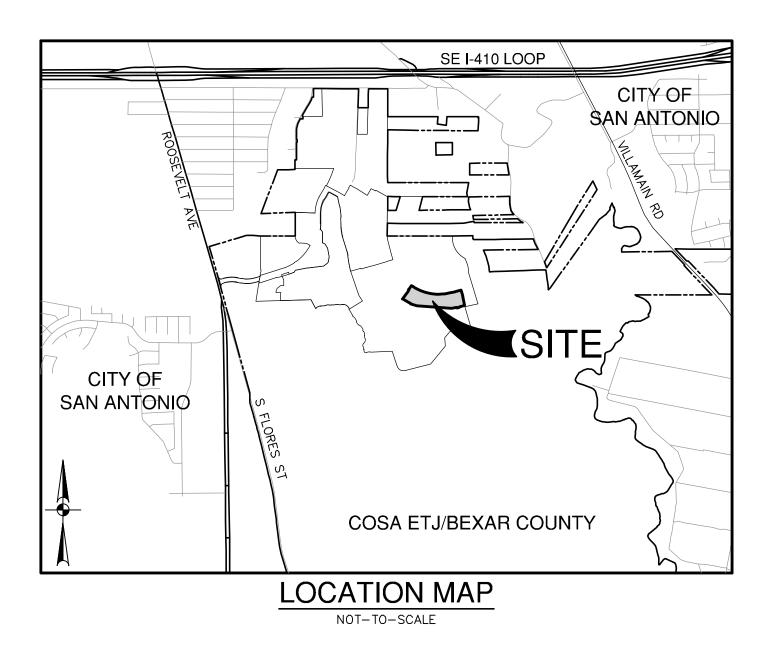
DCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2015, CAPCOG, Digital Globe, Texas Orthoimagery Program, USDA Farm Service Age

ESPADA TRACT UNIT 17 SAN ANTONIO, TEXAS **CIVIL CONSTRUCTION PLANS**



PREPARED FOR:

LENNAR HOMES OF TEXAS 100 NE LOOP 410, STE. 1155 SAN ANTONIO TX, 78216

NOVEMBER 2023



FORT WORTH | DALLAS 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000 TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800





DEVELOPER'S NAME: LENNAR HOM ADDRESS: 100 NE LOOP 410. S CITY: SAN ANTONIO PHONE# <u>(210) 403–6200</u> SAWS BLOCK MAP# 172536 TOTA TOTAL LINEAR FOOTAGE OF PIPE: NUMBER OF LOTS 74

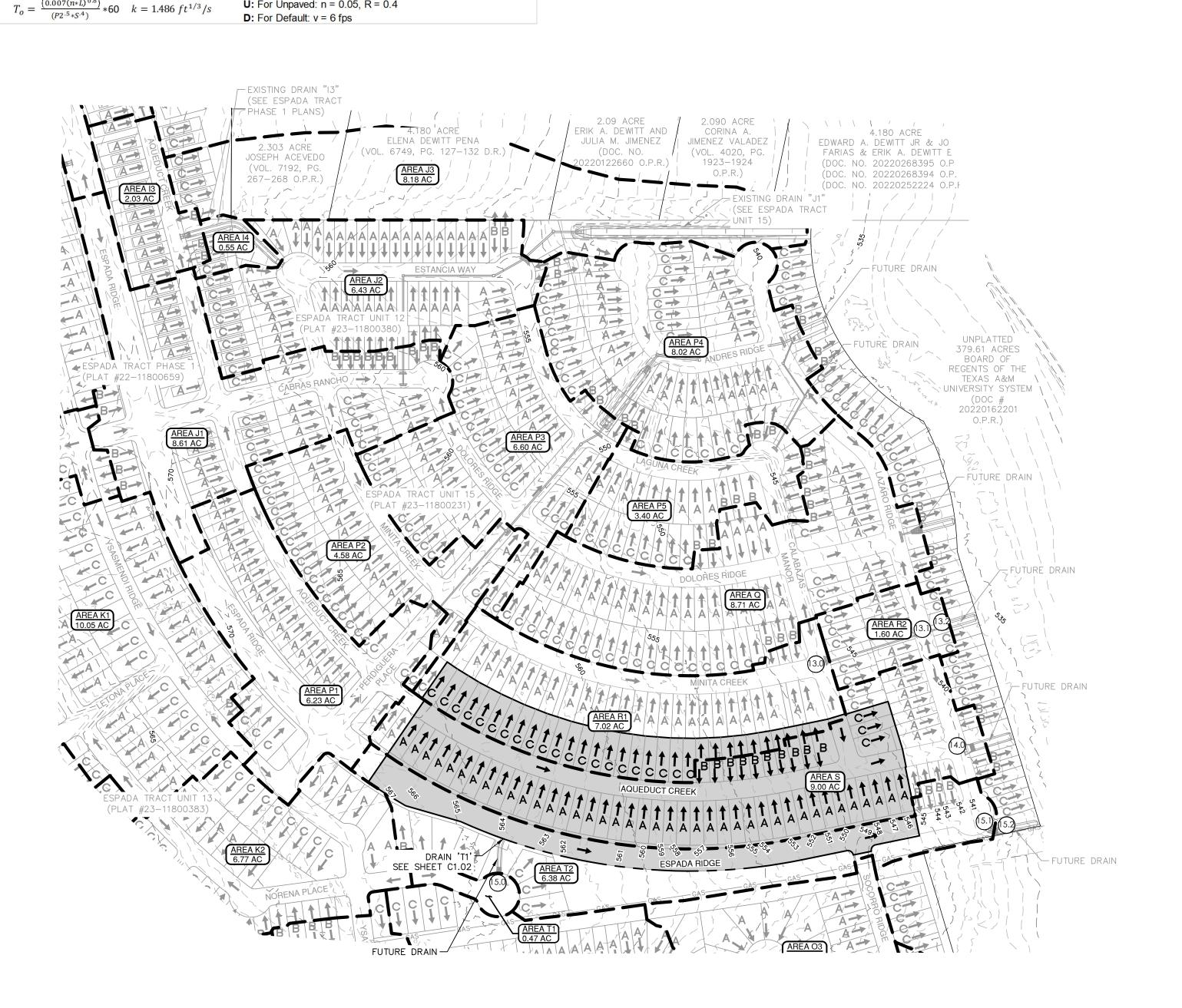
SURE ZONE 750)	SALADO CREEK - SAN ANTONIO RIVER WATERSHED - DOS RIOS W.R.C
DMES OF TEXAS STE. 1155 STATE: TEXAS ZIP: 78216 FAX# N/A TAL EDU'S 75 3224.56 L.F.~8"PVC PLAT NO.22-1180384 SAWS JOB NO. 23-1197	DEVELOPER'S NAME: <u>LENNAR HOMES OF TEXAS</u> ADDRESS: <u>100 NE LOOP 410, STE. 1155</u> CITY: <u>SAN ANTONIO</u> <u>STATE: TEXAS</u> <u>ZIP: 78216</u> PHONE# (210) 403-6200 <u>FAX# N/A</u> SAWS BLOCK MAP# <u>172536</u> TOTAL EDU'S <u>74</u> TOTAL ACREAGE <u>11.73</u> TOTAL LINEAR FOOTAGE OF PIPE: <u>1217.00 LF.~8"PVC</u> PLAT NO. <u>23-11800384</u> NUMBER OF LOTS <u>74</u> SAWS JOB NO. <u>23-1669</u>

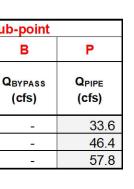
Sheet List Table

Sheet Number	Sheet Title
C0.00	COVER SHEET
C1.00	OVERALL DRAINAGE PLAN (ULTIMATE DEVELOPMENT)
C1.01	OVERALL DRAINAGE PLAN (PROPOSED DEVELOPMENT)
C1.02	DRAIN T1 PLAN & PROFILE (STA. 1+15.00 TO 1+43.80)
C2.00	AQUEDUCT CREEK PLAN & PROFILE (STA. 55+11.61 TO 64+00.00)
C2.01	AQUEDUCT CREEK PLAN & PROFILE (STA. 64+00.00 TO 68+81.66)
C2.02	CALABAZAS MANOR PLAN & PROFILE (STA. 1+15.03 - 2+47.88)
C2.03	ESPADA RIDGE PLAN & PROFILE (STA. 34+83.39 - 44+00.00)
C2.04	ESPADA RIDGE PLAN & PROFILE (STA. 44+00.00 TO 50+02.59)
C2.05	TYPICAL STREET DETAILS
C2.06	TYPICAL STREET DETAILS
C2.07	TYPICAL STREET DETAILS
C3.00	OVERALL SIGNAGE PLAN
C3.01	TXDOT SIGN MOUNTING DETAILS
C3.02	TXDOT SIGN MOUNTING DETAILS
C3.03	TXDOT SIGN MOUNTING DETAILS
C4.00	OVERALL WATER DISTRIBUTION PLAN
C4.01	OVERALL WATER DISTRIBUTION DETAILS
C4.02	OVERALL WATER DISTRIBUTION NOTES
C5.00	OVERALL SANITARY SEWER PLAN
C5.01	SS LINE EE PLAN & PROFILE (STA 1+00.00 - 10+00.00)
C5.02	SS LINE EE PLAN & PROFILE (STA 10+00.00 - END)
C5.03	SS LINE Y PLAN & PROFILE (STA 2+00.00 - 6+00.00)
C5.04	OVERALL SANITARY SEWER DETAILS
C5.05	OVERALL SANITARY SEWER NOTES
C6.00	OVERALL UTILITY PLAN
C7.00	OVERALL GRADING PLAN
C7.01	OVERALL GRADING PLAN
C8.00	STORM WATER POLLUTION PREVENTION PLAN
C8.01	STORM WATER POLLUTION PREVENTION PLAN
C8.02	STORM WATER POLLUTION PREVENTION DETAILS

C0.00

						N	lastei	r Drain (Ultin	nage nate De			latior	<u>ns</u>																				
			Drainage	Areas		ath (ft)		rland/S w (See	Sheet			ncentr 1**	rated F	low -	Channe	elized I	Flow**			onal Metho Irv CoSA													
		Structure / Description	#	Area (Ac)	С	Total Flowp	L _O (FT)	S _O (ft/ft)	T _O * (MIN)	L _{SC} (FT)	Condition***	Slope (ft/ft)	V _{SC} (FPS)	T _{SC} ** (MIN)	L _{CH} (FT)	V _{CH} (FPS)	T _{CH} ** (MIN)	Тс.тот	Retur Year	n Intensit (in/hr)	^{ty} Q (cfs)												
	3.0	Future Drain R1	R1	7.02	0.77	1,255	100	0.02	13	150	U	0.02	2.3	1.1	1,005	6.0	2.8	16 16 16	5 25 100	·····	9 37.8												
-	3.1	Calculation Point	R2	1.60	0.77	385	100	0.01	15	160	U	0.01	1.6	1.7	125	6.0	0.3	16 16 16	5 25 100	······	9 8.6						<u>Accı</u>	Imlated Flow	Rates				
		Future Drain																	5	-	33.6						Contr	ibuting Flow			J. J	Reference S	ub-pc
1	3.2	R1	R1+R2	8.62	0.77				(Re	eferenc	e Acc	umulate	ed Flow	v Rate	Table)				25 100	······	46.4 57.8	Ref.			Upstrea	am Watershed	Upstream	Surface Bypass	Upstream I	Pipe Flow	Т	С	В
	4.0	Future Drain S	S	9.00	0.77	1,725	100	0.02	13	40	U	0.02	2.3	0.3	1,585	6.0	4.4	17 17 17	5 25 100	4.91 6.76	1 34.0 6 46.8	Point	Desc.	Return Year	#	Q _{WATERSHED} (cfs)	Surf Byp. Upstream Ref. Point	Q _{SURF-UP} (cfs)	Pipe Upstream Ref. Point	Q _{PIPE-UP} (cfs)	QINLE T-TO TAL (cfs)	Q _{CAP TURED} (cfs)	Q _{BYPA} (cfs
	5.0	Proposed Drain T1	T1	0.47	0.97	270	-	-	-	-	-	-	-	-	270	6.0	0.8	5 5 5	5 25 100	7.85 10.92	5 <u>3.6</u> 2 <u>5.0</u>	13.2	FUTURE DRAIN R1	5 25 100	13.1	6.2 8.6 10.7	N/A	0.0 0.0 0.0	13.0	27.4 37.8 47.1	6.2 8.6 10.7	6.2 8.6 10.7	
	5.1	Future Drain	T2	6.38	0.72	1,345	100	0.02	13	500	U	0.02	2.3	3.7	745	6.0	2.1	18 18 18	5 25 100	4.76 6.56	621.9630.1												
	5.2	Future Drain	T1+T2	6.85	0.74	1,345	100	0.02	13	500	U	0.02	2.3	3.7	745	6.0	2.1	18 18 18	5 25 100	4.76	6 24.1 6 33.3												
		e Chart or TR-								k	$k p^{2/2}$	$S_0^{1/2}$							(Adapte	d from Mai	nnings)												
**	As Ca	alculated using	g Mannings or TR-55 Fig	gure 3-1 or	6 ft/s		(0.00	$7(n * I)^{0.8}$	8)	$v = \frac{1}{n}$	$n^{-\kappa'}$	S ₀ '2			r Paved: r Unpave		,																
						$T_{\alpha} =$	= (0.00	$7(n*L)^{0.8}$	-*60	k = 1	1.486 f	$ft^{1/3}/s$		U . FUI	onpave	su. 11 –	U.UJ, F	- 0.4															



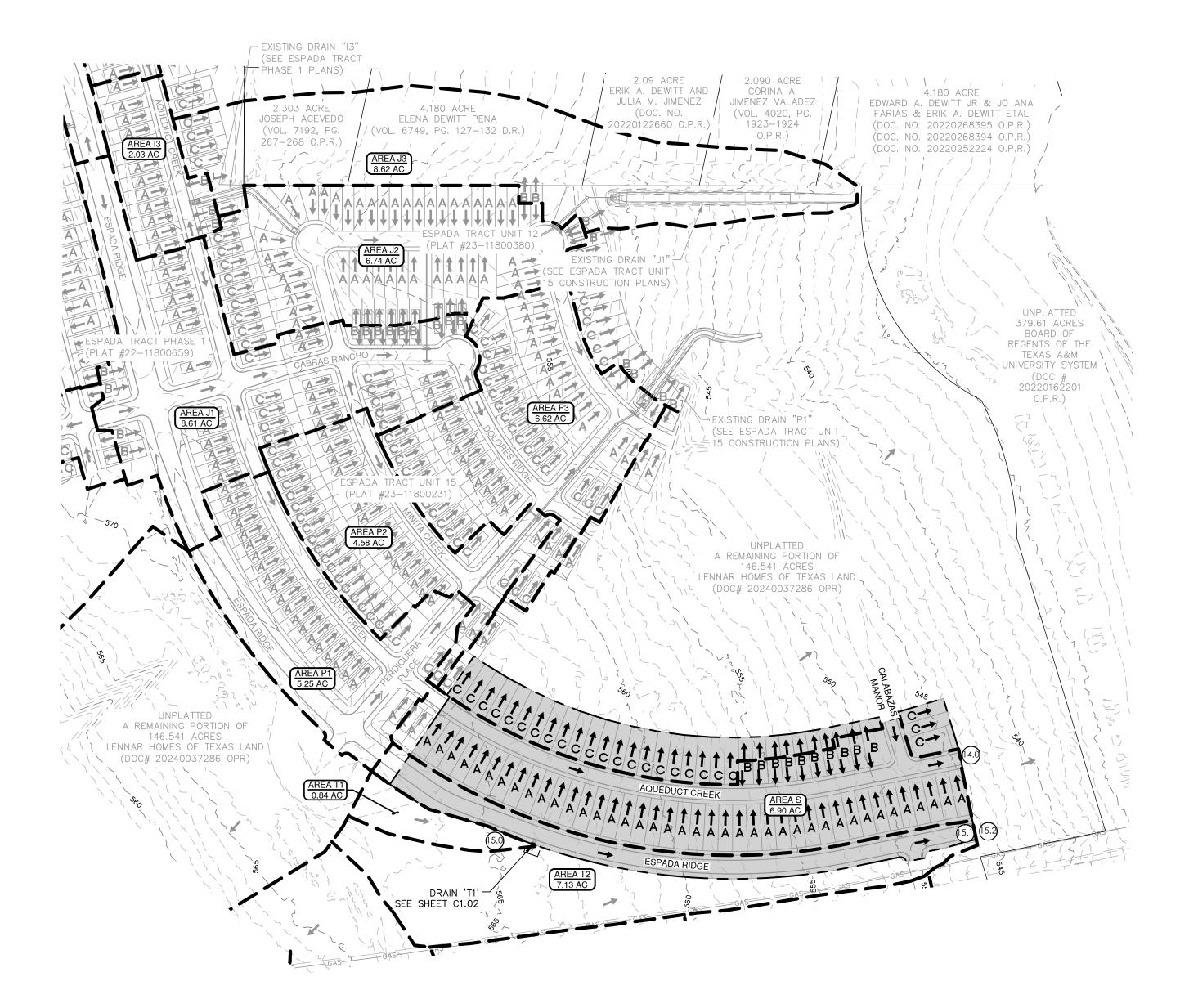


SE I-410 LOOP	
SITE	NO
CITY OF SAN ANTONIO	
COSA ETJ/BEXAR COUNTY	
LOCATION MAP NOT-TO-SCALE	EUGENE H. DAWSON III
0' 200' 400' 600'	NONAL EN
SCALE: 1"= 200'	4/3/2024
MASTER DRAINAGE LEGEND	_
PROJECT LIMITS EXISTING CONTOUR 100 YR UD FLOODPLAIN 100 YR FEMA FLOODPLAIN RUNOFF FLOW PATH DRAINAGE AREA BOUNDARY FHA LOT GRADING TYPE PROPOSED DIRECTION OF FLOW DRAINAGE CALCULATION POINT DRAINAGE AREA	PAPE-DAWSON ENGINEERS I AUSTIN I HOUSTON I FORT WORTH I DALLAS P 410 I SAN ANTONIO, TX 78213 I 210.375.9000 ERING FIRM #470 I TEXAS SURVEVING FIRM #10028800

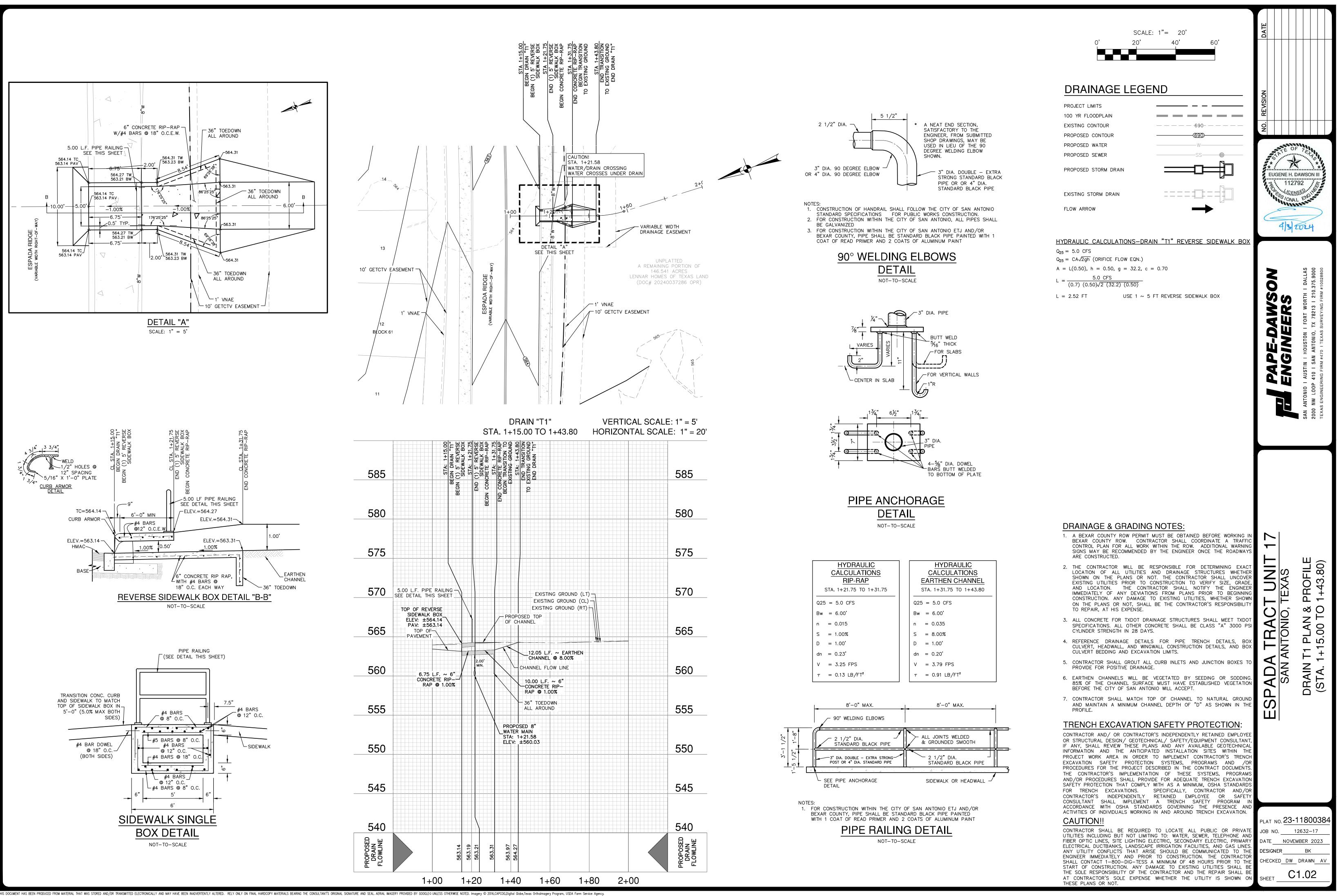
ESPADA TRACT UNIT 17	SAN ANTONIO, TEXAS	MASTER DRAINAGE PLAN (ULTIMATE	
JOB NO DATE DESIGNE	. 12 NOVEM IR D DW	180038 2632–17 BER 2023 BK DRAWN A 1.00	

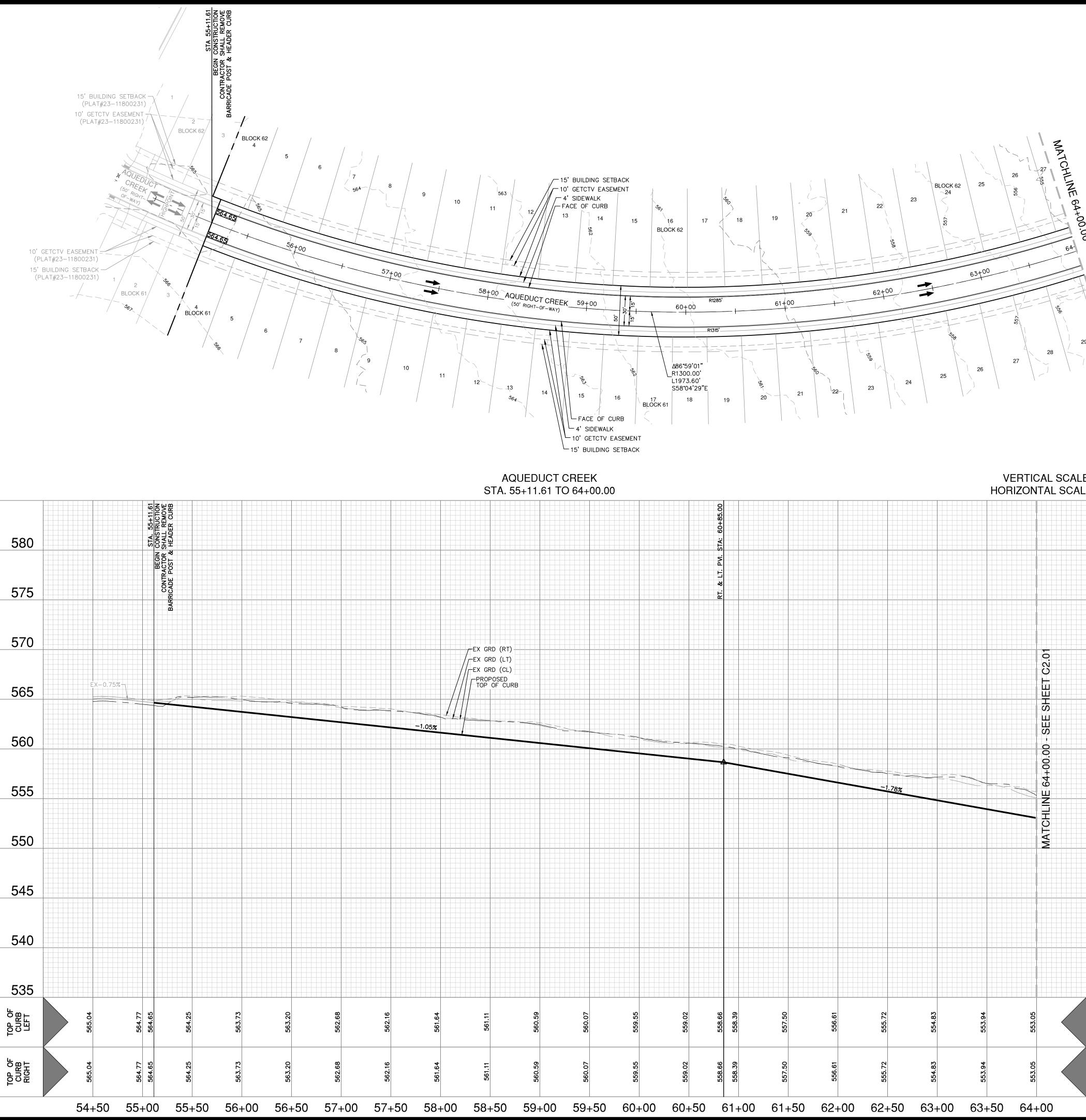
te: Apr 03, 2024, 9:25am User ID: tcamacho - P:\176\37\17\Desirn\Civil\001363317_PR0P dwa

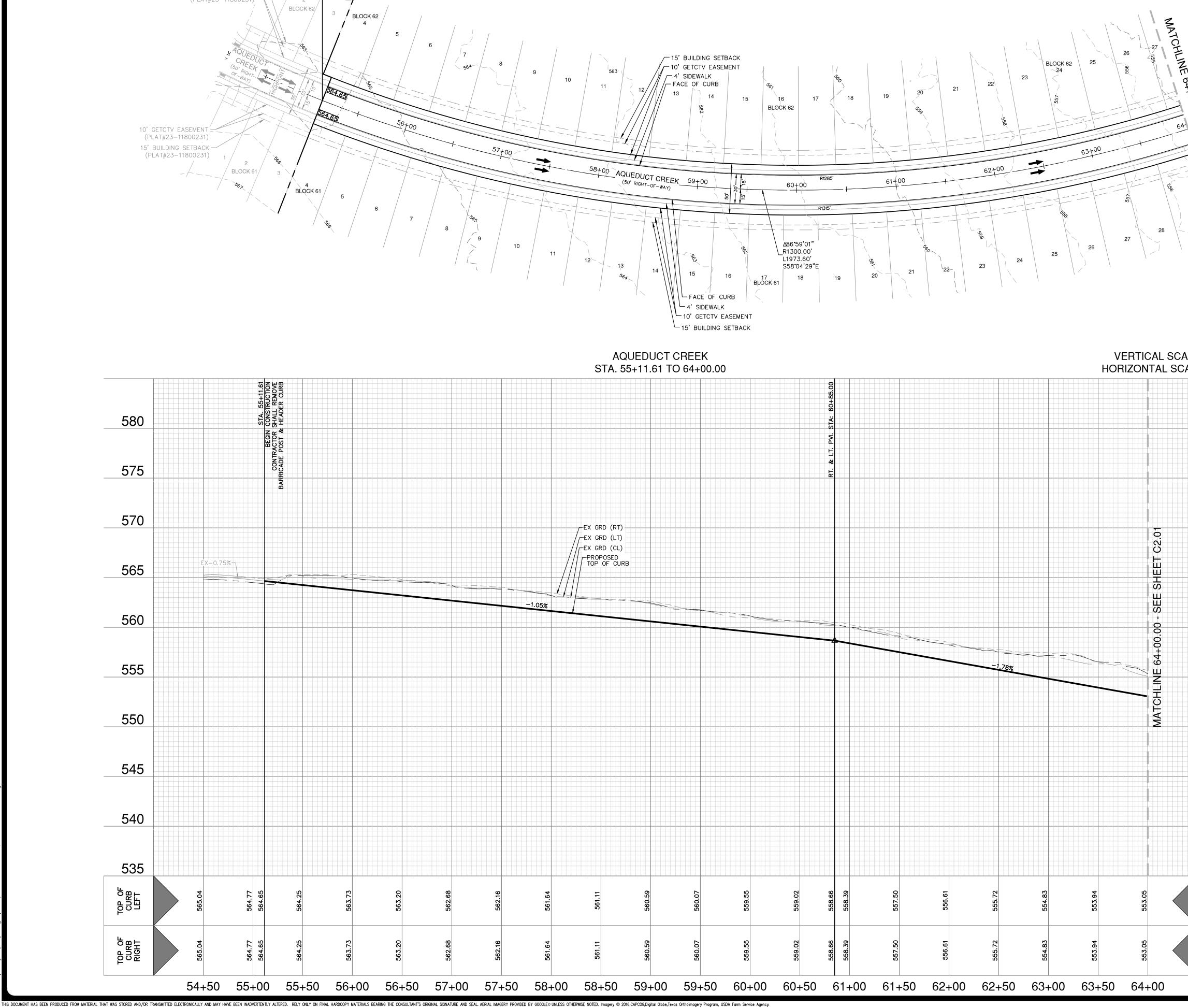
		Drainage Areas			eas E Overland/Sheet Shallow Concentrated I							Flow -	Channe	elized l	Flow**		Rational Method Q=CIA					
Ref. Point	Structure / Description	#	Area (Ac)	С	Total Flowpath	L _o (FT)	<mark>𝗞 (See</mark> S₀ (ft/ft)	ye) T _o * (MIN)	L _{SC} (FT)	Condition***	Slope (ft/ft)	V _{SC} (FPS)	T _{SC} ** (MIN)	L _{CH} (FT)	V _{CH} (FPS)	T _{CH} ** (MIN)	Тс-тот	IDF Curv Return Year	CoSA_A Intensity (in/hr)	_		
	Calculation																17	5	4.91	26.1		
14.0	Point	S	6.90	0.77	1,550	100	0.02	13	30	U	0.02	2.3	0.2	1,420	6.0	3.9	17	25	6.76	35.9		
																	17	100	8.42	44.7		
15.0	Drain T1	T1	0.84	0.55	470	100	0.01	15	370	U	0.02	2.3	2.7	-			17 17	5 25	4.91 6.76	2.3 3.1		
15.0	Drain T		0.04	0.55	470	100	0.01	15	570	0	0.02	2.0	2.1	-	-	-	17	100	8.42	3.9		
																	23	5	4.21	20.7		
15.1	Calculation	T2	7.13	0.69	1,630	100	0.01	15	600	U	0.01	1.6	6.2	6.2	6.2	930	6.0	2.6	23	25	5.77	28.4
	Point																23	100	7.17	35.3		
														23	5	4.21	22.8					
15.2	Calculation Point	T1+T2	7.97	0.68	1,630	100	0.01	15	600	U	0.01	1.6	6.2	930	6.0	2.6	23	25	5.77	31.3		
																	23	100	7.17	38.9		
-	e Chart or TR- alculated usin	·55 Eqn. 3-3 g Mannings or TR-55	Figure 3-1	or 6 ft/	's T _o =	(0.007 (P2	$(n*L)^{0.8}$) *60	$v = \frac{k}{n}$ $k = 1$	$\frac{2}{n} R^{2/3}$	$S_o^{1/2}$ $ft^{1/3}/s$		P: For U: For	Streets: Paved: I Unpave Default:	n = 0.0 d: n = (25, R = 0.05, R	0.2	Adapted 1	from Manni	ngs)		



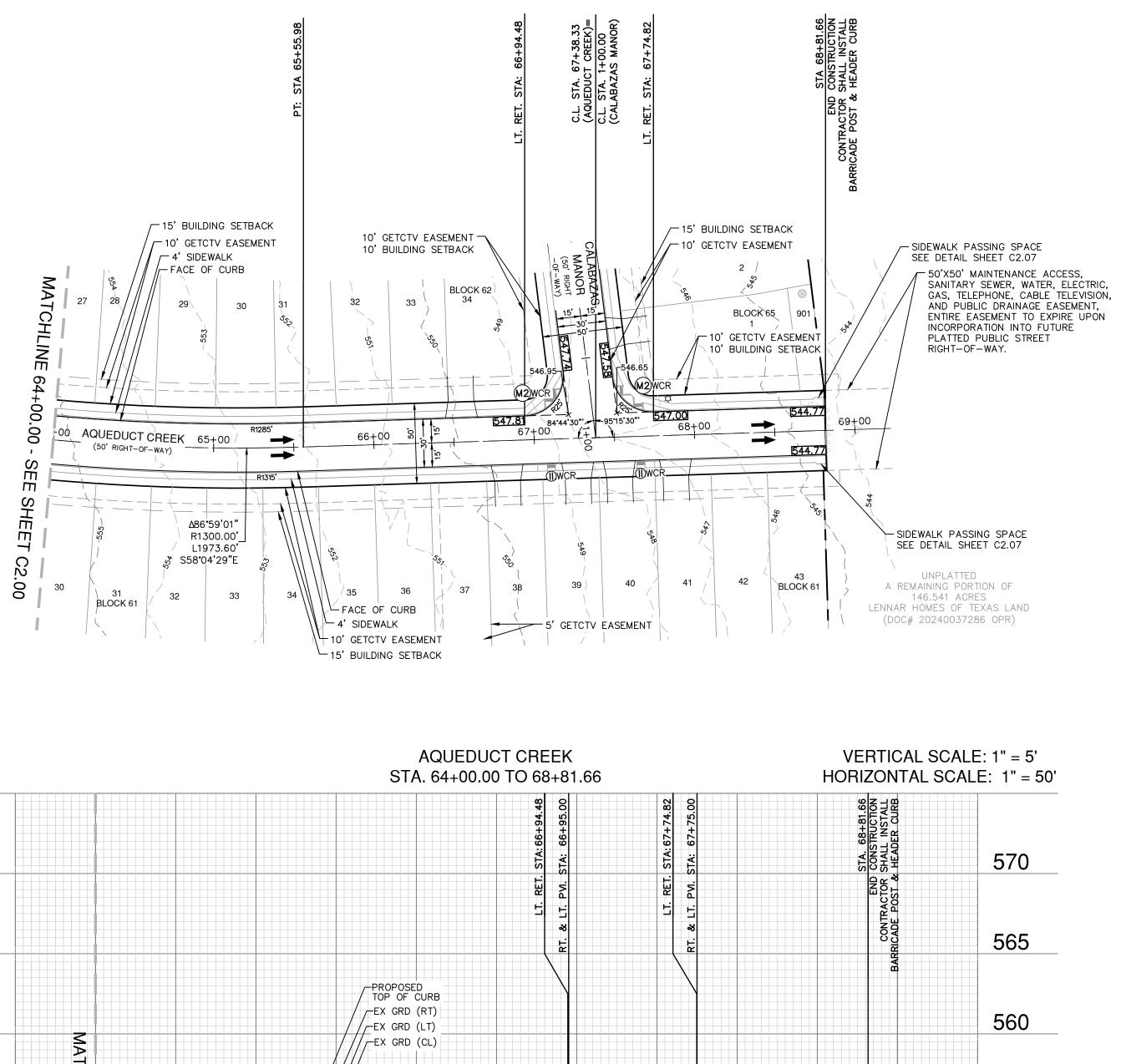
SE I-410 LOOP CITY OF SAN ANTONIO CITY OF SAN ANTONIO COSA ETJ/BEXAR COUNTY LOCATION MAP NOT-TO-SCALE	NO. REVISION	
0' 200' 400' 600' SCALE: 1"= 200'	4/3 2	92 SER. IN ENG
PROJECT LIMITS EXISTING CONTOUR 100 YR UD FLOODPLAIN 100 YR FEMA FLOODPLAIN NUNOFF FLOW PATH DRAINAGE AREA BOUNDARY FHA LOT GRADING TYPE PROPOSED DIRECTION OF FLOW DRAINAGE CALCULATION POINT DRAINAGE AREA	E ENGINEERS	SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS 2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000 TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800
	ESPADA TRACT UNIT 17 SAN ANTONIO, TEXAS	OVERALL DRAINAGE PLAN (PROPOSED DEVELOPMENT)
	PLAT NO. 23-1 JOB NO. 1 DATE NOVEN DESIGNER CHECKED DW SHEET	2632–17 IBER 2023 BK

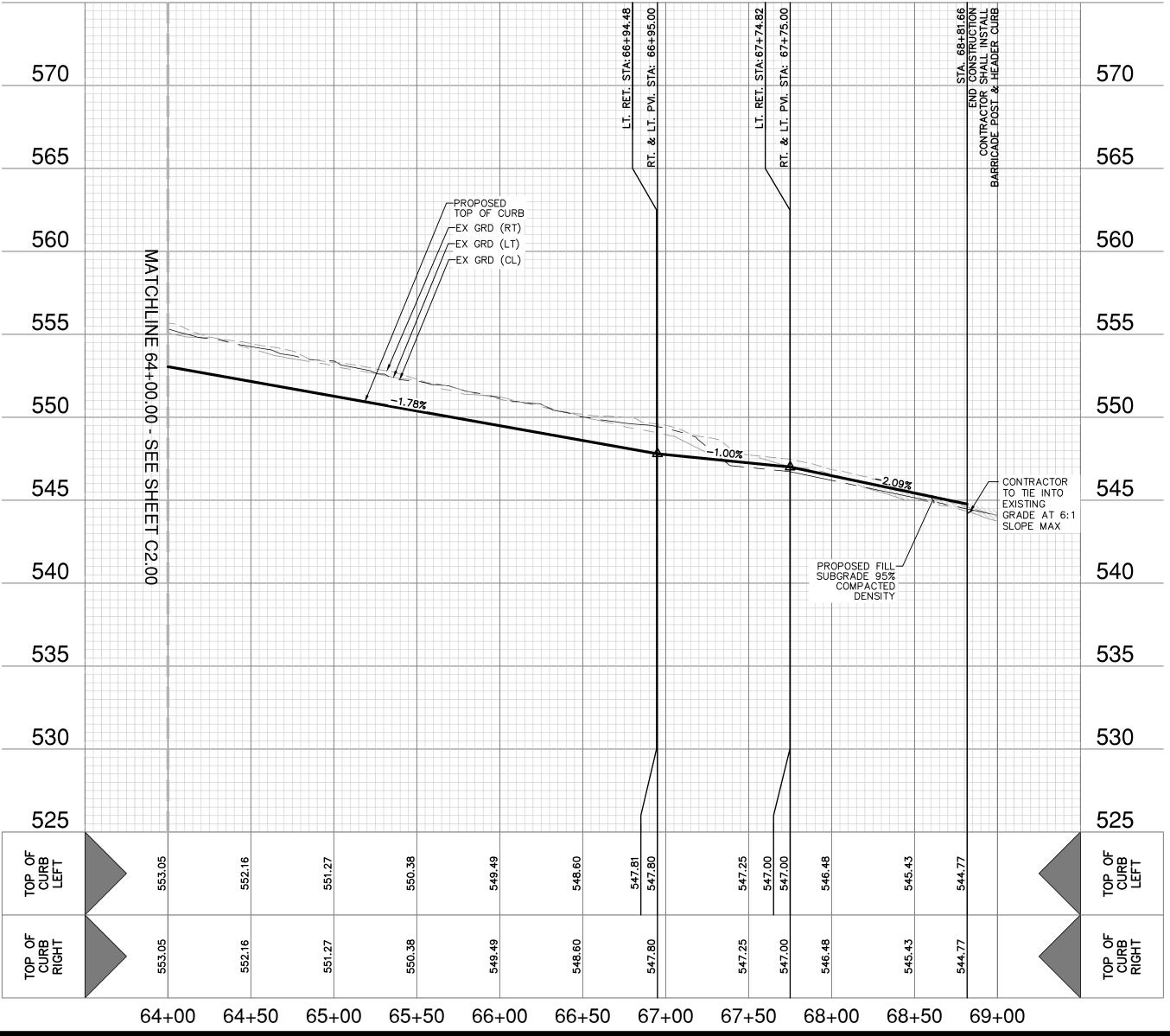






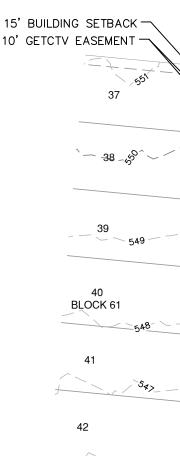
00.00 - SEE SHEET C	Note: 1'' = 50' 100' 150' 150	Image: Normal with the second seco
29	DRIVEWAY EXISTING WELL Ø VEHICULAR NON ACCESS EASEMENT VNAE	PAPE-DAWSON ENGINEERS an antonio 1 Austin 1 Houston 1 Fort worth 1 Dallas 2000 nw Loop 410 1 San antonio, tx 78213 1 210.375.9000 texas engineering firm #470 1 texas surveying firm #10028800
LE: 1" = 5' LE: 1" = 50'		SAN ANTONIO I AUSTIN 2000 NW LOOP 410 I S TEXAS ENGINEERING FIRM
580		S/ 2C
575		
570		
565		T UNIT 17 TEXAS AN & PROFILE 64+00.00)
560		
555		A TRAC N ANTONIO T CREEK PI 55+11.61 TC
550		
545	STREET NOTES: 1. 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.	ESPAD/ SAN AQUEDUCT (STA. 5!
540	 CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK. SIDEWALKS SHALL BE CONSTRUCTED 3-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER 	
535	 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 	
TOP OF CURB LEFT	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	PLAT NO. <u>23-11800384</u>
TOP OF CURB RIGHT	 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. 	JOB NO. <u>12632–17</u> DATE <u>NOVEMBER 2023</u> DESIGNER <u>BK</u> CHECKED <u>DW</u> DRAWN <u>AV</u> SHEET <u>C2.00</u>

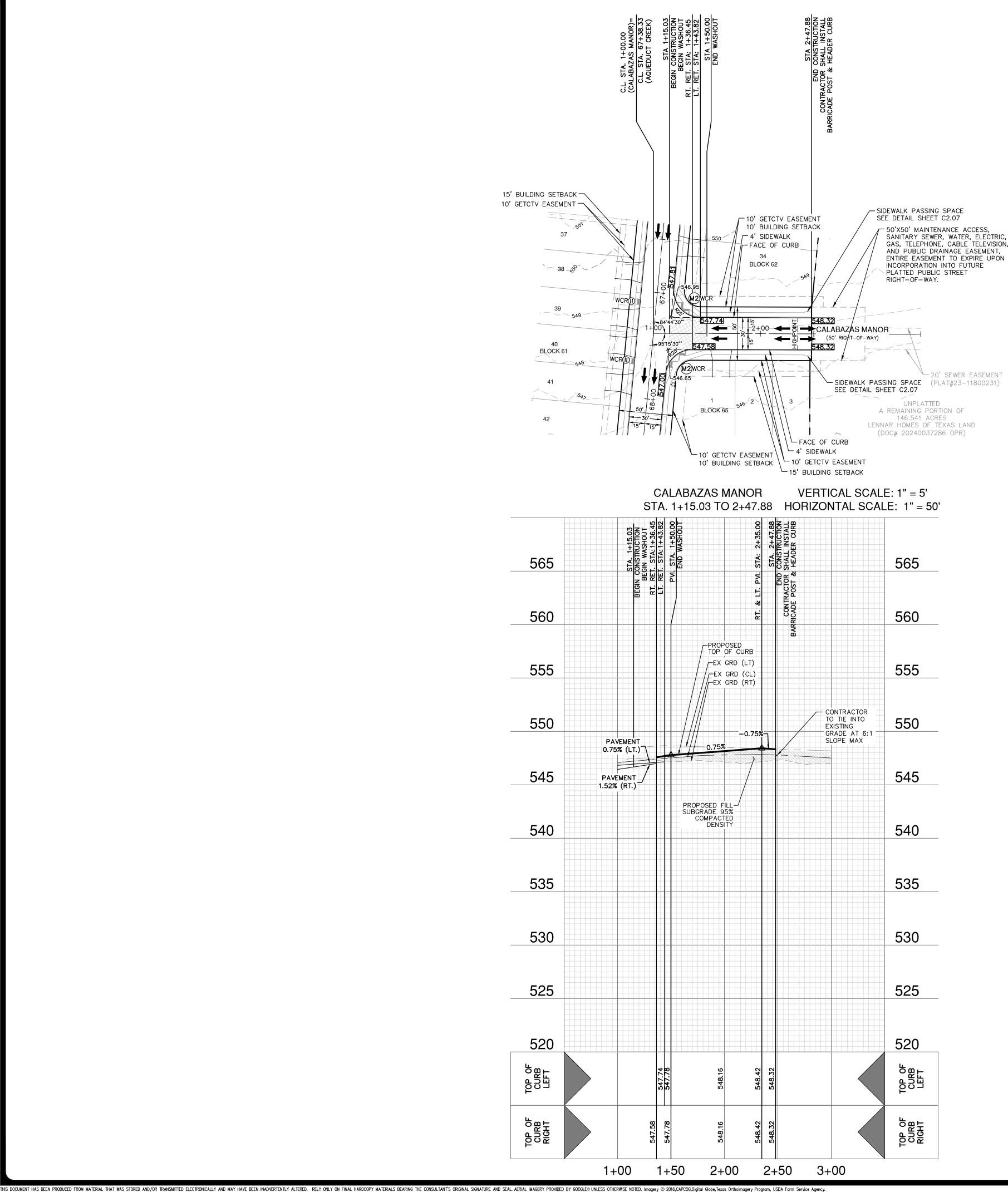




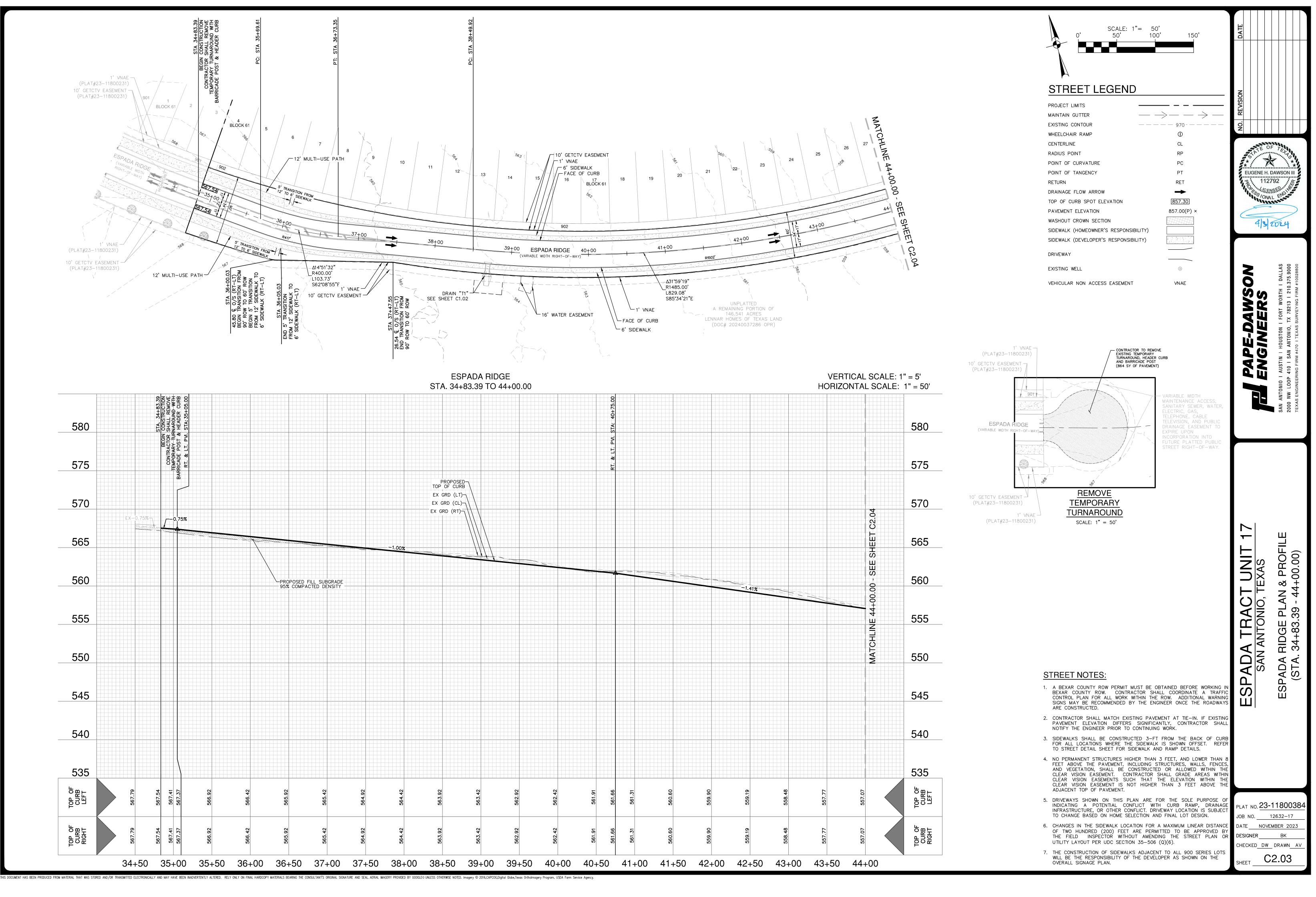
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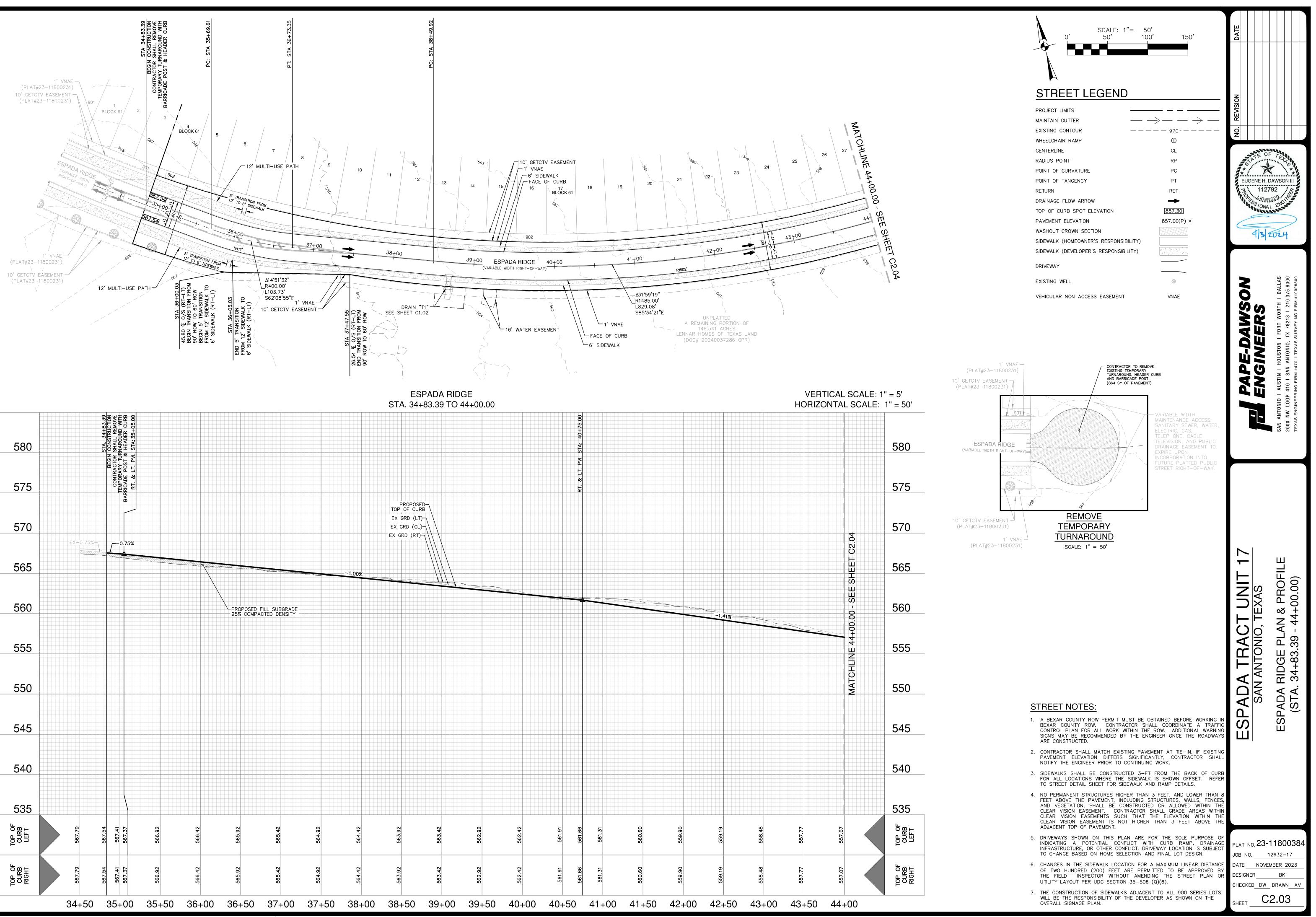
SCALE: 1"= 50' 0' 50' 100' 150'	DATE
STREET LEGEND PROJECT LIMITS MAINTAIN GUTTER EXISTING CONTOUR EXISTING CONTOUR WHEELCHAIR RAMP O CENTERLINE RADIUS POINT POINT OF CURVATURE POINT OF TANGENCY PT RETURN DRAINAGE FLOW ARROW TOP OF CURB SPOT ELEVATION B57.30 PAVEMENT ELEVATION SIDEWALK (HOMEOWNER'S RESPONSIBILITY) SIDEWALK (DEVELOPER'S RESPONSIBILITY)	NOISINAI ON ON EUGENE H. DAWSON III T12792 BOL SO JONAL ENG TOTAL
DRIVEWAY EXISTING WELL O VEHICULAR NON ACCESS EASEMENT VNAE	THE FORT OF THE PAPER AND
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. CONTROLORALL MATCH EXISTING PAVEMENT AT THE-IN, IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTFY THE ENGINEER FRORT TO CONTRACTOR SHALL SOEWALKS SHALL BE CONSTRUCTED 3-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFST. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND FRAME DETAILS. 1. NO PERMAMENT STRUCTURES HIGHER THAN 3 FEET, AND LOVER THAN BE FEET ABOVE THE PAVEMENT, CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENT. SONT HAAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT. SONT HORT THE DELEVATIOR SHALL CARTER VISION EASEMENT. SONT HAAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE CLEAR VISION EASEMENT. SONT HAAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE	AQL AQL
 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. 	PLAT NO. 23-11800384 JOB NO. 12632-17 DATE NOVEMBER 2023

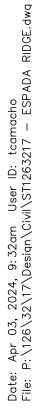


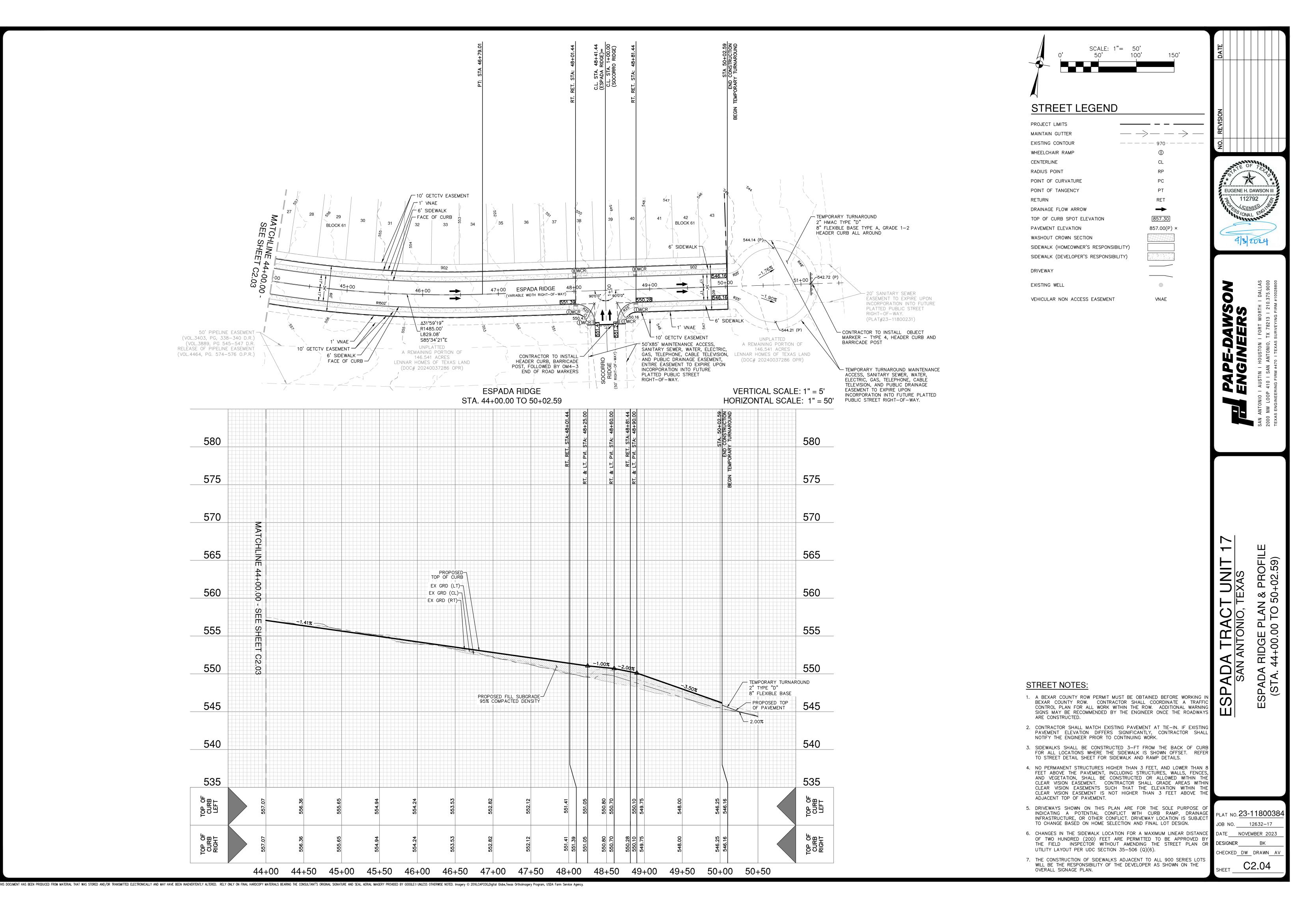






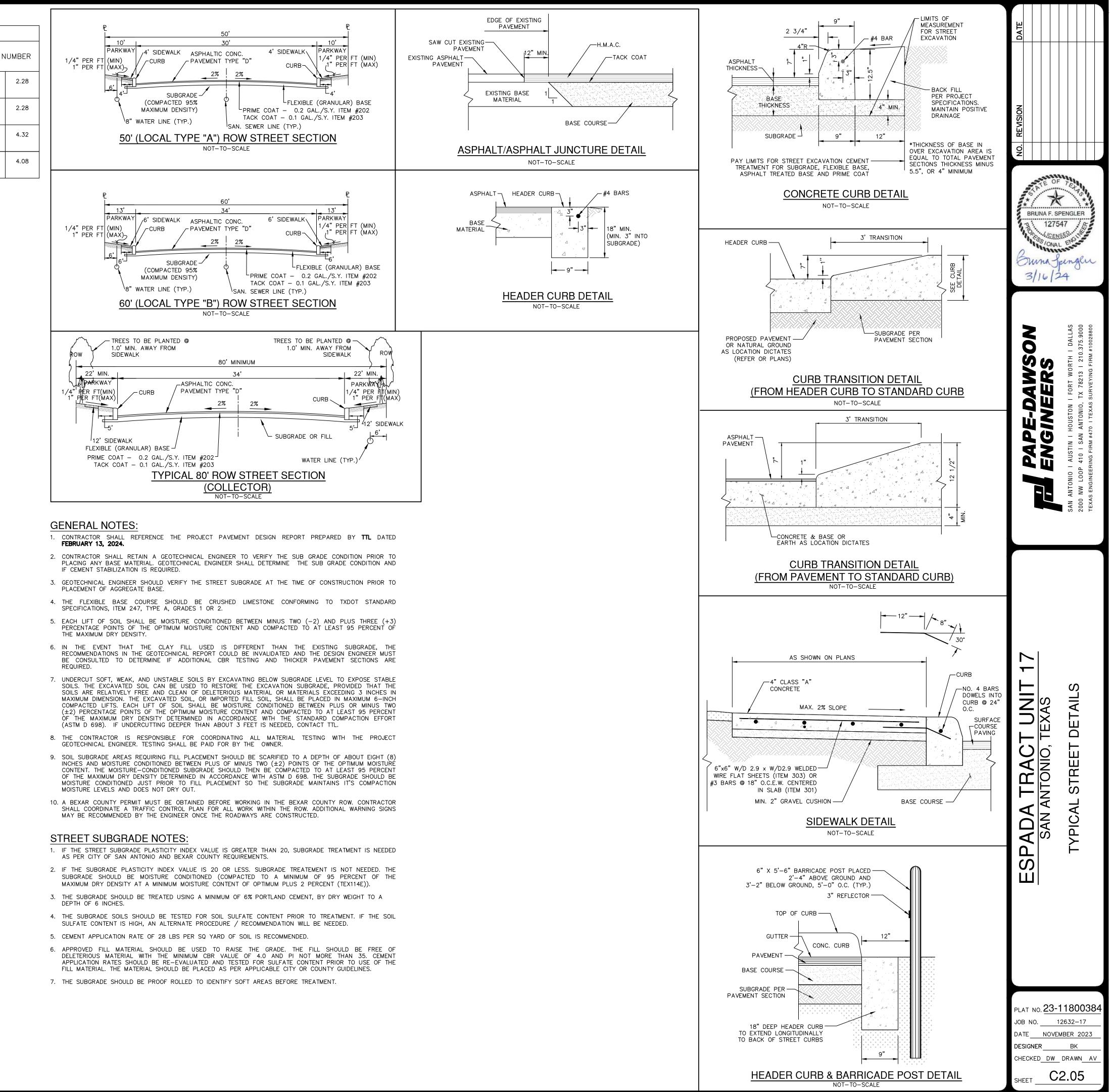


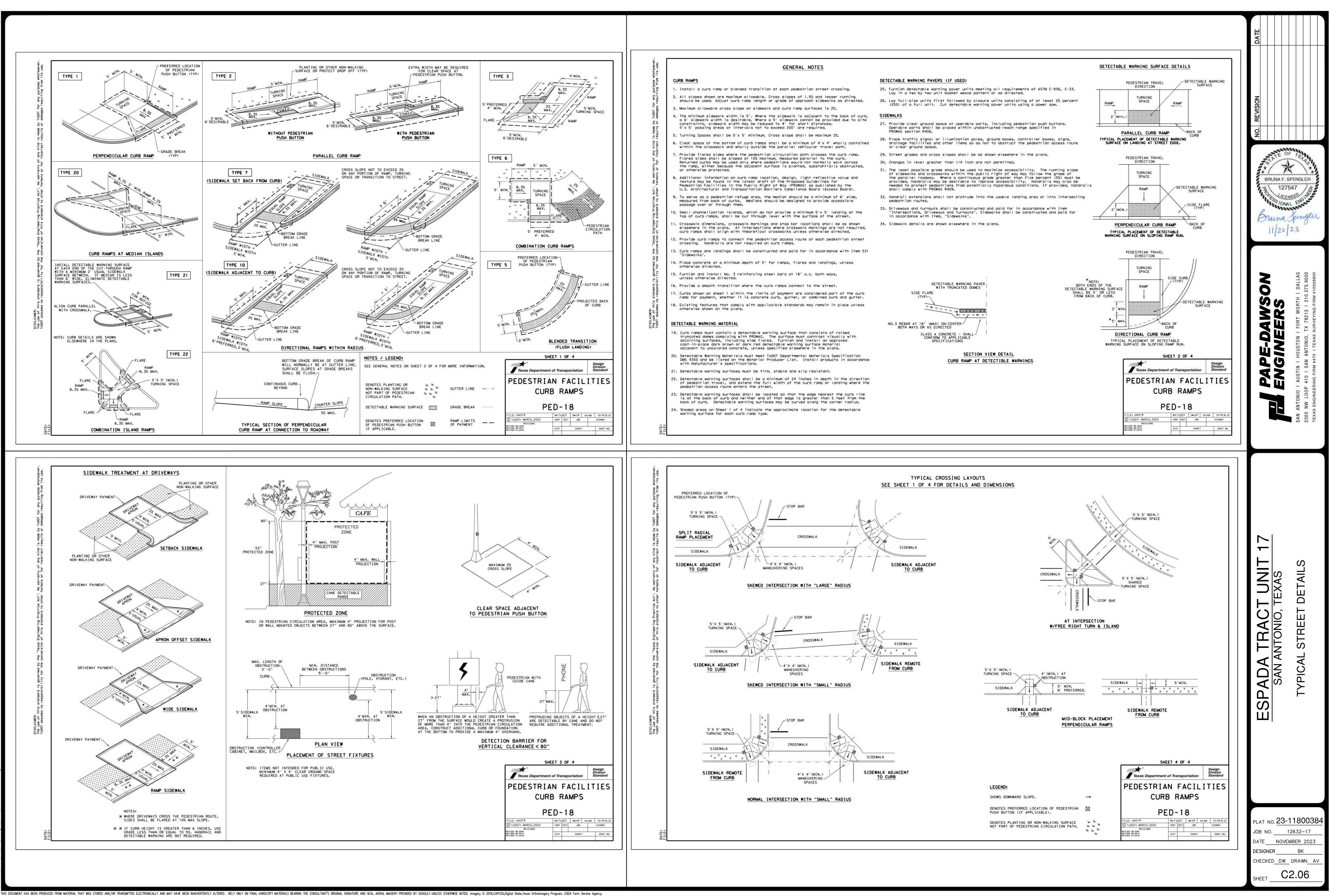




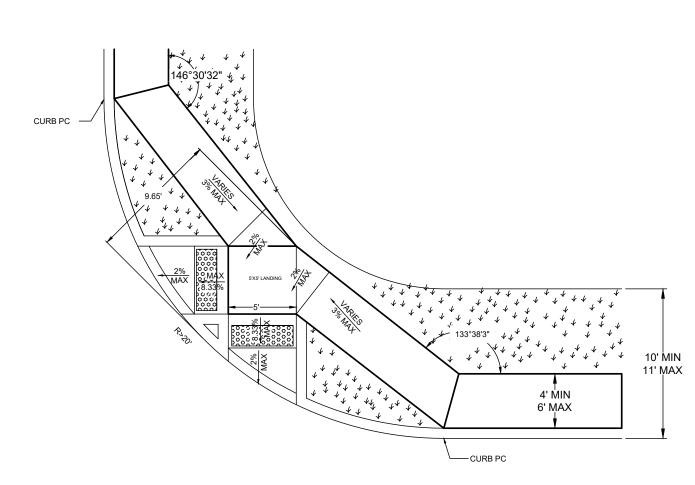
		PA	VEMENT	SECTION	N DETAIL				
STREET NAME	STATION	TYPE "D" HMAC	TYPE "B" HMAC	TYPE "C" HMAC	GRANULAR BASE COURSE	CEMENT TREATED SUBGRADE	GEOGRID (TENSAR TRIAX TX5)	CBR	STRUCTURAL N
AQUEDUCT CREEK	55+11.61 TO 68+81.66	2"	_	_	10"	6"	NO	4.0	2(.44) = 0.88 10(.14) = 1.4
CALABAZAS MANOR	1+15.03 TO 2+47.88	2"	-	_	10"	6"	NO	4.0	2(.44) = 0.88 10(.14) = 1.4
ESPADA RIDGE (COLLECTOR)	34+83.39 TO 37+47.55	2"	-	4"	12"	6"	NO	4.0	2(.44) = 0.88 4(.44) = 1.76 12(.14) = 1.68
ESPADA RIDGE (LOCAL B)	37+47.55 TO 50+02.59	1.5"	_	3"	15"	6"	NO	4.0	$\begin{array}{l} 1.5(.44) = 0.66\\ 3(.44) = 1.32\\ 15(.14) = 2.10 \end{array}$

HIS 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 Orthoimagery Program, USDA Farm Service Agency.

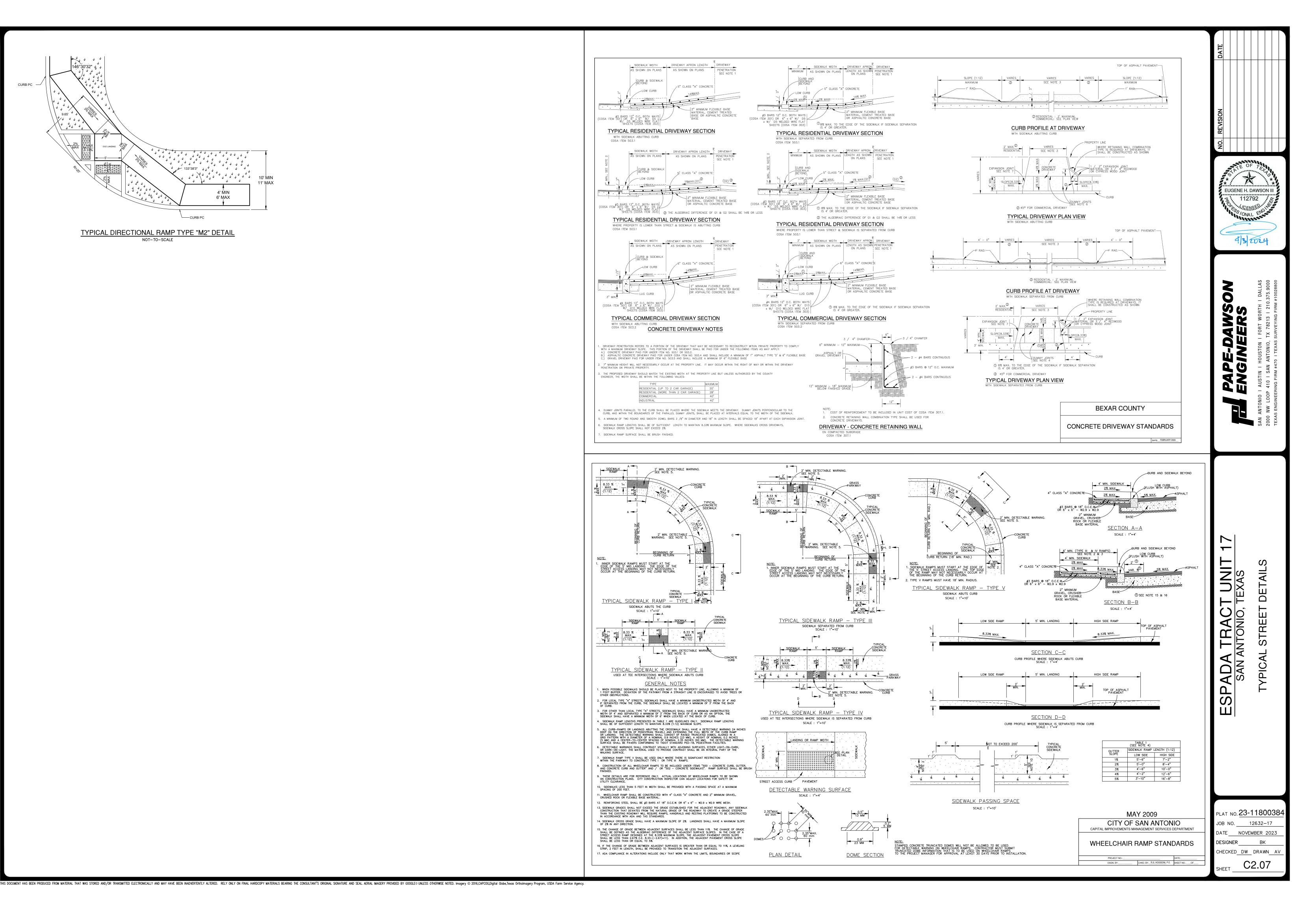


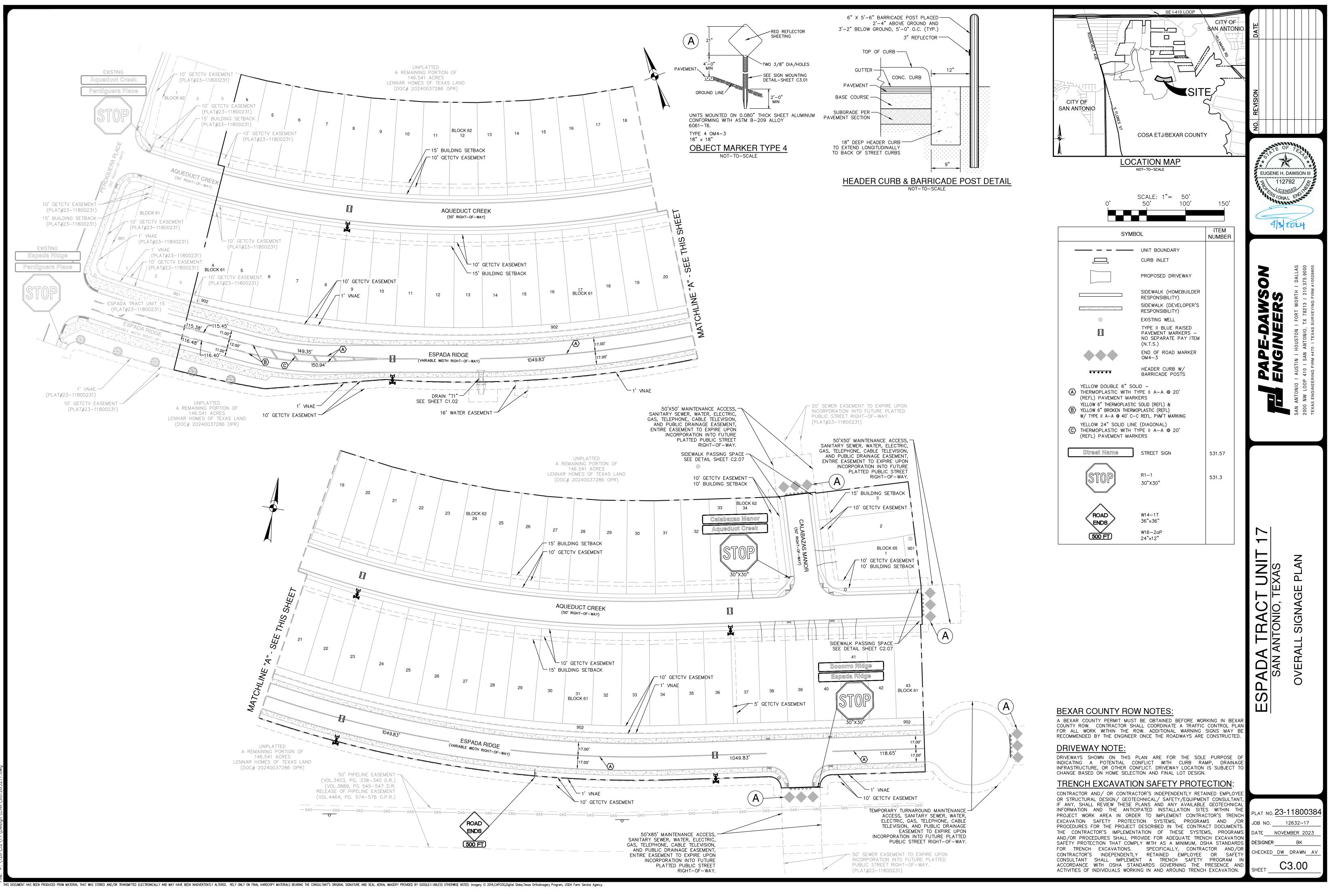


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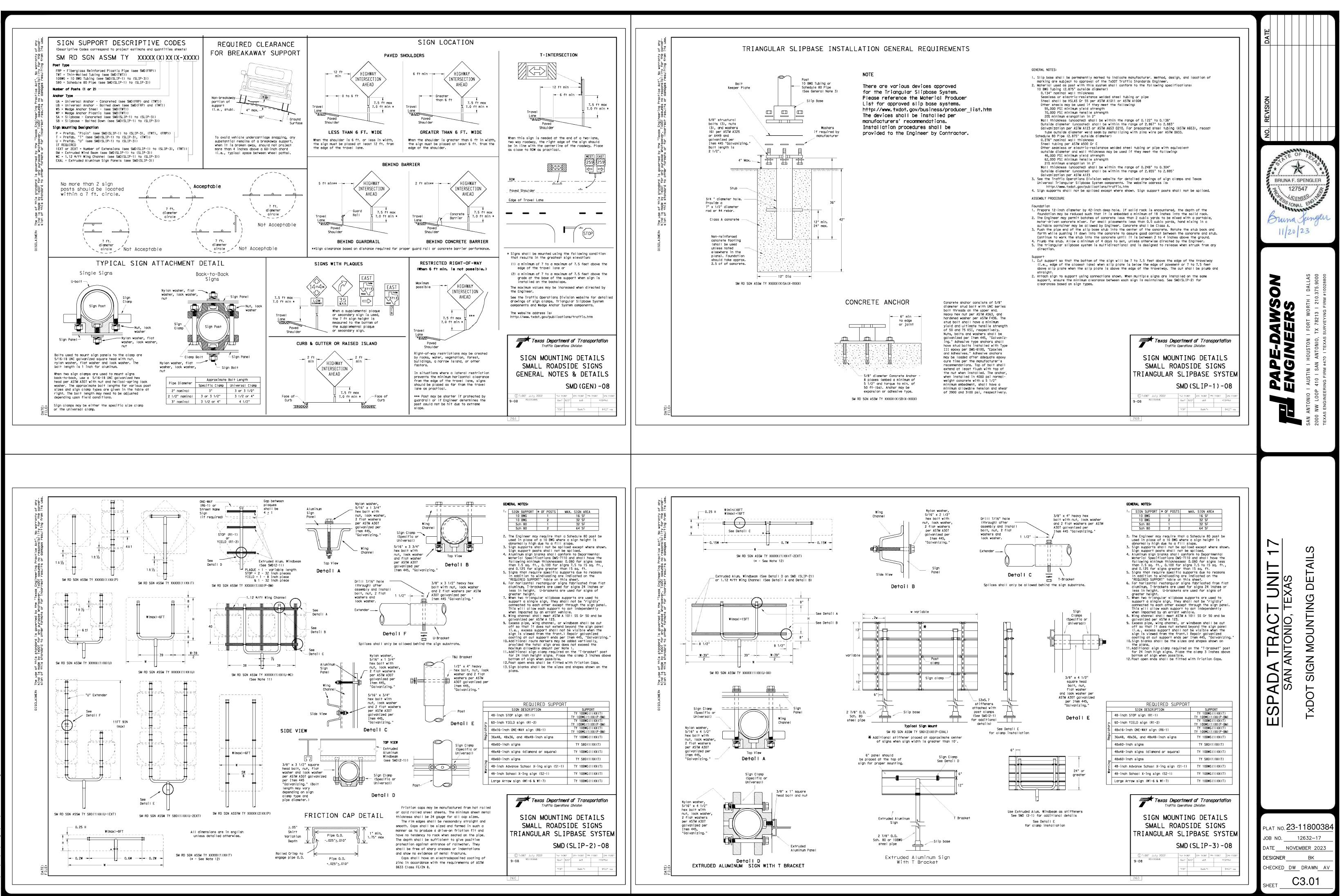


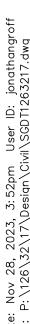
TYPICAL DIRECTIONAL RAMP TYPE "M2" DETAIL NOT-TO-SCALE



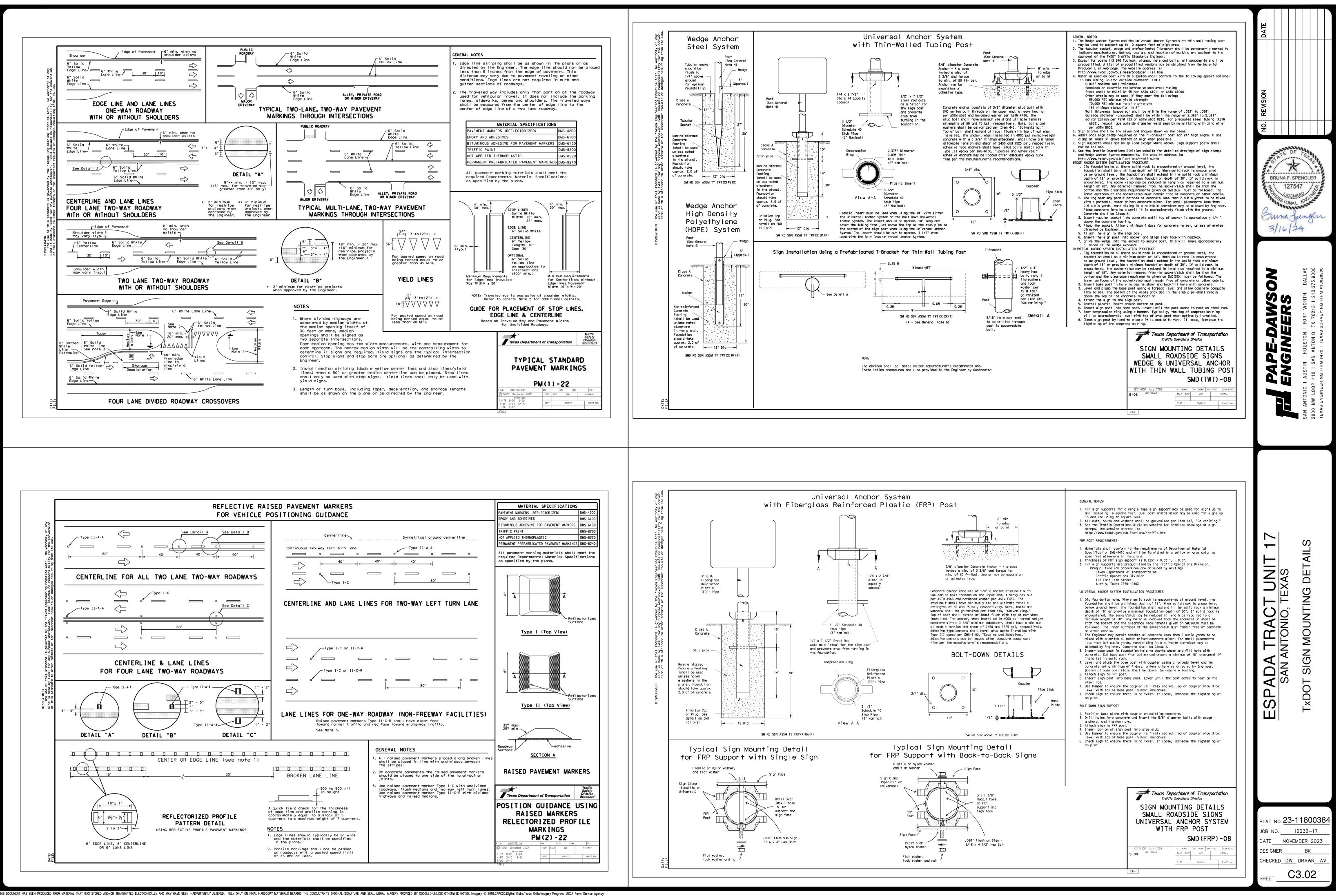


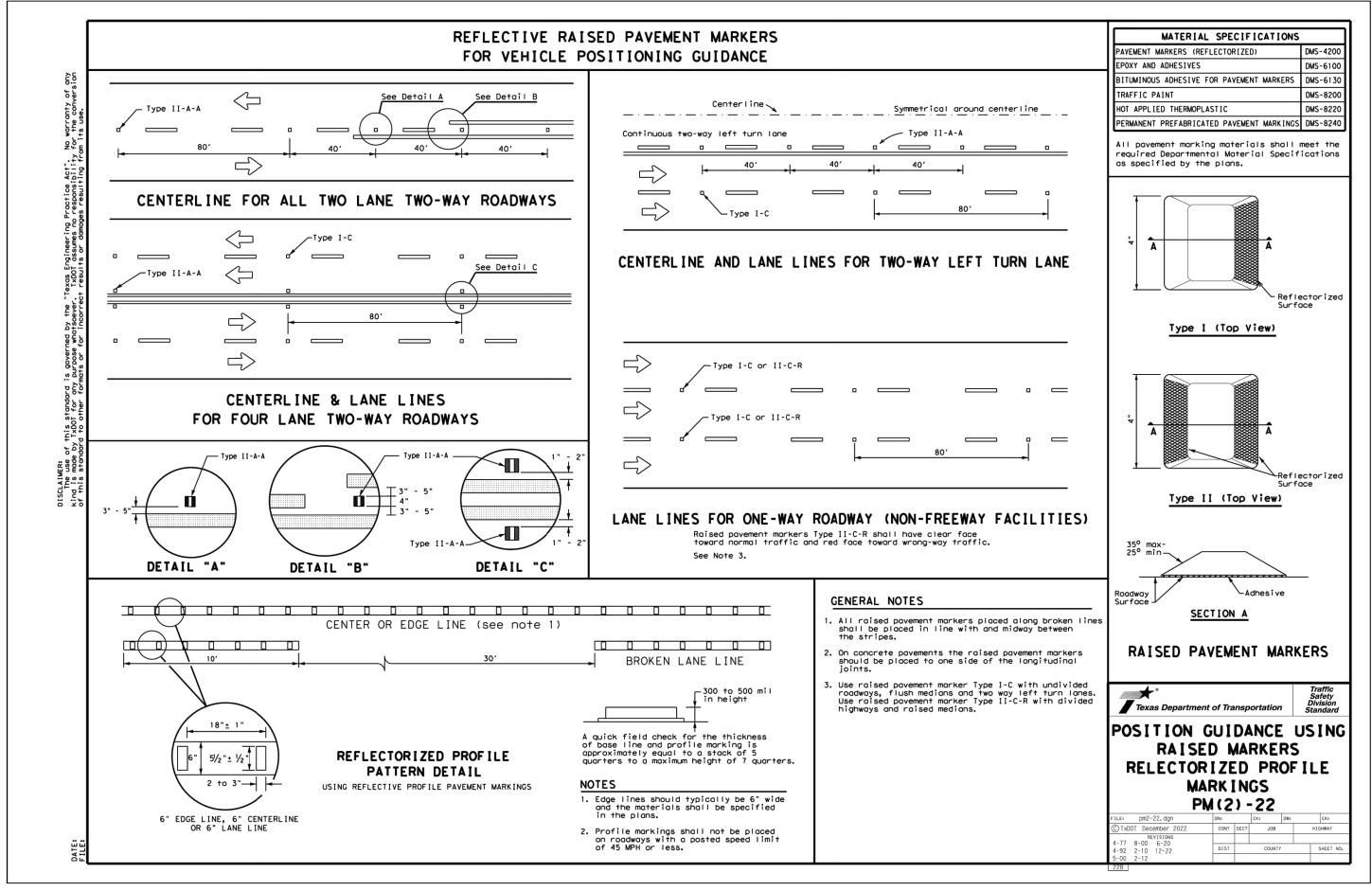
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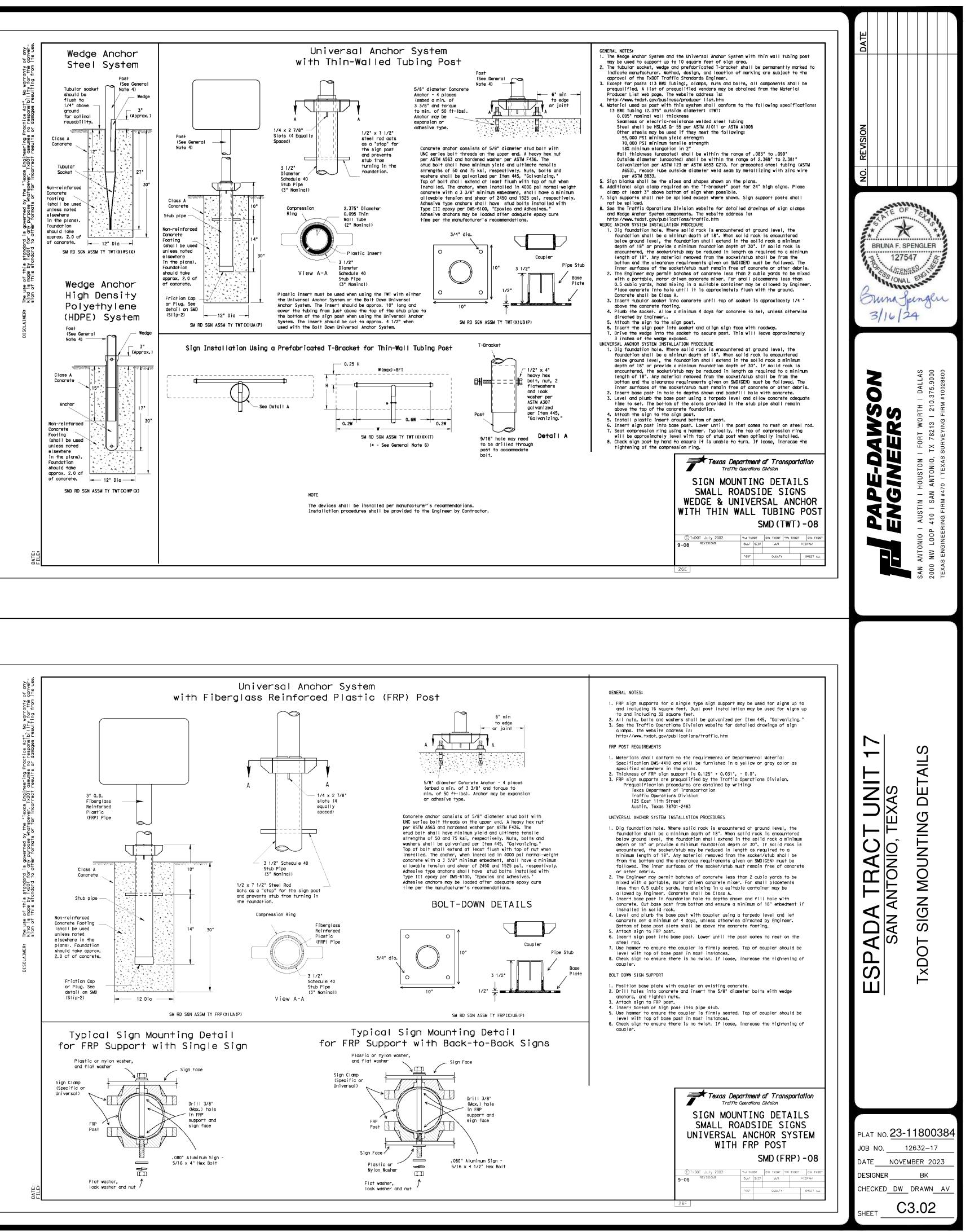


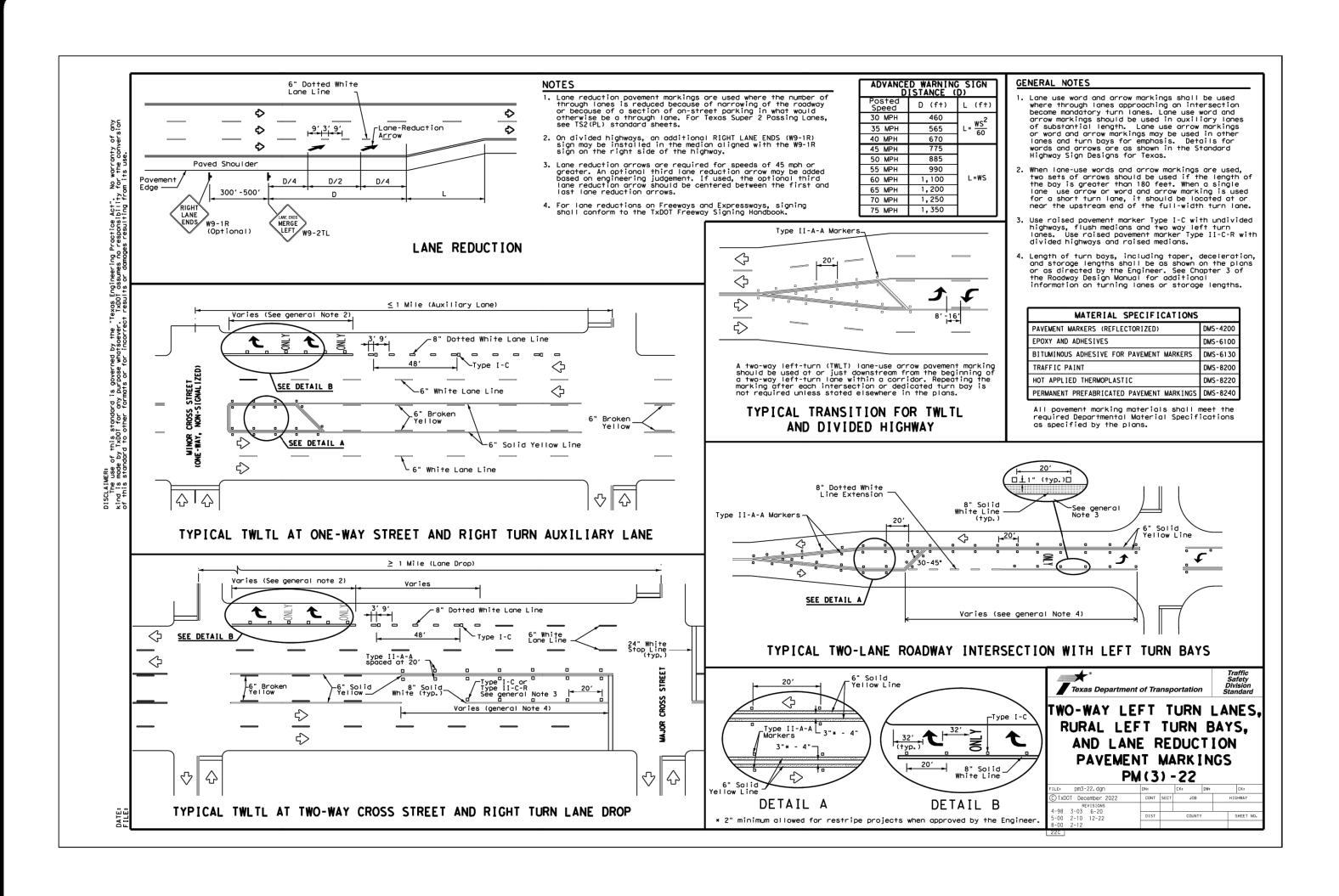


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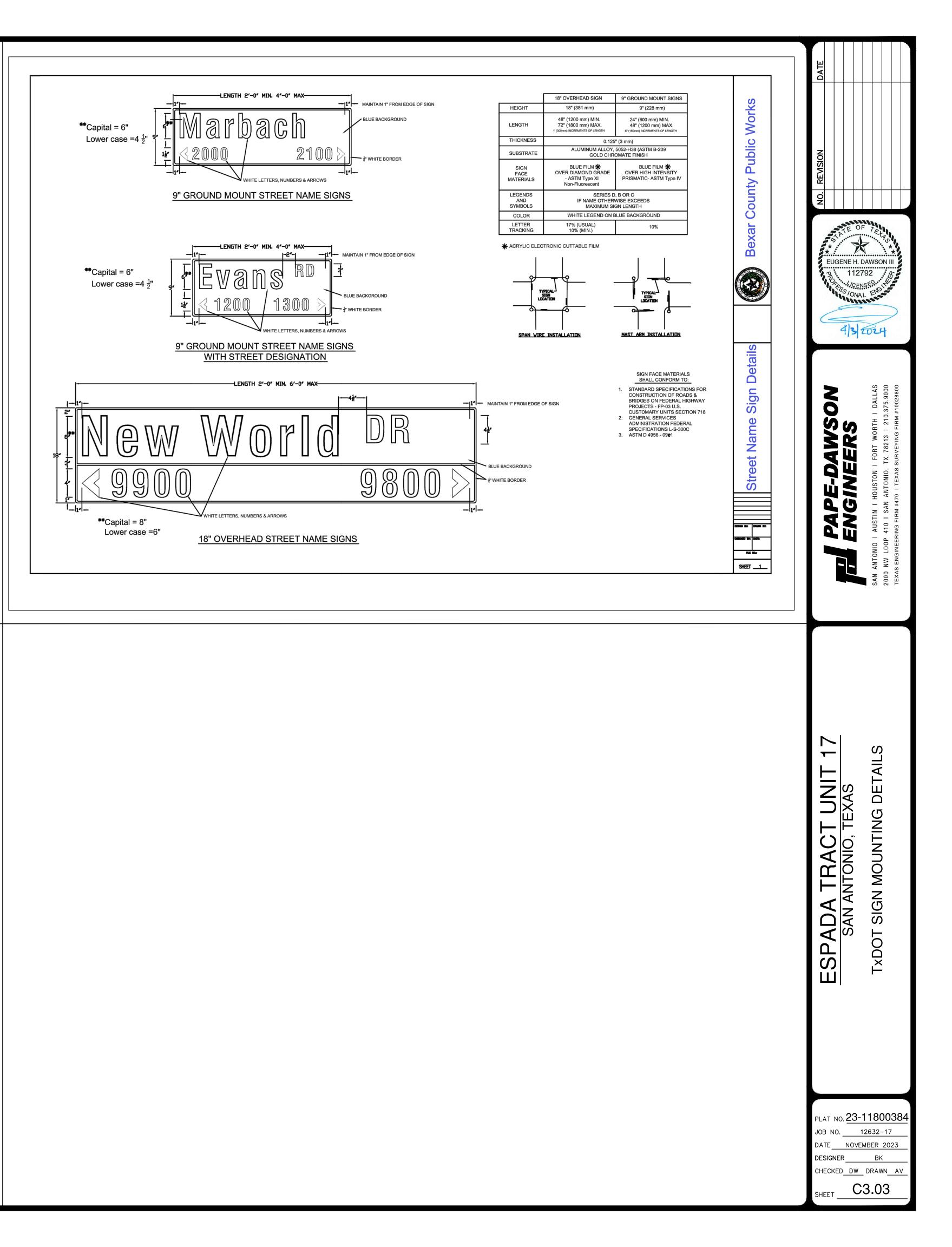


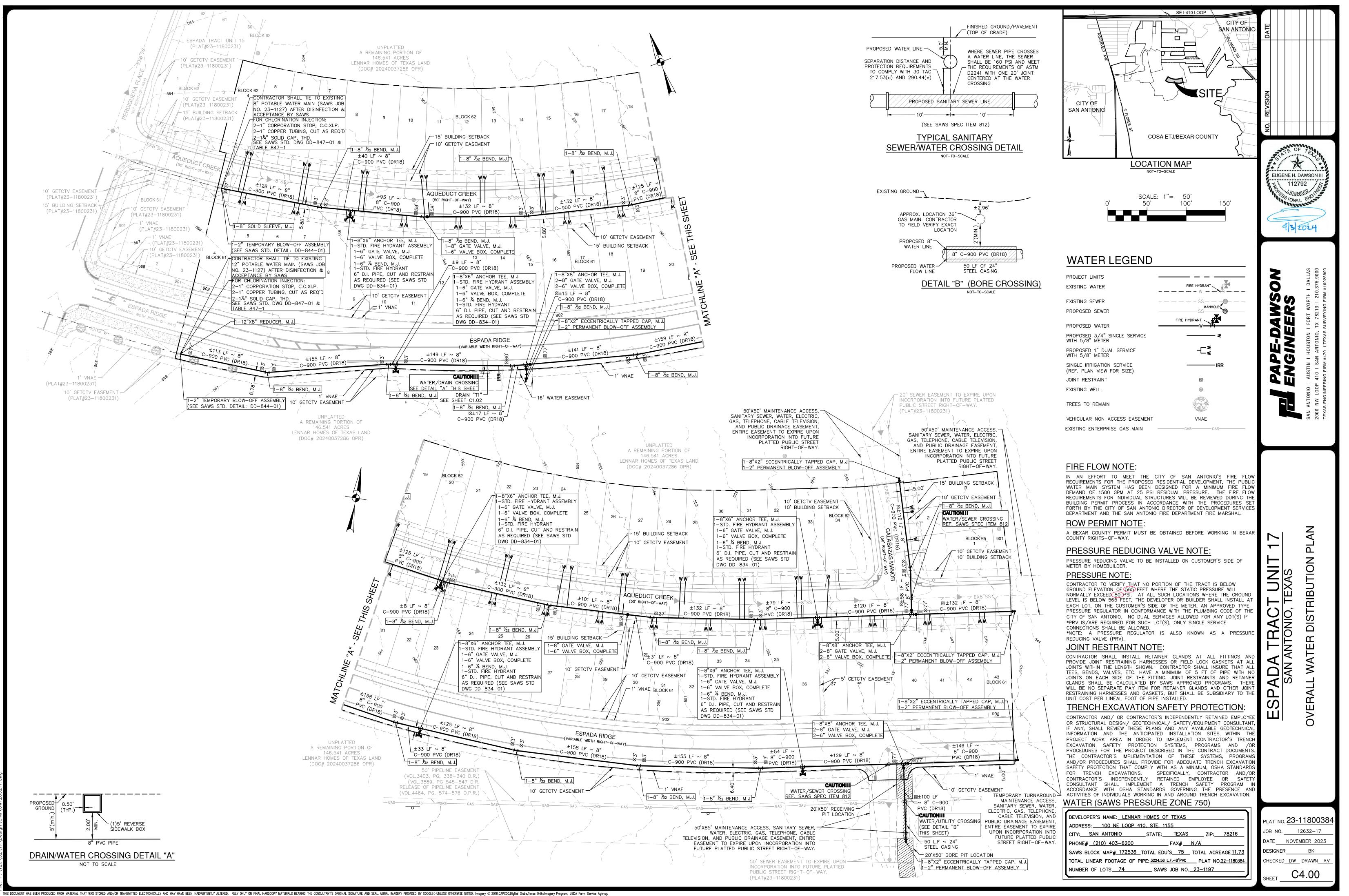


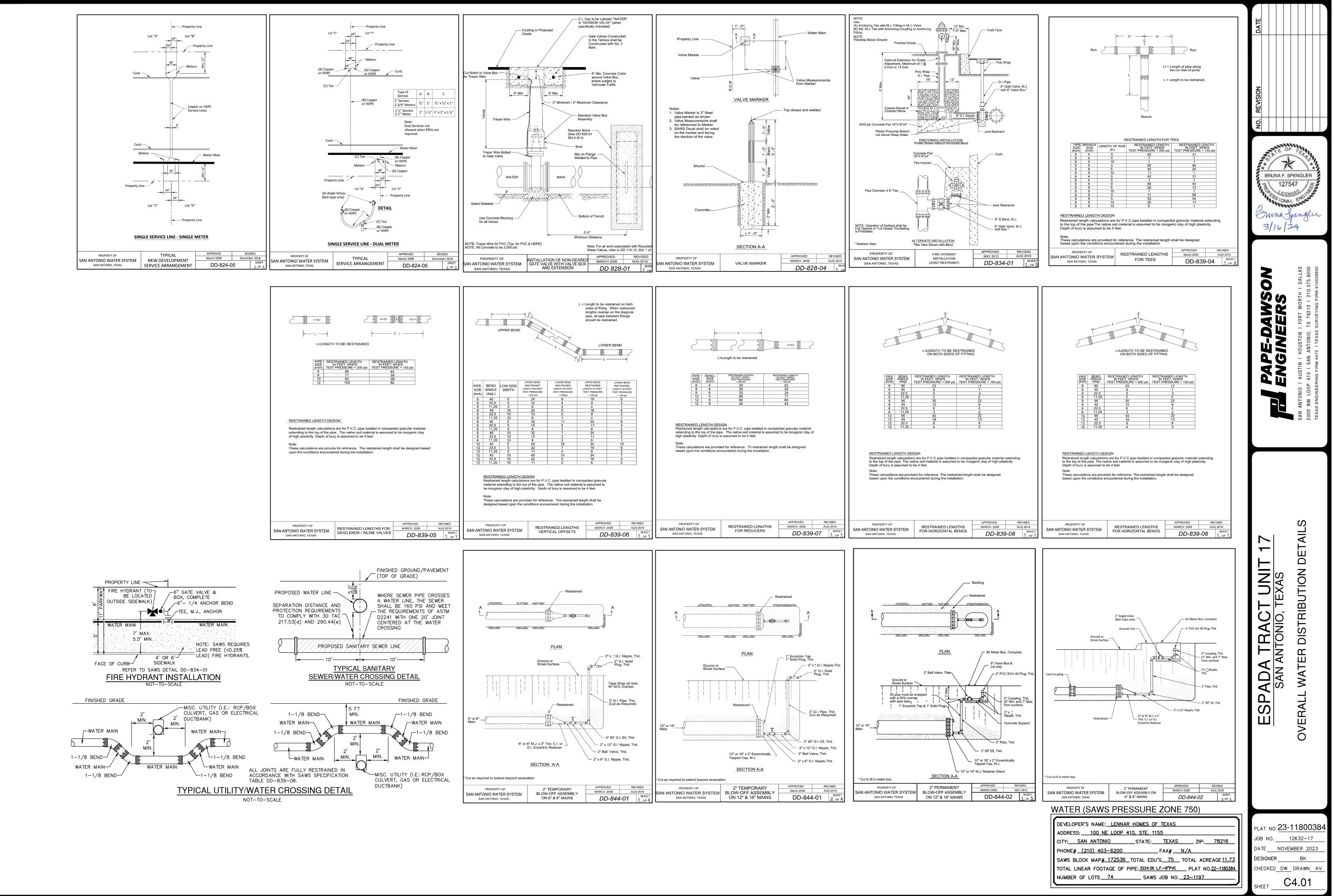




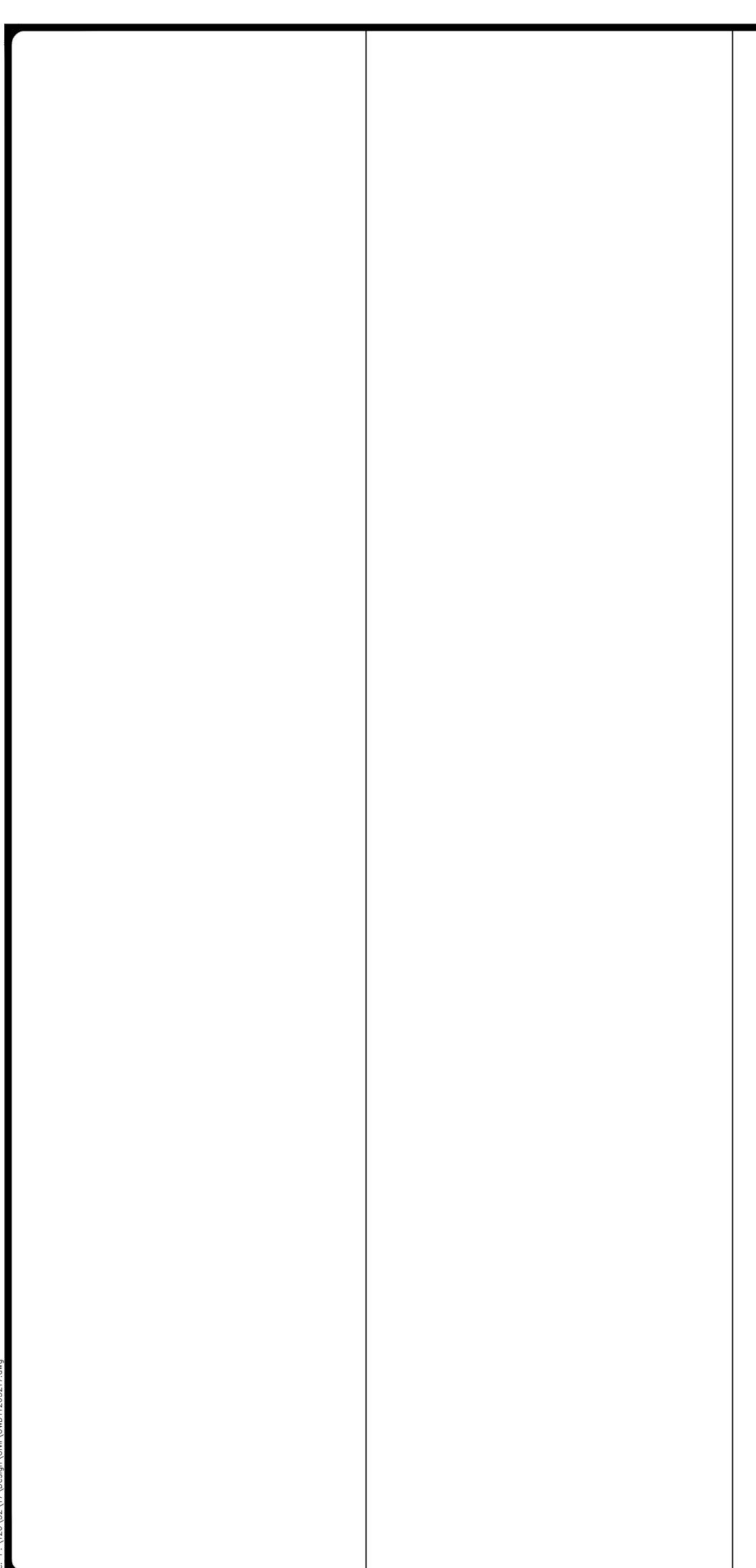
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SAWS CONSTRUCTION NOTES (LAST REVISED JANUARY 2022) SAWS GENERAL SECTION ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE: A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) 'DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM". TEXAS ADMINISTRATIVE ACCORDINGLY. 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 CENTER (210) 233-2014 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

- 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.
- 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.
- . 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
- 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.
- . 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.

SAWS WATER NOTES

- SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN. REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)
- STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL VALVES SHALL READ "OPEN RIGHT".
- 6. PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT (PRV)
- PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- 8. BACKFLOW PREVENTION DEVICES:
- HAVE BACKFLOW PREVENTION DEVICES. BY SAWS PRIOR TO INSTALLATION.
- SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- 10. DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION TO
- 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.

PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST | 1. MACHINE CHLORINATION BY THE S.A.W.S. 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 RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK 3

FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS

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

THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE

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

IS BELOW GROUND ELEVATION OF 565 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 565 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. *NOTE: PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE

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. TH CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO

• ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED

UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND

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 / DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE

SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR 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

PROJECT WATER NOTES

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

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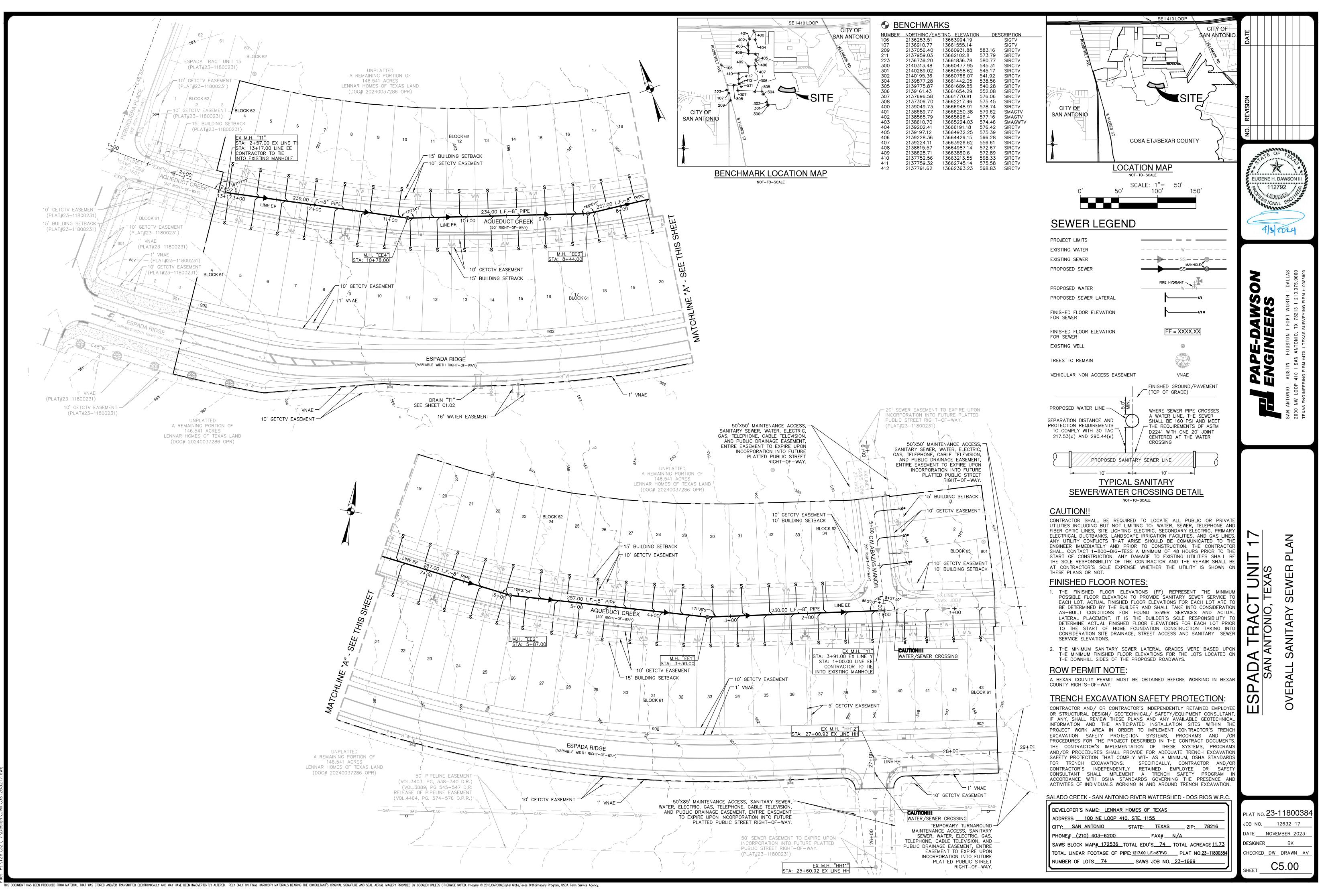
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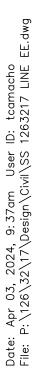
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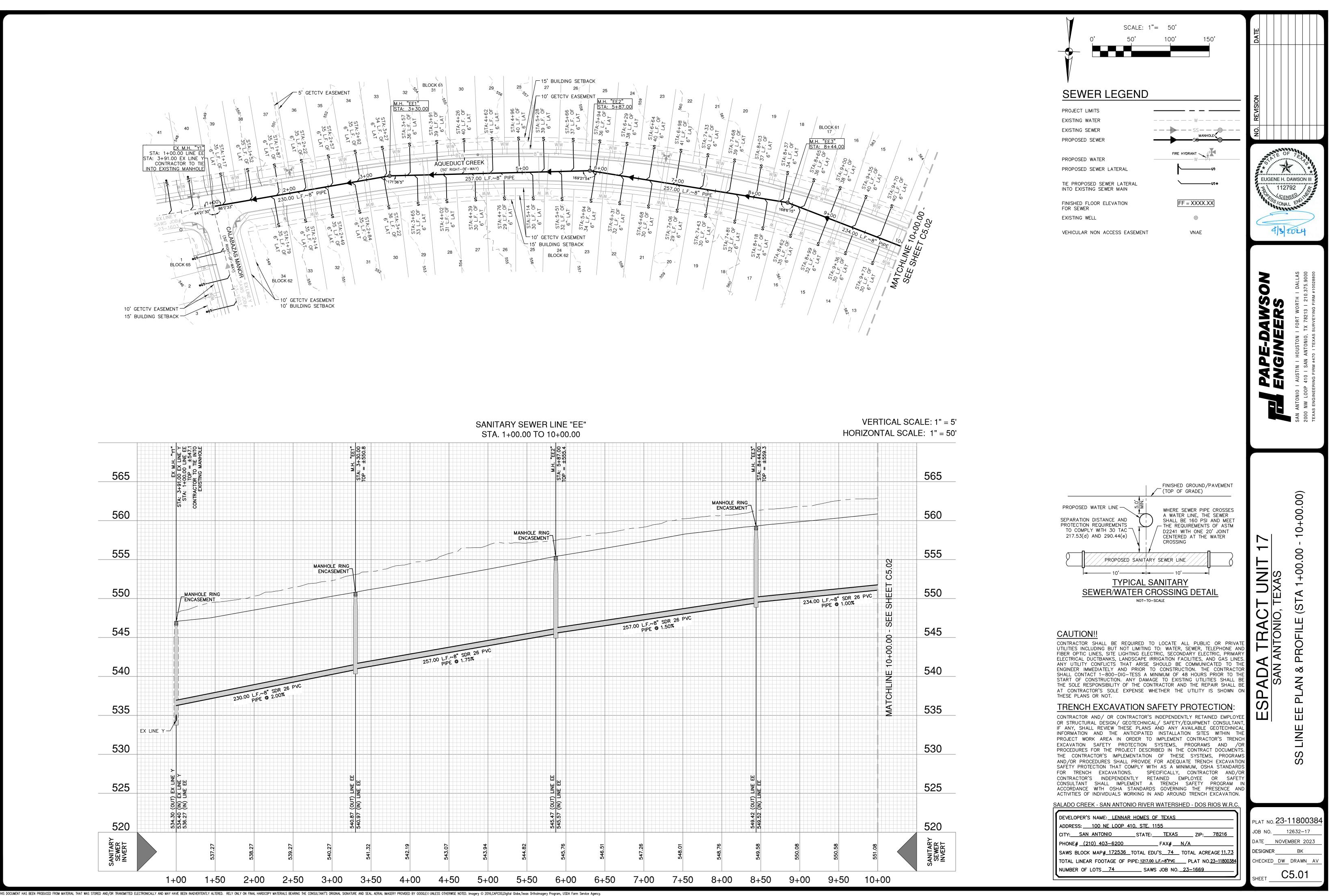
WATER (SAWS PRESSURE ZONE 750)

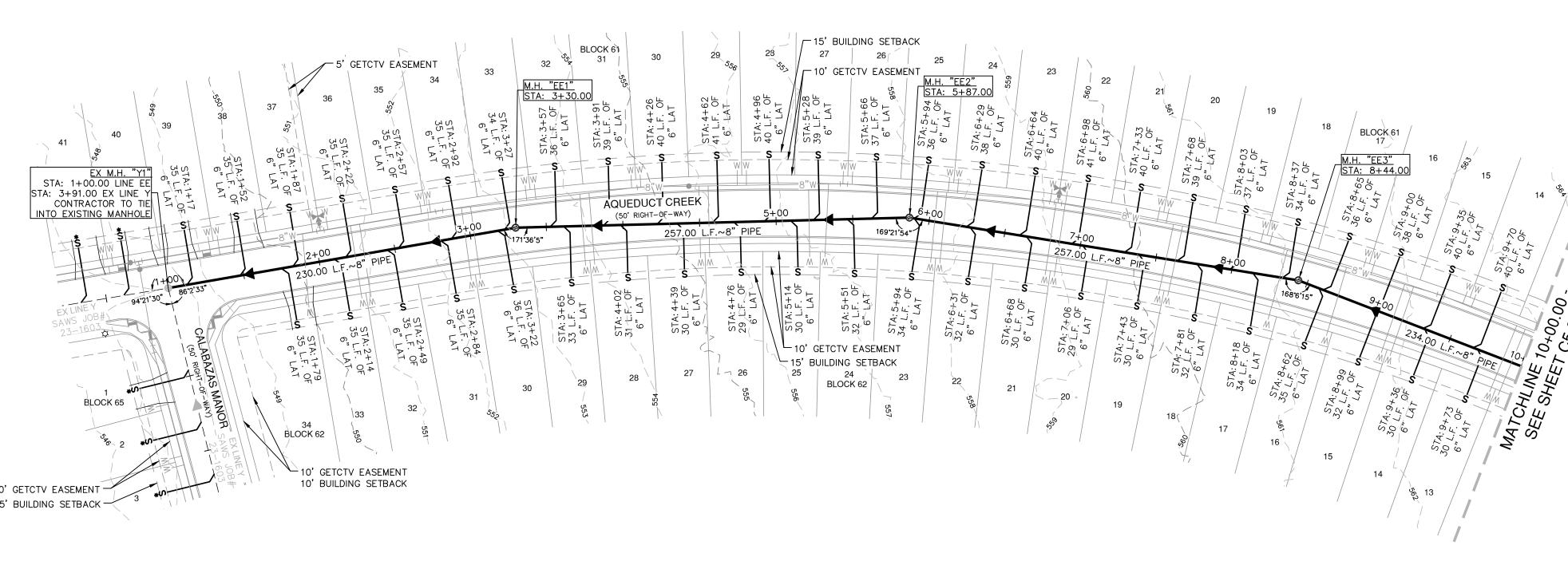
DEVELOPER'S NAME: LENNAR HOMES OF TEXAS
ADDRESS: 100 NE LOOP 410, STE. 1155
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78216
PHONE# (210) 403–6200 FAX# N/A
SAWS BLOCK MAP# 172536 TOTAL EDU'S 75 TOTAL ACREAGE 11.73
TOTAL LINEAR FOOTAGE OF PIPE: 3224.56 L.F.~8"PVC PLAT NO.22-118038
NUMBER OF LOTS 74 SAWS JOB NO. 23-1197

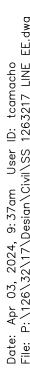


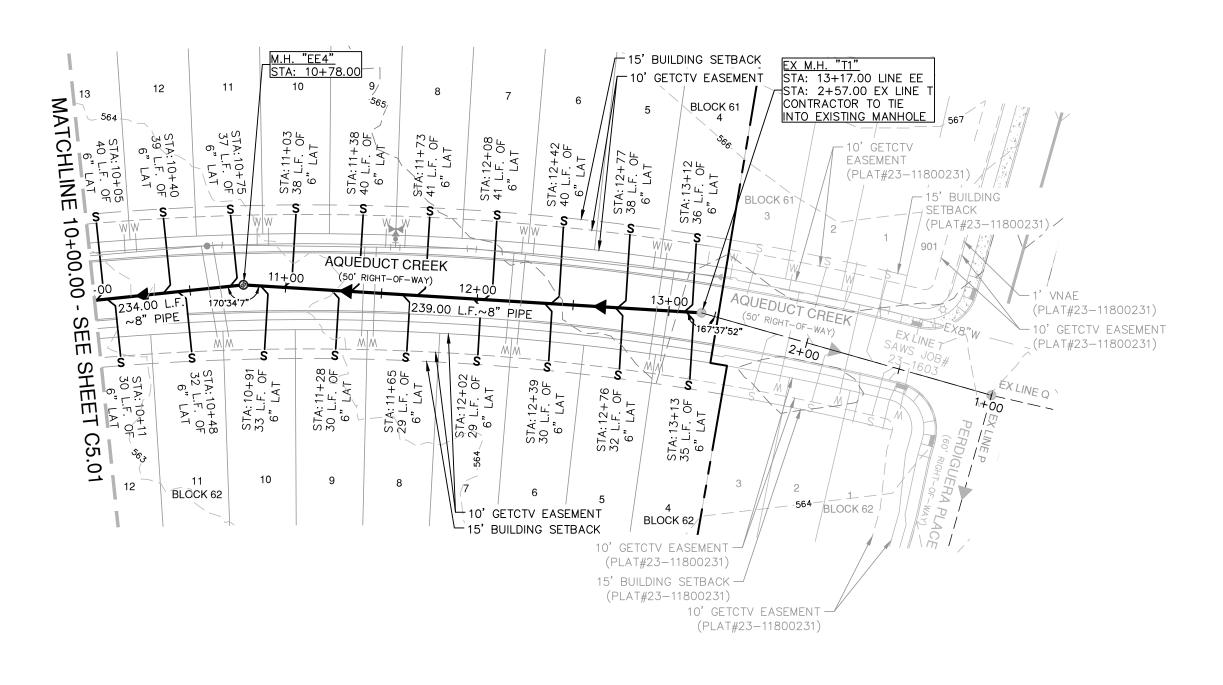
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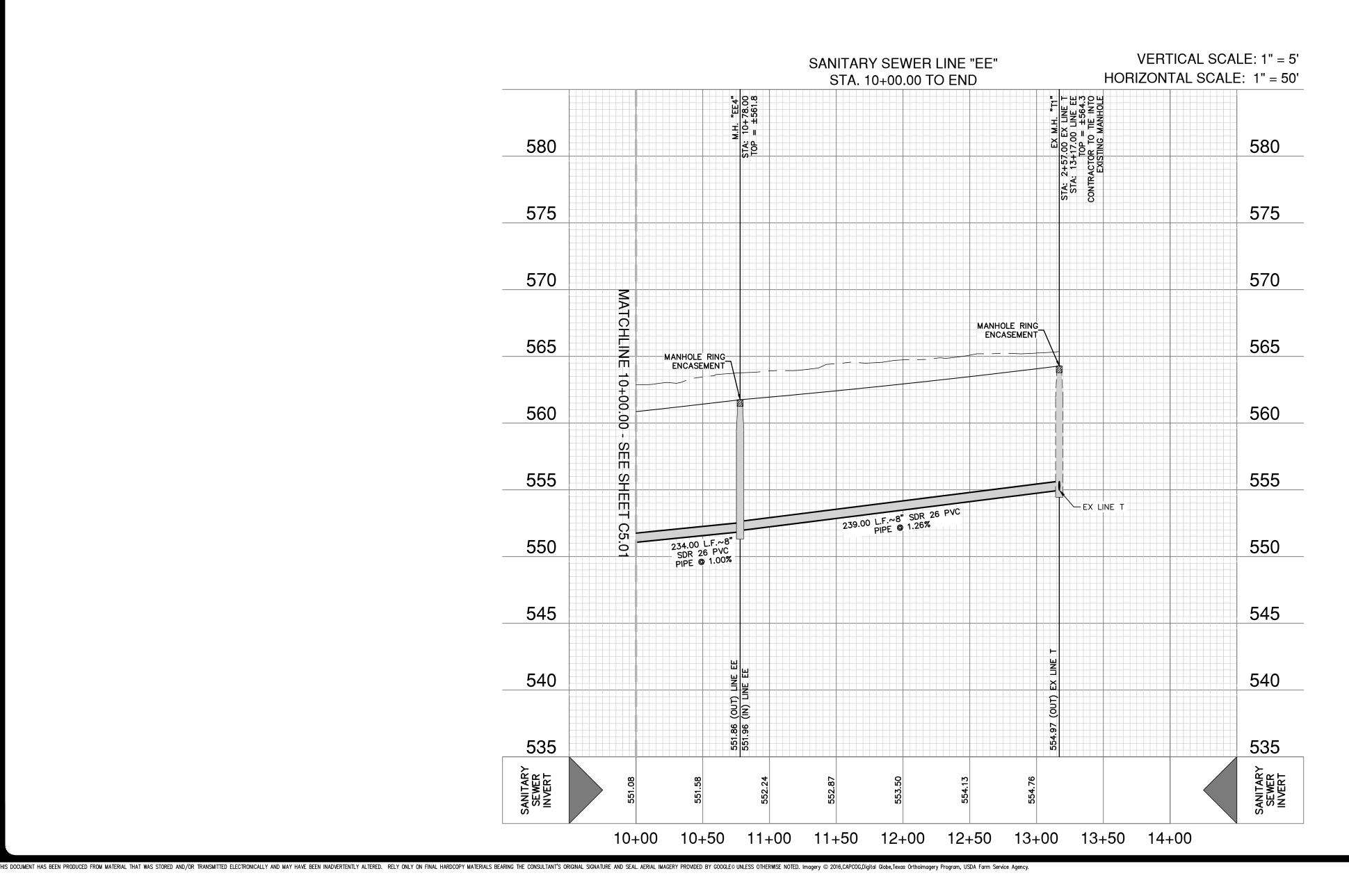




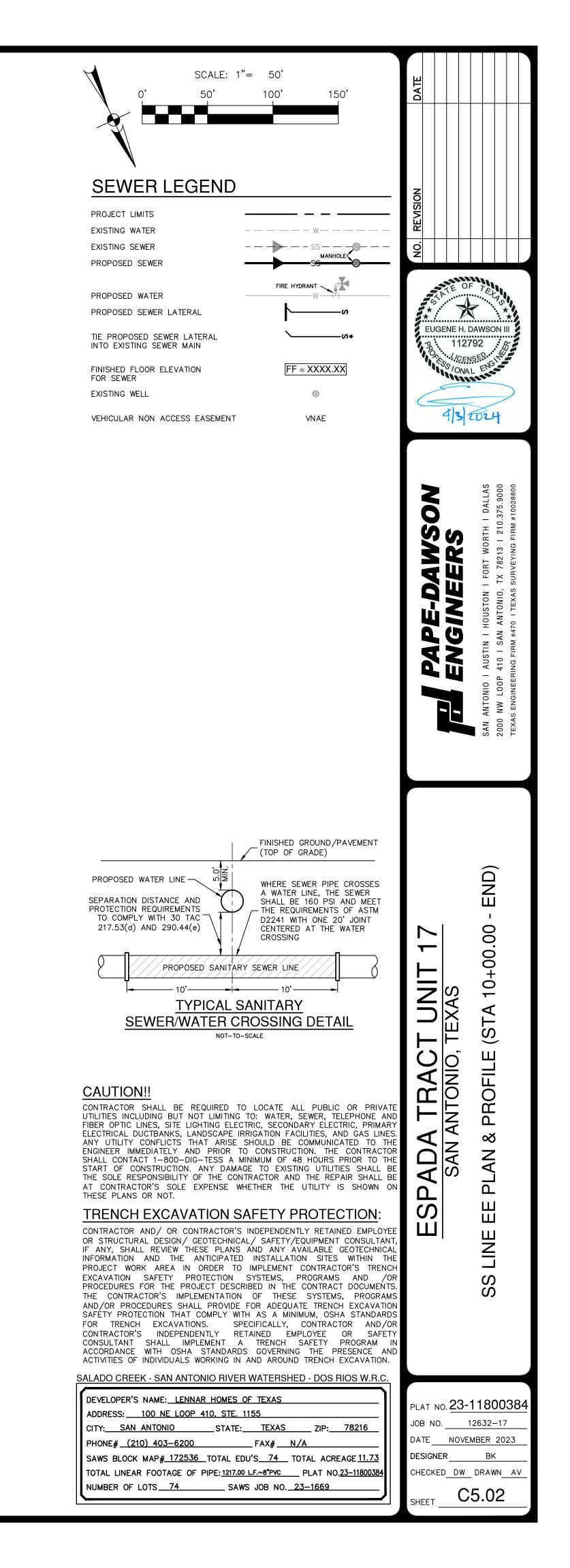






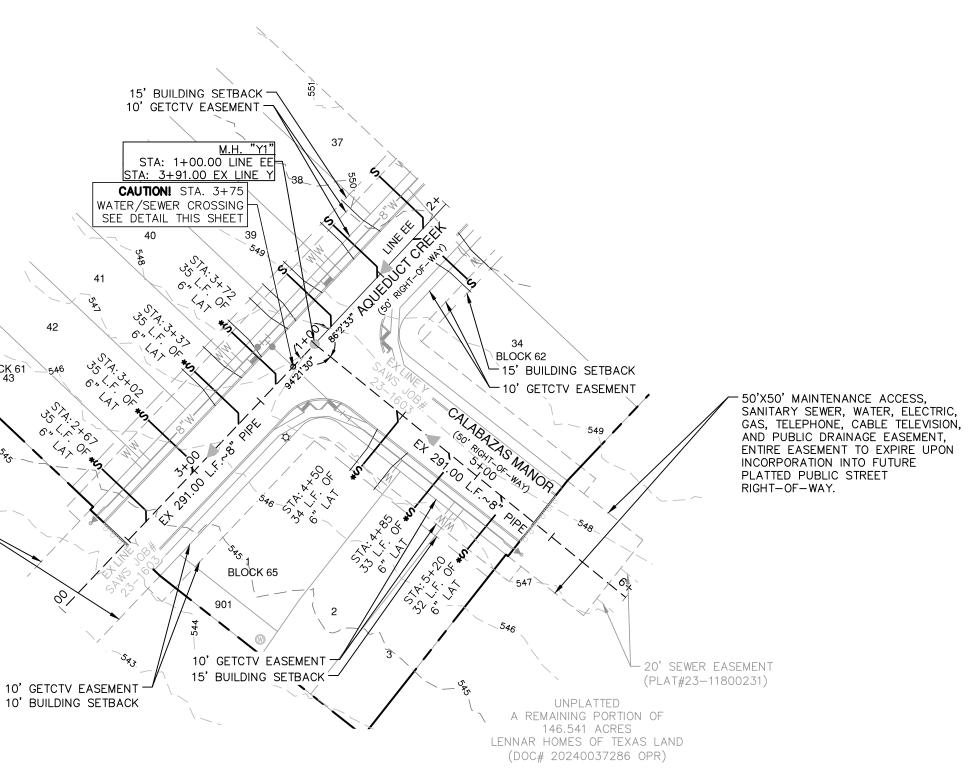


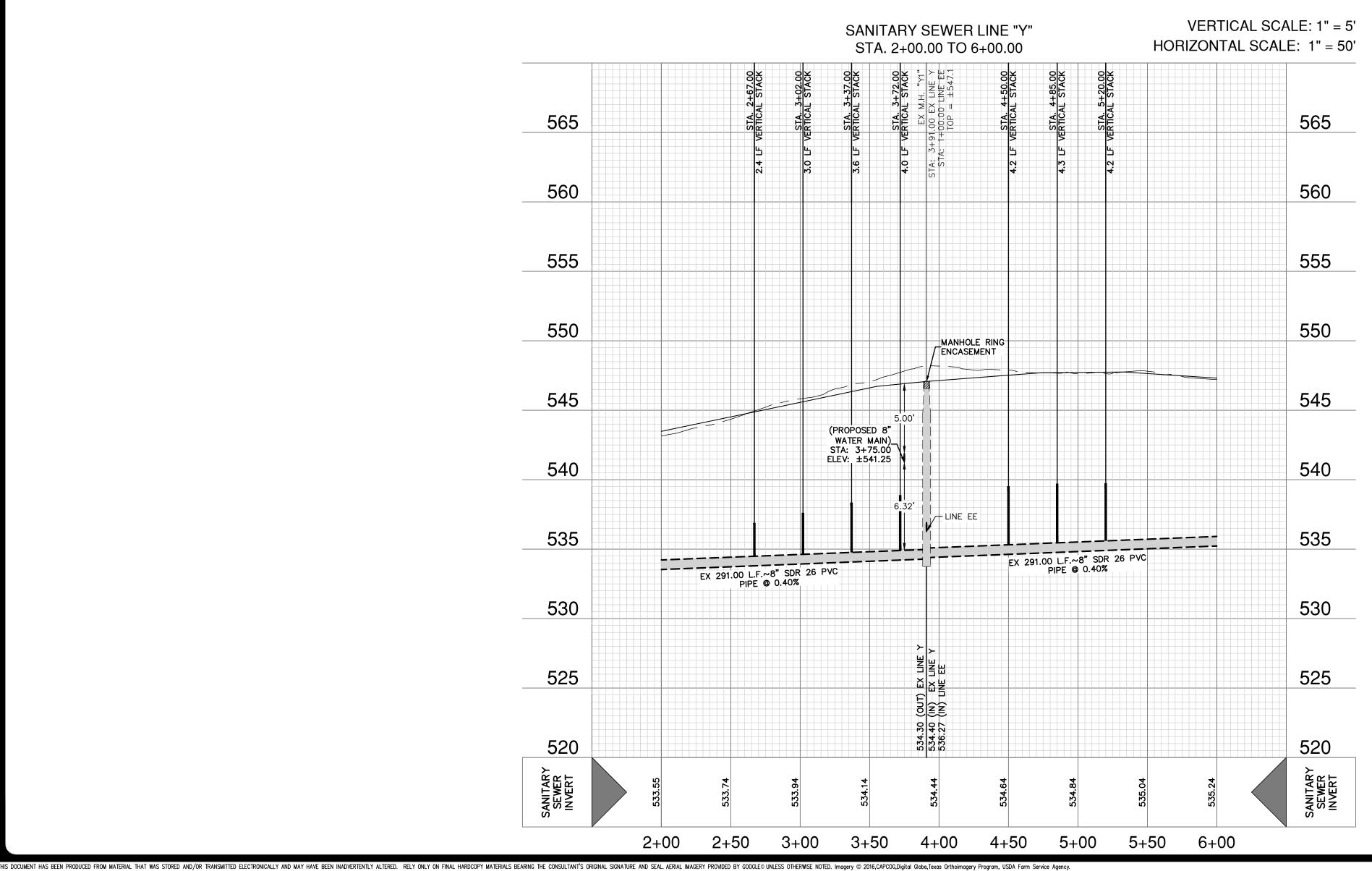


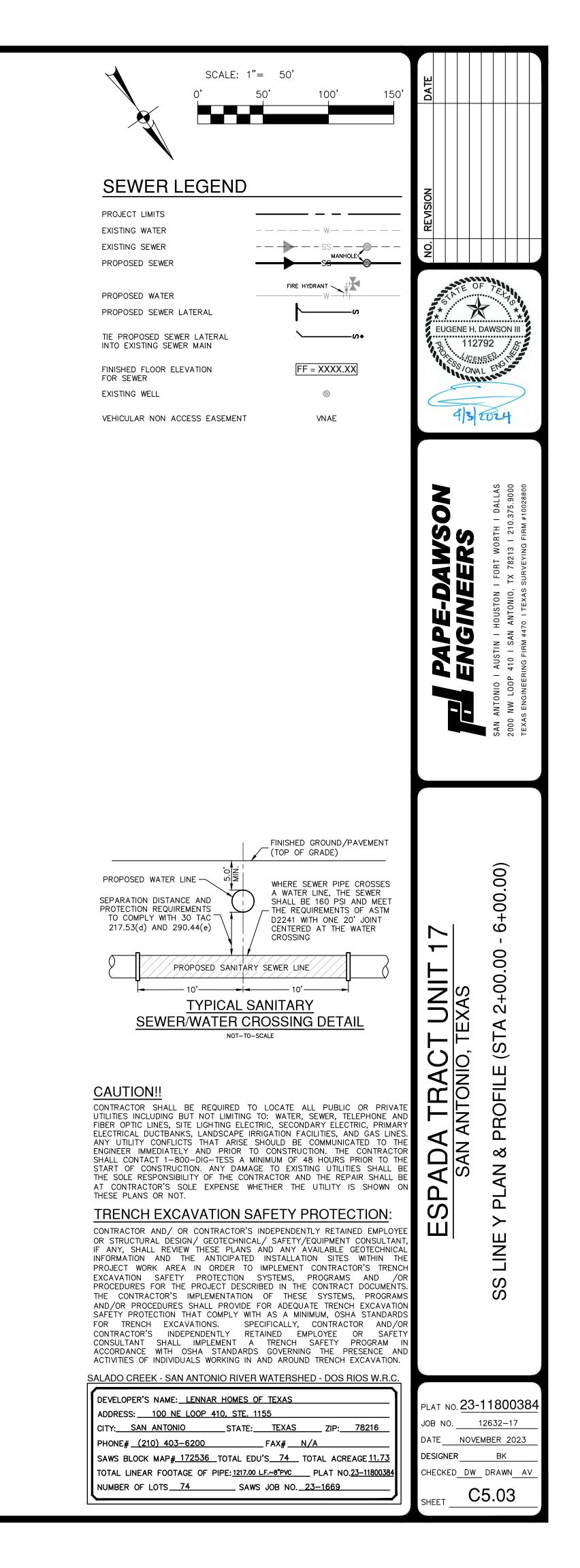


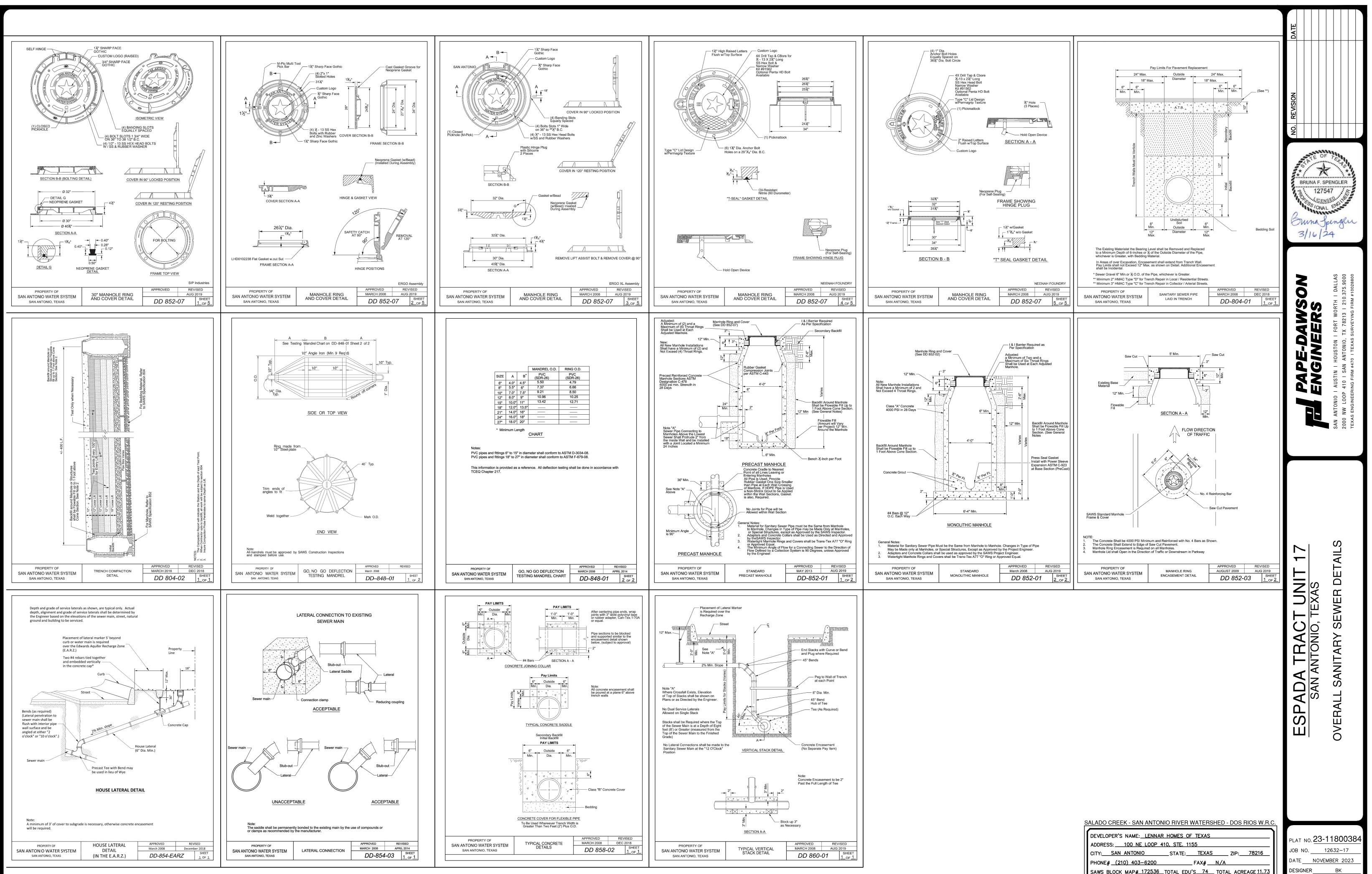
BLOCK 6 UNPLATTED A REMAINING PORTION OF 146.541 ACRES LENNAR HOMES OF TEXAS LAND (DOC# 20240037286 OPR) 50'X50' MAINTENANCE ACCESS, — SANITARY SEWER, WATER, ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION, AND PUBLIC DRAINAGE EASEMENT, ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY.

2+67.00 AL STACK 565 560 555 550 545 540 535 EX 291.00 L.F.~8" SDR 26 PVC PIPE @ 0.40% 530 525 520 WER SAN 2+50 2+00







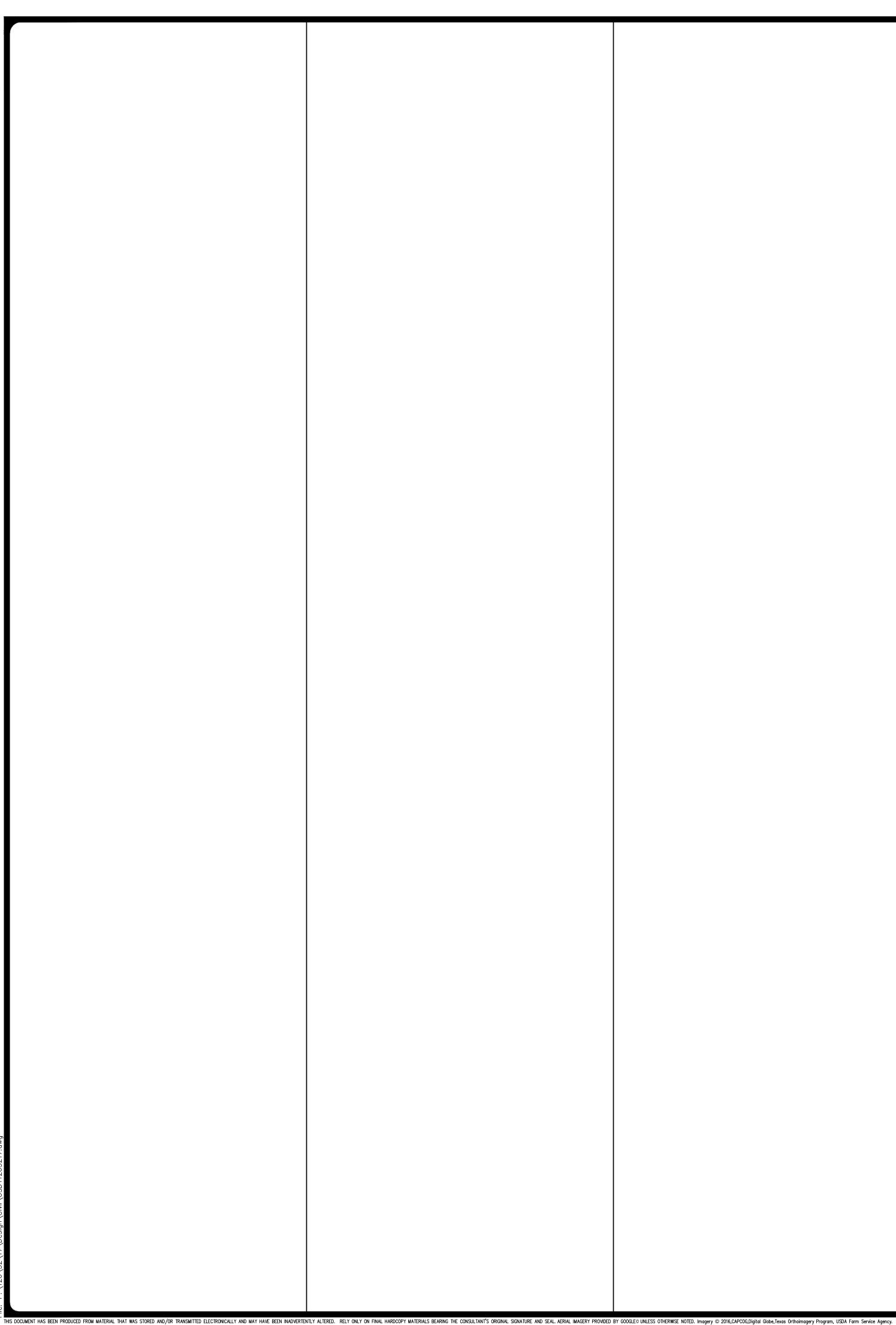


I	
	DEVELOPER'S NAME: LENNAR HOMES OF TEXAS
	ADDRESS:
	CITY: SAN ANTONIO STATE: TEXAS ZIP: 78216
	PHONE# (210) 403-6200 FAX# N/A
	SAWS BLOCK MAP# 172536 TOTAL EDU'S 74 TOTAL ACREAGE 11.73
	TOTAL LINEAR FOOTAGE OF PIPE: 1217.00 LF.~8"PVC PLAT NO.23-118003
	NUMBER OF LOTS 74 SAWS JOB NO. 23-1669

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SHEET

C5.04



SAWS CONSTRUCTION NOTES (LAST REVISED JANUARY 2022)

SAWS GENERAL SECTION

- FOLLOWING AS APPLICABLE:
- WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
- WATER AND SANITARY SEWER CONSTRUCTION'
- WORKS CONSTRUCTION". (UECM).
- NOTED WITHIN THE DESIGN PLANS.
- INSPECTION DIVISION AT BEGINNING ANY WORK.
- DURING CONSTRUCTION AT NO COST TO SAWS.
- 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
- PROJECT'S CONSTRUCTION.
- CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- 9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER
- 10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR
- SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- INSPECTION DIVISION.

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

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

C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC

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

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

(210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO

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

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. TH FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:

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

8. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE

GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.

FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.

WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK.

ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND

12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION RÉQUIREMENTS 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

13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION

SAWS SEWER NOTES

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 AND SAWS.

- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION 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, "BYPASS PUMPING".
 - 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.
 - 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)
 - 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 RÉGARDLESS 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.
 - ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

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

- 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.
- CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET C5.09 . NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE
- SPECIFIED BY THE ENGINEER. . ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO
- THE PROPERTY LINE. 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.
- . 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.
- 3. 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.
- 1. 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 FIFVATIONS 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.

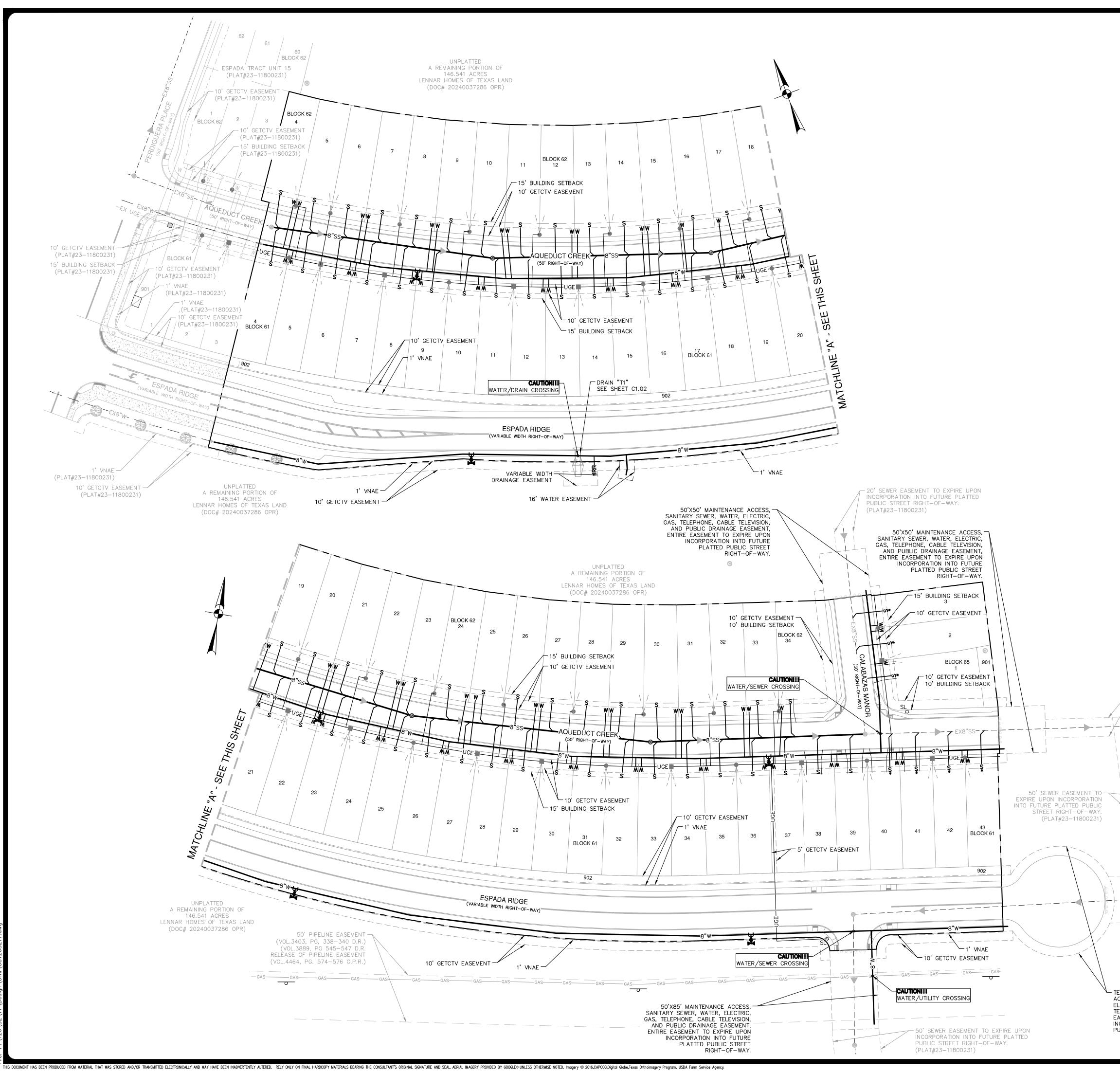
SALADO CREEK - SAN ANTONIO RIVER WATERSHED - DOS RIOS W.R.C

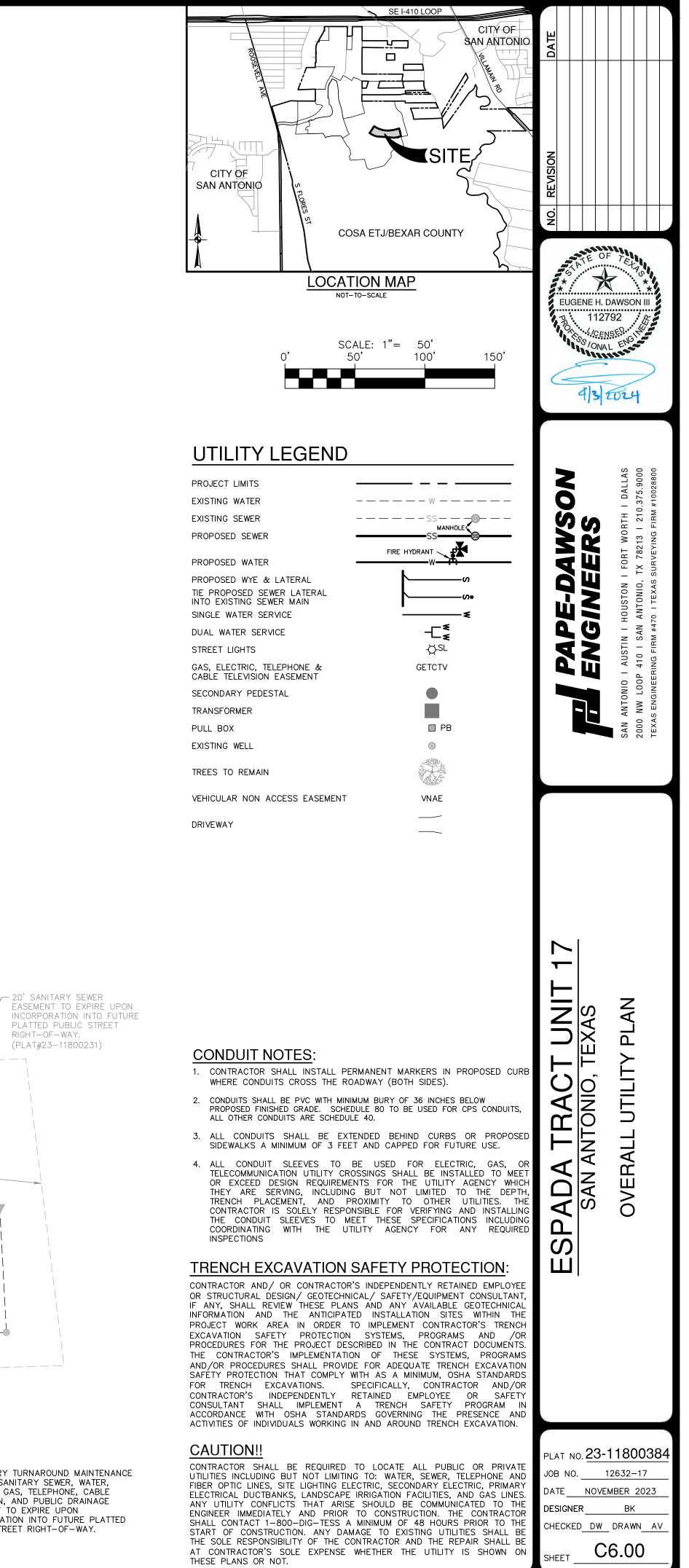
	DEVELOPER'S NAME: LENNAR HOMES OF TEXAS			
	ADDRESS: 100 NE LOOP 410, STE. 1155			
	CITY: SAN ANTONIOSTATE:TEXASZIP:78216			
	PHONE# <u>(210) 403–6200</u> FAX# <u>N/A</u>			
	SAWS BLOCK MAP# <u>172536</u> TOTAL EDU'S <u>74</u> TOTAL ACREAGE <u>11.73</u>			
	TOTAL LINEAR FOOTAGE OF PIPE: 1217.00 L.F.~8"PVC PLAT NO.23-1180038			
	NUMBER OF LOTS 74 SAWS JOB NO. 23-1669			
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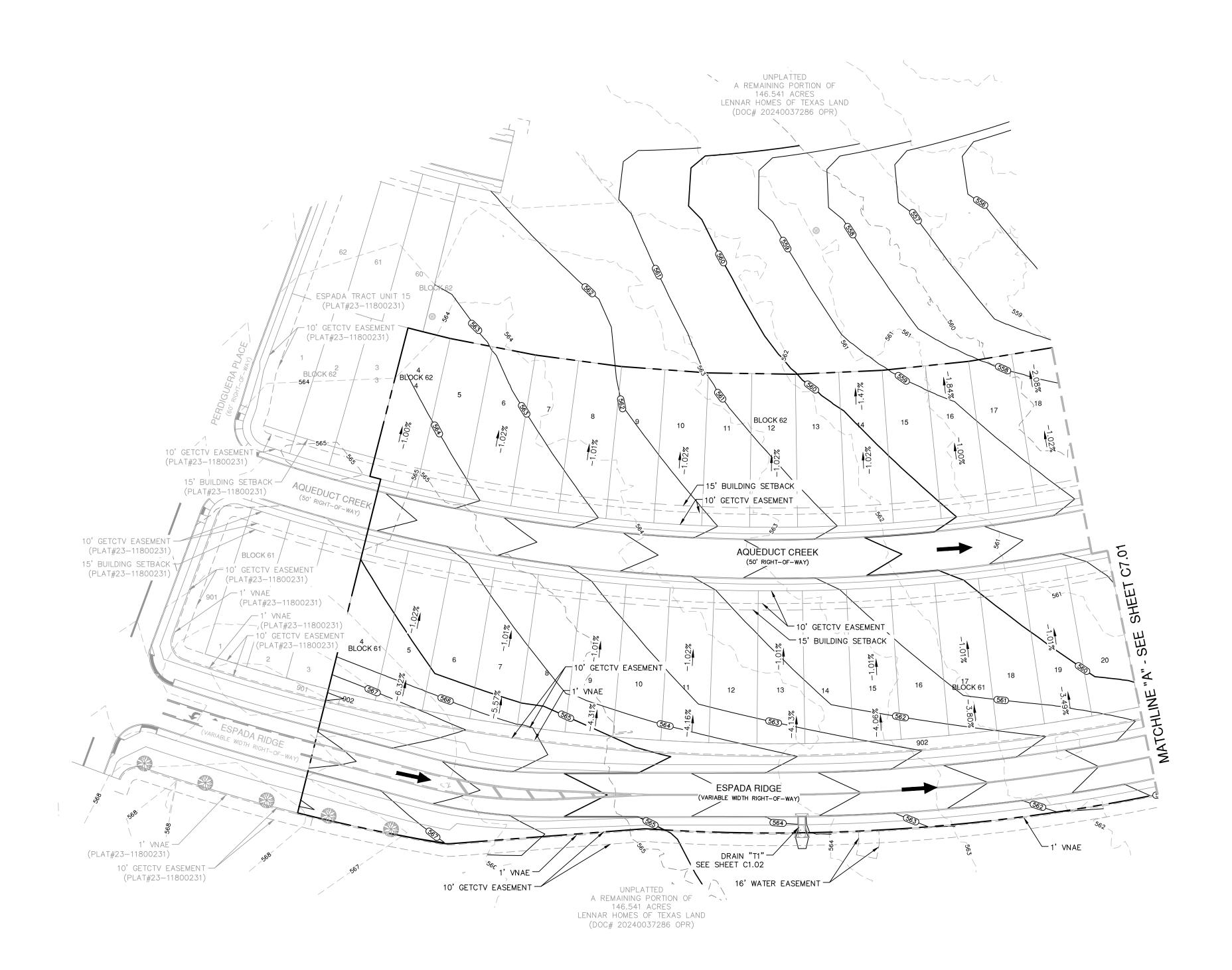
C5.05



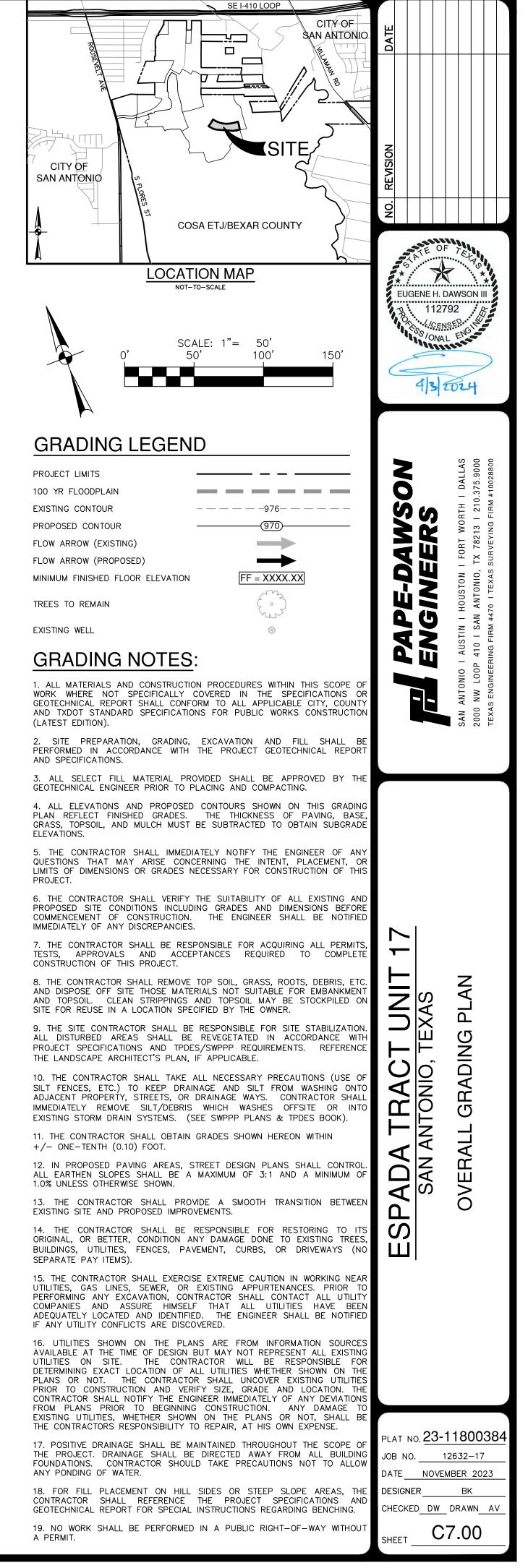


INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY. (PLAT#23-11800231)

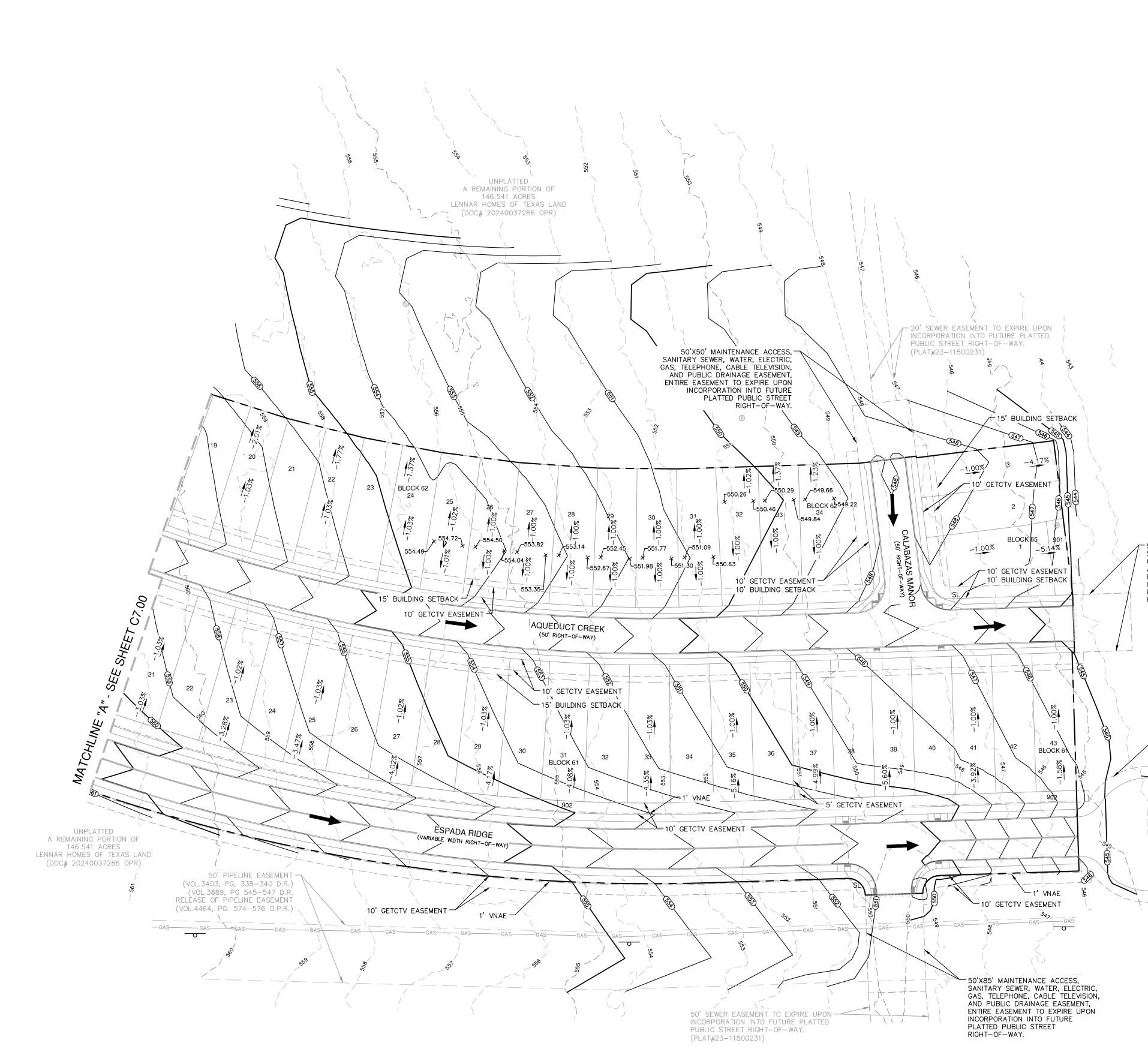
- TEMPORARY TURNAROUND MAINTENANCE ACCESS, SANITARY SEWER, WATER, ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION, AND PUBLIC DRAINAGE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY.

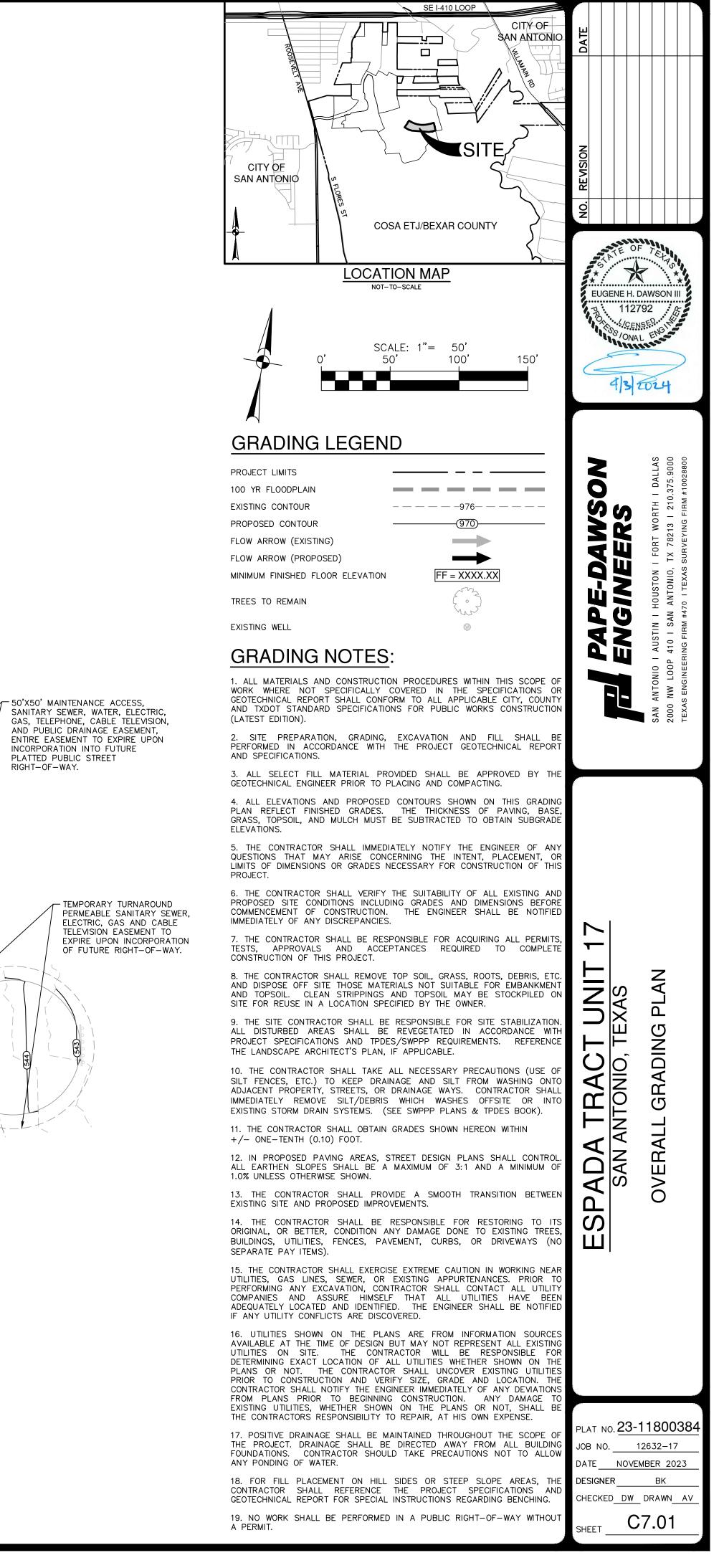


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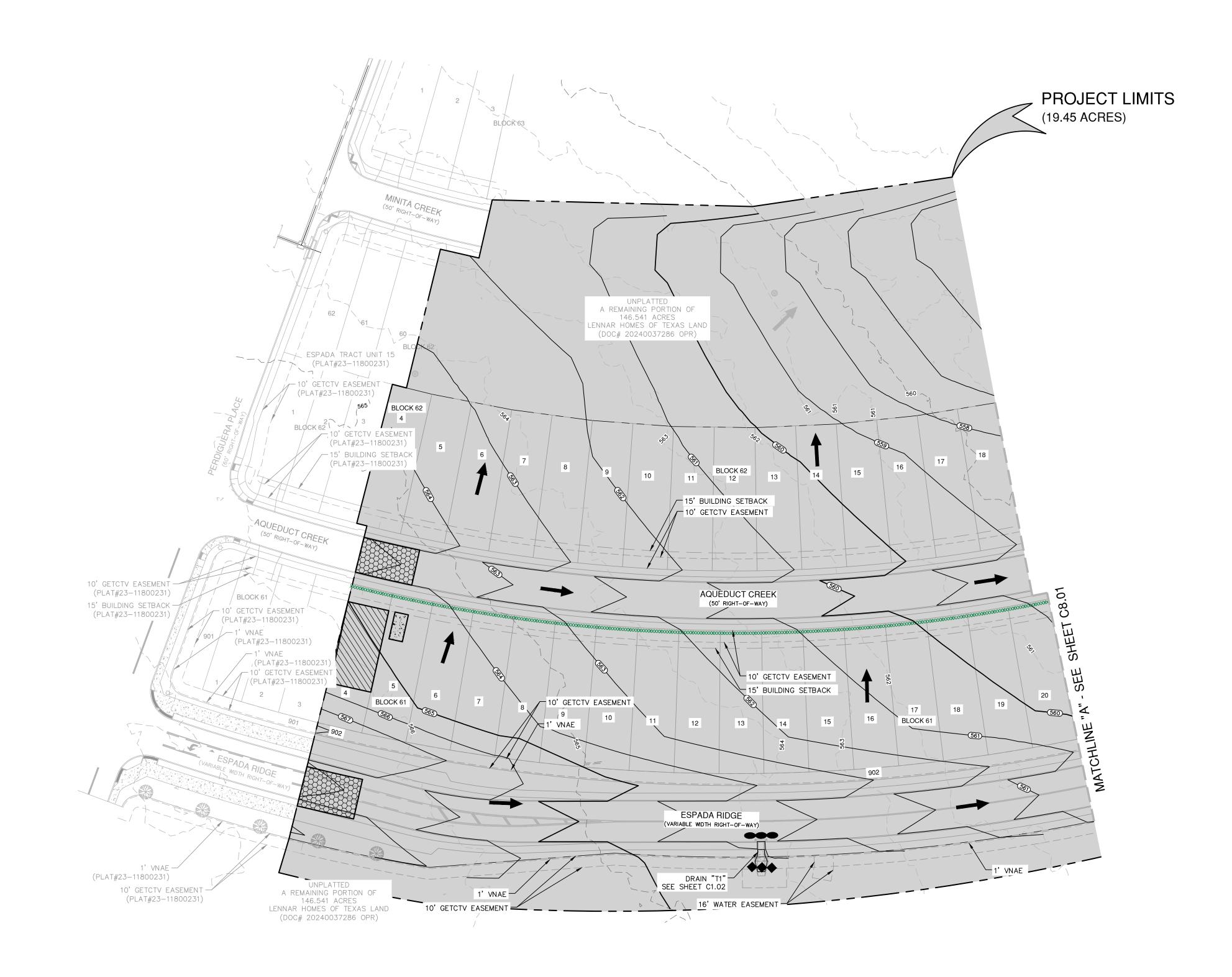
HIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

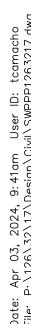




SANITARY SEWER, WATER, ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION AND PUBLIC DRAINAGE EASEMENT. ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO FUTURE PLATTED PUBLIC STREET RIGHT-OF-WAY.

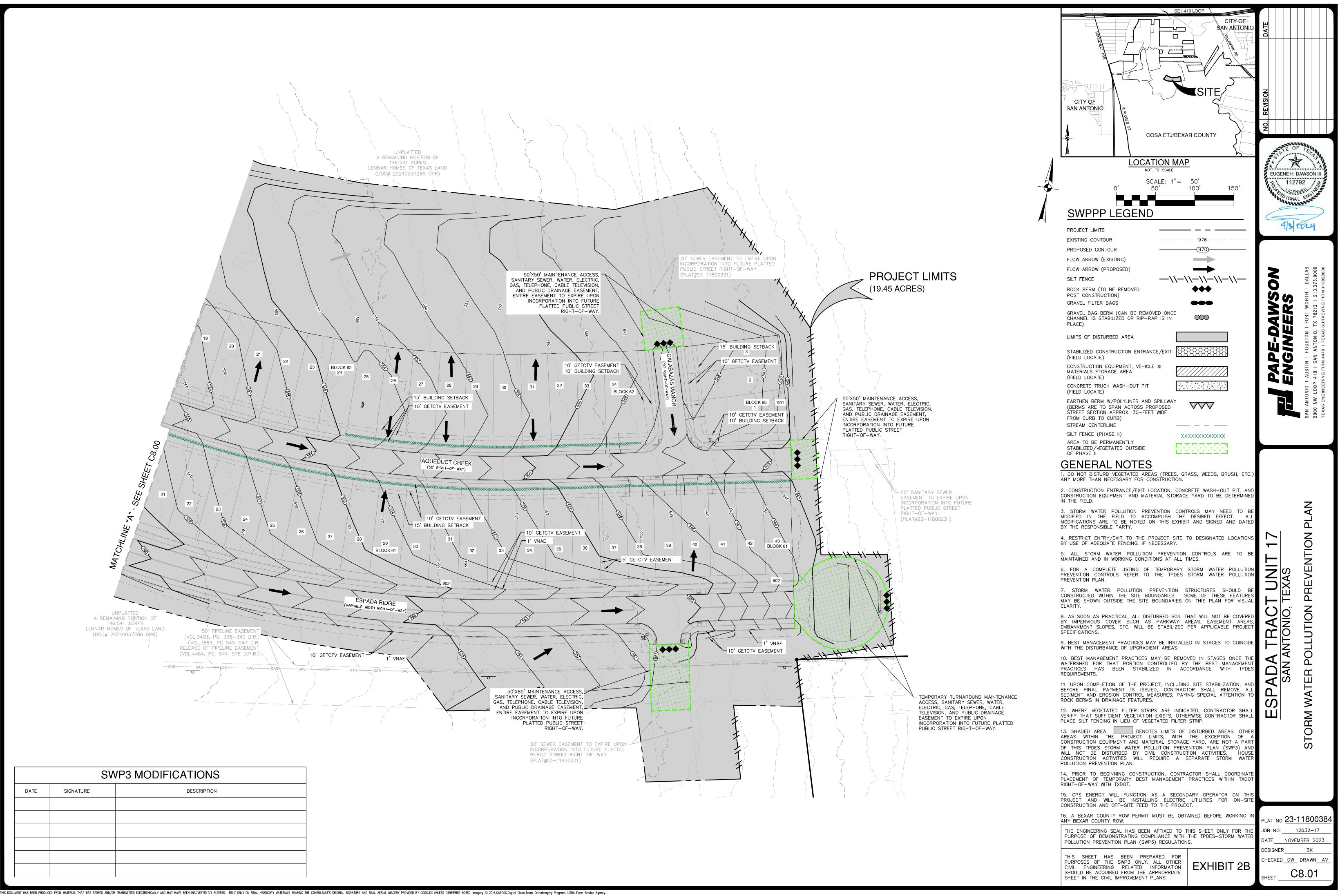
> PERMEABLE SANITARY SEWER, ELECTRIC, GAS AND CABLE TELEVISION EASEMENT TO EXPIRE UPON INCORPORATION

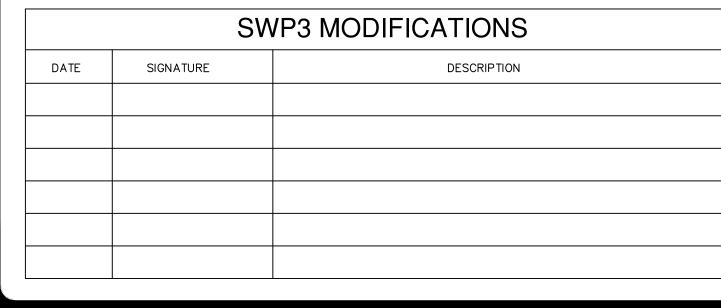


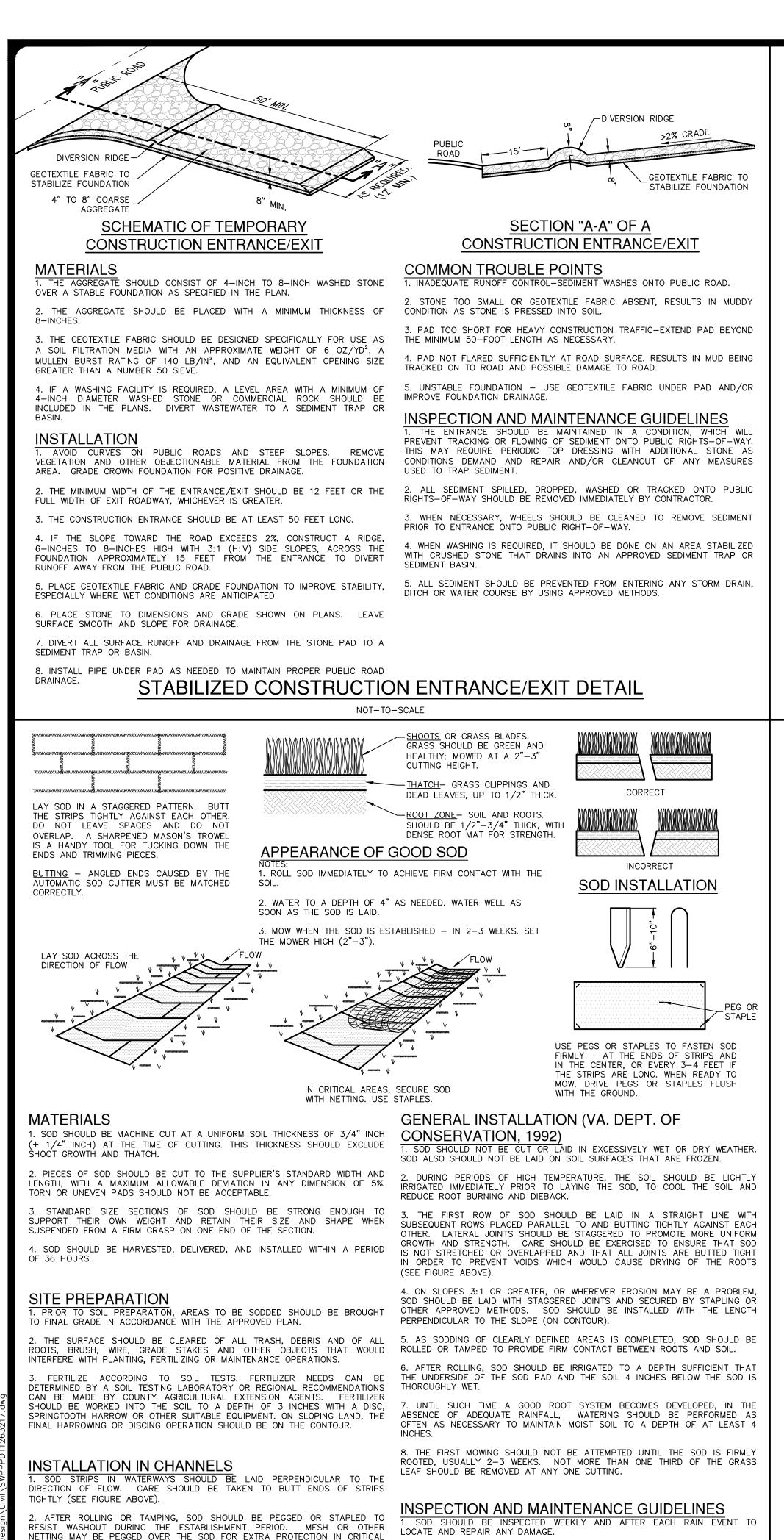


DATESIGNATUREDESCRIPTIONImage: Comparison of the sector of the sect

SUPPPLEGEND	BUGENE H. DAWSON III
PROPOSED CONTOUR 970 FLOW ARROW (EXISTING) FLOW ARROW (PROPOSED) SILT FENCE	FAPE-DAWSON ENGLICERS SA ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS 2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000 TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800
 OF PHASE II CONTO DISTURG VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MANTAINED AND IN WORKING CONDITIONS AT ALL TIMES. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TEDES STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TEDES STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLAITY. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMFERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMARMAKINGTI SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES ONCE THE WITH THE DISTURBANCE OF UPGRADIENT AREAS. ID. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES ONCE THE WITH THE DISTURBANCE OF UPGRADIENT AREAS. ID. MEENVOLUS COVER STABILIZED IN ACCORDANCE WITH TPDES RECOMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYNENT IS ISSUED, CONTRACTOR SHALL REMOVED ALL SEDMENT AND FROSION CONTROLLED ARIAS. ID. UPON COMPLETION OF THE PROJECT INTERCO MARKE CONTRACTOR SHALL VERIEY THAT SUFFICIENT INVESTING ARE INDICATED, CONTRACTOR SHALL VERIEY THAT SUFFICIENT INVESTING A PARING SECON	ESPADA TRACT UNIT 17 SAN ANTONIO, TEXAS STORM WATER POLLUTION PREVENTION PLAN
CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT. 16. A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN ANY BEXAR COUNTY ROW. THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS. 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. EXHIBIT 2A	plat no. 23-11800384 Job no. 12632-17 Date <u>november 2023</u> Designer <u>Bk</u> Checked <u>Dw</u> DRAWN <u>AV</u> SHEET <u>C8.00</u>







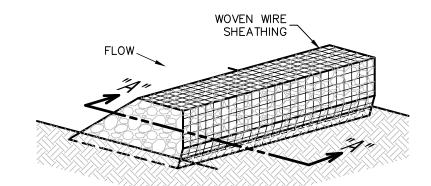
SOON AS PRACTICAL.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE

RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS

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AREAS.



ISOMETRIC PLAN VIEW

ROCK BERMS

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 PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. 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 EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES . INSPECTION SHOULD BE MADE WEEKLY BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE

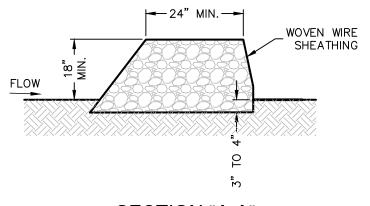
MADE. . REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION 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.



SECTION "A-A

MATERIALS

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-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 USED.

INSTALLATION

I. 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.

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.

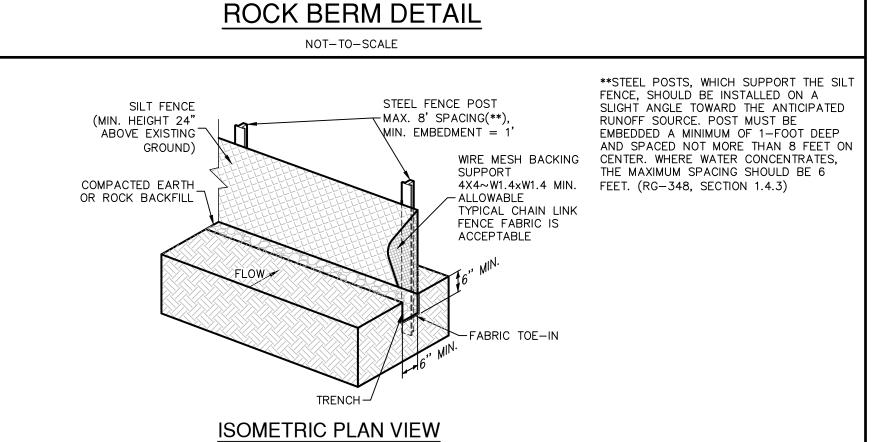
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE

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).



SILT FENCE

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 INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

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 OF DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY 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 AT ANY TIME.

MATERIALS

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

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 EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

. 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 SHOULD BE 6 FEET.

. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

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

1. INSPECT ALL FENCING WEEKLY.

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 AROUND SIDES)

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

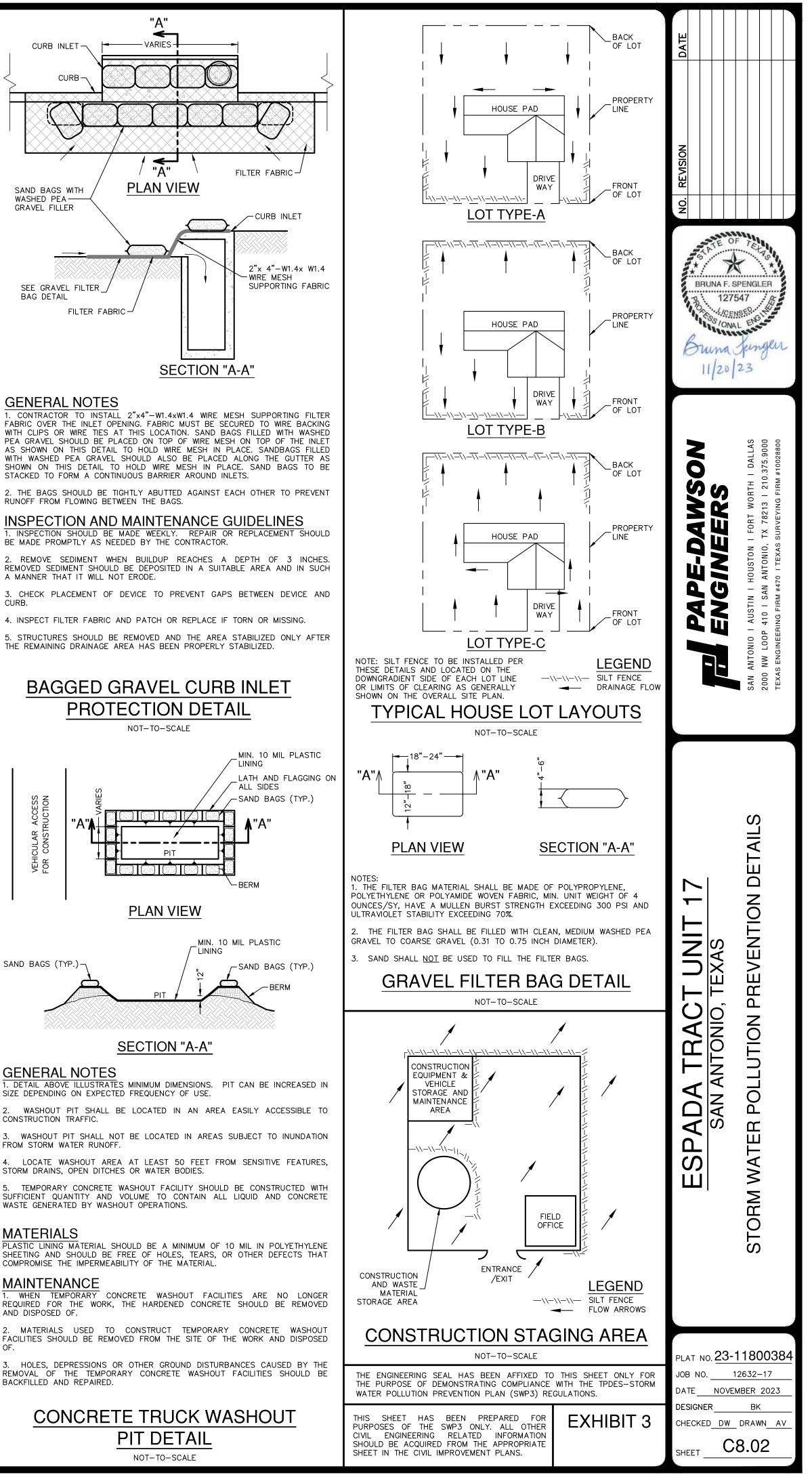
INSPECTION AND MAINTENANCE GUIDELINES

REMOVE SEDIMENT WHEN BUILDUP APPROACHES 6 INCHES, BUT NOT TO EXCEED 50% OF HEIGHT.

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. A 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.



SAND BAGS (TYP.)

CONSTRUCTION TRAFFIC.

MATERIALS

MAINTENANCE

BACKFILLED AND REPAIRED.

SILT FENCE DETAIL

NOT-TO-SCALE