



**SAN ANTONIO WATER SYSTEM
C-5 CULEBRA – CASTROVILLE TO LAREDO AND C-28 ZARZAMORA CREEK SAN
GABRIEL TO NW 23RD STREET, PHASE 2
SAWS JOB NO. 17-4501
SAWS SOLICITATION NO. CO-00114**

ADDENDUM NO. 6
June 28, 2017

Consulting Engineer: CP&Y, Inc., TBF E Registration, #F-1741

ENGINEER SEALS & FIRM INFORMATION



CP&Y, Inc.

TBPE Registration No.: F-1741

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Evan R Cook 6/28/17

SAWS Job No. 17-4501

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C-5 CULEBRA–CASTROVILLE TO LAREDO AND C-28 ZARZAMORA CREEK SAN
GABRIEL TO NW 23RD STREET, PHASE 2**

**SAWS JOB NO.17-4501
SOLICITATION NO. CO-00114**

**ADDENDUM NO. 6
June 28, 2017**

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the bidding documents 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 in the space provide in submitted copies of the proposal.

1.0 Addendum Purpose

The purpose of this addendum is to change the bid proposal, to issue revisions and clarifications, and to provide responses to the questions submitted by the deadline for the C-5 Culebra – Castroville to Laredo and C-28 Zarzamora Creek San Gabriel to NW 23rd Street, Phase 2 Project.

2.0 Revisions

Revisions to the bid proposal include additional quantity for D2241 12” PVC and removal of an equivalent quantity of D3034 12” PVC as well as the new bid items listed below:

1. Intermediate Demobilization Bypass Pumping Equipment Rental (SP100).
2. Intermediate Demobilization Bypass Pumping Fuel (SP100).
3. Intermediate Demobilization Bypass Pumping Watch (SP100).
4. Removing and Relocating Irrigation Systems (COSA Item 552).

3.0 Questions and Responses

- **Q1: What is the dollar cost estimate for this project?**

A1: The revised opinion of probable construction is \$6,470,000.

- **Q2: There are no bore pit limits shown on the plans. Will SAWS follow their normal procedure and show the limits insuring there is enough room to complete this work especially at manhole A-11?**

A2: Exact bore pit location and limits are determined by the Contractor as part of their means and methods. The tunnel upstream from MH A-11 is shown on Sheet C-A-06 to begin at Sta. 88+06 and progress downstream to Sta. 87+28 at minimum slope (0.06%),

so the receiving pit will be located in El Paso Street. Per Sheet C-TC-03, El Paso Street may be closed during normal working hours. However, all lanes must be open to the public by the end of the day.

- **Q3: Will air testing and mandrel pulling be required on this project as the new line will have flows being picked up throughout the construction period? If the answer is yes, will SAWS wave the 30-time period before testing as again flow will need to be transferred into new line continually?**

A3: Yes, air testing will be required prior to any flows being released into new sewer pipes. Deflection testing with a rigid mandrel will be required 30 days after placement of the final backfill per TCEQ requirements which cannot be waived. SAWS will allow flows from collector sewers into new sewer pipes after air testing, but before deflection testing. SAWS will not waive the 30-day time requirement prior to deflection testing. Provide bypass pumping as required to perform deflection testing.

- **Q4: Are the proposed sewer services only on the 8” thru 12” sewer lines?**

A4: No, there are laterals on the 36” sewer along Nuevo Leon Street. Delete Sheets G-08, C-A-02, and C-A-04 in their entirety and replace them with the revised Sheets G-08, C-A-02, and C-A-04 attached to this addendum.

- **Q5: Will SAWS allow the baseline schedule required to be turned in within 24 hours after the bid date in lieu of with the bid?**

A5: No.

- **Q6: Will SAWS furnish prospective bidder the maximum gallon per minute flow of the existing 36” being removed?**

A6: Yes, flows in the 36” sanitary sewer are shown on Sheet BP-01.

- **Q7: Will SAWS allow the 12” sewer construction on Colima to be constructed simultaneously with the 30” and 36” proposed sewer line?**

A7: Per Specification 01015, Paragraph 1.03B, the Contractor must complete the portion of Alignment A on Canario and Nuevo Leon Streets and Alignment C on Colima Street prior to commencing Work on the portion of Alignment A in the easement along Apache Creek, north of Guadalupe Street. See Item 4.0 D below.

The Work on Colima Street may proceed simultaneously with the Work on Canario and Nuevo Leon Streets so long as the Contractor provides appropriate bypass pumping in accordance with SAWS Item Nos. 864-S1 and 864-S2.

- **Q8: Will Nueva Leon St. be allowed to be closed night & day in segments due to the by-passing, depth and size of pipe for the new construction?**

A8: No. As shown on Sheet C-TC-03, Nuevo Leon Street will be closed during working hours. However, per Sheet Note 1 and COSA ROW Management General Note 4 on Sheet C-TC-01, all lanes of traffic must be open to the public by the end of the day. Trenches must be secured with all-weather material and/or secured steel plates.

- **Q9: Plans don't show irrigation along existing right of way near flood plain. How will contractor be payed if irrigation is encountered?**

A9: Based upon available information, there are no public irrigation systems, although there are existing concrete backflow preventer boxes (apparently abandoned), which the Contractor shall protect.

Only if directed by SAWS field representative, remove and replace existing irrigation systems per COSA Item 552. Payment will be made at the unit price bid for removing and replacing irrigations systems.

A bid item for removing and replacing irrigation systems has been added to the bid proposal. Delete the bid proposal in its entirety and replace it with the bid proposal attached to this addendum.

- **Q10: Since SAWS moved the date to answer questions back two days, will SAWS move the bid opening back two days to June 30, 2017? Currently it will be Monday morning before we can incorporate SAWS answers to the questions into our bid and get the information to our suppliers and subcontractors which currently bids Wednesday morning. That is not enough time from receiving SAWS answers to bid opening.**

A10: Yes, the bid opening date and time has been changed. See Item 2.0 above.

- **Q11: In our opinion, 331 calendar days is not enough time to construct this project. Will SAWS extend the contract time to 380 calendar days to complete this project?**

A11: Yes, SAWS will extend the Contract Time to 380 days. Delete the Bid Proposal Signature Page and the Proposal Certification in their entirety and replace them with the revised Bid Proposal Signature Page and Proposal Certification attached to this addendum.

- **Q12: On plan sheet 14 of 57, there is a bore receiving pit in the middle of Guadalupe St. This will require Guadalupe St. to be closed completely night and day for 30 days. Has SAWS conveyed this to the COSA ROW department? This should be done prior to job bidding.**

-

A12: Yes, 90% plans with the same traffic control plan were submitted to COSA ROW for review. Per General Conditions Paragraph 5.3.7, the Contractor shall be responsible for obtaining COSA ROW street cut permits. Per COSA ROW Management General Note 4 (Sheet C-TC-01), trenches must be secured with all surface weather material and/or secured steel plates by the end of each work day.

- **Q13: The same scenario occurs again on El Paso St. on plan sheet 15 of 57.**

A13: Please see the answer to Question No. 12 above.

- **Q14: Please consider the following request for modifications to your project specification Section 33 05 01.08 for the above reference project:**

No.	Part/Sub-part	Requirement	Proposed Modification	Comments
1		ASTM D3754	Eliminate this ASTM standard from the specification	This ASTM D3754 standard is applicable to pressure sewer applications.
2	2.02-A-7	Pipe ends: Square to the pipe axis with maximum tolerance of 1/8"	Replace by: Squareness of pipe ends in accordance with section 6.2.4 of ASTM D3262	ASTM D3262 is the referenced standard for this project.
3	2.02-A-9	Strain corrosion: The extrapolated 50-year strain corrosion value shall not be less than 0.9% as determined in accordance with ASTM D3681 and ASTM D3262	Replace by: The extrapolated 50-year strain corrosion value shall be in accordance with Table 4 of ASTM D 3262.	The way the current specification is written is addressed to single pipe manufacturer.

No.	Part/Sub-part	Requirement	Proposed Modification	Comments
	2.02-A-12	Pipe shall be manufactured to result in a dense, nonporous, corrosion-resistant, consistent composite structure to meet operating conditions as specified and as shown on the drawings. The interior surface of the pipes shall be manufactured using a resin with a 50% elongation (minimum) when tested in accordance with ASTM D638. The interior surface shall provide crack resistance and abrasion resistance. The exterior surface of the pipes shall be comprised of a sand and resin layer which provides UV protection to the exterior. Pipes shall be Type 1, Liner 2, Grade 3 per ASTM D3262	Replace by: All pipes shall be in compliance with ASTM D3262. Pipe shall be manufactured to result in a dense, nonporous, corrosion-resistant, consistent composite structure. The interior surface of the pipes shall be manufactured using a polyester resin liner. The interior surface shall provide crack resistance and abrasion resistance. The exterior surface of the pipes shall provide UV protection to the exterior. Pipes shall be Type 1, Liner 1 or 2, Grade 1 or 3 per ASTM D3262	The way this section is currently written makes a single pipe manufacturer to be the sole source for this project.
5	2.02-B-8-e	Flush bell joint sleeves shall be stainless steel and of the same external dimensions as the pipe barrel	Replace by: Flush bell joint sleeves shall be stainless steel or fiberglass and of the same external dimensions as the pipe barrel	Fiberglass sleeves show the same performance, are commonly used and cost less than SS
6	2.02-B-8-f	With two grout/lubricant ports.....Provide flush mount-stainless steel plugs for sealing the fittings capable of withstanding external and internal pressures and loads without leaking.	Replace by: With two grout/lubricant ports.....Provide flush mount-stainless steel or plastic plugs for sealing the fittings capable of withstanding external and internal pressures and loads without leaking.	Plastics grout ports show the same performance, are commonly used and cost less than SS

A14: The Contract Documents do not include specification Section 33 05 01.08. SAWS Item No. 857 specifies Project requirements for Fiberglass Reinforced Pipe for Large Diameter Gravity Sanitary Sewer. SAWS standard specifications are available at http://www.saws.org/business_center/specs/constspecs/.

- **Q15: Will there be a Record of Performance form? In the last bid it was sent out in an addendum.**

A15: No, a standard form will not be provided. However, all Bidders must submit a Record of Performance/Similar Projects with their bid per Paragraph 24(c) of the Instructions to Bidders.

- **Q16: Plan sheets C-C-01 thru C-C-09 call out at approximately 58 locations of 18 LF of 12” PVC ASTM 2241 SDR26, but the bid quantities are only for 90 LF (6’-10’)? How will the contractor be paid for the additional quantities for the 12” PVC ASTM 2241 SDR26 and depths of installation?**

A16: Sheet Quantity Summary tables for Sheets C-C-01 through C-C-09 and Phase 2 Quantity Summary tables (Sheets G-03 and G-04) have been updated. Delete Sheets G-03 and G-04 and Sheets C-C-01 through C-C-09 in their entirety and replace them with the revised Sheets G-03, G-04, and C-C-01 through C-C-09 attached to this addendum. Also, delete the bid proposal in its entirety and replace it with the bid proposal attached to this addendum.

- **Q17: Plan sheet D-02, details for Trench Restoration indicated pay limits O.D. + 2’, but the details also show a 12” Min TYP T-cap at each side of the trench. How will the contractor be paid for the additional 12” Min T-cap for Concrete/asphalt pavement restoration?**

A17: Detail C on Sheet D-02 has been revised to show pay limits equal to O.D. + 4’. Delete Sheet D-02 in its entirety and replace it with the revised Sheet D-02 attached to this addendum.

4.0 Modifications to Specifications

1. Delete the Bid Proposal in its entirety and replace with the Bid Proposal attached to this addendum. This version should be used by bidders when submitting a bid for this Project.
2. Delete Specification Section 01015, Paragraph 1.03B and replace with the following paragraph:

“Contractor shall complete the portion of Alignment A on Canario and Nuevo Leon Streets (Sta. 70+10 to Sta. 81+66) and Alignment C on Colima Street, prior to commencing Work on the portion of Alignment A in the easement along Apache Creek, north of Guadalupe Street (Sta. 81+66 to Sta. 108+58).”

3. Delete Supplement to Item No. 100 – Mobilization in its entirety and replace it with the revised Supplement to Item No. 100 attached to this addendum.

Addendum No. 6

C-5 Culebra – Castroville to Laredo and C-28 Zarzamora Creek San Gabriel to NW 23rd Street, Phase 2

SAWS Job No.17-4501

Solicitation No. CO-00114

4. Delete the Proposal Certification in its entirety and replace with the Proposal Certification attached to this addendum. This version should be used by bidders when submitting a bid for this Project.

5.0 Modifications to Drawings

Remove the following drawings in their entirety and replace them with the drawings and replace them with the drawings attached to this addendum:

1. Sheet G-03
2. Sheet G-04
3. Sheet G-08
4. Sheet C-A-01
5. Sheet C-A-02
6. Sheet C-A-03
7. Sheet C-A-04
8. Sheet C-A-06
9. Sheet C-A-08
10. Sheet C-A-09
11. Sheet C-A-10
12. Sheet C-C-01
13. Sheet C-C-02
14. Sheet C-C-03
15. Sheet C-C-04
16. Sheet C-C-05
17. Sheet C-C-06
18. Sheet C-C-07
19. Sheet C-C-08
20. Sheet C-C-09
21. Sheet D-02

END OF ADDENDUM NO. 5

This Addendum, including these nine (9) pages, is thirty-six (36) pages with attachments in its entirety.

Attached: Bid Proposal - three (3) pages, Proposal Certification - one (1) page, Supplement to Item No 100 - two (2) pages, and Revised Construction Drawings - twenty-one (21) pages.

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 380 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.

SAN ANTONIO WATER SYSTEM
C5 - CASTROVILLE TO LAREDO ST
C28 - ZARZAMORA CREEK- SAN GABRIEL TO NW 23 ST. PHASE 2

ITEM NO.	SPEC NO.	SEWER AND WATER BID ITEMS	QTY.	UNIT	UNIT PRICE	TOTAL PRICE
1	COSA 103.1	REMOVE CONCRETE CURB	677	LF	\$	\$
2	COSA 103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	4416	SF	\$	\$
3	COSA 103.4	REMOVE MISC. CONCRETE	368	SF	\$	\$
4	COSA 202.1	PRIME COAT	3413	GAL	\$	\$
5	COSA 203.1	TACK COAT	1706	GAL	\$	\$
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	17063	SY	\$	\$
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	17063	SY	\$	\$
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	519	CY	\$	\$
9	COSA 500.1	CONCRETE CURB	515	LF	\$	\$
10	COSA 502.1	CONCRETE SIDEWALKS	469	SY	\$	\$
11	COSA 502.3	SIDEWALK DRAIN	12	EA	\$	\$
12	COSA 503.1	CONCRETE DRIVEWAY	9	SY	\$	\$
13	COSA 505.2	CONCRETE RIPRAP (6" THICK)	63	SY	\$	\$
14	COSA 507.2	CHAIN LINK WIRE FENCE (6 FT. HIGH)	765	LF	\$	\$
15	COSA 509	METAL BEAM GUARD FENCE	60	LF	\$	\$
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	2919	SY	\$	\$
17	COSA 515	TOPSOIL (6")	1866	CY	\$	\$
18	COSA 520	HYDROMULCHING	11194	SY	\$	\$
19	COSA 530.1	BARRICADES, SIGNS AND TRAFFIC HANDLING	1	LS	\$	\$
20	COSA 535.1	HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS (4" YELLOW LINE)	37	LF	\$	\$
21	COSA 535.4	HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS (4" SOLID WHITE LINE)	74	LF	\$	\$
22	COSA 540	STORMWATER POLLUTION PREVENTION PLAN	1	LS	\$	\$
23	COSA 552	REMOVING AND RELOCATING IRRIGATION SYSTEMS	250	LF	\$	\$
24	COSA 801.1	LEVEL 1 TREE PROTECTIVE FENCING	6000	LF	\$	\$
25	COSA 801.2	LEVEL 2A TREE PROTECTIVE FENCING	2000	LF	\$	\$
26	COSA 801.3	LEVEL 2B TREE PROTECTIVE FENCING	250	LF	\$	\$
27	COSA 804	REPLACE 1"-5" ELM	5	EA	\$	\$
28	COSA 804	REPLACE 1"-5" OAK	4	EA	\$	\$
29	COSA 804	REPLACE 1-5" SAPLING	1	EA	\$	\$
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	7183	LF	\$	\$
31	SAWS 818	6" C900 DR 18 PVC WATER LINE	84	LF	\$	\$
32	SAWS 818	8" C900 DR 18 PVC WATER LINE	222	LF	\$	\$
33	SAWS 818	12" C900 DR 18 PVC WATER LINE	50	LF	\$	\$
34	SAWS 824	RELAY 3/4" METERED SVC LINE (SHORT)	1	EA	\$	\$
35	SAWS 828	6" GATE VALVE	2	EA	\$	\$
36	SAWS 828	8" GATE VALVE	1	EA	\$	\$
37	SAWS 828	12" GATE VALVE	2	EA	\$	\$
38	SAWS 831	6" X 6" CUT-IN TEE	1	EA	\$	\$
39	SAWS 831	12" X 12" CUT-IN TEE	2	EA	\$	\$
40	SAWS 836	DUCTILE IRON FITTINGS	0.99	TON	\$	\$
41	SAWS 840	6" TIE-INS	3	EA	\$	\$
42	SAWS 844.1	2" TEMPORARY BLOW-OFF	3	EA	\$	\$
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	1070	LF	\$	\$
44	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (0'-6')	41	LF	\$	\$

45	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	27	LF	\$		\$
46	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (10'-14')	30	LF	\$		\$
47	SAWS 848	8" D 2241 SDR 26 PVC SANITARY SEWER LINE (0'-6')	20	LF	\$		\$
48	SAWS 848	10" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	10	LF	\$		\$
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	2391	LF	\$		\$
50	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (10'-14')	34	LF	\$		\$
51	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (10'-14')	69	LF	\$		\$
52	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (14'-18')	1581	LF	\$		\$
53	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (18'-22')	390	LF	\$		\$
54	SAWS 857	30" SN72 PN150 FRP SANITARY SEWER LINE (14'-18')	18	LF	\$		\$
55	SAWS 857	36" SN72 PN25 FRP SANITARY SEWER LINE (10'-14')	172	LF	\$		\$
56	SAWS 857	36" SN72 PN25 FRP SANITARY SEWER LINE (14'-18')	836	LF	\$		\$
57	SAWS 857	36" SN72 PN150 FRP SANITARY SEWER LINE (6'-10')	18	LF	\$		\$
58	SAWS 857	36" SN72 PN150 FRP SANITARY SEWER LINE (14'-18')	120	LF	\$		\$
59	SAWS 853	T-BASE FIBER REINFORCED MANHOLE (0'-6')	2	EA	\$		\$
60	SAWS 853	T-BASE FIBER REINFORCED DROP MANHOLE (0'-6')	6	EA	\$		\$
61	SAWS 853	T-BASE FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6')	68	VF	\$		\$
62	SAWS 852	STANDARD FIBER REINFORCED MANHOLE (0'-6')	7	EA	\$		\$
63	SAWS 852	STANDARD FIBER REINFORCED DROP MANHOLE (0'-6')	4	EA	\$		\$
64	SAWS 852	STANDARD FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6')	113	VF	\$		\$
65	SAWS 852	STANDARD 4' MANHOLE (0'-6')	11	EA	\$		\$
66	SAWS 852	STANDARD DROP MANHOLE (0'-6')	1	EA	\$		\$
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6')	39	VF	\$		\$
68	SAWS 854	SANITARY SEWER LATERALS	3694	LF	\$		\$
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	137	EA	\$		\$
70	SAWS 856	JACKING, BORING, OR TUNNELING 42"	669	LF	\$		\$
71	SAWS 856	30" CARRIER PIPE FOR JACKING, BORING, TUNNELING	669	LF	\$		\$
72	SAWS 856	42" CASING (MINIMUM 0.5" THICK)	669	LF	\$		\$
73	SAWS 860	VERTICAL STACKS	441	VF	\$		\$
74	SAWS 862	ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	1824	LF	\$		\$
75	Section 01150	ABANDONMENT OF SIPHON	1	LS	\$		\$
76	SAWS 864-S1	BYPASS PUMPING SMALL DIAMETER SANITARY SEWERS (<24")	1	LS	\$		\$
77	SAWS 864-S2	BYPASS PUMPING LARGE DIAMETER SANITARY SEWERS (≥24")	1	LS	\$		\$
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	3469	LF	\$		\$
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DIA.)	2880	LF	\$		\$
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	3623	LF	\$		\$
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	3873	LF	\$		\$
82	SAWS 3000	REMOVAL, TRANSPORTATION, AND DISPOSAL OF A.C. PIPE	98	LF	\$		\$
83	TXDOT 556	DMS-6200 FILTER FABRIC TYPE 1	50	SY	\$		\$
84	01150	REMOVE AND RE-INSTALL LIGHT POLE	7	EA	\$		\$
85	01150	BRACE / RELOCATE POWER POLES	1	ALLOW	\$	\$30,000.00	\$30,000.00
86	01150	GAS RELOCATION	1	ALLOW	\$	\$30,000.00	\$30,000.00
87	SAWS 100	MOBILIZATION	1	LS	\$		\$
88	SAWS 101	PREPARATION OF RIGHT-OF-WAY	1	LS	\$		\$
89	SP100	INTERMEDIATE DEMOBILIZATION/REMOBILIZATION	2	LS	\$		\$
90	SP100	INTERMEDIATE DEMOBILIZATION BYPASS PUMPING EQUIPMENT RENTAL	20	DAY	\$		\$
91	SP100	INTERMEDIATE DEMOBILIZATION BYPASS PUMPING FUEL	20	DAY	\$		\$
92	SP100	INTERMEDIATE DEMOBILIZATION BYPASS PUMPING WATCH	20	DAY	\$		\$

PROPOSAL CERTIFICATION

Accompanying this proposal is a Bid Bond or Certified or Cashier's Check payable to the Order of the San Antonio Water System for _____ dollars (\$_____), which amount represents five percent (5%) of the total bid price. Said bond or check is to be returned to the bidder unless the proposal is accepted and the bidder fails to execute and file a contract within **10** calendar days after the award of the Contract, in which case the check shall become the property of said San Antonio Water System, and shall be considered as payment for damages due to delay and other inconveniences suffered by said San Antonio Water System due to the failure of the bidder to execute the contract. The San Antonio Water System reserves the right to reject any and all bids.

It is anticipated that the Owner will act on this proposal within **60** calendar days after the bid opening. Upon acceptance and award of the contract to the undersigned by the Owner, the undersigned shall execute standard San Antonio Water System Contract Documents and make Performance and Payment Bonds for the full amount of the contract within **10** calendar days after the award of the Contract to secure proper compliance with the terms and provisions of the contract, to insure and guarantee the work until final completion and acceptance, and the guarantee period stipulated, and to guarantee payment of all lawful claims for labor performed and materials furnished in the fulfillment of the contract.

It is anticipated that the Owner will provide written Authorization to Proceed within **30** days after the award of the contract.

The work called for in this Contract shall commence on the date indicated in the SAWS written Authorization to Proceed. Under no circumstances shall the work commence prior to the date provided for in the SAWS issued, written Authorization to Proceed. Work shall be completed in full within 380 consecutive calendar days.

The undersigned further acknowledges compliance with "Wage and Labor Standard Provisions" of this contract and the use of the Blue Book rental rates for establishment of equipment rental rates whether owned or leased during the course of this Contract.

In completing the work contained in this proposal the undersigned certifies that bidder's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin and that the bidder will affirmatively cooperate in the implementation of these policies and practices.

Signed: _____
Company Representative

Company Name

Address

Please return bidder's check to: _____
Company Name

Address

Supplement to Item No 100

Mobilization

This supplement shall modify Item No. 100 Mobilization.

100.1 - DESCRIPTION:

Add the following paragraph:

“Intermediate demobilization and remobilization shall include all Work required for an Owner-directed intermediate Project demobilization of personnel and equipment that occurs after the Contract Notice to Proceed has been given and Work has commenced, and the subsequent remobilization of personnel and equipment to complete the Project. Intermediate demobilization and remobilization shall only be authorized upon a written directive from the Owner. Work shall include furnishing all labor, materials, tools, equipment and incidentals required to demobilize and remobilize for the C5 Culebra – Castroville to Laredo & C28 Zarzamora Creek – San Gabriel to MW 23rd St. Phase 2 Project, in accordance with the Contract Documents, complete in place including bypass pumping, in accordance with Item No. 864-S1and/or Item No. 864-S2, during an intermediate demobilization.”

100.2 - MEASUREMENT:

Delete Paragraph 100.2 in its entirety and replace it with the following paragraphs:

1. Measurement of the Item, Mobilization, as specified herein, shall be by “Lump Sum” as the Work progresses.
2. Measurement of the Item, Intermediate Demobilization and Remobilization, as specified herein, except for Intermediate Demobilization Bypass Pumping items, shall be by “Each” as the work progresses.
3. Measurement of the Item, Intermediate Demobilization Bypass Pumping Equipment Rental, as specified herein and in Item No. 864-S1and/or Item No. 864-S2 shall be by “Day”. For multi-bypass pumping setups, payment shall be proportional to the overall amount of the established bid line item.
4. Measurement of the Item, Intermediate Demobilization Bypass Pumping Fuel, as specified herein and in Item No. 864-S1and/or Item No. 864-S2 shall be by “Day”. For multi-bypass pumping setups, payment will be proportional to the overall amount of the established bid line item.

5. Measurement of the Item, Intermediate Demobilization Bypass Pumping Watch, as specified herein and in Item No. 864-S1 and/or Item No. 864-S2 shall be by “Day”. For multi-bypass pumping setups, payment will be proportional to the overall amount of the established bid line item.

100.3 – PAYMENTS

Add the following paragraphs:

Payment for Intermediate Demobilization and Remobilization shall only be made if prior authorized in writing by Owner, and shall be paid for by “each” occurrence of demobilization and remobilization. This bid item is limited to delays outside of the Contractor’s control that are not otherwise provided for in the General Conditions. Examples of these types of delays would be Owner easement acquisition, permitting issues (only those permits not controlled by the Contractor), or other Owner activities. Any other provision contained herein notwithstanding Contractor will not be entitled to compensation under this bid item for Work suspended during the 10 cumulative days allowed for by the Contract in the General Conditions, Article IV, Paragraph 4.8 Suspension of Work by Owner.

Payment for Intermediate Demobilization Bypass Pumping Equipment Rental shall only be made if prior authorized in writing by Owner, shall be paid at the contract unit bid, and shall be full compensation for bypass pumping equipment rental including pumps, suction hoses, discharge hoses, valves, headers, plugs, equipment delivery, equipment setup and removal, hose installation and removal, manhole cone removal, pavement removal and restoration, excavation and backfilling, and other ancillary items required for bypass pumping, except fuel and pump watch items, complete in place.

Payment for Intermediate Demobilization Bypass Pumping Fuel shall only be made if prior authorized in writing by Owner, shall be paid at the contract unit bid, and shall be full compensation for bypass pumping fuel including delivery and other ancillary items required to provide continuous operation of bypass pumping during intermediate demobilization.

Payment for Intermediate Demobilization Bypass Pumping Watch shall only be made if prior authorized in writing by Owner, shall be paid at the contract unit bid, and shall be full compensation for bypass pumping watch including labor, supervision, and other ancillary items required to provide continuous operation of bypass pumping during intermediate demobilization.

All other language in specification 100 remains in full force.

-End of Supplement-

SAN ANTONIO WATER SYSTEM
C_5 - CULEBRA - CASTROVILLE TO LAREDO & C_28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23 ST.
PHASE 2 QUANTITY SUMMARY I

SAWS JOB NO.

17-4501



NO.	REVISION	BY	DATE
6	ADDENDUM NO. 6	ERC	06/29/17

VERIFY SCALE 1" = 0'

BASE IS ONE INCH ON ORIGINAL THIS SHEET, ADJUST SCALE

SAN ANTONIO WATER SYSTEM
PHASE 2 C_5 - CULEBRA - CASTROVILLE TO LAREDO & C_28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC
CP&Y Proj. No.	SAW1105.00

SHEET G-03
SHEET 3 OF 57

		COSA 103.1	COSA 103.3	COSA 103.4	COSA 202.1	COSA 203.1	COSA 205.4	COSA 208.1	COSA 413.1	COSA 500.1	COSA 502.1	COSA 502.3	COSA 503.1	COSA 505.2	COSA 507.2	COSA 509	COSA 511.3	COSA 515	COSA 520	COSA 530.1	COSA 535.1	COSA 535.4	COSA 540	COSA 552
		REMOVE CONCRETE CURB	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	REMOVE MISC. CONCRETE	PRIME COAT	TACK COAT	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SALVAGE, HAUL STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	FLOWABLE FILL (LOW STRENGTH)	CONCRETE CURB	CONCRETE SIDEWALKS	SIDEWALK DRAIN	CONCRETE DRIVEWAY	CONCRETE RIPRAP (6" THICK)	CHAIN LINK WIRE FENCE (6 FT. HIGH)	METAL BEAM GUARD FENCE	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	TOPSOIL (6")	HYDROMULCHING	BARRICADES, SIGNS AND TRAFFIC HANDLING	HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS (4" YELLOW LINE)	HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS (4" SOLID WHITE LINE)	STORMWATER POLLUTION PREVENTION PLAN	REMOVING AND RELOCATING IRRIGATION SYSTEMS
		LF	SF	SF	GAL	GAL	SY	SY	CY	LF	SY	EA	SY	SY	LF	LF	SY	CY	SY	LS	LF	LF	LS	LF
C-A-01	STA 70+17.57 TO STA 72+00	0	0	0	109	55	545	545	270	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
C-A-02	STA 72+00 TO STA 75+90	0	0	0	258	129	1,290	1,290	24	0	0	0	0	0	0	0	310	0	0	0	0	0	0	0
C-A-03	STA 75+90 TO STA 80+00	240	0	0	250	125	1,249	1,249	20	240	0	0	0	0	0	0	331	0	0	0	0	0	0	0
C-A-04	STA 80+00 TO STA 84+00	130	0	0	143	72	717	717	19	130	0	0	0	0	0	0	150	167	1,000	0	0	0	0	0
C-A-05	STA 84+00 TO STA 88+00	10	0	0	32	16	462	462	0	10	0	0	0	0	0	0	59	188	1,128	0	0	0	0	0
C-A-06	STA 88+00 TO STA 92+00	32	878	197	37	19	187	187	26	32	98	3	0	22	0	0	40	255	1,538	0	37	74	0	0
C-A-07	STA 92+00 TO STA 96+00	0	1,998	0	0	0	0	0	0	0	216	0	6	0	0	0	0	296	1,778	0	0	0	0	0
C-A-08	STA 96+00 TO STA 100+00	43	457	0	140	70	701	701	0	43	38	9	0	22	0	0	0	268	1,608	0	0	0	0	0
C-A-09	STA 100+00 TO STA 104+00	0	414	0	0	0	0	0	0	0	43	0	3	0	389	0	0	296	1,778	0	0	0	0	0
C-A-10	STA 104+00 TO STA 108+00	0	350	0	0	0	0	0	0	39	0	0	0	376	0	0	0	296	1,778	0	0	0	0	0
C-A-11	STA 108+00 TO 110+07.26	0	319	0	0	0	0	0	0	35	0	0	0	0	0	0	98	586	0	0	0	0	0	0
C-C-01	STA 20+04.86 TO STA 24+00	0	0	0	201	100	1,003	1,003	0	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-02	STA 24+00 TO STA 28+00	0	0	0	258	129	1,292	1,292	3	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-03	STA 28+00 TO STA 32+00	0	0	0	291	145	1,453	1,453	3	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-04	STA 32+00 TO STA 36+00	0	0	0	283	142	1,417	1,417	3	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-05	STA 36+00 TO STA 40+00	0	0	0	307	153	1,533	1,533	7	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-06	STA 40+00 TO STA 44+00	0	0	0	268	134	1,338	1,338	3	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-07	STA 44+00 TO STA 48+00	0	0	0	304	152	1,518	1,518	3	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-08	STA 48+00 TO 52+00	0	0	0	284	142	1,422	1,422	6	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
C-C-09	STA 52+00 TO 55+50.66	0	0	0	187	94	936	936	0	0	0	0	0	0	0	0	149	0	0	0	0	0	0	0
PROJECT TOTALS		677	4,416	368	3,413	1,706	17,063	17,063	519	515	469	12	9	63	765	60	2,919	1,866	11,194	1	37	74	1	250

		COSA 801.1	COSA 801.2	COSA 801.3	COSA 804	COSA 804	COSA 804	SAWS 550	SAWS 818	SAWS 818	SAWS 818	SAWS 824	SAWS 828	SAWS 828	SAWS 828	SAWS 831	SAWS 831	SAWS 836	SAWS 840	SAWS 844.1	SAWS 848	SAWS 848	SAWS 848	SAWS 848
		LEVEL 1 TREE PROTECTIVE FENCING	LEVEL 2A TREE PROTECTIVE FENCING	LEVEL 2B TREE PROTECTIVE FENCING	REPLACE 1"-5" ELM	REPLACE 1"-5" OAK	REPLACE 1"-5" SAPLING	TRENCH EXCAVATION SAFETY PROTECTION	6" C900 DR 18 PVC WATER LINE	8" C900 DR 18 PVC WATER LINE	12" C900 DR 18 PVC WATER LINE	RELAY 3/4" METERED SVC LINE (SHORT)	6" GATE VALVE	8" GATE VALVE	12" GATE VALVE	6" X 6" CUT-IN TEE	12" X 12" CUT-IN TEE	DUCTILE IRON FITTINGS	6" TIE-INS	2" TEMPORARY BLOW-OFF	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-6')	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (10'-14')
		LF	LF	LF	EA	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	TON	EA	EA	LF	LF	LF	LF
C-A-01	STA 70+17.57 TO STA 72+00	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
C-A-02	STA 72+00 TO STA 75+90	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
C-A-03	STA 75+90 TO STA 80+00	0	0	0	0	0	0	420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
C-A-04	STA 80+00 TO STA 84+00	0	0	0	0	0	0	217	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-A-05	STA 84+00 TO STA 88+00	0	0	0	0	0	0	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-A-06	STA 88+00 TO STA 92+00	0	0	0	0	0	0	411	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0
C-A-07	STA 92+00 TO STA 96+00	0	0	0	0	0	0	390	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-A-08	STA 96+00 TO STA 100+00	0	0	0	0	0	0	356	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0
C-A-09	STA 100+00 TO STA 104+00	0	0	0	5	1	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-A-10	STA 104+00 TO STA 108+00	0	0	0	0	3	1	339	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-A-11	STA 108+00 TO 110+07.26	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-C-01	STA 20+04.86 TO STA 24+00	0	0	0	0	0	0	395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-C-02	STA 24+00 TO STA 28+00	0	0	0	0	0	0	430	0	0	0	0	0	0	0	0	0	0	0	0	0	90	10	0
C-C-03	STA 28+00 TO STA 32+00	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	126	0	0
C-C-04	STA 32+00 TO STA 36+00	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	108	0	0
C-C-05	STA 36+00 TO STA 40+00	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	115	0	0
C-C-06	STA 40+00 TO STA 44+00	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	122	0	0
C-C-07	STA 44+00 TO STA 48+00	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	122	0	0
C-C-08	STA 48+00 TO 52+00	0	0	0	0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	155	0	0
C-C-09	STA 52+00 TO 55+50.66	0	0	0	0	0	0	286	0	0	0	0	0	0	0	0	0	0	0	0	0	90	0	0
PROJECT TOTALS		6,000	2,000	250	5	4	1	7,183	84	222	50	1	2	1	2	1	2	1	3	3	1,070	41	27	30

6/27/2017 7:19:14 AM gmlks p.w./Active Projects/SAWS1105.00 - C-5 & C-28 Zarzamora Creek/8.00 Plans and Drawings/8.30 Cut Sheets/Phase 2/SAWS1105 G-03.dgn

SAN ANTONIO WATER SYSTEM
 C_5 - CULEBRA - CASTROVILLE TO LAREDO & C_28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23 ST.
 PHASE 2 QUANTITY SUMMARY II

SAWS JOB NO.

17-4501



SAN ANTONIO
 WATER SYSTEM



NO.	REVISION	BY	DATE
6	ADDITION NO. 6	ERC	06/28/17
VERIFY SCALE: 1" = 0'			

SAN ANTONIO WATER SYSTEM
 PHASE 2 QUANTITY SUMMARY II
 C_5 - CULEBRA - CASTROVILLE TO LAREDO &
 C_28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC
CP&Y Proj. No.	SAW1105.00

SHEET

G-04

SHEET 4 OF 57

6/27/2017 7:19:19 AM amilks p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek\8.00 Plans and Drawings\8.30 Cut Sheets\Phase 2\SAWS1105 G-04.dgn

		SAWS 848 8" D 2241 SDR 26 PVC SANITARY SEWER LINE (0'- 6)	SAWS 848 10" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'- 10)	SAWS 848 12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'- 10)	SAWS 348 12" D 3034 SDR 26 PVC SANITARY SEWER LINE (10' 14)	SAWS 857 30" SN72 PN25 FRP SANITARY SEWER LINE (10' 14)	SAWS 857 30" SN72 PN25 FRP SANITARY SEWER LINE (14' 18)	SAWS 857 30" SN72 PN25 FRP SANITARY SEWER LINE (18' 22)	SAWS 857 30" SN72 PN150 FRP SANITARY SEWER LINE (14' 18)	SAWS 857 36" SN72 PN25 FRP SANITARY SEWER LINE (10' 14)	SAWS 857 36" SN72 PN25 FRP SANITARY SEWER LINE (14' 18)	SAWS 857 36" SN72 PN150 FRP SANITARY SEWER LINE (14' 18)	SAWS 857 36" SN72 PN150 FRP SANITARY SEWER LINE (18' 22)	SAWS 853 T-BASE FIBER REINFORCED MANHOLE (0'-6)	SAWS 853 T-BASE FIBER REINFORCED DROP MANHOLE (0'-6)	SAWS 853 T-BASE FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6)	SAWS 852 STANDARD FIBER REINFORCED MANHOLE (0'-6)	SAWS 852 STANDARD FIBER REINFORCED DROP MANHOLE (0'-6)	SAWS 852 STANDARD FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6)	SAWS 852 STANDARD # MANHOLE (0'-6)	SAWS 852 STANDARD DROP MANHOLE (0'-6)	SAWS 852 STANDARD EXTRA DEPTH MANHOLES (>6)	SAWS 854 SANITARY SEWER LATERALS	SAWS 868 TWO-WAY SANITARY SEWER CLEAN- OUT
		LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	VF	EA	EA	VF	EA	EA	VF	LF	EA
C-A-01	STA 70+17.57 TO STA 72+00	0	0	0	0	0	0	0	172	0	18	0	1	1	15	0	0	0	0	0	0	0	0	0
C-A-02	STA 72+00 TO STA 75+90	0	0	0	0	0	0	0	0	0	352	0	38	1	17	0	0	0	0	0	0	0	16	2
C-A-03	STA 75+90 TO STA 80+00	0	0	0	0	0	0	0	0	0	336	0	64	0	3	27	0	0	0	0	0	0	0	0
C-A-04	STA 80+00 TO STA 84+00	0	0	0	0	0	0	0	0	0	41	0	148	0	1	10	0	0	0	0	0	0	16	1
C-A-05	STA 84+00 TO STA 88+00	0	0	0	0	0	0	0	0	0	64	0	0	0	2	1	25	0	0	0	0	0	0	0
C-A-06	STA 88+00 TO STA 92+00	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	1	0	35	0	0	0	0	0
C-A-07	STA 92+00 TO STA 96+00	0	0	0	0	0	0	0	0	390	0	0	0	0	0	0	1	0	13	0	0	0	0	0
C-A-08	STA 96+00 TO STA 100+00	0	0	0	0	32	303	0	0	0	0	0	0	0	0	0	1	0	10	1	0	8	0	0
C-A-09	STA 100+00 TO STA 104+00	0	0	0	0	0	0	0	0	400	0	0	0	0	0	0	1	0	11	0	0	0	0	0
C-A-10	STA 104+00 TO STA 108+00	0	0	0	0	0	0	0	0	339	0	0	0	0	0	0	1	0	10	0	0	0	0	0
C-A-11	STA 108+00 TO STA 110+07.26	0	0	0	34	0	58	0	0	0	0	0	0	0	0	0	0	1	9	1	0	6	0	0
C-C-01	STA 20+04.86 TO STA 24+00	0	0	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	380	19
C-C-02	STA 24+00 TO STA 28+00	20	0	310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	4	425	15
C-C-03	STA 28+00 TO STA 32+00	0	0	274	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	425	15
C-C-04	STA 32+00 TO STA 36+00	0	0	292	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	364	13
C-C-05	STA 36+00 TO STA 40+00	0	0	285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	448	16
C-C-06	STA 40+00 TO STA 44+00	0	0	262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	459	17
C-C-07	STA 44+00 TO STA 48+00	0	0	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	344	12
C-C-08	STA 48+00 TO STA 52+00	0	0	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	477	15
C-C-09	STA 52+00 TO STA 55+50.66	0	0	176	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	340	12
PROJECT TOTALS		20	10	2,391	34	69	1,581	390	18	172	836	18	120	2	6	68	7	4	113	11	1	39	3,694	137

		SAWS 856 JACKING, BORING, OR TUNNELING 42"	SAWS 856 30" CARRIER PIPE FOR JACKING, BORING, TUNNELING	SAWS 856 42" CASING (MINIMUM 0.5" THICK)	SAWS 360 VERTICAL STACKS	SAWS 862 ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	Section 01150 ABANDONMENT OF SIPHON	SAWS 864-S1 BYPASS PUMPING SMALL DIAMETER SANITARY SEWERS (<24")	SAWS 864-S2 BYPASS PUMPING LARGE DIAMETER SANITARY SEWERS (24")	SAWS 866 SEWER MAIN PRE- TELEVISION INSPECTION (8" THROUGH 15" DIA.)	SAWS 866 SEWER MAIN PRE- TELEVISION INSPECTION (27" THROUGH 36" DIA.)	SAWS 866 SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	SAWS 866 SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	SAWS 3000 REMOVAL TRANSPORTATI ON, AND DISPOSAL OF A.C. PIPE	TXDOT 556 DMS-6200 FILTER FABRIC TYPE 1	01150 REMOVE AND RE-INSTALL LIGHT POLE	01190 BRACE / RELOCATE POWER POLES	01150 GAS RELOCATION	SAWS 100 MOBILIZATION	SAWS 101 PREPARATION OF RIGHT-OF- WAY	SP100 INTERMEDIATE DEMOLITION NREMOBILIZATI ON	SP100 INTERMEDIATE DEMOLITION N BYPASS PUMPING EQUIPMENT RENTAL	SP100 INTERMEDIATE DEMOLITION N BYPASS PUMPING FUEL	SP100 INTERMEDIATE DEMOLITION N BYPASS PUMPING WATCH
		LF	LF	LF	VF	LF	LS	LS	LS	LF	LF	LF	LF	LF	SY	EA	ALLOW	ALLOW	LS	LS	LS	DAY	DAY	DAY
C-A-01	STA 70+17.57 TO STA 72+00	0	0	0	0	30	1	0	0	10	190	10	190	0	0	0	0	0	0	0	0	0	0	0
C-A-02	STA 72+00 TO STA 75+90	0	0	0	14	70	0	0	0	10	390	10	390	0	0	0	0	0	0	0	0	0	0	0
C-A-03	STA 75+90 TO STA 80+00	0	0	0	0	0	0	0	0	20	410	20	400	0	0	0	0	0	0	0	0	0	0	0
C-A-04	STA 80+00 TO STA 84+00	193	193	193	8	234	0	0	0	10	400	10	400	0	0	0	0	0	0	0	0	0	0	0
C-A-05	STA 84+00 TO STA 88+00	302	302	302	0	359	0	0	0	10	359	10	403	0	0	0	0	0	0	0	0	0	0	0
C-A-06	STA 88+00 TO STA 92+00	5	5	5	0	384	0	0	0	12	384	12	400	0	0	0	0	0	0	0	0	0	0	0
C-A-07	STA 92+00 TO STA 96+00	10	10	10	0	401	0	0	0	10	401	10	400	0	0	0	0	0	0	0	0	0	0	0
C-A-08	STA 96+00 TO STA 100+00	97	97	97	0	107	0	0	0	107	21	432	0	0	0	0	0	0	0	0	0	0	0	0
C-A-09	STA 100+00 TO STA 104+00	0	0	0	0	0	0	0	0	0	0	0	400	0	0	3	0	0	0	0	0	0	0	0
C-A-10	STA 104+00 TO STA 108+00	61	61	61	0	204	0	0	0	0	204	0	400	0	0	2	0	0	0	0	0	0	0	0
C-A-11	STA 108+00 TO STA 110+07.26	0	0	0	0	35	0	0	0	42	35	34	58	0	0	0	0	0	0	0	0	0	0	0
C-C-01	STA 20+04.86 TO STA 24+00	0	0	0	47	0	0	0	0	395	0	395	0	0	0	0	0	0	0	0	0	0	0	0
C-C-02	STA 24+00 TO STA 28+00	0	0	0	39	0	0	0	0	420	0	430	0	0	0	0	0	0	0	0	0	0	0	0
C-C-03	STA 28+00 TO STA 32+00	0	0	0	64	0	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0	0	0	0
C-C-04	STA 32+00 TO STA 36+00	0	0	0	64	0	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0	0	0	0
C-C-05	STA 36+00 TO STA 40+00	0	0	0	72	0	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0	0	0	0
C-C-06	STA 40+00 TO STA 44+00	0	0	0	71	0	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0	0	0	0
C-C-07	STA 44+00 TO STA 48+00	0	0	0	38	0	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0	0	0	0
C-C-08	STA 48+00 TO STA 52+00	0	0	0	20	0	0	0	0	400	0	400	0	0	0	0	0	0	0	0	0	0	0	0
C-C-09	STA 52+00 TO STA 55+50.66	0	0	0	4	0	0	0	0	266	0	266	0	0	0	0	0	0	0	0	0	0	0	0
PROJECT TOTALS		669	669	669	441	1,824	1	1	1	3,595	2,880	3,623	3,873	98	50	7	1	1	1	1	2	20	20	20

6/27/2017 7:19:24 AM amilks p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek/8.00 Plans and Drawings/8.30 Cut Sheets/Phase 2/SAWS1105 G-08.dgn

GENERAL SEWER NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
 - IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT 210-233-2015. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
 - ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
 - CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
 - CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
 - CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
 - MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.
- THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864. "BYPASS PUMPING". PAYMENT FOR SUCH WORK WILL BE MADE UNDER THE BID ITEM "SANITARY SEWER (BYPASS PUMPING)" (LUMP SUM) AS PER SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500 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.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI).
- CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF SANITARY SEWER LATERALS. SERVICES SHOWN ARE FOR QUANTITY PURPOSES ONLY. REMOVE EXISTING SANITARY SEWER LATERALS TO PROPERTY LINE AND INSTALL NEW SANITARY SEWER LATERALS WITH CLEANOUTS, CONNECTED TO PROP. SEWER, IN ACCORDANCE WITH SAWS ITEM NO. 854, SAWS DETAIL NO. DD-854-02, AND SAWS DETAIL NO. DD-854-03. ALL LATERAL PIPING SHALL BE ASTM D2241 SDR 26 PVC PIPE.
- PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
- IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
- REPAIR PAVEMENT, DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
- ONLY IF DIRECTED BY SAWS FIELD REPRESENTATIVE, REMOVE AND REPLACE EXISTING IRRIGATION SYSTEMS PER COSA ITEM 552.

GENERAL DRAINAGE NOTES

- CITY OF SAN ANTONIO (COSA) DRAINAGE:
- 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.
 - THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT 210-207-8052 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.
 - 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 210-207-8052 AS SOON AS CONFLICTS WITH UTILITIES ARE ENCOUNTERED OR ANY DRAINAGE SYSTEM IS DAMAGED DURING CONSTRUCTION.
 - 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.
 - NO STRUCTURE, FENCE, WALLS, LANDSCAPING, OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THE CONSTRUCTION DOCUMENTS.
 - 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.

CPS NOTES

- MINIMUM SEPARATION DISTANCE OF 18-FOOT FROM CPS POLES AND TOWERS WILL BE MAINTAINED.
- BARRICADES TO PROTECT THE ELECTRIC FACILITIES SHALL BE INSTALLED.
- NO STORAGE OF EQUIPMENT OR MATERIALS, INCLUDING EXCAVATED MATERIALS WILL BE ALLOWED WITHIN CPS ENERGY'S EASEMENTS. ALL EASEMENT AREAS ARE TO BE KEPT CLEAR OF EQUIPMENT AND MATERIALS WHEN CONSTRUCTION ACTIVITIES ARE NOT IN ACTION.
- CPS ENERGY REQUIRES CLEAR ACCESS AND A DRIVEABLE PATH TO ITS FACILITIES 24/7. THE ACCESS ROAD WILL BE KEPT CLEAR DURING ALL CONSTRUCTION.
- NO OPEN TRENCH SHALL BE LEFT OPEN DURING THE NIGHT.
- NO ELEVATION/GRADE CHANGES WILL BE ALLOWED WITHIN CPS ENERGY'S EASEMENTS. THE FINISHED ELEVATION WITHIN THE EASEMENTS MUST BE RESTORED TO THE ELEVATION THAT EXISTED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- NO STRUCTURES (SUCH AS CONSTRUCTION TRAILERS) WILL BE PERMITTED ON CPS ENERGY'S EASEMENTS.
- THE CONTINUED INTEGRITY OF CPS ENERGY'S ELECTRIC FACILITIES AND THE SAFETY OF ALL INDIVIDUALS IN THE AREA OF ANY WORK NEAR CPS ENERGY'S ELECTRIC FACILITIES ARE OF THE UTMOST IMPORTANCE. THEREFORE, CPS ENERGY'S REPRESENTATIVE MAY REQUIRE DISCONTINUATION OF ANY WORK, WHICH, IN HIS/HER SOLE OPINION, ENDANGERS THE SAFE OPERATION OR SAFETY OF CPS ENERGY'S ELECTRIC FACILITIES.
- THE PIPELINE OWNER AND ITS CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL DAMAGES, CLAIMS AND LIABILITIES PURSUED BY THE PROPERTY OWNER, ITS TENANTS, EMPLOYEES, CUSTOMERS, INVITEES AND/OR AGENTS ARISING FROM THE USE OF THE CPS ENERGY'S EASEMENTS.
- SHOULD ANY DAMAGE OR ACCIDENT OCCUR REGARDING THE OVERHEAD ELECTRIC DISTRIBUTION AND TRANSMISSION FACILITIES, IMMEDIATELY NOTIFY CPS ENERGY, SAN ANTONIO, TEXAS, AT TELEPHONE NUMBER: (210) 353-4357.
- THESE GUIDELINES, RESTRICTIONS AND PROVISIONS IN NO WAY CONVEY ANY EASEMENT RIGHTS OR IN NO WAY CONSTITUTE A WAIVER OF CPS ENERGY'S RIGHTS UNDER THE EASEMENTS BUT ARE MERELY CUMULATIVE OF SUCH RIGHTS.
- CALL CPS LOCATOR AT 1-800-545-6005 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
- DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROTECTING THE INTEGRITY OF THE UNDERGROUND ELECTRIC CABLE DURING CONSTRUCTION.
- CONSIDER OVERHEAD LINE CLEARANCES AND LOCATIONS WHERE LARGE EQUIPMENT MAY BE USED.
- TO RELOCATE ANY CPS ANCHOR GUY OR SLEEVE OVERHEAD POWER LINES CONTACT SAUL JUAREZ 210-353-2805
- CONSIDER LOCATION OF EXISTING OVERHEAD LINES FOR CONSTRUCTION AND DESIGN PURPOSES. SLEEVING OF OVERHEAD PRIMARY LINES WILL BE A COST TO THE CONTRACTOR. THE SHIELDING/SLEEVING OF LINES IS FOR REFERENCE, NOT FOR PROTECTION FROM ELECTRICAL SHOCK.
- DE-ENERGIZING OF PRIMARY LINES OR TRANSMISSION LINES FOR CONSTRUCTION PURPOSES WILL BE A COST TO THE CONTRACTOR. DE-ENERGIZING MAY NOT BE POSSIBLE IN ALL INSTANCES.
- CONSIDER POSSIBLE NEED FOR TEMPORARY RELOCATION OF POLES DURING CONSTRUCTION. ASSOCIATED COSTS WILL BE THE RESPONSIBILITY OF THE PARTY MAKING THE REQUEST. CONSIDER LOCATIONS OF BOTH EXISTING GUY WIRES AND PROPOSED NEW GUY WIRES. THESE COULD CAUSE UNFORESEEN CONSTRUCTION INTERFERENCE. ANY TEMPORARY BRACING NEEDED WILL BE A COST TO THE CONTRACTOR.
- WIDTH, DEPTH, AND LOCATION OF TRENCHING OR EXCAVATION MUST BE CONSIDERED AROUND UTILITY POLES. THIS COULD NECESSITATE BRACING/SHORING DURING CONSTRUCTION AT A COST TO THE CONTRACTOR.
- CONTRACTORS ARE RESPONSIBLE FOR REQUESTING A GAS LEAK SURVEY. ALLOW 10 WORKING DAYS TO SURVEY AND 10 WORKING DAYS TO ADJUST GAS VALVES. ALL REQUESTS NEED TO BE COORDINATED THROUGH THE AGENCY INSPECTION.
- GAS SUBCONTRACTORS ARE RESPONSIBLE FOR ADJUSTING GAS VALVES THAT ARE WITHIN THE PROJECT AREA. AGENCY INSPECTORS MUST NOTIFY THEIR UTILITY COORDINATORS TO REQUEST ADJUSTMENTS NEEDED FOR VALVES THAT ARE INSIDE THE PROJECT AREA BUT NOT PART OF THE JOINT BID.

SAWS JOB NO. 17-4501



NO.	REVISION	BY	DATE
6		ERC	06/28/17
VERIFY SCALE: 0" = 1'			

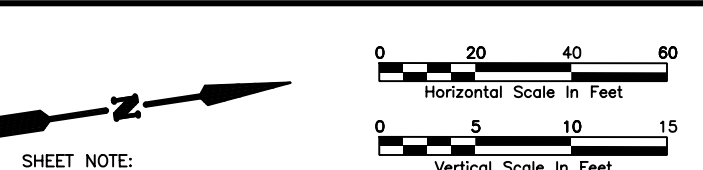
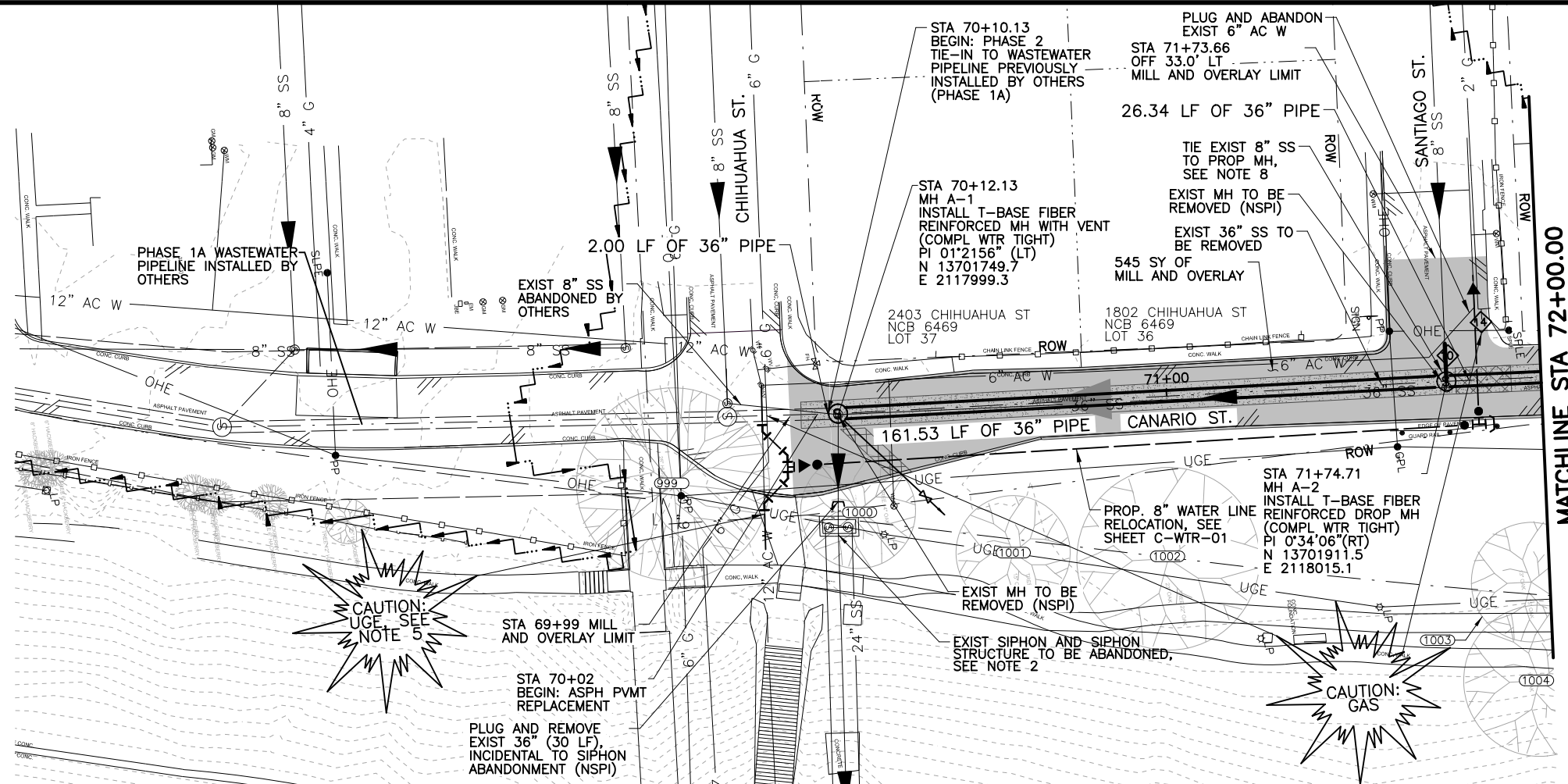
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SAN ANTONIO WATER SYSTEM
 PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO &
 C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

GENERAL SEWER NOTES

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC
CP&Y Proj. No.	SAW1105.00

6/27/2017 7:19:29 AM gmlkms p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek/8.00 Plans and Drawings/8.30 Cut Sheets/Phase 2/SAWS1105 C-A-01.dgn



- SHEET NOTE:**
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
 - FOLLOWING COMPLETION OF PHASE 1B WORK, THE CONTRACTOR SHALL ABANDON THE EXISTING INVERTED SIPHON IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF SAWS ITEM NO. 862. THE INVERTED SIPHON CONSISTS OF AN APPROXIMATELY 15' X 15' X 12" DEEP INLET STRUCTURE, AN APPROXIMATELY 15' X 15' X 12" DEEP OUTLET STRUCTURE, 2-20" CAST IRON PIPES AT 230 LF EACH, AND 1-24" CAST IRON PIPE AT 230 LF. DEPTH TO THE TOP OF THE INLET AND OUTLET STRUCTURES IS APPROXIMATELY 3.5'. REMOVE STRUCTURES TO A DEPTH OF 2 FEET BELOW FINISHED GRADE. FILL STRUCTURES AND PIPES TO REMAIN IN PLACE WITH FLOWABLE CEMENT GROUT. BACKFILL TO FINISHED GRADE PER COSA ITEM NO. 400 AND RESTORE SURFACE PER COSA ITEM NO. 520. PLUG AND REMOVE 30 LF OF 36" PIPE. PAYMENT SHALL BE MADE FOR FLOWABLE GROUT AT THE UNIT PRICE BID FOR FLOWABLE FILL PAYMENT FOR ALL OTHER SIPHON ABANDONMENT WORK SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ABANDONMENT OF SIPHON.
 - FIELD VERIFY LOCATION OF GAS UTILITIES PRIOR TO COMMENCING EXCAVATION AND NOTIFY OWNER AND ENGINEER OF ANY CONFLICT. COORDINATE WITH CPS ENERGY GAS ENGINEERING COORDINATOR AT 210-353-3194 TO RELOCATE GAS UTILITIES AS NECESSARY FOR CONSTRUCTION ACTIVITIES. GAS UTILITY RELOCATION SHALL BE PAID UNDER GAS ALLOWANCE. GAS UTILITY COORDINATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO GAS UTILITY RELOCATION.
 - CENTER ONE 18'-FOOT (MIN.) JOINT OF SN72 PN150 FRP PIPE UNDER WATER LINE. ENCASE SEWER WITH FLOWABLE FILL TO 6" BELOW WATER LINE. ENCASEMENT SHALL EXTEND 1'-0" BEYOND JOINTS OF SANITARY SEWER. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM NO. 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT. BASE MATERIAL, FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES.
 - FIELD VERIFY LOCATION OF UNDERGROUND ELECTRIC (UGE) UTILITIES PRIOR TO COMMENCING EXCAVATION. RELOCATE UGE AS REQUIRED TO MAINTAIN, AT A MINIMUM, 1 FOOT OF VERTICAL SEPARATION AND 3 FEET OF HORIZONTAL SEPARATION (NSPI). UGE RELOCATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO UGE RELOCATION.
 - WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804. THEN PLACE 12" OR 15" OF TYPE B MATERIAL IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02 AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
 - CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE PLANS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL VENT BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET C-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
 - REMOVE 10 LF OF EXIST 8" SS. INSTALL 10 LF OF 8" PVC SS. PROVIDE FERNCO OR APPROVED EQUAL TRANSITION COUPLING AS REQUIRED TO CONNECT EXIST PIPE TO PROP PIPE. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.

STATION	EXIST GRND ELEV	PROP FL ELEV	DESCRIPTION	STATION	EXIST GRND ELEV	PROP FL ELEV	DESCRIPTION
68+00	648.3	632.6		71+00	646.99	632.72	
69+00	647.8	632.6		71+10	646.96	632.74	
70+00	647.3	632.6		71+20	646.82	632.75	
70+10	646.6	632.6		71+30	646.89	632.76	
70+20	645.9	632.6		71+40	646.89	632.76	
70+30	645.0	632.6		71+50	646.89	632.76	
70+40	644.7	632.7		71+60	646.89	632.76	
70+50	645.18	632.67	161.53 LF OF 36" FRP SN72 PN25 @ +0.05%	71+70	646.89	632.76	
70+60	645.95	632.68		71+80	646.89	632.76	
70+70	646.38	632.69		71+90	646.89	632.76	
70+80	646.76	632.70		72+00	646.89	632.76	
70+90	646.90	632.71					
71+00	646.99	632.72					
71+10	647.00	632.73					
71+20	646.96	632.74					
71+30	646.82	632.75					
71+40	646.89	632.76					
71+50	646.89	632.76					
71+60	646.89	632.76					
71+70	646.89	632.76					
71+80	646.89	632.76					
71+90	646.89	632.76					
72+00	646.89	632.76					

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	109
5	COSA 203.1	TACK COAT	GAL	55
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	545
7	COSA 208.1	SALVAGE, FAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	545
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	270
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	1
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	200
45	SAWS 848	8" D 3034 SCR 26 PVC SANITARY SEWER LINE (6'-10')	LF	10
55	SAWS 857	36" SN72 PN25 FRP SANITARY SEWER LINE (10'-14')	LF	172
57	SAWS 857	36" SN72 PN150 FRP SANITARY SEWER LINE (6'-10')	LF	18
59	SAWS 853	T-BASE FIBER REINFORCED MANHOLE (0'-6')	EA	1
60	SAWS 853	T-BASE FIBER REINFORCED DROP MANHOLE (0'-6')	EA	1
61	SAWS 853	T-BASE FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6')	VF	15
74	SAWS 862	ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	LF	30
75	Section 01150	ABANDONMENT OF SIPHON	LS	1
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	10
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	190
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	10
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	190

SAWS JOB NO. 17-4501

CP&Y
12500 SAN PEDRO
SAN ANTONIO, TX 78216
TBE REGISTRATION #1-1741

SAW SYSTEM
SAN ANTONIO WATER SYSTEM

6/27/2017
Evan R. Cook
Professional Engineer
No. 69245
State of Texas

NO.	REVISION	DATE	BY
1	ADDENDUM NO. 6	06/28/17	ERC

DATE: JUNE 2017
DESIGNED: AG
DRAWN: GWM
REVIEWED: ERC
CP&Y Proj. No. SAWS1105.00

PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 70+10.13 TO STA. 72+00

SHEET C-A-01
SHEET 11 OF 57



NO.	REVISION	BY	DATE
1	ADDENDUM NO. 6	ERC	08/28/17

DATE IS ONE NOT ON ORIGINAL ON THIS SHEET, ADJUST SCALE

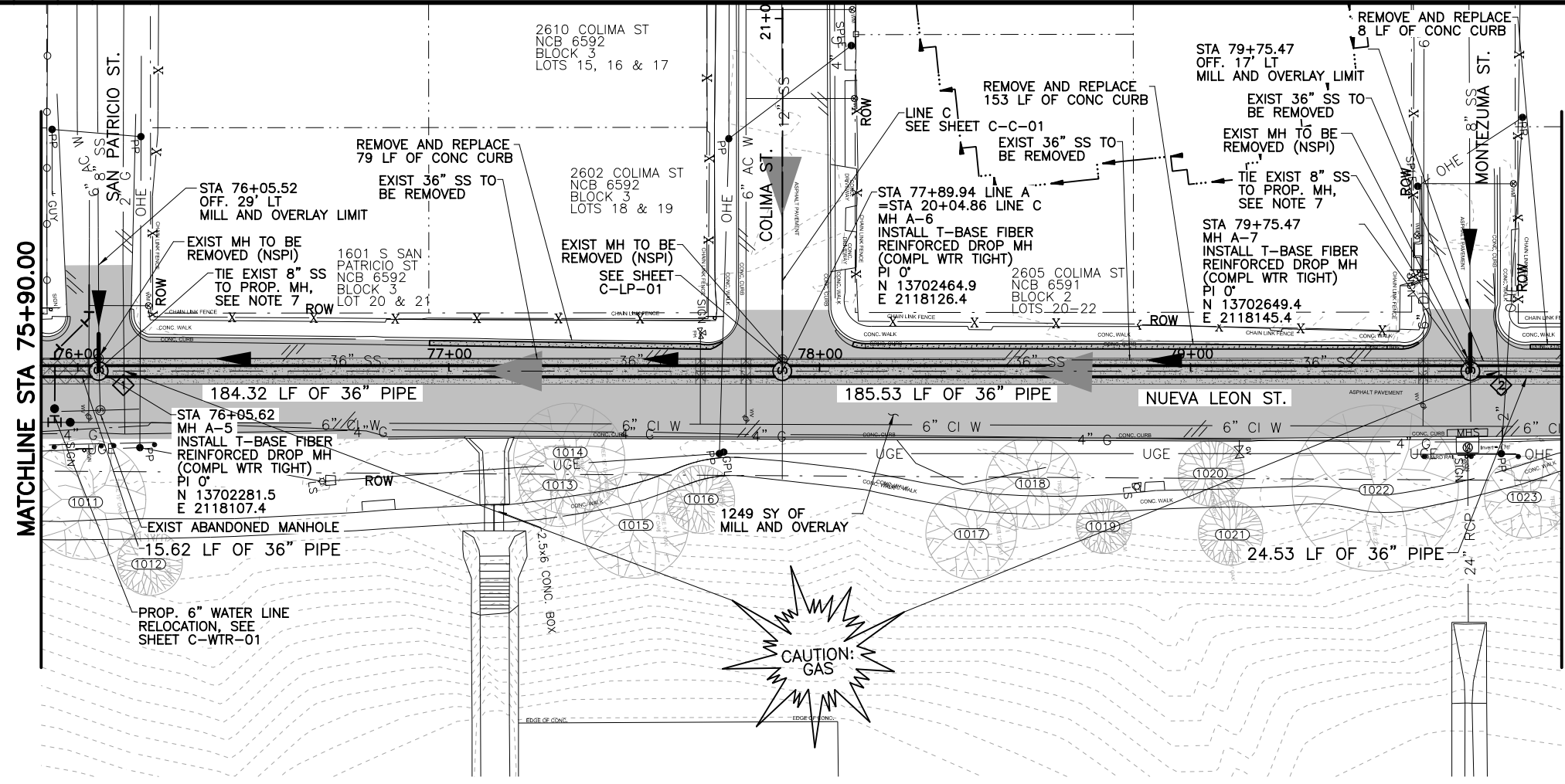
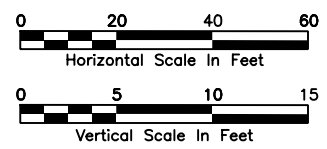
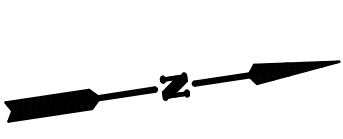
SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO &
C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 75+90 TO STA. 80+00

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC
CP&Y Proj. No.	SAWS1105.00

MATCHLINE STA 75+90.00

MATCHLINE STA 80+00.00

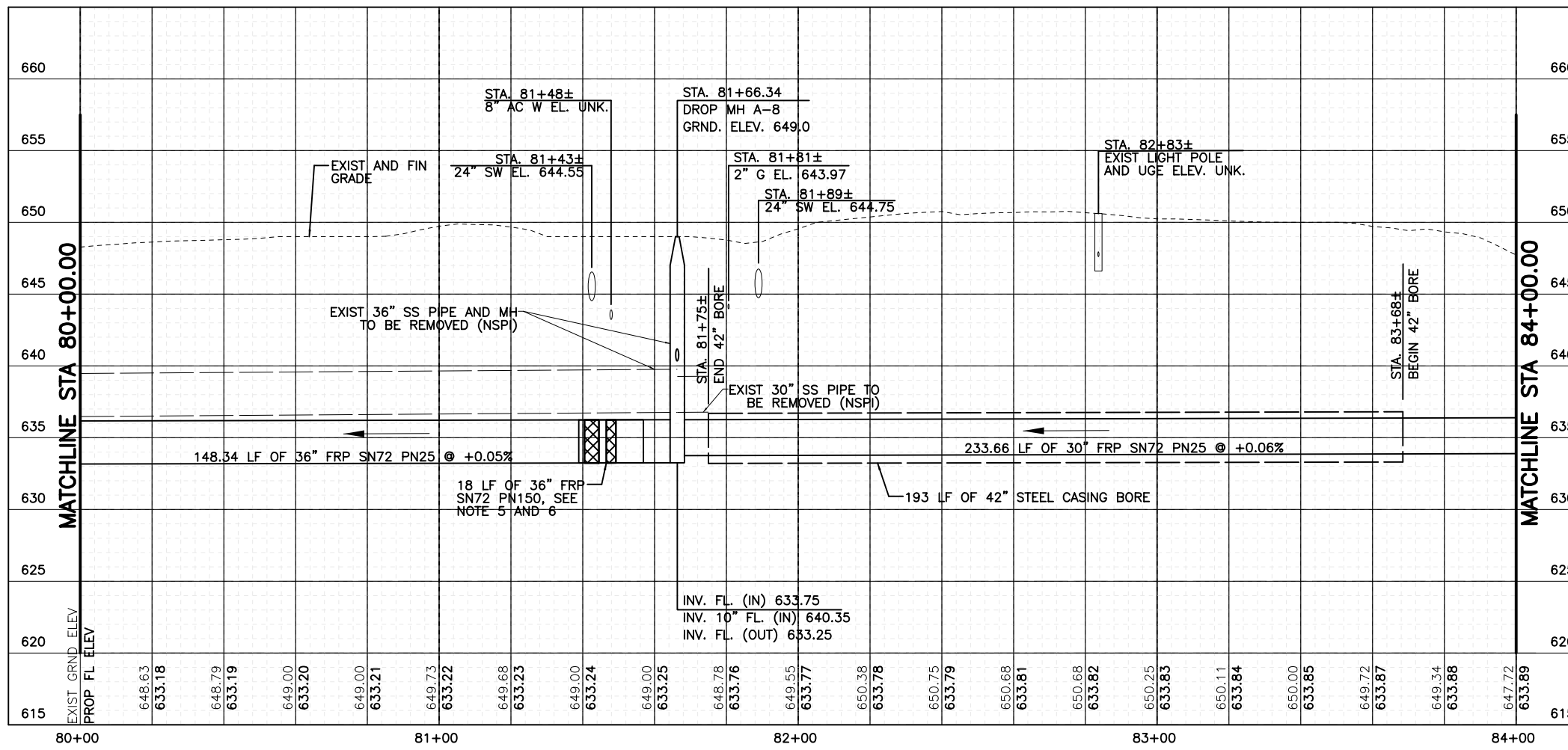
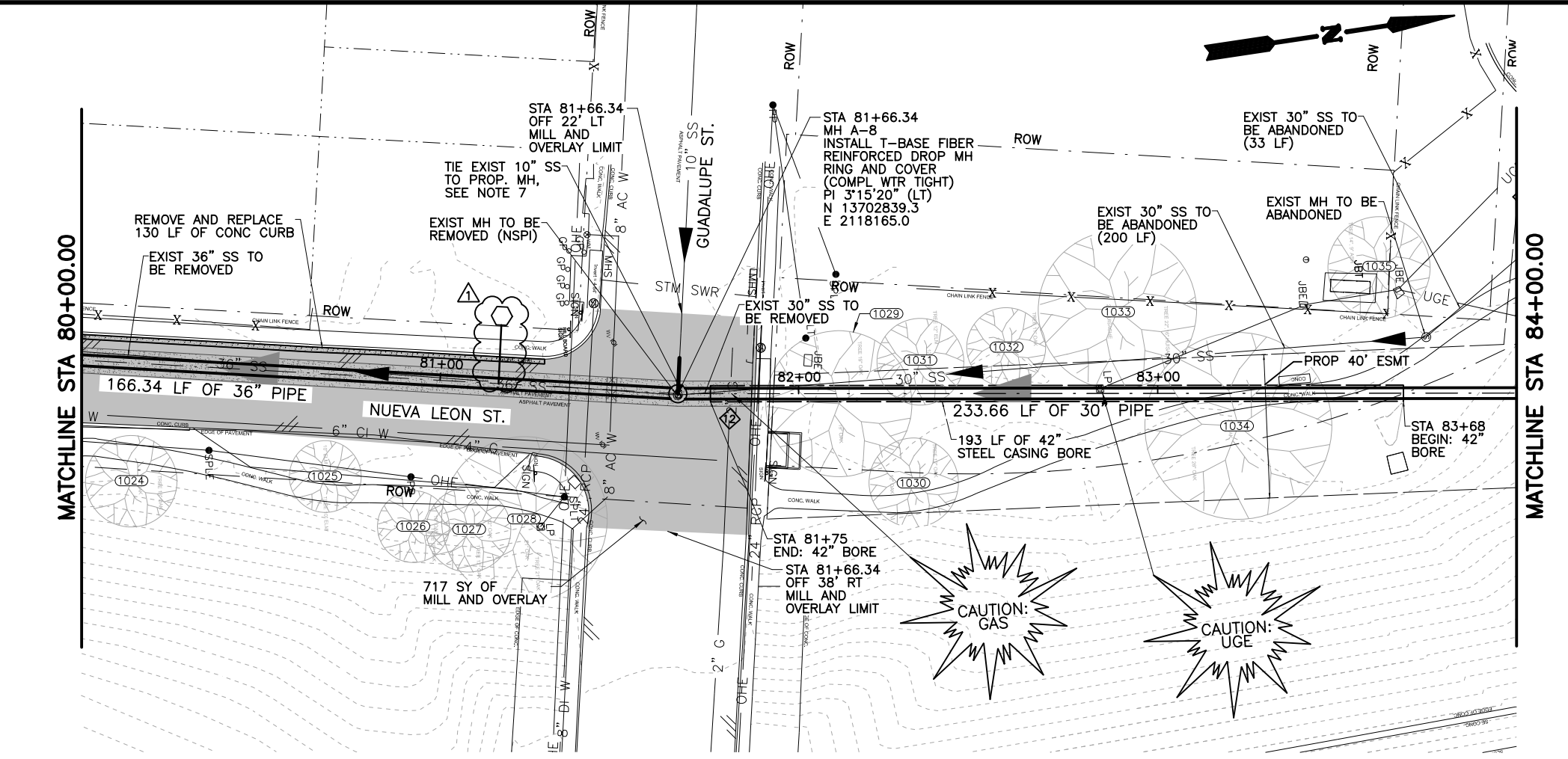


- SHEET NOTE:
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
 - FIELD VERIFY LOCATION OF GAS UTILITIES PRIOR TO COMMENCING EXCAVATION AND NOTIFY OWNER AND ENGINEER OF ANY CONFLICT. COORDINATE WITH CPS ENERGY GAS ENGINEERING COORDINATOR AT 210-353-3194 TO RELOCATE GAS UTILITIES AS NECESSARY FOR CONSTRUCTION ACTIVITIES. GAS UTILITY RELOCATION SHALL BE PAID UNDER GAS ALLOWANCE. GAS UTILITY COORDINATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO GAS UTILITY RELOCATION.
 - WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL, IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
 - CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE PLANS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL VENT BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET C-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
 - CENTER ONE 18-FOOT (MIN.) JOINT OF SN72 PN150 FRP PIPE UNDER WATER LINE. ENCASE SEWER WITH FLOWABLE FILL TO 6" BELOW WATER LINE. ENCASEMENT SHALL EXTEND 1'-0" BEYOND JOINTS OF SANITARY SEWER. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM NO. 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT. BASE MATERIAL, FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES.
 - CENTER ONE 18-FOOT (MIN.) JOINT OF SN72 PN150 FRP PIPE UNDER WATER LINE. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SEWER, PLACE FLOWABLE FILL TO 6" BELOW WATER LINE. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT. BASE MATERIAL, FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES.
 - REMOVE 10 LF OF EXIST 8" SS. INSTALL 10 LF OF 8" PVC SS. PROVIDE FERNCO OR APPROVED EQUAL TRANSITION COUPLING AS REQUIRED TO CONNECT EXIST PIPE TO PROP. PIPE. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.

STA.	PROP. FL. ELEV.	EXIST. FL. ELEV.	DESCRIPTION	QUANTITY	UNIT
76+00	647.47	632.97	15.62 LF OF 36" FRP SN72 PN150 @ +0.05%		
77+00	648.00	633.02	154.63 LF OF 36" FRP SN72 PN25 @ +0.05%		
78+00	648.36	633.07	167.53 LF OF 36" FRP SN72 PN25 @ +0.05%		
79+00	648.71	633.10	24.53 LF OF 36" FRP SN72 PN25 @ +0.05%		
80+00	648.27	633.17			

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
1	COSA 103.1	REMOVE CONCRETE CURB	LF	240
4	COSA 202.1	PRIME COAT	GAL	250
5	COSA 203.1	TACK COAT	GAL	125
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	1249
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	1249
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	20
9	COSA 500.1	CONCRETE CURB	LF	240
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	331
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	420
46	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (10'-14')	LF	20
56	SAWS 857	36" SN72 PN25 FRP SANITARY SEWER LINE (14'-18')	LF	336
58	SAWS 857	36" SN72 PN150 FRP SANITARY SEWER LINE (14'-18')	LF	64
60	SAWS 853	T-BASE FIBER REINFORCED DROP MANHOLE (0'-6")	EA	3
61	SAWS 853	T-BASE FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6")	VF	27
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	20
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	410
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	20
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	400

6/27/2017 7:19:44 AM gmlkls p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek/8.00 Plans and Drawings/8.30 Cut Sheets/Phase 2/SAWS1105 C-A-04.dgn



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 - FIELD VERIFY LOCATION OF GAS UTILITIES PRIOR TO COMMENCING EXCAVATION AND NOTIFY OWNER AND ENGINEER OF ANY CONFLICT. COORDINATE WITH CPS ENERGY GAS ENGINEERING COORDINATOR AT 210-353-3194 TO RELOCATE GAS UTILITIES AS NECESSARY FOR CONSTRUCTION ACTIVITIES. GAS UTILITY RELOCATION SHALL BE PAID UNDER GAS ALLOWANCE. GAS UTILITY COORDINATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO GAS UTILITY RELOCATION.
 - WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
 - CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE PLANS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL VENT BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
 - CENTER ONE 18-FOOT (MIN.) JOINT OF SN72 PN150 FRP PIPE UNDER WATER LINE. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SEWER, PLACE FLOWABLE FILL TO 6" BELOW WATER LINE. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES.
 - FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SANITARY SEWER, PLACE FLOWABLE FILL TO 6" BELOW STORM SEWER. PLACE BEDDING AND INITIAL BACKFILL PER COSA ITEM NO. 400 AND COSA PIPE BEDDING AND BACKFILL OPTIONAL DETAIL TO 1'-0" ABOVE STORM SEWER PIPE. THEN PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM STORM SEWER ON BOTH SIDES.
 - REMOVE 10 LF OF EXIST 10" SS. INSTALL 10 LF OF 10" PVC SS. PROVIDE FERROCO OR APPROVED EQUAL TRANSITION COUPLING AS REQUIRED TO CONNECT EXIST PIPE TO PROP PIPE. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - CONTRACTOR SHALL BEGIN BORE PIT ON THE NORTH END OF THE TUNNEL AT STA. 83+68. RECEIVING PIT TO BE PLACED IN GUADALUPE STREET AT STA. 81+75.
 - ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE EASEMENT BOUNDARIES SHOWN ON THE PLANS. ANY DAMAGE TO ADJACENT PROPERTIES CAUSED BY CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED TO PRE-EXISTING CONDITIONS OR BETTER AT NO ADDITIONAL COST TO SAWS.
 - REFER TO GENERAL SEWER NOTES ON SHEET G-08 FOR SEWER LATERAL MATERIAL AND INSTALLATION REQUIREMENTS.

SHEET QUANTITY SUMMARY

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
1	COSA 103.1	REMOVE CONCRETE CURB	LF	130
4	COSA 202.1	PRIME COAT	GAL	143
5	COSA 203.1	TACK COAT	GAL	72
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	717
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	717
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	19
9	COSA 500.1	CONCRETE CURB	LF	130
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	150
17	COSA 515	TOPSOIL (6")	CY	167
18	COSA 520	HYDROMULCHING	SY	1000
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	217
48	SAWS 848	10" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	10
52	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (14'-18")	LF	41
56	SAWS 857	36" SN72 PN25 FRP SANITARY SEWER LINE (14'-18")	LF	148
58	SAWS 857	36" SN72 PN150 FRP SANITARY SEWER LINE (14'-18")	LF	18
60	SAWS 853	T-BASE FIBER REINFORCED DROP MANHOLE (0'-6")	EA	1
61	SAWS 853	T-BASE FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6")	VF	10
68	SAWS 854	SANITARY SEWER LATERALS	LF	16
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	1
70	SAWS 856	JACKING, BORING, OR TUNNELING 42" 30" CARRIER PIPE FOR JACKING, BORING, TUNNELING	LF	193
71	SAWS 856	TUNNELING	LF	193
72	SAWS 856	42" CASING (MINIMUM 0.5" THICK)	LF	193
73	SAWS 860	VERTICAL STACKS	VF	8
74	SAWS 862	ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	LF	234
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	10
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	400
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	10
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	400

SAWS JOB NO. 17-4501

CP&Y 12500 SAN ANTONIO, TX 78216 SAN ANTONIO, TX 78216 TYPE REGISTRATION #F-1741

SAN ANTONIO WATER SYSTEM

REVISIONS

NO.	REVISION	BY	DATE
6	ADDENDUM NO. 6	ERC	06/28/17

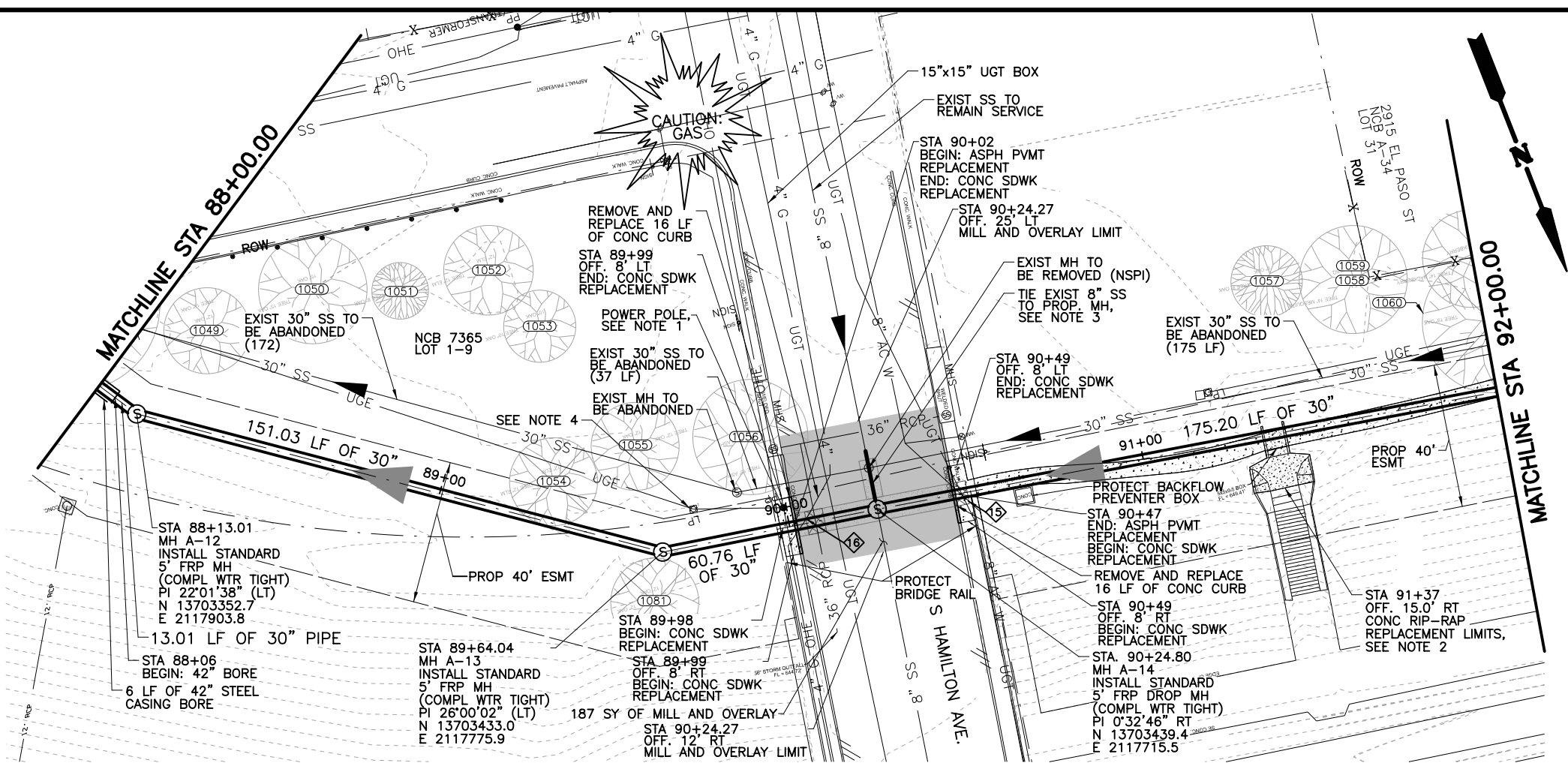
DATE: JUNE 2017
 DESIGNED: AG
 DRAWN: GWM
 REVIEWED: ERC
 CP&Y Proj. No. SAW1105.00

SAN ANTONIO WATER SYSTEM
 PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 80+00 TO STA. 84+00

SHEET C-A-04
 SHEET 14 OF 57

6/27/2017 7:19:50 AM gmlkls p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek/8.00 Plans and Drawings/8.30 Cut Sheets/Phase 2/SAWS1105 C-A-06.dgn

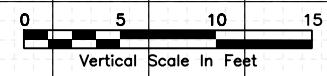
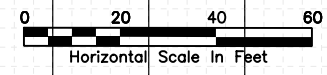


SHEET NOTE:

- COORDINATE WITH CPS ENERGY TO BRACE AND/OR RELOCATE THE POWER POLE AT STA. 90+00 AS REQUIRED TO COMPLETE THE WORK. PAYMENT FOR POWER POLE BRACING/RELOCATION SHALL BE MADE UNDER THE ALLOWANCE INCLUDED IN THE BID. OVERHEAD ELECTRIC UTILITY COORDINATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO OVERHEAD ELECTRIC UTILITY RELOCATION.
- REMOVE EXISTING CONCRETE RIP-RAP PER COSA ITEM 101 TO EXTENT SHOWN ON DRAWING. CONSTRUCT NEW CONCRETE RIP-RAP PER COSA TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS AND COSA ITEM 300. MATCH EXIST CONCRETE DIMENSIONS AND SLOPES. ATTACH NEW RIP-RAP TO EXISTING RIP-RAP USING NO. 4 X 18" LONG BARS AT 18" ON CENTER DOWELED INTO EXISTING RIP-RAP.
- REMOVE APPROXIMATELY 15 LF OF EXIST 8" SS AND EXIST MH. INSTALL 17 LF OF 8" PVC SS. PROVIDE FERNCO OR APPROVED EQUAL TRANSITION COUPLING AS REQUIRED TO CONNECT EXIST PIPE TO PROP. PIPE. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION. PROVIDE ADEQUATE AND RELIABLE SANITARY SEWER FLOW AT ALL TIMES DURING CONSTRUCTION.
- REMOVE LIGHT FIXTURE, POLE, AND CONCRETE PEDESTAL STORE AND PROTECT FIXTURE AND POLE. CONSTRUCT A NEW CONCRETE PEDESTAL AS SHOWN IN DETAIL ON SHEET D-02 AT LOCATION INDICATED BY A COSA OR SAWS REPRESENTATIVE WITHIN 20 FEET OF THE ORIGINAL FIXTURE BUT 10 FEET AT A MINIMUM FROM THE CENTERLINE OF THE PROP. SEWER. REINSTALL THE EXIST LIGHT FIXTURE AND POLE OR REPLACE WITH MATERIALS PROVIDED BY COSA. CONNECT RE-LOCATED LIGHT FIXTURE TO EXIST LIGHTING CIRCUIT.
- REMOVE EXIST CONCRETE SIDEWALKS, IN ACCORDANCE WITH COSA ITEM 101, TO THE NEXT UNDISTURBED CONTRACTION OR EXPANSION JOINT OR LIMITS SHOWN ON THE PLANS, WHICHEVER IS GREATER. CONSTRUCT NEW SIDEWALKS AT LOCATIONS SHOWN ON THE PLANS IN ACCORDANCE WITH THE COSA CONCRETE SIDEWALK DETAIL (SHEET D-12), COSA ITEMS 300 AND 301, AND APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. SHAPE, TRIM, AND FINISH GRADE ADJACENT TO SIDEWALK, AS REQUIRED FOR POSITIVE DRAINAGE FROM SIDEWALK TO APACHE CREEK (3H:1V MAX.).
- REMOVE THE EXISTING SIDEWALK DRAIN PER COSA ITEM 101 AND REPLACE WITH NEW MATERIALS IN ACCORDANCE WITH THE COSA CONCRETE SIDEWALK DRAIN DETAIL (SHEET D-12) AND COSA ITEMS 300 AND 301. RAISE SIDEWALK DRAIN AS NECESSARY TO ATTAIN 5% SIDEWALK SLOPE. SHAPE, TRIM, AND FINISH GRADE AS REQUIRED FOR POSITIVE DRAINAGE THROUGH SIDEWALK DRAIN (3H:1V MAX.). COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
- WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL, IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
- CENTER ONE 18-FOOT (MIN.) JOINT OF SN72 PN150 FRP PIPE UNDER WATER LINE. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SEWER, PLACE FLOWABLE FILL TO 6" BELOW WATER LINE. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES.
- FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SANITARY SEWER, PLACE FLOWABLE FILL TO 6" BELOW STORM SEWER AND OTHER PERPENDICULAR UTILITIES. PLACE INITIAL BACKFILL MATERIAL AROUND PERPENDICULAR UTILITIES, THEN PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM OUTSIDE DIAMETER OF PERPENDICULAR UTILITIES ON BOTH SIDES.

Station	Profile Description	Profile Data
88+00	MATCHLINE STA 88+00.00	
88+06	STA 88+06± BEGIN 42" BORE	
88+13.01	STA 88+13.01 MH A-12 GRND. ELEV. 652.1	
89+00		
89+04±	STA 89+04± 8" G EL. 648.22	
89+64.04	STA 89+64.04 MH A-13 GRND. ELEV. 651.1	
90+00		
90+07±	STA 90+07± 36" RCP EL. 644.72	
90+13±	STA 90+13± 15"x15" UGT BOX EL. 643.75±	
90+24.80	STA 90+24.80 DROP MH A-14 GRND. ELEV. 652.2	
90+48±	STA 90+48± 8" AC W EL. 645.66	EXIST AND FIN GRADE
90+49±	STA 90+49± UGT EL. UNK.	
91+00		
91+37	STA 91+37 OFF. 15.0' RT CONC RIP-RAP REPLACEMENT LIMITS, SEE NOTE 2	
92+00	MATCHLINE STA 92+00.00	

Station	Profile Description	Profile Data
88+00		
88+06	13.01 LF OF 30" PIPE	
88+13.01	13.01 LF OF 30" PIPE	
88+14	6 LF OF 42" STEEL CASING BORE	
89+00		
89+04±	151.03 LF OF 30" FRP SN72 PN25 @ +0.06%	
89+64.04	60.76 LF OF 30" FRP SN72 PN25 @ +0.06%	
90+00		
90+07±	18 LF OF 30" FRP SN72 PN150, SEE NOTE 8	
90+24.80	157.20 LF OF 30" FRP SN72 PN25 @ +0.06%	
91+00		
92+00		



SHEET QUANTITY SUMMARY				
NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
1	COSA 103.1	REMOVE CONCRETE CURB	LF	32
2	COSA 103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	SF	878
3	COSA 103.4	REMOVE MISC. CONCRETE	SF	197
4	COSA 202.1	PRIME COAT	GAL	37
5	COSA 203.1	TACK COAT	GAL	19
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	187
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	187
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	26
9	COSA 500.1	CONCRETE CURB	LF	32
10	COSA 502.1	CONCRETE SIDEWALKS	SY	98
11	COSA 502.3	SIDEWALK DRAIN	EA	3
13	COSA 505.2	CONCRETE RIPRAP (6" THICK) REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	22
16	COSA 511.3	TOPSOIL (6")	SY	40
17	COSA 515	HYDROMULCHING	CY	256
18	COSA 520	HYDROMULCHING	SY	1,538
20	COSA 535.1	HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS (4" YELLOW LINE)	LF	37
21	COSA 535.4	HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS (4" SOLID WHITE LINE)	LF	74
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	411
45	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	17
52	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (14'-18')	LF	376
54	SAWS 857	30" SN72 PN150 FRP SANITARY SEWER LINE (14'-18')	LF	18
62	SAWS 852	STANDARD FIBER REINFORCED MANHOLE (0'-6")	EA	2
63	SAWS 852	STANDARD FIBER REINFORCED DROP MANHOLE (0'-6")	EA	1
64	SAWS 852	STANDARD FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6')	VF	35
70	SAWS 856	JACKING, BORING, OR TUNNELING 42"	LF	6
71	SAWS 856	30" CARRIER PIPE FOR JACKING, BORING, TUNNELING THROUGH 15' DA.)	LF	6
72	SAWS 856	42" CASING (MINIMUM 0.5" THICK)	LF	6
74	SAWS 862	ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	LF	384
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15' DA.)	LF	12
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DA.)	LF	384
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15' DA.)	LF	17
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DA.)	LF	400
84	01150	REMOVE AND RE-INSTALL LIGHT POLE	EA	2

SAWS JOB NO. 17-4501

CP&Y 12500 SAN ANTONIO, TX 78216 SAN ANTONIO, TX 78216 TBE REGISTRATION #1-1741

SAW SYSTEM SAN ANTONIO WATER SYSTEM

6/27/2017

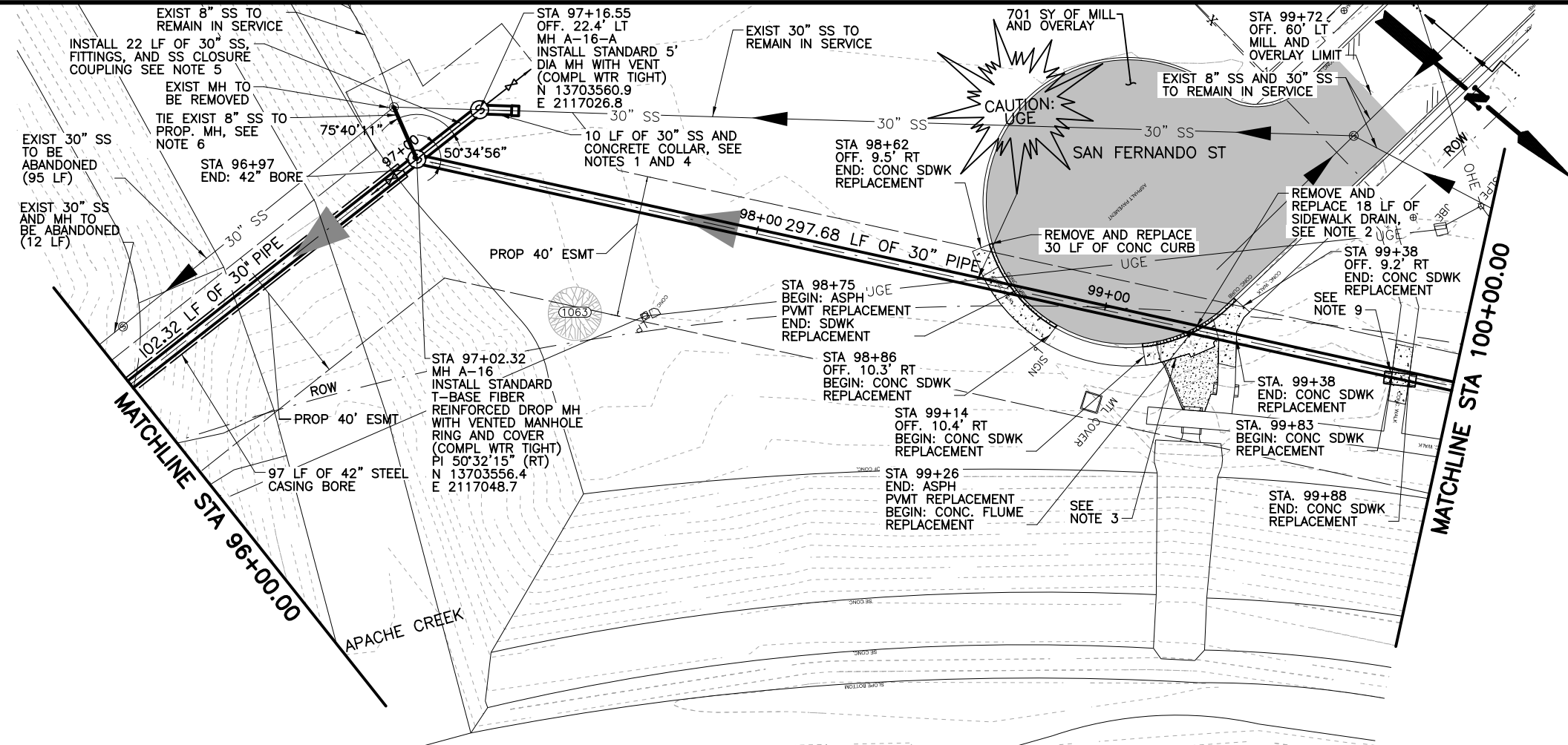
DATE: JUNE 2017
 DESIGNED: AG
 DRAWN: GWM
 REVIEWED: ERC
 CP&Y Proj. No. SAWS1105.00

SAN ANTONIO WATER SYSTEM
 PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO &
 C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 88+00 TO STA. 92+00

SHEET C-A-06
 SHEET 16 OF 57

6/27/2017 7:19:55 AM gmlkls p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek\8.00 Plans and Drawings\8.30 Cut Sheets\Phase 2\SAWS1105 C-A-08.dgn



- SHEET NOTE:
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
 - REMOVE AN APPROXIMATELY 18'-FOOT WIDE SIDEWALK DRAIN PER COSA ITEM 101 AND REPLACE IT WITH (7) 2.5" WIDE X 6" LONG SIDEWALK DRAINS AND INTERCONNECTING SIDEWALK SEGMENTS, CONSTRUCTED IN ACCORDANCE WITH THE COSA CONCRETE SIDEWALK AND SIDEWALK DRAIN DETAILS (SHEET D-12) AND COSA ITEMS 300 AND 301. COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 - REMOVE EXISTING CONCRETE RIP-RAP PER COSA ITEM 101 TO EXTENT SHOWN ON DRAWING. CONSTRUCT NEW CONCRETE RIP-RAP PER COSA TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS AND SLOPES. ATTACH NEW RIP-RAP TO EXISTING RIP-RAP USING NO. 4 X 18" LONG BARS AT 18" ON CENTER DOWELED 6" INTO EXISTING RIP-RAP. INSTALL 1/2" PRE-FORMED FIBER EXPANSION JOINT FILLER, IN ACCORDANCE WITH ASTM D1751, AT EXISTING CONCRETE INTERFACES FOR FULL CONCRETE DEPTH MINUS 1/4" SEAL EXPANSION JOINTS WITH POLYURETHANE SEALANT.
 - CONNECT PROPOSED 30" FRP TO EXISTING 30" RCP PER SAWS DETAIL DD-858-02. FURNISH AND INSTALL FERNCO OR APPROVED EQUAL COUPLING WITH (4) 304 SS HIGH TORQUE CLAMPS (120 IN.-LBS) TO CONNECT FRP AND RCP PIPES PRIOR TO PLACEMENT OF CONCRETE JOINTING COLLAR. CONTRACTOR SHALL FIELD VERIFY OUTSIDE DIAMETER AND ELEVATION OF EXISTING PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - DROP 30" SS FROM FLOW LINE ELEVATION OF EXISTING SEWER TO FLOW LINE ELEVATION OF PROPOSED SEWER USING MITERED FITTINGS AND COUPLINGS FABRICATED BY THE FRP PIPE MANUFACTURER. PROVIDE (1) 30" 304/316 SS CLOSURE COUPLING. CONTRACTOR SHALL FIELD VERIFY FLOW LINE ELEVATION OF EXISTING PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - REMOVE APPROXIMATELY 16 LF OF EXIST 8" SS. INSTALL 21 LF OF 8" PVC SS. PROVIDE FERNCO OR APPROVED EQUAL TRANSITION COUPLING AS REQUIRED TO CONNECT EXIST PIPE TO PROP. PIPE. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - FIELD VERIFY LOCATION OF UNDERGROUND ELECTRIC (UGE) UTILITIES PRIOR TO COMMENCING EXCAVATION. RELOCATE UGE AS REQUIRED TO MAINTAIN, AT A MINIMUM, 1 FOOT OF VERTICAL SEPARATION AND 3 FEET OF HORIZONTAL SEPARATION (NSPI). UGE RELOCATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO UGE RELOCATION.
 - WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL, IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
 - REMOVE THE EXISTING SIDEWALK DRAIN PER COSA ITEM 101 AND REPLACE WITH NEW MATERIALS IN ACCORDANCE WITH THE COSA CONCRETE SIDEWALK DRAIN DETAIL (SHEET D-12) AND COSA ITEMS 300 AND 301. SHAPE, TRIM, AND FINISH GRADE AS REQUIRED FOR POSITIVE DRAINAGE THROUGH SIDEWALK DRAIN (SH:1V MAX.) COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 - ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE EASEMENT BOUNDARIES SHOWN ON THE PLANS. ANY DAMAGE TO ADJACENT PROPERTIES, CAUSED BY CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED TO PRE-EXISTING CONDITIONS OR BETTER AT NO ADDITIONAL COST TO SAWS.

EXIST GRND. ELEV	PROP FL ELEV	620	625	630	635	640	645	650	655	660	665
645.09	634.62	640.95	634.63	641.20	634.65	644.91	634.66	650.34	634.67	651.17	634.68
651.02	634.69	651.83	634.71	652.52	634.72	652.57	634.73	652.60	634.74	652.75	634.75
652.87	634.77	652.51	634.78	652.27	634.79	652.00	634.80	651.30	634.81	649.63	634.83
649.57	634.84	650.00	634.85								

STA. 96+97± END. 42" BORE
 STA. 97+02.32 DROP MH A-16 GRND. ELEV. 650.6
 STA. 98+61± UGE EL. UNK.
 102.32 LF OF 30" FRP SN72 PN25 @ +0.06%
 297.68 LF OF 30" FRP SN72 PN25 @ +0.06%
 INV. FL. (IN) 634.67
 INV. 8" FL. (IN) 645.90
 INV. 30" FL. (IN) 634.67
 INV. FL. (OUT) 634.67

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
1	COSA 103.1	REMOVE CONCRETE CURB	LF	43
2	COSA 103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	SF	457
4	COSA 202.1	PRIME COAT	GAL	140
5	COSA 203.1	TACK COAT	GAL	70
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	701
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	701
9	COSA 500.1	CONCRETE CURB	LF	43
10	COSA 502.1	CONCRETE SIDEWALKS	SY	38
11	COSA 502.3	SIDEWALK DRAIN	EA	9
13	COSA 505.2	CONCRETE RIPRAP (6" THICK)	SY	22
17	COSA 515	TOPSOIL (6")	CY	268
18	COSA 520	HYDROMULCHING	SY	1,608
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	356
44	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (0'-6")	LF	21
51	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (10'-14")	LF	32
52	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (14'-18")	LF	303
63	SAWS 852	STANDARD FIBER REINFORCED DROP MANHOLE (0'-6")	EA	1
64	SAWS 852	STANDARD FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6")	VF	10
65	SAWS 852	STANDARD 4" MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	8
70	SAWS 856	JACKING, BORING, OR TUNNELING 42"	LF	97
71	SAWS 856	30" CARRIER PIPE FOR JACKING, BORING, TUNNELING	LF	97
72	SAWS 856	42" CASING (MINIMUM 0.5" THICK)	LF	97
74	SAWS 862	ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	LF	107
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	107
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	21
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	432

SAWS JOB NO. 17-4501

CP&Y 12500 SAN REDRO SAN ANTONIO, TX 78216 TBE REGISTRATION #1741

SAN ANTONIO WATER SYSTEM

6/27/2017

ADDENDUM NO. 6

REVISION NO. 0

DATE 06/28/17

BY ERC

DATE 06/27/2017

BY EWAR R. COOK

DATE 06/27/2017

PROFESSIONAL ENGINEER

NO. 68245

SAWS 1105.00

DATE JUNE 2017

DESIGNED AG

DRAWN GWM

REVIEWED ERC

CP&Y Proj. No. SAWS1105.00

SAN ANTONIO WATER SYSTEM

PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 96+00 TO STA. 100+00

SHEET C-A-08

SHEET 18 OF 57

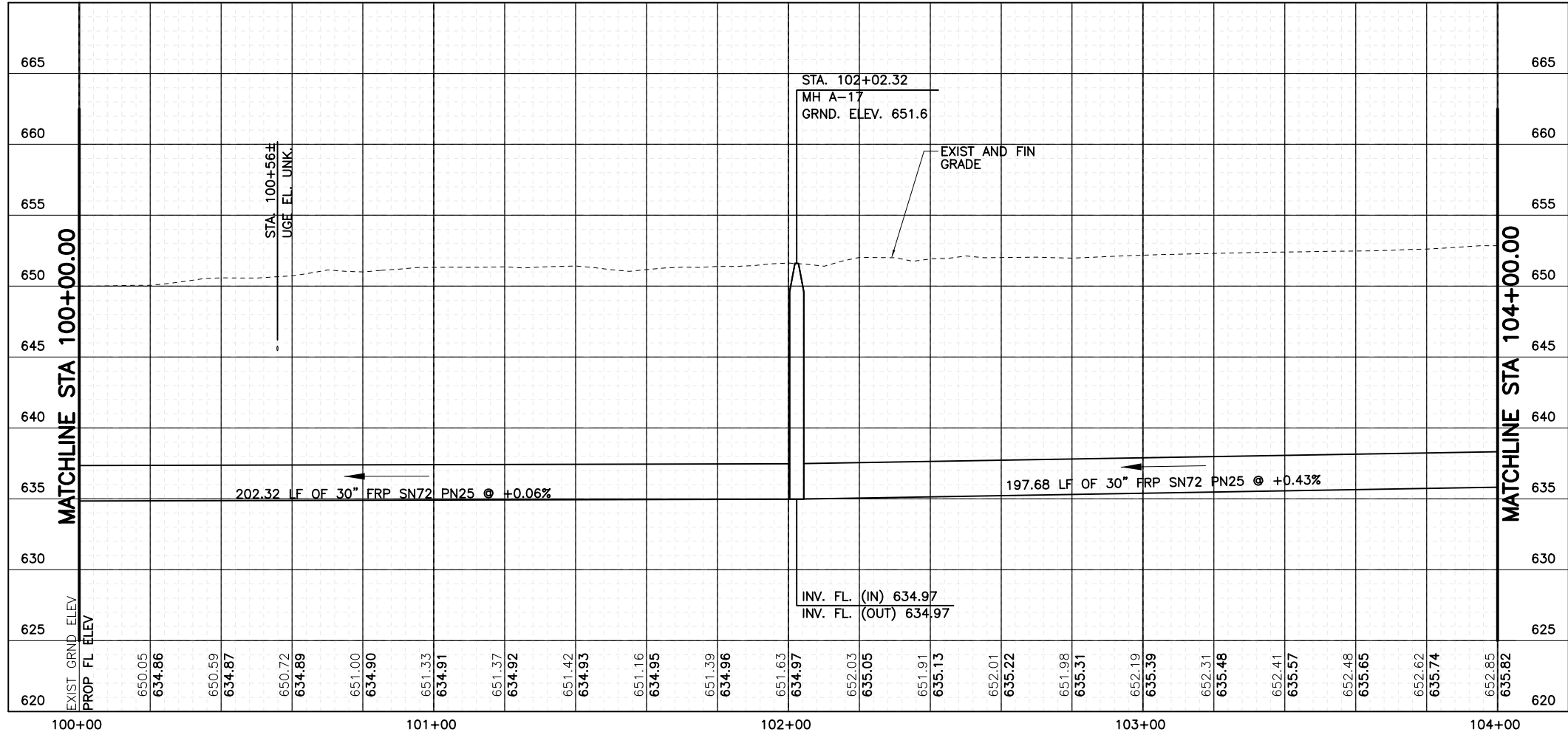
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MATCHLINE STA 100+00.00

MATCHLINE STA 100+00.00

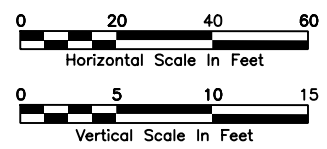
MATCHLINE STA 104+00.00

MATCHLINE STA 104+00.00



- SHEET NOTE:**
1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
 2. REMOVE LIGHT FIXTURE, POLE, AND CONCRETE PEDESTAL STORE AND PROTECT FIXTURE AND POLE. CONSTRUCT A NEW CONCRETE PEDESTAL, AS SHOWN IN DETAIL A ON SHEET D-04, AT A LOCATION INDICATED BY A COSA OR SAWS REPRESENTATIVE. WITHIN 20 FEET OF THE ORIGINAL FIXTURE, BUT 10 FEET, AT A MINIMUM, FROM THE CENTERLINE OF THE PROP. SEWER. REINSTALL THE EXIST LIGHT FIXTURE AND POLE OR REPLACE WITH MATERIALS PROVIDED BY COSA. CONNECT RE-LOCATED LIGHT FIXTURE TO EXIST LIGHTING CIRCUIT.
 3. REMOVE EXISTING CONCRETE PAD, BENCH, TRASH RACK, AND OTHER ANCILLARY ITEMS PER COSA ITEM 101. CONSTRUCT NEW 3' X 9' X 6" THICK REINFORCED CONCRETE PAD IN GENERAL ACCORDANCE WITH THE COSA TYPICAL RESIDENTIAL DRIVEWAY SECTION DETAIL (SHEET D-10) AND COSA ITEM 503. INSTALL BENCH, PROVIDED BY OTHERS, ON NEW CONCRETE PAD USING EXPANSION ANCHOR BOLTS AS RECOMMENDED BY THE BENCH MANUFACTURER.
 4. PROVIDE TEMPORARY 6'-0" HIGH CHAIN LINK FENCING IN GENERAL ACCORDANCE WITH COSA CHAIN LINK WIRE FENCE STANDARDS (SHEET D-12), TO ENCLOSE CONSTRUCTION FROM STA. 102+32 TO STA. 103+62. MAINTAIN ACCESS TO BOYS AND GIRLS CLUB FROM PEDESTRIAN BRIDGE.
 5. REMOVE EXISTING CONCRETE SIDEWALKS, IN ACCORDANCE WITH COSA ITEM 101, TO THE NEXT UNDISTURBED CONSTRUCTION OR EXPANSION JOINT OR LIMITS SHOWN ON THE PLANS, WHICHEVER IS GREATER. CONSTRUCT NEW SIDEWALKS AT LOCATIONS SHOWN ON THE PLANS IN ACCORDANCE WITH THE COSA CONCRETE SIDEWALK DETAIL (SHEET D-12), COSA ITEMS 300 AND 301, AND APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. SHAPE, TRIM, AND FINISH GRADE, ADJACENT TO SIDEWALK, AS REQUIRED FOR POSITIVE DRAINAGE FROM SIDEWALK TO APACHE CREEK (3H:1V MAX.).
 6. FIELD VERIFY LOCATION OF UNDERGROUND ELECTRIC (UGE) UTILITIES PRIOR TO COMMENCING EXCAVATION. RELOCATE UGE AS REQUIRED TO MAINTAIN, AT A MINIMUM, 1 FOOT OF VERTICAL SEPARATION AND 3 FEET OF HORIZONTAL SEPARATION (NSPI). UGE RELOCATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO UGE RELOCATION.
 7. REMOVE AND DISPOSE OF MITIGATION TREES, SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE REMOVAL DIAGRAM (SHEET G-10). TREE SIZE (DIAMETER BREST HEIGHT) SHALL BE VERIFIED BY A REPRESENTATIVE FROM COSA PARKS AND RECREATION DEPARTMENT PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL REPLACE MITIGATION TREES WITH NEW TREES OF THE SAME SPECIES AND SIZE AS THE ORIGINAL TREES. REPLACEMENT TREES SHALL BE PLANTED NEAR THE ORIGINAL TREE LOCATION BUT 10 FEET, AT A MINIMUM, FROM THE CENTERLINE OF THE SEWER. TREES SHALL BE PLANTED IN ACCORDANCE WITH THE COSA NEW TREE PLANTING DETAIL (SHEET G-10).

SHEET QUANTITY SUMMARY			
NO.	BID ITEM NO.	DESCRIPTION	PLAN
2	COSA 103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	SF 414
10	COSA 502.1	CONCRETE SIDEWALKS	SY 43
12	COSA 503.1	CONCRETE DRIVEWAY	SY 3
14	COSA 507.2	CHAIN LINK WIRE FENCE (6 FT. HIGH)	LF 389
17	COSA 515	TOPSOIL (6")	CY 296
18	COSA 520	HYDROMULCHING	SY 1,778
27	COSA 804	REPLACE 1"-5" ELM	EA 5
28	COSA 804	REPLACE 1"-5" OAK	EA 1
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF 400
52	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (14'-18")	LF 400
62	SAWS 852	STANDARD FIBER REINFORCED MAN-HOLE (0'-6")	EA 1
64	SAWS 852	STANDARD FIBER REINFORCED EXTRA DEPTH MANHOLE (0'-6")	VF 11
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF 400
84	01150	REMOVE AND RE-INSTALL LIGHT POLE	EA 3



SAWS JOB NO.
17-4501

CP&Y
12500 SAN PEDRO
SAN ANTONIO, TX 78216
TYPE REGISTRATION #F-1741

San Antonio
WATER SYSTEM

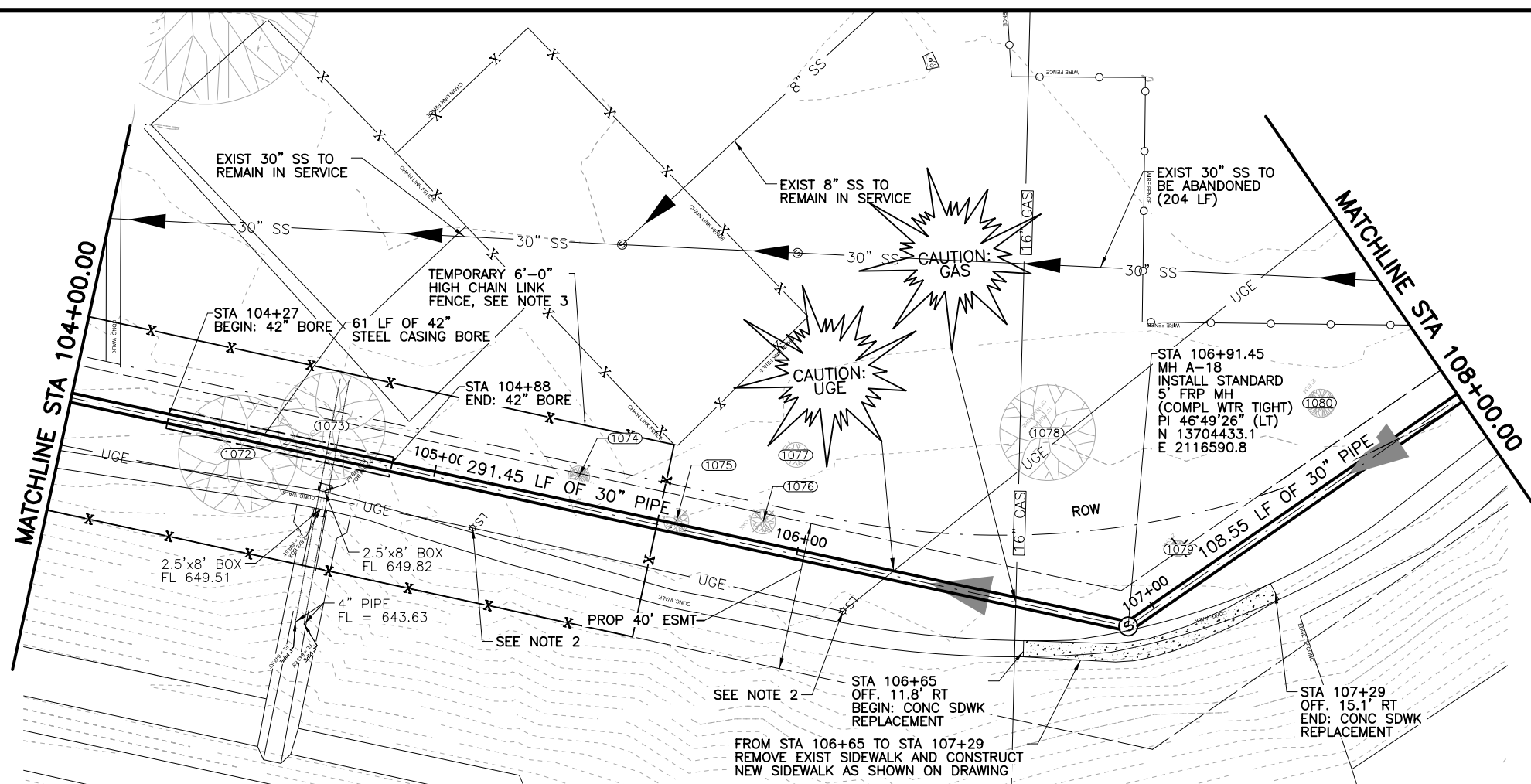
Emory Park

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO &
C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST
P&P - STA. 100+00 TO STA. 104+00

Date: JUNE 2017
Designed: AG
Drawn: GWM
Reviewed: ERC
CP&Y Proj. No. SAW1105.00

SHEET
C-A-09
SHEET 19 OF 57

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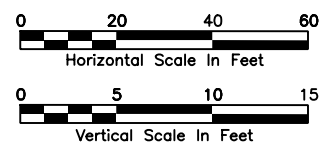


SHEET NOTE:

- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
- REMOVE LIGHT FIXTURE, POLE, AND CONCRETE PEDESTAL, STORE AND PROTECT FIXTURE AND POLE. CONSTRUCT A NEW CONCRETE PEDESTAL, AS SHOWN IN DETAIL A ON SHEET D-04, AT A LOCATION INDICATED BY A COSA OR SAWS REPRESENTATIVE, WITHIN 20 FEET OF THE ORIGINAL FIXTURE, BUT 10 FEET AT A MINIMUM, FROM THE CENTERLINE OF THE PROP. SEWER. REINSTALL THE EXIST LIGHT FIXTURE AND POLE OR REPLACE WITH MATERIALS PROVIDED BY COSA. CONNECT RE-LOCATED LIGHT FIXTURE TO EXIST LIGHTING CIRCUIT.
- PROVIDE TEMPORARY 6'-0" HIGH CHAIN LINK FENCING, IN GENERAL ACCORDANCE WITH COSA CHAIN LINK WIRE FENCE STANDARDS (SHEET D-12), TO ENCLOSE CONSTRUCTION FROM STA. 102+32 TO STA. 105+62. MAINTAIN ACCESS TO BOYS AND GIRLS CLUB FROM PEDESTRIAN BRIDGE.
- CAUTION: LARGE DIAMETER GAS PIPELINE. FIELD VERIFY LOCATION OF GAS UTILITIES PRIOR TO COMMENCING EXCAVATION AND NOTIFY OWNER AND ENGINEER OF ANY CONFLICT. COORDINATE WITH CPS ENERGY GAS ENGINEERING COORDINATOR AT 210-353-3194 TO RELOCATE GAS UTILITIES AS NECESSARY FOR CONSTRUCTION ACTIVITIES. GAS UTILITY RELOCATION SHALL BE PAID UNDER GAS ALLOWANCE. GAS UTILITY COORDINATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO GAS UTILITY RELOCATION.
- FIELD VERIFY LOCATION OF UNDERGROUND ELECTRIC (UGE) UTILITIES PRIOR TO COMMENCING EXCAVATION. RELOCATE UGE AS REQUIRED TO MAINTAIN AT A MINIMUM, 1 FOOT OF VERTICAL SEPARATION AND 3 FEET OF HORIZONTAL SEPARATION (OSPI). UGE RELOCATION SHALL OCCUR SUFFICIENTLY IN ADVANCE SUCH THAT CONSTRUCTION IS NOT DELAYED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DELAYS DUE TO UGE RELOCATION.
- REMOVE EXISTING CONCRETE SIDEWALKS, IN ACCORDANCE WITH COSA ITEM 101 TO THE NEXT UNDISTURBED CONTRACTION OR EXPANSION JOINT OR LIMITS SHOWN ON THE PLANS, WHICHEVER IS GREATER. CONSTRUCT NEW SIDEWALKS AT LOCATIONS SHOWN ON THE PLANS IN ACCORDANCE WITH THE COSA CONCRETE SIDEWALK DETAIL (SHEET D-12), COSA ITEMS 300 AND 301, AND APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. SHAPE, TRIM AND FINISH GRADE ADJACENT TO SIDEWALKS AS REQUIRED FOR POSITIVE DRAINAGE FROM SIDEWALK TO APACHE CREEK (3H:1V MAX.).
- CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE PLANS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
- REMOVE AND DISPOSE OF MITIGATION TREES, SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE REMOVAL DIAGRAM (SHEET G-10). TREE SIZE (DIAMETER BREST HEIGHT) SHALL BE VERIFIED BY A REPRESENTATIVE FROM COSA PARKS AND RECREATION DEPARTMENT PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL REPLACE MITIGATION TREES WITH NEW TREES OF THE SAME SPECIES AND SIZE AS THE ORIGINAL TREES. REPLACEMENT TREES SHALL PLANTED NEAR THE ORIGINAL TREE LOCATION BUT 10 FEET, AT A MINIMUM, FROM THE CENTERLINE OF THE SEWER. TREES SHALL BE PLANTED IN ACCORDANCE WITH THE COSA NEW TREE PLANTING DETAIL (SHEET G-10).
- ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE EASEMENT BOUNDARIES SHOWN ON THE PLANS. ANY DAMAGE TO ADJACENT PROPERTIES, CAUSED BY CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED TO PRE-EXISTING CONDITIONS OR BETTER AT NO ADDITIONAL COST TO SAWS.

EXIST GRND. ELEV	PROP FL ELEV	620	625	630	635	640	645	650	655	660	665		
652.52	635.91	652.16	636.00	652.29	636.08	651.93	636.17	652.77	636.26	653.12	636.34		
654.10	636.43	653.73	636.52	653.51	636.60	653.45	636.69	653.20	636.77	653.26	636.86		
652.86	636.95	652.68	637.03	652.63	637.16	653.17	637.35	653.48	637.54	653.64	637.73		
653.97	637.92	653.94	638.11	291.45 LF OF 30" FRP SN72 PN25 @ +0.43%								652.63	637.16
108.55 LF OF 30" FRP SN72 PN25 @ +0.94%												653.17	637.35
61 LF OF 42" STEEL CASING BORE												653.48	637.54
STA. 106+91.45 MH A-18 GRND. ELEV. 652.4												653.64	637.73
STA. 106+25± UGE EL. UNK.												653.97	637.92
STA. 106+51± 16" G EL. UNK.												653.94	638.11
STA. 106+65 OFF. 11.8' RT BEGIN: CONC SDWK REPLACEMENT												653.94	638.11
STA. 107+29 OFF. 15.1' RT END: CONC SDWK REPLACEMENT												653.94	638.11
STA. 104+27± BEGIN 42" BORE												653.94	638.11
STA. 104+88± END 42" BORE												653.94	638.11
STA. 106+70.41 STM. SWR. EL. UNK. STA. 106+72.80 STM. SWR. EL. UNK.												653.94	638.11
STA. 106+25± UGE EL. UNK.												653.94	638.11
STA. 106+51± 16" G EL. UNK.												653.94	638.11
STA. 106+65 OFF. 11.8' RT BEGIN: CONC SDWK REPLACEMENT												653.94	638.11
STA. 107+29 OFF. 15.1' RT END: CONC SDWK REPLACEMENT												653.94	638.11
STA. 106+91.45 MH A-18 GRND. ELEV. 652.4												653.94	638.11
INV. FL. (IN) 637.08 INV. FL. (OUT) 637.08												653.94	638.11

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
2	COSA 103.3	REMOVE CONCRETE SIDEWALKS AND DRIVEWAYS	SF	350
10	COSA 502.1	CONCRETE SIDEWALKS	SY	39
14	COSA 507.2	CHAIN LINK WIRE FENCE (6 FT. HIGH)	LF	376
17	COSA 515	TOPSOIL (6")	CY	296
18	COSA 520	HYDROMULCHING	SY	1,778
28	COSA 804	REPLACE 1"5" OAK	EA	3
29	COSA 804	REPLACE 1-3" SAPLING	EA	1
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	339
52	SAWS 857	30" SN72 PN25 FRP SANITARY SEWER LINE (14'-18")	LF	339
62	SAWS 852	STANDARD FIBER REINFORCED MANHOLE (0'-6")	EA	1
64	SAWS 852	STANDARD FIBER REINFORCED EXTRA DEPTH MANHOLE (> 6")	VF	10
70	SAWS 856	JACKING, BORING, OR TUNNELING 42" 30" CARRIER PIPE FOR JACKING, BORING, TUNNELING	LF	61
71	SAWS 856	42" CASING (MINIMUM 0.5" THICK)	LF	61
72	SAWS 856	42" CASING (MINIMUM 0.5" THICK)	LF	61
74	SAWS 862	ABANDONMENT OF SANITARY SEWER MAIN (>15" DIA.)	LF	204
79	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	204
81	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (27" THROUGH 36" DIA.)	LF	400
84	01150	REMOVE AND RE-INSTALL LIGHT POLE	EA	2



SAWS JOB NO. 17-4501

CP&Y
12500 SAN ANTONIO, TX 78216
SAN ANTONIO, TX 78216
TBP# REGISTRATION #1741

SAW SYSTEM
SAN ANTONIO WATER SYSTEM

EMERSON
SAN ANTONIO, TX 78216
E. R. COOK
68245
PROFESSIONAL ENGINEER
6/27/2017

NO.	REVISION	BY	DATE
6	ERC 08/28/17		

SCALE: 1" = 40'

DATE: JUNE 2017

DESIGNED: AG

DRAWN: GWM

REVIEWED: ERC

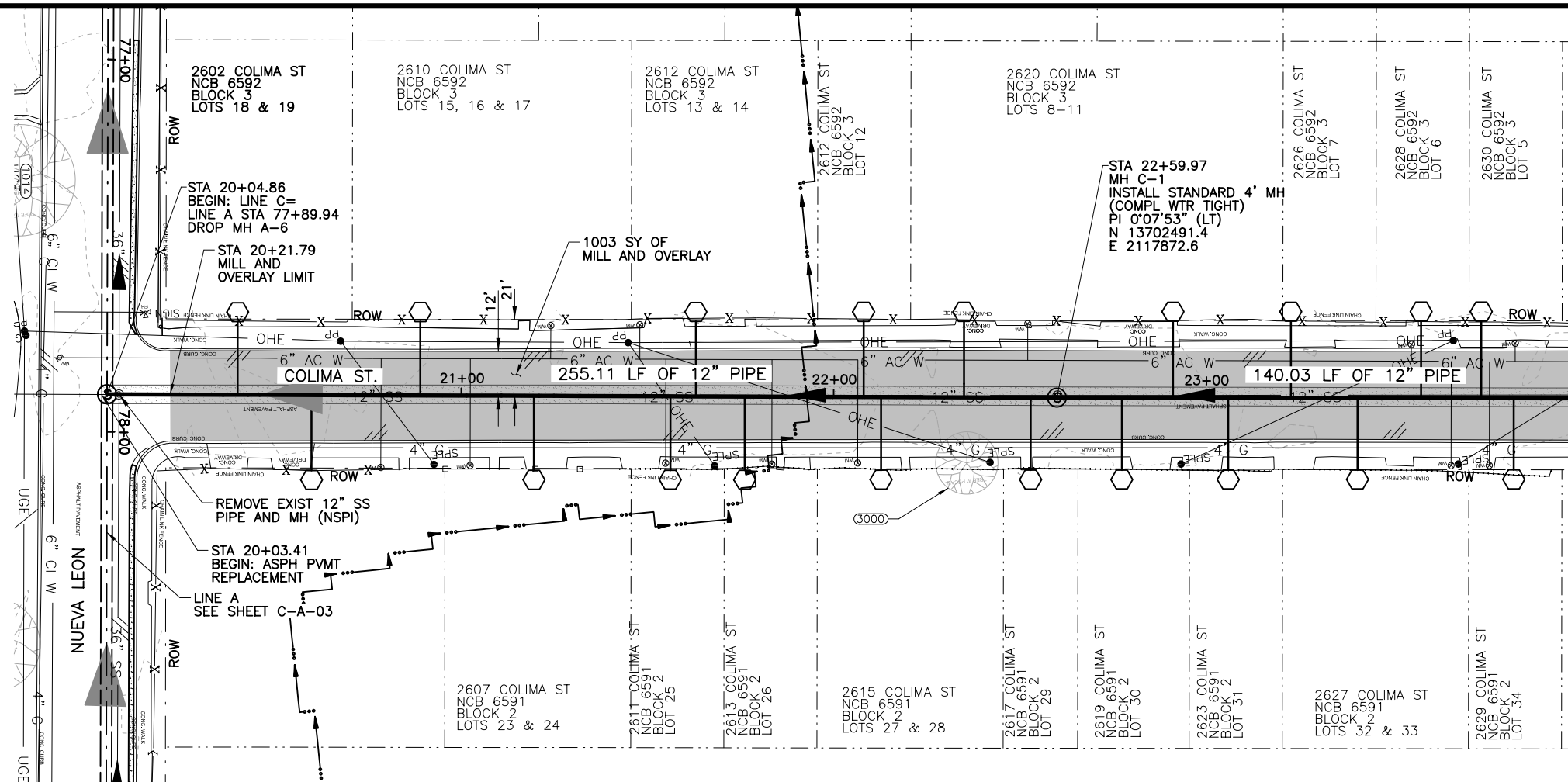
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SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

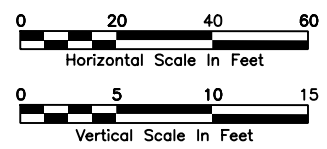
P&P - STA. 104+00 TO STA. 108+00

SHEET C-A-10
SHEET 20 OF 57

p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek\8.00 Plans and Drawings\8.30 Cut Sheets\Phase 2\SAWS1105 C-C-01.dgn

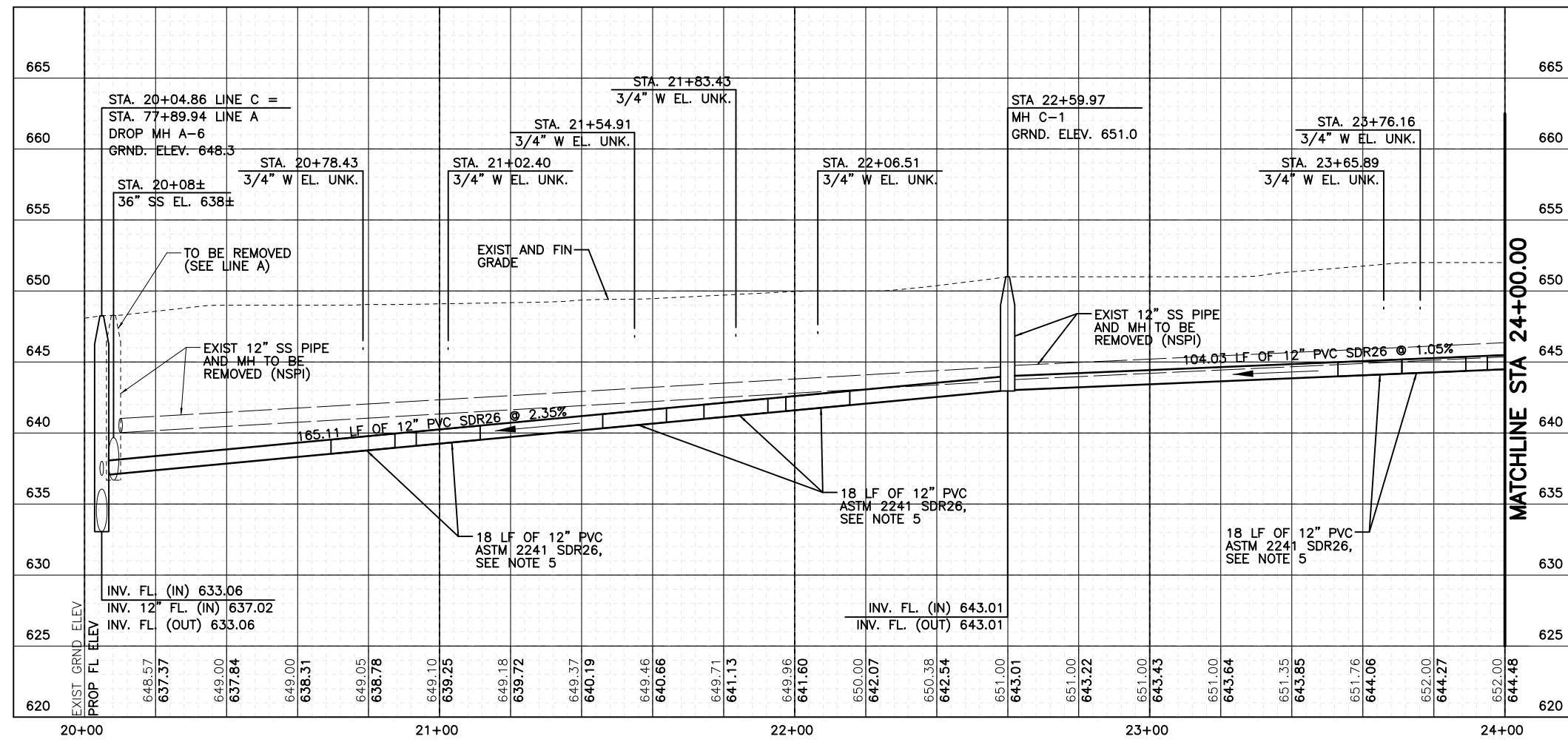


MATCHLINE STA 24+00.00



SHEET NOTE:

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- REMOVE EXISTING SANITARY SEWER LATERALS TO PROPERTY LINE AND INSTALL NEW SANITARY SEWER LATERALS WITH CLEANOUTS, CONNECTED TO PROP-12" SS- IN ACCORDANCE WITH SAWS ITEM NO. 854. SAWS DETAIL NO. DD-854-02, AND SAWS DETAIL NO. DD-854-03. ALL LATERAL PIPING SHALL BE ASTM D2241 SDR 26 PVC PIPE.
- PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
- IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
- REPAIR PAVEMENT, DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
- WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804. THEN PLACE 12" OR 15" OF TYPE B MATERIAL IN ACCORDANCE WITH COSA ITEM 205. TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
- CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL LATERALS BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.



MATCHLINE STA 24+00.00

SHEET QUANTITY SUMMARY				
NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	201
5	COSA 203.1	TACK COAT	GAL	100
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	1,003
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	1,003
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	395
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	126
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	269
65	SAWS 852	STANDARD 4' MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	2
68	SAWS 854	SANITARY SEWER LATERALS	LF	380
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	19
73	SAWS 860	VERTICAL STACKS	VF	47
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	395
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	395

SAWS JOB NO. 17-4501

CP&Y 12500 SAN PEDRO SAN ANTONIO, TX 78216 TBE REGISTRATION #1-1741

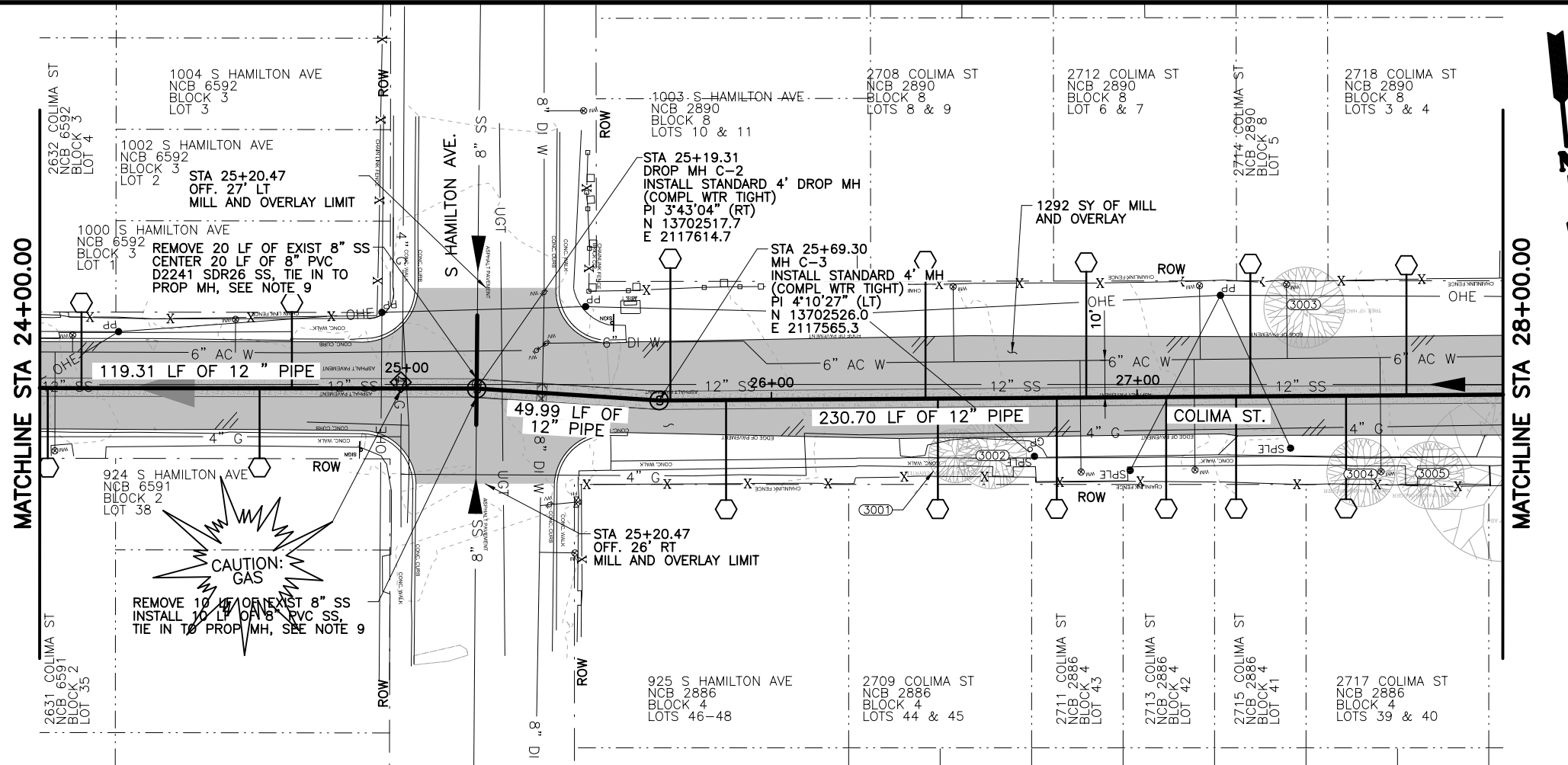
SAN ANTONIO WATER SYSTEM

SAWS 1105.00 - C-5 & C-28 Zarzamora Creek - SAN GABRIEL TO NW 23RD ST

P&P - STA. 20+04.86 TO STA. 24+00

Date: JUNE 2017
 Designed: AG
 Drawn: GWM
 Reviewed: ERC
 CP&Y Proj. No. SAW1105.00

SHEET C-C-01
 SHEET 22 OF 57



- SHEET NOTE:**
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
 - CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF SANITARY SEWER LATERALS. SERVICES SHOWN ARE FOR QUANTITY PURPOSES ONLY.
 - REMOVE EXISTING SANITARY SEWER LATERALS TO PROPERTY LINE AND INSTALL NEW SANITARY SEWER LATERALS WITH CLEANOUTS, CONNECTED TO PROP. 12" SS. IN ACCORDANCE WITH SAWS ITEM NO. 854, SAWS DETAIL NO. DD-854-02, AND SAWS DETAIL NO. DD-854-03. ALL LATERAL PIPING SHALL BE ASTM D2241 SDR 26 PVC PIPE.
 - PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
 - REPAIR PAVEMENT, DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
 - WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804. THEN PLACE 12" OR 15" OF TYPE B MATERIAL IN ACCORDANCE WITH COSA ITEM 205 TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
 - CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL LATERALS BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
 - PROVIDE FERNCO OR APPROVED EQUAL TRANSITION COUPLING AS REQUIRED TO CONNECT EXIST PIPE TO PROP. PIPE. INSTALL CONCRETE JOINTING COLLAR PER SAWS DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - CENTER ONE 18-FOOT (MIN.) JOINT OF D2241, SDR 26 PVC PIPE UNDER WATER LINE. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SEWER, PLACE FLOWABLE FILL TO 6" BELOW WATER LINE. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES. ADJUST WATER PIPING VERTICALLY UPWARD AS REQUIRED TO PROVIDE 6" (MIN.) SEPARATION BETWEEN OUTSIDE DIAMETERS OF PIPES USING 45-DEGREE BENDS.
 - FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SANITARY SEWER, PLACE FLOWABLE FILL TO 6" BELOW STORM SEWER AND OTHER PERPENDICULAR UTILITIES. PLACE INITIAL BACKFILL MATERIAL AROUND PERPENDICULAR UTILITIES. THEN PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM OUTSIDE DIAMETER OF PERPENDICULAR UTILITIES ON BOTH SIDES.

STATION	EXIST. GRND. ELEV.	PROP. FL. ELEV.	DESCRIPTION	STATION	EXIST. GRND. ELEV.	PROP. FL. ELEV.	DESCRIPTION
24+00	652.00	644.69	101.31 LF OF 12" PVC SDR26 @ 1.05%	25+00	653.00	645.53	
	652.45	644.90			653.00	645.74	STA. 25+19.31 DROP MH C-2 GRND. ELEV. 653.0
	652.68	645.11			653.48	645.97	STA. 25+37± UGT EL. UNK.
	653.00	645.32			654.08	646.19	STA. 25+37± 8" DI W. EL. UNK.
	653.00	645.53			654.46	646.40	
	653.00	645.74			654.85	646.59	
	653.48	645.97			655.15	646.78	
	654.08	646.19			655.53	646.97	
	654.46	646.40			655.93	647.16	
	654.85	646.59			656.37	647.35	
	655.15	646.78			656.74	647.54	
	655.53	646.97			657.00	647.73	
	655.93	647.16			657.30	647.92	
	656.37	647.35			657.72	648.11	
	656.74	647.54			658.48	648.30	
	657.00	647.73			659.00	648.49	
	657.30	647.92					
	657.72	648.11					
	658.48	648.30					
	659.00	648.49					
28+00	659.00	648.49		28+00	659.00	648.49	

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	258
5	COSA 203.1	TACK COAT	GAL	129
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2' COMPACTED DEPTH)	SY	1,292
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2' DEPTH)	SY	1,292
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	3
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	430
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	90
44	SAWS 848	8" D 3034 SDR 26 PVC SANITARY SEWER LINE (0'-6')	LF	10
47	SAWS 848	8" D 2241 SDR 26 PVC SANITARY SEWER LINE (0'-6')	LF	20
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	310
65	SAWS 852	STANDARD 4" MANHOLE (0'-6')	EA	1
66	SAWS 852	STANDARD DROP MANHOLE (0'-6')	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6')	VF	4
68	SAWS 854	SANITARY SEWER LATERALS	LF	425
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	15
73	SAWS 860	VERTICAL STACKS	VF	39
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	420
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	430

SAWS JOB NO. 17-4501

CP&Y 12500 SAN PEDRO SAN ANTONIO, TX 78216 TBE REGISTRATION #1741

SAW SYSTEM SAN ANTONIO WATER SYSTEM

EMERSON (Professional Engineer Seal)

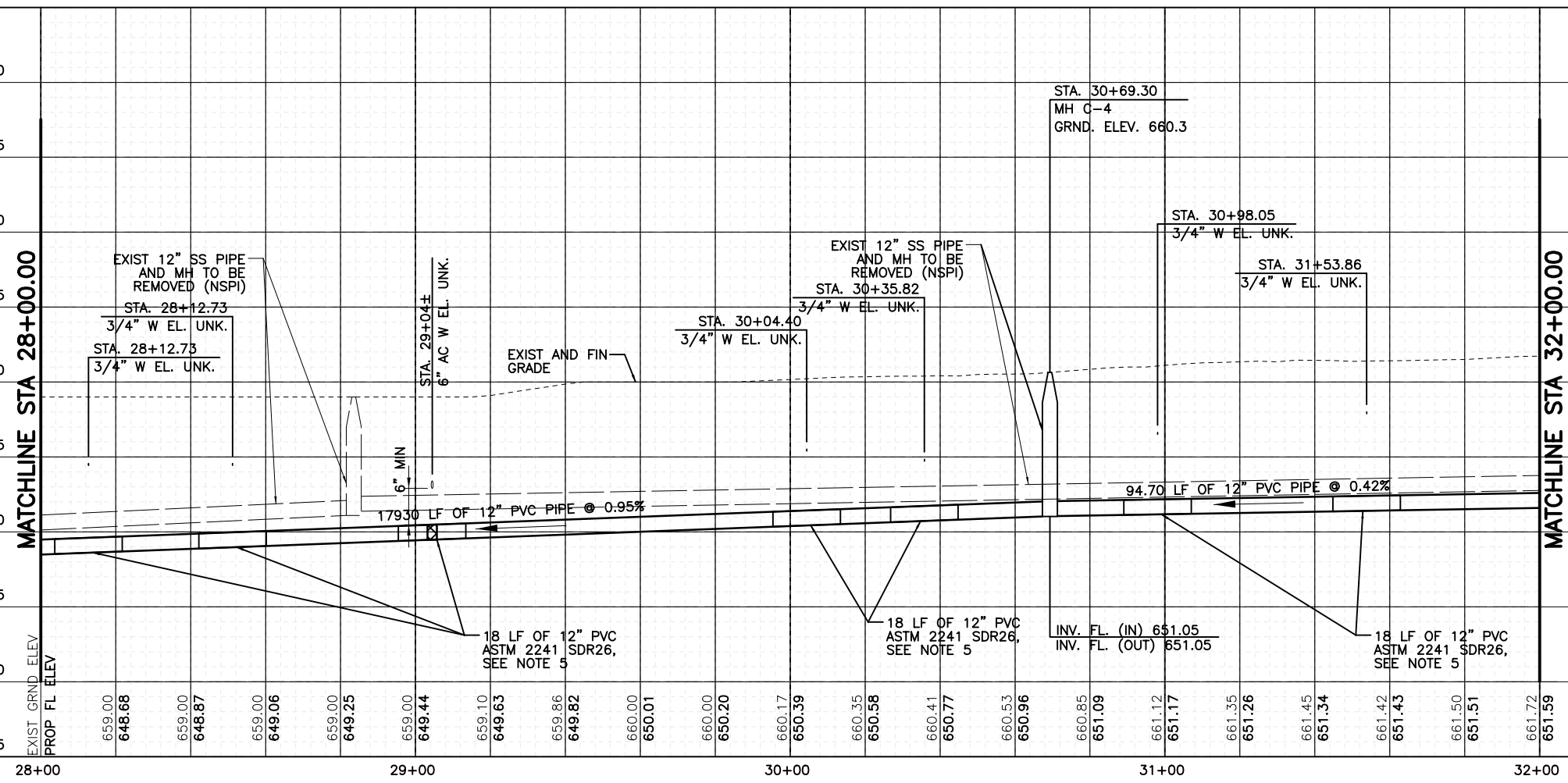
DATE: JUNE 2017
 DESIGNED: AG
 DRAWN: GWM
 REVIEWED: ERC
 CP&Y Proj. No. SAW1105.00

SAN ANTONIO WATER SYSTEM
 PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST
 P&P - STA. 24+00 TO STA. 28+00

SHEET C-C-02
 SHEET 23 OF 57

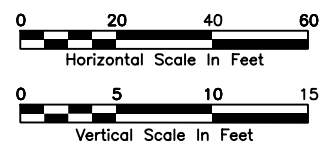
MATCHLINE STA 28+00.00

MATCHLINE STA 32+00.00



NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	291
5	COSA 203.1	TACK COAT	GAL	145
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2\"/>		

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SAWS JOB NO. 17-4501

CP&Y
12500 SAN PEDRO SAN ANTONIO, TX 78216
TBP# REGISTRATION #1741

SA SAN ANTONIO WATER SYSTEM

6/27/2017

DATE: JUNE 2017
DESIGNED: AG
DRAWN: GWM
REVIEWED: ERC
CP&Y Proj. No. SAWS1105.00

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 28+00 TO STA. 32+00

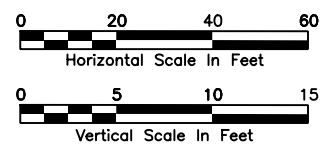
SHEET C-C-03
SHEET 24 OF 57

MATCHLINE STA 32+00.00

MATCHLINE STA 32+00.00

MATCHLINE STA 36+00.00

MATCHLINE STA 36+00.00



SAWS JOB NO.
17-4501

12500 SAN PEDRO
SAN ANTONIO, TX 78216
TBE REGISTRATION #1741

SAN ANTONIO
WATER SYSTEM

NO.	REVISION	BY	DATE
6	ADDENDUM NO. 6	ERC	06/28/17

VERIFY SCALE
1" = 40'

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 32+00 TO STA. 36+00

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC

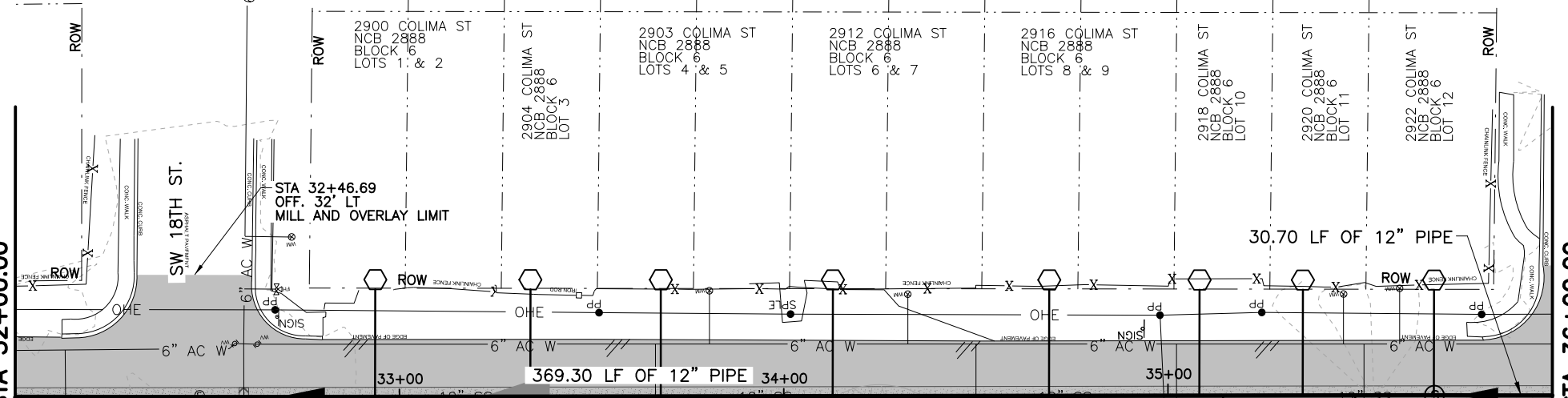
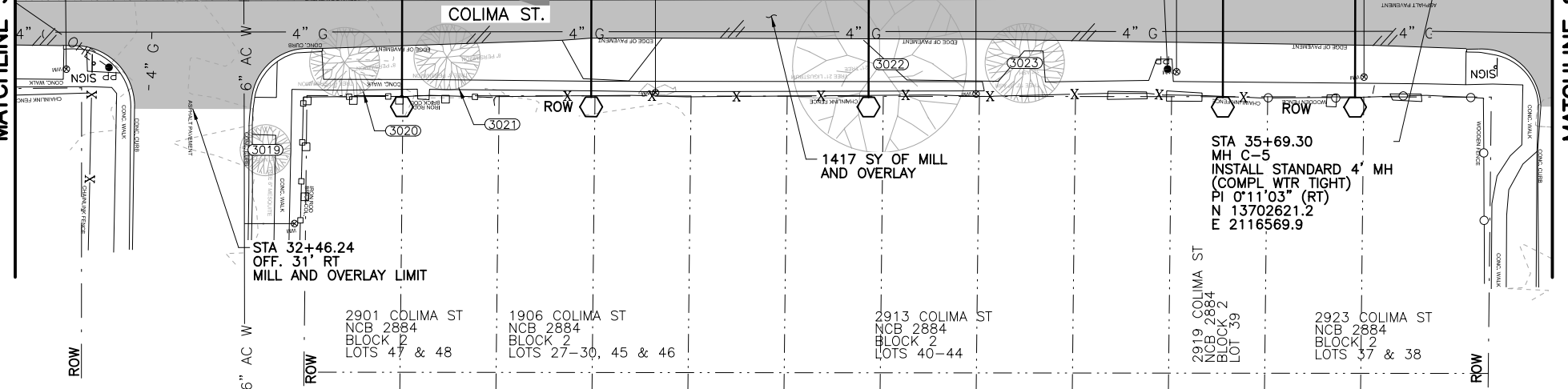
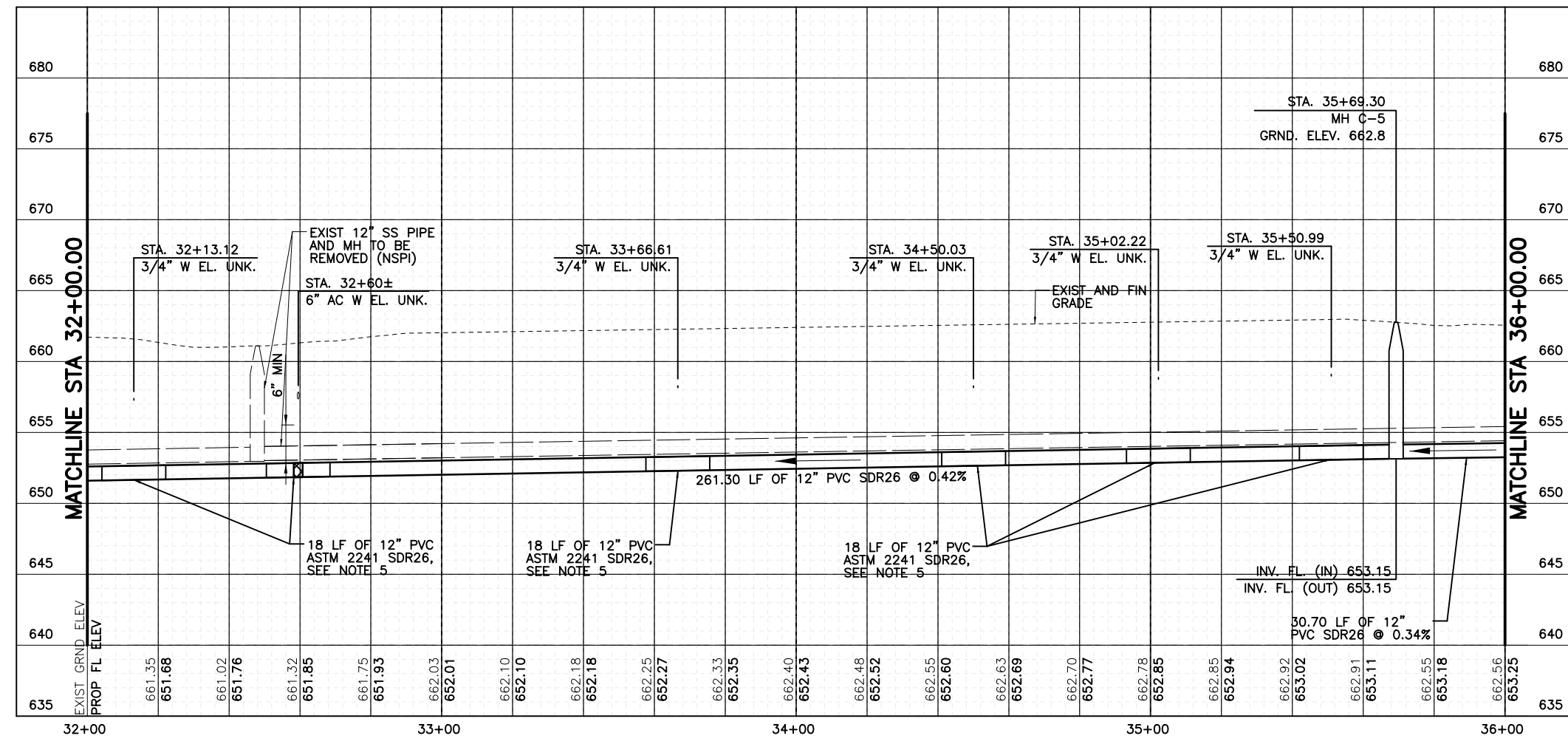
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SHEET
C-C-04
SHEET 25 OF 57

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 - PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
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SHEET QUANTITY SUMMARY

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	283
5	COSA 203.1	TACK COAT	GAL	142
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	1,417
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	1,417
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	3
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	400
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	108
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	292
65	SAWS 852	STANDARD 4' MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	3
68	SAWS 854	SANITARY SEWER LATERALS	LF	364
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	13
73	SAWS 860	VERTICAL STACKS	VF	64
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400



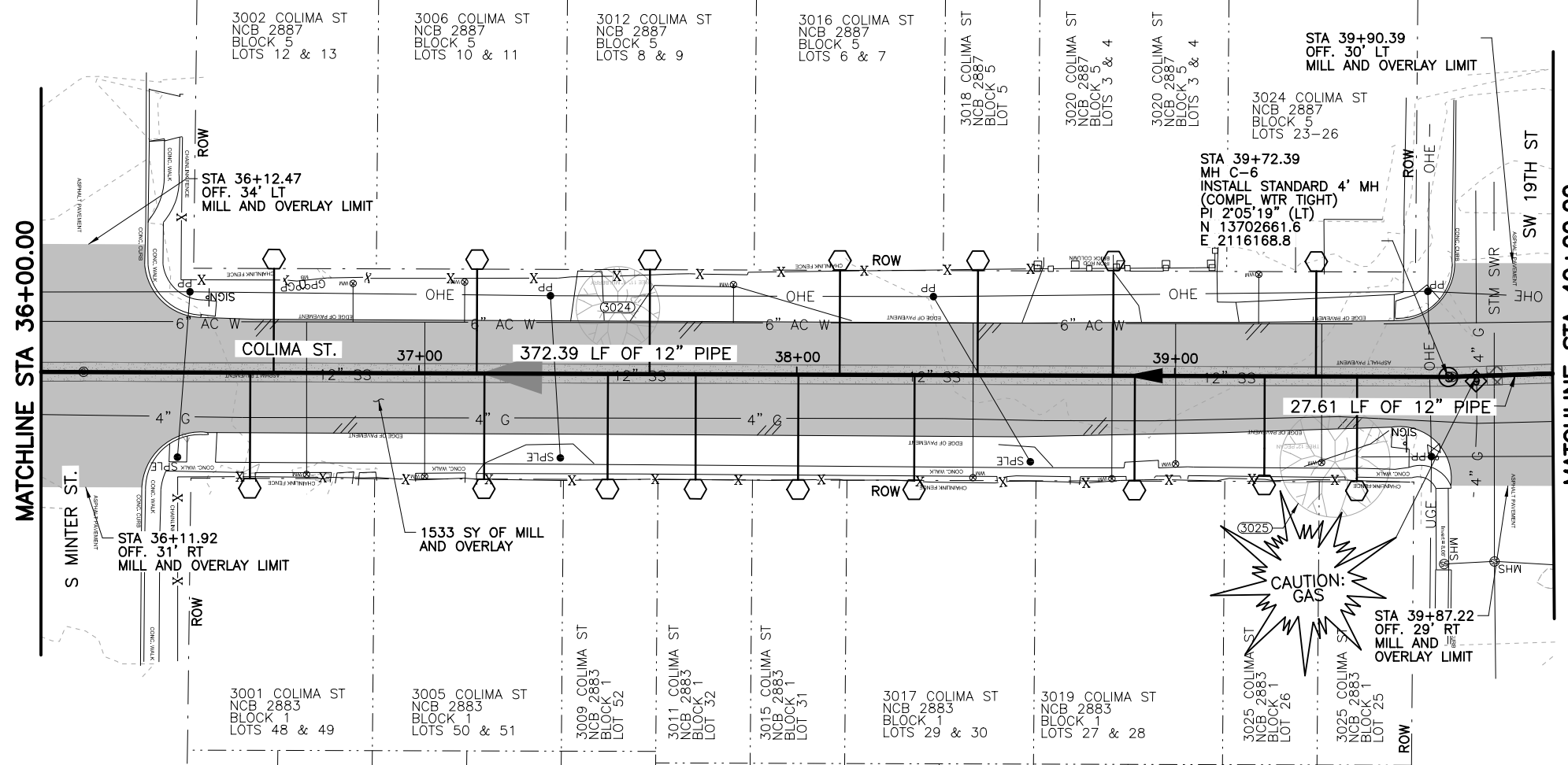
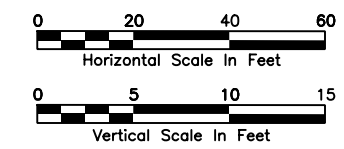
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MATCHLINE STA 36+00.00

MATCHLINE STA 36+00.00

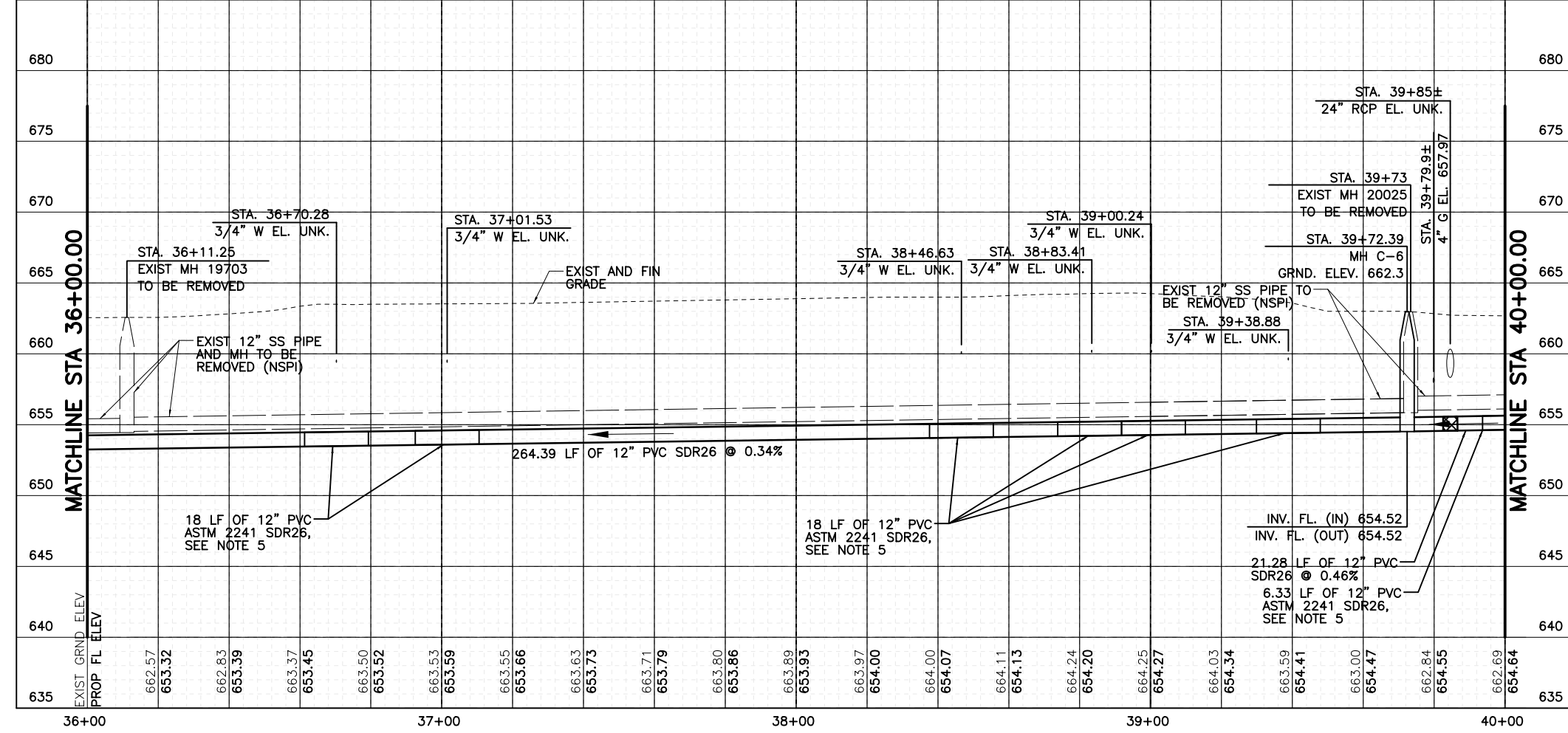
MATCHLINE STA 40+00.00

MATCHLINE STA 40+00.00



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6. REPAIR PAVEMENT, DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
7. WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL IN ACCORDANCE WITH COSA ITEM 205. TO PROVIDE TEMPORARY ALL WEATHER SURFACE, REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
8. CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL LATERALS BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
9. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SANITARY SEWER, PLACE FLOWABLE FILL TO 6" BELOW STORM SEWER AND OTHER PERPENDICULAR UTILITIES. PLACE INITIAL BACKFILL MATERIAL AROUND PERPENDICULAR UTILITIES. THEN PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM OUTSIDE DIAMETER OF PERPENDICULAR UTILITIES ON BOTH SIDES.



SHEET QUANTITY SUMMARY				
NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	307
5	COSA 203.1	TACK COAT	GAL	153
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	1,533
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	1,533
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	7
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	400
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	115
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	285
65	SAWS 852	STANDARD 4" MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	2
68	SAWS 854	SANITARY SEWER LATERALS	LF	448
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	16
73	SAWS 860	VERTICAL STACKS	VF	72
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400

SAWS JOB NO. 17-4501

CP&Y 12500 SAN ANTONIO, TX 78216 TEL: 214-782-1741

CP&Y SAN ANTONIO WATER SYSTEM

EMERSON

REVISION TABLE:

NO.	REVISION	BY	DATE
6	ADDENDUM NO. 6	ERC	08/28/17

DATE: JUNE 2017

DESIGNED: AG

DRAWN: GWM

REVIEWED: ERC

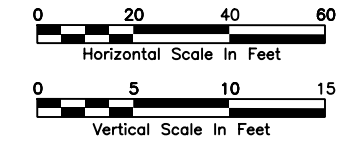
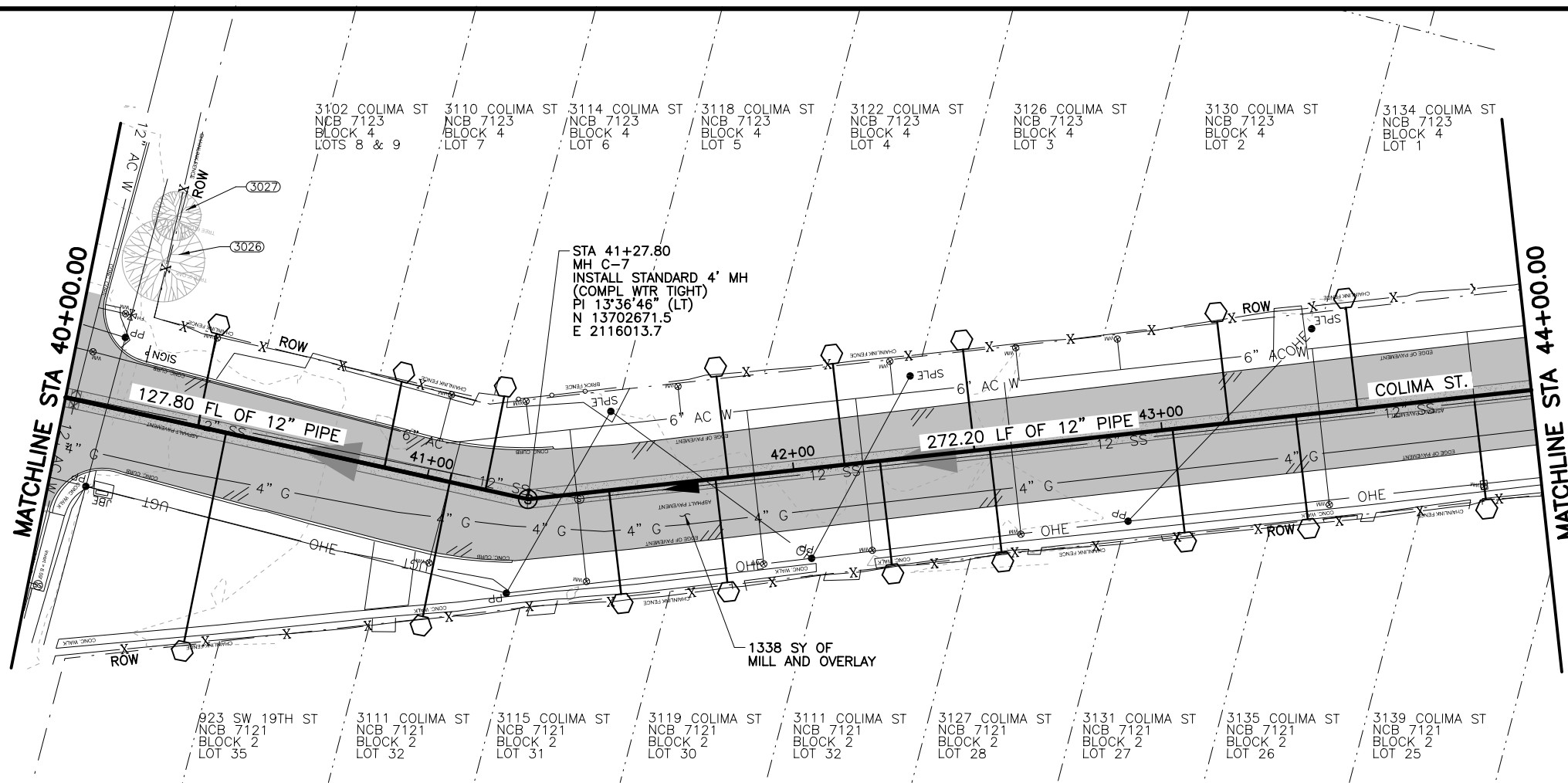
CP&Y Proj. No. SAW1105.00

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 36+00 TO STA. 40+00

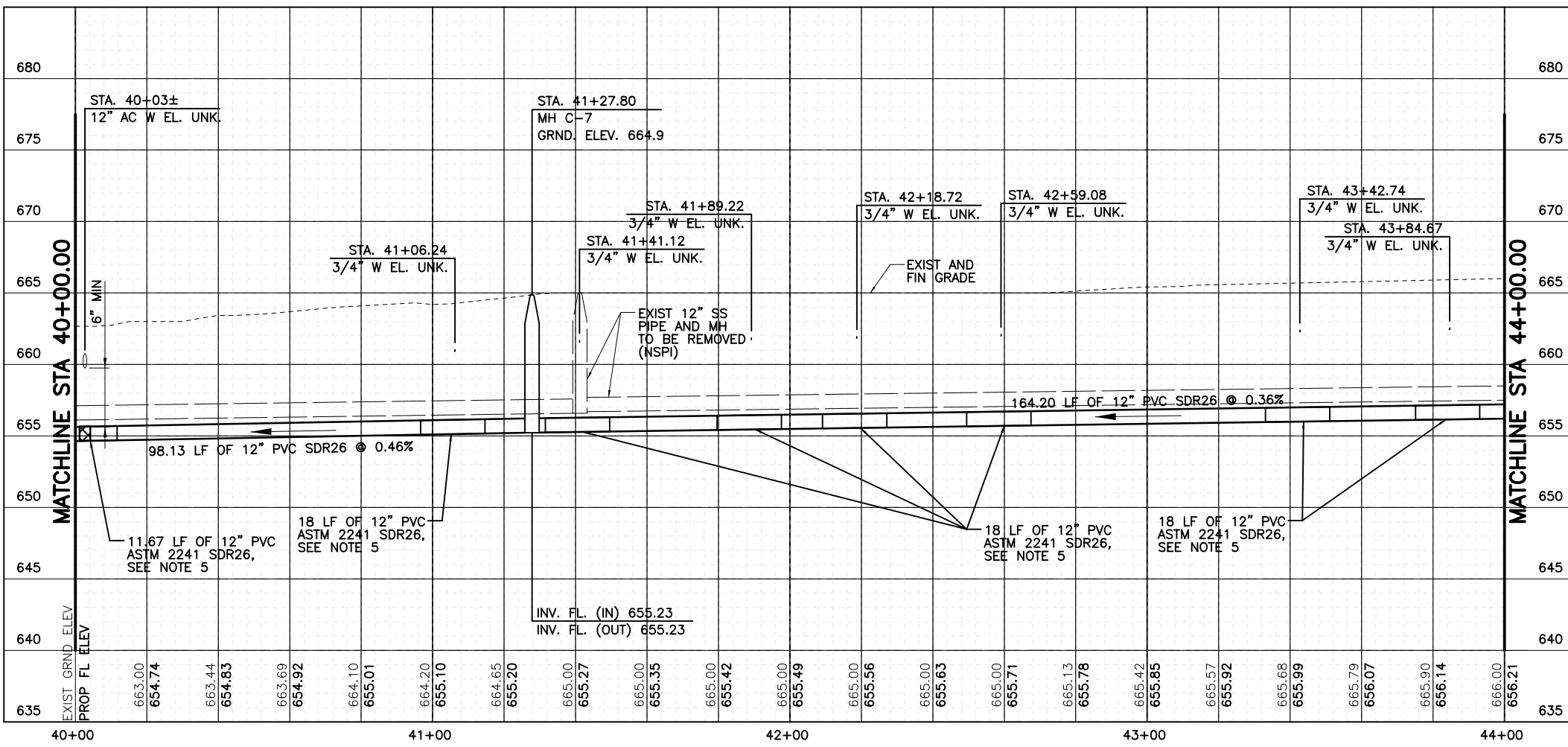
SHEET C-C-05 SHEET 26 OF 57

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SHEET NOTE:

- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
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- REMOVE EXISTING SANITARY SEWER LATERALS TO PROPERTY LINE AND INSTALL NEW SANITARY SEWER LATERALS WITH CLEANOUTS, CONNECTED TO PROP. 12" SS, IN ACCORDANCE WITH SAWS ITEM NO. 854, SAWS DETAIL NO. DD-854-02, AND SAWS DETAIL NO. DD-854-03. ALL LATERAL PIPING SHALL BE ASTM D2241 SDR 26 PVC PIPE.
- PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
- IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
- REPAIR PAVEMENT DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
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- CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL LATERALS BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
- CENTER ONE 18-FOOT (MIN.) JOINT OF D2241, SDR 26 PVC PIPE UNDER WATER LINE, FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SEWER, PLACE FLOWABLE FILL TO 6" BELOW WATER LINE. PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT FOR WATER LINE. PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE MATERIAL. FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES. ADJUST WATER PIPING VERTICALLY UPWARD AS REQUIRED TO PROVIDE 6" (MIN.) SEPARATION BETWEEN OUTSIDE DIAMETERS OF PIPES USING 45-DEGREE BENDS.



SHEET QUANTITY SUMMARY				
NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	268
5	COSA 203.1	TACK COAT	GAL	134
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	1,338
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	1,338
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	3
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	400
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	138
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	262
65	SAWS 852	STANDARD 4" MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	4
68	SAWS 854	SANITARY SEWER LATERALS	LF	459
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	17
73	SAWS 860	VERTICAL STACKS	VF	71
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400

SAWS JOB NO. 17-4501

CP&Y
12500 SAN PEDRO
SAN ANTONIO, TX 78216
TBPB REGISTRATION #1741

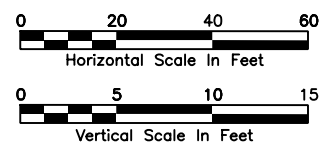
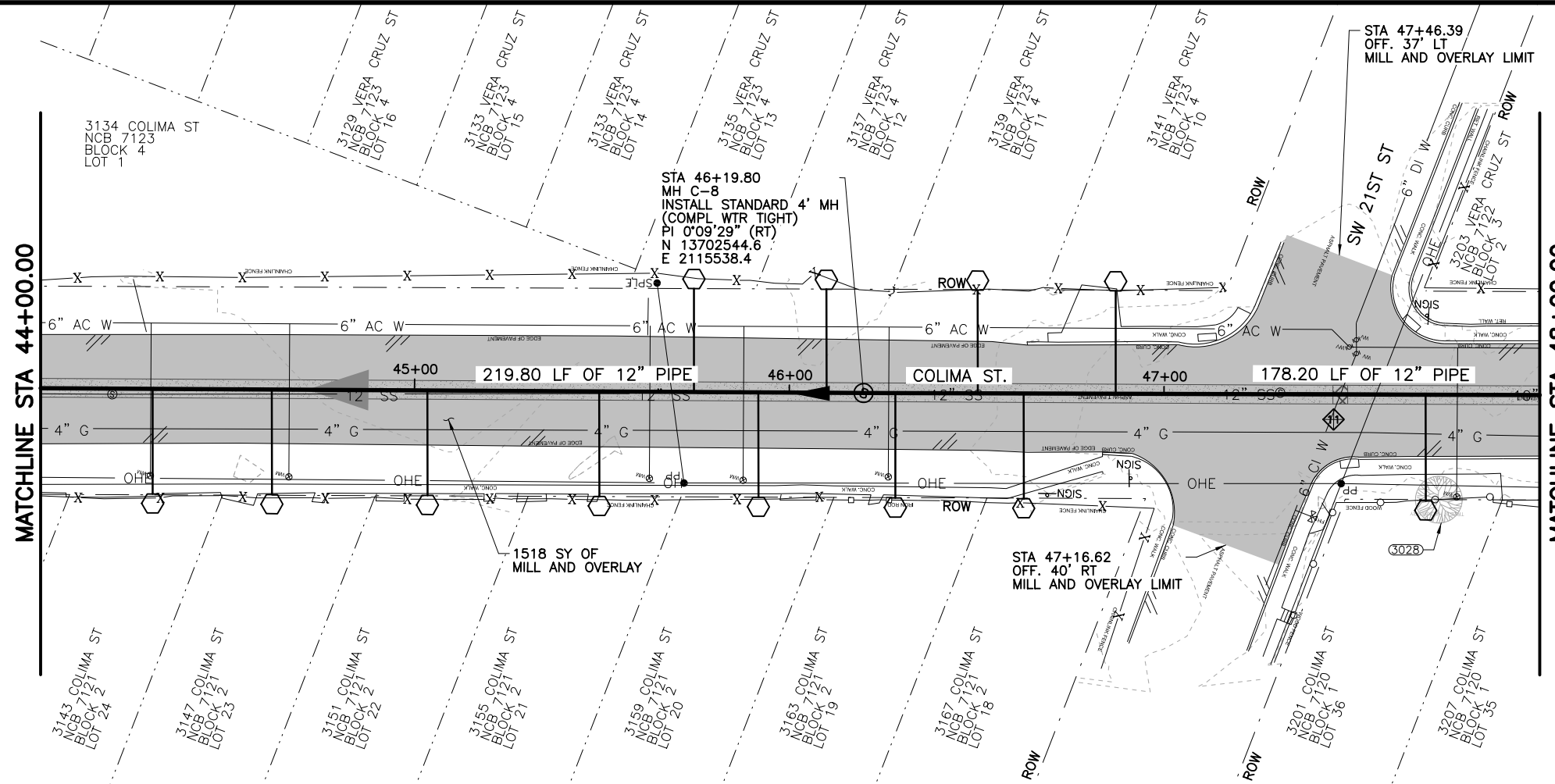
SA SAN ANTONIO WATER SYSTEM

EMERSON
SAN ANTONIO, TX 78216
TBPB REGISTRATION #1741

DATE: JUNE 2017
DESIGNED: AG
DRAWN: GWM
REVIEWED: ERC
CP&Y Proj. No. SAW1105.00

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST
P&P - STA. 40+00 TO STA. 44+00

SHEET C-C-06
SHEET 27 OF 57

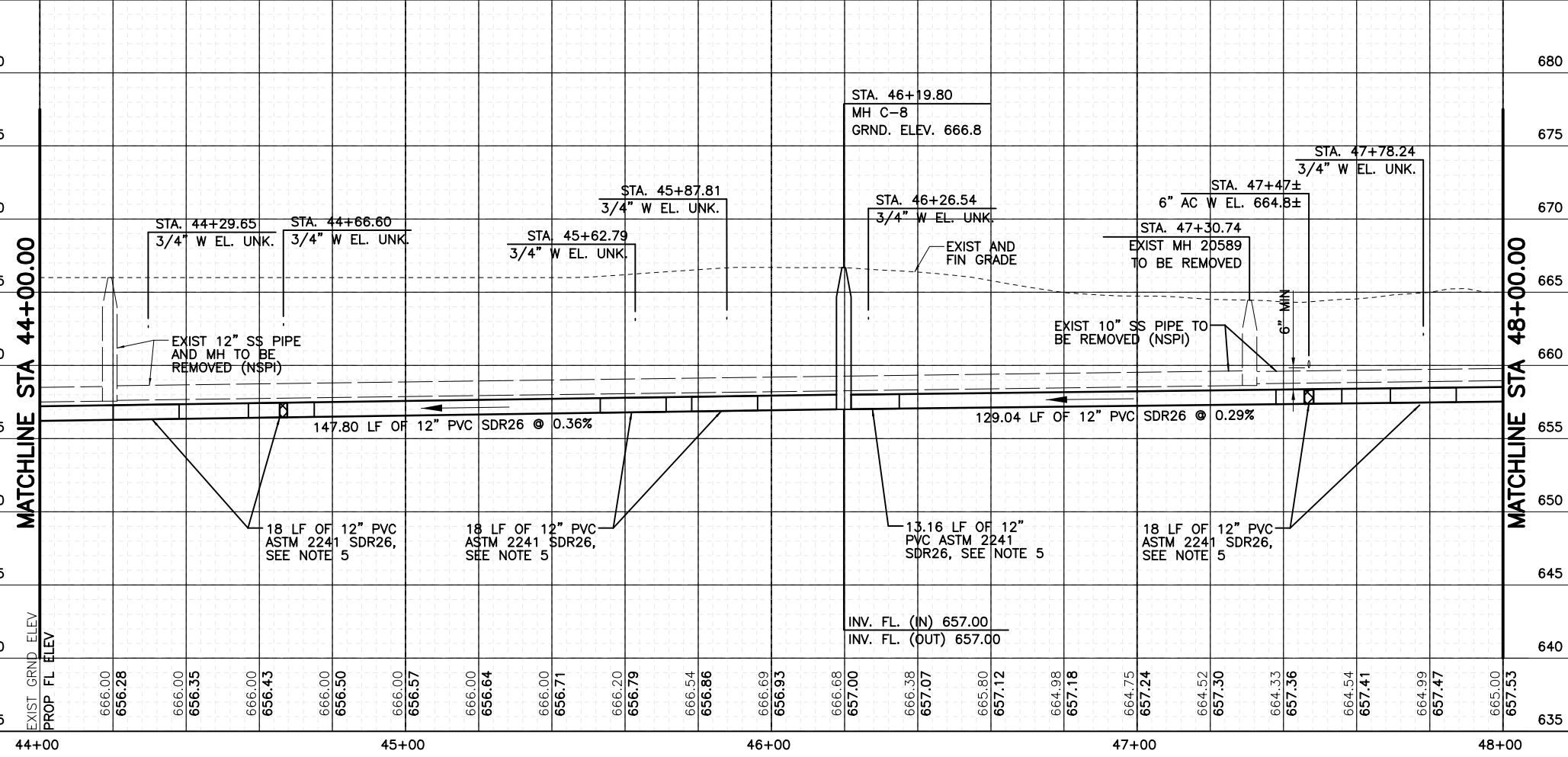


MATCHLINE STA 44+00.00

MATCHLINE STA 48+00.00

SHEET NOTE:

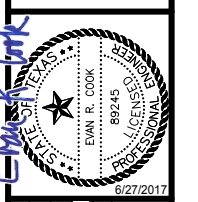
1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE MOST RECENT UTILITY RECORDS AVAILABLE TO THE ENGINEER. THE NOTATION OF SUCH UNDERGROUND UTILITIES ON THE PLANS DOES NOT CONSTITUTE A WARRANTY, REPRESENTATION, OR GUARANTEE BY THE OWNER OR ENGINEER REGARDING THOSE UNDERGROUND FACILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES AND UTILITIES PRIOR TO COMMENCEMENT OF THE WORK.
2. CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF SANITARY SEWER LATERALS. SERVICES SHOWN ARE FOR QUANTITY PURPOSES ONLY.
3. REMOVE EXISTING SANITARY SEWER LATERALS TO PROPERTY LINE AND INSTALL NEW SANITARY SEWER LATERALS WITH CLEANOUTS, CONNECTED TO PROP. 12" SS, IN ACCORDANCE WITH SAWS ITEM NO. 854, SAWS DETAIL NO. DD-854-02, AND SAWS DETAIL NO. DD-854-03. ALL LATERAL PIPING SHALL BE ASTM D2241 SDR 26 PVC PIPE.
4. PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
5. IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
6. REPAIR PAVEMENT, DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
7. WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL, IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
8. CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL LATERALS BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
9. CENTER ONE 18-FOOT (MIN.) JOINT OF D2241, SDR 26 PVC PIPE UNDER WATER LINE. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR SEWER, PLACE FLOWABLE FILL TO 6" BELOW WATER LINE. PLACE BACKFILL FOR WATER LINE PER SAWS ITEM 804. FOLLOWING PLACEMENT AND COMPACTION OF INITIAL BACKFILL FOR WATER LINE, PLACE FLOWABLE FILL TO BOTTOM OF PAVEMENT BASE, MATERIAL, FLOWABLE FILL AND BACKFILL SHALL EXTEND 1'-0" FROM WATER LINE ON BOTH SIDES. ADJUST WATER PIPING VERTICALLY UPWARD AS REQUIRED TO PROVIDE 6" (MIN.) SEPARATION BETWEEN OUTSIDE DIAMETERS OF PIPES USING 45-DEGREE BENDS.



MATCHLINE STA 44+00.00

MATCHLINE STA 48+00.00

SHEET QUANTITY SUMMARY				
NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	304
5	COSA 203.1	TACK COAT	GAL	152
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	1,518
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	1,518
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	3
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	400
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	122
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	278
65	SAWS 852	STANDARD 4' MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	4
68	SAWS 854	SANITARY SEWER LATERALS	LF	344
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	12
73	SAWS 860	VERTICAL STACKS	VF	38
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400



ADDENDUM NO. 6	ERC 06/28/17	DATE
REVISION	BY	DATE
SCALE: 1" = 20'		

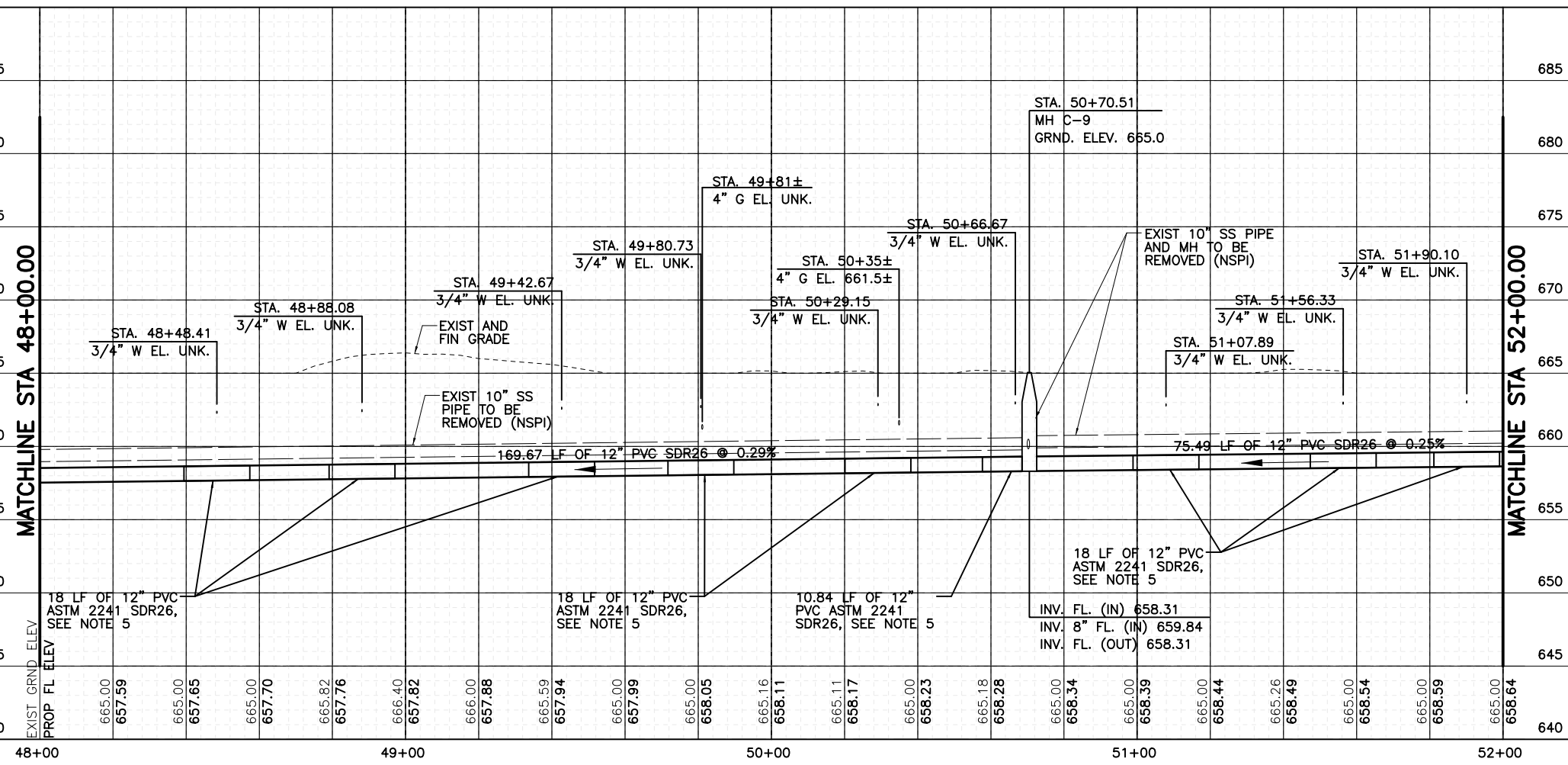
SAN ANTONIO WATER SYSTEM
 PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO &
 C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC
CP&Y Proj. No.	SAW1105.00

6/27/2017 7:20:43 AM gmlkls p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek/8.00 Plans and Drawings/8.30 Cut Sheets/Phase 2/SAWS1105 C-C-08.dgn

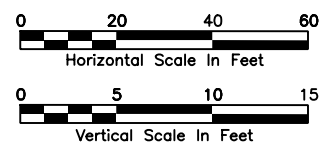
MATCHLINE STA 48+00.00

MATCHLINE STA 52+00.00



SHEET QUANTITY SUMMARY				
NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	284
5	COSA 203.1	TACK COAT	GAL	142
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2' COMPACTED DEPTH)	SY	1,422
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2' DEPTH)	SY	1,422
8	COSA 413.1	FLOWABLE FILL (LOW STRENGTH)	CY	6
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	223
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	400
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	155
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	245
65	SAWS 852	STANDARD 4' MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	1
68	SAWS 854	SANITARY SEWER LATERALS	LF	477
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	15
73	SAWS 860	VERTICAL STACKS	VF	20
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	400

- SHEET NOTE:
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 - PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
 - IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
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SAWS JOB NO. 17-4501

CP&Y 12500 SAN ANTONIO, TX 78216 TPBE REGISTRATION #1-1741

SAN ANTONIO WATER SYSTEM

EMERSON

REVISIONS:

NO.	REVISION	BY	DATE
6		ERC	06/28/17

DATE: JUNE 2017

DESIGNED: AG

DRAWN: GWM

REVIEWED: ERC

CP&Y Proj. No. SAWS1105.00

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 48+00 TO STA. 52+00

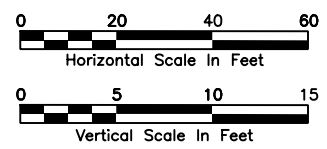
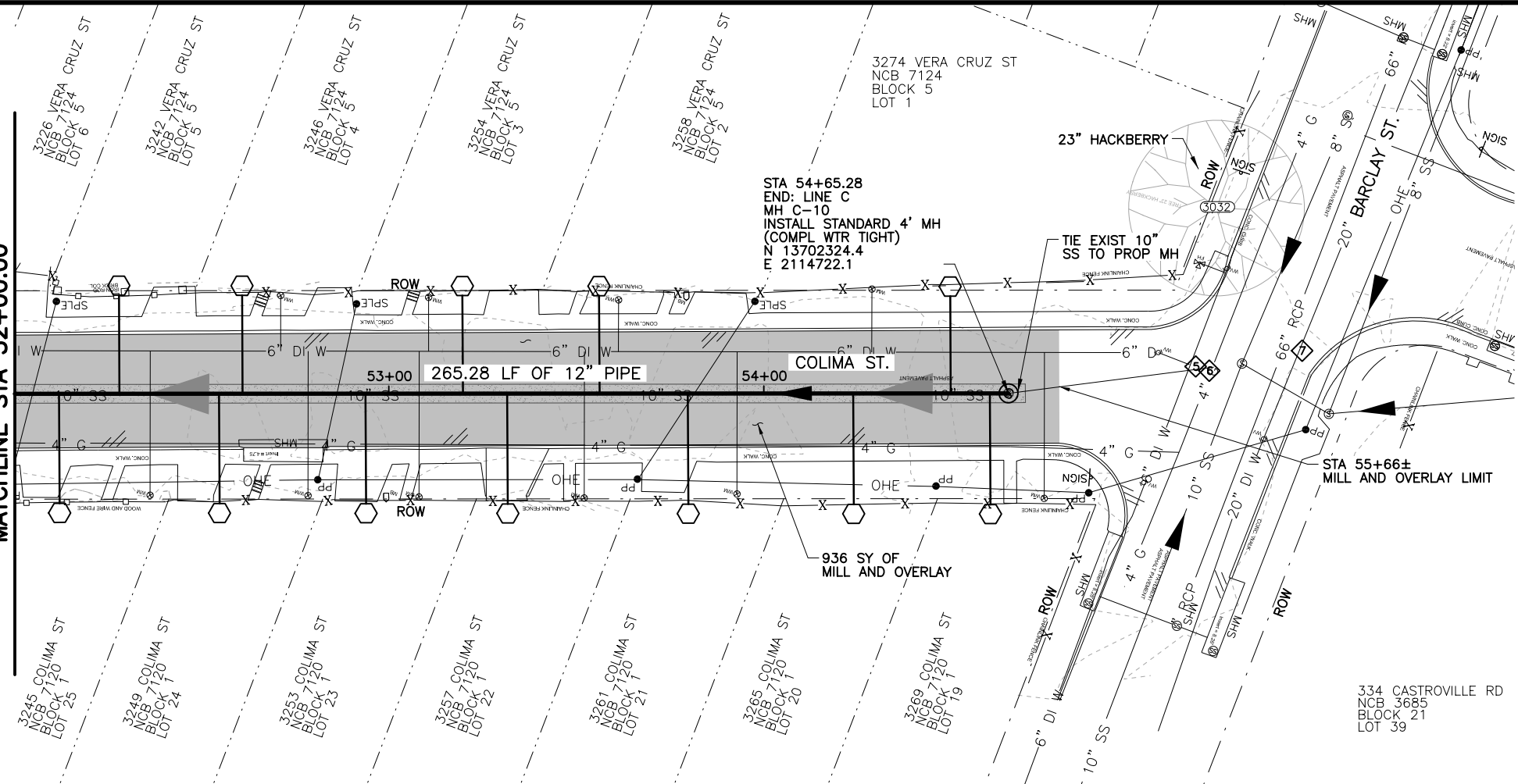
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SHEET 29 OF 57

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MATCHLINE STA 52+00.00

MATCHLINE STA 52+00.00



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4. PROVIDE FERNCO OR APPROVED EQUAL FLEXIBLE COUPLING AS REQUIRED TO CONNECT EXIST LATERAL TO NEW PIPING. INSTALL CONCRETE JOINTING COLLAR PER SAW DETAIL DD-858-02. FIELD VERIFY OUTSIDE DIAMETER OF EXIST PIPE PRIOR TO FABRICATION OR CONSTRUCTION.
5. IF REQUIRED, PROVIDE VERTICAL STACKS FOR SANITARY SEWER LATERALS IN ACCORDANCE WITH SAWS ITEM NO. 860 AND SAWS DETAIL NO. DD-860-01.
6. REPAIR PAVEMENT, DRIVEWAYS, SIDEWALK, CURB, FENCES, AND OTHER SURFACE FEATURES OF WHATEVER TYPE ENCOUNTERED TO PRE-EXISTING CONDITION OR BETTER USING NEW MATERIALS. SURFACE RESTORATION SHALL BE INCIDENTAL TO SANITARY SEWER LATERALS (NSPI).
7. WHERE TRENCH REPAIRS ARE LOCATED WITHIN THE LIMITS OF MILL AND OVERLAY, BACKFILL TRENCH IN ACCORDANCE WITH SAWS ITEM 804, THEN PLACE 12" OR 15" OF TYPE B MATERIAL, IN ACCORDANCE WITH COSA ITEM 205, TO PROVIDE TEMPORARY ALL WEATHER SURFACE. REFER TO DETAIL C, SHEET D-02, AND SUPPLEMENT TO ITEM 511 CUTTING AND REPLACING PAVEMENT (TRENCH REPAIR).
8. CONTRACTOR SHALL PROTECT ALL TREES, UNLESS SHOWN ON THE DRAWINGS TO BE REMOVED, IN ACCORDANCE WITH THE COSA TREE PRESERVATION NOTES AND DETAILS. INSTALL LATERALS BY TUNNELING OR OPEN TRENCHING AS NECESSARY TO PROTECT TREES IN ACCORDANCE WITH THE COSA BORING THROUGH TREE ROOT ZONE DETAIL (SHEET G-10). CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PAYMENT OF ANY FEES OR REPLACEMENT COSTS ASSOCIATED WITH UNAUTHORIZED TREE REMOVAL OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.

EXIST GRND. ELEV	PROP FL ELEV	640	645	650	655	660	665	670	675	680	685
664.64	658.69	664.17	658.74	664.09	658.79	664.00	658.84	664.24	658.89	665.00	658.94
665.00	658.99	665.03	659.04	665.00	659.09	665.00	659.14	665.50	659.19	666.00	659.24
666.00	659.29										

STATION	DESCRIPTION	QUANTITY
52+36.35	3/4" W EL. UNK.	18 LF OF 12" PVC ASTM 2241 SDR26, SEE NOTE 5
52+78.47	3/4" W EL. UNK.	18 LF OF 12" PVC ASTM 2241 SDR26, SEE NOTE 5
53+08.08	3/4" W EL. UNK.	175.28 LF OF 12" PVC SDR26 @ 0.25%
53+52.14	3/4" W EL. UNK.	EXIST AND FIN GRADE
53+92.91	3/4" W EL. UNK.	EXIST 10" SS PIPE AND MH TO BE REMOVED (NSPI)
54+65.28	MH C-10	1
54+65.28	GRND. ELEV. 666.0	

NO.	BID ITEM NO.	DESCRIPTION	UNIT	PLAN
4	COSA 202.1	PRIME COAT	GAL	187
5	COSA 203.1	TACK COAT	GAL	94
6	COSA 205.4	HOT MIX ASPHALTIC CONCRETE PAVEMENT, TYPE D (2" COMPACTED DEPTH)	SY	936
7	COSA 208.1	SALVAGE, HAUL, STOCKPILE ASPHALT PAVEMENT (2" DEPTH)	SY	936
16	COSA 511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT (12" TYPE B)	SY	149
30	SAWS 550	TRENCH EXCAVATION SAFETY PROTECTION	LF	266
43	SAWS 848	12" D 2241 DR 26 PVC SANITARY SEWER LINE (6'-10')	LF	90
49	SAWS 848	12" D 3034 SDR 26 PVC SANITARY SEWER LINE (6'-10')	LF	176
65	SAWS 852	STANDARD 4' MANHOLE (0'-6")	EA	1
67	SAWS 852	STANDARD EXTRA DEPTH MANHOLES (>6")	VF	1
68	SAWS 854	SANITARY SEWER LATERALS	LF	340
69	SAWS 868	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	12
73	SAWS 860	VERTICAL STACKS	VF	4
78	SAWS 866	SEWER MAIN PRE-TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	266
80	SAWS 866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	266

SAWS JOB NO. 17-4501

CP&Y 12500 SAN PEDRO SAN ANTONIO, TX 78216 TBPB REGISTRATION #F-1741

EMERSON

SAN ANTONIO WATER SYSTEM

PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO & C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

P&P - STA. 52+00 TO STA. 54+65.28

DATE: JUNE 2017

DESIGNED: AG

DRAWN: GWM

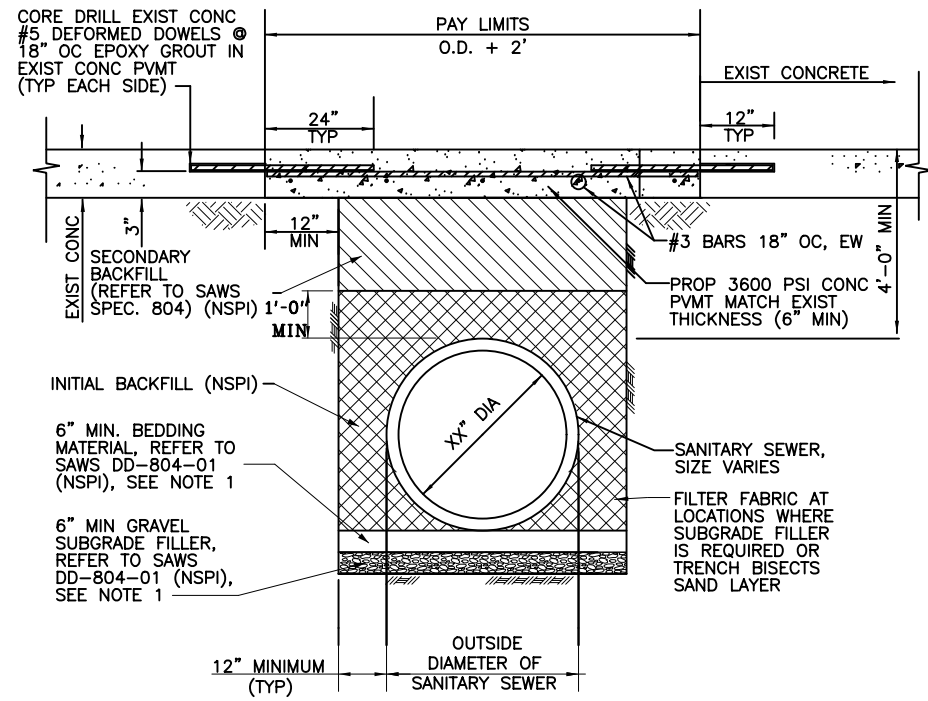
REVIEWED: ERC

CP&Y Proj. No. SAW1105.00

SHEET C-C-09

SHEET 30 OF 57

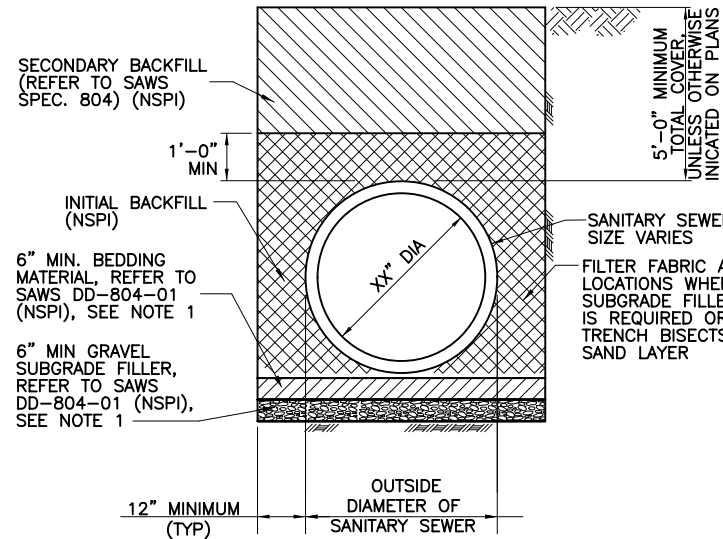
6/27/2017 7:20:53 AM amilks p:\Active Projects\SAWS1105.00 - C-5 & C-28 Zarzamora Creek\8.00 Plans and Drawings\8.30 Cut Sheets\Phase 2\SAWS1105 D-02.dgn



A TRENCH RESTORATION - CONCRETE
NTS

NOTES:

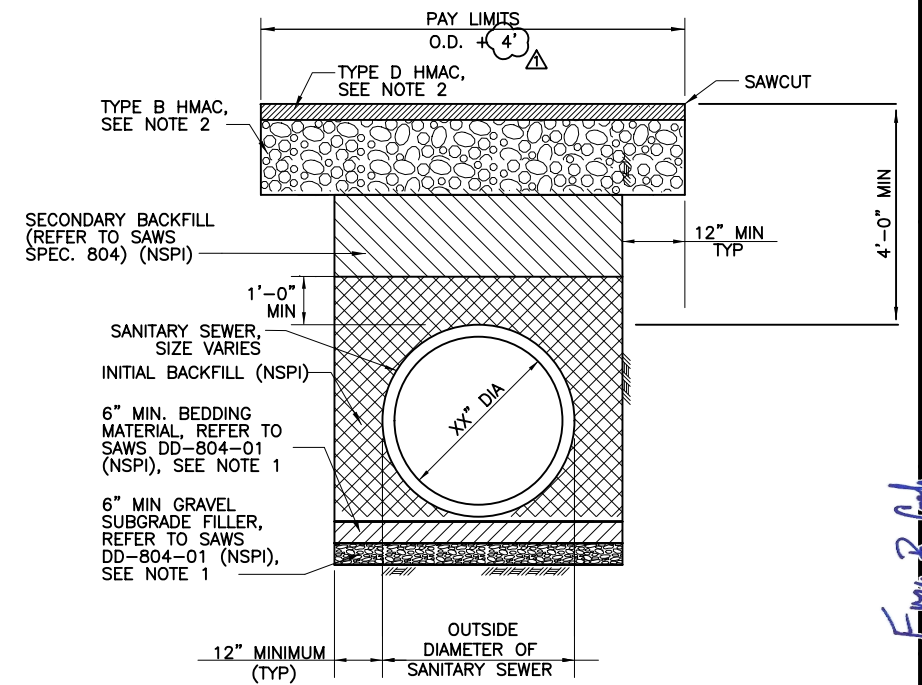
1. DEPTH OF GRAVEL SUBGRADE FILLER TO BE DETERMINED IN FIELD BY SAWS FIELD REPRESENTATIVE IN CONDITIONS WHERE BOTTOM IS UNSTABLE.



B TRENCH RESTORATION - NO PAVEMENT
NTS

NOTES:

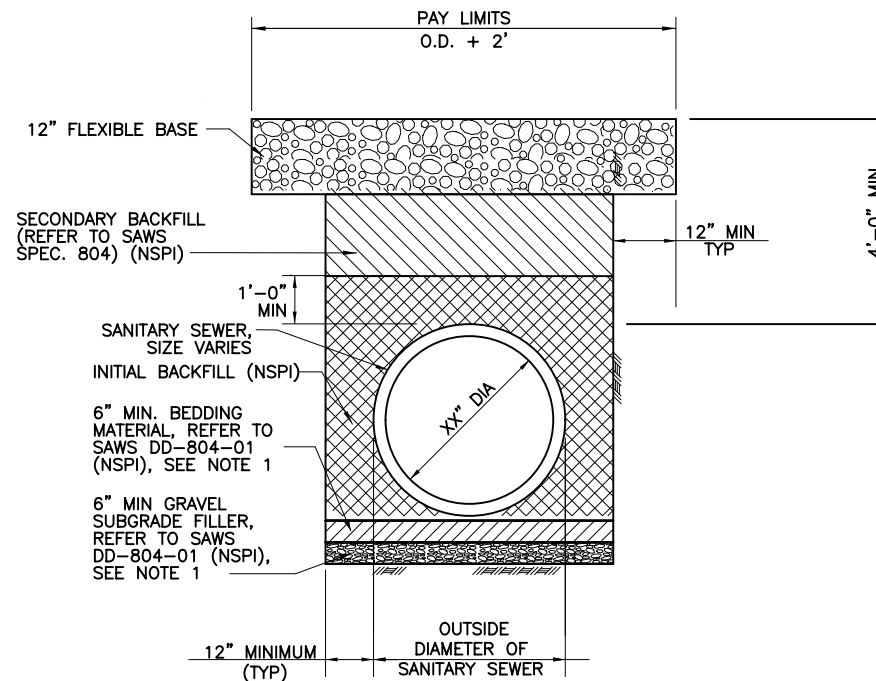
1. DEPTH OF GRAVEL SUBGRADE FILLER TO BE DETERMINED IN FIELD BY SAWS FIELD REPRESENTATIVE IN CONDITIONS WHERE BOTTOM IS UNSTABLE.



C TRENCH RESTORATION - ASPHALT PAVEMENT
NTS

NOTES:

1. DEPTH OF GRAVEL SUBGRADE FILLER TO BE DETERMINED IN FIELD BY SAWS FIELD REPRESENTATIVE IN CONDITIONS WHERE BOTTOM IS UNSTABLE.
2. PROVIDE ASPHALT PAVEMENT AS FOLLOWS:
 - A. LOCAL STREETS
2" TYPE D HMAC
10" TYPE B HMAC
 - B. COLLECTOR STREET
3" TYPE D HMAC
12" TYPE B HMAC
3. ONLY IF DIRECTED BY SAWS FIELD REPRESENTATIVE, FURNISH TXDOT DMS-6200, TYPE 1 FILTER FABRIC.
4. PLACE FILTER FABRIC IN TRENCH PRIOR TO PLACEMENT OF ANY BACKFILL MATERIAL. AFTER PLACEMENT OF INITIAL BACKFILL MATERIAL, LAP FILTER AS RECOMMENDED BY MANUFACTURER.



D TRENCH RESTORATION - GRAVEL PAVEMENT
NTS

NOTES:

1. DEPTH OF GRAVEL SUBGRADE FILLER TO BE DETERMINED IN FIELD BY SAWS FIELD REPRESENTATIVE IN CONDITIONS WHERE BOTTOM IS UNSTABLE.



NO.	REVISION	BY	DATE
6	ADDENDUM NO. 6	ERC	06/28/17

VERIFY SCALE
0 1"

SAN ANTONIO WATER SYSTEM
PHASE 2 C-5 - CULEBRA - CASTROVILLE TO LAREDO &
C-28 - ZARZAMORA CREEK - SAN GABRIEL TO NW 23RD ST

Date:	JUNE 2017
Designed:	AG
Drawn:	GWM
Reviewed:	ERC
CP&Y Proj. No.	SAW1105.00