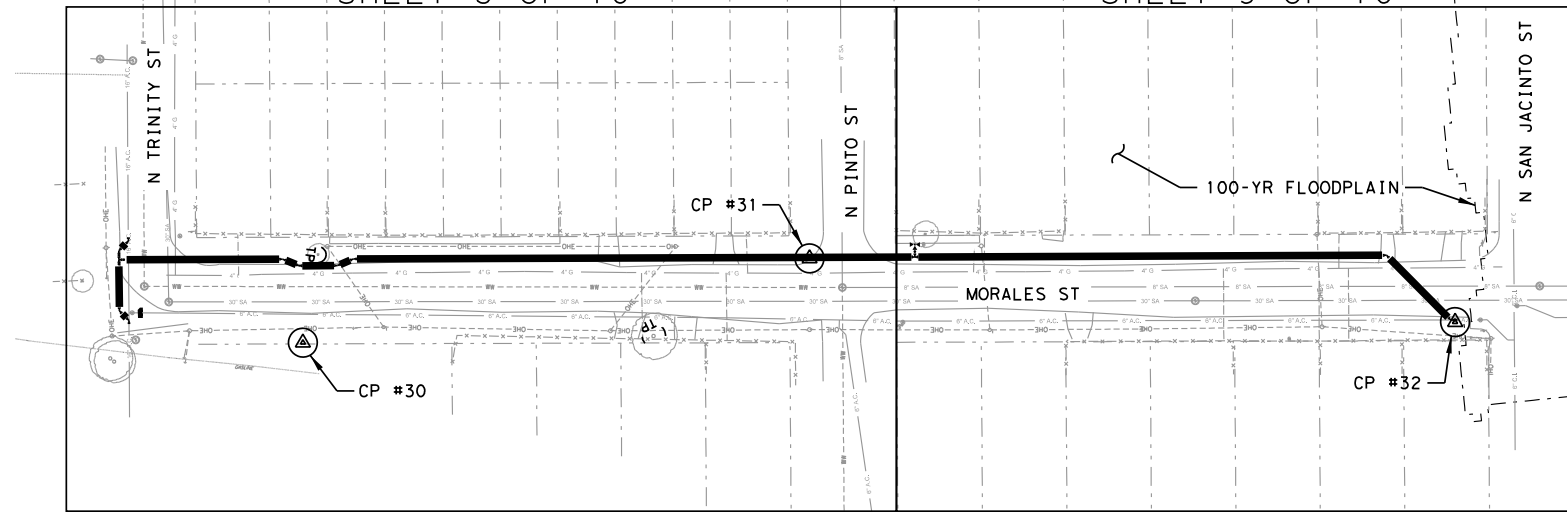
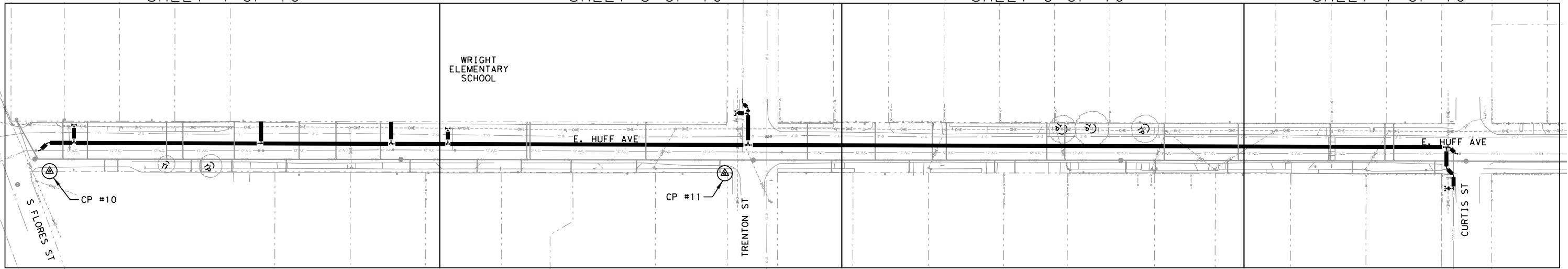
TOTAL ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
103.1	REMOVE CONCRETE CURB	LF	310
103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	SF	1419
203	TACK COAT	GAL	151.2
205.2	HOT MIX ASPHALTIC PAVEMENT - TYPE B (10" COMPACTED DEPTH)	SY	1060
205.4	HOT MIX ASPHALTIC PAVEMENT - TYPE D (2" COMPACTED DEPTH)	SY	1512
208.1	SALVAGING, HAULING & STOCKPILING OF RECLAIMABLE ASPHALTIC PAVEMENT (2 INCH DEPTH)	SY	155
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	310
502.1	CONCRETE SIDEWALKS & WHEELCHAIR RAMPS	SY	88
503.1	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	80
503.5	GRAVEL DRIVEWAY (REMOVE/INSTALL)	SY	13
530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (E HUFF)*	EA	0.5
530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (MORALES)	EA	1
536.2	4-INCH WIDE WHITE LINE	LF	31
536.4	8-INCH WIDE WHITE LINE	LF	53
536.5	12-INCH WIDE BLACK LINE	LF	250
536.7	24-INCH WIDE WHITE LINE	LF	65
537.1	TRAFFIC BUTTON (TYPE W)	EA	2
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	2518
813	6" WATER SERVICE FOR FIRELINES	LF	22
818	6" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	23
818	8" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	808
818	12" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	1581
818	16" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	84
822	CUSTOMER'S WATER YARD PIPE	LF	72
824	NEW 3/4" SHORT UNMETERED SERVICE	EA	3
824	NEW 3/4" LONG UNMETERED SERVICE	EA	1
824	RELAY 3/4" SHORT SERVICE	EA	23
824	RELAY 3/4" LONG SERVICE	EA	22
824	RELAY 2" SHORT SERVICE	EA	3
824	RELAY 2" LONG SERVICE	EA	1
824	RELAY 4" SHORT SERVICE	EA	1
828	6" GATE VALVE	EA	1
828	8" GATE VALVE	EA	2
828	12" GATE VALVE	EA	6
828	16" GATE VALVE	EA	2
833	NEW METER BOX	EA	40
833	NEW #2 METER BOX	EA	9
833	EXISTING 3/4" METER AND NEW METER BOX RELOCATION	EA	17
834	FIRE HYDRANT	EA	5
836	PIPE FITTINGS, ALL SIZES & TYPES	TN	2.3
840	6" WATER TIE-IN	EA	2
840	8" WATER TIE-IN	EA	1
840	12" WATER TIE-IN	EA	2
840	16" WATER TIE-IN	EA	2
841	HYDROSTATIC TESTING	EA	3
844	2" BLOW-OFF, TEMPORARY	EA	7
858	CONCRETE ENCASMENT, CRADLES, SADDLES AND COLLARS	CY	5.0
3000	REMOVAL, TRANSPORTATION, AND DISPOSAL OF VARIOUS SIZES OF AC PIPE	LF	117
100	MOBILIZATION	LS	1
101	PREPARATION OF RIGHT-OF-WAY	LS	1

\*ITEM SPLIT FOR WORKSITE BETWEEN WATER AND SEWER PROJECTS

**TRENCH EXCAVATION SAFETY PROTECTION**  
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



1	ADDENDUM 1	BS	GB	11/26/18
No.	Revision	Drawn	Approved	Date
<b>REVISIONS</b>				
<b>2020 SMP PACKAGE III (MORALES, E. HUFF) WATER PLANS GENERAL NOTES AND QUANTITIES</b>				
<b>DEVELOPER:</b>				
<b>CONT.</b>		BUDGET PROJ.		
<b>SUBMITTED</b>				
<b>APPROVED</b>				
<b>MAP No.</b>		<b>SECT. No.</b>		<b>SHEET</b>
				<b>2</b>
<b>DR.</b>	<b>CK.</b>	<b>JOB No. 18-5012</b>		<b>OF 10</b>



CONTROL POINTS TABLE

POINT NO.	X	Y	ELEVATION	DESCRIPTION
CP #10	2,130,086.31	13,682,508.88	616.12	CP SET 1/2IRWRC
CP #11	2,130,757.89	13,682,506.74	613.89	CP SET 1/2IRWRC
CP #30	2,122,601.61	13,707,337.85	647.66	CP SET 1/2IRWRC
CP #31	2,122,868.60	13,707,355.10	649.60	CP SET 1/2IRWRC
CP #32	2,123,199.81	13,707,288.42	650.66	CP SET 1/2IRWRC

NOTES FOR WORK WITHIN 100-YR FLOODPLAIN AT MORALES STREET:

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN ALL REQUIRED STORM WATER PERMITS, FEES, AND APPROVALS. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PERMITS REQUIRED FOR CONSTRUCTION IN DRAINAGE EASEMENTS, RIGHT-OF-WAYS, AND FLOODPLAINS.
2. THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET RIGHT-OF-WAY NOT INDICATED ON THE CONSTRUCTION PLANS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING DRAINAGE FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING DRAINAGE SYSTEMS, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT HIS EXPENSE. THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT 210-206-8433 AS SOON AS CONFLICTS WITH UTILITIES ARE ENCOUNTERED OR ANY DRAINAGE SYSTEM IS DAMAGED DURING CONSTRUCTION.
4. CONSTRUCTION SPOILS WILL NOT BE ALLOWED TO BE DEPOSITED ANYWHERE WITHIN A DRAINAGE EASEMENT, RIGHT-OF-WAY, OR FLOODPLAIN WITHIN THE LIMITS OF THE PROJECT AND SHALL BE DISPOSED OFFSITE IN COMPLIANCE WITH CURRENT APPLICABLE REGULATIONS.
5. NO STRUCTURE, FENCES, WALLS, LANDSCAPING, OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THE CONSTRUCTION DOCUMENTS.
6. UPON COMPLETION OF TRENCHING, THE AREA WILL BE BACKFILLED AND COMPACTED TO ITS ORIGINAL CONDITION. TRENCHES/BORE PITS TO BE OPEN AND UNATTENDED LONGER THAN 24 HOURS SHALL BE PROTECTED TO WITHSTAND ALL HYDRODYNAMIC AND HYDROSTATIC FORCES AND PREVENT DOWNSTREAM IMPACTS. TRENCHES/BORE PITS TO BE OPEN LONGER THAN 30 DAYS AFTER STARTING EXCAVATION SHALL BE BACKFILLED WITH A SEMI-PERMANENT REPAIR BACKFILL.
7. IMPROVED SECTIONS OF EARTHEN CHANNELS AND/OR WATERWAYS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.



No.	Revision	Drawn	Approved	Date
1	ADDENDUM 1	BS	GB	11/26/18

REVISIONS

2020 SMP PACKAGE III (MORALES, E. HUFF) WATER PLANS PROJECT LAYOUT

DEVELOPER: \_\_\_\_\_

CONT. \_\_\_\_\_ BUDGET PROJ. \_\_\_\_\_

SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

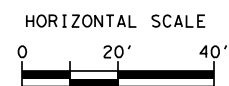
MAP No. \_\_\_\_\_ SHEET 3

SECT. No. \_\_\_\_\_ OF 10

DR. \_\_\_\_\_ CK. \_\_\_\_\_ JOB No. 18-5012



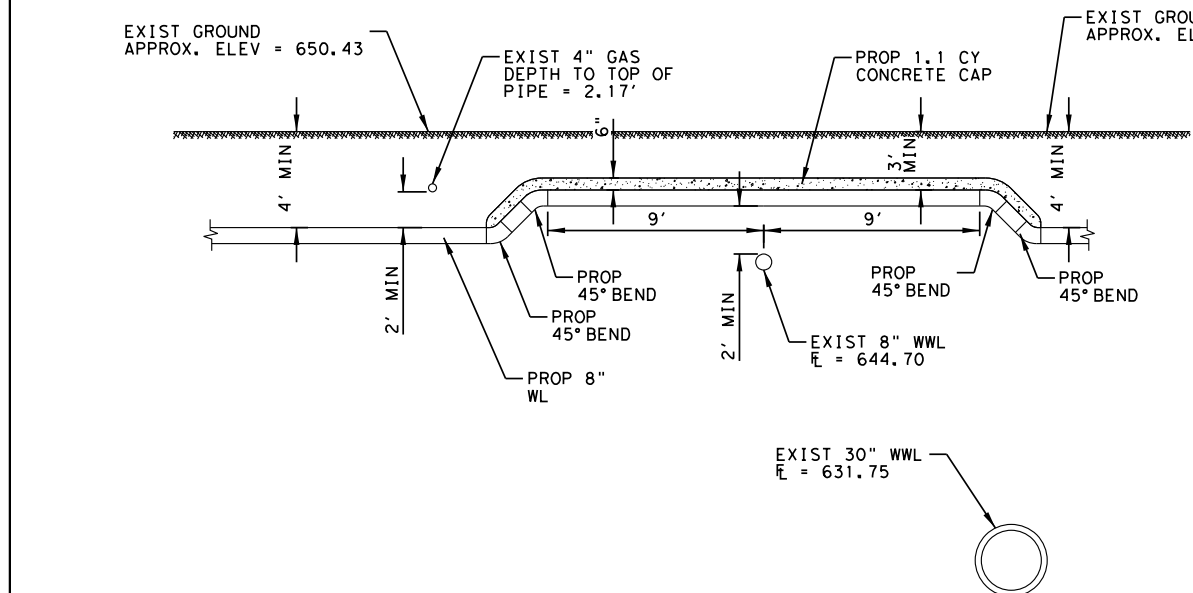
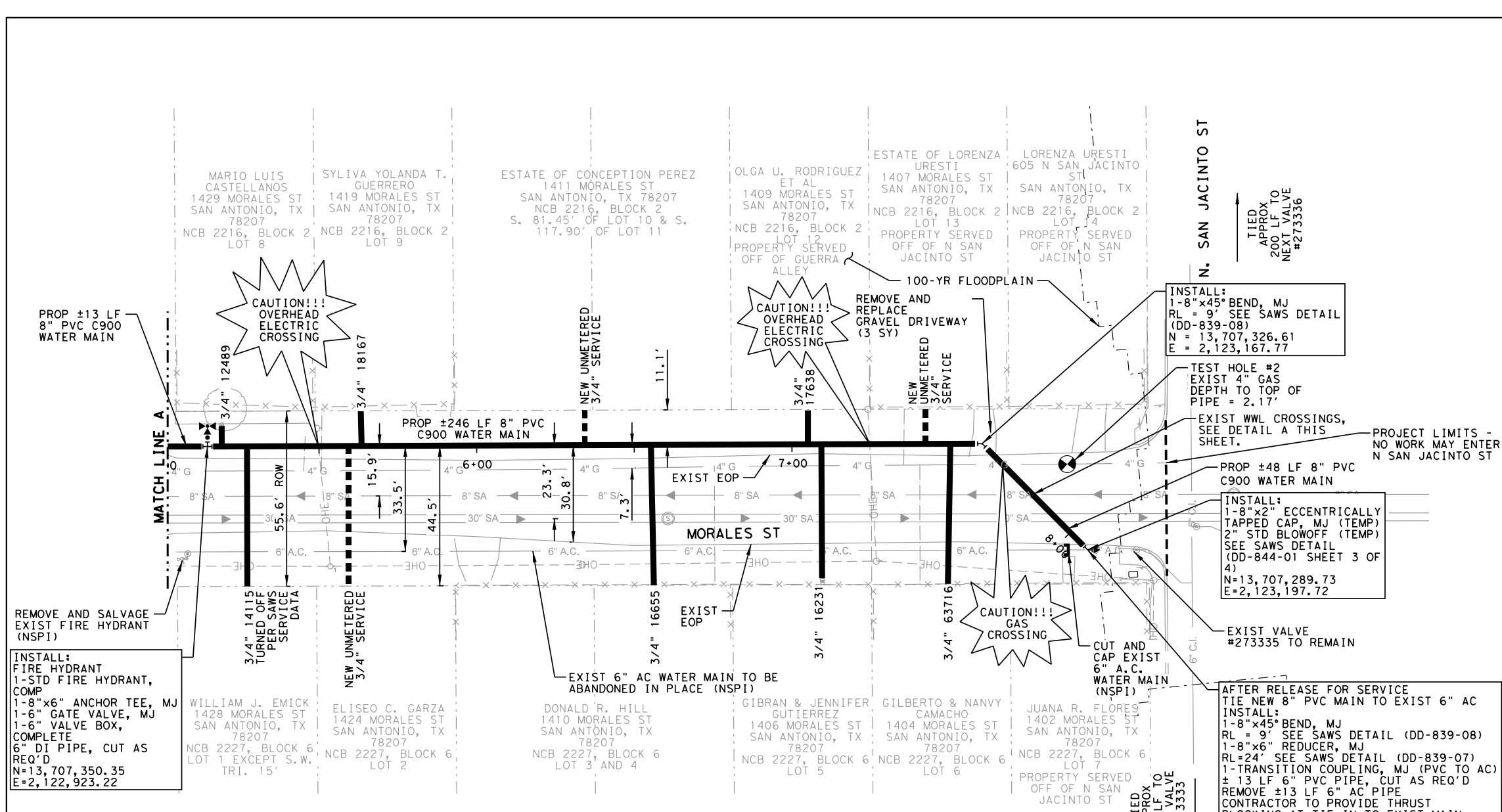




**LEGEND**

- PROP WATER MAIN
- EXIST WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
  - 3/4" SINGLE
  - 1" DUAL
- SERVICE RECONNECT:
  - 3/4"
  - 1" OR LARGER
- SERVICE RELAY:
  - 3/4"
  - 1" OR LARGER
- SERVICE RELOCATE:
  - 3/4"
  - 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
  - 3/4"
  - 1" OR LARGER

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203	TACK COAT	GAL	16.7
205.2	HOT MIX ASPHALTIC PAVEMENT - TYPE B (10" COMPACTED DEPTH)	SY	132
205.4	HOT MIX ASPHALTIC PAVEMENT - TYPE D (2" COMPACTED DEPTH)	SY	167
503.5	GRAVEL DRIVEWAY (REMOVE/INSTALL)	SY	3
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	320
818	6" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	13
818	8" PVC WATERLINE (RESTRAINED) (ALL DEPTHS)	LF	307
824	NEW 3/4" SHORT UNMETERED SERVICE	EA	2
824	NEW 3/4" LONG UNMETERED SERVICE	EA	1
824	RELAY 3/4" SHORT SERVICE	EA	3
824	RELAY 3/4" LONG SERVICE	EA	4
833	NEW METER BOX	EA	7
834	FIRE HYDRANT	EA	1
836	PIPE FITTINGS, ALL SIZES & TYPES	TN	0.2
840	6" WATER TIE-IN	EA	1
844	2" BLOW-OFF, TEMPORARY	EA	1
858	CONCRETE ENCASUREMENT, CRADLES, SADDLES AND COLLARS	CY	1.1
3000	REMOVAL, TRANSPORTATION, AND DISPOSAL OF VARIOUS SIZES OF AC PIPE	LF	13



**NOTES:**

- CONTRACTOR MUST COORDINATE WITH SAWS INSPECTOR FOR ALL WORK IN VICINITY OF MARGIL ELEMENTARY SCHOOL, INCLUDING BUT NOT LIMITED TO WORKING HOURS AND PROPOSED SERVICE SHUTDOWNS.

CONTRACTOR SHALL DEFLECT PIPE AS NECESSARY TO AVOID DAMAGING EXISTING TREES (NSPI) \*  
 \*JOINT DEFLECTIONS SHALL NOT EXCEED 80% OF MANUFACTURER'S RECOMMENDED DEFLECTION. COORDINATE WITH SAWS INSPECTOR FOR APPROVAL.

**ASBESTOS CEMENT PIPE CONNECTIONS & REMOVAL NOTE:**  
 ASBESTOS CEMENT (A.C.) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS CONTAINING MATERIAL (ACM), IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

**TRENCH EXCAVATION SAFETY PROTECTION**  
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEM, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**ROOT PROTECTION ZONE NOTE:**  
 THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS 1 FOOT PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A 10-INCH DIAMETER TREE WOULD HAVE A 5-FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. LIVE OAK WOUNDS SHALL BE PAINTED OVER WITHIN 20 MINUTES, TO PREVENT OAK WILT.



**K-FRIESE + ASSOCIATES**  
 PUBLIC PROJECT ENGINEERING  
 10001 Reunion Place  
 Suite 404  
 San Antonio, Texas 78216  
 P. 210.491.2391 F. 512.338.1784  
 TBPE Firm Number 6535  
 www.kfriese.com

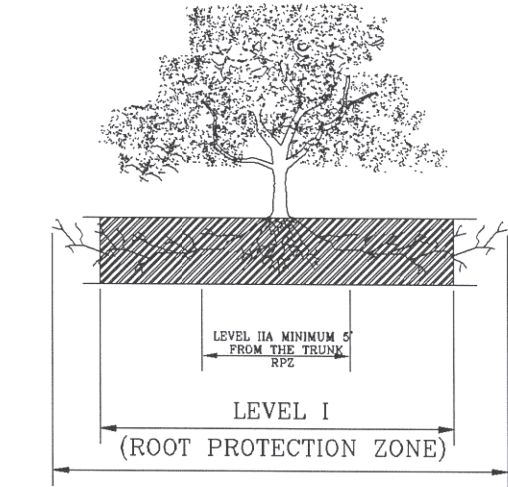
No.	Revision	Drawn	Approved	Date
1	ADDENDUM 1	BS	GB	11/26/18

**REVISIONS**

2020 SMP PACKAGE III (MORALES, E. HUFF)  
 MORALES WATER PLAN (2 OF 2)

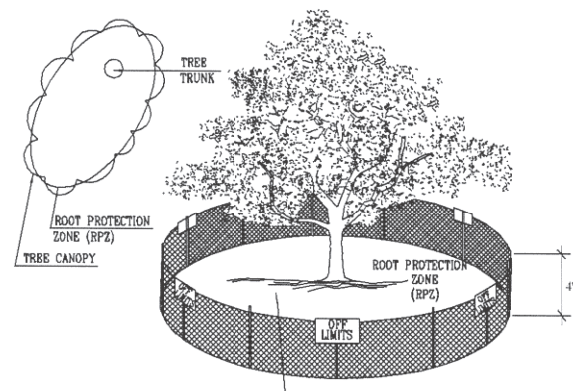
DEVELOPER: \_\_\_\_\_  
 CONT. BUDGET PROJ. \_\_\_\_\_  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_  
 MAP No. \_\_\_\_\_ SHEET 9  
 SECT. No. \_\_\_\_\_ OF 10  
 DR. CK. JOB No. 18-5012

DETAIL A  
NTS



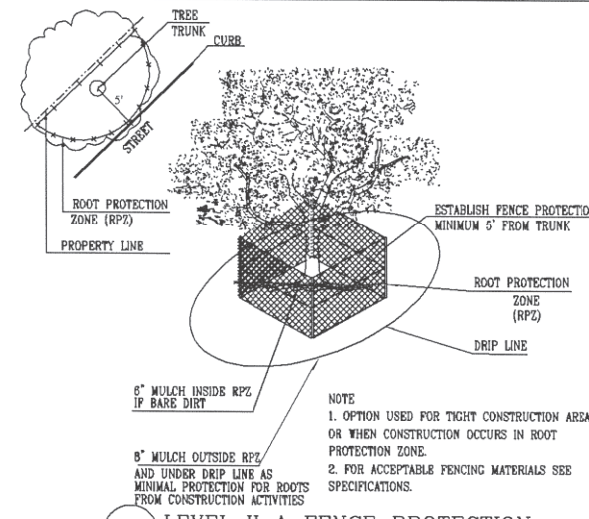
1.1.1 ELEVATION  
N. T. S.

ROOT PROTECTION ZONE THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR ROOT PROTECTION ZONE.



1.1.2 LEVEL I & FENCE PROTECTION  
N. T. S.

NOTE:  
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.  
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.



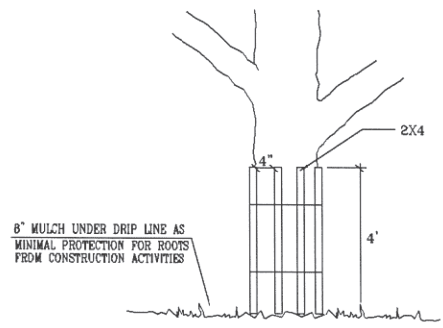
1.1.3 LEVEL II A FENCE PROTECTION  
N. T. S.

NOTE:  
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.  
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

GENERAL NOTES

- ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802. TREE PRUNING, SOIL AMENDING AND FERTILIZATION, UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 2 PROTECTION AS PER ITEM No. 802. TREES TO RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 802 ARE SHOWN ON TREE PROTECTION TABLE ON THIS SHEET.
- ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
- NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.
- THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS 1 FOOT PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A 10-INCH DIAMETER TREE WOULD HAVE A 5-FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. LIVE OAK WOUNDS SHALL BE PAINTED OVER, WITHIN 20 MINUTES TO PREVENT OAK WILT.
- ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER OR CITY INSPECTOR.
- GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL WITHIN THE FENCED ROOT ZONE AREAS.
- TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND AS DIRECTED BY THE PROJECT MANAGER OR CITY INSPECTOR.
- TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE ENGINEER'S SATISFACTION.
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST PRIOR TO ITS REMOVAL.

1.3 GENERAL NOTES

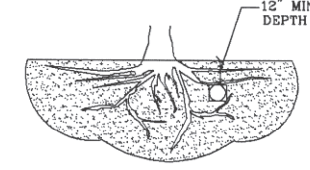


1.1.4 LEVEL II B FENCE PROTECTION  
N. T. S.

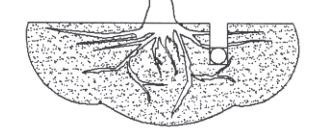
NOTE:  
WRAP TREE TRUNK WITH 2"x4" STUDS AND ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS THROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.

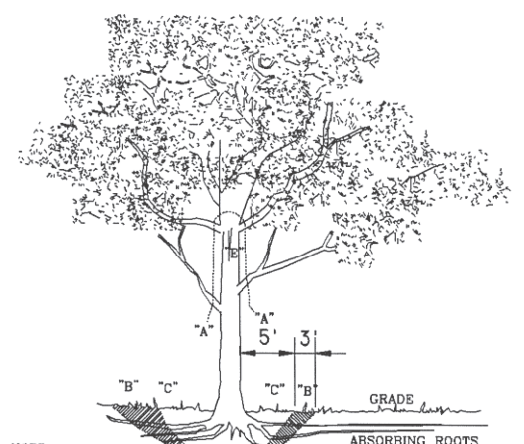


TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

1.2 BORING THRU TREE ROOT ZONE  
N. T. S.

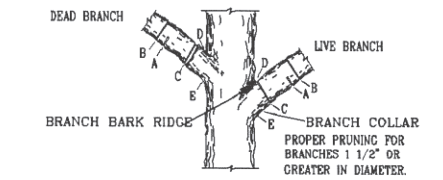


NOTE:  
A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.  
B" BEGIN EXCAVATION APPROX. 6' FROM THE TRUNK - CUT THRU ANCHOR ROOTS AT AN ANGLE - 3" TO 4" DEEP  
C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)  
D" BACKFILL HOLE AND CLEAN UP.

1.3 TREE REMOVAL DIAGRAM  
N. T. S.

TREE PROTECTION TABLE					
ID NO.	TYPE	TRUNK DIAM.	PROTECTION	ACTION	SHEET NO.
T100	OAK	15"	LEVEL IIB	PRESERVE	4
T101	OAK	20"	LEVEL IIB	PRESERVE	4
T102	OAK	24"	LEVEL IIB	PRESERVE	6
T103	OAK	30"	LEVEL IIB	PRESERVE	6
T104	OAK	24"	LEVEL IIB	PRESERVE	6
T105	HACKBERRY	10"	LEVEL IIB	PRESERVE	8
T106	MESQUITE	21"	LEVEL IIB	PRESERVE	8

TREE INVENTORY SUMMARY	
TOTAL DIAMETER INCHES, R.O.W & ESMNTS =	144
TOTAL DIAMETER INCHES REMOVED =	0
TOTAL DIAMETER INCHES PRESERVED =	144
TOTAL PERCENTAGE INCHES PRESERVED =	100%
TOTAL INCHES TO BE MITIGATED =	0



NOTE: DO NOT CUT FROM D TO E.

- FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
  - SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.
  - FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS.
  - BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.
- FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITH 20 MIN TO PREVENT THE SPREAD OF OAK WILT.

1.4 BRANCH PRUNING DETAIL  
N. T. S.

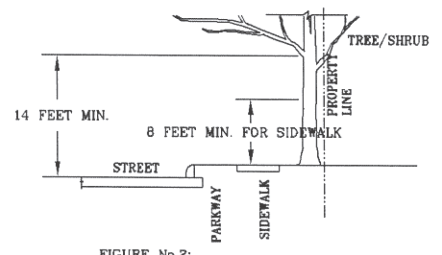
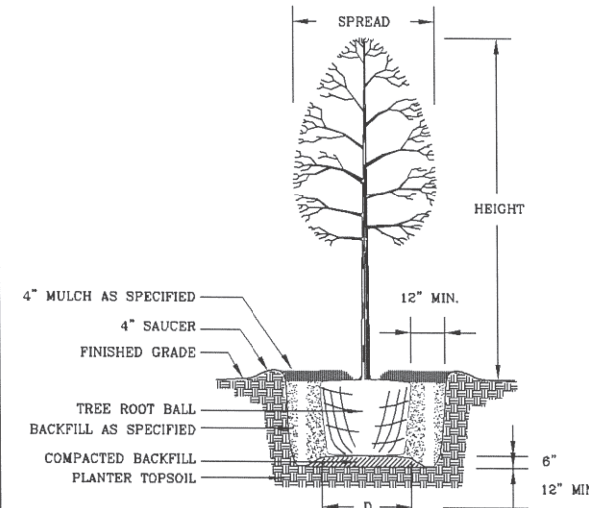
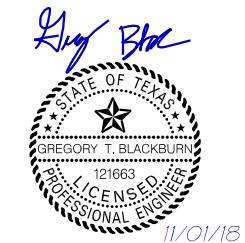


FIGURE No. 2:  
A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

1.5 BRANCH CLEARANCE DETAIL  
N. T. S.



1.6 NEW TREE PLANTING DETAIL  
N. T. S.



**K-FRIESE + ASSOCIATES**  
PUBLIC PROJECT ENGINEERING  
10001 Reunion Place  
Suite 404  
San Antonio, Texas 78216  
P. 210.491.2391 F. 512.338.1784  
TBPE Firm Number 6535  
www.kfriese.com

No.	Revision	Drawn	Approved	Date
1	ADDENDUM 1	BS	GB	11/26/18

REVISIONS

2020 SMP PACKAGE III (MORALES, E. HUFF) TREE PROTECTION DETAILS

DEVELOPER: \_\_\_\_\_

CONT. BUDGET PROJ.

SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

MAP No. \_\_\_\_\_ SHEET 10

SECT. No. \_\_\_\_\_

DR. \_\_\_\_\_ CK. \_\_\_\_\_ JOB No. 18-5012 OF 10