GENERAL INFORMATION

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION
- NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID
- THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE. 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS, (NO SEPARATE PAY

PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION (CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME
- IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
- CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES. MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES. THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO

SAN ANTONIO WATER SYSTEM (SAWS) BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET)

TEXAS STATE WIDE ONE CALL LOCATOR CITY PUBLIC SERVICE ENERGY - TIME WARNER - AT&T - MCI

- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AN PROTECTION OF THE EXISTING LITILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY, ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING
- ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATE- RIAL SHALL BE PLACED IN EXISTING LOW THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT
- THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR
- IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 207-7306 OR 207-3327 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY. IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WOR IN OTHER AREAS. THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT. IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT. CONTRACT DURATION WILL NOT BE EXTENDED.
- IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIER CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. $\,\,$ THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. $\,$ THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.
- CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE.
- CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST $^{\circ}$ CONTACT VIA FOURTEEN DAYS PRIOR, FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS: (210) 362-2155 OR (210) 362-2096). THE CONTRACT- OR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CON-TRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

REE PROTECTION AND PRESERVATION GENERAL NOTES

- NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE
- ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
- ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH
- NO FOLIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
- SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
- NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
- TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.
- NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
- ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND / OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM)
- TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE. BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-0278).
- TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE
- TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND

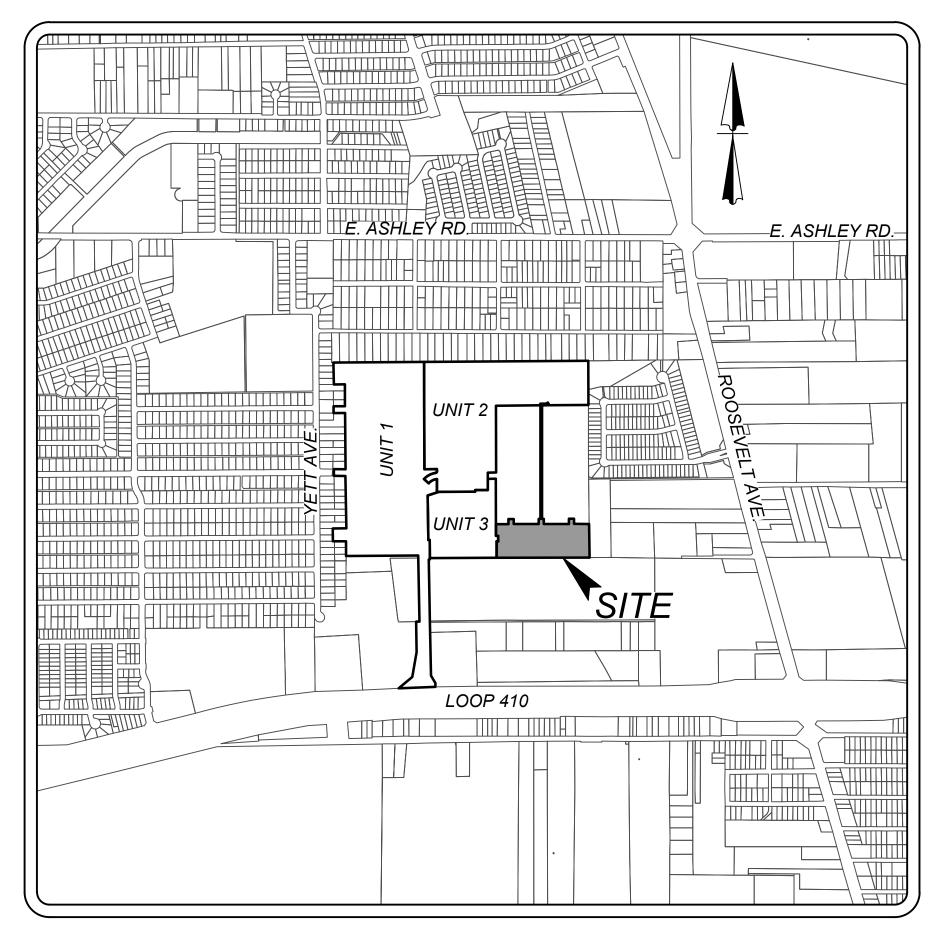
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
- WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WIT. FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.
- PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.
- FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED A

RESIDENTIAL LOTS = 43

HARLANDALE SUBDIVISION UNIT 5A

SAN ANTONIO, TEXAS

STREET, DRAINAGE, WATER, SANITARY SEWER, AND UTILITY IMPROVEMENTS



LOCATION MAP NOT-TO-SCALE

OWNER INFORMATION **KB HOMES** 4800 FREDERICKSBURG RD. SAN ANTONIO, TX 78229 PHONE: (210) 301 - 5485

Sheet List Table

SHEET NO.	SHEET TITLE
0.0	COVER SHEET
1.0	OVERALL UTILITY
2.0	MASTER DRAINAGE PLAN
3.0	OVERALL GRADING PLAN
4.0	DRAIN "A" PLAN & PROFILE (SHEET 1 OF 2)
	DRAIN "A" PLAN & PROFILE (SHEET 2 OF 2)
4.2	DRAIN "B" PLAN & PROFILE (SHEET 1 OF 2)
4.3	DRAIN "B" PLAN & PROFILE (SHEET 2 OF 2)
5.0	TRANCHET TRAIL PLAN & PROFILE
5.1	AUTUMN ELM, WINTER WILLOW, & BOXFIELD ROAD PLAN & PROFILE
5.2	TYPICAL STREET DETAILS
5.3	CONCRETE DRIVEWAY DETAIL
5.4	WHEELCHAIR RAMP DETAILS
5.5	TXDOT PED-18 DETAILS
5.6	MISCELLANEOUS CONSTRUCTION STANDARDS 1
5.7	TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN
5.8	SIGN MOUNTING DETAILS (1 OF 2)
5.9	SIGN MOUNTING DETAILS (2 OF 2)
6.0	SANITARY SEWER COVER SHEET
6.1	OVERALL SANITARY SEWER PLAN
6.2	LINE "A" PLAN & PROFILE (SHEET 1 OF 2)
6.3	LINE "A" PLAN & PROFILE (SHEET 2 OF 2)
6.4	LINE "C" PLAN & PROFILE
6.5	LINE "B" & LINE "D" PLAN & PROFILE
7.0	WATER COVER SHEET
7.1	WATER DISTRIBUTION PLAN
8.0	STORM WATER POLLUTION PREVENTION PLAN
8.1	STORM WATER POLLUTION PREVENTION DETAILS

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS



PRELIMINARY

HARLANDALE **SUBDIVISION UNIT 5A** PLAT# 24-11800301

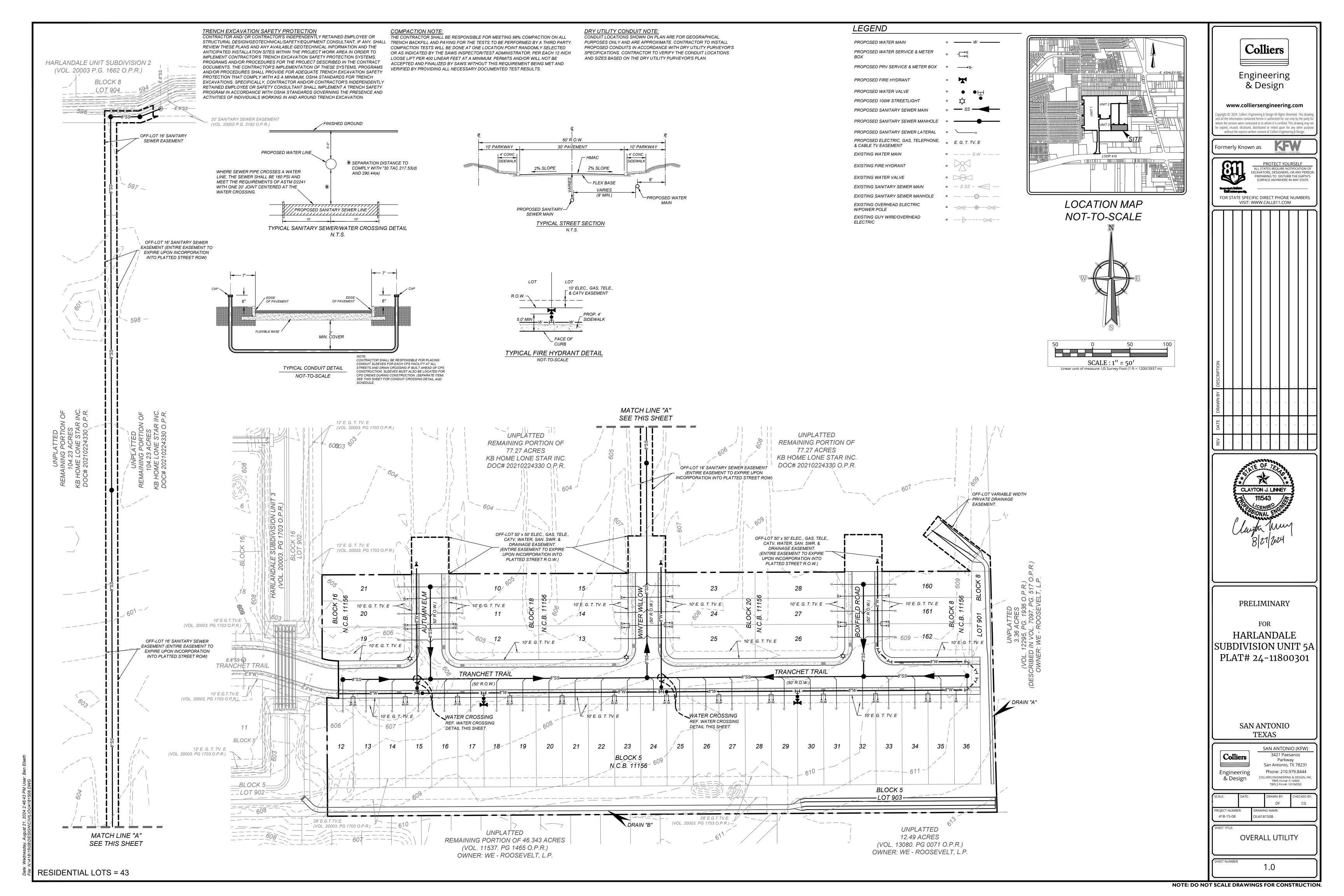
> SAN ANTONIO TEXAS

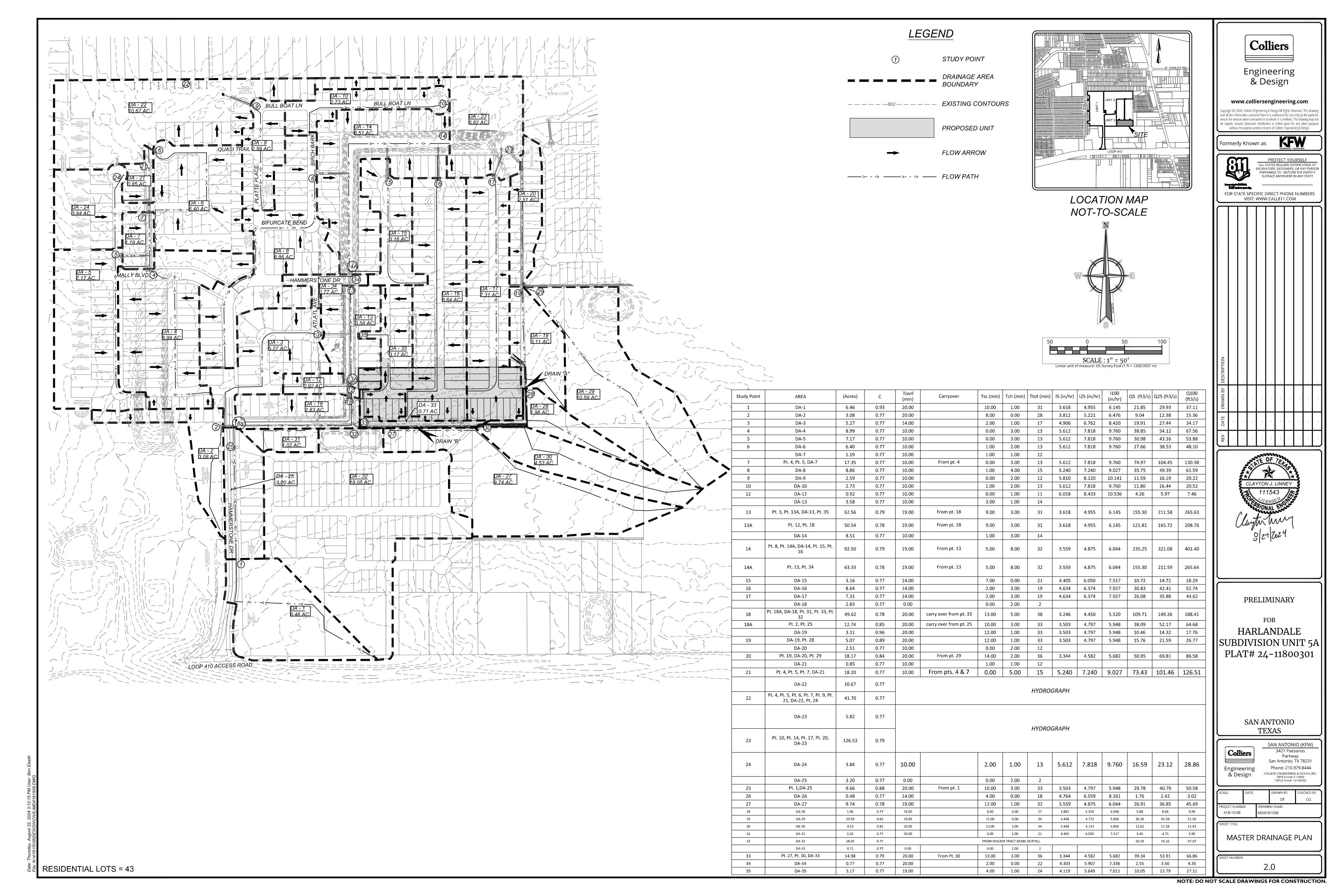
SAN ANTONIO (KFW) 3421 Paesanos Colliers San Antonio, TX 78231 Phone: 210.979.8444 Engineering & Design TBPLS Firm#: 10194550

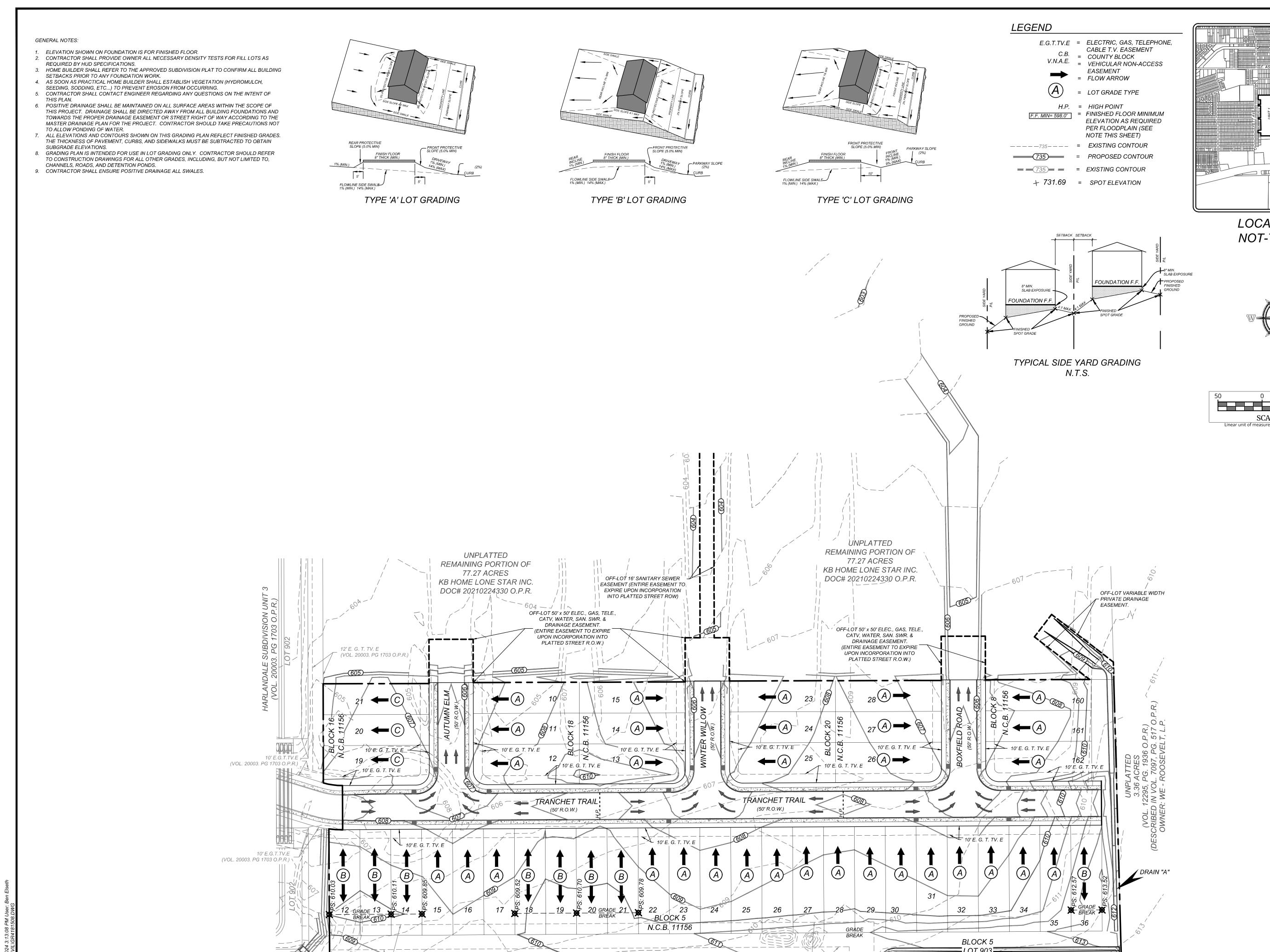
418-15-08 V4181508

COVER SHEET

PLAT NO.24-1180030







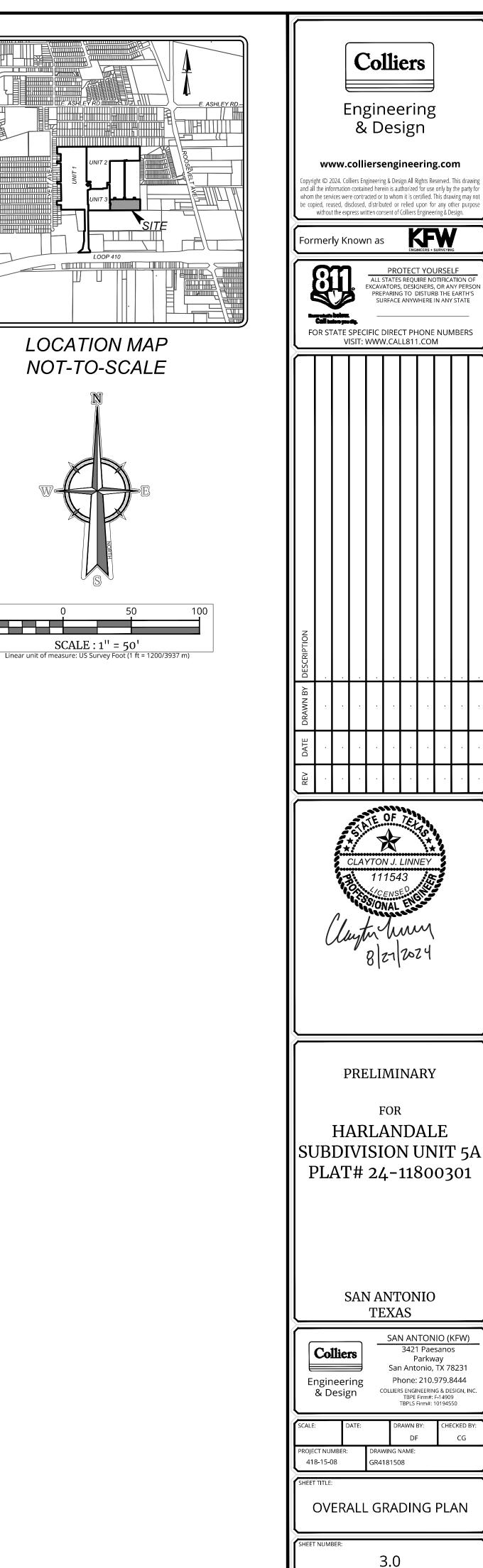
28' E.G.T.TV.E. (VOL. 20003. PG 1703 O.P.R.)

UNPLATTED

12.49 ACRES

(VOL. 13080. PG 0071 O.P.R.)

OWNER: WE - ROOSEVELT, L.P.



(VOL. 20003. PG 1703 O.P.R.)

UNPLATTED

REMAINING PORTION OF 46.343 ACRES

(VOL. 11537. PG 1465 O.P.R.)

OWNER: WE - ROOSEVELT, L.P.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL AND AVAILABLE AND

INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF

EARTHEN CHANNEL

IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETAITON BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.

INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

2. ANY DISTURBED AREAS WILL BE
VEGETATED BY SEEDING OR SODDING.
EIGHTY-FIVE PERCENT OF THE
DISTURBED SURFACE AREA MUST HAVE
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CITY OF SAN ANTONIO WILL ACCEPT.

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING
BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC,
SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND
GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER
IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A

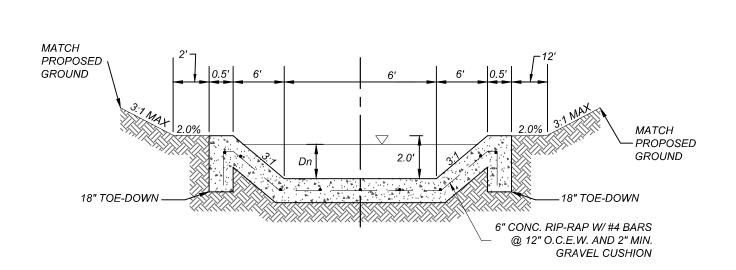
MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING

CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT

UNPLATTED 5.67 ACRES (VOL. 12295, PG. 1936 O.P.R.) (DESCRIBED IN VOL. 7097, PG. 517 O.P.R.) L=13.3' I OWNER: WE - ROOSEVELT, L.P. △=050°49'59" R=15.0' UNPLATTED LOT 903 BLOCK 5 REMAINING PORTION OF N.C.B. 11156 77.27 ACRES KB HOME LONE STAR INC. "A3" BLOCK 8 N.C.B. 11156 DOC# 20210224330 O.P.R. PROP. 4' SIDEWALK OFF-LOT VARIABLE WIDTH – PRIVATE DRAINAGE EASEMENT.

EMAINING PORTION OF 77.27 ACRES

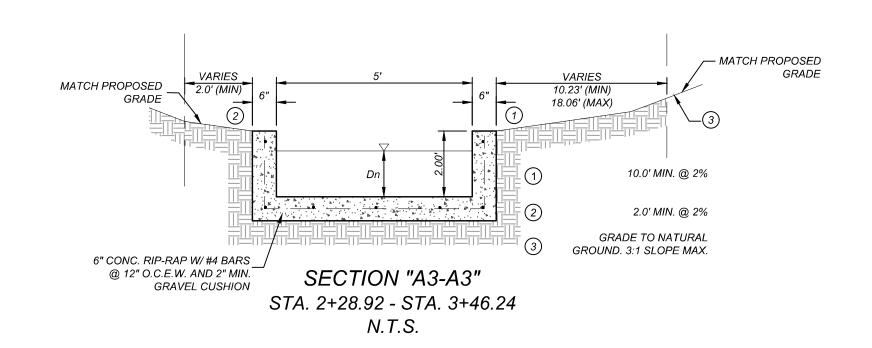


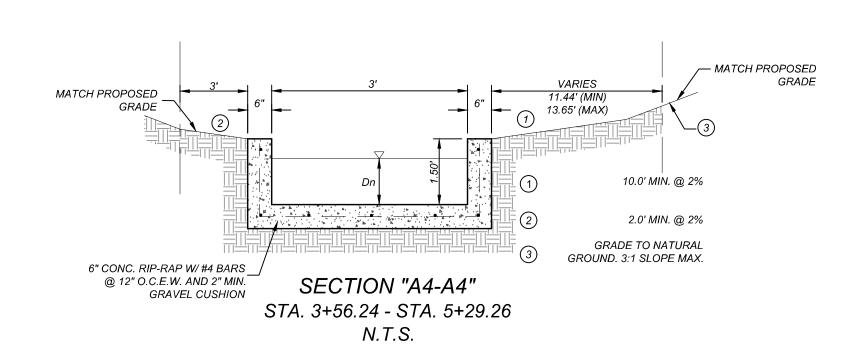
12'(MAX)

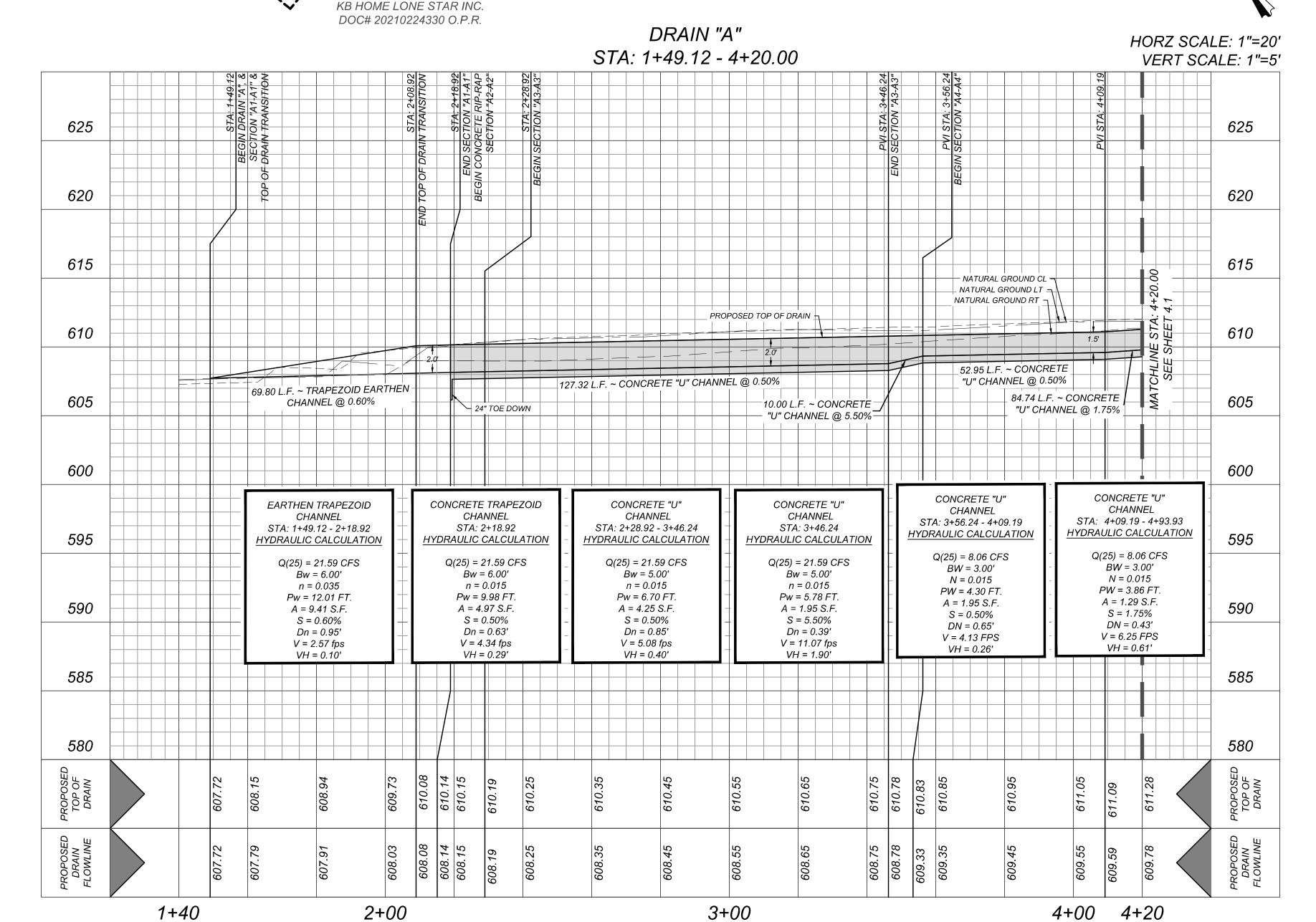
SECTION "A1-A1" STA. 1+49.12 - STA. 2+18.92 N.T.S.

2.0'(MAX)

SECTION "A2-A2" STA.2+18.92







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PREPARING TO DISTURB THE EARTH'S
SURFACE ANYWHERE IN ANY STATE FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM CLAYTON J. LINNEY **PRELIMINARY** FOR HARLANDALE **SUBDIVISION UNIT 5A** PLAT# 24-11800301 SAN ANTONIO **TEXAS** SAN ANTONIO (KFW) 3421 Paesanos Colliers San Antonio, TX 78231 Phone: 210.979.8444 Engineering COLLIERS ENGINEERING & DESIGN, INC TBPE Firm#: F-14909 TBPLS Firm#: 10194550 & Design 418-15-08 DR4181508_ DRAIN "A" PLAN & PROFILE (SHEET 1 OF 2)

BLOCK 5 N.C.B. 11156

∽ R.O.W. LINE ∽ PROP. 4' SIDEWALK

RESIDENTIAL LOTS = 43

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE

PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF

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<u>CAUTION!!:</u>

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— MATCH PROPOSED MATCH PROPOSED GRADE 10.0' MIN. @ 2% 2.0' MIN. @ 2% GRADE TO NATURAL GROUND. 3:1 SLOPE MAX. 6" CONC. RIP-RAP W/ #4 BARS @ 12" O.C.E.W. AND 2" MIN. GRAVEL CUSHION SECTION "A4-A4" STA. 3+56.24 - STA. 5+29.26 N.T.S. UNPLATTED 5.67 ACRES (VOL. 12295, PG. 1936 O.P.R.) (DESCRIBED IN VOL. 7097, PG. 517 O.P.R.) OWNER: WE - ROOSEVELT, L.P. ■ LOT 903 BLOCK 5 🛶 BLOCK 5 N.C.B. 11156

4+20

DRAIN "A" HORZ SCALE: 1"=20' STA: 4+20.00 - END VERT SCALE: 1"=5' 5+29.26 "A4-A4", 2-RAP, & RAIN "A" 620 615 615 NATURAL GROUND LT NATURAL GROUND RT -PROPOSED TOP OF DRAIN 610 610 84.74 L.F. ~ CONCRETE "U" CHANNEL @ 1.75% - 36" TOE DOWN 35.33 L.F. ~ CONCRETE 605 605 "U" CHANNEL @ 0.50% CONCRETE "U" CONCRETE "U" CHANNEL CHANNEL STA: 4+93.93 - 5+29.26 STA: 4+09.19 - 4+93.93 600 600 HYDRAULIC CALCULATION HYDRAULIC CALCULATION Q(25) = 8.06 CFSQ(25) = 8.06 CFSBw = 3.00'Bw = 3.00'n = 0.015n = 0.015Pw = 4.30 FT.Pw = 3.86 FT.595 A = 1.29 S.F.A = 1.95 S.F.S = 0.50%Dn = 0.65'Dn = 0.43'V = 4.13 fps $V = 6.25 \, fps$ VH = 0.61'VH = 0.26'

5+00

5+40

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CLAYTON J. LINNEY

111543

CLAYTON MALE

ON AL

STORY

STO

PRELIMINARY

FOR
HARLANDALE
SUBDIVISION UNIT 5A
PLAT# 24-11800301

SAN ANTONIO TEXAS

SAN ANTONIO (KFW)

3421 Paesanos
Parkway
San Antonio, TX 78231

Phone: 210.979.8444

COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

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DF CG

PROJECT NUMBER:
418-15-08

CHECKED BY:
DRAWN BY: CHECKED BY:
CG

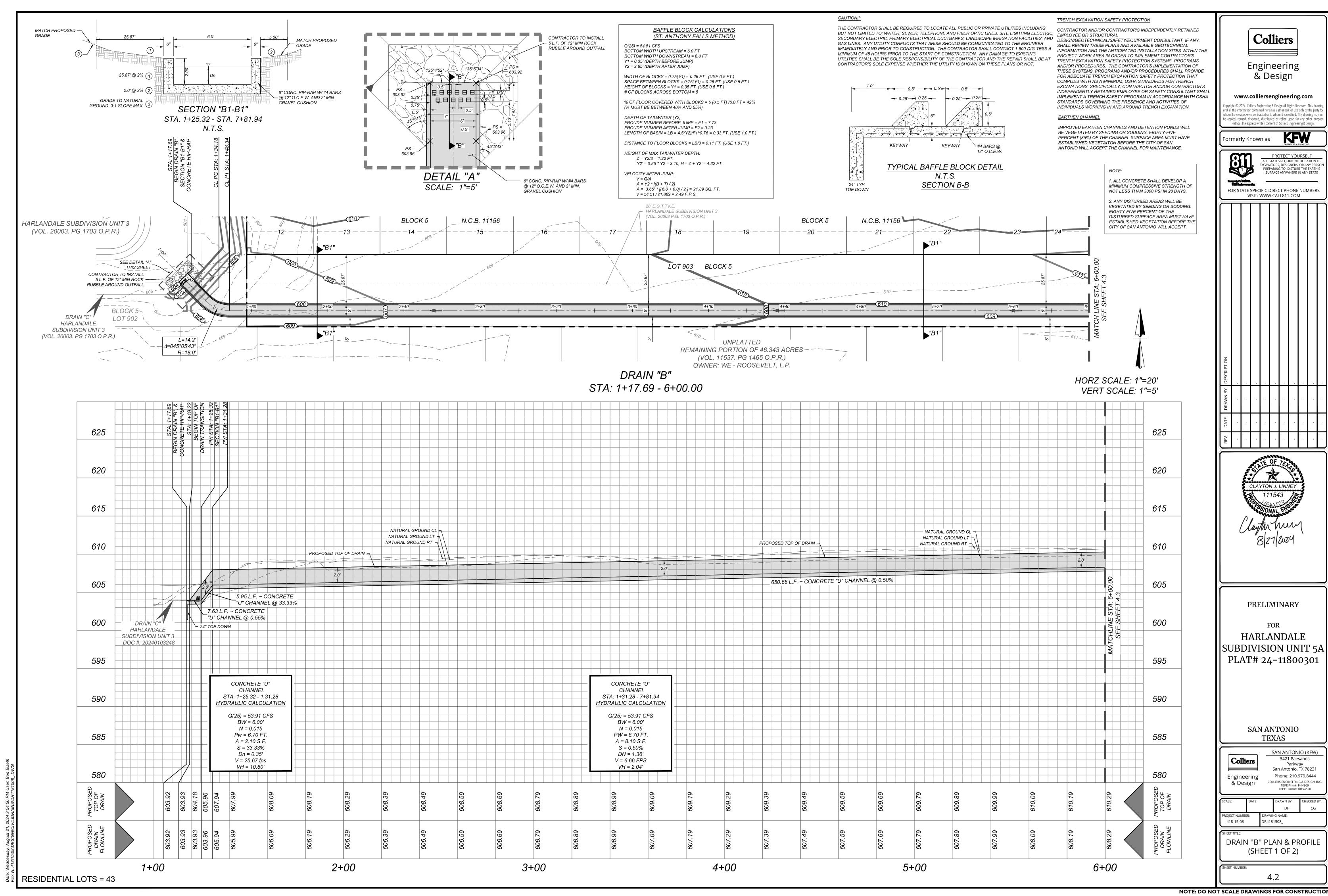
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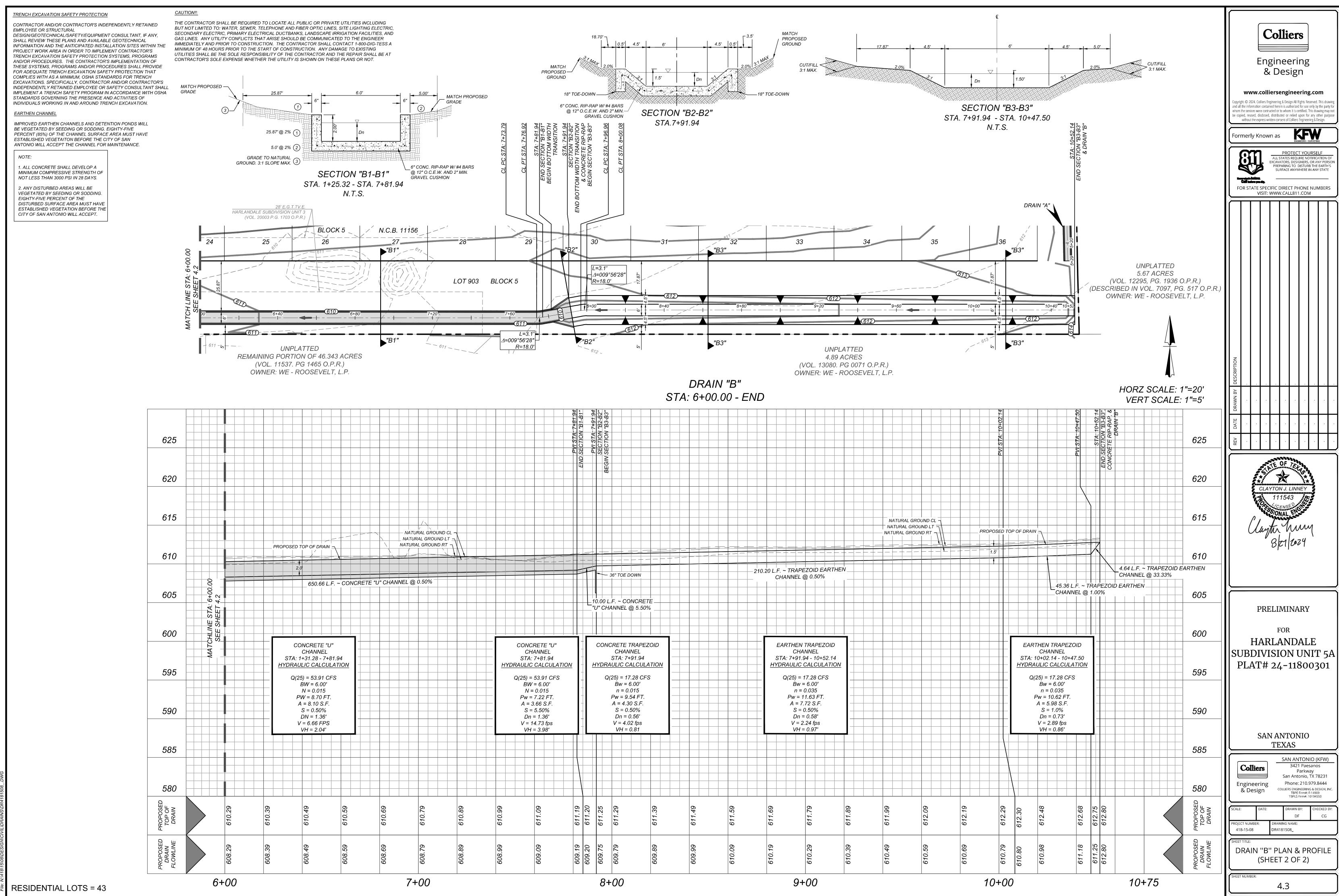
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(SHEET 2 OF 2)

RESIDENTIAL LOTS = 43





TRENCH EXCAVATION SAFETY PROTECTION

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

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

BLOCK 15

FACE OF CURB -PROP. 4' SIDEWALK -R.O.W. LINE -

TRANCHET TRAIL (50' R.O.W.)

EXISTING 4' SIDEWALK

N.C.B. 11156

15

26+00

27+00

28+00

29+00

25+28

16

LEGEND

34

35

36

R.O.W. = RIGHT OF WAYG.E.T.TV.E. = GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT = FLOW ARROW

> **WASHOUT CROWN** = WHEELCHAIR RAMP TYPE I SEE SHEET 5.4 = WHEELCHAIR RAMP TYPE II

- FACE OF CURB 26 /- PROP. 4 SIDEWALK

/ R.O.W. LINE

31

R.O.W. LINE

32+00

33+00

34+00

FACE OF CURB -

PROP. 4' SIDEWALK -

32

33

SEE SHEET 5.4

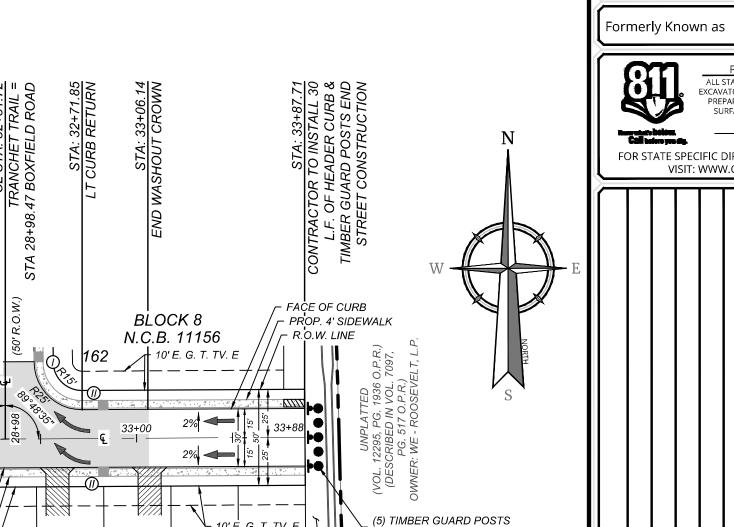
************ = SIDEWALK TO BE CONSTRUCTED BY DEVELOPER = SIDEWALK TO BE BUILT AT THE TIME

OF HOME CONSTRUCTION PROPOSED DRIVEWAY LOCATION

ELEVATION

= PROPOSED TOP OF CURB

= HIGH POINT L.P. = LOW POINT





24

10' E. G. T. TV. E 🚽

25

10' E. G T. TV. E 7

26

27

28

BLOCK 16

N.C.B. 11156

20

R.O.W. LINE →

√ 10' E. G. T. TV. E

22

23

21

FACE OF CURB \(\frac{1}{BLOCK 5} \) N.C.B. 11156

FACE OF CURB -

R.O.W. LINE ¬

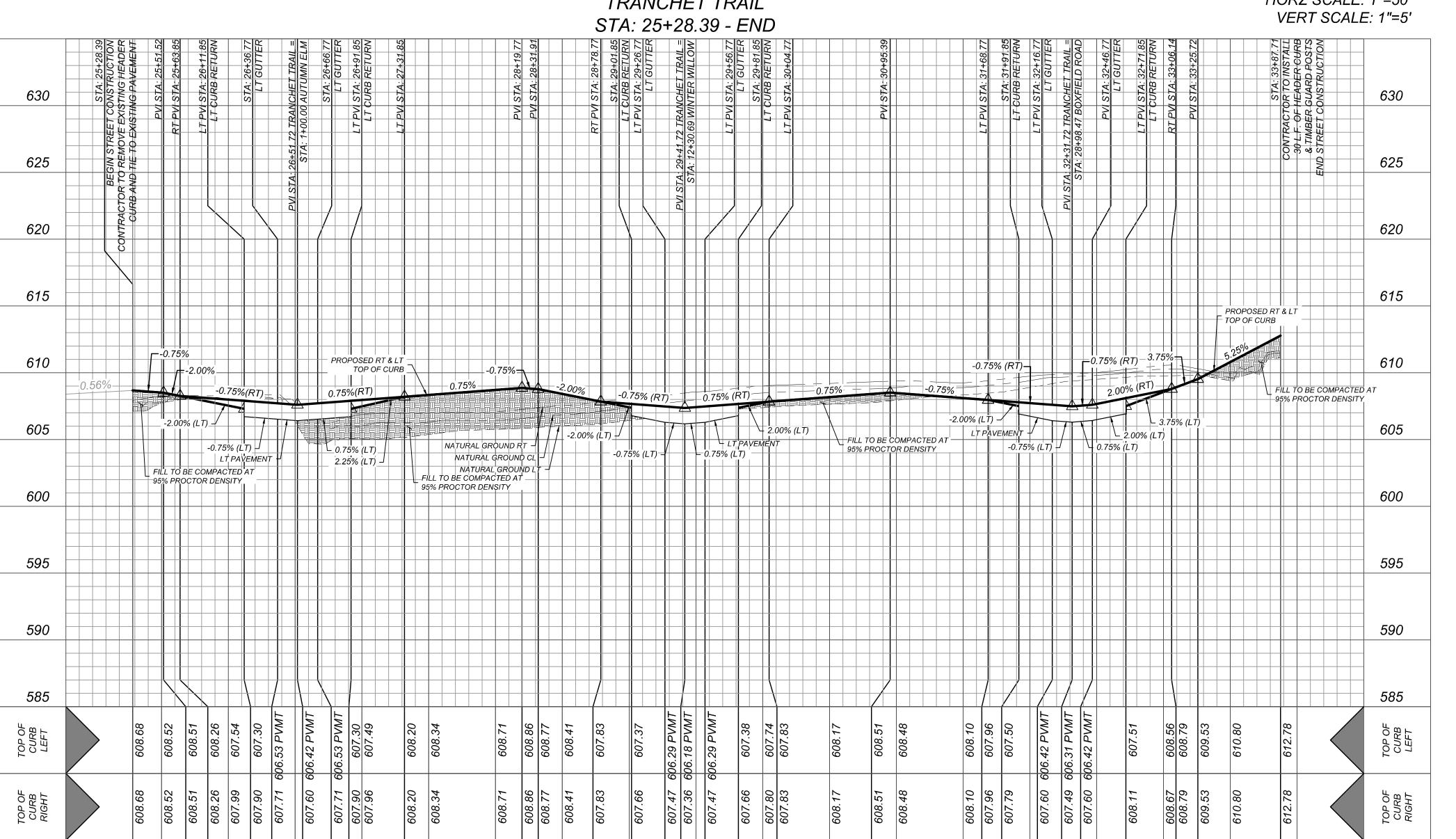
PROP. 4' SIDEWALK ¬



BLOCK 5

LOT 903

SEE SHEET 5.2



30+00

31+00

CLAYTON J. LINNEY

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PRELIMINARY

FOR HARLANDALE SUBDIVISION UNIT 5A PLAT# 24-11800301

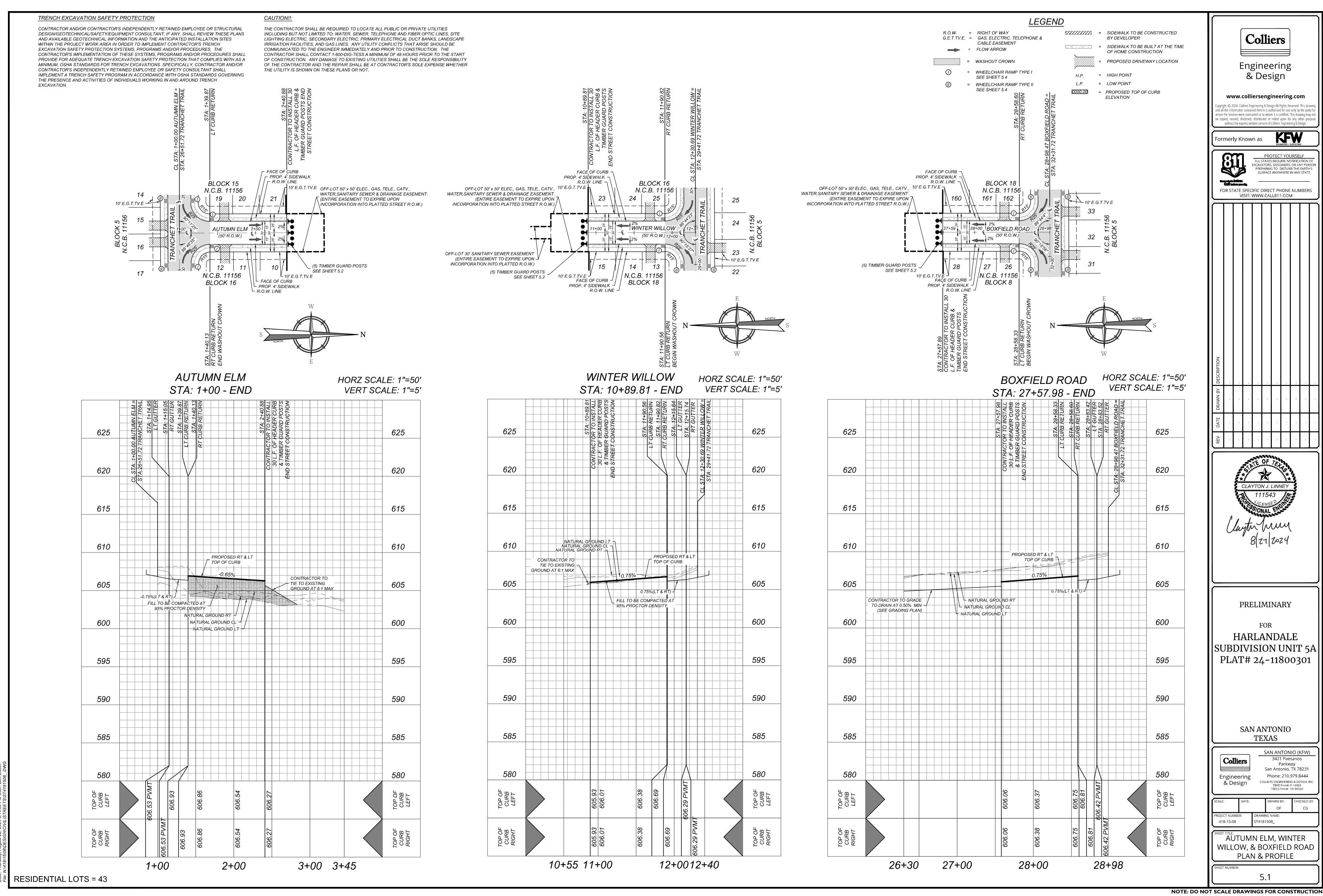
> SAN ANTONIO **TEXAS**

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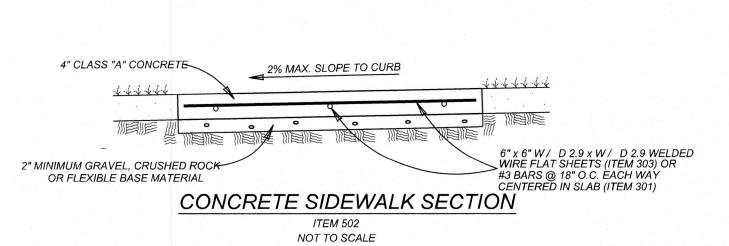
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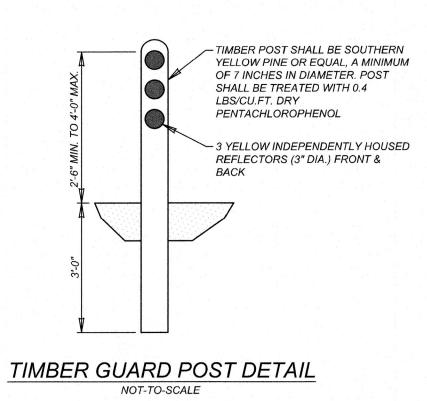
TRANCHET TRAIL PLAN & PROFILE

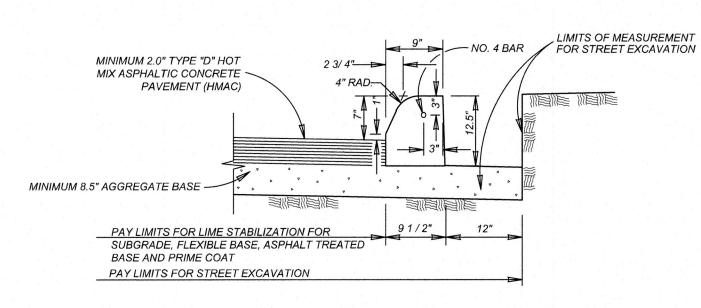
RESIDENTIAL LOTS = 43



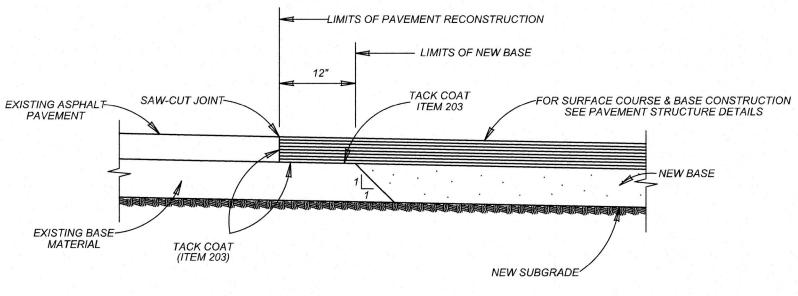




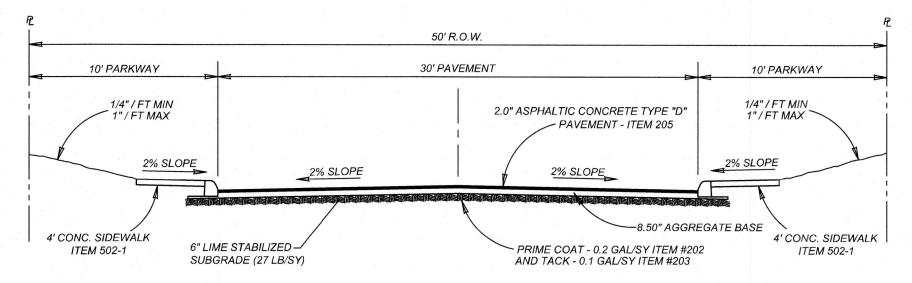




CONCRETE CURB ITEM 500 ON ASPHALT TREATED BASE OR ASPHALTIC CONCRETE BASE NOT TO SCALE



PAVEMENT JUNCTION DETAILS

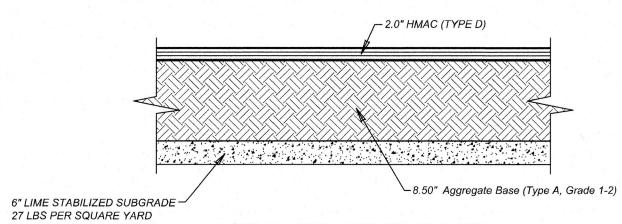


TYPICAL LOCAL "A" STREET SECTION

USE LOCAL "A" STREET SECTION FOR STREETS BELOW:

TRANCHET TRAIL: STA. 25+28.39 - 33+87.71 AUTUMN ELM: STA. 1+00.00 - END WINTER WILLOW: STA. 10+89.81 - END BOXFIELD ROAD: STA. 27+57.98 - END

Pavement Section 2.0" HMAC Type "D" 8.50" Aggregate Base (Type A, Grade 1-2) 6.0" LIME STABILIZED SUBGRADE (27 LB/SY) Total: 16.50" Structural No: 2.55 CBR: 3.0



ASPHALT PAVEMENT DETAIL NOT-TO-SCALE DETAIL FOR ALL LOCAL TYPE A

1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC, L.P., PROJECT NO. S201230-P DATED AUGUST 13, 2020 (SIGNED & SEALED: AUGUST 13, 2020)

2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER. 4. CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT

FOR CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED IN THE FIELD:

- 1. AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2 - 3) DAYS. MAINTAIN MOISTURE DURING MELLOWING;
- 2. AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE $\frac{3}{4}$ INCH SIEVE FROM THE SAMPLE): MINIMUM PASSING 1 3/4" SIEVE MINIMUM PASSING ¾" SIEVE MINIMUM PASSING NO. 4 SIEVE
- 3. SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD). IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
- 4. COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED)
- 5. CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- 6. VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN \pm

ANY FILL USED TO RAISE THE SUBGRADE:

- SHOULD NOT CONTAIN ANY DELETERIOUS MATERIAL. SHOULD HAVE A CBR VALUE OF 3.0 OR GREATER
- SHOULD HAVE THE "LIME PERCENTAGE/APPLICATION RATE" RE-EVALUATED AND TESTED FOR SULFATE CONTENT PRIOR TO USE OF FILL MATERIAL
- MAXIMUM PLASTICITY INDEX VALUE OF 45 GRAVEL SIZE NOT TO EXCEED 3 INCHES IN SIZE
- MATERIAL PLACED AND COMPACTED AS PER APPLICABLE CITY/COUNTY GUIDELINES

GENERAL NOTES:

- 1. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
- 2. THE APPLICATION RATE OF LIME SHALL BE DETERMINED BASED ON LABORATORY TESTING AND SHALL BE THE LOWEST PERCENTAGE OF LIME THAT PROVIDES AN UNCONFINED COMPRESSIVE STRENGTH (UCS) AT 7-DAYS OF AT LEAST 160 PSI IN ACCORDANCE WITH ASTM D5102 STANDARD TEST METHODS FOR UNCONFINED COMPRESSIVE STRENGTH OF COMPACTED SOIL-LIME MIXTURES (PROCEDURE B) (IN ADDITION, CURING SHOULD OCCUR FOR 7 DAYS AT 40° AND SPECIMENS SHOULD BE SUBJECT TO 24-HR CAPILLARY SOAK PRIOR TO TESTING.

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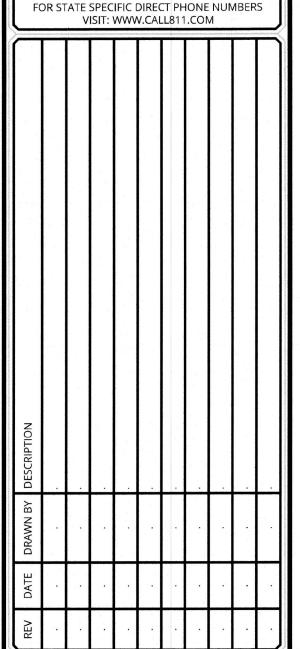
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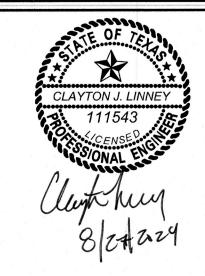
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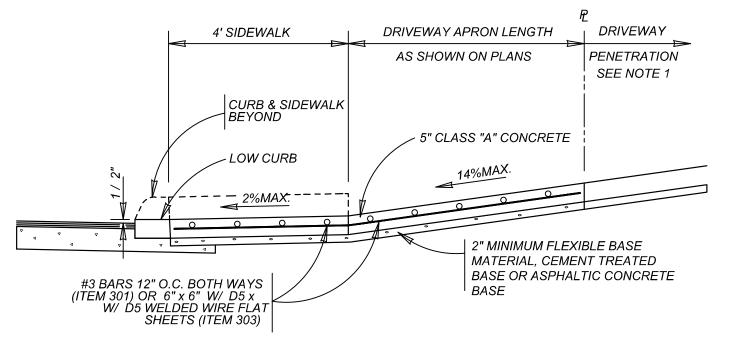
> SAN ANTONIO **TEXAS**

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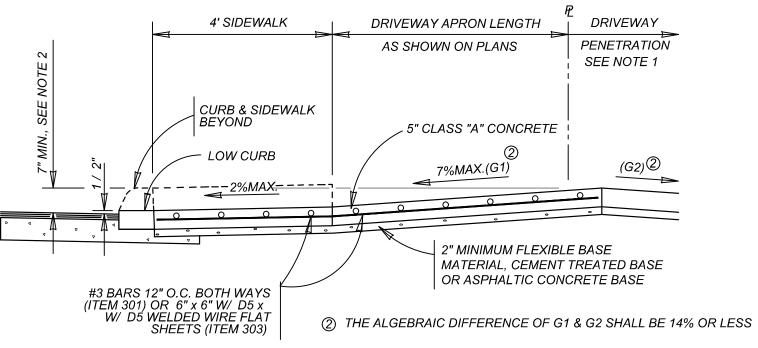
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TYPICAL STREET DETAILS



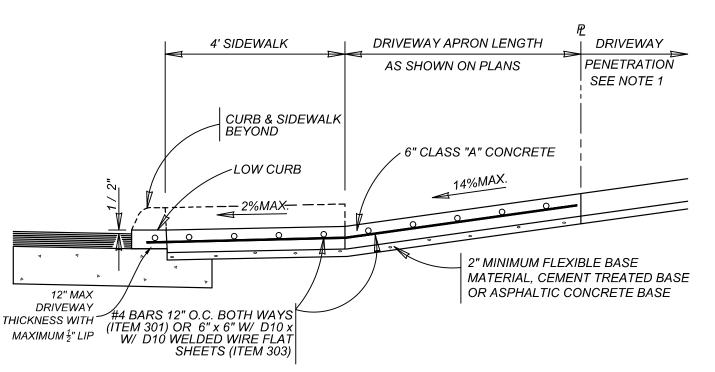
TYPICAL RESIDENTIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB ITEM 503.1



TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB ITEM 503.1



TYPICAL COMMERCIAL DRIVEWAY SECTION

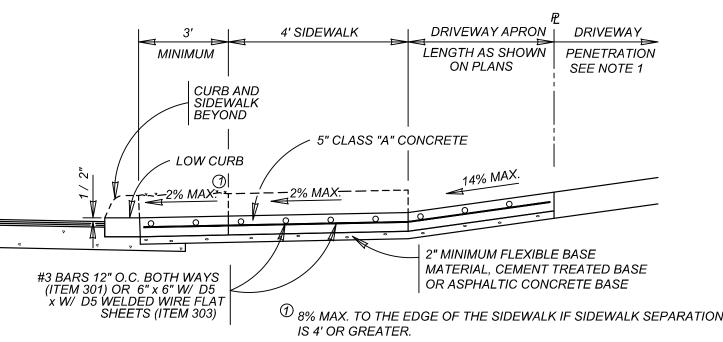
WITH SIDEWALK ABUTTING CURB ITEM 503.2

CONCRETE DRIVEWAY NOTES

- 1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY: A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.
- B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
- 2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
- 3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

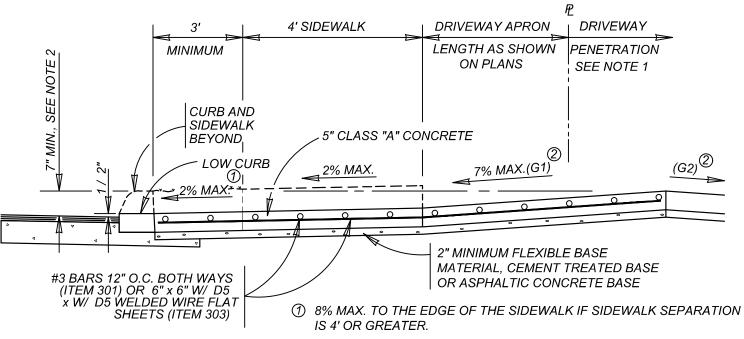
TYPE	мінімим	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'

- 4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
- 5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
- 6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
- 7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3 /8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT
- 8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- 9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



TYPICAL RESIDENTIAL DRIVEWAY SECTION

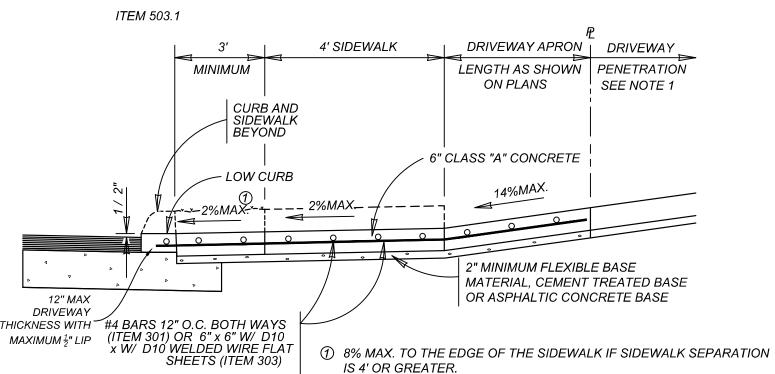
WITH SIDEWALK SEPARATED FROM CURB ITEM 503.1



2 THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

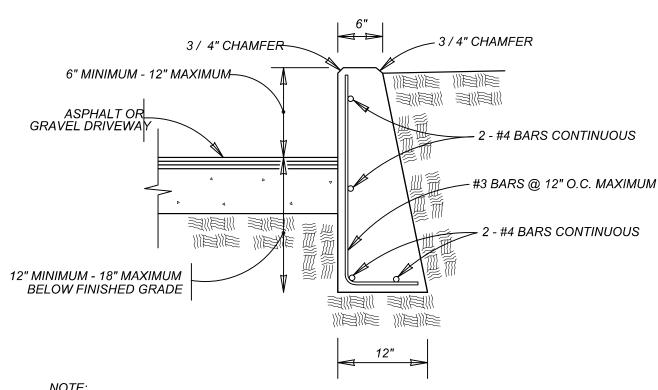
TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB ITEM 503.1



TYPICAL COMMERCIAL DRIVEWAY SECTION WITH SIDEWALK SEPARATED FROM CURB

ITEM 503.2

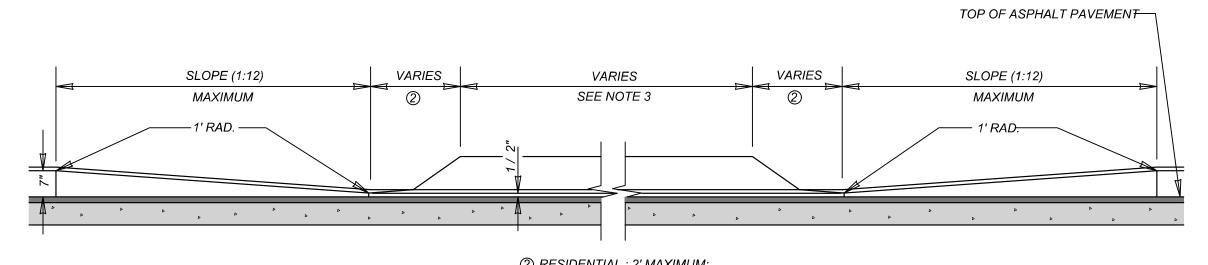


1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.

2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

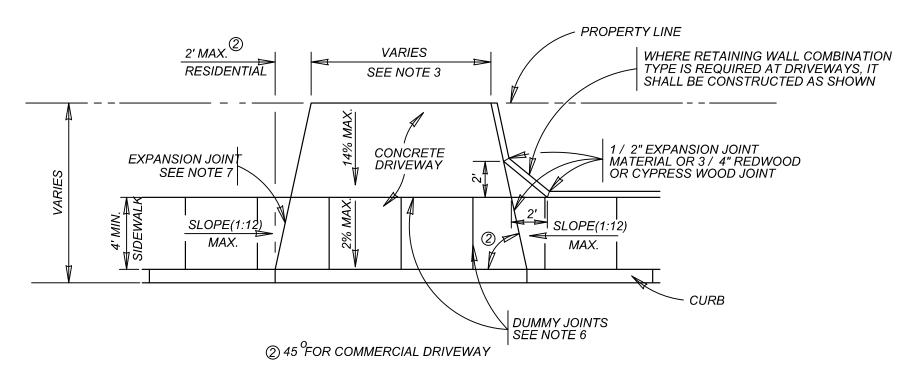
DRIVEWAY - CONCRETE RETAINING WALL

ON COMPACTED SUBGRADE ITEM 307.1



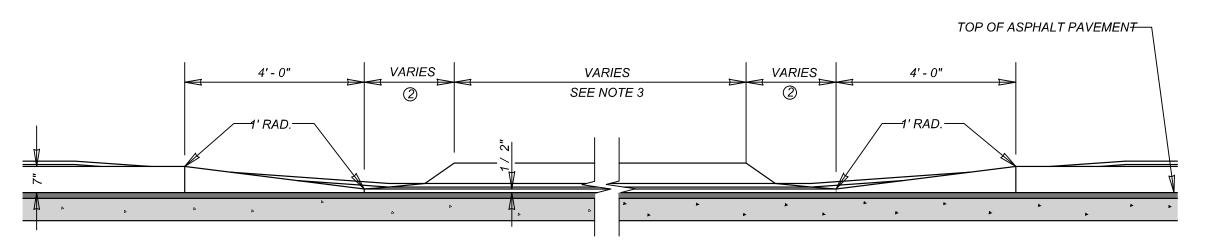
② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY WITH SIDEWALK ABUTTING CURB



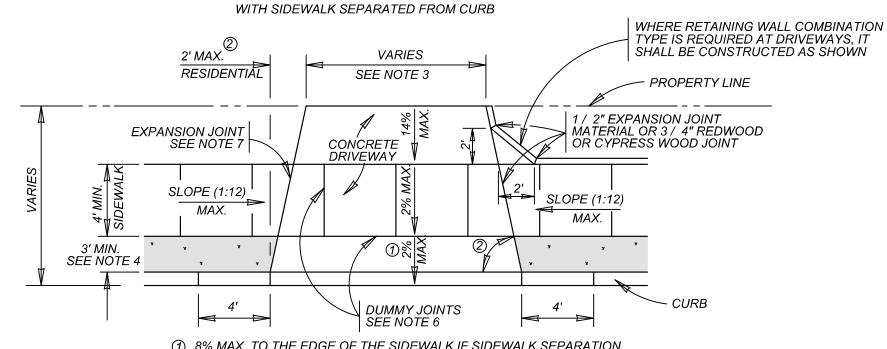
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB



② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY



① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② 45 FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK SEPARATED FROM CURB

MAY 2009

CITY OF SAN ANTONIO CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

% SUBMITTAL	PROJECT NO.:		DATE:	
DRWN RV: V VASOUEZ	DSGN RV	CHKD BY: BS HOSSEINI PE	SHEET NO :	OF

CONCRETE DRIVEWAY STANDARDS

% SUBMITTAL	PROJECT NO.:		DATE:	
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:	_OF_

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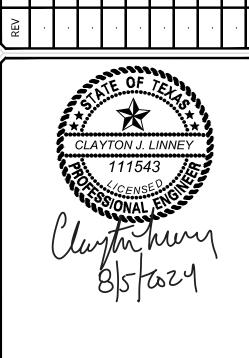
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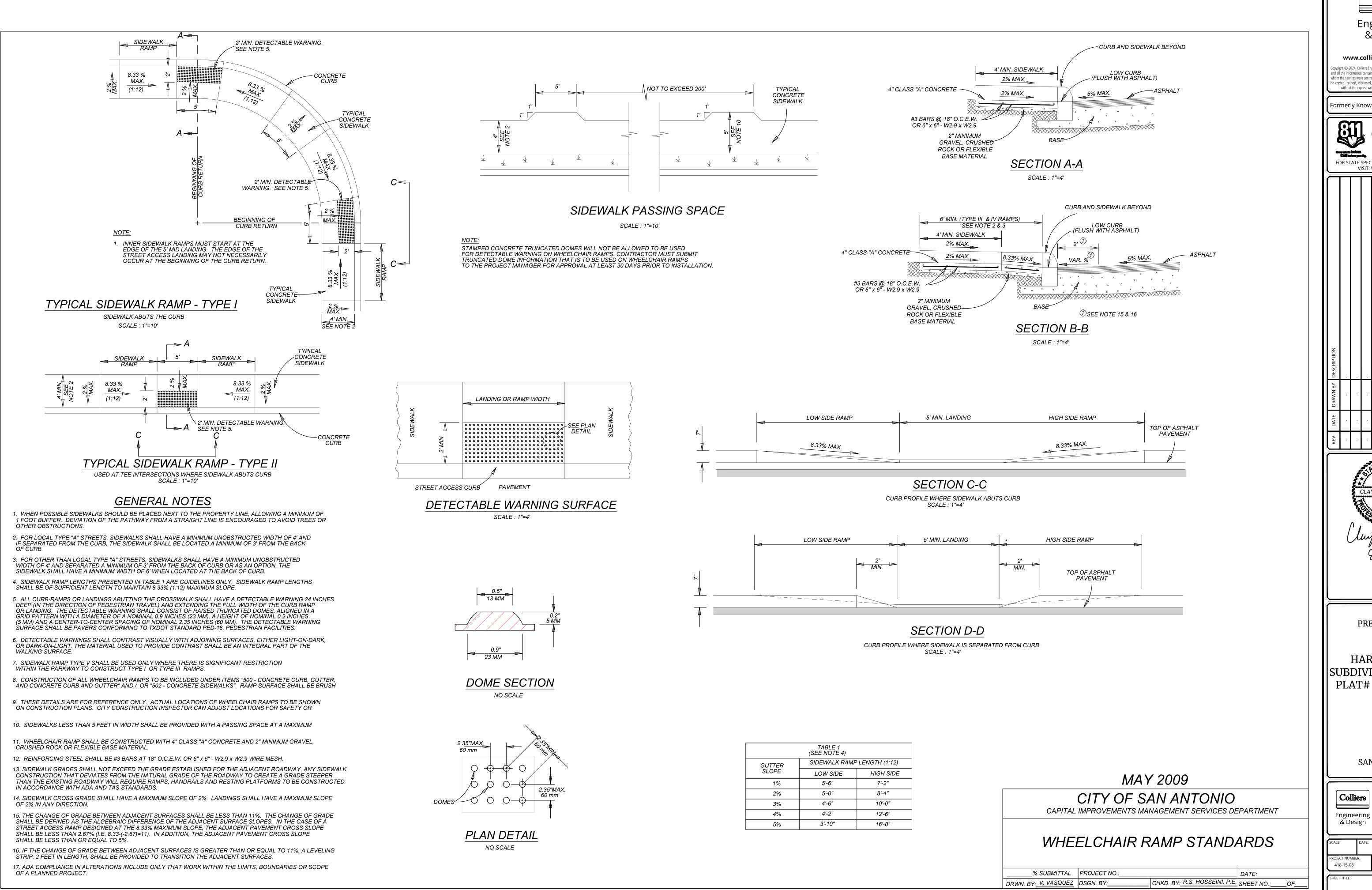
PLAT# 24-11800301

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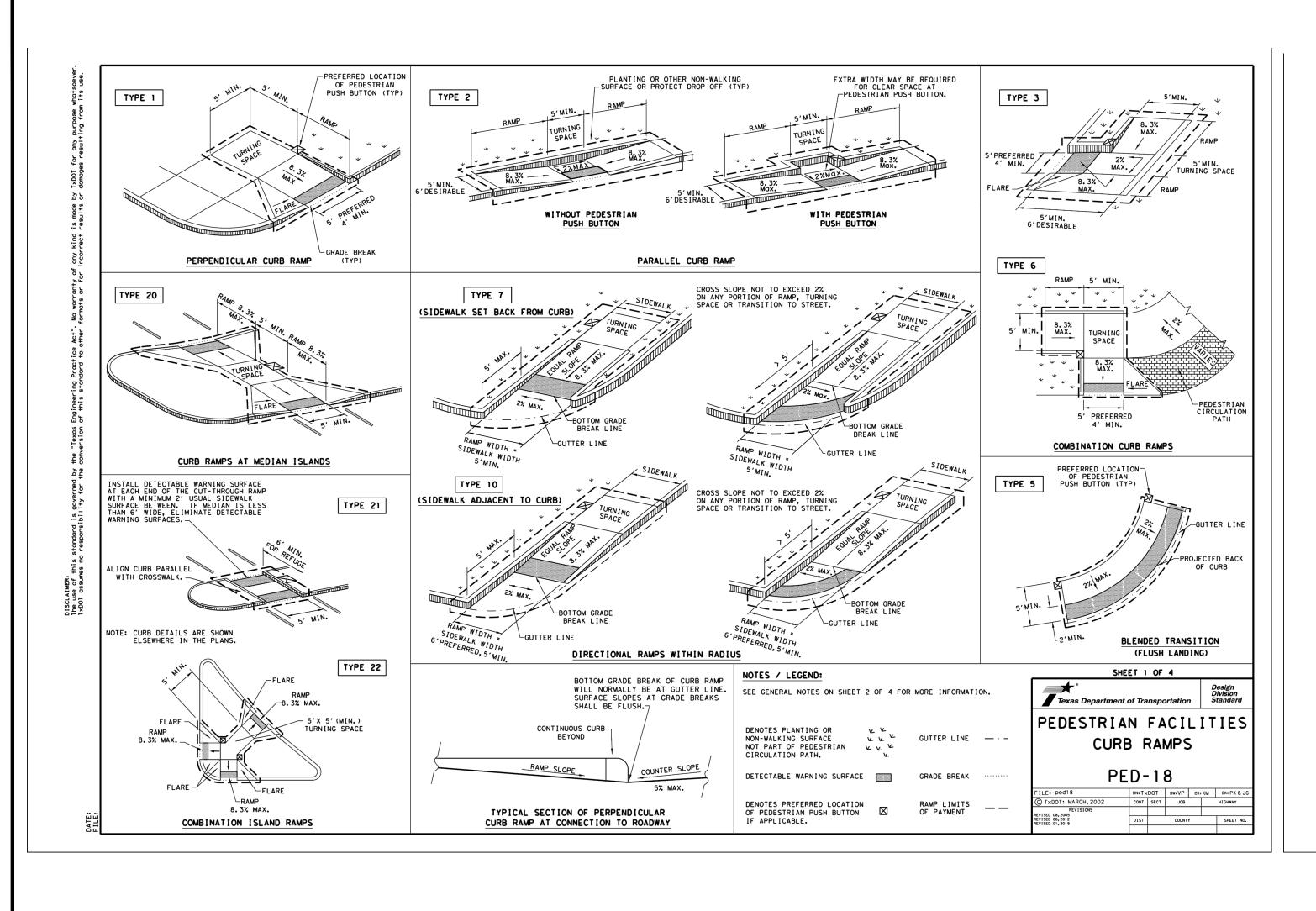
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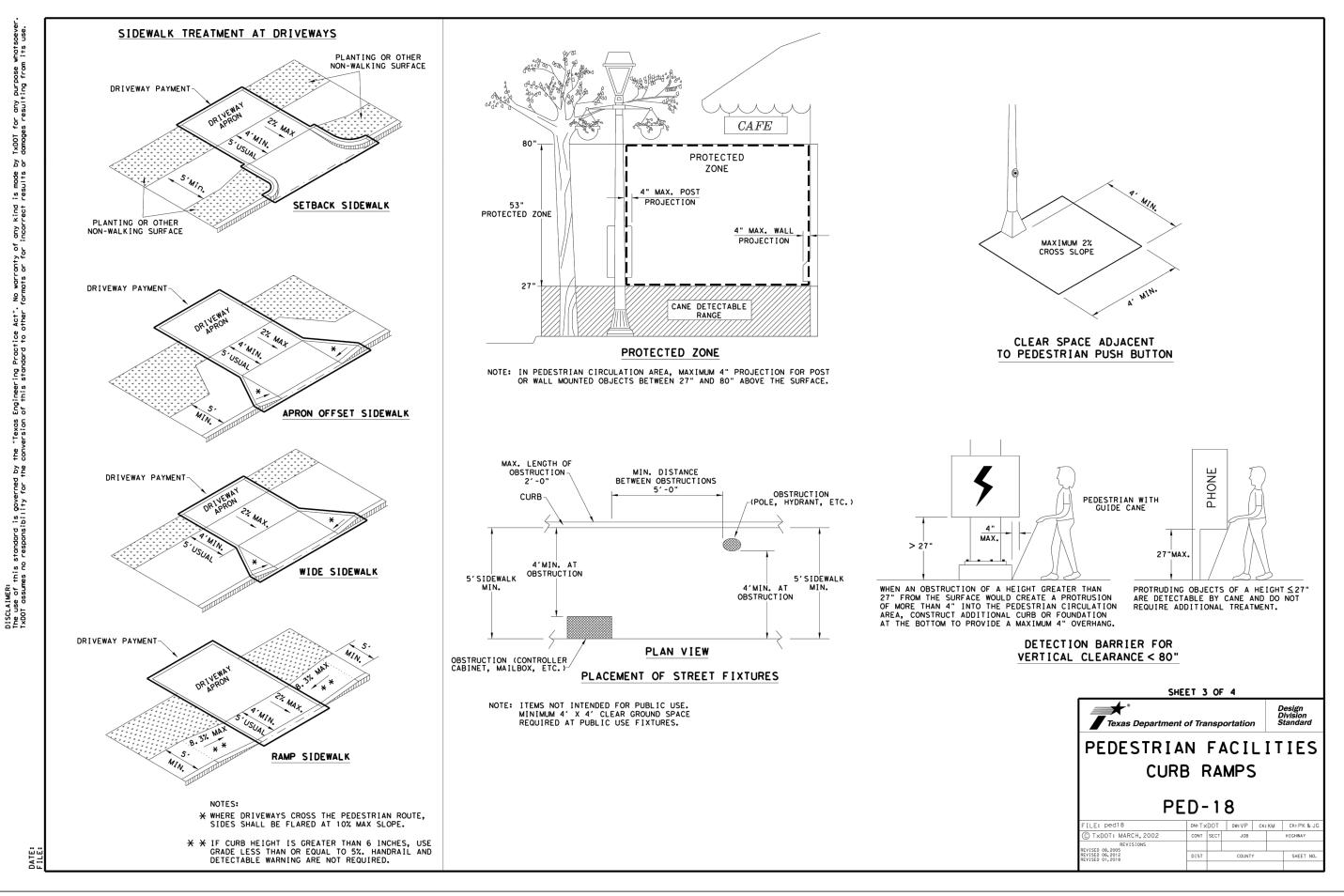
CONCRETE DRIVEWAY DETAILS

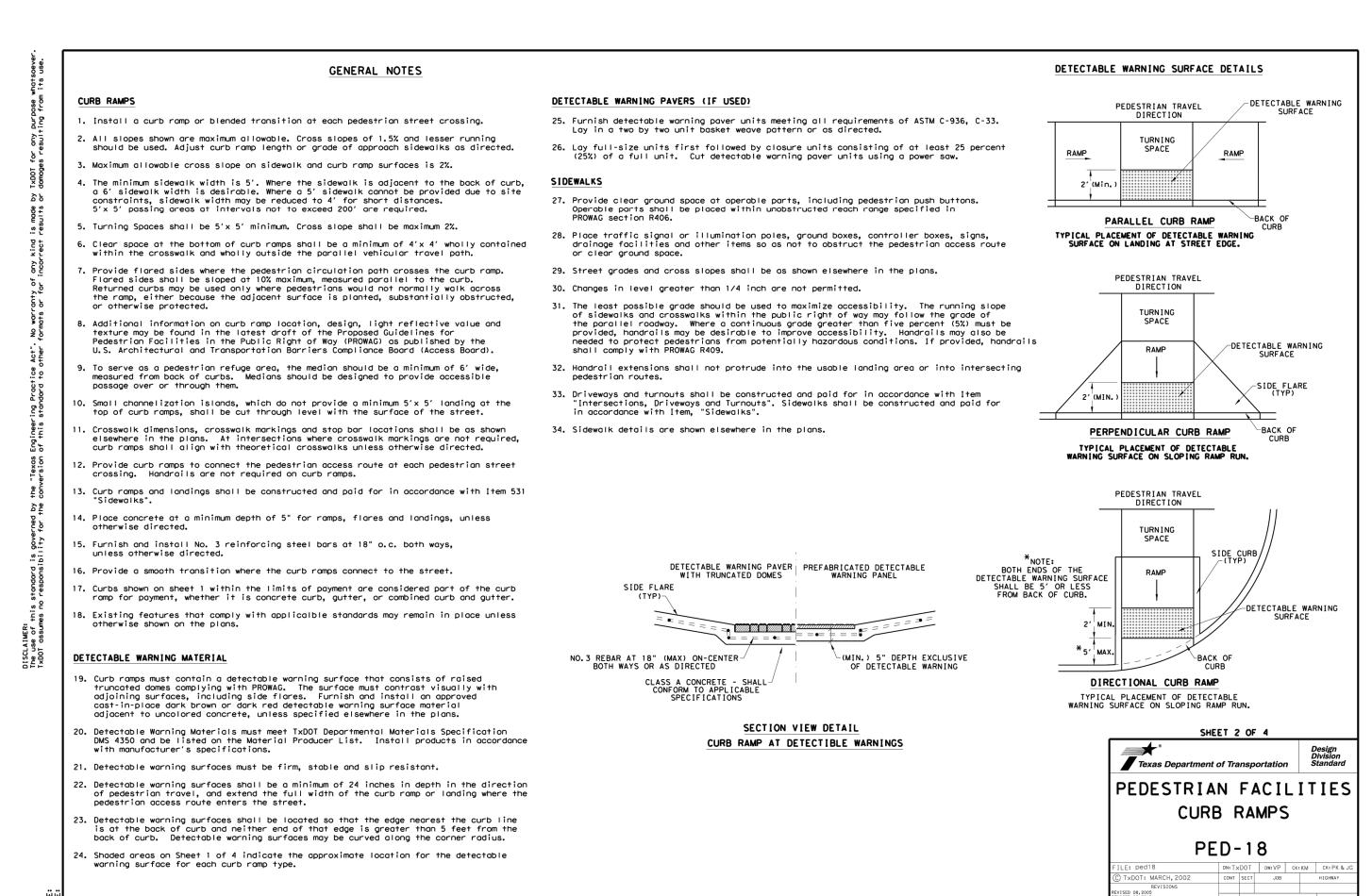


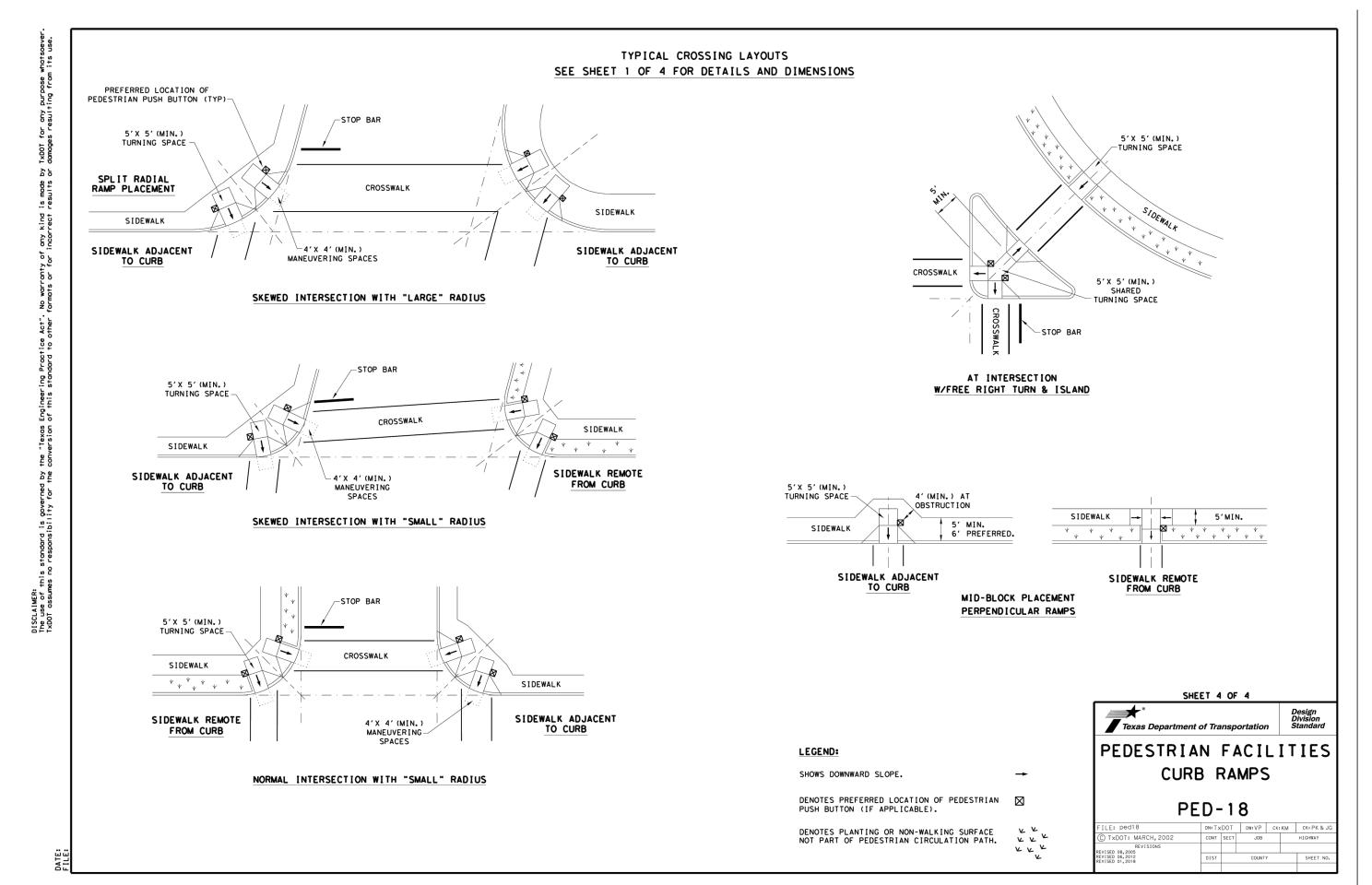
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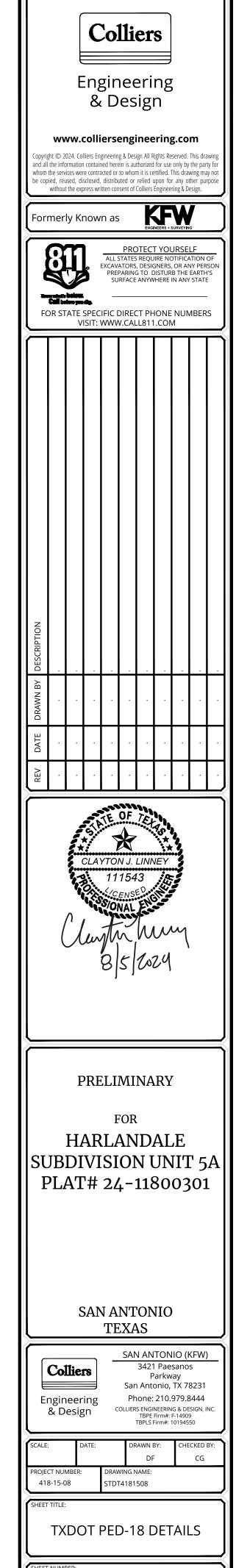
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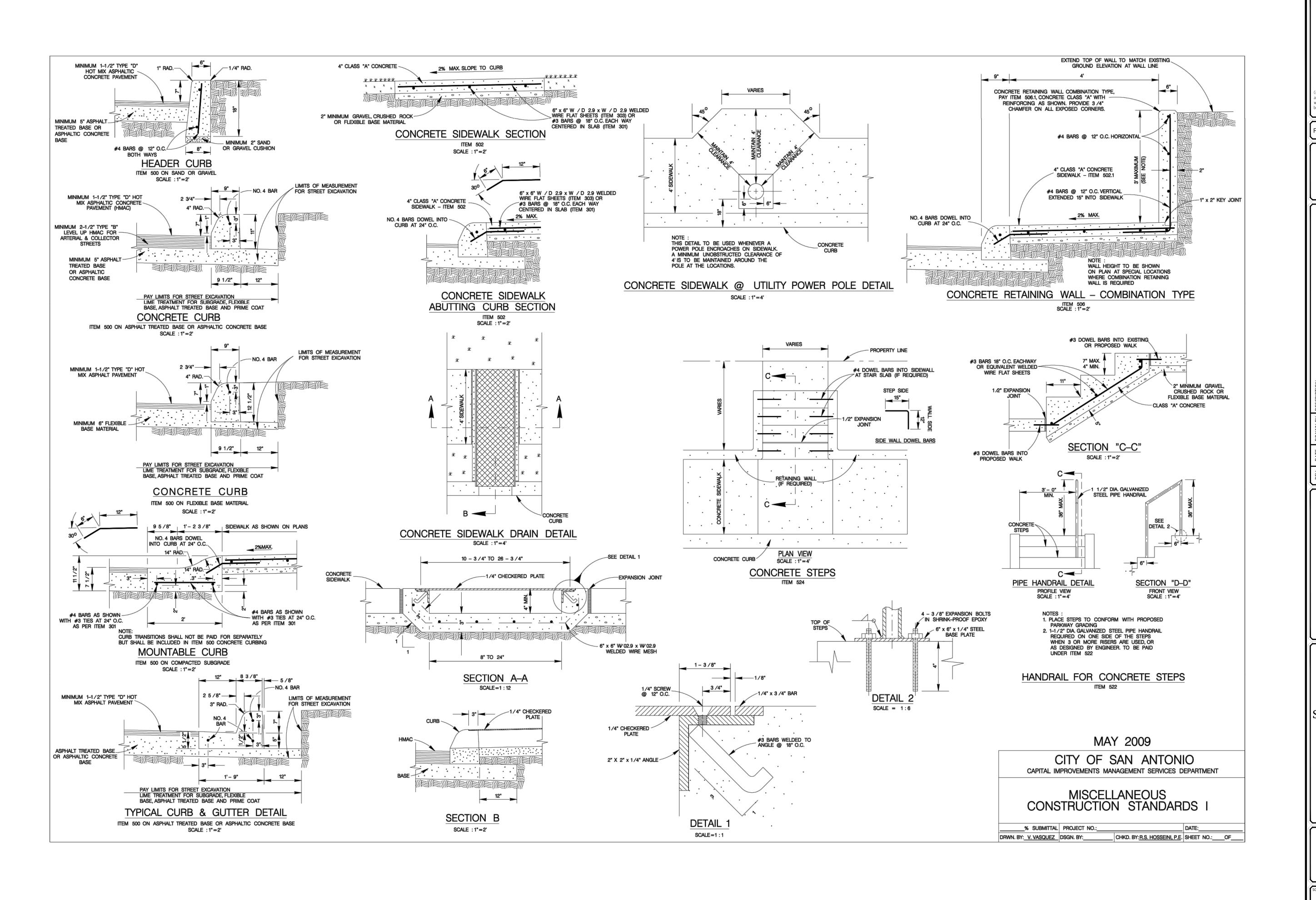


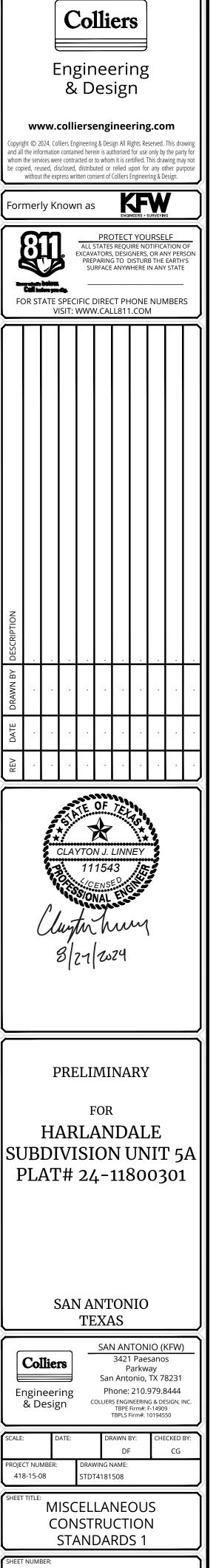










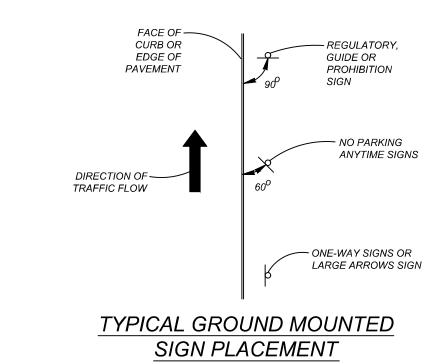


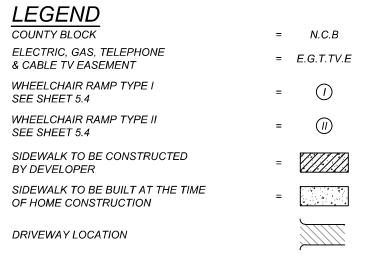
2) REGULATORY AND WARNING TRAFFIC SIGNS SHALL BE INSTALLED WITHIN AND ABUTTING THE SUBDIVISION IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)," AS REQUIRED BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT OR COUNTY'S DEPARTMENT OF PUBLIC WORKS. SUCH SIGNS SHALL BE MANUFACTURED AND INSTALLED BY THE SUBDIVIDER IN ACCORDANCE TO SPECIFICATIONS OF, AND SUBJECT TO PLAN REVIEWS AND INSPECTIONS BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT OR COUNTY'S DEPARTMENT OF PUBLIC WORKS. WARNING AND REGULATORY SIGNS SHALL NOT BE ACCEPTED BY THE CITY UNTIL THE STREET HAS BEEN ACCEPTED FOR MAINTENANCE BY THE CITY.

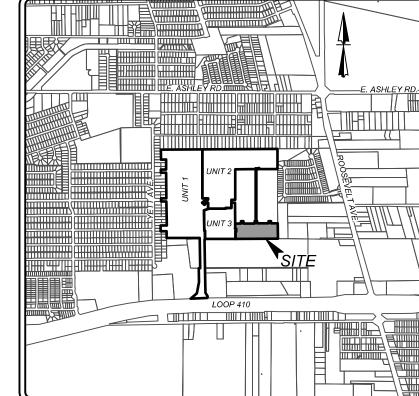
TRENCH EXCAVATION SAFETY PROTECTION

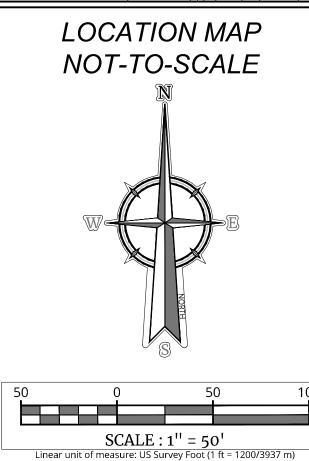
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE
OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF
ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL
INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT
WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

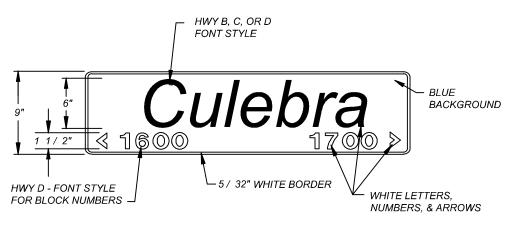
SYM	SYMBOL		
STOP	R1-1 30" X 30"	531.3	
STREET NAME	STANDARD COSA STREET NAME SIGN STD X 9"	531.57	
	TYPE II BLUE PAVEMENT MARKER	537.8	



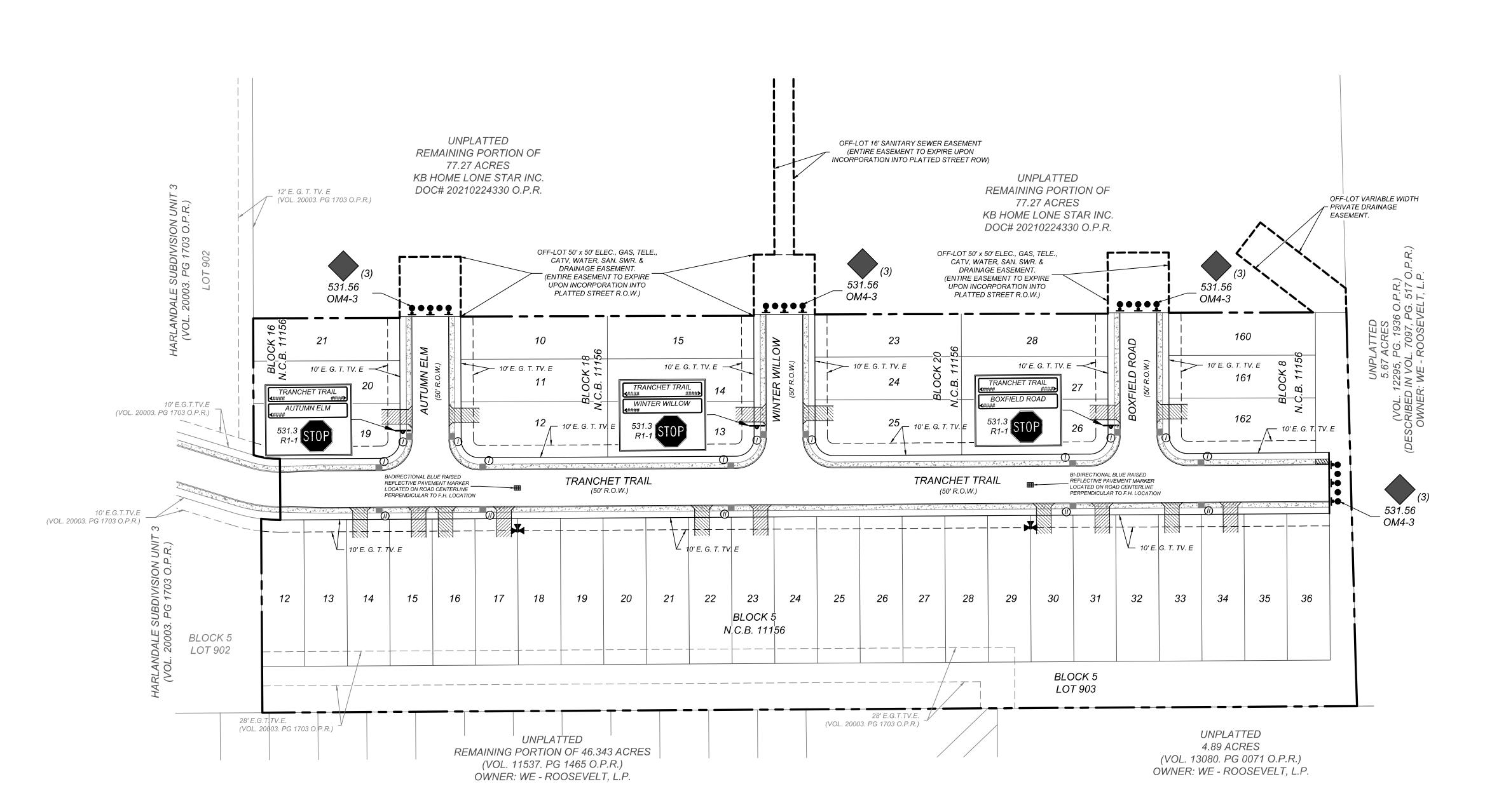


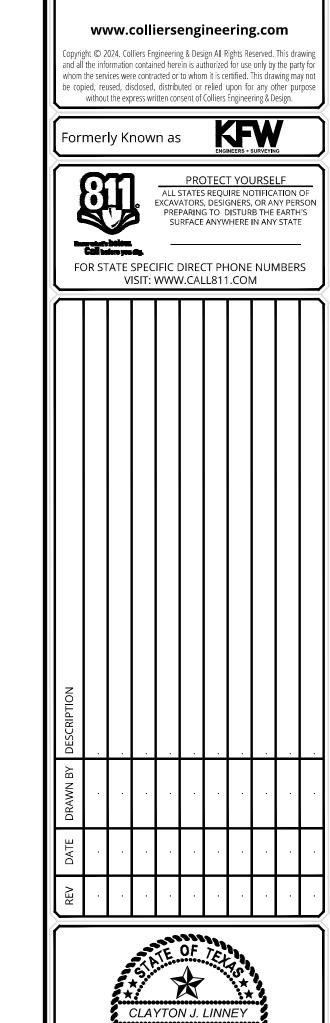






9" STREET NAME SIGN





Colliers

Engineering

& Design

Clayton Mary
8/27/2024

PRELIMINARY

FOR
HARLANDALE
SUBDIVISION UNIT 5A
PLAT# 24-11800301

SAN ANTONIO TEXAS

SAN ANTONIO (KFW)

3421 Paesanos
Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE: DATE: DRAWN BY: CHECKED BY

ALE: DATE: DRAWN BY: CHECKED BY:

DF CG

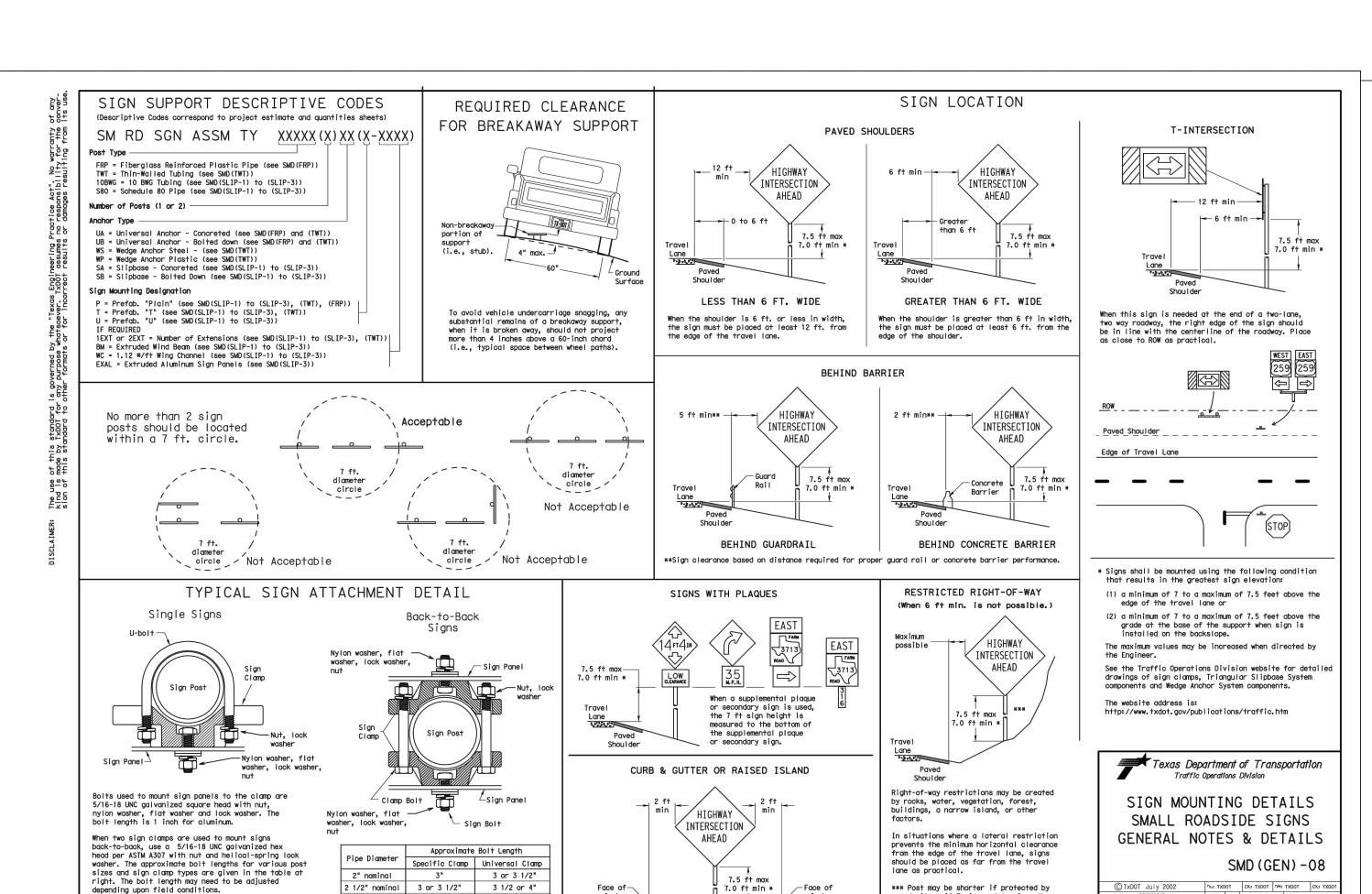
ROJECT NUMBER: DRAWING NAME:

418-15-08 TS4181508

TRAFFIC SIGNAGE &
PEDESTRIAN ACCESSIBILITY
PLAN

5.7

RESIDENTIAL LOTS = 43



7.0 ft min *

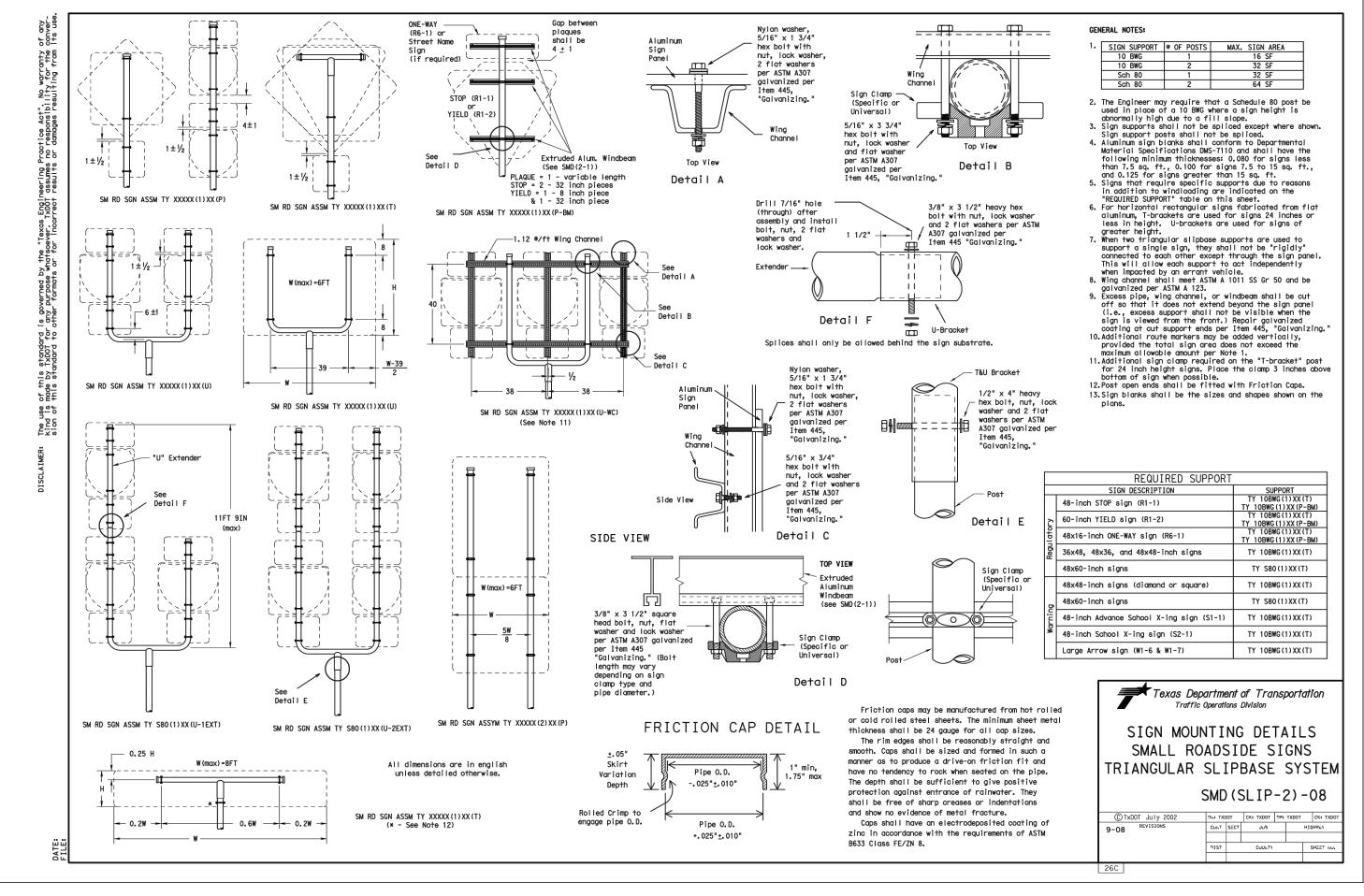
guardrail or if Engineer determines the

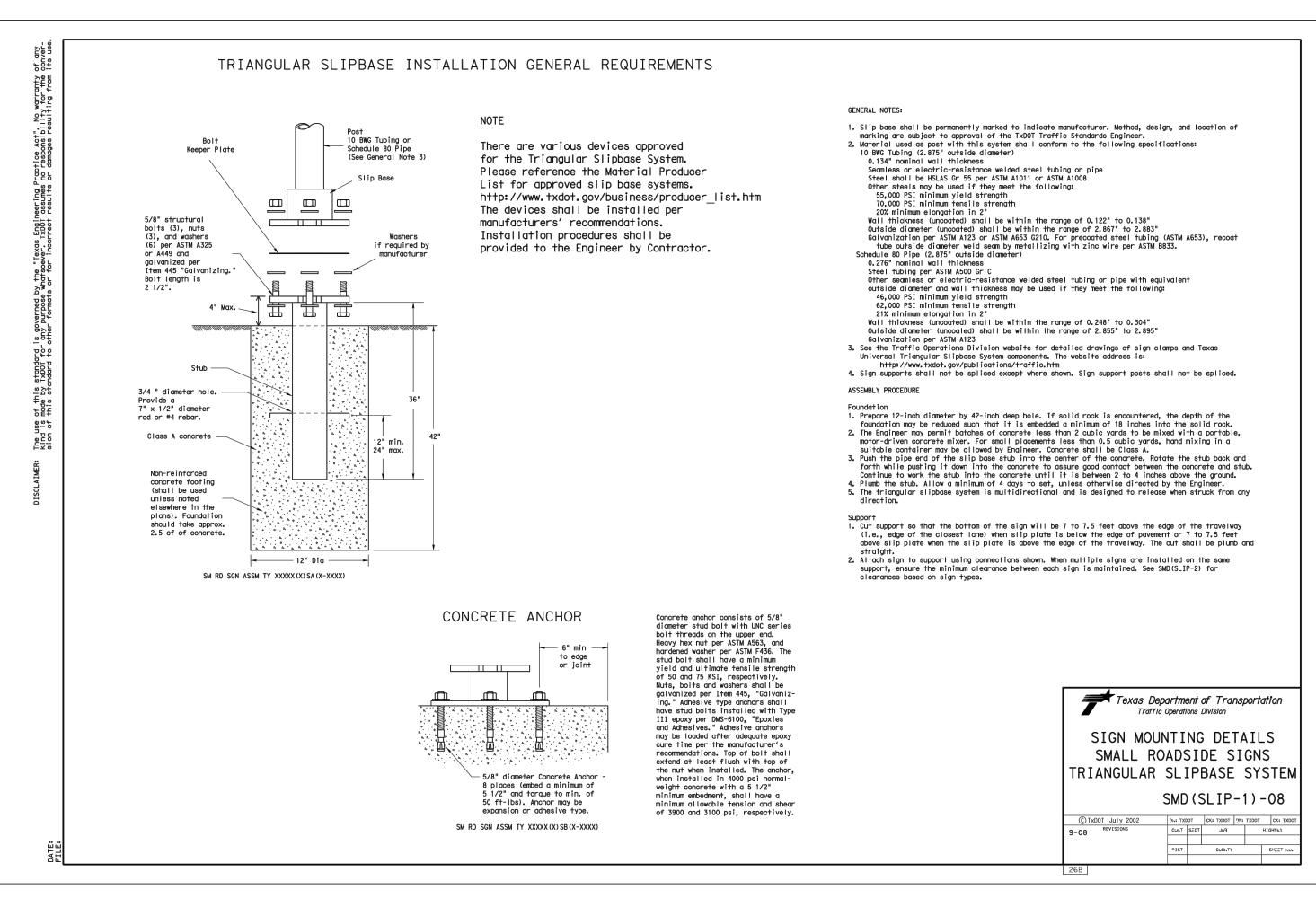
post could not be hit due to extreme

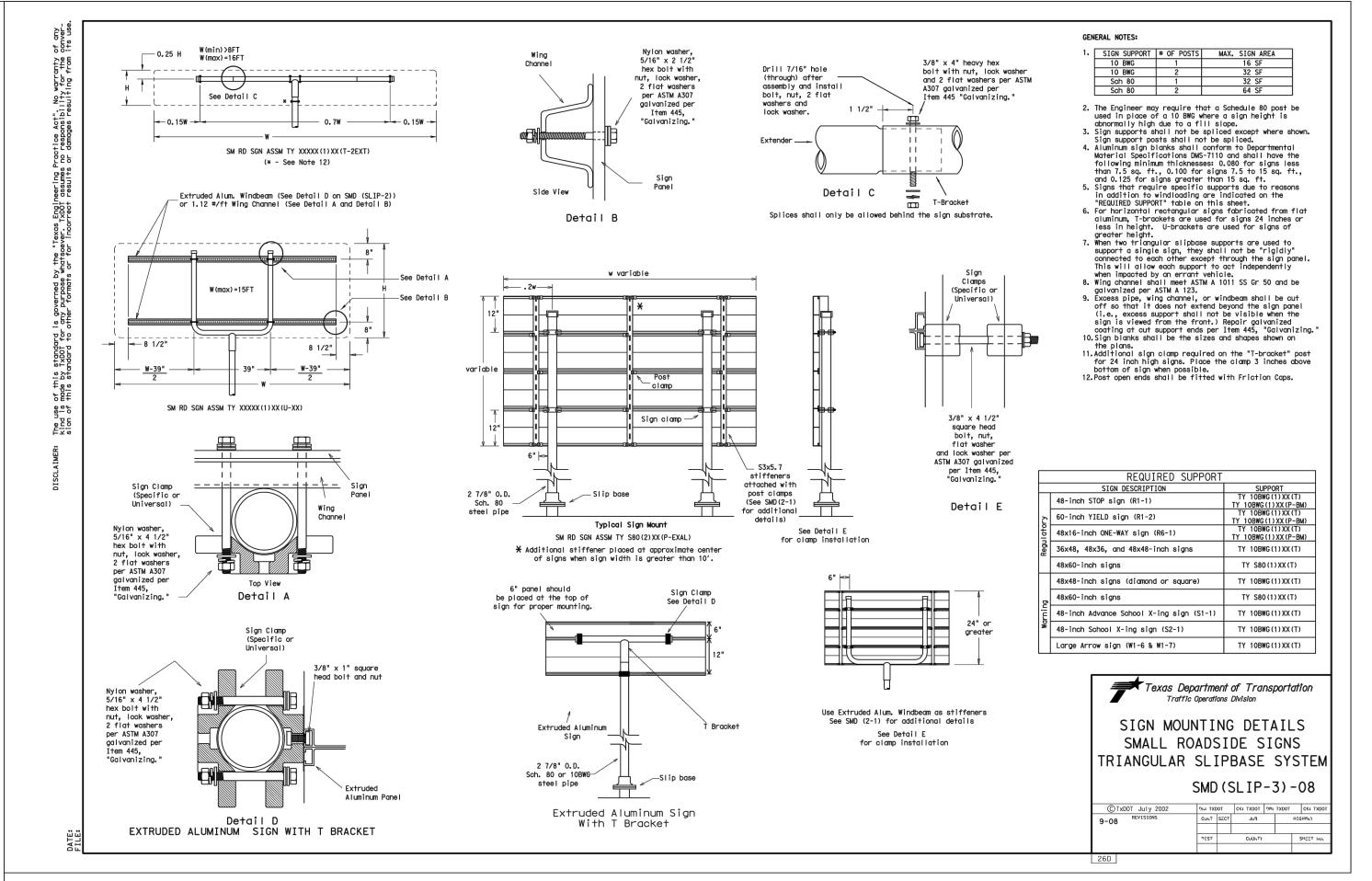
26A

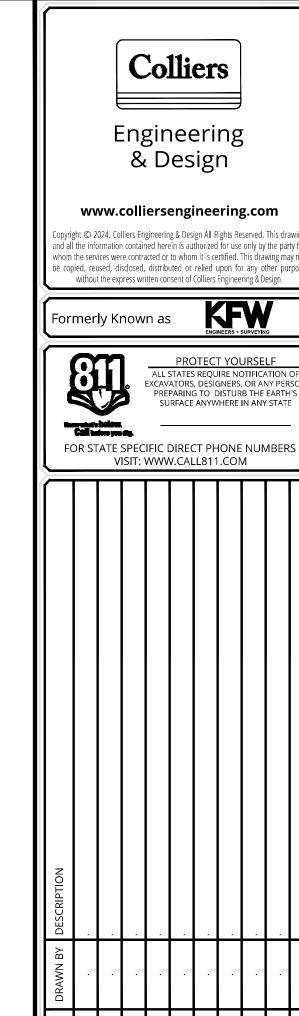
slope.

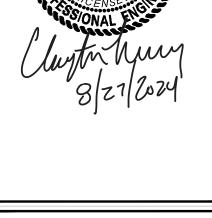
CUNT SECT JUB HIGHWAY











CLAYTON J. LINNEY

PRELIMINARY

FOR HARLANDALE **SUBDIVISION UNIT 5A** PLAT# 24-11800301

> SAN ANTONIO **TEXAS**

l			SAN ANTON	IO (KFW)
Engineering & Design		:	3421 Paesanos Parkway San Antonio, TX 78231	
		COL	Phone: 210.979.8444 COLLIERS ENGINEERING & DESIGN, INC. TBPE Firm#: F-14909 TBPLS Firm#: 10194550	
SCALE: DATE: DRAWN BY: CHECKED BY:				
SCALE.	DATE.		DF	CG CG
PROJECT NUMBE	R:	DRAWIN	NG NAME:	•

418-15-08 TSDT4181508 SIGN MOUNTING DETAILS (

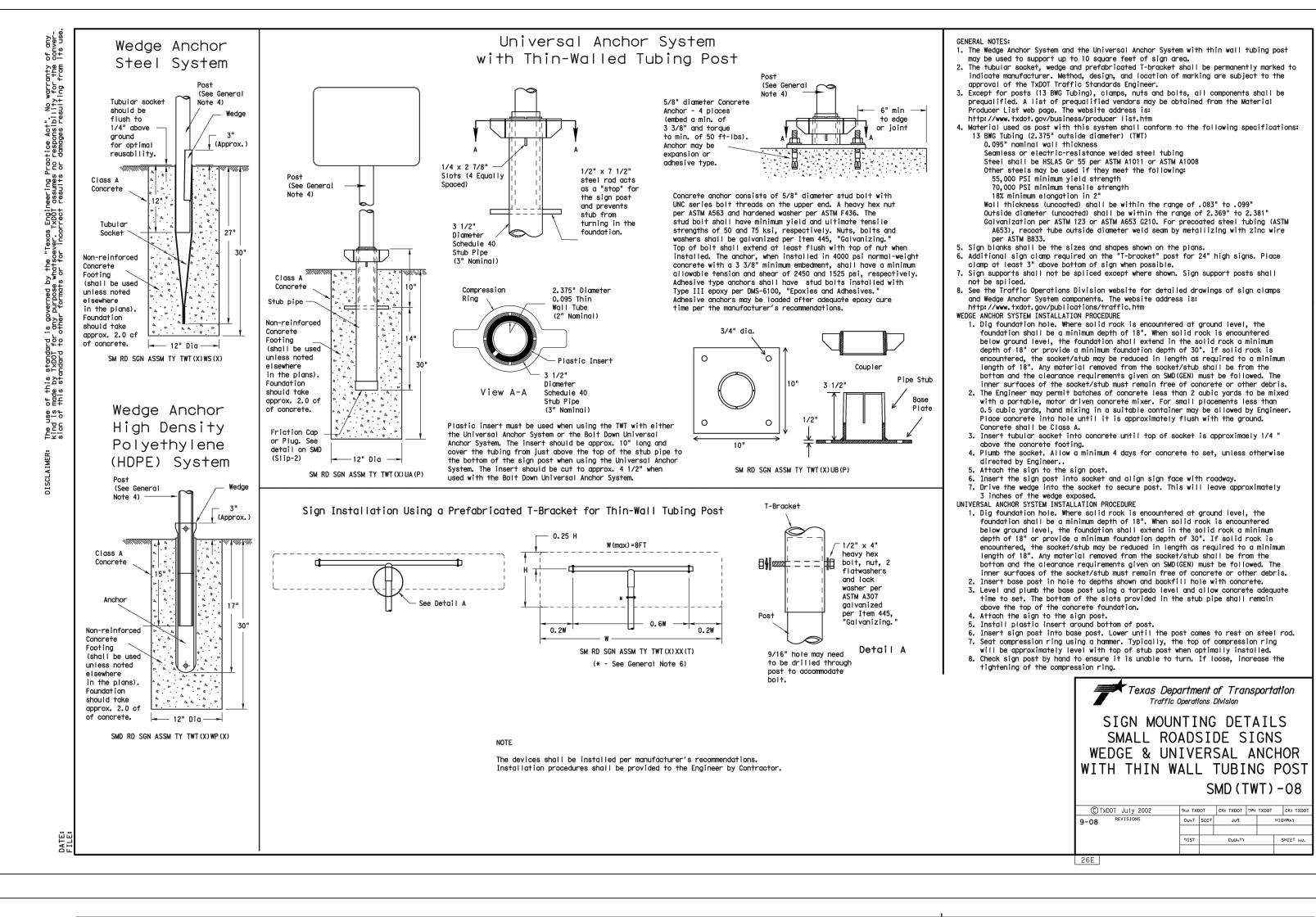
OF 2)

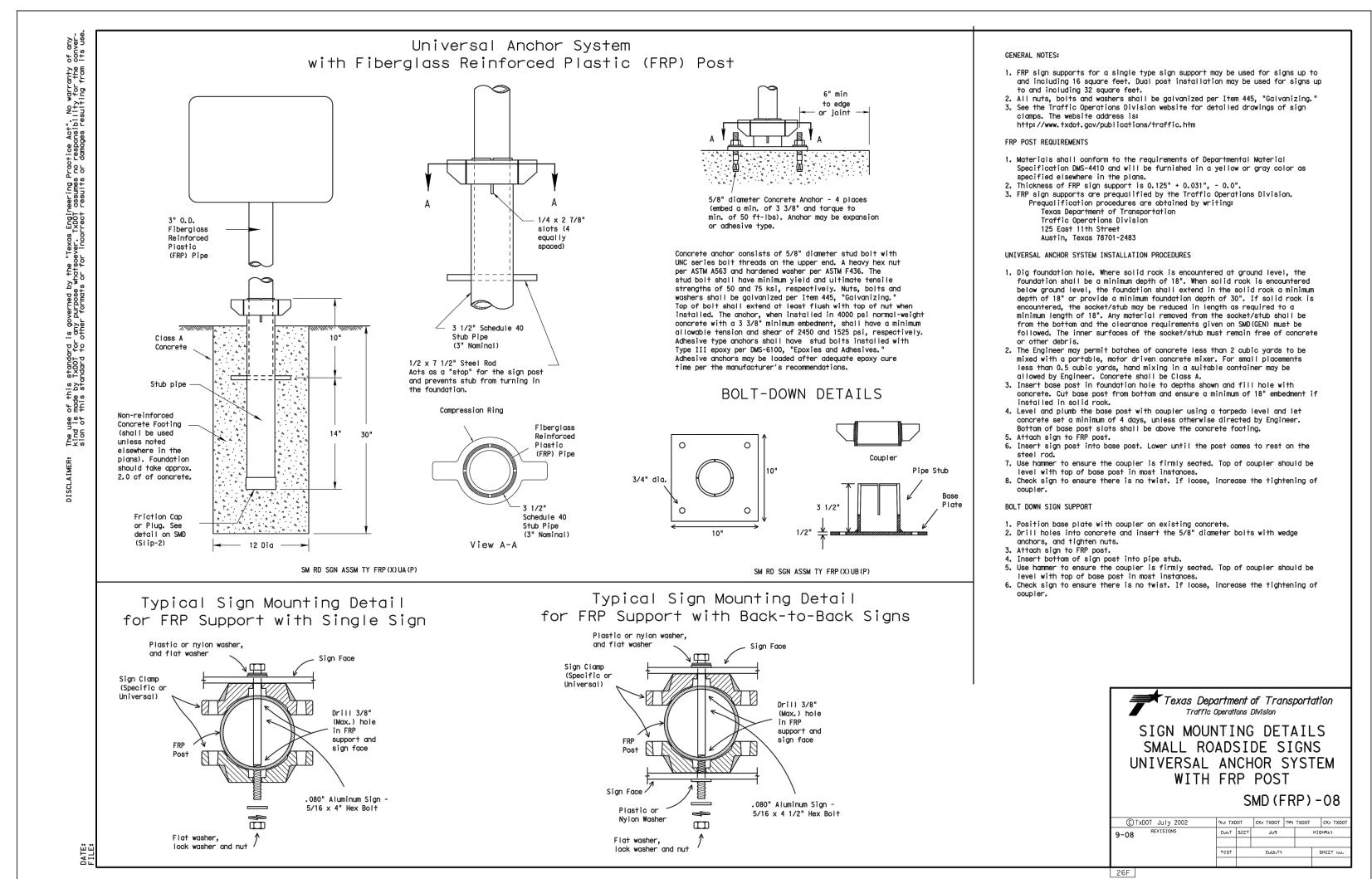
epending upon field conditions.

or the universal clamp.

Sign clamps may be either the specific size clamp

3" nominal 3 1/2 or 4"





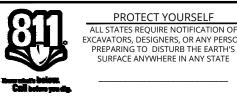


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CLAYTON J. LINNEY

PRELIMINARY

FOR

HARLANDALE

SUBDIVISION UNIT 5A

PLAT# 24-11800301

SAN ANTONIO

TEXAS

AWING NAME:

SDT4181508

SAN ANTONIO (KFW)

3421 Paesanos

San Antonio, TX 78231

Phone: 210.979.8444

TBPLS Firm#: 10194550

COLLIERS ENGINEERING & DESIGN, INC

SIGN MOUNTING DETAILS (2

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& Design

418-15-08

GENERAL INFORMATION

SAWS STANDARD GENERAL CONSTRUCTION NOTES
ASSOCIATED WITH 2021 SAWS STANDARD SPECS
Updated December 14, 2021

General Section

- 1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
- A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
 B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and
- C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
- D. Current City of San Antonio "Standard Specifications for Public Works Construction".
 E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
- 2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
- The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
- The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
- 5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
- 6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:

 SAWS Utility Locates: http://www.saws.org/Service/Locates
 - COSA Traffic Signal Operations (210) 207-3951
 Texas State Wide One Call Locator 1-800-545-6005 or 811
- The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
- All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
- 9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
- 10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
- 11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
- 12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
- 13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

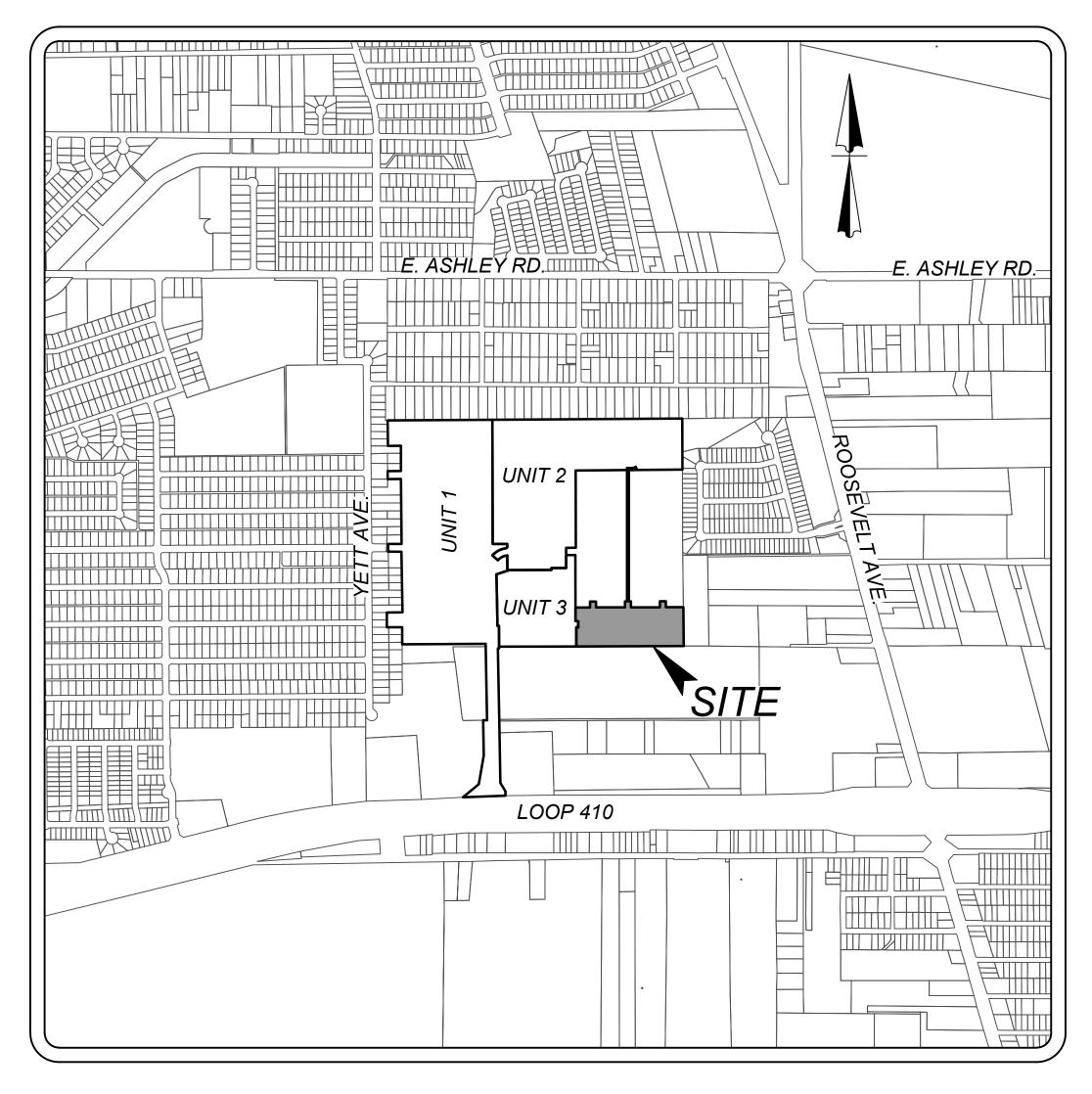
Sewer Note

- 1. The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
- A. Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and an estimated volume or flow.
 B. Attempt to eliminate the source of the SSO.
- C. Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
 D. Clean up spill site (return contained sewage to the collection system if possible) and
- Clean up spill site (return contained sewage to the collection system properly dispose of contaminated soil/materials.
- E. Clean the affected sewer mains and remove any debris.
 F. Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours. Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies. No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.
- 2. If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864,
- 3. Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
- 4. Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSPI)
- Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of
 wastewater, recycled water, petroleum products, or chemicals must be reported immediately
 to the SAWS Inspector assigned to the Counter Permit or General Construction Permit
 (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.
- Manhole and all pipe testing (including the TV inspection) must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division, as per the SAWS Specifications For Water and Sanitary Sewer Construction.
- 8. All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.

HARLANDALE SUBDIVISION UNIT 5A

SAN ANTONIO, TEXAS

SANITARY SEWER IMPROVEMENTS



LOCATION MAP NOT-TO-SCALE

OWNER INFORMATION
KB HOMES
4800 FREDERICKSBURG RD.
SAN ANTONIO, TX 78229
PHONE: (210) 301 - 5485

Sheet List Table

	Shoot Elect Table			
SHEET NUMBER	SHEET TITLE			
6.0	SANITARY SEWER COVER SHEET			
6.1	OVERALL SANITARY SEWER PLAN			
6.2	LINE "A" PLAN & PROFILE (SHEET 1 OF 2)			
6.3	LINE "A" PLAN & PROFILE (SHEET 2 OF 2)			
6.4	LINE "C" PLAN & PROFILE			
6.5	LINE "B" & LINE "D" PLAN & PROFILE			

Lower - Central Sewershed - Dos Rios/Leon Creek

TOTAL LINEAR FOOTAGE OF PIPE: 2,439

CITY: SAN ANTONIO

PHONE#: (210) 301 - 5485

NUMBER OF LOTS: 43

DEVELOPER'S NAME: KB HOME LONESTAR INC.

DEVELOPER'S ADDRESS: 4800 FREDERICKSBURG RD.

SAWS BLOCK MAP#: 162544, 162542, 162540, 164544

STATE: TEXAS

SAWS JOB#: 24-XXXX

ZIP: 78229

PLAT NO.: 24-11800301

TOTAL ACREAGE: 7.29 AC.

TOTAL EDU'S: 43

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

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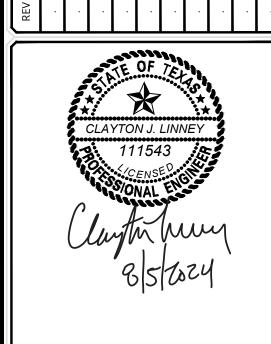
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PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE



PRELIMINARY

FOR
HARLANDALE
SUBDIVISION UNIT 5A
PLAT# 24-11800301

SAN ANTONIO TEXAS

> SAN ANTONIO (KFW) 3421 Paesanos

Colliers

San Antonio, TX 78231

Engineering & Design

Phone: 210.979.8444

COLLIERS ENGINEERING & DESIGN, II
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE: DATE: DRAWIN BY: CHECKED II
DF CG

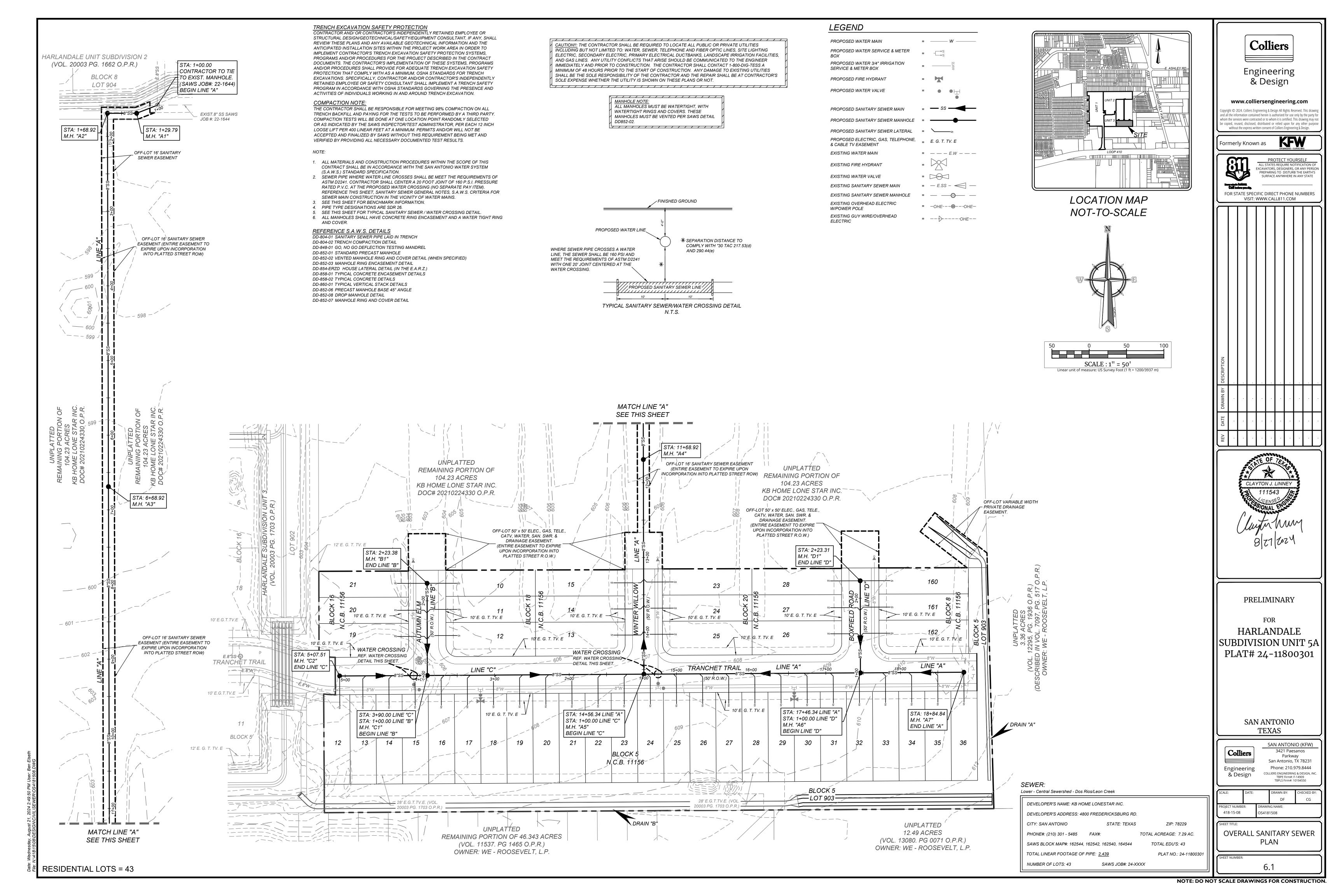
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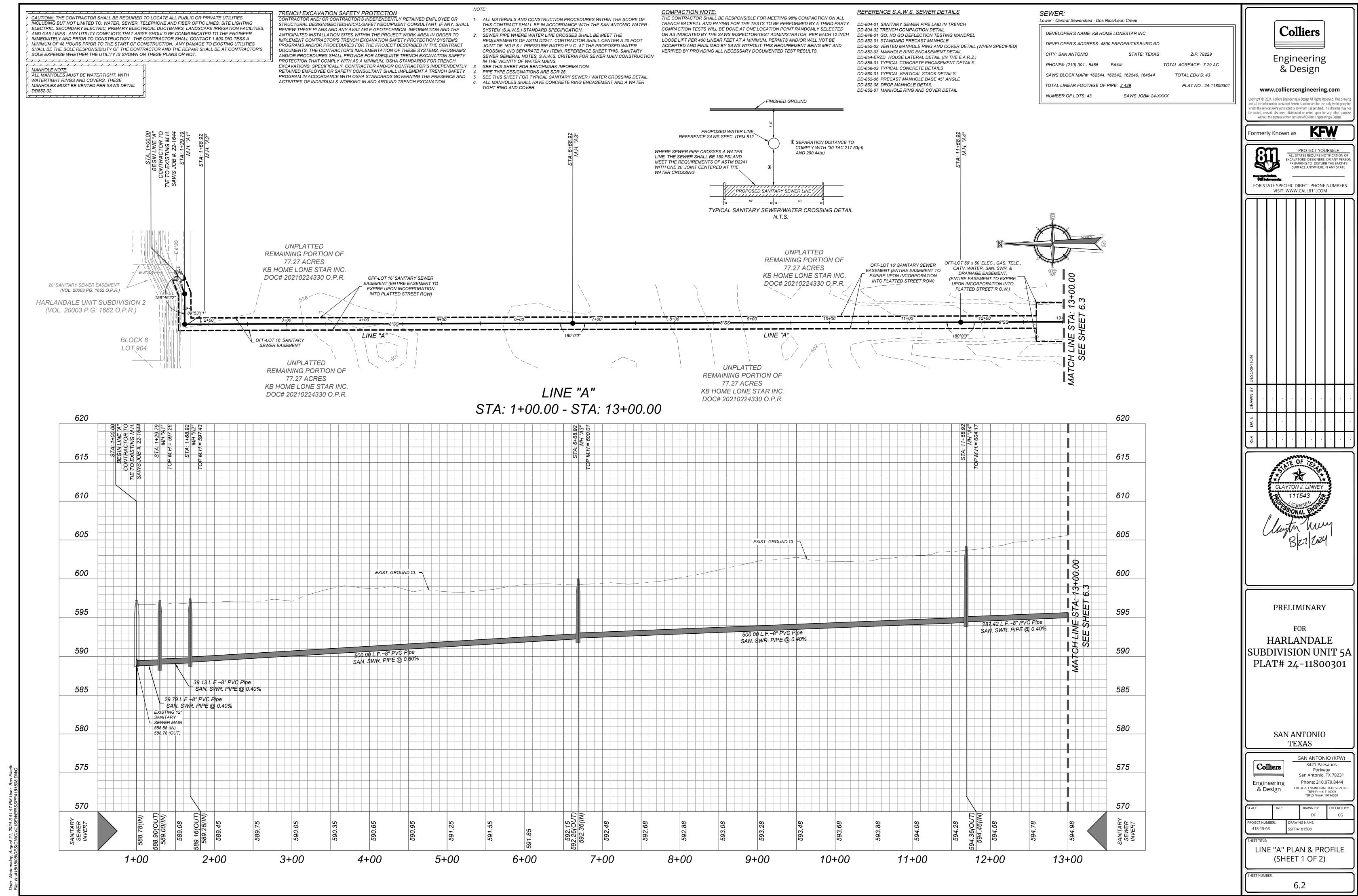
COJECT NUMBER: DRAWING NAME: CVS4181508

HEET TITLE:

SANITARY SEWER COVER

SHEET NUMBER:





NOTE: CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

<u>TRENCH EXCAVATION SAFETY PROTECTION</u> CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY

PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

REFERENCE S.A.W.S. SEWER DETAILS

DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH

DD-804-02 TRENCH COMPACTION DETAIL

DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL DD-852-01 STANDARD PRECAST MANHOLE

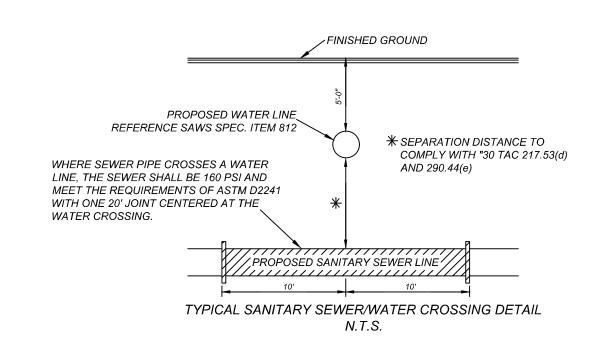
DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED) DD-852-03 MANHOLE RING ENCASEMENT DETAIL

DD-854-ERZD HOUSE LATERAL DETAIL (IN THE E.A.R.Z.) DD-858-01 TYPICAL CONCRETE ENCASEMENT DETAILS

DD-858-02 TYPICAL CONCRETE DETAILS

DD-860-01 TYPICAL VERTICAL STACK DETAILS DD-852-06 PRECAST MANHOLE BASE 45° ANGLE

DD-852-08 DROP MANHOLE DETAIL DD-852-07 MANHOLE RING AND COVER DETAIL



ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.

SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET THIS, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.

SEE THIS SHEET FOR BENCHMARK INFORMATION. PIPE TYPE DESIGNATIONS ARE SDR 26. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER

TIGHT RING AND COVER.

VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND

13+00

14+00

15+00

SEWER: Lower - Central Sewershed - Dos Rios/Leon Creek DEVELOPER'S NAME: KB HOME LONESTAR INC. DEVELOPER'S ADDRESS: 4800 FREDERICKSBURG RD. CITY: SAN ANTONIO STATE: TEXAS ZIP: 78229

18+86

18+00

PHONE#: (210) 301 - 5485 FAX#: TOTAL ACREAGE: 7.29 AC. SAWS BLOCK MAP#: 162544, 162542, 162540, 164544 TOTAL EDU'S: 43 TOTAL LINEAR FOOTAGE OF PIPE: 2,439 PLAT NO.: 24-11800301 SAWS JOB#: 24-XXXX NUMBER OF LOTS: 43

UNPLATTED UNPLATTED REMAINING PORTION OF REMAINING PORTION OF 77.27 ACRES 77.27 ACRES KB HOME LONE STAR INC. KB HOME LONE STAR INC. MATCH LİNE STA: 13+00.00 DOC# 20210224330 O.P.R. DOC# 20210224330 O.P.R. SEE SHEET 6.3 STA:13+33 STA:13+34 40 L.F. OF 23 15 40 L.F. OF 6" LAT /6" LAT STA:13+68 STA:14+03 STA:14+04 ∘ 40 L.F. OF 25 √40 L.F. OF 6" LAT — 10' E. G. T. TV. E _WATER CROSSING STA: 14+73.01 10' E. G. T. TV. E REF. WATER CROSSING —DETAIL THIS SHEET. = 608 -89°48'17" LINE "A" 15+00 TRANCHET TRAIL 16+00 STA:18+15 40 L.F. OF 6" LAT STA:18 40 L.F. 6" LAT (° 10' E. G. T. TV. E 7+45 OF_C 우 양 23 DRAIN "A" [/] 25 29 26 355 BLOCK 5, N.C.B. 11156

LINE "A" STA: 13+00.00 - END 620 M.H. 615 615 PROPOSED FINISHED GRADE FINISHED GRADE 610 610 STA: 14+73.01 EXIST. GROUND CL EXIST. GROUND CL 605 605 LOT 36 BLOCK 5 6" LAT ELEV = 603.58 LOT 32 BLOCK 5 6" LAT ELEV = 598.61 600 600 LINE "C" 596.05 (IN) 595 595 SAN. SWR. PIPE @ 0 40% 20 L.F. ~ 160 PSI SAN. SWR. PIPE @ 0 40% PRESSURE RATED PVC SDR 26 D-2241 SEE TYPICAL SANITARY SEWER/WATER CROSSING 590 590 †DETAIL THIS SHEET 585 580 580 575 570 570 95.61(OU) 595.71(IN)

16+00

17+00



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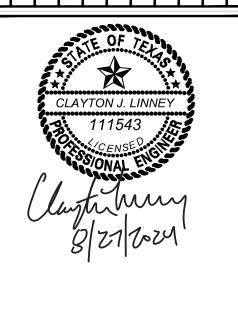
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PRELIMINARY

FOR HARLANDALE **SUBDIVISION UNIT 5A** PLAT# 24-11800301

> SAN ANTONIO TEXAS

SAN ANTONIO (KFW) 3421 Paesanos Colliers Parkway San Antonio, TX 78231 Phone: 210.979.8444 Engineering COLLIERS ENGINEERING & DESIGN, INC TBPE Firm#: F-14909 TBPLS Firm#: 10194550 & Design

418-15-08 SPP4181508

LINE "A" PLAN & PROFILE (SHEET 2 OF 2)

TRENCH EXCAVATION SAFETY PROTECTION <u>CAUTION!!:</u> THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

MANHOLE NOTE: ALL MANHOLES MUST BE WATERTIGHT. WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL

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

ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION. 2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER

CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET THIS, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS. SEE THIS SHEET FOR BENCHMARK INFORMATION. 4. PIPE TYPE DESIGNATIONS ARE SDR 26. 5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER

TIGHT RING AND COVER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. DD-804-01 SANITARY SEWER PIPE LAID IN TRENCH COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

REFERENCE S.A.W.S. SEWER DETAILS

DD-804-02 TRENCH COMPACTION DETAIL DD-852-01 STANDARD PRECAST MANHOLE

DD-852-02 VENTED MANHOLE RING AND COVER DETAIL (WHEN SPECIFIED) DD-852-03 MANHOLE RING ENCASEMENT DETAIL DD-854-ERZD HOUSE LATERAL DETAIL (IN THE E.A.R.Z.) DD-858-01 TYPICAL CONCRETE ENCASEMENT DETAILS DD-858-02 TYPICAL CONCRETE DETAILS DD-860-01 TYPICAL VERTICAL STACK DETAILS DD-852-06 PRECAST MANHOLE BASE 45° ANGLE DD-852-08 DROP MANHOLE DETAIL

DD-852-07 MANHOLE RING AND COVER DETAIL

SEWER:

Lower - Central Sewershed - Dos Rios/Leon Creek DEVELOPER'S NAME: KB HOME LONESTAR INC. DEVELOPER'S ADDRESS: 4800 FREDERICKSBURG RD. CITY: SAN ANTONIO STATE: TEXAS

PHONE#: (210) 301 - 5485 FAX#: SAWS BLOCK MAP#: 162544, 162542, 162540, 164544 TOTAL EDU'S: 43 TOTAL LINEAR FOOTAGE OF PIPE: 2,439 NUMBER OF LOTS: 43 SAWS JOB#: 24-XXXX

Colliers ZIP: 78229 Engineering TOTAL ACREAGE: 7.29 AC. & Design PLAT NO.: 24-11800301 www.colliersengineering.com pyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawi

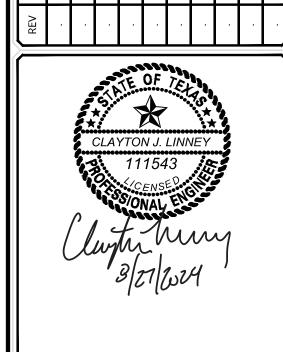
without the express written consent of Colliers Engineering & Design.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

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whom the services were contracted or to whom it is certified. This drawing may pe copied, reused, disclosed, distributed or relied upon for any other purp Formerly Known as



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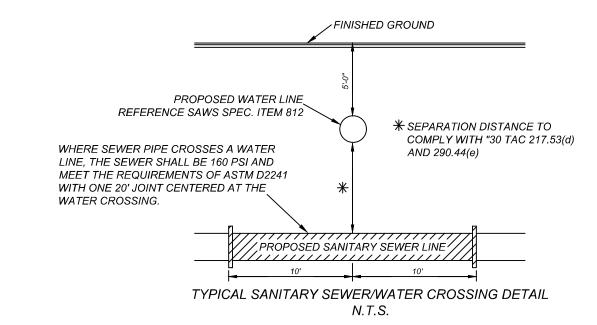
FOR HARLANDALE SUBDIVISION UNIT 5A PLAT# 24-11800301

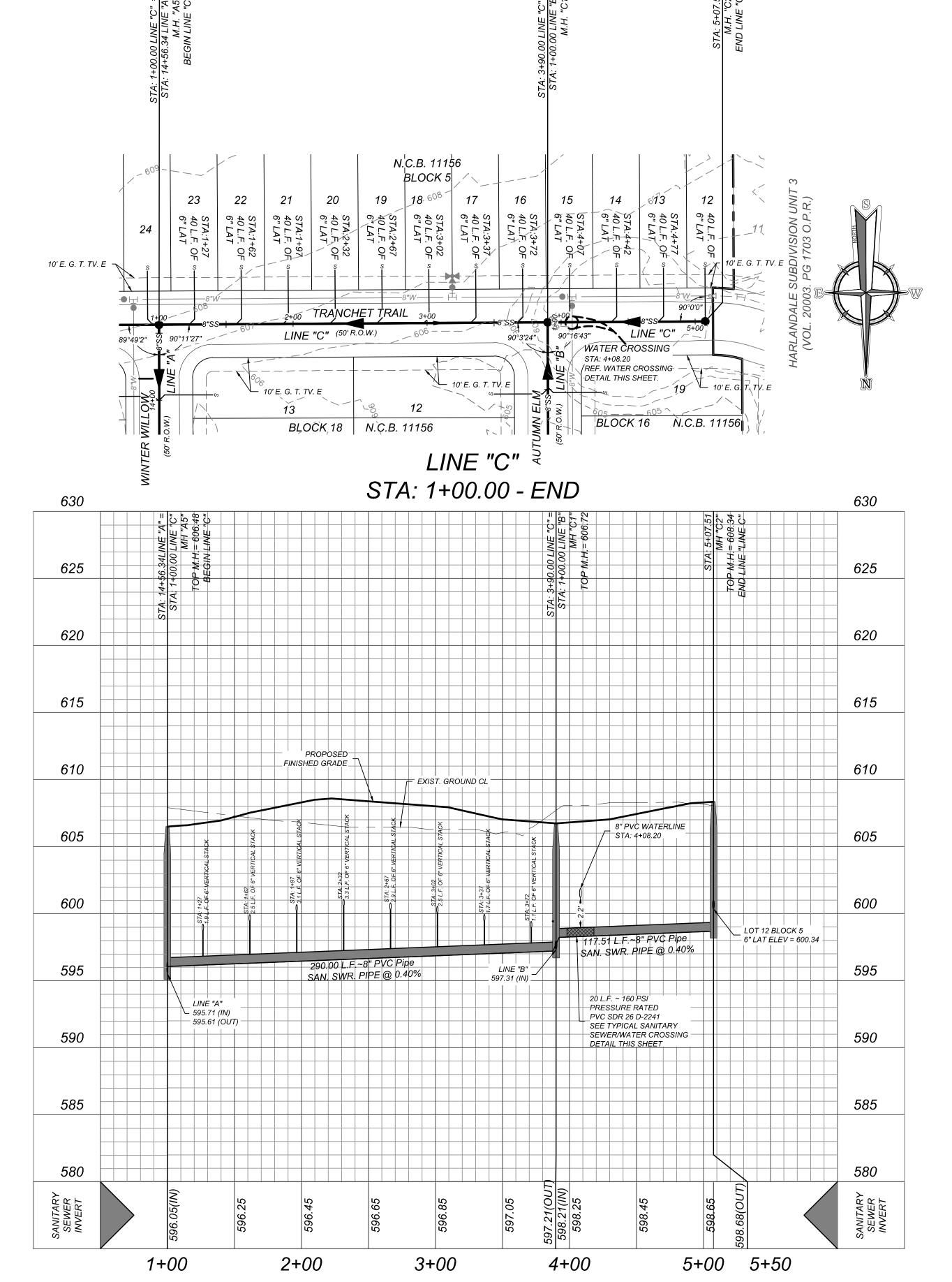
> SAN ANTONIO TEXAS

SAN ANTONIO (KFW) 3421 Paesanos Colliers San Antonio, TX 78231 Phone: 210.979.8444 Engineering COLLIERS ENGINEERING & DESIGN, INC. TBPE Firm#: F-14909 TBPLS Firm#: 10194550 & Design

418-15-08 SPP4181508

LINE "C" PLAN & PROFILE





TRENCH EXCAVATION SAFETY PROTECTION CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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DD852-02.

MANHOLES MUST BE VENTED PER SAWS DETAIL

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UNPLATTED

77.27 ACRES

OFF-LOT 50' x 50' ELEC., GAS, TELE.,

CATV, WATER, SAN. SWR. &

DRAINAGE EASEMENT.

UPON INCORPORATION INTO

PLATTED STREET R.O.W.)

. (ENTIRE EASEMENT TO EXPIRE

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DD-804-02 TRENCH COMPACTION DETAIL DD-848-01 GO, NO GO DEFLECTION TESTING MANDREL

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SEWER:

Lower - Central Sewershed - Dos Rios/Leon Creek DEVELOPER'S NAME: KB HOME LONESTAR INC.

DEVELOPER'S ADDRESS: 4800 FREDERICKSBURG RD. CITY: SAN ANTONIO ZIP: 78229 STATE: TEXAS PHONE#: (210) 301 - 5485 FAX#: TOTAL ACREAGE: 7.29 AC. SAWS BLOCK MAP#: 162544, 162542, 162540, 164544 TOTAL EDU'S: 43

TOTAL LINEAR FOOTAGE OF PIPE: 2,439 PLAT NO.: 24-11800301 NUMBER OF LOTS: 43 SAWS JOB#: 24-XXXX

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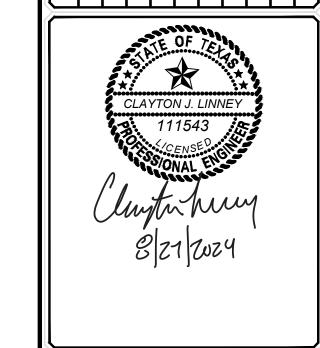
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PRELIMINARY

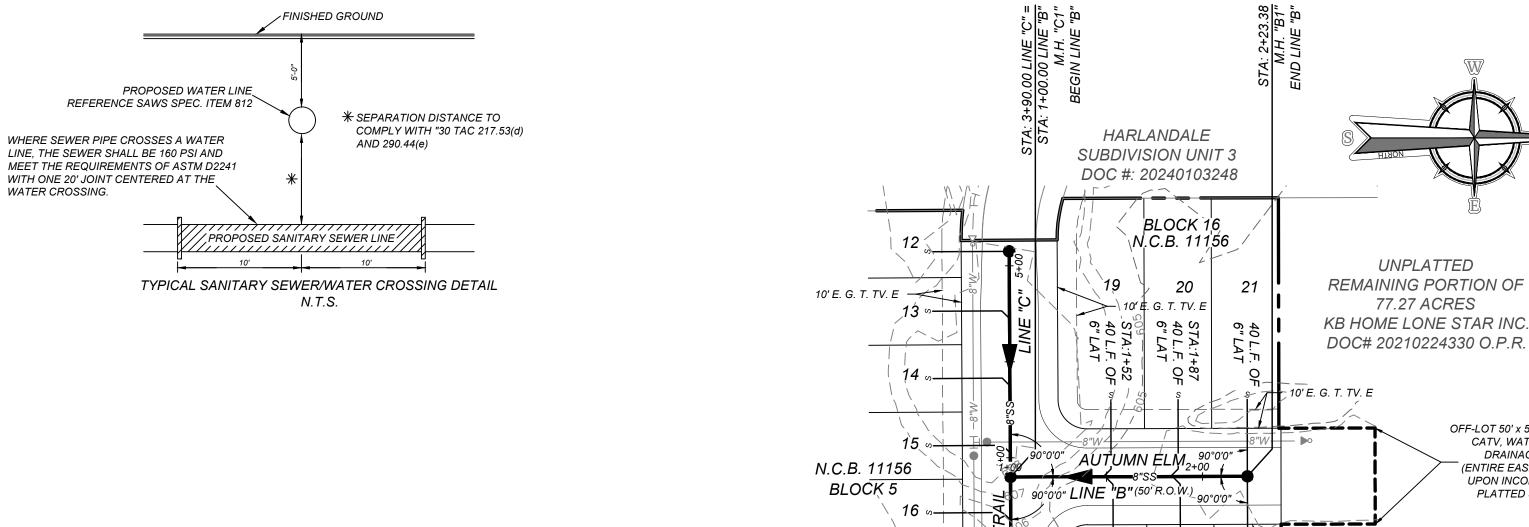
FOR HARLANDALE **SUBDIVISION UNIT 5A** PLAT# 24-11800301

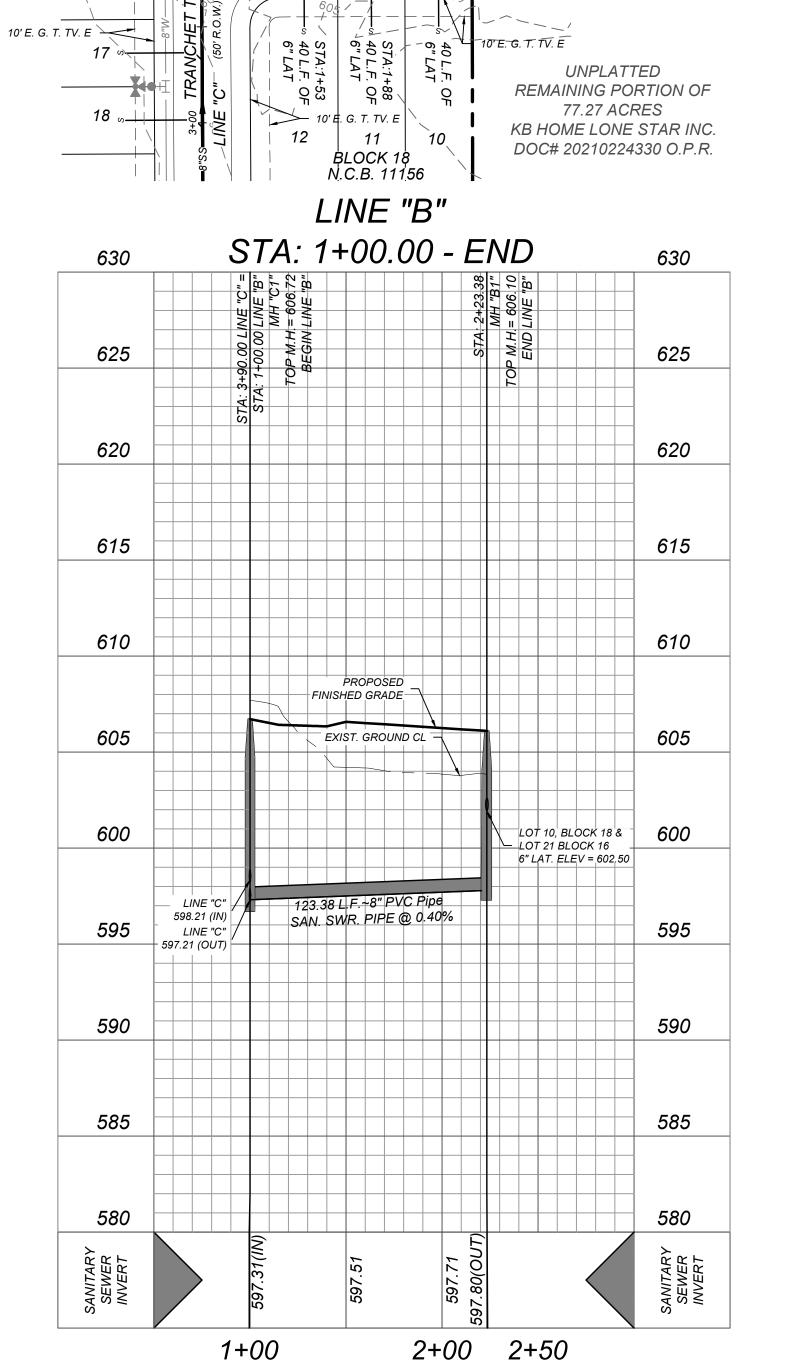
> SAN ANTONIO **TEXAS**

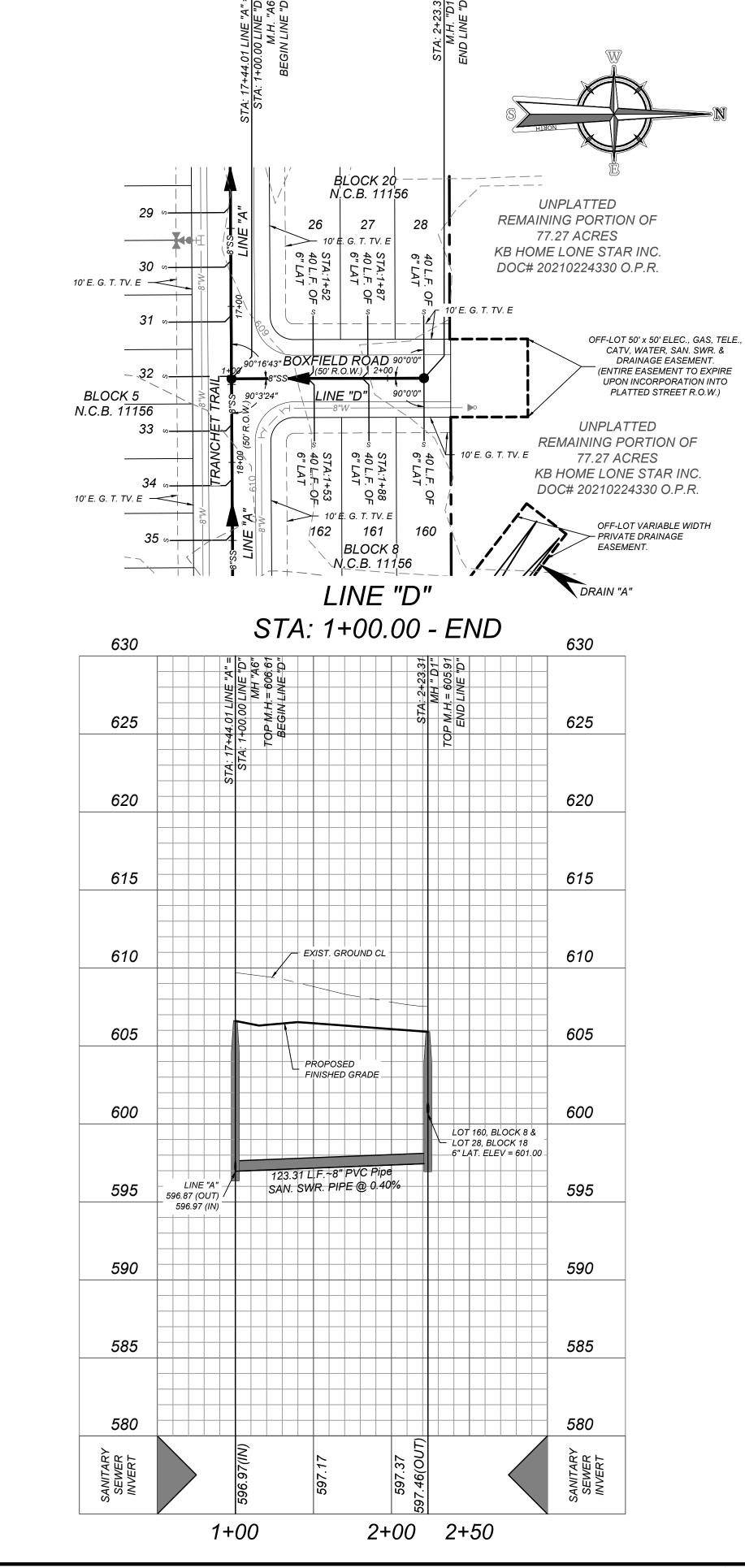
SAN ANTONIO (KFW) Colliers San Antonio, TX 78231 Phone: 210.979.8444 TBPE Firm#: F-14909 TBPLS Firm#: 10194550

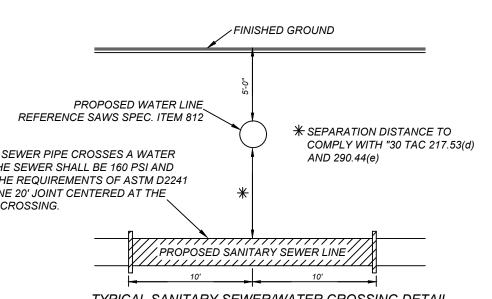
418-15-08

LINE "B" & LINE "D" PLAN & PROFILE









GENERAL INFORMATION

SAWS STANDARD GENERAL CONSTRUCTION NOTES ASSOCIATED WITH 2021 SAWS STANDARD SPECS Updated December 14, 2021

General Section

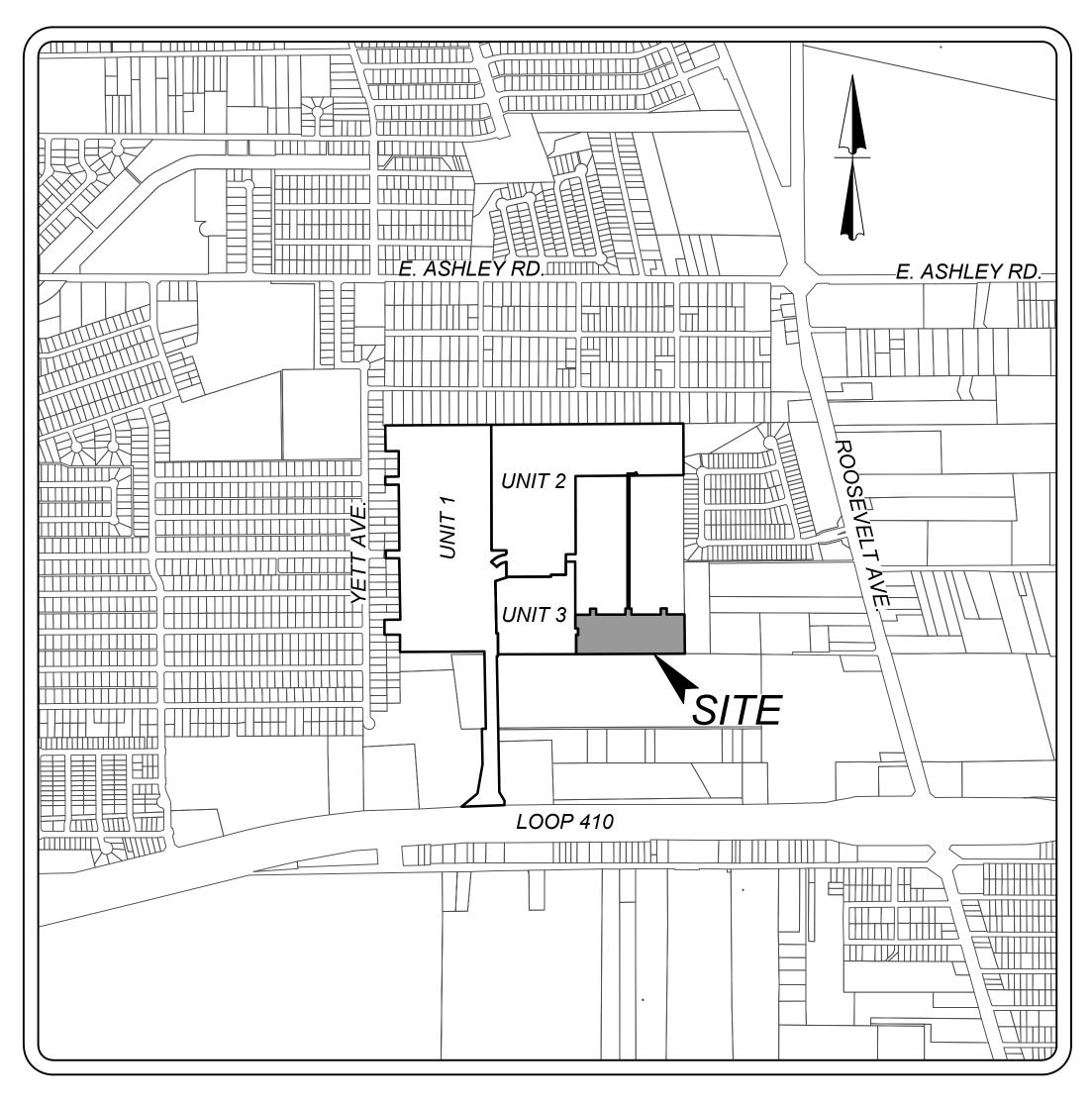
- 1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
- A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290. B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and
- C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
- D. Current City of San Antonio "Standard Specifications for Public Works Construction". E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
- 2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
- 3. The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
- 4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
- 5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
- 6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes: SAWS Utility Locates: http://www.saws.org/Service/Locates
 - COSA Drainage (210) 207-0724 or (210) 207-6026 COSA Traffic Signal Operations (210) 206-8480 COSA Traffic Signal Damages (210) 207-3951 Texas State Wide One Call Locator 1-800-545-6005 or 811
- 7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
- 8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit
- 9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
- 10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
- 11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
- 12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
- 13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

- 1. The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
- A. Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and an estimated B. Attempt to eliminate the source of the SSO.
- C. Contain sewage from the SSO to the extent of preventing a possible contamination of
- D. Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
- Clean the affected sewer mains and remove any debris
- F. Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours. Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies. No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set
- 2. If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864,
- 3. Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
- 4. Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
- 5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSPI)
- 6. Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.
- 7. Manhole and all pipe testing (including the TV inspection) must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division, as per the SAWS Specifications For Water and Sanitary Sewer Construction.
- 8. All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115

HARLANDALE SUBDIVISION UNIT 5A

SAN ANTONIO, TEXAS

WATER IMPROVEMENTS



LOCATION MAP NOT-TO-SCALE

OWNER INFORMATION KB HOMES 4800 FREDERICKSBURG RD. SAN ANTONIO, TX 78229 PHONE: (210) 301 - 5485

Sheet List Table

SHEET NUMBER SHEET TITLE WATER COVER SHEET WATER DISTRIBUTION PLAN

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HARLANDALE SUBDIVISION UNIT 5A PLAT# 24-11800301

> SAN ANTONIO TEXAS

SAN ANTONIO (KFW) 3421 Paesanos Colliers San Antonio, TX 78231 Engineering & Design

SAWS PRESSURE ZONE: 790 HGL

ZIP: 78229

TOTAL ACREAGE: 7.29 AC.

TOTAL EDU'S: 43

STATE: TEXAS

SAWS JOB#: 24-XXXX

DEVELOPER'S NAME: KB HOME LONESTAR INC.

PHONE#: (210) 301 - 5485 FAX#:

CITY: SAN ANTONIO

NUMBER OF LOTS: 43

DEVELOPER'S ADDRESS: 4800 FREDERICKSBURB RD.

SAWS BLOCK MAP#: 162544, 162542, 162540, 164544

TOTAL LINEAR FOOTAGE OF PIPE: 1,490 L.F. 8" C-900 PVC

Phone: 210.979.8444 TBPLS Firm#: 10194550

418-15-08 VOW4181508 WATER COVER SHEET

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

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JOINT RESTRAINT NOTE.

CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED. FIRE FLOW NOTE:

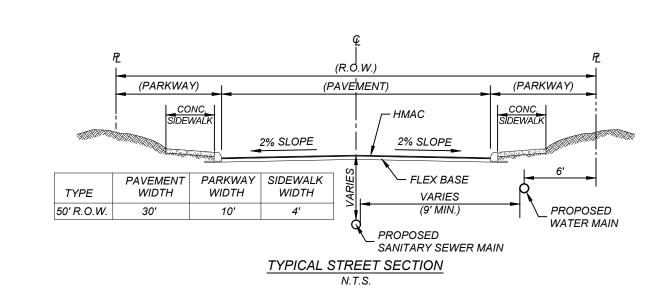
IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

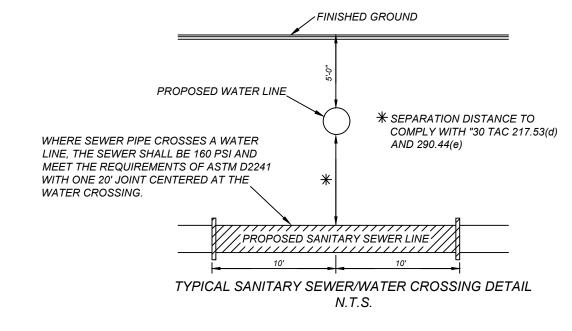
PRESSURE REDUCING VALVE (PRV) NOTE:

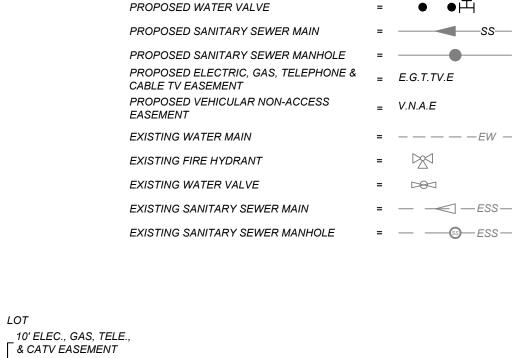
CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 985 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 985 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF *PRV IS / ARE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. WATER SERVICES WHERE PRV'S REQUIRED ARE DESIGNATED BY AN ASTERISK (*).

*NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE(PRV) WATER PLAN NOTES:

- 1. FOR TYPICAL STREET SECTIONS SEE DETAIL THIS SHEET.
- 2. WATER METER BY LOCATIONS BY LOCATIONS ARE SHOWN SYMBOLICALLY TO SERVICE THE LOTS BUT SHALL BE LOCATED IN ACCORDANCE WITH THE STANDARD S.A.W.S. WATER DETAILS
- 3. WHERE WATER SERVICES AND LIGHT POLE FOUNDATIONS ARE PROPOSED TO BE AT THE SAME LOT CORNERS, SERVICE TAPS AND LEADS SHOULD BE AT LEAST 3 FEET FROM THE LIGHT POLE FOUNDATION.
- 4. ALL VALVES SHALL READ "OPEN RIGHT"
- 5. ALL PVC PIPE TO BE C-900 CLASS 235 (DR 18.)







SIDEWALK

TYPICAL FIRE HYDRANT DETAIL

NOT-TO-SCALE

LEGEND

METER & BOX

PROPOSED WATER MAIN

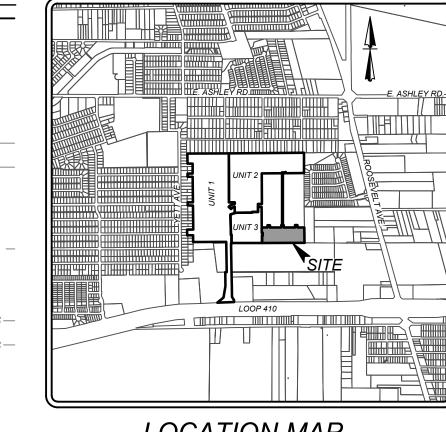
PROPOSED FIRE HYDRANT

PROPOSED 3/4" WATER SERVICE WITH 5/8"

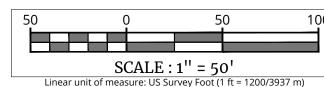
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PROPOSED WATER 3/4" IRRIGATION

SERVICE WITH 3/4" METER & BOX



LOCATION MAP NOT-TO-SCALE



SAWS PRESSURE ZONE: 790 HGL

ZIP: 78229

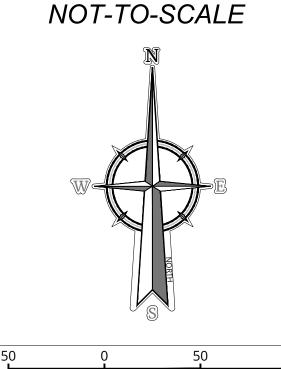
PLAT NO.: 24-11800301

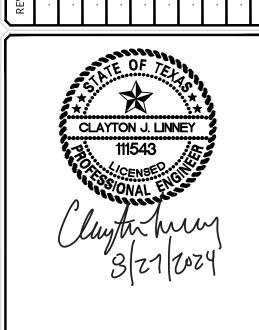
TOTAL ACREAGE: 7.29 AC.

TOTAL EDU'S: 43

STATE: TEXAS

SAWS JOB#: 24-XXXX





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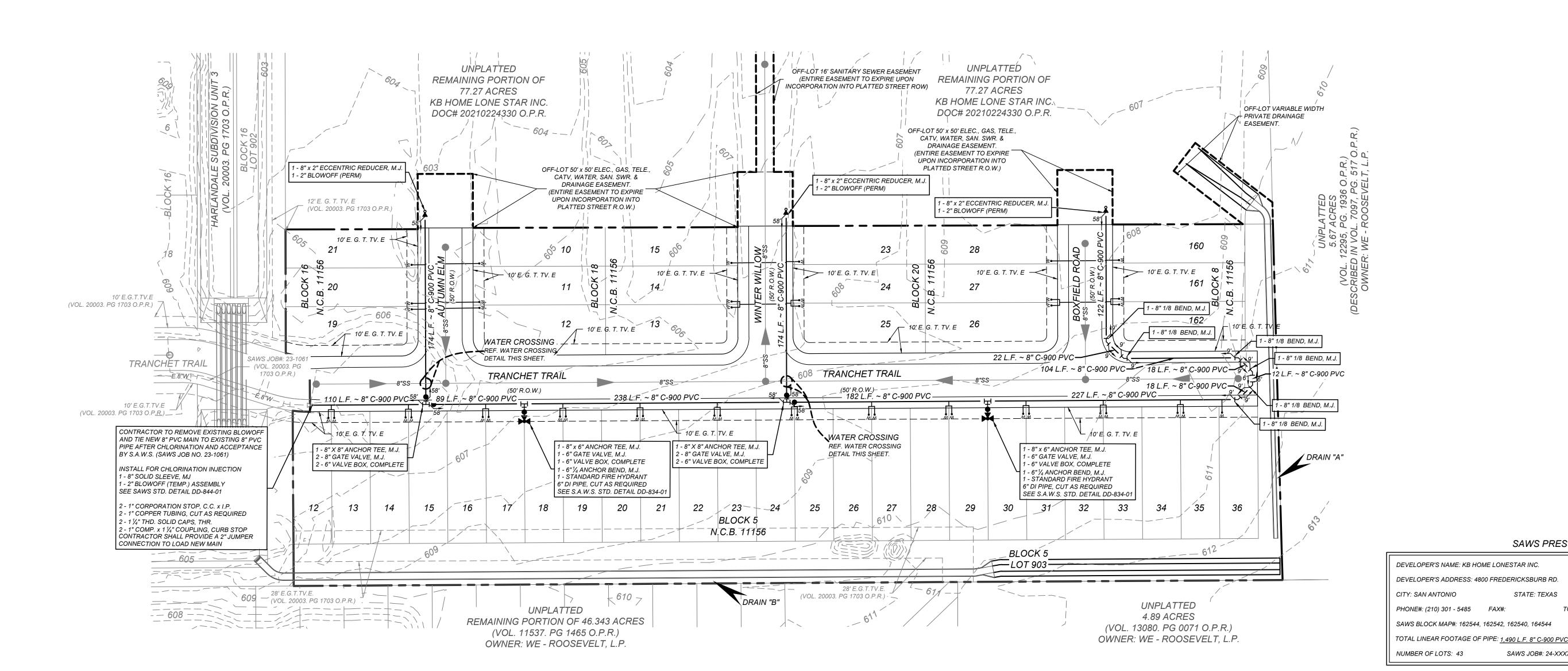
HARLANDALE **SUBDIVISION UNIT 5A** PLAT# 24-11800301

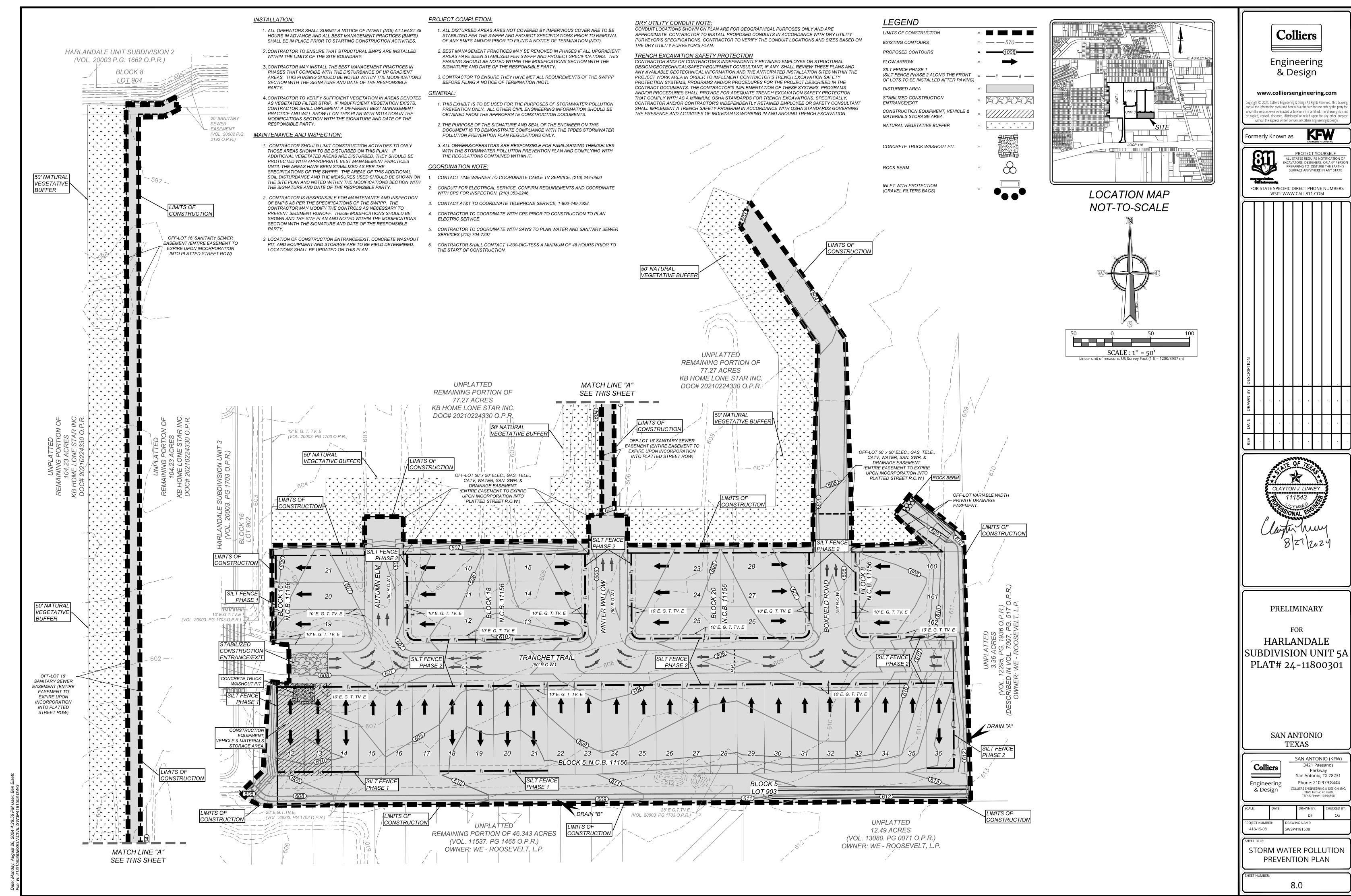
> SAN ANTONIO TEXAS

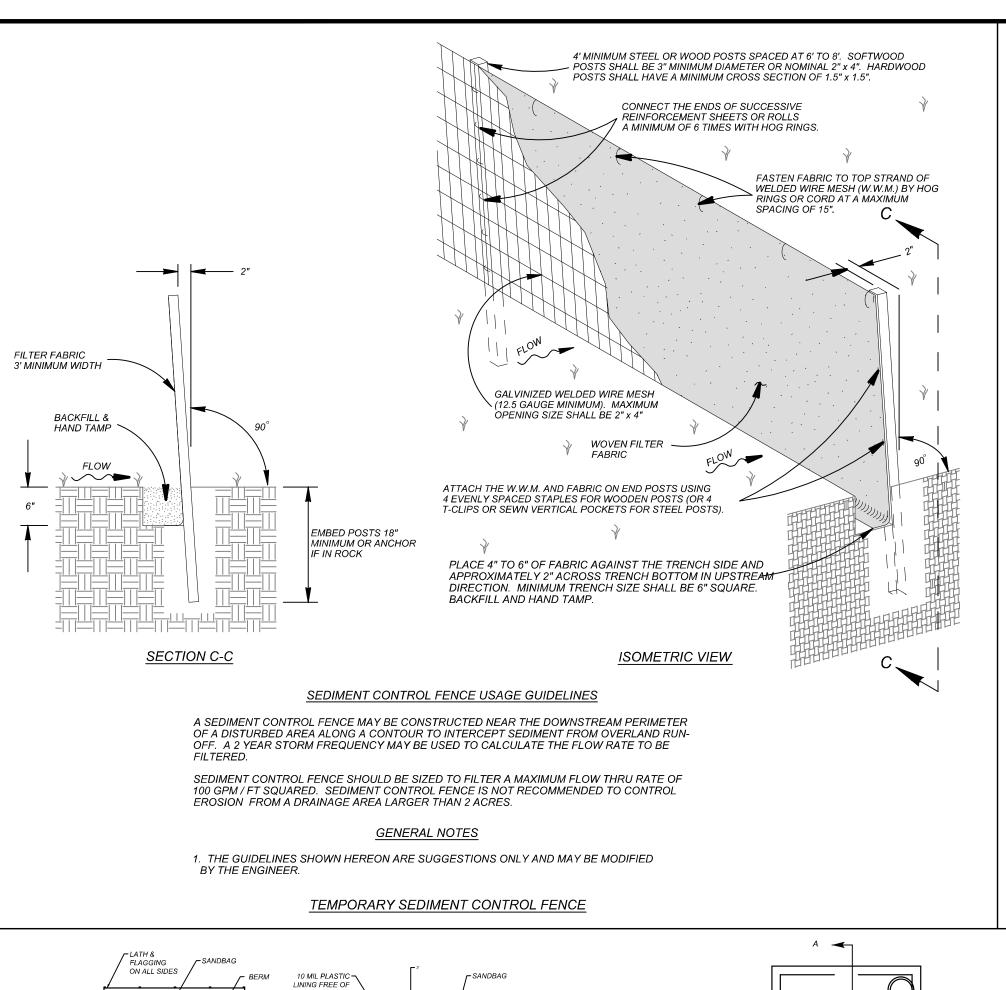
SAN ANTONIO (KFW) 3421 Paesanos Colliers San Antonio, TX 78231 Phone: 210.979.8444 Engineering COLLIERS ENGINEERING & DESIGN, INC & Design TBPE Firm#: F-14909 TBPLS Firm#: 10194550

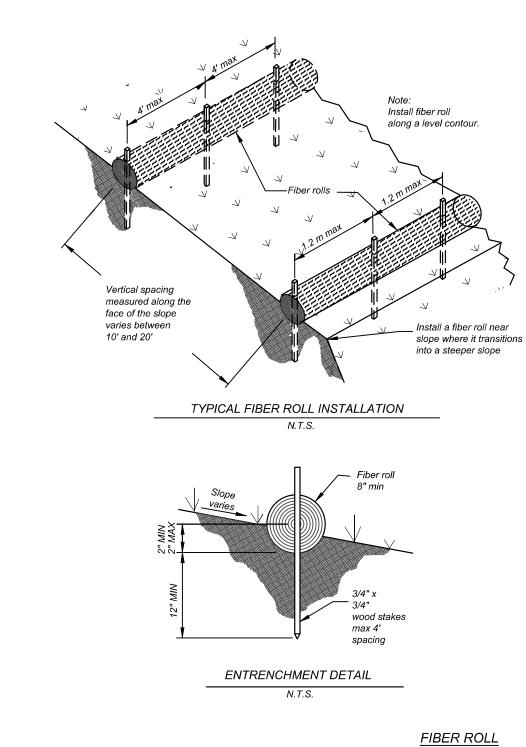
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WATER DISTRIBUTION PLAN









THE MATERIAL, INSTALLATION, INSPECTION, AND MAINTENANCE OF FIBER ROLLS WILL BE PER THE MANUFACTURE'S SPECIFICATIONS AND SHALL ALSO COMPLY WITH THE TEXAS COMMISSION OF ENVIRONMENTAL QUALITY CURRENT "TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES" AS NOTED BELOW.

(1) Core material: Core material should be biodegradable or recyclable. Material may be compost, mulch, aspen wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or

similar materials. (2) Containment Mesh: Containment mesh should be 100% biodegradable, photodegradable or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or similar material. When the fiber role will remain in place as part of a vegetative system use biodegradable or photodegradable mesh. For temporary installation recyclable mesh is recommended.

(1) Locate fiber rolls on level contours spaced as follows: Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a

maximum interval of 10 ft. (a closer spacing is more effective).

maximum interval of 20 ft. Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective). Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a

(2) Turn the ends of the fiber roll up slope to prevent runoff from going around the (3) Stake fiber rolls into a 2 to 4 in. deep trench with a width equal to the diameter of the fiber roll. (4) Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.

(5) Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum (6) If more than one fiber roll is placed in a row, the rolls should be overlapped, not abutted.

Inspection and Maintenance Guidelines:

(1) Inspect weekly. (2) Repair or replace split, torn, unraveling, or slumping fiber rolls. (3) If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates behind the role must be periodically removed in order to maintain its effectiveness. Sediment should be removed when the accumulation reaches one-half the designated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during maintenance may be

THE TOP OF THE SACK GABIONS SHOULD BE LEVEL AND ORIENTED

FILTER FABRIC MATERIAL SHALL BE FASTENED TO WOVEN WIRE

OUNCES PER SQUARE YARD, MINIMUM MULLEN BURST STRENGTH OF 200 POUNDS PER SQUARE INCH AND A FLOW THRU RATE OF 120

INSPECT WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR

NATURAL GROUND, SILT SHALL BE REMOVED AND DISPOSED IN AN APPROVED MANNER THAT WILL NOT CONTRIBUTE TO RESILTATION.

CONTAMINATED SEDIMENT MUST BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.

GALLONS PER MINUTE PER SQUARE FOOT OF FRONTAL AREA.

WHEN SILT REACHES A DEPTH OF 6 INCHES OR MORE ABOVE

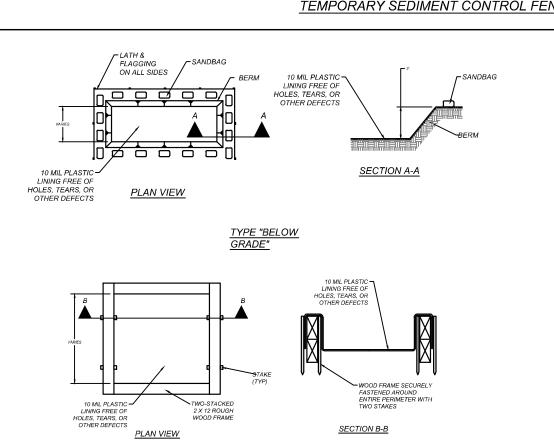
STONE SIZE: ±4"-8" OPEN GRADED CRUSHED LIMESTONE.

FILTER FABRIC MATERIAL SHOULD MEET THE FOLLOWING

PERPENDICULAR TO THE DIRECTION OF FLOW.

incorporated into earthwork on the site or disposed of at an appropriate location.

FIBER ROLL



GENERAL NOTES:

GENERAL NOTES:

THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE

POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4 OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET

THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

GRAVEL FILTER BAG DETAIL

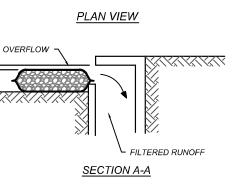
DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

TYPE "ABOVE GRADE"

WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.

SECTION A-A

CONCRETE TRUCK WASHOUT PIT



<u>GENERAL NOTES:</u>

GRAVEL FILTER BAG

4 FT MAX SPACING

GRAVEL FILTER BAG

DETAIL-A -

WIRE MESH COVERED -

SECTION A-A

WITH FILTER FABRIC

ALL STORM DRAINAGE SYSTEMS INLETS SHOULD FILTER RUNOFF BEFORE THE WATER IS DISCHARGED INTO STREAMS OR ONTO ADJACENT PROPERTIES, UNLESS TREATMENT IS PROVIDED ELSEWHERE. IF NO ADDITIONAL DOWNSTREAM TREATMENT EXISTS, THE MAXIMUM DRAINAGE AREA TRIBUTARY TO AN AREA DRAIN INSTALLED WITH A GRAVEL FILTER SHOULD BE ONE ACRE.

ALL CURB INLET GRAVEL FILTERS SHOULD BE INSPECTED AND REPAIRED AFTER EACH RUNOFF EVENT. SEDIMENT SHOULD BE REMOVED WHEN MATERIAL IS WITHIN THREE INCHES OF THE TOP OF THE CONCRETE BLOCKS. PERIODICALLY, THE GRAVEL SHOULD BE RAKED TO INCREASE INFILTRATION AND FILTERING OF RUNOFF WATERS.

CURB INLET PROTECTION GRAVEL FILTER BAGS

<u>PLAN VIEW</u>

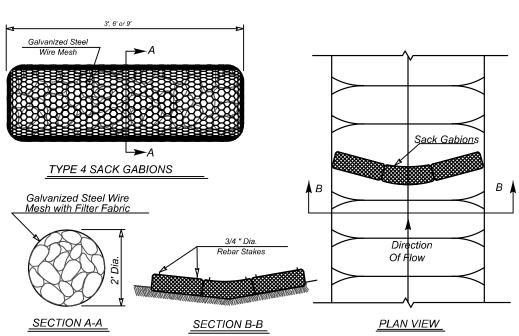
CURB INLET PROTECTION (ALTERNATE)

WITH FILTER FABRIC

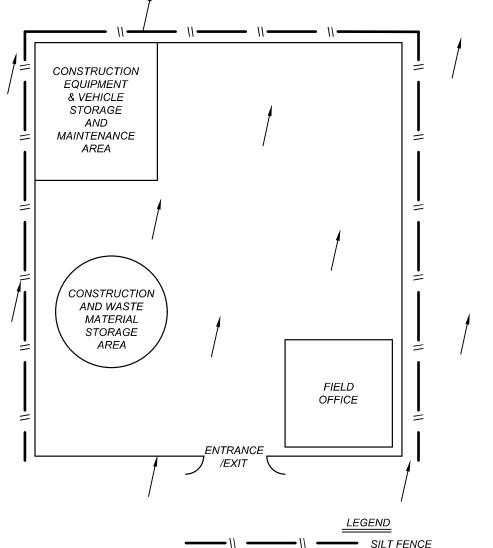
WIRE MESH COVERED

DETAIL-A

WITH FILTER FABRIC

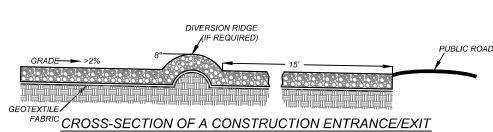


TYPE 4 SACK GABIONS



TYPICAL CONSTRUCTION STAGING AREA

FLOW ARROWS



(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan. PUBLIC ROAD (2) The aggregate should be placed with a minimum thickness of 8 inches. (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst

> (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

GEOTEXTILE FABRIC TO STABILIZE FOUNDATION

Installation: (North Carolina, 1993) (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation

area. Grade crown foundation for positive drainage. (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater. (3) The construction entrance should be at least 50 feet long.

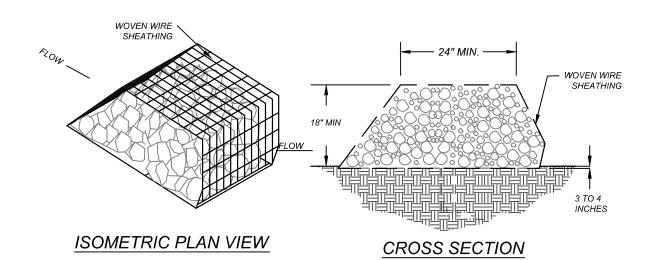
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road. (5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated. (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage. (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin. (8) Install pipe under pad as needed to maintain proper public road drainage.

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair andlor cleanout of

any measures used to trap sediment. (2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor. (3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. (4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment

trap or sediment basin. CONSTRUCTION ENTRANCE/EXIT (5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

STABILIZED CONSTRUCTION ENTRANCE / EXIT



(1) The berm structure should be. secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings. (2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings. (2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.

(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, airl the berm retains its shape when walked upon (5) Berm should be built along the contour at zero percent grade or as near as possible. (6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a

(3) Place the rock along the sheathing as shown in the diagram Figure 1-28), to a height not less than

trench approximately 3 to 4 inches deep to prevent failure of the control.

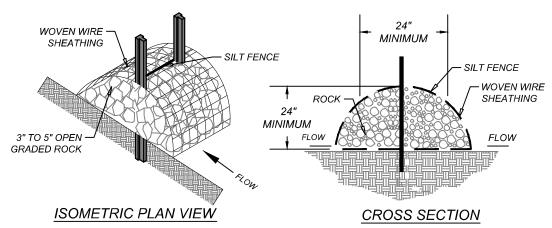
Inspection and Maintenance Guidelines: (1) Inspection should be made weekly by the responsible party. For installations

in streambeds, additional daily inspections should be made. (2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection. (5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc. (6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt

ROCK BERM



(1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30. (2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED

OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FL2, AND BRINDELL HARDNESS EXCEEDING 140. REBAR (EITHER #5 OR #6) MAY ALSO BE USED TO ANCHOR THE BERM. (3) WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM. (4) THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH. AND A MINIMUM

WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS. (5) CLEAN, OPEN GRADED 3- TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCKS MAY BE USED.

(1) LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1-INCH OPENINGS (2) INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT, AS WITH A NORMAL SILT FENCE DESCRIBED IN (3) PLACE THE ROCK ALONG THE SHEATHING ON BOTH SIDES OF THE SILT FENCE AS SHOWN IN THE DIAGRAM (FIGURE 1-29), TO A HEIGHT NOT LESS THAN 24 INCHES. CLEAN, OPEN GRADED 3- 5" DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE

VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCK MAY BE USED. (4) WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON. (5) THE HIGH SERVICE ROCK BERM SHOULD BE REMOVED WHEN THE SITE IS REVEGETATED OR OTHERWISE STABILIZED OR IT MAY REMAIN IN PLACE AS A PERMANENT BMP IF DRAINAGE IS ADEQUATE.

<u>INSPECTION AND MAINTENANCE GUIDELINES:</u>
(1) INSPECTION SHOULD BE MADE WEEKLY BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM. (2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED

(3) REPAIR ANY LOOSE WIRE SHEATHING. (4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

(5) THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

(6) THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

HIGH SERVICE ROCK BERM

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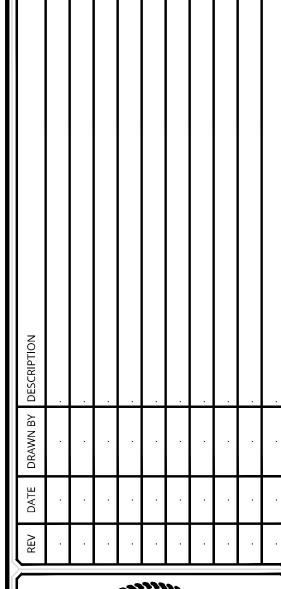
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HARLANDALE SUBDIVISION UNIT 5A PLAT# 24-11800301

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STORM WATER POLLUTION PREVENTION DETAILS