TREE PROTECTION DETAIL

FOOT / 1 INCH CALL OF THEE

DURNAC CONSTRUCTION, NO EXCESS SOIL, FIL.
MATERIAL, EQUIPMENT, LOUIDS, OR CONSTRUCTION
DEBRIS SHALL BE PLACED WITHIN THE PROTECTIVE
FENCING, NOR SHALL ANY SOIL BE REMOVED FROM
WITHIN THE FENCING.

INSTALL 4" MINIMUM DEPTH OF SHREDDED MULCH BENEATH THE DRIPLINE OF THE TREE. ALL TREE PROTECTION MUST BE IN PLACE BEFORE CONSTRUCTION BEGINS.

WITH PROTECTIVE FENCE ORANGE PLASTIC WEBBING

2. PROTECTIVE FENCING CONSISTS OF 4'-0" HIGH FENCE.

ALL TREES TO REMAIN ON SITE REQUIRE PROTECTIVE FENCING, PRUNING, WATERING, AND FERTILIZATION AS DIRECTED BY A QUALIFIED ARBORIST.

FENCE TO EXTEND FROM TRUNK ONE FOOT FOR EVERY CALIPER NICH OF TREE (MINIMUM). THE OPTIMUM DISTANCE IS TO NUSTALL FRUCE DIRECTLY BENEATH DRIPLINE OF TREE TO REMAIN AS SHOWN.

TREE PRESERVATION NOTES

				S3			
міпо	SF OF CANOPY REQUIRED TO BE MITIGATED	PERCENTAGE AREA PRESERVED	SF OF EXISTING TREE CANOPY TO REMAIN	SF OF EXISTING TREE CANOPY TO BE REMOVED	REQUIRED TO REMAIN	SF OF EXISTING TREE CANOPY	CANOPY PRESERVATION SUMMARY
NOITA		0	0	0	35%= 0	0	UPLAND
EQUIRE							D
MITIGATION REQUIRED FOR CANOPY WITHIN FLOODPLAIN		0	0	0	80%=	0	BUFFER
					0		FER
	15	11 2		20	80% =	25	FLOO
	152,535	21.1%	54,535	204,302	80% = 207,070	258,837	FLOODPLAIN

CANOPY WITHIN FLOODPLAIN MITIGATION REQUIREMENTS*

INCHES OF CANOPY REQUIRED = 174 TREES * 16.7 INCHES = 2,906 INCHES TO BE MITIGATED NUMBER OF TREES REQUIRED = 152,535 SF + (875 SF/TREE) = 174 TREES TO BE PLANTED

FLOODPLAIN INCHES TOTAL MITIGATION

= 2,906 INCHES

FLOODPLAIN FEE MITIGATION FEE • \$200.00/INCH

=2,906 INCHES * \$200.00 = \$581,200

DISTURBED AREA

TOTAL DISTURBED AREA = 630,506 SF

9. TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT BY THE PROJECT MANAGER OR CITY INSPECTOR.

ZONE AREAS

TIMES FENCED

36

REMOVED

BY HAND AS

BE MITIGATED TO THE

MHILA

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R001

ZONE AREAS.

OF THE ENGINEER OR CITY INSPECTOR.

EXPOSED ROOTS SHALL BE COVERED AT THE EXD OF EACH DAY USDRO TECHNIQUES SUCH WET BURLAR.

ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST

PRIOR TO ITS REMOVAL

G

COVERING

MLH SOIT MATCH

trees damaged or lost due to contractor's negligence during construction shall indepens satisfaction.

GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL

ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPE

A. RE-SEEDING 630,506 SF OF DISTURBED AREA WITHIN THE FLOODPLAIN AND ADJACENT RIPARAN BUFFER BY DISTURBED AREAS BY DRILL SEEDING B. RECLAMMING DISTURBED AREAS BY DRILL SEEDING BY ANTIVE SEED MIX AND ENSURING 85% ESTABLISHMENT

TOTAL AREA TO BE REVEGETATED (SEEDING AREA) RECLAMATION CRITERIA: = 630,506 SF

(ROOT PROTECTION ZONE) CHARLE SHE MOSE MANUSTR WE TRAST

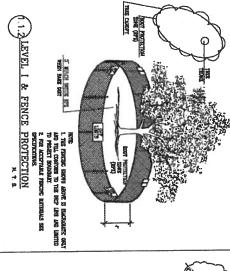
ELEVATION REOUT PROTECTION ZONE mis most restriction and a cercular and a manufacture and a ma

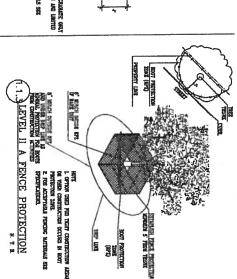
1.2 LEVEL I & FENCE PROTECTION T MACH WELL ST.

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

12" MIN & 48" MAX

REZE THAY ARE MAPKED TO BE PESSENCED ON A SITE PLAY AND THE HACH UTILATES MUST PASS TROUGH THAIR ROOF PROTECTION CAMES MAY REQUIRES TURNSLAING AS OPPOSED TO OPEN TRESHCHES. THE DECISION TO UNIVECE THE BE DETERMINED ON A CASE OF CASE PASSES OF THE STRUMERS.







NOTE THEN WITH ITAL'S THUS AND EASE OR MAD IN PLAT. IN NUTLE TO PROTECT TREES IN WHICH AREAS.

OPEN THENCHING MAY BE USED IF EXPOSED TREE ROOTS OO NOT EXCEND 3" OR ROOTS CAN BE BENT BACK.

REE PRUNING DETAIL

EOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN. TO PREVENT THE SPREAD OF OAK WILT.

BRANCH RIDGES — INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY. EINAL CUT — ALLOW FOR HEALING COLLAR BUT NO STUBS $\begin{array}{lll} \underline{\text{SECOND}} & \underline{\text{CUI}} & - & \text{TO REDUCE THE WEIGHT} \\ \\ \underline{\text{OF BRANCH.}} \end{array}$

PROPER PRUNING FOR BRANCHES 1 1/2" OR GREATER IN DIAMETER.

RANCH COLLAR

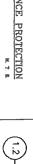
LIVE BRANCH

NOTE: DO NOT CUT FROM D TO E

ERST CUT — TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.









BORING THRU TREE ROOT ZONE

"D" BACKFILL HOLE AND CLEAN UP. 1.3

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Sheet

TP-1

"C" USING TREES TRUNK AS A LEVER PURH AT POINT "S" TO REMOVE TREE BOLE AND LARGE PERDER BOOTS (4" TO 10" IN DIAM.) 'B' BEGIN EXCAVATION APPROL B' PROM THE TRUNK — CUT THEU ANCHOR ROUTS AT AN ANGLE — 3' TO 4' DEEP A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY. TREE REMOVAL DIAGRAM ROOTS

UNHEL TO MHUMIZE ROOT DAMADE (TOP) AS OPPOSED TO SUFFACE-BIG REZIGHESI EN ROOT PROTECTION ZONE WHEN THE 5 MINIMUM DISTANCE TOM TRUPK CAN NOT BE ANTENEDD.

SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 **UPPER SEGMENT** TREE STAND DELINEATION PLAN TREE PLAN DETAILS





P 410 | SAN ANTONIO, TX 76213 | 210.276.0000 ETRATION 4470 | TEPLS FIRM RESISTRATION #10000000

13. TREE PLANTING AND MAINTENANCE: ALL PRESERVED AND PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATING, FETTILIZING, PRUNNIG, AND OTHER MAINTENANCE AS NEEDED. TREES THAT DIE WITHIN TWELVE MONTHS SHALL BE REPLACED WITH A TREE OF COMPARABLE SIZE AND SPECIES. REGOADONG REPLACEDMENT OF PRESERVED TREES, SIGNIFICANT TREES SHALL BE REPLACED AT A 1:1 RATIO (OR INCH-FOR-INCH) AND HERITAGE TREES SHALL BE REPLACED AT A 3:1 RATIO (OR INCH-FOR-INCH) AND HERITAGE TREES SHALL BE REPLACED AT A 3:1 RATIO (OR THREE—TO—ONE INCHES).

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P.E. 89491

NO. DATE

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BY CONSTRUCTION SHALL HAVE THE LIMES AND ROOTS AMENDING AND FERTILIZATION, UNLESS SPECIFIED TO RECEIVE LEVEL 1 PROTECTION AS PER ITEM No.

2. ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.

. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION EPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. . NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PE DNPLETED AND APPROVED.

THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREI ERS. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH SPECTOR.

CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY

MEASHERD BY A RADIUS FROM THE TREE TRUNK, IN PER THE REQUIRED RADIUS LEWCH IS 1 POOT FRO THE THE CONSTRUCTION BRADIUS ROOT PROTECTION THE CONSTRUCTION BRADIUS ROOT PREVENT OAK PAINTED OVER, WITHEN ED MINUTES TO PREVENT OAK

FENCING SHALL BE INSTALLED, MAINTAINED AND eservation and treatment measures have not been

THE ROOT PROTECTION ZONE IS THAT AREA SURREDURDING A TREE, HICH NO EQUIPACT, VERILIES OR MATERIALS MAY OPERATE OR BE SHAPELR A 10-HCH DAMBTER THE RECEIVED REMAINED AS IN-HCH DAMBTER THE RECEIVED REMAINED AS IN-DAMBTER THAN ARE IN CONTILCE ON THE CONTILCE THAN DES IN-DAMBLE SHAPELR THAN DES IN-DAMBLE DAMBLE DE SHAPELR A 10-HCH DAMBTER THE CONTILCE OAK WOUNDS SHALL DAMBLE DE SHAPELR DAMBTER DE SHAPELR DAMBTER DAM



Sheet <u>TP-2</u> <u>57</u> of <u>65</u>

SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 UPPER SEGMENT TREE STAND DELINEATION PLAN TREE PLAN OVERALL KEY





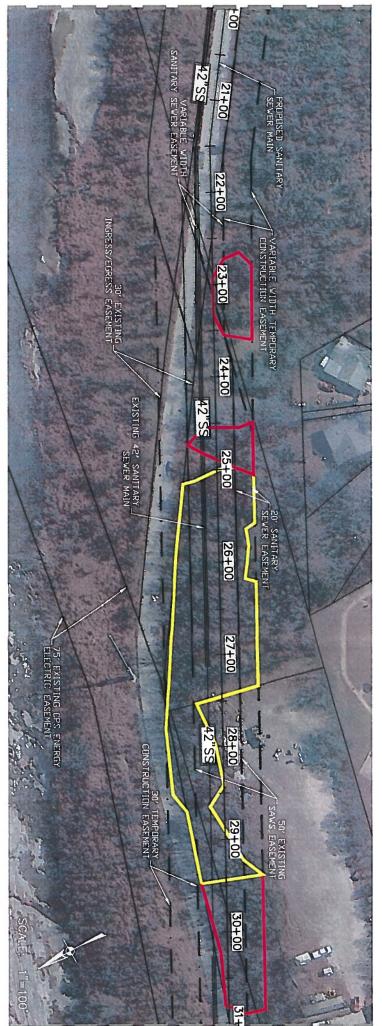
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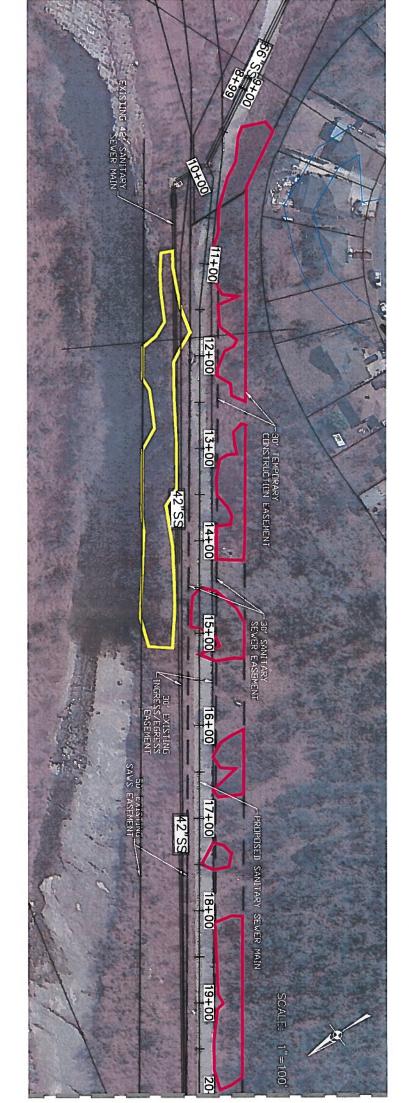
MATCH LINE STA. 20+00 SEE THIS SHEET



MATCH LINE STA. 31+00 SEE SHEET TP-4

CANOPY TO BE PRESERVED INSIDE FLOODPLAIN
CANOPY TO BE REMOVED INSIDE 30' BUFFER
CANOPY TO BE PRESERVED INSIDE 30' BUFFER
CANOPY TO BE REMOVED OUTSIDE FLOODPLAIN
CANOPY TO BE PRESERVED OUTSIDE FLOODPLAIN HERITAGE TREE EXISTING SAWS EASEMENT PERMANENT SEWER ESMT HERITAGE TREE TO BE REMOVED CANOPY TO BE REMOVED INSIDE FLOODPLAIN 30' FLOODPLAIN BUFFER 100-YEAR FLOODPLAIN PROPOSED SAN. SEWER HERITAGE TREE TO BE PRESERVED TEMP CONSTRUCTION ESMT

LEGEND



MATCH LINE STA. 20+00 SEE THIS SHEET













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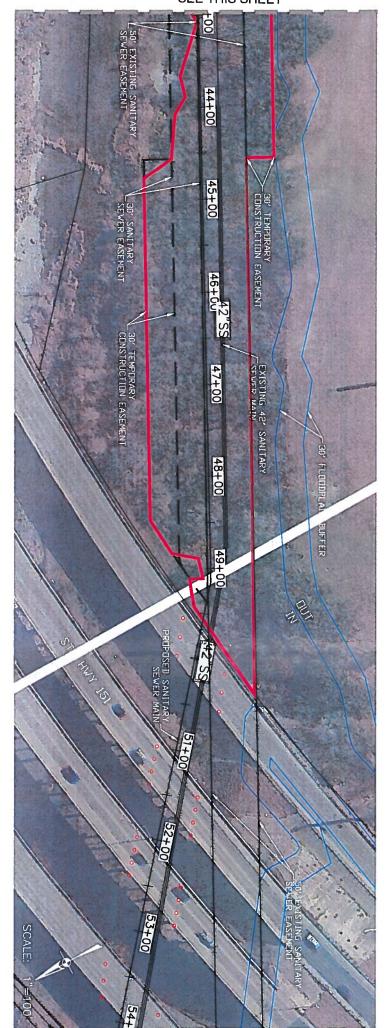
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58 Sheet 으 TP-3 65

SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 **UPPER SEGMENT** TREE STAND DELINEATION PLAN **TREE PLAN 1**



MATCH LINE STA. 43+00 SEE THIS SHEET



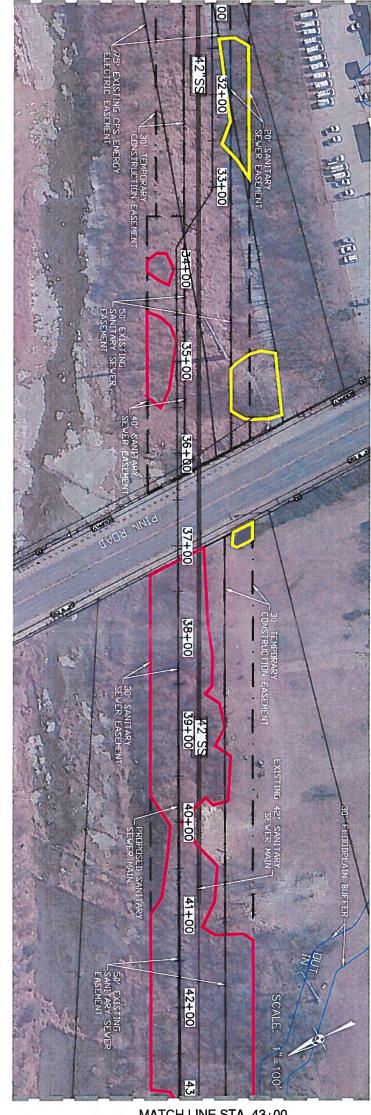
MATCH LINE STA. 54+00 **SEE SHEET TP-5**

HERITAGE TREE 30' FLOODPLAIN BUFFER EXISTING SAWS EASEMENT PROPOSED SAN. SEWER 100-YEAR FLOODPLAIN TEMP CONSTRUCTION ESMT PERMANENT SEWER ESMT

CANOPY TO BE PRESERVED INSIDE FLOODPLAIN
CANOPY TO BE REMOVED INSIDE 30' BUFFER CANOPY TO BE REMOVED OUTSIDE FLOODPLAIN CANOPY TO BE PRESERVED OUTSIDE FLOODPLAIN HERITAGE TREE TO BE REMOVED CANOPY TO BE PRESERVED INSIDE 30' BUFFER

CANOPY TO BE REMOVED INSIDE FLOODPLAIN

MATCH LINE STA. 31+00 SEE SHEET TP-3



MATCH LINE STA. 43+00 SEE THIS SHEET



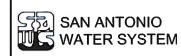




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SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 **UPPER SEGMENT** TREE STAND DELINEATION PLAN **TREE PLAN 2**



PAPE-DAWSON ENGINEERS

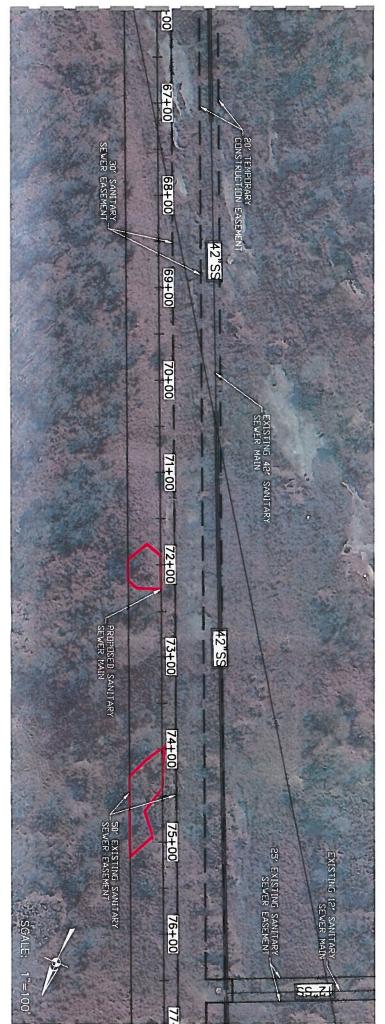
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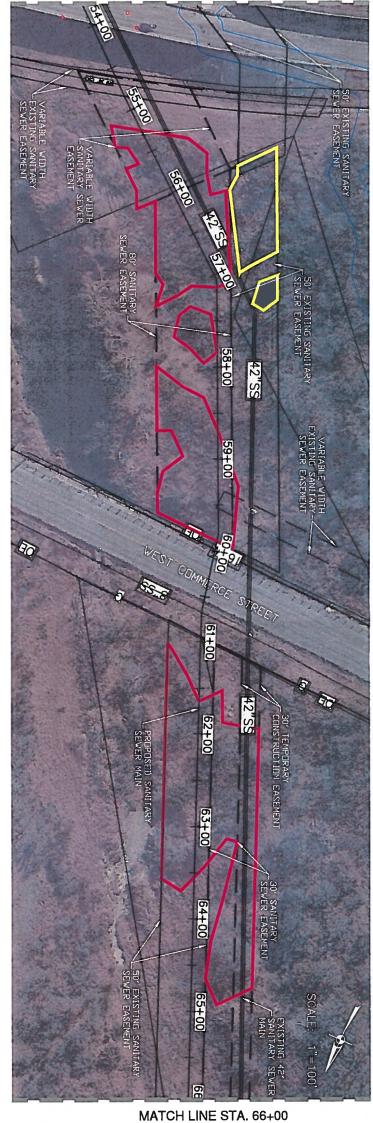
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MATCH LINE STA. 77+00 SEE SHEET TP-6

CANOPY TO BE PRESERVED INSIDE FLOODPLAIN CANOPY TO BE REMOVED INSIDE 30' BUFFER HERITAGE TREE LEGEND CANOPY TO BE REMOVED OUTSIDE FLOODPLAIN CANOPY TO BE REMOVED INSIDE FLOODPLAIN 30' FLOODPLAIN BUFFER HERITAGE TREE TO BE REMOVED EXISTING SAWS EASEMENT TEMP CONSTRUCTION ESMT PERMANENT SEWER ESMT PROPOSED SAN. SEWER CANOPY TO BE PRESERVED OUTSIDE FLOODPLAIN CANOPY TO BE PRESERVED INSIDE 30' BUFFER PROPERTY LINE 100—YEAR FLOODPLAIN

MATCH LINE STA. 54+00 SEE SHEET TP-4



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Sheet 60

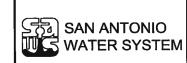
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TP-5

SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 **UPPER SEGMENT**

TREE STAND DELINEATION PLAN **TREE PLAN 3**





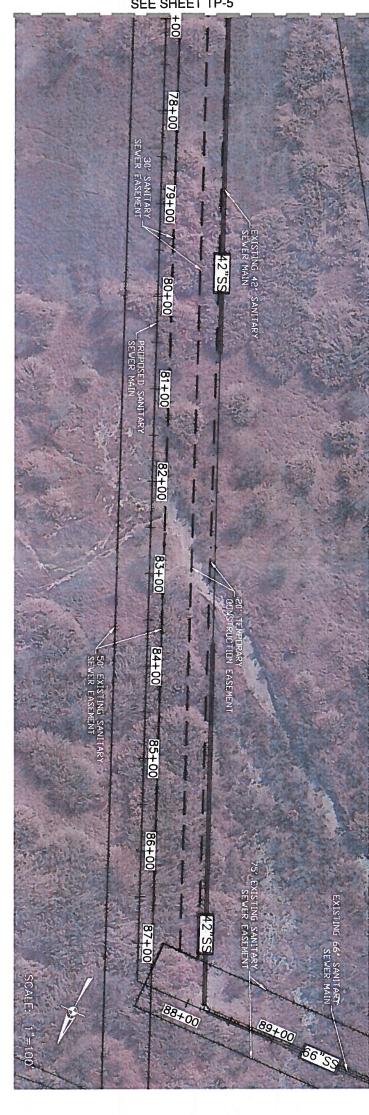
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100-YEAR FLOODPLAIN 30' FLOODPLAIN BUFFER EXISTING SAWS EASEMENT TEMP CONSTRUCTION ESMT

Sheet

TP-6

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HERITAGE TREE TO BE REMOVED

HERITAGE TREE TO BE PRESERVED









TREE PLAN 4

PERMANENT SEWER ESMT

PROPOSED SAN. SEWER

SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 UPPER SEGMENT TREE STAND DELINEATION PLAN



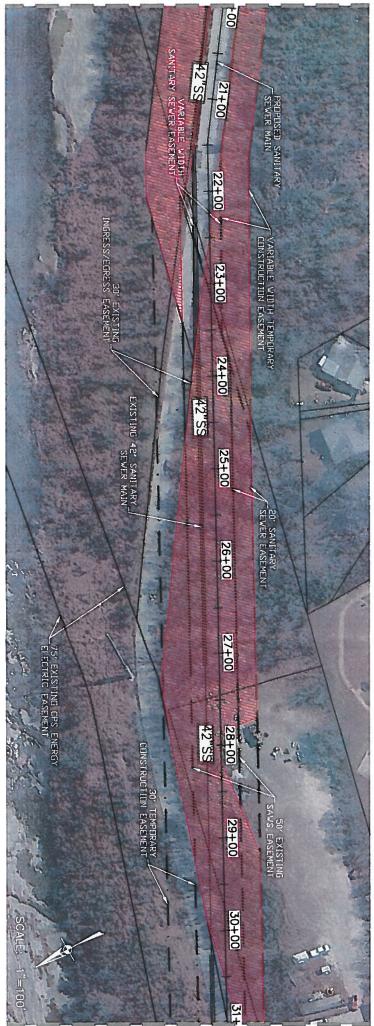


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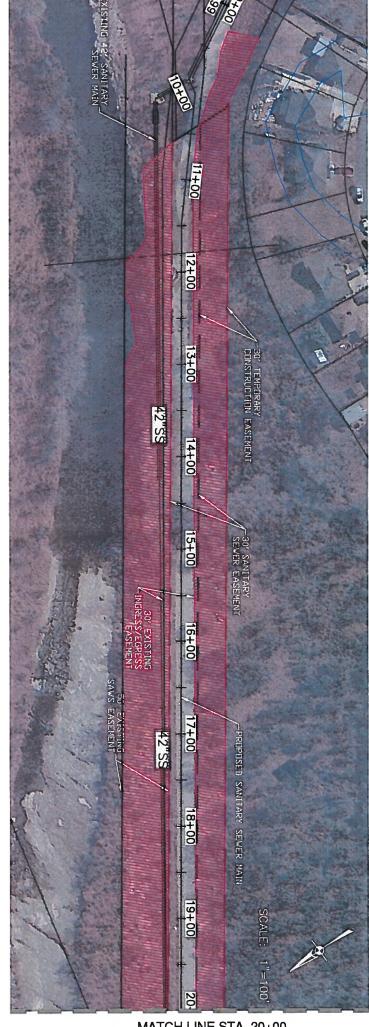
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MATCH LINE STA. 31+00 **SEE SHEET TP-8**



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PROPOSED SAN. SEWER 100-YEAR FLOODPLAIN 30' FLOODPLAIN BUFFER EXISTING SAWS EASEMENT PERMANENT SEWER ESMT AREA TO BE SEEDED WITH NATIVE SEED MIXTURE TEMP CONSTRUCTION ESMIT





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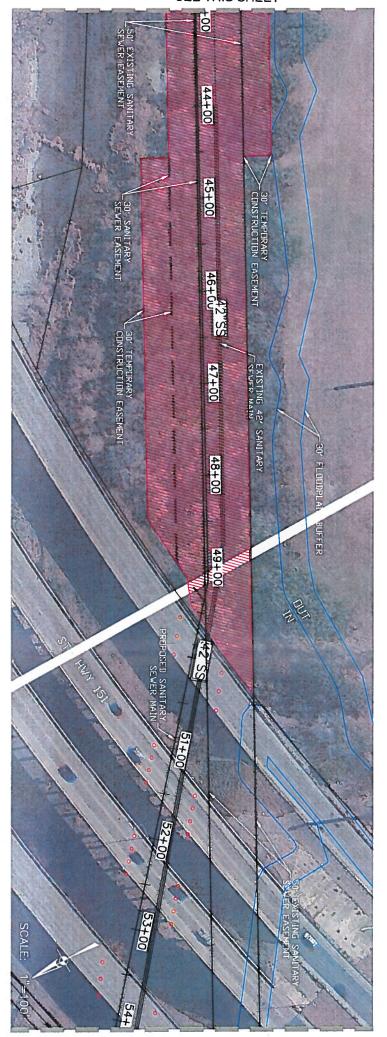
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SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 **UPPER SEGMENT** NATIVE SEED MIXTURE PLAN TREE PLAN 1

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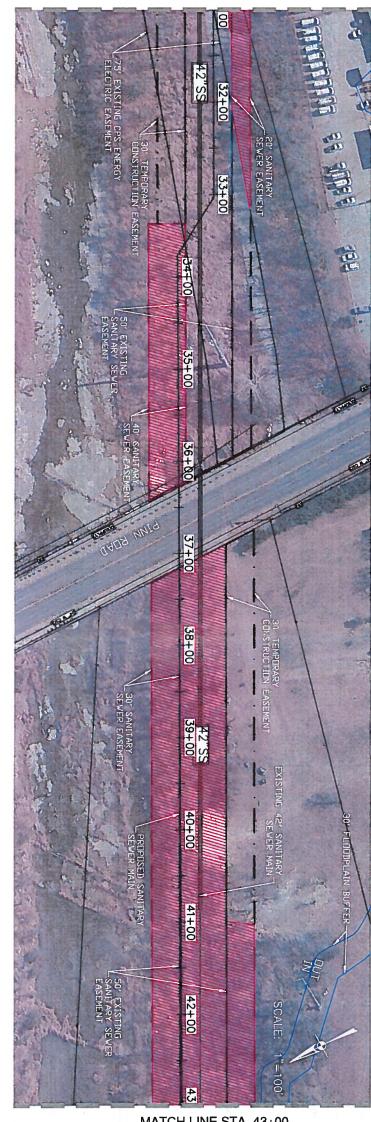


MATCH LINE STA. 54+00 SEE SHEET TP-9

LEGEND

AREA TO BE SEEDED WITH
NATIVE SEED MIXTURE
PROPOSED SAN. SEWER 100-YEAR FLOODPLAIN 30' FLOODPLAIN BUFFER PROPERTY LINE EXISTING SAWS EASEMENT PERMANENT SEWER ESMT TEMP CONSTRUCTION ESMT

MATCH LINE STA. 31+00 SEE SHEET TP-7



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TP-8

SAWS JOB NO. 15-4508 W-1 LEON CREEK: HWY 151 TO HWY 90 **UPPER SEGMENT** NATIVE SEED MIXTURE PLAN **TREE PLAN 2**

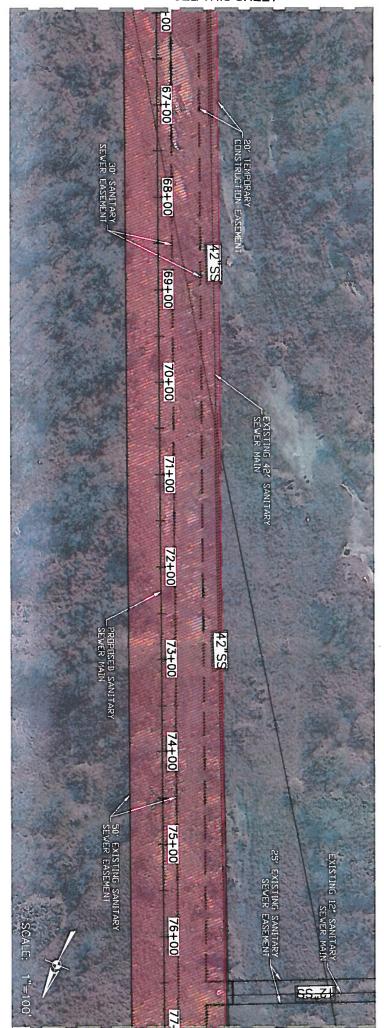




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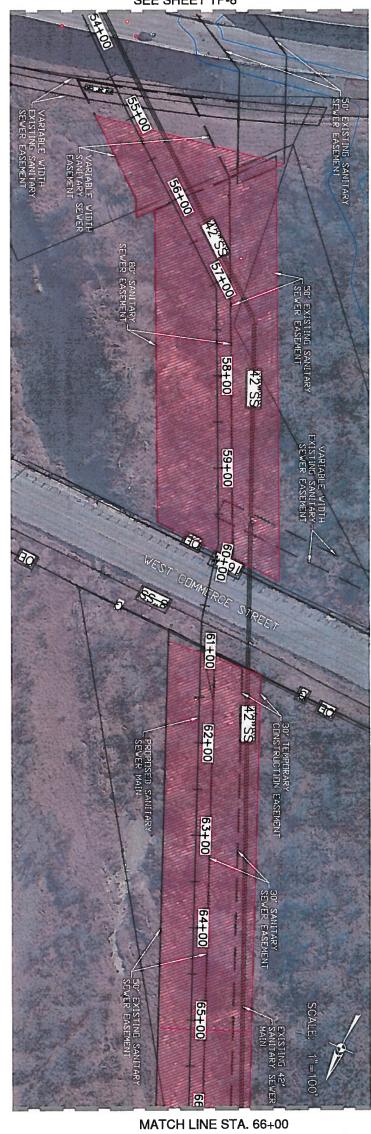
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LEGEND
AREA TO BE SEEDED WITH
NATIVE SEED MIXTURE 30' FLOODPLAIN BUFFER 100-YEAR FLOODPLAIN EXISTING SAWS EASEMENT PERMANENT SEWER ESMT PROPOSED SAN. SEWER TEMP CONSTRUCTION ESMT

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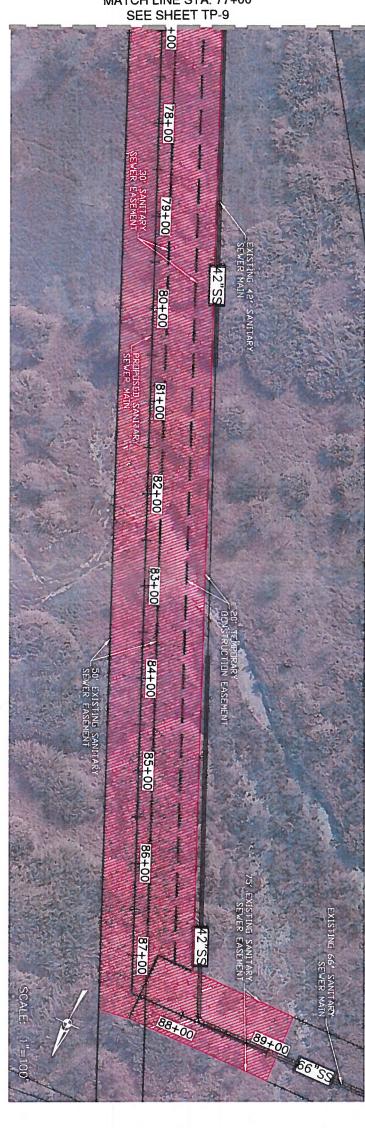
TP-9

NATIVE SEED MIXTURE PLAN





MATCH LINE STA. 77+00



100—YEAR FLOODPLAIN 30' FLOODPLAIN BUFFER EXISTING SAWS EASEMENT PROPOSED SAN. SEWER TEMP CONSTRUCTION ESMT PERMANENT SEWER ESMT AREA TO BE SEEDED WITH NATIVE SEED MIXTURE

> **SAWS JOB NO. 15-4508** W-1 LEON CREEK: HWY 151 TO HWY 90 UPPER SEGMENT NATIVE SEED MIXTURE PLAN TREE PLAN 4

SAN ANTONIO WATER SYSTEM

PAPE-DAWSON ENGINEERS

2000 NW LOOP 410 | SAN ANTONIO, TX 70213 | 210.375.0000 TOPE FIRM REGISTRATION 6420 | TOPLS FIRM REDISTRATION 610000000

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