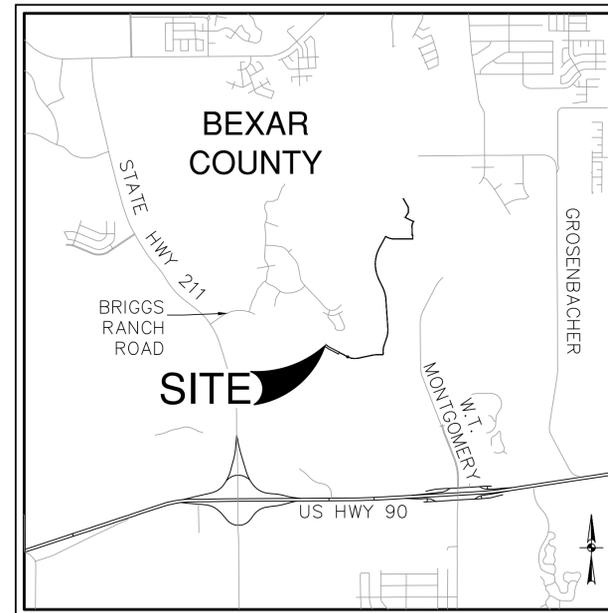


# BRE PHASE 1-16 INCH WATER MAIN

## BEXAR COUNTY, TEXAS

### CIVIL CONSTRUCTION PLANS



LOCATION MAP  
NOT-TO-SCALE

PREPARED FOR:

HDC HWY 211, LLC  
100 NE LOOP 410, SUITE 1080  
SAN ANTONIO, TEXAS 78216

AUGUST 2025

**PAPE-DAWSON**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800



#### SHEET INDEX

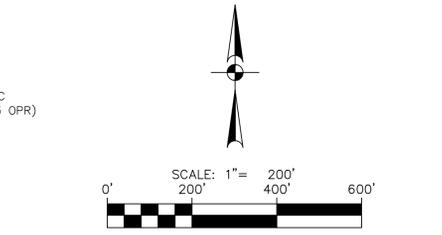
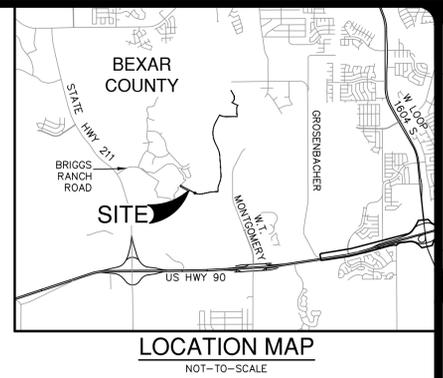
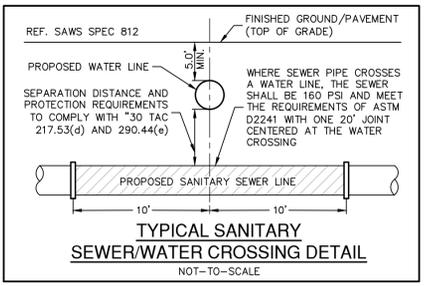
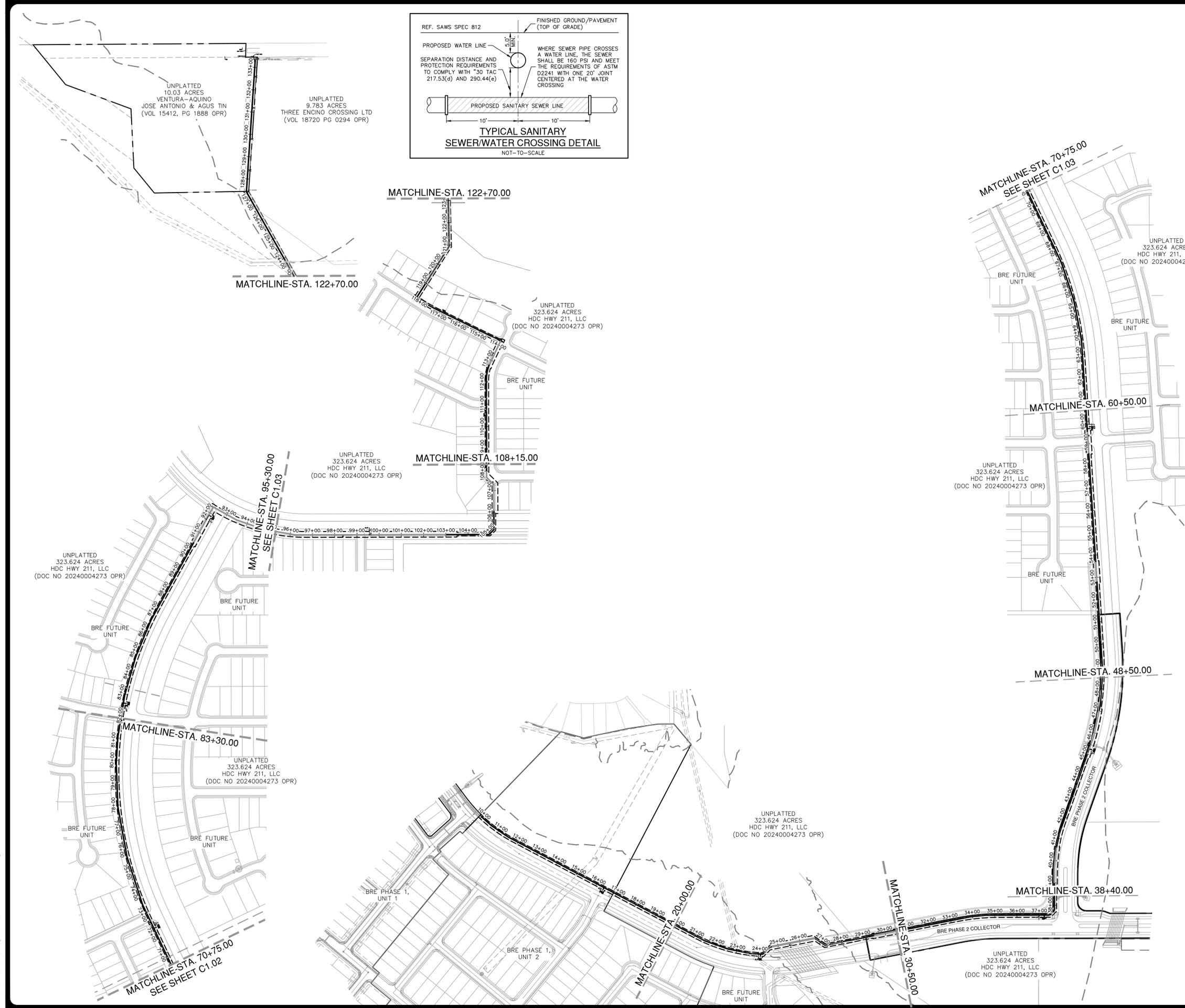
Sheet Title	Sheet Description	Sheet No.
COVER SHEET		C0.00
16 INCH WATER DISTRIBUTION PLAN	OVERALL & SHEET INDEX PLAN	C1.00
16 INCH WATER DISTRIBUTION PLAN	(STA. 10+00.00 TO STA. 38+40.00)	C1.01
16 INCH WATER DISTRIBUTION PLAN	(STA. 38+40.00 TO STA. 70+75.00)	C1.02
16 INCH WATER DISTRIBUTION PLAN	(STA. 70+75.00 TO STA. 95+30.00)	C1.03
16 INCH WATER DISTRIBUTION PLAN	(STA. 90+30.00 TO END)	C1.04
16 INCH WATER DISTRIBUTION NOTES		C1.10
16 INCH WATER DISTRIBUTION DETAILS		C1.20
16 INCH WATER GRADING & PROFILE DETAIL		C2.00
STORM WATER POLLUTION PREVENTION PLAN	SHEET (1 OF 4)	C3.00
STORM WATER POLLUTION PREVENTION PLAN	(SHEET 2 OF 4)	C3.01
STORM WATER POLLUTION PREVENTION PLAN	(SHEET 3 OF 4)	C3.02
STORM WATER POLLUTION PREVENTION PLAN	(SHEET 4 OF 4)	C3.03
STORMWATER POLLUTION PREVENTION PLAN DETAILS	DETAILS	C3.10

#### WATER (SAWS PRESSURE ZONE 1080)

Developer's Name:	HDC HWY 211, LLC
Address:	100 NE LOOP 410, SUITE 1080
City:	SAN ANTONIO
State:	TEXAS
ZIP:	78216
Phone#	(210) 838-6784
FAX#	074564, 074566
SAWS Block Map#	076564, 076566
Total EDU's	6
Total Acreage	17.56
Total Linear Footage of Pipe:	12,344 LF - 16" PIPE
Plat No.	-
Number of Lots	-
SAWS JOB NO.	25-1069

SHEET C0.00

Date: August 6, 2025, 4:38 PM - User: ID: dmorris  
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**\*\*IMPORTANT\*\***  
 CONTRACTOR TO COORDINATE CONSTRUCTION OF 16" WATER LINE CONSTRUCTION WITH CONSTRUCTION OF BRE PHASE 2 COLLECTOR. ROUGH EARTHWORK TO BE COMPLETED PRIOR TO INSTALLATION OF WATER LINE. PROPOSED WATER LINE TO BE INSTALLED 5' BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.

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

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

**ROW PERMIT NOTE:**  
 A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHTS-OF-WAY.

**WATER (SAWS PRESSURE ZONE 1080)**

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State:	TEXAS
ZIP:	78216
Phone#:	(210) 838-6784
FAX#:	074564, 074566
SAWS Block Map#:	076564, 076566
Total EDU's:	6
Total Acreage:	17.56
Total Linear Footage of Pipe:	12,344 LF - 16" PIPE
Plot No.:	-
Number of Lots:	-
SAWS JOB No.:	25-1069

DATE	
NO.	
REVISION	

**PAPE - DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

*Matthew Geistweidt*  
 8-7-2025

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS

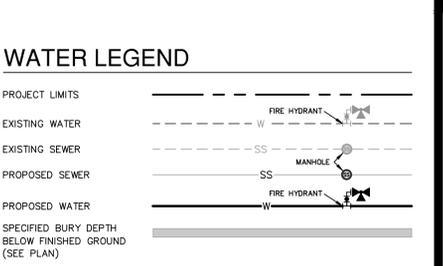
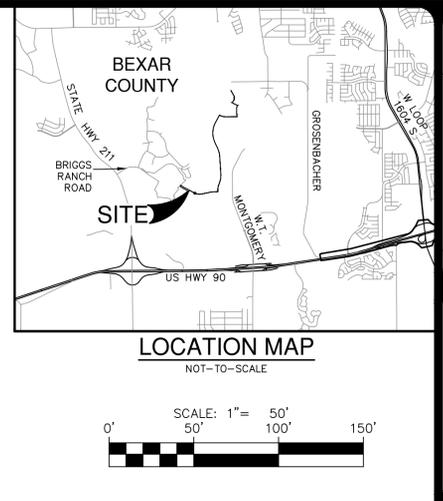
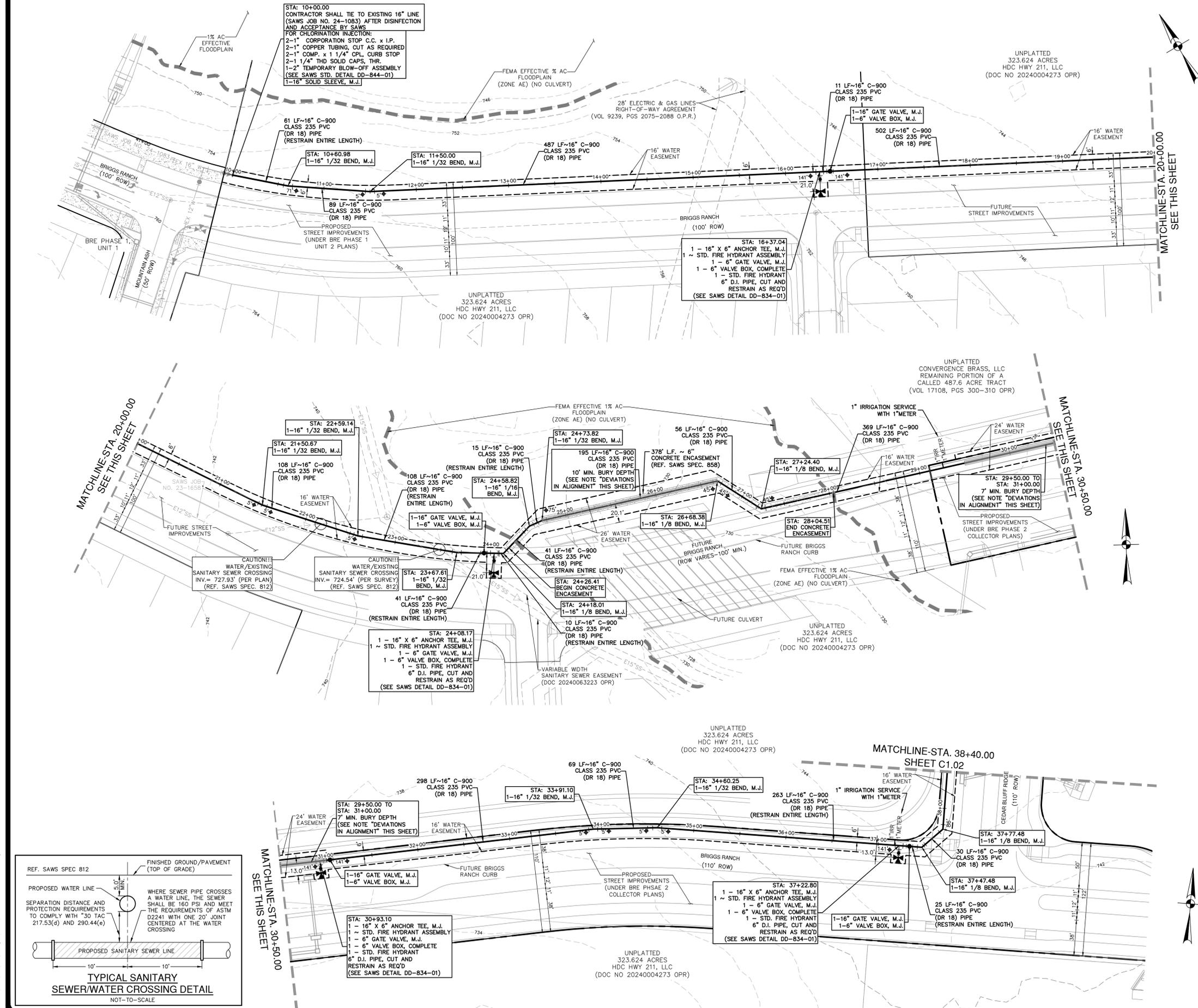
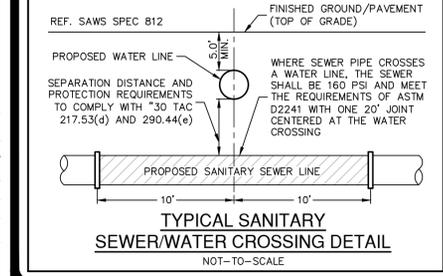
**16 INCH WATER DISTRIBUTION PLAN**  
 OVERALL & SHEET INDEX PLAN

PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C1.00

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**DEVIATIONS IN ALIGNMENT**  
DEFLECTION OF PVC (C-900, AND C-909) SHALL BE LIMITED TO 1 DEGREE OF MANUFACTURER'S RECOMMENDED DEFLECTION AS NOTED IN SPECIFICATION 818 WATER PIPE INSTALLATION PVC (C-900, AND C-909) PIPE 4 INCH TO 24 INCH PIPE.  
A. CHANGES IN DIRECTION OF PVC PIPE SHALL BE USING FITTINGS OR BY DEFLECTING STRAIGHT PIPE SECTIONS AT JOINTS  
B. LONGITUDINAL BENDING OF PIPE IS NOT ALLOWED  
C. DEFLECTION OF PIPE FITTINGS IS NOT ALLOWED  
D. DEFLECTION OF STRAIGHT PIPE SECTIONS SHALL NOT EXCEED 1 DEGREE AT EACH JOIN (EVEN IF JOINT RESTRAINT DEVICES ARE INSTALLED), WHICH CORRESPONDS TO THE FOLLOWING PIPE ALIGNMENT:  
1. LENGTH OF PIPE, FEET OFFSET, INCHES ALLOWABLE RADIUS OF CURVATURE, FEET 204 MAXIMUM, FEET 1,146 MINIMUM.

**\*\*IMPORTANT\*\***  
CONTRACTOR TO COORDINATE CONSTRUCTION OF 16" WATER LINE CONSTRUCTION WITH CONSTRUCTION OF BRE PHASE 2 COLLECTOR. ROUGH EARTHWORK TO BE COMPLETED PRIOR TO INSTALLATION OF WATER LINE. PROPOSED WATER LINE TO BE INSTALLED 5' BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.  
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Developer Name: HDC HWY 211, LLC	Address: 100 NE LOOP 410, SUITE 1080
City: SAN ANTONIO	State: TEXAS ZIP: 78216
Phone: (210) 838-6784	FAX: 074564, 074566
SAWS Block Map: 076564, 076566	Total EDU's: 6 Total Acreage: 17.56
Total Linear Footage of Pipe: 12,344 LF - 16" PIPE	Plot No. -
Number of Lots: -	SAWS JOB NO. 25-1069

DATE	
NO.	
REVISION	

**PAPE-DAWSON**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 0028800

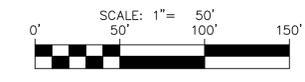
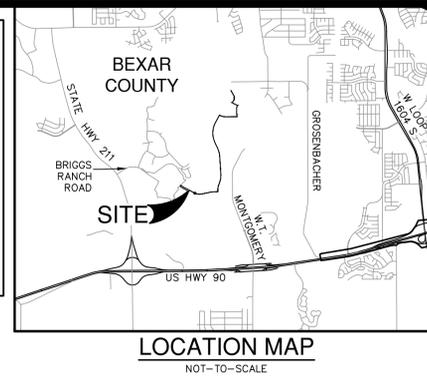
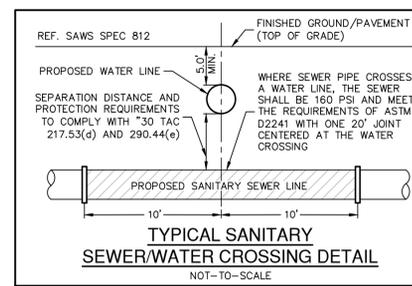
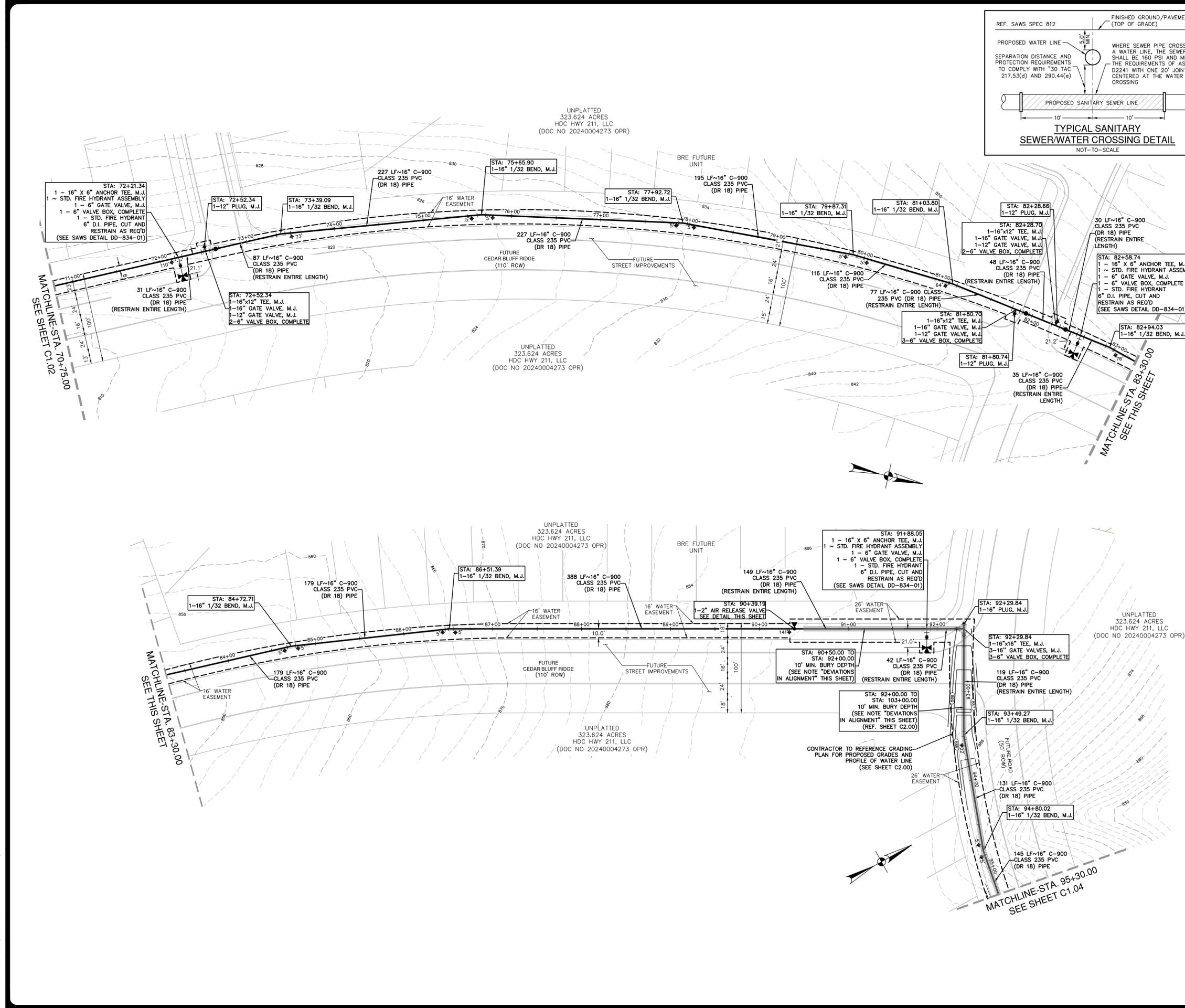
**BRE PHASE 1-16 INCH WATER MAIN**  
SAN ANTONIO, TEXAS

**16 INCH WATER DISTRIBUTION PLAN**  
(STA. 10+00.00 TO STA. 38+40.00)

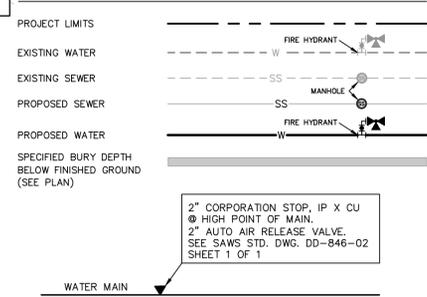
PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C1.01



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**WATER LEGEND**



ONLY INSTALL IF REQUIRED BY INSPECTOR CONTRACTOR TO NOTIFY ENGINEER BEFORE INSTALLATION.  
 NOTE: CONTRACTOR MUST COMPLY WITH MANUFACTURER'S INSTALLATION OF PROPER RESTRAINTS. IF PROPER THRUST BLOCKING IS NOT INSTALLED, CONTRACTOR MUST INSTALL JOINT RESTRAINTS PER MANUFACTURER'S SPECIFICATION.  
 \* DOUBLE NUT ALL RESTRAINING BOLTS.  
 \* ANY TYPE OF JOINT RESTRAINT MUST BE BI-DIRECTIONAL.

**2" AIR RELEASE VALVE DETAIL**  
 NOT-TO-SCALE

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State:	TEXAS
ZIP:	78216
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Plot No.:	-
Number of Lots:	-
SAWS JOB NO.:	25-1069

DATE	
NO.	
REVISION	



**PAPE-DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS  
 16 INCH WATER DISTRIBUTION PLAN  
 (STA. 70+75.00 TO STA. 95+30.00)

PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C1.03



**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:
  - 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.
  - CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
  - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
  - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
  - 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.
  - 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 CONSTWKR@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 CONSTWKR@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.
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION 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 RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK 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 D0-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL VALVES SHALL READ "OPEN RIGHT".
- PRV REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 895 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 895 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 LOTS) IF \*PRV IS/ARE REQUIRED FOR SUCH LOTS), 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.
- 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.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- 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 TO 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 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.
- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, AS PROVIDED FOR IN THE SPECIAL CONDITIONS.
- 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 IT 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.
- WATER METER BOXES IF APPLICABLE SHALL BE INSTALLED NINE FEET FROM FACE OF CURB TO CENTER OF THE METER BOX.
- ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
- 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).
- 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).
- 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.
- SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
- UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" METER.

NO.	REVISION	DATE



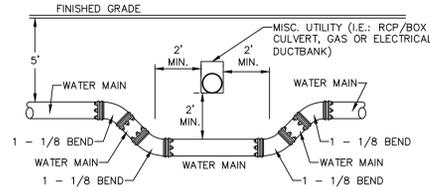
**PAPE-DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS  
 16 INCH WATER DISTRIBUTION NOTES

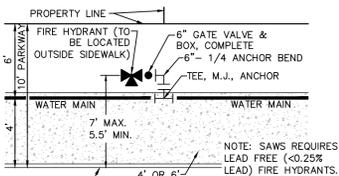
**WATER (SAWS PRESSURE ZONE 1080)**

Developer's Name:	HDC HWY 211, LLC
Address:	100 NE LOOP 410, SUITE 1080
City:	SAN ANTONIO
State:	TEXAS
ZIP:	78216
Phone#	(210) 838-0784
FAX#	074564, 074566
SAWS Block Map#	076564, 076566
Total EDU's	6
Total Acreage	17.56
Total Linear Footage of Pipe:	12,344 LF - 16" PIPE
Plot No.	-
Number of Lots	-
SAWS JOB NO.	25-1069

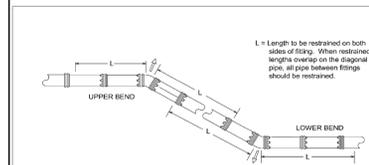
PLAT NO. -  
 JOB NO. 11412-17  
 DATE AUGUST 2025  
 DESIGNER SSC  
 CHECKED SSC DRAWN JZD  
 SHEET C1.10



**TYPICAL UTILITY/WATER CROSSING DETAIL**  
NOT-TO-SCALE



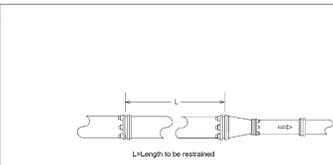
**FIRE HYDRANT INSTALLATION**  
NOT-TO-SCALE



PIPE SIZE (INCH)	BEND ANGLE (DEG)	LOW BEND DEPTH (INCH)	UPPER BEND RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	LOWER BEND RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	UPPER BEND RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)	LOWER BEND RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)
6	45	5	24	8	18	6
6	22.5	5	12	4	9	3
6	11.25	5	6	2	4	1
6	45	10	24	8	18	6
6	22.5	10	12	4	9	3
6	11.25	10	6	2	4	1
8	45	5	32	11	24	8
8	22.5	5	16	5	11	4
8	11.25	5	8	3	5	2
8	45	10	32	11	24	8
8	22.5	10	16	5	11	4
8	11.25	10	8	3	5	2
12	45	5	48	16	36	12
12	22.5	5	24	8	18	6
12	11.25	5	12	4	9	3
12	45	10	48	16	36	12
12	22.5	10	24	8	18	6
12	11.25	10	12	4	9	3

**RESTRAINED LENGTH DESIGN**  
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

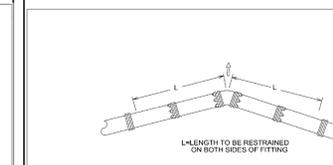
PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-06	1 OF 1



PIPE SIZE (INCH)	SMALL ANGLE (DEG)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)
6	45	24	18
6	22.5	12	9
6	11.25	6	4
8	45	32	24
8	22.5	16	11
8	11.25	8	5
12	45	48	36
12	22.5	24	18
12	11.25	12	9

**RESTRAINED LENGTH DESIGN**  
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-07	1 OF 1



PIPE SIZE (INCH)	SMALL ANGLE (DEG)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)
6	45	24	18
6	22.5	12	9
6	11.25	6	4
8	45	32	24
8	22.5	16	11
8	11.25	8	5
12	45	48	36
12	22.5	24	18
12	11.25	12	9

**RESTRAINED LENGTH DESIGN**  
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

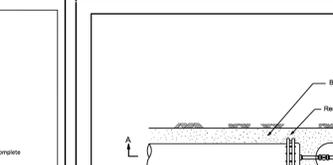
PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-08	1 OF 1



PIPE BRANCH SIZE (INCH)	LENGTH OF RUN (INCH)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)
12	4	0	0
12	6	0	0
12	8	0	0
12	10	0	0
12	12	0	0
8	4	0	0
8	6	0	0
8	8	0	0
8	10	0	0
8	12	0	0
6	4	0	0
6	6	0	0
6	8	0	0
6	10	0	0
6	12	0	0

**RESTRAINED LENGTH DESIGN**  
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

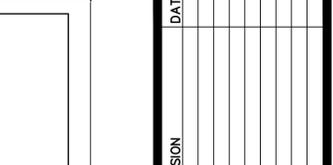
PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-04	2 OF 2



PIPE BRANCH SIZE (INCH)	LENGTH OF RUN (INCH)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)
12	4	0	0
12	6	0	0
12	8	0	0
12	10	0	0
12	12	0	0
8	4	0	0
8	6	0	0
8	8	0	0
8	10	0	0
8	12	0	0
6	4	0	0
6	6	0	0
6	8	0	0
6	10	0	0
6	12	0	0

**RESTRAINED LENGTH DESIGN**  
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-05	1 OF 1



PIPE BRANCH SIZE (INCH)	LENGTH OF RUN (INCH)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 200 PSI)	RESTRAINED LENGTH IN FEET (MINIMUM TEST PRESSURE = 100 PSI)
12	4	0	0
12	6	0	0
12	8	0	0
12	10	0	0
12	12	0	0
8	4	0	0
8	6	0	0
8	8	0	0
8	10	0	0
8	12	0	0
6	4	0	0
6	6	0	0
6	8	0	0
6	10	0	0
6	12	0	0

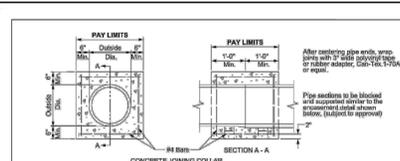
**RESTRAINED LENGTH DESIGN**  
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-05	1 OF 1

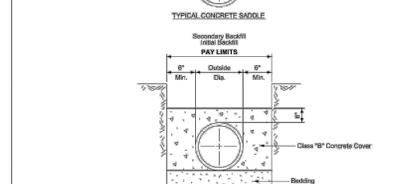
DATE: \_\_\_\_\_  
NO. REVISION: \_\_\_\_\_  
SITE OF TEXAS  
MATTHEW GEISTWEIT  
REGISTERED PROFESSIONAL ENGINEER  
8-7-2005

**PAPE-DAWSON**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

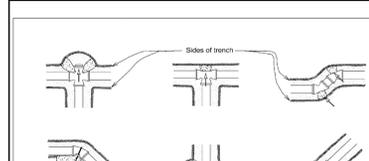
**BRE PHASE 1-16 INCH WATER MAIN**  
SAN ANTONIO, TEXAS  
16 INCH WATER DISTRIBUTION DETAILS



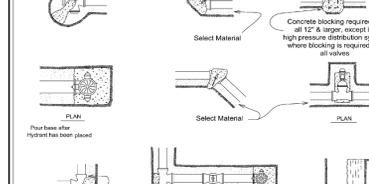
**TYPICAL CONCRETE SADDLE**



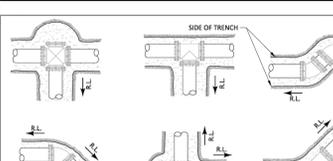
**CONCRETE CRADLE**



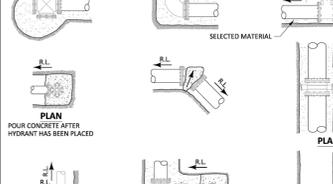
**THRUST BLOCKS FOR FITTINGS (WATER ONLY)**



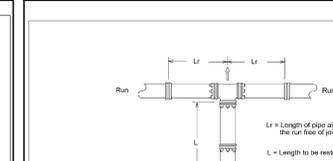
**JOINT RESTRAINTS FOR FITTINGS (WATER ONLY)**



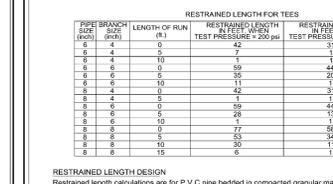
**RESTRAINED LENGTHS FOR TEES**



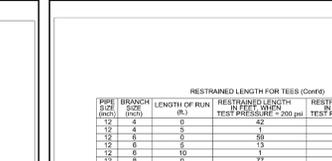
**RESTRAINED LENGTHS FOR TEES**



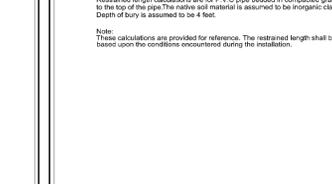
**RESTRAINED LENGTHS FOR HORIZONTAL BENDS**



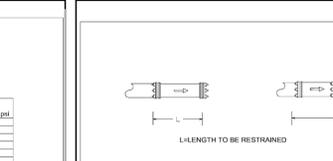
**RESTRAINED LENGTHS FOR HORIZONTAL BENDS**



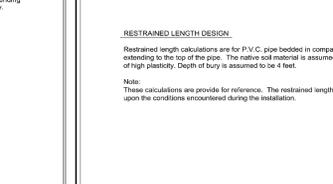
**RESTRAINED LENGTHS FOR TEES**



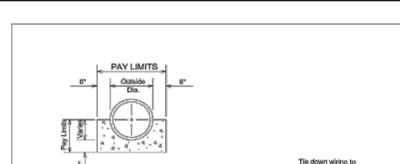
**RESTRAINED LENGTHS FOR TEES**



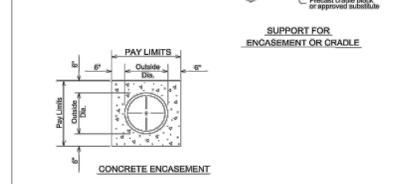
**RESTRAINED LENGTHS FOR DEAD ENDS/IN-LINE VALVES**



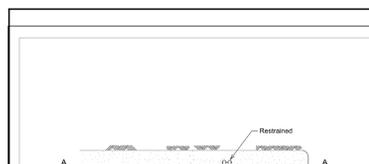
**RESTRAINED LENGTHS FOR DEAD ENDS/IN-LINE VALVES**



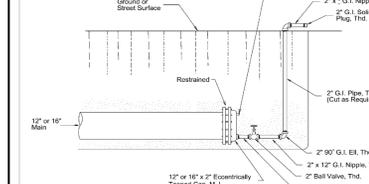
**CONCRETE CRADLE**



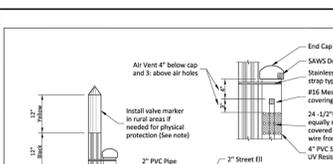
**SUPPORT FOR ENCASEMENT OR CRADLE**



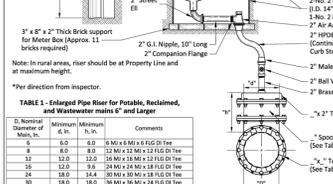
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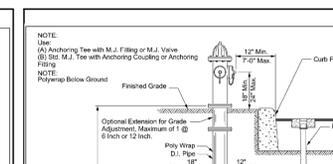
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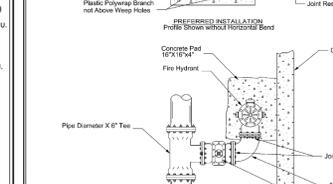
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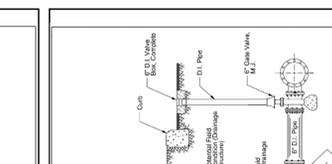
**INSTALLATION OF 2\"/>**



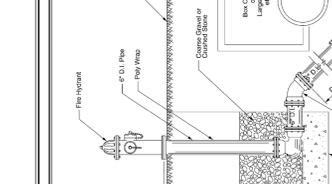
**FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)**



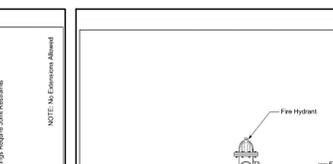
**FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)**



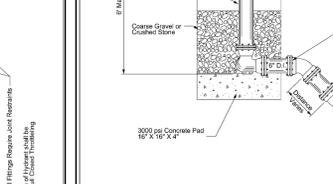
**FIRE HYDRANT WITH OFFSET**



**FIRE HYDRANT WITH OFFSET**



**FIRE HYDRANT WITH MAIN GREATER THAN 6 FOOT DEPTH**



**FIRE HYDRANT WITH MAIN GREATER THAN 6 FOOT DEPTH**

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-858-02	1 OF 1

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-01	2 OF 2

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-01	2 OF 2

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-04	2 OF 2

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-04	2 OF 2

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-839-05	1 OF 1

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-858-01	1 OF 1

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-844-01	2 OF 1

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MARCH 2008	AUG 2019
SAN ANTONIO, TEXAS	DD-846-02	1 OF 1

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MAY 2013	AUG 2019
SAN ANTONIO, TEXAS	DD-834-01	1 OF 3

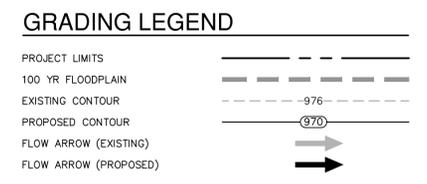
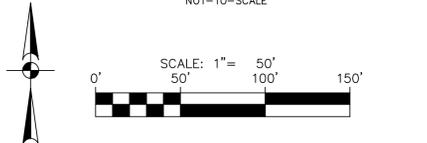
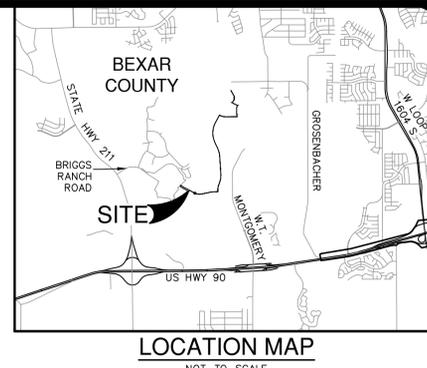
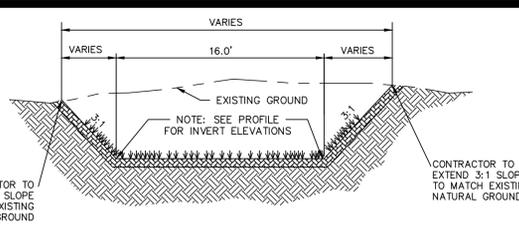
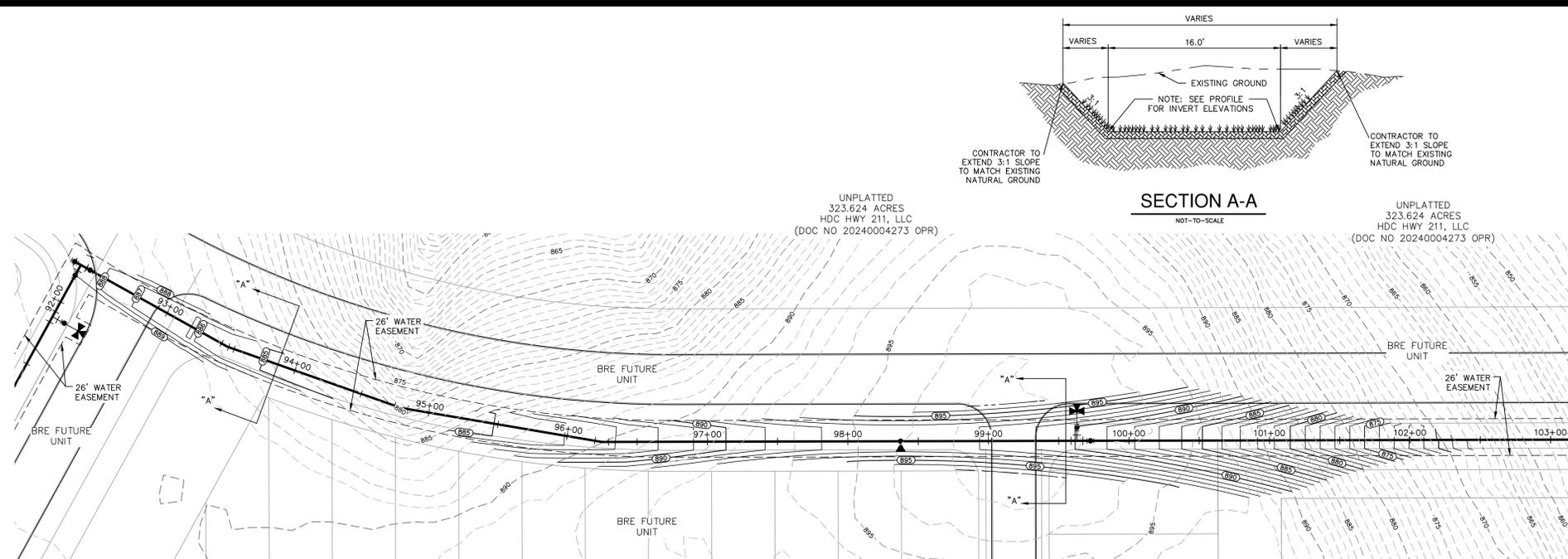
PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MAY 2013	AUG 2019
SAN ANTONIO, TEXAS	DD-834-01	2 OF 3

PROPERTY OF	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MAY 2013	AUG 2019
SAN ANTONIO, TEXAS	DD-834-01	3 OF 3

**WATER (SAWS PRESSURE ZONE 1080)**

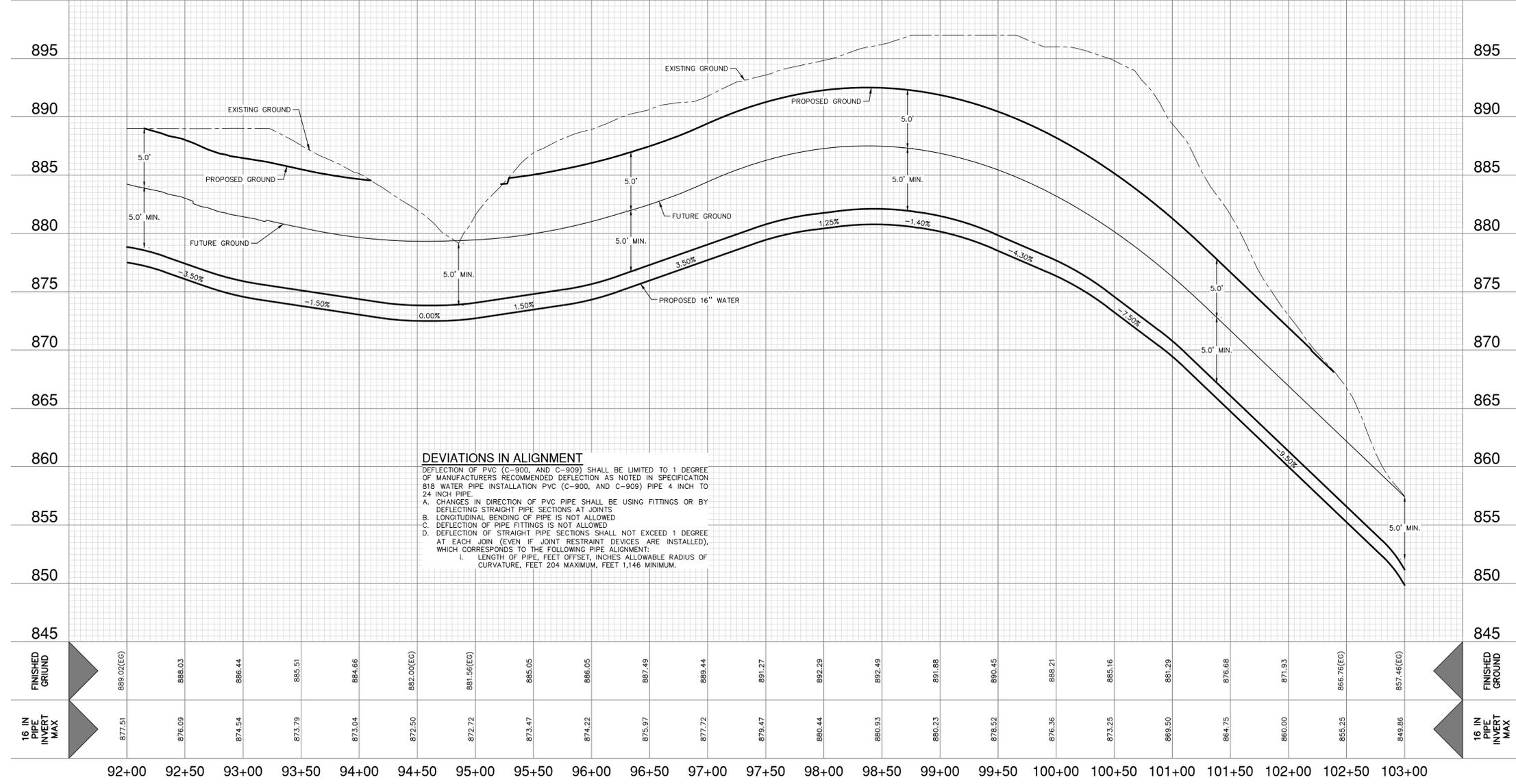
Developer's Name: **HDC HWY 211, LLC**  
Address: **100 NE LOOP 410, SUITE 1080**  
City: **SAN ANTONIO** State: **TEXAS** ZIP: **78216**  
Phone: **(210) 838-0784** FAX: \_\_\_\_\_  
SAWS Block Map: **074564, 074566** Total EDUs: **6** Total Acreage: **17.56**  
Total Linear Footage of Pipe: **12,344 LF - 16\"/>**

PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C1.20



PROPOSED 16" WATER LINE  
STA. 92+00.00 TO 103+00.00

VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 50'



**DEVIATIONS IN ALIGNMENT**  
 DEFLECTION OF PVC (C-900, AND C-909) SHALL BE LIMITED TO 1 DEGREE OF MANUFACTURER'S RECOMMENDED DEFLECTION AS NOTED IN SPECIFICATION 818 WATER PIPE INSTALLATION PVC (C-900, AND C-909) PIPE 4 INCH TO 24 INCH PIPE.  
 B. LONGITUDINAL BENDING OF PIPE IS NOT ALLOWED  
 C. DEFLECTION OF PIPE FITTINGS IS NOT ALLOWED  
 D. DEFLECTION OF STRAIGHT PIPE SECTIONS SHALL NOT EXCEED 1 DEGREE AT EACH JOINT (EVEN IF JOINT RESTRAINT DEVICES ARE INSTALLED), WHICH CORRESPONDS TO THE FOLLOWING PIPE ALIGNMENT:  
 I. LENGTH OF PIPE, FEET OFFSET, INCHES ALLOWABLE RADIUS OF CURVATURE, FEET 204 MAXIMUM, FEET 1,146 MINIMUM.

**GRADING NOTES:**

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
- ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
- ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGEWAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
- THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
- 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.
- THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
- 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).
- 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.
- 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 CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
- 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.
- NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.

DATE	
NO.	REVISION

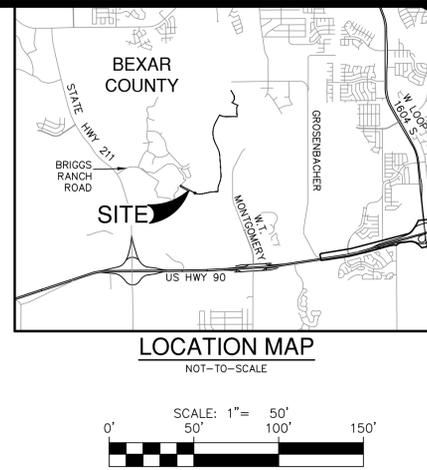
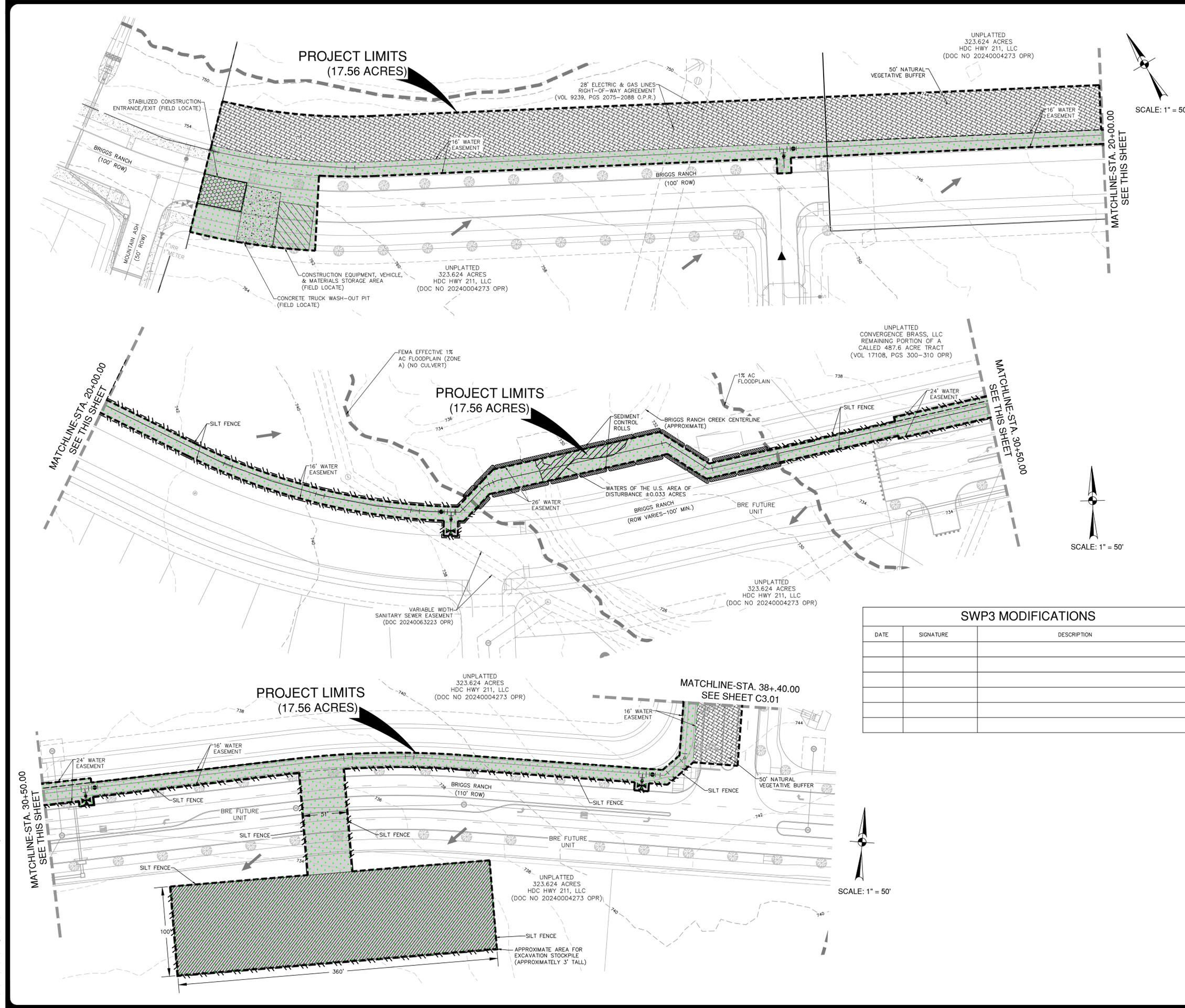


**PAPE-DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS  
 16 INCH WATER GRADING & PROFILE DETAIL

PLAT NO. -  
 JOB NO. 11412-17  
 DATE AUGUST 2025  
 DESIGNER SSC  
 CHECKED SSC DRAWN JZD  
 SHEET C2.00

Date: September 9, 2025, 10:57 AM - User ID: dmorris  
 File: P:\14\12\17\Design\Chw\SWPPP-1141217-1\INCH.dwg



**SWPPP LEGEND**

PROJECT LIMITS	---
EXISTING CONTOUR	-976
PROPOSED CONTOUR	970
FLOW ARROW (EXISTING)	→
FLOW ARROW (PROPOSED)	→
SILT FENCE	--- --- --- --- ---
ROCK BERM (TO BE REMOVED)	◆◆◆
POST CONSTRUCTION	●●●
GRAVEL FILTER BAGS	●●●
SEDIMENT CONTROL ROLLS	▨▨▨
LIMITS OF DISTURBED AREA (6.90 ACRES)	▨
STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)	▨▨▨▨
CONSTRUCTION EQUIPMENT, VEHICLE, & MATERIALS STORAGE AREA (FIELD LOCATE)	▨▨▨▨
CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)	▨▨▨▨
50' NATURAL VEGETATIVE BUFFER	▨▨▨▨
AREA TO BE PERMANENTLY STABILIZED	▨▨▨▨

- GENERAL NOTES**
- DO NOT DISTURB 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 MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL 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 MAINTAINED 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 PLAN.
  - STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
  - AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
  - BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
  - BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
  - UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
  - WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
  - SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES.
  - PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TxDOT RIGHT-OF-WAY WITH TxDOT.
  - CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

**SWP3 MODIFICATIONS**

DATE	SIGNATURE	DESCRIPTION

DATE	
NO.	
REVISION	

**PAPE-DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS  
 STORM WATER POLLUTION PREVENTION PLAN  
 SHEET (1 OF 4)

PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C3.00

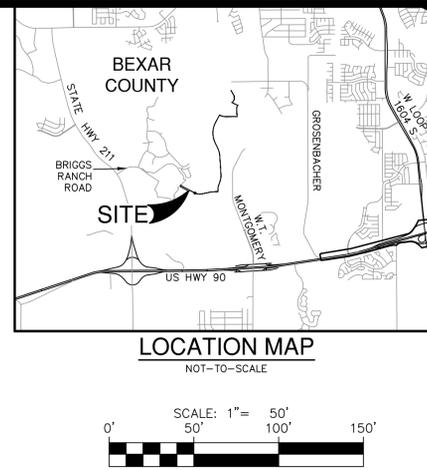
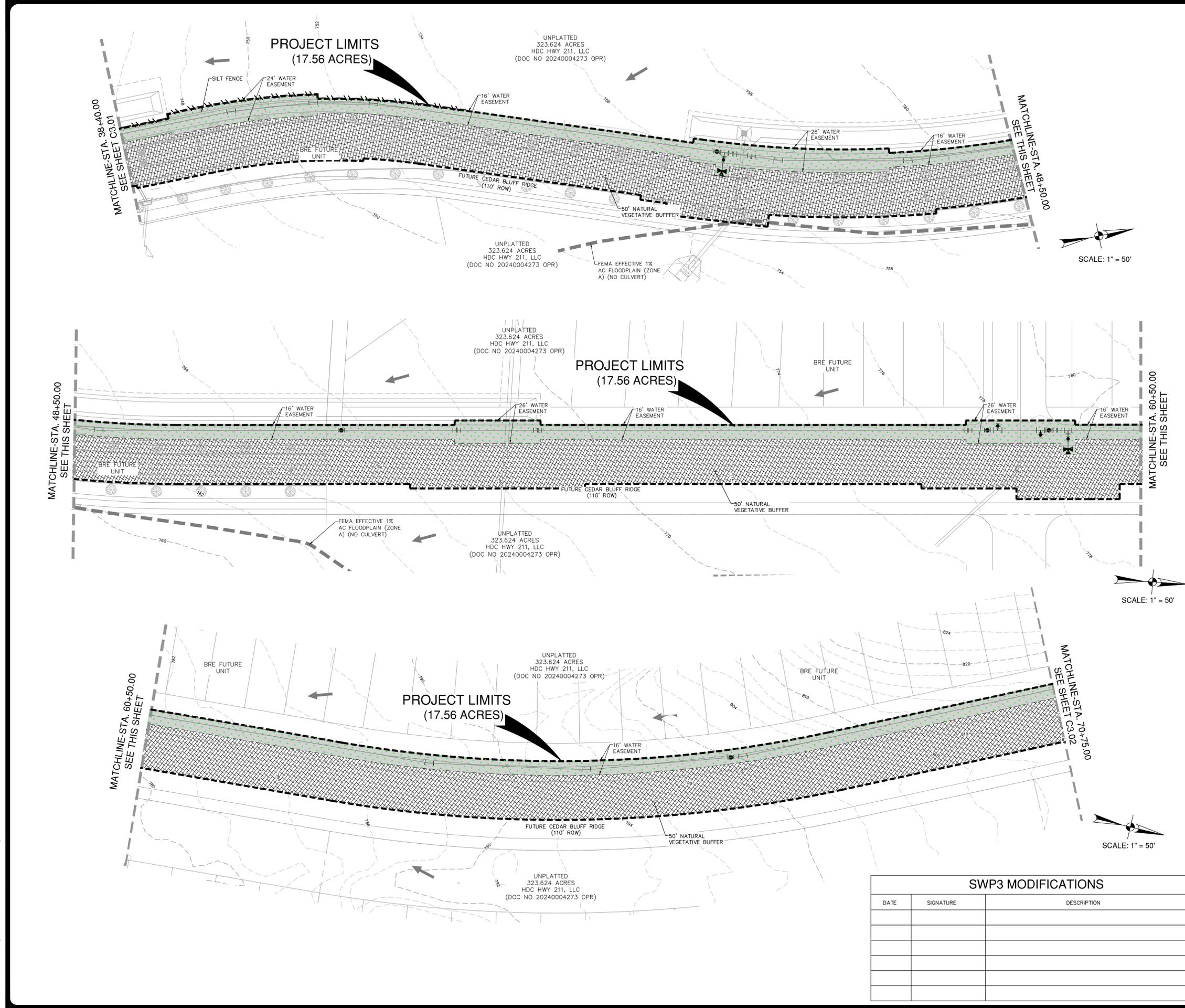
THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

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 2**

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Date: September 9, 2025, 10:58 AM - User ID: dmorris  
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**SWPPP LEGEND**

PROJECT LIMITS	---
EXISTING CONTOUR	-976
PROPOSED CONTOUR	②70
FLOW ARROW (EXISTING)	→
FLOW ARROW (PROPOSED)	→
SILT FENCE	--- --- --- --- ---
ROCK BERM (TO BE REMOVED POST CONSTRUCTION)	◆◆◆
GRAVEL FILTER BAGS	●●●
SEDIMENT CONTROL ROLLS	▨▨▨
LIMITS OF DISTURBED AREA (6.90 ACRES)	▨▨▨
STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)	▨▨▨
CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)	▨▨▨
CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)	▨▨▨
50' NATURAL VEGETATIVE BUFFER	▨▨▨
AREA TO BE PERMANENTLY STABILIZED	▨▨▨

- GENERAL NOTES**
- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
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  - 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 MAINTAINED 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 PLAN.
  - STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
  - AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
  - BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADE AREAS.
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  - UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
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  - PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TxDOT RIGHT-OF-WAY WITH TxDOT.
  - CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

**SWP3 MODIFICATIONS**

DATE	SIGNATURE	DESCRIPTION

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.

DATE: \_\_\_\_\_

NO. REVISION: \_\_\_\_\_

*Matthew Steinfeld*  
9-9-2025

**PAPE-DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 0028800

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS

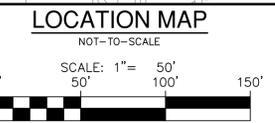
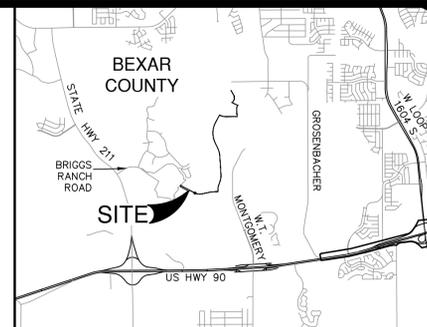
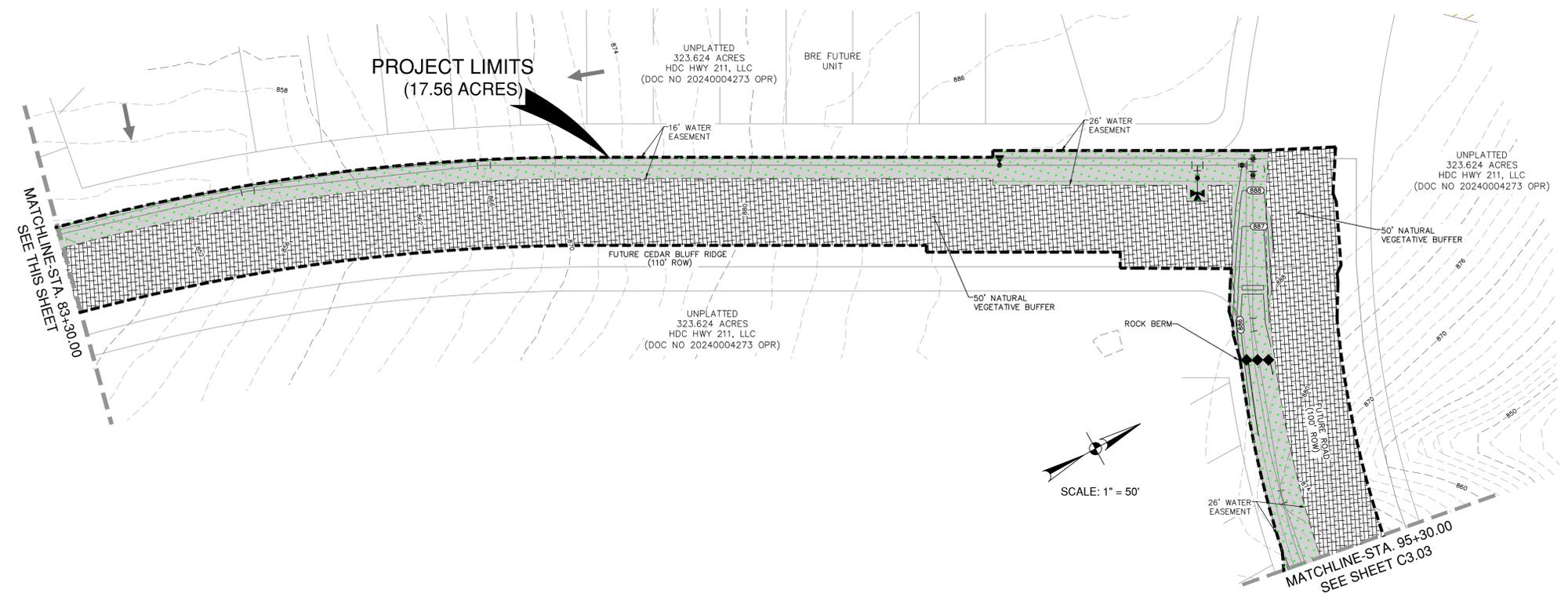
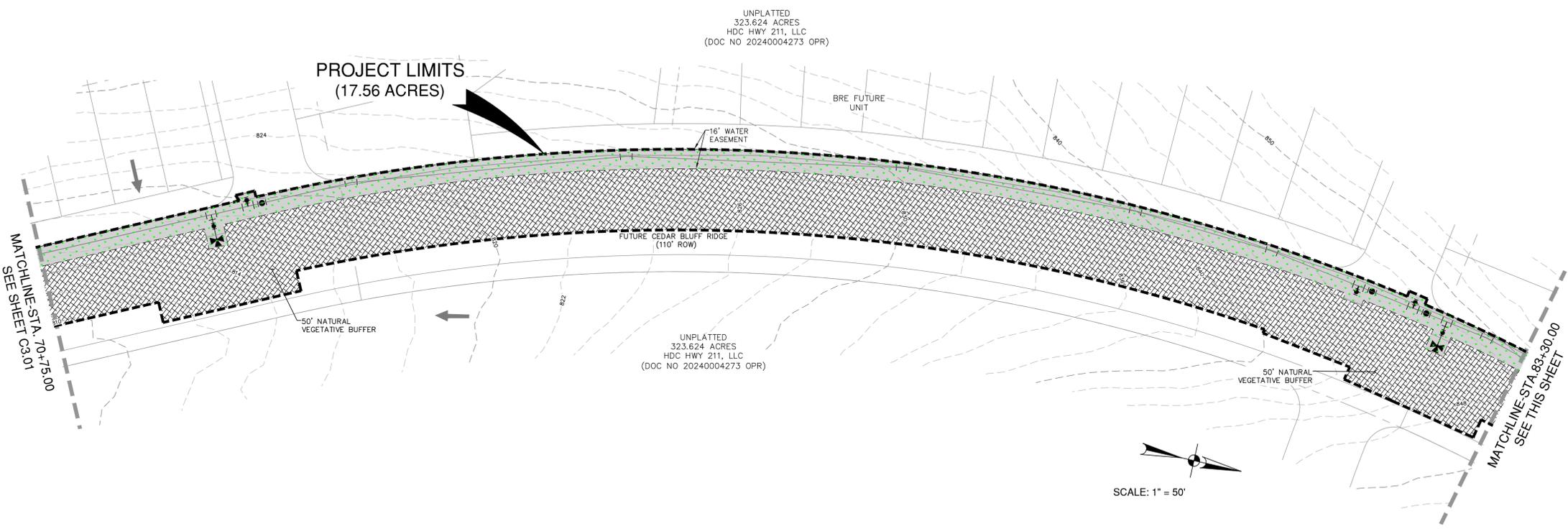
**STORM WATER POLLUTION PREVENTION PLAN**  
 (SHEET 2 OF 4)

PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C3.01

**EXHIBIT 2**

Date: September 9, 2025, 10:59 AM - User ID: dmaris  
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**SWPPP LEGEND**

PROJECT LIMITS	---
EXISTING CONTOUR	-976-
PROPOSED CONTOUR	-(970)-
FLOW ARROW (EXISTING)	→
FLOW ARROW (PROPOSED)	→
SILT FENCE	-  -  -  -  -  -  -  -
ROCK BERM (TO BE REMOVED POST CONSTRUCTION)	◆◆◆
GRAVEL FILTER BAGS	●●●
SEDIMENT CONTROL ROLLS	▨▨▨
LIMITS OF DISTURBED AREA (6.90 ACRES)	▨▨▨
STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)	▨▨▨
CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)	▨▨▨
CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)	▨▨▨
50' NATURAL VEGETATIVE BUFFER	▨▨▨
AREA TO BE PERMANENTLY STABILIZED	▨▨▨

- GENERAL NOTES**
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  - FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
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  - AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
  - BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
  - BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
  - UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
  - WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
  - SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES.
  - PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.
  - CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

**SWP3 MODIFICATIONS**

DATE	SIGNATURE	DESCRIPTION

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**EXHIBIT 2**

DATE	
NO.	
REVISION	

STATE OF TEXAS  
 MATTHEW G. STEWART  
 118861  
 LICENSED PROFESSIONAL ENGINEER

*Matthew Stewart*  
9-9-2025

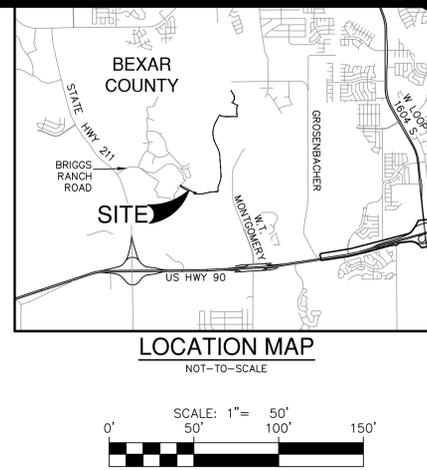
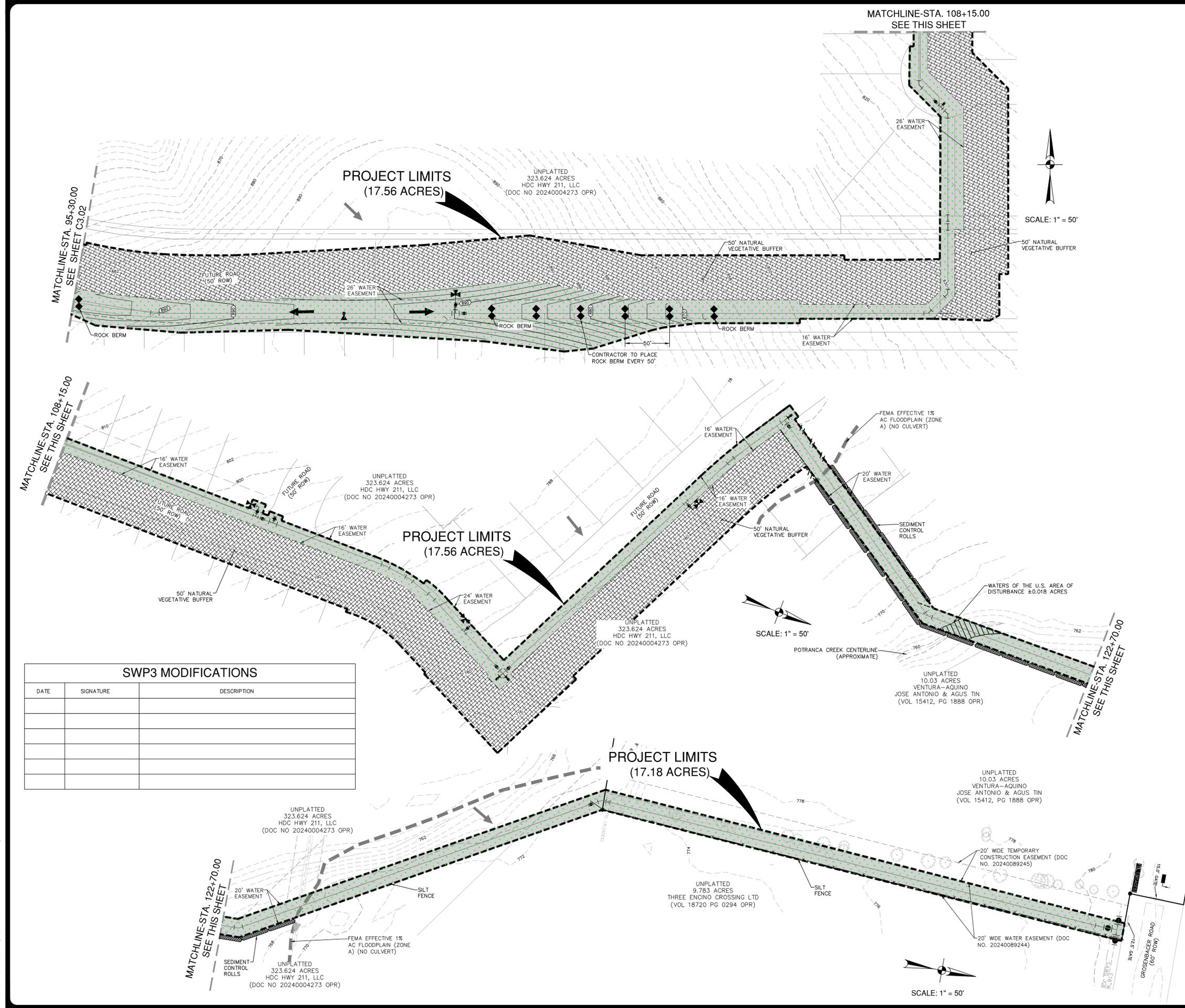
**PAPE-DAWSON**  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1028800

**BRE PHASE 1-16 INCH WATER MAIN**  
 SAN ANTONIO, TEXAS

**STORM WATER POLLUTION PREVENTION PLAN**  
 (SHEET 3 OF 4)

PLAT NO. -  
 JOB NO. 11412-17  
 DATE AUGUST 2025  
 DESIGNER SSC  
 CHECKED SSC DRAWN JZD  
 SHEET C3.02

Date: September 9, 2025, 11:00 AM - User ID: dmnorris  
 File: P:\14\12\17\Design\Chw\SWPPP-1141217-16INCH.dwg



**SWPPP LEGEND**

PROJECT LIMITS	---
EXISTING CONTOUR	-976
PROPOSED CONTOUR	⑨70
FLOW ARROW (EXISTING)	→
FLOW ARROW (PROPOSED)	→
SILT FENCE	--- --- --- --- ---
ROCK BERM (TO BE REMOVED)	◆◆◆◆◆
POST CONSTRUCTION	◆◆◆◆◆
GRAVEL FILTER BAGS	◆◆◆◆◆
SEDIMENT CONTROL ROLLS	▨▨▨▨▨
LIMITS OF DISTURBED AREA (6.90 ACRES)	▨▨▨▨▨
STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)	▨▨▨▨▨
CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)	▨▨▨▨▨
CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)	▨▨▨▨▨
50' NATURAL VEGETATIVE BUFFER	▨▨▨▨▨
AREA TO BE PERMANENTLY STABILIZED	▨▨▨▨▨

- GENERAL NOTES**
- DO NOT DISTURB 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 MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL 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 MAINTAINED 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 PLAN.
  - STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
  - AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
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**STORM WATER POLLUTION PREVENTION PLAN**  
 (SHEET 4 OF 4)

PLAT NO.	-
JOB NO.	11412-17
DATE	AUGUST 2025
DESIGNER	SSC
CHECKED	SSC DRAWN JZD
SHEET	C3.03

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