REV.NO.	DESCRIPTION	DATE

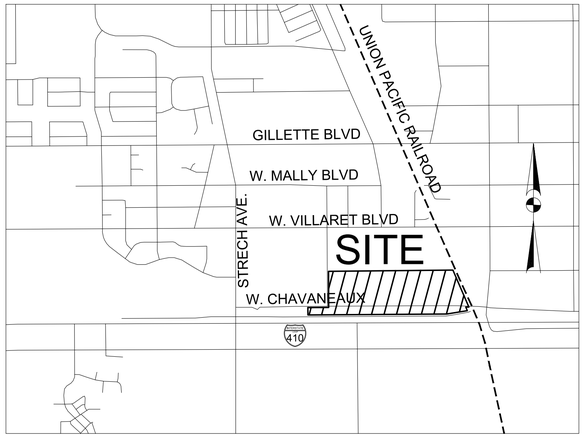
CONSTRUCTION PLANS
TO SERVE
DHANANI WAY
PUBLIC STREET & DRAINAGE PLAN & PROFILE
SAN ANTONIO, TX 78224
BEXAR COUNTY

DEVELOPER: DHANANI PRIVATE EQUITY GROUP
11333 FOUNTAIN LAKE DRIVE
STAFFORD, TX 77477
TEL: (866) 342-6264

ENGINEER: Bowman
CONSULTING ENGINEERS
LANDSCAPE ARCHITECTS

807 LAS CIMAS PKWY
SUITE 350
AUSTIN, TEXAS 78746
PHONE: 512-327-1180
EMAIL: jerry.perales@bowman.com
TBPE Registration No.: F-14309

SUBMITTED BY: JEROME PERALES, P.E.
807 LAS CIMAS PKWY
SUITE 350
Austin, Texas 78746
[Tel] 512.327.1180



VICINITY MAP
NOT-TO-SCALE

Sheet List Table

Sheet No.	Sheet Title
C0.0	COVER SHEET
C0.1	CONSTRUCTION NOTES
C0.2	PLAT SHT 1 OF 2
C0.3	PLAT SHT 2 OF 2
C1.0	EXISTING CONDITIONS AND DEMO PLAN
C2.0	OVERALL STREET PLAN
C2.1	DHANANI WAY PLAN & PROFILE - 1+00 - 12+00
C2.2	DHANANI WAY PLAN & PROFILE - 12+00 - 23+00
C2.3	DHANANI WAY PLAN & PROFILE - 23+00 - END
C2.4	STRECH AVE. PLAN & PROFILE 1+00 - END
C2.5	ROADWAY CROSS SECTIONS
C2.6	DRIVEWAY DIMENSIONAL CONTROL & PAVING PLAN
C2.7	DRIVEWAY DIMENSIONAL CONTROL & PAVING PLAN
C3.0	OVERALL SIGNAGE AND STRIPING PLAN A3
C4.0	EXISTING DRAINAGE AREA MAP
C4.1	PROPOSED DRAINAGE AREA MAP
C4.2	ULTIMATE DRAINAGE AREA MAP
C4.3	DETENTION POND A PLAN
C4.4	DETENTION POND B PLAN
C4.5	OVERALL DRAINAGE PLAN
C4.6	INTERCEPTOR CHANNEL P&P 1 OF 4
C4.6a	INTERCEPTOR CHANNEL P&P 2 OF 4
C4.6b	INTERCEPTOR CHANNEL P&P 3 OF 4
C4.7	INTERCEPTOR CHANNEL P&P 4 OF 4
C4.8	TXDOT INTERCEPTOR CHANNEL P&P 1 OF 3
C4.8a	TXDOT INTERCEPTOR CHANNEL P&P 2 OF 3
C4.8b	TXDOT INTERCEPTOR CHANNEL P&P 3 OF 3
C4.9	DRIVEWAY GRADING & DRAINAGE PLAN
C4.10	PUBLIC STORM DRAIN A PLAN & PROFILE
C4.11	PUBLIC STORM DRAIN A PLAN & PROFILE
C4.12	PUBLIC STORM DRAIN A PLAN & PROFILE
C4.13	PUBLIC STORM DRAIN B PLAN AND PROFILE
C4.14	INLET DRAINAGE AREA MAP
C4.15	STORM DRAIN LN A PLAN & PROFILE
C4.16	STORM DRAIN LAT A11 A2 & A3 PLAN & PROFILE
C5.0	CITY OF SAN ANTONIO DETAILS 1 OF 4
C5.1	CITY OF SAN ANTONIO DETAILS 2 OF 4
C5.2	CITY OF SAN ANTONIO DETAILS 3 OF 4
C5.3	CITY OF SAN ANTONIO DETAILS 4 OF 4
C5.4	TXDOT DETAILS 1 OF 5
C5.5	TXDOT DETAILS 2 OF 5
C5.6	TXDOT DETAILS 3 OF 5
C5.6A	TXDOT DETAILS 4 OF 5
C5.6B	TXDOT DETAILS 5 OF 5 A3
C5.7	SIGHT DISTANCE PLAN
C6.0	STORM WATER POLLUTION PREVENTION PLAN
C6.1	STORM WATER POLLUTION PREVENTION DETAILS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON FEBRUARY 19, 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

TEXAS ONE CALL SYSTEM 1-800-245-4545 STOP-CALL BEFORE YOU DIG!

CALL 2 DAYS BEFORE YOU DIG

BOWMAN NO. : 250503-01-001

DHANANI WAY PUBLIC STREET & DRAINAGE PLAN & PROFILE

GENERAL NOTES:

1. CONSULTANT SHALL NOT BE RESPONSIBLE FOR DESIGN CHANGES OR MODIFICATIONS EXCEPT AS SET FORTH BY CONSULTANT IN WRITING.
2. CONTRACTOR SHALL FOLLOW THE PLANS AND SPECIFICATIONS EXCEPT AS DIRECTED IN WRITING OR AS REQUIRED BY CODE OR MANUFACTURER'S INSTRUCTIONS.
3. CONSULTANT SHALL NOT BE RESPONSIBLE TO ANY PARTY, INCLUDING OWNER, CONTRACTOR, USERS, AND OTHER THIRD PARTIES, FOR CONTRACTOR'S FAILURE TO FOLLOW OR COMPLY WITH THE PLANS, SPECIFICATIONS, BUILDING OFFICIAL DIRECTION, OR MANUFACTURER'S INSTRUCTIONS.
4. CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR CONSTRUCTION MEANS, METHODS, SEQUENCES, SCHEDULING, OR JOBSITE SAFETY. ALL OF THE FOREGOING SHALL BE THE SOLE RESPONSIBILITY OF CLIENT AND/OR CONTRACTOR.

UTILITY COMPANY CONTACTS:

1. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, TO INCLUDE SERVICE LATERALS SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES 48 HOURS PRIOR TO EVACUATION AND TO PROTECT THE SAME DURING CONSTRUCTION. CONTRACTOR SHALL CALL THE TEXAS ONE CALL SYSTEM FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET RIGHT-OF-WAY AT 1-800-545-6005.

WATER	SAN ANTONIO WATER SYSTEMS (SAWS)	(210) 233-3876
WASTEWATER	SAN ANTONIO WATER SYSTEMS (SAWS)	(210) 233-3876
ELECTRIC	CPS ENERGY	(800) 545-6005
GAS	CPS ENERGY	(800) 545-6005
TELEPHONE	AT&T	(210) 283-1631
CABLE	AT&T	(210) 283-1631

CPS NOTES:

WHAT TO DO BEFORE & DURING EXCAVATION

- CALL 811 TWO BUSINESS DAYS BEFORE YOU DIG. FAILING TO DO SO COULD RESULT IN GAS LINE DAMAGE. EACH EXCAVATOR MUST HAVE THEIR OWN LOCATE REQUEST.
- WAIT FOR A POSITIVE RESPONSE BEFORE YOU DIG. A POSITIVE RESPONSE INCLUDES MARKS ON GROUND, EMAIL NOTIFICATION, OR PHONE CALL.
- THE EXCAVATOR SHALL PROTECT AND PRESERVE LOCATE MARKINGS THROUGHOUT THE LIFE OF THE TICKET.
- THE LOCATE REQUEST IS VALID FOR 14 BUSINESS DAYS OR WHEN MARKS ARE NO LONGER VISIBLE. REFRESHING THE LOCATE TICKET ON THE TWELFTH DAY IS RECOMMENDED.
- MECHANIZED EQUIPMENT IS NOT ALLOWED WITHIN THE EXCAVATION TOLERANCE ZONE. THIS AREA IS 18-INCHES PLUS HALF THE PIPE DIAMETER ON THE OUTSIDE OF EDGE OF EITHER SIDE OF THE GAS OR ELECTRIC FACILITY.
- EXPOSING THE GAS OR ELECTRIC UTILITY BY NON MECHANIZED EQUIPMENT IS REQUIRED BEFORE CROSSING.

TOLERANCE ZONE EXHIBIT HERE

IN CASE OF PIPELINE DAMAGE

- IF THERE IS GAS RELEASE CALL 911.
- CALL 811 IMMEDIATELY BUT NO LATER THAN 2 HRS FOLLOWING THE DAMAGE. FOR CPS ENERGY GAS OR ELECTRIC DAMAGES CALL IMMEDIATELY 210-353-HELP (4357).
- REPORT ANY BROKEN GAS TRACER WIRE OR COATING DAMAGE TO CPS ENERGY AT 210-353-HELP (4357).
- DO NOT TRY AND FIX DAMAGED LINE OR STOP PRODUCT FROM LEAKING.
- DO NOT BACK-FILL THE IMMEDIATE AREA OF DAMAGE, UTILITY OWNER WILL GIVE THAT ORDER.
- MAKE AREA SAFE FOR CREW AND PUBLIC, KEEP SOURCES OF IGNITION AWAY FROM INCIDENT AREA.
- KEEP UPWIND FROM PLUME OR VAPOR CLOUD.
- MUST FILE A GAS DAMAGE REPORT WITHIN 10 BUSINESS DAYS OF INCIDENT ONLINE.
- FOR CPS ENERGY RELATED EVENTS OR NATURAL GAS ODOR COMPLAINTS THE EMERGENCY NUMBER IS 210-353-HELP (4357).

UTILITY NOTES:

1. ALL WORK SHALL CONFORM WITH CITY OF SAN ANTONIO SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT THE CITY OF SAN ANTONIO AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION. DISRUPTION OF SERVICES SHALL BE COORDINATED WITH THE OWNER AND UTILITY COMPANY.
3. COMPLETE ALL REQUIRED RELOCATIONS OR ALTERATIONS OF TELEPHONE POLES, UNDERGROUND CONDUIT, POWER POLES, AND ANY OTHER FACILITIES UNLESS NOTED AS "BY OTHERS". SCHEDULE AND COORDINATE ALL WORK WITH THAT OF OTHER CONTRACTORS AND UTILITY COMPANIES SO AS NOT TO DELAY THE PROJECT.
4. ALL PRIVATE WATER AND WASTEWATER LINES WILL COMPLY WITH THE UNIFORM PLUMBING CODE.
5. ALL WATER PIPE 4" AND LARGER SHALL BE CLASS 200 PVC C900 DR14 OR DUCTILE IRON (D.I.) CLASS 50 (IRRIGATION LINES AND DOMESTIC SERVICE LINES SHOULD BE SCH 40 PVC PIPE).
6. ALL THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARDS. IF CITY STANDARD IS NOT AVAILABLE, USE DETAIL PROVIDED. WHERE THRUST BLOCKING IS NOT POSSIBLE, RESTRAINED JOINTS SHALL BE INSTALLED.
7. FOR PRESSURE TAPS, FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES TWENTY-FOUR (24) HOURS PRIOR TO MAKING THE WET TAP.
8. SEE PLUMBING PLANS FOR EXACT LOCATION OF WATER AND WASTEWATER CONNECTIONS TO BUILDINGS.
9. ALL ON-SITE WATER AND WASTEWATER LINES WILL BE EXTENDED TO A MINIMUM OF 5 FEET FROM THE BUILDING.
10. ALL BACKFLOW DEVICES WILL CARRY A MANUFACTURER RATING NOT TO EXCEED A 7 P.S.I. PRESSURE DROP THROUGH BACKFLOW DEVICE.
11. PROTECT EXISTING STRUCTURES FROM DAMAGE DURING CONSTRUCTION. PRIOR TO THE FINAL ACCEPTANCE OF THE PUBLIC MAINS, EXISTING STRUCTURES WILL BE INSPECTED FOR DAMAGE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
12. EXTEND ALL EXISTING AND PROPOSED UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
13. CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING ELECTRIC SERVICE FOR BUILDING.
14. THE UNDERGROUND ELECTRIC LINE WILL BE JOINT TRENCHED WITH TELEPHONE/CATV. RED MARKING TAPE SHALL BE PLACED 18" ABOVE UNDERGROUND ELECTRIC LINE. ALL CONDUIT SHALL BE INSTALLED PER CPS ENERGY SPECIFICATIONS.
15. CONTRACTOR TO INSTALL ALL UNDERGROUND CONDUIT IF NECESSARY, TO EXTEND UTILITIES TO THE BUILDING.

WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEMS SPECIFICATIONS:

FURNISH AND INSTALL THE FIRE LINE, DOMESTIC WATER LINE, IRRIGATION LINE AND WASTEWATER COLLECTION SYSTEM AND ALL RELATED APPURTENANCES FROM THE PUBLIC MAIN TO THE BUILDING PAD(S) AS SHOWN ON THE PLANS, INCLUDING BUT NOT LIMITED TO ALL PIPING, FITTINGS, VAULTS, VALVES, METERS, MANHOLES AND JUNCTION BOXES REQUIRED.

EXECUTION:

1. ALL MATERIALS, INSTALLATION, INSPECTION AND TESTING OF WATER METER AND RELATED PIPING AND APPURTENANCES SHALL CONFORM TO UPC STANDARDS, AWWA STANDARDS, TCEQ STANDARDS, AND THE APPLICABLE LOCAL UTILITY COMPANY REGULATIONS. ALL MATERIALS AND INSTALLATIONS REQUIRED FOR FIRE PROTECTION SHALL MEET FACTORY MUTUAL GLOBAL STANDARDS.
2. CONTRACTOR IS RESPONSIBLE FOR TAP AT PUBLIC MAIN AND ALL LINES, FITTINGS AND APPURTENANCES SHOWN ON PLANS OR REQUIRED BY THE LOCAL UTILITY COMPANY.
3. INSTALLATION OF WASTEWATER LINES SHALL BEGIN AT THE TAP TO THE PUBLIC WASTEWATER SYSTEM AND PROGRESS UPSTREAM. WATER AND WASTEWATER LINES SHALL BE EXTENDED TO SERVICE ENTRANCE INTO BUILDING(S). CONTRACTOR SHALL PROVIDE A WATERTIGHT SLEEVE IN FOUNDATION FOR WATER LINE.
4. TRENCH EXCAVATION SHALL BE PERFORMED AND BACKFILL MATERIAL AND PROCEDURES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORATION 2014 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.

STORM SEWER NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARDS AND SPECIFICATIONS.
2. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
3. BARRICADING, TRAFFIC CONTROL, AND PROJECTS SIGNS SHALL CONFORM TO "STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION BARRICADING AND CONSTRUCTION STANDARDS" AND THE CITY OF SAN ANTONIO.
4. 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.
5. THE CONTRACTOR SHALL VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION.
6. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION.
7. DURING THE CONSTRUCTION OF THESE IMPROVEMENTS, ANY INTERPRETATION OF THIS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND ANY MATTER WHICH REQUIRES THE APPROVAL OF THE OWNER MUST BE APPROVED BY THE DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE BEFORE ANY CONSTRUCTION INVOLVING THAT DECISION COMMENCES. ASSUMPTIONS ABOUT WHAT THESE DECISIONS MIGHT BE WHICH ARE MADE DURING THE BIDDING PHASE WILL HAVE NO BEARING ON THE DECISION.
8. FOR ADJUSTMENT OF UTILITY APPURTENANCES OR TO VERIFY LOCATIONS OF EXISTING WATER AND WASTEWATER MAINS IN AREA. CONTACT CITY PUBLIC WORKS REPRESENTATIVE AT LEAST (3) WORKING DAYS PRIOR TO CONSTRUCTION.
9. CONSTRUCTION OF STREETS, ALLEYS, SIDEWALKS, DRIVEWAYS, AND WATER FACILITIES IN THE PUBLIC EASEMENT OR RIGHT-OF-WAY MUST BE CONSTRUCTED IN CONFORMANCE WITH THE CITY OF SAN ANTONIO STANDARD CONSTRUCTION DETAILS.
10. ANY EXISTING PAVEMENT, CURBS AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
11. CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE CITY OF SAN ANTONIO AND TxDOT FOR WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
12. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO LOCATE EXISTING FACILITIES.
13. DURING CONSTRUCTION, THE OWNER SHALL PROVIDE A QUALIFIED GEOTECHNICAL LAB TO PERFORM MATERIALS TESTING DURING THE CONSTRUCTION.
14. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONDUCT A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF SAN ANTONIO, CONSULTING ENGINEER, CONTRACTOR(S), UTILITY COMPANIES, AND ANY OTHER AFFECTED PARTIES. CONTRACTOR SHALL NOTIFY THE CITY OF SAN ANTONIO AT LEAST 48 HOURS PRIOR TO CONFERENCE.
15. ALL PRIVATE STORM SEWER PIPE SHALL BE AS FOLLOWS AND HAVE A "N" VALUE OF 0.013 (MIN.) UNLESS INDICATED ON THE PLANS:
    A. 12" THRU 48" RCP, D-LOAD DESIGN.
    B. 6" THRU 12" PVC, SDR 35 OR SCH. 40
    C. 12" THRU 18" GALVANIZED CORRUGATED METAL (2- ⅔"X ½" CORRUGATED)
    D. 12" THRU 48" "ULTRAFLO" SPIRAL RIB PIPE (AASHTO M-36 TYPE I.R. WITH GALVANIZED STEEL AS PER AASHTO M-218)
    E. 6" THRU 36", HDPE

GRADING NOTES:

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
2. BARRICADING, TRAFFIC CONTROL, AND PROJECT SIGNS SHALL CONFORM TO "STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION BARRICADING AND CONSTRUCTION STANDARDS" AND THE CITY OF SAN ANTONIO SPECIFICATIONS.
3. THE CONTRACTOR SHALL VERIFY THAT 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, MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE. IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER, PAVING INSTALLED SHALL "FLUSH OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
4. ALL PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN THE EVENT OF ANY DISCREPANCIES.
5. REFER TO SITE PLAN FOR HORIZONTAL DIMENSIONS
6. UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO GUTTER OF INVERT. ADD 0.5' TO GUTTER GRADE FOR TOP OF CURB GRADE.
7. SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
8. EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT
10. SIDEWALKS ADJACENT TO THE PROPOSED BUILDING SHALL HAVE A CROSS SLOPE OF 2% AWAY FROM THE BUILDING.
11. ALL MANHOLE TOPS SHALL BE FLUSH WITH FINISHED GRADE IN LANDSCAPE AND PAVED AREAS.
12. CONTRACTOR TO VERIFY THE ELEVATIONS OF ALL TIE-IN POINTS FOR INSTALLATION OF UTILITIES, CURB & PAVING.
13. ALL AREAS TO BE FILLED SHALL BE DONE WITH CLEAN SUITABLE MATERIAL COMPACTED IN 6 INCH LIFTS TO 98% DENSITY AS DETERMINED BY AASHTO T-180
14. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM THE DRAINAGE FEATURES TO INCLUDE STORM SEWER PIPES, DRAINAGE PONDS, GUTTERS AND FINISHED PAVED AREAS.
15. MAXIMUM CROSS SLOPES FOR SIDEWALKS AND A.D.A. ACCESS ROUTES SHALL NOT EXCEED 2.0%. RAMP SLOPES SHALL NOT EXCEED 1-INCH PER FOOT (8.33%). MAXIMUM SLOPES FOR HANDICAP PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0% IN ANY DIRECTION.

PAVING NOTES:

1. THESE PLANS REPRESENT PAVING AS RECOMMENDED BY GEOTECHNICAL REPORT BY OMEGA AE REPORT NO. 20024-035 PREPARED BY OMEGA ASSOCIATES & ENGINEERS, LLC FOR SUBGRADE PREPARATION. A3
2. PAVING MATERIALS AND PROCEDURES SHALL BE IN CONFORMANCE WITH THE SOILS REPORTS, PROJECT SPECIFICATIONS, AND DETAILS IN PLANS.
3. DESIGN MIX SUBMITTALS SHALL BE PROVIDED FOR REVIEW AT LEAST 14 DAYS PRIOR TO PLACEMENT.
4. JOINTS SHALL BE PLACED IN ANY PROPOSED CONCRETE PAVEMENT AND CURBING AS RECOMMENDED IN THE GEOTECHNICAL STUDY FOR THIS SITE. JOINT LAYOUT AND DESIGN SHALL CONFORM TO THE AMERICAN CONCRETE PAVEMENT ASSOCIATION (ACPA) TECHNICAL PUBLICATION 150 61.01P, TABLE Z AND FIGURE 13. CONTRACTOR MAY PROVIDE EXPANSION JOINTS AT LOW POINTS IN PAVING AND SHALL PROVIDE CONSTRUCTION JOINTS AT ALL HIGH POINTS IN PAVING. EXPANSION JOINTS MAY BE SUBSTITUTED FOR CONSTRUCTION JOINTS. THE SPACING BETWEEN EXPANSION JOINTS (IF USED) SHALL NOT EXCEED 60-FEET. THE SPACING BETWEEN CRACK CONTROL JOINTS SHALL NOT EXCEED 15-FEET. SAWED JOINTS MAY BE USED FOR CRACK CONTROL JOINTS. IF SAWED JOINTS ARE USED, THEY MUST BE CUT WITHIN 6 TO 12 HOURS OF CONCRETE PLACEMENT AND THE MAXIMUM SPACING BETWEEN ANY TWO JOINTS SHALL NOT EXCEED 10-FEET. CURB AND SIDEWALK JOINTS (WHERE SIDEWALK IS ADJACENT TO PAVING) SHALL BE ALIGNED WITH PAVING JOINTS.
5. ALL CONCRETE PAVEMENT SHALL BE PORTLAND CEMENT CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (MIN 6 SACKS) IN 28 DAYS WITH REINFORCING STEEL CONFORMING TO ASTM A-615, GRADE 60. PROVIDE MINIMUM 30 BAR DIAMETERS LAP.
6. DO NOT UNLOAD OR USE ANY HEAVY CONSTRUCTION EQUIPMENT ON NEW CONCRETE FOR AT LEAST 7 DAYS AFTER CONCRETE IS POURED.
7. CONNECT TO EXISTING CONCRETE PAVEMENT USING HORIZONTAL DOWEL EXPANSION JOINTS. WHERE SHOWN ON PLANS, SAW CUT EXISTING PAVEMENT TO FULL PAVEMENT DEPTH. HORIZONTAL DOWELS SHALL BE NO. 6 BARS, 18-INCHES LONG, DRILLED AND EMBEDDED 9-INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL. DOWEL SPACING SHALL BE 12-INCHES CENTER TO CENTER, UNLESS OTHERWISE NOTED.
8. WHERE PROPOSED PAVEMENT IS TO BE CONSTRUCTED IN PUBLIC EASEMENTS, CONSTRUCTION JOINTS SHALL BE PLACED ALONG THE ENTIRE EASEMENT LINE OF THE ENCROACHMENT AND TRANSVERSE TO THE EASEMENT AT LEAST EVERY 10-FEET. MANHOLES, CLEANOUT, VALVE BOXES, ETC., SHALL BE ADJUSTED TO FINISH GRADE. SAW CUTS ARE AN ACCEPTABLE ALTERNATIVE TO CONSTRUCTION JOINTS.
9. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK SUCH THAT UTILITIES ARE INSTALLED PRIOR TO PAVEMENT BASE BEING INSTALLED OR ELSE LOCATE AND PLACE LINES FOR PROPOSED UNDERGROUND UTILITIES.
10. SUBGRADE SHALL BE PREPARED IN CONFORMANCE WITH SOILS REPORT.
11. DRAINAGE OPENINGS ACROSS CURBED ISLANDS TO BE PAVED WITH LIGHT DUTY CONCRETE PAVING.
12. PRIVATE SIDEWALKS SHALL BE MINIMUM 4 1/2" THICK WITH 6 X 6-W2.9 X W2.9 WELDED WIRE FABRIC (TYPICAL). PUBLIC SIDEWALKS SHALL BE IN CONFORMANCE WITH CITY OF SAN ANTONIO & TxDOT REQUIREMENTS, DEPENDING ON JURISDICTION.
13. ALL CONCRETE PAVING AND FLATWORK SHALL BE CURED IN CONFORMANCE WITH AMERICAN CONCRETE PAVEMENT ASSOCIATION GUIDELINES.
14. NO VEHICULAR TRAFFIC IS ALLOWED ON CONCRETE REINFORCEMENT UNTIL PAVEMENT IS POURED AND CURED.
15. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY BARRICADING AND TRAFFIC CONTROL AS REQUIRED DURING CONSTRUCTION IN VEHICULAR MOVEMENT AREAS.

STORM WATER POLLUTION PREVENTION NOTES:

1. PRIOR TO CONSTRUCTION, MAKE CERTAIN THE NOTICE OF INTENT (NOI) OR CONSTRUCTION SITE NOTICE (CSN) HAS BEEN FILED AND POSTED ONSITE FOR PUBLIC VIEWING AND THE TPDES REPORT AND SWPPP ARE AVAILABLE AT THE TRAILER.
2. INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, EXCAVATION).
3. THE PLACEMENT OF STORM WATER POLLUTION PREVENTION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION CONTROL PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR AND ENGINEER AFTER INSTALLATION OF THE STORM WATER POLLUTION PREVENTION CONTROLS AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER AS APPROPRIATE. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE STORM WATER POLLUTION PREVENTION CONTROL PLAN MAY BE REQUIRED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT INTERVALS OF AT LEAST ONCE EVERY TWO (2) WEEKS AND IMMEDIATELY AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES. PRIOR TO FINAL ACCEPTANCE BY THE CITY, ALL ROADS AND WATERWAY GROSSINGS. CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
7. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
8. SOIL DISTURBANCES SHALL BE MINIMIZED BY EXPOSING ONLY THE SMALLEST PRACTICAL AREA OF LAND REQUIRED FOR THE CLEARING AND GRADING ACTIVITY AND FOR THE CONSTRUCTION ACTIVITY, FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
9. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND EXCEPT AS PROVIDED BELOW, WILL BE INITIATED NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
10. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
11. TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOILS HAVE COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE INTENDED PURPOSE.
12. MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
13. PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
    A. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.
    B. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS UNLESS SPECIFIED OTHERWISE BY THE PROJECT'S LANDSCAPE PLAN:
    BROADCAST SEEDING: SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95%.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 202 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bsolstock@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

CONSTRUCTION NOTES

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: N/A
JOB No. 250503-01-001
SHEET NO. **C0.1**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PRIVATE SITE\C2.0 CONSTRUCTION NOTES.dwg, C0.1 CONSTRUCTION NOTES, March 02, 2026, 9:01 AM, ahernandez

LOCATION MAP
NOT TO SCALE

LEGEND:

■	= FOUND 1/2" IRON BAR WITHOUT A CAP	N	= NORTHING
●	= 1/2" IRON BAR WITH AN ORANGE CAP MARKED "SLS RPLS 5142" FOUND SET IN THE GROUND	E	= EASTING
		(F)	= FIELD BEARING
		(P)	= PLAT BEARING
⬟	= 1/2" IRON BAR WITH A YELLOW CAP MARKED "PAPE-DAWSON" FOUND SET IN THE GROUND	R.O.W.	= RIGHT-OF-WAY
		VOL.	= VOLUME
		PG.(S)	= PAGE(S)
		DOC.	= DOCUMENT
○	= FOUND 2" IRON PIPE	NO.	= NUMBER
		N.C.B.	= NEW CITY BLOCK
TELE.	= TELEPHONE	O.P.R.	= OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS
ELEC.	= ELECTRIC	P.R.	= PLAT RECORDS OF BEXAR COUNTY, TEXAS
CATV	= CABLE TELEVISION	℄	= CENTERLINE

COMMON AREA MAINTENANCE NOTE:

1. THE MAINTENANCE OF ALL PRIVATE STREETS, OPEN SPACE, GREENBELT, PARKS, TREE SAVE AREAS, INCLUDING LOT 900, BLOCK 3, NCB 11139, LOT 901, NCB 11139, DRAINAGE EASEMENTS AND EASEMENTS OF ANY NATURE WITHIN THIS SUBDIVISION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE PROPERTY OWNER'S ASSOCIATION, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF THE CITY OF SAN ANTONIO OR BEXAR COUNTY.

WASTEWATER EDU NOTE:

THE NUMBER OF WASTEWATER EQUIVALENT DWELLING UNITS (EDUs) PAID FOR THIS SUBDIVISION PLAT ARE KEPT ON FILE UNDER THE PLAT NUMBER AT THE SAN ANTONIO WATER SYSTEM.

IMPACT FEE NOTE:

WATER AND/OR WASTEWATER IMPACT FEES WERE NOT PAID AT THE TIME OF PLATTING FOR THIS PLAT. ALL IMPACT FEES MUST BE PAID PRIOR TO WATER METER SET AND/OR PRIOR TO THE WASTEWATER SERVICE CONNECTION.

SURVEYORS NOTES:

1. PROPERTY CORNERS ARE MONUMENTED WITH A CAP OR DISK MARKED "SLS RPLS 5142" UNLESS NOTED OTHERWISE.

2. ALL COORDINATES AND BEARINGS SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE 4204, NORTH AMERICAN DATUM OF 1983 (NAD(11), GRID. DISTANCES SHOWN HEREON ARE BASED UPON SURFACE MEASUREMENTS. TO CONVERT SURFACE DISTANCES TO GRID, APPLY A COMBINED SCALE FACTOR OF 1.000170.

3. DIMENSIONS SHOWN ARE SURFACE.

OPEN SPACE NOTE:

LOT 900, BLOCK 3, NCB 11139 AND LOT 901, NCB 11139, IS DESIGNATED AS OPEN SPACE AND AS A COMMON AREA AND A DRAINAGE, SEWER, WATER, ELECTRIC, GAS, TELEPHONE AND CABLE TV EASEMENT.

CPS/SAWS/COSA/UTILITY NOTE:

1. THE OWNER OF THIS PLAT AND ANY SUBSEQUENT OWNER MUST DEVELOP THEIR SUBDIVISION IN ACCORDANCE WITH THE FOLLOWING UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF THE CITY OF SAN ANTONIO DEVELOPMENT SERVICES DEPARTMENT, THE CITY MANAGER OR THEIR DESIGNATE, PURSUANT TO CITY OF SAN ANTONIO UNIFIED DEVELOPMENT CODE SECTION 35-506(r). WATER AND WASTEWATER FACILITIES SERVING THE SUBDIVISION SHALL BE CONSTRUCTED AND INSTALLED TO CITY STANDARDS AND SPECIFICATIONS AND SHALL BE OPERATIONAL AND SERVING EACH LOT WITH POTABLE WATER AND WASTEWATER PRIOR TO THE CERTIFICATE OF OCCUPANCY ISSUANCE FOR ANY BUILDING CONSTRUCTED ON THIS PLAT. FIRE HYDRANTS SHALL BE INSTALLED AS REQUIRED BY THE CITY OF SAN ANTONIO FIRE CODE OFFICIAL. THE OWNER MUST PROVIDE FOR FIRE FLOW DEMAND AS REQUIRED BY THE CITY OF SAN ANTONIO FIRE CODE OFFICIAL.

2. ANY CPS ENERGY OR SAWS MONETARY LOSS RESULTING FROM MODIFICATIONS REQUIRED OF CPS ENERGY OR SAWS INFRASTRUCTURE AND SERVICE FACILITIES, LOCATED WITHIN SAID EASEMENTS, DUE TO GRADE CHANGES OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS.

3. THIS PLAT DOES NOT AMEND, ALTER, RELEASE OR OTHERWISE AFFECT ANY EXISTING ELECTRIC, GAS, WATER, SEWER, DRAINAGE, TELEPHONE, CABLE TV EASEMENTS OR ANY OTHER EASEMENTS FOR UTILITIES UNLESS THE CHANGES TO SUCH EASEMENTS ARE DESCRIBED HEREON:

FOR SINGLE FAMILY RESIDENTIAL INCLUDE THE FOLLOWING:

4. CONCRETE DRIVEWAY APPROACHES ARE ALLOWED WITHIN FIVE (5) AND TEN (10) FOOT WIDE ELECTRIC AND GAS EASEMENTS WHEN LOTS ARE SERVED ONLY BY UNDERGROUND ELECTRIC AND GAS FACILITIES.

5. ROOF OVERHANGS ARE ALLOWED WITHIN FIVE (5) AND TEN (10) FOOT WIDE ELECTRIC AND GAS EASEMENTS WHEN ONLY UNDERGROUND ELECTRIC AND GAS FACILITIES ARE PROPOSED OR EXISTING WITHIN THOSE FIVE (5) AND TEN (10) FOOT WIDE EASEMENTS.

FLOODPLAIN VERIFICATION NOTE:

NO PORTION OF THE FEMA 1% ANNUAL CHANCE (100-YEAR) FLOODPLAIN EXISTS WITHIN THIS PLAT AS VERIFIED BY FEMA MAP PANEL: 48029C0560F, EFFECTIVE SEPTEMBER 29, 2010. FLOODPLAIN INFORMATION IS SUBJECT TO CHANGE AS A RESULT OF FUTURE FEMA MAP REVISIONS AND/OR AMENDMENTS.

FIRE NOTE:

INGRESS AND EGRESS SHALL BE PROVIDED BETWEEN ALL ADJACENT LOTS FOR ADEQUATE FIRE DEPARTMENT VEHICLE ACCESS PER THE CITY OF SAN ANTONIO FIRE PREVENTION CODE. ANY CROSS ACCESS SHALL NOT BE BLOCKED NOR MAY THIS NOTE BE REMOVED FROM THE PLAT WITHOUT WRITTEN PERMISSION FROM THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

MULTIPLE PAGE NOTE:

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT.

SAWS HIGH PRESSURE NOTE:

A PORTION OF THE TRACT IS BELOW THE GROUND ELEVATION OF 605 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS, 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.

TXDOT NOTE:

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT OF WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SET-BACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.

2. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT-OF-WAY SHALL BE DIRECTED BY TXDOT.

3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY "ACCESS MANAGEMENT MANUAL". THIS PROPERTY IS ELIGIBLE FOR A MAXIMUM COMBINED TOTAL OF 3 ACCESS POINTS ALONG LOOP 410 SOUTH BASED ON THE OVERALL PLATTED HIGHWAY FRONTAGE OF 3701.36'.

DRAINAGE EASEMENT ENCROACHMENTS NOTE:

NO STRUCTURE, FENCES, WALLS OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING OR OTHER TYPE OF MODIFICATIONS, WHICH ALTER THE CROSS-SECTIONS OF THE DRAINAGEEASEMENTS, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE DIRECTOR OFTCI OR DIRECTOR OF PUBLIC WORKS. THE CITY OF SAN ANTONIO AND BEXAR COUNTY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER THE GRANTORIS ADJACENT PROPERTY TO REMOVE ANY IMPEDING OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENT AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.

STORMWATER NOTE:

1. STORM WATER DETENTION IS REQUIRED FOR PROPERTY WITHIN THE BOUNDARY OF THIS PLAT. BUILDING PERMITS SHALL BE ISSUED ONLY IN CONJUNCTION WITH NECESSARY STORM WATER DETENTION APPROVED BY THE CITY OF SAN ANTONIO FLOODPLAIN ADMINISTRATOR. THE PROPERTY MAY BE ELIGIBLE TO POST A FEE LIEU OF DETENTION (FILO) IF OFFSITE DRAINAGE CONDITIONS ALLOW BUT ONLY WHEN APPROVED BY THE CITY OF SAN ANTONIO FLOODPLAIN ADMINISTRATOR. MAINTENANCE OF ON-SITE STORM WATER DETENTION SHALL BE THE SOLE RESPONSIBILITY OF THE PROPERTY OWNERS AND/OR THE PROPERTY OWNERS' ASSOCIATION AND ITS SUCCESSORS OR ASSIGNS AND IS NOT RESPOSIBILITY OF THE CITY OF SAN ANTONIO OR BEXAR COUNTY.

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00'	130.00'	48°28'57"	N 32° 52' 08" E	106.75'
C2	39.67'	70.00'	32°28'00"	N 40° 52' 37" E	39.14'
C3	124.97'	130.00'	55°04'46"	N 29° 34' 14" E	120.21'
C4	49.75'	70.00'	40°43'05"	N 36° 45' 05" E	48.71'
C5	700.00'	680.00'	58°58'53"	S 60° 52' 42" E	669.50'
C6	683.83'	620.00'	63°11'39"	S 58° 46' 19" E	649.69'
C7	37.23'	25.00'	85°18'56"	N 42° 17' 19" E	33.86'
C8	7.35'	5.00'	84°13'17"	N 42° 50' 08" E	6.71'
C9	7.53'	5.00'	86°15'27"	N 42° 24' 14" W	6.84'
C10	37.16'	25.00'	85°09'46"	N 42° 57' 03" W	33.83'
C11	24.37'	17.00'	82°08'18"	N 41° 26' 17" W	22.34'
C12	24.37'	17.00'	82°08'18"	S 41° 26' 17" E	22.34'

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.98'	N 48° 00' 11" E
L2	23.84'	N 36° 59' 37" W
L3	12.67'	S 40° 03' 49" E
L4	14.19'	N 44° 39' 28" E
L5	14.17'	S 45° 20' 32" E
L6	361.11'	S 0° 35' 40" E
L7	357.41'	N 0° 35' 40" W
L8	6.50'	S 40° 03' 49" E
L9	419.69'	S 80° 51' 26" W
L10	83.80'	S 89° 34' 56" W
L11	72.07'	N 0° 22' 22" W
L12	313.82'	N 84° 56' 47" E
L13	33.80'	N 0° 43' 30" E
L14	314.61'	N 85° 31' 57" W
L15	94.44'	N 0° 22' 09" W
L16	187.28'	N 62° 30' 26" W
L17	2.97'	N 0° 22' 09" W
L18	462.55'	N 89° 34' 14" E
L19	22.80'	N 89° 37' 51" E
L20	186.20'	S 28° 18' 13" W
L21	16.53'	S 89° 41' 04" W
L22	45.00'	N 0° 18' 56" W
L23	18.30'	N 89° 41' 04" E
L24	134.92'	N 28° 18' 13" E
L25	80.00'	S 0° 25' 45" E
L26	340.15'	N 89° 37' 51" E
L27	1705.48'	S 89° 37' 51" W
L28	5.00'	S 0° 22' 09" E
L29	373.46'	S 89° 37' 51" W
L30	5.00'	S 0° 22' 09" E
L31	414.83'	S 89° 37' 51" W
L32	30.00'	N 0° 22' 09" W
L33	773.87'	N 89° 37' 51" E
L34	80.03'	N 1° 03' 59" E
L35	30.01'	N 89° 37' 51" E
L36	80.03'	S 1° 03' 59" W
L37	293.27'	N 89° 37' 51" E
L38	80.00'	N 0° 22' 09" W
L39	30.00'	N 89° 37' 51" E
L40	80.00'	S 0° 22' 09" E
L41	948.75'	N 89° 37' 51" E
L42	80.00'	N 0° 25' 45" W
L43	153.47'	N 0° 25' 42" W
L44	417.62'	N 89° 37' 51" E
L45	153.12'	S 0° 21' 54" E
L46	153.03'	N 0° 20' 12" W
L47	30.00'	N 89° 37' 51" E
L48	14.00'	N 1° 03' 59" E
L49	30.01'	N 89° 37' 51" E
L50	14.00'	S 1° 03' 59" W
L51	14.00'	N 0° 22' 09" E
L52	30.00'	N 89° 37' 51" E
L53	14.00'	S 0° 22' 09" W
L54	14.00'	N 0° 22' 09" E
L55	29.99'	N 89° 34' 14" E
L56	14.03'	S 0° 22' 09" W

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT TO THE MATTERS OF STREETS, LOTS AND DRAINAGE LAYOUT. TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE, EXCEPT FOR THOSE VARIANCES GRANTED BY THE SAN ANTONIO PLANNING COMMISSION.

_____
JERRY PERALES, P.E.
LICENSED PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO. 94676
BOWMAN CONSULTING
807 LAS CIMAS PARKWAY, SUITE 350
AUSTIN, TEXAS 78746

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT THE ABOVE PLAT CONFORMS TO THE MINIMUM STANDARDS SET FORTH BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND BY: EMPLOYEES OF SINCLAIR LAND SURVEYING, INC. UNDER MY SUPERVISION.

_____
LEMUEL T. SINCLAIR, R.P.L.S. #5142
REGISTERED PROFESSIONAL LAND SURVEYOR

PLAT NO. 24-11800441

REPLAT & SUBDIVISION PLAT
ESTABLISHING
DPEG ZARZAMORA

THIS PLAT CONSISTING OF 59.22 ACRES, BEING ALL OF AN 11.020-ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRE TRACT OF LAND DESCRIBED IN IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 1.460 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS AND BEING ALL OF LOT 23, NEW CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500 AT PAGE 61 OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535 AT PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMORA SUBDIVISION, LOT 1, BLOCK 3, NEW CITY BLOCK 11139 AND LOTS 1, 24, 25 AND 26, NEW CITY BLOCK 11139.

PROJECT ENGINEER:

Bowman
8122 DATAPOINT RD., STE. 202
SAN ANTONIO, TEXAS 78229
PHONE: 210-298-1600
EMAIL:BSCHOCK@BOWMAN.com
TBPE Registration No.: F-14309

PROJECT SURVEYOR:

SINCLAIR LAND SURVEYING, INC.
3411 MAGIC DRIVE
SAN ANTONIO, TEXAS 78229
210-341-4518
TBPELS FIRM NO.10089000
JOB NUMBER: S-202475978
FEBRUARY 2026

STATE OF TEXAS
COUNTY OF FORT BEND

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

_____
DPEG ZARZAMORA, LLC
PRESIDENT: NADYRSHAH DHANANI
11333 FOUNTAIN LAKE DRIVE
STAFFORD, TX 77477
281-561-5135

STATE OF TEXAS
COUNTY OF FORT BEND

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED NADYRSHAH DHANANI KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE/SHE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND & SEAL OF OFFICE
THIS____DAY OF _____, 2026.

_____
NOTARY PUBLIC
FORT BEND COUNTY, TEXAS

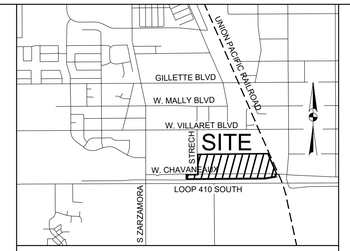
THIS PLAT OF DPEG ZARZAMORA HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF SAN ANTONIO, TEXAS, IS HEREBY APPROVED BY SUCH COMMISSION IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS; AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) AND/OR VARIANCE(S) HAVE BEEN GRANTED.

DATED THIS _____ DAY OF _____ A.D., 2026.

BY: _____
CHAIRMAN

BY: _____
SECRETARY

NOT TO SCALE
(FOR REFERENCE ONLY)



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

Bowman
© 2020 Bowman Consulting Group, Ltd
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

PLAT 1 OF 2

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

A3

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

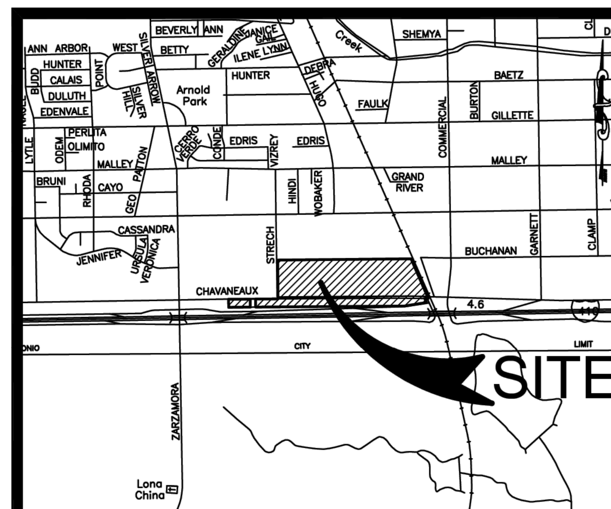
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE:
JOB No. 250503-01-001
SHEET NO. **C0.2**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PLAT.dwg, C0.2 PLAT SHT 1 OF 2, March 02, 2026, 9:01 AM, ahernandez

PLAT NO. 24-11800441



LOCATION MAP
NOT TO SCALE

COMMON AREA MAINTENANCE NOTE:

1. THE MAINTENANCE OF ALL PRIVATE STREETS, OPEN SPACE, GREENBELT, PARKS, TREE SAVE AREAS, INCLUDING LOT 900, BLOCK 3, NCB 11139, LOT 901, NCB 11139, DRAINAGE EASEMENTS AND EASEMENTS OF ANY NATURE WITHIN THIS SUBDIVISION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE PROPERTY OWNER'S ASSOCIATION, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILTY OF THE CITY OF SAN ANTONIO OR BEXAR COUNTY.

WASTEWATER EDU NOTE:

THE NUMBER OF WASTEWATER EQUIVALENT DWELLING UNITS (EDUs) PAID FOR THIS SUBDIVISION PLAT ARE KEPT ON FILE UNDER THE PLAT NUMBER AT THE SAN ANTONIO WATER SYSTEM.

IMPACT FEE NOTE:

WATER AND/OR WASTEWATER IMPACT FEES WERE NOT PAID AT THE TIME OF PLATTING FOR THIS PLAT. ALL IMPACT FEES MUST BE PAID PRIOR TO WATER METER SET AND/OR PRIOR TO THE WASTEWATER SERVICE CONNECTION.

SURVEYORS NOTES:

1. PROPERTY CORNERS ARE MONUMENTED WITH A CAP OR DISK MARKED "SLS RPLS 5142" UNLESS NOTED OTHERWISE.

2. ALL COORDINATES AND BEARINGS SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE 4204, NORTH AMERICAN DATUM OF 1983 (NA2011), GRID. DISTANCES SHOWN HEREON ARE BASED UPON SURFACE MEASUREMENTS. TO CONVERT SURFACE DISTANCES TO GRID, APPLY A COMBINED SCALE FACTOR OF 1.000170.

3. DIMENSIONS SHOWN ARE SURFACE.

CPS/SAWS/COSA/UTILITY NOTE:

1. THE CITY OF SAN ANTONIO AS PART OF ITS ELECTRIC, GAS, WATER, AND WASTEWATER SYSTEMS – CITY PUBLIC SERVICE BOARD (CPS ENERGY) AND SAN ANTONIO WATER SYSTEM (SAWS) – IS HEREBY DEDICATED EASEMENTS AND RIGHTS-OF-WAY FOR UTILITY, TRANSMISSION, AND DISTRIBUTION INFRASTRUCTURE AND SERVICE FACILITIES IN THE AREAS DESIGNATED ON THIS PLAT AS "ELECTRIC EASEMENT", "ANCHOR EASEMENT", "SERVICE EASEMENT", "OVERHANG EASEMENT", "UTILITY EASEMENT", "GAS EASEMENT", "TRANSFORMER EASEMENT", "WATER EASEMENT", "SANITARY SEWER EASEMENT" AND/OR "RECYCLED WATER EASEMENT" FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, MAINTAINING, REMOVING, INSPECTING, PATROLLING, AND ERECTING UTILITY INFRASTRUCTURE AND SERVICE FACILITIES FOR THE REASONS DESCRIBED ABOVE. CPS ENERGY AND SAWS SHALL ALSO HAVE THE RIGHT TO RELOCATE SAID INFRASTRUCTURE AND SERVICE FACILITIES WITHIN EASEMENT AND RIGHT-OF-WAY AREAS, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT LANDS FOR THE PURPOSE OF ACCESSING SUCH INFRASTRUCTURE AND SERVICE FACILITIES AND THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES OR PARTS THEREOF, OR OTHER OBSTRUCTIONS WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY OF WATER, SEWER, GAS, AND/OR ELECTRIC INFRASTRUCTURE AND SERVICE FACILITIES. NO BUILDINGS, STRUCTURES, CONCRETE SLABS, OR WALLS WILL BE PLACED WITHIN EASEMENT AREAS WITHOUT AN ENCROACHMENT AGREEMENT WITH THE RESPECTIVE UTILITY.

2. ANY CPS ENERGY OR SAWS MONETARY LOSS RESULTING FROM MODIFICATIONS REQUIRED OF CPS ENERGY OR SAWS INFRASTRUCTURE AND SERVICE FACILITIES, LOCATED WITHIN SAID EASEMENTS, DUE TO GRADE CHANGES OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS.

3. THIS PLAT DOES NOT AMEND, ALTER, RELEASE OR OTHERWISE AFFECT ANY EXISTING ELECTRIC, GAS, WATER, SEWER, DRAINAGE, TELEPHONE, CABLE TV EASEMENTS OR ANY OTHER EASEMENTS FOR UTILITIES UNLESS THE CHANGES TO SUCH EASEMENTS ARE DESCRIBED HEREON:

FOR SINGLE FAMILY RESIDENTIAL INCLUDE THE FOLLOWING:
4. CONCRETE DRIVEWAY APPROACHES ARE ALLOWED WITHIN FIVE (5) AND TEN (10) FOOT WIDE ELECTRIC AND GAS EASEMENTS WHEN LOTS ARE SERVED ONLY BY UNDERGROUND ELECTRIC AND GAS FACILITIES.

5. ROOF OVERHANGS ARE ALLOWED WITHIN FIVE (5) AND TEN (10) FOOT WIDE ELECTRIC AND GAS EASEMENTS WHEN ONLY UNDERGROUND ELECTRIC AND GAS FACILITIES ARE PROPSED OR EXISTING WITHIN THOSE FIVE (5) AND TEN (10) FOOT WIDE EASEMENTS.

TXDOT NOTE:

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT OF WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SET-BACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.

2. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT-OF-WAY SHALL BE DIRECTED BY TXDOT.

3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY "ACCESS MANAGEMENT MANUAL". THIS PROPERTY IS ELIGIBLE FOR A MAXIMUM COMBINED TOTAL OF 3 ACCESS POINTS ALONG LOOP 410 SOUTH BASED ON THE OVERALL PLATTED HIGHWAY FRONTAGE OF 3701.36'.

PLAT NOTE:

1. PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT.

2. SEE PAGE 1 FOR LINE AND CURVE TABLES.

STOMRWATER NOTE:

1. STORM WATER DETENTION IS REQUIRED FOR PROPERTY WITHIN THE BOUNDARY OF THIS PLAT. BUILDING PERMITS SHALL BE ISSUED ONLY IN CONJUNCTION WITH NECESSARY STORM WATER DETENTION APPROVED BY THE CITY OF SAN ANTONIO FLOODPLAIN ADMINISTRATOR. THE PROPERTY MAY BE ELIGIBLE TO POST A FEE LIEU OF DETENTION (FILO) IF OFFSITE DRAINAGE CONDITIONS ALLOW BUT ONLY WHEN APPROVED BY THE CITY OF SAN ANTONIO FLOODPLAIN ADMINISTRATOR. MAINTENANCE OF ON-SITE STORM WATER DETENTION SHALL BE THE SOLE RESPONSIBILITY OF THE PROPERTY OWNERS AND/OR THE PROPERTY OWNERS' ASSOCIATION AND ITS SUCCESSORS OR ASSIGNS AND IS NOT RESPOSIBILITY OF THE CITY OF SAN ANTONIO OR BEXAR COUNTY.

0 200 400 Feet

LEGEND:

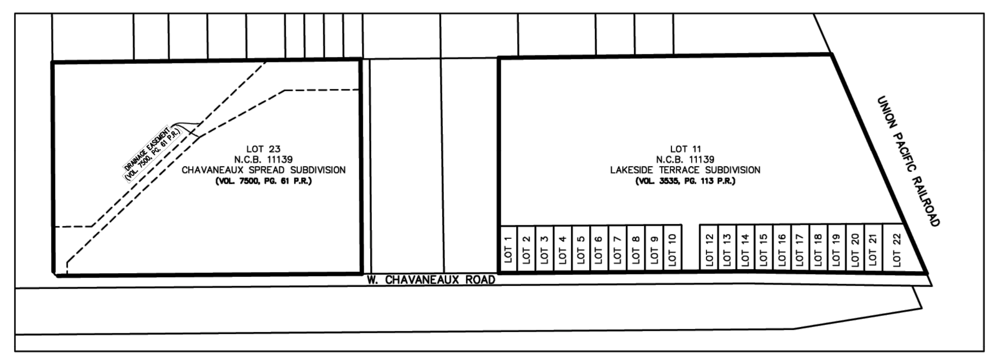
Symbol	Meaning	Abbr.	Meaning
■	FOUND 1/2" IRON BAR WITHOUT A CAP	N	NORTHING
●	1/2" IRON BAR WITH AN ORANGE CAP MARKED "SLS RPLS 5142" FOUND SET IN THE GROUND	E	EASTING
⬟	1/2" IRON BAR WITH A YELLOW CAP MARKED "PAPE-DAWSON" FOUND SET IN THE GROUND	(F)	FIELD BEARING
○	FOUND 2" IRON PIPE	(P)	PLAT BEARING
TELE.	TELEPHONE	R.O.W.	RIGHT-OF-WAY
ELEC.	ELECTRIC	VOL.	VOLUME
CATV	CABLE TELEVISION	PG.(S)	PAGE(S)
		DOC.	DOCUMENT
		NO.	NUMBER
		N.C.B.	NEW CITY BLOCK
		O.P.R.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS
		P.R.	PLAT RECORDS OF BEXAR COUNTY, TEXAS
		℄	CENTERLINE
		VNAE	VEHICULAR NON-ACCESS EASEMENT

PROJECT ENGINEER:

Bowman
8122 DATAPOINT RD., STE. 202
SAN ANTONIO, TEXAS 78229
PHONE: 210-298-1600
EMAIL: BSCHOCK@BOWMAN.com
TBPE Registration No.: F-14309

PROJECT SURVEYOR:

SINCLAIR LAND SURVEYING, INC.
3411 MAGIC DRIVE
SAN ANTONIO, TEXAS 78229
210-341-4518
TBPELS FIRM NO.10089000
JOB NUMBER: S-202475978
FEBRUARY 2026



AREA BEING REPLATTED THROUGH PUBLIC HEARING

1:500 SCALE

THE AREA BEING REPLATED (36.765 ACRES) WAS PREVIOUSLY PLATTED AS LOT 23, NEW CITY BLOCK 11139 CHAVANEAUX SPREAD SUBDIVISION RECORDED IN VOLUME 7500, PAGE 61 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS AND LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 AND 22, NEW CITY BLOCK 11139 LAKESIDE TERRACE SUBDIVISION RECORDED IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS

REPLAT & SUBDIVISION PLAT ESTABLISHING DPEG ZARZAMORA

THIS PLAT CONSISTING OF 59.22 ACRES, BEING ALL OF AN 11.020-ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRE TRACT OF LAND DESCRIBED IN IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 1.460 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS AND BEING ALL OF LOT 23, NEW CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500 AT PAGE 61 OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535 AT PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMORA SUBDIVISION, LOT 1, BLOCK 3, NEW CITY BLOCK 11139 AND LOTS 1, 24, 25 AND 26, NEW CITY BLOCK 11139.

STATE OF TEXAS
COUNTY OF FORT BEND

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

____

DPEG ZARZAMORA, LLC
PRESIDENT: NADYRSHAH DHANANI
11333 FOUNTAIN LAKE DRIVE
STAFFORD, TX 77477
281-561-5135

STATE OF TEXAS
COUNTY OF FORT BEND

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED NADYRSHAH DHANANI KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE/SHE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND & SEAL OF OFFICE
THIS____DAY OF ____, 2026.

____

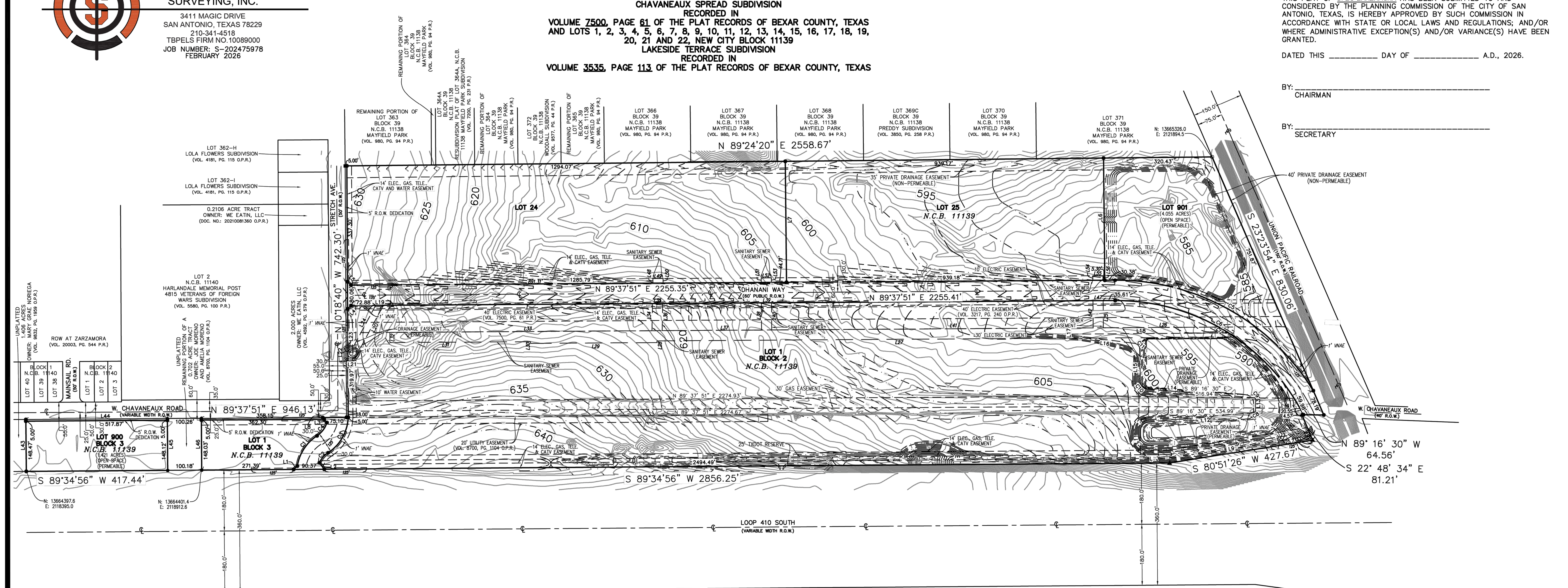
NOTARY PUBLIC
FORT BEND COUNTY, TEXAS

THIS PLAT OF DPEG ZARZAMORA HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF SAN ANTONIO, TEXAS, IS HEREBY APPROVED BY SUCH COMMISSION IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS; AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) AND/OR VARIANCE(S) HAVE BEEN GRANTED.

DATED THIS _________ DAY OF ____________ A.D., 2026.

BY: ______________________________
CHAIRMAN

BY: ______________________________
SECRETARY

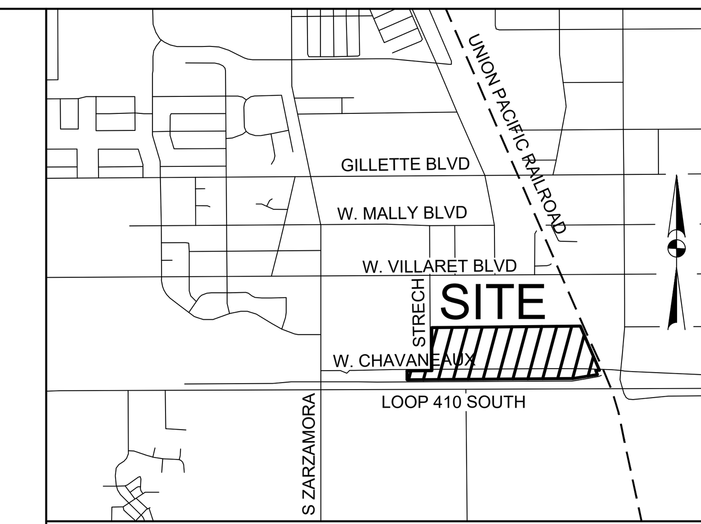


PAGE 2 OF 2

A3

NOT TO SCALE

(FOR REFERENCE ONLY)



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

PLAT 2 OF 2

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

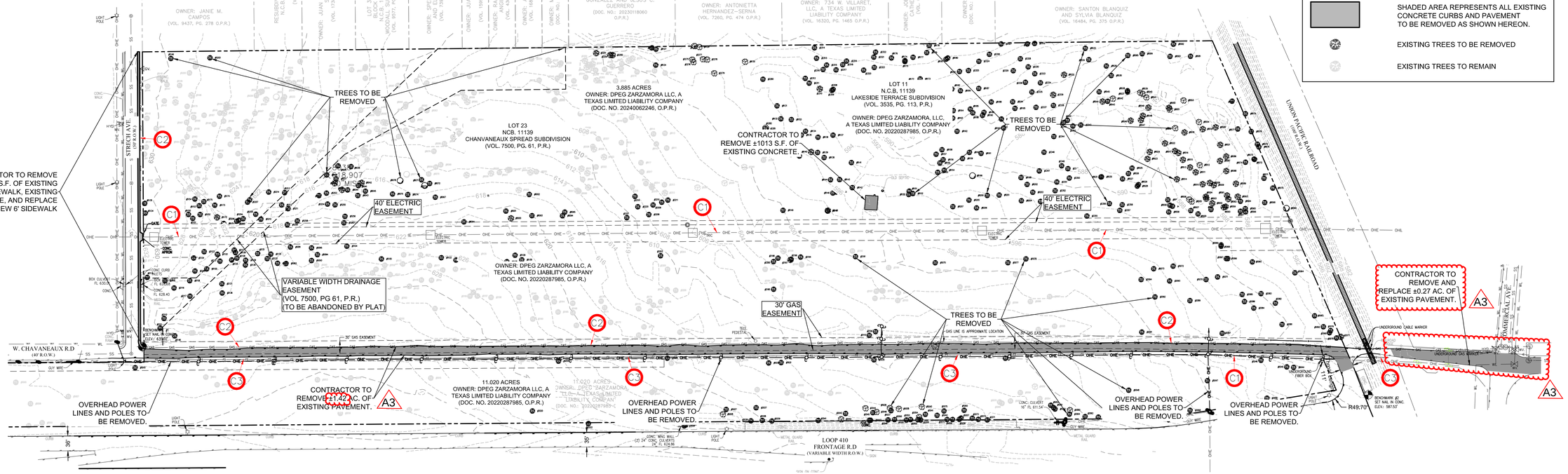
DATE: 03/02/2026

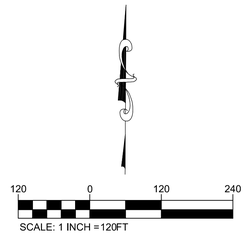
SCALE:

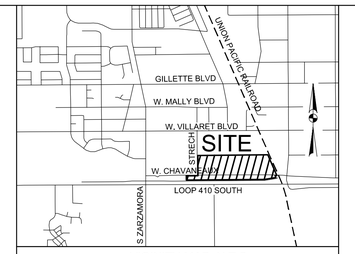
JOB No. 250503-01-001

SHEET NO. C0.3

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PLAT.dwg, C0.3 PLAT SHT 2 OF 2, March 02, 2026, 9:01 AM, ahernandez







VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

DEMOLITION LEGEND

SHADED AREA REPRESENTS ALL EXISTING CONCRETE CURBS AND PAVEMENT TO BE REMOVED AS SHOWN HEREON.

EXISTING TREES TO BE REMOVED

EXISTING TREES TO REMAIN

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's **below.** **Call** before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnack@bowman.com
www.bowmanconsulting.com

REVISIONS	DESCRIPTION	DATE
REVISION		

EXISTING CONDITIONS AND DEMO PLAN

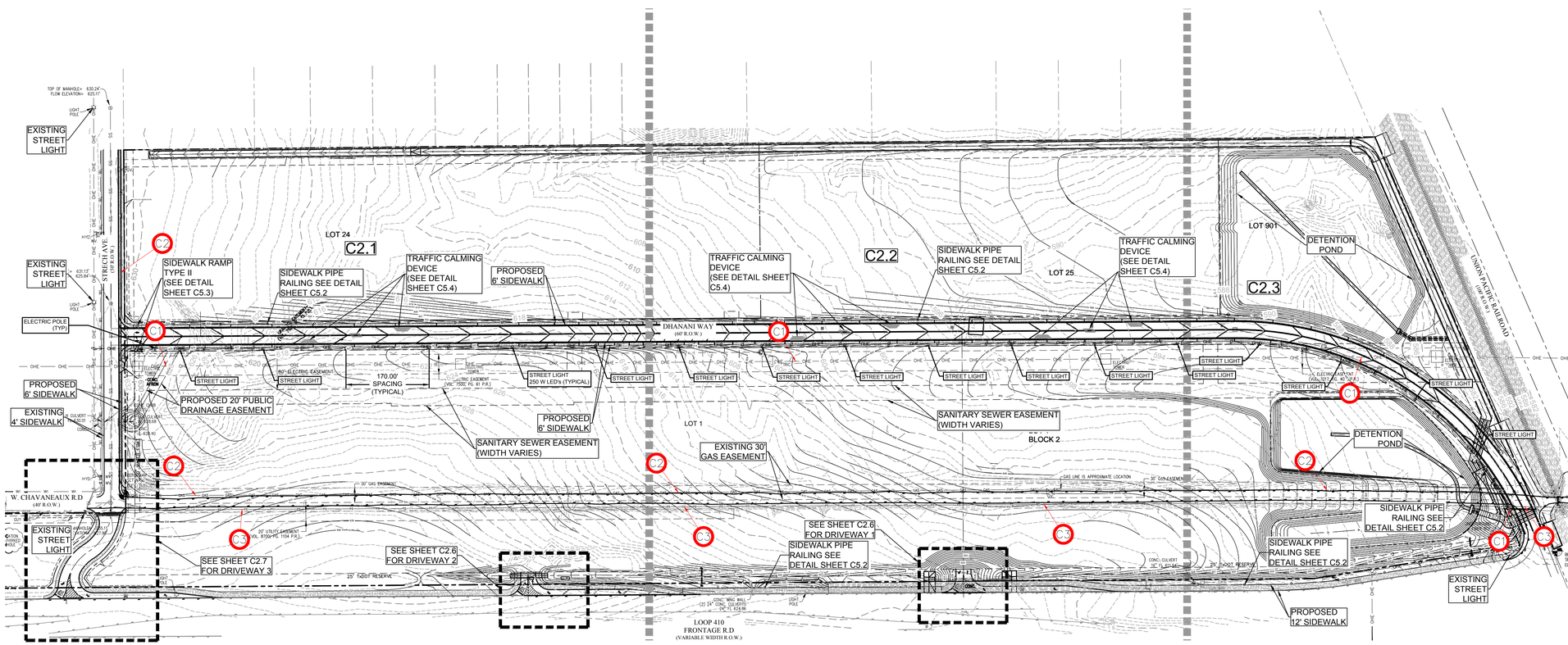
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 4 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/04/2026
SCALE: 1" = 120'
JOB No. 250503-01-001
SHEET NO. **C1.0**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\EXISTING CONDITIONS & DEMO PLAN.dwg, C1.0, March 04, 2026, 10:58 AM, acastillo



VICINITY MAP: N.T.S.

120 0 120 240

SCALE: 1 INCH = 120FT

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

GENERAL NOTES:

1. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY MLA LABS, DATED JANUARY 2024, REF SHEET C.X.X FOR ROAD CROSS SECTIONS.
2. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
3. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
4. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC, & PT, AND RAMPS CROSSINGS.
5. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET, INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
6. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
7. ALL STREET LIGHTS ARE TO BE 250W LED's.

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowmanconsulting.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

OVERALL STREET PLAN - DHANANI WAY

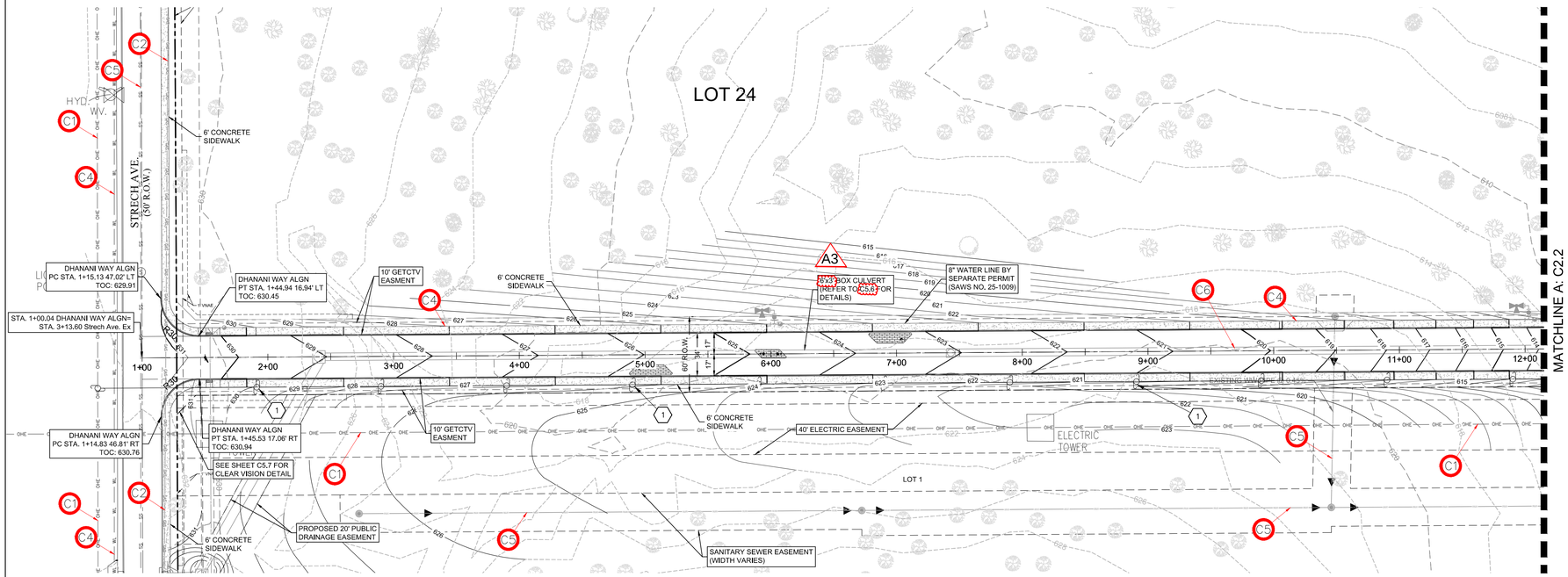
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1" = 120'
JOB No. 250503-01-001
SHEET NO. **C2.0**

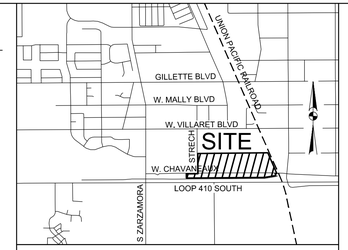
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL STREET PLAN.dwg, C2.0, March 06, 2026, 1:03 PM, mlandon



SCALE: 1 INCH = 50 FT

KEYNOTES

1. STREET LIGHTS TO BE INSTALLED @ 400' MAXIMUM ON PROPOSED POWER POLES. EXACT LOCATION TO BE DETERMINED BY CPS.



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

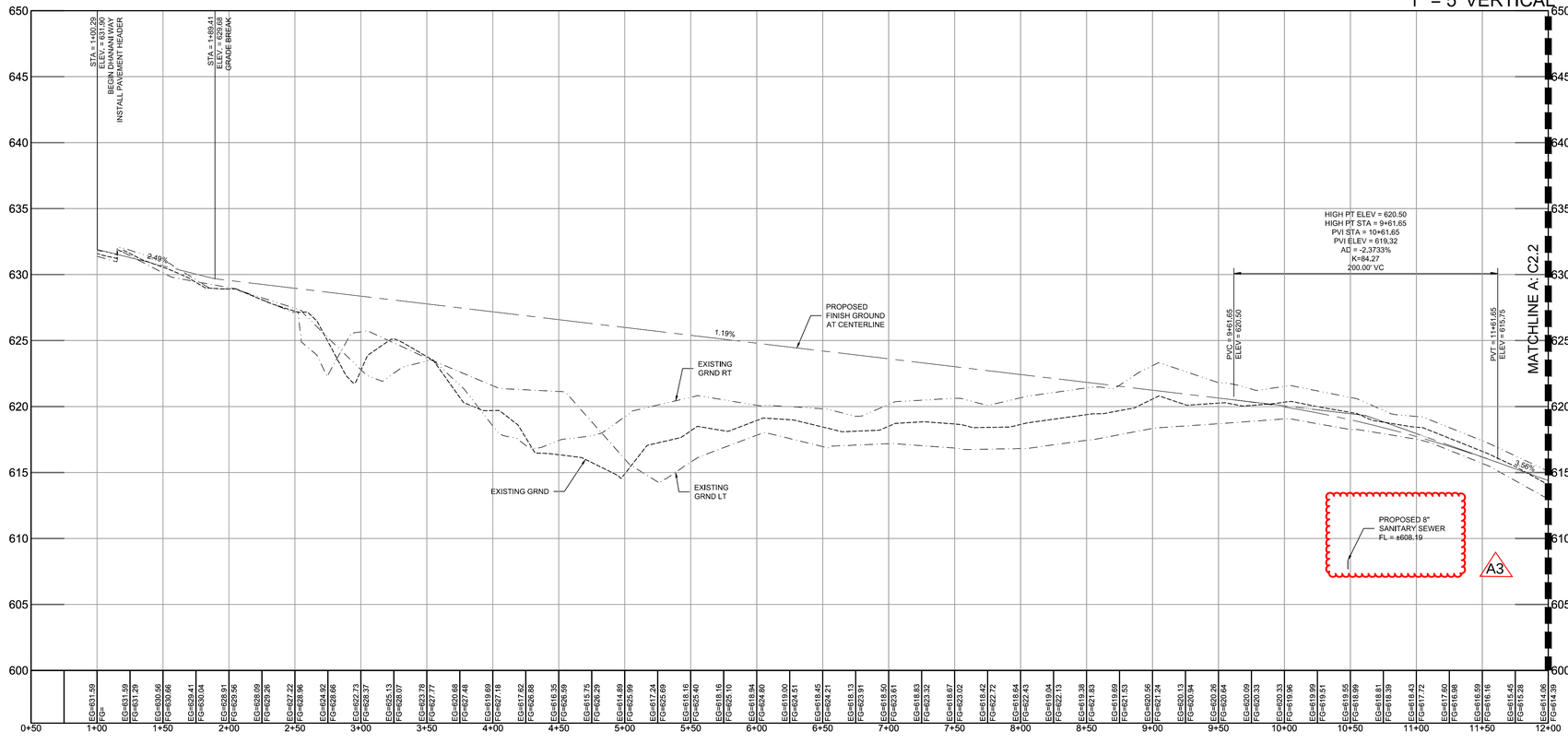
57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED LIGHT POLE

DHANANI WAY
STA: 1+00.00 - STA: 12+00.0

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



CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS (AE), LLC, DATED DECEMBER 13, 2024, REF SHEET C2.53 FOR ROAD CROSS SECTIONS.
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET. INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP, 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003932
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

DHANANI WAY PLAN & PROFILE 1+00 - 12+00

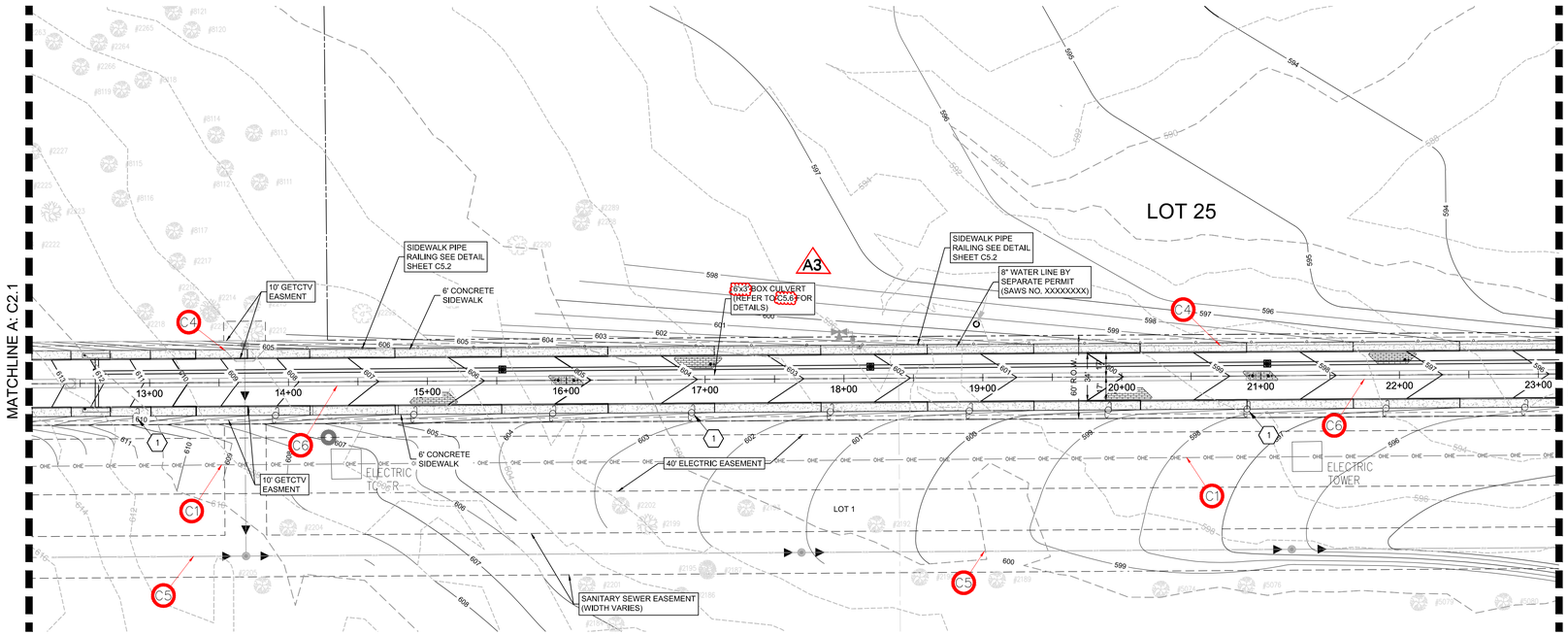
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

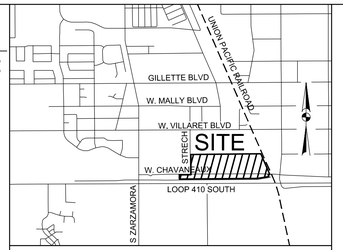
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C2.1

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\DHANANI WAY PLAN & PROFILE.dwg, C2.1, March 02, 2026, 4:01 PM, acastillo





VICINITY MAP: N.T.S.

KEYNOTES

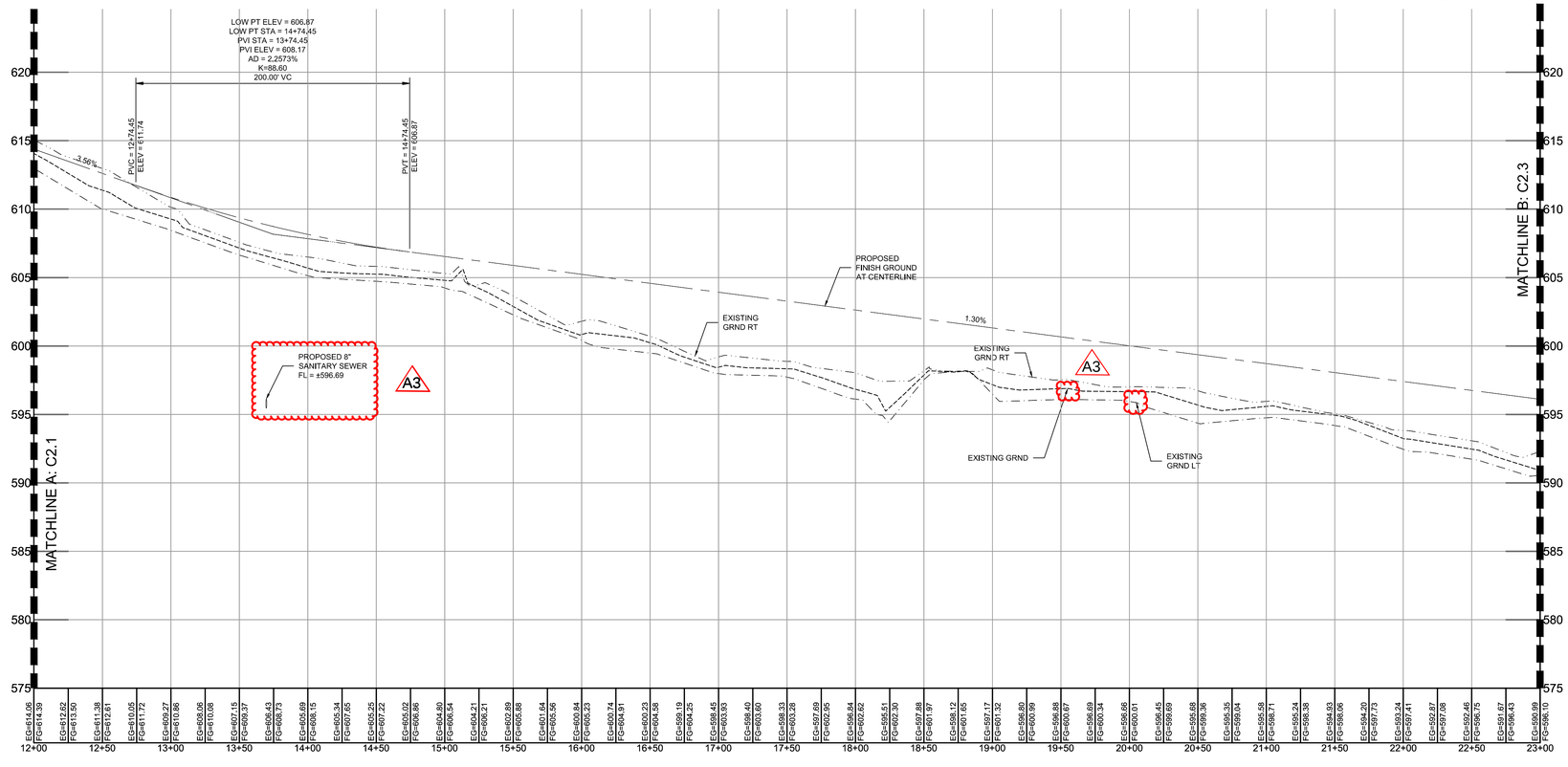
1. *STREET LIGHTS TO BE INSTALLED @ 400' MAXIMUM ON PROPOSED POWER POLES. EXACT LOCATION TO BE DETERMINED BY CPS.*

50 0 50 100

SCALE: 1 INCH = 50 FT

DHANANI WAY
STA: 12+00.00 - STA: 23+00.0

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



FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED LIGHT POLE

CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS (AE), LLC, DATED DECEMBER 13, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS.
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC, & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET. INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP. 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

DHANANI WAY PLAN & PROFILE 12+00 - 23+00

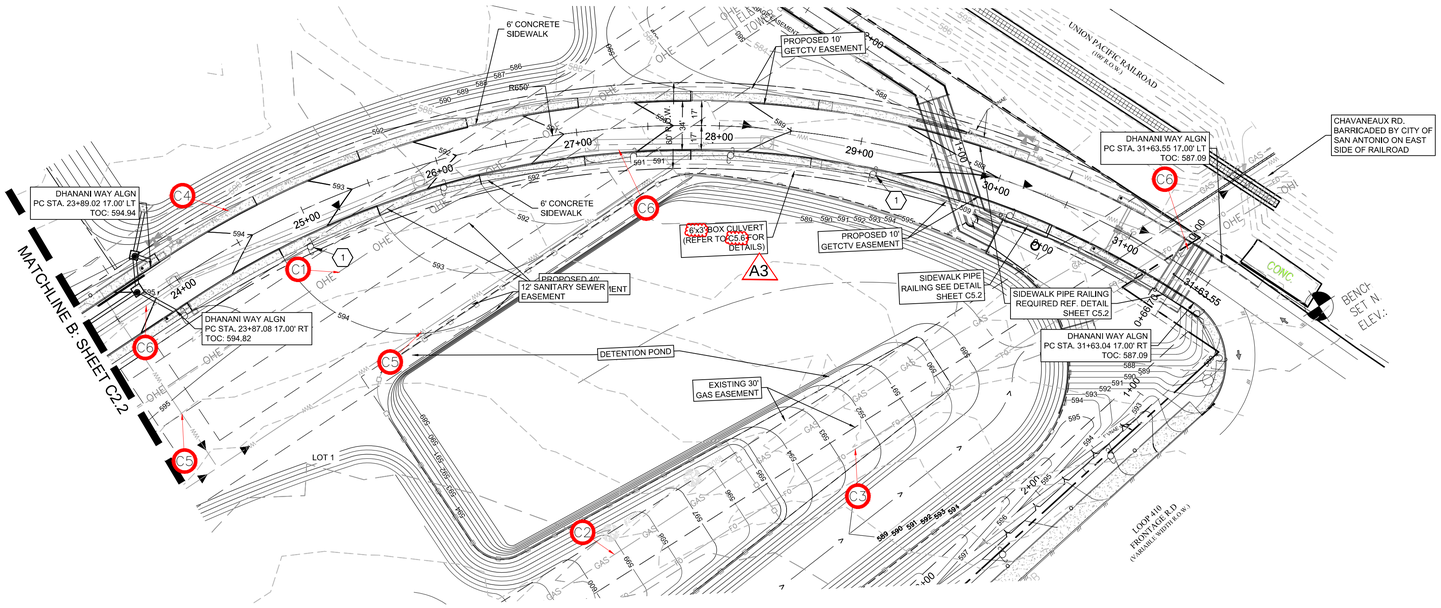
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

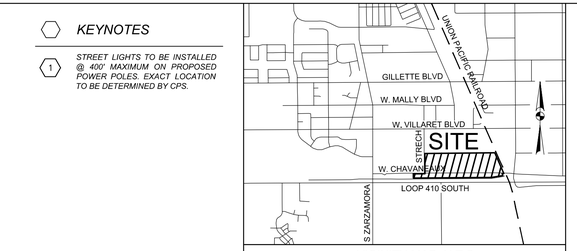
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C2.2

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\DHANANI WAY PLAN & PROFILE.dwg, C2.2, March 06, 2026, 9:13 PM, acastillo





VICINITY MAP: N.T.S.

KEYNOTES

1. *STREET LIGHTS TO BE INSTALLED @ 400' MAXIMUM ON PROPOSED POWER POLES. EXACT LOCATION TO BE DETERMINED BY CPS.*

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

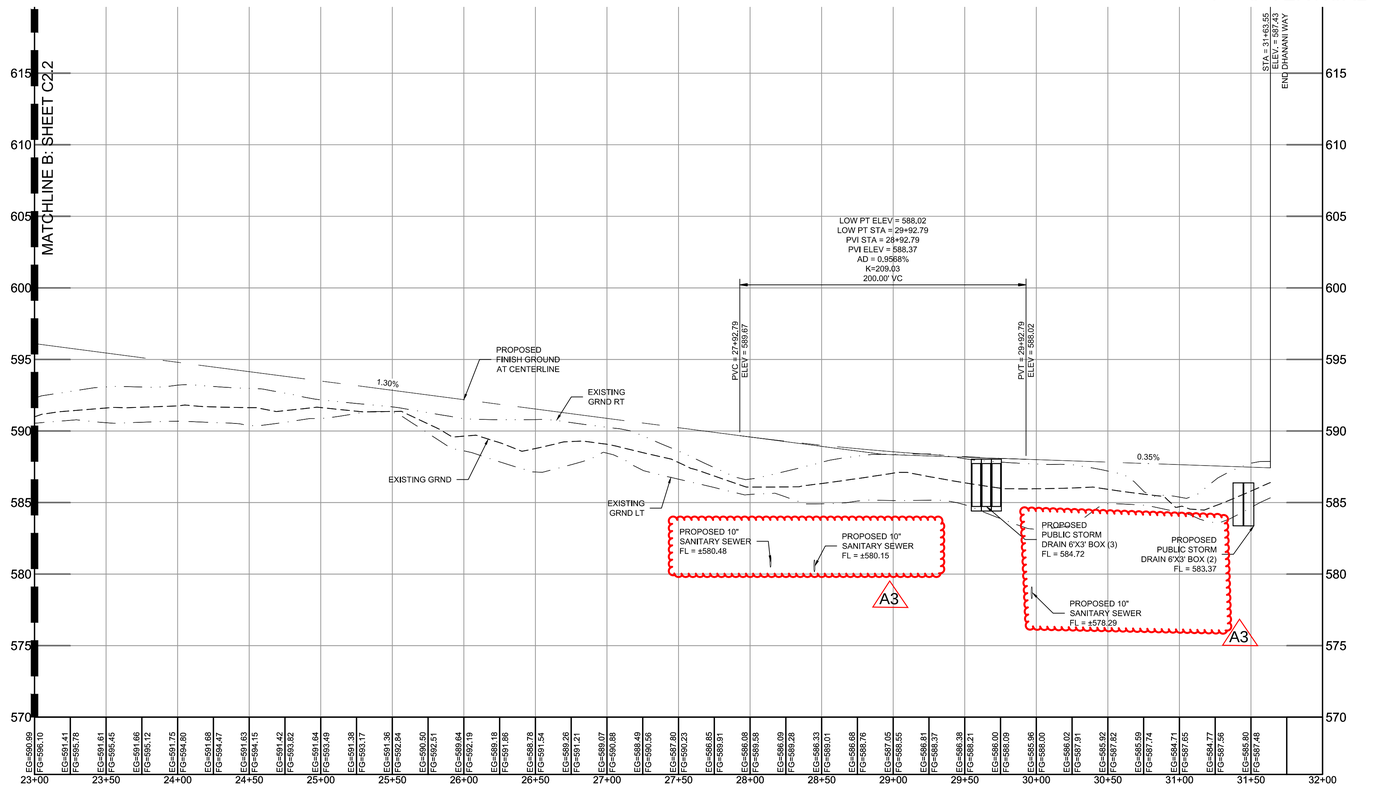
50 0 50 100
SCALE: 1 INCH = 50 FT

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- OHE — EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED LIGHT POLE

DHANANI WAY
STA: 23+00.00 - END

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



CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS (AE), LLC, DATED DECEMBER 13, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS.
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET. INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP, 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600) CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 202 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

DHANANI WAY PLAN & PROFILE 23+00 - END

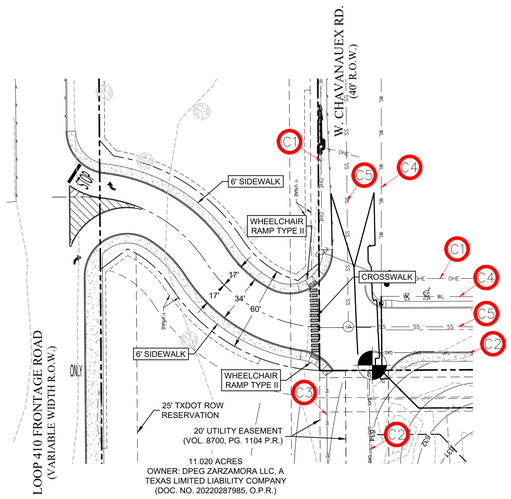
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

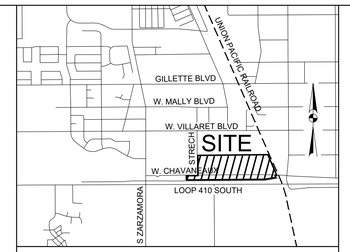
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. **C2.3**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\DHANANI WAY PLAN & PROFILE.dwg, C2.3, March 06, 2026, 9:36 PM, acastillo





VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

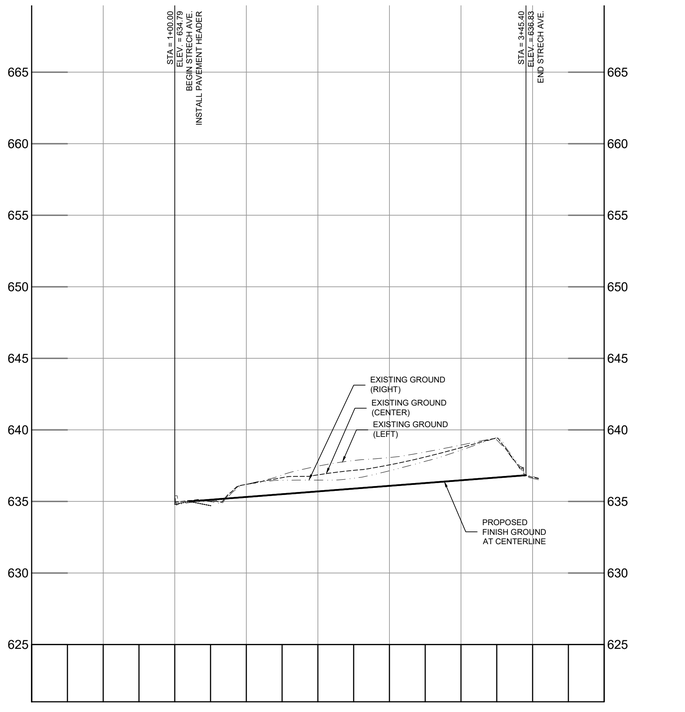
LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- 100 PROPOSED CONTOURS
- 100 EXISTING CONTOURS
- OHE OHE EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED LIGHT POLE

50 0 50 100
SCALE: 1 INCH = 50 FT

STRECH AVE.
STA: 1+00.00 - END

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



CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS (AE), LLC, DATED DECEMBER 13, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS.
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET, INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP, 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2026 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

STRECH AVE. PLAN & PROFILE 1+00 - END

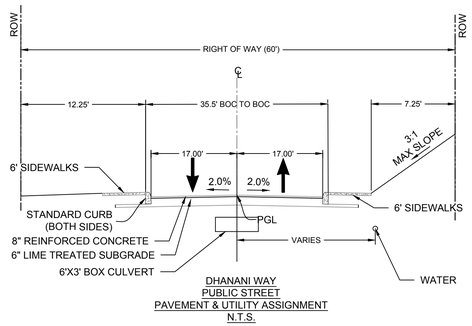
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

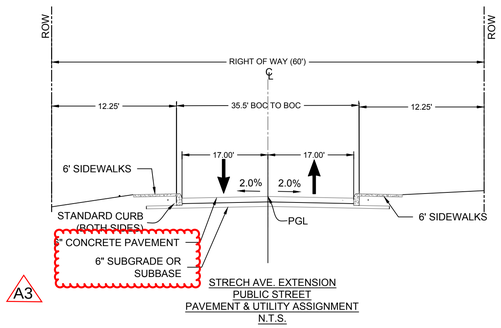
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C2.4

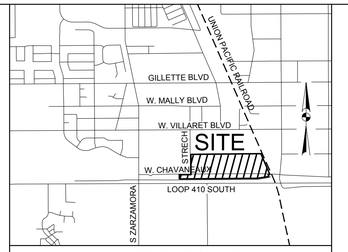
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STRECH AVE PLAN & PROFILE.dwg, C2.4, March 02, 2026, 9:04 AM, ahernandez



DHANANI WAY
PUBLIC STREET
PAVEMENT & UTILITY ASSIGNMENT
N.T.S.



STRECH AVE. EXTENSION
PUBLIC STREET
PAVEMENT & UTILITY ASSIGNMENT
N.T.S.



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

NOTES:

1. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS (AE), LLC, DATED DECEMBER 13, 2024.
2. GEOTECHNICAL ENGINEER TO BE ON SITE TO MAKE FINAL SUBGRADE DETERMINATION. CHANGE TO THIS PAVEMENT DESIGN SHALL BE SUBMITTED TO COSA-DSD PRIOR TO PLACEMENT OF BASE MATERIAL (A3)
3. REFER TO TABLE 9 FROM THE GEOTECHNICAL REPORT REFERENCED ON C2.6 FOR STRECH AVENUE

STREET NAME	ROW WIDTH	ROAD CLASSIFICATION
DHANANI WAY	60'	PUBLIC STREET
STRECH AVE. EXTENSION	60'	PUBLIC STREET

Know what's **below.** **Call** before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832
© 2026 Bowman Consulting Group, Ltd.
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

ROADWAY CROSS SECTIONS

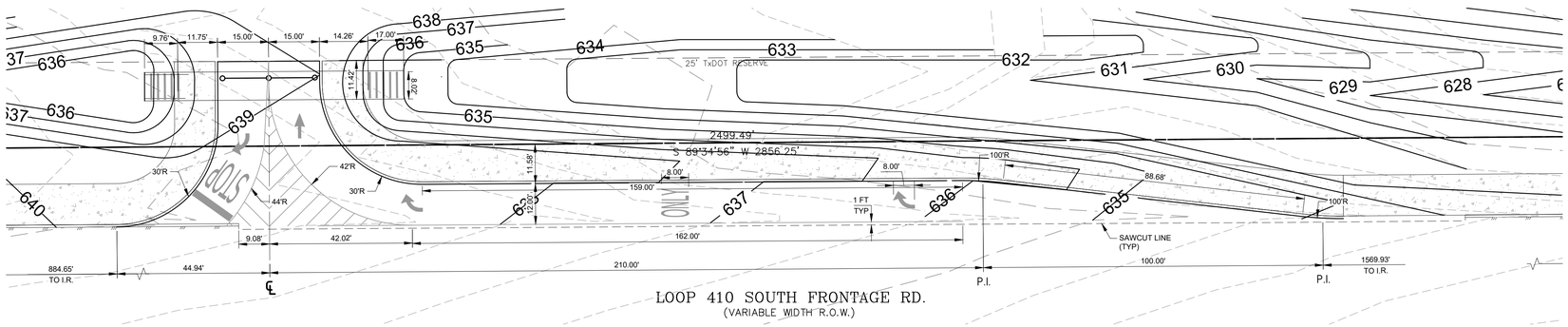
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

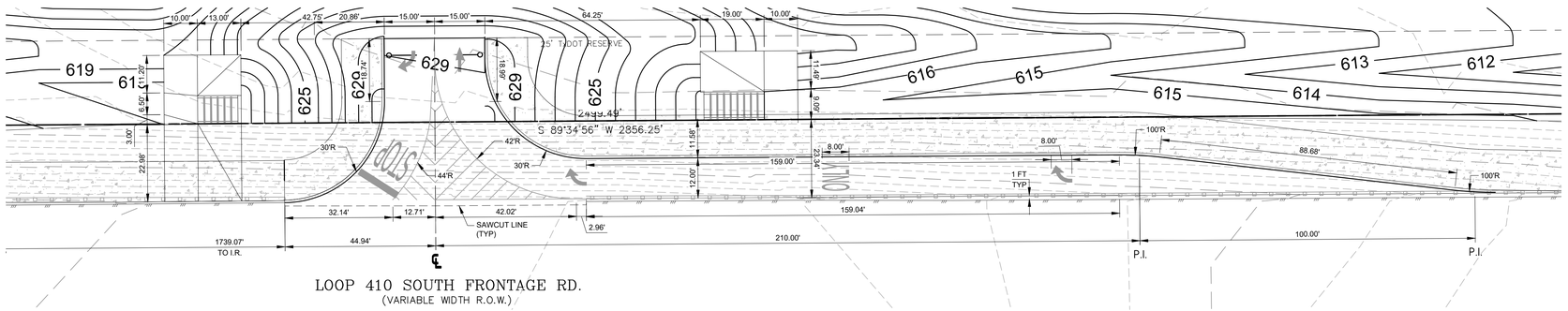
DATE: 03/06/2026
SCALE: *1" = 50'*
JOB No. 250503-01-001
SHEET NO. **C2.5**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STRECH AVE P-LAN & PROFILE.dwg, C2.5, March 06, 2026, 1:13 PM, mlandon



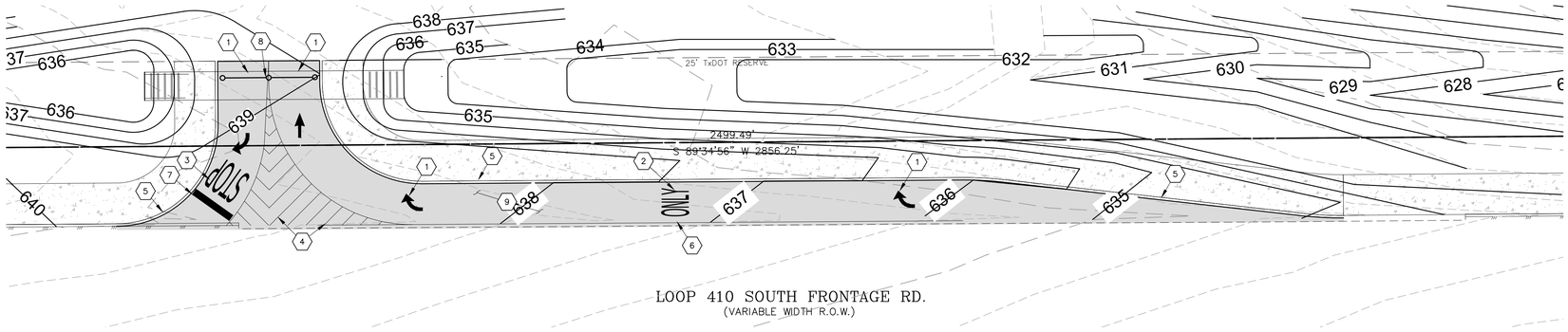
LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

DRIVEWAY '2' DIMENSIONAL CONTROL PLAN



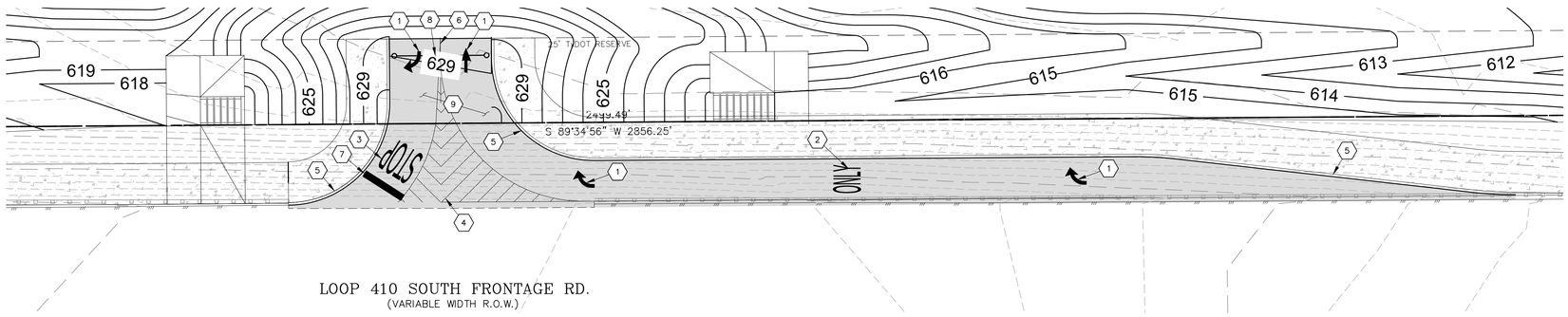
LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

DRIVEWAY '1' DIMENSIONAL CONTROL PLAN



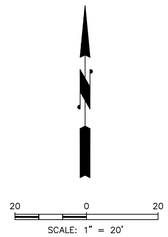
LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

DRIVEWAY '2' PAVING PLAN

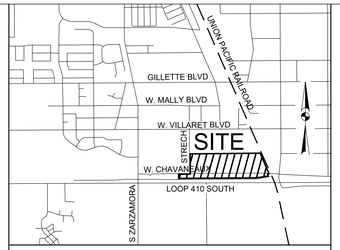


LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

DRIVEWAY '1' PAVING PLAN



20 0 20
SCALE: 1" = 20'



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

Table 9: Concrete Recommended Minimum Thicknesses

Pavement Materials	Car Parking Areas (inches)	Driveway & Heavy Truck Load Areas (inches)
Concrete	5	6
Subgrade or Subbase	6	6

A3

PAVING LEGEND

6" CONCRETE PAVEMENT A3

NOTES:
1. REFER TO GEOTECHNICAL REPORT BY OMEGA AE REPORT NO. 20024-035 PREPARED BY OMEGA ASSOCIATES & ENGINEERS, LLC FOR SUBGRADE PREPARATION.
2. SEE SHEET C0.1 FOR GENERAL PAVING NOTES AND TABLE 9 REFERENCED ON THIS SHEET FOR PAVING SECTIONS. A3

PAVING KEY NOTES

1. TRAFFIC FLOW ARROW (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
2. WORD "ONLY" PAVEMENT MARKING (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
3. WORD "STOP" PAVEMENT MARKING (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
4. 45 DEGREE 8" SOLID WHITE LINE PAVEMENT MARKING (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
5. TYPE II TxDOT CURB AND GUTTER (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
6. 8" SOLID WHITE LINE (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
7. 24" SOLID WHITE STOP LINE (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
8. TYPE III TxDOT TRAFFIC BARRICADE (POST AND SKID). REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS.
9. 6" CONCRETE PAVEMENT. REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bestlock@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

DRIVEWAY DIMENSIONAL CONTROL & PAVING PLAN

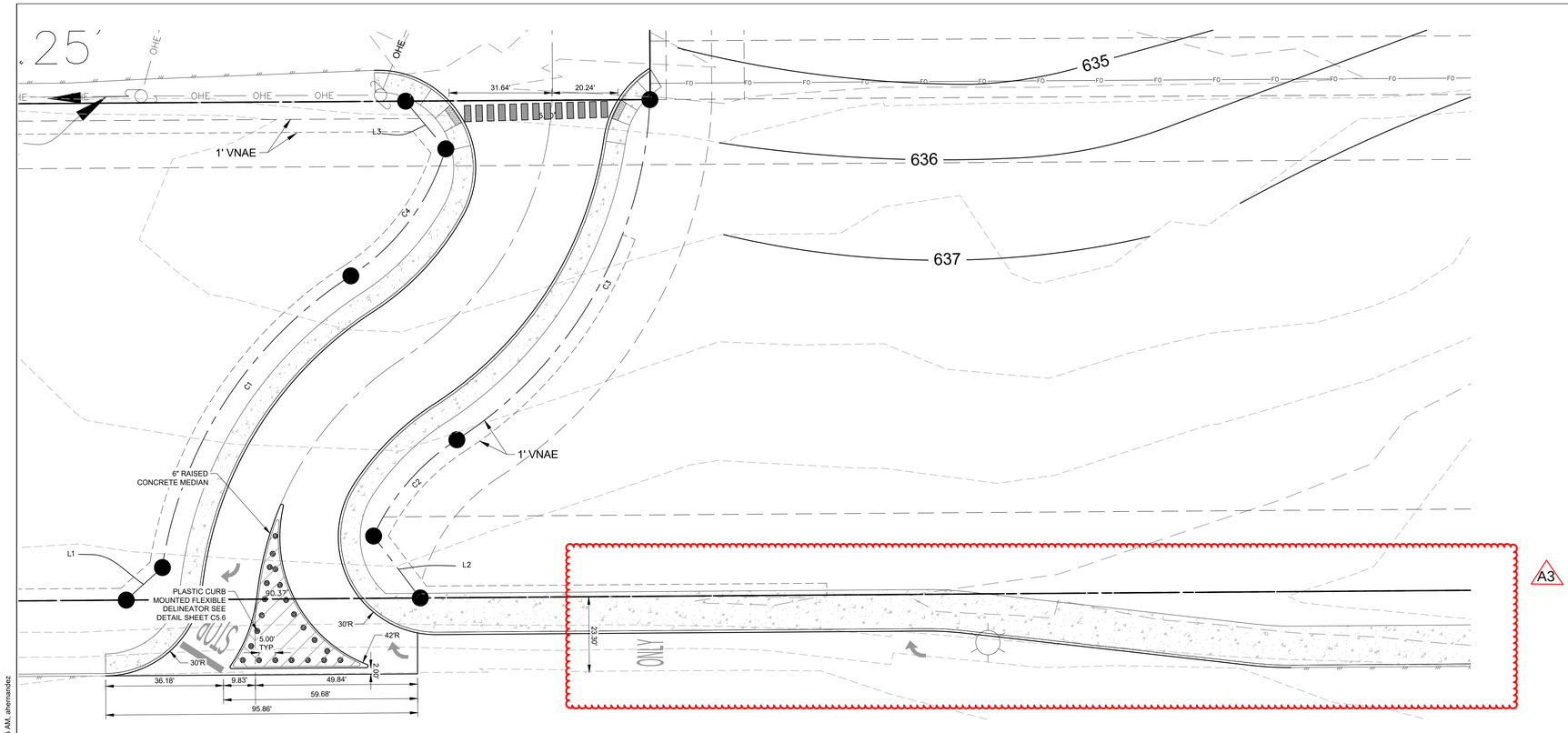
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

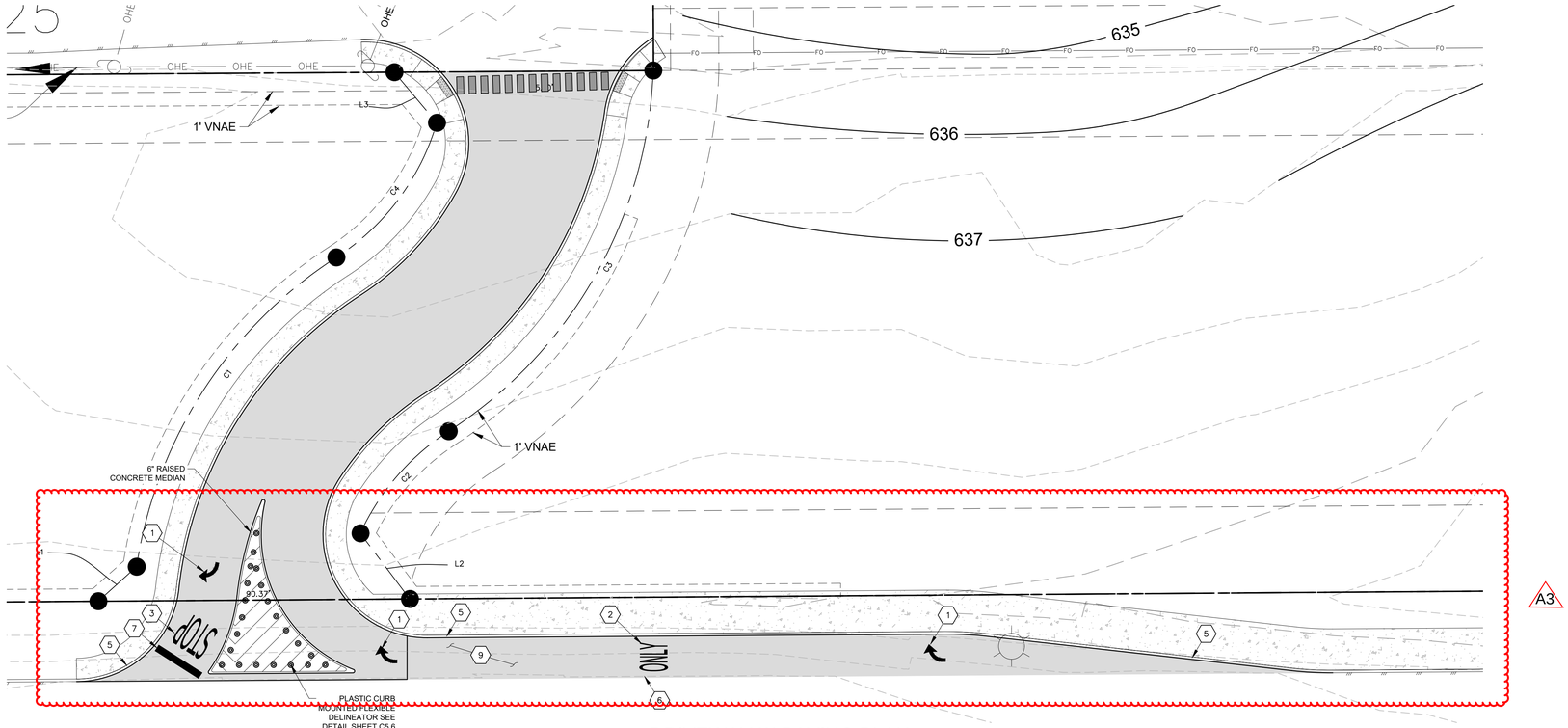
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=20'
JOB No. 250503-01-001
SHEET NO. **C2.6**

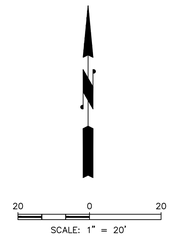
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PRIVATE SITE\C6.0 DIMENSIONAL CONTROL & PAVING PLAN.dwg, C2.6 DRIVEWAY DIMENSIONAL CONTROL & PAVING PLAN, March 02, 2026, 9:05 AM, ahernandez

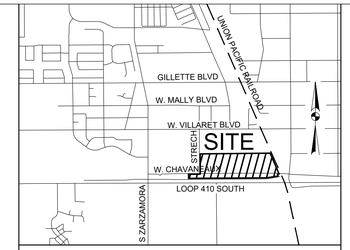


DRIVEWAY '3' DIMENSIONAL CONTROL PLAN



DRIVEWAY '3' PAVING PLAN





VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

Table 9: Concrete Recommended Minimum Thicknesses A3

Pavement Materials	Car Parking Areas (inches)	Driveway & Heavy Truck Load Areas (inches)
Concrete	5	6
Subgrade or Subbase	6	6

PAVING LEGEND

6" CONCRETE PAVEMENT A3

NOTES:
1. REFER TO GEOTECHNICAL REPORT BY OMEGA AE REPORT NO. 20024-035 PREPARED BY OMEGA ASSOCIATES & ENGINEERS, LLC FOR SUBGRADE PREPARATION.
2. SEE SHEET C0.1 FOR GENERAL PAVING NOTES AND TABLE 9 REFERENCED ON THIS SHEET FOR PAVING SECTIONS. A3

PAVING KEY NOTES

1. TRAFFIC FLOW ARROW (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
2. WORD "ONLY" PAVEMENT MARKING (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
3. WORD "STOP" PAVEMENT MARKING (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
4. 45 DEGREE 8" SOLID WHITE LINE PAVEMENT MARKING (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
5. TYPE II TxDOT CURB AND GUTTER (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
6. 8" SOLID WHITE LINE (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
7. 24" SOLID WHITE STOP LINE (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
8. TYPE III TxDOT TRAFFIC BARRICADE (POST AND SKID). REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS.
9. 6" CONCRETE PAVEMENT. REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Know what's **below.** **Call** before you dig.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Site 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bestock@bowman.com
www.bowmanconsulting.com

© 2023 Bowman Consulting Group, Ltd.

REVISIONS

REVISION	DESCRIPTION	DATE

DRIVEWAY DIMENSIONAL CONTROL & PAVING PLAN

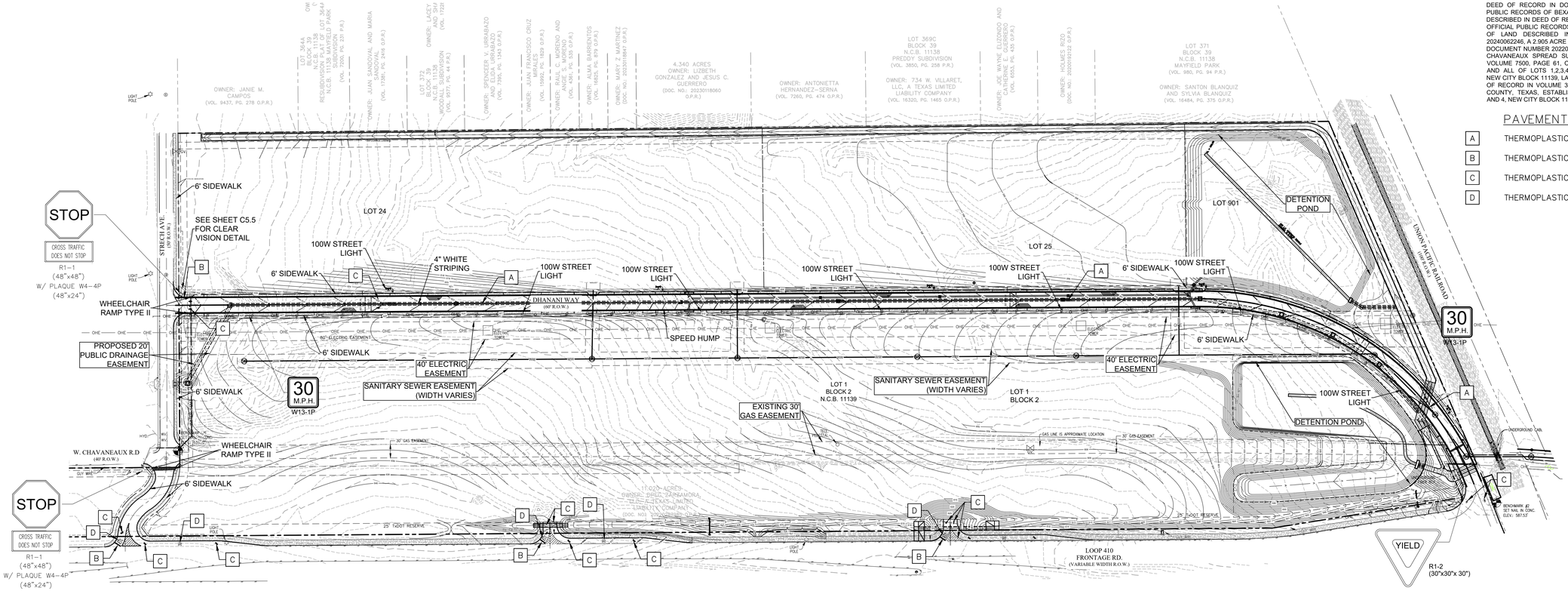
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=20'
JOB No. 250503-01-001
SHEET NO. **C2.7**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PRIVATE SITE\C6.0 DIMENSIONAL CONTROL & PAVING PLAN.dwg, C2.7 DRIVEWAY DIMENSIONAL CONTROL & PAVING PLAN, March 02, 2026, 9:05 AM, ahernandez



VICINITY MAP: N.T.S.

120 0 120 240

SCALE: 1 INCH = 120FT

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

PAVEMENT MARKING LEGEND

A	THERMOPLASTIC PAV MRK TY I (Y) (4")(2) (SOLID)
B	THERMOPLASTIC PAV MRK TY I (W) (24") (SOLID)
C	THERMOPLASTIC PAV MRK TY I (W) (ARROW)
D	THERMOPLASTIC PAV MRK TY I (W) (WORD)

NOTES:

GEOTECHNICAL ENGINEER TO BE ON SITE TO MAKE FINAL SUBGRADE DETERMINATIONS. CHANGES TO THIS PAVEMENT DESIGN SHALL BE SUBMITTED TO COSA-DSD PRIOR TO PLACEMENT OF BASE MATERIAL.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2026 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 202 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

OVERALL SIGNAGE AND STRIPING PLAN

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE:
JOB No. 250503-01-001
SHEET NO. **C3.0**

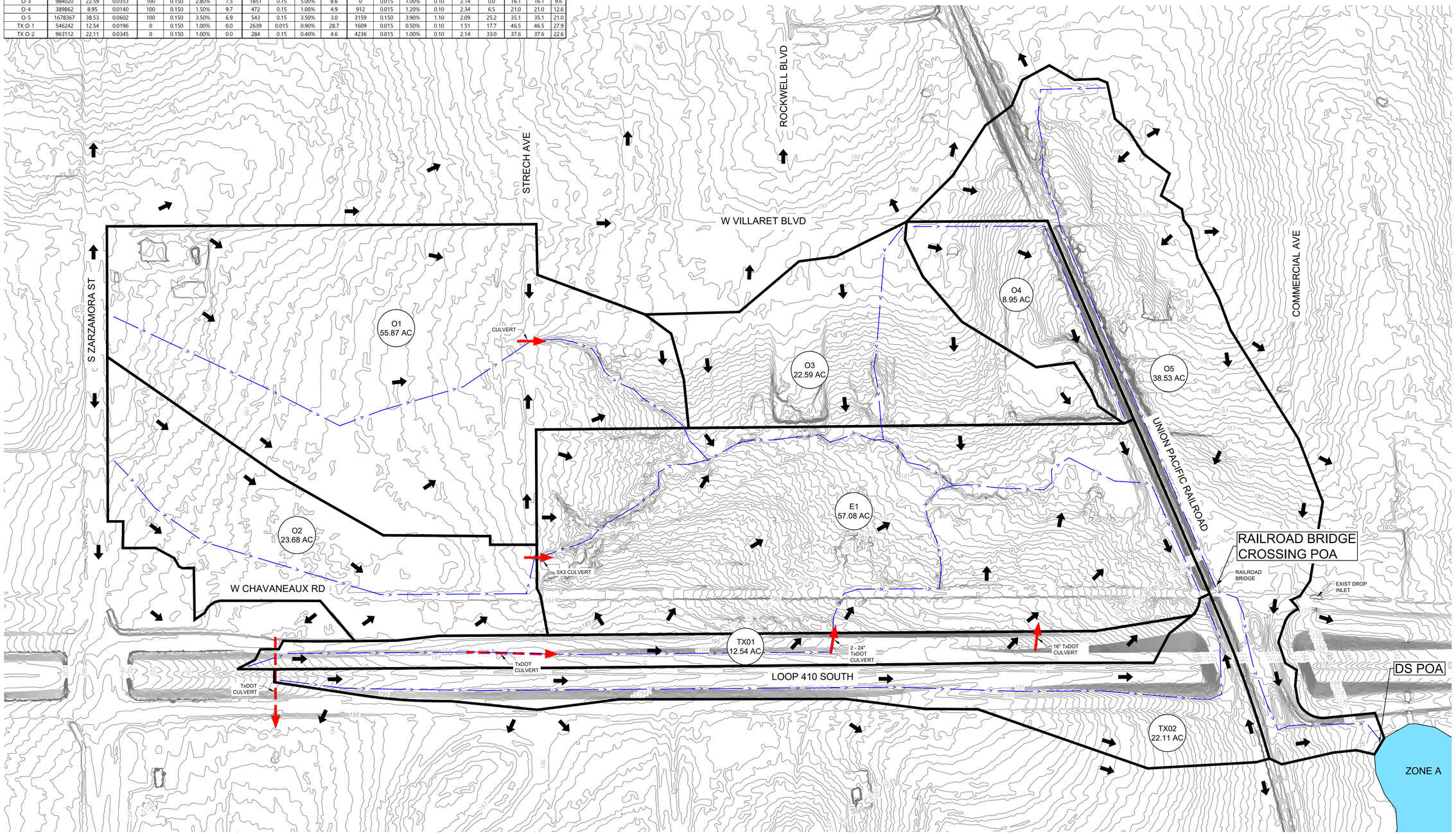
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\SIGNAGE AND PAVEMENT PLAN.dwg, C3.0, March 02, 2026, 9:05 AM, ahernandez

Table 1: Existing Conditions

Basin	Area (ac)	Area (sf)	Area (sq mi)	Impervious Cover (sf)	Impervious Cover (%)	Cn Value	Lag Time (min)	HEC-HMS Results 1 YR Event (cfs)	5YR Event (cfs)	25 YR Event (cfs)	100 YR Event (cfs)
E-1	57.08	2486405	0.089187	61942.32	2.5%	72.9	34.20	32.6	81.9	150.0	213.9
O-1	55.87	2433697	0.087297	632534.76	26.0%	78.0	28.20	64.6	121.5	194.0	259.4
O-2	23.68	1031501	0.037000	118091.16	11.4%	78.0	18.60	29.8	60.4	99.5	134.4
O-3	22.59	984020	0.035297	205254.72	20.9%	77.3	9.60	42.3	81.6	132.4	177.3
O-4	8.95	389862	0.013984	255174.48	65.5%	77.5	12.60	22.2	35.3	51.8	66.4
TX O-1	12.54	546242	0.019594	438126.48	80.2%	73.3	27.90	22.2	34.1	49.1	62.6
TX O-2	22.11	963112	0.034547	329008.68	34.2%	72.0	22.60	26.8	50.6	82.1	111.1
							Railroad Culvert	**196.1**	**384.7**	**631.8**	**858.3**
O-5	38.53	1678367	0.060203	1499248.08	89.3%	75.2	21.00	86.5	128.8	181.5	228.6
							DS POA	**281.6**	**512.4**	**812.0**	**1085.4**

***DEPG Zarzamora* - Rational Method Calculations**

BASIN	AREA			SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNEL FLOW						Increm TC	TC Total	Lag
				L	n	S	Tc	L	n	S	Tc	L	n	S	R	V	Tc			
	sf	ac	sq mi	ft		%	min	ft		%	min	ft		%		fps	min	min	min	min
E-1	2486405	57.08	0.0892	100	0.150	1.00%	11.4	3482	0.15	0.62%	45.7	0	0.015	1.00%	0.10	2.14	0.0	57.0	57.0	34.2
O-1	2433697	55.87	0.0873	100	0.150	0.50%	15.0	2716	0.15	0.77%	32.0	0	0.015	1.00%	0.10	2.14	0.0	47.0	47.0	28.2
O-2	1031501	23.68	0.0370	100	0.150	0.50%	15.0	1240	0.15	1.50%	10.5	790	0.015	1.20%	0.10	2.34	5.6	31.1	31.1	18.6
O-3	984020	22.59	0.0353	100	0.150	2.80%	7.5	1851	0.15	5.00%	8.6	0	0.015	1.00%	0.10	2.14	0.0	16.1	16.1	9.6
O-4	389862	8.95	0.0140	100	0.150	1.50%	9.7	472	0.15	1.00%	4.9	912	0.015	1.20%	0.10	2.34	6.5	21.0	21.0	12.6
O-5	1678367	38.53	0.0602	100	0.150	3.50%	6.9	543	0.15	3.50%	3.0	3159	0.150	3.90%	1.10	2.09	25.2	35.1	35.1	21.0
TX O-1	546242	12.54	0.0196	0	0.150	1.00%	0.0	2639	0.015	0.90%	28.7	1609	0.015	0.50%	0.10	1.51	17.7	46.5	46.5	27.9
TX O-2	963112	22.11	0.0345	0	0.150	1.00%	0.0	284	0.15	0.40%	4.6	4236	0.015	1.00%	0.10	2.14	33.0	37.6	37.6	22.6



LEGEND

- (1) DESIGN CALCULATION POINT
- E1 DRAINAGE AREA
- DRAINAGE AREA BOUNDARY
- Tc FLOW PATH
- SITE BOUNDARY

200 0 200

SCALE: 1" = 200'

Bowman

TBPE Firm Registration No. F-003832

8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229

Phone: (210) 298-1600
EMAIL: bestrock@bowman.com
www.bowmanconsulting.com

© 2023 Bowman Consulting Group, Ltd.

REVISIONS

REVISION	DESCRIPTION	DATE

EXISTING CONDITIONS DRAINAGE AREA MAP

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026

SCALE: 1"=200'

JOB No. 250503-01-001

SHEET NO. **C4.0**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\Exhibits\Exist DAM.dwg, C4.0 EXISTING DRAINAGE AREA MAP, March 02, 2026, 9:07 AM, ahernandez

Table 2: Proposed Conditions

Basin	Area (ac)	Area (sf)	Area (sq mi)	Impervious Cover (sf)	Impervious Cover (%)	Cn Value	Lag Time (min)	HEC-HMS Results 1 YR Event (cfs)	5 YR Event (cfs)	25 YR Event (cfs)	100 YR Event (cfs)
P-1	23.29	1014512	0.03639	547384	54.0%	74.4	5.00	71.6	120.3	184.0	240.5
P-2	29.66	1291990	0.04634	691418	53.5%	72.1	5.00	87.5	148.4	229.4	301.8
P-3	3.13	136452	0.00489	102935	75.4%	73.5	6.60	10.5	16.3	23.9	30.5
UC-1	1.00	43560	0.00156	34031	78.1%	71.0	3.00	4.2	6.4	9.4	12.0
O-1	55.87	2433697	0.08730	632535	26.0%	78.0	28.20	64.6	121.5	194.0	259.4
O-2	23.68	1031501	0.03700	118091	11.4%	78.0	18.60	29.8	60.4	99.5	134.4
O-3	22.59	984020	0.03530	205255	20.9%	77.3	9.60	42.3	81.6	132.4	177.3
O-4	8.95	389862	0.01398	255174	65.5%	77.5	12.60	22.2	35.3	51.8	66.4
TX O-1	12.54	546242	0.01959	438126	80.2%	73.3	27.90	22.2	34.1	49.1	62.6
TX O-2	22.11	963112	0.03455	329009	34.2%	72.0	22.60	26.8	50.6	82.1	111.1
							Railroad Culvert	**182.1**	**339.1**	**549.7**	**799.8**
O-5	38.53	1678367	0.06020	1499248.08	89.3%	75.2	21.00	86.5	128.8	181.5	228.6
							DS POA	**268.6**	**467.9**	**731.2**	**1027.8**

Table 2A: Proposed Conditions - Change in Runoff (Exist vs Prop)

POINT OF ANALYSIS	EXIST (cfs)	PROP (cfs)	DECREASE IN FLOW (cfs)	FREQ. (yr)
Railroad Bridge Crossing	196.1	182.1	**14.0**	1
	384.7	339.1	**45.6**	5
	631.8	549.7	**82.1**	25
	858.3	799.8	**58.5**	100
DS POA	281.6	268.6	**13.0**	1
	512.4	467.9	**44.5**	5
	812.0	731.2	**80.8**	25
	1085.4	1027.8	**57.6**	100

Detention Pond A (24 hr Storm)

ULT FLOW (cfs)	PROP FLOW (cfs)	POND RELEASE (cfs)	DELTA FLOW (cfs)	≤ EXIST	FREQ (yr)
81.7	81.7	1.1	-80.6	Y	1
135.9	135.9	2.3	-133.6	Y	5
207.0	207.0	15.5	-191.5	Y	25
269.9	269.9	39.7	-230.2	Y	100

Detention Pond B (24 hr Storm)

ULT FLOW (cfs)	PROP FLOW (cfs)	POND RELEASE (cfs)	DELTA FLOW (cfs)	≤ PROP	FREQ (yr)
87.5	87.5	6.5	-81.0	Y	1
148.4	148.8	14.6	-133.8	Y	5
229.4	229.4	29.6	-199.8	Y	25
301.8	301.8	76.7	-225.1	Y	100

***DEPG Zarzamora* - Rational Method Calculations**

BASIN	AREA sf	AREA ac	AREA sq mi	SHEET FLOW L ft	SHEET FLOW n	SHEET FLOW S %	SHEET FLOW Tc min	SHALLOW CONCENTRATED FLOW L ft	SHALLOW CONCENTRATED FLOW n	SHALLOW CONCENTRATED FLOW S %	SHALLOW CONCENTRATED FLOW Tc min	CHANNEL FLOW L ft	CHANNEL FLOW n	CHANNEL FLOW S %	CHANNEL FLOW R	CHANNEL FLOW V fps	CHANNEL FLOW Tc min	Increm TC min	TC Total min	Lag min
P-1	975178	23.29	0.0350	100	0.015	3.00%	1.2	285	0.015	3.00%	1.7	1595	0.015	5.00%	0.10	4.79	5.6	8.4	8.4	5.0
P-2	1480387	29.66	0.0531	100	0.015	2.50%	1.2	290	0.015	3.50%	1.6	1510	0.015	4.50%	0.10	4.54	5.5	8.4	8.4	5.0
P-3	136452	3.13	0.0049	0	0.015	2.50%	0.0	0	0.015	2.50%	0.0	2154	0.015	2.30%	0.10	3.25	11.1	11.1	11.1	6.6
UC-1	43560	1.00	0.0016	0	0.015	1.50%	0.0	0	0.015	2.50%	0.0	590	0.015	2.30%	0.10	3.25	3.0	3.0	5.0	3.0
O-1	2433697	55.87	0.0873	100	0.150	0.50%	15.0	2716	0.15	0.77%	32.0	0	0.015	1.00%	0.10	2.14	0.0	47.0	47.0	28.2
O-2	1031501	23.68	0.0370	100	0.150	0.50%	15.0	1240	0.15	1.50%	10.5	790	0.015	1.20%	0.10	2.34	5.6	31.1	31.1	18.6
O-3	984020	22.59	0.0353	100	0.150	2.80%	7.5	1851	0.15	5.00%	8.6	0	0.015	1.00%	0.10	2.14	0.0	16.1	16.1	9.6
O-4	389862	8.95	0.0140	100	0.150	1.50%	9.7	472	0.15	1.00%	4.9	912	0.015	1.20%	0.10	2.34	6.5	21.0	21.0	12.6
O-5	1678367	38.53	0.0602	100	0.150	3.50%	6.9	543	0.15	3.50%	3.0	3159	0.150	3.90%	1.10	2.09	25.2	35.1	35.1	21.0
TX O-1	546242	12.54	0.0196	0	0.150	1.00%	0.0	2639	0.015	0.90%	28.7	1609	0.015	0.50%	0.10	1.51	17.7	46.5	46.5	27.9
TX O-2	963112	22.11	0.0345	0	0.150	1.00%	0.0	284	0.15	0.40%	4.6	4236	0.015	1.00%	0.10	2.14	33.0	37.6	37.6	22.6

DETENTION WATER SURFACE ELEVATIONS

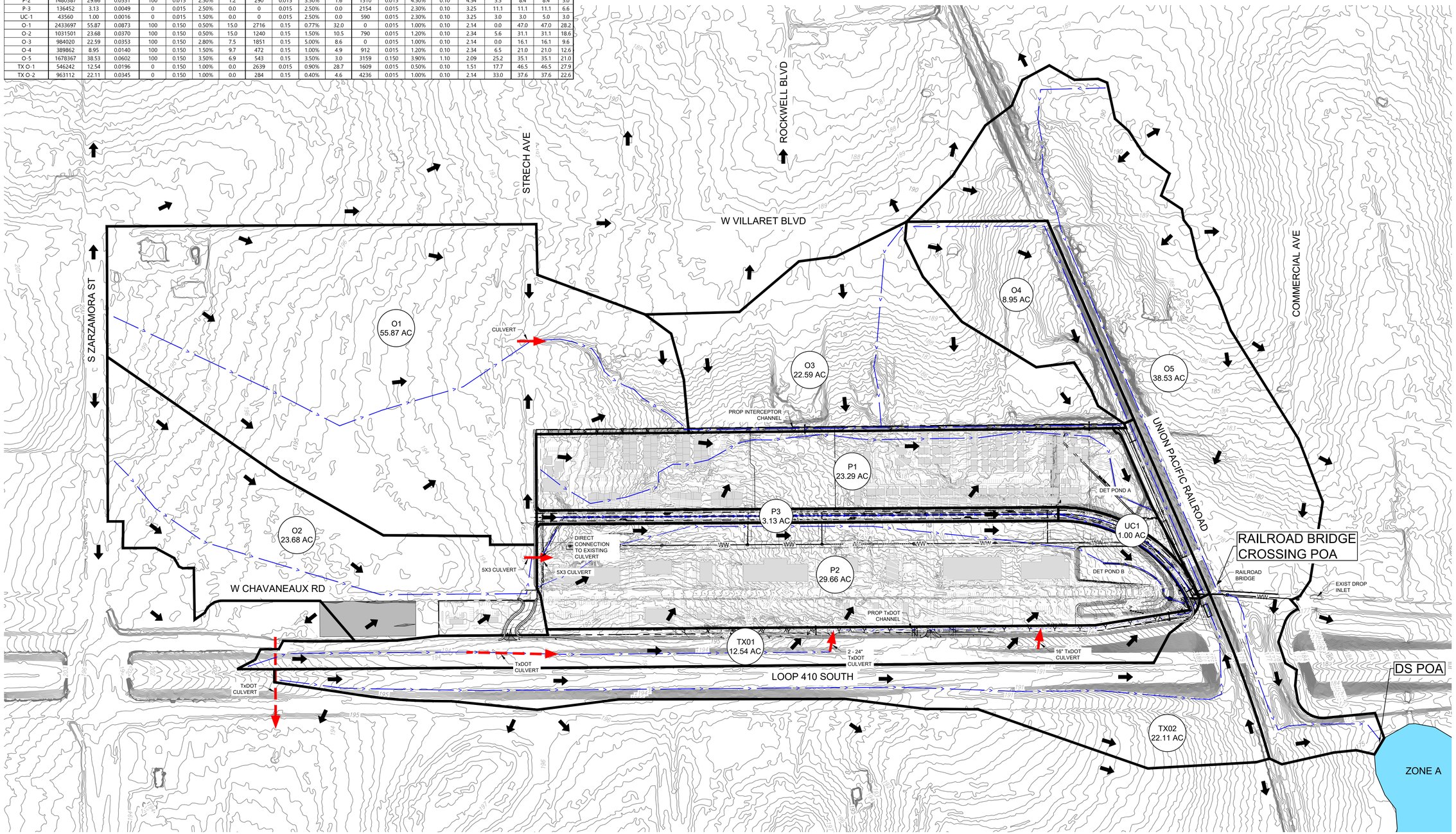
Facility	1-YEAR	5-YEAR	25-YEAR	100-YEAR
Pond A	587.5	588.7	589.8	590.7
Pond B	590.3	591.6	593.2	594.2

LEGEND

- ① DESIGN CALCULATION POINT
- P1 DRAINAGE AREA
- DRAINAGE AREA BOUNDARY
- Tc FLOW PATH
- SITE BOUNDARY

200 0 200

SCALE: 1" = 200'



Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 222 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bestbc@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

PROPOSED CONDITIONS DRAINAGE AREA MAP

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=200'
JOB No. 250503-01-001
SHEET NO. **C4.1**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\Exhibits\Prop DAM.dwg, C4.1 PROPOSED DRAINAGE AREA MAP March 02, 2026, 9:09 AM, ahernandez

Table 3: Ultimate Conditions

Basin	Hydrologic Parameters: Area (ac)	Area (sf)	Area (sq mi)	Impervious Cover (sf)	Impervious Cover (%)	Cn Value	Lag Time (min)	HEC-HMS Results: 1 YR Event (cfs)	5 YR Event (cfs)	25 YR Event (cfs)	100 YR Event (cfs)
P-1	23.29	1014512	0.03639	547384	54.0%	74.4	5.00	71.6	120.3	184.0	240.5
P-2	29.66	1291990	0.04634	691418	53.5%	72.1	5.00	87.5	148.4	229.4	301.8
P-3	3.13	136452	0.00489	102935	75.4%	73.5	6.60	10.5	16.3	23.9	30.5
UC-1	1.00	43560	0.00156	34031	78.1%	71.0	3.00	4.2	6.4	9.4	12.0
O-1	55.87	2433697	0.08730	632535	67.4%	78.0	28.20	92.0	146.5	214.5	275.6
O-2	23.68	1031501	0.03700	118091	73.5%	78.0	18.60	51.6	80.0	115.4	146.9
O-3	22.59	984020	0.03530	205255	65.0%	77.3	9.60	62.8	100.1	147.4	189.2
O-4	8.95	389862	0.01398	255174	65.0%	77.5	12.60	22.2	35.3	51.8	66.4
TX O-1	12.54	546242	0.01959	438126	80.2%	73.3	27.90	22.2	34.1	49.1	62.6
TX O-2	22.11	963112	0.03455	329009	34.2%	72.0	22.60	26.8	50.6	82.1	111.1
							Railroad Culvert	**237.8**	**389.9**	**592.8**	**850.4**
O-5	38.53	1678367	0.06020	1499248	89.3%	75.2	21.00	86.5	128.8	181.5	228.6
							DS POA	**324.0**	**518.5**	**773.6**	**1078.2**

Ultimate Conditions - Change in Runoff (Prop vs Ult)

POINT OF ANALYSIS	PROP (cfs)	ULT (cfs)	INCREASE IN FLOW (cfs)	FREQ. (yr)
Railroad Bridge Crossing	182.1	237.8	**55.7**	1
	339.1	389.9	**50.8**	5
	549.7	592.8	**43.1**	25
	789.8	850.4	**60.6**	100
DS POA	268.6	324.0	**55.4**	1
	467.9	518.5	**50.6**	5
	731.2	773.6	**42.4**	25
	1027.8	1078.2	**50.4**	100

DETENTION WATER SURFACE ELEVATIONS

Facility	1-YEAR	5-YEAR	25-YEAR	100-YEAR
Pond A	587.5	588.7	589.8	590.7
Pond B	590.3	591.6	593.2	594.2

Detention Pond A (6 hr Storm)

ULT FLOW TO POND (cfs)	POND RELEASE (cfs)	CONTAINED W/O OVER-TOPPING	FREQ (yr)
53.8	0.5	Y	1
102.9	1.0	Y	5
174.1	3.8	Y	25
251.8	16.5	Y	100

Detention Pond A (24 hr Storm)

ULT FLOW (cfs)	PROP FLOW (cfs)	POND RELEASE (cfs)	DELTA FLOW (cfs)	≤ EXIST	FREQ (yr)
81.7	81.7	1.1	-80.6	Y	1
135.9	135.9	2.3	-133.6	Y	5
207.0	207.0	15.5	-191.5	Y	25
269.9	269.9	39.7	-230.2	Y	100

Detention Pond B (6 hr Storm)

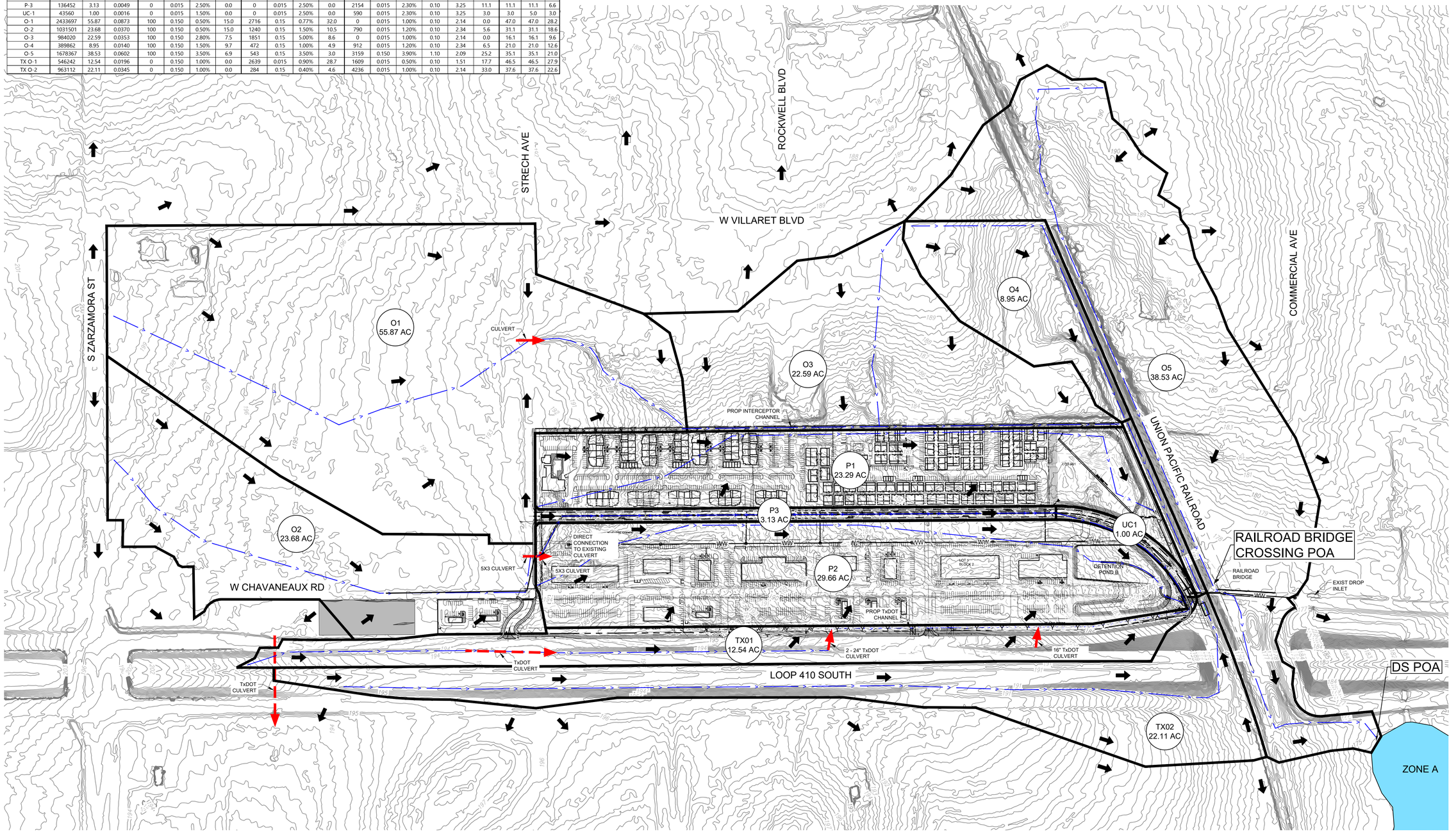
ULT FLOW TO POND (cfs)	POND RELEASE (cfs)	CONTAINED W/O OVER-TOPPING	FREQ (yr)
56.9	2.6	Y	1
110.9	6.7	Y	5
190.5	17.2	Y	25
276.2	35.8	Y	100

Detention Pond B (24 hr Storm)

ULT FLOW (cfs)	PROP FLOW (cfs)	POND RELEASE (cfs)	DELTA FLOW (cfs)	≤ PROP	FREQ (yr)
87.5	87.5	6.5	-81.0	Y	1
148.4	148.8	14.6	-133.8	Y	5
229.4	229.4	29.6	-199.8	Y	25
301.8	301.8	76.7	-225.1	Y	100

***DEPG Zarzamora* - Rational Method Calculations**

BASIN	AREA: sf	ac	sq mi	SHEET FLOW: L ft	n	S %	Tc min	SHALLOW CONCENTRATED FLOW: L ft	n	S %	Tc min	CHANNEL FLOW: L ft	n	S %	R	V fps	Tc min	Increm TC min	TC Total min	Lag min
P-1	975178	23.29	0.0350	100	0.015	3.00%	1.2	285	0.015	3.00%	1.7	1595	0.015	5.00%	0.10	4.79	5.6	8.4	8.4	5.0
P-2	1480387	29.66	0.0531	100	0.015	2.50%	1.2	290	0.015	3.50%	1.6	1510	0.015	4.50%	0.10	4.54	5.5	8.4	8.4	5.0
P-3	136452	3.13	0.0049	0	0.015	2.50%	0.0	0	0.015	2.50%	0.0	2154	0.015	2.30%	0.10	3.25	11.1	11.1	11.1	6.6
UC-1	43560	1.00	0.0016	0	0.015	1.50%	0.0	0	0.015	2.50%	0.0	590	0.015	2.30%	0.10	3.25	3.0	3.0	5.0	3.0
O-1	2433697	55.87	0.0873	100	0.150	0.50%	15.0	2716	0.15	0.77%	32.0	0	0.015	1.00%	0.10	2.14	0.0	47.0	47.0	28.2
O-2	1031501	23.68	0.0370	100	0.150	0.50%	15.0	1240	0.15	1.50%	10.5	790	0.015	1.20%	0.10	2.34	5.6	31.1	31.1	18.6
O-3	984020	22.59	0.0353	100	0.150	2.80%	7.5	1851	0.15	5.00%	8.6	0	0.015	1.00%	0.10	2.14	0.0	16.1	16.1	9.6
O-4	389862	8.95	0.0140	100	0.150	1.50%	9.7	472	0.15	1.00%	4.9	912	0.015	1.20%	0.10	2.34	6.5	21.0	21.0	12.6
O-5	1678367	38.53	0.0602	100	0.150	3.50%	6.9	543	0.15	3.50%	3.0	3159	0.150	3.90%	1.10	2.09	25.2	35.1	35.1	21.0
TX O-1	546242	12.54	0.0196	0	0.150	1.00%	0.0	2639	0.015	0.90%	28.7	1609	0.015	0.50%	0.10	1.51	17.7	46.5	46.5	27.9
TX O-2	963112	22.11	0.0345	0	0.150	1.00%	0.0	284	0.15	0.40%	4.6	4236	0.015	1.00%	0.10	2.14	33.0	37.6	37.6	22.6



LEGEND

- ① DESIGN CALCULATION POINT
- P1 DRAINAGE AREA
- DRAINAGE AREA BOUNDARY
- Tc FLOW PATH
- SITE BOUNDARY

N

200 0 200

SCALE: 1" = 200'

Bowman
©2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 222
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschlock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

ULTIMATE CONDITIONS DRAINAGE AREA MAP

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

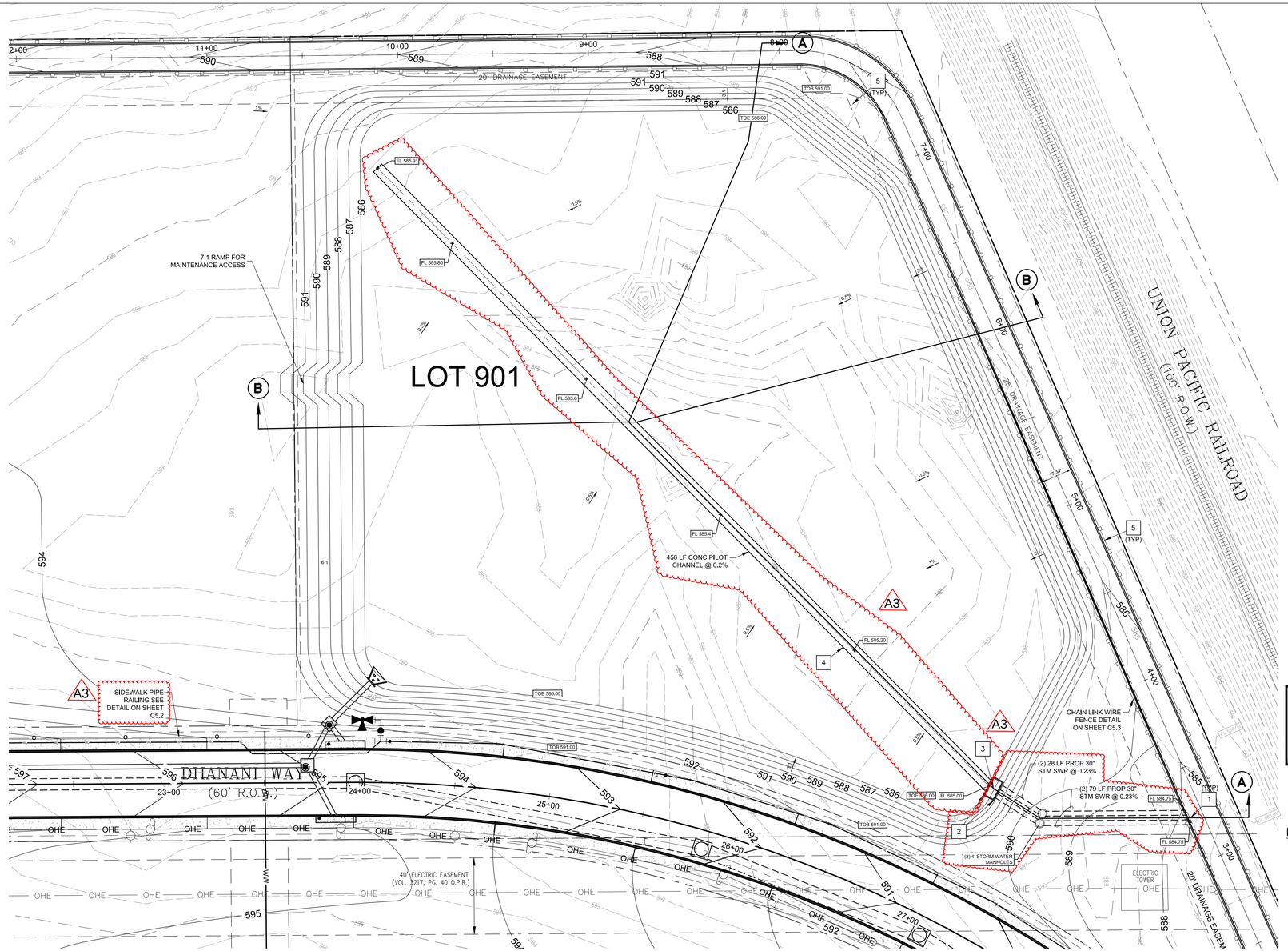
DATE: 03/02/2026

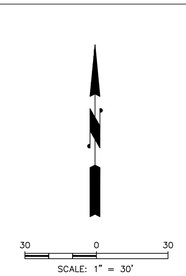
SCALE: 1"=200'

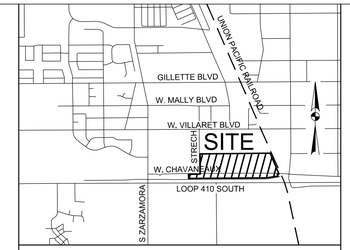
JOB No. 250503-01-001

SHEET NO. **C4.2**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\Exhibits\ULT DAM.dwg, C4.2 ULTIMATE DRAINAGE AREA MAP, March 02, 2026, 9:12 AM, ahernandez







VICINITY MAP: N.T.S.

PROP DETENTION POND A	
AVAILABLE STORAGE:	573,714 CF
MAX STORAGE (100 YR):	548,885 CF
TOP OF BANK:	591.00 FT
TOE OF BANK:	586.00 FT
1 YR RELEASE RATE:	1,1 CFS
1 YR WSE:	587,5 FT
5 YR RELEASE RATE:	2.4 CFS
5 YR WSE:	588,7 FT
25 YR RELEASE RATE:	15,5 CFS
25 YR WSE:	589,8 FT
100 YR RELEASE RATE:	39,7 CFS
100 YR WSE:	590,7 FT

THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES THAT HAVE OR MAY HAVE ANY EFFECT ON THE PROPOSED IMPROVEMENTS BEFORE ANY WORK COMMENCES. THE INSTALLATION OF ALL GRAVITY FLOW PIPES SHALL BEGIN AT THE OUTFALL OR CONNECTION TO THE EXISTING SYSTEM AND PROCEED UPSTREAM, IF ANY DISCREPANCY FROM THE PLAN IS FOUND, THE CONTRACTOR IS TO NOTIFY BOWMAN, INC. BEFORE PROCEEDING FURTHER.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

TOB 50.00	TOP OF BANK
TOE 50.00	TOE OF BANK
FL 50.00	FLOW LINE
	PROPOSED TOP OF BANK
586	PROPOSED CONTOUR
	PROPOSED FENCE
1%	PROPOSED SLOPE/GRADE

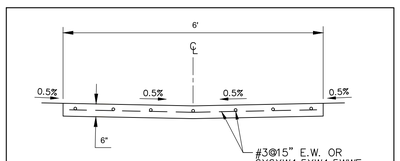
KEY NOTES:

1. CONTRACTOR TO TIE THE STORM SEWER OUTFALL INTO THE CHANNEL'S RETAINING WALL, SEE DETAIL ON THIS SHEET.
2. CONTRACTOR TO TIE PROPOSED DETENTION POND OUTFALL BOX TO POND GRADES (S,S, VARIES). SEE DETAIL ON THIS SHEET.
3. CONTRACTOR TO CONSTRUCT 10'x5' OUTFALL/WEIR STRUCTURE (MODIFIED JUNCTION BOX W/OPEN TOP). SEE DETAIL ON THIS SHEET. CONCRETE TO BE CLASS 1 WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS AND REINFORCEMENT TO BE GRADE 60 STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS.
4. CONTRACTOR TO CONSTRUCT 6 FT WIDE CONCRETE PILOT CHANNEL @ 0.1%, SEE DETAIL ON THIS SHEET.
5. CONTRACTOR TO INSTALL 6 FT HIGH (MIN) PERIMETER FENCE AROUND DETENTION POND WITH ACCESS GATES FOR MAINTENANCE. SEE SHEET C5.3 FOR FENCING MATERIALS AND DETAILS.

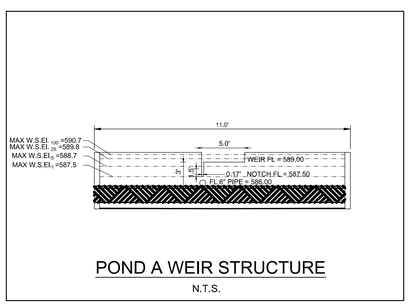
NOTES:

A. CONTRACTOR SHALL PHASE CONSTRUCTION AND/OR PROVIDE NECESSARY BMPS TO MITIGATE INTERIM CONDITIONS RUNOFF DURING CONSTRUCTION DUE TO CLEARING, GRADING, SUBGRADE PREPARATION, PAVING, BUILDINGS, ETC., AND TO PREVENT ADVERSE IMPACTS TO OTHER PROPERTY, STRUCTURES, AND INFRASTUCTURE DURING CONSTRUCTION.

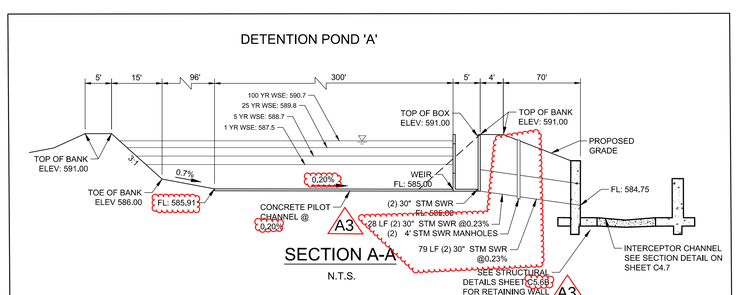
B. DETENTION POND EXCAVATION AND/OR EMBANKMENT NRCRSSARY FOR PROVIDING STORAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO CITY INSPECTION OF STREET SUBGRADE, CURB, FLEX BASE, AND PAVEMENT WITHIN THE WATERSHED DRAINING TO THE DETENTION POND



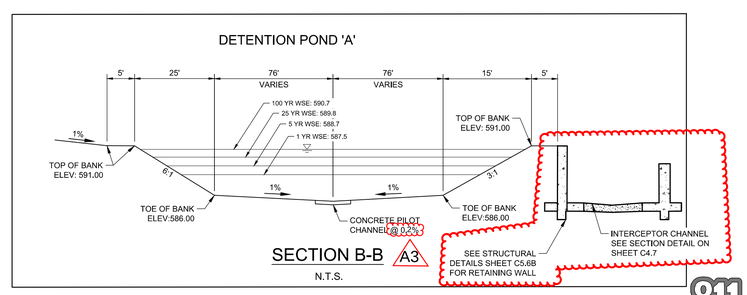
CONCRETE PILOT CHANNEL



POND A WEIR STRUCTURE
N.T.S.



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

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

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE. IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS. CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO, 210-298-1600), CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Know what's below. Call before you dig.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bsolis@bowman.com
www.bowmanconsulting.com

©2023 Bowman Consulting Group, Ltd.

REVISIONS		
REVISION	DESCRIPTION	DATE

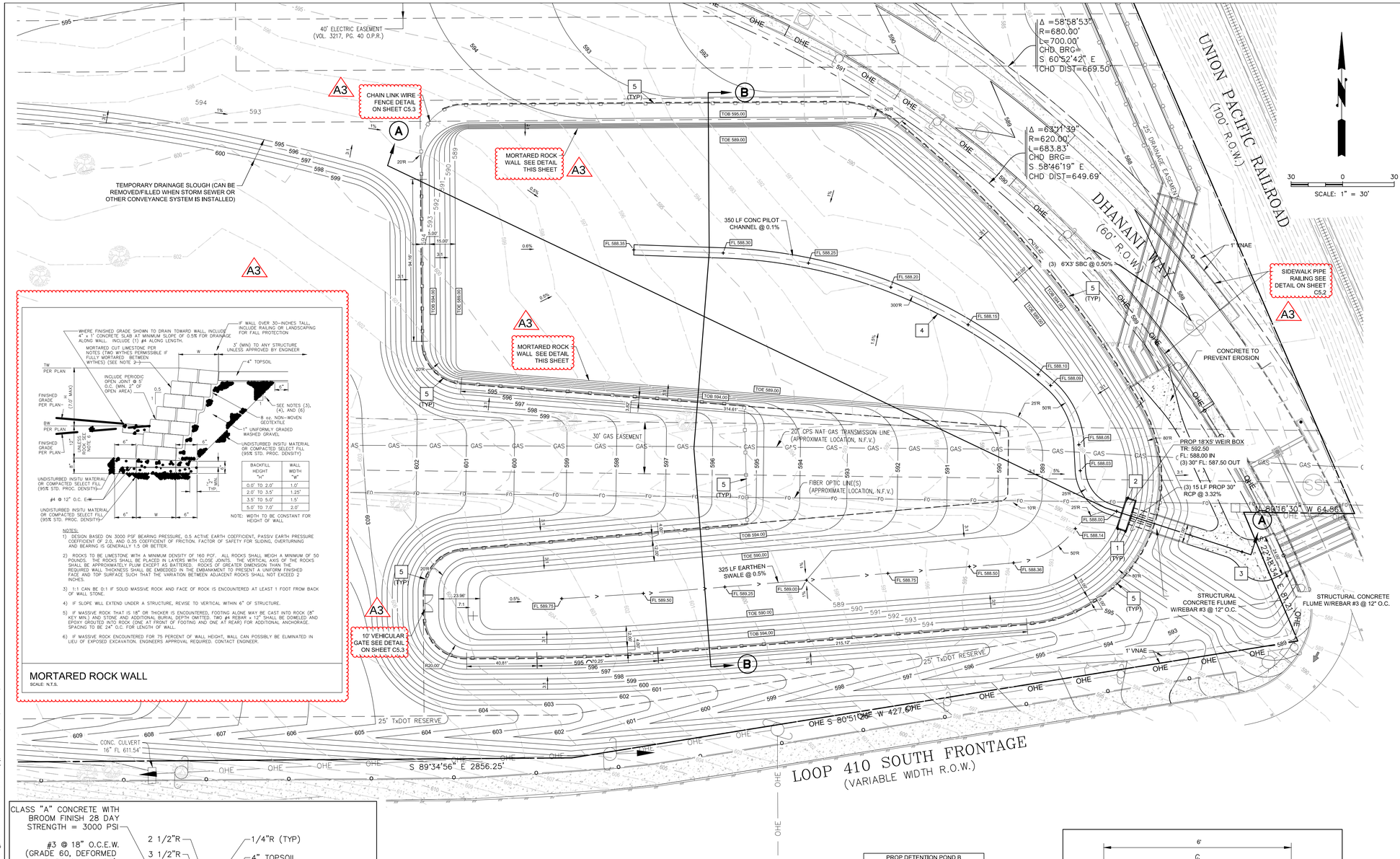
DETENTION POND A PLAN

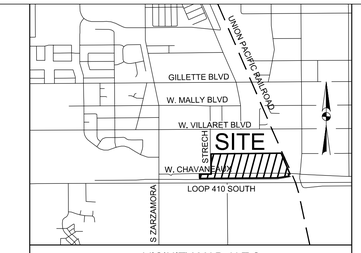
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1"=30'
JOB No. 250503-01-001
SHEET NO. **C4.3**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PRIVATE SITE\C9.0 DETENTION POND A PLAN.dwg, DETENTION POND A PLAN (2), March 06, 2026, 2:47 PM, acastillo





VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587,53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0,49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3,885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2,905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

TOB 50.00	TOP OF BANK
TOE 50.00	TOE OF BANK
TR 50.00	TOP OF RIM
FL 50.00	FLOW LINE
	PROPOSED TOP OF BANK
586	PROPOSED CONTOUR
	PROPOSED FENCE
1%	PROPOSED SLOPE/GRADE

KEY NOTES:

1. CONTRACTOR TO TIE THE STORM SEWER OUFALL INTO THE CHANNEL'S RETAINING WALL, SEE DETAIL ON THIS SHEET.
2. CONTRACTOR TO CONSTRUCT 18'x5' OUTFALL/WEIR STRUCTURE (MODIFIED JUNCTION BOX W/O TOP). SEE DETAIL ON THIS SHEET. CONCRETE TO BE CLASS 1 WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS AND REINFORCEMENT TO BE GRADE 60 STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS.
3. CONTRACTOR TO CONSTRUCT 18'x5' JUNCTION BOX WITH STANDARD RING AND COVVER, CONCRETE TO BE CLASS 1 WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS AND REINFORCEMENT TO BE GRADE 60 STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS.
4. CONTRACTOR TO CONSTRUCT 6 FT WIDE CONCRETE PILOT CHANNEL @ 0.1%. SEE DETAIL ON THIS SHEET.
5. CONTRACTOR TO INSTALL 6 FT HIGH (MIN) PERIMETER FENCE AROUND DETENTION POND WITH ACCESS GATES FOR MAINTENANCE. SEE SHEET C5.3 FOR FENCING MATERIALS AND DETAILS.

NOTES:

A. CONTRACTOR SHALL PHASE CONSTRUCTION AND/OR PROVIDE NECESSARY BMPS TO MITIGATE INTERIM CONDITIONS RUNOFF DURING CONSTRUCTION DUE TO CLEARING, GRADING, SUBGRADE PREPARATION, PAVING, BUILDINGS, ETC,, AND TO PREVENT ADVERSE IMPACTS TO OTHER PROPERTY, STRUCTURES, AND INFRASTRUCTURE DURING CONSTRUCTION.

B. DETENTION POND EXCAVATION AND/OR EMBANKMENT NRCRSSARY FOR PROVIDING STORAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO CITY INSPECTION OF STREET SUBGRADE, CURB, FLEX BASE, AND PAVEMENT WITHIN THE WATERSHED DRAINING TO THE DETENTION POND

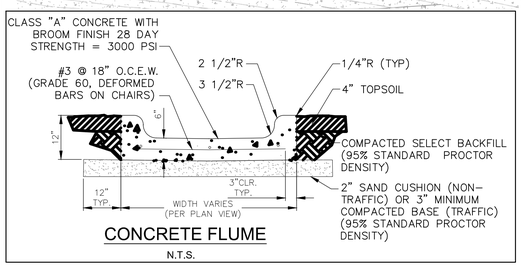
THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES THAT HAVE OR MAY HAVE ANY EFFECT ON THE PROPOSED IMPROVEMENTS BEFORE ANY WORK COMMENCES. THE INSTALLATION OF ALL GRAVITY FLOW PIPES SHALL BEGIN AT THE OUTFALL OR CONNECTION TO THE EXISTING SYSTEM AND PROCEED UPSTREAM. IF ANY DISCREPANCY FROM THE PLAN IS FOUND, THE CONTRACTOR IS TO NOTIFY BOWMAN, INC. BEFORE PROCEEDING FURTHER.

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

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

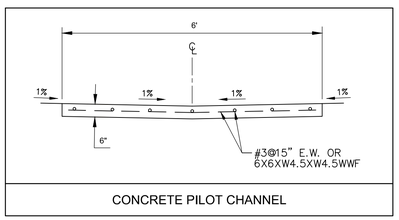
ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS. CITY PROJECT NO,. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD,. SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL, NO, 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Know what's below. Call before you dig.

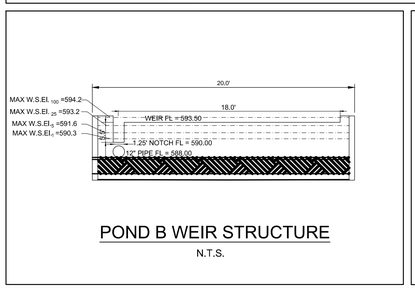


CONCRETE FLUME
N.T.S.

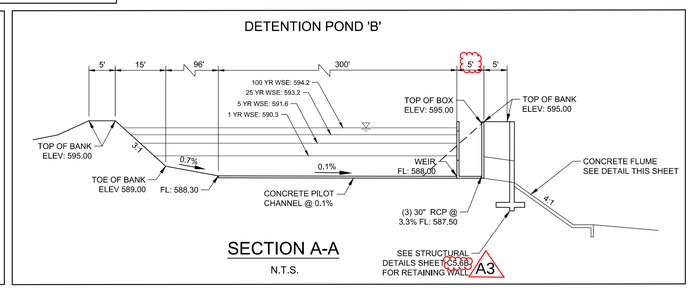
PROP DETENTION POND B	
AVAILABLE STORAGE:	479,754 CF
MAX STORAGE (100 YR):	400,751 CF
TOP OF BANK:	595,00 FT
TOE OF BANK:	588,00 FT
1 YR RELEASE RATE:	6,5 CFS
1 YR WSE:	590,30 FT
5 YR RELEASE RATE:	14,6 CFS
5 YR WSE:	591,60 FT
25 YR RELEASE RATE:	29,6 CFS
25 YR WSE:	593,20 FT
100 YR RELEASE RATE:	76,7 CFS
100 YR WSE:	594,20 FT



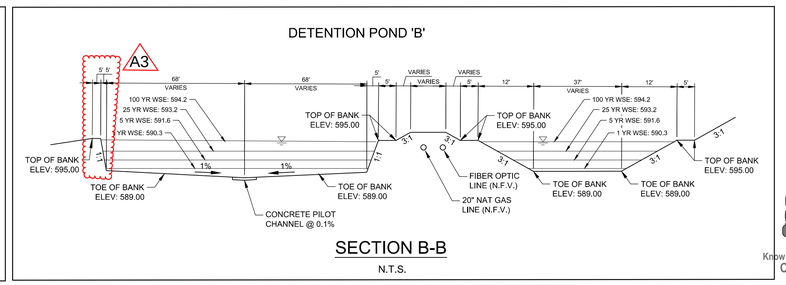
CONCRETE PILOT CHANNEL



POND B WEIR STRUCTURE
N.T.S.



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1"=30'
JOB No. 250503-01-001
SHEET NO. **C4.4**

DETENTION POND B PLAN

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

REVISIONS

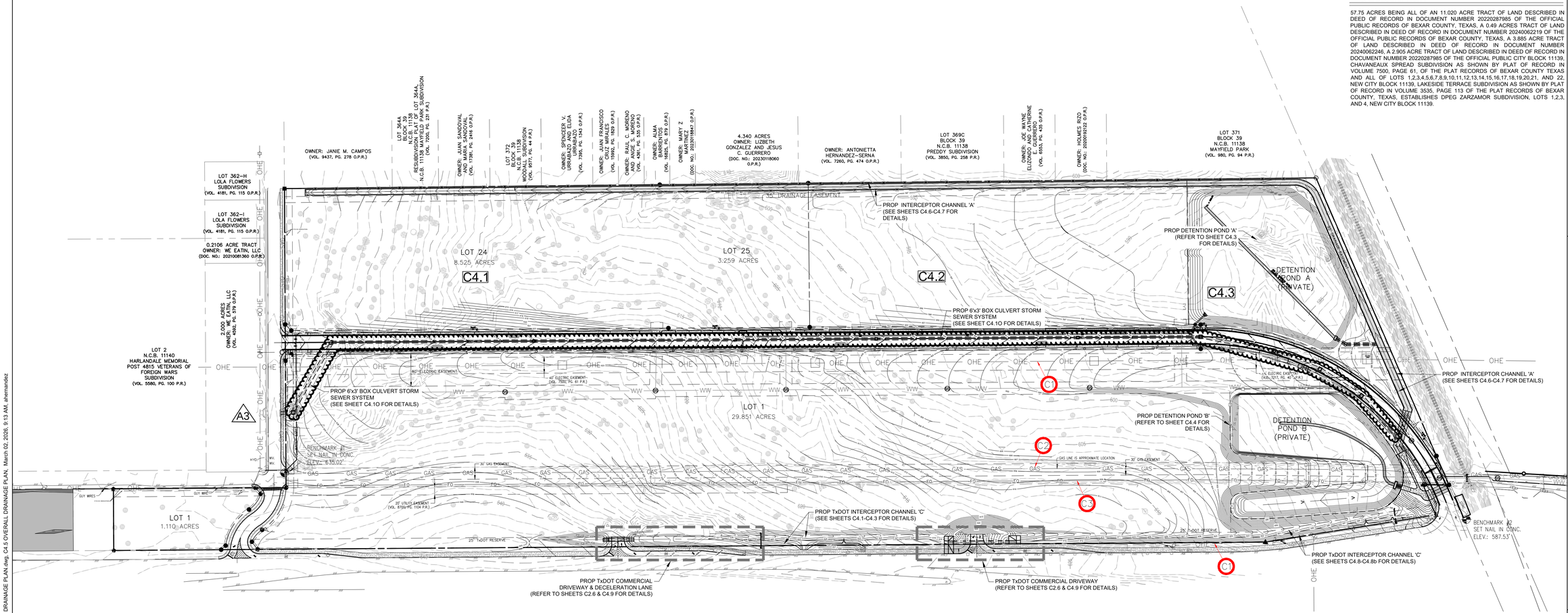
REVISION	DESCRIPTION	DATE

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San ANTONIO, Texas 78229
Phone: (210) 298-1600
EMAIL: bsolnocki@bowman.com
www.bowmanconsulting.com

V:\250503 - DPEG\2250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PRIVATE SITE\C9.1 DETENTION POND B PLAN.dwg, DETENTION POND B PLAN (2), March 06, 2026, 2:46 PM, acastillo

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69



120 0 120 240

SCALE: 1 INCH =120 FT

VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

811 Know what's **below.** **Call** before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832

© 2023 Bowman Consulting Group, Ltd.

8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bestnotice@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

OVERALL DRAINAGE PLAN

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

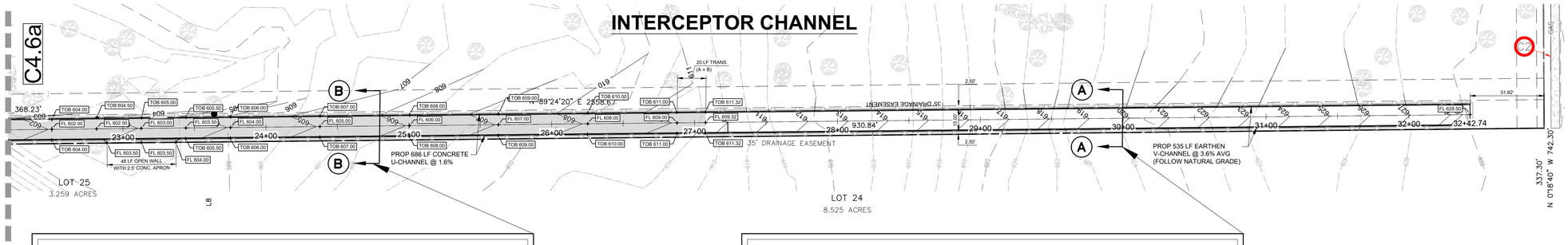
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

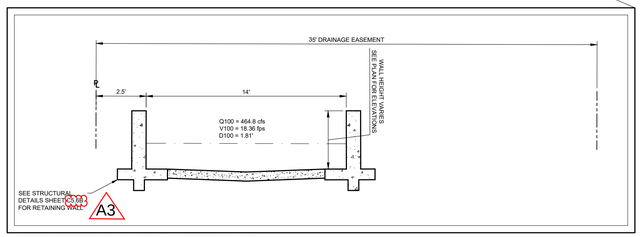
DATE: 03/02/2026
SCALE: 1"=120'
JOB No. 250503-01-001
SHEET NO. **C4.5**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, C4.5 OVERALL DRAINAGE PLAN, March 02, 2026, 9:13 AM, ahernandez

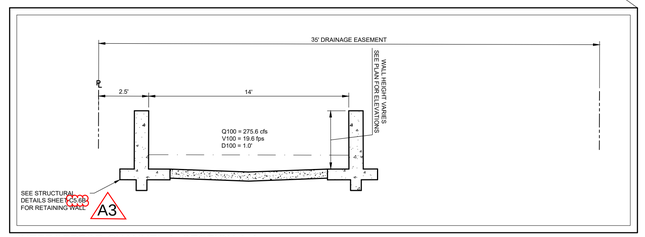
C4.6a

INTERCEPTOR CHANNEL





INTERCEPTOR CHANNEL A SECTION B-B
SCALE: 1" = 5'

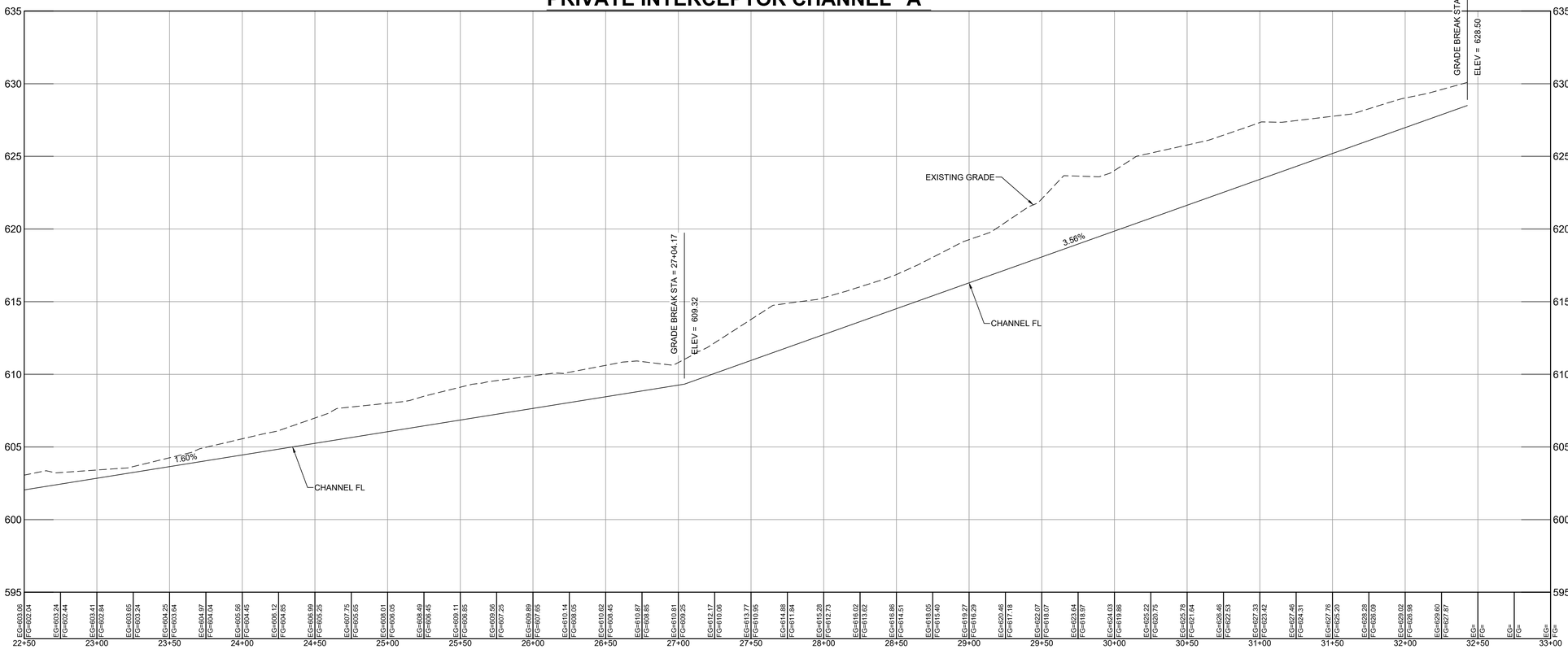


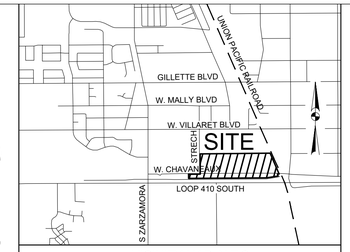
INTERCEPTOR CHANNEL A SECTION A-A
SCALE: 1" = 5'

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

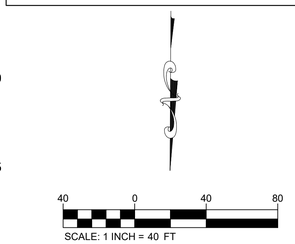
CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69

PRIVATE INTERCEPTOR CHANNEL "A"





VICINITY MAP: N.T.S.



FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

TOB 50.00	TOP OF CHANNEL BANK
FL 50.00	FLOW LINE
3:1 →	PROPOSED SLOPE ARROW
70	PROPOSED CONTOUR
70	EXISTING CONTOUR
	CONCRETE

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bsnlock@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

INTERCEPTOR CHANNEL P&P 1 OF 4

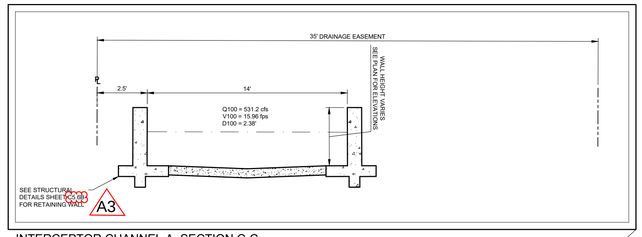
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

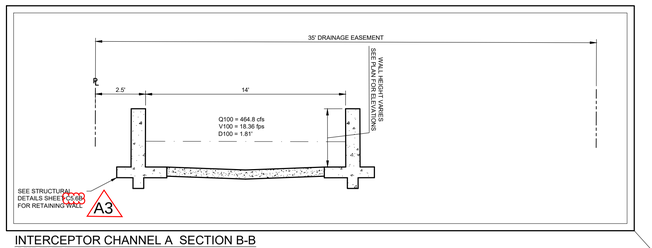
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=40'
JOB No. 250503-01-001
SHEET NO. **C4.6**

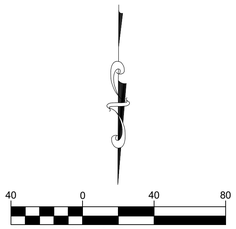
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, C4.6 DRAINAGE PLAN I, March 02, 2026, 9:13 AM, ahernandez



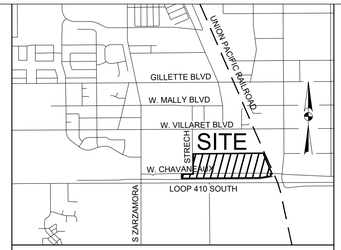
INTERCEPTOR CHANNEL A SECTION C-C
SCALE: 1" = 5'



INTERCEPTOR CHANNEL A SECTION B-B
SCALE: 1" = 5'



SCALE: 1 INCH = 40 FT



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

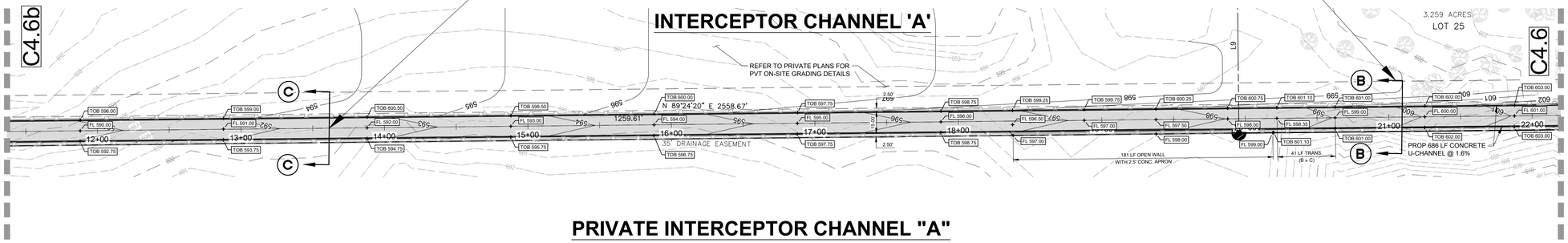
BENCHMARK NOTE :

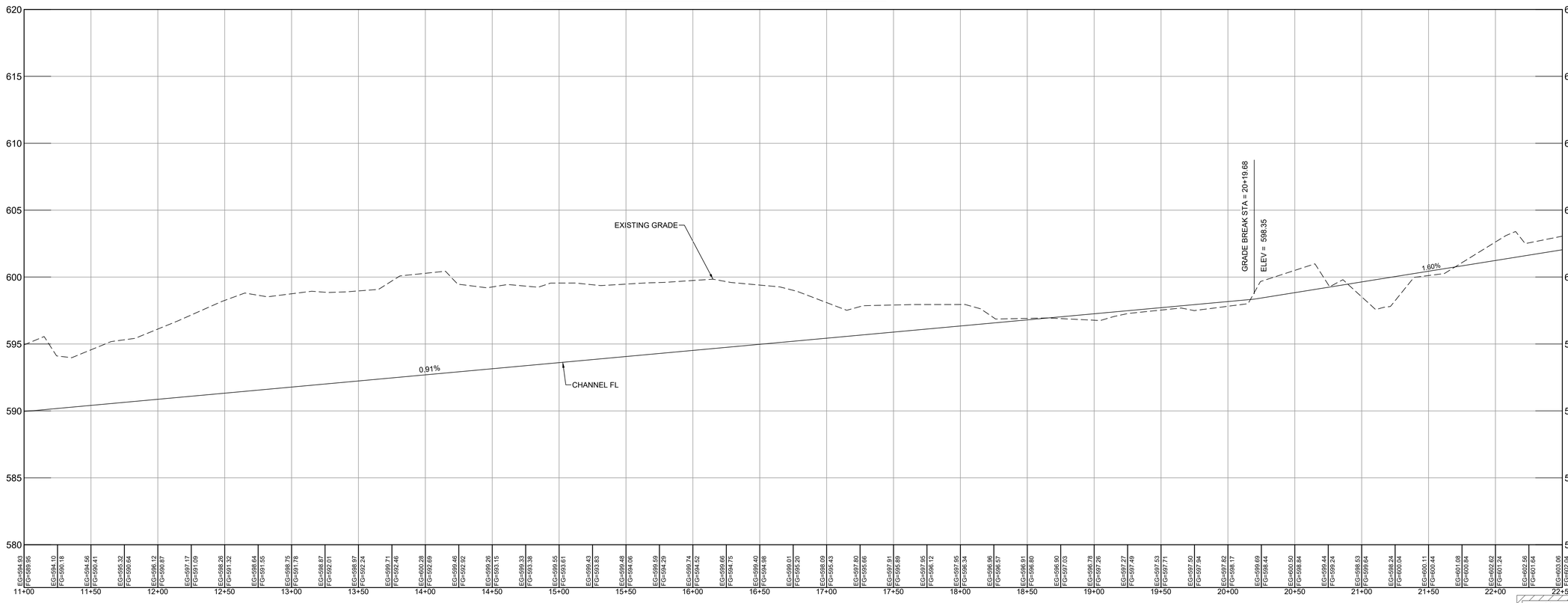
BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.





LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

Know what's **below.** **Call** before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bstrock@bowman.com
www.bowmanconsulting.com

© 2023 Bowman Consulting Group, Ltd.

REVISIONS		
REVISION	DESCRIPTION	DATE

INTERCEPTOR CHANNEL P&P 2 OF 4

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=40'
JOB No. 250503-01-001
SHEET NO. **C4.6a**

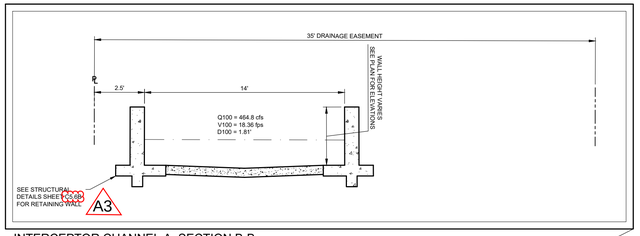
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OV\ERALL DRAINAGE PLAN.dwg, C4.7 DRAINAGE PLAN II, March 02, 2026, 9:13 AM, alhernandez

CAUTION NOTES:

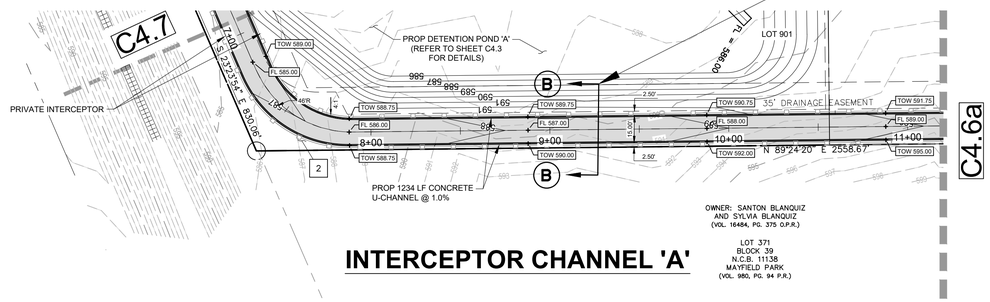
C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

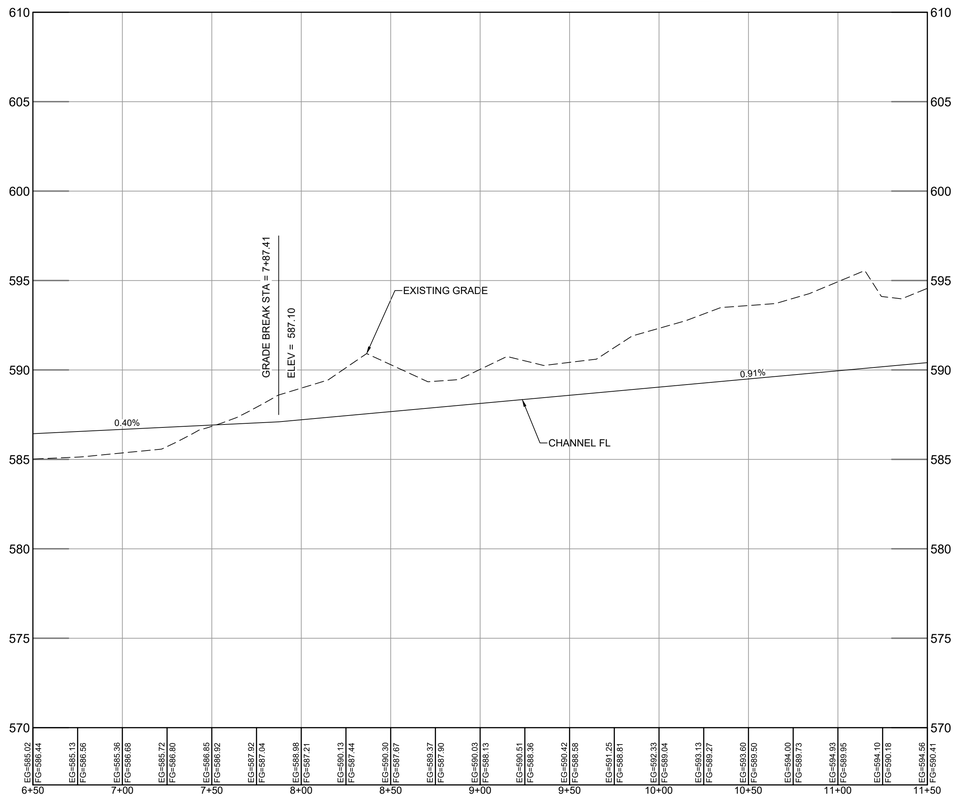


INTERCEPTOR CHANNEL A SECTION B-B
SCALE: 1" = 5'



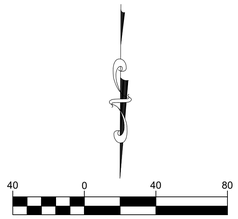
INTERCEPTOR CHANNEL 'A'

PRIVATE INTERCEPTOR CHANNEL 'A'

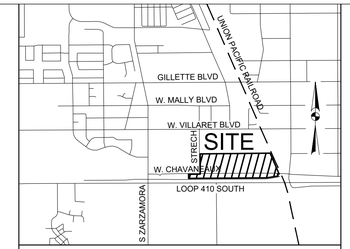


LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69



SCALE: 1 INCH = 40 FT



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

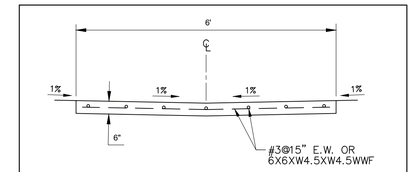
LEGEND

TOB 50.00	TOP OF CHANNEL BANK
FL 50.00	FLOW LINE
3:1	PROPOSED SLOPE ARROW
70	PROPOSED CONTOUR
70	EXISTING CONTOUR
	CONCRETE

KEY NOTES:

1 CONTRACTOR TO CONSTRUCT 6 FT WIDE CONCRETE PILOT CHANNEL @ 0.25%. SEE DETAIL ON THIS SHEET.

2 TXDOT TYPE RR8 CONCRETE RIPRAP (REFER TO TXDOT STANDARD DETAILS AND SPECIFICATIONS).



CONCRETE PILOT CHANNEL

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
8122 Datapoint RD.
Site 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bsotodo@bowman.com
www.bowmanconsulting.com
TBPE Firm Registration No. F-003832

© 2023 Bowman Consulting Group, Ltd.

REVISIONS

REVISION	DESCRIPTION	DATE

INTERCEPTOR CHANNEL P&P 3 OF 4

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

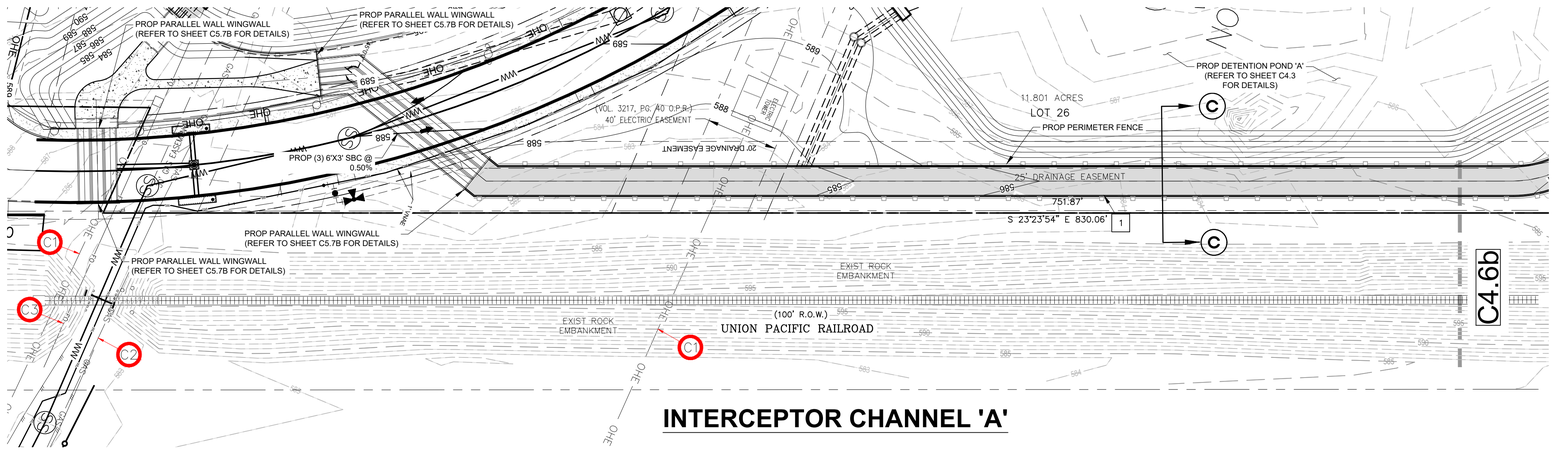
DATE: 03/02/2026

SCALE: 1"=40'

JOB No. 250503-01-001

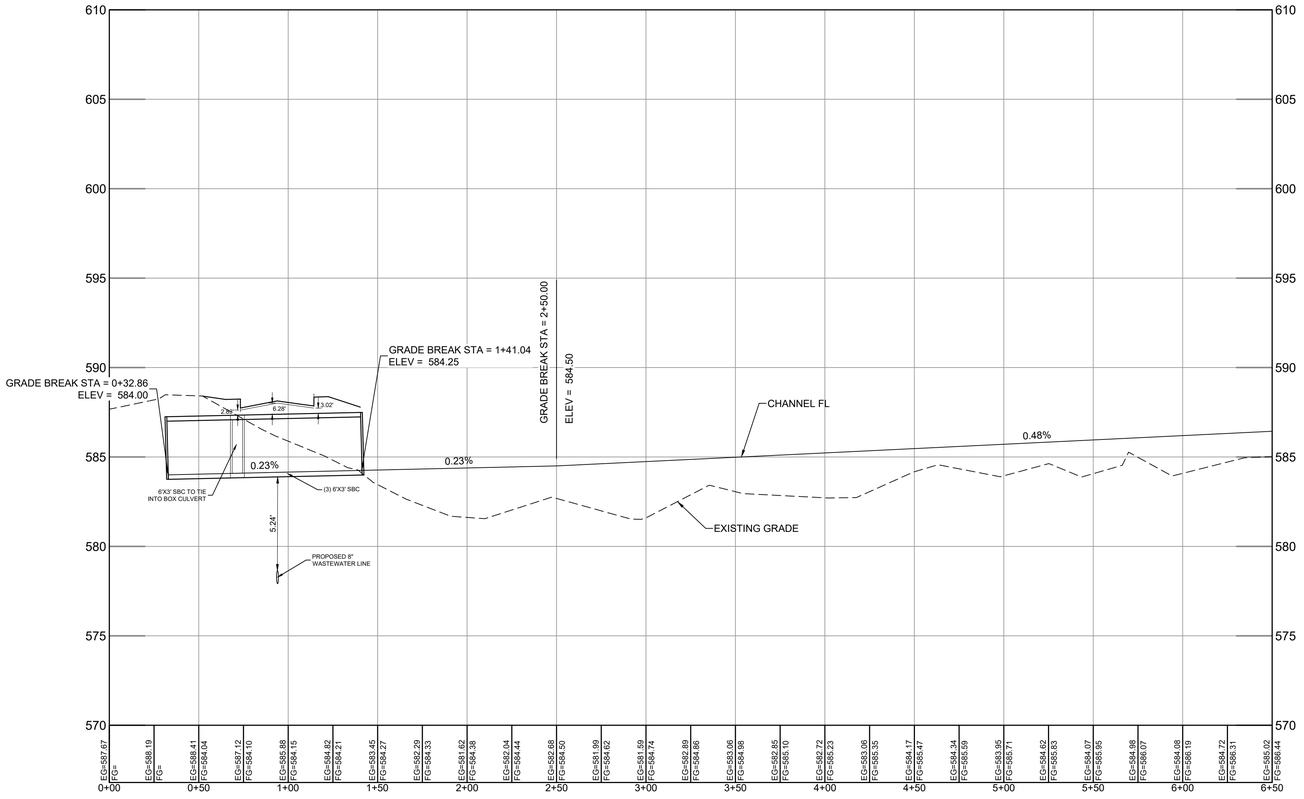
SHEET NO. **C4.6b**

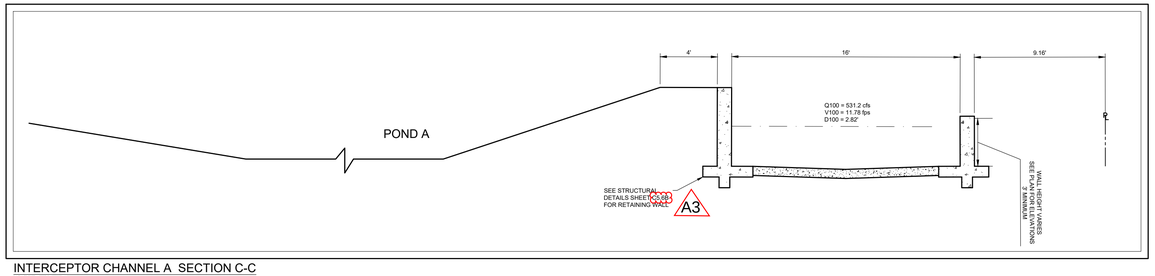
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, C4.8 DRAINAGE PLAN III, March 02, 2026, 8:13 AM, ahernandez



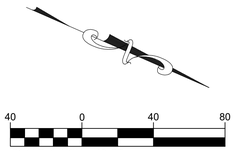
INTERCEPTOR CHANNEL 'A'

PRIVATE INTERCEPTOR CHANNEL 'A'





INTERCEPTOR CHANNEL A SECTION C-C
SCALE: 1" = 5'



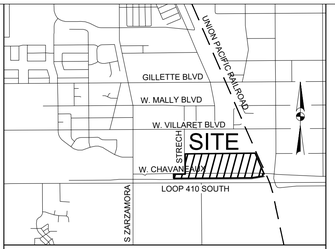
SCALE: 1 INCH = 40 FT

LEGEND

TOB 50.00	TOP OF CHANNEL BANK
FL 50.00	FLOW LINE
3:1	PROPOSED SLOPE ARROW
70	PROPOSED CONTOUR
70	EXISTING CONTOUR
	CONCRETE

KEY NOTES:

1. CONTRACTOR TO CONSTRUCT 6 FT WIDE CONCRETE PILOT CHANNEL @ 0.25%. SEE DETAIL ON THIS SHEET.
2. TXDOT TYPE RR8 CONCRETE RIPRAP (REFER TO TXDOT STANDARD DETAILS AND SPECIFICATIONS).



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

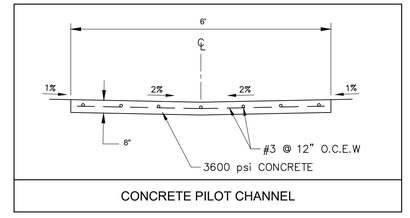
BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.



CONCRETE PILOT CHANNEL

CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

Know what's **below.** **Call** before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bstock@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

INTERCEPTOR CHANNEL P&P 4 OF 4

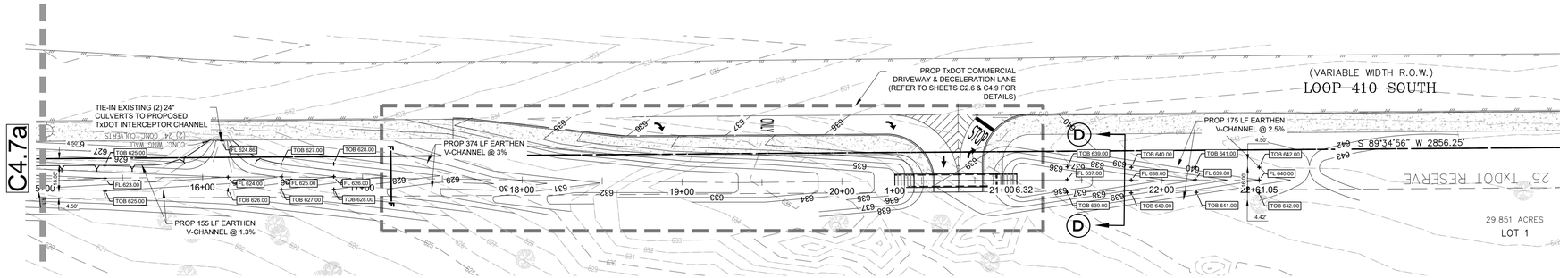
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

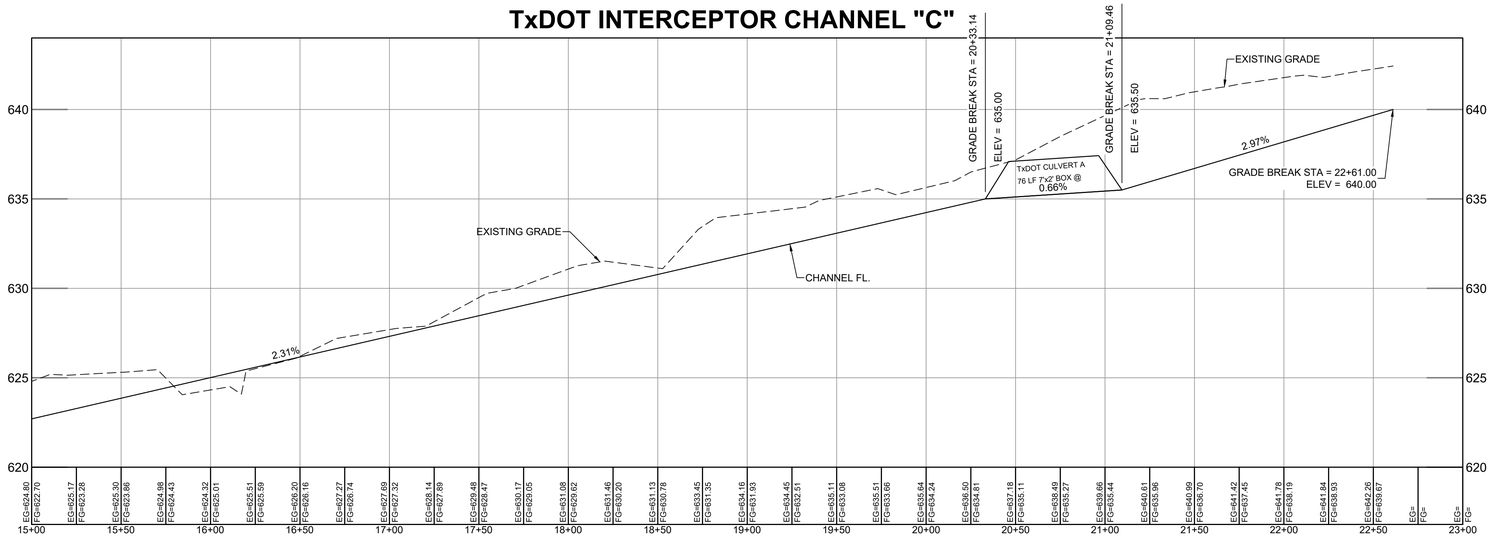
DATE: 03/02/2026
SCALE: 1"=40'
JOB No. 250503-01-001
SHEET NO. **C4.7**

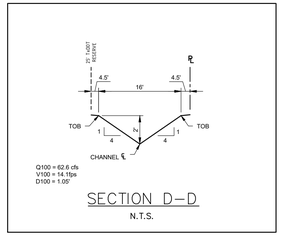
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, PLAN III (2), March 02, 2026, 9:13 AM, ahernandez



TxDOT INTERCEPTOR CHANNEL

TxDOT INTERCEPTOR CHANNEL "C"





SECTION D–D
N.T.S.

Basin	Area	Area	Pervious area	Impervious area	Impervious	Pervious	Runoff Coefficient					
	acre	sq ft	sq ft	sq ft	%	%	2 yr	5-yr	10 yr	25 yr	50-yr	100 yr
O1	12.54	546,242	108,156	438,086	80.20%	19.80%	0.67	0.70	0.74	0.79	0.83	0.87

C values (Developed Park/Lawns, Fair Conditions, Average Slope 2-7%)

	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Concrete	0.75	0.79	0.83	0.88	0.93	0.97
Grass	0.33	0.36	0.38	0.42	0.46	0.49

Basin	Area	Impervious	Pervious	Time of Co	2-year			5-year			25-year		100-year		
	acre	%	%	min	C	I	Q	C	I	Q	I	Q	C	I	Q
O1	12.54	80.20%	19.80%	31.1	0.67	5.76	48.16	0.70	7.50	66.19	10.50	97.51	0.79	12.99	128.53

TXDOT EBDLKUP IDF Curve Coefficients

TXDOT EBDLKUP-2019-Vc6.2.10

Coefficient	Design Annual Exceedance Probability (Design Annual Recurrence Interval)						
	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8287	0.8098	0.7984	0.7847	0.7747	0.7645	0.7445
b	61.3967	76.3905	87.3989	101.4415	111.3258	121.2080	147.8440
d (min)	12.3850	12.5702	12.7341	13.0090	13.1836	13.5625	15.6097
Intensity (inches/hour)	5.7593	7.4989	8.8004	10.4954	11.7701	12.9917	15.5422

Alt.	Location	Event	Target Flow (cfs)	Conveyance Type	Depth (feet)	Width (feet)	Manning's "n"	Slope	Side Slopes (l/h)	Calculated Flow (cfs)	Percent of Target Flow	Area (sq.-ft.)	Wetted Per. (ft)	R	Top Width (ft)	Eg (ft)	Velocity (fps)
1		5-yr	66.19	Trap	2	0	0.03	0.025	4	123	186%	16.00	16.49	0.97	16	2.92	7.70
1		5-yr	66.19	Trap	2	0	0.03	0.013	4	89	134%	16.00	16.49	0.97	16	2.48	5.55
1		5-yr	66.19	Trap	2	0	0.03	0.025	4	123	186%	16.00	16.49	0.97	16	2.92	7.70

VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

TOB 50.00	TOP OF CHANNEL BANK
FL 50.00	FLOW LINE
3:1	PROPOSED SLOPE ARROW
70	PROPOSED CONTOUR
70	EXISTING CONTOUR
	CONCRETE

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.64	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69

40 0 40 80
SCALE: 1 INCH = 40 FT

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Know what's **below.** **Call** before you dig.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bstock@bowman.com
www.bowmanconsulting.com

© 2023 Bowman Consulting Group, Ltd.

REVISIONS	DESCRIPTION	DATE

TXDOT INTERCEPTOR CHANNEL P&P 1 OF 3

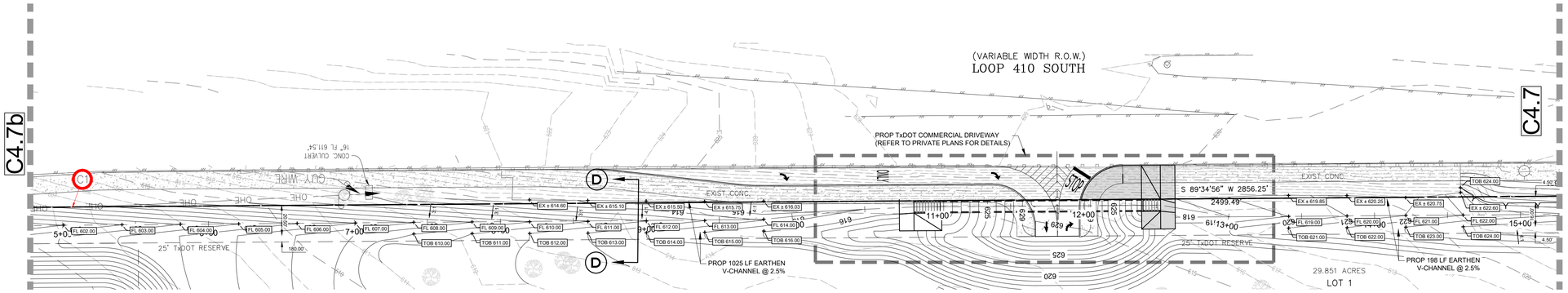
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

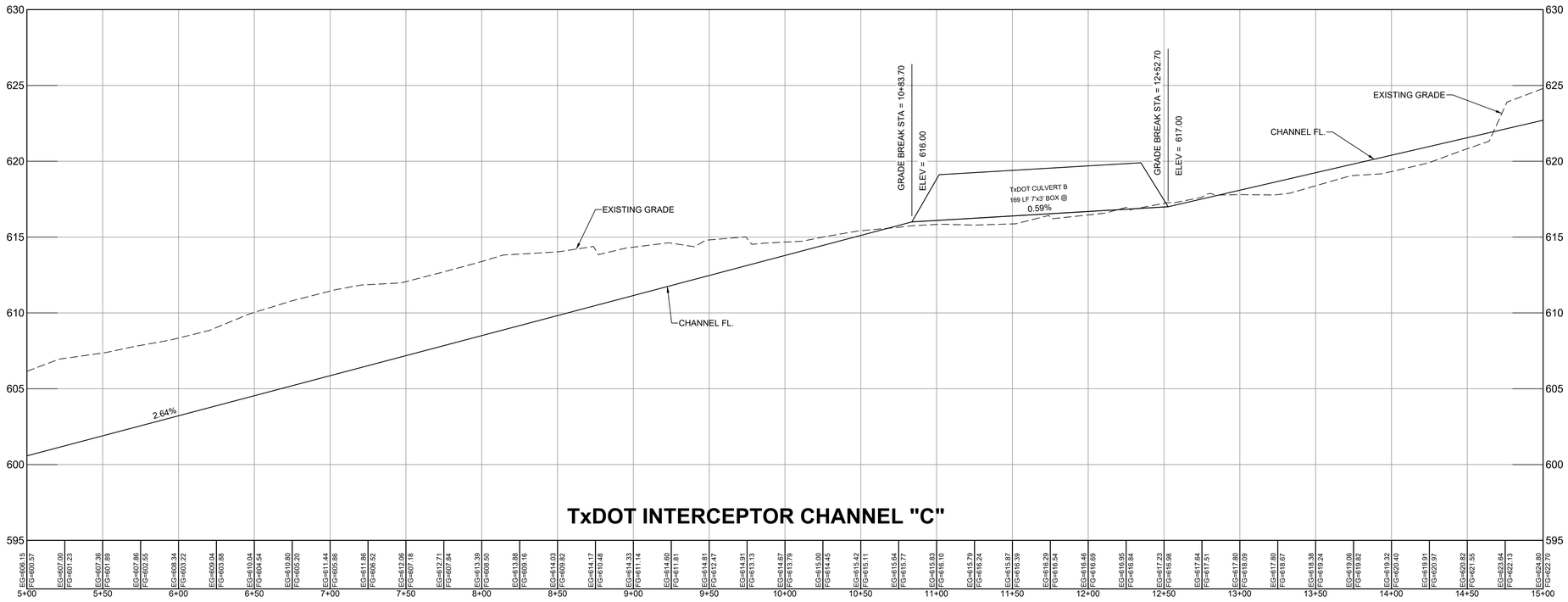
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=40'
JOB No. 250503-01-001
SHEET NO. **C4.8**

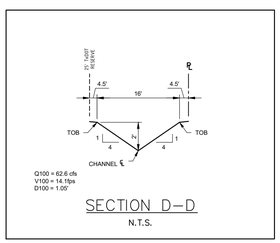
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, CHANNEL A PROFILE, March 02, 2026, 9:13 AM, ahernandez



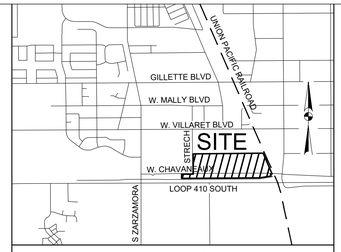
TxDOT INTERCEPTOR CHANNEL 'C'



TxDOT INTERCEPTOR CHANNEL "C"



SECTION D–D
N.T.S.



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

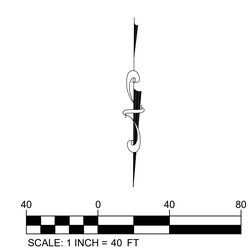
BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

TOB 50.00	TOP OF CHANNEL BANK
EX ± 50.00	EXISTING CONC RIPRAP
FL 50.00	FLOW LINE
3:1	PROPOSED SLOPE ARROW
70	PROPOSED CONTOUR
70	EXISTING CONTOUR
	CONCRETE



SCALE: 1 INCH = 40 FT

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'53"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

Know what's **below.** **Call** before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS. CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bstrock@bowman.com
www.bowmanconsulting.com

REVISIONS		
REVISION	DESCRIPTION	DATE

TXDOT INTERCEPTOR CHANNEL P&P 2 OF 3

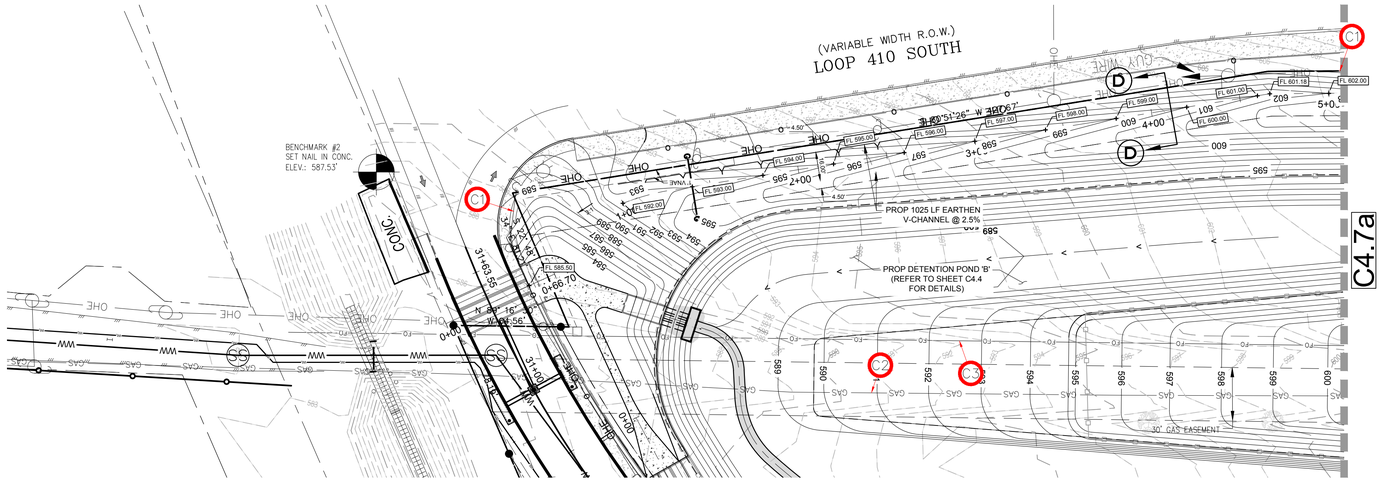
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

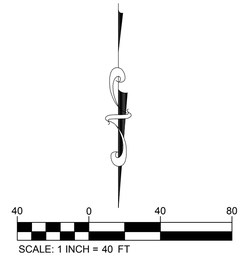
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1"=40'
JOB No. 250503-01-001
SHEET NO. **C4.8a**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, CHANNEL B PROFILE, March 02, 2026, 9:14 AM, ahernandez





VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

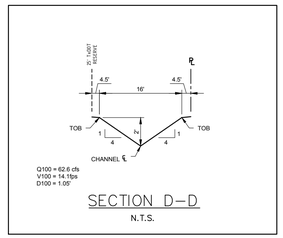
BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

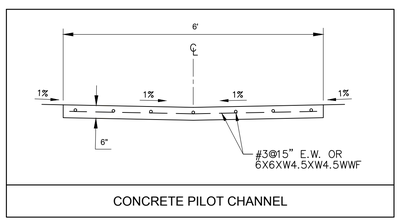
57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

TxDOT INTERCEPTOR CHANNEL 'C'

TxDOT INTERCEPTOR CHANNEL "C"



SECTION D–D
N.T.S.



CONCRETE PILOT CHANNEL

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.62	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69

LEGEND

TOB 50.00	TOP OF CHANNEL BANK
FL 50.00	FLOW LINE
3:1	PROPOSED SLOPE ARROW
70	PROPOSED CONTOUR
70	EXISTING CONTOUR
	CONCRETE

KEY NOTES:

1. CONTRACTOR TO CONSTRUCT 6 FT WIDE CONCRETE PILOT CHANNEL @ 0.25%. SEE DETAIL ON THIS SHEET.
2. TXDOT TYPE RR8 CONCRETE RIPRAP (REFER TO TXDOT STANDARD DETAILS AND SPECIFICATIONS).

CAUTION NOTES:

C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.

C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Know what's **below.** **Call** before you dig.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bestlock@bowman.com
www.bowmanconsulting.com

© 2023 Bowman Consulting Group, Ltd.

REVISIONS

REVISION	DESCRIPTION	DATE

TXDOT INTERCEPTOR CHANNEL P&P 3 OF 3

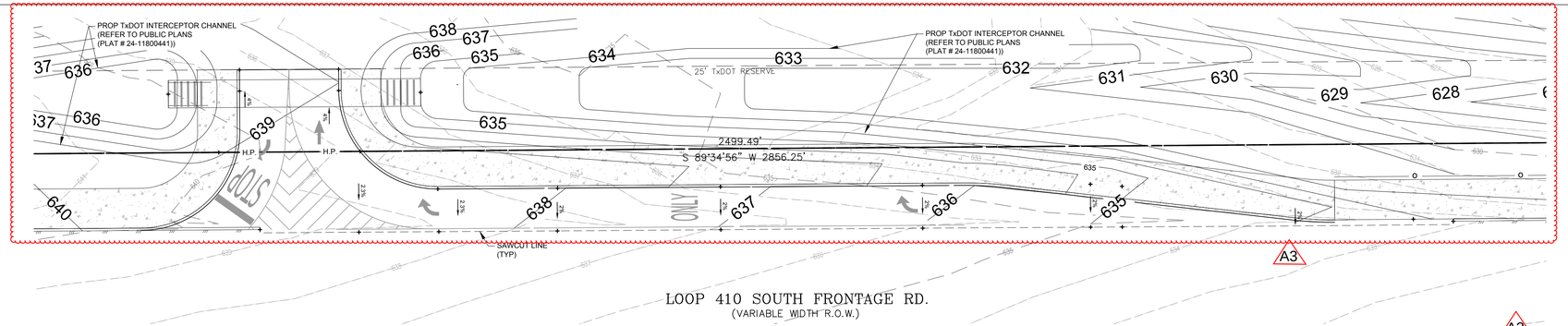
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

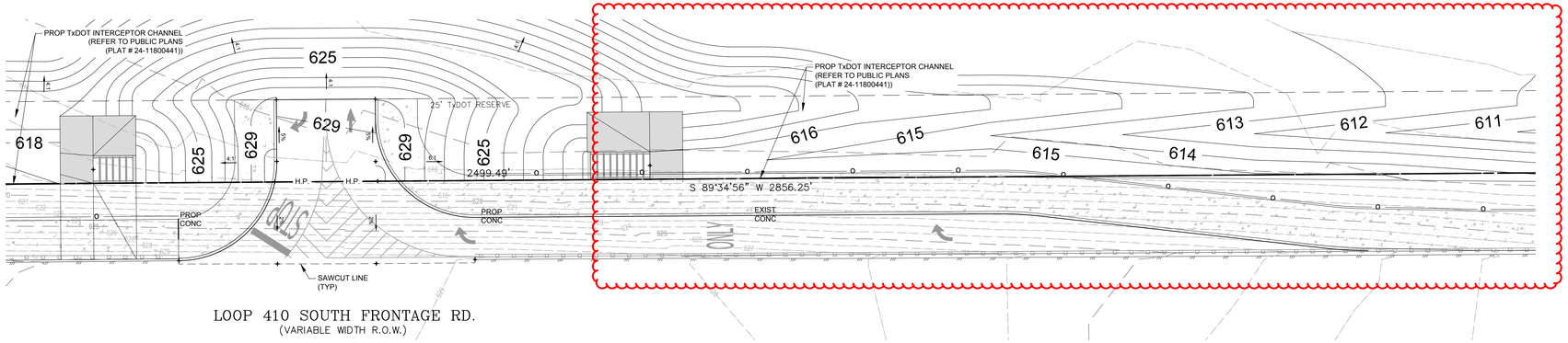
DATE: 03/06/2026
SCALE: 1"=40'
JOB No. 250503-01-001
SHEET NO. **C4.8b**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\OVERALL DRAINAGE PLAN.dwg, CHANNEL C PROFILE, March 06, 2026, 1:26 PM, mlandon



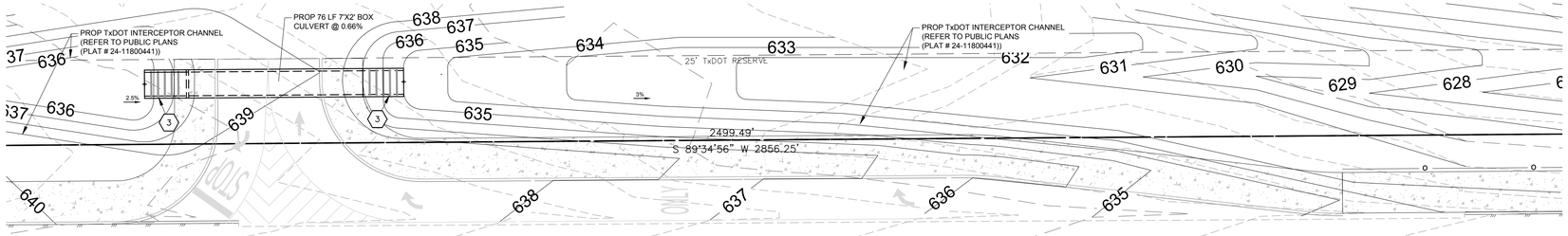
LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

DRIVEWAY '2' GRADING PLAN



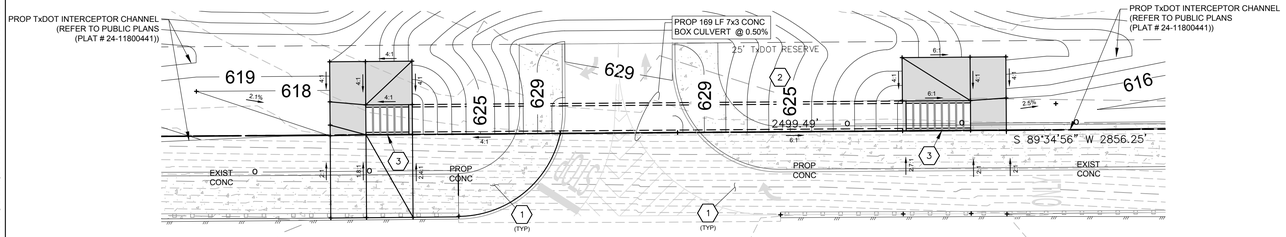
LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

DRIVEWAY '1' GRADING PLAN



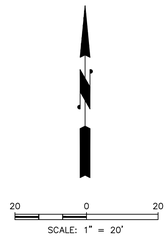
LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

CULVERT 'A' DRAINAGE PLAN

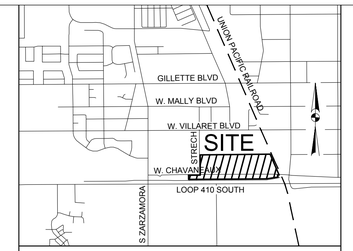


LOOP 410 SOUTH FRONTAGE RD.
(VARIABLE WIDTH R.O.W.)

CULVERT 'B' DRAINAGE PLAN



20 0 20
SCALE: 1" = 20'



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

PROP. SPOT ELEVATION AND CONTOUR LABELS ARE TRUNCATED BY 600 FT

	TOP OF PAVEMENT
	TOP OF CURB
	TOP OF CONC RIPRAP
	FLOW LINE
	MATCH EXISTING PAVEMENT
	MATCH EXISTING CONC RIPRAP
1%	PROPOSED SLOPE ARROW
– – – H.P. – – –	PROPOSED PVMT HIGH POINT
70	PROPOSED CONTOUR

KEY NOTES

1. TxDOT TYPE RR8 CONCRETE RIPRAP (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
2. 7'x3' (W.H) PRECAST CONCRETE BOX CULVERT (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
3. TxDOT SAFETY END TREATMENT FOR SINGLE BOX CULVERT (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).
4. TxDOT SAFETY END TREATMENT FOR SINGLE CIRCULAR CULVERT (REFER TO TxDOT STANDARD DETAILS AND SPECIFICATIONS).

Basin	Area	Impervious	Pervious	Time of Co	2-year			25-year			100-year		
	acre	%	%	min	C	I	Q	C	I	Q	C	I	Q
TX-O1	12.54	80.20%	19.80%	31.1	0.67	5.76	48.16	0.74	10.50	97.51	0.79	12.99	128.53

TXDOT EBDLKUP IDF Curve Coefficients

TXDOT EBDLKUP-2019-Vc6.2.10

Coefficient	Design Annual Exceedance Probability (Design Annual Recurrence Interval)						
	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8287	0.8098	0.7984	0.7847	0.7747	0.7645	0.7445
b	61.3967	76.3905	87.3989	101.4415	111.3258	121.2080	147.8440
d (min)	12.3850	12.5702	12.7341	13.0090	13.1836	13.5625	15.6097
Intensity (inches/hour)	5.7593	7.4989	8.8004	10.4954	11.7701	12.9917	15.5422

Basin	Area	Area	Pervious area	Impervious area	Impervious	Pervious	Runoff Coefficient					
	acre	sq ft	sq ft	sq ft	%	%	2 yr	5-yr	10 yr	25 yr	50-yr	100 yr
TX-O1	12.54	546,242	108,156	438,086	80.20%	19.80%	0.67	0.70	0.74	0.79	0.83	0.87

C values (Developed Park/Lawns, Fair Conditions, Average Slope 2-7%)

	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Concrete	0.75	0.79	0.83	0.88	0.93	0.97
Grass	0.33	0.36	0.38	0.42	0.46	0.49

Alt.	Location	Event	Target Flow (cfs)	Conveyance Type	Height (feet)	Width (feet)	Manning's "n"	Slope	Head-water (ft)	Calculated Full-Pipe Flow (cfs)	Percent of Target Flow	Area (sq.-ft.)	Wetted Perimeter (ft)	R	Ce	Velocity (fps)	sf	L (ft)
d1	A	25-Year	97.51	BOX Culvert	3	7	0.012	0.0066	6.8	218.8	224%	21.00	20.00	1.05	1.3	10.42	0.007	76
								Number of Pipes =	1	219	224%						
d2	B	25-Year	97.51	BOX Culvert	3	7	0.012	0.005	5.9	190.5	195%	21.00	20.00	1.05	1.3	9.07	0.005	169
								Number of Pipes =	1	190	195%						

Alt.	Location	Event	Target Flow (cfs)	Conveyance Type	Height (feet)	Width (feet)	Manning's "n"	Slope	Head-water (ft)	Calculated Full-Pipe Flow (cfs)	Percent of Target Flow	Area (sq.-ft.)	Wetted Perimeter (ft)	R	Ce	Velocity (fps)	sf	L (ft)
d1	A	100-Year	128.53	BOX Culvert	3	7	0.012	0.0066	6.8	218.8	170%	21.00	20.00	1.05	1.3	10.42	0.007	76
								Number of Pipes =	1	219	170%						
d2	B	100-Year	128.53	BOX Culvert	3	7	0.012	0.005	5.9	190.5	148%	21.00	20.00	1.05	1.3	9.07	0.005	169
								Number of Pipes =	1	190	148%						

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bestlock@bowman.com
www.bowmanconsulting.com

REVISIONS	DESCRIPTION	DATE
REVISION		

DRIVEWAY GRADING & DRAINAGE PLAN

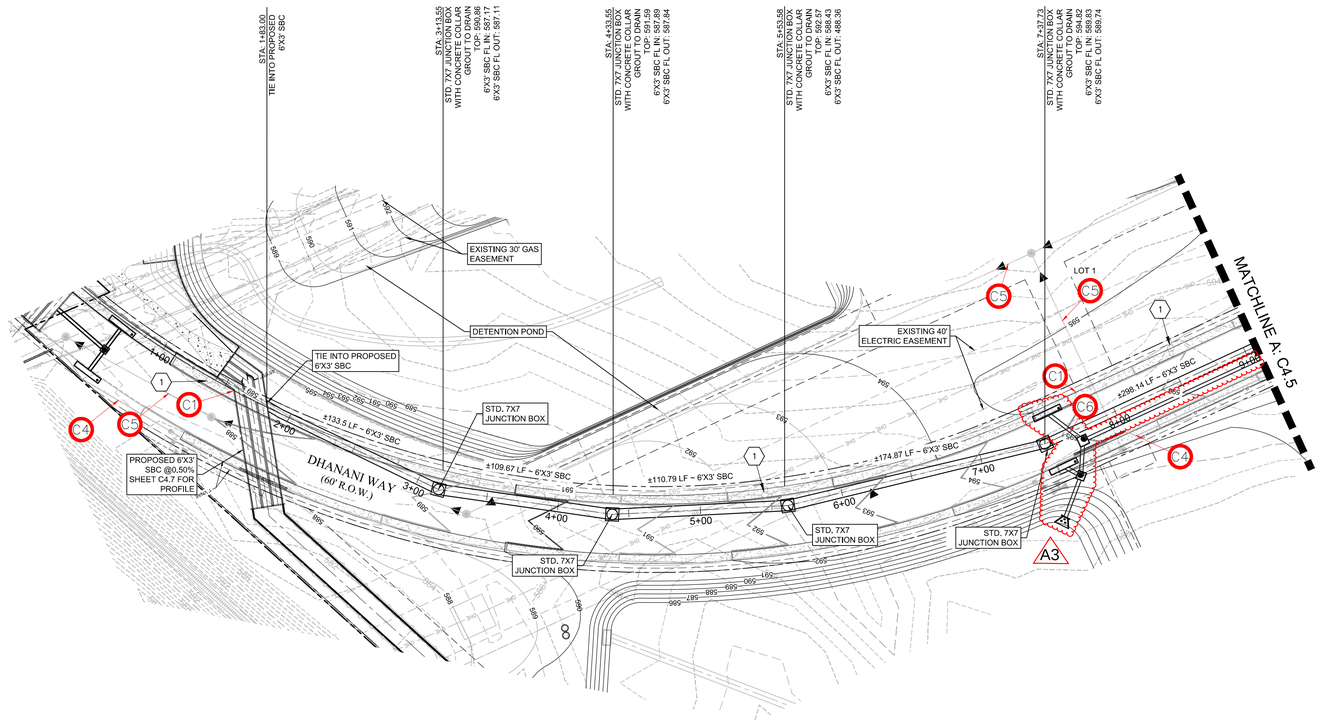
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

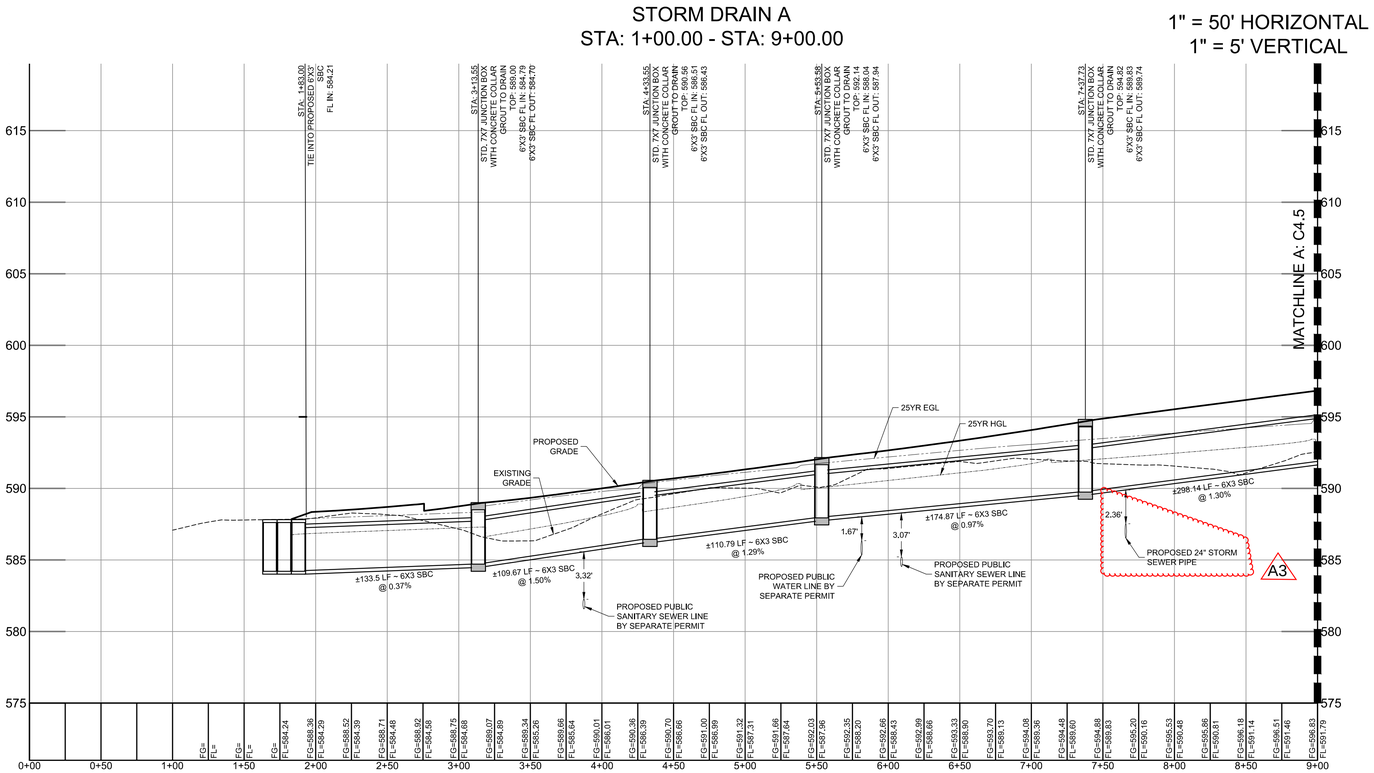
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1"=20'
JOB No. 250503-01-001
SHEET NO. **C4.9**

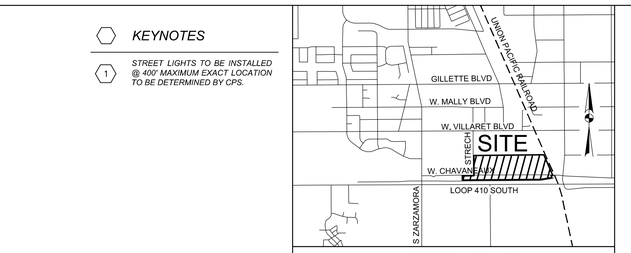
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PRIVATE SITE\C8.0 GRADING & DRAINAGE PLAN.dwg, C4.9 DRIVEWAY GRADING & DRAINAGE PLAN, March 06, 2026, 1:29 PM, mlandon





KEYNOTES

1. STREET LIGHTS TO BE INSTALLED @ 400' MAXIMUM EXACT LOCATION TO BE DETERMINED BY CPS.



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- 100 PROPOSED CONTOURS
- 100 EXISTING CONTOURS
- OHE OHE EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED POWER POLE

50 0 50 100
SCALE: 1 INCH = 50 FT

CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. (A3) CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS, DATED DECEMBER 13, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS.
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET. INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP, 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnick@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

PUBLIC STORM DRAIN A PLAN & PROFILE 1+00 - 9+00

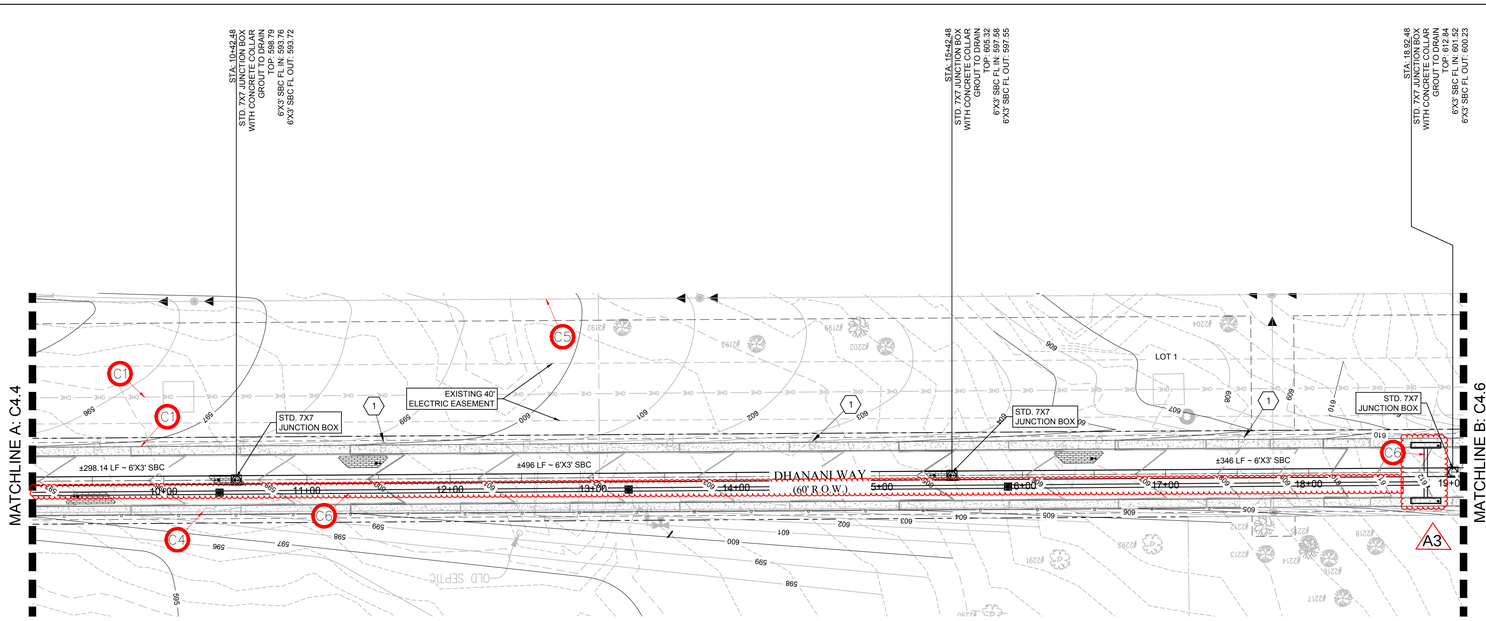
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

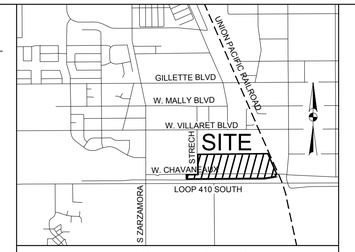
DATE: 03/06/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C4.10

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PUBLIC STORM DRAIN PLAN.dwg, C4.10 PUBLIC STORM DRAIN A PLAN & PROFILE, March 06, 2026, 4:06 PM, acastillo



KEYNOTES

1. *STREET LIGHTS TO BE INSTALLED @ 400' MAXIMUM EXACT LOCATION TO BE DETERMINED BY CPS.*



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

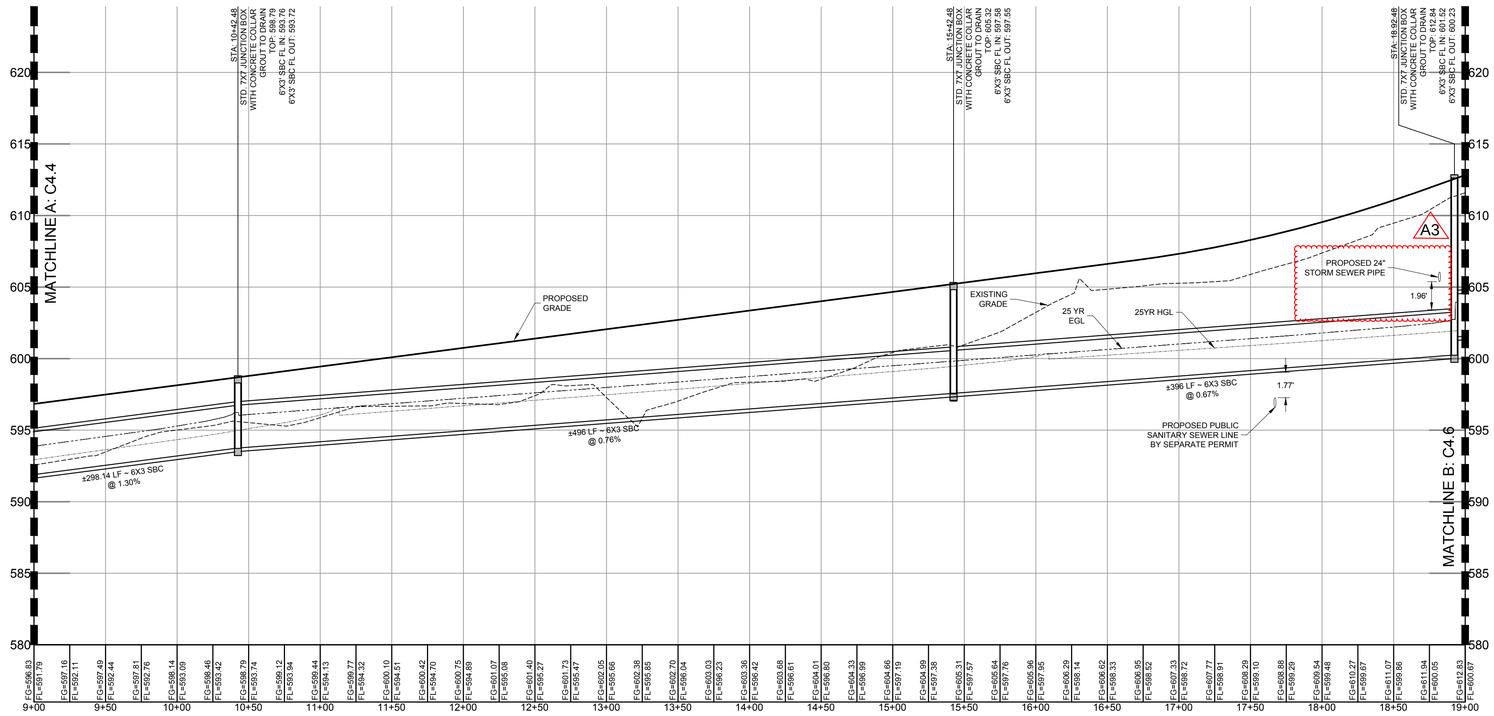
- *RIGHT-OF-WAY*
- *CENTERLINE*
- *PROPOSED CONTOURS*
- *EXISTING CONTOURS*
- *EXISTING OVERHEAD ELECTRIC*
- *PROPOSED SEWER LINE CONTOURS*
- *PROPOSED WATER LINE*
- *PROPOSED STORM DRAIN LINE*
- *PROPOSED POWER POLE*

50 0 50 100

SCALE: 1 INCH = 50 FT

STORM DRAIN A
STA: 9+00.00 - STA: 19+00.0

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



CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS, DATED DECEMBER 13, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS. (A3)
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET, INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP, 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2026 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISION	DESCRIPTION	DATE

PUBLIC STORM DRAIN A PLAN & PROFILE 9+00 - 19+00

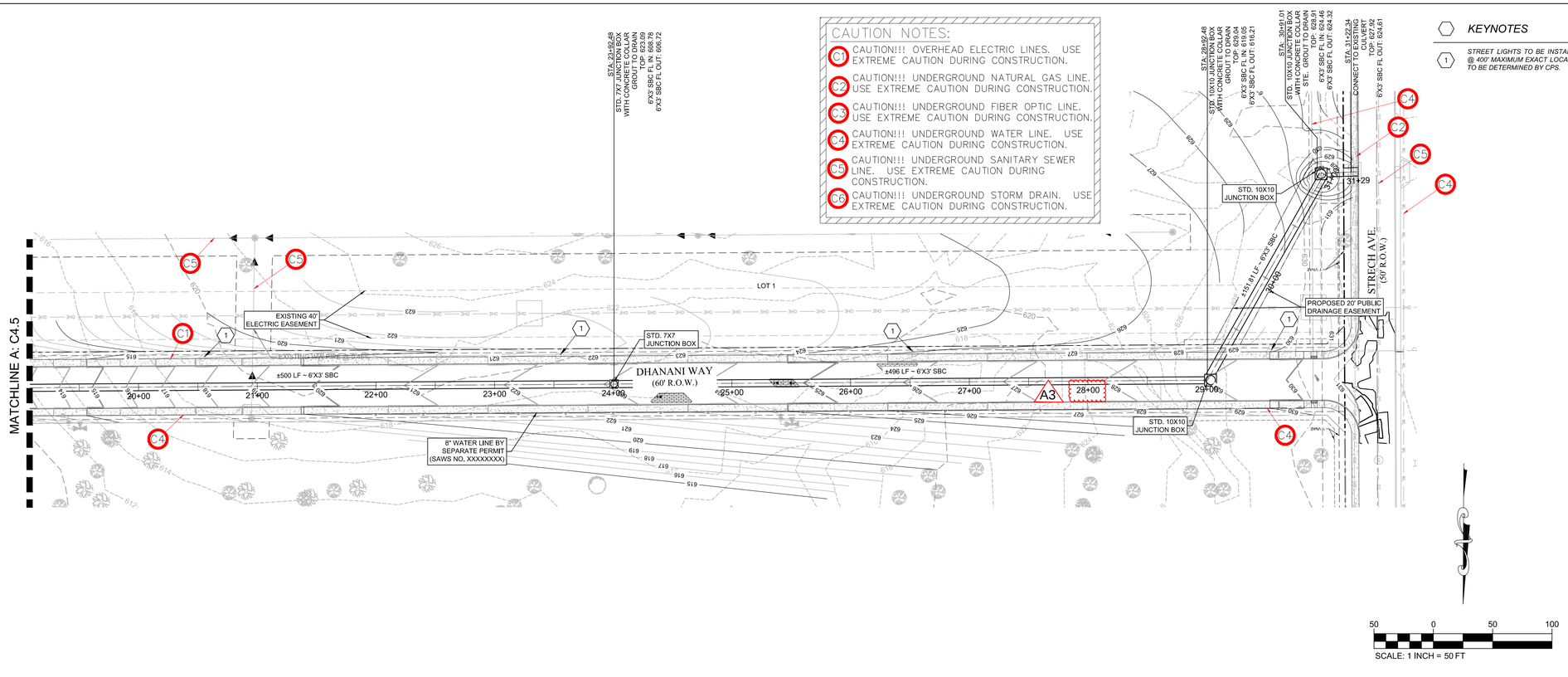
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C4.11

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PUBLIC STORM DRAIN PLAN.dwg, C4.11 PUBLIC STORM DRAIN A PLAN & PROFILE, March 06, 2026, 1:32 PM, mlandon



FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

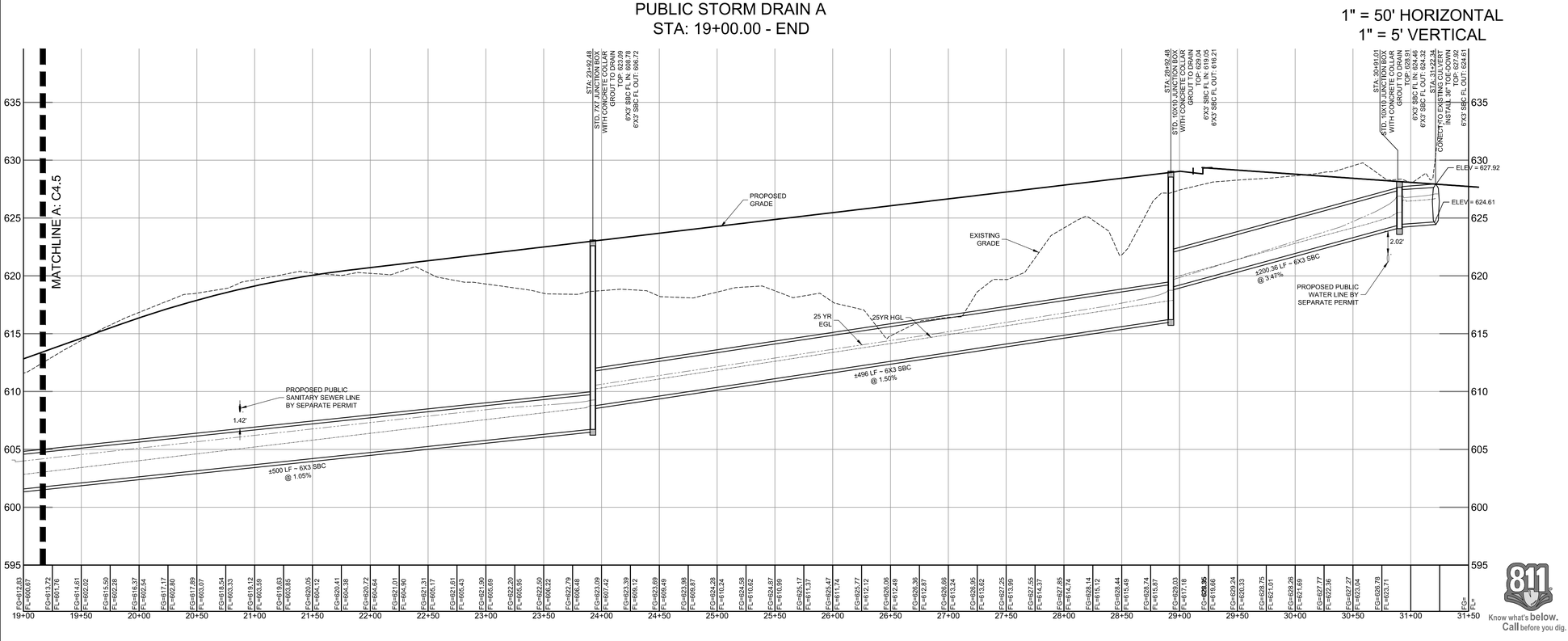
- RIGHT-OF-WAY
- CENTERLINE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED POWER POLE

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS, DATED DECEMBER 13, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS.

A3

3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT. AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET, INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP, 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Know what's below. Call before you dig.

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnick@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

PUBLIC STORM DRAIN A PLAN & PROFILE 19+00 - END

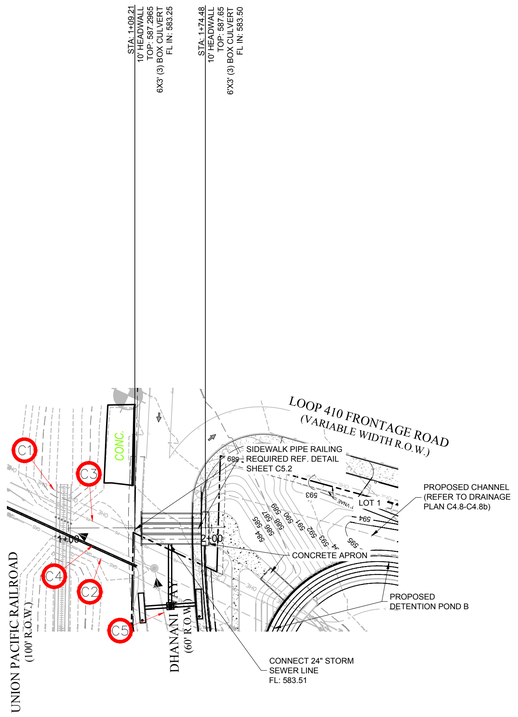
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

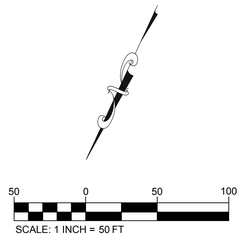
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

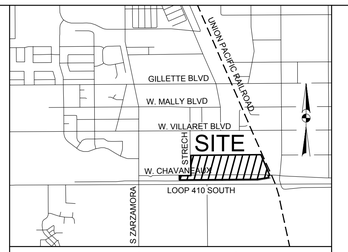
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C4.12

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PUBLIC STORM DRAIN PLAN.dwg, C4.12 PUBLIC STORM DRAIN A PLAN & PROFILE, March 06, 2026, 4:11 PM, acastillo



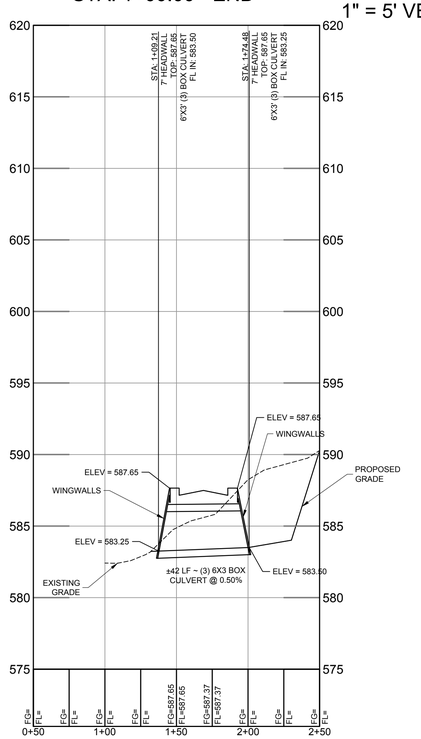




VICINITY MAP: N.T.S.

PUBLIC STORM DRAIN B
STA: 1+00.00 - END

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



FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED POWER POLE

NOTES:

1. SIDEWALK ALONG OPEN SPACE TO BE CONSTRUCTED WITH CIVIL PLANS. SIDEWALK AT INTERSECTIONS AND RAMPS TO BE CONSTRUCTED WITH CIVIL PLANS. RESIDENTIAL SIDEWALK FRONTING LOTS TO BE CONSTRUCTED BY HOME BUILDER.
2. CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY OMEGA ASSOCIATES & ENGINEERS, DATED DECEMBER 10, 2024, REF SHEET C2.5 FOR ROAD CROSS SECTIONS.
3. IRRIGATION SLEEVES 4" AND 6" PVC PIPE. IRRIGATION LINE WITHIN THE SLEEVE MUST BE SEAMLESS.
4. ALL CURVE DATA IS TO FACE OF CURB OR OUTSIDE EDGE OF RIBBON CURB UNLESS OTHERWISE NOTED.
5. TOP OF CURB = CENTERLINE ELEVATION (TYP.) REF. THIS SHEET FOR SPOT GRADES @ PC. & PT, AND RAMPS CROSSINGS.
6. TOP OF CURB ELEVATION LISTED FOR INLETS AT CENTERLINE OF INLET. INSTALL CURB INLETS TO MATCH SLOPE OF ROADWAY (TYP.)
7. ALL DIMENSIONS ARE TAKEN FROM FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:20, AND A MAXIMUM CROSS SLOPE OF 1:48.
9. ALL CURB RAMPS SHALL BE INSTALLED WITH A MAXIMUM RUNNING SLOPE OF 1:12, AND A MAXIMUM CROSS SLOPE OF 1:48.
10. ALL CURB RAMPS SHALL BE INSTALLED WITH A LANDING AT THE TOP OF THE RAMP. 5' MINIMUM IN LENGTH AND 5' MINIMUM IN WIDTH, LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 1:48 IN ALL DIRECTIONS.
11. CURB RAMP COUNTERSLOPES OF ADJOINING ROADWAYS AND GUTTERS AT CURB RAMPS SHALL NOT EXCEED 1:20 RUNNING SLOPE, AND 1:48 CROSS SLOPE.
12. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10.
13. DETECTABLE WARNINGS SHALL BE INSTALLED AT THE BACK OF CURB, THE FULL WIDTH OF CURB RAMPS.

A3

CAUTION NOTES:

- C1 CAUTION!!! OVERHEAD ELECTRIC LINES. USE EXTREME CAUTION DURING CONSTRUCTION.
- C2 CAUTION!!! UNDERGROUND NATURAL GAS LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C3 CAUTION!!! UNDERGROUND FIBER OPTIC LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C4 CAUTION!!! UNDERGROUND WATER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C5 CAUTION!!! UNDERGROUND SANITARY SEWER LINE. USE EXTREME CAUTION DURING CONSTRUCTION.
- C6 CAUTION!!! UNDERGROUND STORM DRAIN. USE EXTREME CAUTION DURING CONSTRUCTION.

811 Know what's **below.** **Call** before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832

© 2026 Bowman Consulting Group, Ltd.

8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 6 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

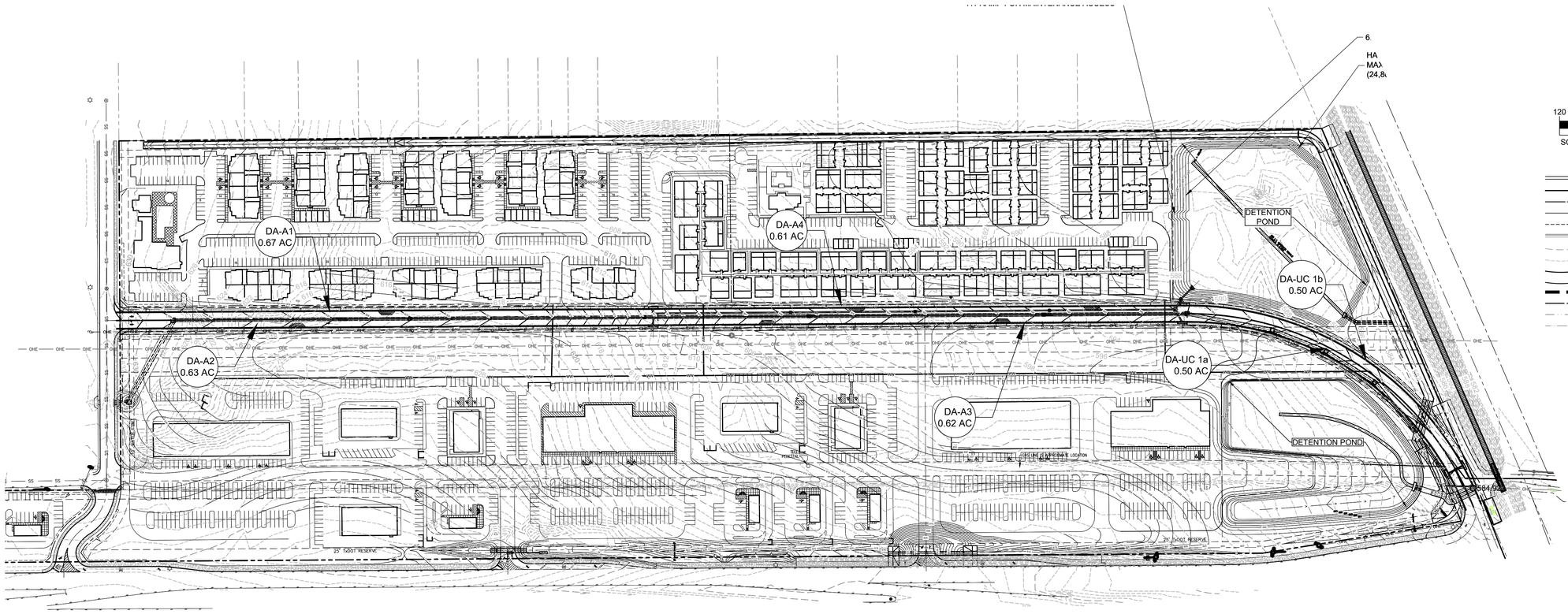
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/06/2026
SCALE: *1" = 50'*
JOB No. 250503-01-001
SHEET NO. **C4.13**

PUBLIC STORM DRAIN B PLAN & PROFILE 1+00 - END

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PUBLIC STORM DRAIN PLAN.dwg, C4.13 PUBLIC STORM DRAIN B PLAN AND PROFILE, March 06, 2026, 1:33 PM, mlandon



DPEG Zarzamora Impervious Cover Calculations

Drainage Area Basin	Area (sf)	Area (ac)	Area (sq mi)	Lot Max Impervious Cover (%)	Roof/Lot Impervious Cover (sf)	Sidewalks and Driveways - ROW Concrete (sf)	Roadway - Asphalt (sf)	Open Area - Grass (sf)	Impervious Cover (sf)	Impervious Cover (%)
DA-A1	29,075	0.67	0.0010	50%	0	7,314	19,882	1,878	27,196	94%
DA-A2	27,335	0.63	0.0010	50%	0	7,500	19,775	60	27,275	100%
DA-A3	26,868	0.62	0.0010	50%	0	7,670	19,140	58	26,810	100%
DA-A4	26,682	0.61	0.0010	50%	0	7,064	19,560	59	26,624	100%
DA-UC-1a	21,790	0.50	0.0008	50%	0	0	17,016	4,775	17,016	78%
DA-UC-1b	21,790	0.50	0.0008	50%	0	0	17,016	4,775	17,016	78%

DPEG Zarzamora - Rational Method Calculations

BASIN	AREA			SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNEL FLOW						Increm TC	TC Total	Lag
				L	n	S	Tc	L	n	S	Tc	L	n	S	R	V	Tc			
	sf	ac	sq mi	ft		%	min	ft		%	min	ft		%		fps	min	min	min	min
DA-A1	29075	0.67	0.0010	40	0.150	2.00%	4.1	0	0.016	1.00%	0.0	1110	0.015	1.60%	0.01	0.69	26.6	30.8	30.8	18.5
DA-A2	27335	0.63	0.0010	40	0.150	2.00%	4.1	0	0.016	1.00%	0.0	1080	0.015	1.60%	0.01	0.69	25.9	30.0	30.0	18.0
DA-A3	26868	0.62	0.0010	40	0.150	2.00%	4.1	0	0.016	1.00%	0.0	1093	0.015	1.45%	0.01	0.66	27.5	31.7	31.7	19.0
DA-A4	26682	0.61	0.0010	40	0.150	2.00%	4.1	0	0.016	1.00%	0.0	1050	0.015	1.45%	0.01	0.66	26.5	30.6	30.6	18.4
DA-UC-1a	21790	0.50	0.0008	0	0.015	4.61%	0.0	0	0.016	1.00%	0.0	590	0.015	2.30%	0.01	0.70	14.1	14.1	14.1	8.4
DA-UC-1b	21790	0.50	0.0008	0	0.015	104.61%	0.0	0	0.016	1.00%	0.0	590	0.015	2.30%	0.01	0.70	14.1	14.1	14.1	8.4

DPEG Zarzamora Inlet Calculations - 25 Year Storm

Inlet ID	Drainage Area	Inlet Type	Length of Inlet (ft)	Long. Slope (%)	Q25 (cfs)	Peak Flow Including Bypass	Peak Flow Intercepted by Inlet	Peak Flow Bypassing Inlet	Inlet Accepting Bypass Flow	Depth in Gutter (ft)	Ponding Width (ft)	Inlet Efficiency
A1	DA-A1	ON GRADE	20.00	1.60%	6.78	6.78	6.78	0.00	-	0.27	8.51	100%
A2	DA-A2	ON GRADE	20.00	1.60%	6.59	6.59	6.59	0.00	-	0.26	8.26	100%
A3	DA-A3	ON GRADE	20.00	1.45%	6.48	6.48	6.48	0.00	A2	0.27	8.51	100%
A4	DA-A4	ON GRADE	20.00	1.45%	6.38	6.38	6.38	0.00	A1	0.27	8.51	100%
B1	DA-UC 1a	ON GRADE	20.00	2.30%	3.18	3.18	3.18	0.00	A3	0.18	5.60	100%
B2	DA-UC 1b	ON GRADE	20.00	2.30%	3.18	3.18	3.18	0.00	A4	0.18	5.60	100%

DPEG Zarzamora Inlet Calculations - 100 Year Storm

Inlet ID	Drainage Area	Inlet Type	Length of Inlet (ft)	Long. Slope (%)	Q100 (cfs)	Peak Flow Including Bypass	Peak Flow Intercepted by Inlet	Peak Flow Bypassing Inlet	Inlet Accepting Bypass Flow	Depth in Gutter (ft)	Ponding Width (ft)	Inlet Efficiency
A1	DA-A1	ON GRADE	20.00	1.60%	8.48	8.48	8.48	0.00	-	0.28	9.80	100%
A2	DA-A2	ON GRADE	20.00	1.60%	8.23	8.23	8.23	0.00	-	0.28	9.80	100%
A3	DA-A3	ON GRADE	20.00	1.45%	8.10	8.10	8.10	0.00	A2	0.29	10.15	100%
A4	DA-A4	ON GRADE	20.00	1.45%	7.97	7.97	7.97	0.00	A1	0.28	9.80	100%
B1	DA-UC 1a	ON GRADE	20.00	2.30%	3.96	3.96	3.96	0.00	A3	0.18	6.13	100%
B2	DA-UC 1b	ON GRADE	20.00	2.30%	3.96	3.96	3.96	0.00	A4	0.18	6.13	100%

Bowman
TBPE Firm Registration No. F-003832
© 2020 Bowman Consulting Group, Ltd.
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

OVERALL DRAINAGE AREA MAP - DHANANI WAY

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

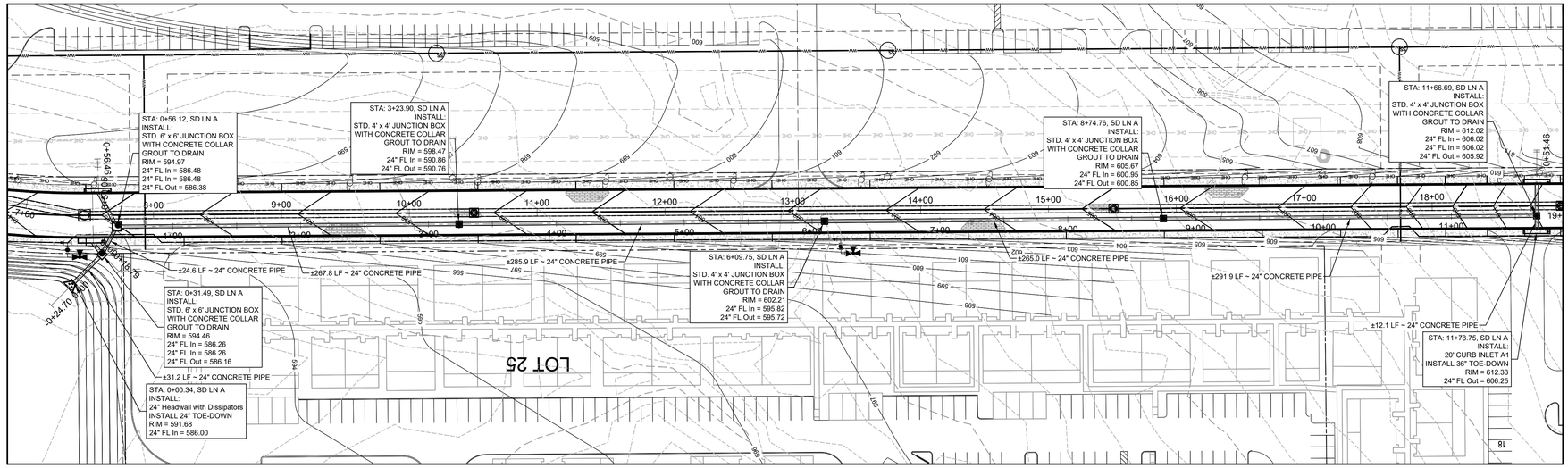
ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-2505503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1" = 120'
JOB No. 250503-01-001
SHEET NO. **C4.14**

V:\250503 - DPEG\2505503-01-001 (ENG) - Zarzamora\Engineering\Drawings\Inlet DAM.dwg, C4.14 INLET DRAINAGE AREA MAP, March 02, 2026, 9:20 AM, ahernandez



VICINITY MAP: N.T.S.

50 0 50 100

SCALE: 1 INCH = 50 FT

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

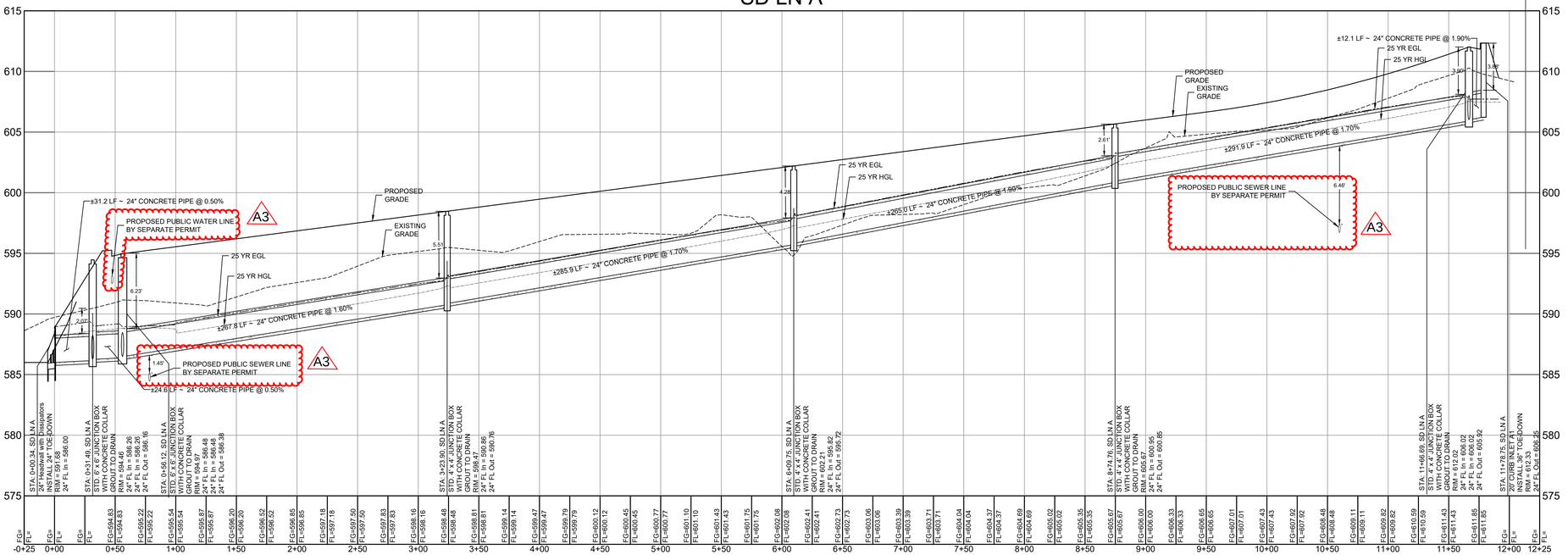
57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- 100 PROPOSED CONTOURS
- 100 EXISTING CONTOURS
- OHE OHE EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED POWER POLE

Conduit Label	Diameter (in)	25-YR		100-YR	
		Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)
SD LN A P1	24	23.34	7.43	29.36	9.35
SD LN A P2	24	17.72	5.64	22.28	7.09
SD LN A P3	24	12.23	7.89	15.37	8.34
SD LN A P4	24	12.57	8.10	15.77	8.56
SD LN A P5	24	12.91	8.50	16.17	8.98
SD LN A P6	24	13.31	8.22	16.64	8.67
SD LN A P7	24	6.78	7.98	8.48	8.5

SD LN A



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Know what's below. Call before you dig.

Bowman
© 2026 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 202 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

STORM DRAIN LN A PLAN & PROFILE

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

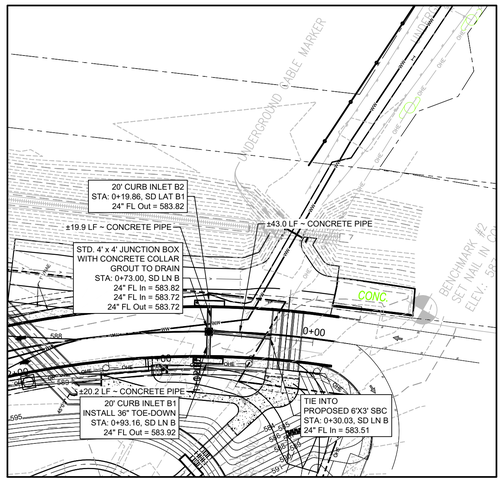
DATE: 03/02/2026

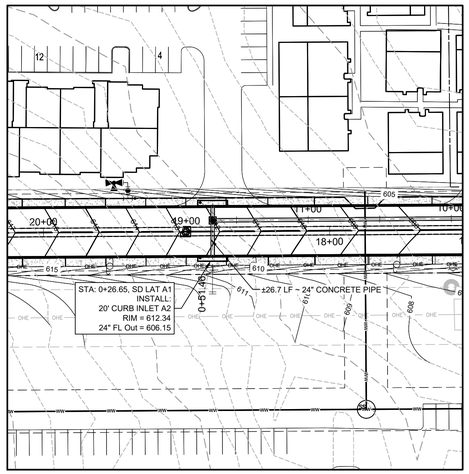
SCALE: 1" = 50'

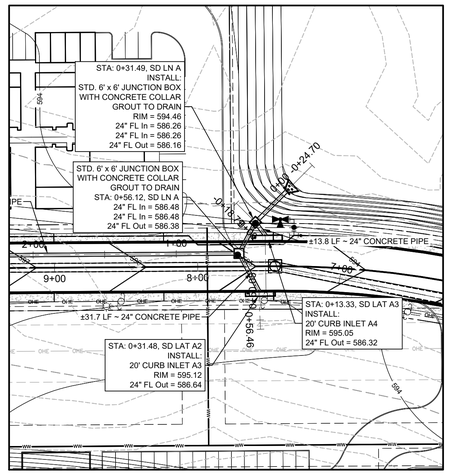
JOB No. 250503-01-001

SHEET NO. **C4.15**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PROPOSED STORM DRAIN PLAN.dwg, C4.12 STORM DRAIN LN A PLAN & PROFILE, March 02, 2026, 9:24 AM, alhernandez

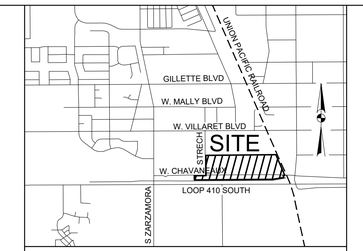






50 0 50 100

SCALE: 1 INCH = 50 FT



VICINITY MAP: N.T.S.

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

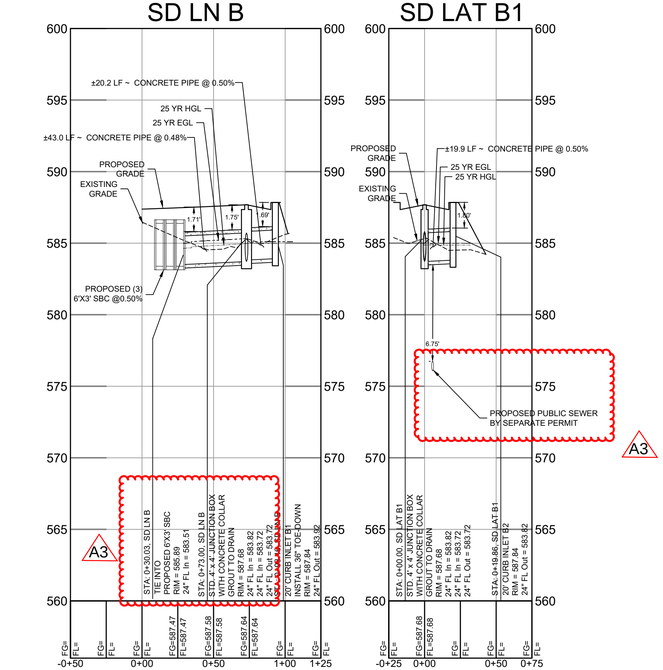
BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

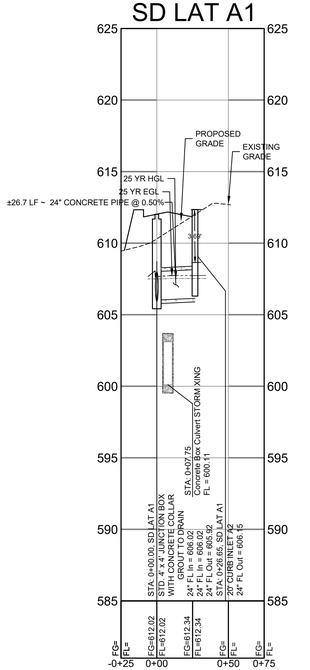
LEGAL DESCRIPTION :

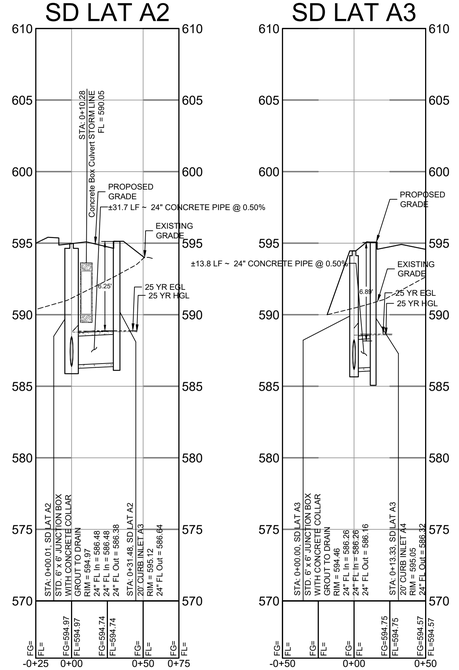
57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.

LEGEND

- RIGHT-OF-WAY
- CENTERLINE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SEWER LINE CONTOURS
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN LINE
- PROPOSED POWER POLE







Conduit Label	Diameter (in)	25-YR		100-YR	
		Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)
SD LT A1 P1	24	6.59	7.09	8.23	7.53
SD LT A2 P1	24	6.48	4.38	8.1	2.58
SD LT A3 P1	24	6.38	2.03	7.97	2.54
SD LN B P1	24	6.3	4.79	7.85	5.07
SD LN B P2	24	6.33	4.82	7.9	5.1
SD LN B P3	24	3.18	3.95	3.96	4.21
SD LAT B1 P1	24	3.18	3.97	3.96	4.23

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE, IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS, CITY PROJECT NO. CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

811 Know what's below. Call before you dig.

Bowman
© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 202 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

STORM DRAIN LAT A1, LAT A2 & LAT A3 PLAN & PROFILE

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE: 1" = 50'
JOB No. 250503-01-001
SHEET NO. C4.16

V:\250503 - DPEG\02\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\PROPOSED STORM DRAIN PLAN.dwg, C4.13 STORM DRAIN LAT A11 A2 & A3 PLAN & PROFILE, March 02, 2026, 9:24 AM, ahernandez

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	233-2010
BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET)	354-6538 / 357-5741
COSA DRAINAGE	207-8048
COSA SIGNAL OPERATIONS	207-7720 / 207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-344-8377
- CITY PUBLIC SERVICE ENERGY	
- TIME WARNER	
- AT&T	
- MCI	

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

TREE PROTECTION AND PRESERVATION GENERAL NOTES

1. NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
2. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY ITEM).
3. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.
4. ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
5. ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).
6. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
7. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
8. SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
9. NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
10. TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.
11. NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
12. ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND /OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM).
13. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
14. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-8053)
15. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.
16. TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND SPECIES.

ACCESSIBILITY REQUIREMENTS

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

NOTE TO CONSULTANT

DO NOT MODIFY, DELETE OR ADD TO THE CITY OF SAN ANTONIO'S GENERAL NOTES STANDARD SHEET. IF MODIFICATIONS ARE REQUIRED, FOLLOW THE INSTRUCTIONS ON THE "SUPPLEMENTAL GENERAL NOTES" SHEET.

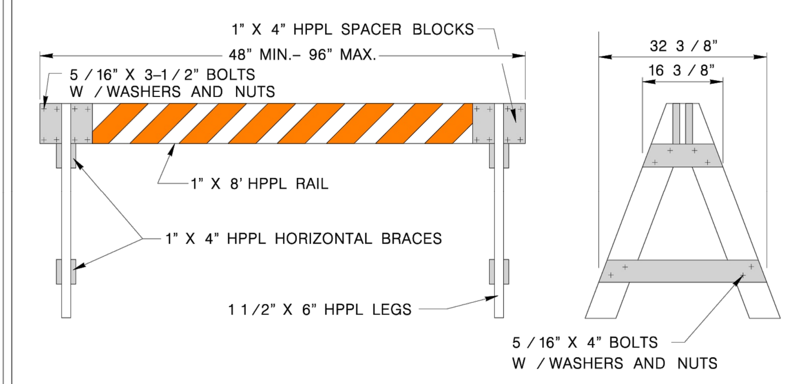
DECEMBER 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CITY OF SAN ANTONIO GENERAL NOTES

___% SUBMITTAL | PROJECT NO.: | DATE: | DRWN. BY: | DSGN. BY: | CHKD. BY: | SHEET NO.: ___ OF ___

TYPE I BARRICADE



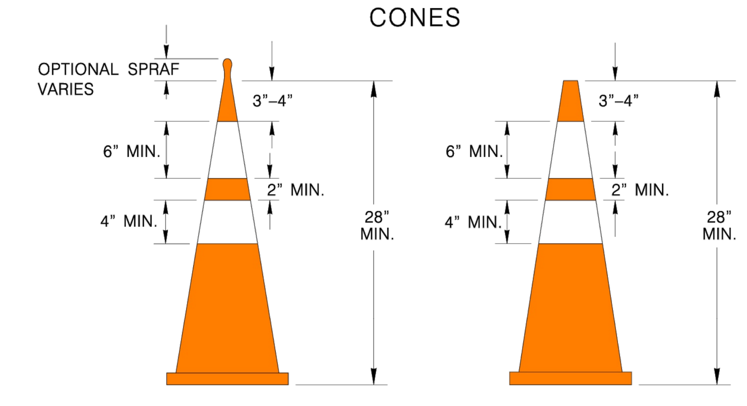
1.) Only the following Type I barricade shall be used in the City of San Antonio Right-Of-Way:
   A. 1" x 8" plastic rail with 2" x 6" wooden legs.
   B. 1" x 8" wooden rail with plastic legs.
   C. 1" x 8" wooden rail with 2" x 6" wood legs.
   D. No screws allowed for assembly of A-legs or rail.
   E. Warning lights will be used as directed by the Traffic Engineer.
   F. All Type I (4') barricades will be a minimum of 36" high and 60" wide. (For Construction Use Only)
   G. All Type I (8') barricades with wooden legs shall be 2" X 6" wood only.
   H. All Type I (4') barricades with wooden legs shall be 1" X 8" wood only.

2.) Type I Barricades shall not be used for partial and total street closures in construction work zones. Only Type III barricades shall be used for this purpose.

3.) Warning lights shall not be mounted on Type I barricades.

(See TxDOT BC-03 Sheets for specific construction information)

CONES

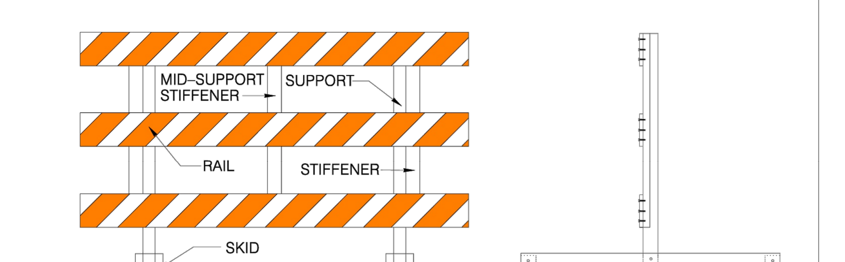


1.) Base for 28" high cones must weigh at least 9.5 lbs.

2.) Night time cones must have reflective collars.

(See TxDOT BC-03 Sheets for specific construction information)

Type III BARRICADE



1.) Only the following Type III barricade shall be used in the City of San Antonio Right-Of-Way.
   A. Hollow polyvinyl or fiberglass tubing post with 1" X 8" wooden rails.
   B. Hollow polyvinyl or fiberglass tubing post with plastic rails.
   C. Skids must be wood or solid plastic only.
   D. Warning lights shall not be mounted on Type III barricades.

(See TxDOT BC-03 Sheets for specific construction information)

TEMPORARY MARKINGS

1.) Solid double yellow painted lines shall be installed for temporary division of traffic or construction duration longer than five (5) days, with repainting to occur once monthly or at the discretion of the Traffic Engineer. (All cost of upkeep will be at the contractor's expense.)

2.) Solid double yellow tabs, or V/P panels shall be installed for temporary division of traffic for construction duration less than five (5) days, with re-tabbing to occur at the discretion of the Traffic Engineer.
NAILS SHALL NOT BE USED TO FIX TABS TO CEMENT OR BASE (All cost of upkeep will be at the contractor's expense.)

(See TxDOT BC-03 Sheets for specific construction information.)

TEMPORARY CONCRETE BARRIER

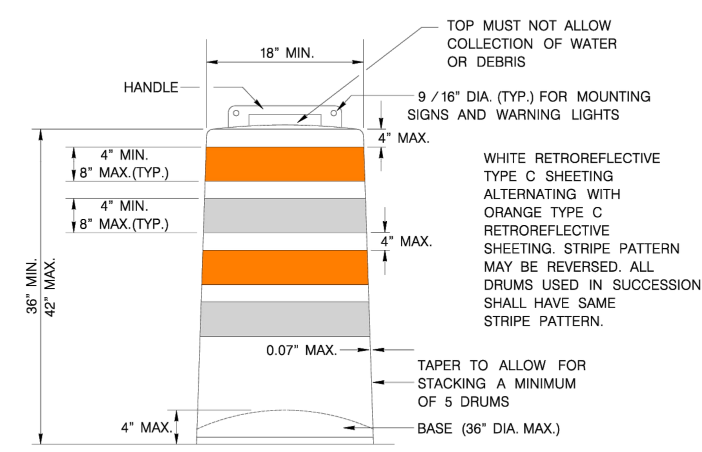
1.) All concrete barriers placed on City R.O.W. shall be low profile.

2.) No high profile barriers will be allowed.

3.) Reflectors will be required on each concrete barrier.

(See TxDOT BC-03 Sheets for specific construction information)

PLASTIC DRUMS



1.) Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).

2.) Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.

3.) The Engineer/Inspector shall provide written notice to the Contractor regarding the replacement of drums or other traffic control devices. The Contractor shall have a maximum of 24 hours to replace any plastic drums or other traffic control devices identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

4.) Each drum must have a 40 lb. rubber or plastic snap on.

5.) No signs larger than 18" X 24" will be allowed to be mounted on plastic drums.

6.) No warning lights will be allowed to be mounted on plastic barrels.

7.) In lieu of a warning light, a yellow reflector will be acceptable.

(See TxDOT BC-03 Sheets for specific construction information)

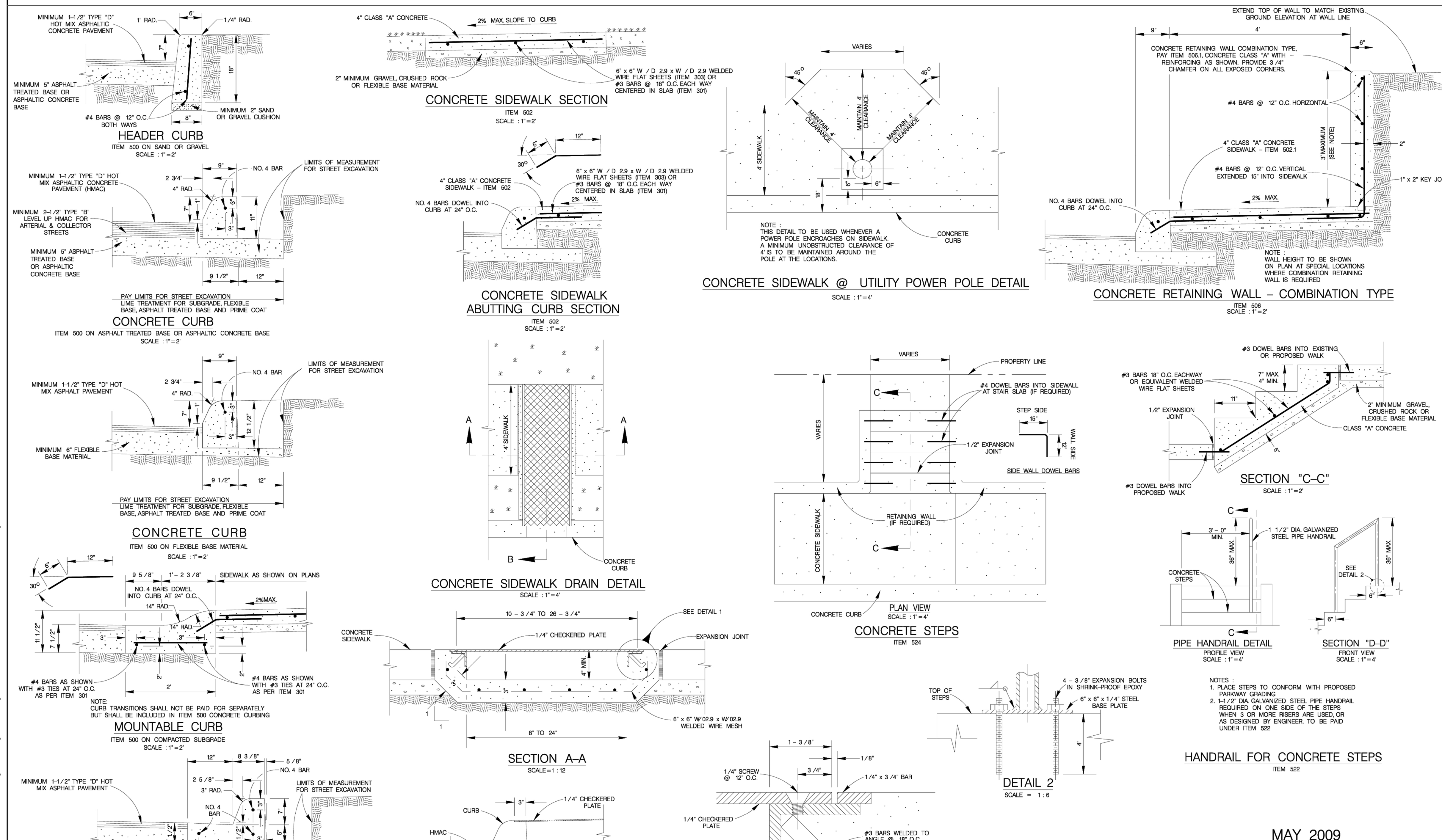
THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBELE, #46394 ON 06-20-05 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

JUNE 2005

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

TRAFFIC STANDARDS
BARRICADE AND CONSTRUCTION STANDARDS
SHEET 3 OF 4

___% SUBMITTAL | PROJECT NO.: | DATE: | DRWN. BY: A.F.G. | DSGN. BY: E.N.M. | CHKD. BY: J.D.F./E.N.M. | SHEET NO.: ___ OF ___

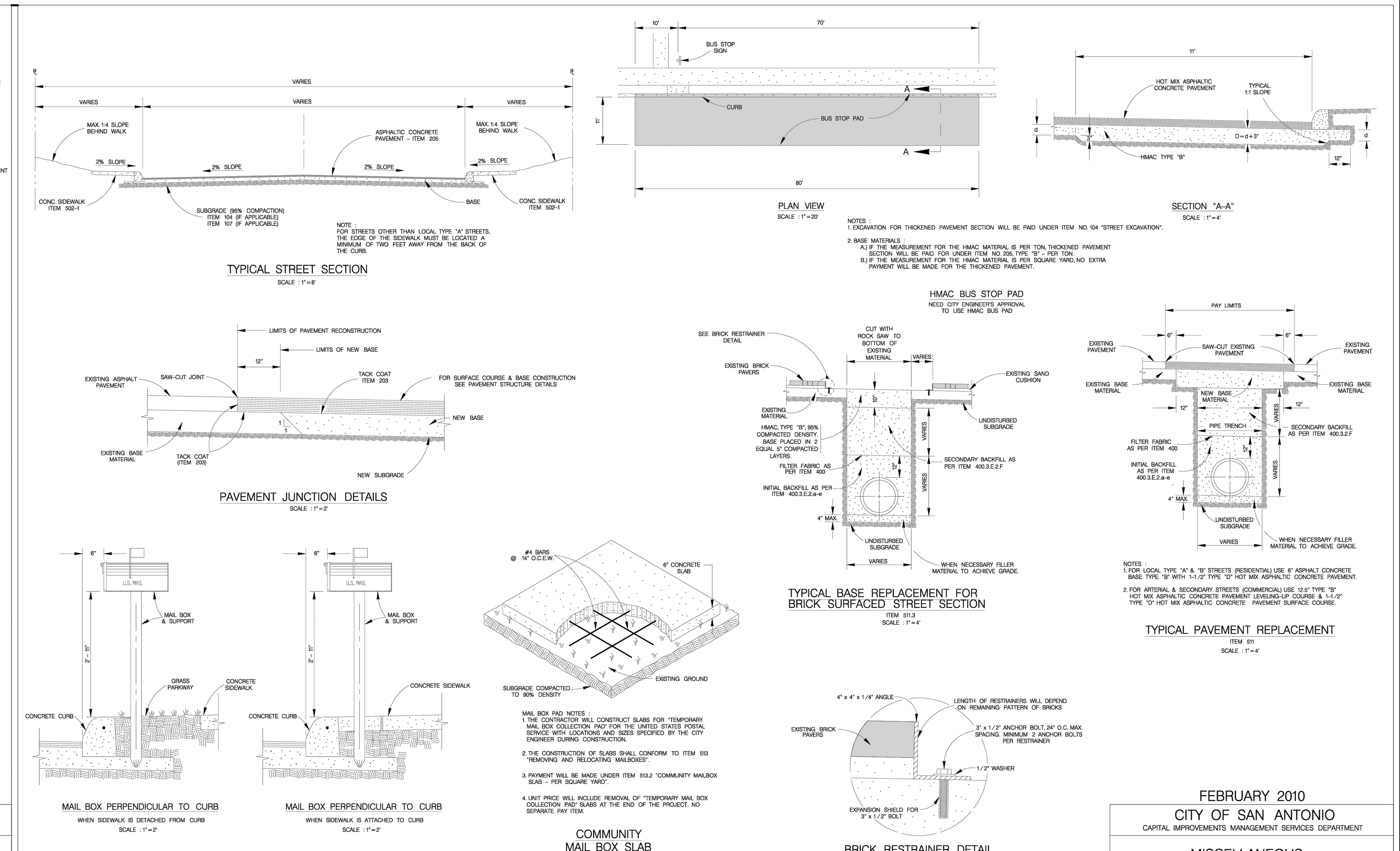


MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

MISCELLANEOUS CONSTRUCTION STANDARDS I

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



FEBRUARY 2010

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

MISCELLANEOUS CONSTRUCTION STANDARDS II

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

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

CITY OF SAN ANTONIO DETAILS 1 OF 4

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

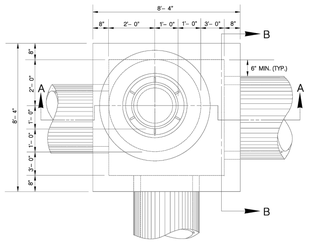
DATE: 03/02/2026

SCALE:

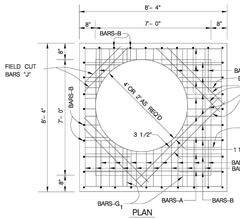
JOB No. 250503-01-001

SHEET NO. C5.0

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.0 STREET PAVING AND DRAINAGE DETAILS, March 02, 2026, 9:25 AM, ahernandez



PLAN



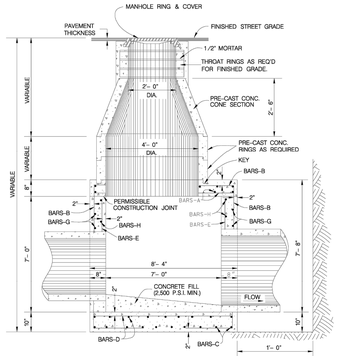
JUNCTION BOX TOP SLAB SHOWING STEEL

SCHEDULE FOR REINFORCING STEEL						
SHAPE	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
STRAIGHT	A	24	#	9" O.C.	8'– 1"	130
	B	48	5	8" O.C.	9'– 6"	476
	C	48	5	8" O.C.	4'– 3"	213
STRAIGHT	D	24	4	9" O.C.	8'– 1"	130
STRAIGHT	E	28	3	12" O.C.	6'– 11"	73
STRAIGHT	G	28	4	12" O.C.	8'– 6"	151
STRAIGHT	G_1	8	4	AS SHOWN	8'– 1"	43
STRAIGHT	H	32	3	12" O.C.	7'– 5"	89
STRAIGHT	J	8	6	3 1 / 2" O.C.	4'– 11"	59
					TOTAL	1,364 LBS.

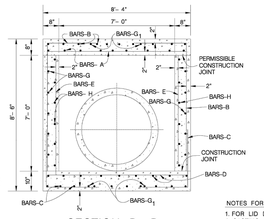
CLASS "A" CONCRETE – 9.16 C.U. YDS.
(DOES NOT EXCLUDE MANHOLE OPENINGS OR PIPE OPENING)

★ NOTE: BAR SIZE AND SPACING BASED ON SPANS AS SHOWN – ANY REVISIONS TO THESE SPANS SHALL INCLUDE A RE-DESIGN ON STEEL REQD.

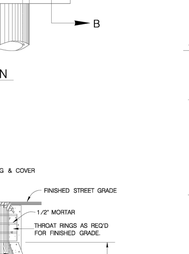
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A" 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM A-15. THE DEFORMATION SHALL CONFORM TO ASTM A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (2,500 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).
8. PAYMENT FOR ALL EXCAVATION, BACKFILLING, CONCRETE, REINFORCING STEEL, VERTICAL STACK, RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 – "STORM SEWER JUNCTION BOXES AND INLETS".



SECTION A–A

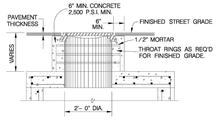


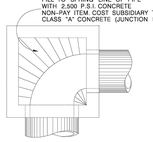
SECTION B– B



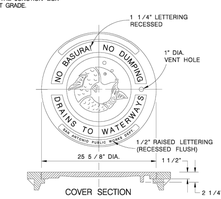
VARIATION OF VERTICAL STACK

VERTICAL STACK DESIGN SHALL BE GOVERNED BY THE DEPTH OF THE TOP OF THE JUNCTION BOX BELOW THE FINISHED STREET GRADE.





CURVED DEFLECTOR DETAIL



MANHOLE LID & RING DETAIL

SCALE: 1 : 16

NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT.".
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS–20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

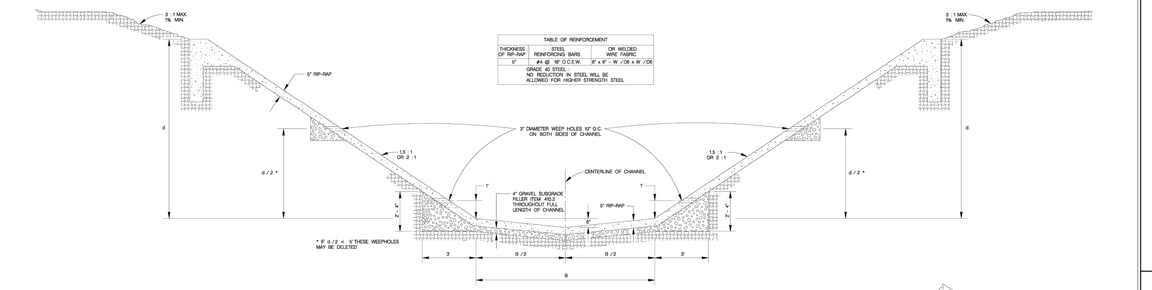
JANUARY 2005

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

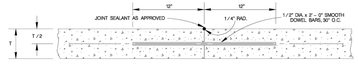
7'X7'X7' JUNCTION BOX STANDARDS

% SUBMITTAL PROJECT NO.: DATE:
DRWN. BY: DSGN. BY: CHKD. BY: SHEET NO.: OF



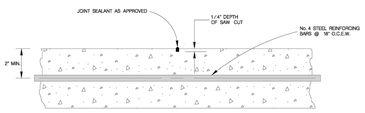
TYPICAL CHANNEL SECTION LOOKING DOWNSTREAM

SCALE : 1" = 4'



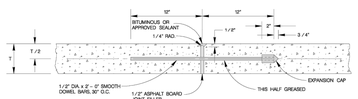
CONVERSE CONTRACTION OR CONSTRUCTION JOINT

SCALE : 1" = 1'



"SAW CUT" CONTRACTION JOINT

SCALE : 1" = 6"



TRANSVERSE EXPANSION JOINT

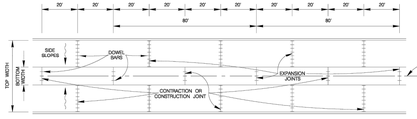
SCALE : 1" = 1'

REINFORCEMENT DETAIL TOE–DOWN

SCALE : 1" = 2"

ALL SECTIONS

SCALE : 1" = 2'



EXPANSION AND CONTRACTION JOINTS FOR CONCRETE CHANNEL LINING

SCALE : 1" = 40'

WEEP HOLES DETAILS FOR SIDE SLOPES

SCALE : 1" = 2'

GENERAL NOTES

1. CONCRETE FOR CHANNEL RIP-RAP SHALL BE CLASS "A" 3000 P.S.I.
2. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN.
3. ALL REINFORCEMENT STEEL SHALL MEET ASTM DESIGNATIONS AS CALLED FOR IN THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
4. NEW RIP-RAP SHOULD BE ATTACHED TO EXISTING RIP-RAP BY NO.4 BARS DOWELED 6" INTO EXISTING RIP-RAP. THESE BARS ARE TO BE SPACED 18" O.C. AND HAVE A LENGTH OF 18".

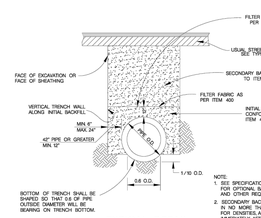
MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

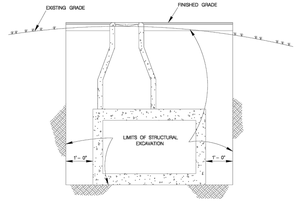
TYPICAL CONCRETE CHANNEL RIP–RAP STANDARDS

% SUBMITTAL PROJECT NO.: DATE:
DRWN. BY: V. VASQUEZ DSGN. BY: CHKD. BY: SHEET NO.: OF



TYPICAL DETAIL

NOTE:
1. SEE SPECIFICATION ITEM 400 FOR OPTIONAL BACKFILL METHOD AND OTHER REQUIREMENTS.
2. SECONDARY BACKFILL SHALL BE PLACED IN NO MORE THAN 10 INCH LIFTS AND TESTED FOR DENSITIES AS SPECIFIED IN ITEM 400, IMMEDIATELY AFTER PLACING SECONDARY FILL.



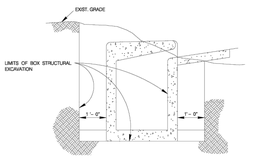
OPTIONAL DETAIL

PIPE BEDDING & BACKFILL DETAILS

STRUCTURAL EXCAVATION AT JUNCTION BOXES

NO SCALE

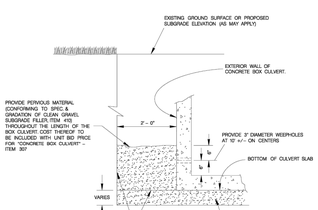
COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR JUNCTION BOX – ITEM 403.



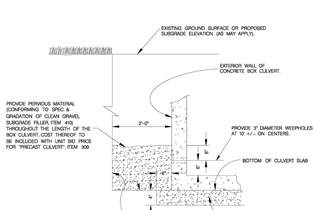
STRUCTURAL EXCAVATIONS AT DRAINAGE INLETS

NO SCALE

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR INLETS – ITEM 403.



CAST–IN–PLACE BOX CULVERT



PRECAST BOX CULVERT

CONCRETE BOX CULVERT

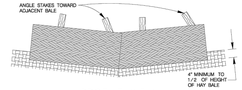
MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

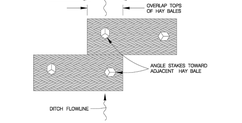
PIPE BEDDING & MISCELLANEOUS DRAINAGE DETAILS

% SUBMITTAL PROJECT NO.: DATE:
DRWN. BY: DSGN. BY: CHKD. BY: SHEET NO.: OF



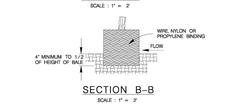
PROFILE VIEW

SCALE : 1" = 2'



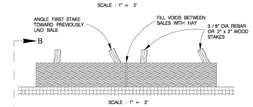
PLAN VIEW

SCALE : 1" = 2'



SECTION B–B

SCALE : 1" = 2'



BALED HAY USAGE GUIDELINES

SCALE : 1" = 2'

A BALED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW RATE PER LINEAR FOOT OF BALE BASED ON CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR LESS THAN 100', IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BALED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 / 2 ACRE.

FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONDITIONAL CONSIDERATIONS APPLY:

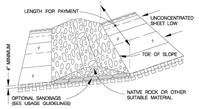
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BALED HAY.

BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTERGRITY IS ACCELERATED.

GENERAL NOTES

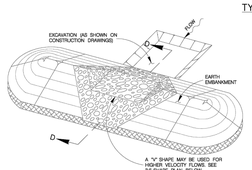
1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND, WHERE POSSIBLE, ONE–HALF THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3 / 8" DIA REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

BALED HAY FOR EROSION CONTROL



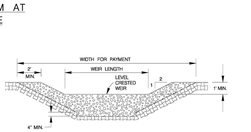
TYPE 1 FILTER DAM AT TOE OF SLOPE

SCALE : 1" = 10'



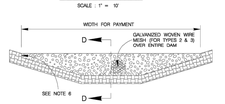
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP

SCALE : 1" = 10'



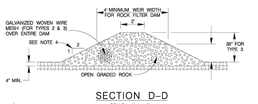
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP

SCALE : 1" = 6"



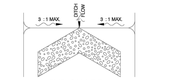
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS

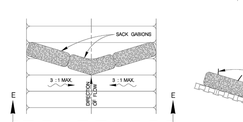
SCALE : 1" = 6'



SECTION D–D

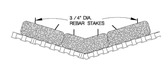
SCALE : 1" = 6"





PLAN VIEW

SCALE : 1" = 10'



SECTION E–E

SCALE : 1" = 10'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

TYPE 4 SACK GABION DETAIL

SCALE : 1" = 6"

SECTION F–F

SCALE : 1" = 6"

ROCK FILTER DAMS

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 50 GPM / FT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH, WITH NO WIRE MESH):

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT END OF SMALL OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED FLOW AREAS WHERE THE FLOW EXCEEDS 1.5 CFS. IF THE FLOW IS GREATER AND SEDIMENT WASH OUT MAY OCCUR, SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION 14" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH, WITH WIRE MESH):

TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH, WITH WIRE MESH):

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS):

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

GENERAL NOTES

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED UPSTREAM AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS: HOGGRASTE WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLANS.
4. SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 : 1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO THE EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 2" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE WIRE MESH. THE ENDS OF THE WIRE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3 /4" DIA REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

JANUARY 2005

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

% SUBMITTAL PROJECT NO.: DATE:
DRWN. BY: V. VASQUEZ DSGN. BY: CHKD. BY: SHEET NO.: OF

Bowman

© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832

8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229

Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

CITY OF SAN ANTONIO DETAILS 2 OF 4

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026

SCALE:

JOB No. 250503-01-001

SHEET NO. C5.1

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.1, March 02, 2026, 9:26 AM, ahernandez

GENERAL NOTES

1.) THE EXISTING SIGNS LOCATED ON THE JOBSITE ARE THE PROPERTY OF THE CITY OF SAN ANTONIO. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO TRAFFIC OPERATIONS. THE ASSISTANT TRAFFIC SUPERINTENDENT (207-7765) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.

2.) AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS SECTION OF THE PUBLIC WORKS DEPARTMENT (207-7765) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER CITY SIGNS AND POLES.

3.) PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE TRAFFIC ENGINEERING (207-7720) CONSTRUCTION INSPECTION AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.

4.) ALL GROUND MOUNTED SIGNS SHALL USE HIGH INTENSITY REFLECTIVE SHEETING.

5.) ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.

6.) ALL BLANKS TO BE ALUMINUM ALLOY NO. 5052-H38.

7.) "T" DENOTES THICKNESS OF SIGN BLANKS.

8.) ALL HOLES SHALL BE 3/8" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND/OR ROUGH EDGES.

9.) SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL.

10.) ALL SIGN BLANK TO BE ETCHED, DEGREASED, AND HAVE AN ALODINE FINISH PRIOR TO APPLICATION OF LEGENDS.

11.) ALL DETAILS ARE NOT TO SCALE.

12.) ALL DIMENSIONS ARE IN INCHES.

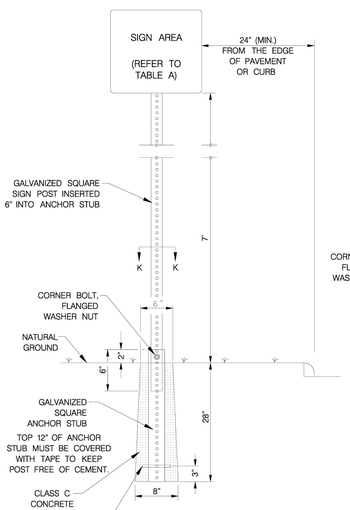
13.) ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND STANDARD HIGHWAY SIGNS (FHWA) LATEST EDITION.

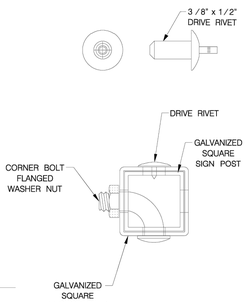
14.) REINSTALLATION OF PREVIOUSLY EXISTING SIGNS, WHERE REQUIRED BY THE CITY TRAFFIC ENGINEER, SHALL BE AT THE CONTRACTOR'S EXPENSE.

TYPICAL GROUND SIGN INSTALLATION

TYPE "U" MOUNT

PERFORATED SQUARE METAL TUBING (DRIVEABLE)





VIEW K–K

METAL TUBING	SIGN AREA ≤ 10 SQ. FT.	SIGN AREA > 10 SQ. FT.
GALVANIZED SQUARE SIGN POST (PERFORATED)	1-3/4" x 1-3/4" (14 GAUGE)	2" x 2" (12 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED)	2" X 2" (14 GAUGE)	2-1/4" x 2-1/4" (14 GAUGE)

TABLE A

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E., #88698 ON 02.06.06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

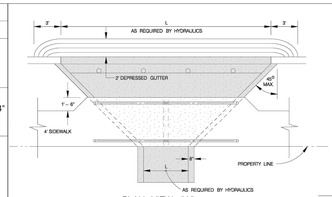
FEBRUARY 2006

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

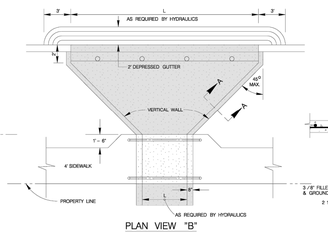
TRAFFIC SIGN STANDARDS

GENERAL NOTES AND GROUND SIGN MOUNTING
SHEET 1 OF 4

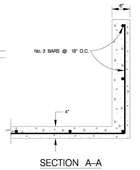
% SUBMITTAL	PROJECT NO.:		DATE:
DRAWN BY: A.F.G.	DSGN BY: E.N.M.	CHKD BY: J.D.F./E.N.M.	SHEET NO.: OF



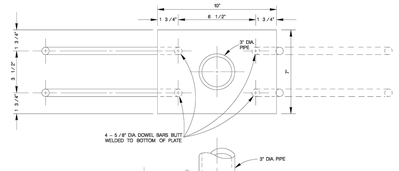
PLAN VIEW "A"
SCALE : 1" = 8'

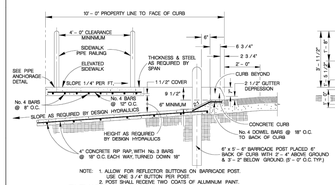


PLAN VIEW "B"
SCALE : 1" = 8'

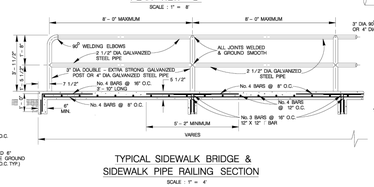


SECTION A–A
SCALE : 1" = 2'

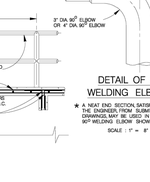




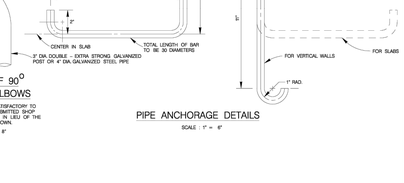
ELEVATED SIDEWALK & DROP CURB DETAILS FOR DRAINAGE CHANNELS
SCALE : 1" = 4'



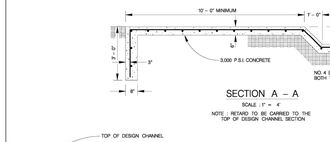
TYPICAL SIDEWALK BRIDGE & SIDEWALK PIPE RAILING SECTION
SCALE : 1" = 4'



DETAIL OF 90° WELDING ELBOWS
★ A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.
SCALE : 1" = 8'

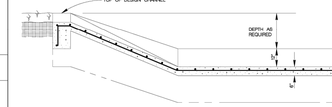


PIPE ANCHORAGE DETAILS
SCALE : 1" = 4"

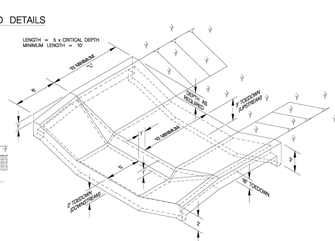


SECTION A – A
SCALE : 1" = 4'
NOTE : RETARD TO BE CARRIED TO THE TOP OF DESIGN CHANNEL SECTION

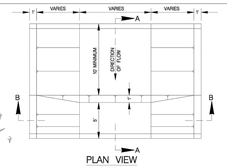
RETARD DETAILS



SECTION B – B
SCALE : 1" = 4'



ISOMETRIC VIEW
SCALE : 1" = 10'



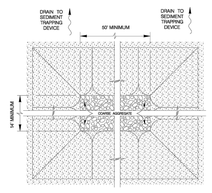
PLAN VIEW
SCALE : 1" = 10'

JANUARY 2005

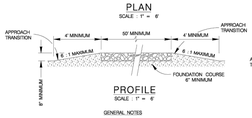
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

ELEVATED SIDEWALK & RETARD STANDARDS

% SUBMITTAL	PROJECT NO.:		DATE:
DRAWN BY: V. VASQUEZ	DSGN BY:	CHKD BY:	SHEET NO.: OF



PLAN
SCALE : 1" = 6'

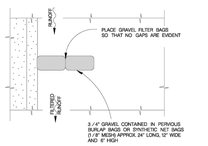


PROFILE
SCALE : 1" = 6'

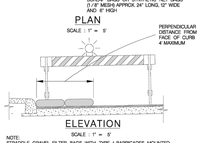
GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 1



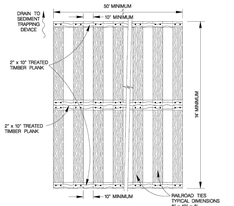
PLAN
SCALE : 1" = 5'



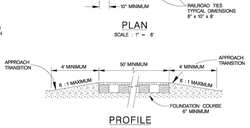
ELEVATION
SCALE : 1" = 5'

NOTE:
STAGGER GRAVEL FILTER BAGS WITH TYPE I BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER FLOW WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS



PLAN
SCALE : 1" = 6'

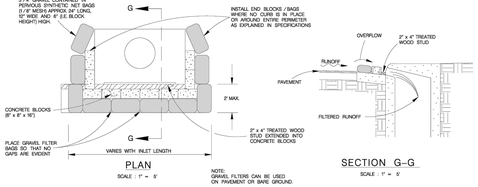


PROFILE
SCALE : 1" = 6'

GENERAL NOTES

1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1/2" x 8" MIN LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 2

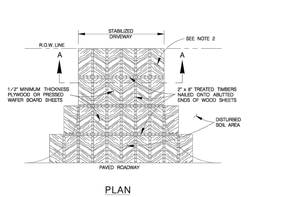


PLAN
SCALE : 1" = 6'

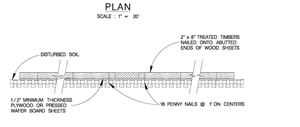
SECTION G–G
SCALE : 1" = 5'

NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT ON BARE GROUND.

CURB INLET GRAVEL FILTER



PLAN
SCALE : 1" = 20'

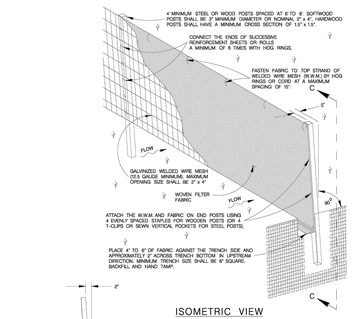


SECTION A–A
SCALE : 1" = 2'

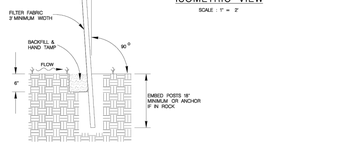
GENERAL NOTES

1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 3 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 3



ISOMETRIC VIEW
SCALE : 1" = 2'



SECTION C–C
SCALE : 1" = 2'

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM / FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

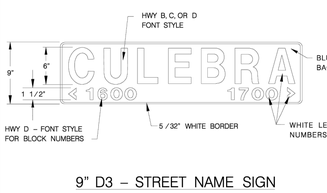
TEMPORARY SEDIMENT CONTROL FENCE

JANUARY 2005

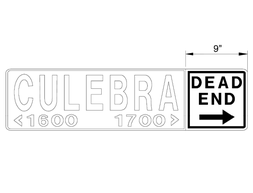
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

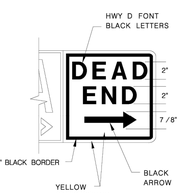
TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

% SUBMITTAL	PROJECT NO.:		DATE:
DRAWN BY: V. VASQUEZ	DSGN BY:	CHKD BY:	SHEET NO.: OF



9" D3 – STREET NAME SIGN





NEW 9" D3 W / DEAD END OR NO OUTLET SIGNAGE

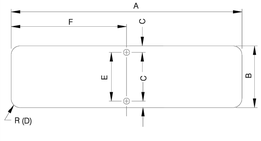
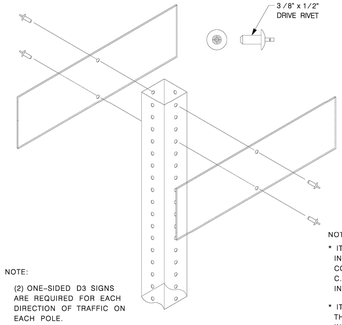


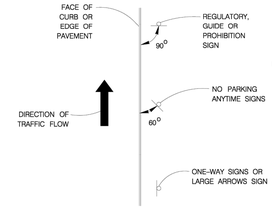
TABLE – D3 SIGNS

A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	8"	12"	0.125"
30"	9"	1/2"	3/4"	8"	15"	0.125"
36"	9"	1/2"	3/4"	8"	18"	0.125"
42"	9"	1/2"	3/4"	8"	21"	0.125"
48"	9"	1/2"	3/4"	8"	24"	0.125"
54"	9"	1/2"	3/4"	8"	27"	0.125"

NOTE: A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "DEAD END" OR "NO OUTLET" SUPPLEMENT IS REQUIRED.



HEIGHT	9" (228 mm)
LENGTH	24" (600 MM) MIN. 54 (1350 MM) MAX. 6" (150 MM) INCREMENTS OF LENGTH
THICKNESS	0.125" (3MM)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH
SIGN FACE MATERIALS	BLUE FILM OVER HIGH INTENSITY FP-85, SECTION 718 AND L-S-300C
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON BLUE BACKGROUND
LETTER TRACKING	10%



NOTE:
(2) ONE-SIDED D3 SIGNS ARE REQUIRED FOR EACH DIRECTION OF TRAFFIC ON EACH POLE.

D3 SIGN TO POLE INSTALLATION

TYPICAL GROUND MOUNTED SIGN PLACEMENT

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N MERY, P.E., #92688 ON 02.06.06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

STREET SIGN ASSEMBLY EXAMPLES	PAY ITEMS			
	ITEM	UNIT	DESCRIPTION	QUANTITY
STOP SIGN WITH 2 STREET NAMES	531.3	EA.	R1-1 STOP	1
	531.57-P	EA.	9-IN STREET NAME PLATE (4 PLATES)	2
YIELD SIGN WITH 1 STREET NAME	531.4	EA.	R1-2 YIELD	1
	531.57-P	EA.	9-IN STREET NAME PLATE (2 PLATES)	1
2 STREET SIGNS	531.57	EA.	9-IN STREET NAME SIGN (2 PLATES)	1
	531.57-P	EA.	9-IN STREET NAME PLATE (2 PLATES)	1

NOTE:
* ITEM 531.57 "9-INCH STREET NAME" SIGN (1-EA.) INCLUDES THE INSTALLATION OF (2) ONE-SIDED D3 SIGNS. THIS SHALL BE FULL COMPENSATION FOR MATERIALS AND LABOR AS DESCRIBED IN C.O.S.A. STANDARD SPECIFICATIONS AND GROUND SIGN MOUNTING STANDARD DETAIL.

* ITEM 531.57-P "9-INCH STREET NAME PLATE" (1-EA.) INCLUDES THE INSTALLATION OF (2) ONE-SIDED D3 SIGNS ON TOP OF EXISTING SIGN (I.E., STOP SIGN OR YIELD SIGN), EXTRA LENGTH POLE AND APPURTENANCES REQUIRED TO MEET SPECIFICATIONS.

JULY 2010

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

TRAFFIC SIGN STANDARDS

D3 STREET NAME SIGN AND SIGN MOUNTING
SHEET 2 OF 4

% SUBMITTAL	PROJECT NO.:		DATE:
DRAWN BY:	DSGN BY: E.N.M.	CHKD BY: J.D.F./E.N.M.	SHEET NO.: OF

Bowman
© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISION	DESCRIPTION	DATE

CITY OF SAN ANTONIO DETAILS 3 OF 4

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

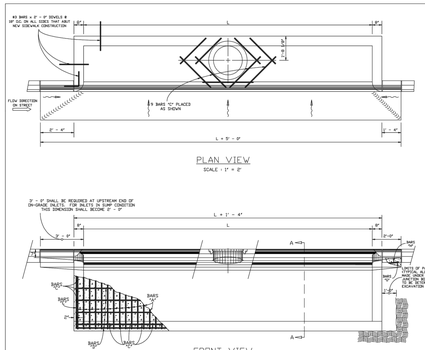
DATE: 03/02/2026

SCALE:

JOB No. 250503-01-001

SHEET NO. **C5.2**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.2, March 02, 2026, 9:29 AM, ahernandez



NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT."
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

INLET LENGTH	REINFORCING STEEL SCHEDULE

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	15	4	12" CTS	12'-0"	120
B	15	4	12" CTS	12'-0"	120
C	8	4	12" CTS	5'-0"	27
D	8	4	12" CTS	5'-0"	27
E	2	4	12" CTS	5'-0"	7
F	2	4	12" CTS	5'-0"	7
G	2	4	12" CTS	5'-0"	7
H	2	4	12" CTS	5'-0"	7
I	2	4	12" CTS	5'-0"	7
J	2	4	12" CTS	5'-0"	7

L=5' - 0"

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	15	4	12" CTS	12'-0"	120
B	15	4	12" CTS	12'-0"	120
C	8	4	12" CTS	5'-0"	27
D	8	4	12" CTS	5'-0"	27
E	2	4	12" CTS	5'-0"	7
F	2	4	12" CTS	5'-0"	7
G	2	4	12" CTS	5'-0"	7
H	2	4	12" CTS	5'-0"	7
I	2	4	12" CTS	5'-0"	7
J	2	4	12" CTS	5'-0"	7

L=10' - 0"

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	15	4	12" CTS	12'-0"	120
B	15	4	12" CTS	12'-0"	120
C	8	4	12" CTS	5'-0"	27
D	8	4	12" CTS	5'-0"	27
E	2	4	12" CTS	5'-0"	7
F	2	4	12" CTS	5'-0"	7
G	2	4	12" CTS	5'-0"	7
H	2	4	12" CTS	5'-0"	7
I	2	4	12" CTS	5'-0"	7
J	2	4	12" CTS	5'-0"	7

L=15' - 0"

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	15	4	12" CTS	12'-0"	120
B	15	4	12" CTS	12'-0"	120
C	8	4	12" CTS	5'-0"	27
D	8	4	12" CTS	5'-0"	27
E	2	4	12" CTS	5'-0"	7
F	2	4	12" CTS	5'-0"	7
G	2	4	12" CTS	5'-0"	7
H	2	4	12" CTS	5'-0"	7
I	2	4	12" CTS	5'-0"	7
J	2	4	12" CTS	5'-0"	7

L=20' - 0"

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	15	4	12" CTS	12'-0"	120
B	15	4	12" CTS	12'-0"	120
C	8	4	12" CTS	5'-0"	27
D	8	4	12" CTS	5'-0"	27
E	2	4	12" CTS	5'-0"	7
F	2	4	12" CTS	5'-0"	7
G	2	4	12" CTS	5'-0"	7
H	2	4	12" CTS	5'-0"	7
I	2	4	12" CTS	5'-0"	7
J	2	4	12" CTS	5'-0"	7

L=25' - 0"

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	15	4	12" CTS	12'-0"	120
B	15	4	12" CTS	12'-0"	120
C	8	4	12" CTS	5'-0"	27
D	8	4	12" CTS	5'-0"	27
E	2	4	12" CTS	5'-0"	7
F	2	4	12" CTS	5'-0"	7
G	2	4	12" CTS	5'-0"	7
H	2	4	12" CTS	5'-0"	7
I	2	4	12" CTS	5'-0"	7
J	2	4	12" CTS	5'-0"	7

L=30' - 0"

* CONCRETE TOTAL=4,643 CU. YDS. N/A CASTING=260 LBS. STEEL TOTAL=1,750 LBS.

* THIS TABLE IS NOT VALID UNLESS CONCRETE & STEEL QUANTITIES OF HANDLE ARE REVISED(SEE CSD. 709).
* INCLUDE CONCRETE WITHIN THE 18" BEND RADIUS. REDUCE BY 20 CU. YDS. PER INLET IF NO BEND IS MADE.

GENERAL NOTES

1. ALL BARS INTERSECTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD BENT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3 / 4".
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE PLACED A MAXIMUM OF 2" AT THE CONTRACTOR'S OPTION ABOVE THE FLOWLINE OF THE BOX. SEE CSD. 709.
6. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60 REQUIREMENTS.
7. INVERT OF DROP INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DETAILS & "L" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED ON TOP OF WALL.
9. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE. EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION, BACK FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER, SHALL BE INCLUDED IN THE UNIT PRICE OF ITEM 466 "OTHER HEADER JUNCTION BOXES AND INLETS".

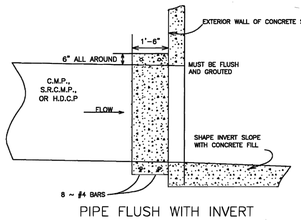
JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

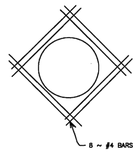
TYPE "C" INLET DETAILS

DRAWN BY: V. VASQUEZ	DATE	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: NAT HARDY, P.E.			DATE: SHEET:

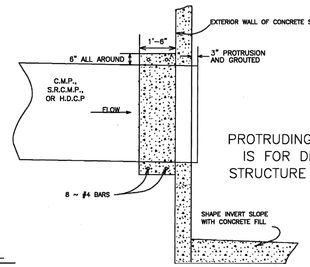
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM. A-15. THE DEFORMATION SHALL CONFORM TO ASTM. A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).



PIPE FLUSH WITH INVERT



CONCRETE COLLAR DETAIL
(NOT TO SCALE)



PROTRUDING PIPE IS FOR DROP STRUCTURE ONLY

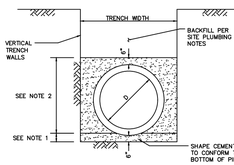
JANUARY 2006

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEVELOPMENT SERVICES

CONCRETE COLLAR DETAIL

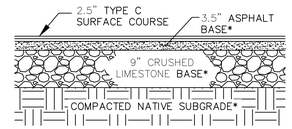
DRAWN BY: ANDREW WINTER, P.E.	DATE	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: SAM BENT, P.E.			DATE: 19 JANUARY 2006 SHEET: 1 OF 1

SEWER SIZE	TRENCH WIDTH
LESS THAN 30"	MINIMUM = PIPE O.D. +12" MAXIMUM = PIPE O.D. +18"
30" TO 36"	MINIMUM = PIPE O.D. +16" MAXIMUM = PIPE O.D. +24"



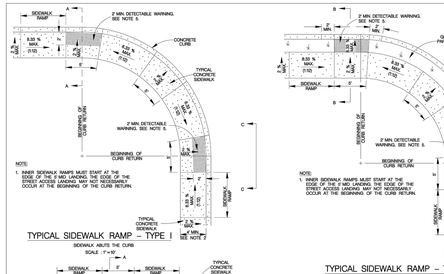
NOTES :
1. CEMENT STABILIZED SAND PLACED BEFORE PIPE IS LAID.
2. CEMENT STABILIZED SAND, THOURGHLY RODDED, PLACED AFTER PIPE IS LAID.
3. WHERE SOIL CONDITIONS REQUIRE, THE ENGINEER MAY ORDER USE OF GRANULAR MATERIAL IN LIEU OF CEMENT STABILIZED SAND BEDDING.

BEDDING FOR STORM SEWER 36" AND SMALLER IN DIAMETER | No. 160

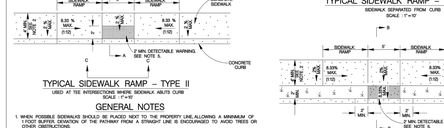


NOTE:
* SEE GEOTECHNICAL REPORT PREPARED BY XXXXXXXXXXXXXXX.

ASPHALT PAVEMENT | No. 122



TYPICAL SIDEWALK RAMP – TYPE I
SIDEWALK ABUTS THE CURB
SCALE : 1" = 10'

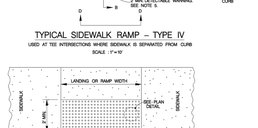


TYPICAL SIDEWALK RAMP – TYPE II
USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB
SCALE : 1" = 10'

GENERAL NOTES

1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MINIMUM OF 1 FOOT BUFFER, SEPARATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 AND, IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 5' AND, IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 8' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN A 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB-RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES (609' 24 THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES ALIGNED IN A GRID PATTERN AND HAVE A BASE DIAMETER OF 0.9 INCHES (23 MM), A TOP DIAMETER OF 0.45 INCHES (11 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE A CAST-IN-PLACE TILE CONFORMING TO THE CITY OF SAN ANTONIO STANDARD SPECIFI-CATIONS OR PAVERS CONFORMING TO TDCH STANDARD PEDI-ON PEDESTRIAN FACILITIES.
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 – CONCRETE CURB, GUTTER, COMBINATION CURB AND GUTTER" AND "CIR "502 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH TDLR AND TAS STANDARDS.
14. SIDEWALK CROSS SLOPES SHALL HAVE A MAXIMUM SLOPE OF 2% LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 8.33-(-2.61)=10.9. IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 2%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11% A LEVELING STRIP, 5 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.

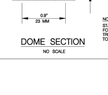
TYPICAL SIDEWALK RAMP – TYPE III
SIDEWALK SEPARATED FROM CURB
SCALE : 1" = 10'



TYPICAL SIDEWALK RAMP – TYPE IV
USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1" = 10'

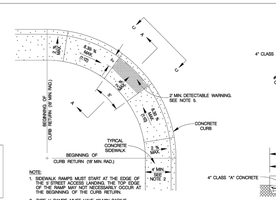
DETECTABLE WARNING SURFACE
SCALE : 1" = 4'

PLAN DETAIL
NO SCALE

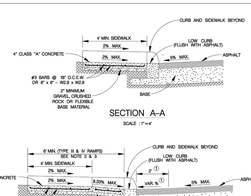


DOME SECTION
NO SCALE

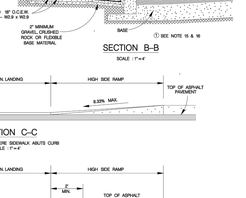
NOTE:
STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS. CONTRACTOR MUST SUBMIT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.



TYPICAL SIDEWALK RAMP – TYPE V
SIDEWALK ABUTS CURB
SCALE : 1" = 10'



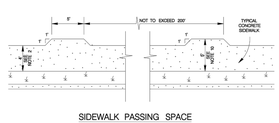
SECTION A–A
SCALE : 1" = 4'



SECTION B–B
SCALE : 1" = 4'

SECTION C–C
CURB PROFILE WHERE SIDEWALK ABUTS CURB
SCALE : 1" = 4'

SECTION D–D
CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1" = 4'



SIDEWALK PASSING SPACE
SCALE : 1" = 10'

TABLE 1
(SEE NOTE 4)

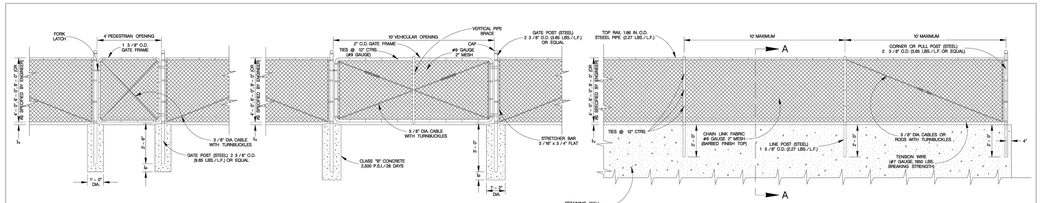
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-0"
2%	5'-0"	6'-4"
3%	4'-4"	10'-0"
4%	4'-0"	10'-4"
5%	3'-10"	16'-6"

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

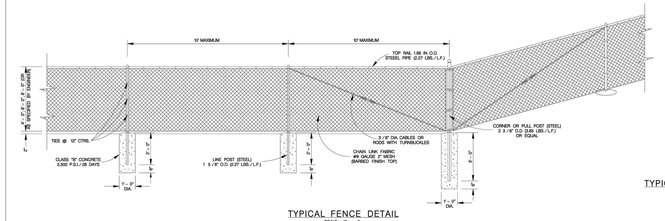
N. SUBMITTAL PROJECT NO.: DATE:
DRAWN BY: V. VASQUEZ DSGN. BY: CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: OF



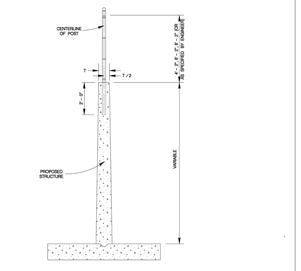
PEDESTRIAN GATE
SCALE : 1" = 4'

VEHICULAR GATE
SCALE : 1" = 4'

FRONT ELEVATION
SCALE : 1" = 4'



TYPICAL FENCE DETAIL
SCALE : 1" = 4'



SECTION VIEW "A–A"
SCALE : 1" = 4'

TYPICAL FOR FENCING IN RETAINING WALLS, HEADWALLS & WINGWALLS

GENERAL NOTES

1. ALL CONCRETE FOOTINGS SHALL BE ENCRIBED A MINIMUM OF 1' ABOVE THE EXISTING GROUND, WHERE FOOTINGS ARE REQUIRED ONLY.
2. FENCING SHALL BE LOCATED IN RETAINING WALLS, HEADWALLS & WINGWALLS AT LOCATIONS SHOWN ON THE PLANS.
3. CORNER OR PULL POSTS WILL BE REQUIRED AT ALL END POINTS AND ANGLE POINTS.
4. CONCRETE FOR EMBANKMENT FOOTINGS SHALL BE IN ACCORDANCE WITH ITEM "420, CLASS B" CONCRETE.
5. PAYMENT SHALL BE MADE AS SPECIFIED IN ITEM NO. 537 "CHAIN LINK WIRE FENCE OF CITY OF SAN ANTONIO" STANDARD SPECIFICATIONS FOR CONSTRUCTION.

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CHAIN LINK WIRE FENCE STANDARDS

N. SUBMITTAL PROJECT NO.: DATE:
DRAWN BY: V. VASQUEZ DSGN. BY: CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: OF

A3

Bowman
© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Suite 203 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschnack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

CITY OF SAN ANTONIO DETAILS 4 OF 4

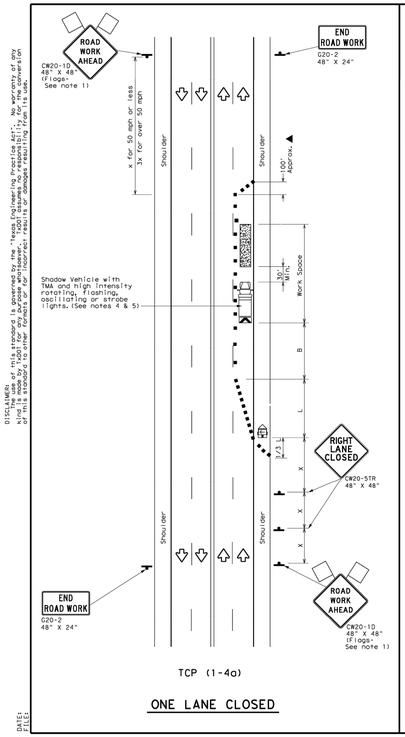
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING VIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 5 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

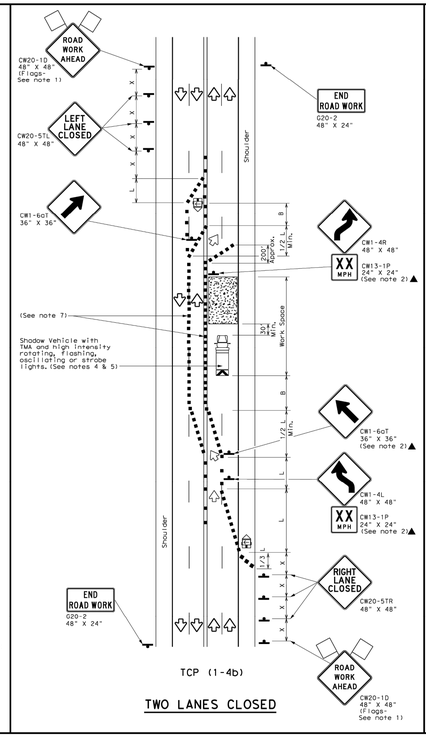
DATE: 03/05/2026
SCALE:
JOB No. 250503-01-001
SHEET NO. **C5.3**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.3 STREET PAVING AND DRAINAGE DETAILS, March 05, 2026, 10:47 PM, acastillo



TCP (1-4a)

ONE LANE CLOSED



TCP (1-4b)

TWO LANES CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed MPH	Formula	Minimum Desirable Taper Lengths ※※ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	L= WS²/60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

※ Conventional Roads Only
※※ Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
		✓	✓	

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-4a)

6. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

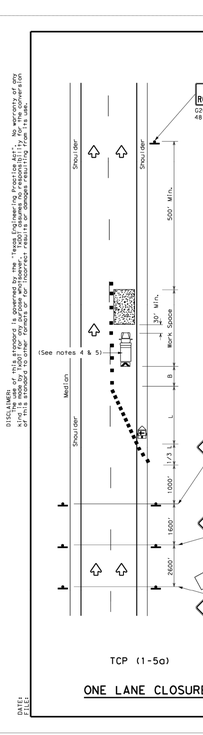
Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(1-4)-18

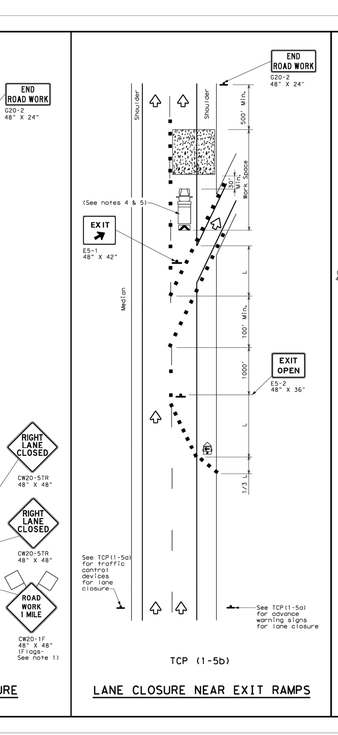
FILE:	tcp1-4-18.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS					
2-94 4-98		DIST	COUNTY		SHEET NO.
8-95 2-12					
1-97 2-18					

TCP(1-4)



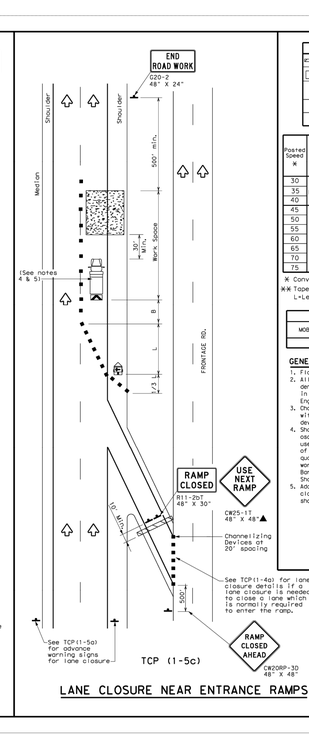
TCP (1-5a)

ONE LANE CLOSURE



TCP (1-5b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (1-5c)

LANE CLOSURE NEAR ENTRANCE RAMPS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed MPH	Formula	Minimum Desirable Taper Lengths ※※ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	L= WS²/60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

※ Conventional Roads Only
※※ Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
			✓	

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES FOR DIVIDED HIGHWAYS

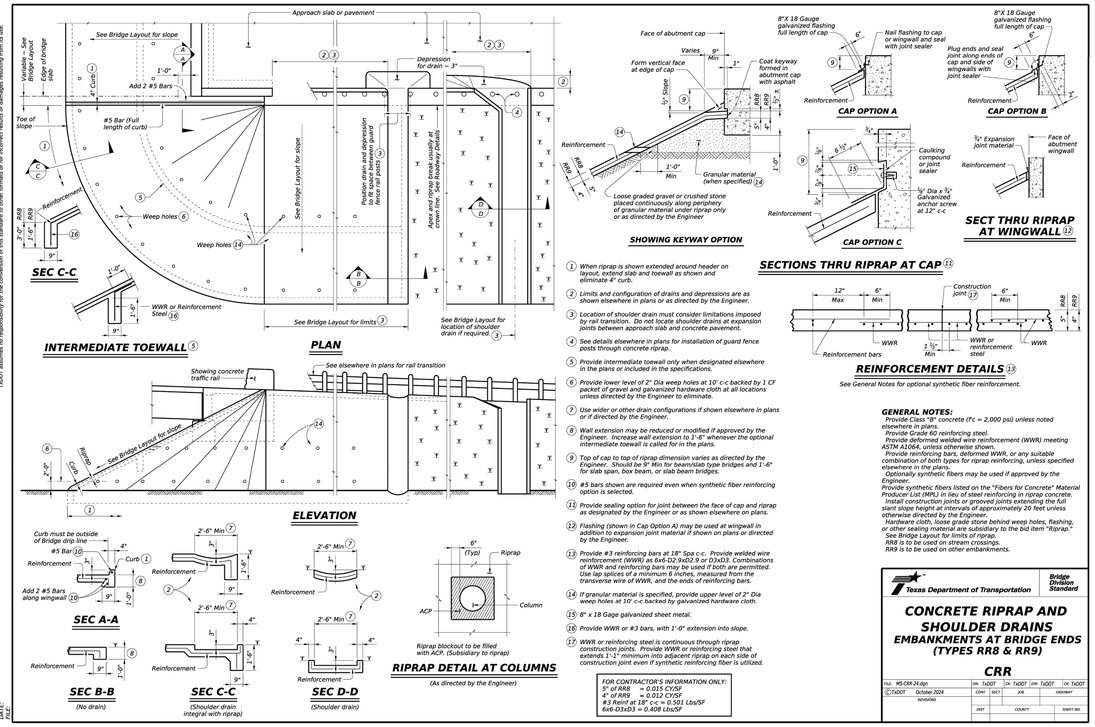
TCP(1-5)-18

FILE:	tcp1-5-18.dgn	DN:	CK:	DW:	CK:
©TxDOT	February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS					
9-18		DIST	COUNTY		SHEET NO.

TCP(1-5)

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:



INTERMEDIATE TOEWALL (5)

PLAN

ELEVATION

SEC A-A

SEC B-B (No drain)

SEC C-C (Shoulder drain integral with riprap)

SEC C-C

SEC D-D (Shoulder drain)

SEC D-D

SHOWING KEYWAY OPTION

CAP OPTION A

CAP OPTION B

CAP OPTION C

SECT THRU RIPRAP AT WINGWALL (12)

SECTIONS THRU RIPRAP AT CAP (11)

REINFORCEMENT DETAILS (13)

See General Notes for optional synthetic fiber reinforcement.

RIPRAP DETAIL AT COLUMNS

(As directed by the Engineer)

1. When riprap is shown extended around header on layout, extend slab and toewall as shown and eliminate 4" curb.
2. Limits and configuration of drains and depressions are as shown elsewhere in plans or as directed by the Engineer.
3. Location of shoulder drain must consider limitations imposed by rail transition. Do not locate shoulder drains at expansion joints between approach slab and concrete pavement.
4. See details elsewhere in plans for installation of guard fence posts through concrete riprap.
5. Provide intermediate toewall only when designated elsewhere in the plans or included in the specifications.
6. Provide lower level of 2" Dia weep holes at 10' c-c backed by 1 CF packet of gravel and galvanized hardware cloth at all locations unless directed by the Engineer to eliminate.
7. Use wider or other drain configurations if shown elsewhere in plans or if directed by the Engineer.
8. Wall extension may be reduced or modified if approved by the Engineer. Increase wall extension to 1'-6" whenever the optional intermediate toewall is called for in the plans.
9. Top of cap to top of riprap dimension varies as directed by the Engineer. Should be 9" Min for beam/slab type bridges and 1'-6" for slab span, box beam, or slab beam bridges.
10. #5 bars shown are required even when synthetic fiber reinforcing option is selected.
11. Provide sealing option for joint between the face of cap and riprap as designated by the Engineer or as shown elsewhere on plans.
12. Flashing (shown in Cap Option A) may be used at wingwall in addition to expansion joint material if shown on plans or directed by the Engineer.
13. Provide #3 reinforcing bars at 18" Spa c-c. Provide welded wire reinforcement (WWR) as 6x6-D2.9xD2.9 or D3xD3. Combinations of WWR and reinforcing bars may be used if both are permitted. Use lap splices of a minimum 6 inches, measured from the transverse wire of WWR, and the ends of reinforcing bars.
14. If granular material is specified, provide upper level of 2" Dia weep holes at 10' c-c backed by galvanized hardware cloth.
15. 8" x 18 Gage galvanized sheet metal.
16. Provide WWR or #3 bars, with 1'-0" extension into slope.
17. WWR or reinforcing steel is continuous through riprap construction joints. Provide WWR or reinforcing steel that extends 1'-1" minimum into adjacent riprap on each side of construction joint even if synthetic reinforcing fiber is utilized.

GENERAL NOTES:

Provide Class "B" concrete (f'c = 2,000 psi) unless noted elsewhere in plans.
Provide Grade 60 reinforcing steel.
Provide deformed welded wire reinforcement (WWR) meeting ASTM A1064, unless otherwise shown.
Provide reinforcing bars, deformed WWR, or any suitable combination of both types for riprap reinforcing, unless specified elsewhere in the plans.
Optionally synthetic fibers may be used if approved by the Engineer.
Provide synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) in lieu of steel reinforcing in riprap concrete.
Install construction joints or grooved joints extending the full slant slope height at intervals of approximately 20 feet unless otherwise directed by the Engineer.
Hardware cloth, loose grade stone behind weep holes, flashing, or other sealing material are subsidiary to the bid item "Riprap."
See Bridge Layout for limits of riprap.
RR8 is to be used on stream crossings.
RR9 is to be used on other embankments.

FOR CONTRACTOR'S INFORMATION ONLY:
5" of RR8 = 0.015 CY/SF
4" of RR9 = 0.012 CY/SF
#3 Reinf at 18" c-c = 0.501 Lbs/SF
6x6-D3xD3 = 0.408 Lbs/SF

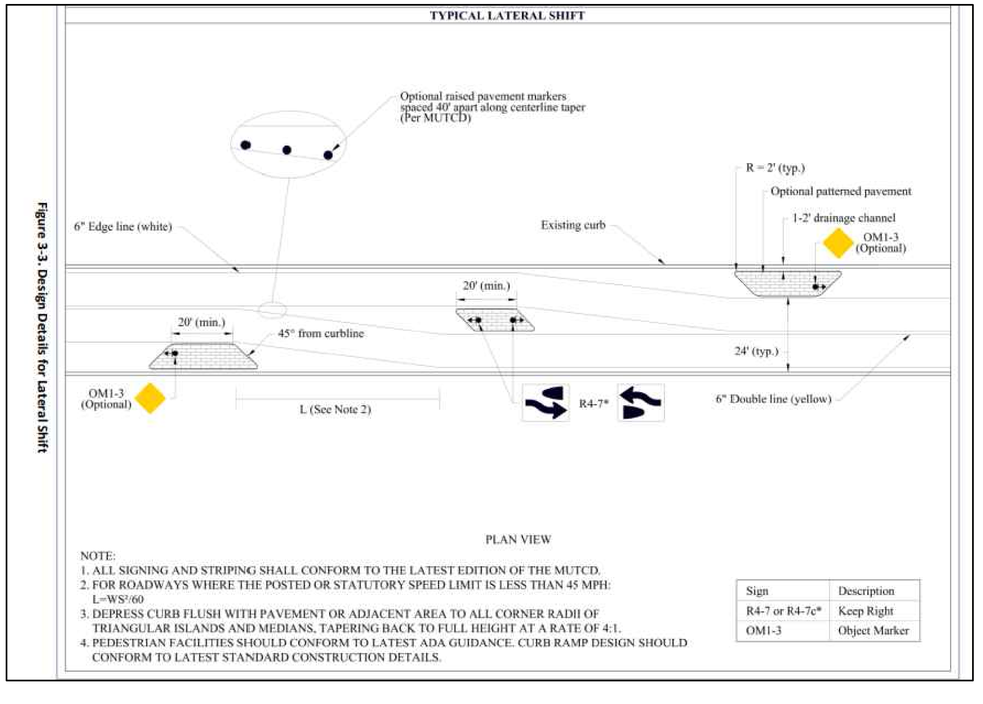
Texas Department of Transportation — Bridge Division Standard

CONCRETE RIPRAP AND SHOULDER DRAINS

EMBANKMENTS AT BRIDGE ENDS (TYPES RR8 & RR9)

CRR

FILE:	MS-CRR-24.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	October 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS					
		DIST	COUNTY		SHEET NO.



Sign	Description
R4-7 or R4-7c*	Keep Right
OM1-3	Object Marker

Figure 3-3. Design Details for Lateral Shift

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowmanconsulting.com
www.bowmanconsulting.com

©2020 Bowman Consulting Group, Ltd

REVISIONS		
REVISION	DESCRIPTION	DATE

TXDOT DETAILS 1 OF 5

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026

SCALE:

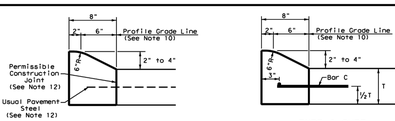
JOB No. 250503-01-001

SHEET NO. **C5.4**

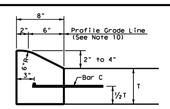
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.4 STREET PAVING AND DRAINAGE DETAILS, March 02, 2026, 9:26 AM, ahernandez

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

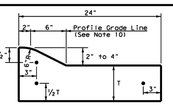
DATE:
FILE:



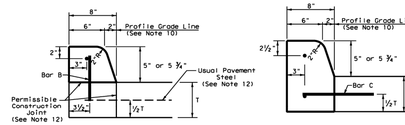
TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



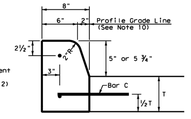
TYPE I CURB
2" - 4" HEIGHT



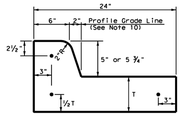
TYPE I CURB AND GUTTER
2" - 4" HEIGHT



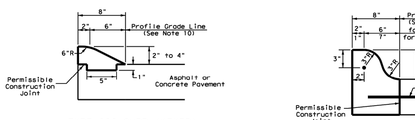
TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



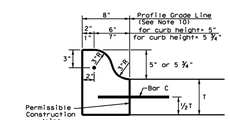
TYPE II CURB
5" - 5 ¾" HEIGHT



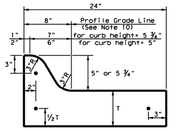
TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



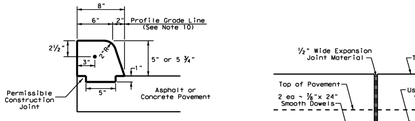
TYPE III CURB (KEYED)
2" - 4" HEIGHT



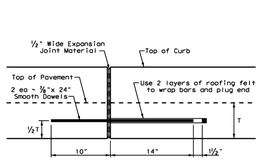
TYPE IIa CURB
5" - 5 ¾" HEIGHT



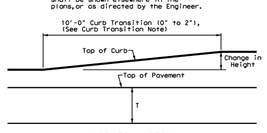
TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT



TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT



EXPANSION JOINT DETAIL



CURB TRANSITION
Notes: To be paid for as Highest Curb

General Notes

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Producer List (NPL), maintained by TxDOT, Construction Division.
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is placed on existing concrete pavement, the pavement shall be drilled and the reinforcing bars grouted in place.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by the Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
9. Dimension "T" shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension "T" is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When vertical permissible construction joints are used, resulting in a longitudinal construction joint in the pavement, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans for longitudinal construction joints. Reinforcing steel for curb section shall then conform to that required for concrete curb.

BAR B BAR C

Texas Department of Transportation — Design Division Standard

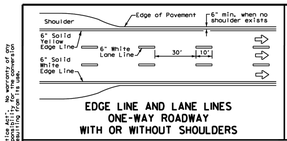
CONCRETE CURB AND CURB AND GUTTER

CCCG-12

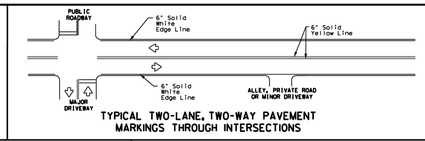
File: cccg12.dgn	DN: TxDOT	CK: KM	DW: VP	CK: VP
©TxDOT: 1995	CONT	SECT	JOB	HIGHWAY
REVISIONS: 04/16/2021 ADA AS NOTED R.S. 08/05/2013 CHK AS NOTED R.S.	DIST	COUNTY		SHEET NO.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:



EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



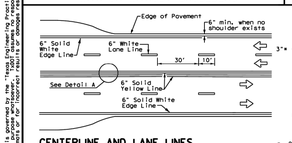
TYPICAL TWO-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

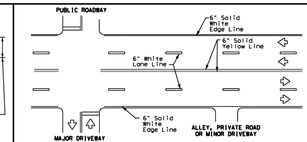
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Department Material Specifications as specified by the plans.

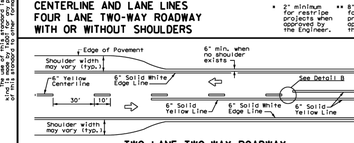


DETAIL "A"

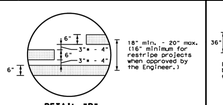
CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



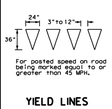
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



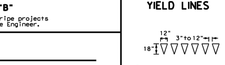
TWO LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

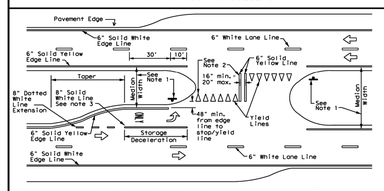


DETAIL "B"



YIELD LINES

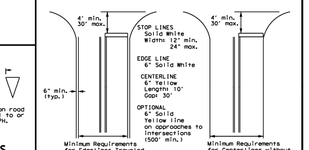




FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES,
EDGE LINE & CENTERLINE
Based on Traveled Way and Pavement Widths
for Undivided Roadways

Texas Department of Transportation — Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-22

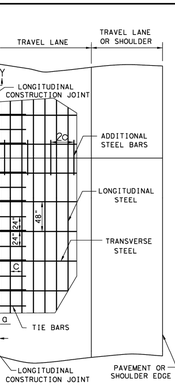
File: pm122.dgn	DN: TxDOT	CK: RB	DW: BS	CK:
©TxDOT: December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS: 11-78 8-07 8-95 3-03 12-22 5-00 2-12	DIST	COUNTY		SHEET NO.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:

TABLE NO. 1 LONGITUDINAL STEEL					
SLAB THICKNESS AND BAR SIZE		REGULAR STEEL BARS	FIRST SPACING AT EDGE OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT (SECTION X-X)	
T (IN.)	BAR SIZE	SPACING C (IN.)	SPACING O (IN.)	SPACING Z X C (IN.)	LENGTH L (IN.)
7.0	#5	6.5	3 TO 4	13	50
7.5	#5	6.0	3 TO 4	12	50
8.0	#6	9.0	3 TO 4	18	50
8.5	#6	8.5	3 TO 4	17	50
9.0	#6	8.0	3 TO 4	16	50
9.5	#6	7.5	3 TO 4	15	50
10.0	#6	7.0	3 TO 4	14	50
10.5	#6	6.75	3 TO 4	13.5	50
11.0	#6	6.5	3 TO 4	13	50
11.5	#6	6.25	3 TO 4	12.5	50
12.0	#6	6.0	3 TO 4	12	50
12.5	#6	5.75	3 TO 4	11.5	50
13.0	#6	5.5	3 TO 4	11	50

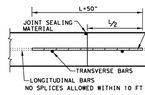
TABLE NO. 2 TRANSVERSE STEEL AND TIE BARS						
SLAB THICKNESS (IN.)	TRANSVERSE STEEL		TIE BARS AT LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z)		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y-Y)	
	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0 - 7.5	#5	48	#5	48	#5	24
8.0 - 13.0	#5	48	#6	48	#6	24



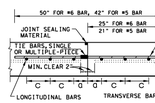
TYPICAL PAVEMENT LAYOUT
PLAN VIEW (NOT TO SCALE)

GENERAL NOTES

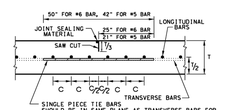
1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
2. USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (COTE) OF NOT MORE THAN 5.5 X 10^{-6} IN/IN/ °F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSQC).
3. ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 60) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO.1 AND TABLE NO.2.
4. STEEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1 IN. HORIZONTALLY AND +/- 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO.1
5. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
6. THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
7. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
8. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN.10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
9. OMIT TIE BARS LOCATED WITHIN 18-IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X-X). USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
10. LONGITUDINAL REINFORCING STEEL SPLICES SHALL BE A MINIMUM OF 25 IN. STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT.
11. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



TRANSVERSE CONSTRUCTION JOINT
SECTION X - X



LONGITUDINAL CONSTRUCTION JOINT
SECTION Y - Y



LONGITUDINAL CONTRACTION JOINT
SECTION Z - Z

SHEET 1 OF 2

Texas Department of Transportation — Design Division Standard

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

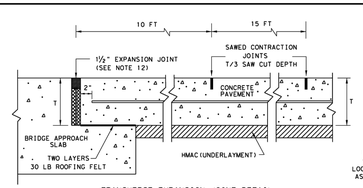
ONE LAYER STEEL BAR PLACEMENT
T - 7 to 13 INCHES

CRCP(1)-20

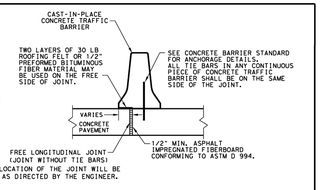
File: crcp120.dgn	DN: TxDOT	CK: KM	DW: BS	CK: VP
©TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS: 04/16/2021 ADA AS NOTED R.S. 08/05/2013 CHK AS NOTED R.S.	DIST	COUNTY		SHEET NO.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

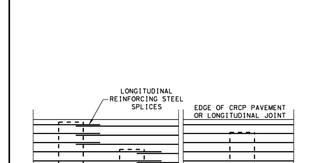
DATE:
FILE:



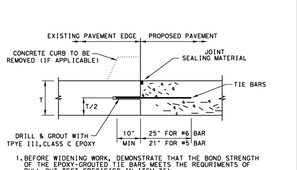
TRANSVERSE EXPANSION JOINT DETAIL
AT BRIDGE APPROACH



FREE LONGITUDINAL JOINT DETAIL

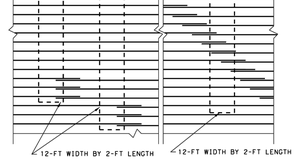


OPTION A: DRILL AND EPOXY
PLAN VIEW (NOT TO SCALE)



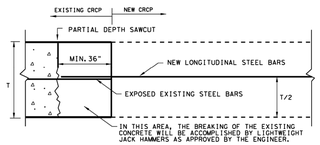
1. BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQUIREMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
2. SPACE TIE BARS AT 24" SPACING. USE #6 TIE BARS FOR 8" AND THICKER SLABS, USE #5 TIE BARS FOR LESS THAN 8" THICK SLABS.

LONGITUDINAL WIDENING JOINT DETAIL



STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT. ANY OTHER LAP CONFIGURATION MEETING THIS REQUIREMENT WILL BE ALLOWED.

EXAMPLES OF LAP CONFIGURATION
PLAN VIEW (NOT TO SCALE)



OPTION B: BREAKBACK AND LAP

TRANSVERSE TIE JOINT DETAIL
EXISTING CRCP TO NEW CRCP

SHEET 2 OF 2

Texas Department of Transportation — Design Division Standard

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

ONE LAYER STEEL BAR PLACEMENT
T - 7 to 13 INCHES

CRCP(1)-20

File: crcp120.dgn	DN: TxDOT	CK: KM	DW: BS	CK: VP
©TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS: 03/19/2020 REMOVED TABLE 1A	DIST	COUNTY		SHEET NO.

Bowman
© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

TXDOT DETAILS 2 OF 5

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026

SCALE:

JOB No. 250503-01-001

SHEET NO. **C5.5**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.5 STREET PAVING AND DRAINAGE DETAILS, March 02, 2026, 9:28 AM, jhernandez

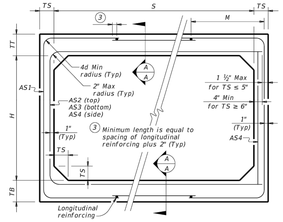
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) ②							① Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
6	2	8	7	7	< 2	–	0.23	0.27	0.19	0.17	0.19	0.19	0.17	7.2
6	2	7	7	7	2 < 3	43	0.25	0.21	0.17	0.17	–	–	–	6.8
6	2	7	7	7	3 - 5	43	0.20	0.17	0.17	0.17	–	–	–	6.8
6	2	7	7	7	10	39	0.20	0.17	0.17	0.17	–	–	–	6.8
6	2	7	7	7	15	39	0.26	0.20	0.20	0.17	–	–	–	6.8
6	2	7	7	7	20	39	0.34	0.26	0.26	0.17	–	–	–	6.8
6	2	7	7	7	25	39	0.43	0.32	0.32	0.17	–	–	–	6.8
6	2	7	7	7	30	39	0.52	0.38	0.39	0.17	–	–	–	6.8
6	3	8	7	7	< 2	–	0.20	0.31	0.22	0.17	0.19	0.19	0.17	7.9
6	3	7	7	7	2 < 3	43	0.21	0.24	0.19	0.17	–	–	–	7.5
6	3	7	7	7	3 - 5	39	0.17	0.18	0.17	0.17	–	–	–	7.5
6	3	7	7	7	10	39	0.17	0.18	0.19	0.17	–	–	–	7.5
6	3	7	7	7	15	38	0.22	0.24	0.24	0.17	–	–	–	7.5
6	3	7	7	7	20	38	0.28	0.31	0.31	0.17	–	–	–	7.5
6	3	7	7	7	25	38	0.35	0.38	0.39	0.17	–	–	–	7.5
6	3	7	7	7	30	38	0.42	0.46	0.46	0.17	–	–	–	7.5
6	4	8	7	7	< 2	–	0.19	0.34	0.25	0.17	0.19	0.19	0.17	8.6
6	4	7	7	7	2 < 3	43	0.19	0.27	0.21	0.17	–	–	–	8.2
6	4	7	7	7	3 - 5	39	0.17	0.21	0.19	0.17	–	–	–	8.2
6	4	7	7	7	10	39	0.17	0.20	0.21	0.17	–	–	–	8.2
6	4	7	7	7	15	38	0.18	0.27	0.23	0.17	–	–	–	8.2
6	4	7	7	7	20	38	0.24	0.34	0.35	0.17	–	–	–	8.2
6	4	7	7	7	25	38	0.29	0.43	0.42	0.17	–	–	–	8.2
6	4	7	7	7	30	38	0.35	0.51	0.52	0.17	–	–	–	8.2
6	5	8	7	7	< 2	–	0.19	0.37	0.28	0.17	0.19	0.19	0.17	9.3
6	5	7	7	7	2 < 3	43	0.17	0.30	0.24	0.17	–	–	–	8.9
6	5	7	7	7	3 - 5	43	0.17	0.23	0.21	0.17	–	–	–	8.9
6	5	7	7	7	10	39	0.17	0.22	0.23	0.17	–	–	–	8.9
6	5	7	7	7	15	38	0.17	0.28	0.29	0.17	–	–	–	8.9
6	5	7	7	7	20	38	0.20	0.37	0.38	0.17	–	–	–	8.9
6	5	7	7	7	25	38	0.25	0.45	0.46	0.17	–	–	–	8.9
6	5	7	7	7	30	38	0.30	0.54	0.55	0.17	–	–	–	8.9
6	6	8	7	7	< 2	–	0.19	0.38	0.30	0.17	0.19	0.19	0.17	10
6	6	7	7	7	2 < 3	52	0.17	0.32	0.26	0.17	–	–	–	9.6
6	6	7	7	7	3 - 5	52	0.17	0.24	0.22	0.17	–	–	–	9.6
6	6	7	7	7	10	43	0.17	0.23	0.24	0.17	–	–	–	9.6
6	6	7	7	7	15	39	0.17	0.29	0.31	0.17	–	–	–	9.6
6	6	7	7	7	20	39	0.18	0.38	0.39	0.17	–	–	–	9.6
6	6	7	7	7	25	38	0.23	0.46	0.48	0.17	–	–	–	9.6
6	6	7	7	7	30	38	0.27	0.55	0.57	0.17	–	–	–	9.6

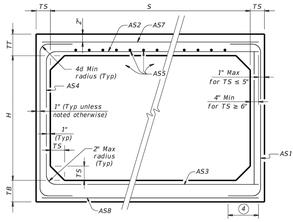
① For box length = 8'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

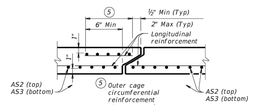
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

④ Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS PRECAST
6'-0" SPAN

SCP-6

File: CD-SCP06-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

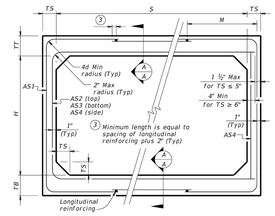
DATE:
FILE:

BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) ②							① Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
7	3	8	8	8	< 2	–	0.23	0.31	0.22	0.19	0.19	0.19	0.19	9.6
7	3	8	8	8	2 < 3	47	0.27	0.25	0.24	0.19	–	–	–	9.6
7	3	8	8	8	3 - 5	43	0.19	0.19	0.19	0.19	–	–	–	9.6
7	3	8	8	8	10	43	0.21	0.20	0.21	0.19	–	–	–	9.6
7	3	8	8	8	15	43	0.28	0.26	0.27	0.19	–	–	–	9.6
7	3	8	8	8	20	43	0.36	0.34	0.35	0.19	–	–	–	9.6
7	3	8	8	8	25	43	0.45	0.42	0.43	0.19	–	–	–	9.6
7	3	8	8	8	30	43	0.54	0.50	0.51	0.19	–	–	–	9.6
7	4	8	8	8	< 2	–	0.21	0.34	0.25	0.19	0.19	0.19	0.19	10.4
7	4	8	8	8	2 < 3	43	0.23	0.28	0.28	0.19	–	–	–	10.4
7	4	8	8	8	3 - 5	43	0.19	0.22	0.19	0.19	–	–	–	10.4
7	4	8	8	8	10	43	0.19	0.23	0.23	0.19	–	–	–	10.4
7	4	8	8	8	15	41	0.24	0.30	0.30	0.19	–	–	–	10.4
7	4	8	8	8	20	41	0.31	0.38	0.39	0.19	–	–	–	10.4
7	4	8	8	8	25	41	0.38	0.47	0.48	0.19	–	–	–	10.4
7	4	8	8	8	30	41	0.46	0.57	0.57	0.19	–	–	–	10.4
7	5	8	8	8	< 2	–	0.19	0.36	0.27	0.19	0.19	0.19	0.19	11.2
7	5	8	8	8	2 < 3	47	0.21	0.31	0.31	0.19	–	–	–	11.2
7	5	8	8	8	3 - 5	43	0.19	0.24	0.21	0.19	–	–	–	11.2
7	5	8	8	8	10	43	0.19	0.25	0.26	0.19	–	–	–	11.2
7	5	8	8	8	15	41	0.21	0.32	0.33	0.19	–	–	–	11.2
7	5	8	8	8	20	41	0.27	0.41	0.42	0.19	–	–	–	11.2
7	5	8	8	8	25	41	0.33	0.51	0.52	0.19	–	–	–	11.2
7	5	8	8	8	30	41	0.40	0.61	0.62	0.19	–	–	–	11.2
7	6	8	8	8	< 2	–	0.19	0.38	0.30	0.19	0.19	0.19	0.19	12.0
7	6	8	8	8	2 < 3	59	0.19	0.33	0.34	0.19	–	–	–	12.0
7	6	8	8	8	3 - 5	47	0.19	0.25	0.23	0.19	–	–	–	12.0
7	6	8	8	8	10	43	0.19	0.26	0.27	0.19	–	–	–	12.0
7	6	8	8	8	15	43	0.19	0.34	0.35	0.19	–	–	–	12.0
7	6	8	8	8	20	41	0.24	0.43	0.45	0.19	–	–	–	12.0
7	6	8	8	8	25	41	0.29	0.53	0.55	0.19	–	–	–	12.0
7	6	8	8	8	30	41	0.35	0.64	0.65	0.19	–	–	–	12.0
7	7	8	8	8	< 2	–	0.19	0.40	0.33	0.19	0.19	0.19	0.19	12.8
7	7	8	8	8	2 < 3	59	0.19	0.36	0.37	0.19	–	–	–	12.8
7	7	8	8	8	3 - 5	59	0.19	0.27	0.25	0.19	–	–	–	12.8
7	7	8	8	8	10	47	0.19	0.27	0.29	0.19	–	–	–	12.8
7	7	8	8	8	15	43	0.19	0.35	0.37	0.19	–	–	–	12.8
7	7	8	8	8	20	43	0.22	0.44	0.46	0.19	–	–	–	12.8
7	7	8	8	8	25	43	0.27	0.54	0.57	0.19	–	–	–	12.8
7	7	8	8	8	30	41	0.32	0.65	0.67	0.19	–	–	–	12.8

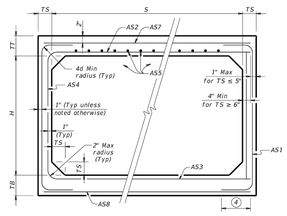
① For box length = 8'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

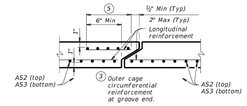
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

④ Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

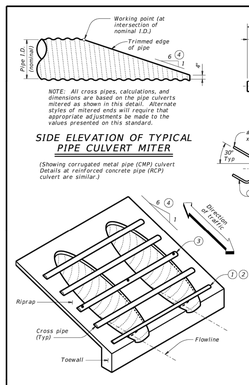
SINGLE BOX CULVERTS PRECAST
7'-0" SPAN

SCP-7

File: CD-SCP07-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

DATE:
FILE:

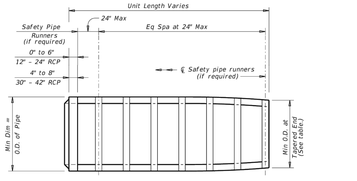
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.


Working point (at intersection of nominal I.D.)
Trimmed edge of pipe
Pipe I.D.
6
4
t1
t2
NOTE: All cross pipes, calculations, and details shown in this detail are for pipes mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER
(Showing corrugated metal pipe (CMP) culvert Details at reinforced concrete pipe (RCP) culvert are similar.)
6
4
1
3
Direction of Flow
1
2
Riprap
Cross pipe (Typ)
Flowline
Toewall
ISOMETRIC VIEW OF TYPICAL INSTALLATION
Limits of riprap (to be included with SET for payment)
5
3'-6"
2'-0" Max ~ 6" Min
Cross pipes 2
Eq Spa at 2'-0" Max
2'-0"
6"
Cross pipe (flush with top of riprap)
Trimmed edge of pipe culvert
Working point
Cross pipe anchor bolt
3 ½" Dia cross pipe 1 2
Cross pipe with bolted anchor
A
A
3
Top of cross pipe 1
Anchor toewall
Flowline
See Detail "A"
SIDE ELEVATION OF CAST-IN-PLACE CONCRETE
(Showing reinforced concrete pipe (RCP) culvert. Details at corrugated metal pipe (CMP) culvert are similar.)
Cross Pipe Lengths, Required Pipe Sizes, and Riprap Quantities 7
Nominal Culvert I.D.
Conc Riprap (CY) 6
Pipe Culvert Spa ~ G
Single Barrel ~ Q1
Multi-Barrel ~ Q1
Q2
Conditions for Use of Cross Pipes
Cross Pipe Sizes
12" 0.6 0' - 9" N/A 2' - 1" 1' - 9"
15" 0.7 0' - 11" N/A 2' - 5" 2' - 2"
18" 0.8 1' - 2" N/A 2' - 10" 2' - 8"
21" 0.9 1' - 4" N/A 3' - 2" 3' - 1"
24" 1.0 1' - 7" N/A 3' - 6" 3' - 7"
27" 1.0 1' - 8" N/A 3' - 10" 3' - 11"
30" 1.1 1' - 10" N/A 4' - 2" 4' - 4"
33" 1.2 1' - 11" 4' - 2" 4' - 5" 4' - 8"
36" 1.3 2' - 1" 4' - 5" 4' - 9" 5' - 1"
42" 1.5 2' - 4" 4' - 11" 5' - 5" 5' - 10"
48" 1.7 2' - 7" 5' - 5" 6' - 0" 6' - 7"
54" 2.0 3' - 0" 5' - 11" 6' - 9" 7' - 6"
60" 2.2 3' - 3" 6' - 5" 7' - 4" 8' - 3"
66" 2.4 3' - 3" 6' - 11" 7' - 10" 8' - 9"
72" 2.7 3' - 4" 7' - 5" 8' - 5" 9' - 4"
3 or more pipe culverts: 3" Std (3.500" O.D.)
All pipe culverts: 3 ½" Std (4.000" O.D.)
All pipe culverts: 4" Std (4.500" O.D.)
All pipe culverts: 5" Std (5.563" O.D.)
① The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.
② Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1⁄2" standard pipe (4" O.D.) for the first bottom pipe.
③ Install the third cross pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.
④ Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.
⑤ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."
⑥ Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for contractor's information only.
MATERIAL NOTES:
Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.
Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B), or API 5L X52.
Provide ASTM A307 bolts and nuts.
Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.
GENERAL NOTES:
Cross pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.
Safety end treatments (SET) shown herein are intended for use in locations where out of control vehicles are likely to traverse the openings approximately perpendicular to the cross pipes.
Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap."
Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.
PIPE WITH BOLTED ANCHOR
Cross pipe length
Q2 (See table.)
Cross pipe over inside barrel
Q1 (See table.)
Cross pipe over outside barrel
2"
5⁄8" Dia through hole (Typ)
#6 anchor bar x 1'-4" (Typ)
30° Typ
4" Typ
4" Typ
3" Typ
Bend first cross pipe anchor bars as necessary to maintain 2" clear cover to toewall edge of concrete riprap
PIPE WITH ANCHOR BARS
Cross pipe
2" Min
1½" Min
3" Typ
#6 anchor bar x 1'-4" (Typ)
SECTION C-C
CROSS PIPE DETAILS
Top of riprap
Flowline
h1
h2
CMP
End of invert for RCP
6" Min Invert
T
12"
12 ½"
12"
Toewall
3" Min Overlap with CMP
DETAIL "A"
(Showing invert with corrugated metal pipe (CMP) culvert. Reinforced concrete pipe (RCP) culvert details are similar. Cross pipes not shown for clarity.)
Riprap
6" Min Invert
Flow line
SECTION B-B
(Cross pipes not shown for clarity.)
Limits of riprap (to be included with SET for payment) 5
1'-6" (Typ)
Tangent to widest portion of pipe culvert
Riprap
Pipe Culvert (CMP or RCP)
h1
h2
SHOWING TYPICAL PIPE CULVERT AND RIPRAP
Cross pipe (flush with top of riprap)
#6 reinforcing anchor bar
2" Min clear
2 ½" Typ
Pipe Culvert (CMP or RCP)
Riprap
SHOWING CROSS PIPE WITH ANCHOR BAR
4" Min
Q1
Q2 or Q1
2" Min
¾" x 12" bolt hex with hut and washer
Cross pipe (flush with top of riprap)
1
2
3
Anchor toewall
Pipe culvert (CMP or RCP)
Center anchor bolt between pipe culverts
Anchor toewall
Pipe culvert I.D. (nominal)
Pipe culvert Spa ~ G
SHOWING CROSS PIPE WITH BOLTED ANCHOR
SECTION A-A
Texas Department of Transportation — Bridge Division Standard
SAFETY END TREATMENT FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE
SETP-PD

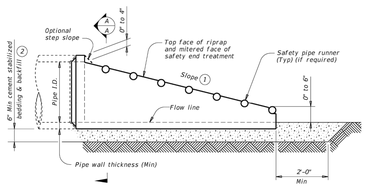
File: CD-SETP-PD-20.dgn	DN: GAF	CK: CAF	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

DATE:
FILE:

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

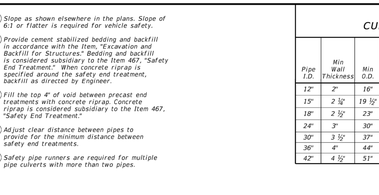


PLAN VIEW - 12" THRU 24"
(Showing spigot end connection.)

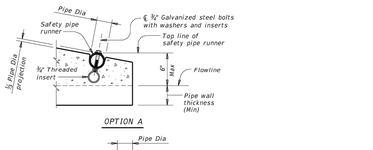


LONGITUDINAL ELEVATION - 12" THRU 24"
(Showing spigot end connection.)

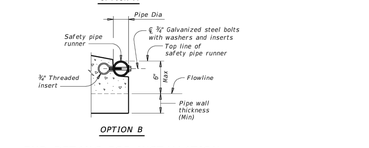
1 Slope as shown elsewhere in the plans. Slope of 6:1 or flatter is required for vehicle safety.
2 Provide cement stabilized bedding and backfill in accordance with the Item, "Excavation and Backfill for Structures." Bedding and backfill is considered subsidiary to the Item 467, "Safety End Treatment." When concrete riprap is specified around the safety end treatment, backfill as directed by Engineer.
3 Fill the top 4" of void between precast end treatments with concrete riprap. Concrete riprap is considered subsidiary to the Item 467, "Safety End Treatment."
4 Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.
5 Safety pipe runners are required for multiple pipe culverts with more than two pipes.



INSTALLATION DETAIL FOR SAFETY PIPE RUNNERS
(If required)

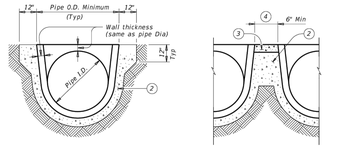


OPTION A



OPTION B

END DETAILS FOR INSTALLATION OF SAFETY PIPE RUNNERS
(If required)



SECTION A-A MULTIPLE PIPE INSTALLATION

REQUIREMENTS FOR CULVERT PIPES AND SAFETY PIPE RUNNERS

Pipe I.D.	Min Wall Thickness	Min O.D.	Min O.D. at Tapered End	Min Reinf Requirements (sq. in. per ft. of Pipe)	Max Slope	Min Length of Unit	Pipe Runner Requirements: Single Pipe	Pipe Runner Requirements: Multiple Pipe	Required Pipe Runner Sizes: Nominal Dia	O.D.	I.D.
12"	2"	16"	16"	0.07 Circ.	6:1	6'-0"	No	Yes (5)	3" STD	3.500"	3.068"
15"	2 ½"	19 ½"	19"	0.07 Circ.	6:1	5'-8"	No	Yes (5)	3" STD	3.500"	3.068"
18"	2 ½"	23"	21 ½"	0.07 Circ.	6:1	7'-3"	No	Yes (5)	3" STD	3.500"	3.068"
24"	3"	30"	27"	0.07 Circ.	6:1	10'-6"	No	Yes (5)	3" STD	3.500"	3.068"
30"	3 ½"	37"	31"	0.18 Circ.	6:1	12'-1"	No	Yes	4" STD	4.500"	4.026"
36"	4"	44"	36"	0.19 Ellip.	6:1	15'-4"	Yes	Yes	4" STD	4.500"	4.026"
42"	4 ½"	51"	41 ½"	0.23 Ellip.	6:1	18'-7"	Yes	Yes	4" STD	4.500"	4.026"

MATERIAL NOTES:
Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.
Provide pipe runners meeting the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B, or API 5L X52.
Galvanize steel components except reinforcing steel after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:
Precast safety end treatment for reinforced concrete pipe (RCP) may be used for TYPE II end treatment as specified in Item 467, "Safety End Treatment."
When precast safety end treatment is used as a Contractor's alternate to mitered RCP, riprap will not be required unless noted otherwise on the plans.
Manufacture precast concrete end sections in accordance with Item 464, "Reinforced Concrete Pipe" and in accordance with ASTM Specification C-76, Class III, Wall B for circular pipe.
Provide precast concrete end sections with a spigot or bell end for compatibility to upstream or downstream end conditions with sufficient annular space to allow for grout, mortar, cold applied asphalt joint compound or pre-formed plastic gasket material.
Methods of lifting shall be provided by the manufacturer for ease of loading, unloading and installation.
Pipe runners are designed for a traversing load of 10,000 Lbs at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Texas Department of Transportation — Bridge Division Standard
PRECAST SAFETY END TREATMENT
TYPE II ~ PARALLEL DRAINAGE
PSET-RP

File: CD-PSET-RP-20.dgn	DN: RLW	CK: KLR	DW: JTR	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

DATE:
FILE:

Bowman
© 2020 Bowman Consulting Group, Ltd
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

TXDOT DETAILS 3 OF 5

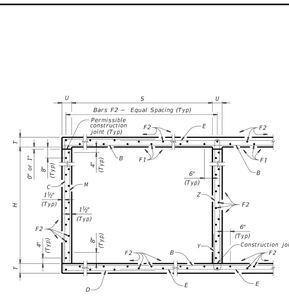
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

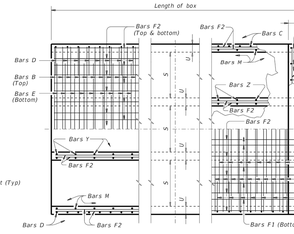
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE:
JOB No. 250503-01-001
SHEET NO. C5.6

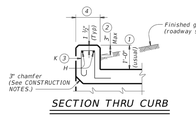
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.7 TXDOT DETAILS 2, March 02, 2026, 9:26 AM, ahernandez



TYPICAL SECTION

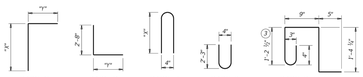


BOTTOM SLAB PART PLANS TOP SLAB



SECTION THRU CURB

TABLE OF BAR DIMENSIONS		
H	"X"	"Y"
2'-0"	2'-7 ½"	4'-1"
3'-0"	3'-7 ½"	4'-1"
4'-0"	4'-7 ½"	4'-1"
5'-0"	5'-7 ½"	4'-1"
6'-0"	6'-7 ½"	4'-1"



BARS C BARS D BARS Z BARS Y BARS K (#4) (Spa = 1'-0" Max) (Length = 4'-2")

1. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CH) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
2. For vehicle safety, the following requirements must be met:
   - For structures without bridge rail, construct curbs no more than 3" above finished grade.
   - For structures with bridge rail, construct curbs flush with finished grade.

   Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
3. For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.
4. 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars R, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 Grade 65 and with cold drawn wire conforming to Grade 65 ksi / 70 ksi. Spacing of welded wires in the "Bars and 18" Max" when required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR
Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

CONSTRUCTION NOTES:
Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise case cruction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be reversed.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: Provide Class S concrete (f'c = 4,000 psi) for top slabs of:
- culverts with overfill
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

Provide bar laps, where required, as follows:
- Uncoated or galvanized – #4 = 1'-8" Min
- Uncoated or galvanized – #5 = 2'-1" Min
- Uncoated or galvanized – #6 = 2'-6" Min

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Multiple Box Culverts Cast-In-Place Miscellaneous Detail (MC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE
6'-0" SPAN
0' TO 16' FILL
MC-6-16

FILE: CD-MC616-20.dgn	dw: TBE	ck: BWP	dw: TxDOT	ck: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: FILE:

NUMBER OF SPANS	SECTION DIMENSIONS				BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																												QUANTITIES				
					Bars B				Bars C & D						Bars E				Bars F1 ~ #4			Bars F2 ~ #4			Bars M ~ #4			Bars Y & Z ~ #4						Bars H 4 ~ #4		Bars K		Per Foot of Barrel		Curb		Total	
	S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bars C Length	Bars C Wt	Bars D Length	Bars D Wt	No.	Size	Spa	Length	Wt	No.	Size	Spa	Length	Wt	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bars Y Length	Bars Y Wt	Bars Z Length	Bars Z Wt	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
2	6'-0"	2'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	44	18"	39'-9"	1,168	108	9"	2'-0"	144	54	9"	4'-9"	171	5'-5"	195	13'-6"	36	30	84	0.894	182.4	1.0	120	36.8	7,414
3	6'-0"	2'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	63	18"	39'-9"	1,673	108	9"	2'-0"	144	108	9"	4'-9"	343	5'-5"	391	20'-1"	54	44	122	1.302	260.9	1.5	176	53.6	10,611
4	6'-0"	2'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	82	18"	39'-9"	2,137	108	9"	2'-0"	144	162	9"	4'-9"	514	5'-5"	586	26'-8"	71	56	156	1.711	339.4	2.0	227	70.4	13,801
5	6'-0"	2'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	101	18"	39'-9"	2,602	108	9"	2'-0"	144	216	9"	4'-9"	685	5'-5"	782	33'-3"	89	70	195	2.120	417.9	2.5	284	87.3	16,999
6	6'-0"	2'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	120	18"	39'-9"	3,186	108	9"	2'-0"	144	270	9"	4'-9"	857	5'-5"	977	39'-10"	106	82	228	2.529	496.4	3.0	334	104.7	20,189
2	6'-0"	3'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	50	18"	39'-9"	1,328	108	9"	3'-0"	216	54	9"	4'-9"	171	7'-5"	268	13'-6"	36	30	84	0.958	192.8	1.0	120	39.3	7,832
3	6'-0"	3'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	71	18"	39'-9"	1,885	108	9"	3'-0"	216	108	9"	4'-9"	343	7'-5"	535	20'-1"	54	44	122	1.389	274.4	1.5	176	57.1	11,152
4	6'-0"	3'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	92	18"	39'-9"	2,443	108	9"	3'-0"	216	162	9"	4'-9"	514	7'-5"	803	26'-8"	71	56	156	1.819	356.1	2.0	227	74.7	14,469
5	6'-0"	3'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	113	18"	39'-9"	3,000	108	9"	3'-0"	216	216	9"	4'-9"	685	7'-5"	1,070	33'-3"	89	70	195	2.250	437.7	2.5	284	92.5	17,790
6	6'-0"	3'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	134	18"	39'-9"	3,558	108	9"	3'-0"	216	270	9"	4'-9"	857	7'-5"	1,338	39'-10"	106	82	228	2.681	519.3	3.0	334	110.2	21,107
2	6'-0"	4'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	50	18"	39'-9"	1,328	108	9"	4'-0"	289	54	9"	4'-9"	171	9'-5"	340	13'-6"	36	30	84	1.023	199.2	1.0	120	41.9	8,089
3	6'-0"	4'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	71	18"	39'-9"	1,885	108	9"	4'-0"	289	108	9"	4'-9"	343	9'-5"	679	20'-1"	54	44	122	1.475	282.6	1.5	176	60.5	11,481
4	6'-0"	4'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	92	18"	39'-9"	2,443	108	9"	4'-0"	289	162	9"	4'-9"	514	9'-5"	1,019	26'-8"	71	56	156	1.927	366.1	2.0	227	79.1	14,870
5	6'-0"	4'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	113	18"	39'-9"	3,000	108	9"	4'-0"	289	216	9"	4'-9"	685	9'-5"	1,359	33'-3"	89	70	195	2.380	449.5	2.5	284	97.7	18,264
6	6'-0"	4'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	134	18"	39'-9"	3,558	108	9"	4'-0"	289	270	9"	4'-9"	857	9'-5"	1,698	39'-10"	106	82	228	2.832	533.0	3.0	334	116.2	21,652
2	6'-0"	5'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	56	18"	39'-9"	1,487	108	9"	5'-0"	361	54	9"	4'-9"	171	11'-5"	412	13'-6"	36	30	84	1.088	209.6	1.0	120	44.5	8,505
3	6'-0"	5'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	79	18"	39'-9"	2,098	108	9"	5'-0"	361	108	9"	4'-9"	343	11'-5"	824	20'-1"	54	44	122	1.562	296.2	1.5	176	64.0	12,024
4	6'-0"	5'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	102	18"	39'-9"	2,708	108	9"	5'-0"	361	162	9"	4'-9"	514	11'-5"	1,235	26'-8"	71	56	156	2.035	382.7	2.0	227	83.4	15,536
5	6'-0"	5'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	125	18"	39'-9"	3,319	108	9"	5'-0"	361	216	9"	4'-9"	685	11'-5"	1,647	33'-3"	89	70	195	2.509	469.3	2.5	284	102.8	19,056
6	6'-0"	5'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	148	18"	39'-9"	3,930	108	9"	5'-0"	361	270	9"	4'-9"	857	11'-5"	2,059	39'-10"	106	82	228	2.983	555.9	3.0	334	122.3	22,570
2	6'-0"	6'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	62	18"	39'-9"	1,646	108	9"	6'-0"	433	54	9"	4'-9"	171	13'-5"	484	13'-6"	36	30	84	1.153	220.0	1.0	120	47.1	8,923
3	6'-0"	6'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	87	18"	39'-9"	2,310	108	9"	6'-0"	433	108	9"	4'-9"	343	13'-5"	968	20'-1"	54	44	122	1.648	309.7	1.5	176	67.4	12,565
4	6'-0"	6'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	112	18"	39'-9"	2,974	108	9"	6'-0"	433	162	9"	4'-9"	514	13'-5"	1,452	26'-8"	71	56	156	2.144	399.4	2.0	227	87.7	16,204
5	6'-0"	6'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	137	18"	39'-9"	3,638	108	9"	6'-0"	433	216	9"	4'-9"	685	13'-5"	1,936	33'-3"	89	70	195	2.639	489.1	2.5	284	108.0	19,849
6	6'-0"	6'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	162	18"	39'-9"	4,302	108	9"	6'-0"	433	270	9"	4'-9"	857	13'-5"	2,420	39'-10"	106	82	228	3.134	578.9	3.0	334	128.3	23,488

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

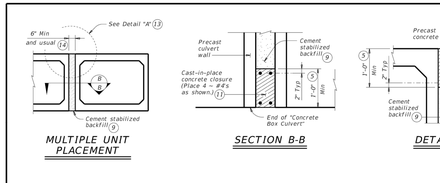
DATE: FILE:

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation | Bridge Division Standard

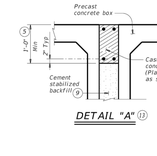
MULTIPLE BOX CULVERTS CAST-IN-PLACE
6'-0" SPAN
0' TO 16' FILL
MC-6-16

FILE: CD-MC616-20.dgn	dw: TBE	ck: BWP	dw: TxDOT	ck: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

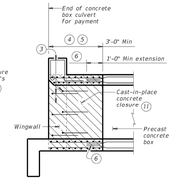


MULTIPLE UNIT PLACEMENT

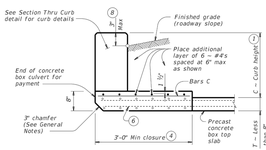
SECTION B-B



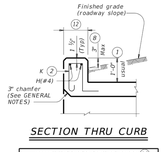
DETAIL "A" (12)



WINGWALL CONNECTION
(Also applies to safety end treatment.)

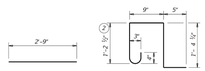


SECTION THRU TOP SLABS LESS THAN 8"

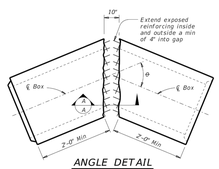


SECTION THRU CURB

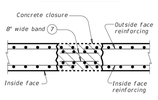
QUANTITIES PER FOOT OF CURB (10)	
Reinforcing Steel	4.12 Lb
Concrete	0.037 CY



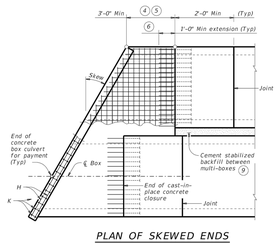
BARS C (#4) (Spa = 1'-0" Max) BARS K (#4) (Spa = 1'-0" Max) (Length = 4'-2")



ANGLE DETAIL



SECTION A-A



PLAN OF SKEWED ENDS
(Showing multi-box placement.)

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

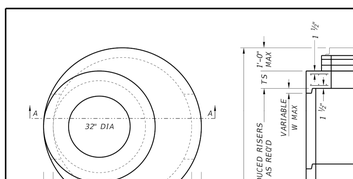
DATE: FILE:

HL93 LOADING SHEET 1 OF 2

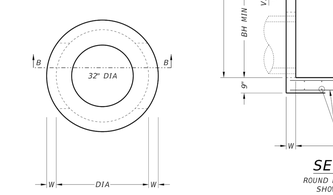
Texas Department of Transportation | Bridge Division Standard

BOX CULVERTS PRECAST MISCELLANEOUS DETAILS
SCP-MD

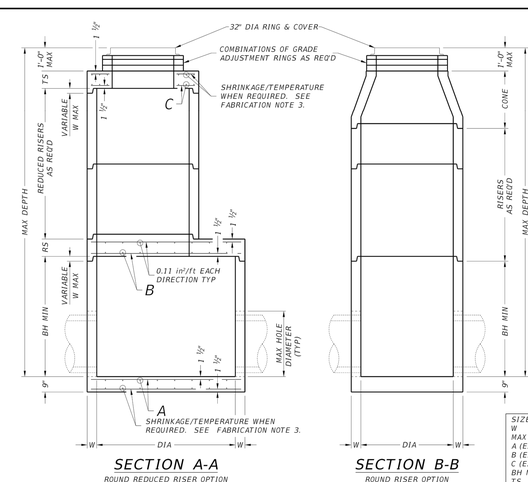
FILE: CD-SCP-MD-20.dgn	dw: GAF	ck: LNW	dw: BWP/TxDOT	ck: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.



PLAN VIEW "A"



PLAN VIEW "B"



SECTION A-A
ROUND REDUCED RISER OPTION
SHOWING FLAT SLAB TOP

SECTION B-B
ROUND RISER OPTION
SHOWING CONE

FABRICATION NOTES:
1. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
2. Provide Grade 60 reinforcing steel or equivalent area of WWR. Provide circumferential reinforcing steel in vertical walls of base, riser and cone in accordance with ASTM C478.
3. Slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing steel. Provide steel area = 0.11 in²/ft each way.
4. Manufacture base and risers to nearest 3" increment.
5. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is ½".
6. Provide lifting devices in conformance with Manufacturer's recommendations.
7. Provide cast iron solid cover, unless noted otherwise elsewhere in the plans.

INSTALLATION NOTES:
1. Cones may be concentric or eccentric. Reduction cones are acceptable. See Manufacturer for cone dimensions.
2. Inverts (benching) to be provided by Contractor. Concrete or mortar used for invert is subsidiary to this item.
3. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, if the joint is wide enough to allow grouting.
4. Do not grout rubber gasket joints without Manufacturer's recommendation.
5. Initial installation of grade adjustment rings is limited to 1'-0" Max as shown.
6. Grade adjustment rings may be increased to 2'-0" Max when future construction affects final grade of structure. Make adjustments greater than 2'-0" with additional risers. Adjustments may be made up to the Max depth shown. Structure must be evaluated if Max depth will be exceeded.

GENERAL NOTES:
1. Designed according to ASTM C478.
2. Payment for manhole is per Item 465, "Junction Boxes, Manholes, and Inlets" by type and size.
3. Pipe OD + placement tolerance must be equal or less than Max hole diameter. For rigid pipe, placement tolerance is 4" Max. 2" Min. For flexible pipe, consult boot/seal manufacturer's specification for placement tolerance.

Cover dimensions are clear dimensions, unless noted otherwise.

SIZE (DIA)	48 in	60 in	72 in
W	5 in	6 in	7 in
MAX DEPTH	25 ft	25 ft	25 ft
A (EACH WAY)	0.22 in²/ft	0.30 in²/ft	0.45 in²/ft
B (EACH WAY)	N/A	0.37 in²/ft	0.62 in²/ft
C (EACH WAY)	0.24 in²/ft	0.46 in²/ft	0.46 in²/ft
BH MIN	12 in	36 in	36 in
TS	9 in	9 in	9 in
RS	N/A	9 in	12 in
REDUCED RISER DIA	N/A	48 in	48/60 in
MAX HOLE DIA	32 in	40 in	54 in

HL93 LOADING

Texas Department of Transportation | Bridge Division Standard

PRECAST ROUND MANHOLE
PRM

FILE: CD-PRM-23.dgn	dw: TxDOT	ck: TxDOT	dw: TxDOT	ck: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 3/2023 – Corrected T5 and R5 callout	DIST	COUNTY		SHEET NO.

A3

Bowman
© 2020 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

TXDOT DETAILS 4 OF 5

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 3, 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/03/2026

SCALE:

JOB No. 250503-01-001

SHEET NO. **C5.6A**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.7A TXDOT DETAILS 3 (2), March 03, 2026, 10:48 AM, acastillo

DISCLAIMER:
TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or any damages resulting from its use.

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Maximum Wingwall Height Hw	W	X	Y	Z	Dimensions: Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Variable Reinforcing (2-wings) Reinf (Lb/Ft)	Estimated Quantities per Ft of Run (2-wings) Conc (CY/Ft)	Estimated Quantities per Ft of Run (1-toewall) Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.98	0.444	6.85	0.071
3'-3"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.30	0.462	6.85	0.071
3'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'-2"	1'-7"	1'-0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'-2"	1'-7"	1'-0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	80.67	0.730	7.07	0.078
6'-6"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'-0"	2'-10"	2'-2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'-5"	3'-0"	2'-5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'-2"	3'-6"	2'-8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'-8"	3'-9"	2'-11"	1'-0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'-2"	4'-0"	3'-2"	1'-2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'-3"	3'-5"	1'-4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'-6"	4'-10"	3'-8"	1'-6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'-0"	3'-11"	1'-7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING
(2-wings)

Bar	Size	No.	Spa
D1	#6	–	1'-0"
D2	#6	–	1'-0"
E1	#4	–	1'-0"
F	#4	–	1'-0"
G	#6	–	8"
M1	#4	4	–
P	#4	–	1'-0"
Y	#4	–	1'-0"

TABLE OF TOEWALL REINFORCING

Bar	Size	No.	Spa
J3	#4	–	1'-0"
M2	#4	2	–
E2	#4	–	1'-0"

BARS D1

BARS D2

BARS J1

BARS J2

BARS J3

BARS V

WING DIMENSION FORMULAS:
(All values are in feet.)

Hw = H + T + C
Lw = (Hw) (SL) + cosine (B) for Type PW-1
= (Hw − 0.5') (SL) + cosine (B) for Type PW-2 and Hw ≥ 4'
= (Hw − 0.5') (SL) + cosine (B) for Type PW-2 and Hw < 4'

For cast-in-place culverts:
Ltw = ((N) (S) + (N + 1) (U)) + cosine (B)

For precast culverts:
Ltw = ((N) (2 U + S) + (N − 1) (0.5)) + cosine (B)
Total Wingwall Area (two wings − SF)
= (2)(Hw)(Lw) − 1.5 SF
= (2)(Hw)(Lw) − 4 SF for Type PW-2 and Hw ≥ 4'
= (2)(Hw)(Lw) − 1.5 SF for Type PW-2 and Hw < 4'

Hw = Height of wingwall
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans
SL:1 = Channel slope ratio (horizontal: 1 vertical, usual value is 2:1)
θ = Culvert skew

See applicable box culvert standard sheet for S, H, T, and U values.

1. Skew = 0°
2. At discharge end, chamfer may be ¾" minimum.
3. For 15° skew − 1'
   For 30° skew − 2'
   For 45° skew − 3'
4. Quantities shown are for two Type PW-1 wings. Adjust concrete volume for Type PW-2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.
5. Provide weepholes for Hw = 5'-0" and greater. Fill around weepholes with coarse gravel.
6. Extend Bars E2 1'-6" minimum into the wingwall footing.
7. Lap Bars M1 1'-6" minimum with Bars M2.
8. Place Bars G as shown, equally spaced at 8" maximum. Provide at least two pairs of Bars G per wing.
9. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with TxDOT T411 Rails (T411-SD) standard sheet, Refer to the Bridge for T631 & T631LS Rails (T631-CH) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
10. For vehicle safety, the following requirements must be met:
    - For structures without bridge rail, construct curbs no more than 3" above finished grade.
    - For structures with bridge rail, construct curbs flush with finished grade.

    Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
11. 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.
12. 3'-0" for Hw < 4'.
13. 6" for Hw < 4'.

DESIGNER NOTES:
Type PW-1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
Type PW-2 can only be used for applications without a railing mounted to the wingwall.

MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.

GENERAL NOTES:
Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.
Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

PARTIAL ELEVATION - PW-1

PARTIAL ELEVATION - PW-2

SECTION C-C - PW-1

SECTION C-C - PW-2

SECTION A-A
(Showing wing reinforcement.)

SECTION B-B
(Showing wing reinforcement.)

PLAN

PLAN

DETAILS FOR NON-SKEWED BOX CULVERTS

DETAILS FOR SKEWED BOX CULVERTS
(Showing 30° skew.)

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation | Bridge Division Standard

CONCRETE WINGWALLS WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2

PW

FILE: CD-PW-20.dgn	DN: GAF	CK: CAF	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

DATE:
FILE:

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or any damages resulting from its use.

PROPERTIES

REINFORCING STEEL FOR ONE 32' PANEL (DESIGN A)

Wall Height "H" (FT)	WALL DIMENSIONS Fw	Tw	Sw	Hw	Ft	Kw	Kd	MAX SOIL PRESS T/SF	Bars A1 No.	Bars A1 Size	Bars A1 Length	Bars A1 Weight	Bars A2 No.	Bars A2 Size	Bars A2 Length	Bars A2 Weight	Bars B No.	Bars B Size	Bars B Length	Bars B Weight	Bars C No.	Bars C Size	Bars C Length	Bars C Weight	Bars E No.	Bars E Size	Bars E Length	Bars E Weight	Bars K No.	Bars K Size	Bars K Length	Bars K Weight	D (#5) at 12" Max. No.	D (#5) at 12" Max. Weight	Dowel F at 12" Max. No.	Dowel F at 12" Max. Weight	H (#5) at 12" Max. No.	H (#5) at 12" Max. Weight	T (#5) at 12" Max. No.	T (#5) at 12" Max. Weight	U − 39 #5 at 10" Max Length	U − 39 #5 at 10" Max Weight	QUANTITY FOR ONE 32' PANEL Conc (CY)	QUANTITY FOR ONE 32' PANEL REINF (LB)	Wall Height "H" (FT)
2	1'- 4"	0'- 4"	1'- 0"	0'- 0"	0'- 9"	0'- 9"	0.164	39	#4	10"	2'- 6"	66																																	3.4	687	2
4	2'- 5"	0'- 8"	1'- 0"	0'- 9"	1'- 0"	0'- 9"	0.287	39	#4	10"	4'- 10"	126																																	7.1	1186	4
6	3'- 6"	1'- 2"	1'- 0"	1'- 4"	1'- 0"	0'- 9"	0.373	39	#4	10"	7'- 4"	192																																	10.8	1682	6
8	5'- 1"	1'- 9"	1'- 0"	2'- 4"	1'- 0"	0'- 9"	0.425	39	#4	10"	9'- 11"	259																																	15.0	2178	8
10	6'- 7"	2'- 3"	1'- 0"	3'- 4"	1'- 2"	1'- 0"	0.513	39	#4	10"	12'- 5"	324																																	20.8	2682	10
12	8'- 4"	2'- 10"	1'- 1"	4'- 5"	1'- 4"	1'- 3"	0.589	39	#5	10"	15'- 1"	614																																	28.8	3469	12
14	9'- 11"	3'- 5"	1'- 2"	5'- 4"	1'- 7"	1'- 6"	1'- 4"	0.674	39	#5	10"	17'- 9"	1040																																	38.5	4533	14
16	11'- 5"	4'- 0"	1'- 3"	6'- 2"	1'- 9"	1'- 9"	1'- 9"	0.756	39	#5	10"	20'- 5"	1196	39	#4	10"	20'- 5"	532	39	#4	10"	15'- 2"	396	39	#5	10"	10'- 11"	640	39	#4	10"	11"	285	39	#4	10"	6'- 7"	152	32	1052	28	225	12	395	12	395	8" - 8"	353	48.5	5641	16
18	12'- 8"	4'- 7"	1'- 4"	6'- 9"	1'- 9"	2'- 0"	2'- 0"	0.830	39	#6	10"	23'- 1"	1353	39	#5	10"	23'- 1"	939	39	#4	10"	17'- 2"	448	39	#7	10"	12'- 2"	971	39	#4	10"	12'- 2"	318	39	#4	10"	7'- 4"	192	36	1183	32	257	14	460	14	460	8" - 8"	356	56.7	6935	18
20	14'- 4"	5'- 2"	1'- 6"	7'- 8"	2'- 0"	2'- 0"	2'- 0"	0.910	39	#6	10"	25'- 10"	1514	39	#6	10"	25'- 10"	1514	39	#4	10"	18'- 11"	493	39	#7	10"	13'- 10"	1103	39	#4	10"	13'- 10"	361	39	#4	10"	7'- 4"	192	38	1249	34	273	15	493	15	493	8" - 11"	363	70.8	8048	20

1. Place vertical bars inside of horizontal bars (Typical both faces).
2. Place footing toe against undisturbed soil.
3. See Retaining Wall Miscellaneous Details (RWSF3) standard for size.
4. Optional bars splices not included in above table.

H < 16'

H ≥ 16'

PARTIAL WALL ELEVATIONS
Elevation shows vertical reinforcing pattern in back face.

H DEFINITION

BARS F (3)

BARS D, H, and T

BARS A1 & A2

OPTIONAL BARS A1 (4)

OPTIONAL BARS A2 (4)

BARS B

OPTIONAL BARS B (4)

BARS K

BARS U

SECTION

MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi.)
Provide Grade 60 reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Walls are designed assuming unit weight of soil = 120 pcf and a friction angle = 30 degrees for foundation and retained soil.
See Retaining Wall Miscellaneous Details (RWSF3) standard for details and notes not shown.
These details provide designs for wall heights of 2 to 20 feet. For heights not shown, round up to the next 2' to determine wall dimensions and reinforcing. (i.e. a 9'-0" high wall would use the 10-foot high dimensions and reinforcing.)
Quantities are based on "H" being average height of panel.
Retaining walls are designed to be coded as follows on Retaining Wall Layout Sheets:

A - 15 - 32
- Panel length – 32 ft. is standard; 28 ft. requires special quantities.
- Average height (H) of panel.

Design A = No surcharge or slopes 3:1
Design B = No surcharge; slopes to 3:1.
Design C = Traffic surcharge; no slope above wall.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

Texas Department of Transportation | Bridge Division Standard

SPREAD FOOTING RETAINING WALL

RW(SFA)

ref.: RW-SFA-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or any damages resulting from its use.

WING DIMENSION CALCULATIONS:

Hw = H + T + C − 0.250'
Lw = (Hw − 0.250') (SL)

For cast-in-place culverts:
Atw = (N) (S) + (N + 1) (U)

For precast culverts:
Atw = (N) (2U + S) + (N − 1) (0.500')

Total Wingwall Area (SF)
= (0.5) (Hw + 0.250') (Lw) (N − 1)
Total Concrete Volume (CY)
= [(Wingwall Area) (0.583') +
(Lw) (Atw) (0.583') +
(Atw) (1.000') (1.167' − 0.583')] ÷ (27)
Total Reinforcing (Lb)
= (1.55) (Lw) (Atw) +
(4.43) (Atw) +
(K) (Hw) (N + 1) (Lw)

C = Height of curb above top of top slab (feet)
Hw = Height of wingwall (feet)
K = Constant value for use in formulas
Slope SL:1 K
6:1 — 10.41
Atw = Anchor toewall length (feet)
Lw = Length of wingwall (feet)
N = Number of culvert barrels
SL:1 = Side slope ratio (horizontal : 1 vertical)
See applicable box culvert standard for H, S, T, and U values.

TYPICAL WINGWALL ELEVATION
(Cross pipes not shown for clarity.)

ISOMETRIC VIEW OF TYPICAL INSTALLATION
(Showing bolted anchor option.)

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans. Adjust reinforcing as necessary to provide a minimum clear cover of 1½".
Provide Class "C" concrete (f'c = 3,600 psi).
Provide pipe runners, cross pipes, and anchor pipes meeting the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5L/X52.
Provide ASTM A307 bolts.
Galvanize all steel components, except the concrete reinforcing, unless required elsewhere in the plans, after fabrication.
Repair galvanizing damaged during transport or construction in accordance with Item 445, "Galvanizing."

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
The safety end treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the cross pipes.
Cross pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.
The quantities for concrete, reinforcing steel, and cross pipes resulting from the formulas given herein are for Contractor's information only.
See the Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
Alternate design drawings bearing the seal of a professional engineer will be acceptable for precast construction of the safety end treatments.

AT TOP OF EXTERIOR WINGWALL
(Cast-in-place culvert)

AT TOP OF INTERIOR WINGWALL
(Cast-in-place culvert)

AT OUTSIDE OF BOTTOM SLAB
(Cast-in-place culvert)

AT INTERIOR WINGWALL
(Precast culvert)

PLAN VIEWS OF CORNER DETAILS

SECTION A-A
(Showing typical wingwall and wing slab reinforcing. Pipe runners not shown for clarity.)

TABLE OF REINFORCING BAR SIZES AND SPACING

Bar	Size	Spacing
C	#4	10" Max
D	#4	Match F and E
E	#4	1'- 0" Max
F	#4	1'- 3" Max
G	#6	As shown
J	#4	10" Max
K	#4	1'- 0" Max
R	#4	As shown

BARS J
Length varies – see T (closest) for T (lowest)

BARS K
(Length = 4'-3")

BARS R

1. Provide 6:1 or flatter slope.
2. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures without railing and curbs taller than 1'-0", refer to Extended Curb Details the Extended Curb Details (ECD) standard sheet.
3. Wingwall and slab thicknesses may be the same as the adjacent culvert wall and slab thicknesses (7" Minimum). If thicknesses greater than the minimum (7") are used, no changes will be made in quantities and no additional compensation will be allowed.
4. For vehicle safety, reduce height, if necessary, to provide a maximum 3" projection above finished grade. No changes will be made in quantities and no additional compensation will be allowed for this work.
5. For culverts with C = 0", the precast culvert reinforcing may extend 1'-0" minimum into wingwall. Wingwall bars D and R may be omitted. Otherwise, refer to the Wingwall Connection detail on the Box Culvert Precast Miscellaneous Details (SCP-MD) standard sheet.

SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

SAFETY END TREATMENT FOR BOX CULVERTS (MAXIMUM Hw = 7'-0") TYPE I ~ PARALLEL DRAINAGE

SETB-PD

FILE: CD-SETBPD-22.dgn	DN: GAF	CK: CAF	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 06-2022 – Wing dimensions	DIST	COUNTY		SHEET NO.

DATE:
FILE:

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or any damages resulting from its use.

TYPICAL WINGWALL INSIDE ELEVATION
(Showing installation of cross pipes.)

PART PLAN

SECTION B-B

OPTIONAL ANCHOR BAR DETAILS

REQUIRED PIPE SIZES (8) Culvert Span Sizes	Cross Pipe Size	Sleeve Pipe Size (9)
First Pipe	3 ½" STD	2 ½" STD
30" to 42"	4" STD	3" STD
48" to 72"	5" STD	4" STD
78" to 120"	6" STD	5" STD

STANDARD PIPE SIZES Pipe Size	Pipe O.D.	Pipe I.D.
2 ½" STD	2.875"	2.469"
3" STD	3.500"	3.068"
3 ½" STD	4.000"	3.548"
4" STD	4.500"	4.026"
5" STD	5.563"	5.047"
6" STD	6.625"	6.065"

SLEEVE PIPE DETAILS (9)

6. The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe at no more than 6" above the flow line.
7. Always install the third cross pipe from the bottom of the culvert using a bolted connection. Take care to ensure that concrete does not flow into this cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.
8. Provide cross pipes and sleeve pipes (if required) as shown in the Required Pipe Sizes table. Provide 3 1⁄4"Ø saddle pipes for the 3 1⁄2" first cross pipe.
9. At Contractor's option, make the cross pipe continuous across the inside wingwalls. If this option is selected, omit the sleeve pipe and make a 15⁄16" diameter throughhole in the cross pipe to accept the anchor bolt at the centerline of each interior wingwall.
10. Provide riprap when using the Optional Anchor Bar details. Riprap is included in the bid price for Safety End Treatment. Provide riprap in accordance with Item 432, "Riprap."

SECTION THROUGH INSTALLATION OF TYPICAL FULL CROSS PIPE
(Anchor details and dimensions are similar to those shown below in Section Through Installation of 3 ½" First Cross Pipe detail.)

SECTION THROUGH INSTALLATION OF 3 ½" FIRST CROSS PIPE

OUTSIDE CULVERT BARREL WITH OPTIONAL ANCHOR BARS & RIPRAP

OUTSIDE CULVERT BARREL WITH BOLTED ANCHOR

INSIDE CULVERT BARREL

CROSS PIPE INSTALLATION DETAILS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

SHEET 2 OF 2

Texas Department of Transportation | Bridge Division Standard

SAFETY END TREATMENT FOR BOX CULVERTS (MAXIMUM Hw = 7'-0") TYPE I ~ PARALLEL DRAINAGE

SETB-PD

FILE: CD-SETBPD-22.dgn	DN: GAF	CK: CAF	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 06-2022 – Wing dimensions	DIST	COUNTY		SHEET NO.

Bowman
© 2020 Bowman Consulting Group, Ltd
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 2029
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISION	DESCRIPTION	DATE

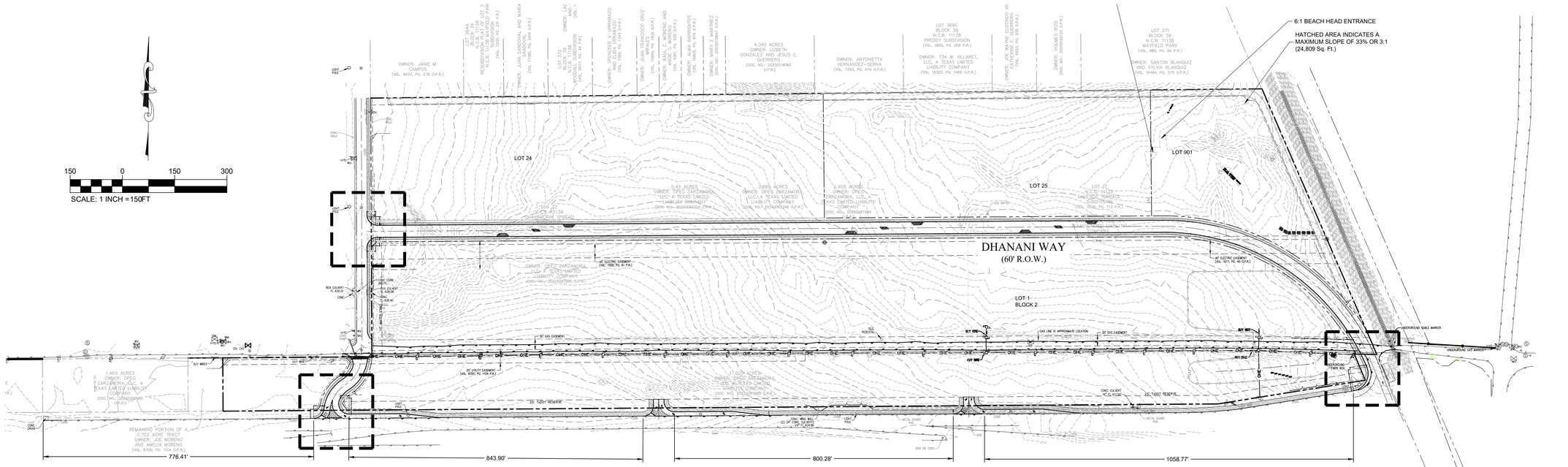
TXDOT DETAILS 5 OF 5

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

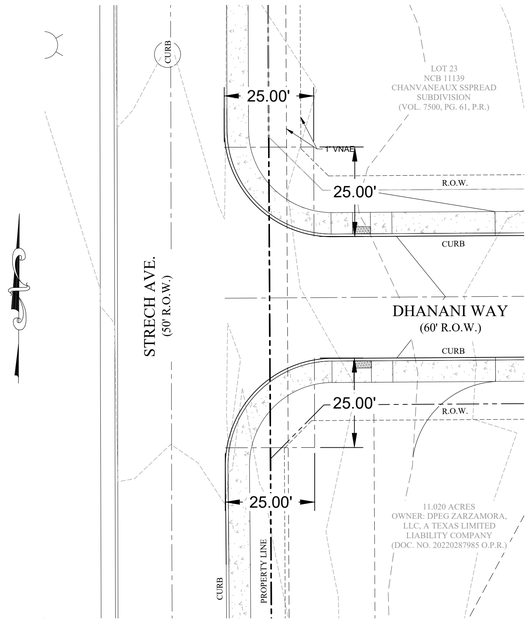
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE:
JOB No. 250503-01-001
SHEET NO. C5.6B

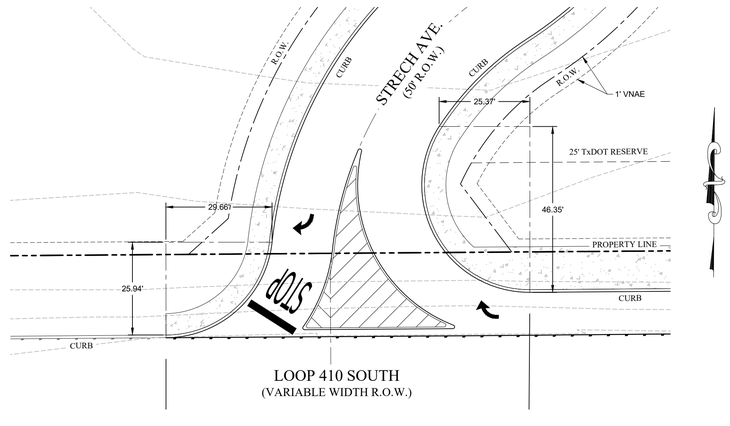
V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.7B TXDOT DETAILS 4, March 02, 2026, 9:26 AM, shernandez



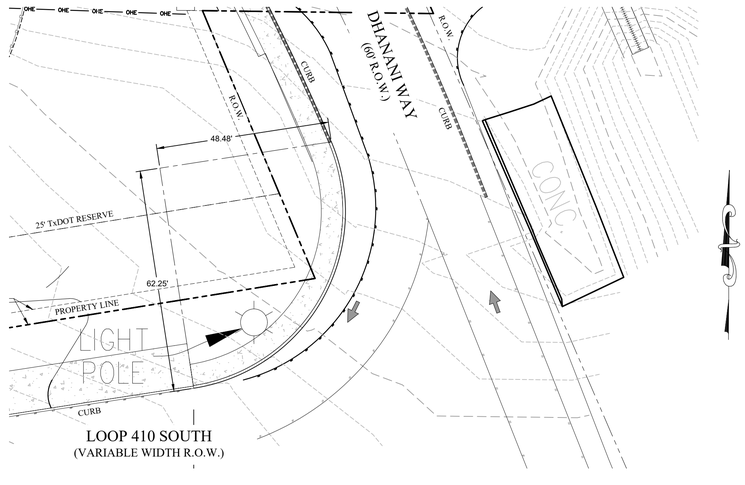
SIGHT DISTANCE EXHIBIT
SCALE: 1" = 150'



SIGHT DISTANCE TRIANGLE
SCALE: 1" = 20'



SIGHT DISTANCE TRIANGLE
SCALE: 1" = 20'



SIGHT DISTANCE TRIANGLE
SCALE: 1" = 20'

Bowman
© 2023 Bowman Consulting Group, Ltd.
TBPE Firm Registration No. F-003832
8122 Datapoint RD.
Suite 202
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bschack@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

SIGHT DISTANCE PLAN

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026
SCALE:
JOB No. 250503-01-001
SHEET NO. **C5.7**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STREET AND PAVING NOTES.dwg, C5.8 SIGHT DISTANCE PLAN, March 02, 2026, 9:26 AM, ahernandez

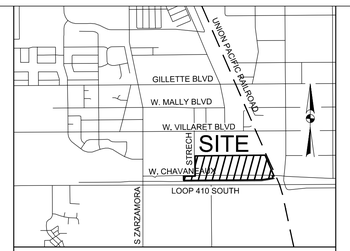
NPDES LEGEND

X—(FF)—X	FILTER FABRIC FENCE
(SC)	STABILIZED CONSTRUCTION EXIT
CTW	CONCRETE TRUCK WASHOUT
RFD	ROCK FILTER DAM
A3 IPB2	INLET PROTECTION BARRIERS FOR STAGE 2 INLETS

NOTE:
1. CONTRACTOR MUST ESTABLISH AN APPROPRIATE "CONCRETE TRUCK WASHOUT AREA". SEE DETAIL SHEET C6.1.

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	14.96	N 48° 00' 11" E
L2	23.84	N 36° 59' 37" W
L3	19.16	N 40° 03' 49" W
L4	21.27	N 44° 39' 28" E
L5	21.24	S 45° 20' 32" E
L6	184.28	S 0° 35' 40" E
L7	25.82	S 46° 24' 33" E
L8	153.90	S 0° 22' 09" E
L9	357.41	N 0° 35' 40" W

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHD BEARING	CHD LENGTH
C1	110.00	130.00	48°28'57"	N 32° 52' 08" E	106.75
C2	39.67	70.00	32°28'00"	N 40° 52' 37" E	39.14
C3	124.97	130.00	55°04'46"	N 29° 34' 14" E	120.21
C4	49.75	70.00	40°43'05"	N 36° 45' 05" E	48.71
C5	700.00	680.00	58°58'53"	S 60° 52' 42" E	669.50
C6	683.83	620.00	63°11'39"	S 58° 46' 19" E	649.69



VICINITY MAP: N.T.S.

120 0 120
SCALE: 1" = 120'

FLOODPLAIN INFORMATION :

THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" UNSHADED AREA PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0560F, BEXAR COUNTY, TEXAS, LATEST REVISION SEPTEMBER 29, 2010.

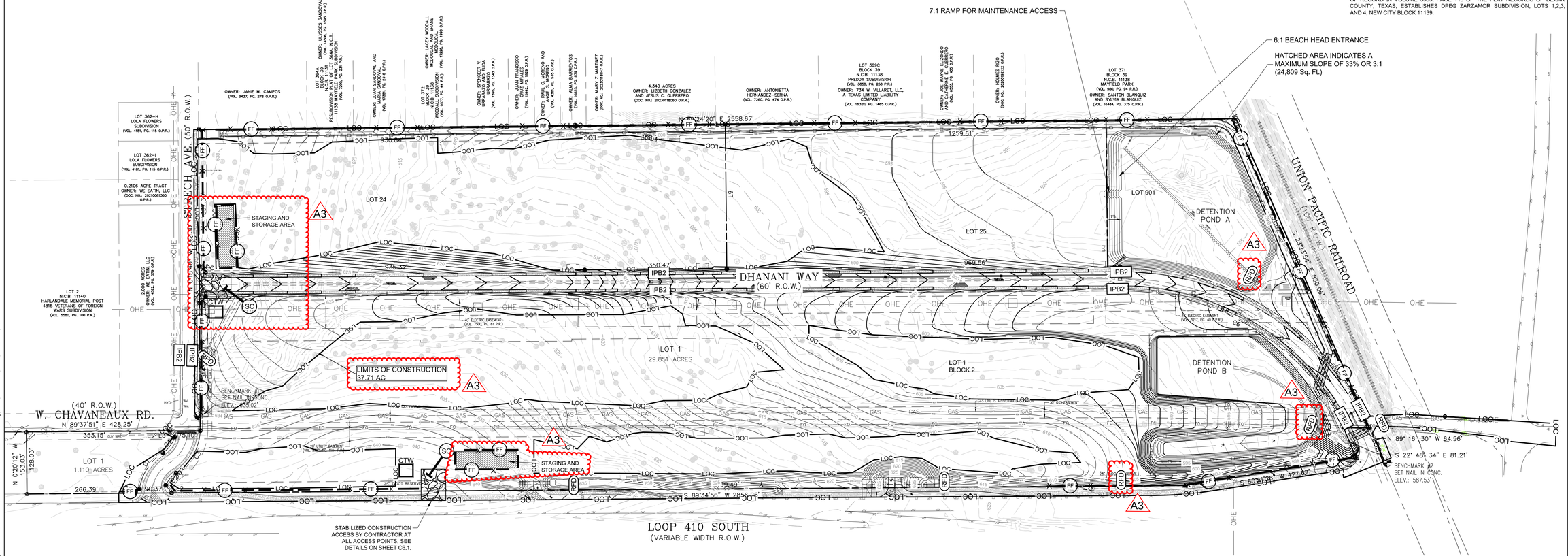
BENCHMARK NOTE :

BENCHMARK #1 = SET NAIL IN CONCRETE
ELEVATION = 635.02'

BENCHMARK #2 = SET NAIL IN CONCRETE
ELEVATION = 587.53'

LEGAL DESCRIPTION :

57.75 ACRES BEING ALL OF AN 11.020 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 0.49 ACRES TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062219 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS, A 3.885 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20240062246, A 2.905 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NUMBER 20220287985 OF THE OFFICIAL PUBLIC CITY BLOCK 11139, CHAVANEAUX SPREAD SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 7500, PAGE 61, OF THE PLAT RECORDS OF BEXAR COUNTY TEXAS AND ALL OF LOTS 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21, AND 22, NEW CITY BLOCK 11139, LAKESIDE TERRACE SUBDIVISION AS SHOWN BY PLAT OF RECORD IN VOLUME 3535, PAGE 113 OF THE PLAT RECORDS OF BEXAR COUNTY, TEXAS, ESTABLISHES DPEG ZARZAMOR SUBDIVISION, LOTS 1,2,3, AND 4, NEW CITY BLOCK 11139.



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Know what's below. Call before you dig.

ALL EXISTING CONDITIONS INFORMATION DEPICTED IN THESE PLANS INCLUDING PROPERTY BOUNDARIES, EASEMENTS, GRADE ELEVATIONS, PAVING LIMITS, AND UTILITIES ARE BASED ON THE CONSTRUCTION PLANS FOR THE DHANANI WAY PUBLIC ROAD IMPROVEMENTS INFRASTRUCTURE. IN THE CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS. CITY PROJECT NO., CIVIL-250503-01, PREPARED BY BOWMAN CONSULTING (8122 DATAPOINT RD., SUITE 202, SAN ANTONIO, TEXAS 75229 (TEL. NO. 210-298-1600). CONTRACTOR TO INSPECT THE SITE PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY EXISTING SITE CONDITIONS AND BENCHMARK INFORMATION AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

Bowman
TBPE Firm Registration No. F-003832
8122 Datapoint RD. Site 202 San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bsolnick@bowman.com
www.bowmanconsulting.com

© 2023 Bowman Consulting Group, Ltd.

REVISIONS		
REVISION	DESCRIPTION	DATE

STORM WATER POLLUTION PREVENTION PLAN

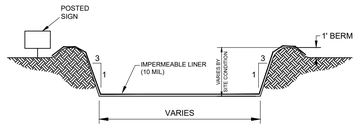
DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 4 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

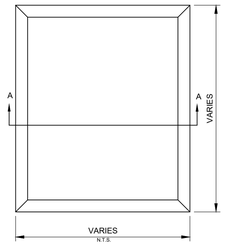
DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/04/2026
SCALE: 1"=120'
JOB No. 250503-01-001
SHEET NO. **C6.0**

V:\250503 - DPEG\250503-01-001 (ENG) - Zarzamora\Engineering\Drawings\STORM WATER POLLUTION PREVENTION PLAN.dwg, C6.0, March 04, 2026, 12:43 PM, acastillo



SECTION A-A



PLAN VIEW

NOTES:

1. POST A SIGN READING "CONCRETE WASH OUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASH OUT THEIR TRUCKS IN THE PIT AND NO WHERE ELSE.
3. UNPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASH OUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASH OUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.

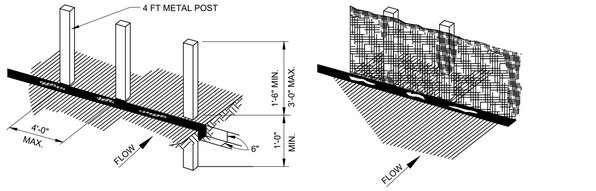
CONCRETE TRUCK WASHOUT AREA

CTW

SYMBOL

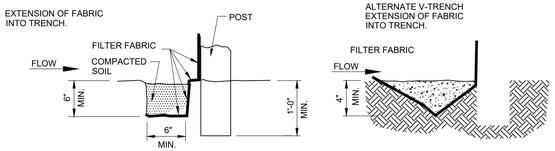
1. SET POSTS AT REQUIRED SPACING AND DEPTH. EXCAVATE A 6" x 6" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. ATTACH FILTER FABRIC TO METAL POSTS WITH (4) T-CLIPS OR SEWN VERTICAL POCKETS, AND INSTALL IT INTO THE TRENCH. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.



EXTENSION OF FABRIC INTO TRENCH.

ALTERNATE V-TRENCH EXTENSION OF FABRIC INTO TRENCH.



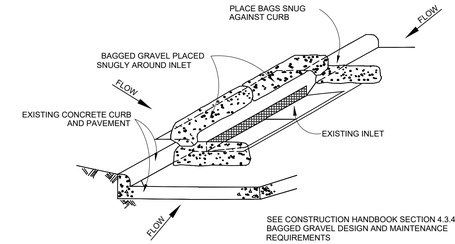
NOTES:

1. SET POSTS AT 4-FEET MAXIMUM SPACING. IF FACTORY PREASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT THE POST, FOLD TOGETHER, AND ATTACH TO THE POSTS.
3. REMOVE SEDIMENT DEPOSITS WHEN SILT DEPTH REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE.

FILTER FABRIC FENCE

FF

SYMBOL



SEE CONSTRUCTION HANDBOOK SECTION 4.3.4 FOR BAGGED GRAVEL DESIGN AND MAINTENANCE REQUIREMENTS

GENERAL NOTES:

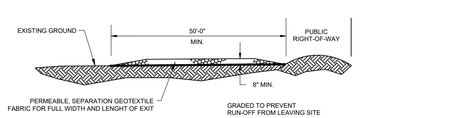
1. BAGS OR WATTLES CAN BE USED FOR THIS APPLICATION.
2. PROVIDE WOVEN OR UNWOVEN GEOTEXTILE FILTER FABRIC FOR BAGS.
3. PROVIDE COARSE GRAVEL AND AGGREGATE MIX FOR FILL MATERIAL FOR BAGS. USE ONLY PARTICLES CONSISTING OF CLEAN, HARD, DURABLE MATERIALS FREE FROM ADHERENT COATINGS, SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT OR FLAKY MATERIALS, OR ORGANIC AND INJURIOUS MATTER.
4. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.

INLET PROTECTION BARRIERS FOR STAGE II INLETS

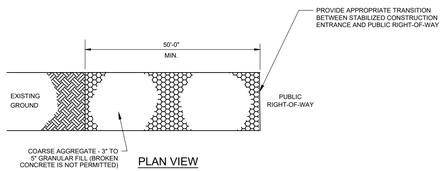
IPB2

SYMBOL

A3



PROFILE



PLAN VIEW

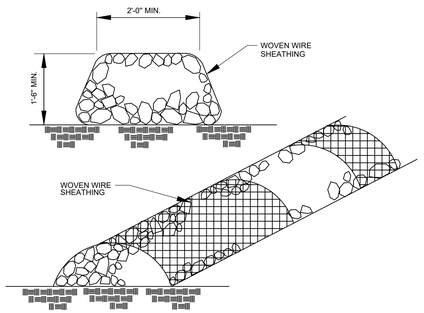
NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. ALTERNATIVE METHODS OF CONSTRUCTION INCLUDE -CEMENT STABILIZED SOIL: COMPACTED CEMENT STABILIZED SOIL, LIMESTONE AGGREGATE, OR OTHER FILL MATERIAL IN AN APPLICATION OF THICKNESS OF 8 INCHES.
-WOOD MATS: OAK OR OTHER HARDWOOD TIMBERS PLACED EDGE TO EDGE AND ACROSS SUPPORT WOODEN BEAMS WHICH ARE PLACED ON TOP OF EXISTING SOIL IN AN APPLICATION THICKNESS OF 6 INCHES.
-STEEL MATS: PERFORATED MATS PLACED ACROSS PERPENDICULAR SUPPORT MEMBERS.

STABILIZED CONSTRUCTION ACCESS

SC

SYMBOL



NOTES:

1. USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE - WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK FILTER DAM

RFD

SYMBOL

Bowman
TBPE Firm Registration No. F-003832
© 2023 Bowman Consulting Group, Ltd.
8122 Datapoint RD.
Suite 222
San Antonio, Texas 78229
Phone: (210) 298-1600
EMAIL: bshock@bowman.com
www.bowmanconsulting.com

REVISIONS

REVISION	DESCRIPTION	DATE

STORM WATER POLLUTION PREVENTION DETAILS

DPEG ZARZAMORA
LOOP 410 SOUTH & STRECH AVE.
SAN ANTONIO, TEXAS 78221

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF JEROME PERALES, P.E. #94676 ON MARCH 2 2026. IT IS NOT TO BE USED FOR CONSTRUCTION, OR PERMIT PURPOSES.

DESIGN	DRAWN	CHKD
JCM	JCM	WOS

DATE: 03/02/2026

SCALE: N.T.S.

JOB No. 250503-01-001

SHEET NO. **C6.1**

V:\250503 - DPEG\2505003-01-001 (ENG) - Zarzamora\Engineering\Drawings\STORM WATER POLLUTION PREVENTION DETAILS.dwg, C6.1, March 02, 2026, 9:27 AM, ahernandez