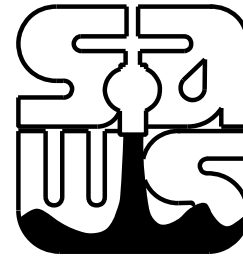


# SAN ANTONIO WATER SYSTEM



SEWER JOB NO: 20-4508

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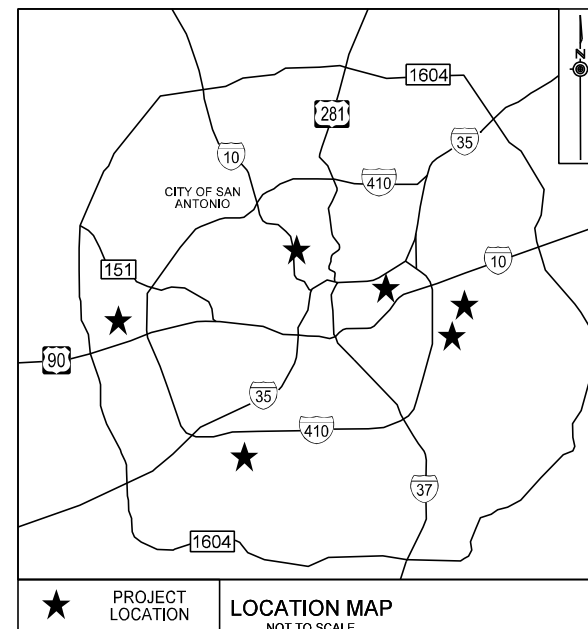
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96583  
1/18/2021

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## MULTIPLE SEWERSHED PACKAGE 18

SUBMITTAL PREPARED BY:



JANUARY 2021

SHEET NO	DESCRIPTION
1	COVER SHEET
2	SHEET INDEX AND QUANTITIES
3	GENERAL NOTES
4	PROJECT SPECIFIC NOTES
5	TRAFFIC CONTROL PLAN - BYPASS PUMPING AND TRAFFIC CONTROL NOTES AND SIGN
6	PROJECT LAYOUT (1 OF 5)
7	PROJECT LAYOUT (2 OF 5)
8	PROJECT LAYOUT (3 OF 5)
9	PROJECT LAYOUT (4 OF 5)
10	PROJECT LAYOUT (5 OF 5)
11	CIPP - PROJECT LOCATION 1 - MARTINEZ CREEK
12	BYPASS - PROJECT LOCATION 1 - MARTINEZ CREEK
13	SWPPP - PROJECT LOCATION 1 - MARTINEZ CREEK
14	TRAFFIC CONTROL PLAN - PROJECT LOCATION 1 - IH-10 FRONTAGE ROAD AT W KINGS HWY
15	CIPP - PROJECT LOCATION 2 - FISHERS GLADE
16	BYPASS - PROJECT LOCATION 2 - FISHERS GLADE
17	ACCESS AND TREE PROTECTION - PROJECT LOCATION 2 - FISHERS GLADE
18	SWPPP - PROJECT LOCATION 2 - FISHERS GLADE
19	CIPP OVERALL - PROJECT LOCATION 3 E HOUSTON ST / FM 1346
20	CIPP - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346 - (1 OF 4)
21	CIPP - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346 - (2 OF 4)
22	CIPP - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346 - (3 OF 4)
23	CIPP - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346 - (4 OF 4)
24	BYPASS - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346 - (1 OF 2)
25	BYPASS - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346 - (2 OF 2)
26	ACCESS AND TREE PROTECTION - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346
27	SWPPP - PROJECT LOCATION 3 - E HOUSTON ST / FM 1346
28	TRAFFIC CONTROL PLAN - PROJECT LOCATION 3 - HOUSTON ST AT SAINTS ARC ST
29	CIPP OVERALL - PROJECT LOCATION 4 - ROSILLO CREEK
30	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (1 OF 13)
31	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (2 OF 13)
32	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (3 OF 13)
33	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (4 OF 13)
34	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (5 OF 13)
35	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (6 OF 13)
36	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (7 OF 13)
37	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (8 OF 13)
38	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (9 OF 13)
39	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (10 OF 13)
40	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (11 OF 13)
41	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (12 OF 13)
42	CIPP - PROJECT LOCATION 4 - ROSILLO CREEK - (13 OF 13)
43	BYPASS - OVERALL - PROJECT LOCATION 4 - ROSILLO CREEK
44	BYPASS - PROJECT LOCATION 4 - ROSILLO CREEK - (1 OF 6)
45	BYPASS - PROJECT LOCATION 4 - ROSILLO CREEK - (2 OF 6)
46	BYPASS - PROJECT LOCATION 4 - ROSILLO CREEK - (3 OF 6)
47	BYPASS - PROJECT LOCATION 4 - ROSILLO CREEK - (4 OF 6)
48	BYPASS - PROJECT LOCATION 4 - ROSILLO CREEK - (5 OF 6)
49	BYPASS - PROJECT LOCATION 4 - ROSILLO CREEK - (6 OF 6)
50	ACCESS AND TREE PROTECTION - OVERALL - PROJECT LOCATION 4 - ROSILLO CREEK
51	ACCESS AND TREE PROTECTION - PROJECT LOCATION 4 - ROSILLO CREEK - (1 OF 4)
52	ACCESS AND TREE PROTECTION - PROJECT LOCATION 4 - ROSILLO CREEK - (2 OF 4)
53	ACCESS AND TREE PROTECTION - PROJECT LOCATION 4 - ROSILLO CREEK - (3 OF 4)
54	ACCESS AND TREE PROTECTION - PROJECT LOCATION 4 - ROSILLO CREEK - (4 OF 4)
55	SWPPP OVERALL - PROJECT LOCATION 4 - ROSILLO CREEK
56	SWPPP - PROJECT LOCATION 4 - ROSILLO CREEK - (1 OF 3)
57	SWPPP - PROJECT LOCATION 4 - ROSILLO CREEK - (2 OF 3)
58	SWPPP - PROJECT LOCATION 4 - ROSILLO CREEK - (3 OF 3)
59	CIPP OVERALL - PROJECT LOCATION 5 - LEON CREEK 66" / 72"
60	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (1 OF 11)
61	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (2 OF 11)
62	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (3 OF 11)
63	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (4 OF 11)
64	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (5 OF 11)
65	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (6 OF 11)
66	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (7 OF 11)
67	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (8 OF 11)
68	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (9 OF 11)
69	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (10 OF 11)
70	CIPP - PROJECT LOCATION 5 - LEON CREEK 66" / 72" - (11 OF 11)
71	CIPP OVERALL - PROJECT LOCATION 5 - LEON CREEK 54"
72	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (1 OF 13)
73	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (2 OF 13)
74	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (3 OF 13)
75	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (4 OF 13)
76	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (5 OF 13)
77	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (6 OF 13)
78	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (7 OF 13)
79	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (8 OF 13)
80	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (9 OF 13)
81	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (10 OF 13)
82	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (11 OF 13)
83	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (12 OF 13)

SHEET NO	DESCRIPTION
84	CIPP - PROJECT LOCATION 5 - LEON CREEK 54" - (13 OF 13)
85	BYPASS - OVERALL - PROJECT LOCATION 5 - LEON CREEK
86	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (1 OF 7)
87	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (2 OF 7)
88	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (3 OF 7)
89	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (4 OF 7)
90	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (5 OF 7)
91	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (6 OF 7)
92	BYPASS - PROJECT LOCATION 5 - LEON CREEK - (7 OF 7)
93	ACCESS AND TREE PROTECTION - OVERALL - PROJECT LOCATION 5 - LEON CREEK
94	ACCESS AND TREE PROTECTION - PROJECT LOCATION 5 - LEON CREEK - (1 OF 5)
95	ACCESS AND TREE PROTECTION - PROJECT LOCATION 5 - LEON CREEK - (2 OF 5)
96	ACCESS AND TREE PROTECTION - PROJECT LOCATION 5 - LEON CREEK - (3 OF 5)
97	ACCESS AND TREE PROTECTION - PROJECT LOCATION 5 - LEON CREEK - (4 OF 5)
98	ACCESS AND TREE PROTECTION - PROJECT LOCATION 5 - LEON CREEK - (5 OF 5)
99	SWPPP OVERALL - PROJECT LOCATION 5 - LEON CREEK
100	SWPPP - PROJECT LOCATION 5 - LEON CREEK - (1 OF 3)
101	SWPPP - PROJECT LOCATION 5 - LEON CREEK - (2 OF 3)
102	SWPPP - PROJECT LOCATION 5 - LEON CREEK - (3 OF 3)
103	CIPP OVERALL - PROJECT LOCATION 6 - WILLOW SPRINGS
104	CIPP - PROJECT LOCATION 6 - WILLOW SPRINGS - (1 OF 4)
105	CIPP - PROJECT LOCATION 6 - WILLOW SPRINGS - (2 OF 4)
106	CIPP - PROJECT LOCATION 6 - WILLOW SPRINGS - (3 OF 4)
107	CIPP - PROJECT LOCATION 6 - WILLOW SPRINGS - (4 OF 4)
108	BYPASS OVERALL - PROJECT LOCATION 6 - WILLOW SPRINGS
109	BYPASS - PROJECT LOCATION 6 - WILLOW SPRINGS - (1 OF 3)
110	BYPASS - PROJECT LOCATION 6 - WILLOW SPRINGS - (2 OF 3)
111	BYPASS - PROJECT LOCATION 6 - WILLOW SPRINGS - (3 OF 3)
112	ACCESS AND TREE PROTECTION - PROJECT LOCATION 6 - WILLOW SPRINGS
113	SWPPP - PROJECT LOCATION 6 - WILLOW SPRINGS
114	TRAFFIC CONTROL PLAN - PROJECT LOCATION 6 - AT&T PARKWAY
115	GENERAL STRUCTURE NOTES
116	SIPHON STRUCTURE COVER SLAB REPLACEMENT
117	TEE-BASE MANHOLE DETAILS
118	SECTIONS AND DETAILS
119	NEW FRP MANHOLE DETAILS
120	MANHOLE RECONSTRUCTION ENCASEMENT AND GOOSENECK VENT DETAILS
121	RECORD DRAWING DJ 2251 - MANHOLE DETAILS
122	RECORD DRAWING DJ 4312 - MANHOLE DETAILS
123	RECORD DRAWING DJ 4312 - SIPHON STRUCTURE DETAILS
124	TREE PROTECTION DETAILS
125	EROSION CONTROL - EPIC SHEET
126	EROSION CONTROL - DETAIL SHEET (1 OF 2)
127	EROSION CONTROL - DETAIL SHEET (2 OF 2)
128	BC(1)-14 (1 OF 12)
129	BC(2)-14 (2 OF 12)
130	BC(3)-14 (3 OF 12)
131	BC(4)-14 (4 OF 12)
132	BC(5)-14 (5 OF 12)
133	BC(6)-14 (6 OF 12)
134	BC(7)-14 (7 OF 12)
135	BC(8)-14 (8 OF 12)
136	BC(9)-14 (9 OF 12)
137	BC(10)-14 (10 OF 12)
138	BC(11)-14 (11 OF 12)
139	BC(12)-14 (12 OF 12)

TOTAL ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
100	MOBILIZATION (MAX 10% OF THE TOTAL OF BID ITEMS)	LS	1
101	PREPARING RIGHT-OF-WAY (MAX 5% OF THE TOTAL OF BID ITEMS)	LS	1
SP530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (PROJECT LOCATION 1)	EA	1
SP530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (PROJECT LOCATION 2)	EA	1
SP530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (PROJECT LOCATION 3)	EA	1
SP530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (PROJECT LOCATION 4)	EA	1
SP530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (PROJECT LOCATION 5)	EA	1
SP530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING (PROJECT LOCATION 6)	EA	1
SP540	TEMPORARY EROSION, SEDIMENT, AND WATER POLLUTION PREVENTION AND CONTROL (COSA SPEC)	EA	6
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	163
SP551	TEMPORARY SPECIAL SHORING OF RECYCLED WATER LINE AT A-1	LS	1
SP551	TEMPORARY SPECIAL SHORING OF RECYCLED WATER LINE AT A-2	LS	1
850	4" DIA. SANITARY SEWER STRUCTURE (DOGHOUSE)	EA	4
SP851	ADJUST EXISTING MANHOLES (NEW RING AND COVER)	EA	28
SP853	7" DIA. FRP EXTENDED BASE SANITARY SEWER MANHOLE A-1	EA	1
SP853	6" DIA. FRP EXTENDED BASE SANITARY SEWER MANHOLE A-2	EA	1
SP855	RECONSTRUCTION OF EXISTING MANHOLES	EA	5
SP855.1	RECONSTRUCTION OF SIPHON STRUCTURE 1228	EA	1
SP855.1	RECONSTRUCTION OF SIPHON STRUCTURE 1089	EA	1
SP855.1	RECONSTRUCTION OF SIPHON STRUCTURE 4588	EA	1
SP862	ABANDONMENT OF SEWER MANHOLE 47169	EA	1
SP864-S2	BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS) (PROJECT LOCATION 1)	EA	1
SP864-S2	BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS) (PROJECT LOCATION 2)	EA	1
SP864-S2	BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS) (PROJECT LOCATION 3)	EA	1
SP864-S2	BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS) (PROJECT LOCATION 4)	EA	1
SP864-S2	BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS) (PROJECT LOCATION 5)	EA	1
SP864-S2	BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS) (PROJECT LOCATION 6)	EA	1
866	SEWER MAIN TELEVISION INSPECTION (8" TO 24")	LF	1520
866	SEWER MAIN TELEVISION INSPECTION (27" AND LARGER)	LF	16383
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (10")	LF	1331
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (24")	LF	189
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (30")	LF	6365
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (36")	LF	678
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (54")	LF	5007
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (66")	LF	1827
SP901.1	INSTALL CIPP SANITARY SEWER PIPE (HOT WATER) (72")	LF	2506
SS910.1	MANHOLE REHABILITATION (STANDARD MANHOLES UP TO 5' DIA.)	VF	182.07
SS910.2	SEWER STRUCTURE REHABILITATION	SF	7502
SS910.3	SEWER SIPHON STRUCTURE REHABILITATION (TYPE II)	SF	1968
SS910.3	SEWER SIPHON STRUCTURE REHABILITATION (TYPE III)	SF	1968
SS1020	WILLOW SPRINGS GOLF COURSE RESTORATION ALLOWANCE	ALW	1
SP1103.1	POINT REPAIR (10") (18' AND GREATER DEPTH)	EA	1
SP1103.1	POINT REPAIR (30") (10'-14' DEPTH)	EA	1
SP1103.1	POINT REPAIR (30") (14'-18' DEPTH)	EA	1
SP1103.1	POINT REPAIR (30") (18' AND GREATER DEPTH)	EA	2
SP1103.1	POINT REPAIR (36") (10'-14' DEPTH)	EA	1
SP1103.1	POINT REPAIR (54") (6'-10' DEPTH)	EA	1
SP1103.1	POINT REPAIR (54") (10'-14' DEPTH)	EA	1
SP1103.1	POINT REPAIR (54") (18' AND GREATER DEPTH)	EA	1
SP1103.1	POINT REPAIR (66") (10'-14' DEPTH)	EA	1
SP1103.1	POINT REPAIR (66") (18' AND GREATER DEPTH)	EA	1
SP1103.1	POINT REPAIR (72") (10'-14' DEPTH)	EA	1
SP1103.1	POINT REPAIR (72") (18' AND GREATER DEPTH)	EA	1
SP1103.2	EXTRA LENGTH POINT REPAIRS (24") (ALL DEPTHS)	LF	21
SP1103.2	EXTRA LENGTH POINT REPAIRS (54") (ALL DEPTHS)	LF	25
SP1103.3	OBSTRUCTION REMOVAL BY REMOTE DEVICE (10") (ALL DEPTHS)	EA	4
SP1103.3	OBSTRUCTION REMOVAL BY REMOTE DEVICE (24" DIAMETER) (ALL DEPTHS)	EA	1
SP1103.3	OBSTRUCTION REMOVAL BY REMOTE DEVICE (27"-72" DIAMETER) (ALL DEPTHS)	EA	28
SP1109.1	SERVICE RECONNECTION (INTERNAL) (ALL DEPTHS & SIZES)	EA	5
SS1850	MANHOLE VENT	EA	2
SS4000	TEMPORARY HAUL ROAD (LOCATION 2)	LS	1
SS4000	TEMPORARY HAUL ROAD (LOCATION 3)	LS	1
SS4000	TEMPORARY HAUL ROAD (LOCATION 4)	LS	1
SS4000	TEMPORARY HAUL ROAD (LOCATION 5)	LS	1

SP = SPECIAL PROVISION TO STANDARD SPECIFICATION. REFER TO CONTRACT DOCUMENTS FOR DETAILS.

SS = SPECIAL SPECIFICATION. REFER TO  
CONTRACT DOCUMENTS FOR DETAILS.

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No.	Revision	Drawn	Approved	Date
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REVISIONS
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MULTIPLE SEWERSHED  
PACKAGE 18

## SHEET INDEX AND QUANTITIES

DEVELOPER:

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

APPROVED \_\_\_\_\_

MAP No.			SHEET <b>2</b> OF 139
SECT. No.		JOB No. 20-4508	
DR.	CK.		

0707\_GENERAL\_NOTES.dgn modified by aifischer on 1/18/2021 - 3:11:26 PM

SAWS GENERAL CONSTRUCTION NOTES

GENERAL SECTION:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:

A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.

B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."

C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."

D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."

E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
2. THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE. HTTP://WWW.SAWS.ORG/BUSINESS\_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS.
3. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500 (DURING REGULAR SAWS WORKING HOURS), AND PROVIDE NOTIFICATION PROCEDURES THE CONTRACTOR WILL USE TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 72 HOURS PRIOR TO EXCAVATION. OUTSIDE OF REGULAR SAWS WORKING HOURS THE SAWS EOC SHOULD BE CONTACTED AT 210-704-7297.
4. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:

SAN ANTONIO WATER SYSTEM:

SAWS UTILITY LOCATES: HTTPS://WWW.SAWS.ORG/SERVICE/LOCATES-SERVICE/

COSA DRAINAGE 210-206-8433

COSA TRAFFIC SIGNAL OPERATIONS 210-207-7720

TEXAS STATE WDME ONE CALL LOCATOR 1-800-545-6005 OR 811
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGES DONE BY THE PROJECT'S CONSTRUCTION.
7. ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
8. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
9. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
10. ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.
11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.

12. PRE CON SITE VIDEO: BEFORE THE START OF ANY CONSTRUCTION. THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS (NSPI).
13. POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET, SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO THAT RESPECTIVE UTILITY COMPANY'S WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
14. CONSTRUCTION SEQUENCING: IT IS THE CONTRACTOR SOLE RESPONSIBILITY TO SCHEDULE SEQUENCING FOR REMOVAL AND INSTALLATION OF EXISTING AND PROPOSED SAWS UTILITIES IN CONJUNCTION WITH GENERAL PROJECT CONSTRUCTION. SEQUENCE OF CONSTRUCTION ACTIVITIES SHALL BE CONSIDERED IN ORDER TO MINIMIZE THE EXTENT AND DURATION OF DISTURBANCES.

SEWER SECTION:

15. 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:

A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT 210-704-SAWS (210-704-7297). PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.

B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.

C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.

D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.

E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.

F. 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.
16. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, IN ACCORDANCE WITH SAWS SPECIFICATION ITEM NO. 864-S2, "BYPASS PUMPING (LARGE DIAMETER SANITARY SEWERS)". PAYMENT FOR SUCH WORK WILL BE MADE UNDER THE BID ITEM "BYPASS PUMPING" (LUMP SUM PER EACH) AS PER SAWS SPECIFICATION.

17. 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 TWO WEEKS 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.
18. 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).
19. SMART MANHOLE COVERS: THE CONTRACTOR SHALL NOTIFY SAWS EOC AT 210-704-SAWS (210-704-7297) AND EITHER AMERICA ESPINOZA AT 210-233-2934 OR JOSE A. MARTINEZ AT 210-233-3071 A MINIMUM OF 72 HOURS, NOT COUNTING WEEKENDS OR SAWS HOLIDAYS, BEFORE WORKING ON THE PIPE OR MANHOLE, IN ORDER TO HAVE SAWS REMOVE THE SMART COVER. ANY DAMAGE DONE TO THE SMART COVER WILL BE CHARGED TO THE CONTRACTOR THROUGH A CHANGE ORDER.
20. FLOW METERS IN MANHOLES: THE CONTRACTOR SHALL NOTIFY BOBBY JOHNSON AT 210-233-3493 OR ABEL BORUNDA AT 210-233-3704 A MINIMUM OF 72 HOURS, NOT COUNTING WEEKENDS OR SAWS HOLIDAYS, BEFORE WORKING ON THE PIPE OR MANHOLE, IN ORDER TO HAVE SAWS REMOVE THE FLOW METER IN THE MANHOLE. ANY DAMAGE DONE TO THE FLOW METER WILL BE CHARGED TO THE CONTRACTOR THROUGH A CHANGE ORDER.

NOTES:

1. CONTRACTOR TO MAINTAIN SERVICE TO SEWER LATERALS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL ALSO MAINTAIN ACCESS TO ALL EXISTING AND PROPOSED WATER VALVES AT ALL TIMES (NSPI).
2. NSPI - NOT A SEPARATE PAY ITEM.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING OPERATION OF ALL EXISTING UTILITIES AFFECTED BY PROPOSED CONSTRUCTION.
4. CONTRACTOR SHALL TAKE EXTREME CARE WHEN WORKING AROUND TREES TO PREVENT DAMAGE. PRIOR TO THE START OF WORK, CALL 207-1111 TO SCHEDULE A PRE-CONSTRUCTION FENCING INSPECTION. TREE PROTECTION AND PRUNING OF TREES REQUIRED TO CLEAR RIGHT OF WAY OR EASEMENTS AND ALL ONSITE TREE REMOVAL SHALL BE SUBSIDIARY TO ITEM 101 "PREPARING RIGHT-OF-WAY."
5. CONTRACTOR SHALL PROVIDE ACCESS FOR DELIVERY OF MAIL BY THE US POSTAL SERVICE.
6. CONTRACTOR SHALL PROVIDE ACCESS TO MAINTAIN TRASH SERVICE AT ALL TIMES.
7. CONTRACTOR SHALL COORDINATE SIDEWALK AND LANE CLOSURES WITH CITY OF SAN ANTONIO AND TXDOT.
8. CONTRACTOR SHALL NOTIFY SAWS INSPECTION AT 210-233-3500 AT LEAST 48-HOURS BEFORE ANY OF THE FOLLOWING ACTIVITIES TAKE PLACE:

A. BYPASS PUMPING SETUP OPERATIONS

B. PRE-TELEVISION INSPECTION

C. PIPE INSTALLATION

CPS ENERGY NOTES:

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

AT&T NOTES:

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

NOTE FOR THE CITY OF SAN ANTONIO FLATWORK:

ALL LIMITS FOR CURB, SIDEWALK, AND TREE PREP BEYOND WHAT IS CONSIDERED INCIDENTAL TO NORMAL UTILITY CONSTRUCTION WILL BE ADDRESSED BY THE SAWS INSPECTOR. THE SAWS INSPECTOR WILL ALSO DETERMINE IF ADDITIONAL COMPENSATION IS WARRANTED IF LIMITS EXCEED INCIDENTALS.

TRENCH EXCAVATION SAFETY PROTECTION

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

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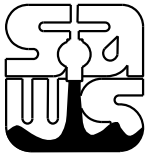
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		MULTIPLE SEWERSHED PACKAGE 18		
		GENERAL NOTES		
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED _____				
APPROVED _____				
MAP No.				SHEET
SECT. No.				3
DR.	CK.	JOB No. 20-4508		OF 139



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SEWER REHABILITATION NOTES:

1. THESE PLANS WERE PREPARED WITH LIMITED ON THE GROUND SURVEY. AERIAL IMAGERY MAY NOT REFLECT ALL RECENT IMPROVEMENTS. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
2. PROFILES SHOWN IN PLANS FOR CIPP SEGMENTS ARE BASED ON BEST INFORMATION AVAILABLE. INVERTS ARE BASED ON SAWS GIS DATA AND WERE NOT VERIFIED BY SURVEY AT ALL LOCATIONS. INFORMATION IS PROVIDED TO ASSIST CONTRACTOR WITH PLANNING INSTALLATION. SLIGHT DISCREPANCIES WITH MANHOLE ELEVATIONS MAY BE ENCOUNTERED; CONTRACTOR SHALL FIELD VERIFY ALL DEPTHS, DISTANCES, PIPE SIZES, GRADES, AND SERVICE LATERALS BEFORE START OF CONSTRUCTION.
3. ALL POINT REPAIRS MUST BE CONFIRMED AND APPROVED BY SAWS AND DESIGN ENGINEER VIA PRE-TELEVISIONING PRIOR TO CONSTRUCTION.
4. CONTROL NOISE LEVEL DURING NIGHT HOURS IN ACCORDANCES WITH CITY OF SAN ANTONIO NOISE ORDINANCES, EXCEPT AS MODIFIED BELOW. CONSTRUCTION ACTIVITIES AND EQUIPMENT FOR ACTIVITIES BETWEEN THE HOURS OF 6 P.M. AND 7 A.M. SHALL BE EQUIPPED WITH ACOUSTICAL ENCLOSURES TO LIMIT NOISE LEVEL TO 56 DECIBELS WHEN MEASURED AT ADJACENT RESIDENTIAL PROPERTY LINE OR 63 DECIBELS WHEN MEASURED AT ADJACENT BUSINESS ZONED PROPERTY LINE. DAYTIME NOISE LEVELS (7 A.M. TO 6 P.M.) SHALL NOT EXCEED 80 DECIBELS WHEN MEASURED AT NEAREST PROPERTY LINE.
5. SOME SANITARY SEWER SEGMENTS PROPOSED FOR REHABILITATION ARE IN CLOSE PROXIMITY TO BUSINESSES. THE CONTRACTOR SHALL COORDINATE WITH AFFECTED ENTITIES AND PROVIDE AT LEAST SEVEN (7) DAYS ADVANCE NOTICE PRIOR TO COMMENCING WORK IN THE AREA. THE CONTRACTOR SHALL MAINTAIN ACCESS AT ALL TIMES. INTERRUPTION OF SERVICE, IF ANY, SHALL BE KEPT TO A MINIMUM AND SCHEDULED TO OCCUR AT A MUTUALLY AGREEABLE TIME OR AFTER HOURS. THE CONTRACTOR SHALL MAINTAIN SANITARY SEWER SERVICE TO RESIDENTS AT ALL TIMES.
6. CONTRACTOR SHALL ACQUIRE HIS OWN STAGING AREA (INCLUDING PARKING FOR CONSTRUCTION PERSONNEL VEHICLES). REFER TO SPECIAL CONDITIONS FOR REQUIREMENTS FOR STAGING AREAS ON PRIVATE PROPERTY.
7. CONSTRUCTION SEQUENCING: CONTRACTOR IS ADVISED THAT CERTAIN SEGMENTS IMPACT SAN ANTONIO RIVER AUTHORITY (SARA) CONTROLLED CREEKS/RIVERS, SCHOOLS, CITY OF SAN ANTONIO (COSA) PARKS, AND GOLF COURSES. CONTRACTOR IS REQUIRED TO COORDINATE WITH THESE ENTITIES IN ADVANCE AND SCHEDULE WORK IN ACCORDANCE WITH THE LIMITATIONS INDICATED IN THE PLANS FOR THESE SEGMENTS. REFER TO SPECIAL CONDITIONS FOR ADDITIONAL REQUIREMENTS FOR SEQUENCING.  
COSA PARKS: MS. SANDY JENKINS AT 210-207-2721  
WILLOW SPRINGS GOLF COURSE: MR. JAKE SNYMAN AT 210-908-5927
9. CONTRACTOR SHALL BE AWARE THAT PROPOSED CIPP WILL LINE THROUGH MINOR JOINT OFFSETS, MINOR SAGS, AND OTHER MINOR PIPE DEFECTS. MORE SIGNIFICANT DEFECTS THAT NEED TO BE LINED THROUGH ARE SPECIFICALLY CALLED OUT IN THE PLANS OR ARE PROPOSED TO BE POINT REPAIRED.
10. LIMITS OF CONSTRUCTION IN PUBLIC ROW ARE LIMITED TO "APPARENT ROW" LABELED ON PLANS UNLESS NOTED OTHERWISE. LIMITS OF CONSTRUCTION ON PRIVATE PROPERTY SHALL BE PER THE TERMS OF THE RIGHT OF ENTRY AGREEMENTS IN THE CONTRACT DOCUMENTS. WHERE RIGHT OF ENTRY DOCUMENTS ARE NOT INCLUDED IN THE CONTRACT DOCUMENTS, CONTRACTOR SHALL LIMIT ACTIVITIES TO THE EXISTING SEWER EASEMENT SHOWN IN THE PLANS OR PROCURE APPROVAL FROM THE PROPERTY OWNER AT HIS OWN EXPENSE.
11. CONTRACTOR SHALL RESTORE ACCESS ROUTES TO PROJECT LOCTIONS OUTSIDE THE PUBLIC ROW TO THEIR PRE-CONSTRUCTION CONDITION AT HIS OWN EXPENSE. (NSPI)
12. REHABILITATED MANHOLES SHALL RECEIVE A NEW RING AND COVER TO MATCH THE EXISTING DIAMETER PER ITEM NO. 851 AS INDICATED IN THE DRAWINGS. RECONSTRUCTED MANHOLES SHALL RECEIVE A NEW 32" COVER, REGARDLESS OF EXISTING COVER SIZE. NOTE THAT SOME MANHOLE COVERS WITHIN THE PROJECT LIMITS HAVE BEEN UPGRADED TO THE CURRENT STANDARDS BY SAWS. THESE MANHOLES WILL NOT REQUIRE A NEW RING AND COVER UNDER ITEM 851. CONTRACTOR TO REPORT ANY DISCREPANCES IN MANHOLE LID REPLACEMENTS TO ENGINEER AND SAWS INSPECTOR.
13. NEW MANHOLES INSTALLED FOR BYPASS SUCTION POINTS SHALL BE CONSTRUCTED PER SAWS STD DWG DD-852-01 AND DD-850-01. CONTRACTOR SHALL SUBMIT DETAILS FOR DOGHOUSE MANHOLE INSTALLATION AS PART OF SUBMITTAL PROCESS.
14. MANHOLE RECONSTRUCTION INDICATED IN PLANS IS BASED ON AN ESTIMATED LOCATION FOR CIPP LINER INSERTION, UNLESS SPECIFICALLY NOTED TO BE RAISED ABOVE THE FLOODPLAIN FOR VENTING. CONTRACTOR MAY MODIFY LOCATIONS FOR CIPP LINER INSERTION TO SUIT HIS OPERATIONS SUBJECT TO APPROVAL BY ENGINEER TO VERIFY COMPLIANCE WITH ROW PERMIT, ALTERNATE INSERTION LOCATIONS PROPOSED BY CONTRACTOR THAT REQUIRE MODIFICATIONS TO THE TRAFFIC CONTROL, BYPASS PLANS, OR PAVEMENT RESTORATION QUANTITIES SHALL BE AT CONTRACTOR'S EXPENSE.
15. INSTANCES WHERE OBSTRUCTION REMOVALS AND POINT REPAIRS WERE IDENTIFIED IN THE DESIGN CCTV ARE NOTED IN THE PLANS. DUE TO THE AGE AND CONDITION OF THE AVAILABLE VIDEOS, ADDITIONAL POINT REPAIR AND OBSTRUCTION REMOVAL ITEMS HAVE BEEN ADDED TO THE OVERALL PROJECT QUANTITIES. NOTE THAT THE OBSTRUCTION REMOVAL PAY ITEMS ARE INCLUSIVE OF ALL POTENTIAL OBSTRUCTIONS THAT MAY BE ENCOUNTERED AND WILL BE PAID FOR BY PIPE SEGMENT AND NOT BY EACH INSTANCE OF OBSTRUCTION REMOVAL. REFER TO SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

TCI STORM WATER ENGINEERING NOTES:

1. WORK WITHIN THE 100-YEAR FLOODPLAIN OR CITY OF SAN ANTONIO DRAINAGE CHANNELS IS SUBJECT TO THE TERMS OF THE FLOODPLAIN DEVELOPMENT PERMIT ISSUED BY THE CITY. A COPY OF THIS PERMIT IS INCLUDED IN THE BID DOCUMENTS FOR THE CONTRACTOR'S USE.
2. 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.
3. THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET RIGHT-OF-WAY NOT INDICATED ON THE CONSTRUCTION PLANS.
4. BYPASS LINES IN STORMWATER CHANNELS SHALL BE IN ACCORDANCE WITH THE APPROVED FLOODPLAIN DEVELOPMENT PERMIT. BYPASS LINE PLACED ABOVE GROUND SHALL BE ANCHORED TO MINIMIZE MOVEMENT AND POTENTIAL FOR FAILURE. CONTRACTOR SHALL INCLUDE MEANS OF ANCHORING IN HIS BYPASS SUBMITTAL PER ITEM SP864. CONTRACTOR SHALL KEEP VEGETATION MOWED TO 8 INCHES OR LESS WITHIN 20 FEET ON EITHER SIDE OF BYPASS LINE TO INCREASE VISIBILITY OF THE LINE FOR COSA MOWING OPERATIONS.
5. CONTRACTOR IS ADVISED THAT COSA STORMWATER ENGINEERING MAY REQUIRE BYPASS PIPING TO BE BURIED WITHIN THE PILOT CHANNEL OF THE STORMWATER CHANNEL. DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL GRADE PER STORMWATER NOTE NO. 10 THIS SHEET.
6. 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.
7. 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.
8. NO STRUCTURE, FENCES, WALLS, LANDSCAPING, OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THE CONSTRUCTION DOCUMENTS.
9. 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.
10. IMPROVED SECTIONS OF EARTHEN CHANNELS AND/OR WATERWAYS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.

MANHOLE VENTING TABLE

LOCATION	SHEET NO.	STATION	MH NO.	OPENING DIA.*	RIM ELEV. BELOW FLOOD ELEV.	MANHOLE COVER**	VENTILATION
3	21	12+87.23	56226	30"	NO	VENTED PER SPECS	-
	32	12+52.36	44793	24"	NO	VENTED PER SPECS	-
4	35	23+30.73	43411	24"	YES	WATERTIGHT	SEE DETAIL SHEET 120
	38	36+01.16	44382	24"	YES	WATERTIGHT	SEE DETAIL SHEET 120
	39	54+66.38	1024859	30"	NO	VENTED PER SPECS	-
	42	65+63.08	43377	24"	NO	VENTED PER SPECS	-
5	60	7+85.72	A-1	30"	NO	VENTED PER SPECS	-
	63	21+39.51	47167	30"	NO	VENTED PER SPECS	-
	65	32+91.82	34285	24"	NO	VENTED PER SPECS	-
	67	39+42.15	33945	24"	NO	VENTED PER SPECS	-
	72	4+58.74	33948	24"	NO	VENTED PER SPECS	-
	74	13+60.00	A-2	30"	NO	VENTED PER SPECS	-
	77	24+16.73	47168	30"	NO	VENTED PER SPECS	-
	80	36+80.01	33946	24"	NO	VENTED PER SPECS	-
	81	43+85.91	34240	24"	NO	VENTED PER SPECS	-

ALL MANHOLES ON THIS PROJECT SHALL BE WATERTIGHT UNLESS NOTED OTHERWISE ON THIS TABLE.

- \* MH OPENING DIAMETER LISTED IS EXISTING
- \*\* SEE SPECIFICATION SP851 FOR VENTED MANHOLE COVER DETAILS

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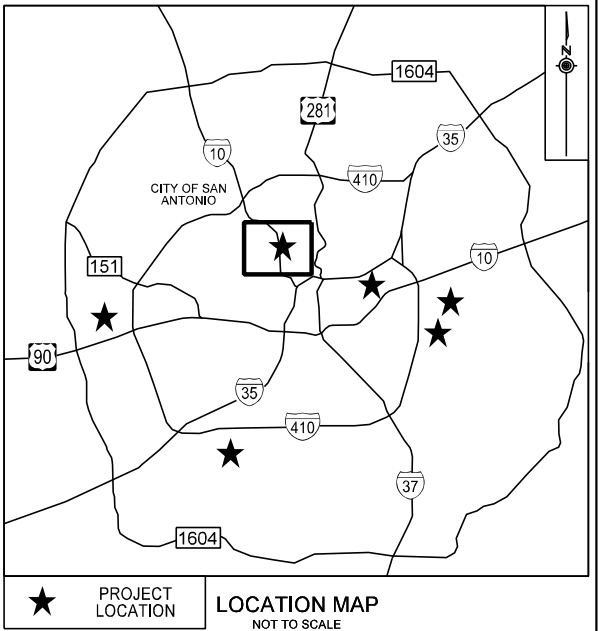
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REVISIONS				
		MULTIPLE SEWERSHED PACKAGE 18  PROJECT SPECIFIC NOTES		
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED _____				
APPROVED _____				
MAP No.				SHEET 4
SECT. No.				
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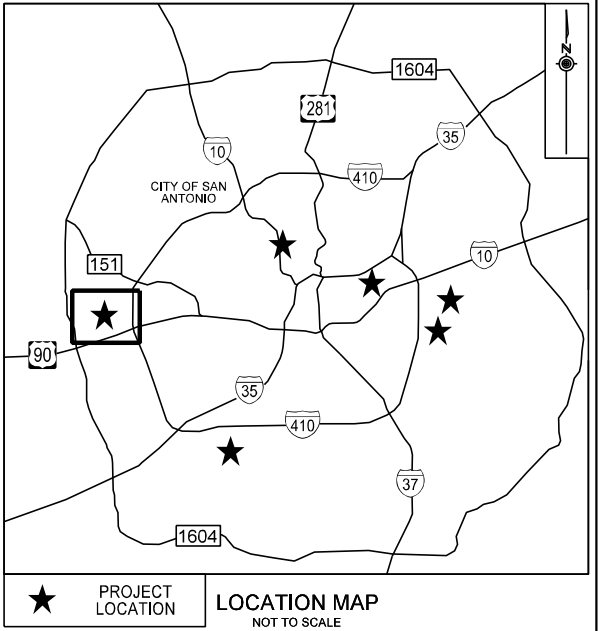
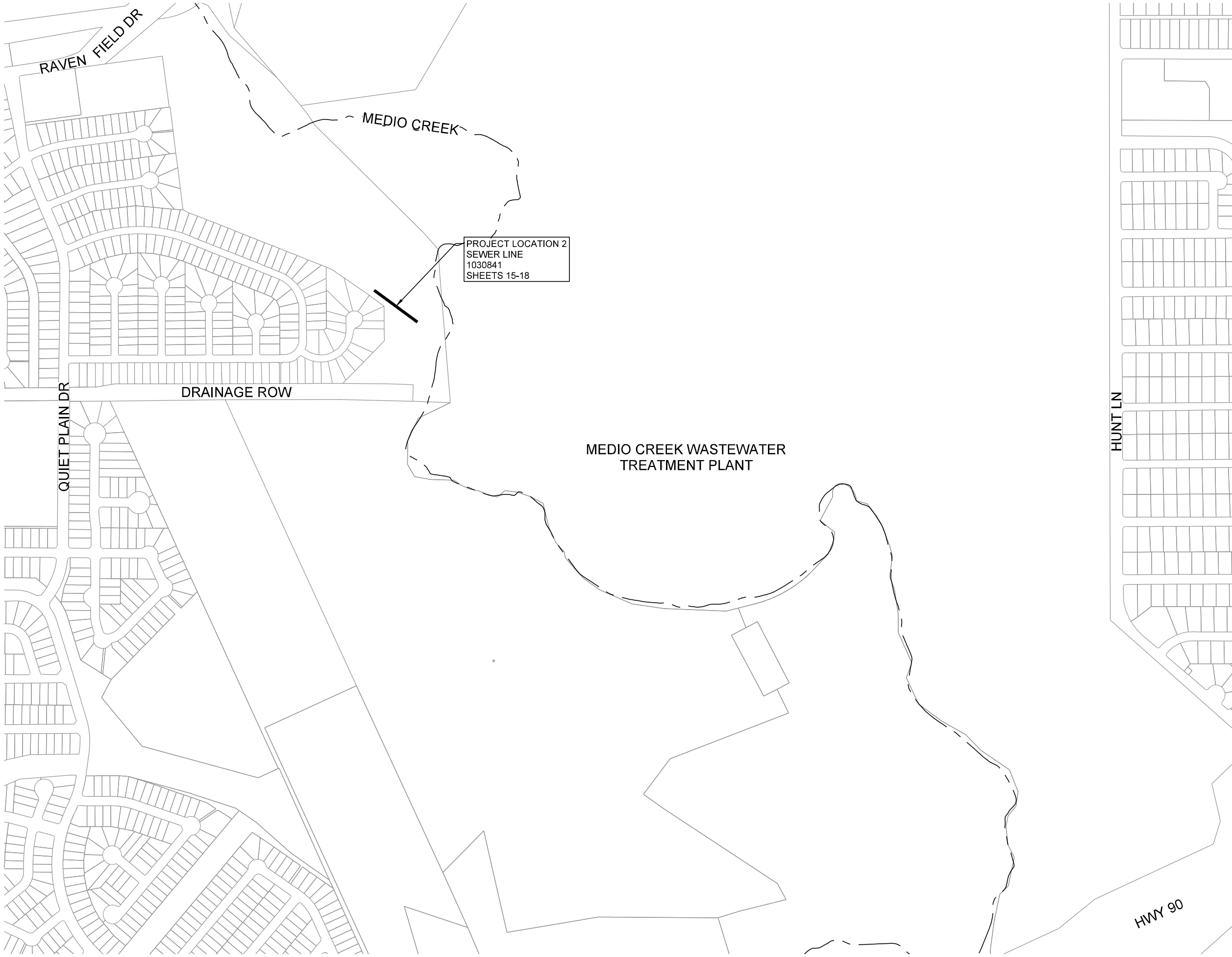
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		MULTIPLE SEWERSHED PACKAGE 18		
		PROJECT LAYOUT (1 OF 5)		
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED _____				
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MAP No.				SHEET
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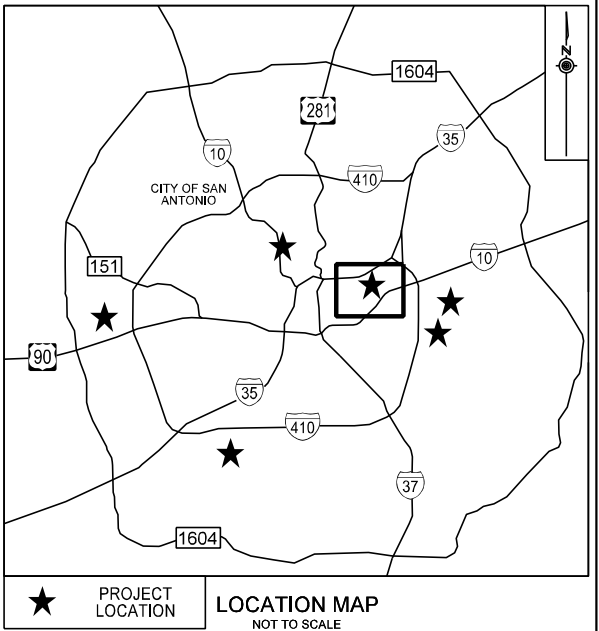
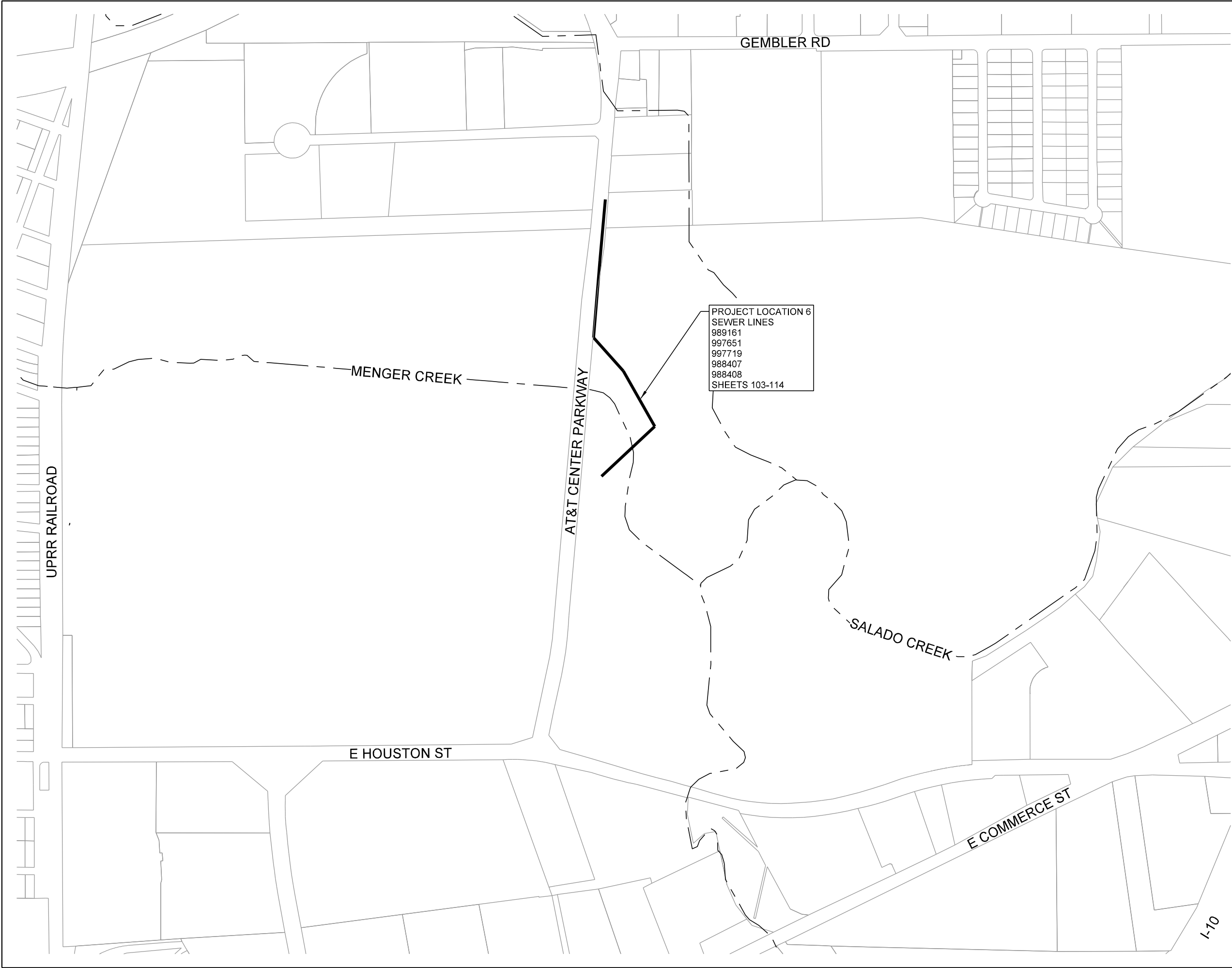
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		PROJECT LAYOUT (2 OF 5)		
DEVELOPER:				
CONT.		BUDGET PROJ.		
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MAP No.				SHEET 7
SECT. No.				
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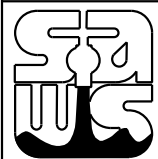
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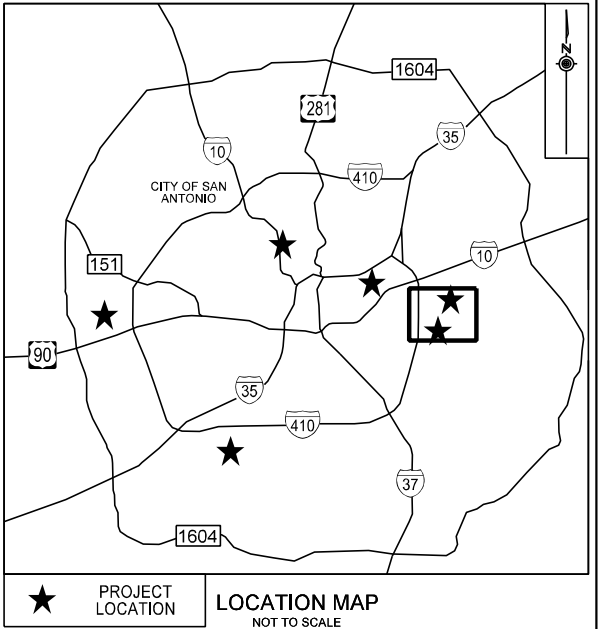
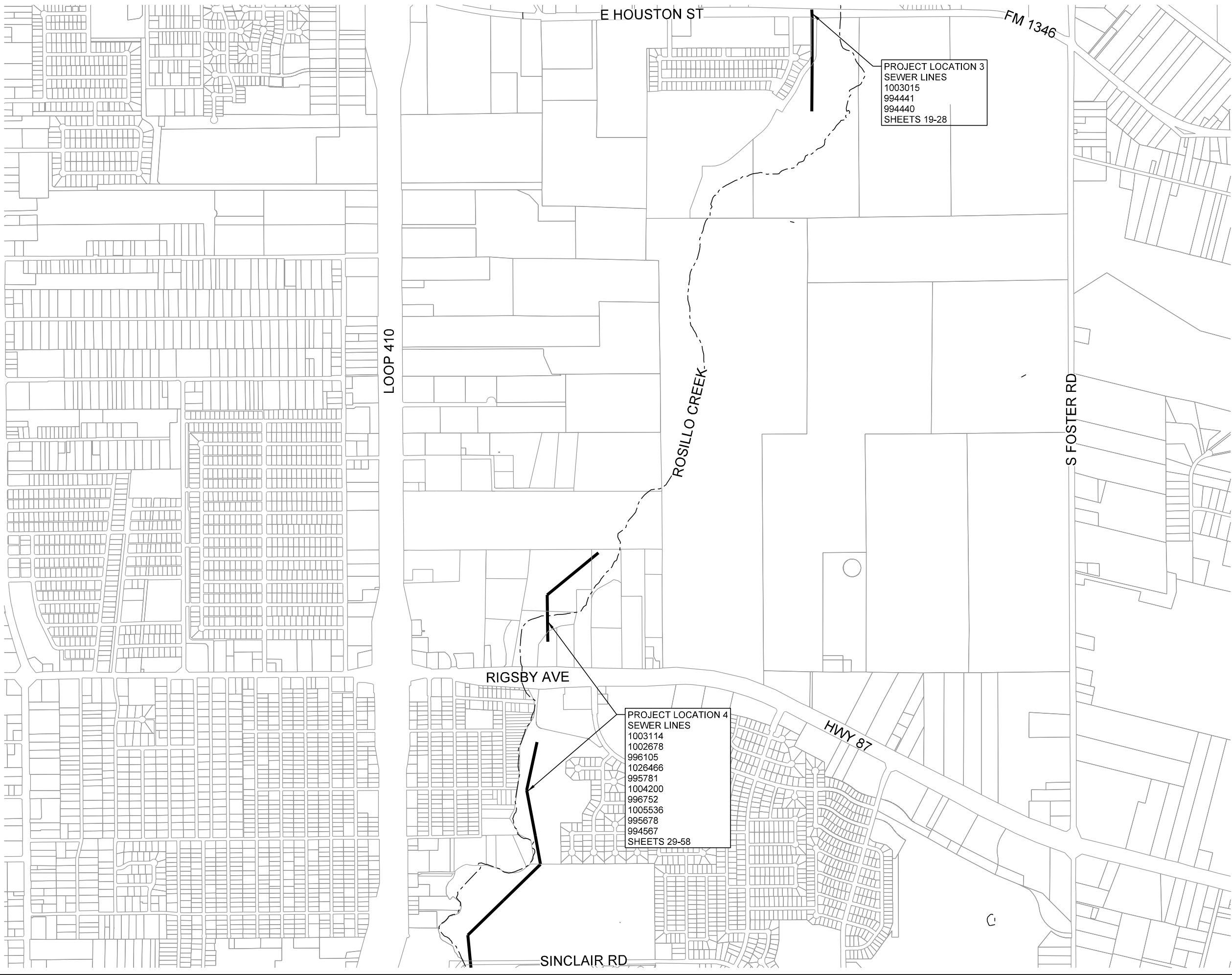



MULTIPLE SEWERSHED  
PACKAGE 18  
PROJECT LAYOUT (3 OF 5)

DEVELOPER:			
CONT.		BUDGET PROJ.	
SUBMITTED _____			
APPROVED _____			
MAP No.		SHEET	
SECT. No.		8	
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MULTIPLE SEWERSHED  
PACKAGE 18

PROJECT LAYOUT (4 OF 5)

DEVELOPER:

CONT.

BUDGET PROJ.

SUBMITTED

APPROVED

MAP No.

SECT. No.

DR.

CK.

JOB No. 20-4508

SHEET

9

OF 139

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PROJECT LOCATION 5  
SEWER LINES  
66" / 72" SEGMENTS  
1026479  
1013216  
1021821  
1012022  
1012615  
1026125  
SHEETS 59-70  
  
54" SEGMENTS  
1010777  
1026394  
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1021470  
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SHEETS 71-84  
SHEETS 59-102

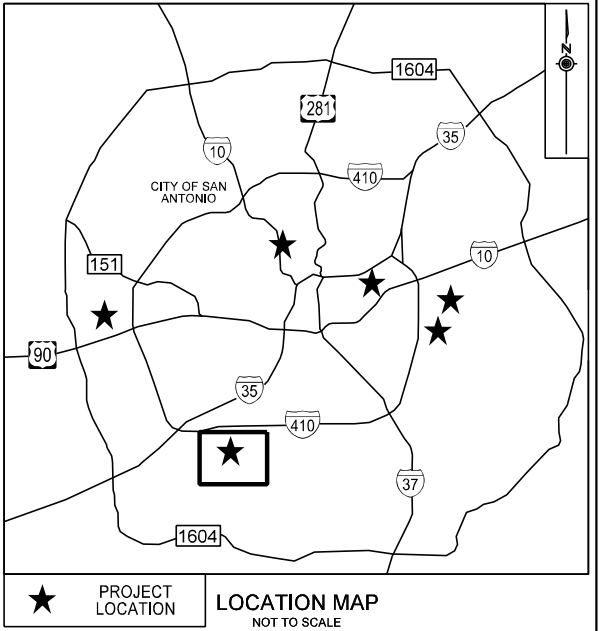
LEON CREEK

SPICEWOOD PARK

MOSS SPRING DR

GAYLORD DR

PALO ALTO RD (SH-16)



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+ ASSOCIATES**  
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REVISIONS



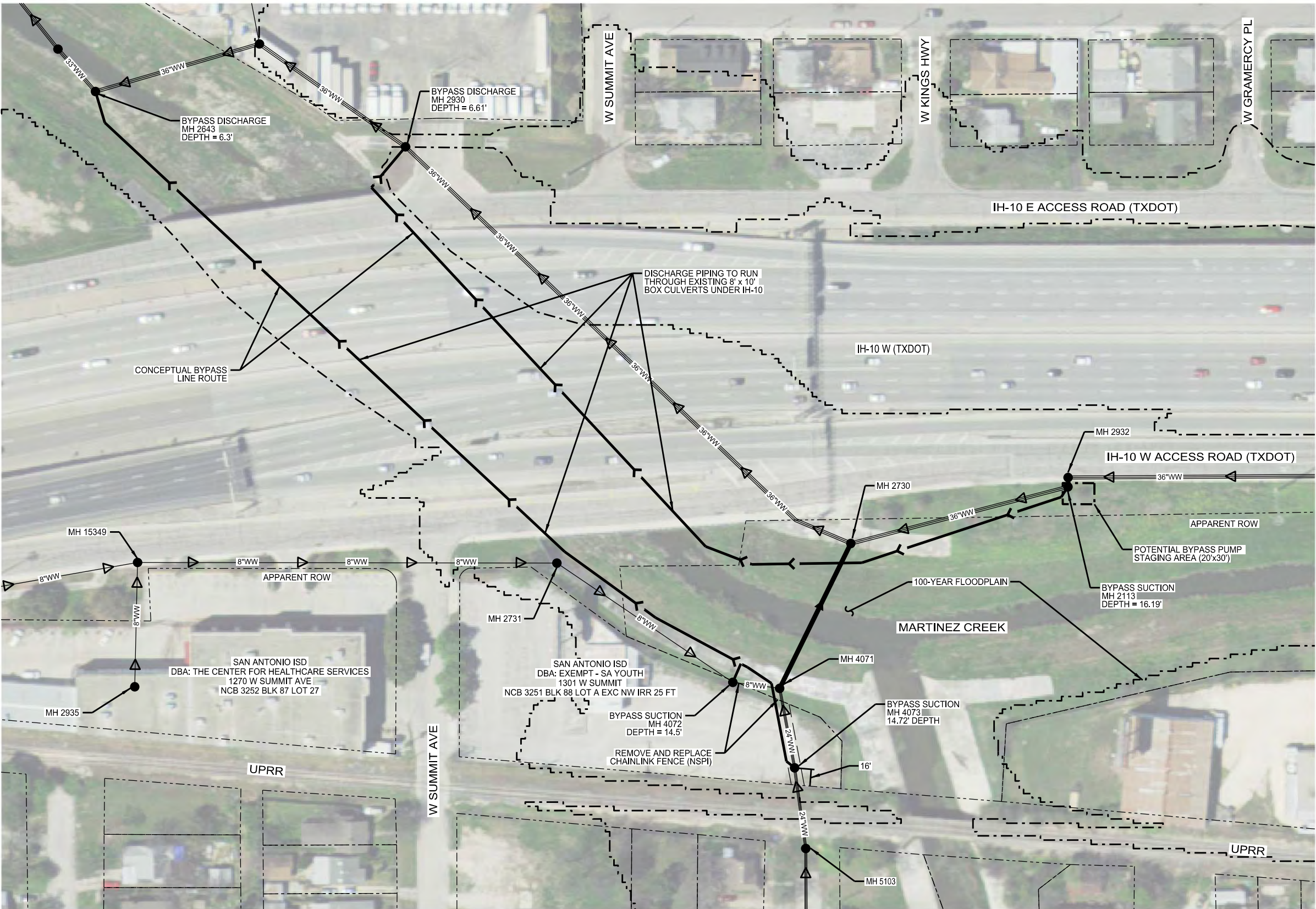
MULTIPLE SEWERSHED  
PACKAGE 18  
  
PROJECT LAYOUT (5 OF 5)

DEVELOPER:	
CONT.	BUDGET PROJ.

SUBMITTED	
APPROVED	

MAP No.		SHEET 10 OF 139
SECT. No.		
DR.	CK.	JOB No. 20-4508





GENERAL BYPASS NOTES:

1. CONTRACTOR MUST NOTIFY AND/OR CONTACT SAWS INSPECTION AT 210-233-3500 AND SAWS ENGINEERING AT 210-233-3493 48-HOURS PRIOR TO ANY OF THE FOLLOWING ACTIVITIES TAKING PLACE:  
A. NOTIFICATION OF PRE-TELEVISION INSPECTION.  
B. NOTIFICATION OF BYPASS PUMPING SETUP OPERATIONS.  
C. NOTIFICATION OF THE PIPE INSTALLATION.

2. CONTRACTOR MUST FIELD VERIFY ALL DEPTHS, DISTANCES, PIPE SIZES, AND GRADES PRIOR TO BEGINNING CONSTRUCTION.
3. BYPASS ROUTE AND SET UPS SHOWN ARE CONCEPTUAL. CONTRACTOR IS REQUIRED TO PREPARE BYPASS PUMPING PLAN FOR SUBMITTAL AND REVIEW IN ACCORDANCE WITH SAWS SPECIFICATIONS 864-S1 AND 864-S2.

4. FLOWS FOR LINES 12-IN AND GREATER WERE PROVIDED BY SAWS.

5. ADDITIONAL UTILITIES NOT SHOWN FOR CLARITY. REFER TO CIVIL SHEETS FOR THEIR LOCATIONS.

6. CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING DRIVEWAYS.

LEGEND

- SURFACE RESTORATION
- WASTEWATER LINE TO BE REHABILITATED
- EXIST SERVICE LINE
- EXIST OVERHEAD UTILITIES
- EXIST STORM DRAIN
- EXIST WATERLINE
- EXIST WASTEWATER LINE
- EXIST GAS LINE
- PROPERTY LINE
- CONCEPTUAL BYPASS LINE
- 100-YEAR FLOODPLAIN
- PROPOSED ACCESS ROUTE

BYPASS FLOW TABLE

BYPASS SUCTION MH 4073		
ADF	0.7	MGD
PDF	1.14	MGD
PWF	19.8	MGD
BYPASS SUCTION MH 4072		
FULL PIPE	1.4	MGD
BYPASS SUCTION MH 2113		
ADF	2.25	MGD
PDF	3.75	MGD
PWF	10.22	MGD



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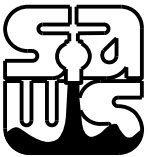
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TBP Firm Number: F-533

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MULTIPLE SEWERSHED  
PACKAGE 18  
BYPASS  
PROJECT LOCATION 1  
MARTINEZ CREEK

DEVELOPER:

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MAP No. \_\_\_\_\_

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

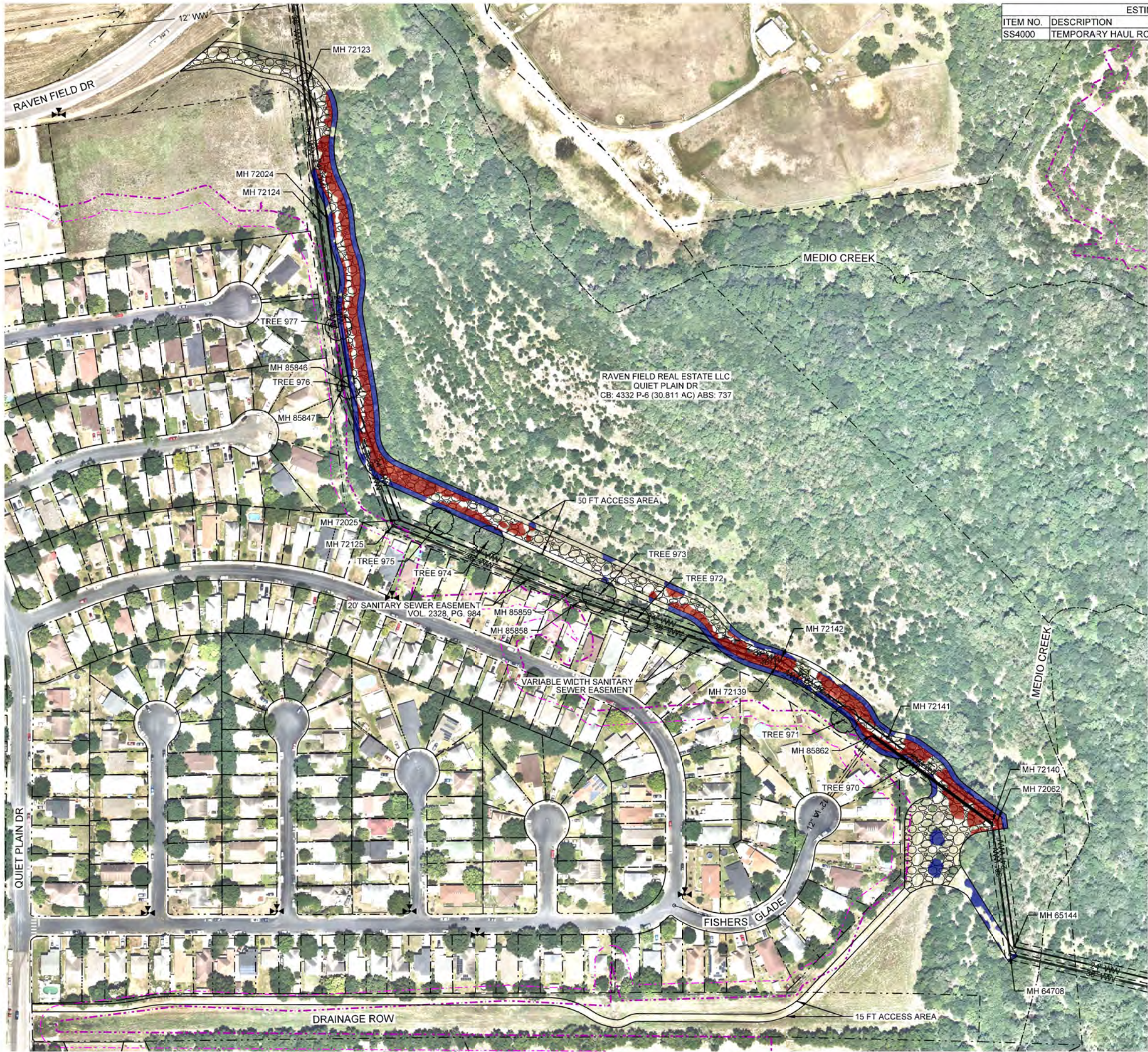
DR. MH CK. BA JOB No. 20-4508

SHEET

12

OF 139





ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
SS4000	TEMPORARY HAUL ROAD (LOCATION 2)	LS	1

- LEGEND**
- PROPERTY LINE
  - 100-YEAR FLOODPLAIN LIMITS
  - 30 FT RIPARIAN BUFFER
  - WASTEWATER LINE TO BE REHABILITATED
  - CONSTRUCTION ACCESS ROAD
  - TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
  - TREE CANOPY TO REMAIN (IN FLOODPLAIN)
  - TREE CANOPY TO BE REMOVED (IN 30 FT RIPARIAN BUFFER)
  - TREE CANOPY TO REMAIN (IN 30 FT RIPARIAN BUFFER)
  - TREE CANOPY TO BE REMOVED (NOT IN FLOODPLAIN)
  - TREE CANOPY TO REMAIN (NOT IN FLOODPLAIN)
  - EXISTING FIRE HYDRANT

Zone	Canopy Area (Acres)	Canopy Area (Sq.Ft.)	Area Preserved (Sq.Ft.)
Floodplain	1.6025	69,804	33,008
Riparian Buffer	0.0000	0	0
Not in Floodplain	0.0000	0	0

\*See sheet 124 for Tree Protection Details and Tree Mitigation Calculations

HERITAGE TREE TABLE

TREE ID	SPECIES	DIAMETER
970	HACKBERRY	28"
971	HACKBERRY	26"
972	COTTONWOOD	25"
973	WILLOW	55"
974	HACKBERRY	24"
975	WILLOW	26"
976	WILLOW	39"
977	WILLOW	35"

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REVISIONS				
MULTIPLE SEWERSHED PACKAGE 18 ACCESS AND TREE PROTECTION PROJECT LOCATION 2 FISHERS GLADE				
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED				
APPROVED				
MAP No.				SHEET 17 OF 139
SECT. No.				
DR.	CK.	JOB No. 20-4508		





ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
SS4000	TEMPORARY HAUL ROAD (LOCATION 3)	LS	1

- LEGEND**
- PROPERTY LINE
  - 100-YEAR FLOODPLAIN LIMITS
  - 30 FT RIPARIAN BUFFER
  - WASTEWATER LINE TO BE REHABILITATED
  - CONSTRUCTION ACCESS ROAD
  - TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
  - TREE CANOPY TO REMAIN (IN FLOODPLAIN)
  - TREE CANOPY TO BE REMOVED (IN 30 FT RIPARIAN BUFFER)
  - TREE CANOPY TO REMAIN (IN 30 FT RIPARIAN BUFFER)
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  - TREE CANOPY TO REMAIN (NOT IN FLOODPLAIN)
  - EXISTING FIRE HYDRANT

0 100' 200'

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**SA**

**MULTIPLE SEWERSHED PACKAGE 18**  
**ACCESS AND TREE PROTECTION**  
**PROJECT LOCATION 3**  
**E HOUSTON ST / FM 1346**

**DEVELOPER:**

**CONT.** **BUDGET PROJ.**

**SUBMITTED**

**APPROVED**

**MAP No.**

**SECT. No.**

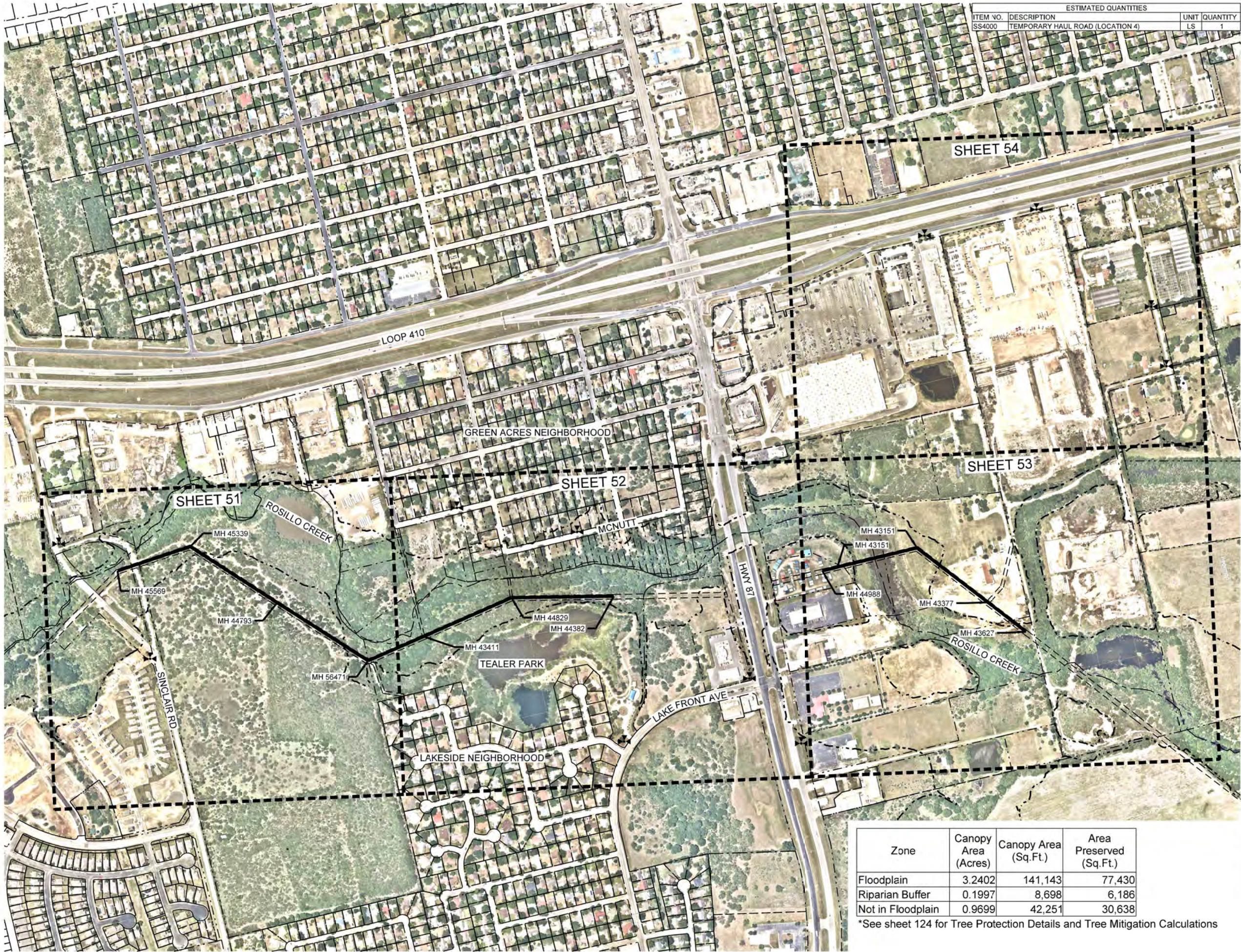
**DR.** **CK.** **JOB No.** 20-4508

**SHEET 26 OF 139**

Zone	Canopy Area (Acres)	Canopy Area (Sq.Ft.)	Area Preserved (Sq.Ft.)
Floodplain	0.0220	958	958
Riparian Buffer	0.0000	0	0
Not in Floodplain	0.0952	4,145	3,226

\*See sheet 124 for Tree Protection Details and Tree Mitigation Calculations





ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
SS4000	TEMPORARY HAUL ROAD (LOCATION 4)	LS	1

- LEGEND**
- PROPERTY LINE
  - 100-YEAR FLOODPLAIN LIMITS
  - WASTEWATER LINE TO BE REHABILITATED
  - EXISTING FIRE HYDRANT

0 250' 500'

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MULTIPLE SEWERSHED PACKAGE 18  
ACCESS AND TREE PROTECTION OVERALL  
PROJECT LOCATION 4  
ROSILLO CREEK

DEVELOPER:

CONT.

BUDGET PROJ.

SUBMITTED

APPROVED

MAP No.

SECT. No.

DR.

CK.

JOB No. 20-4508

SHEET

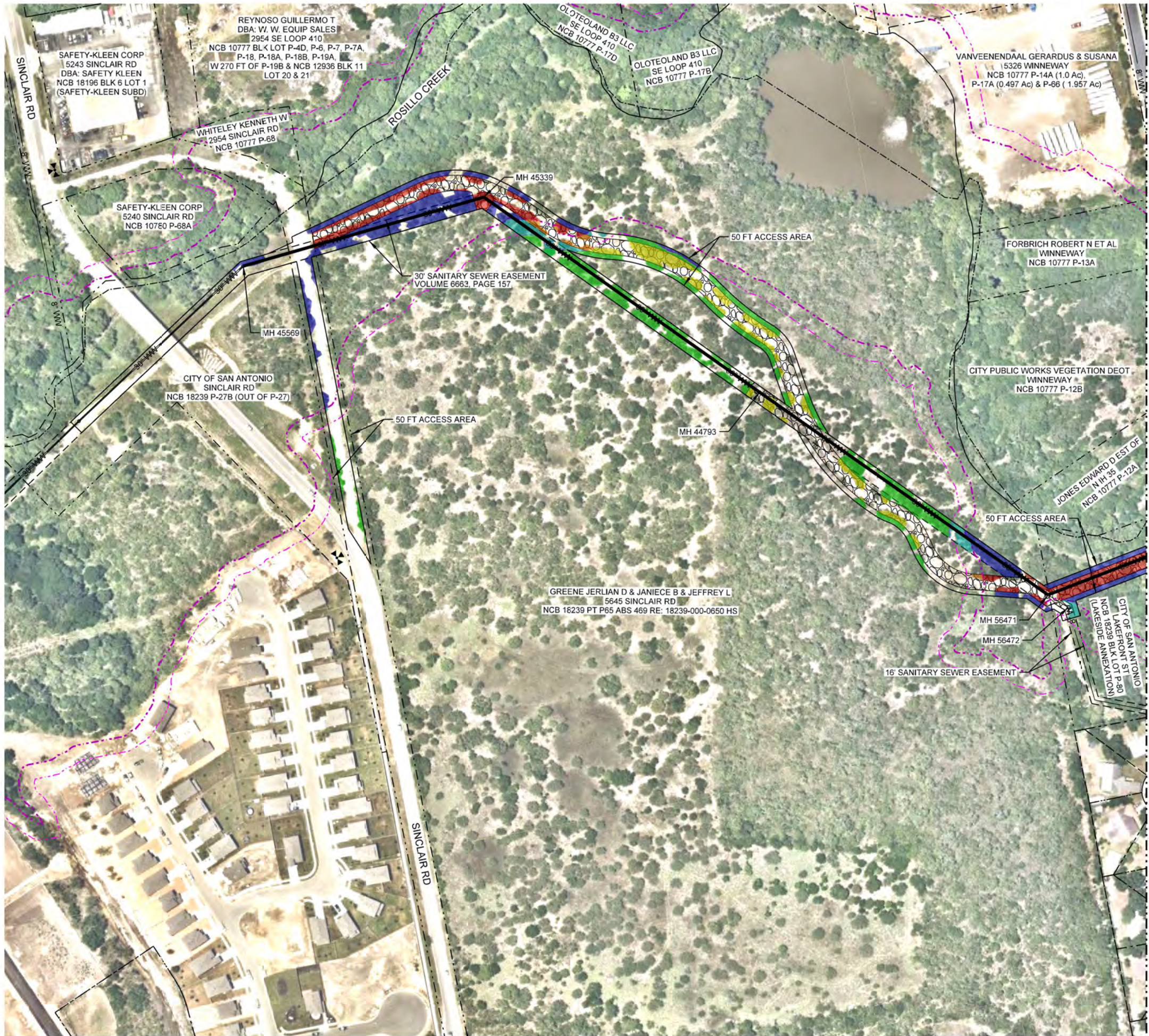
50

OF 139

Zone	Canopy Area (Acres)	Canopy Area (Sq.Ft.)	Area Preserved (Sq.Ft.)
Floodplain	3.2402	141,143	77,430
Riparian Buffer	0.1997	8,698	6,186
Not in Floodplain	0.9699	42,251	30,638

\*See sheet 124 for Tree Protection Details and Tree Mitigation Calculations





LEGEND

- PROPERTY LINE
- 100-YEAR FLOODPLAIN LIMITS
- 30 FT RIPARIAN BUFFER
- WASTEWATER LINE TO BE REHABILITATED
- CONSTRUCTION ACCESS ROAD
- TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
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MULTIPLE SEWERSHED PACKAGE 18  
ACCESS AND TREE PROTECTION  
PROJECT LOCATION 4  
ROSILLO CREEK  
(1 OF 4)

DEVELOPER:

CONT.

BUDGET PROJ.

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MAP No.

SECT. No.

DR.

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JOB No. 20-4508

SHEET

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OF 139







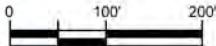


LEGEND

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- EXISTING FIRE HYDRANT

HERITAGE TREE TABLE

TREE ID	SPECIES	DIAMETER
919	WILLOW	26"



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ACCESS AND TREE PROTECTION  
PROJECT LOCATION 4  
ROSILLO CREEK  
(3 OF 4)

DEVELOPER:

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BUDGET PROJ.

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MAP No.

SECT. No.

DR.

CK.

JOB No. 20-4508

SHEET

53

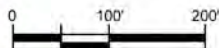
OF 139





LEGEND

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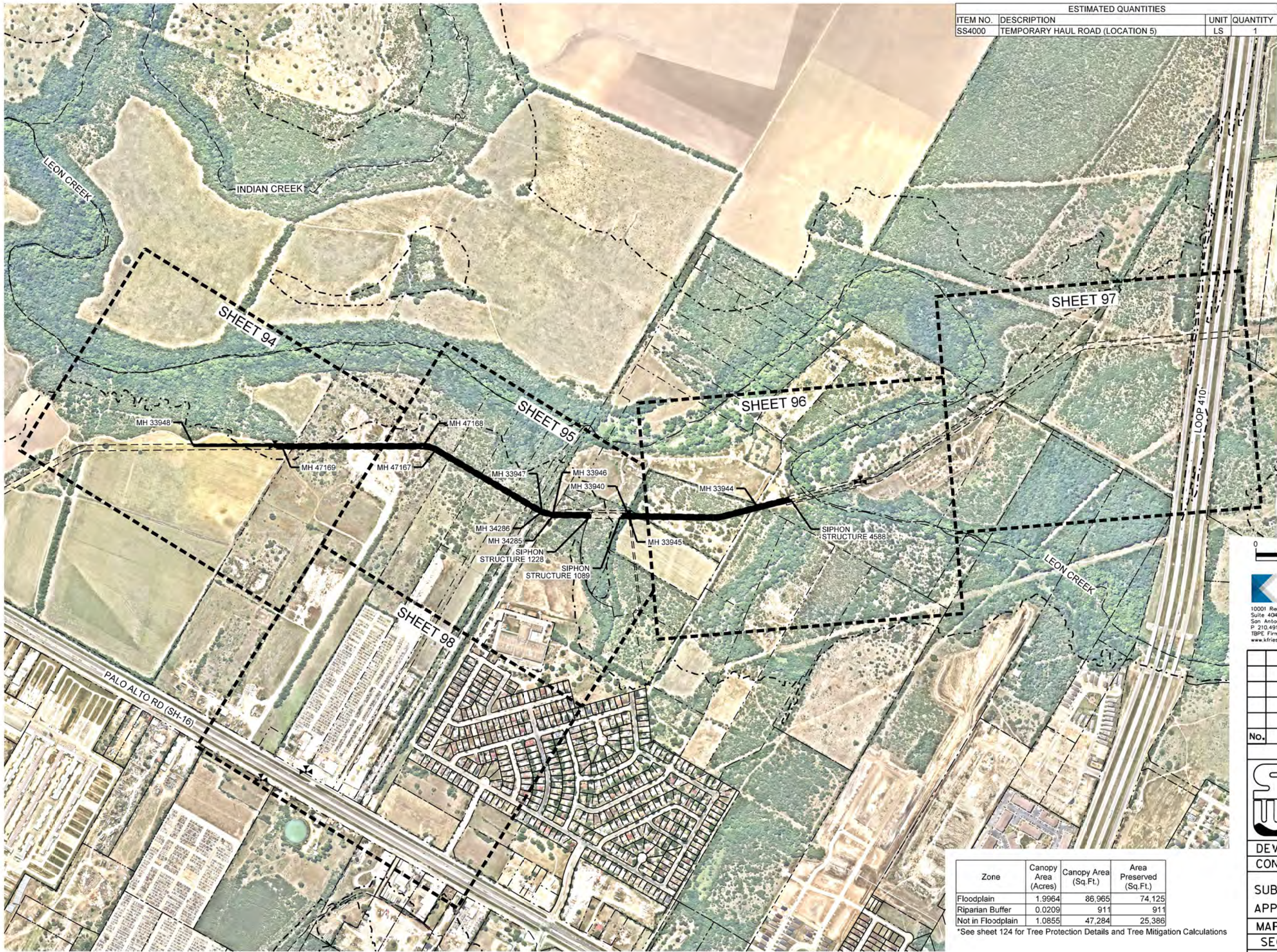
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ACCESS AND TREE PROTECTION  
PROJECT LOCATION 4  
ROSILLO CREEK  
(4 OF 4)

DEVELOPER: \_\_\_\_\_  
CONT. \_\_\_\_\_ BUDGET PROJ. \_\_\_\_\_

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MAP No.		SHEET 54 OF 139
SECT. No.		
DR.	CK.	JOB No. 20-4508





ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
SS4000	TEMPORARY HAUL ROAD (LOCATION 5)	LS	1

- LEGEND**
- PROPERTY LINE
  - 100-YEAR FLOODPLAIN LIMITS
  - WASTEWATER LINE TO BE REHABILITATED
  - EXISTING FIRE HYDRANT

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MULTIPLE SEWERSHED PACKAGE 18  
ACCESS AND TREE PROTECTION OVERALL  
PROJECT LOCATION 5  
LEON CREEK

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

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

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MAP No. \_\_\_\_\_ SHEET 93

SECT. No. \_\_\_\_\_ OF 139

DR. \_\_\_\_\_ CK. \_\_\_\_\_ JOB No. 20-4508

Zone	Canopy Area (Acres)	Canopy Area (Sq.Ft.)	Area Preserved (Sq.Ft.)
Floodplain	1.9964	86,965	74,125
Riparian Buffer	0.0209	911	911
Not in Floodplain	1.0855	47,284	25,386

\*See sheet 124 for Tree Protection Details and Tree Mitigation Calculations





**LEGEND**

- PROPERTY LINE
- 100-YEAR FLOODPLAIN LIMITS
- 30 FT RIPARIAN BUFFER
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- EXISTING FIRE HYDRANT

MATCH LINE A SEE SHEET 95 OF 139

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**MULTIPLE SEWERSHED PACKAGE 18**

**ACCESS AND TREE PROTECTION**

**PROJECT LOCATION 5**

**LEON CREEK**

**(1 OF 5)**

**DEVELOPER:**

**CONT.** **BUDGET PROJ.**

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**SECT. No.**

**DR.** **CK.** **JOB No.** 20-4508

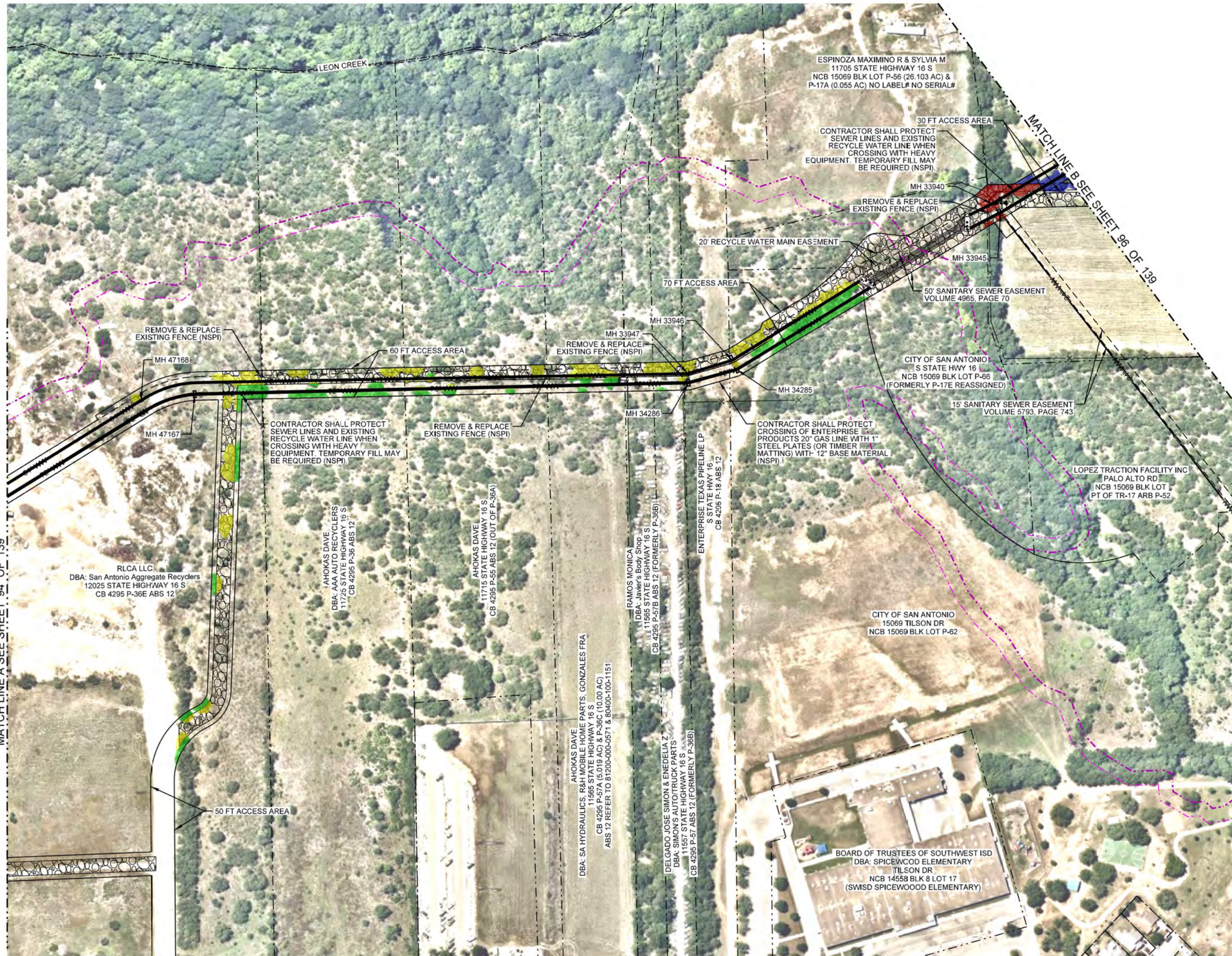
SHEET **94** OF 139

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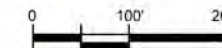
MATCH LINE A SEE SHEET 94 OF 139



MATCH LINE D SEE SHEET 98 OF 139

#### LEGEND

- PROPERTY LINE
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MULTIPLE SEWERSHED  
PACKAGE 18  
ACCESS AND TREE PROTECTION  
PROJECT LOCATION 5  
LEON CREEK  
(2 OF 5)

DEVELOPER:

CONT.

BUDGET PROJ.

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SECT. No.

DR.

CK.

JOB No. 20-4508

SHEET

95

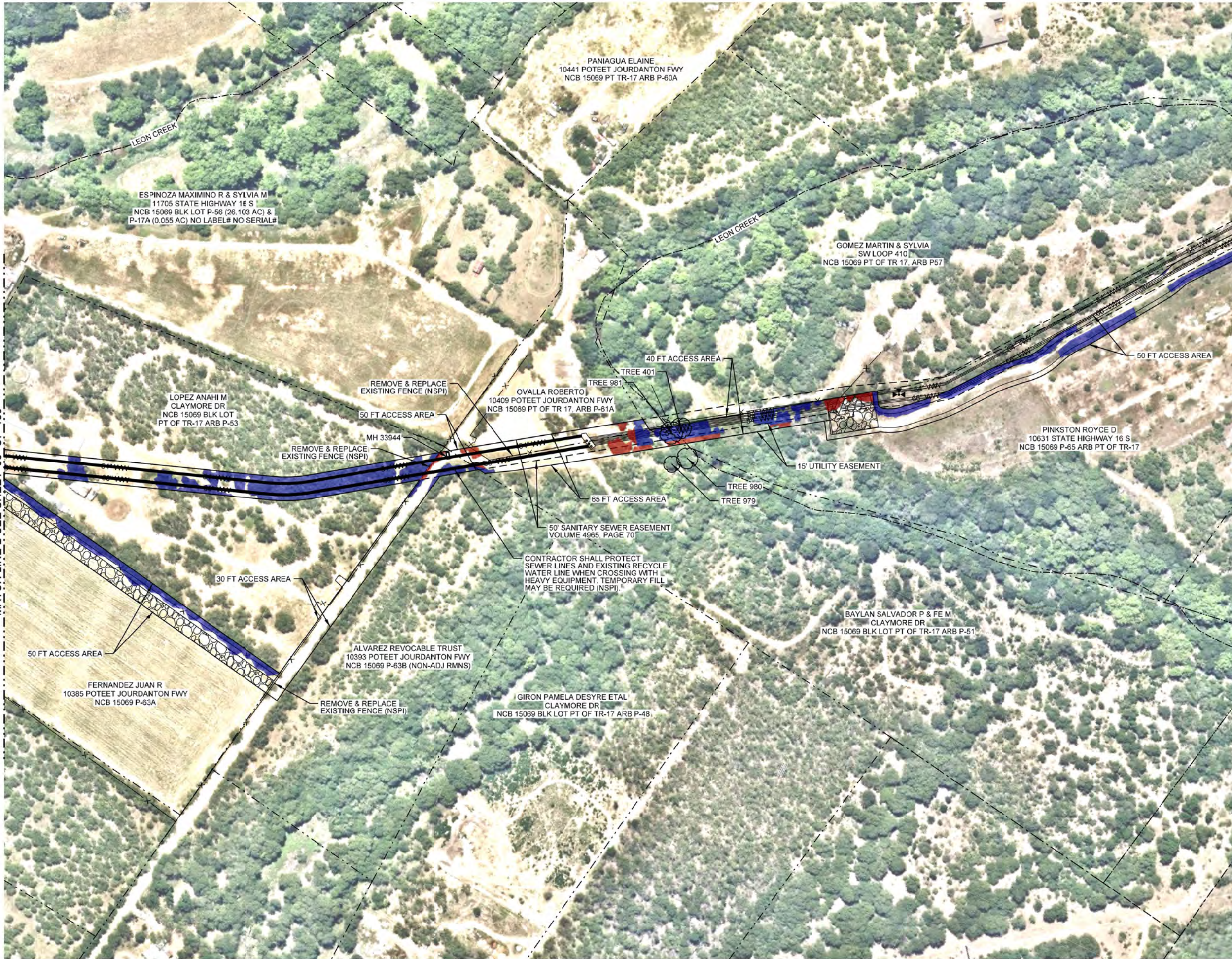
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MATCH LINE B SEE SHEET 95 OF 139

MATCH LINE C SEE SHEET 97 OF 139

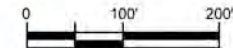


#### LEGEND

- PROPERTY LINE
- 100-YEAR FLOODPLAIN LIMITS
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- TREE CANOPY TO BE REMOVED (NOT IN FLOODPLAIN)
- TREE CANOPY TO REMAIN (NOT IN FLOODPLAIN)
- EXISTING FIRE HYDRANT

#### HERITAGE TREE TABLE

TREE ID	SPECIES	DIAMETER
401	BLACK WILLOW	28"
979	MESQUITE	33"
980	ASH	29"
981	BLACK WILLOW	24"



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#### REVISIONS



MULTIPLE SEWERSHED PACKAGE 18  
ACCESS AND TREE PROTECTION  
PROJECT LOCATION 5  
LEON CREEK  
(3 OF 5)

DEVELOPER:

CONT.

BUDGET PROJ.

SUBMITTED

APPROVED

MAP No.

SECT. No.

DR. CK.

JOB No. 20-4508

SHEET

96

OF 139



0707\_ACCESS\_LEON\_CREEK\_04.dgn modified by affischer on 1/15/2021 - 3:44:10 PM

MATCH LINE C SEE SHEET 96 OF 139



LEGEND

- PROPERTY LINE
- 100-YEAR FLOODPLAIN LIMITS
- 30 FT RIPARIAN BUFFER
- WASTEWATER LINE TO BE REHABILITATED
- CONSTRUCTION ACCESS ROAD
- TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
- TREE CANOPY TO REMAIN (IN FLOODPLAIN)
- TREE CANOPY TO BE REMOVED (IN 30 FT RIPARIAN BUFFER)
- TREE CANOPY TO REMAIN (IN 30 FT RIPARIAN BUFFER)
- TREE CANOPY TO BE REMOVED (NOT IN FLOODPLAIN)
- TREE CANOPY TO REMAIN (NOT IN FLOODPLAIN)
- EXISTING FIRE HYDRANT



0 100' 200'

**K-FRIESE**  
+ ASSOCIATES  
PUBLIC PROJECT ENGINEERING

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No.	Revision	Drawn	Approved	Date
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REVISIONS

MULTIPLE SEWERSHED  
PACKAGE 18  
ACCESS AND TREE PROTECTION  
PROJECT LOCATION 5  
LEON CREEK  
(4 OF 5)

DEVELOPER:	
CONT.	BUDGET PROJ.

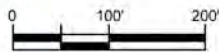
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

MAP No.		SHEET
SECT. No.		97
DR.	CK.	JOB No. 20-4508 OF 139





- LEGEND**
- PROPERTY LINE
  - 100-YEAR FLOODPLAIN LIMITS
  - 30 FT RIPARIAN BUFFER
  - WASTEWATER LINE TO BE REHABILITATED
  - CONSTRUCTION ACCESS ROAD
  - TREE CANOPY TO BE REMOVED (IN FLOODPLAIN)
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No.	Revision	Drawn	Approved	Date

REVISIONS



MULTIPLE SEWERSHED PACKAGE 18  
ACCESS AND TREE PROTECTION  
PROJECT LOCATION 5  
LEON CREEK  
(5 OF 5)

DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED	
APPROVED	
MAP No.	
SECT. No.	
DR.	CK.
JOB No. 20-4508	

Sheet 98 of 139





- LEGEND**
- PROPERTY LINE
  - 100-YEAR FLOODPLAIN LIMITS
  - 30 FT RIPARIAN BUFFER
  - WASTEWATER LINE TO BE REHABILITATED
  - CONSTRUCTION ACCESS ROAD
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0 100' 200'

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**NOTES:**

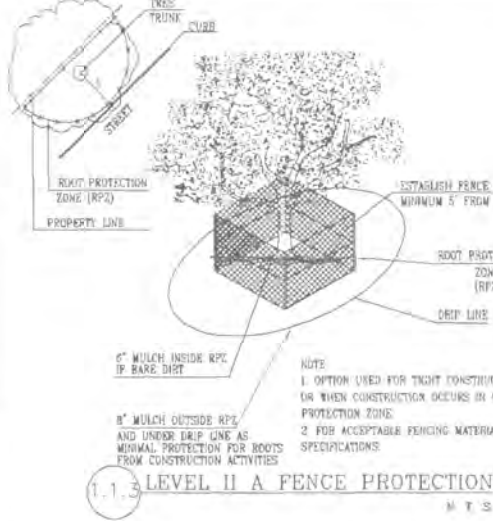
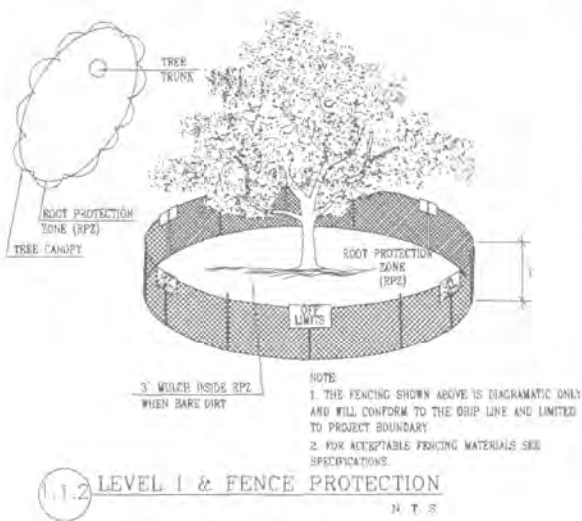
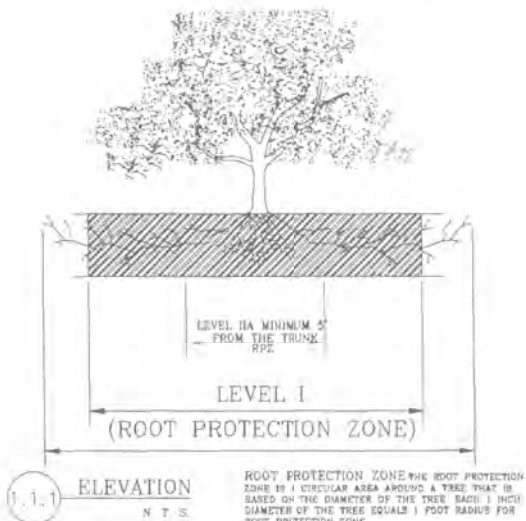
1. PRIMARY CONSTRUCTION ACCESS ROUTE SHOWN SHALL SERVE AS THE CONTRACTOR'S PRIMARY INGRESS AND EGRESS ROUTE. THE SECONDARY CONSTRUCTION ACCESS ROUTE SHOWN IS STRICTLY FOR ACCESS TO MANHOLES AND POINT REPAIRS (IF NECESSARY). CONTRACTOR SHALL LIMIT USE OF SECONDARY CONSTRUCTION ACCESS TO MINIMIZE IMPACTS TO THE GOLF COURSE.

Zone	Canopy Area (Acres)	Canopy Area (Sq.Ft.)	Area Preserved (Sq.Ft.)
Floodplain	0.2959	12,888	12,888
Riparian Buffer	0.0000	0	0
Not in Floodplain	0.0301	1,312	1,312

\*See sheet 124 for Tree Protection Details and Tree Mitigation Calculations

No.	Revision	Drawn	Approved	Date
REVISIONS				
 <b>MULTIPLE SEWERSHED PACKAGE 18 ACCESS AND TREE PROTECTION PROJECT LOCATION 6 WILLOW SPRINGS</b>				
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED				
APPROVED				
MAP No.				SHEET <b>112</b> OF 139
SECT. No.		JOB No. 20-4508		
DR.	CK.			





#### GENERAL NOTES

- ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM NO. 602. TREE PRUNING, SOIL AMENDING AND FERTILIZATION, UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 2 PROTECTION AS PER ITEM NO. 602. TREES TO RECEIVE LEVEL 1 PROTECTION AS PER ITEM NO. 602 ARE SHOWN ON TREE PROTECTION TABLE ON THIS SHEET.
- ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
- NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.
- THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS 1 FOOT PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A 10-INCH DIAMETER TREE WOULD HAVE A 5-FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. LIVE OAK WOUNDS SHALL BE PAINTED OVER, WITHIN 20 MINUTES TO PREVENT OAK WILT.
- ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER OR CITY INSPECTOR.
- GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL WITHIN THE FENCED ROOT ZONE AREAS.
- TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND AS DIRECTED BY THE PROJECT MANAGER OR CITY INSPECTOR.
- TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE ENGINEER'S SATISFACTION.
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST PRIOR TO ITS REMOVAL.

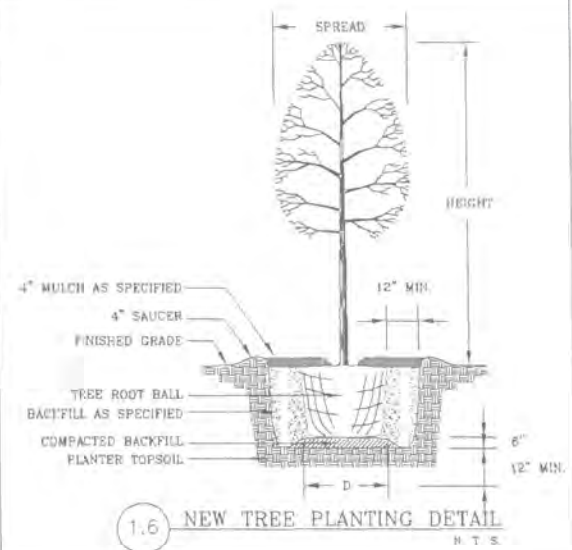
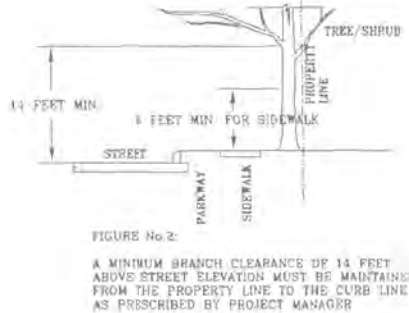
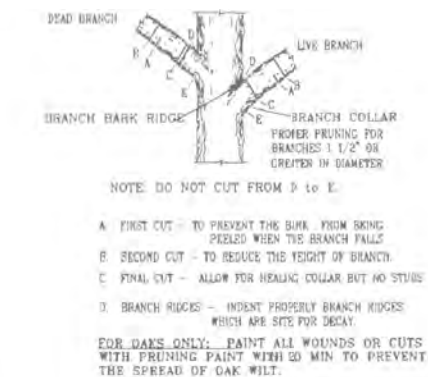
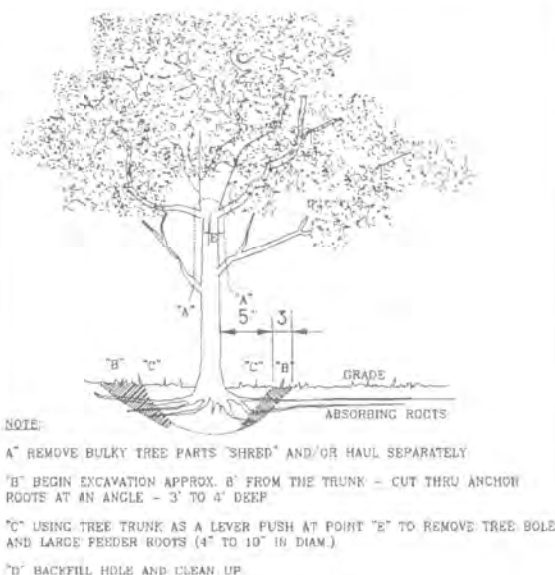
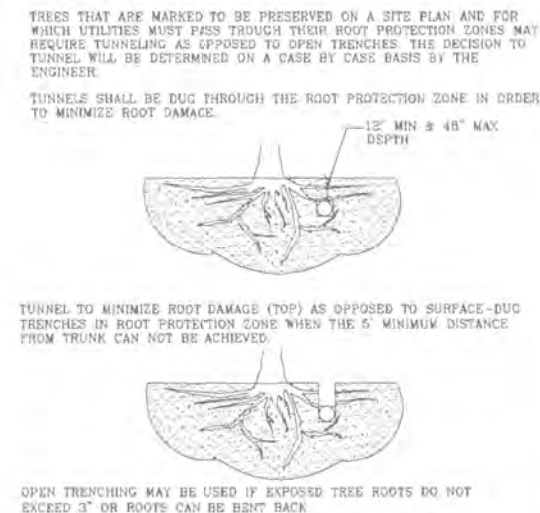
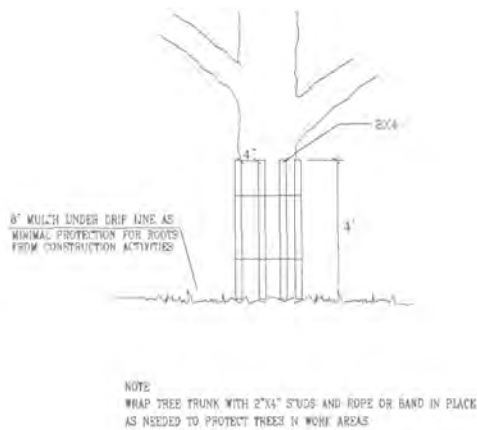
#### MITIGATION CALCULATIONS

Zone	Canopy Area (Acres)	Canopy Area (Sq.Ft.)	Required Preservation Area (Sq.Ft.) *	Area Preserved (Sq.Ft.)	Required Mitigation Area (Sq.Ft.)	Calculated No. of Trees **	Actual No. of Trees	No. of Inches for Mitigation Fees (in.) ***
Floodplain	7.1570	311,758	249,406.40	198,409	50,997.40	58.28	59	985.30
Riparian Buffer	0.2206	9,609	7,687.20	7,097	590.20	0.67	1	16.70
Not in Floodplain	2.1807	94,992	37,996.80	60,562	0.00	0.00	0	0.00

\*80% Preservation required within the 100-yr floodplain and Riparian Buffer, 40% Preservation required outside of 100-yr Floodplain

\*\*No. of Trees calculated based on shade value from Appendix E of UDC for medium sized trees. (Conversion Factor = 875)

\*\*\*No. of Inches for Mitigation calculated based on fees for medium sized trees in Appendix C of UDC (16.7/inch)



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REVISIONS				
		MULTIPLE SEWERSHED PACKAGE 18  TREE PROTECTION DETAILS		
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED _____				
APPROVED _____				
MAP No.				SHEET <b>121</b>
SECT. No.		JOB No. 20-4508		
DR.	CK.		OF 139	