

90% PLANS FOR SANITARY SEWER MAIN
CONSTRUCTION

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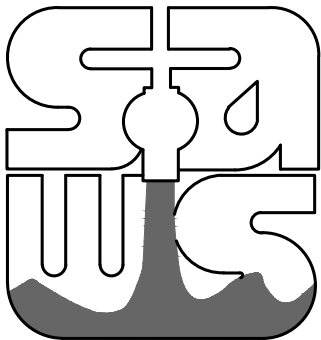
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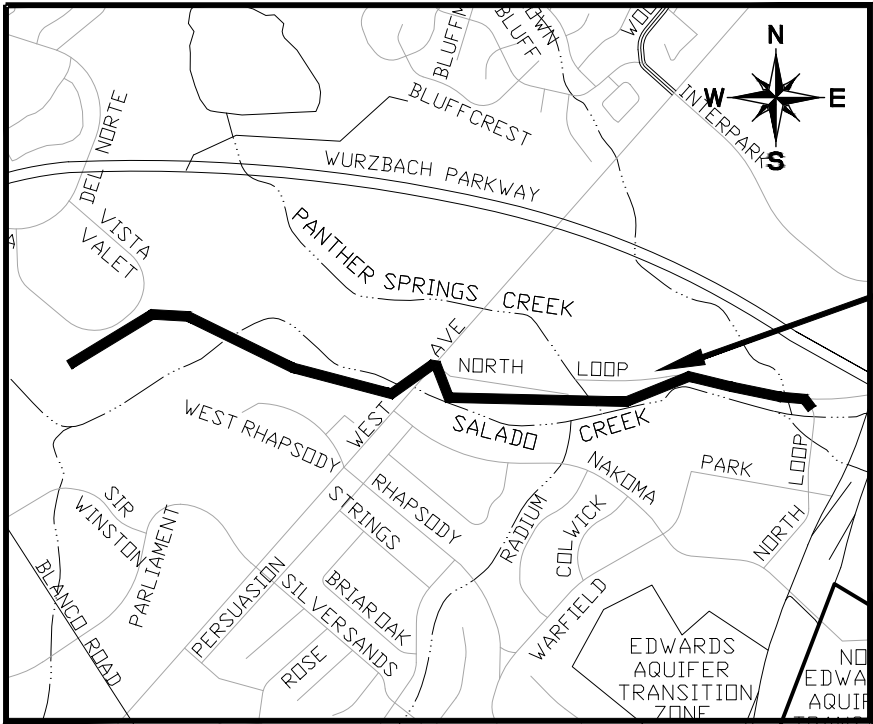


E-16 WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281

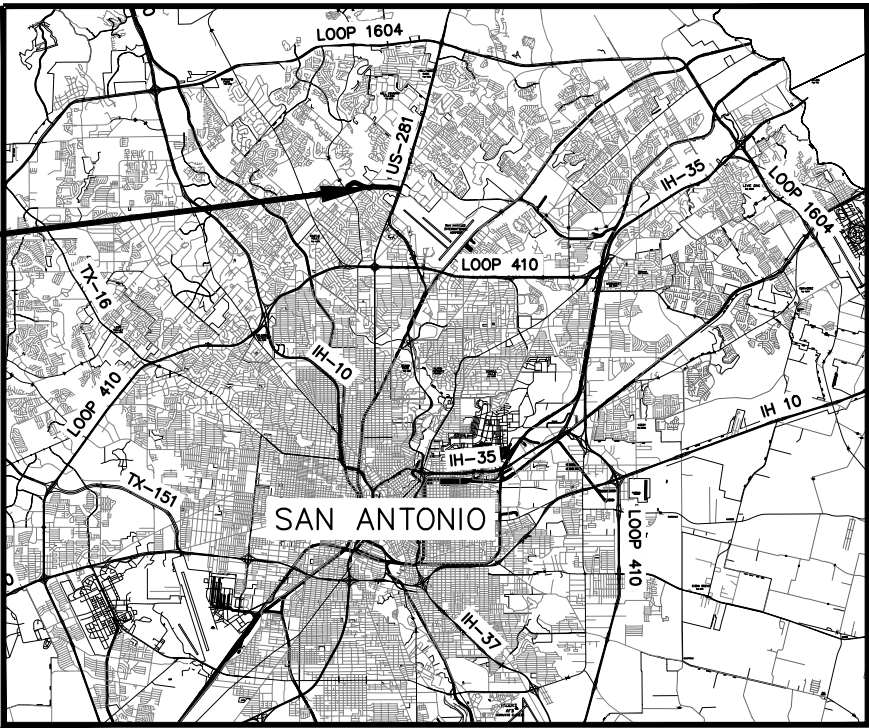
JOB No. 18-4509

OCTOBER 2019

SHEET INDEX
ON G2



PROPOSED
IMPROVEMENTS



LOCATION MAP
N.T.S.

SOLICITATION No. CO-00XXX

SHEET
NO.
G1

E-16 WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281

KHA NO. 068665046

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Tree Protection Notes

TREE PRESERVATION PLAN

THE PURPOSE OF THIS PLAN IS TO DEVELOP GUIDELINES TO BE FOLLOWED BY THE CONTRACTOR WHICH OUTLINE ALLOWABLE CONSTRUCTION ACTIVITIES AS THEY RELATE TO TREE PROTECTION, TREE REMOVAL, AND TREE PRUNING WITH AN EMPHASIS ON TREE AND UNDERSTORY PRESERVATION. PRESERVATION AND MITIGATION REQUIREMENTS WILL BE APPLIED TO THE ENTIRE PROJECT. THE CONSTRUCTION OR MOBILIZATION SHALL OCCUR PRIOR TO ACCEPTANCE OF THE PRESERVATION PLAN.

DEFINITIONS:

DIAMETER BREAST HEIGHT (DBH) OR DIAMETER INCHES: THE AVERAGE CROSS-SECTIONAL MEASUREMENT OF THE TRUNK OF AN EXISTING TREE AT FOUR AND ONE-HALF (4 ½) FEET ABOVE GRADE. IF THE TREE IS ON A SLOPE, IT SHALL BE MEASURED FROM FROM THE HIGH SIDE OF THE SLOPE. NEWLY PLANTED TREES SHALL BE MEASURED SIX (6) INCHES ABOVE GRADE FOR MULTI-TRUNK SPECIES, THIS MEASUREMENT WILL BE BASED ON THE MEASURED DIAMETER OF THE MAIN TRUNK TAKEN FOUR AND ONE-HALF (4 ½) FEET ABOVE GRADE TOGETHER WITH ONE-HALF (½) OF THE DIAMETER OF THE REMAINING TRUNKS MEASURED AT THE SAME HEIGHT.

PROTECTED TREE: TREE DESIGNATED ON PLAN SHEET WITH NOTED LEGEND.

ROOT PROTECTION ZONE (RPZ): AN AREA WITH A RADIUS OF ONE FOOT FOR EACH INCH DBH OF TRUNK, OR IF BRANCHING OCCURS AT FOUR AND ONE-HALF (4 ½) INCHES, THE DIAMETER IS MEASURED AT THE POINT WHERE THE SMALLEST DIAMETER CLOSEST TO THE BRANCHING OCCURS. THE ZONE DOES NOT NEED TO BE EXACTLY CENTERED AROUND THE TREE OR CIRCULAR IN SHAPE, BUT IT SHOULD BE POSITIONED SO THAT NO DISTURBANCE OCCURS CLOSER TO THE TREE THAN ONE-HALF (½) OF THE RADIUS OF THE ZONE OR WITHIN FIVE (5) FEET OF THE TREE WHICHEVER IS LESS FOR ANY TREE OR GROUPS OF TREES. THE ZONED DOES NOT NEED TO EXCEED ONE THOUSAND (1,000) SQUARE FEET IN SIZE. THE RADIAL ROOT PROTECTION ZONES OF TREES MAY OVERLAP ONE ANOTHER SO THAT THE AREA OF PROTECTION REQUIRED FOR ONE (1) TREE MAY BE SHARED BY THE AREA OF PROTECTION REQUIRED FOR ANOTHER TREE TO MINIMIZE THE TOTAL SQUARE FOOTAGE OF PROTECTED AREA WHERE POSSIBLE.

TREE: A PERENNIAL WOODY PLANT, SINGLE OR MULTIPLE TRUNK WITH FEW IF ANY BRANCHES ON ITS LOWER PART WHICH AT MATURITY WILL OBTAIN A MINIMUM SIX-INCH CALIPER.

TREE SURVEY

A TREE SURVEY OF TREES 6" DBH AND LARGER 20 FEET EITHER SIDE OF CENTERLINE HAS BEEN PERFORMED FOR THE PROJECT ROUTE PRESENTED HEREIN. TREE PRESERVATION SHALL BE APPLICABLE TO THE ENTIRE PROJECT. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS PRIOR TO BID SUBMISSION.

TREE REMOVAL

- 1. THE CONTRACTOR WILL BE ALLOWED TO CLEAR SITE AREA UNLESS A PARTICULAR TREE OR TREES IS DESIGNATED TO REMAIN.
- 2. ALL DEBRIS FROM TREE REMOVAL (TRUNKS, BRANCHES, ROOTS, ETC.) SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
- 3. THE SAWS CONSTRUCTION INSPECTOR WILL BE REQUIRED TO KEEP AN INVENTORY OF ALL PROTECTED TREES REMOVED. THE CONTRACTOR SHALL NOT REMOVE ANY TREES WITHOUT SAWS INSPECTOR AUTHORIZATION PENDING IDENTIFICATION, MEASUREMENT, AND DOCUMENTATION.
- 4. TREES LOCATED WITHIN CITY, COUNTY, OR STATE RIGHT-OF-WAYS SHALL NOT BE REMOVED WITHOUT APPROVAL FROM THE CITY ARBORIST'S OFFICE.
- 5. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL SCHEDULE A PROJECT SITE WALK-THROUGH WITH THE CITY ARBORIST INSPECTOR.

TREE PRUNING

- 1. ALL TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO CITY OF SAN ANTONIO ITEM NO. 802 TREE PRUNING, SOIL AMENDING AND FERTILIZATION AND STANDARD PRACTICES DESCRIBED BY THE AMERICAN NATIONAL STANDARD INSTITUTE ANSI A300-1995 OR MOST CURRENT VERSION.
- 2. PRUNING WILL BE ALLOWED WITHIN THE PERMANENT CONSTRUCTION AND/OR ACCESS EASEMENTS AS REQUIRED FOR CLEARANCE WITHIN THE CONSTRUCTION WORK ZONE, CLEARANCE FOR ACCESS OR JOBSITE SAFETY. NO OTHER PRUNING WILL BE ALLOWED WITHOUT AUTHORIZATION FROM THE SAWS CONSTRUCTION INSPECTOR.
- 3. PRUNING SHALL CONSIST OF MINOR BRANCH OR ROOT REMOVAL.
- 4. BRANCHES STUBS 6" IN DIAMETER OR GREATER SHALL NOT BE PRUNED WITHOUT PRIOR APPROVAL OF THE SAWS CONSTRUCTION INSPECTOR.
- 5. BRANCHES OR ROOTS 6" IN DIAMETER OR GREATER SHALL NOT BE PRUNED WITHOUT PRIOR APPROVAL OF THE SAWS CONSTRUCTION INSPECTOR.
- 6. REPAIR PRESERVED TREES WHEN DAMAGED BY CONSTRUCTION OPERATIONS IN A MANNER ACCEPTABLE TO THE OWNER. REPAIR DAMAGED TREES PROMPTLY TO PREVENT PROGRESSIVE DETERIORATION CAUSED BY DAMAGE. ALL BROKEN BRANCHES AND EXPOSED ROOTS OF MITIGATION, PROTECTED, OR HERITAGE TREES SHALL BE CUT CLEANLY. IN CASE OF OAK SPECIES, IN ORDER TO PREVENT INFECTION BY OAK WILT SPORES, WOUNDS MUST BE PAINTED WITH AN ACCEPTABLE WOUND DRESSING WITHIN 30 MINUTES.
- 7. REPLACE TREES SCHEDULED TO REMAIN AND DAMAGED BEYOND REPAIR BY CONSTRUCTION OPERATIONS, AS DETERMINED BY THE OWNER, WITH TREES OF SIMILAR SIZE AND SPECIES.

TREE MITIGATION

- 1. MITIGATION FOR AUTHORIZED TREE REMOVAL WILL BE PERFORMED BY SAWS UNDER A SEPARATE CONTRACT. NO EXPENSE TO THE CONTRACTOR.
- 2. MITIGATION FOR UNAUTHORIZED TREE REMOVAL BY THE CONTRACTOR SHALL BE PAID BY THE CONTRACTOR IN AN AMOUNT EQUAL TO \$140.00 PER TREE INCH DIAMETER REMOVED OUTSIDE THE CONSERVATION EASEMENT AND \$250.00 PER TREE INCH DIAMETER REMOVED INSIDE THE CONSERVATION EASEMENT, PAYMENT OF CONTRACT OR MITIGATION WILL BE INVENTORIED BY THE SAWS CONSTRUCTION INSPECTOR AND SHALL BE WITHHELD FROM THE CONSTRUCTION CONTRACT PAYMENT.
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PENALTIES OR FINES OR EACH UNAUTHORIZED TREE REMOVAL IN ACCORDANCE WITH THE CITY OF SAN ANTONIO VERIFIED DEVELOPMENT CODE SECTION 35-493.

TREE PROTECTION NOTES

- 1. CONTRACTOR SHALL BE LICENSED WITH THE CITY OF SAN ANTONIO FOR TREE MAINTENANCE, PRUNING AND/OR REMOVAL OR SHALL RETAIN A LICENSED SUBCONTRACTOR TO PERFORM TREE MAINTENANCE, PRUNING AND/OR REMOVAL.
- 2. PROTECT DESIGNATED EXISTING TREES AS SHOWN ON PLANS AND WITHIN ROW OR PROPOSED EASEMENT. ALL TREES TO BE PRESERVED AS PART OF THE PROJECT SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING OR SKINNING OF ROOTS, TRUNKS, OR BRANCHES DURING CONSTRUCTION OPERATIONS BY FENCING AS DESCRIBED BELOW. THE TREE PROTECTION SHALL BE PLACED BEFORE ANY EXCAVATION OR GRADING BEGINS AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. PROTECTION WILL ENCOMPASS THE ROOT PROTECTION ZONE WHICH WILL BE AT MINIMUM, ONE FOOT RADIUS PER INCH DIAMETER OF THE TREE TRUNK AT 4 ½ FEET ABOVE GROUNDS. NO MATERIAL SHALL BE STORED OR CONSTRUCTION OPERATION SHALL BE CARRIED ON WITHIN THE TREE PROTECTION FENCING, UNLESS AUTHORIZED BY THE OWNER. THE PROTECTION SHALL REMAIN UNTIL ALL WORK IS COMPLETED.
- 3. PROTECT DESIGNATED TREES WITH A TEMPORARY MINIMUM 4 FEET HIGH ENCLOSURE. (SEE TREE PROTECTION DETAILS TP2)
- 4. ERECT TEMPORARY FENCING BEFORE COMMENCING SITE PREPARATION WORK. MAINTAIN FENCING DURING FULL CONSTRUCTION PERIOD. REMOVE TEMPORARY FENCING WHEN NO LONGER NEEDED OR WHEN ACCEPTABLE TO THE OWNER.
- 5. PROTECT ALL EXISTING LANDSCAPE AND TREES FROM CHANCES OF SOIL PH FACTOR BY PREVENTING DISPOSAL OF LIME BASED MATERIALS SUCH AS CONCRETE, PLASTER, LIME TREATMENT AT PAVEMENT SUBGRADE, AND APPURTENANCES IN OR IN PROXIMITY TO PRESERVED AREAS.
- 6. PROTECT ALL EXISTING TREES NEAR AREAS TO BE STABILIZED FROM UNDERGROUND CONTAMINANTS BY PLACING A 6 mil (0.15 mm) PLASTIC FILM BARRIER ALONG EXPOSED VERTICAL CUT EXTENDING A MINIMUM OF 12 INCHES (305 mm) INTO UNDISTURBED SUBGRADE BELOW DEPTH OF STABILIZATION.
- 7. CONTRACTOR SHALL MEET WITH COSA TREE INSPECTOR PRIOR TO THE START OF CONSTRUCTION TO GO OVER THE METHODS OF MAXIMIZING TREE PRESERVATION WITHIN THE ALLOWABLE CONTRACTOR STAGING/WORK AREA.
- 8. NO SOIL SHALL BE SPREAD, SPOILED, OR OTHERWISE DISPOSED OF, NOR SHALL ANY SOIL BE REMOVED FROM UNDER ANY TREE WITHIN THE DRIP LINE.
- 9. PROTECT ALL EXISTING TREES FROM STRANGLING BY NOT TYING ROPES OR GUY WIRES TO TRUNKS OR LARGE BRANCHES.
- 10. INTERFERING BRANCHES OF PRESERVED TREE MUST REMAIN PERVIOUS.
- 11. BORE UNDER DESIGNATED SIGNIFICANT TREES AS SHOWN ON THE PLANS.
- 12. THE PROPOSED FINISHED GRADE AND ELEVATION OF LAND WITHIN THE ROOT PROTECTION ZONE OF ANY TREE TO BE PRESERVED SHALL NOT BE RAISED OR LOWERED MORE THAN THREE (3) INCHES UNLESS WELLING AND RETAINING METHODS ARE ALLOWED IN THE ROOT PROTECTION ZONE.
- 13. THE ROOT PROTECTION ZONE FOR EACH PRESERVED TREE MUST REMAIN PERVIOUS.
- 14. REPAIR AND REPLACEMENT OF PRESERVED TREES DAMAGED BY CONSTRUCTION OPERATIONS LACK OF ADEQUATE PROTECTION DURING CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 15. TREES SPECIALLY DESIGNATED TO REMAIN SHALL BE PRESERVED BY THE CONTRACTOR EVEN IF ALTERNATE CONSTRUCTION TECHNIQUES MUST BE UTILIZED. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR THIS INSTALLATION.
- 16. VEHICULAR AND EQUIPMENT PARKING AND MATERIAL STORAGE SHALL NOT BE LOCATED WITHIN THE RPZ OF PROTECTED TREES.
- 17. THE CONSTRUCTION EASEMENT IS PROVIDED TO THE CONTRACTOR FOR STAGING, ACCESS, ADDITIONAL OPERATING ROOM, AND SPOIL/MATERIAL STORAGE. TREE REMOVAL OF PROTECTED TREES WITHIN THE CONSTRUCTION EASEMENT WILL NOT BE ALLOWED UNLESS ACCESS IS NOT OTHERWISE ACHIEVABLE AS DETERMINED BY THE SAWS CONSTRUCTION INSPECTOR. A MEANDERING ACCESS ROUTE WILL BE PROMOTED TO AVOID TREE REMOVAL.
- 18. CONTRACTOR SHALL PROTECT ALL TREES WHENEVER POSSIBLE. DAMAGE TO TREES SHOWN ON PLANS TO BE SAVED WILL BE MITIGATED AT THE CONTRACTOR'S EXPENSE PER MOST CURRENT CITY OF SAN ANTONIO TREE ORDINANCE.
- 19. ALL OAK CUTS AND WOUNDS ARE TO BE PAINTED WITHIN 30 MINUTES.
- 20. TREES, SHRUBS, OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND AS DIRECTED BY THE CITY ARBORIST INSPECTOR.
- 21. EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
- 22. 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. CONTRACTOR SHALL CONTACT THE CITY ARBORIST AT 207-0278 FOR GUIDANCE. THE SAWS INSPECTOR SHALL ALSO BE NOTIFIED. TRIMMING AND ANY OTHER ADJUSTMENTS TO EXISTING TREES SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY ARBORIST AND SAWS AT NO ADDITIONAL COST. (NSPI).

TREE PRESERVATION SUMMARY									
		SMALL DIAMETER***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1	
		REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
UPLANDS	TOTAL (INCHES)	26	101	539	1044	56	1002	0	57
	PRESERVATION %	79.5%		66.0%		94.7%		100.0%	
	ALLOWED %	0.0%		25.0%		100.0%		100.0%	
	MITIGATION REQUIRED (INCHES)	0		0		168		0	
	MITIGATION PROVIDED (INCHES)								
	TOTAL REQUIRED MITIGATION (INCHES)					168			
FLOODPLAIN	TOTAL (INCHES)	9	154	762	3829	483	2252	42	140
	PRESERVATION %	94.5%		83.4%		82.3%		76.9%	
	ALLOWED %	0.0%		80.0%		100.0%		100.0%	
	MITIGATION REQUIRED (INCHES)	0		0		1449		42	
	MITIGATION PROVIDED (INCHES)								
	TOTAL REQUIRED MITIGATION (INCHES)					1491			
RIPARIAN	TOTAL (INCHES)	0	0	0	0	0	0	0	0
	PRESERVATION %	100.0%		100.0%		100.0%		100.0%	
	ALLOWED %	0.0%		80.0%		100.0%		100.0%	
	MITIGATION REQUIRED (INCHES)	0		0		0		0	
	MITIGATION PROVIDED (INCHES)								
	TOTAL REQUIRED MITIGATION (INCHES)					0			
TOTAL REQUIRED MITIGATION (INCHES)									
1659									
NO CATEGORY TO FALL BELOW 20%									
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS									
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS									
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS									
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMONIN, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE									
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE									
****NON-NATIVE: CHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS									

LEGEND

TREE PRESERVED	
TREE REMOVED	
BORE PIT	

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JEFFREY A. FARNSWORTH P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

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No.	Revision	By	Date



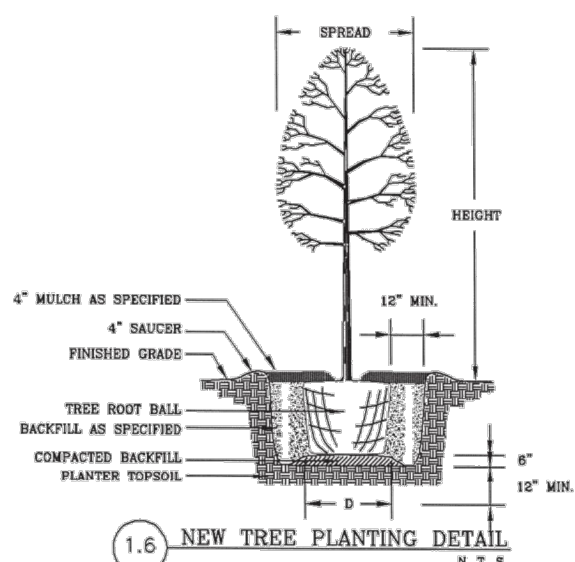
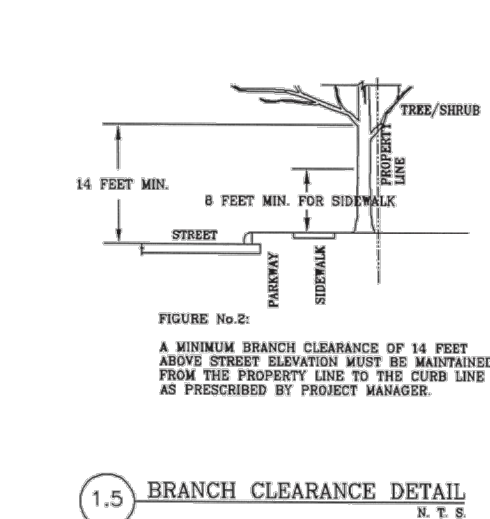
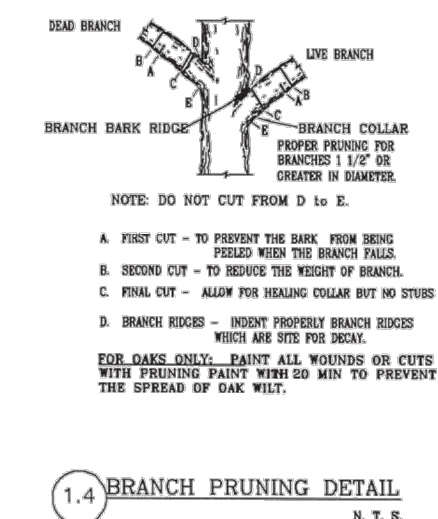
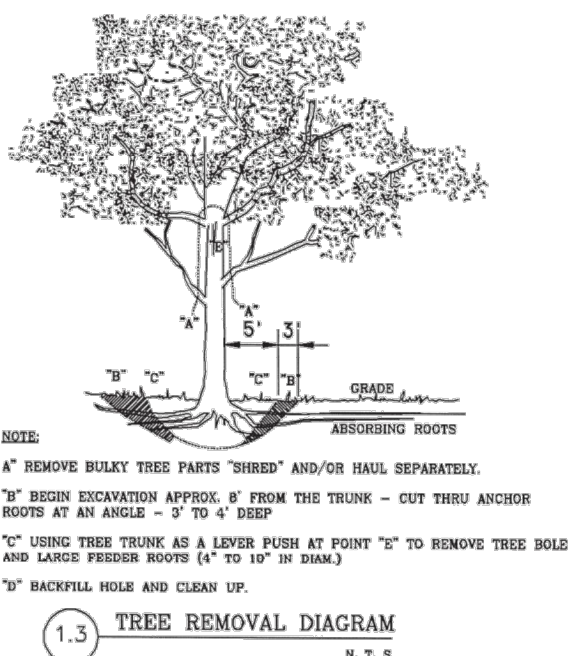
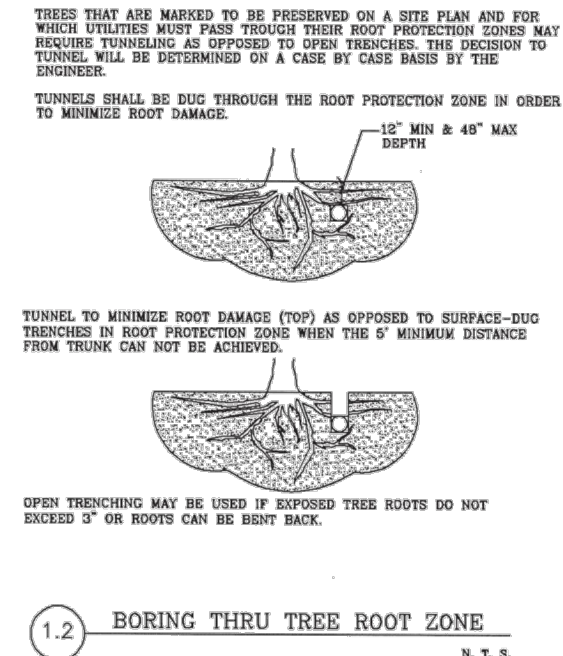
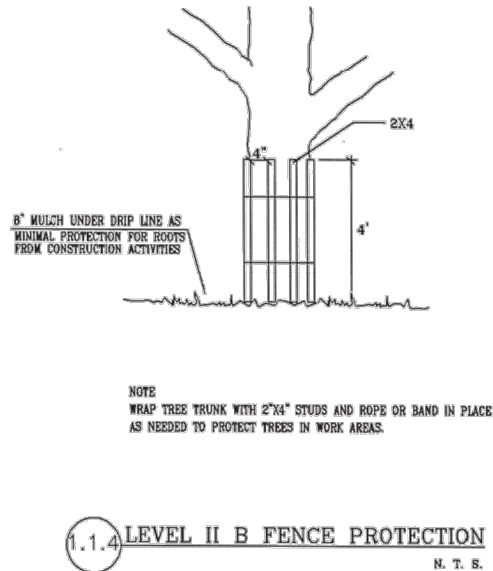
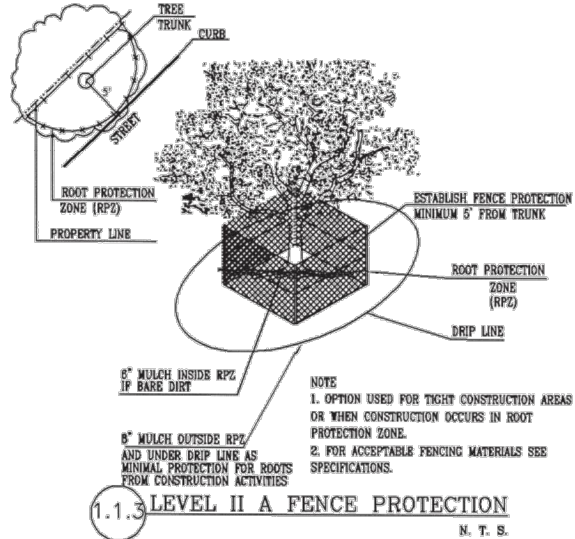
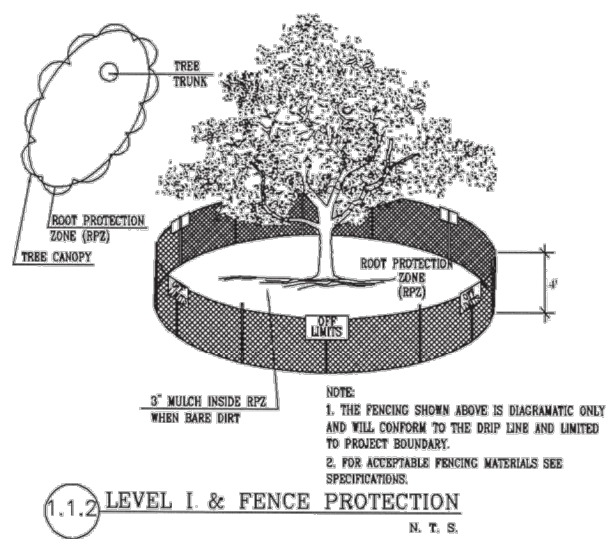
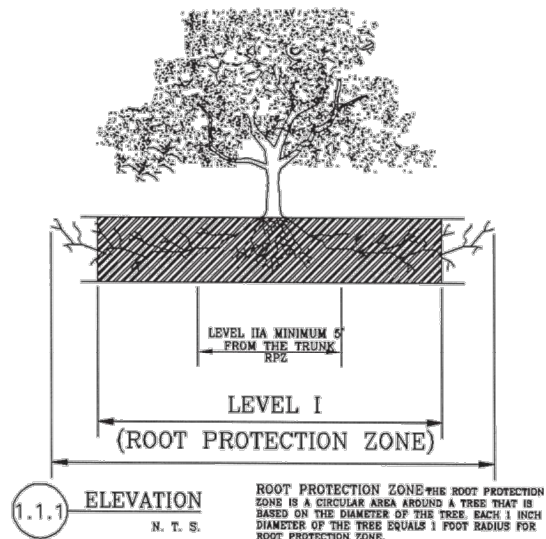
SAN ANTONIO WATER SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE PROTECTION NOTES
AND PRESERVATION
SUMMARY TABLE**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP1
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

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DATE: OCTOBER 2019			
601 NW Loop 410 Suite 350 San Antonio, TX 78216		Tel No. 210-541-9166 Fax No. 210-541-8699	
No.	Revision	By	Date
 SAN ANTONIO WATER SYSTEM		E-16: WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281	
		SHEET TREE DETAILS	
DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP2	
DESIGN: MAV	18-4509		
DRAWN: GM	KHA PROJECT NO.		
CHECKED: JAF	068665046		

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TREE INVENTORY																			
SHEET	TAG #	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP14	133	ELM	13	Y	N	N	N	Y	N	1					13				
TP14	134	ELM	9	Y	N	N	N	Y	N	1					9				
TP14	135	ELM	12	Y	N	N	N	Y	N	1					12				
TP14	136	ELM	10	Y	N	N	N	Y	N	1					10				
TP14	137	ELM	8	Y	N	N	N	Y	N	1					8				
TP14	138	ELM	13	Y	N	N	N	Y	N	1					13				
TP14	139	ELM	6	Y	N	N	N	Y	N	1					6				
TP14	140	ELM	9	Y	N	N	N	Y	N	1					9				
TP14	141	ELM	13	Y	N	N	N	Y	N	1					13				
TP14	142	HACKBERRY	15	Y	N	N	N	Y	N	1					15				
TP14	143	HACKBERRY	13	Y	N	N	N	Y	N	1					13				
TP14	144	HACKBERRY	12	Y	N	N	N	Y	N	1					12				
TP14	145	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP14	146	CHINABERRY	14	N	N	N	N	Y	N	1									
TP14	147	HACKBERRY	10	Y	N	N	N	Y	N	1					10				
TP14	148	HACKBERRY	13	Y	N	N	N	Y	N	1					13				
TP14	149	OAK	12	Y	N	N	N	Y	N	1					12				
TP14	150	OAK	12	Y	N	N	N	Y	N	1					12				
TP14	151	OAK	30	Y	Y	Y	N	Y	N	1							30		
TP14	152	ELM	27	Y	Y	Y	N	Y	N	1							27		
TP14	253	HACKBERRY	15	Y	N	N	N	Y	N	1					15				
TP14	254	CHINABERRY	11	N	N	N	N	Y	N	1									
TP14	255	HACKBERRY	15	Y	N	N	N	Y	N	1					15				
TP14	256	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP14	257	OAK	37	Y	Y	Y	N	Y	N	1							37		
TP14	258	OAK	23	Y	N	N	N	Y	N	REMOVE				23					
TP14	259	OAK	13	Y	N	N	N	Y	N	1					13				
TP14	260	ELM	9	Y	N	N	N	Y	N	1					9				
TP14	261	PECAN	8	Y	N	N	N	Y	N	1					8				
TP14	262	HACKBERRY	9	N	N	N	N	Y	N	1				9					
TP14	264	HACKBERRY	9	N	N	N	N	Y	N	1				9					
TP14	265	HACKBERRY	7	N	N	N	N	Y	N	1				7					
TP14	266	ELM	13	Y	N	N	N	Y	N	1					13				
TP14	267	ELM	12	Y	N	N	N	Y	N	1					12				
TP14	268	ELM	17	Y	N	N	N	Y	N	1					17				
TP14	247	CHINABERRY	10	N	N	N	N	N	N	REMOVE									
TP14	248	CHINABERRY	10	N	N	N	N	N	N	REMOVE									
TP14	263	HACKBERRY	10	Y	N	N	N	Y	N	1					10				
TP14	269	CHINABERRY	12	N	N	N	N	Y	N	1									
TP14	270	PECAN	8	Y	N	N	N	Y	N	1					8				
TP14	271	HACKBERRY	14	Y	N	N	N	Y	N	REMOVE				14					
TP14	272	CHINABERRY	14	N	N	N	N	Y	N	1									
TP14	273	MESQUITE	42	Y	Y	N	Y	Y	N	REMOVE								42	
TP14	274	OAK	12	Y	N	N	N	Y	N	1					12				
TP14	275	ELM	10	Y	N	N	N	Y	N	1					10				
TP14	276	OAK	8	Y	N	N	N	Y	N	1					8				
TP14	277	ELM	8	Y	N	N	N	Y	N	1					8				
TP14	278	ELM	6	Y	N	N	N	Y	N	1					6				
TP14	279	HACKBERRY	8	N	N	N	N	Y	N	1				8					
TP14	280	OAK	36	Y	Y	Y	N	Y	N	1							36		
TP14	281	ELM	8	Y	N	N	N	Y	N	1					8				
TP14	282	ELM	9	Y	N	N	N	Y	N	1					9				
TP14	283	ELM	17	Y	N	N	N	Y	N	1					17				
TP14	284	ELM	8	Y	N	N	N	N	N	1					8				
TP14	285	ELM	10	Y	N	N	N	Y	N	1					10				
TP14	286	HACKBERRY	8	N	N	N	N	N	N	1				8					
TP14	287	HACKBERRY	8	N	N	N	N	N	N	1				8					
TP14	288	HACKBERRY	40	Y	Y	N	Y	Y	N	1								40	
TP14	289	HACKBERRY	34	Y	Y	N	Y	Y	N	1								34	
TP14	290	OAK	20	Y	N	N	N	Y	N	1					20				
										TREE TOTALS									
											SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***		
											REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	
											UPLANDS	0	16	0	8	0	0	0	0
											FLOODPLAIN	0	33	37	430	0	130	42	74
RIPARIAN	0	0	0	0	0	0	0	0											
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMONIN, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED



TREE REMOVED



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Kimley»Horn

Texas Registered Firm, No. F-928

JEFFREY A. FARNSWORTH P.E.

SERIAL NO. 80190

DATE: OCTOBER 2019

601 NW Loop 410 Suite 350
San Antonio, TX 78216

Tel No. 210-541-9166
Fax No. 210-541-8699

No.

Revision

By

Date



SAN ANTONIO
WATER
SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 1
OF 13)**

DATE: OCTOBER 2019

SAWS PROJECT NO.

DESIGN: MAV

18-4509

DRAWN: GM

KHA PROJECT NO.

CHECKED: JAF

068665046

SHEET
NO.

TP3

VARA, MIKAELA 10/25/2019 10:31 AM
K:\SNA UTILITIES\068665046\CAD\SHEETS\TREE INVENTORY_E-16-068665046.DWG
10/25/2019 10:31 AM

PLOTTED BY
DWG NAME
068665046

TREE INVENTORY																			
SHEET	TAG #	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP14	291	ELM	26	Y	Y	Y	N	Y	N	1							26		
TP14	292	MESQUITE	22	Y	N	N	N	N	N	REMOVE				22					
TP14	293	OAK	40	Y	Y	Y	N	Y	N	1							40		
TP14	294	OAK	14	Y	N	N	N	Y	N	1					14				
TP14	295	HACKBERRY	16	Y	N	N	N	Y	N	1					16				
TP14	444	OAK	37	Y	Y	Y	N	N	N	1							37		
TP14	445	OAK	20	Y	N	N	N	N	N	1					20				
TP14	446	OAK	24	Y	Y	Y	N	N	N	1							24		
TP14	449	HACKBERRY	10	Y	N	N	N	N	N	REMOVE				10					
TP14	450	HACKBERRY	9	N	N	N	N	N	N	REMOVE		9							
TP14	451	HACKBERRY	11	Y	N	N	N	N	N	REMOVE				11					
TP14	452	HACKBERRY	10	Y	N	N	N	N	N	REMOVE				10					
TP14	453	HACKBERRY	14	Y	N	N	N	N	N	REMOVE				14					
TP14	454	HACKBERRY	9	N	N	N	N	N	N	1			9						
TP14	455	HACKBERRY	9	N	N	N	N	N	N	1			9						
TP14	456	HACKBERRY	11	Y	N	N	N	N	N	1					11				
TP14	458	HACKBERRY	9	N	N	N	N	N	N	1			9						
TP14	459	HACKBERRY	18	Y	N	N	N	N	N	REMOVE				18					
TP14	460	HACKBERRY	10	Y	N	N	N	N	N	1					10				
TP14	461	HACKBERRY	9	N	N	N	N	N	N	1			9						
TP14	462	ELM	9	Y	N	N	N	Y	N	1					9				
TP14	463	CHINABERRY	19	N	N	N	N	N	N	1									
TP14	464	ELM	7	Y	N	N	N	Y	N	1					7				
TP14	465	CHINABERRY	20	N	N	N	N	N	N	1									
TP14	466	OAK	34	Y	Y	Y	N	N	N	1							34		
TP15	467	OAK	28	Y	Y	Y	N	Y	N	1							28		
TP15	468	OAK	31	Y	Y	Y	N	Y	N	1							31		
TP15	469	OAK	31	Y	Y	Y	N	N	N	1							31		
TP15	470	OAK	31	Y	Y	Y	N	N	N	1							31		
TP15	471	OAK	36	Y	Y	Y	N	N	N	1							36		
TP15	472	OAK	30	Y	Y	Y	N	N	N	1							30		
TP15	473	HACKBERRY	10	Y	N	N	N	N	N	REMOVE				10					
TP15	474	HACKBERRY	12	Y	N	N	N	N	N	REMOVE				12					
TP15	475	OAK	11	Y	N	N	N	N	N	REMOVE				11					
TP15	476	OAK	8	Y	N	N	N	N	N	REMOVE				8					
TP15	477	ELM	9	Y	N	N	N	N	N	REMOVE				9					
TP15	478	HACKBERRY	14	Y	N	N	N	N	N	REMOVE				14					
TP15	479	ELM	9	Y	N	N	N	N	N	REMOVE				9					
TP15	480	ELM	11	Y	N	N	N	N	N	REMOVE				11					
TP15	481	MESQUITE	9	N	N	N	N	N	N	REMOVE		9							
TP15	482	HACKBERRY	15	Y	N	N	N	N	N	REMOVE				15					
TP15	483	HACKBERRY	20	Y	N	N	N	N	N	REMOVE				20					
TP15	484	HACKBERRY	12	Y	N	N	N	N	N	REMOVE				12					
TP15	485	HACKBERRY	18	Y	N	N	N	N	N	1					18				
TP15	486	HACKBERRY	18	Y	N	N	N	N	N	1					18				
TP15	487	CREPE MYRTLE	11	Y	N	N	N	N	N	1					11				
TP15	488	CREPE MYRTLE	14	Y	N	N	N	N	N	1					14				
TP15	489	CREPE MYRTLE	14	Y	N	N	N	N	N	1					14				
TP15	490	CREPE MYRTLE	14	Y	N	N	N	N	N	1					14				
TP15	491	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP15	492	ELM	13	Y	N	N	N	Y	N	1					13				
TP15	550	ELM	13	Y	N	N	N	Y	N	1					13				
TP15	554	ELM	13	Y	N	N	N	Y	N	1					13				
TP15	556	ELM	8	Y	N	N	N	N	N	1					8				
TP15	557	MESQUITE	14	Y	N	N	N	N	N	1					14				
TP15	558	OAK	15	Y	N	N	N	N	N	1					15				
TP15	559	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	561	ELM	19	Y	N	N	N	Y	N	1					19				
TP15	562	ELM	12	Y	N	N	N	Y	N	1					12				
TP15	563	HACKBERRY	12	Y	N	N	N	N	N	1					12				
										TREE TOTALS									
												SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
												UPLANDS	18	36	216	179	0	223	0
										FLOODPLAIN	0	0	0	135	0	125	0	0	
										RIPARIAN	0	0	0	0	0	0	0	0	
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMINON, HAWTHORN, POSSOMHAW PROECTED AT 5' DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED



TREE REMOVED



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JEFFREY A. FARNSWORTH P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

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Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date



**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 2
OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP4
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
K:\SNA_UTL\T15\068665046\CAD\SH1E1\TREE INVENTORY_E-16-068665046.DWG
10/25/2019 9:57 AM

PLOTTED BY
DWG NAME
068665046

TREE INVENTORY																			
SHEET	TAG #	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP15	566	ELM	9	Y	N	N	N	Y	N	1					9				
TP15	567	OAK	19	Y	N	N	N	Y	N	1					19				
TP15	568	ELM	10	Y	N	N	N	Y	N	1					10				
TPP15	569	ELM	13	Y	N	N	N	Y	N	1					13				
TP15	570	ELM	16	Y	N	N	N	Y	N	1					16				
TP15	571	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	572	HACKBERRY	8	N	N	N	N	N	N	1			8						
TP15	573	OAK	19	Y	N	N	N	Y	N	1					19				
TP15	574	OAK	32	Y	Y	Y	N	N	N	1							32		
TP15	575	OAK	30	Y	Y	Y	N	Y	N	1							30		
TP15	576	ELM	8	Y	N	N	N	N	N	1					8				
TP15	577	ELM	8	Y	N	N	N	N	N	1					8				
TP15	578	HACKBERRY	8	N	N	N	N	N	N	1			8						
TP15	579	HACKBERRY	8	N	N	N	N	N	N	1			8						
TP15	580	HACKBERRY	8	N	N	N	N	Y	N	1			8						
TP15	581	OAK	32	Y	Y	Y	N	N	N	REMOVE						32			
TP15	582	OAK	43	Y	Y	Y	N	N	N	1							43		
TP15	583	OAK	34	Y	Y	Y	N	Y	N	1							34		
TP15	584	HACKBERRY	8	N	N	N	N	Y	N	1			8						
TP15	585	HACKBERRY	10	Y	N	N	N	Y	N	1					10				
TP15	586	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	587	HACKBERRY	4	N	N	N	N	Y	N	1			4						
TP15	588	ELM	11	Y	N	N	N	N	N	1					11				
TP15	589	ELM	8	Y	N	N	N	N	N	1					8				
TP15	590	ELM	13	Y	N	N	N	Y	N	1					13				
TP15	591	HACKBERRY	14	Y	N	N	N	N	N	1					14				
TP15	592	ELM	9	Y	N	N	N	Y	N	1					9				
TP15	593	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	594	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	595	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	596	ELM	10	Y	N	N	N	N	N	1					10				
TP15	597	ELM	8	Y	N	N	N	N	N	1					8				
TP15	608	CHINABERRY	8	Y	N	N	N	N	N	1					8				
TP15	609	OAK	32	Y	Y	Y	N	N	N	1							32		
TP15	611	CHINABERRY	10	Y	N	N	N	Y	N	1					10				
TP15	612	ELM	8	Y	N	N	N	Y	N	1					8				
TP15	614	HACKBERRY	11	Y	N	N	N	N	N	1					11				
TP15	615	ELM	40	Y	Y	Y	N	N	N	1							40		
TP15	618	OAK	37	Y	Y	Y	N	Y	N	1							37		
TP15	619	OAK	20	Y	N	N	N	N	N	1					20				
TP15	620	OAK	18	Y	N	N	N	N	N	1					18				
TP15	621	OAK	36	Y	Y	Y	N	Y	N	1							36		
TP15	623	OAK	26	Y	Y	Y	N	N	N	1							26		
TP15	624	ELM	13	Y	N	N	N	Y	N	REMOVE			13						
TP15	628	HACKBERRY	10	Y	N	N	N	Y	N	1					10				
TP15	630	ELM	11	Y	N	N	N	Y	N	1					11				
TP15	631	ELM	9	Y	N	N	N	Y	N	1					9				
TP15	632	ELM	18	Y	N	N	N	Y	N	1					18				
TP15	633	ELM	11	Y	N	N	N	Y	N	1					11				
TP15	634	ELM	20	Y	N	N	N	Y	N	1					20				
TP15	636	ELM	12	Y	N	N	N	Y	N	1					12				
TP15	457	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	637	OAK	18	Y	N	N	N	Y	N	1					18				
TP16	638	HACKBERRY	8	N	N	N	N	Y	N	1			8						
TP16	639	OAK	24	Y	Y	Y	N	Y	N	1							24		
TP16	641	HACKBERRY	9	N	N	N	N	Y	N	1			9						
TP16	642	ELM	22	Y	N	N	N	Y	N	1					22				
TP16	625	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	626	ELM	11	Y	N	N	N	Y	N	1					11				
TP16	627	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	635	ELM	9	Y	N	N	N	Y	N										
										1									
										TREE TOTALS									
												SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
										UPLANDS		0	24	0	124	32	173	0	0
FLOODPLAIN		0	37	13	352	0	161	0	0										
RIPARIAN		0	0	0	0	0	0	0	0										
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																			
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																			
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMON, HAWTHORN, POSSOMHAW PROECTED AT 5' DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED



TREE REMOVED



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JEFFREY A. FARNSWORTH P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

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No.	Revision	By	Date



SAN ANTONIO
WATER
SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 3
OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP5
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
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10/25/2019 9:57 AM

PLOTTED BY
DWG NAME
068665046

TREE INVENTORY																			
SHEET	TAG #	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP16	643	ELM	11	Y	N	N	N	Y	N	1					11				
TP16	644	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	645	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	646	ELM	12	Y	N	N	N	Y	N	1					12				
TP16	647	ELM	11	Y	N	N	N	Y	N	REMOVE				11					
TP16	648	ELM	13	Y	N	N	N	Y	N	1					13				
TP16	649	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	650	OAK	25	Y	Y	Y	N	Y	N	1							25		
TP16	651	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	652	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	653	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	654	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	655	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	656	ELM	14	Y	N	N	N	Y	N	1					14				
TP16	657	ELM	12	Y	N	N	N	Y	N	1					12				
TP16	658	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	659	HACKBERRY	9	N	N	N	N	Y	N	1				9					
TP16	660	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	662	OAK	27	Y	Y	Y	N	Y	N	1							27		
TP16	664	OAK	31	Y	Y	Y	N	Y	N	1							31		
TP16	663	ELM	15	Y	N	N	N	Y	N	1					15				
TP16	665	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	666	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP16	667	ELM	12	Y	N	N	N	Y	N	1					12				
TP16	668	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	669	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	670	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	671	ELM	14	Y	N	N	N	Y	N	1					14				
TP16	673	OAK	37	Y	Y	Y	N	Y	N	1							37		
TP16	674	CHINABERRY	13	N	N	N	N	Y	N	1									
TP16	675	ELM	15	Y	N	N	N	Y	N	1					15				
TP16	676	OAK	15	Y	N	N	N	Y	N	1					15				
TP16	677	OAK	24	Y	Y	Y	N	Y	N	1							24		
TP16	678	ELM	15	Y	N	N	N	Y	N	1					15				
TP16	679	ELM	17	Y	N	N	N	Y	N	1					17				
TP16	680	ELM	21	Y	N	N	N	Y	N	REMOVE				21					
TP16	681	MESQUITE	15	Y	N	N	N	Y	N	REMOVE				15					
TP16	682	MESQUITE	12	Y	N	N	N	Y	N	REMOVE				12					
TP16	685	HACKBERRY	14	Y	N	N	N	Y	N	1					14				
TP16	686	OAK	33	Y	Y	Y	N	Y	N	1							33		
TP16	687	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP16	688	HACKBERRY	36	Y	Y	N	Y	Y	N	1									36
TP16	683	OAK	29	Y	Y	Y	N	Y	N	1							29		
TP16	684	ELM	14	Y	N	N	N	Y	N	REMOVE				14					
TP16	689	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	690	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	691	MESQUITE	11	Y	N	N	N	Y	N	1					11				
TP16	692	ELM	12	Y	N	N	N	Y	N	1					12				
TP16	812	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	813	ELM	12	Y	N	N	N	Y	N	1					12				
TP16	814	ELM	14	Y	N	N	N	Y	N	1					14				
TP16	815	ELM	15	Y	N	N	N	Y	N	1					15				
TP16	816	MESQUITE	17	Y	N	N	N	Y	N	1					17				
TP16	817	MESQUITE	13	Y	N	N	N	Y	N	1					13				
TP16	818	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	819	ELM	10	Y	N	N	N	Y	N	1					10				
TP16	820	ELM	8	Y	N	N	N	Y	N	1					8				
TP16	821	ELM	17	Y	N	N	N	Y	N	1					17				
TP16	822	ELM	9	Y	N	N	N	Y	N	1					9				
TP16	823	OAK	15	Y	N	N	N	Y	N	1					15				
										TREE TOTALS									
											SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***		
											REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	
											UPLANDS	0	0	0	0	0	0	0	0
											FLOODPLAIN	0	9	73	519	0	206	0	36
RIPARIAN	0	0	0	0	0	0	0	0											
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMONIN, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED



TREE REMOVED



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JEFFREY A. FARNSWORTH P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

Kimley»Horn

Texas Registered Firm, No. F-928

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San Antonio, TX 78216
Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date



SAN ANTONIO
WATER
SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 4
OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP6
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

PLOTTED BY VARA, MIKAELA 10/25/2019 8:49 AM
DWG NAME K:\SNA_UTILITIES\068665046\CAD\SHEETS\TREE INVENTORY_E-16-068665046.DWG
LAST SAVED 10/25/2019 8:47 AM

TREE PRESERVED



Kimley»»Horn

601 NW Loop 410 Suite 350 Tel No. 210-541-9166
San Antonio, TX 78216 Fax No. 210-541-8699

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
TREE INVENTORY (SHEET 5
OF 13)

TP 7

VARA, MIKAELA 10/25/2019 8:49 AM
K:\SNA UTILITIES\068665046\CAD\SHEETS\TREE INVENTORY_E-16-068665046.DWG
10/25/2019 9:07 AM

PLOTTED BY
DWG NAME
068665046

TREE INVENTORY																			
SHEET	TAG #	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP17	881	CHINABERRY	21	N	N	N	N	Y	N	REMOVE									
TP17	882	ELM	8	Y	N	N	N	Y	N	REMOVE				8					
TP17	883	HACKBERRY	13	Y	N	N	N	Y	N	REMOVE				13					
TP17	884	ELM	11	Y	N	N	N	Y	N	REMOVE				11					
TP17	885	ELM	10	Y	N	N	N	Y	N	REMOVE				10					
TP17	886	CHINABERRY	11	N	N	N	N	Y	N	REMOVE									
TP17	887	ELM	9	Y	N	N	N	Y	N	REMOVE				9					
TP17	888	ELM	11	Y	N	N	N	N	N	REMOVE				11					
TP17	889	ELM	7	Y	N	N	N	Y	N	1					7				
TP17	890	ELM	7	Y	N	N	N	N	N	REMOVE				7					
TP17	891	ELM	7	Y	N	N	N	Y	N	REMOVE				7					
TP17	892	ELM	7	Y	N	N	N	Y	N	REMOVE				7					
TP17	893	ELM	7	Y	N	N	N	Y	N	1					7				
TP17	894	ELM	10	Y	N	N	N	Y	N	REMOVE				10					
TP17	895	ELM	7	Y	N	N	N	Y	N	REMOVE				7					
TP17	896	ELM	14	Y	N	N	N	Y	N	1					14				
TP17	897	ELM	8	Y	N	N	N	Y	N	1					8				
TP17	898	MESQUITE	11	Y	N	N	N	Y	N	1					11				
TP17	899	HACKBERRY	8	N	N	N	N	N	N	1			8						
TP17	902	ELM	24	Y	Y	Y	N	Y	N	1							24		
TP17	903	OAK	24	Y	Y	Y	N	Y	N	1							24		
TP17	904	ELM	22	Y	N	N	N	Y	N	1					22				
TP17	907	OAK	37	Y	Y	Y	N	Y	N	1							37		
TP17	905	OAK	16	Y	N	N	N	Y	N	1					16				
TP17	906	OAK	52	Y	Y	Y	N	Y	N	1							52		
TP17	946	OAK	26	Y	Y	Y	N	Y	N	1							26		
TP17	945	ELM	20	Y	N	N	N	Y	N	1					20				
TP17	910	OAK	43	Y	Y	Y	N	Y	N	1							43		
TP17	911	CHINABERRY	10	N	N	N	N	Y	N	1									
TP17	912	CHINABERRY	13	N	N	N	N	Y	N	1									
TP17	913	CHINABERRY	13	N	N	N	N	Y	N	1									
TP17	914	CHINABERRY	11	N	N	N	N	Y	N	1									
TP17	915	CHINABERRY	10	N	N	N	N	Y	N	1									
TP17	916	CHINABERRY	12	N	N	N	N	Y	N	1									
TP17	917	OAK	25	Y	Y	Y	N	Y	N	1							25		
TP17	920	ELM	15	Y	N	N	N	Y	N	1					15				
TP17	919	OAK	29	Y	Y	Y	N	Y	N	1							29		
TP17	918	OAK	25	Y	Y	Y	N	Y	N	1							25		
TP17	921	ELM	8	Y	N	N	N	Y	N	1					8				
TP17	922	PERSIMMON	9	Y	N	N	N	Y	N	1					9				
TP17	923	OAK	60	Y	Y	Y	N	Y	N	1							60		
TP17	924	OAK	18	Y	N	N	N	Y	N	1					18				
TP17	925	MESQUITE	12	Y	N	N	N	Y	N	1					12				
TP17	926	ELM	10	Y	N	N	N	Y	N	1					10				
TP17	927	ELM	12	Y	N	N	N	Y	N	1					12				
TP17	928	CEDAR	15	Y	N	N	N	Y	N	1					15				
TP17	929	HACKBERRY	10	Y	N	N	N	Y	N	1					10				
TP17	930	OAK	10	Y	N	N	N	Y	N	1					10				
TP17	931	ELM	16	Y	N	N	N	Y	N	1					16				
TP18	932	OAK	45	Y	Y	Y	N	Y	N	1							45		
TP18	933	ELM	8	Y	N	N	N	Y	N	1					8				
TP18	934	HACKBERRY	8	N	N	N	N	Y	N	1			8						
TP18	935	ELM	9	Y	N	N	N	Y	N	1					9				
TP18	936	CHINABERRY	17	N	N	N	N	Y	N	1									
TP18	937	OAK	33	Y	Y	Y	N	Y	N	1							33		
TP18	938	ELM	14	Y	N	N	N	Y	N	1					14				
TP18	939	HACKBERRY	20	Y	N	N	N	N	N	1					20				
TP18	103	MESQUITE	13	Y	N	N	N	Y	N	1					13				
TP18	104	ELM	12	Y	N	N	N	Y	N	1					12				
TP18	105	ELM	27	Y	Y	Y	N	Y	N	1							27		
										TREE TOTALS									
												SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
												0	8	18	20	0	0	0	0
												0	8	82	296	0	450	0	0
										0	0	0	0	0	0	0	0	0	
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMMON, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED



TREE REMOVED



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JEFFREY A. FARNSWORTH P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

Kimley»Horn

Texas Registered Firm, No. F-928

601 NW Loop 410 Suite 350
San Antonio, TX 78216
Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date



SAN ANTONIO
WATER
SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 6
OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP8
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
K:\SNA UTILITIES\068665046\CAD\SHEETS\TREE INVENTORY_E-16-068665046.DWG
PLOTTED BY
DWG NAME
25/10/2019

TREE INVENTORY																			
SHEET	TAG#	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP18	107	OAK	22	Y	N	N	N	Y	N	1					22				
TP18	108	OAK	36	Y	Y	Y	N	Y	N	1							36		
TP18	109	ELM	13	Y	N	N	N	Y	N	1					13				
TP18	202	OAK	13	Y	N	N	N	Y	N	1					13				
TP18	203	OAK	13	Y	N	N	N	Y	N	1					13				
TP18	204	OAK	25	Y	Y	Y	N	Y	N	1							25		
TP18	205	OAK	24	Y	Y	Y	N	Y	N	1							24		
TP18	111	ELM	36	Y	Y	Y	N	N	N	1							36		
TP18	112	OAK	21	Y	N	N	N	N	N	1					21				
TP18	113	CATALPA	12	Y	N	N	N	N	N	1					12				
TP18	114	CATALPA	13	Y	N	N	N	N	N	1					13				
TP18	115	OAK	27	Y	Y	Y	N	N	N	1							27		
TP18	116	OAK	27	Y	Y	Y	N	N	N	1							27		
TP18	117	CATALPA	11	Y	N	N	N	N	N	1					11				
TP18	118	ELM	16	Y	N	N	N	N	N	1					16				
TP18	121	OAK	39	Y	Y	Y	N	N	N	1							39		
TP18	122	OAK	27	Y	Y	Y	N	N	N	1							27		
TP18	126	OAK	42	Y	Y	Y	N	N	N	1							42		
TP18	119	OAK	21	Y	N	N	N	N	N	1					21				
TP18	120	OAK	22	Y	N	N	N	N	N	1					22				
TP18	123	CATALPA	12	Y	N	N	N	N	N	REMOVE				12					
TP18	124	OAK	27	Y	Y	Y	N	N	N	1							27		
TP18	125	OAK	31	Y	Y	Y	N	N	N	1							31		
TP18	127	OAK	17	Y	N	N	N	N	N	1					17				
TP18	128	OAK	12	Y	N	N	N	N	N	1					12				
TP18	129	OAK	20	Y	N	N	N	N	N	1					20				
TP18	130	ELM	22	Y	N	N	N	N	N	1					22				
TP18	131	OAK	26	Y	Y	Y	N	N	N	1							26		
TP18	132	ELM	17	Y	N	N	N	N	N	REMOVE				17					
TP18	153	OAK	36	Y	Y	Y	N	N	N	1							36		
TP18	154	ELM	22	Y	N	N	N	N	N	1					22				
TP18	155	OAK	43	Y	Y	Y	N	N	N	1							43		
TP19	156	OAK	30	Y	Y	Y	N	N	N	1							30		
TP19	157	OAK	34	Y	Y	Y	N	N	N	1							34		
TP19	158	OAK	22	Y	N	N	N	Y	N	REMOVE				22					
TP19	159	OAK	30	Y	Y	Y	N	Y	N	REMOVE						30			
TP19	160	OAK	19	Y	N	N	N	Y	N	REMOVE				19					
TP19	161	OAK	30	Y	Y	Y	N	Y	N	REMOVE						30			
TP19	162	ELM	16	Y	N	N	N	Y	N	1					16				
TP19	163	OAK	45	Y	Y	Y	N	Y	N	1							45		
TP20	164	OAK	34	Y	Y	Y	N	Y	N	1							34		
TP20	165	ASH	11	Y	N	N	N	Y	N	1					11				
TP20	166	ASH	11	Y	N	N	N	Y	N	1					11				
TP20	167	ASH	9	Y	N	N	N	Y	N	1					9				
TP20	168	ASH	8	Y	N	N	N	Y	N	1					8				
TP20	169	OAK	31	Y	Y	Y	N	Y	N	1							31		
TP20	170	ELM	14	Y	N	N	N	Y	N	1					14				
TP20	171	ELM	17	Y	N	N	N	Y	N	1					17				
TP20	172	ELM	23	Y	N	N	N	Y	N	1					23				
TP20	173	ELM	25	Y	Y	Y	N	Y	N	1							25		
TP20	174	ELM	17	Y	N	N	N	Y	N	1					17				
TP20	175	ELM	18	Y	N	N	N	Y	N	1					18				
TP20	176	ELM	14	Y	N	N	N	Y	N	1					14				
TP20	179	ELM	16	Y	N	N	N	Y	N	1					16				
TP20	180	ELM	14	Y	N	N	N	Y	N	1					14				
TP20	181	ELM	15	Y	N	N	N	Y	N	1					15				
TP20	182	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP20	183	HACKBERRY	8	N	N	N	N	Y	N	1			8						
TP20	184	ELM	30	Y	Y	Y	N	Y	N	1							30		
TP20	185	ELM	9	Y	N	N	N	Y	N	1					9				
										TREE TOTALS									
										SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***			
										UPLANDS	0	0	29	209	0	425	0	0	
										FLOODPLAIN	0	8	41	284	60	250	0	0	
										RIPARIAN	0	0	0	0	0	0	0	0	
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMMON, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED



TREE REMOVED



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Texas Registered Firm, No. F-928

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SERIAL NO. 80190

DATE: OCTOBER 2019

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San Antonio, TX 78216

Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date



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**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 7
OF 13)**

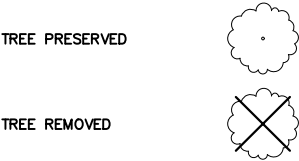
DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP8A
DESIGN:MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
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10/25/2019 8:49 AM

PLOTTED BY
DWG NAME
068665046

TREE INVENTORY																			
SHEET	TAG#	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP20	186	ELM	26	Y	Y	Y	N	Y	N	1							26		
TP20	187	ELM	20	Y	N	N	N	Y	N	1					20				
TP20	188	ELM	27	Y	Y	Y	N	Y	N	1							27		
TP20	189	OAK	16	Y	N	N	N	Y	N	1					16				
TP20	190	OAK	17	Y	N	N	N	Y	N	1					17				
TP20	191	ELM	26	Y	Y	Y	N	Y	N	1							26		
TP20	192	ELM	19	Y	N	N	N	Y	N	1					19				
TP20	193	ELM	17	Y	N	N	N	Y	N	1					17				
TP20	194	ELM	13	Y	N	N	N	Y	N	1					13				
TP20	195	ELM	12	Y	N	N	N	Y	N	1					12				
TP20	196	ELM	13	Y	N	N	N	Y	N	1					13				
TP20	197	ELM	19	Y	N	N	N	Y	N	1					19				
TP20	198	ELM	12	Y	N	N	N	Y	N	1					12				
TP20	206	ELM	19	Y	N	N	N	Y	N	1					19				
TP20	207	ELM	17	Y	N	N	N	Y	N	1					17				
TP20	208	HACKBERRY	17	Y	N	N	N	Y	N	1					17				
TP20	209	HACKBERRY	14	Y	N	N	N	N	N	1					14				
TP20	210	ELM	30	Y	Y	Y	N	N	N	1							30		
TP20	211	HACKBERRY	20	Y	N	N	N	Y	N	1					20				
TP20	212	HACKBERRY	12	Y	N	N	N	Y	N	1					12				
TP20	213	HACKBERRY	13	Y	N	N	N	Y	N	1					13				
TP20	214	ELM	20	Y	N	N	N	N	N	1					20				
TP20	215	HUISACHE	32	Y	Y	N	Y	N	N	1									32
TP20	216	HACKBERRY	12	Y	N	N	N	N	N	1					12				
TP20	217	OAK	10	Y	N	N	N	N	N	1					10				
TP20	218	OAK	20	Y	N	N	N	N	N	1					20				
TP20	219	OAK	14	Y	N	N	N	N	N	1					14				
TP20	220	OAK	13	Y	N	N	N	N	N	1					13				
TP20	221	OAK	15	Y	N	N	N	N	N	1					15				
TP20	222	ELM	30	Y	Y	Y	N	N	N	1							30		
TP20	223	CHINABERRY	10	N	N	N	N	N	N	1									
TP19	1101	ELM	20	Y	N	N	N	Y	N	REMOVE				20					
TP19	1103	OAK	30	Y	Y	Y	N	Y	N	REMOVE					30				
TP20	1104	OAK	23	Y	N	N	N	Y	N	REMOVE				23					
TP20	1105	ELM	13	Y	N	N	N	Y	N	REMOVE				13					
TP20	1106	OAK	53	Y	Y	Y	N	Y	N	1							53		
TP20	1107	OAK	36	Y	Y	Y	N	Y	N	1							36		
TP20	1108	OAK	27	Y	Y	Y	N	Y	N	1							27		
TP20	1109	OAK	56	Y	Y	Y	N	Y	N	1							56		
TP20	1110	OAK	19	Y	N	N	N	Y	N	REMOVE				19					
TP20	1111	OAK	19	Y	N	N	N	Y	N	REMOVE				19					
TP20	1112	OAK	21	Y	N	N	N	Y	N	REMOVE				21					
TP20	1113	OAK	30	Y	Y	Y	N	Y	N	REMOVE					30				
TP20	1114	ASH	10	Y	N	N	N	Y	N	REMOVE				10					
TP20	1116	ELM	19	Y	N	N	N	Y	N	REMOVE				19					
TP20	1117	ELM	16	Y	N	N	N	Y	N	REMOVE				16					
TP20	1118	OAK	30	Y	Y	Y	N	Y	N	REMOVE					30				
TP20	1119	ASH	13	Y	N	N	N	Y	N	REMOVE									
TP20	1120	ELM	24	Y	Y	Y	N	Y	N	1									
TP20	1121	OAK	44	Y	Y	Y	N	Y	N	1									
TP20	1122	HACKBERRY	11	Y	N	N	N	Y	N	1									
TP20	1056	HACKBERRY	11	Y	N	N	N	Y	N	1					11				
TP20	1057	HACKBERRY	6	N	N	N	N	Y	N	1			6						
TP20	1058	ASH	6	Y	N	N	N	Y	N	1				6					
TP20	1059	ASH	8	Y	N	N	N	Y	N	1				8					
TP20	1060	ASH	6	Y	N	N	N	Y	N	REMOVE									
TP20	1061	HACKBERRY	6	N	N	N	N	Y	N	1									
TP20	1062	HUISACHE	6	Y	N	N	N	Y	N	REMOVE									
TP20	1063	HACKBERRY	8	N	N	N	N	Y	M	REMOVE									
TP20	1064	ASH	9	Y	N	N	N	Y	N	1									
										TREE TOTALS									
												SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	
												0	0	0	118	0	60	0	32
										FLOODPLAIN		0	6	160	281	90	251	0	0
RIPARIAN		0	0	0	0	0	0	0	0										
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																			
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMMON, HAWTHORN, POSSOMHAW PROTECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
***NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																		3. TREE DETERMINED TO BE EXEMPT BY COSA	

LEGEND



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JEFFREY A. FARNSWORTH P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

Kimley»Horn
Texas Registered Firm, No. F-928
601 NW Loop 410 Suite 350 Tel No. 210-541-9166
San Antonio, TX 78216 Fax No. 210-541-8699

No.	Revision	By	Date



**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

**SHEET
TREE INVENTORY (SHEET 8
OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP8B
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
K:\SNA UTILITIES\068665046\CAD\SHEETS\TREE INVENTORY_E-16-068665046.DWG
10/25/2019 8:49 AM

PLOTTED BY
DWG NAME
25/10/2019

TREE INVENTORY																			
SHEET	TAG #	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP20	1065	DEAD	0	N	N	N	N	Y	N	1									
TP20	1066	HACKBERRY	11	Y	N	N	N	Y	N	1									
TP20	1067	HACKBERRY	7	N	N	N	N	Y	N	REMOVE									
TP20	1068	HACKBERRY	7	N	N	N	N	Y	N	REMOVE									
TP21	224	OAK	9	Y	N	N	N	N	N	REMOVE			9						
TP21	228	OAK	15	Y	N	N	N	N	N	REMOVE			15						
TP21	230	OAK	13	Y	N	N	N	Y	N	REMOVE			13						
TP21	947	OAK	25	Y	Y	Y	N	Y	N	1						25			
TP21	948	OAK	22	Y	N	N	N	Y	N	1				22					
TP21	949	OAK	34	Y	Y	Y	N	Y	N	1							34		
TP21	950	OAK	35	Y	Y	Y	N	Y	N	REMOVE						35			
TP21	951	OAK	26	Y	Y	Y	N	Y	N	REMOVE						26			
TP21	952	OAK	19	Y	N	N	N	Y	N	1				19					
TP21	953	OAK	17	Y	N	N	N	Y	N	1					17				
TP21	954	OAK	22	Y	N	N	N	Y	N	1					22				
TP21	955	OAK	14	Y	N	N	N	Y	N	1					14				
TP21	956	OAK	30	Y	Y	Y	N	Y	N	REMOVE						30			
TP21	957	OAK	25	Y	Y	Y	N	Y	N	1							25		
TP21	1123	OAK	19	Y	N	N	N	Y	N	1					19				
TP21	1124	OAK	27	Y	Y	Y	N	Y	N	1							27		
TP21	1125	OAK	27	Y	Y	Y	N	Y	N	REMOVE						27			
TP21	1208	OAK	41	Y	Y	Y	N	Y	N	1							41		
TP22	225	OAK	21	Y	N	N	N	Y	N	REMOVE				21					
TP22	226	OAK	27	Y	Y	Y	N	Y	N	REMOVE						27			
TP22	227	HACKBERRY	8	N	N	N	N	N	N	REMOVE	8								
TP22	229	OAK	32	Y	Y	Y	N	Y	N	1							32		
TP22	231	OAK	24	Y	Y	Y	N	Y	N	REMOVE						24			
TP22	232	OAK	30	Y	Y	Y	N	Y	N	REMOVE						30			
TP22	233	OAK	24	Y	Y	Y	N	Y	N	REMOVE						24			
TP22	234	OAK	27	Y	Y	Y	N	Y	N	REMOVE						27			
TP22	235	OAK	24	Y	Y	Y	N	Y	N	1							24		
TP22	236	OAK	18	Y	N	N	N	N	N	1					18				
TP22	237	OAK	20	Y	N	N	N	Y	N	1					20				
TP22	238	HUISACHE	10	Y	N	N	N	Y	N	REMOVE				10					
TP22	239	ELM	24	Y	Y	Y	N	N	N	REMOVE						24			
TP22	240	OAK	22	Y	N	N	N	Y	N	1					22				
TP22	241	OAK	28	Y	Y	Y	N	Y	N	REMOVE						28			
TP22	242	OAK	30	Y	Y	Y	N	Y	N	REMOVE						30			
TP22	243	OAK	21	Y	N	N	N	Y	N	REMOVE				21					
TP22	244	OAK	26	Y	Y	Y	N	Y	N	1							26		
TP22	245	OAK	16	Y	N	N	N	Y	N	REMOVE				16					
TP22	940	OAK	36	Y	Y	Y	N	Y	N	1							36		
TP22	941	OAK	15	Y	N	N	N	Y	N	1					15				
TP22	942	OAK	22	Y	N	N	N	Y	N	1					22				
TP22	943	OAK	24	Y	Y	Y	N	Y	N	1							24		
TP22	944	OAK	16	Y	N	N	N	Y	N	1					16				
TP22	958	OAK	18	Y	N	N	N	Y	N	1					18				
TP22	959	OAK	20	Y	N	N	N	Y	N	1					20				
TP22	960	OAK	19	Y	N	N	N	Y	N	1					19				
TP22	961	OAK	15	Y	N	N	N	Y	N	REMOVE				15					
TP22	962	OAK	8	Y	N	N	N	Y	N	REMOVE				8					
TP22	301	OAK	23	Y	N	N	N	Y	N	1					23				
TP22	307	OAK	32	Y	Y	Y	N	Y	N	1							32		
TP22	309	ELM	18	Y	N	N	N	Y	N	REMOVE				18					
TP22	310	OAK	15	Y	N	N	N	Y	N	REMOVE				15					
TP22	311	OAK	14	Y	N	N	N	Y	N	1					14				
TP23	302	OAK	18	Y	N	N	N	Y	N	1					18				
TP23	303	HACKBERRY	12	Y	N	N	N	Y	N	1					12				
TP23	304	OAK	16	Y	N	N	N	Y	N	1					16				
										TREE TOTALS									
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
										UPLANDS		8	0	24	18	24	0	0	0
FLOODPLAIN		0	0	137	348	308	326	0	0										
RIPARIAN		0	0	0	0	0	0	0	0										
NO CATEGORY TO FALL BELOW 20%																EXEMPTIONS			
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																1. TREE IS DEAD			
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																2. TREE IS IN POOR HEALTH			
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																3. TREE DETERMINED TO BE EXEMPT BY COSA			
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMINON, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																			
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
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LEGEND

TREE PRESERVED



TREE REMOVED



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Kimley»Horn

Texas Registered Firm, No. F-928

JEFFREY A. FARNSWORTH P.E.

SERIAL NO. 80190

DATE: OCTOBER 2019

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San Antonio, TX 78216

Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date



SAN ANTONIO
WATER
SYSTEM

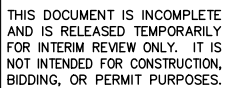
**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET 9
OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP9
DESIGN:MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
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10/25/2019 8:47 AM

TREE PRESERVED



Texas Registered Firm, No. F-928

601 NW Loop 410 Suite 350 Tel No. 210-541-9166
San Antonio, TX 78216 Fax No. 210-541-8699



**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
TREE INVENTORY (SHEET
10 OF 13)

TP1C

VARA, MIKAELA 10/25/2019 8:49 AM
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10/25/2019 9:07 AM

PLOTTED BY
DWG NAME
25/10/2019

TREE INVENTORY																				
SHEET	TAG#	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***		
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	
TP23	1005	ELM	16	Y	N	N	N	N	N	1					16					
TP23	1006	HACKBERRY	19	Y	N	N	N	N	N	1					19					
TP23	995	HACKBERRY	12	Y	N	N	N	N	N	1					12					
TP23	1004	ELM	10	Y	N	N	N	N	N	1					10					
TP23	1003	OAK	11	Y	N	N	N	N	N	1					11					
TP23	1000	ELM	10	Y	N	N	N	N	N	1					10					
TP23	1001	OAK	16	Y	N	N	N	N	N	1					16					
TP23	998	ELM	11	Y	N	N	N	N	N	1					11					
TP23	997	OAK	12	Y	N	N	N	N	N	1					12					
TP23	996	OAK	19	Y	N	N	N	N	N	1					19					
TP24	332	OAK	19	Y	N	N	N	Y	N	1					19					
TP24	333	ELM	13	Y	N	N	N	Y	N	1					13					
TP24	334	OAK	27	Y	Y	Y	N	Y	N	1							27			
TP24	335	ELM	11	Y	N	N	N	Y	N	1					11					
TP24	336	ELM	11	Y	N	N	N	Y	N	1					11					
TP24	337	OAK	30	Y	Y	Y	N	Y	N	1							30			
TP24	338	HACKBERRY	16	Y	N	N	N	N	N	REMOVE				16						
TP24	339	OAK	10	Y	N	N	N	N	N	REMOVE				10						
TP24	340	OAK	14	Y	N	N	N	N	N	1					14					
TP24	341	OAK	16	Y	N	N	N	N	N	REMOVE				16						
TP24	342	OAK	13	Y	N	N	N	N	N	REMOVE				13						
TP24	343	OAK	13	Y	N	N	N	N	N	REMOVE				13						
TP24	344	ELM	8	Y	N	N	N	N	N	REMOVE				8						
TP24	345	OAK	18	Y	N	N	N	N	N	REMOVE				18						
TP24	346	OAK	19	Y	N	N	N	N	N	REMOVE				19						
TP24	347	MESQUITE	18	Y	N	N	N	N	N	REMOVE				18						
TP24	348	MESQUITE	14	Y	N	N	N	N	N	REMOVE				14						
TP24	349	ELM	7	Y	N	N	N	N	N	REMOVE				7						
TP24	350	MESQUITE	11	Y	N	N	N	N	N	1					11					
TP24	351	ELM	16	Y	N	N	N	N	N	REMOVE				16						
TP24	352	MESQUITE	13	Y	N	N	N	N	N	1					13					
TP24	353	HACKBERRY	11	Y	N	N	N	N	N	REMOVE				11						
TP24	354	HACKBERRY	19	Y	N	N	N	N	N	REMOVE				19						
TP24	750	OAK	50	Y	Y	Y	N	N	N	1							50			
TP24	733	MESQUITE	13	Y	N	N	N	N	N	1					13					
TP24	734	CHINABERRY	20	N	N	N	N	N	N	1										
TP24	735	MESQUITE	9	N	N	N	N	N	N	1			9							
TP24	736	MESQUITE	15	Y	N	N	N	N	N	1					15					
TP24	737	CHINABERRY	18	N	N	N	N	N	N	1										
TP24	738	CHINABERRY	15	N	N	N	N	N	N	1										
TP24	739	CHINABERRY	15	N	N	N	N	N	N	1										
TP24	740	ELM	8	Y	N	N	N	N	N	1					8					
TP24	741	MESQUITE	19	Y	N	N	N	N	N	1					19					
TP24	742	CHINABERRY	25	N	N	N	N	N	N	1										
TP24	743	CHINABERRY	14	N	N	N	N	N	N	1										
TP24	744	CHINABERRY	9	N	N	N	N	N	N	1										
TP24	745	OAK	29	Y	Y	Y	N	N	N	1							29			
TP24	746	CHINABERRY	10	N	N	N	N	N	N	1										
												TREE TOTALS								
												SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***		
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	
												UPLANDS	0	9	198	229	0	79	0	0
												FLOODPLAIN	0	0	0	54	0	57	0	0
												RIPARIAN	0	0	0	0	0	0	0	0
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS		
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD		
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH		
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***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMONON, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																				
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																				
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																		3. TREE DETERMINED TO BE EXEMPT BY COSA		

LEGEND

TREE PRESERVED

TREE REMOVED

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JEFFREY A. FARNSWORTH P.E.

SERIAL NO. 80190

DATE: OCTOBER 2019

601 NW Loop 410 Suite 350

San Antonio, TX 78216

Tel No. 210-541-9166

Fax No. 210-541-8699

Kimley»Horn

Texas Registered Firm, No. F-928

No.	Revision	By	Date

SA

W

CS

SAN ANTONIO WATER SYSTEM

E-16: WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281

SHEET TREE INVENTORY (SHEET 11 OF 13)

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP10A
DESIGN:MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

VARA, MIKAELA 10/25/2019 8:49 AM
K:\SNA UTILITIES\068665046\CAD\SHEETS\TREE INVENTORY_E-16-068665046.DWG
10/25/2019 8:49 AM

PLOTTED BY
DWG NAME
25/10/2019

TREE INVENTORY																				
SHEET	TAG#	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***		
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	
TP23	1005	ELM	16	Y	N	N	N	N	N	1					16					
TP23	1006	HACKBERRY	19	Y	N	N	N	N	N	1					19					
TP23	995	HACKBERRY	12	Y	N	N	N	N	N	1					12					
TP23	1004	ELM	10	Y	N	N	N	N	N	1					10					
TP23	1003	OAK	11	Y	N	N	N	N	N	1					11					
TP23	1000	ELM	10	Y	N	N	N	N	N	1					10					
TP23	1001	OAK	16	Y	N	N	N	N	N	1					16					
TP23	998	ELM	11	Y	N	N	N	N	N	1					11					
TP23	997	OAK	12	Y	N	N	N	N	N	1					12					
TP23	996	OAK	19	Y	N	N	N	N	N	1					19					
TP24	332	OAK	19	Y	N	N	N	Y	N	1					19					
TP24	333	ELM	13	Y	N	N	N	Y	N	1					13					
TP24	334	OAK	27	Y	Y	Y	N	Y	N	1							27			
TP24	335	ELM	11	Y	N	N	N	Y	N	1					11					
TP24	336	ELM	11	Y	N	N	N	Y	N	1					11					
TP24	337	OAK	30	Y	Y	Y	N	Y	N	1							30			
TP24	338	HACKBERRY	16	Y	N	N	N	N	N	REMOVE				16						
TP24	339	OAK	10	Y	N	N	N	N	N	REMOVE				10						
TP24	340	OAK	14	Y	N	N	N	N	N	1					14					
TP24	341	OAK	16	Y	N	N	N	N	N	REMOVE				16						
TP24	342	OAK	13	Y	N	N	N	N	N	REMOVE				13						
TP24	343	OAK	13	Y	N	N	N	N	N	REMOVE				13						
TP24	344	ELM	8	Y	N	N	N	N	N	REMOVE				8						
TP24	345	OAK	18	Y	N	N	N	N	N	REMOVE				18						
TP24	346	OAK	19	Y	N	N	N	N	N	REMOVE				19						
TP24	347	MESQUITE	18	Y	N	N	N	N	N	REMOVE				18						
TP24	348	MESQUITE	14	Y	N	N	N	N	N	REMOVE				14						
TP24	349	ELM	7	Y	N	N	N	N	N	REMOVE				7						
TP24	350	MESQUITE	11	Y	N	N	N	N	N	1					11					
TP24	351	ELM	16	Y	N	N	N	N	N	REMOVE				16						
TP24	352	MESQUITE	13	Y	N	N	N	N	N	1					13					
TP24	353	HACKBERRY	11	Y	N	N	N	N	N	REMOVE				11						
TP24	354	HACKBERRY	19	Y	N	N	N	N	N	REMOVE				19						
TP24	750	OAK	50	Y	Y	Y	N	N	N	1							50			
TP24	733	MESQUITE	13	Y	N	N	N	N	N	1					13					
TP24	734	CHINABERRY	20	N	N	N	N	N	N	1										
TP24	735	MESQUITE	9	N	N	N	N	N	N	1			9							
TP24	736	MESQUITE	15	Y	N	N	N	N	N	1					15					
TP24	737	CHINABERRY	18	N	N	N	N	N	N	1										
TP24	738	CHINABERRY	15	N	N	N	N	N	N	1										
TP24	739	CHINABERRY	15	N	N	N	N	N	N	1										
TP24	740	ELM	8	Y	N	N	N	N	N	1					8					
TP24	741	MESQUITE	19	Y	N	N	N	N	N	1					19					
TP24	742	CHINABERRY	25	N	N	N	N	N	N	1										
TP24	743	CHINABERRY	14	N	N	N	N	N	N	1										
TP24	744	CHINABERRY	9	N	N	N	N	N	N	1										
TP24	745	OAK	29	Y	Y	Y	N	N	N	1							29			
TP24	746	CHINABERRY	10	N	N	N	N	N	N	1										
											TREE TOTALS									
													SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***	
													REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
											UPLANDS		0	9	198	229	0	79	0	0
											FLOODPLAIN		0	0	0	54	0	57	0	0
RIPARIAN		0	0	0	0	0	0	0	0											
NO CATEGORY TO FALL BELOW 20%																	EXEMPTIONS			
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																	1. TREE IS DEAD			
REMOVED- 1. LESS SIGNIFICANT TREES 2. EXEMPT FROM PROTECTION REQUIREMENTS																				

LEGEND

TREE PRESERVED

TREE REMOVED

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Kimley»Horn

Texas Registered Firm, No. F-928

JEFFREY A. FARNSWORTH, P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

601 NW Loop 410 Suite 350
San Antonio, TX 78216
Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date

SAN ANTONIO WATER SYSTEM

E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281

SHEET
TREE INVENTORY (SHEET
12 OF 13)

DATE: OCTOBER 2019
DESIGN: MAV
DRAWN: GM
CHECKED: JAF

SAWS PROJECT NO.
18-4509
KHA PROJECT NO.
068665046

SHEET NO.
TP11

VARA, MIKAELA 10/23/2019 8:49 AM
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10/23/2019 8:49 AM
PLOTTED BY
DWG NAME
25/10/2019

TREE INVENTORY																			
SHEET	TAG#	SPECIES ****	SIZE (INCHES)	SIGNIFICANT	HERITAGE	HERITAGE 3:1 (Y/N)	HERITAGE 1:1 (Y/N)	FLOODPLAIN (Y/N)	RIPARIAN (Y/N)	PROTECTION LEVEL	EXEMPT CODE	SMALL DIAMETER ***		SIGNIFICANT TREE***		HERITAGE 3:1		HERITAGE 1:1***	
												REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED
TP24	747	CHINABERRY	16	N	N	N	N	N	N	1									
TP24	748	CHINABERRY	12	N	N	N	N	N	N	1									
TP24	749	CHINABERRY	11	N	N	N	N	N	N	1									
TP24	720	OAK	30	Y	Y	Y	N	Y	N	1							30		
TP25	722	ELM	10	Y	N	N	N	Y	N	1					10				
TP25	723	CHINABERRY	10	N	N	N	N	Y	N	1									
TP25	724	OAK	10	Y	N	N	N	N	N	REMOVE				10					
TP25	725	MESQUITE	11	Y	N	N	N	N	N	REMOVE				11					
TP25	726	HACKBERRY	13	Y	N	N	N	N	N	1					13				
TP25	727	MESQUITE	13	Y	N	N	N	N	N	REMOVE				13					
TP25	728	MESQUITE	10	Y	N	N	N	N	N	REMOVE				10					
TP25	729	MESQUITE	11	Y	N	N	N	N	N	1					11				
TP25	730	MESQUITE	25	Y	Y	N	Y	N	N	1									25
TP25	731	MESQUITE	15	Y	N	N	N	N	N	1					15				
TP25	732	HACKBERRY	10	Y	N	N	N	N	N	REMOVE				10					
TP25	701	ELM	10	Y	N	N	N	Y	N	1					10				
TP25	702	HACKBERRY	19	Y	N	N	N	Y	N	1					19				
TP25	703	ELM	19	Y	N	N	N	Y	N	1					19				
TP25	704	ELM	21	Y	N	N	N	Y	N	1					21				
TP25	705	ELM	12	Y	N	N	N	Y	N	1					12				
TP25	706	ASH	15	Y	N	N	N	Y	N	1					15				
TP25	707	OAK	20	Y	N	N	N	Y	N	1					20				
TP25	708	ELM	20	Y	N	N	N	Y	N	1					20				
TP25	709	ELM	18	Y	N	N	N	Y	N	1					18				
TP25	710	ASH	18	Y	N	N	N	Y	N	REMOVE				18					
TP25	711	HACKBERRY	16	Y	N	N	N	Y	N	1					16				
TP25	712	MESQUITE	13	Y	N	N	N	Y	N	1					13				
TP25	713	OAK	29	Y	Y	Y	N	Y	N	1							29		
TP25	714	OAK	18	Y	N	N	N	Y	N	1					18				
TP25	715	ELM	12	Y	N	N	N	Y	N	1					12				
TP25	716	ELM	19	Y	N	N	N	Y	N	1					19				
TP25	717	ELM	18	Y	N	N	N	Y	N	1					18				
TP25	718	MESQUITE	30	Y	Y	N	Y	Y	N	1									30
TP25	719	ASH	19	Y	N	N	N	Y	N	REMOVE				19					
										TREE TOTALS									
											SMALL DIAMETER ***		SIGNIFICANT TREE ***		HERITAGE 3:1		HERITAGE 1:1***		
											REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	REMOVED	PRESERVED	
											0	0	54	39	0	0	0	25	
											FLOODPLAIN		0	0	37	260	0	59	0
RIPARIAN		0	0	0	0	0	0	0	0										
NO CATEGORY TO FALL BELOW 20%																		EXEMPTIONS	
PRESERVED- TREE TO REMAIN THAT MEETS ROOT PROTECTION ZONE REQUIREMENTS																		1. TREE IS DEAD	
MITIGATION- 1:1 FOR SIGNIFICANT TREES BELOW MINIMUM PRESERVATION REQUIREMENTS																		2. TREE IS IN POOR HEALTH	
*ENVIRONMENTAL BUFFER IS A 30 FEET BUFFER FROM THE 100 YEAR FLOODPLAIN THAT SHALL BE CALCULATED SEPARATELY FROM THE FLOODPLAIN AND UPLANDS AREAS																			
***SMALL SPECIES: CORDALIA, REBUD, TX. MOUNTAIN LAUREL, TX. PERSIMONIN, HAWTHORN, POSSOMHAW PROECTED AT 5" DBH, HERITAGE AT 12" AND MITIGATED AT 1:1 HERITAGE																		3. TREE DETERMINED TO BE EXEMPT BY COSA	
***ASHE JUNIPER, HUISACHE, AIZONA ASH, HACKBERRY PROTECTED AT 10" AND MITIGATED AT 1:1 HERITAGE																			
****NON-NATIVE: SHINESE, PISTACHE, CHINABERRY, CHINESE TALLOW, TREE OF HEAVE, SALT CEDAR, JAPANESE LINGUSTRUM ARE NOT PROTECTED AND NOT COUNTED IN PRESERVATION OR MITIGATION CALCULATIONS																			

LEGEND

TREE PRESERVED

TREE REMOVED

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DATE: OCTOBER 2019

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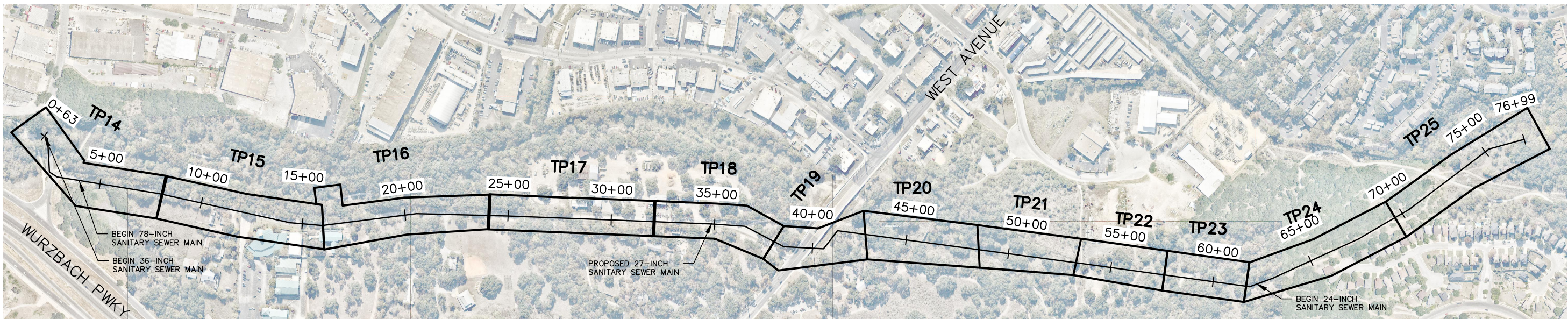
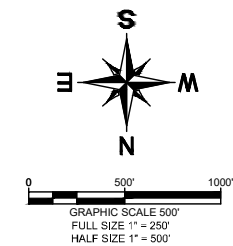
No.	Revision	By	Date



**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE INVENTORY (SHEET
13 OF 13)**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP12
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	



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No.	Revision	By	Date



SAN ANTONIO WATER SYSTEM

E-16: WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281

SHEET

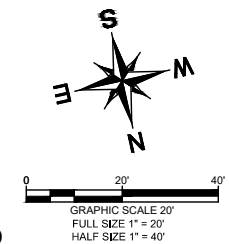
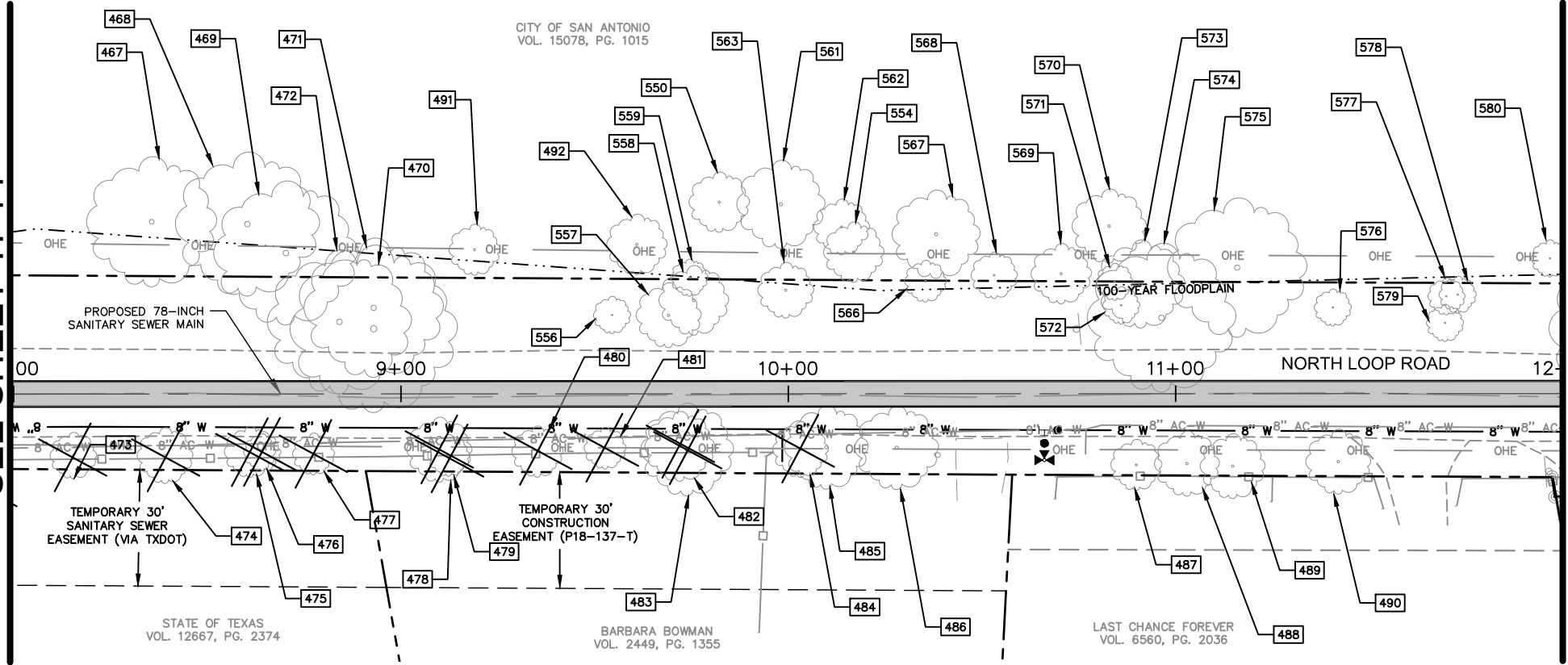
TREE PRESERVATION OVERALL LAYOUT

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP13
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

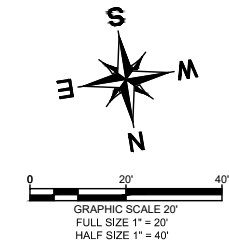
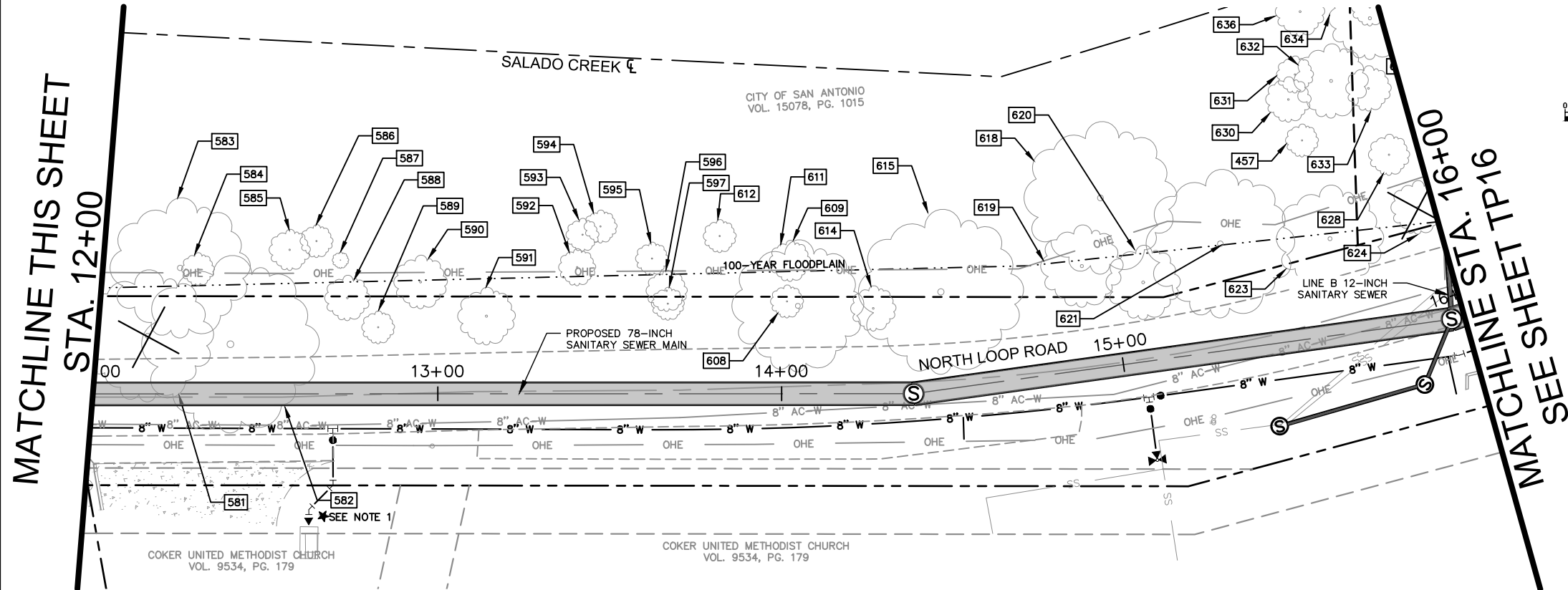
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10/25/2019 9:10 AM
PLOTTED BY
DWG NAME
LAST SAVED

MATCHLINE THIS SHEET
STA. 12+00

MATCHLINE STA. 8+00
SEE SHEET TP14



- NOTES**
1. PER COORDINATION WITH CITY ARBORIST TREE 581 SHALL BE TRIMMED UP TO PAVEMENT LIMIT.



LEGEND

TREE PRESERVED	
TREE REMOVED	

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JEFFREY A. FARNSWORTH, P.E.
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DATE: OCTOBER 2019

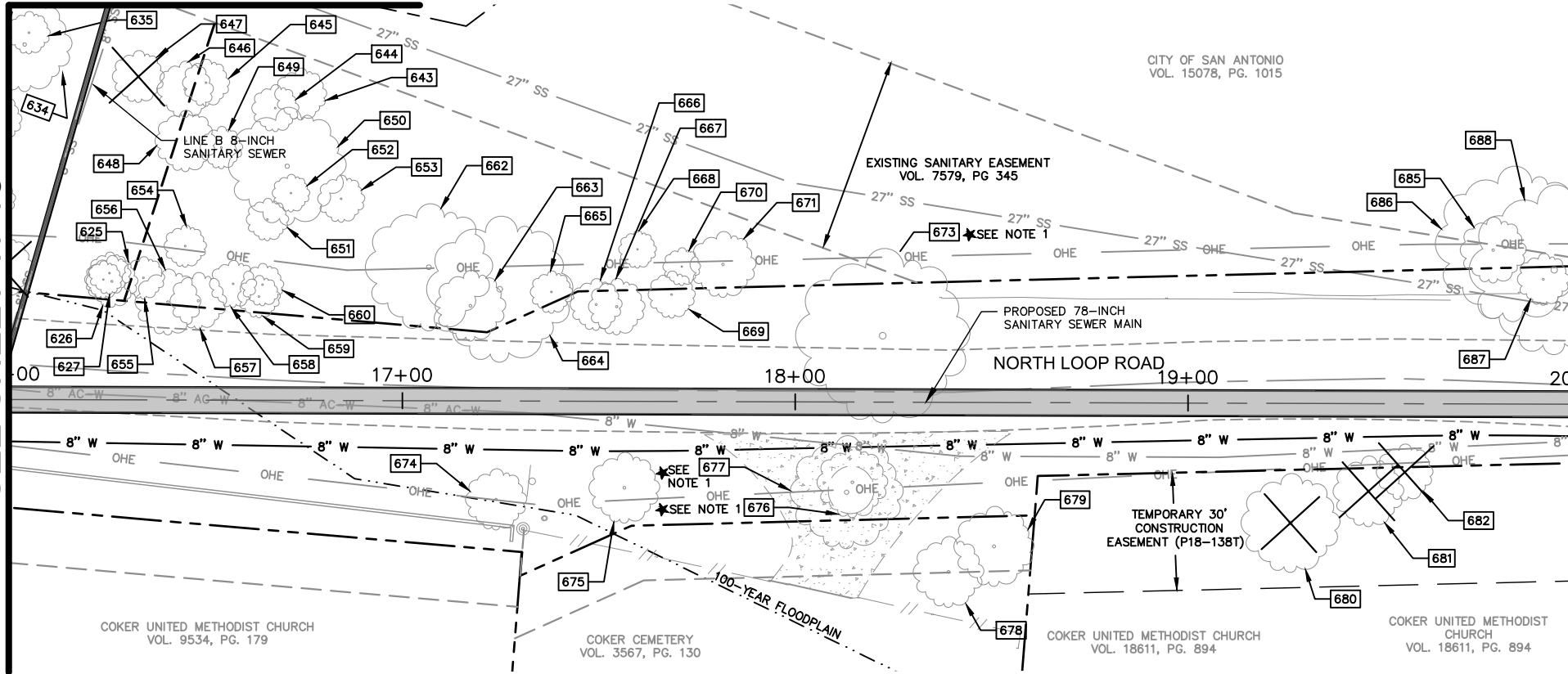
601 NW Loop 410 Suite 350
San Antonio, TX 78216
Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date

	E-16: WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281	
	SHEET TREE PROTECTION STA. 8+00 TO 16+00	
	DATE: OCTOBER 2019	SAWS PROJECT NO. 18-4509
	DESIGN: MAV	KHA PROJECT NO. 068665046
DRAWN: GM		SHEET NO. TP15
CHECKED: JAF		

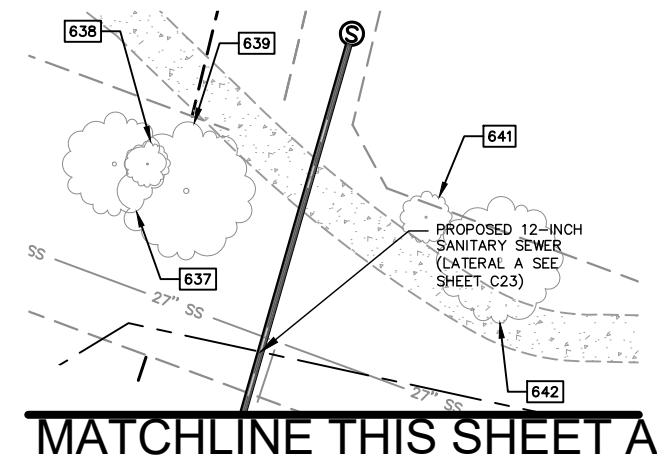
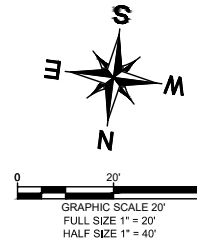
MATCHLINE THIS
SHEET A

MATCHLINE STA. 16+00
SEE SHEET TP15



MATCHLINE THIS SHEET

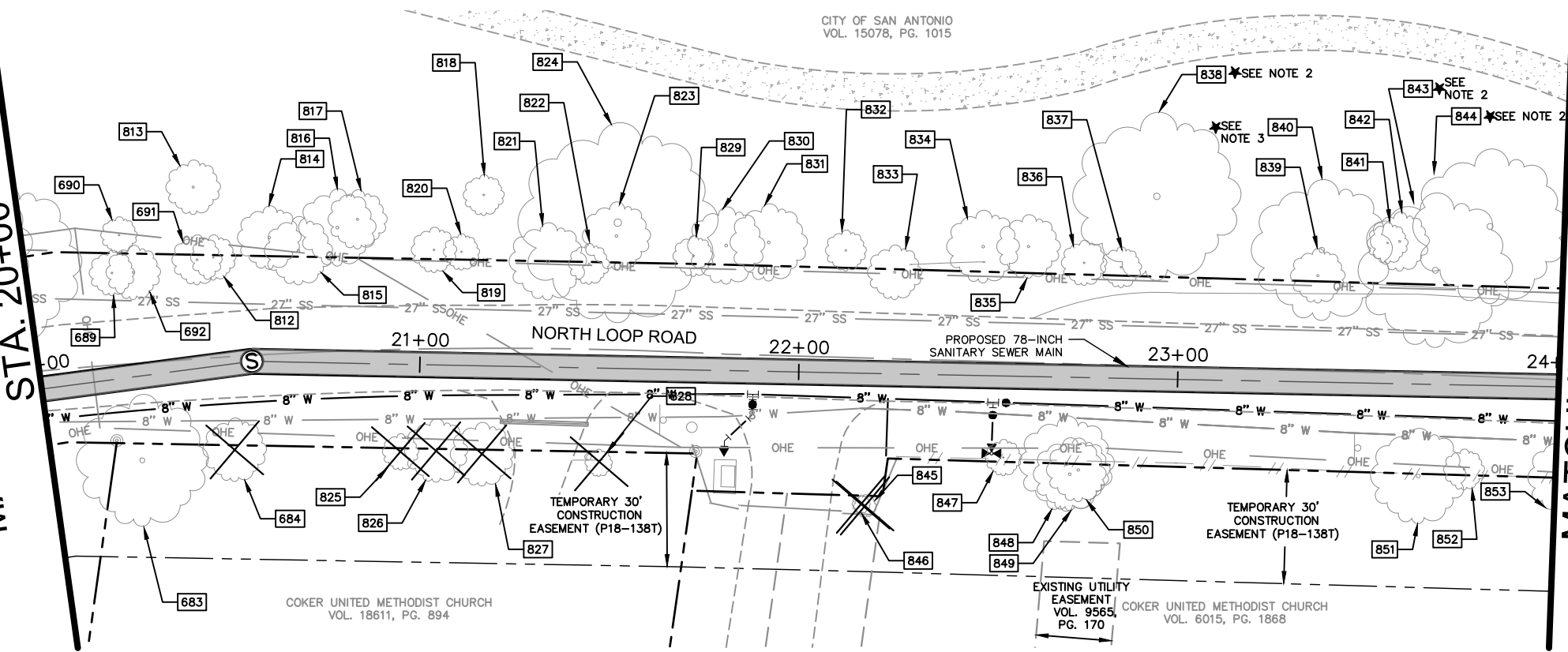
STA. 20+00



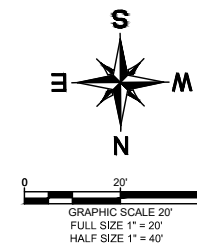
NOTES

1. CONTRACTOR SHALL TRIM LESS THAN 25% OF THE CANOPY OF TREE 673, 677, AND 676.
2. CONTRACTOR SHALL TRIM CANOPY OF TREE 838, 843, AND 844 OVER NORTH LOOP ROAD.
3. CONTRACTOR SHALL TRIM LOWER BRANCH OF TREE 840 CANOPY OVER NORTH LOOP ROAD.

MATCHLINE THIS SHEET
STA. 20+00



MATCHLINE STA. 24+00
SEE SHEET TP17



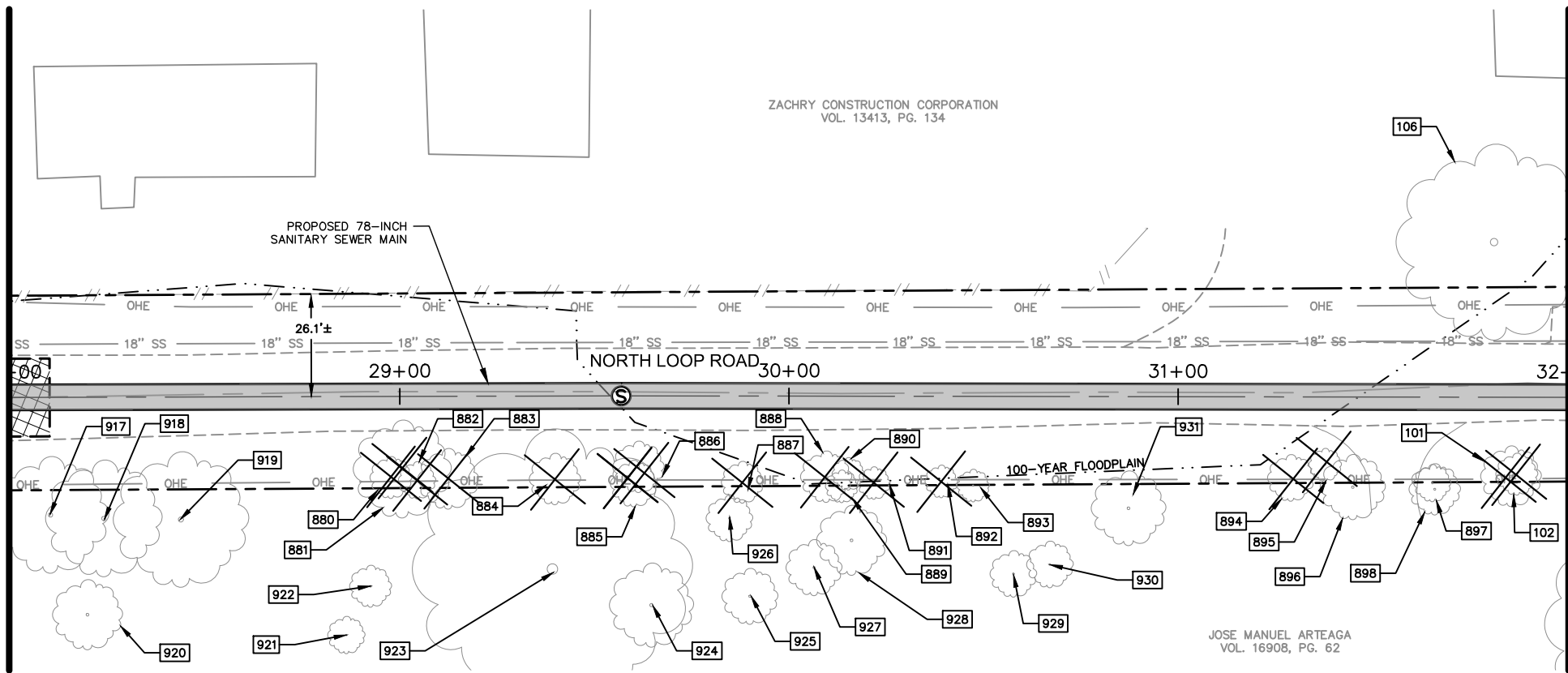
LEGEND

TREE PRESERVED			
TREE REMOVED			
Kimley»Horn Texas Registered Firm, No. F-928			
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JEFFREY A. FARNSWORTH, P.E. SERIAL NO. 80190 DATE: OCTOBER 2019			
601 NW Loop 410 Suite 350 San Antonio, TX 78216 Tel No. 210-541-9166 Fax No. 210-541-8699			
No.	Revision	By	Date
		E-16: WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281	
DATE: OCTOBER 2019		SAWS PROJECT NO.	
DESIGN: MAV		18-4509	
DRAWN: GM		KHA PROJECT NO.	
CHECKED: JAF		068665046	
SHEET NO.			TP16

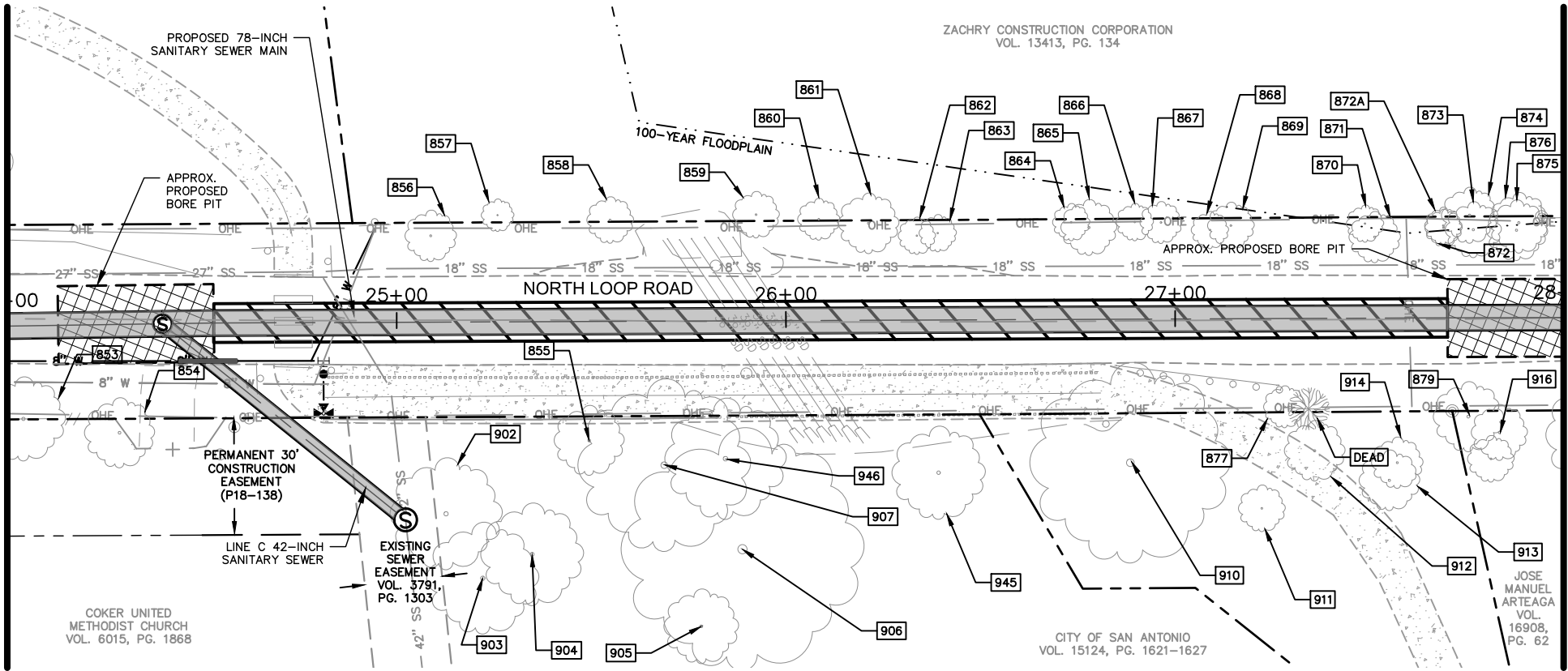
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10/25/2019 8:50 AM
PLOTTED BY
DWG NAME
DATE PLOTTED

MATCHLINE THIS SHEET
STA. 28+00

MATCHLINE STA.24+00
SEE SHEET TP16



MATCHLINE STA.32+00
SEE SHEET TP18



MATCHLINE THIS SHEET
STA. 28+00

LEGEND

TREE PRESERVED



TREE REMOVED



BORE PIT



CASING



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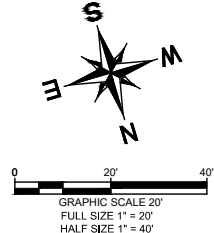
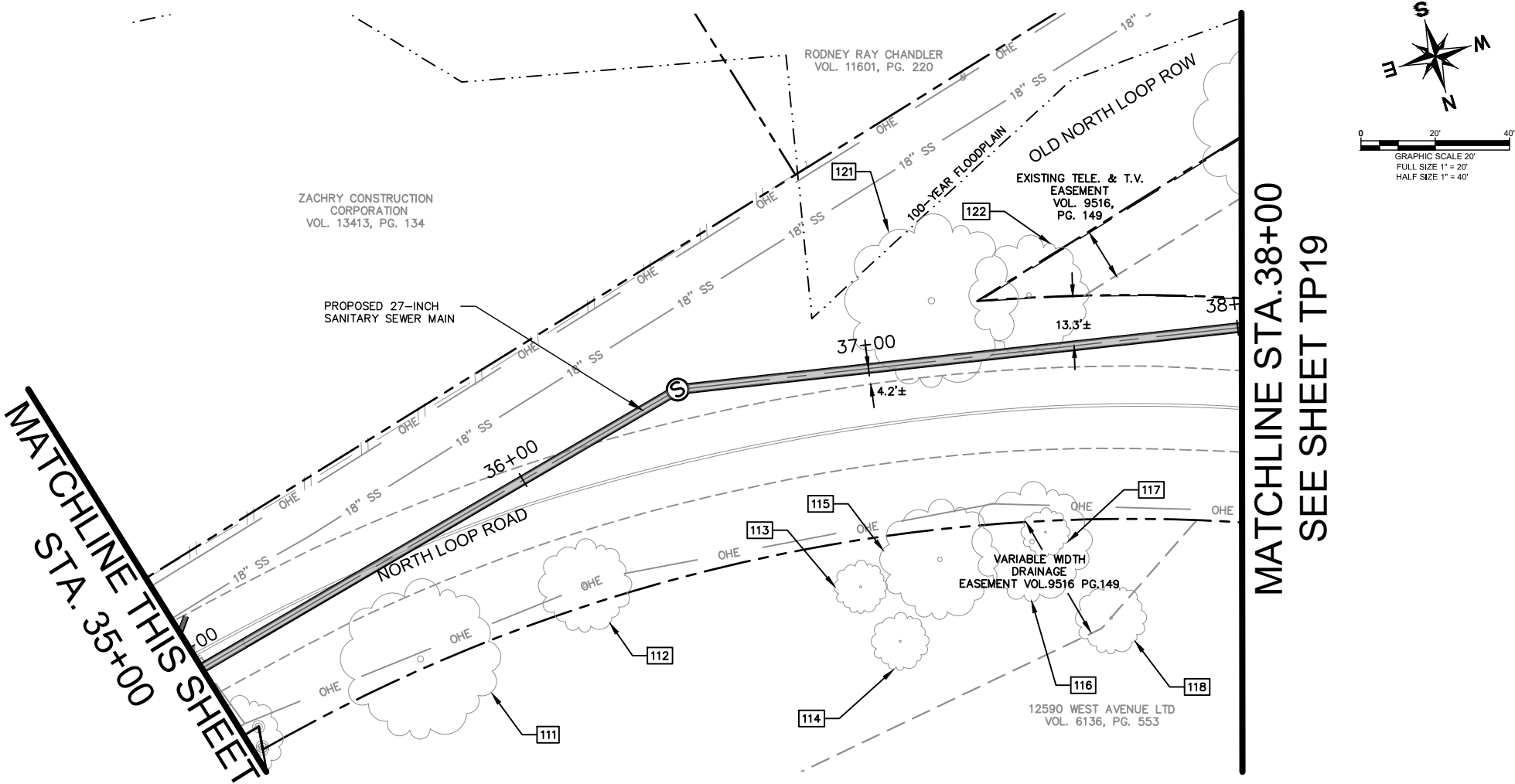
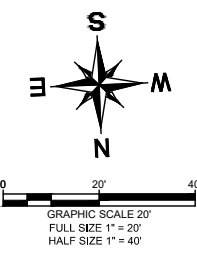
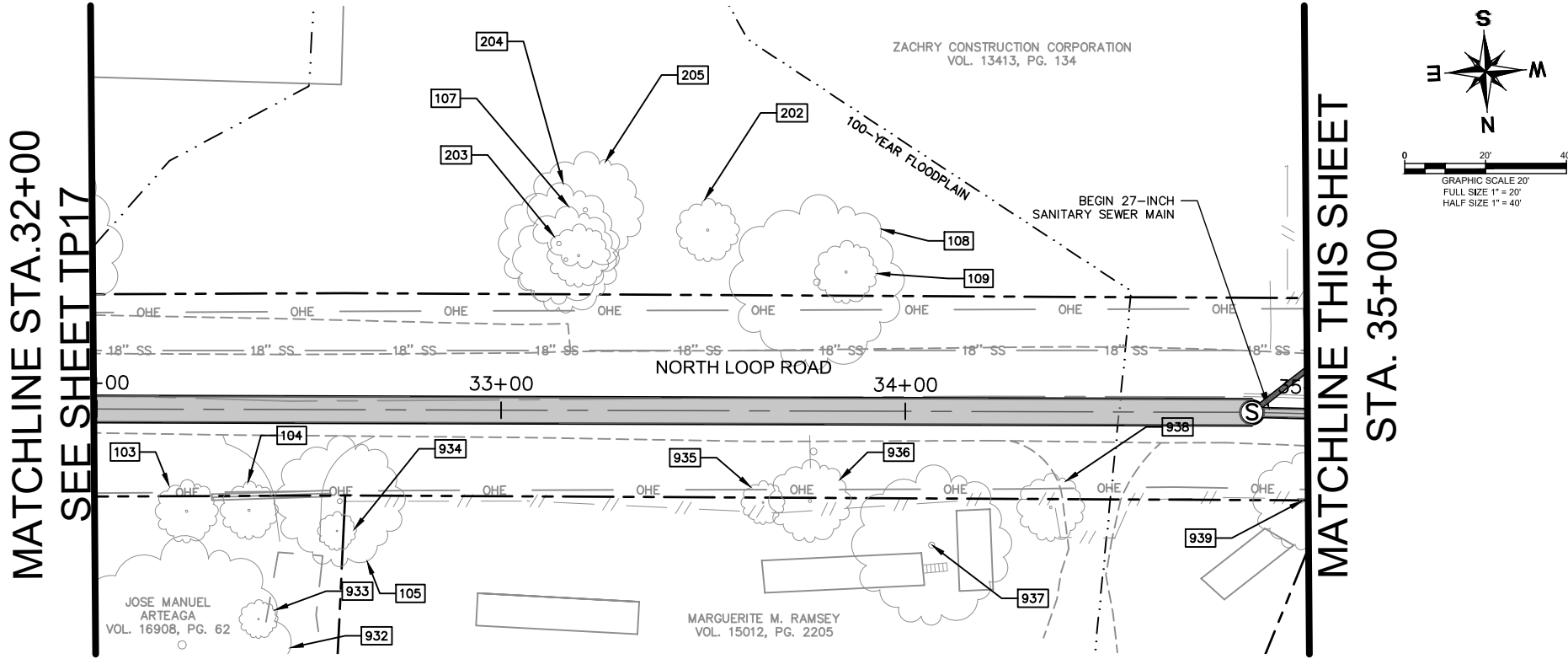
No.	Revision	By	Date



**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE PROTECTION STA.
24+00 TO 32+00**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP17
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	



LEGEND

TREE PRESERVED	
TREE REMOVED	

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Tel No. 210-541-9166
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No.	Revision	By	Date

SAN ANTONIO WATER SYSTEM

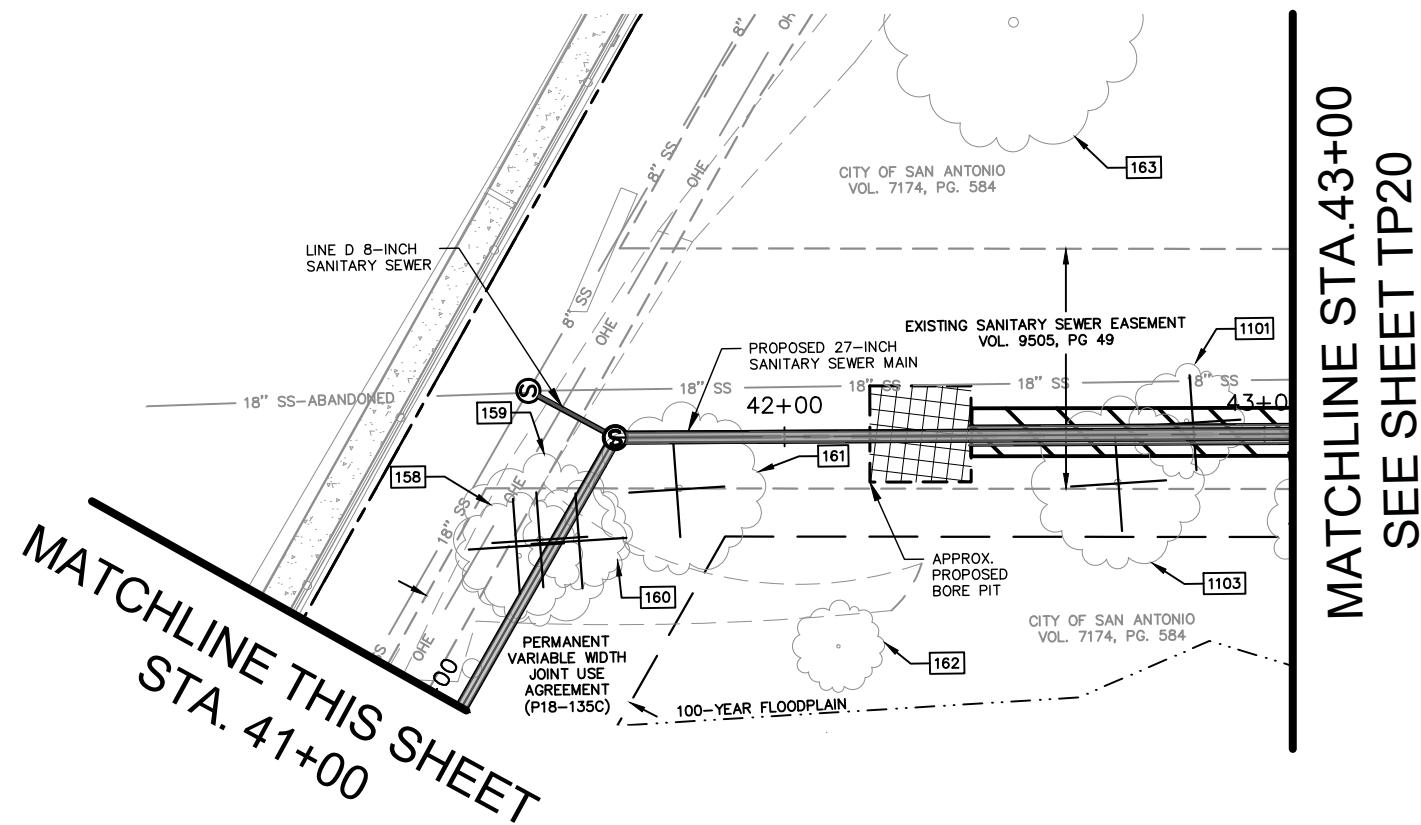
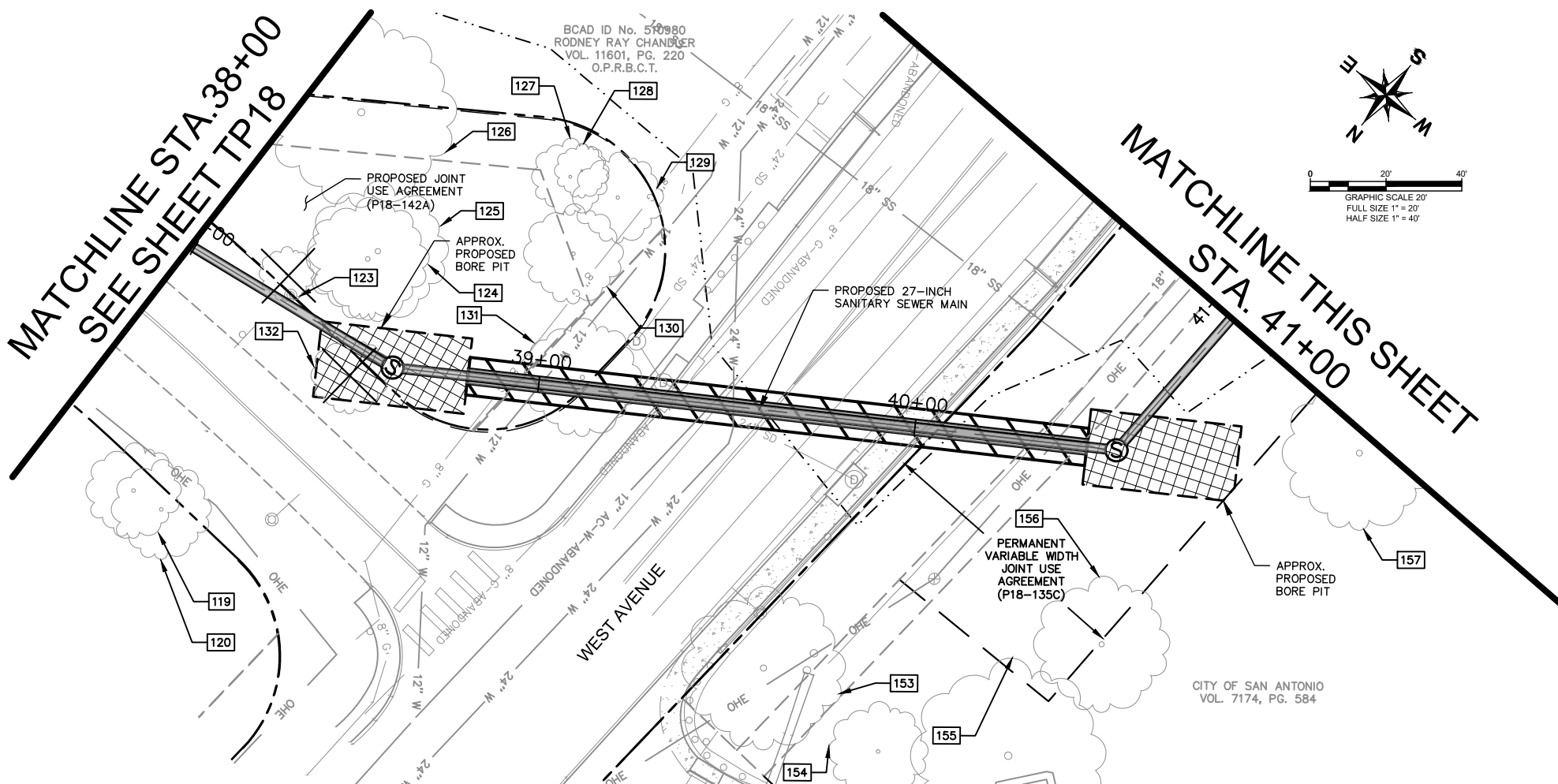
**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE PROTECTION STA.
32+00 TO 38+00**

DATE: OCTOBER 2019	SAWS PROJECT NO. 18-4509	SHEET NO. TP18
DESIGN: MAV	KHA PROJECT NO. 068665046	
DRAWN: GM		
CHECKED: JAF		

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10/25/2019 8:50 AM
PLOTTED BY
DWG NAME
LAST SAVED

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10/25/2019 8:50 AM
PLOTTED BY
DWG NAME
LAST SAVED



LEGEND

- TREE PRESERVED
- TREE REMOVED
- BORE PIT
- CASING

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JEFFREY A. FARNSWORTH, P.E.
SERIAL NO. 80190
DATE: OCTOBER 2019

Kimley»Horn
Texas Registered Firm, No. F-928
601 NW Loop 410 Suite 350
San Antonio, TX 78216
Tel No. 210-541-9166
Fax No. 210-541-8699

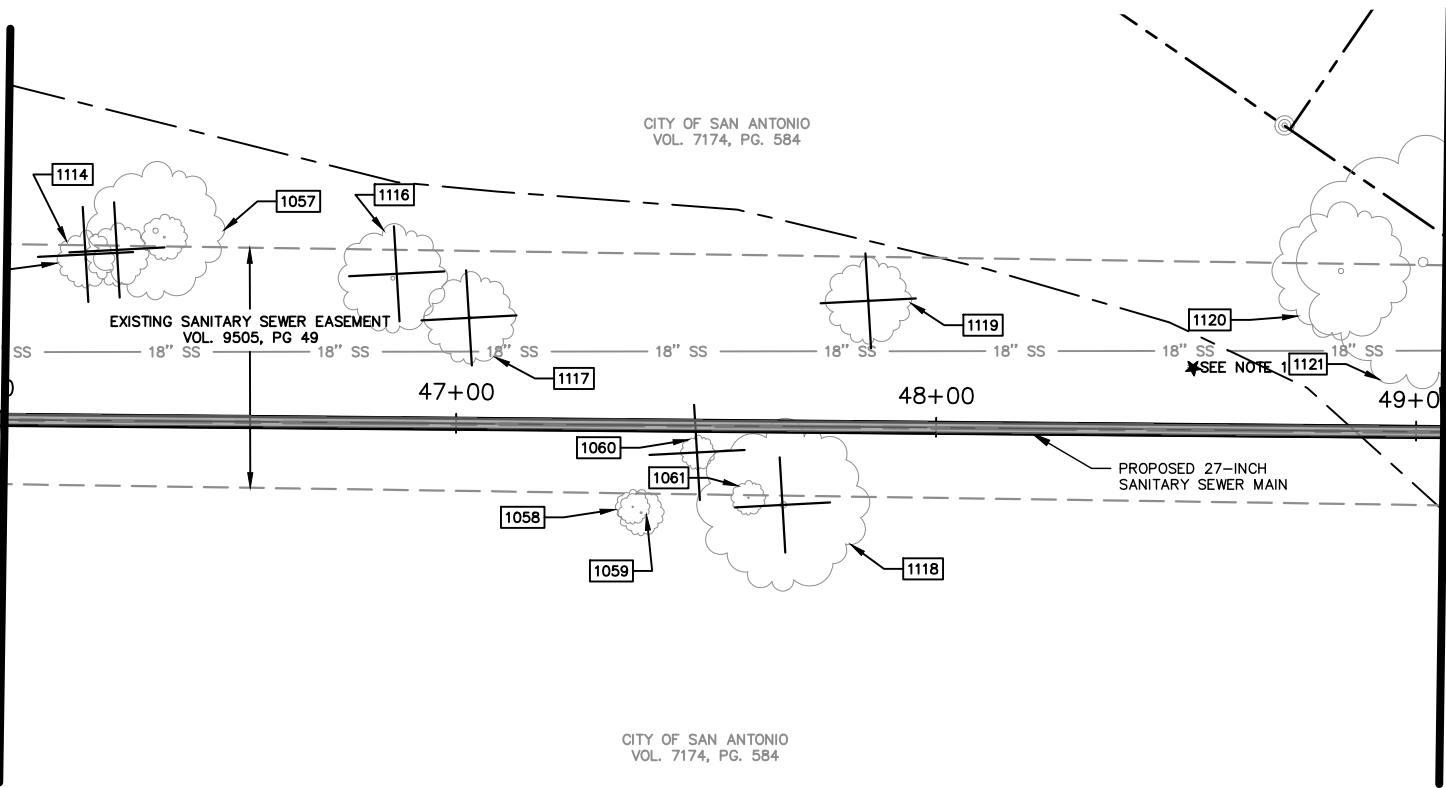
No.	Revision	By	Date

 SAN ANTONIO WATER SYSTEM		E-16: WURZBACH PARKWAY SEWER PROJECT AT HIGHWAY 281	
		<u>SHEET</u> TREE PROTECTION STA. 38+00 TO 45+00	
DATE: OCTOBER 2019	SAWS PROJECT NO.	TP19	
DESIGN: MAV	18-4509		
DRAWN: GM	KHA PROJECT NO.		
CHECKED: JAF	068665046		

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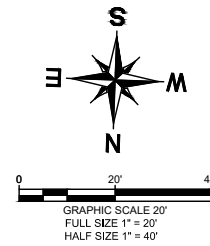
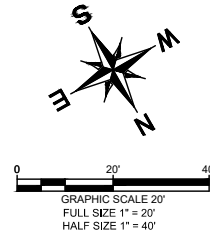
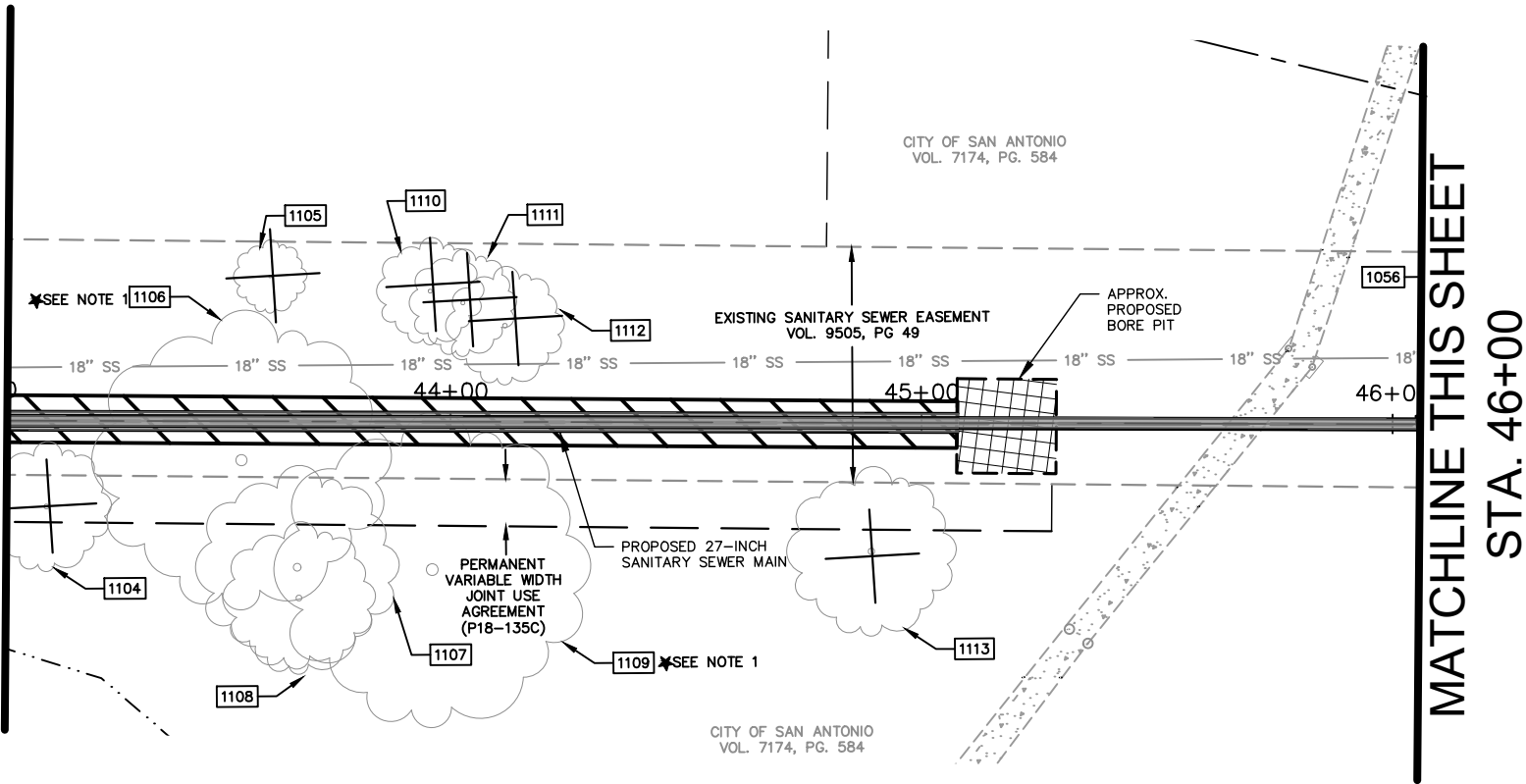
PLOTTED BY
DWG NAME
DATE PLOTTED

MATCHLINE THIS SHEET
STA. 46+00



MATCHLINE THIS SHEET
STA. 49+00
SEE SHEET TP21

MATCHLINE STA. 43+00
SEE SHEET TP19



NOTES

1. CONTRACTOR SHALL TRIM LESS THAN 25% OF THE CANOPY OF TREE 1106 AND 1101.

LEGEND

TREE PRESERVED



TREE REMOVED



BORE PIT



CASING



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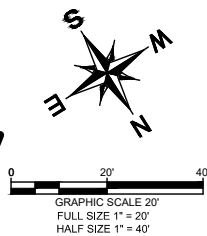
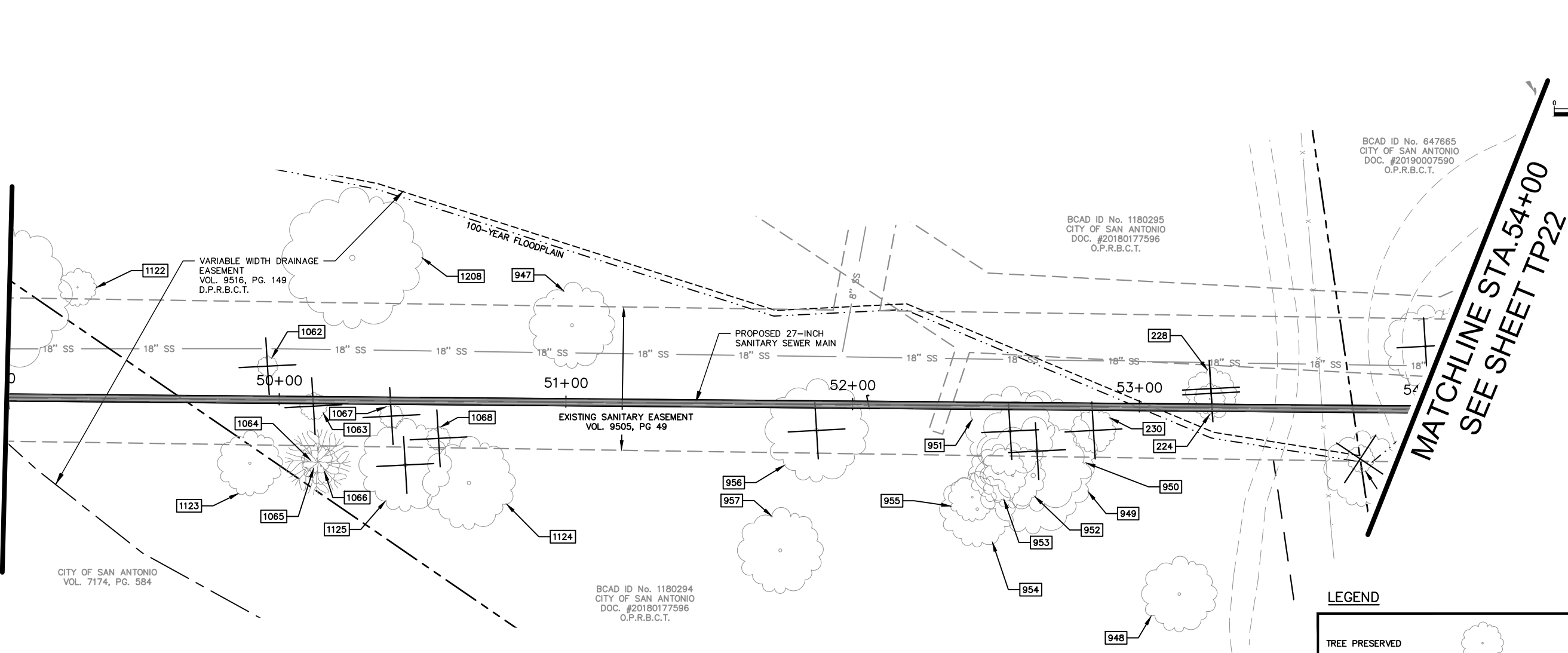


**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE PROTECTION STA.
43+00 TO 49+00**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO.
DESIGN: MAV	18-4509	TP20
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

MATCHLINE STA.49+00
SEE SHEET TP20



BCAD ID No. 647665
CITY OF SAN ANTONIO
DOC. #20190007590
O.P.R.B.C.T.

BCAD ID No. 1180295
CITY OF SAN ANTONIO
DOC. #20180177596
O.P.R.B.C.T.

BCAD ID No. 1180294
CITY OF SAN ANTONIO
DOC. #20180177596
O.P.R.B.C.T.

CITY OF SAN ANTONIO
VOL. 7174, PG. 584

VARIABLE WIDTH DRAINAGE
EASEMENT
VOL. 9516, PG. 149
D.P.R.B.C.T.

EXISTING SANITARY EASEMENT
VOL. 9505, PG 49

PROPOSED 27-INCH
SANITARY SEWER MAIN

LEGEND

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No.	Revision	By	Date

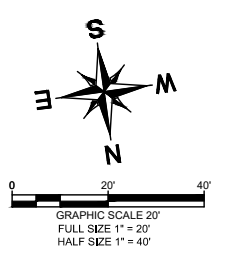
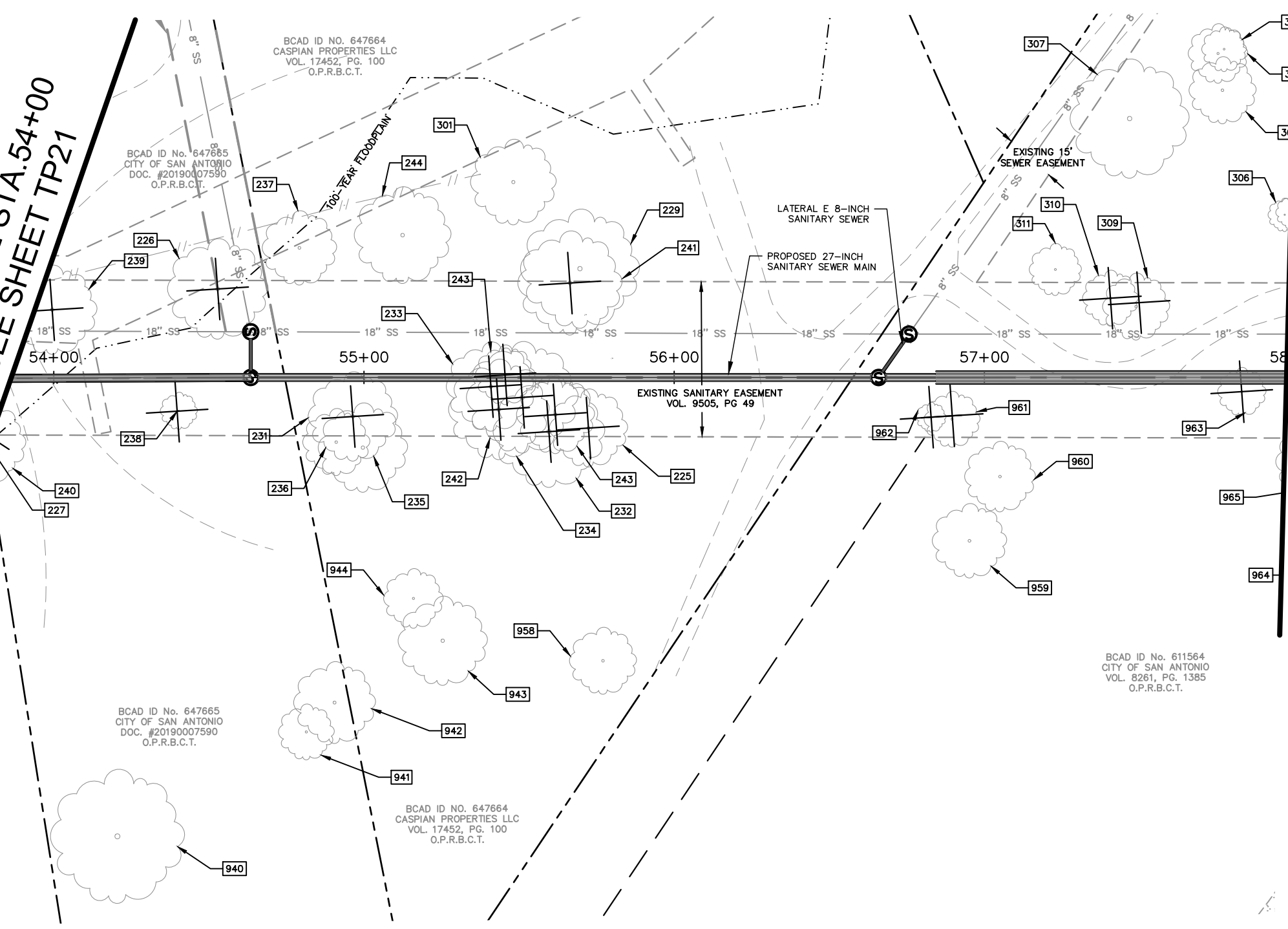


**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
**TREE PROTECTION STA.
49+00 TO 54+00**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP21
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

MATCHLINE STA. 54+00
SEE SHEET TP21



MATCHLINE STA. 58+00
SEE SHEET TP23

LEGEND

TREE PRESERVED	
TREE REMOVED	
BORE PIT	
CASING	

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San Antonio, TX 78216

Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date

SAN ANTONIO WATER SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

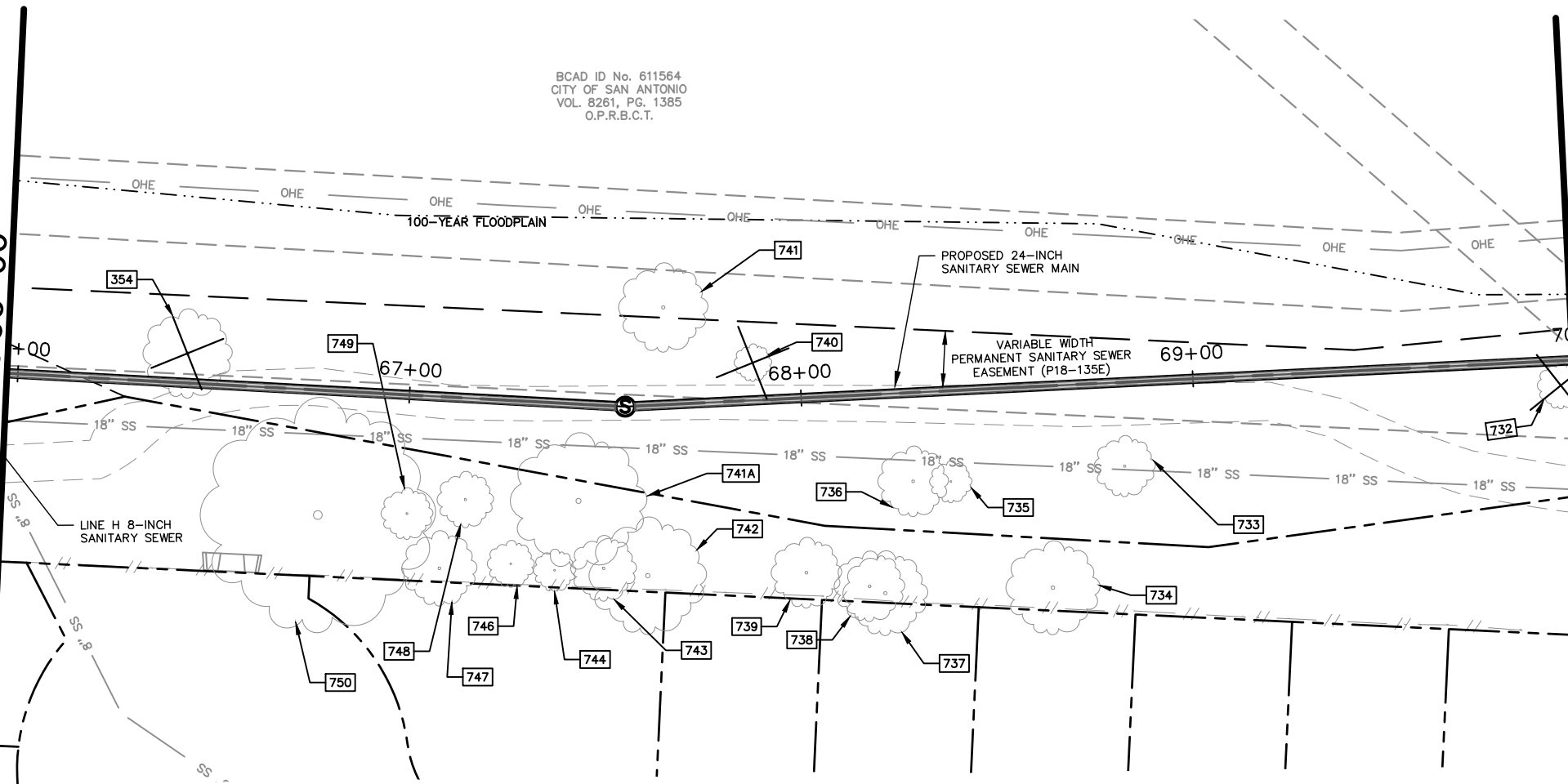
SHEET
**TREE PROTECTION STA.
54+00 TO 58+00**

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP22
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	

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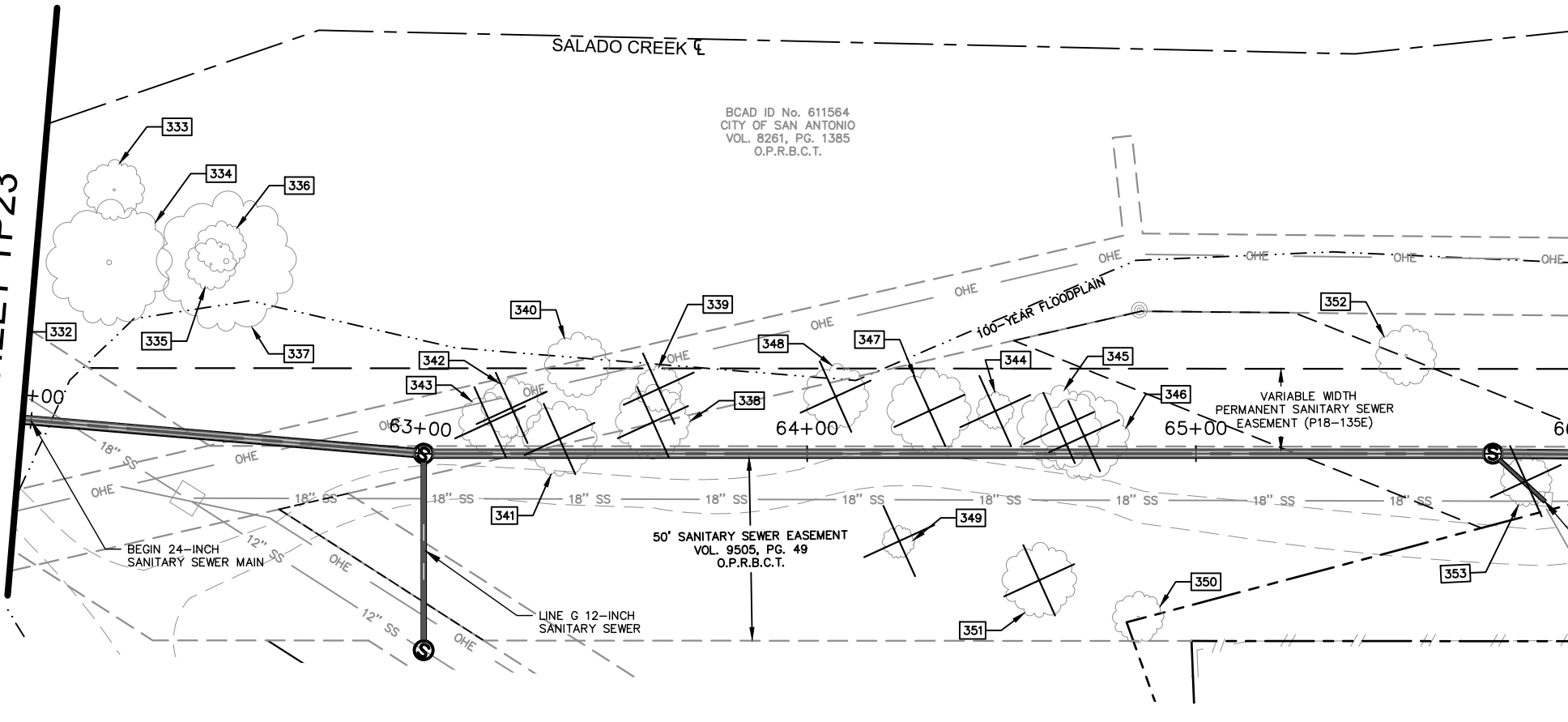
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MATCHLINE THIS SHEET
STA. 66+00

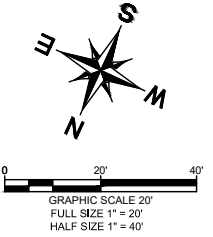


MATCHLINE STA.70+00
SEE SHEET TP25

MATCHLINE STA.62+00
SEE SHEET TP23



MATCHLINE THIS SHEET
STA. 66+00



LEGEND

TREE PRESERVED



TREE REMOVED



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SAN
ANTONIO
WATER
SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

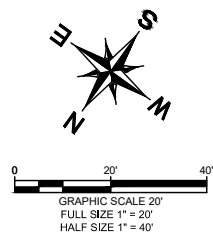
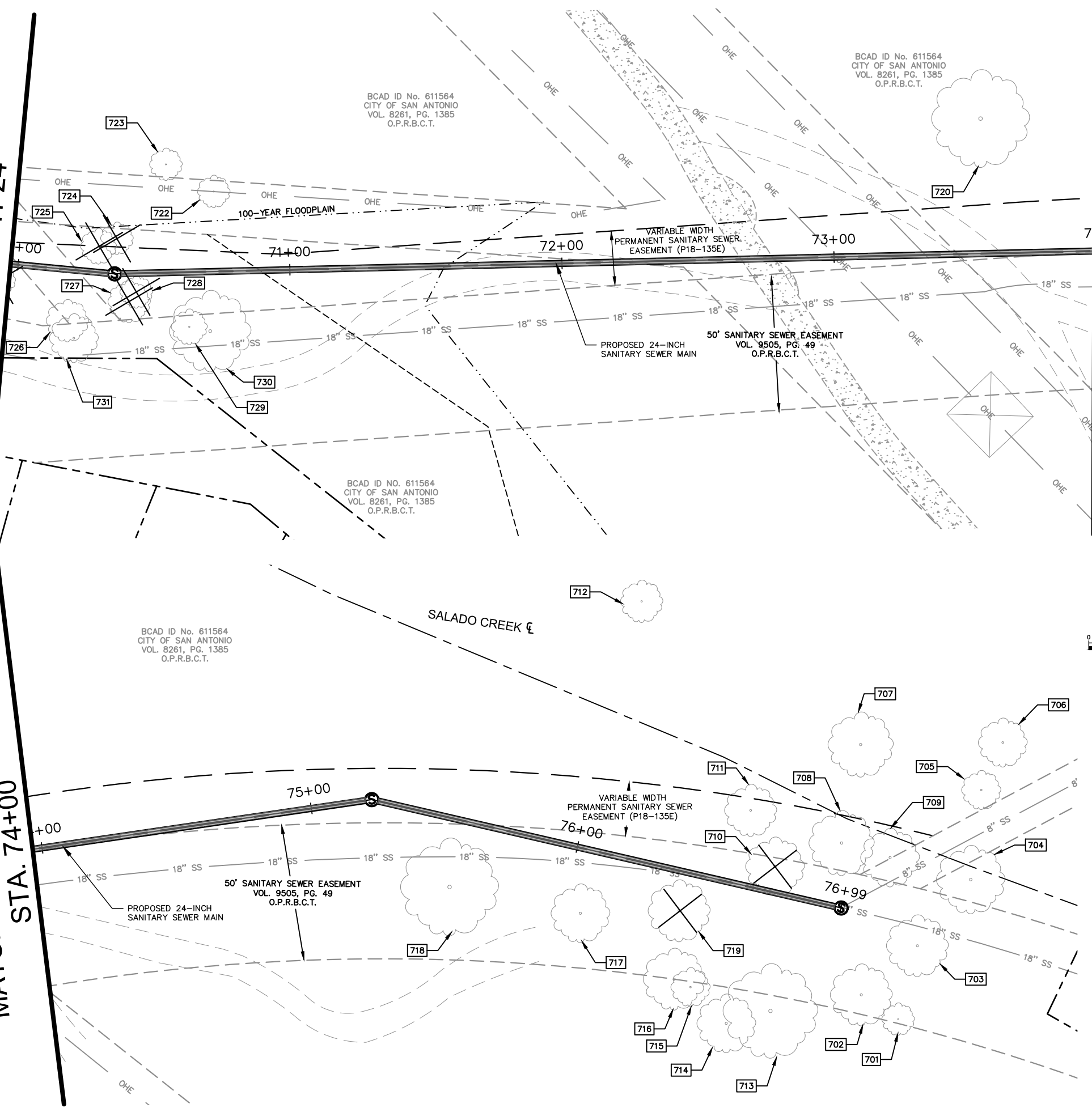
SHEET
**TREE PROTECTION STA.
62+00 TO 70+00**

DATE: OCTOBER 2019	SAWS PROJECT NO. 18-4509	SHEET NO. TP24
DESIGN: MAV	KHA PROJECT NO. 068665046	
DRAWN: GM		
CHECKED: JAF		

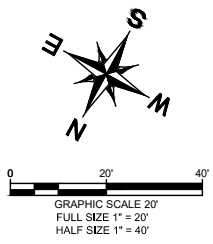
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10/25/2019 8:51 AM
PLOTTED BY
DWG NAME
LAST SAVED

MATCHLINE STA.70+00
SEE SHEET TP24

MATCHLINE THIS SHEET
STA. 74+00



MATCHLINE THIS SHEET
STA. 74+00



LEGEND

TREE PRESERVED	
TREE REMOVED	

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SAN ANTONIO WATER SYSTEM

**E-16: WURZBACH PARKWAY
SEWER PROJECT AT
HIGHWAY 281**

SHEET
TREE PROTECTION STA.
70+00 TO END

DATE: OCTOBER 2019	SAWS PROJECT NO.	SHEET NO. TP25
DESIGN: MAV	18-4509	
DRAWN: GM	KHA PROJECT NO.	
CHECKED: JAF	068665046	