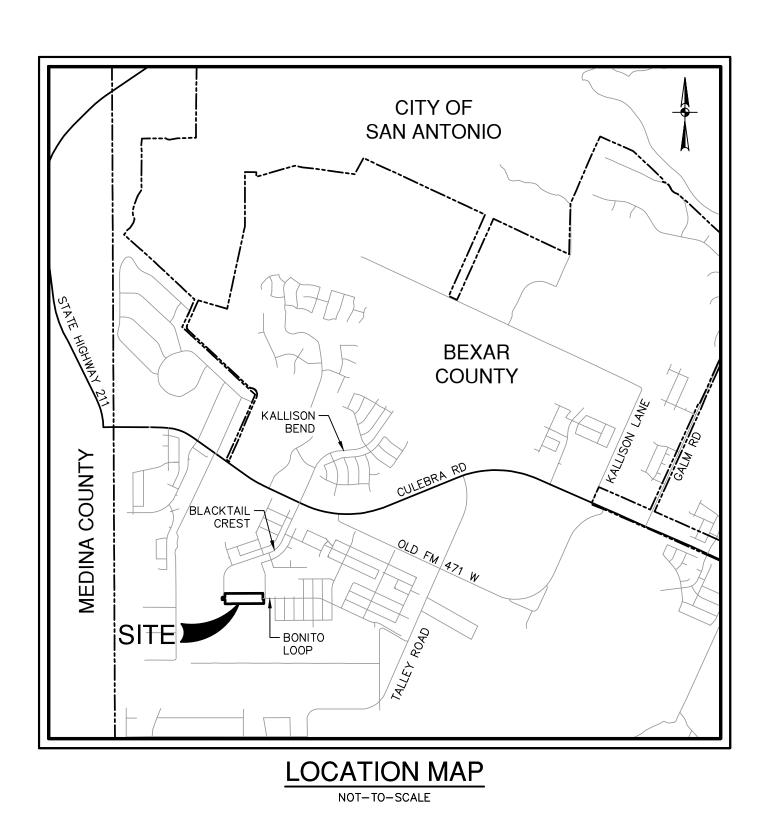
PRESERVE AT CULEBRA-UNIT 8

BEXAR COUNTY, TEXAS

CIVIL CONSTRUCTION PLANS



PREPARED FOR:

KB HOME LONE STAR, INC. 4800 FREDERICKSBURG ROAD SAN ANTONIO, TX 78229

NOVEMBER 2024



S	HEET INDEX	
Sheet Title	Sheet Description	Sheet No.
COVER SHEET		C0.00
MASTER DRAINAGE PLAN		C1.00
DRAIN A	PLAN AND PROFILE	C1.01
DRAINAGE DETAILS	(SHEET 1 OF 2)	C1.10
DRAINAGE DETAILS	(SHEET 2 OF 2)	C1.20
BONITO LOOP	PLAN AND PROFILE (STA. 12+14.82 TO END)	C2.00
CAMELLO CREST	PLAN AND PROFILE (STA. 10+00.00 TO 11+50.00)	C2.01
ABEJA AVE	PLAN AND PROFILE (STA. 10+00.00 TO 11+65.50)	C2.02
STREET DETAILS	(SHEET 1 OF 2)	C2.10
STREET DETAILS	(SHEET 2 OF 2)	C2.20
OVERALL SIGNAGE PLAN		C3.00
SIGNAGE DETAILS	(SHEET 1 OF 2)	C3.10
SIGNAGE DETAILS	(SHEET 2 OF 2)	C3.20
OVERALL SANITARY SEWER PLAN		C4.00
EXISTING SANITARY SEWER LINE A	PLAN AND PROFILE	C4.01
EXISTING SANITARY SEWER LINE E	PLAN AND PROFILE	C4.02
SANITARY SEWER LINE B	PLAN AND PROFILE	C4.03
SANITARY SEWER DETAILS		C4.10
SANITARY SEWER NOTES		C4.20
OVERALL WATER DISTRIBUTION PLAN		C5.00
WATER DISTRIBUTION DETAILS		C5.10
WATER DISTRIBUTION NOTES		C5.20
OVERALL UTILITY PLAN		C6.00
GRADING PLAN		C7.00
STORMWATER POLLUTION PREVENTION PLAN		C8.00
STORMWATER POLLUTION PREVENTION PLAN DETA	AILS	C8.10



WATER (SAWS PRESSURE ZONE 8)

	Λ.
DEVELOPER'S NAME: KB HOME LONE STAR, INC.	11/
ADDRESS: 4800 FREDERICKSBURG ROAD	Ш
CITY: SAN ANTONIO STATE: TX ZIP: 78229	
PHONE# (210) 301-5485 FAX#	II (
PHONE# (210) 301-5485 FAX# FAX# SAWS BLOCK MAP# 068610 TOTAL EDU'S 52 TOTAL ACREAGE 8.016	
TOTAL LINEAR FOOTAGE OF PIPE: 1560 LF-8" PLAT NO. 24-11800273	W
NUMBER OF LOTS 52 SAWS JOB NO	

WER: WEST WATERSHED-LEON CREEK W.R.C	, ,
EVELOPER'S NAME: KB HOME LONE STAR, INC.	
DDRESS: 4800 FREDERICKSBURG ROAD	
TY: SAN ANTONIO STATE: TX ZIP: 78229	
HONE# (210) 301-5485 FAX#	
066610 & "	
OTAL LINEAR FOOTAGE OF PIPE: 135 LF-8" PLAT NO. 24-11800273	
JMBER OF LOTS <u>52</u> SAWS JOB NO. <u>24-1642</u>	

Master Drainage Plan Calculations (Ultimate Development)

Ref. Point Point Point # Area (Ac) C		Drainag	je Areas		ath (ft)	Overla	and/Shed (Seelye		Shallo	w Con	centrate	ed Flov	v - 1**	Chan	nelized l	low**		Ration IDF Curve:	al Method CoSA_A	Q=CIA A14_PA3
60 Street AR 10.67 0.76 1,873 100 0.010 14 1,773 P 0.007 1.7 17.4 - 31 25 5.01 40	Ref. Point	#			dw	L _o (FT)				Condition***	lope (ft/f	1	I _{SC} ^^		1		Т _{с-тот}	Retuin	_	Q (cfs)
	60	AR	10.67	0.76	1,873	100	0.010	14	1,773	Р	0.007	1.7	17.4			-		5 25 100		29.5 40.6 50.4

 $k = 1.486 \, ft^{1/3}/s$

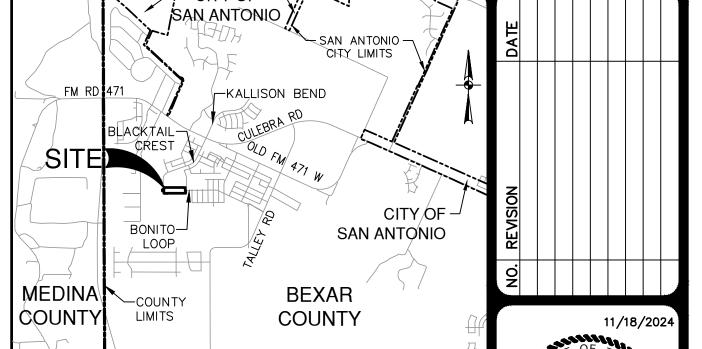
*Seelye Chart or TR-55 Eqn. 3-3

**As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s $T_o = \frac{(0.007(n*L)^{0.8})}{(P2^{.5}*S^{.4})}*60$

 $\frac{(n*L)^{0.8}}{5*S^{.4}}*60 \qquad v = \frac{k}{n} R^2$

S: For Streets: n = 0.018, R = 0.2 (Ada R:Channel Hydraulic Radius P: For Paved: n = 0.025, R = 0.2 (a/Pw)
U: For Unpaved: n = 0.05, R = 0.4 n: Mannings n-Value
D: For Default: v = 6 fps Sch=Channel Flow Slope

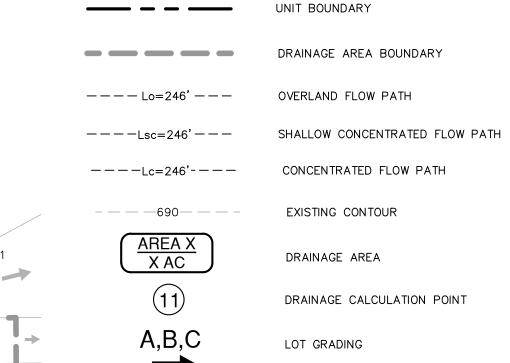
SCALE: 1"= 100'
0' 100' 200' 300



LOCATION MAP

NOT-TO-SCALE

MASTER DRAINAGE LEGEND



PAPE-DAWSO

FILE ENGINEERS

2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.378

TEXAS ENGINEERING FIRM #100 I TEXAS SURVEYING FIRM #100

RA-UNIT 8

PRESERVE AT CULEBRA-UNIT
BEXAR COUNTY, TEXAS

PLAT NO. 24-11800273

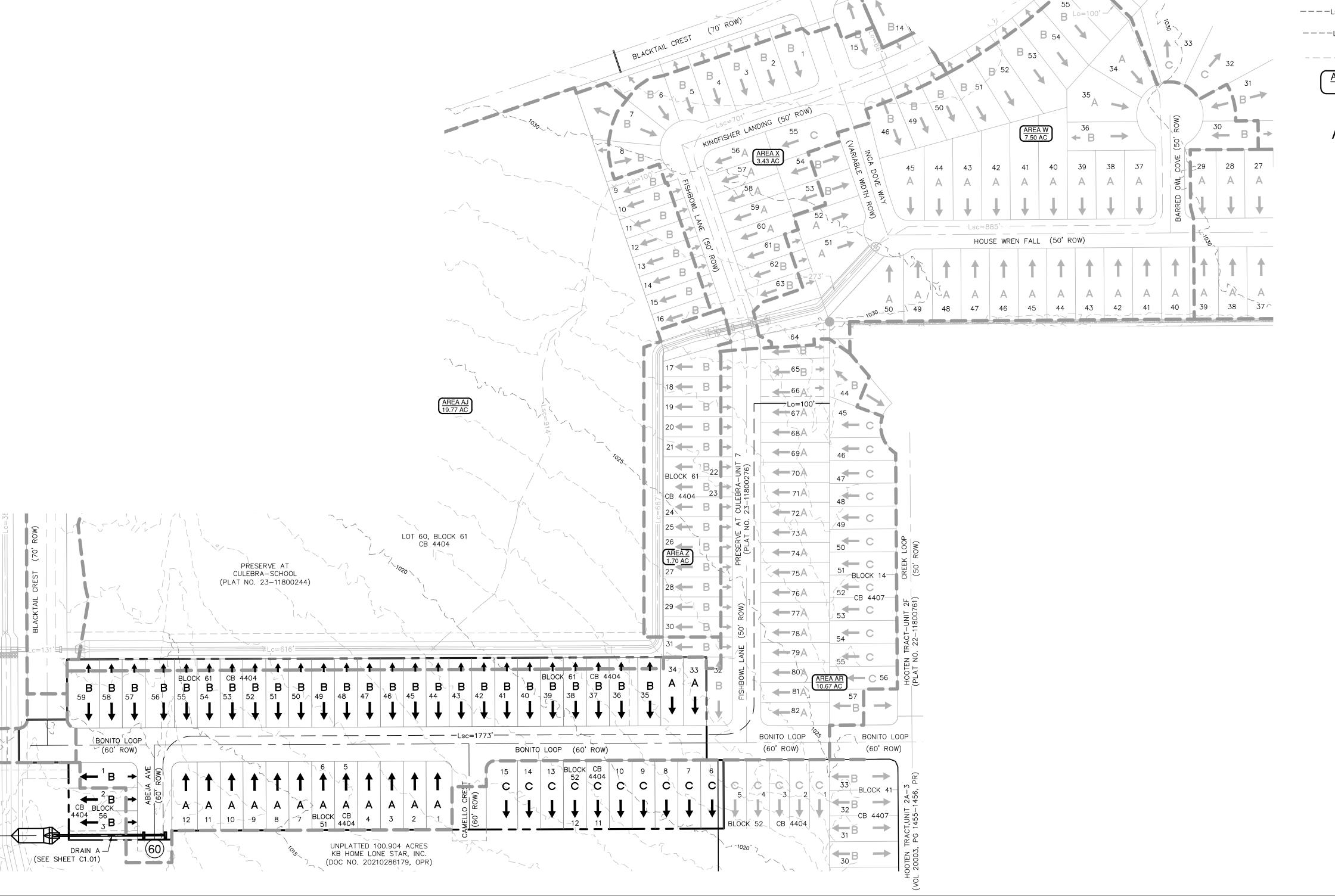
JOB NO. 11668-17

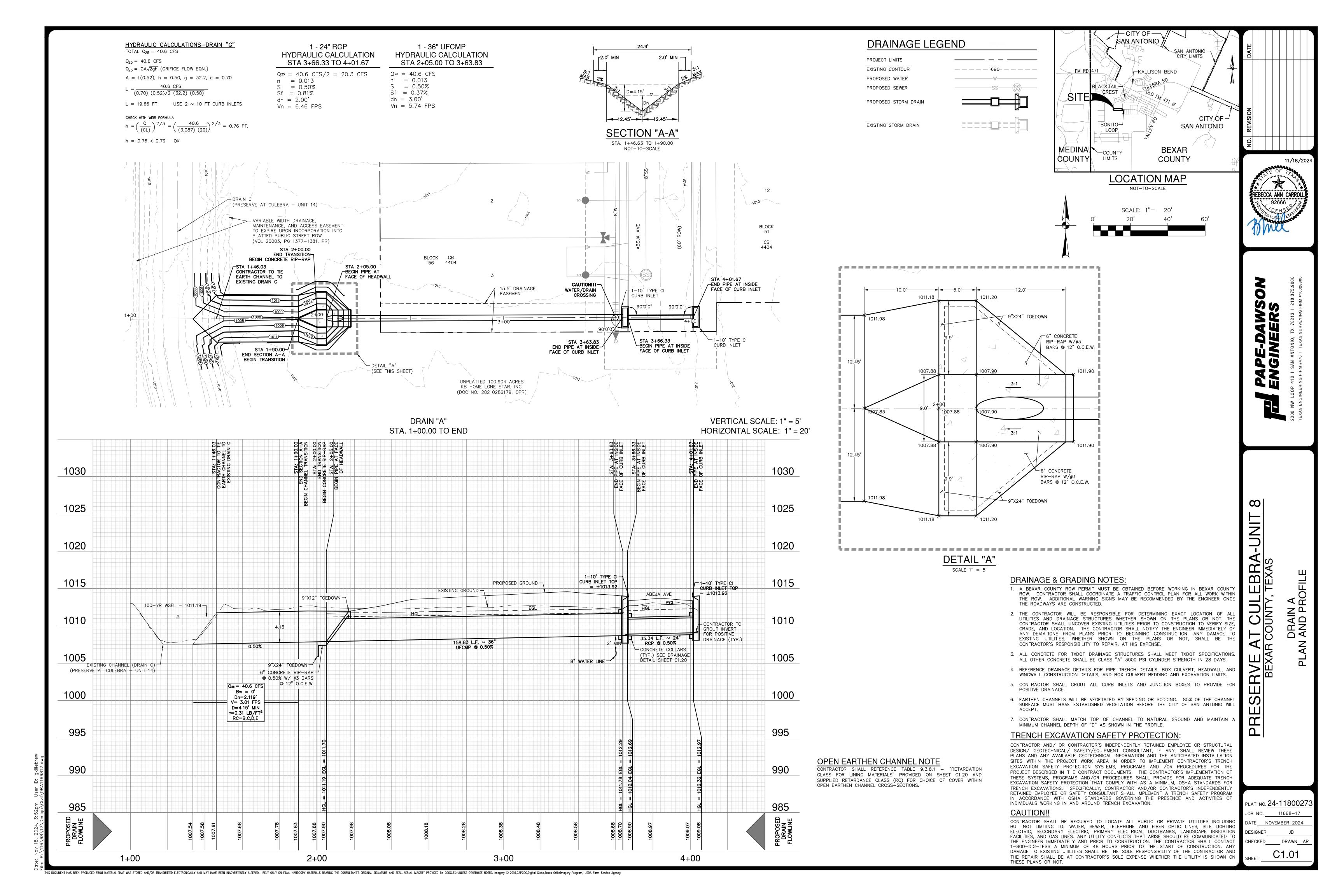
DATE NOVEMBER 2024

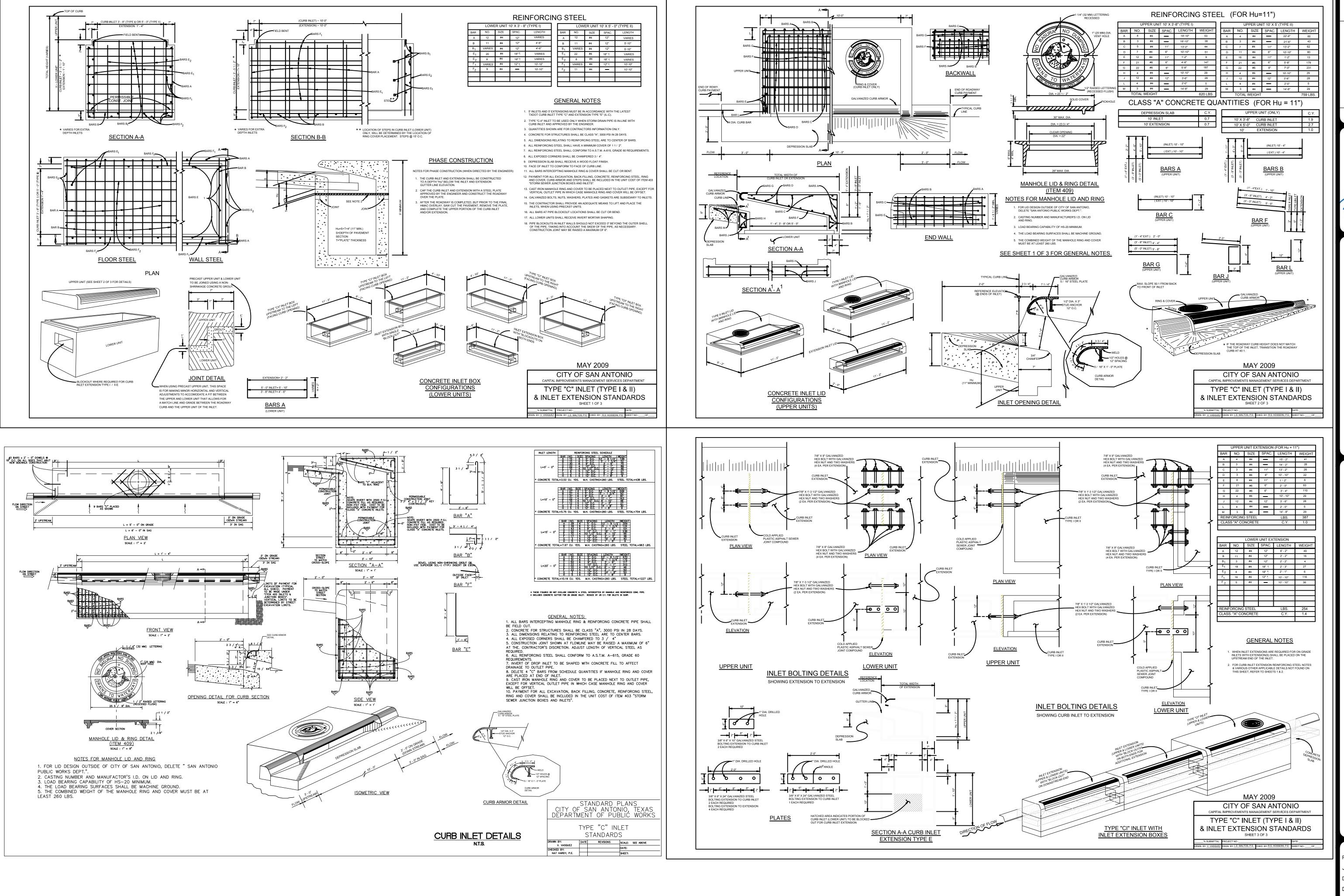
DESIGNER JB

CHECKED DRAWN AR

CHECKED DRAWN SHEET C1.00







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NOISINAL OF TEXASON REBECCA ANN CARROLL

REBECCA ANN CARROLL
92666
92666

PAPE-DAWSON
ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.900

PRESERVE AT CULEBRA-UNIT 8
BEXAR COUNTY, TEXAS

DRAINAGE (SHEET 1

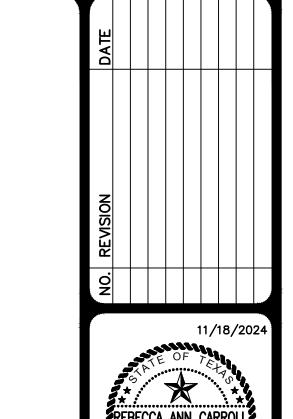
PLAT NO. 24-11800273

JOB NO. 11668-17

DATE NOVEMBER 2024

DESIGNER JB

CHECKED DRAWN AR





A (2

DRAINAGE (SHEET 2

LAT NO. **24-1180027** 11668-17 ATE NOVEMBER 2024 DESIGNER

____DRAWN_AR

24" DOWNSTREAM 36" UPSTREAM - 24" MAX. TYPICAL BOLT ARRAY →| | 9' -TO ANCHOR METAL PIPES SPAN -"S" (SEE NOTE #2 BELOW) LONGITUDINAL SECTION FOR SINGLE C.M.P. SINGLE CIRCULAR **CIRCULAR & ARCH PIPES ARCH PIPE CULVERT** PIPE CULVERT NOT-TO-SCALE NOT-TO-SCALE (CMP OR RCP) NOT-TO-SCALE DIMENSIONS FOR CIRCULAR CMP AND RCP PIPE CULVERT SINGLE DOUBLE TRIPLE QUADRUPLE TYPICAL BOLT ARRAY CGM RCP TO ANCHOR METAL PIPES TOE WALLS (SEE NOTE #2 BELOW) WALLS SPAN -"S" SPAN -"S" MULTIPLE C.M.P. MULTIPLE CIRCULAR **ARCH PIPE CULVERT** PIPE CULVERT "G" IS MEASURED BETWEEN THE OTHER SURFACES OF THE PIPES. (CMP OR RCP) **DIMENSIONS FOR C.M.P.** NOT-TO-SCALE NOT-TO-SCALE **ARCH PIPE CULVERTS**

PROTRUDING PIPE IS FOR DROP STRUCTURE ONLY TURAL EXCAVATION—ITEM NO. 306 TYPE C INLET OR TYPE H4 INLET WITH CONCRETE FILL NOTE: SPEC. ITEM NUMBERS REFER TO CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. ELEVATION STRUCTURAL EXCAVATION STRUCTURAL EXCAVATION AT JUNCTION BOXES AT DRAINAGE INLETS EXISTING GROUND SURFACE OR PROPOSED ELEVATION *SPECIAL PROVISION TO ITEM 400 "EXCAVATION, TRENCHING AND BACKFILLING" SECTION "BACKFILLING 2 (B)". ADD THE FOLLOWING: GRAVEL BACKFILL (INITIAL BACKFILL)
AND THE SECONDARY BACKFILL.
HE FILTER FABRIC SHALL COVER
THE TOTAL WIDTH AND LENGTH OF
THE TRENCH AND SHALL BE
INSTALLED AS PER THE __SECONDARY BACKFILL CONFORMING TO SPECIFICATION ITEM 400. MANUFACTURER'S RECOMMENDATION THE FILTER MATERIAL SHALL HAVE AN APPARENT OPENING SIZE OF COST THEREOF TO BE INCLUDED IN UNIT BID PRICE FOR "STORM U.S. STANDARD SIEVE NO. 40." DRAINAGE PIPE." ITEM 401 INITIAL BACKFILL CONFORMING TO SPECIFICATION ITEM 400. 42" PIPE OR GREATER

EXISTING GRADE FINISHED GRADE

"NO DIRECT PAYMENT SHALL BE MADE FOR PLACEMENT OF FILTER FABRIC AND ALL COSTS IN CONNECTION THEREWITH SHALL BE INCLUDED IN THE APPLICABLE CONTRACT PRICE FOR THE ITEM TO WHICH THE WORK PERTAINS." VERTICAL TRENCH WALL ALONG INITIAL BACKFILL CLEAN GRAVEL SUBGRADE FILLER, IF REQUIRED, TO BE PLACED AND — PAID FOR UNDER ITEM NO. 410B. RAINAGE PIPE," ITEM 401

SINGLE DOUBLE TRIPLE QUADRUPLE DESIGN ARCH DIM.
SIZE RISE SPAN TYPICAL DETAIL FOR C.M.P. AND S.R.C.M.P.

6" CONCRETE W/ #3 BARS @ 12" Ö.C.E.W. —

Retardance

3:1 UNLESS INDICATED
OTHERWISE ON PLAN /- 12

Shear Stress

(τ) (lb./sq.ft.)

BASED ON 2-2/3" X 1/2" CORRUGATION "G" IS MEASURED BETWEEN THE OTHER SURFACES OF THE PIPES. 3. FOR CONCRETE ARCH PIPES THE CMP ARCH PIPE CULVERT DIMENSIONS WILL HAVE TO BE ADJUSTED FOR THE PIPE WALL THICKNESS. 4. FOR PIPES LARGER THAN SHOWN. USE THE CLEAR DISTANCE BETWEEN

RIPRAP HEADWALL.

PIPES SHOWN IN TXDOT ITEMS 460 AND/OR 464. 5. IF THE SIDES OF THE HEADWALL IS ADJACENT TO A RIPRAP SLOPE AND IF THE TOP OF THE HEADWALL IS ADJACENT TO THE ROADWAY FOUNDATION OR RIPRAP SLOPE. THE SIDE AND TOP TOE WALLS MAY BE ELIMINATED IF APPROVED BY THE ENGINEER.

2. ALL METAL PIPES (CIRCULAR AND/OR ARCH) SHALL HAVE 5/8" X 6"

THE PIPE TO THE CONCRETE. THIS WILL BE SUBSIDIARY TO THE

GALVANIZED BOLTS WITH 2 HEX NUTS AT 24" CENTERS TO ANCHOR

1. CONCRETE SHALL BE CLASS "A" 3000 PSI

 Table 9.3.8.1 - Retardation Class for Lining Materials
 (Source TXDOT - Hydraulic Design Manual, Chapter 7, Section 3 - Roadside Channel Design)

Cover

little bluestem, bluestem, blue gamma, other

Grass-legume mixture: summer (orchard grass

short and long stem midwest grasses

redtop, Italian ryegrass, and common

fall, spring (orchard grass Italian ryegrass,

RISE-"R'

Native grass mixture

Lespedeza sericea

Blue gamma

Bermuda grass

Centipede grass

Bermuda grass Common lespedeza

Buffalo grass

W/ #3 BARS @ _ 12" O.C.E.W.

Kentucky bluegrass

Grass-legume mixture:

and common lespedeza Lespedeza sericea

Common lespedeza

Crabgrass

Condition

Good stand, not woody, tall (Average 19 in. or 480 mm)

Good stand, tall (average 12 in. or 305 mm)

Good stand, uncut (average 11 in or 280 mm)

Good stand, uncut (average 13 in. or 330 mm)

Good stand, mowed (average 6 in. or 150 mm)

Good stand, uncut (average 11 in. or 280 mm)

Good stand, uncut (6-8 in. or 150- 200 mm)

Very dense cover (average 6 in. or 150 mm) Good stand, headed (6-12 in. or 150 - 305 mm)

Good stand, uncut (3-6 in. or 75- 150 mm)

Good Stand, uncut (4-5 in. or 100- 125 mm)

Excellent stand, uncut (average 4.5 in. or 115 mm)

After cutting to 2 in. or 50 mm (very good before cutting)

Good stand, cut to 2.5 in. or 65 mm

Good stand, cut to 1.5 in. or 40 mm

WALLS

Burned Stubble

Fair stand, uncut (10-to-48 in. or 55 -to- 1220 mm)

Good stand, unmowed

RH-15 HEADWALL

FILL TO SPRING LINE OF PIPE WITH 2,500 P.S.I. CONCRETE NON-PAY ITEM. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOX).

CURVED DEFLECTOR <u>DETAIL</u>

(NOT TO SCALE)

. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.

2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4". 3. REINFORCING STEEL SHALL BE NEW BILLET STEEL,

SHALL CONFORM TO ASTM. A-305.

INTERMEDIATE GRADE, ASTM. A-15. THE DEFORMATION

4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.

REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.

INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE

FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE.

COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).

EXTERIOR WALL OF CONCRETE STRUCTURE

SHAPE INVERT SLOPE

WITH CONCRETE FILL

PIPE FLUSH WITH INVERT

JANUARY 2006

STANDARD PLANS CITY OF SAN ANTONIO, TEXAS

DEVELOPMENT SERVICES

CONCRETE COLLAR

DETAIL

CHECKED BY: SAM DENT, P.E.

6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM

5. ALL BARS INTERCEPTING MANHOLE OPENING AND

LAP OF 33 DIAMETERS SHALL BE USED.

S.R.C.M.P.,

OR H.D.C.P FLOW

TYPICAL DETAIL FOR R.C.P. NOT TO SCALE THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthormagery Program, USDA Farm Service Agency.

EXTERIOR WALL OF CONCRETE STRUCTURE

__3" PROTRUSION AND GROUTED

S.R.C.M.P.,

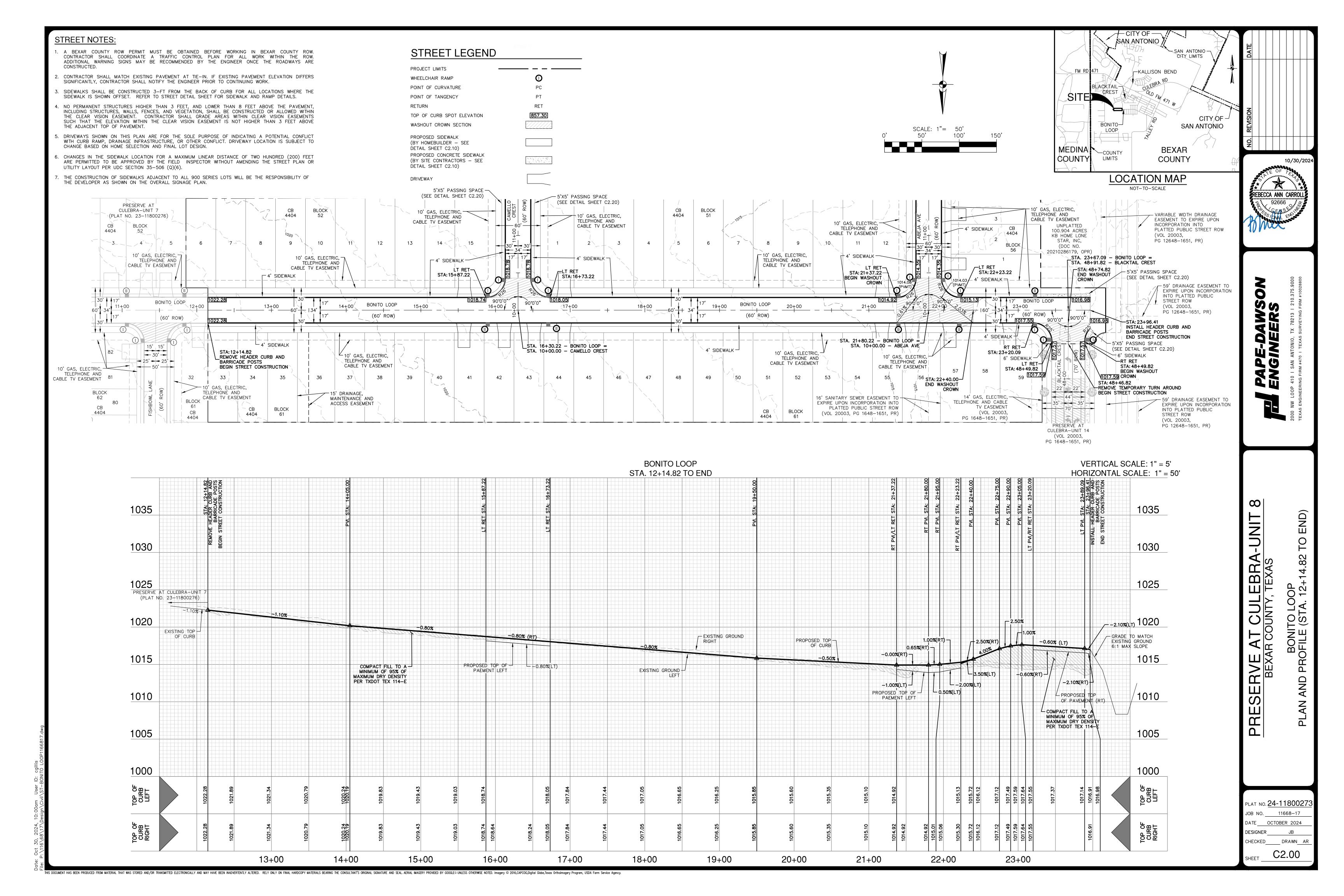
FACE OF EXCAVATION

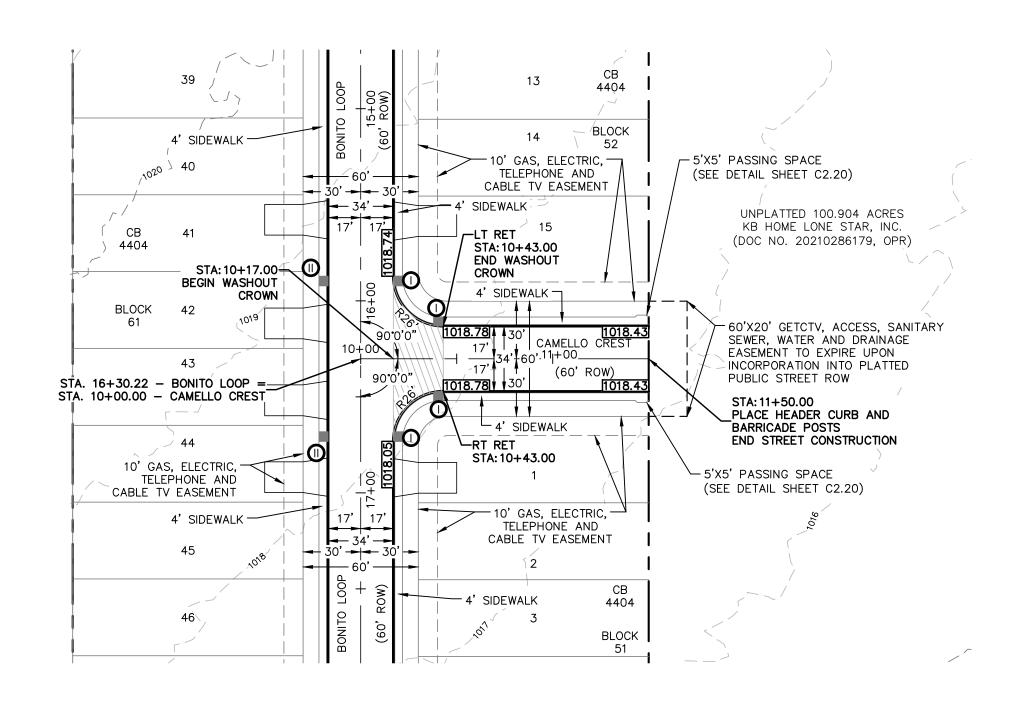
OR FACE OF SHEATHING

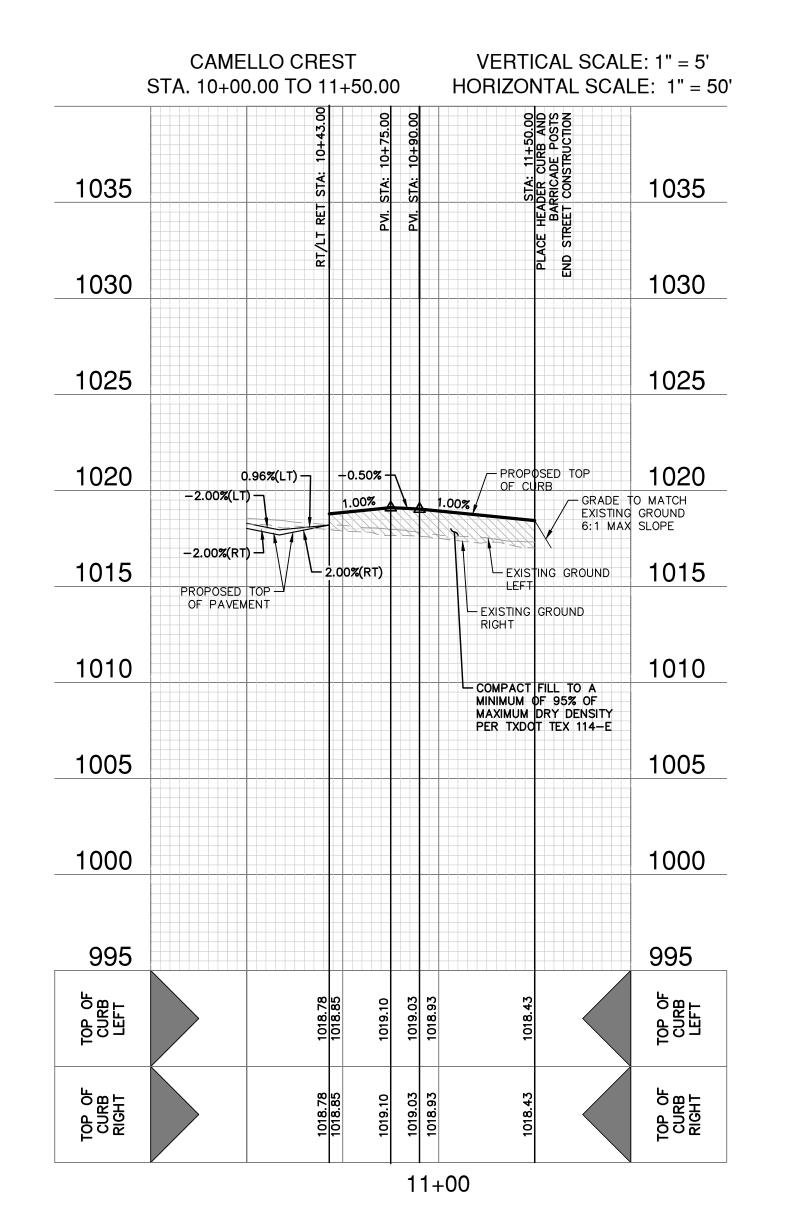
VERTICAL TRENCH WALL ALONG INITIAL BACKFILL

BOTTOM OF TRENCH SHALL BE SHAPED SO THAT 0.6 OF PIPE— OUTSIDE DIAMETER WILL BE BEARING ON TRENCH BOTTOM

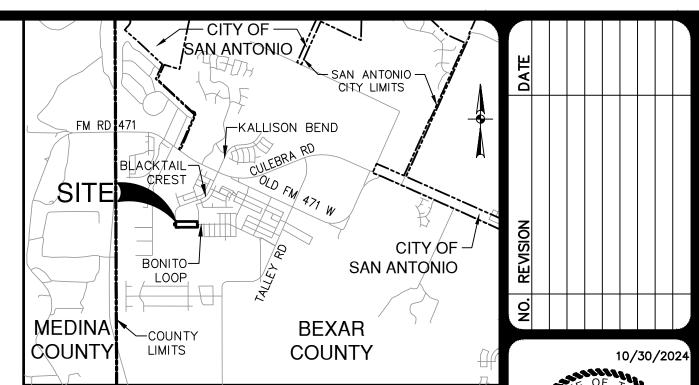
OR H.D.C.P FLOW





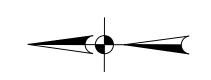


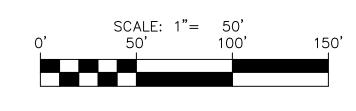
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LOCATION MAP

NOT-TO-SCALE





STREET LEGEND

PROJECT LIMITS

WHEELCHAIR RAMP

POINT OF CURVATURE

POINT OF TANGENCY

RETURN

RET

TOP OF CURB SPOT ELEVATION

WASHOUT CROWN SECTION

PROPOSED SIDEWALK
(BY HOMEBUILDER – SEE
DETAIL SHEET C2.10)

PROPOSED CONCRETE SIDEWALK
(BY SITE CONTRACTORS – SEE
DETAIL SHEET C2.10)

DRIVEWAY

STREET NOTES:

- A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- 2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE—IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- 3. SIDEWALKS SHALL BE CONSTRUCTED 3-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
- 4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
- 5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
- 6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (Q)(6).
- 7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE THE RESPONSIBILITY OF THE DEVELOPER AS SHOWN ON THE OVERALL SIGNAGE PLAN.

PRESERVE AT CULEBRA-UNIT
BEXAR COUNTY, TEXAS

CAMELLO CREST

PLAN AND PROFILE (STA. 10+00.00 TO 11+50.

rebecca ann carro

PLAT NO. 24-11800273

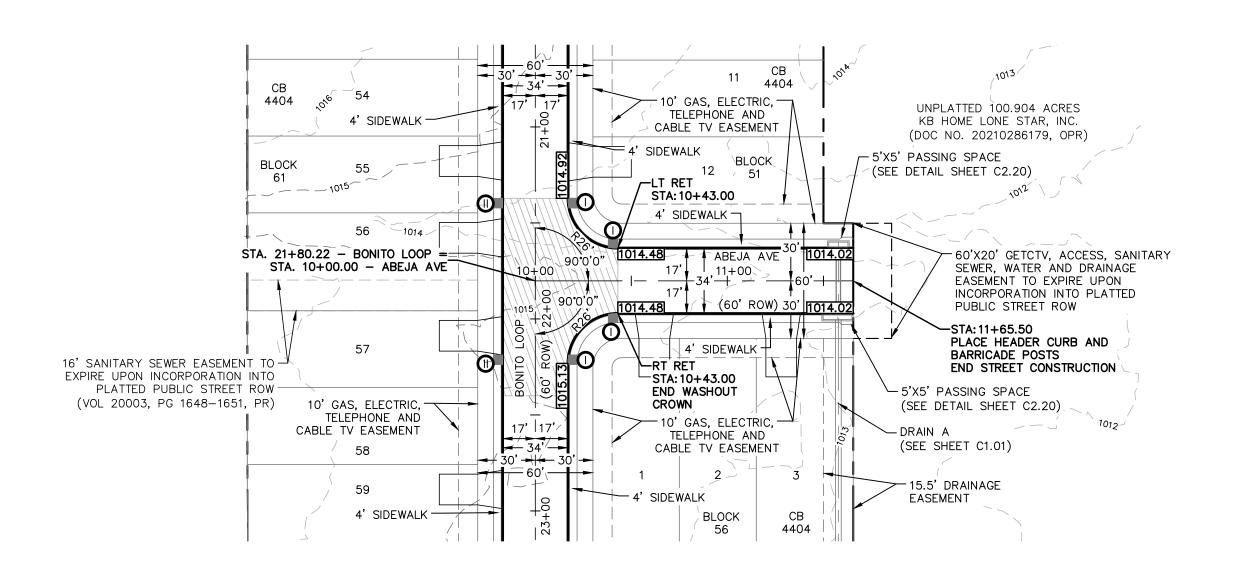
JOB NO. 11668-17

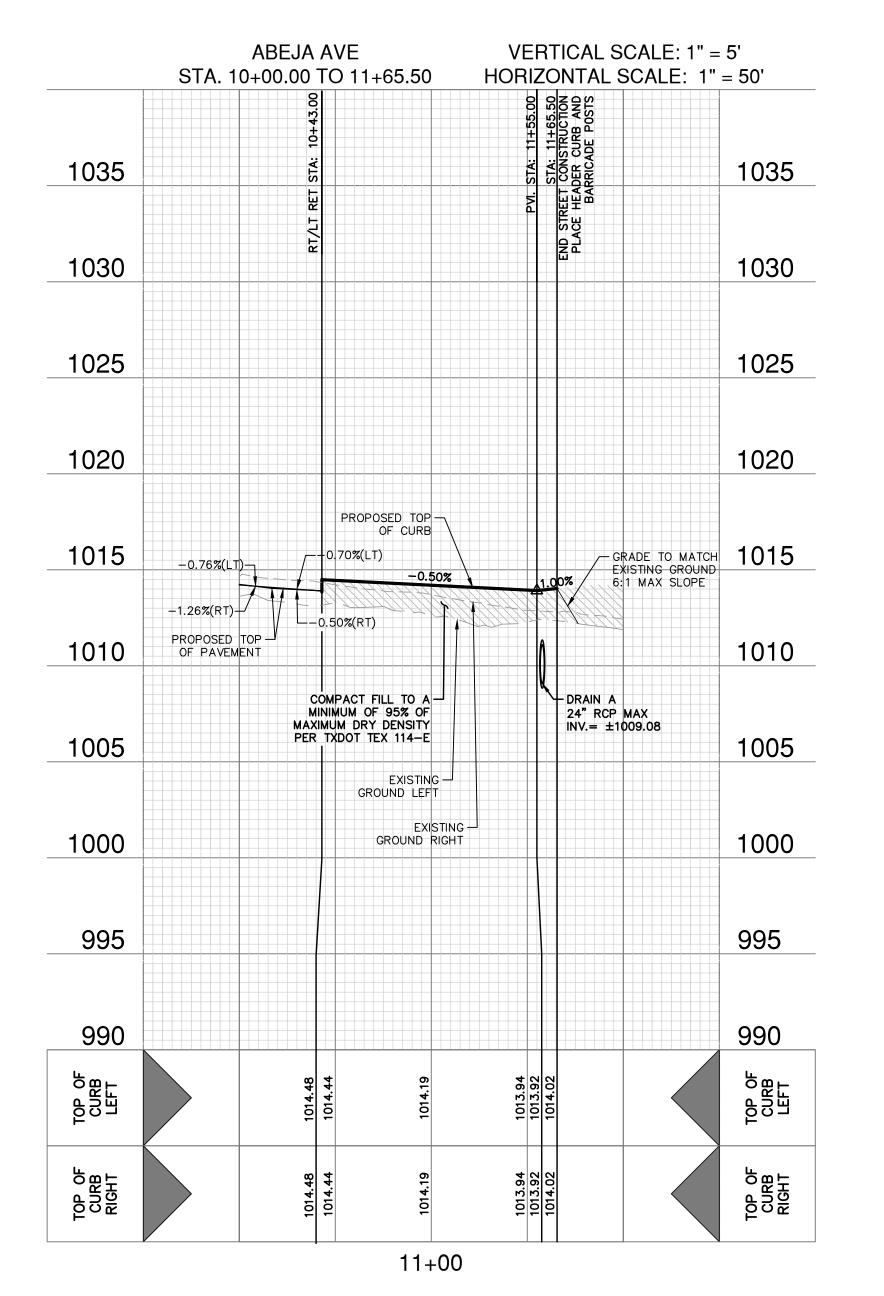
DATE OCTOBER 2024

DESIGNER JB

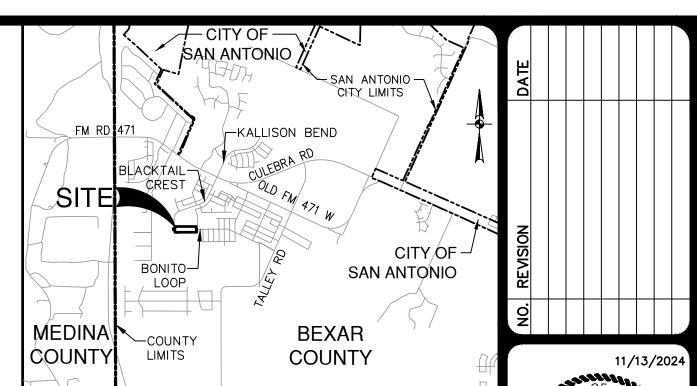
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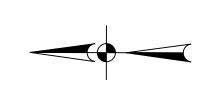


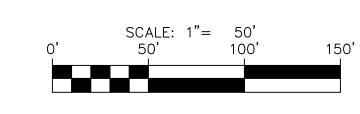


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LOCATION MAP





STREET LEGEND

PROJECT LIMITS

WHEELCHAIR RAMP

POINT OF CURVATURE

POINT OF TANGENCY

RETURN

TOP OF CURB SPOT ELEVATION

WASHOUT CROWN SECTION

PROPOSED SIDEWALK
(BY HOMEBUILDER – SEE
DETAIL SHEET C2.10)

PROPOSED CONCRETE SIDEWALK
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- 7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE THE RESPONSIBILITY OF THE DEVELOPER AS SHOWN ON THE OVERALL SIGNAGE PLAN.

PRESERVE AT CULEBRA-1
BEXAR COUNTY, TEXAS

PROFIL

AND

PLAT NO. 24-11800273

JOB NO. 11668-17

DATE NOVEMBER 2024

DESIGNER JB

CHECKED DRAWN AR

SHEET C2.02

RECOMMENDED NOTES & PAVEMENT SECTION

NOTES &DESIGN BASED ON THE MINIMUM REQUIREMENTS OF THE UDC AND THE GEOTECH ENGINEERING REPORT PREPARED BY INTEC, PROJECT NO. S181355-P-R1 DATED NOVEMBER 16, 2020. FOR PAVEMENT MATERIAL AND CONSTRUCTION REQUIREMENTS, CONTRACTOR SHALL MEET OR EXCEED ALL PAVEMENT RECOMMENDATIONS.

		PAVI	EMENT SECTION	ON DETAIL			
STREET NAME	CLASSIFICATION	STATION	TYPE "D" HMAC SURFACE TXDOT ITEM 340, in.	TYPE "C" HMAC SURFACE TXDOT ITEM 340, in.	AGGREGATE BASE, in. (TxDOT ITEM 247 TYPE A GRADE 1 OR 2)	STABILIZED SUBGRADE	STRUCTURAL NUMBER
CAMELLO CREST	LOCAL B	10+00.00 TO END	1.5"	2.5"	18.5"	8"	4.99
ABEJA AVE	LOCAL B	10+00.00 TO END	1.5"	2.5"	18.5"	8"	4.99
BONITO LOOP	LOCAL B	12+14.82 TO END	1.5"	2.5"	18.5"	8"	4.99
BLACKTAIL CREST	COLLECTOR	48+46.82 TO 48+74.82	1.5"	2.5"	21.0"	8"	5.34

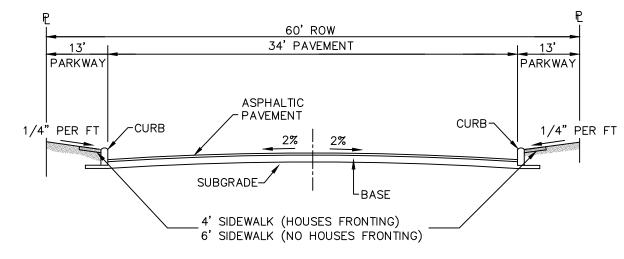
SUBGRADE NOTES (*):

- THE SUBGRADE PLASTICITY INDEX VALUE IS EXPECTED TO BE GREATER THAN 20. SUBGRADE STABILIZATION IS NEEDED.
- THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZATION. IF THE SOIL SULFATE CONTENT IS HIGH, AN ALTERNATE PROCEDURE
- LIME STABILIZATION TO A DEPTH OF 6 OR 8 INCHES AS NOTED ABOVE BASED ON AN APPLICAION RATE OF 7 PERCENT OF THE DRY WEIGHT OF THE SOIL TO BE TREATED.
 - LIME APPLICATION RATE OF 30 LBS PER SQ YARD FOR 6-INCH DEPTH OF STABILIZATION IS RECOMMENDED.
 - LIME APPLICATION RATE OF 39.0 LBS PER SQ YARD FOR 8—INCH DEPTH OF STABILIZATION IS RECOMMENDED.
- 4. THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS BEFORE STABILIZATION.
- 5. IF FILL IS USED TO RAISE THE GRADE, APPROVED FILL MATERIAL UNDERNEATH THE PAVEMENT SHOULD BE USED. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.0 AND THE PLASTICITY INDEX VALUES OF 65 OR LESS. LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND SULFATE CONTENT TESTED FOR THE MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.

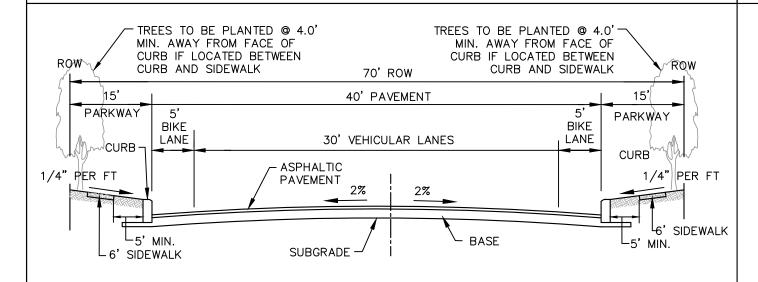
- INPUT PARAMETERS ARE SHOWN TABLE NO. 6. PLEASE CALL US TO PROVIDE PAVEMENT RECOMMENDATIONS, IF NEEDED, FOR DIFFERENT INPUT VALUES.
- 7. IF REPETITIVE TRUCK OR HEAVY TRUCK TRAFFIC IS ANTICIPATED, PLEASE CONTACT US FOR REVISED PAVEMENT RECOMMENDATIONS.
- 8. PAVEMENT SECTION RECOMMENDATIONS ARE BASED ON A CBR VALUE OF 2.0. THE PAVEMENT RECOMMENDATIONS ARE NOT BASED ON THE SHRINK / SWELL CHARACTERISTICS OF THE UNDERLYING SOILS. IF WATER IS ALLOWED TO GET
- UNDERNEATH THE ASPHALT / CONCRETE OR IF MOISTURE CONTENT OF THE BASE OR SUBGRADE CHANGES SIGNIFICANTLY, THEN PAVEMENT DISTRESS WILL OCCUR. MOISTURE PENETRATION UNDERNEATH THE ASPHALT PAVEMENT SURFACE MAY BE REDUCED BY USING DEEPER CURBS CURBS EXTENDING A MINIMUM OF 6 INCHES INTO SUBGRADE.
- THE PAVEMENT CAN EXPERIENCE CRACKING AND DEFORMATION DUE TO SHRINKAGE AND SWELLING CHARACTERISTICS OF THE SOILS AS DESCRIBED IN THE VERTICAL MOVEMENTS SECTION OF THIS REPORT. USE OF GEOGRID WILL HELP REDUCE SHRINK/SWELL RELATED CRACKING.

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

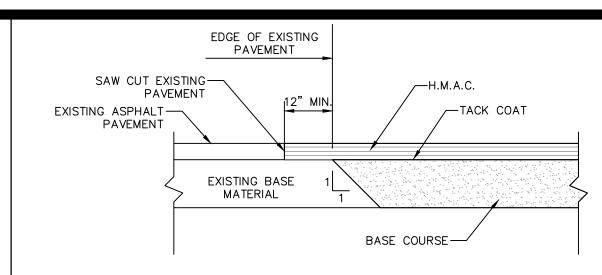
- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS. MAINTAIN MOISTURE DURING MELLOWING;
- AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE ¾ INCH SIEVE FROM THE SAMPLE):
- MINIMUM PASSING 1 ¾" SIEVE
- MINIMUM PASSING 34" SIEVE MINIMUM PASSING NO. 4 SIEVE
- 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.
- COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED);
- CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ±1.0 INCH.
- PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT. SEE TABLE FOR STRUCTURAL NUMBER CALCULATION. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
- 2. A GEOTECHNICAL ENGINEERING REPRESENTATIVE SHALL BE RETAINED TO: (1) OBSERVE THE SITE PREPARATION AND SUBGRADE OPERATIONS: (2) EVALUATE THE ACTUAL SUBGRADE MATERIAL CLASSIFICATION; AND (3) VERIFY THAT RECOMMENDATIONS ARE FOLLOWED. THE ACTUAL SUBGRADE CONDITION AT A PARTICULAR LOCATION WILL NEED TO BE EVALUATED DURING CONSTRUCTION ONCE THE SUBGRADE IS CUT/FILLED TO THE PROPER GRADE.
- 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 GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.
- IF ALTERNATE PAVEMENT SECTION CHOSEN, BEXAR COUNTY SHALL BE PROVIDED WITH REVISED CONSTRUCTION PLANS INDICATING SELECTED PAVEMENT DESIGN PRIOR TO CONSTRUCTION.
- 6. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE DUE TO RETESTING OF SOIL AFTER STREET EXCAVATION HAS BEEN DONE TO TOP OF CURB.
- 8. CONTRACTOR SHALL CONTACT ENGINEER 24 HRS IN ADVANCE FOR FIELD OBSERVATION DURING STREET CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO CONTACT ENGINEER FOR INSPECTION OF THE SUBGRADE, BASE, ASPHALT, AND CURB.



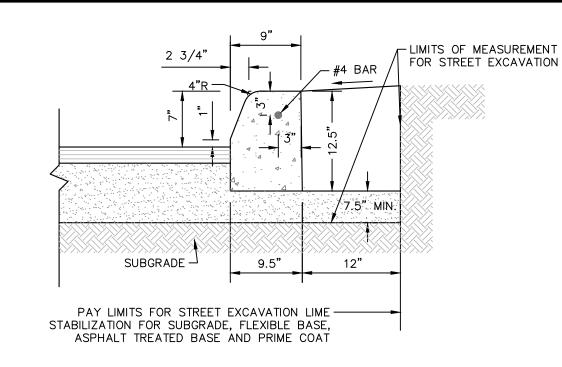
LOCAL B STREET SECTION NOT-TO-SCALE



COLLECTOR A STREET SECTION w/ BIKE LANE NOT-TO-SCALE

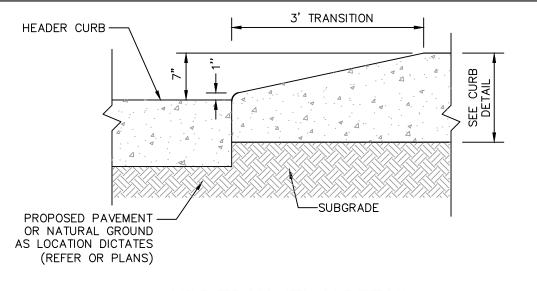


ASPHALT/ASPHALT JUNCTURE DETAIL NOT-TO-SCALE



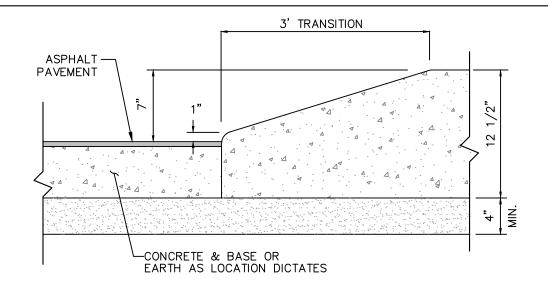
CONCRETE CURB DETAIL

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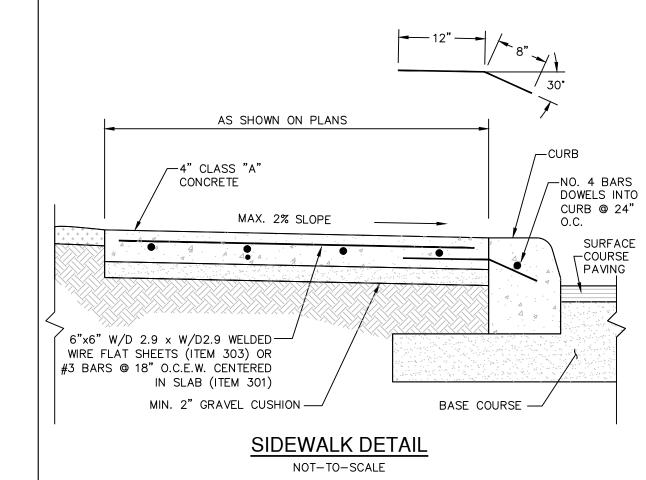


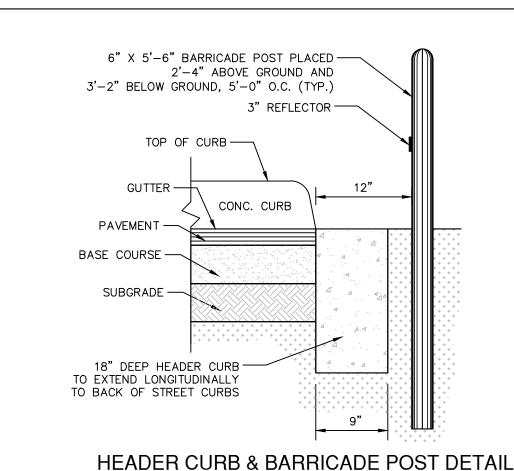
CURB TRANSITION DETAIL (FROM HEADER CURB TO STANDARD CURB

NOT-TO-SCALE



CURB TRANSITION DETAIL (FROM PAVEMENT TO STANDARD CURB) NOT-TO-SCALE





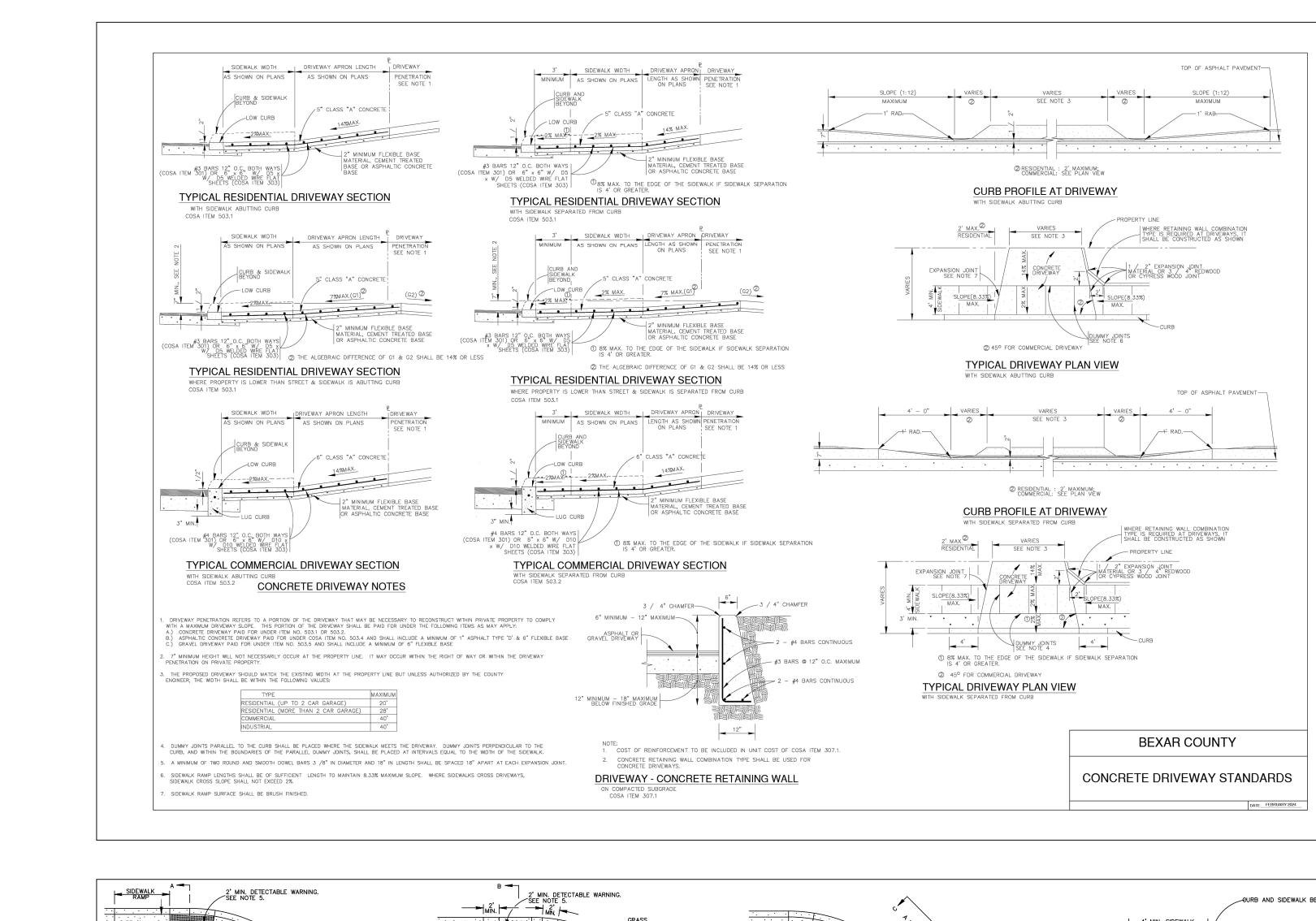
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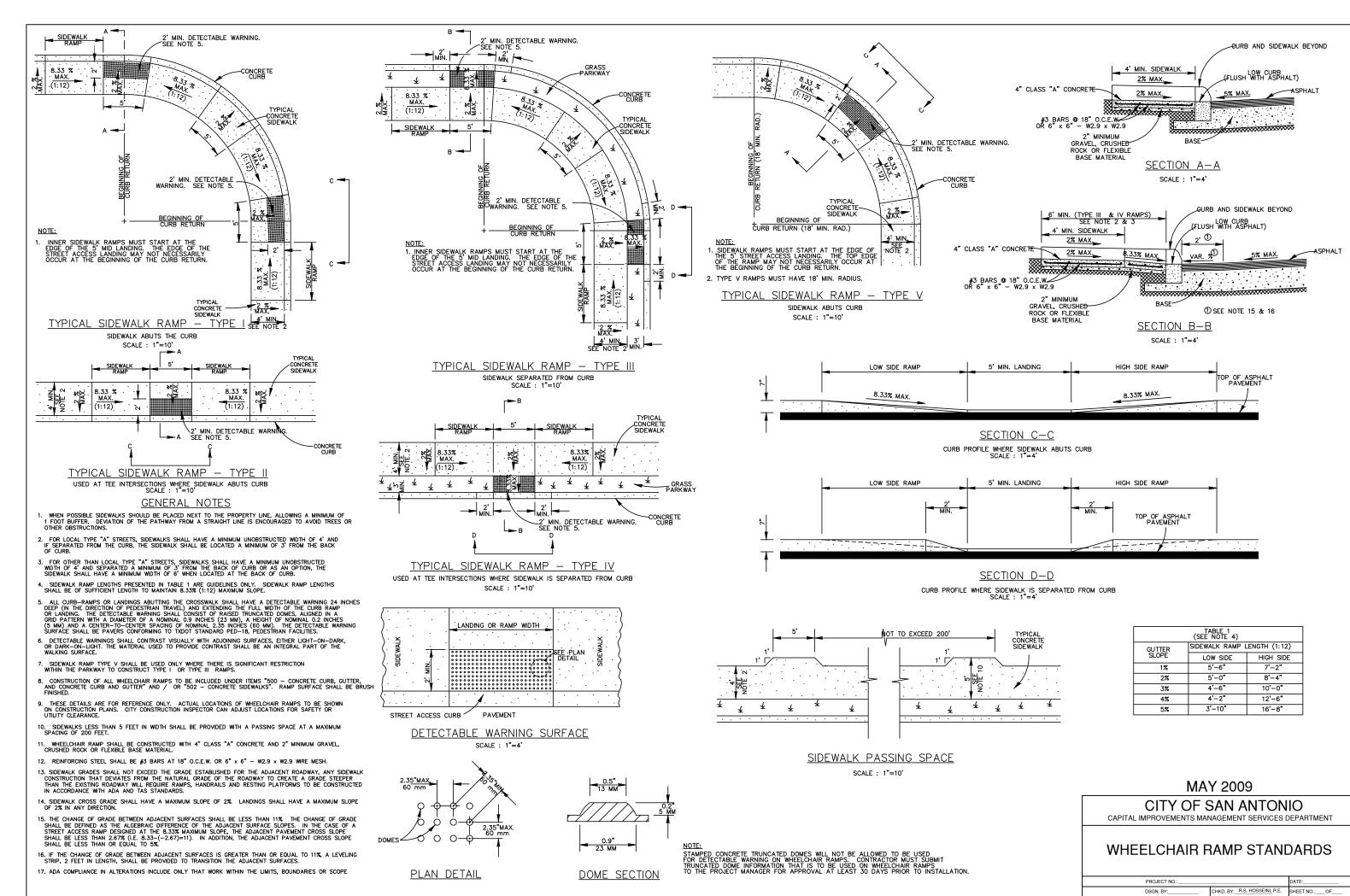
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PLAT NO. **24-1180027** JOB NO. 11668-17 ATE NOVEMBER 2024 DESIGNER HECKED DRAWN AR

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PAPE-DAWSON

ENGINEERS

2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000

TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

10/24/202

PRESERVE AT CULEBRA-UN BEXAR COUNTY, TEXAS

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PLAT NO. 24-11800273

JOB NO. 11668-17

DATE OCTOBER 2024

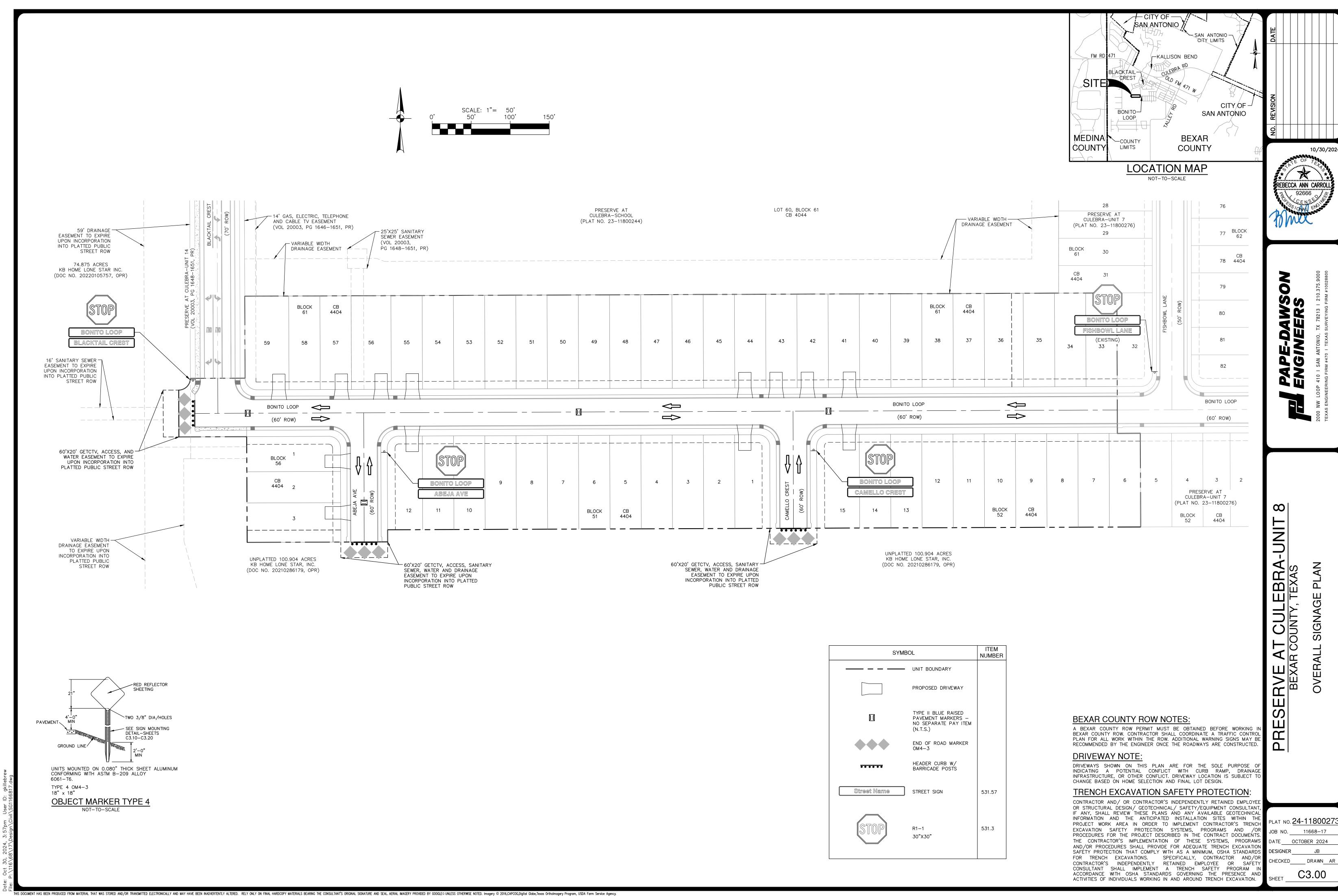
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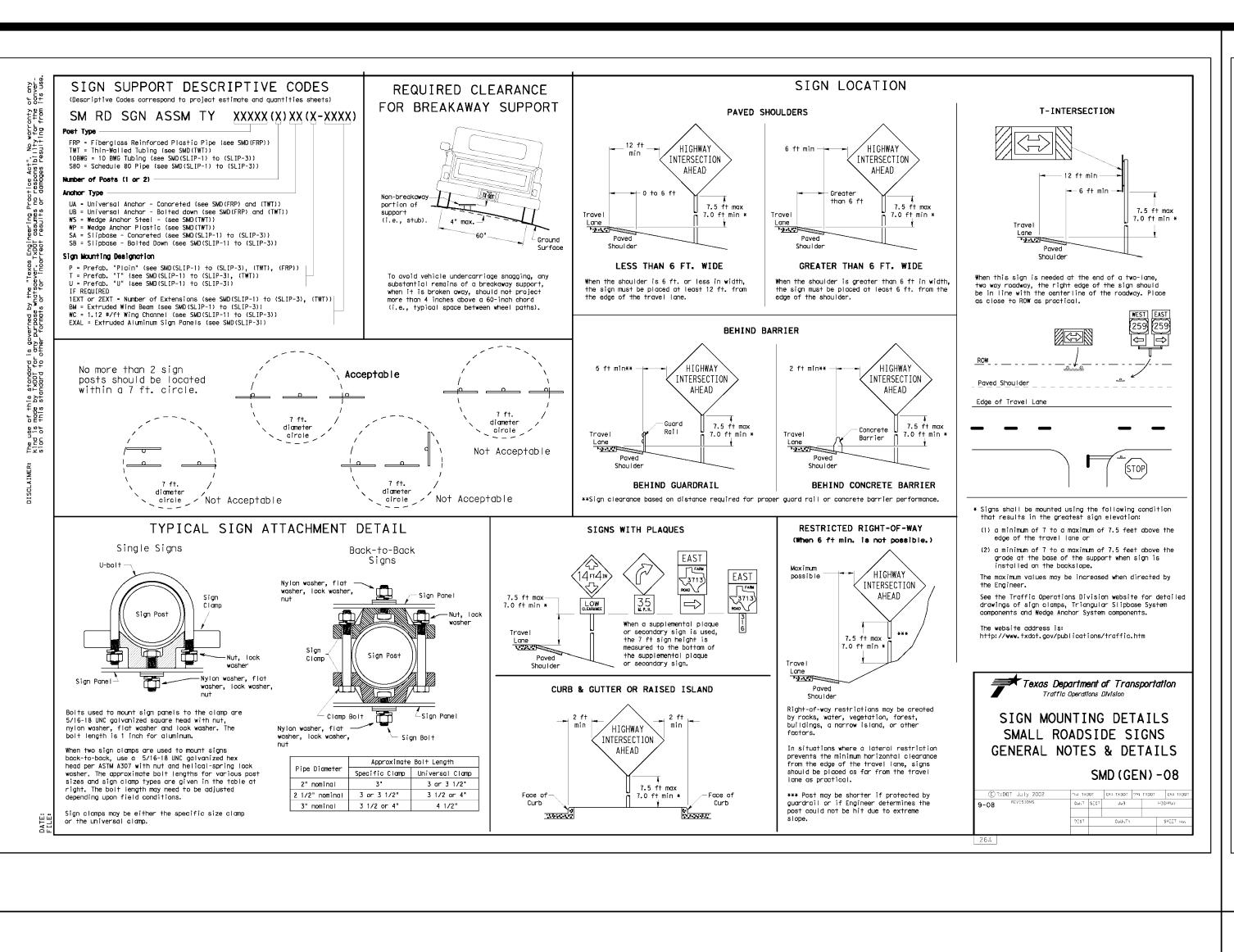
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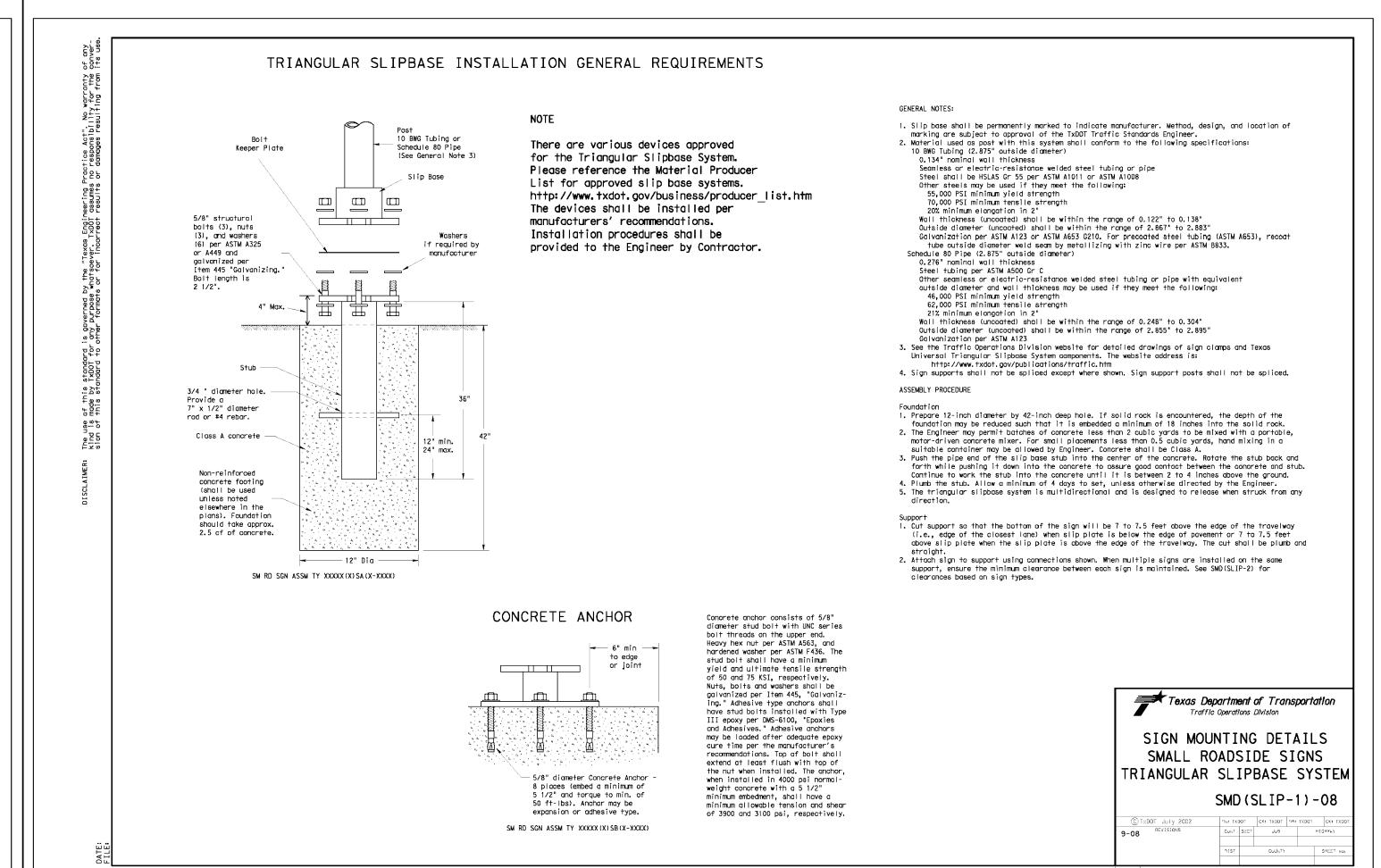
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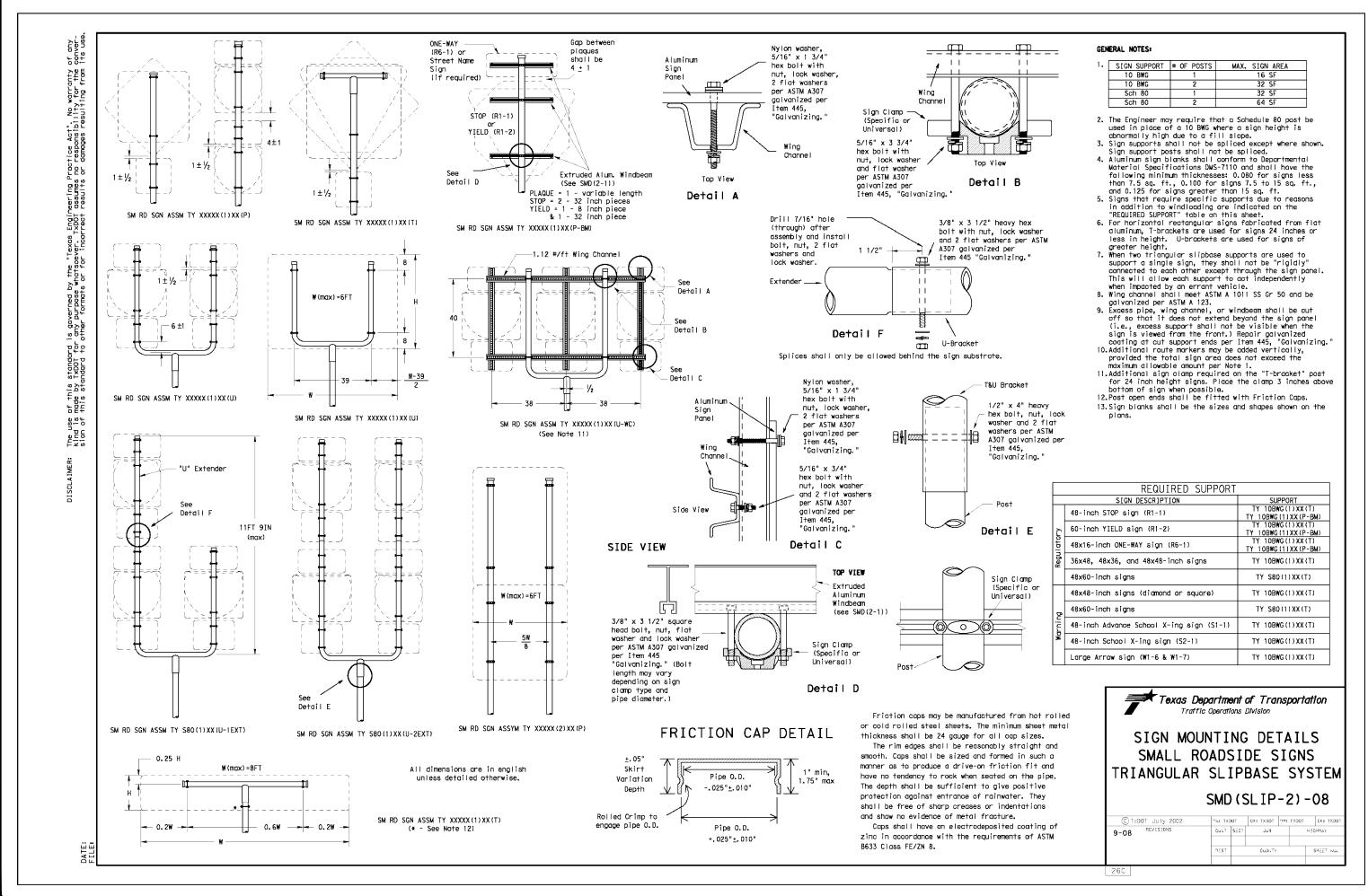


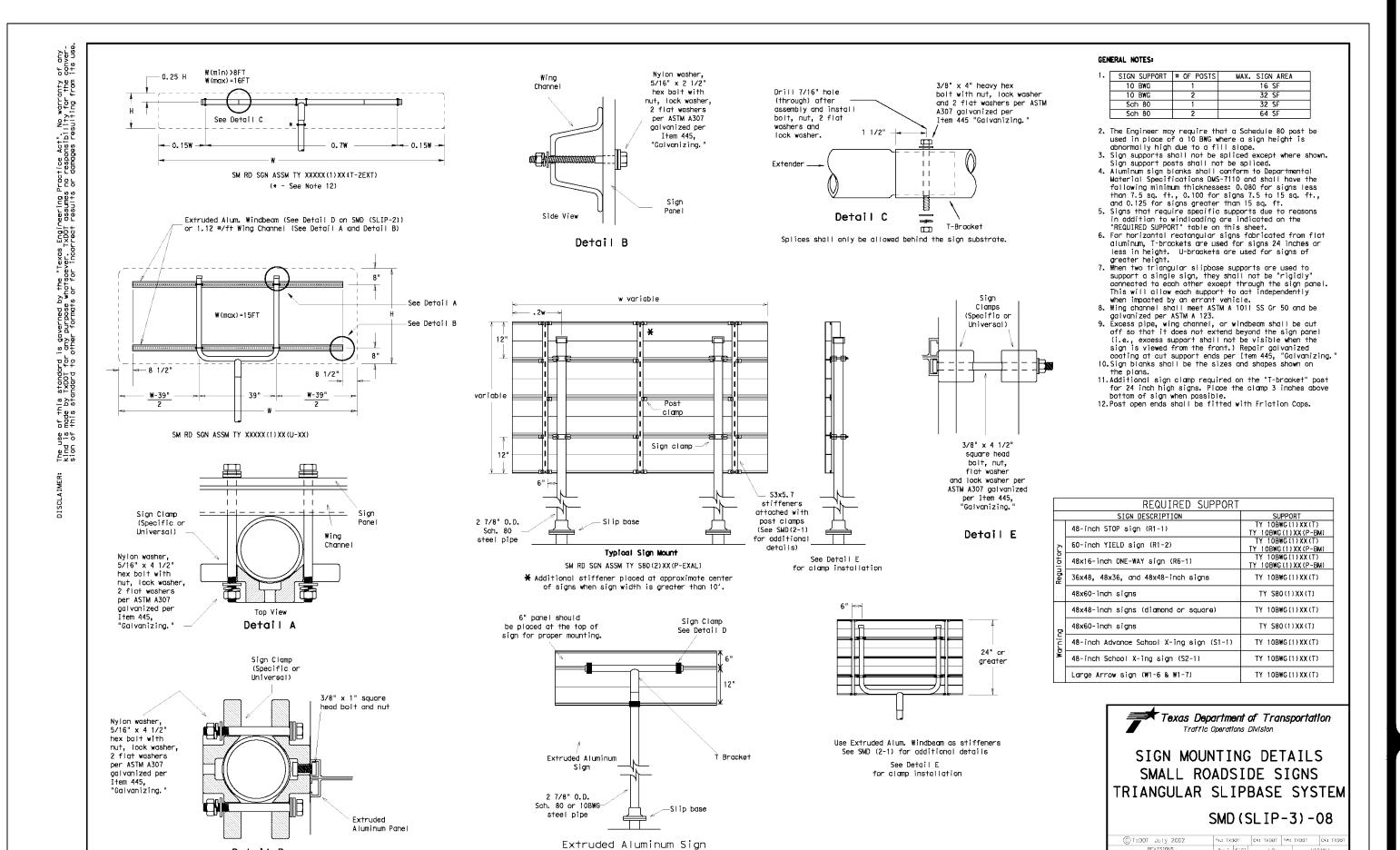
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With T Bracket

EXTRUDED ALUMINUM SIGN WITH T BRACKET

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PAPE-DAWS

ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM

RESERVE AT CULEBRA-UN BEXAR COUNTY, TEXAS

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PLAT NO. 24-11800273

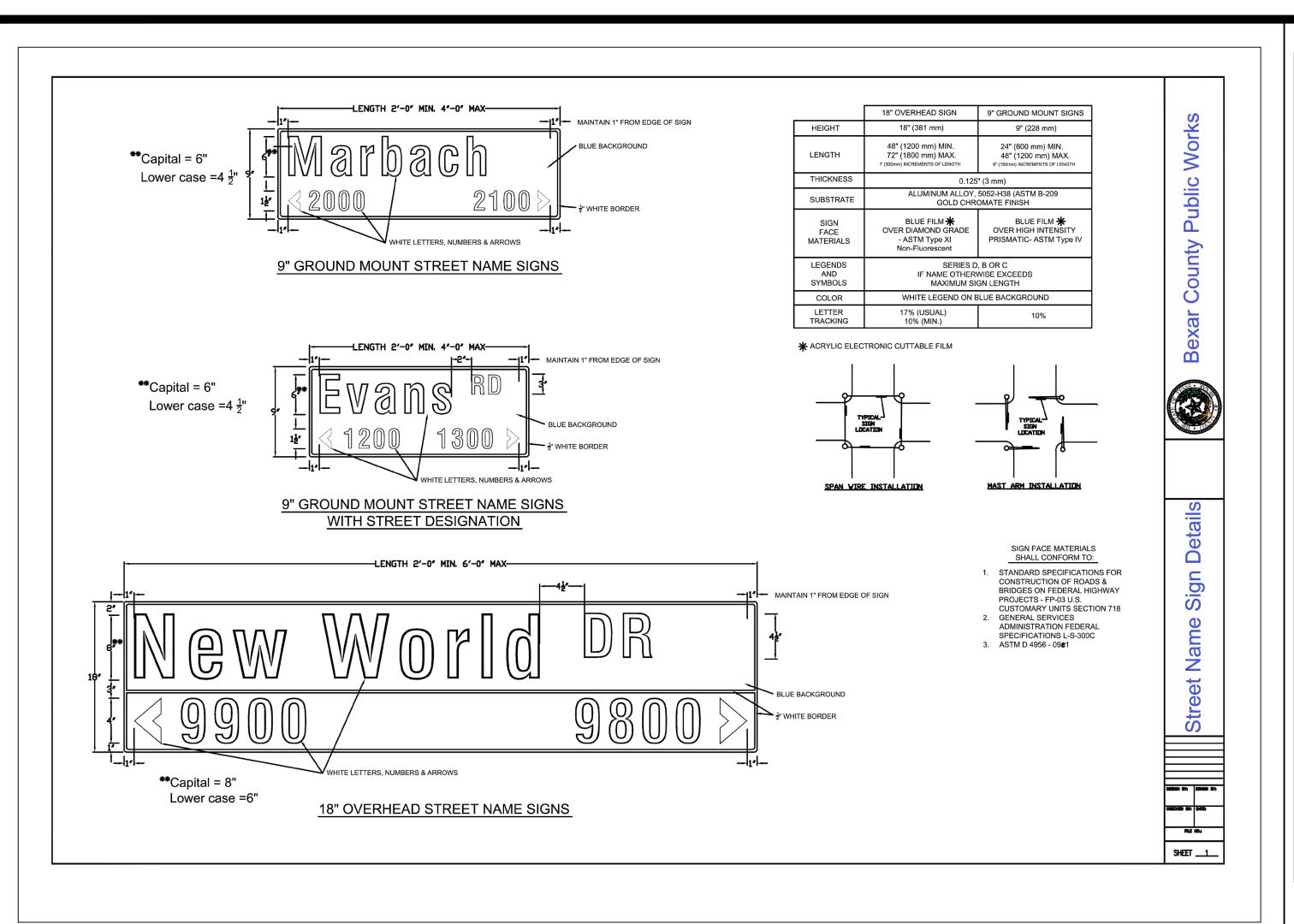
JOB NO. 11668-17

DATE OCTOBER 2024

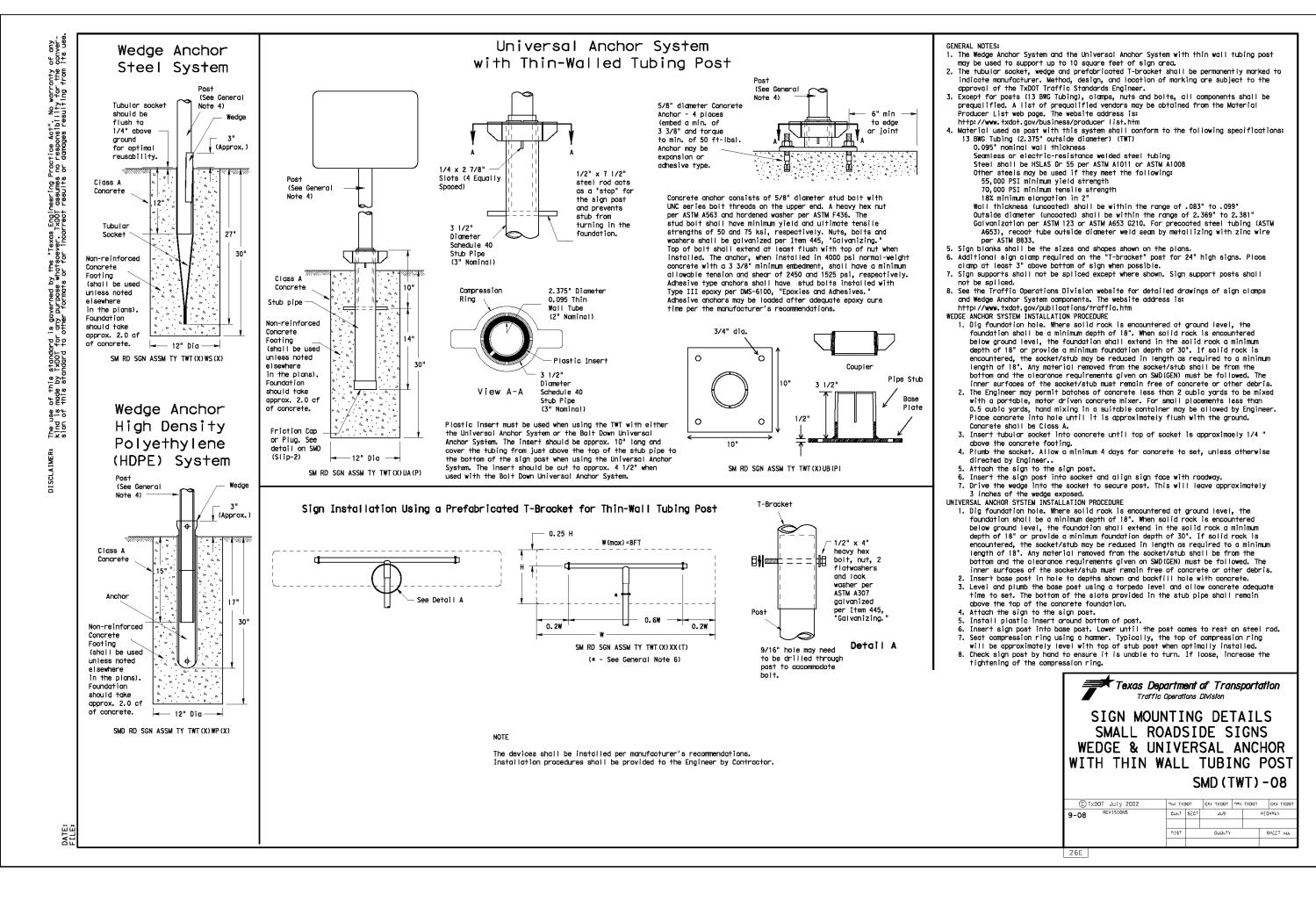
DESIGNER JB

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IGNAGE (SHEET)

10/29/202

rebecca ann carro

depth of 18" or provide a minimum foundation depth of 30". If solid rock is from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete

mixed with a portable, motor driven concrete mixer. For small placements

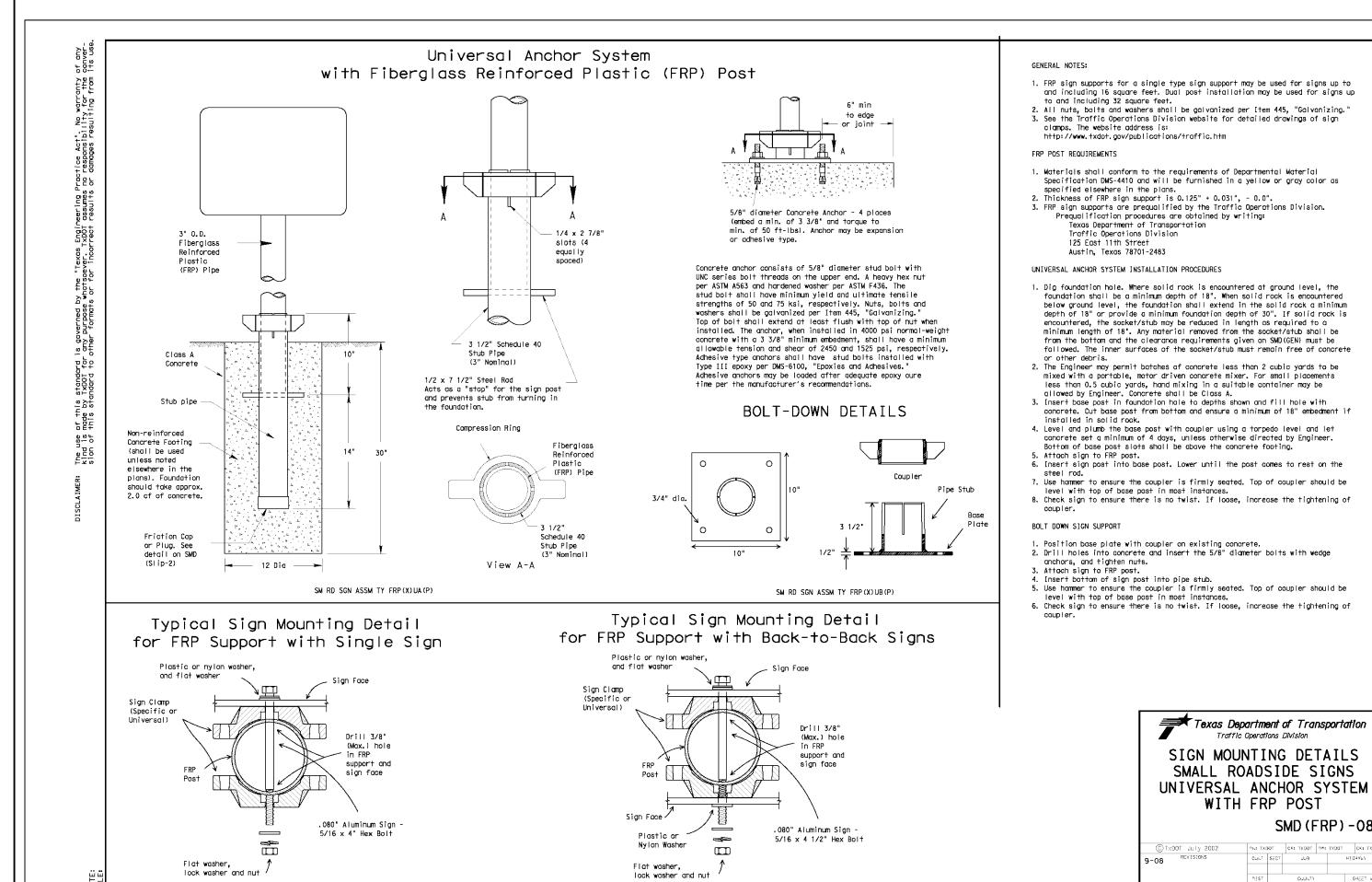
installed in solid rock. 4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.

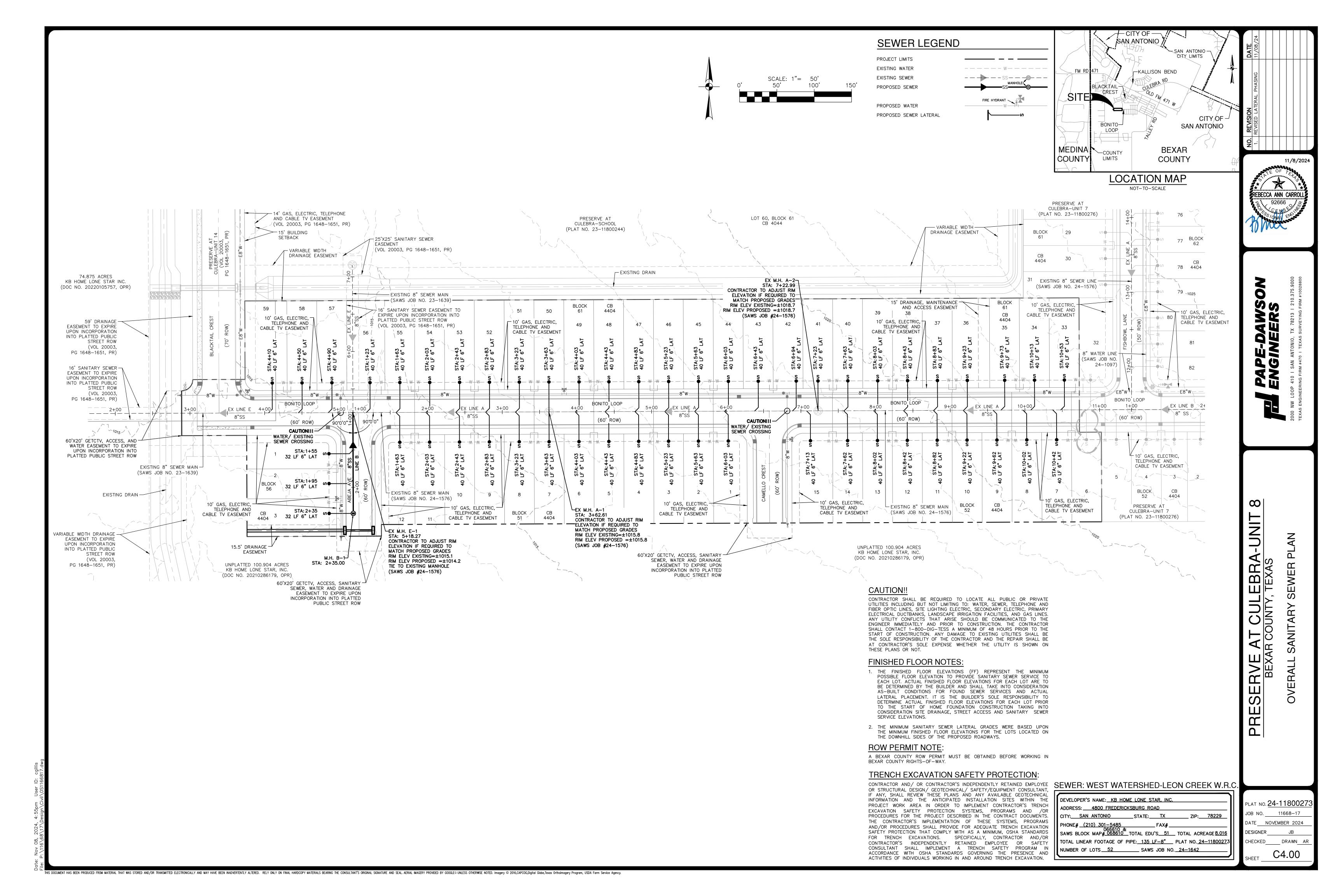
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be

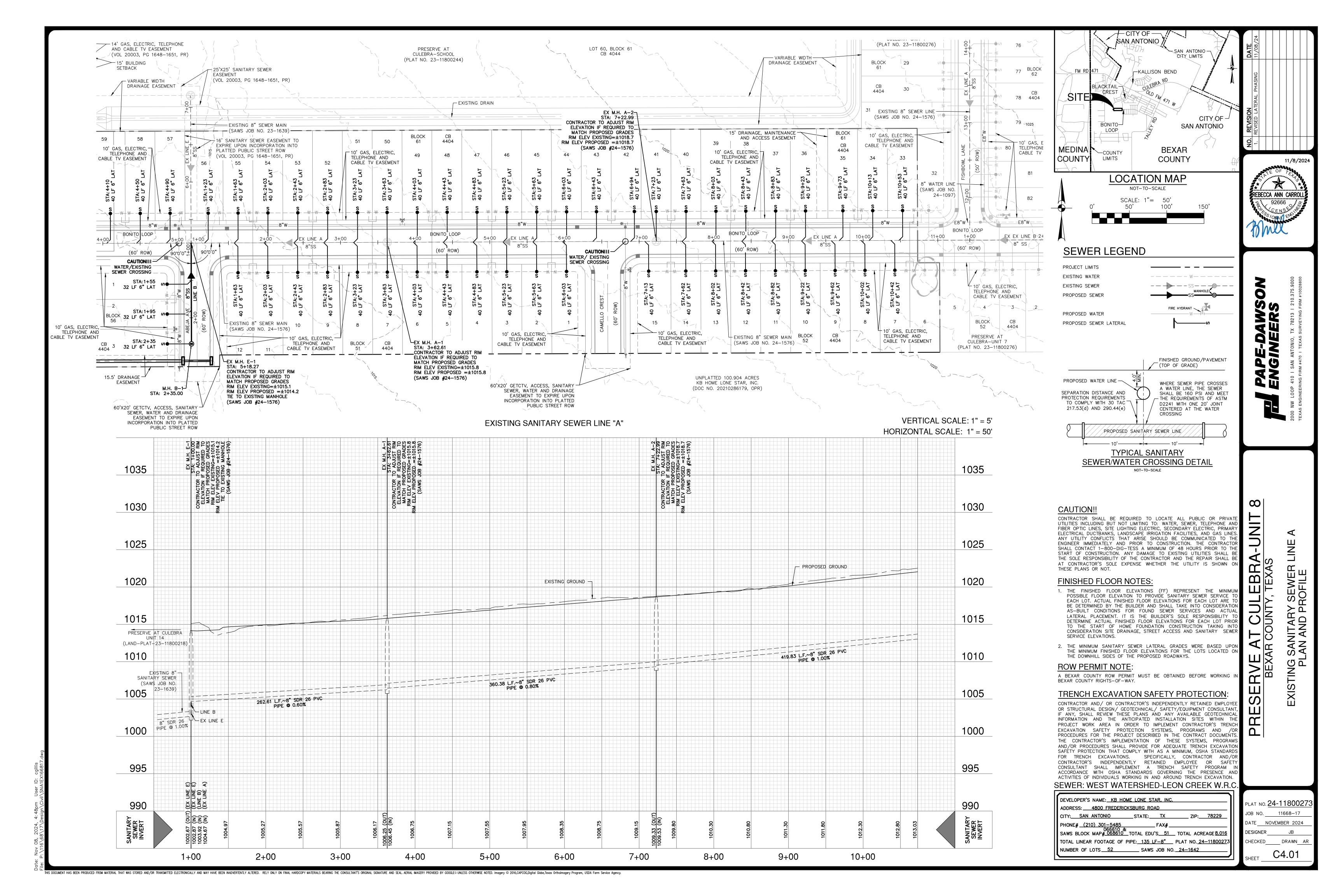
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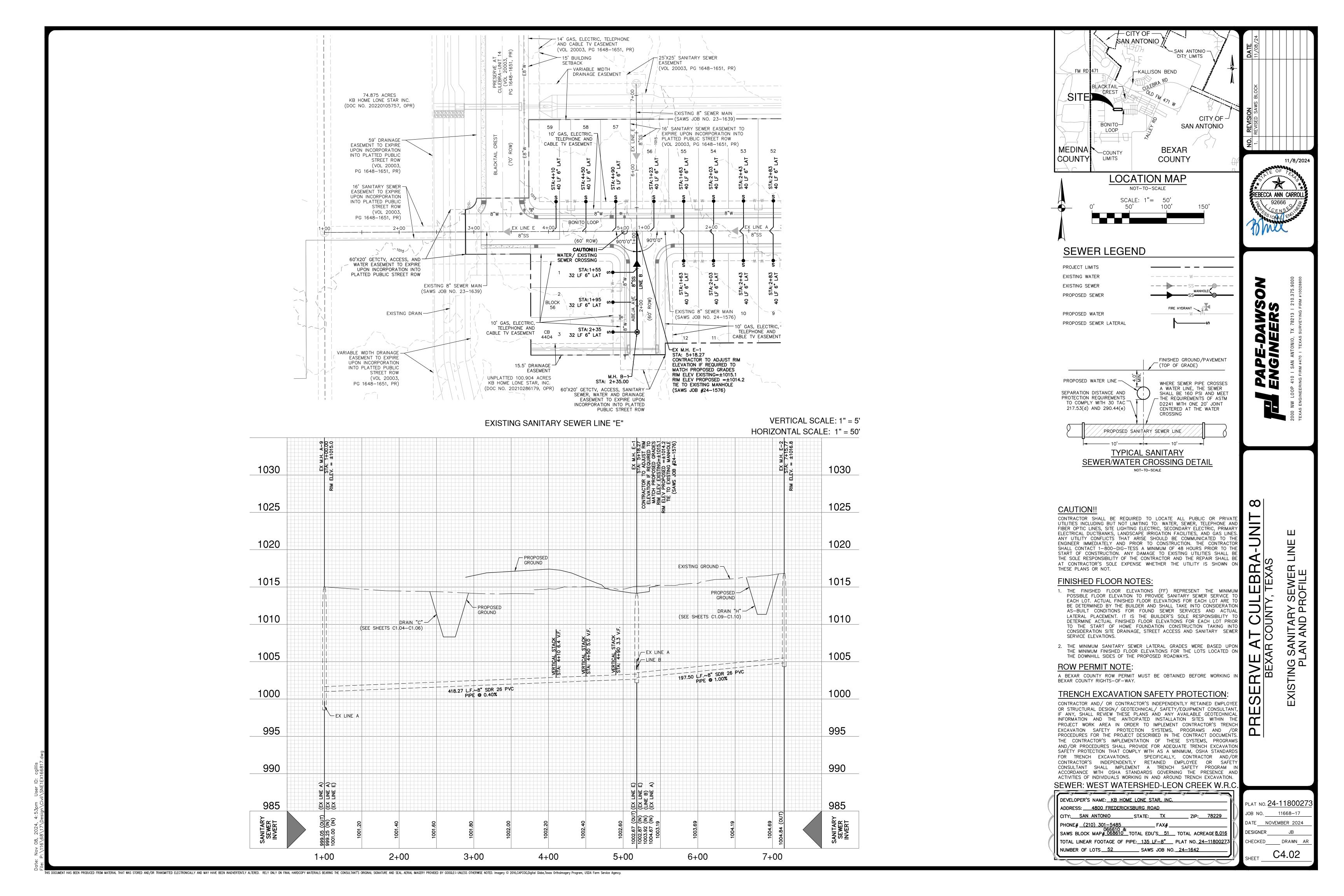
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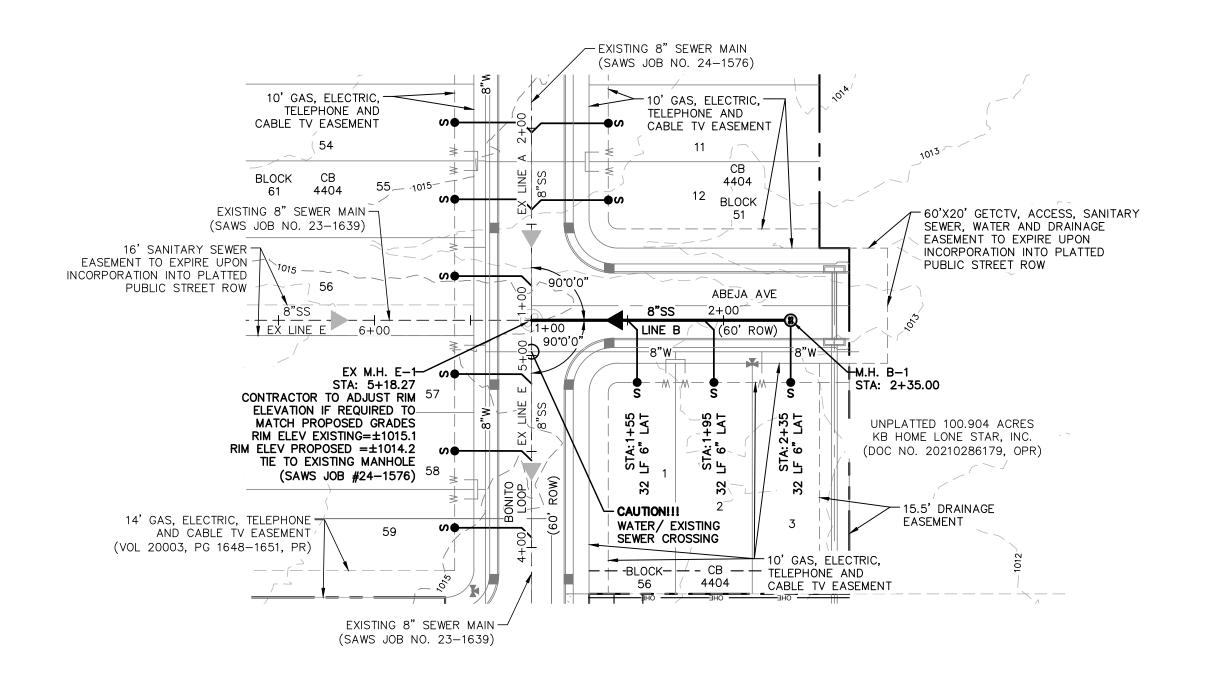
LAT NO. **24-1180027** UNIVERSAL ANCHOR SYSTEM WITH FRP POST DESIGNER

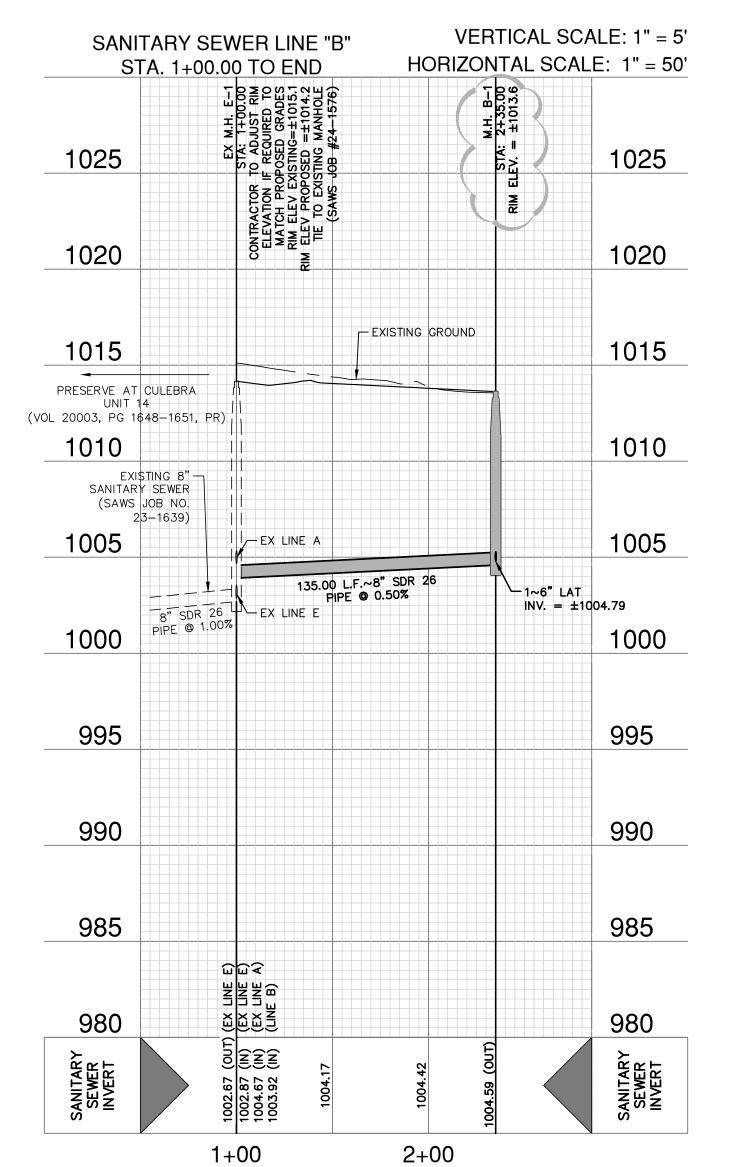


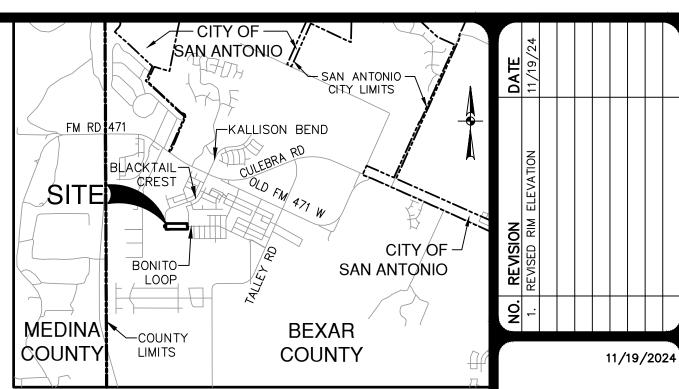






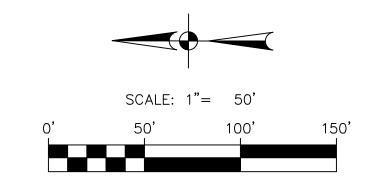




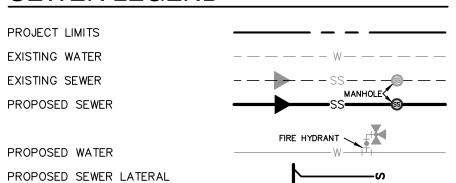


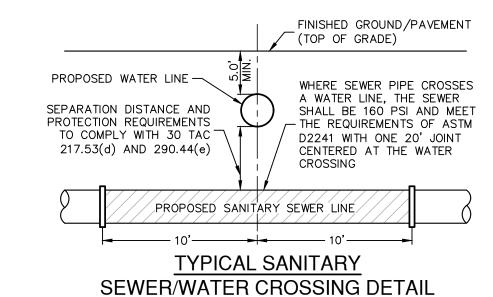
LOCATION MAP NOT-TO-SCALE

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SEWER LEGEND





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CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING 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 THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL E AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

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

	DEVELOPER'S NAME: KB HOME LONE STAR, INC. ADDRESS: 4800 FREDERICKSBURG ROAD
(ADDRESS: 4800 FREDERICKSBURG ROAD
	CITY: SAN ANTONIO STATE: TX ZIP: 78229
	PHONE# (210) 301-5485 FAX#
	PHONE# <u>(210) 301-5485</u> FAX# FAX# FAX# FAX# FAX# FAX# FAX# FAX# FAX#

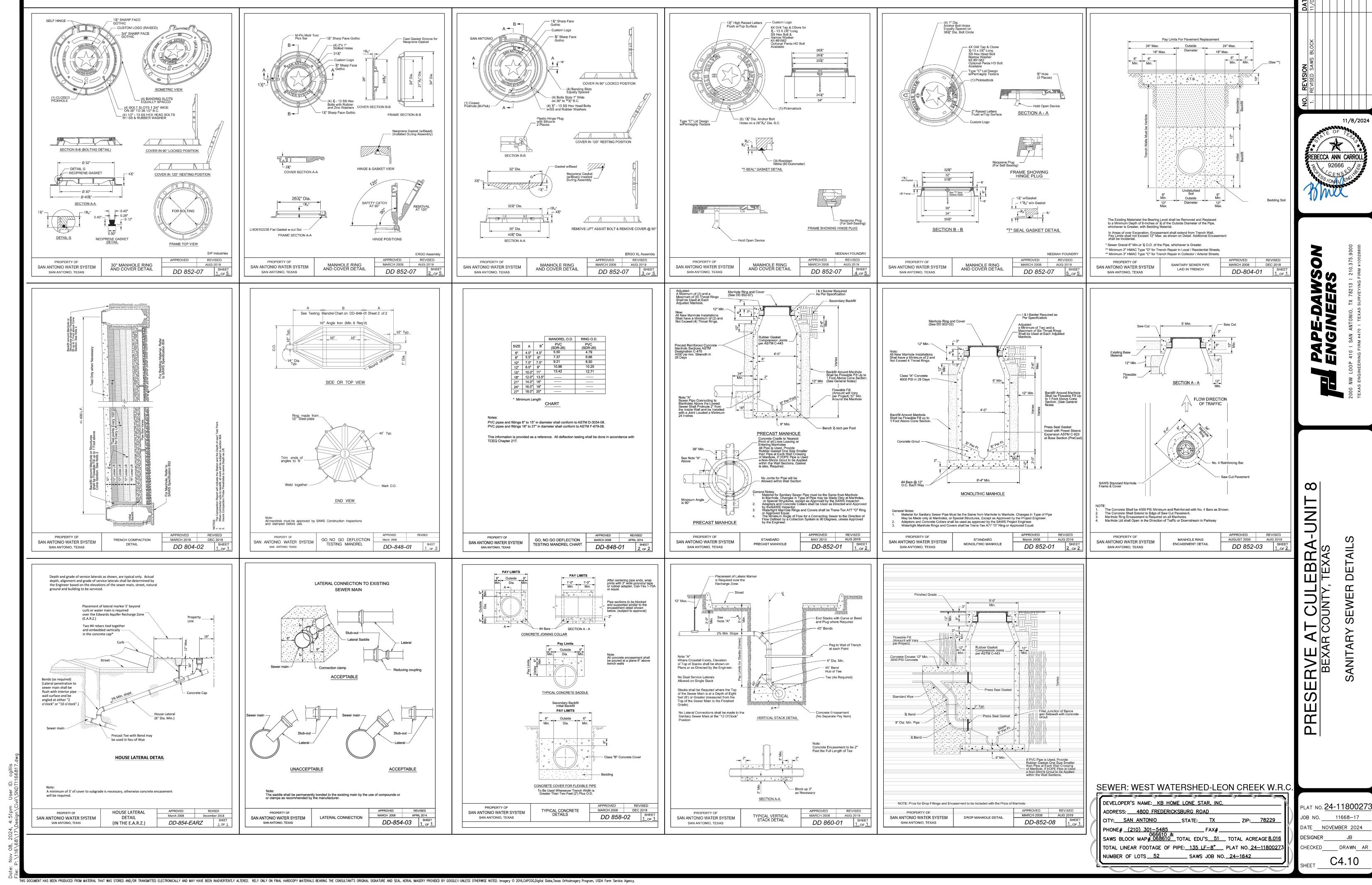
TOTAL LINEAR FOOTAGE OF PIPE: 135 LF-8" PLAT NO. 24-11800273

_____ SAWS JOB NO. 24-1642

PLAT NO. **24-118002**7 11668-17 DATE NOVEMBER 2024 DESIGNER DRAWN AR

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SAWS CONSTRUCTION NOTES (LAST REVISED JANUARY 2022)

SAWS GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
- A.CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".

 C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
- D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".

 E.CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"
- 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 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.
- 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.

SAWS SEWER NOTES

- 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 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
- I. 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, "BYPASS PUMPING".
- 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.
- 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.

11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON PROJECT SEWER NOTES

- 1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED TO 10' PAST THE PROPERTY LINE AND CAPPED AND SEALED. CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- 2. CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET C4.10.
- 3. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- 4. ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
- 5. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- 6. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- 7. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
- 8. CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- 9. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- 10. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND, WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.
- 12. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- 13. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- 14. IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATIONS SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5' ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- 15. ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT.

SEWER: WEST WATERSHED-LEON CREEK W.R.C

DEVELOPER'S NAME: KB HOME LONE STAR, INC.

ADDRESS: 4800 FREDERICKSBURG ROAD

CITY: SAN ANTONIO STATE: TX ZIP: 78229

PHONE# (210) 301-5485 FAX#

O66610 & SAWS BLOCK MAP# 068610 TOTAL EDU'S 51 TOTAL ACREAGE 8.016

TOTAL LINEAR FOOTAGE OF PIPE: 135 LF-8" PLAT NO. 24-11800273

NUMBER OF LOTS 52 SAWS JOB NO. 24-1642

NO. REVISION

1. REVISED SAWS BLOCK

1. REVISED SAWS BLOCK

1. REVISED SAWS BLOCK

1. REVISED SAWS BLOCK



ENGINERING FIRM #470 I TEXAS SURVEYING FIRM #

COUNTY, TEXAS

PLAT NO. 24-1180027

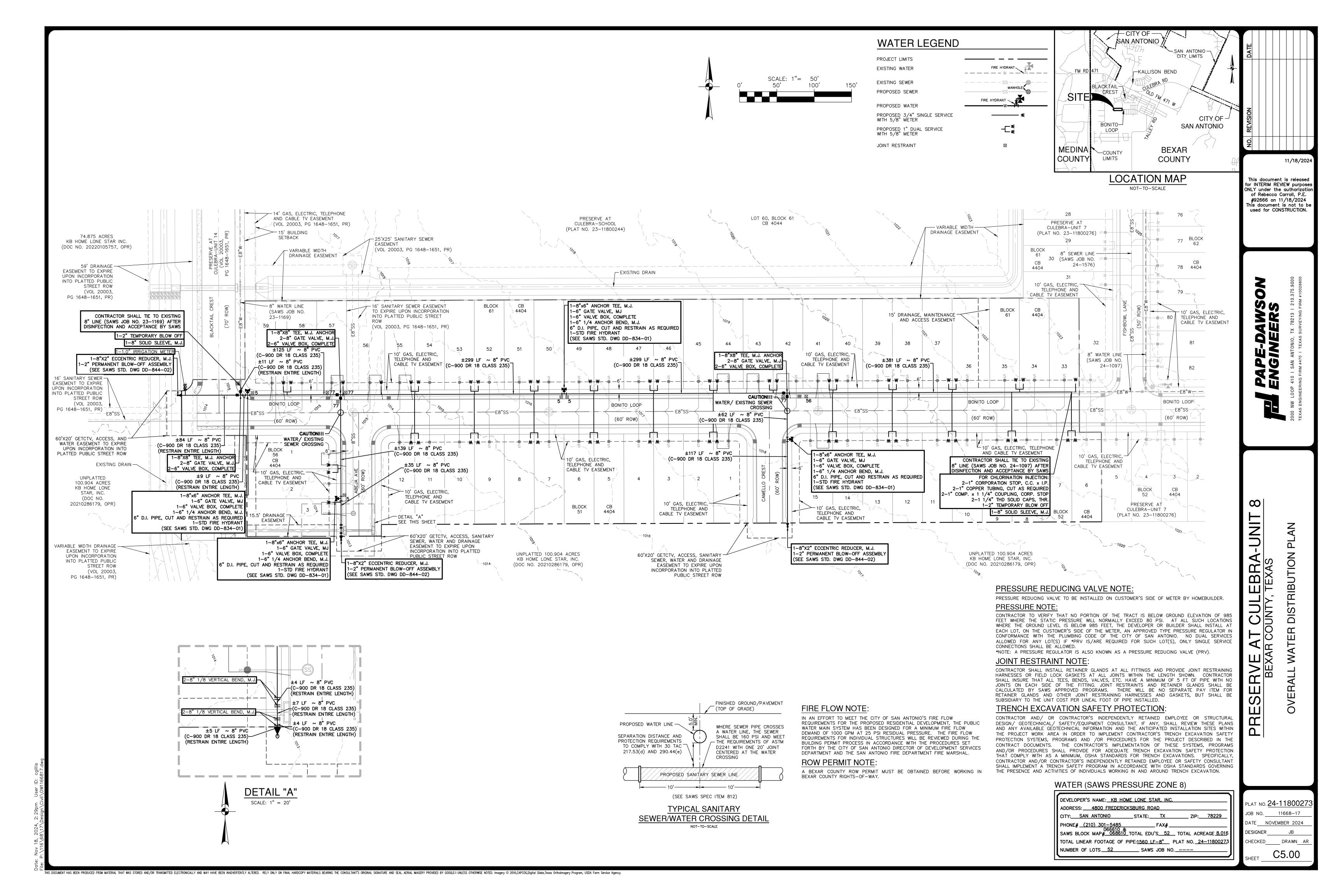
JOB NO. 11668-17

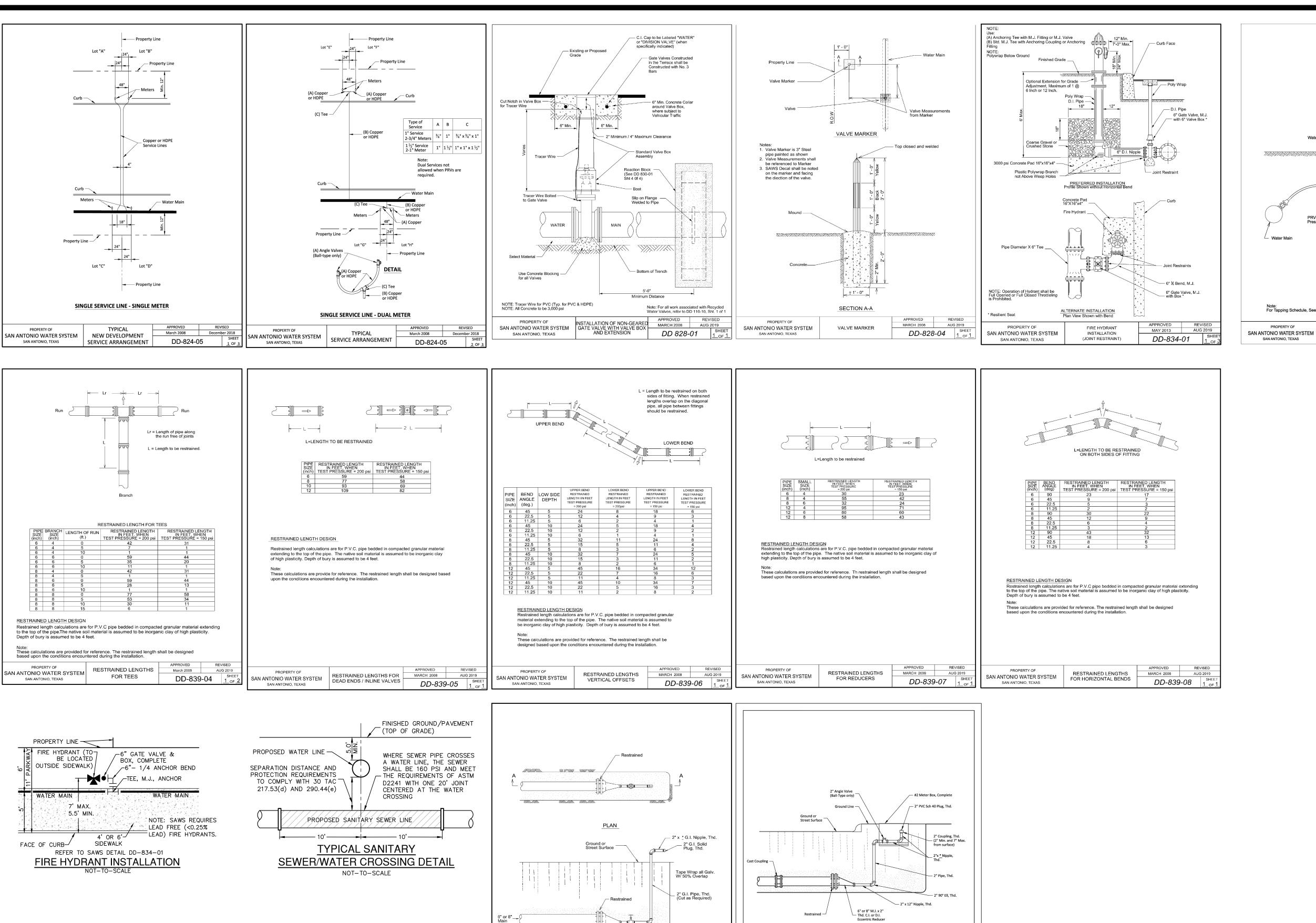
DATE NOVEMBER 2024

DESIGNER JB

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PRE

BRA-UNIT EXAS

WATER (SAWS PRESSURE ZONE 8) DEVELOPER'S NAME: KB HOME LONE STAR, INC. _ ZIP:____78229_

1" to 1' - 6"

APPROVED
MARCH 2008
APRIL 2014
- SHEET

DD-833-03

PRV will meet ANSI/ASSE #1003-82 Water Pressure Reducing Valve Requirements

Note: For Tapping Schedule, See DD-824-01 Sheet 3 of 3.

SAN ANTONIO, TEXAS

3/4" THRU 2" SERVICE PRESSURE REDUCING VALVE 9/30/2024

rebecca ann carrol

LAT NO. **24-1180027** 11668-17 DATE SEPTEMBER 2024 DESIGNER DRAWN AR C5.10

ADDRESS: 4800 FREDERICKSBURG ROAD CITY: SAN ANTONIO PHONE# (210) 301-5485 SAWS BLOCK MAP# 068610 TOTAL EDU'S 52 TOTAL ACREAGE 8.016 TOTAL LINEAR FOOTAGE OF PIPE: 1560 LF-8" PLAT NO. 24-11800273 NUMBER OF LOTS <u>52</u> SAWS JOB NO. <u>----</u>

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1-1/8 BEND-

ALL JOINTS ARE FULLY RESTRAINED IN

ACCORDANCE WITH SAWS SPECIFICATION

└WATER MAIN

TABLE DD-839-06. TYPICAL UTILITY/WATER CROSSING DETAIL NOT-TO-SCALE

-MISC. UTILITY (I.E.: RCP/BOX

─WATER MAIN

-1-1/8 BEND

DUCTBANK)

CULVERT, GAS OR ELECTRICAL

FINISHED GRADE

-WATER MAIN

1-1/8 BEND-

1-1/8 BEND-

WATER MAIN-

FINISHED GRADE 6" or 8" M.J. x 2" Thd. C.I. or _ D.I. Eccentric Reducer 1-1/8 BEND--1-1/8 BEND WATER MAIN-WATER MAIN -WATER MAIN SECTION A-A _1-1/8 BEND cut as required to extend beyond excavation

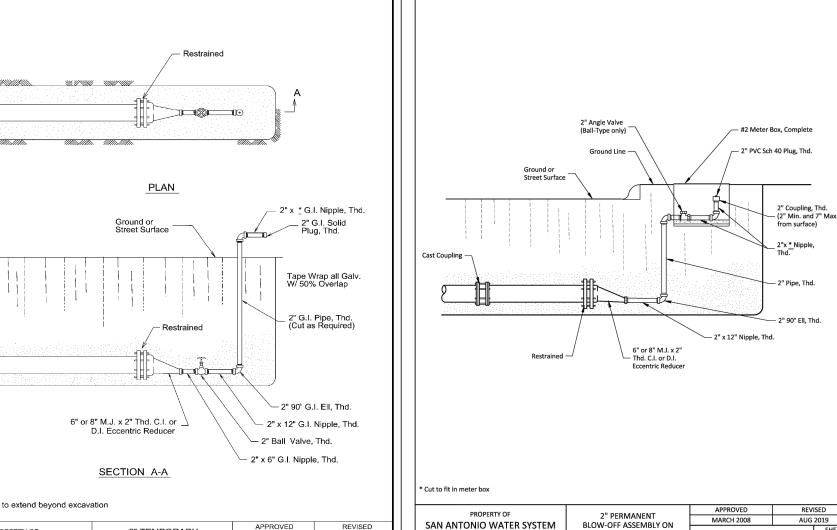
-MISC. UTILITY (I.E.: RCP/BOX

DUCTBANK)

CULVERT, GAS OR ELECTRICAL

AN ANTONIO WATER SYSTEM

SAN ANTONIO, TEXAS



SAN ANTONIO, TEXAS

DD-844-02

MARCH 2008

DD-844-01

AUG 2019

2" TEMPORARY

BLOW-OFF ASSEMBLY

ON 6" & 8" MAINS

	1. A
	2. TT C S A R C C R R
	6. TA W LL F F CO O P A C C C C C C C C C C C C C C C C C C
	11. H SC VCR AA A CM P B S LL A P A LA A A LA L

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SAWS CONSTRUCTION NOTES

(LAST REVISED JANUARY 2022)

AWS GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - A.CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) 'DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
 - B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE" C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
 - D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- 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 (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.
- LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIFID VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE JTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES ND 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
- 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.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- 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 ONSTRUCTION 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.

- 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.
- COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION NSPECTION DIVISION.

SAWS WATER NOTES

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION 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 ACCORDINGLY.
 - FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS- CONTAINING MATERIAL (ACM). MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)
- SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- 5. ALL VALVES SHALL READ "OPEN RIGHT".
- 6. PRVS REQUIRED: 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 8. WATER METER BOXES IF APPLICABLE SHALL BE INSTALLED NINE FEET FROM LOCATIONS WHERE THE GROUND LEVEL IS BELOW <u>985</u> FEET, 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. *NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
- PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- 8. BACKFLOW PREVENTION DEVICES:
- ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES. ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
- UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- 10. DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION T SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OF BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LID LABELED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT

WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.

PROJECT WATER NOTES

MACHINE CHLORINATION BY THE S.A.W.S.

PROVIDED FOR IN THE SPECIAL CONDITIONS.

- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK 3. ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR. AS
 - THE WATER LINES WILL BE SET FROM THE STREET HUBS BEFORE THIS CONTRACT BEGINS. STREET CUT SHEETS WILL BE SUPPLIED TO THE CONTRACTOR. THERE SHOULD BE NO ADDITIONAL STAKES REQUIRED, AND I SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE SITE AND VERIFY THAT ALL STAKES REQUIRED FOR HIS WORK ARE IN PLACE AT THE TIME THE CONSTRUCTION BEGINS. IF ANY STAKES ARE MISSING THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY. AFTER CONSTRUCTION BEGINS, ALL CONSTRUCTION STAKES, MARKS, ETC., SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR, AND IN CASE OF DESTRUCTION OR REMOVAL BY THE CONTRACTOR, HIS EMPLOYEE OR ANY OTHER MEANS, SUCH STAKES, MARKS, ETC., SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE FINAL MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.
 - THE LOT CORNERS WILL BE SET BY THE ENGINEER FOR INSTALLATION OF ALL WATER SERVICES. THESE LOT CORNERS SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR SO THE METER BOXES CAN BE SET IN PHASE II. ANY LOT CORNER DESTROYED OR REMOVED BY THE CONTRACTOR, HIS EMPLOYEES, OR BY ANY OTHER MEANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - STREETS WILL HAVE BEEN EXCAVATED DOWN TO SUBGRADE AND THE PARKWAY WILL BE CUT DOWN TO TOP OF CURB BY THE STREET CONTRACTOR. PRIOR TO CONSTRUCTION OF THE WATER MAINS. IT WILL BE THE UTILITY CONTRACTOR'S RESPONSIBILITY TO PROVIDE A PAD FOR HIS EQUIPMENT.
 - FACE OF CURB TO CENTER OF THE METER BOX.
 - 9. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
 - D. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED AND THE S.A.W.S. RELEASES THE MAIN FOR TIE-IN AND USE.
 - . UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE FIRE HYDRANT, 6-INCH GATE VALVE AND 6-INCH VALVE BOX COMPLETE, ANCHOR BEND, AND ALL 6-INCH DI PIPE REQUIRED (DI PIPE REQUIRED SHALL INCLUDE ALL PIPE FROM THE TEE ON THE MAIN LINE TO THE FIRE HYDRANT).
 - 2. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS" (1988 OR ANY REVISIONS THERETO).
 - 13. A CLEAR SPACE SHALL BE PROVIDED AROUND ALL FIRE HYDRANTS. THIS AREA SHOULD HAVE A MINIMUM DIAMETER OF 3.0' AND BE CLEAN OF VERTICAL OBSTRUCTIONS, VALVES, AND METER BOXES.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE 14. SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
 - I5. UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" METER.



BRA

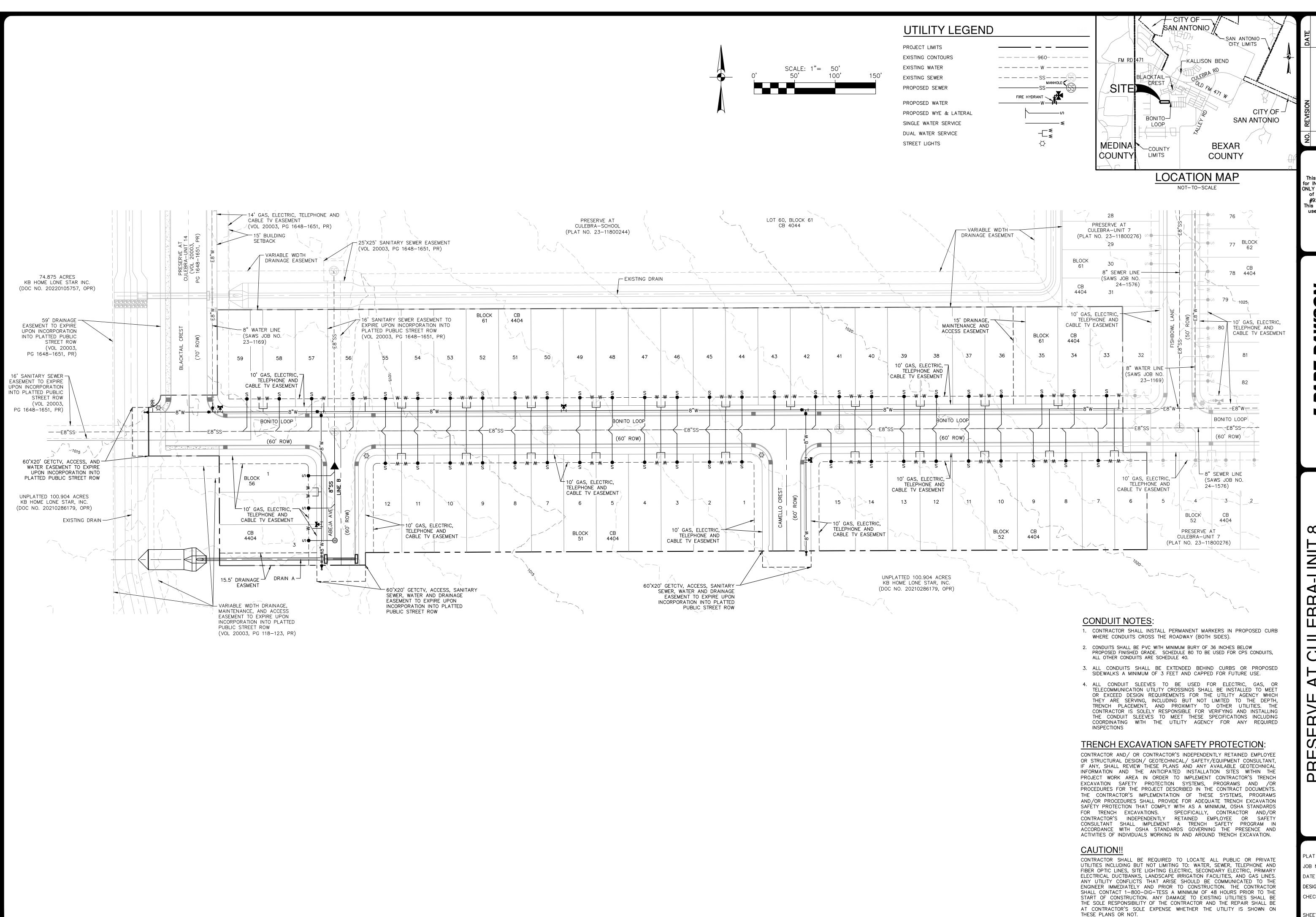
WATER (SAWS PRESSURE ZONE 8)

DEVELOPER'S NAME: KB HOME LONE STAR, INC. ADDRESS: 4800 FREDERICKSBURG ROAD _ ZIP:<u>78229</u> CITY: SAN ANTONIO PHONE# (210) 301-5485 SAWS BLOCK MAP# 068610 TOTAL EDU'S 52 TOTAL ACREAGE 8.016

NUMBER OF LOTS 52 SAWS JOB NO. ----

TOTAL LINEAR FOOTAGE OF PIPE: 1560 LF-8" PLAT NO. 24-11800273

LAT NO. **24-118002**7 11668-17 DATE SEPTEMBER 2024 DESIGNER CHECKED DRAWN AR



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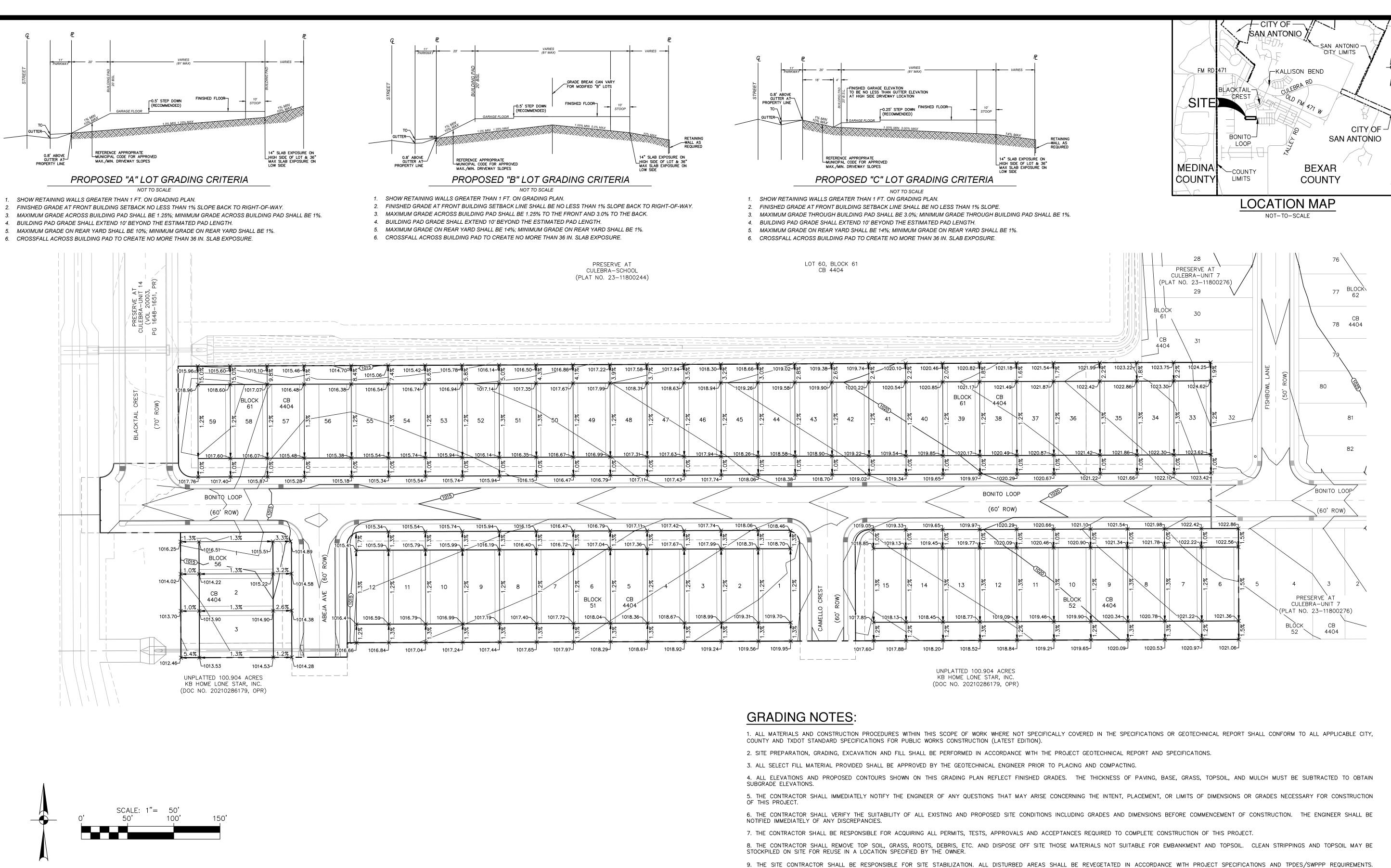
11/18/2024 This document is released for INTERIM REVIEW purposer ONLY under the authorizatio of Rebecca Carroll, P.E. #92666 on 11/18/2024

This document is not to b used for CONSTRUCTION.

BRA EXAS

LAT NO. **24-1180027** JOB NO. 11668-17 ATE NOVEMBER 2024 DESIGNER

HECKED DRAWN AR C6.00



- REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
- 10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS.
- CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
- 11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN

+/- ONE-TENTH (0.10) FOOT.

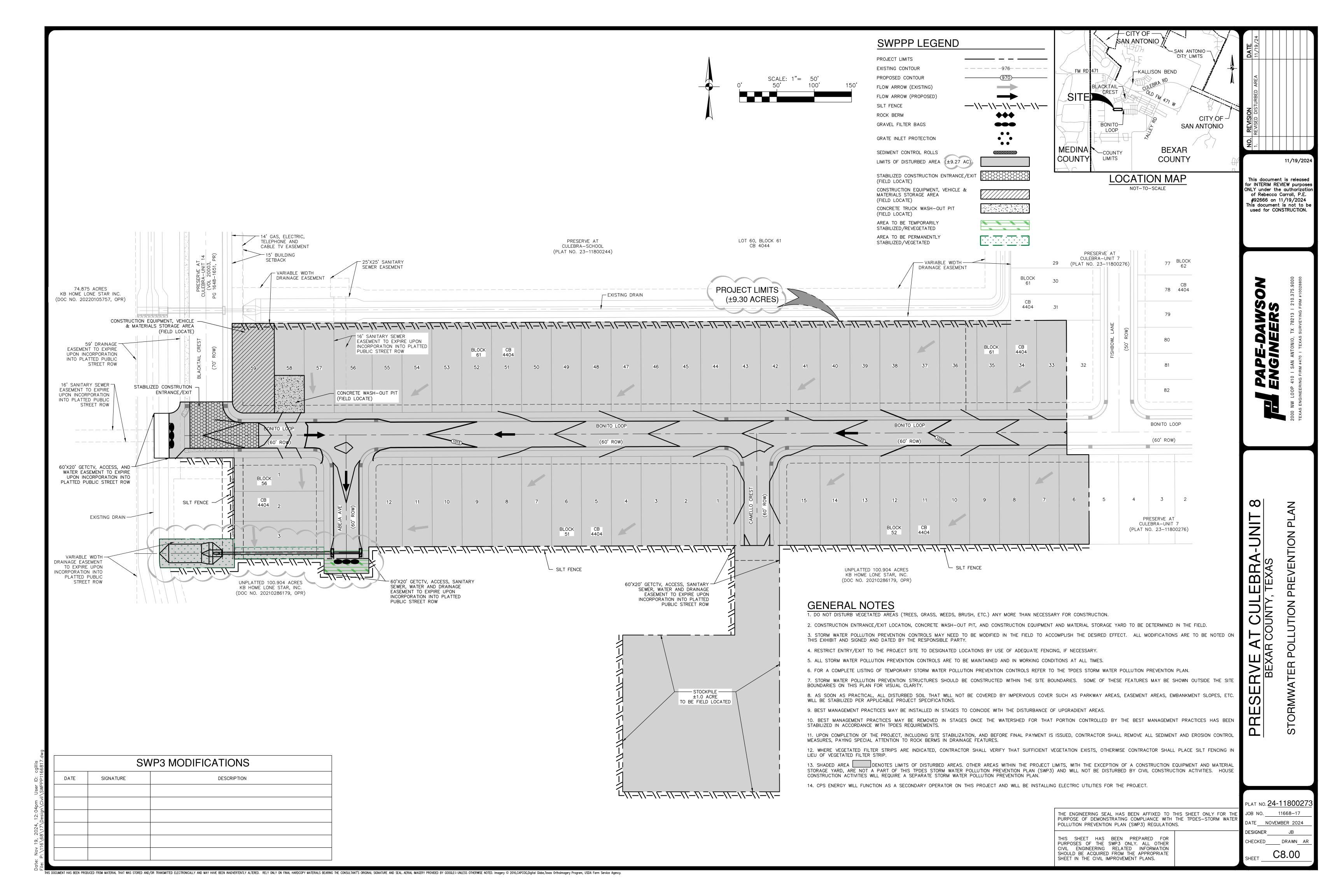
- 12. IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
- 13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
- 15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
- 16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
- 17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
- 18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.

LAT NO. **24-1180027** 11668-17 ATE NOVEMBER 2024

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19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

MATERIALS

THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN. 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 RATING OF 140 LB/IN2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OF

INSTALLATION

DRAINAGE

MATERIALS

OF 36 HOURS.

SHOOT GROWTH AND THATCH.

SITE PREPARATION

TIGHTLY (SEE FIGURE ABOVE).

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. THE SLOPE TOWARD THE ROAD EXCEEDS 2% CONSTRUCT A RIDGE 6-INCHES 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

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD

SURFACE SMOOTH AND SLOPE FOR DRAINAGE. 7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

GEOTEXTILE FABRIC TO STABILIZE FOUNDATION

SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

COMMON TROUBLE POINTS 1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.

2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.

TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD. 5. UNSTABLE FOUNDATION - USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING

INSPECTION AND MAINTENANCE GUIDELINES 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 AND/OR 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

DITCH OR WATER COURSE BY USING APPROVED METHODS.

SEDIMENT BASIN 5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN,

CORRECT

INCORRECT

SOD INSTALLATION

USE PEGS OR STAPLES TO FASTEN SOD

FIRMLY - AT THE ENDS OF STRIPS AND

IN THE CENTER, OR EVERY 3-4 FEET IF

THE STRIPS ARE LONG. WHEN READY TO

MOW, DRIVE PEGS OR STAPLES FLUSH

STAPLE

SILT FENCE

AREAS OF CONCENTRATED FLOW.

2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

AT ANY TIME.

SHOULD BE 6 FEET.

WOVEN WIRI SHEATHING

ISOMETRIC PLAN VIEW

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS

OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN

THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM

SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5

ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF

IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE

FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE

AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS

(DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING

BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER

. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE

RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY

. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES

AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT

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,

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED

BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE.

WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT

CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO

POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN

SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS

USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A

DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO

PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE

DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE

USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR

DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION,

CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY

TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY

SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR

POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC 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%,

FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET

LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR

GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON

A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST

BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8

FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING

LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE

CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT

AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE

PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED

INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE.

ROCK BERMS

INSPECTIONS SHOULD BE MADE.

WILL NOT CAUSE ANY ADDITIONAL SILTATION.

WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

ARE STABILIZED AND ACCUMULATED SILT REMOVED.

3. REPAIR ANY LOOSE WIRE SHEATHING.

MATERIALS

SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT 2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE

THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE

SECTION "A-A"

WOVEN WIRE SHEATHING

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER. 3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO

A HEIGHT NOT LESS THAN 18". 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. 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 TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

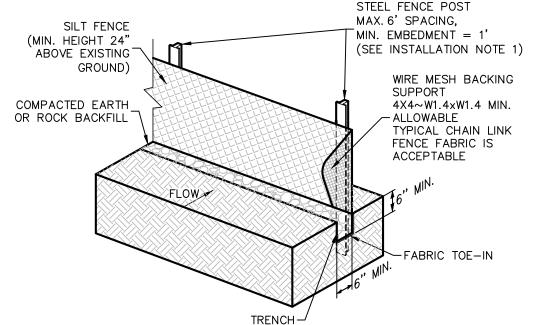
COMMON TROUBLE POINTS

. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT-TO-SCALE



STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

<u>SHOOTS</u> OR GRASS BLADES.

GRASS SHOULD BE GREEN AND

-THATCH- GRASS CLIPPINGS AND

ROOT ZONE - SOIL AND ROOTS.

DEAD LEAVES, UP TO 1/2" THICK.

SHOULD BE 1/2"-3/4" THICK, WITH

DENSE ROOT MAT FOR STRENGTH.

HEALTHY: MOWED AT A 2"-3"

CUTTING HEIGHT.

NOT-TO-SCALE

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER.

OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

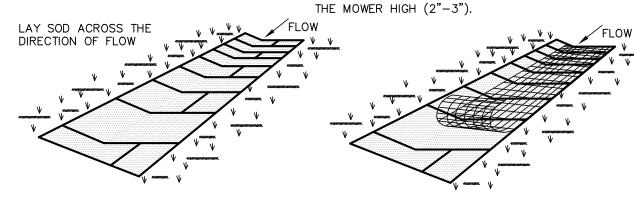
DO NOT LEAVE SPACES AND DO NOT

 ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

APPEARANCE OF GOOD SOD 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET



I. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH

(± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND

LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD

PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT

THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL

FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE

DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS

CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZE

SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC,

FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE

SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE

. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO

RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER

NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL

DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS

TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

INSTALLATION IN CHANNELS

INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

IN CRITICAL AREAS, SECURE SOD WITH NETTING, USE STAPLES.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN. 2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY

FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL. THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS

> ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4

> 8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES LOCATE AND REPAIR ANY DAMAGE.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS

SOD INSTALLATION DETAIL

SOON AS PRACTICAL.

ISOMETRIC PLAN VIEW

WITH THE GROUND.

SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER.

IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

(SEE FIGURE ABOVE).

AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT

UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE

SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO

THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

SILT FENCE DETAIL

NOT-TO-SCALE

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL. 5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT

POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY

STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. COMMON TROUBLE POINTS

FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE). 3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES 1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

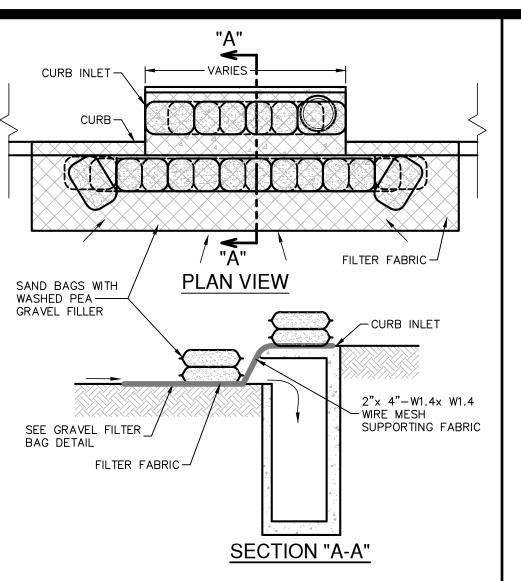
2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

PIT DETAIL



GENERAL NOTES

CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES . INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE

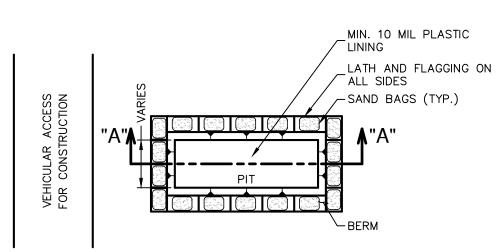
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. 3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING. 5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER

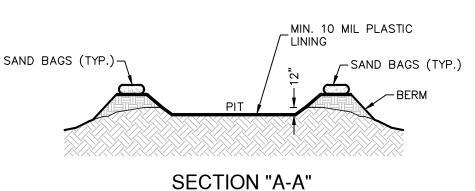
BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE

THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



PLAN VIEW



GENERAL NOTES

DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC. 3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION

FROM STORM WATER RUNOFF. 4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL

MAINTENANCE WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER

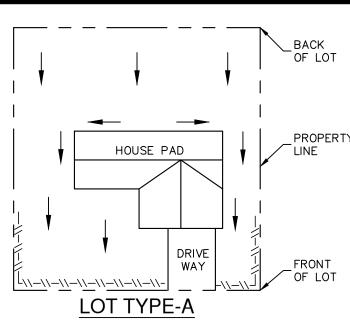
WASTE GENERATED BY WASHOUT OPERATIONS.

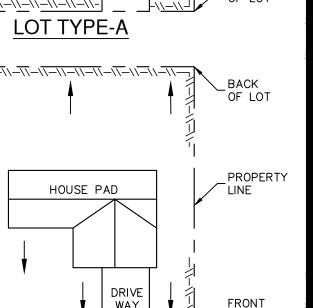
REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED

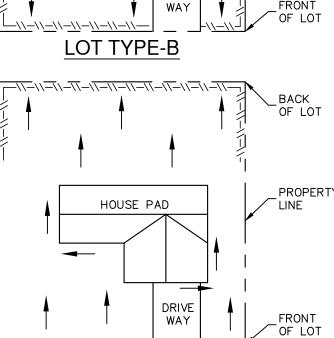
HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT

NOT-TO-SCALE







LEGEN

SECTION "A-A"

NOTE: SILT FENCE TO BE INSTALLED PER THESE DETAILS AND LOCATED ON THE DOWNGRADIENT SIDE OF EACH LOT LINE -\\-\\- \IDDITITENCE → DRAINAGE FLO OR LIMITS OF CLEARING AS GENERALLY SHOWN ON THE OVERALL SITE PLAN.

TYPICAL HOUSE LOT LAYOUTS

LOT TYPE-C

NOT-TO-SCALE |**~**~18"−24" ~~

THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

PLAN VIEW

THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER). 3. SAND SHALL <u>NOT</u> BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE

CONSTRUCTIO FQUIPMENT &: VEHICLE STORAGE AN MAINTENANC AREA OFFIC **ENTRANCE** CONSTRUCTION AND WASTE LEGEND MATERIA -\\-\\- SILT FENCE STORAGE AREA → FLOW ARROWS

CONSTRUCTION STAGING AREA

WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

NOT-TO-SCALE THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

REBECCA ANN CARRO

ат no. **24-118002**7 11668-17 August 24 SIGNER IECKED DRAWN AF

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