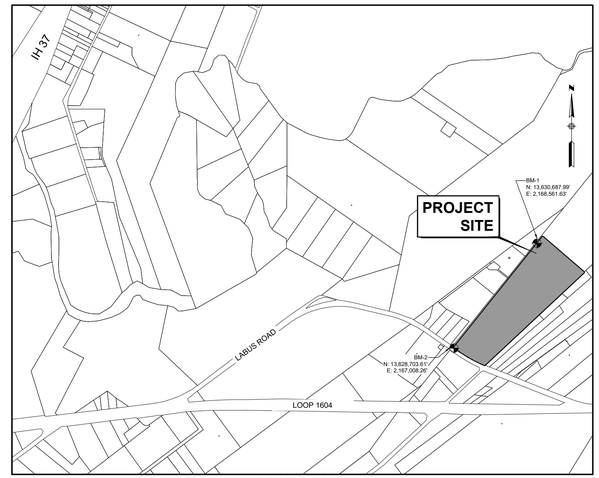
CIVIL CONSTRUCTION DOCUMENTS FOR:
LABUS PARK

LABUS ROAD, SAN ANTONIO, TX



LOCATION MAP
(N.T.S.)

SHEET INDEX

SHEET NO.	DESCRIPTION
C0.0	COVER SHEET
C0.1	GENERAL NOTES
C1.0	OVERALL LAYOUT PLAN
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C1.3	SWPPP NOTES & DETAILS
C2.0	SITE CONTROL PLAN (SHT 1)
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C2.2	SITE CONTROL PLAN (SHT 3)
C2.3	SITE CONTROL PLAN (SHT 4)
C2.4	SITE CONTROL PLAN (SHT 5)
C2.5	SITE CONTROL PLAN (SHT 6)
C3.0	SAWS WATER MAIN EXTENSION (SHEET 1)
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C3.8	UTILITY PLAN (SHEET 6)
C4.0	RIFLE PATH STA: (1+00 TO 8+00)
C4.1	RIFLE PATH STA: (8+00 TO 18+50)
C4.2	RIFLE PATH STA: (18+50 TO END)
C4.3	MALLARD PLACE STA: (1+00 TO END)
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C4.8	CAMO COVE STA: (1+00 TO END)

SHEET INDEX CON'T

SHEET NO.	DESCRIPTION
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C4.10	TRAILBLAZER WAY STA: (1+00 TO END)
C4.11	OUTFITTER TRAIL STA: (1+00 TO END)
C5.0	FIRE PROTECTION PLAN (SHEET 1)
C5.1	FIRE PROTECTION PLAN (SHEET 2)
C6.0	PAVING & SIGNAGE PLAN (SHEET 1)
C6.1	PAVING & SIGNAGE PLAN (SHEET 2)
C7.0	GRADING PLAN (SHEET 1)
C7.1	GRADING PLAN (SHEET 2)
C7.2	GRADING PLAN (SHEET 3)
C7.3	GRADING PLAN (SHEET 4)
C7.4	GRADING PLAN (SHEET 5)
C7.5	GRADING PLAN (SHEET 6)
C8.0	STORM CHANNEL 'A' PLAN & PROFILE (SHT 1)
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C8.2	STORM SEWER LINE 'B' PLAN & PROFILE
C8.3	STORM SEWER LINE 'C' PLAN & PROFILE
C9.0	DETENTION POND
C9.1	DETENTION POND PLAN & PROFILE
C10.0	CIVIL DETAILS (SHEET 1)
C10.1	CIVIL DETAILS (SHEET 2)
C10.2	CIVIL DETAILS (SHEET 3)
C10.3	CIVIL DETAILS (SHEET 4)
C10.4	CIVIL DETAILS (SHEET 5)
C10.5	CIVIL DETAILS (SHEET 6)
C10.6	CIVIL DETAILS (SHEET 6)
C11.0	TREE PRESERVATION PLAN
C11.1	TREE PRESERVATION PLAN DETAILS

PROPERTY DESCRIPTION

A 48.99 ACRE TRACT OF LAND LYING IN THE FRANCISCO FARIAS SURVEY NO. 15, ABSTRACT 2, IN BEXAR COUNTY, TEXAS, AND BEING THE REMAINING PORTION OF THAT SAME PROPERTY DESCRIBED IN A TRUSTEE'S DEED - TRUSTOR: SOLACE MOBILE HOME COMMUNITY, LLC, TRUSTEE: ANDREW MOON, BENEFICIARY: GALVAN FAMILY, LLC, OF RECORD IN DOCUMENT NO. 20240053159, OFFICIAL PUBLIC RECORDS, BEXAR COUNTY, TEXAS, SAVE AND EXCEPT THAT 0.605 ACRE TRACT CALLED 10-FEET BY 2,637-FEET, LATEST DESCRIPTION RECORDED IN VOLUME 110055, PAGE 858, OFFICIAL PUBLIC RECORDS, BEXAR COUNTY, TEXAS.

DEVELOPER: LQ INVESTMENTS PORTFOLIO ELEVEN, LLC
1000 BRICKELL AVE, STE. 715
MIAMI, FLORIDA 33131
CONTACT:
PHONE #:

ENGINEER: LJA ENGINEERING, INC
9830 COLONNADE BOULEVARD, SUITE 300
SAN ANTONIO, TX 78230
CONTACT: JOSE M. CANTU, PE
EMAIL: JCANTU@LJA.COM
PHONE: (210) 503-2700

SURVEYOR: ALLIANCE LAND SURVEYORS
18410 U.S. HWY. 281 N., STE. 109
SAN ANTONIO, TX 78259
(210) 369-9509

CONTOUR DATA: ALLIANCE LAND SURVEYORS

BENCHMARK INFORMATION:

TBM 1: 60D NAIL
ELEV = 468.71
TBM 2: 60D NAIL
ELEV = 488.58

THIS INFORMATION PROVIDED BY: ALLIANCE LAND SURVEYORS

REVISIONS

NO.	DESCRIPTION	BY	DATE

LJA JOB NO. SA5758-2401.426

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
106.36
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.

9830 Colonnade Blvd.
Suite 300
San Antonio, Texas 78230

Phone 210.503.2700
FRN-F-1386

GENERAL NOTES

GENERAL NOTES

1. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THESE APPROVED PLANS. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE PLAN REVISIONS AND APPROVAL OF THE CITY OF SAN ANTONIO AND BEXAR COUNTY.

2. APPROVAL OF THIS PLAN DOES NOT INCLUDE BUILDING SAFETY DEPARTMENT.

3. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION.

4. CONTRACTOR SHALL CALL THE TEXAS ONE CALL SYSTEM FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN EASEMENTS OR STREET RIGHT-OF-WAY AT 1-800-545-6005.

5. THE CONTRACTOR SHALL NOTIFY BEXAR COUNTY AND/OR TxDOT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET RIGHT-OF-WAY.

6. THE INFORMATION CONTAINED ON THESE DRAWINGS IN REGARDS TO EXISTING UTILITIES, TOPOGRAPHY, CONTOURS, OR SUBSURFACE CONDITIONS IS FURNISHED SOLELY AS THE BEST INFORMATION AVAILABLE AT THIS TIME. ITS ACCURACY IS NOT GUARANTEED AND ITS USE IN NO WAY RELIEVES THE CONTRACTOR OF ANY RESPONSIBILITY FOR LOSSES DUE TO ANY INACCURACIES.

7. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION.

8. ALL REQUIRED RELOCATION'S OR ALTERATIONS OF TELEPHONE POLES, UNDERGROUND CONDUIT, POWER POLES, AND ANY OTHER FACILITIES SHALL BE DONE BY THIS CONTRACTOR, UNLESS NOTED AS "BY OTHERS". THIS CONTRACTOR SHALL SCHEDULE AND COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS AND UTILITY COMPANIES SO AS NOT TO DELAY THE PROJECT.

9. TRENCH EXCAVATION PROTECTION:
THE EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE BASED UPON RECORD INFORMATION ONLY AND ARE APPROXIMATE. PRIOR TO CONTACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO CONTACT THE UTILITY PURVEYORS BEFORE BEGINNING WORK. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL AND ANY DAMAGES THAT MIGHT OCCUR BY HIS FAILURE TO ACCURATELY LOCATE ALL EXISTING UNDERGROUND UTILITIES AND PRESERVE EXISTING CONDITIONS. CONTRACTOR TO ESTABLISH THEIR EXACT LOCATION AND DEPTH PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON DRAWINGS. DEAD UTILITY LINES SHALL BE SUITABLY CAPPED.

10. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:
- THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR EXCAVATION).
- THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF DAMAGED AREAS SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
- CONTRACTOR IS REQUIRED TO UPDATE AND FOLLOW REQUIRED ACTIONS OF N.P.D.E.S. REPORT.

11. PERMANENT EROSION CONTROL:
- ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:

- A MINIMUM OF 4" OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND R.O.W. PROPERTY LINES.
- BROADCAST SEEDING:
i. FROM SEPTEMBER 15 TO MARCH 1, 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% WITH 90% GERMINATION.
ii. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
- FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 7 POUNDS PER 1000 SF.
- HYDRAULIC SEEDING:
i. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 1 POUND PER 1000 SF OF UNHULLED BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
ii. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 7 POUNDS PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION.
- FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1 TO 1.5 POUNDS PER 1000 SF. (45-65 POUNDS PER ACRE)
- MULCH TYPE USED SHALL BE HAY, STRAW, OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH A SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.
- THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF 6". THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS. RAINFALL OCCURRENCES OF 1/2" OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK.
- RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2" HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.

12. SEQUENCE OF CONSTRUCTION
A. INSTALL EROSION CONTROLS AS INDICATED ON APPROVED SITE PLAN.
B. INSTALL TREE PROTECTION.
C. BEGIN SITE CLEARING.
D. CONSTRUCT SITE UTILITIES.
E. CONSTRUCT PAVING, PARKING AND BUILDINGS.
F. COMPLETE CONSTRUCTION AND INSTALL LANDSCAPING.
G.REVEGETATE DISTURBED AREAS.
H. RECEIVE OPERATING PERMIT AND CITY CLEARANCE FOR OCCUPANCY.
I. REMOVE TEMPORARY EROSION/SEDIMENTATION CONTROLS.

13. THE CONTRACTOR SHALL KEEP AND LEAVE THE AREA NEAT AND CLEAN DURING CONSTRUCTION. DEBRIS SHALL NOT BE BE BURIED OR DUMPED ANYWHERE WITHIN THE LIMITS OF THE PROJECT. ALL DEBRIS, CONSTRUCTION MATERIALS, CONTRACTOR'S BUILDINGS OR EQUIPMENT, LOGS STUMPS, BOULDERS OR ANY OTHER EXTRANEOUS MATERIAL MATERIAL DEPOSITED DURING CONSTRUCTION SHALL BE DISPOSED OFF SITE PROMPTLY IN COMPLIANCE WITH APPLICATION REGULATIONS.

14. ALL EXCESS MATERIAL WILL BE DISPOSED OF OFF SITE. CONTRACTOR SHALL NOT DISPOSED OF SURPLUS MATERIAL FROM THE SITE WITHOUT NOTIFYING THE ENGINEER 48 HOURS PRIOR TO THE REMOVAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION FROM DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING, STRUCTURES, AND OTHER ITEMS.

15. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AND GRADED TO DRAIN.

16. ALL SLOPES STEEPER THAN 3:1 SHALL BE OVERLAID WITH GEOWEB 8204, 4" CELLUAR CONFINEMENT SYSTEM. SUPAC 6NP WILL BE PLACED UNDER GEOWEB AND SYSTEM ANCHORED PER MANUFACTURES RECOMMENDATIONS.

17. CONTRACTOR SHALL PROVIDE A LANDSCAPE MAINTENANCE CONTRACT AND WARRANTY PERIOD FOR ONE YEAR STARTING ON THE STORE OPENING DATE.

18. NO BLASTING ON SITE

19. NO BURNING IS ALLOWED ON SITE.

20. ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED SURVEYOR AND PAID FOR BY THE CONTRACTOR.

21. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF ANY AND ALL DESIGNATED EXISTING BUILDING/STRUCTURES ON THE SITE AND UTILITY RELOCATION WORK. ANY EXISTING PAVEMENT CURBS AND/OR SIDEWALK DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.

22. ALL UNDERGROUND FACILITIES SHALL BE CONSTRUCTED, CONNECTED AND TESTED PRIOR TO THE CONSTRUCTION OF SURFACE IMPROVEMENTS, SUCH AS SIDEWALK, CURBS GUTTERS AND PAVING.

23. CONTRACTOR IS REQUIRED TO MAINTAIN "AS-BUILT" DRAWINGS THROUGHOUT THE COURSE OF CONSTRUCTION ON ALL UTILITY, DRAINAGE, AND SITE WORK, PUBLIC OR PRIVATE. CONTRACTOR SHALL SUBMIT "AS-BUILT" DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF WORK BY OWNER.

24. ALL CONCRETE WORK SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF ACI 301-96.

25. ALL EXPOSED CORNERS FOR CONCRETE WORK SHALL BE CHAMFERED 1".

26. THE LOCATION AND ELEVATION OF IMPROVEMENTS TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO THE CONSTRUCTION OF THE WORK. THE CONTRACTOR IS TO MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL THE NECESSARY ARRANGEMENTS WITH THE RESPECTIVE UTILITY COMPANIES. GRAVITY LINE CONSTRUCTION IS REQUIRED TO BE VERIFIED AT CONNECTION POINT THEN BUILD UPSTREAM.

27. CONTRACTOR IS RESPONSIBLE FOR TAKING (AND INCLUDING IN BID) ALL OF THE APPROPRIATE SECURITY MEASURES AT THE SITE, FOR THE DURATION OF THE CONSTRUCTION PERIOD.

28. THE CONTRACTOR SHALL KEEP THE APPROVED SET OF PLANS ON SITE AT ALL TIMES. THE CONTRACTOR SHALL REDLINE THE ACTUAL LOCATIONS AND DIMENSIONS (VERTICAL AND HORIZONTAL) OF UTILITIES, STRUCTURES, SERVICES, AND OTHER DETAILS DEFERRING FROM OR NOT SHOWN ON THE ORIGINAL DRAWINGS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SUBMIT THE RECORD DRAWINGS TO THE ENGINEER OR RECORD.

29. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

30. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.

31. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEER'S ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY OR DIFFICULT MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEER'S INTERPRETATION. ALL ITEMS, WORK, AND IMPROVEMENTS SHOWN OR INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE COMPLETED FOR THE PRICES BID, WHETHER OR NOT A SEPARATE PAY ITEM IS INCLUDED IN THE CONTRACT.

32. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN CITY INSPECTION AND LETTER OF ACCEPTANCE FROM CITY OF SAN ANTONIO AND/OR TxDOT FOR ANY APPLICABLE IMPROVEMENTS WITHIN DEDICATED EASEMENTS AND PUBLIC RIGHT-OF-WAY.

33. THE CONTRACTOR SHALL FURNISH ALL ASSISTANCE REQUIRED OF HIM BY ALL INSPECTORS IN OBTAINING SAMPLES AT THE EXPENSE OF THE CONTRACTOR.

34. IF IN THE OPINION OF THE INSPECTOR, BASED ON TESTING SERVICE REPORTS AND INSPECTION, MATERIALS OR COMPACTION ARE BELOW THE SPECIFIED REQUIREMENTS THE CONTRACTOR SHALL CORRECT THE DEFICIENCY AND RE-TEST TO OBTAIN THE SPECIFIED PARAMETERS AT NO ADDITIONAL EXPENSE.

35. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL BE APPROVED BY THE ENGINEER AND COMPLY WITH THE FOLLOWING AS APPLICABLE.

A. CURRENT "SAN ANTONIO WATER SYSTEMS STANDARD SPECIFICATIONS FOR CONSTRUCTION "
B. CURRENT "SAN ANTONIO WATER UTILITY SYSTEMS SERVICE REGULATIONS "
C. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION"
D. CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND DRAINAGE"
E. CURRENT CITY OF SAN ANTONIO "RIGHT-OF-WAY ORDINANCE AND CRITERIA MANUAL"

GENERAL NOTES (CONT.)

36. ALL "PUBLIC" AND/OR "PRIVATE" IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE CITY OF SAN ANTONIO AND/OR TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) STANDARDS AND SPECIFICATIONS. NO PRODUCT DATE OR MATERIAL SUBMITTALS ARE REQUIRED BY THE ENGINEER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL MATERIALS THAT MEET THE COSA AND/OR TxDOT SPECIFICATIONS. ANY SUBSTITUTIONS OR DEVIATIONS TO THE DESIGN OR SPECIFICATIONS LISTED ON THE CONSTRUCTION DOCUMENTS MUST BE SUBMITTED IN A SEPARATE SUBMITTAL PACKAGE FOR THE ENGINEER'S REVIEW AT THE CONTRACTOR'S EXPENSE.

37. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR STANDARD SPECIFICATION ITEMS. ENGINEER IS NOT RESPONSIBLE FOR REVIEWING SUBMITTALS FOR STANDARD SPECIFICATION ITEMS, OR FOR CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION.

TRAFFIC CONTROL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND IMPLEMENTING A TRAFFIC CONTROL PLAN FOR BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.

2. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE CURRENT TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ARE TO BE GENERALLY LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES. DURING THE PROGRESS OF WORK, THE CONTRACTOR SHALL PROVIDE ACCESS FOR LOCAL TRAFFIC.

STREETS, SIDEWALKS & DRAINAGE

1. ALL CONSTRUCTION SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE CURRENT CITY'S "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AS AMENDED.

2. SAMPLING AND TESTING OF MATERIALS AND LABORATORY INSPECTION OF MATERIALS AND PROCESSES SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR UNLESS OTHERWISE UNLESS OTHERWISE PROVIDED BY OWNER TESTING SHALL BE IN ACCORDANCE WITH THE TxDOT STANDARD SPECIFICATIONS. FIRMS PROVIDING CONSTRUCTION MATERIALS TESTING SERVICES MUST HAVE AN ESTABLISHED IN-HOUSE LABORATORY MEETING THE STANDARDS OF THE ASTM REQUIREMENTS. TESTING RESULTS SHALL BE PROVIDED TO THE ENGINEER AND TxDOT INSPECTOR DIRECTLY FROM THE TESTING LABORATORY.

3. SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 5' (WITHIN PROPERTY LIMITS) AND 6' (WITHIN PUBLIC R.O.W.). ALL SIDEWALKS SHALL HAVE A MAXIMUM RUN SLOPE OF 5% AND A MAXIMUM CROSS SLOPE OF 2% IN ACCORDANCE WITH TEXAS ACCESSIBILITY STANDARDS AND ADA STANDARDS. ALL LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. THERE IS A ZERO TOLERANCE FOR SLOPES EXCEEDING THESE REQUIREMENTS.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED INSPECTIONS FROM THE CITY OF SAN ANTONIO.

GRADING

1. THE SOILS REPORT ON INDICATED SUBSURFACE CONDITIONS IS NOT IDENTIFIED AS REPRESENTATIONS OR WARRANTIES OF THE CONTINUITY OF SUCH CONDITIONS.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF ANY EXCESS FILL MATERIAL RESULTING FROM THE SITE MASS GRADING OFF OF THE PROJECT SITE.

3. FILL SHALL BE EARTH, FREE OF DEBRIS, CINDERS, COMBUSTIBLES, FROST, ICE, BOULDERS LARGER THAN 1 FOOT IN ANY DIMENSION ROOTS AND WOOD, CELLULOSE, ORGANIC MATERIALS AND MATERIALS THAT MAY BE SUBJECT TO TERMITE ATTACK AND AS INDICATED IN THE SOILS REPORT.

4. EXCAVATED MATERIAL THAT IS SUITABLE MAY BE USED FOR FILLS AND BACKFILLS. PROVIDED ANY ADDITIONAL FILL MATERIAL FROM OFF THE SITE AS MAY BE REQUIRED TO PRODUCE DESIGNATED LINES AND GRADES OF THE FILLS, BACKFILLS, AND ROUGH GRADES. MATERIAL BROUGHT FROM OFF THE SITE SHALL BE TESTED FOR COMPLIANCE WITH THE SPECIFICATIONS.

5. PROVIDE THE REQUIRED MINIMUM DENSITY AND MOISTURE CONTENT OF COMPACTED FILL IN ACCORDANCE WITH THE SOILS REPORT AND THE REQUIREMENTS OF THE PROFESSIONAL ENGINEER.

6. WHEN THE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE MOISTURE CONDITIONED BEFORE COMPACTION, CONTRACTOR SHALL UNIFORMLY APPLY THE REQUIRED AMOUNT OF WATER TO THE SURFACE OF SUBGRADE, OR LAYER OF SOIL MATERIAL, IN SUCH MANNER AS TO PREVENT FREE WATER APPEARING ON THE SURFACE DURING OR SUBSEQUENT DURING COMPACTION OPERATIONS.

7. GRADING, INCLUDING EXCAVATING AND FILLED SECTIONS AND ADJACENT TRANSITION AREAS SHALL BE REASONABLY SMOOTH, COMPACTED AND FREE FROM IRREGULAR SURFACE CHANGES. DEGREE OF FINISH SHALL BE THE ORDINARILY OBTAINABLE FROM EITHER BLADE GRADER OPERATIONS EXCEPT AS OTHERWISE SPECIFIED. SUBGRADE SHALL BE EVENLY SLOPED TO PROVIDE DRAINAGE AWAY FROM BUILDING WALLS IN ALL DIRECTIONS AT A GRADE NOT LESS THAN 1/4 INCH (21 mm PER M) PER FOOT. REDRESS AND RECOMPACTED ANY AREAS THAT SETTLE BELOW REQUIRED GRADES BECAUSE OF TRAFFIC, PRECIPITATION, OR STORAGE LOOKING BEFORE EXECUTION OF OTHER WORK REQUIRED.

8. PERFORM EARTHWORK AND SITE GRADING IN A MANNER TO PREVENT SURFACE WATER AND SUBGRADE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND TO PREVENT WATER SEDIMENTATION FROM FLOODING THE PROJECT SITE AND SURROUNDING AREA.

9. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE ALL WATER FROM EXCAVATIONS USING DEWATERING METHODS WHICH WILL PREVENT SOFTENING OF FOUNDATIONS.

10. A TESTING LABORATORY SHALL BE EMPLOYED BY THE OWNER TO CHECK THE SUITABILITY OF MATERIAL SELECTED FOR THE CONTROLLED FILLS, TO TEST AND DETERMINE IF THE REQUIRED DENSITY IS BEING OBTAINED. AND TO TEST COMPACTION OF THE EXPOSED SUBGRADES. LABORATORY REPORTS ON TESTS PERFORMED SHALL INCLUDE LOCATIONS OF FIELD TESTS.

11. LABORATORY TESTING SERVICE SHALL INSPECT AND CERTIFY IN WRITING ALL SUBGRADES AND FILL LAYERS. ALL COMPACTED FILLS SHALL CONSIST OF LABORATORY APPROVED MATERIALS PLACED IN HORIZONTAL LAYERS AND COMPACTED PER THE SPECIFICATIONS IN THE GEOTECHNICAL REPORT OR PER THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION, WHICHEVER IS MORE STRINGENT.

12. WHEN TESTS INDICATE COMPACTION DOES NOT MEET REQUIREMENTS, FILL AND BACKFILL SHALL BE DRIED-OUT OR MOISTENED AS NECESSARY, SCARIFIED AND RECOMPACTED. RECOMPACTED AREAS SHALL BE RETESTED AT NO COST TO THE OWNER.

13. THE CONTRACTOR SHALL FOLLOW THE GENERAL INTENT OF THE GRADING PLANS. MINOR ADJUSTMENTS TO THE ACTUAL ELEVATIONS SHOWN ON THE PLANS MAY BE REQUIRED TO MATCH EXISTING GROUND ELEVATIONS.

14. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 2" OF TOPSOIL ABOVE THE CURB AND EDGE OF PAVEMENT IN ALL LANDSCAPED AREAS AROUND THE PERIMETER OF THE ROADWAYS.

15. THE CONTRACTOR SHALL REMOVE ALL VEGETATION, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS, AND DELEERIOUS MATERIALS IN CONFLICT WITH IMPROVEMENTS.

UTILITIES GENERAL

1. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING GOVERNMENTAL AND/OR UTILITY AGENCIES REGARDING THE LOCATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION:

A.	SANITARY SEWER (SAN ANTONIO WATER SYSTEM) -	223-2010
B.	STORM DRAIN (SAN ANTONIO PUBLIC WORKS) -	207-8048
C.	TELEPHONE (AT&T) -	1-800-828-5127
D.	GAS/ELECTRIC (CITY PUBLIC SERVICE) -	978-3500
E.	CATV (TIME WARNER) -	352-4672
F.	WATER (SAN ANTONIO WATER SYSTEM) -	354-6500
G.	TEXAS EXCAVATION SAFETY SYSTEM -	1-800-DIG-TESS

2. WHERE CONSTRUCTION IS IN THE PROXIMITY OF AN EXISTING UTILITY, THE CONTRACTOR WILL TAKE PRECAUTIONS TO PROTECT AND/OR SUPPORT THE UTILITY AND ANY DAMAGE THAT MIGHT OCCUR SHALL BE REPAIRED IMMEDIATELY. IF AT ANY TIME DURING THE CONSTRUCTION OPERATION A SEWER LINE HAS LESS THAN THREE (3) FEET OF COVER, IT SHALL BE ENCASED OR MODDLED WITH CONCRETE.

3. ANY EXISTING IMPROVEMENT OR UTILITY REMOVED, DAMAGED, OR UNDERCUT BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY AT THE CONTRACTOR'S EXPENSE.

4. ALL TRENCHES CUT BENEATH PROPOSED SIDEWALKS AND PAVEMENT AREAS SHALL BE BACKFILLED, COMPACTED, AND BE SUBJECT TO DENSITY TESTS PER THE SPECIFICATIONS IN THE GEOTECHNICAL REPORT.

5. CONTRACTOR SHALL ADD DRAINAGE INLETS AS NEEDED TO PREVENT PONDING AND/OR FLOODING. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR PLACEMENT TO ALLOW FOR POSITIVE DRAINAGE.

UTILITIES - WATER

1. ALL "PUBLIC" WATER DISTRIBUTION SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE SAN ANTONIO WATER SYSTEM SUPPLY STANDARDS. SEE ADDITIONAL NOTES CONTAINED ON THE WATER PLAN SHEETS.

2. "PRIVATE" IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH UNIFORM PLUMBING CODE AS ADOPTED BY THE CITY OF SAN ANTONIO.

GENERAL NOTES (CONT.)

UTILITIES - SANITARY SEWER

1. ALL "PUBLIC" SANITARY SEWER COLLECTIONS SYSTEMS AND LATERALS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE CITY OF SAN ANTONIO AND SAN ANTONIO WATER SYSTEM STANDARDS. SEE ADDITIONAL NOTES CONTAINED ON THE SANITARY SEWER PLAN SHEETS.

2. CONTRACTOR SHALL PROVIDE A WRITTEN CONSTRUCTION SCHEDULE TO CLIENT AND ENGINEER 48 HOURS PRIOR TO START OF CONSTRUCTION FOR PURPOSES OF CONSTRUCTION OBSERVATION.UPDATED SCHEDULES WILL BE FAXED TO CLIENT AND ENGINEER AT (210) 503-2700 AS SCHEDULES CHANGE. WORK COMPLETED BY THE CONTRACTOR WITHOUT PROPER NOTIFICATION TO CLIENT AND ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

3. CONTRACTOR SHALL NOTIFY ENGINEER 72 HOURS PRIOR TO THE TESTING OF SANITARY SEWER MAINS. ANY TESTING PERFORMED WITHOUT THE PRESENCE OF THE ENGINEER WILL BE REDONE AT THE CONTRACTOR'S EXPENSE.

4. "PRIVATE" IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH UNIFORM PLUMBING CODE AS ADOPTED BY THE CITY OF SAN ANTONIO.

5. CONTRACTOR SHALL ADJUST TOP OF MANHOLES AS NEEDED TO PROMOTE POSITIVE GRADING ALONG STREET.

SPECIAL NOTES

1. TRAFFIC CONTROL MARKINGS (STRIPING)
SOLID DOUBLE YELLOW PAINTED LINES SHALL BE INSTALLED FOR TEMPORARY DIVISION OF TRAFFIC OR CONSTRUCTION DURATION LONGER THAN (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.)

SOLID DOUBLE YELLOW TABS, OR VIP 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.)

2. FIRE LANES
"NO PARKING - FIRE LANE" SIGNS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE FIRE MARSHAL AS FOLLOWS:

A. SIGNS SHALL BE 18" x 12", 18 GAUGE STEEL OR 0.080 ALUMINUM, ENGINEER GRADE REFLECTIVE.
B. SIGN SHALL HAVE RED LETTERING ON WHITE BACKGROUND
C. FIRE LANE LIMITS SHALL BE STRIPED RED WITH WHITE LETTERS "FIRE LANE NO PARKING".

3. HANDICAPPED PARKING
"HANDICAPPED PARKING" SIGN WITH IDENTIFYING SYMBOL SHALL BE INSTALLED IN FRONT OF THE DESIGNATED HANDICAPPED PARKING STALLS MEETING ADA REQUIREMENTS AND SHALL BE AS FOLLOWS:

A. SIGN SHALL BE 12" x 18", 0.080 ALUMINUM WITH BAKED ENAMEL FINISH.
B. SIGNS SHALL HAVE WHITE LETTERING ON BLUE BACKGROUND.
C. REFER TO SHEET C__ FOR DETAILS.

Revised July 2017

SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

General Section

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:

A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
D. Current City of San Antonio "Standard Specifications for Public Works Construction".
E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).

2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.

3. The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.

4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.

5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.

6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:

- SAWS Utility Locates: http://www.saws.org/Service/Locates
- COSA Drainage (210) 207-0724 or (210) 207-6026
- COSA Traffic Signal Operations (210) 206-8480
- COSA Traffic Signal Damages (210) 207-3951
- Texas State Wide One Call Locator 1-800-545-6005 or 811

7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.

8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.

9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.

10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.

11. Holiday Work: Contractors will not be

LOCATION MAP
N.T.S.

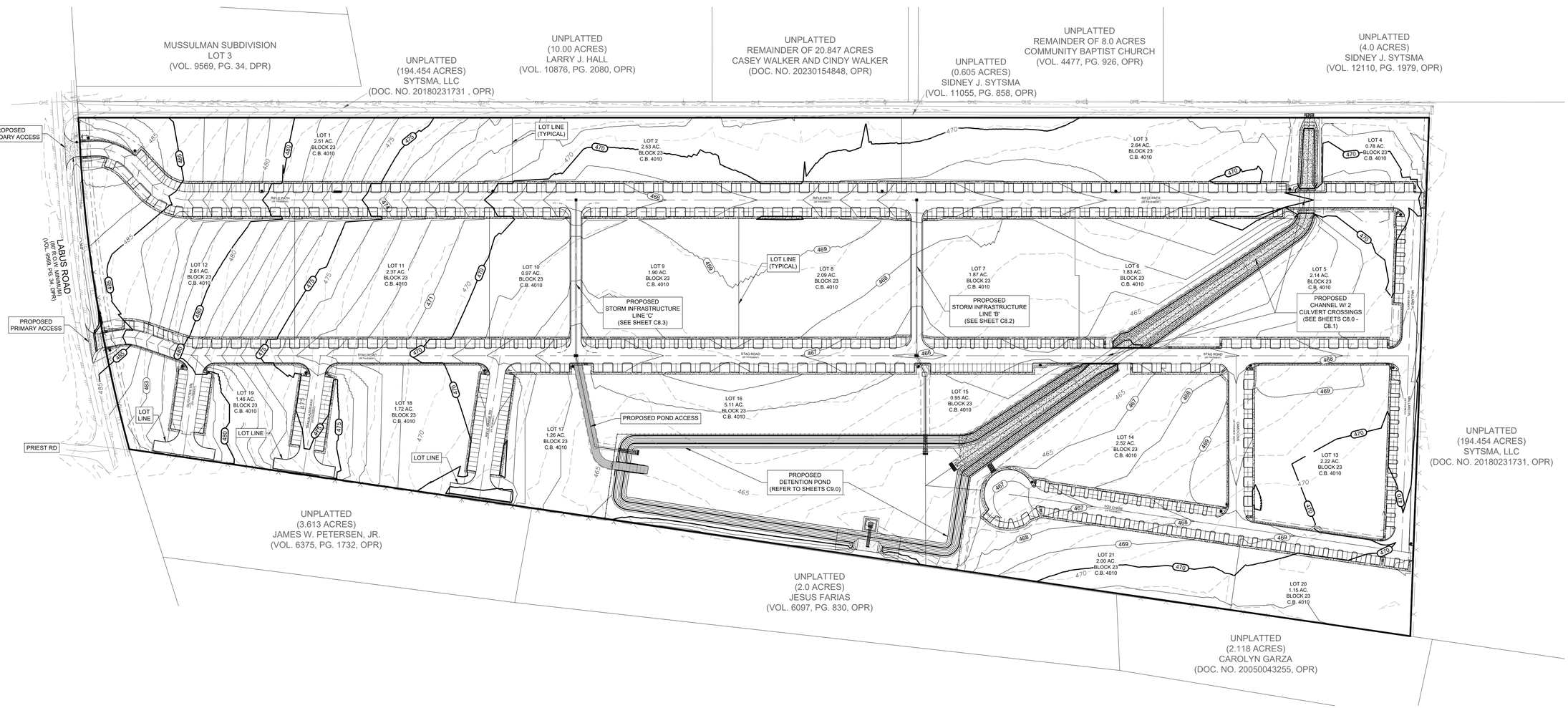
GENERAL NOTES:

1. THE LOCATIONS OF THE STABILIZED CONST. ENTRANCE, STAGING AREA AND CONC. WASHOUT PIT MAY BE CHANGED. IF NECESSARY ANY CHANGES TO THESE LOCATIONS MAY BE REDLINED BY THE CONTRACTOR AND KEPT ONSITE WITH THE TPDES.

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712

SCALE IN FEET
SCALE: 1"=100'



LABUS PARK
OVERALL LAYOUT PLAN

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: C1.0 Overall Layout.dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2100
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C1.0

Last Modified: Feb. 16, 26 - 17:42
You: Wilson.Hernandez Feb. 16, 26 - 17:42:09

LOCATION MAP
N.T.S.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM	WM	WATER METER
WV	WV	WATER VALVE
FH	FH	FIRE HYDRANT
TP	TP	TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X	X	WIRE FENCE
TEL	TEL	TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY

SWPPP LEGEND

SF	SILT FENCE
	LIMITS OF CONSTRUCTION
IP	INLET PROTECTION
	STABILIZED CONSTRUCTION ENTRANCE
	CONCRETE TRUCK WASH OUT PIT
	TEMP. SPOILS & STORAGE AREA
	ROCK BERM

PLATTING TAGS

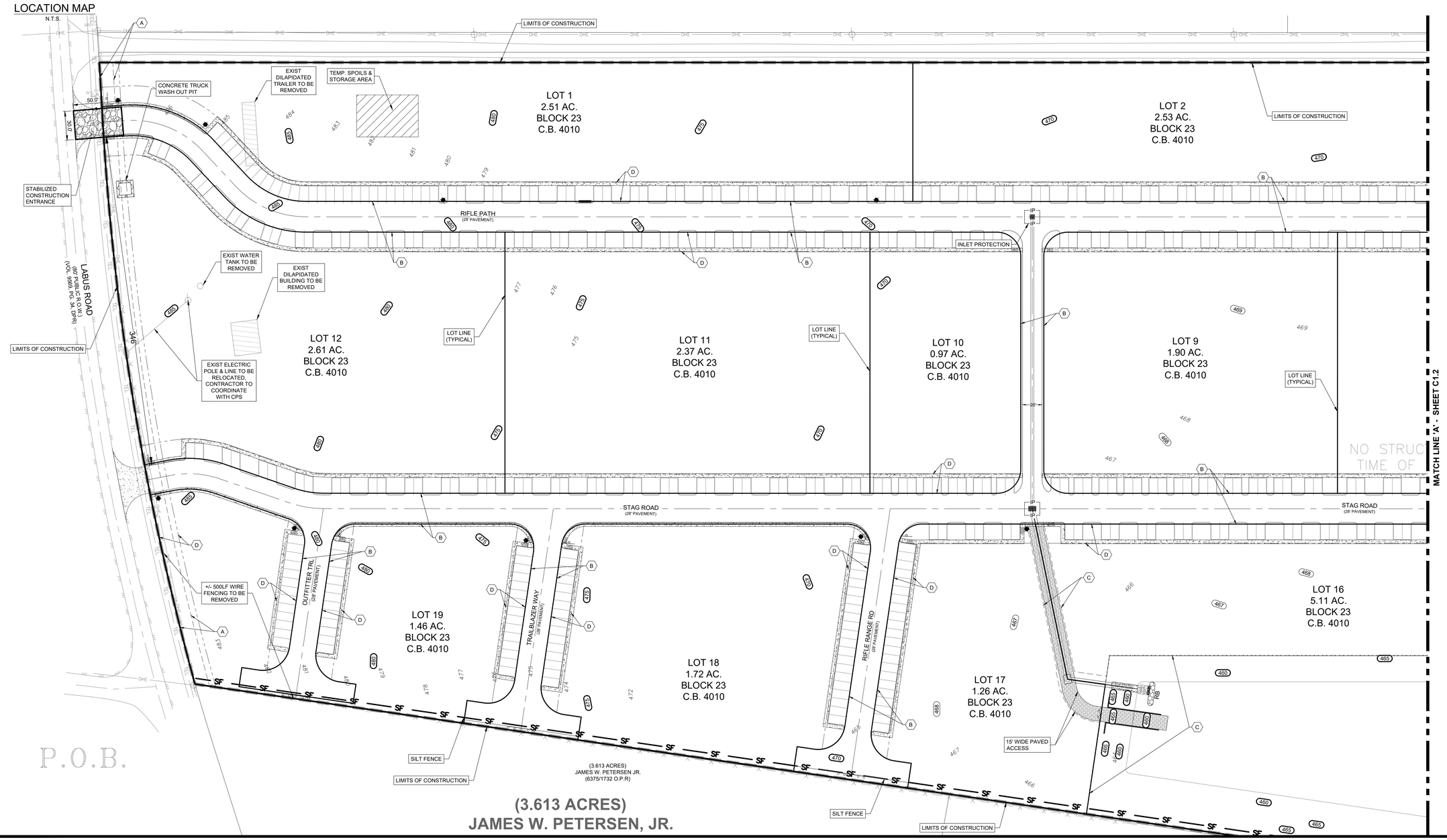
A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

NOTE TO CONTRACTOR:

1. THE LOCATIONS OF THE STABILIZED CONST. ENTRANCE, STAGING AREA AND CONC. WASHOUT PIT MAY BE CHANGED. IF NECESSARY ANY CHANGES TO THESE LOCATIONS MAY BE REDLINED BY THE CONTRACTOR AND KEPT ONSITE WITH THE TPDES.

50 25 0 50 100

SCALE IN FEET
SCALE: 1"=50'



LABUS PARK
STORMWATER POLLUTION PREVENTION PLAN (SHEET 1)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: JRC_SWPPP (sht 1 - 2).dwg

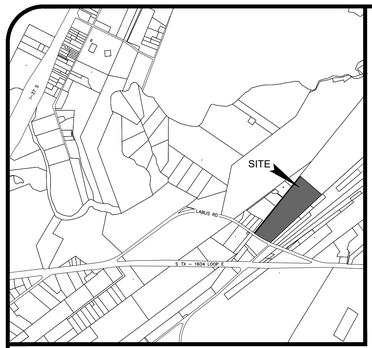
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140635
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C1.1

Last Modified: Feb. 16, 26 - 14:37
Plot Date/Time: Feb. 16, 26 - 14:22:35



LOCATION MAP

N.T.S.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY

SWPPP LEGEND

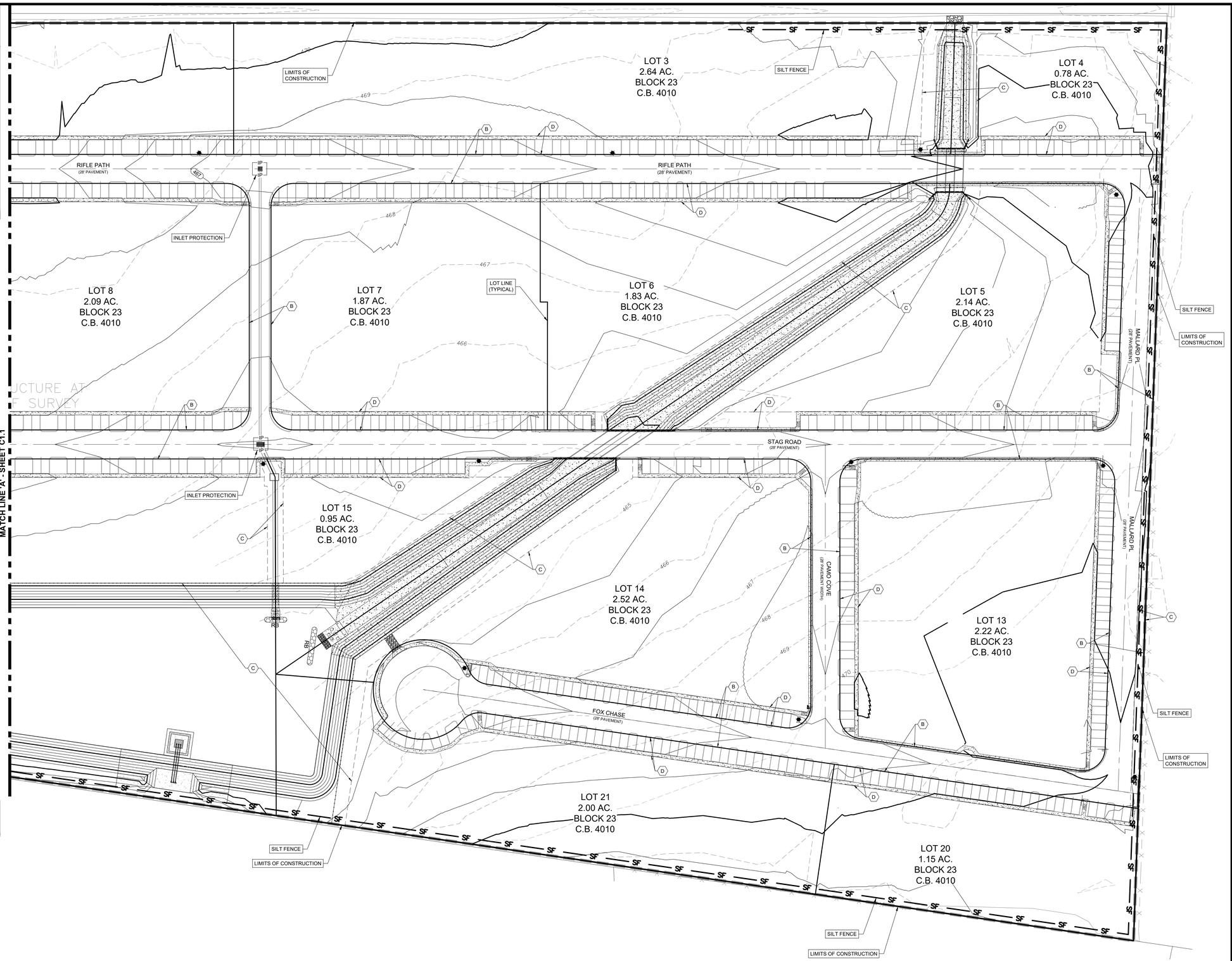
SF	SILT FENCE
	LIMITS OF CONSTRUCTION
IP	INLET PROTECTION
	STABILIZED CONSTRUCTION EXIT
	CONCRETE TRUCK WASH OUT PIT
	TEMP. SPOILS & STORAGE AREA
RB	ROCK BERM

PLATTING TAGS

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

NOTE TO CONTRACTOR:

1. THE LOCATIONS OF THE STABILIZED CONST. ENTRANCE, STAGING AREA AND CONC. WASHOUT PIT MAY BE CHANGED. IF NECESSARY ANY CHANGES TO THESE LOCATIONS MAY BE REDLINED BY THE CONTRACTOR AND KEPT ONSITE WITH THE TPDES.



LABUS PARK

STORMWATER POLLUTION PREVENTION PLAN (SHEET 2)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: #L_SWPPP (sht 1 - 2).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER
1/26/2026

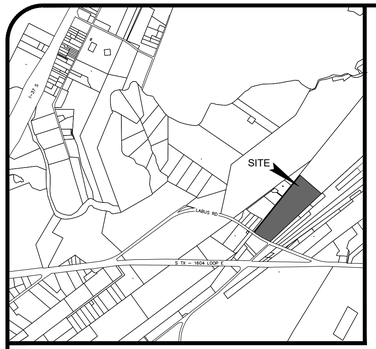
LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2100
Fax 210.503.2149
TBPE No. F-1386

JOB NUMBER: SA5758-0401

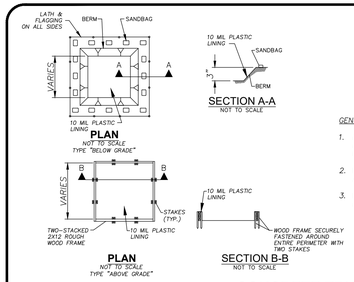
SHEET NO.

C1.2

Last Modified: Feb. 16, 26 - 12:37
File Name: Dec 18, 20 - 13:23:37



LOCATION MAP
N.T.S.

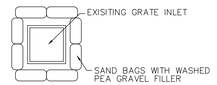


GENERAL NOTES:

1. DETAIL ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

CONCRETE TRUCK WASHOUT PIT

NOT TO SCALE



PLAN VIEW

NOTES:

1. SAND BAGS SHOULD BE PLACED TIGHTLY AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN BAGS.
2. SAND BAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER APPROXIMATELY 1 FOOT IN HEIGHT, APPROXIMATELY 1 FOOT FROM THE INLET OPENING.
3. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT.
4. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES.
5. STRUCTURES CAN BE REMOVED WHEN THE REMAINING DRAINAGE AREA CONSTRUCTION HAS CEASED AND THE AREA HAS BEEN PROPERLY STABILIZED.

GRATE INLET PROTECTION

NOT TO SCALE

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 TO REVIEW 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 SUBMITTED. IF THE CONTRACTOR FAILS TO INSTALL THE STORM WATER POLLUTION PREVENTION CONTROLS, 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 LEAST WEEKLY OR AT LEAST AFTER EVERY RAINFALL EVENT TO ASSURE THEY ARE FUNCTIONING PROPERLY. IF THE CONTROLS AND FENCES ARE NOT 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.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS 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.
8. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
9. 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.
10. 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 WAS TEMPORARILY OR PERMANENTLY CEASED.
11. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN THIRTY-ONE (31) DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
12. 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.
13. MUDDIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
14. 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:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 2 POUNDS PER 1000 SF WINTER RYE WITH BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 98% WITH 85% GERMINATION.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 2 POUNDS PER 1000 SF WITH A PURITY OF 90% WITH 85% GERMINATION.

(C) FERTILIZER SHALL BE A PELLETED OR GRANULAR SLOW RELEASE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1 POUND PER 1000 SF.

(D) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF.

HYDRAULIC SEEDING:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH A COMBINATION OF 7 POUNDS PER 1000 SF OF WINTER RYE WITH BERMUDA AND 7 POUNDS PER 1000 SF OF WINTER RYE WITH A PURITY OF 98% WITH 85% GERMINATION.
6. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 98% WITH 85% GERMINATION.

(E) FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1000 SF.

(F) MULCH TYPE USED SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1000 SF, WITH SOIL TACKIFIER AT A RATE OF 1.4 POUNDS PER 1000 SF.

(G) THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT TEN-DAY INTERVALS DURING THE FIRST TWO MONTHS RAIN WILL OCCURRENCES SHOULD DICTATE THE SCHEDULE. POSTPONE THE WATERING SCHEDULE FOR ONE WEEK. (COORDINATE WITH IRRIGATION PLAN)

(H) RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.

(I) SEEDING SHALL APPLY TO ALL AREAS WITHIN DISTURBED PROJECT AREA NOT COVERED BY PAVEMENT, BUILDING PAD OR PROJECT LANDSCAPING PLANS INCLUDING RIGHT-OF-WAYS AND OFFSITE EASEMENTS.

(J) AT LEAST TWO SEEDINGS SHOULD OCCUR DURING PROJECT. THEY SHOULD OCCUR WITHIN 14 DAYS AFTER PONDS ARE GRADED AND PRIOR TO BY FINAL PUNCH LIST

15. THE EPA GENERAL PERMIT REQUIRES THAT A TEMPORARY OR PERMANENT SEDIMENT BASIN BE INSTALLED IN ANY DRAINAGE LOCATION WHERE MORE THAN 10 ACRES IN THE UPSTREAM DRAINAGE ARE DISTURBED AT ONE TIME. THE SEDIMENT BASIN MUST PROVIDE AT LEAST 1,800 CUBIC FEET OF STORAGE FOR EVERY ACRE OF LAND, WHICH IT DRAINS.
16. CONTRACTOR'S FILING OF NOTICE OF TERMINATION (NOT) SHALL OCCUR UPON PROJECT OWNER'S ACCEPTANCE OF REVEGETATION.
17. RED & BLACK ENGINEERING GROUP, LLC, (THE "CONSULTANT") CONFIRMS TO THE PROJECTS OWNER THAT CONSULTANT HAS PREPARED THE SE PLANS IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES).

STORM WATER POLLUTION PREVENTION PLAN / TPDES

FURNISH AND INSTALL TEMPORARY AND PERMANENT STORM WATER POLLUTION PREVENTION CONTROL MEASURES SHOWN IN THE PLANS. CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE INTENT OF SUCH POLLUTION CONTROL MEASURES. TPDES PERMITS, OR OTHER LOCAL WATERWAY DEVELOPMENT PERMITS.

EXECUTION:

1. CONTRACTOR IS RESPONSIBLE FOR ALL POLLUTION PREVENTION MEASURES SHOWN IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. SUBMIT A STORM WATER TPDES GENERAL PERMIT NOTICE OF INTENT (NOI) AT LEAST TWO DAYS PRIOR TO START OF CONSTRUCTION TO THE APPROPRIATE AGENCY SHOWN.
3. POST SIGNED AND COMPLETED NOI POSTING NOTICE OR CONSTRUCTION SITE NOTICE (CSN) AT CONSTRUCTION ENTRANCE FOR PUBLIC VIEWING, AND KEEP A COPY OF THE SWPPP AT THE JOB SITE AT ALL TIMES.
4. INSTALL AND MAINTAIN POLLUTION CONTROL MEASURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND WITH PROJECT SPECIFICATIONS.
5. INSTALL EROSION CONTROL MEASURES AND CONSTRUCTION ENTRANCES AS SHOWN IN THE SWPPP PRIOR TO BEGINNING CONSTRUCTION. POLLUTION CONTROL MEASURES SHALL BE REPAIRED, RESTABLISHED, ADJUSTED OR REINSTALLED WITH EACH SUBSEQUENT PHASE OF CONSTRUCTION IN ACCORDANCE WITH THE SWPPP.
6. CONTRACTOR IS RESPONSIBLE FOR ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE, AND SHALL REMOVE THE ACCUMULATION OF OFF-SITE SEDIMENT PROMPTLY.
7. MAINTAIN SEDIMENT TRAPS OR SEDIMENTATION BASINS.
8. OFF-SITE MATERIAL STORAGE AREAS USED SOLELY BY THE PROJECT ARE CONSIDERED PART OF THE PROJECT.
9. MAINTAIN RECORDS OF PROJECT MILESTONE DATES AND FIELD CHANGES AS REQUIRED BY THE SWPPP.
10. INSPECT POLLUTION CONTROL MEASURES EVERY 14 DAYS AND WITHIN 24 HOURS AFTER A STORM EVENT GREATER THAN 0.5 INCHES OF RAINFALL. AN INSPECTION REPORT SHALL BE RECORDED AS REQUIRED BY THE SWPPP.
11. DEFICIENCIES NOTED DURING THE INSPECTION WILL BE CORRECTED AND DOCUMENTED WITHIN SEVEN CALENDAR DAYS OR BEFORE THE NEXT ANTICIPATED STORM EVENT.

SITE CLEARING

CONDUCT SITE CLEARING OPERATIONS TO THE EXTENT SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO: REMOVAL OF TREES AND OTHER VEGETATION, TOPSOIL STRIPPING, CLEARING AND GRUBBING, AND REMOVAL ALL IMPROVEMENTS ABOVE OR BELOW GRADE. REFER TO THE GEOTECHNICAL REPORT FOR THIS PROJECT FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.

EXECUTION:

1. SITE CLEARING OPERATIONS SHALL NOT DAMAGE OR INTERFERE WITH THE PUBLIC USE OF ROADS, WALKS, ADJACENT LAND OR FACILITIES AND EXISTING IMPROVEMENTS INTENDED TO REMAIN.
2. EXISTING TREES TO REMAIN SHALL BE PROTECTED IN COMPLIANCE WITH - LANDSCAPE PLANS. LANDSCAPE AND ANY TREE PRESERVATION PLAN SHALL TAKE PRECEDENCE OVER THE CIVIL DEMOLITION PLAN. IF DISCREPANCY IS FOUND, CONTRACTOR SHALL CONTACT ENGINEER TO REVISE THE DEMOLITION PLAN.
3. CONTRACTOR SHALL REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH THE INSTALLATION OF NEW CONSTRUCTION OR AS SHOWN ON PLANS. CLEARING OPERATIONS SHALL INCLUDE REMOVAL OF STUMPS AND ROOTS.
4. CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS.
5. SPOIL SHALL BE STORED ONLY IN AREAS SHOWN ON THE PLANS AND SHALL BE MAINTAINED IN ACCORDANCE WITH APPLICABLE POLLUTION PREVENTION PLANS OR PERMITS.
6. WASTE MATERIAL OR EXCESS TOPSOIL GENERATED AS A RESULT OF CLEARING AND GRADING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF ALL SPOIL MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE. BURNING ON THE OWNER'S PROPERTY IS NOT PERMITTED.

DEMOLITION NOTES:

FOLLOWING APPROPRIATE SAFETY PROCEDURES, DEMOLISH EXISTING FACILITIES AS SHOWN ON THE PLANS. PROTECTION OF PUBLIC AND PRIVATE PROPERTY AND SAFE DISPOSITION OF SPOIL MATERIAL IS INCLUDED IN THIS ITEM. EXECUTION:

1. CONTRACTOR SHALL SUBMIT FOR APPROVAL TO GOVERNMENTAL AGENCIES AND THE OWNER A DEMOLITION PLAN INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

A. METHODS, EQUIPMENT AND SEQUENCE OF OPERATION.

B. CREDENTIALS OF INDIVIDUALS PERFORMING DEMOLITION OPERATIONS, INCLUDING SUBCONTRACTORS.

C. SAFETY MEASURES TO PROTECT WORKERS, PERSONNEL AND THE PUBLIC.

D. SAFETY MEASURES TO PROTECT ADJACENT PROPERTIES, LANDSCAPING, IMPROVEMENTS TO REMAIN OR PUBLIC RIGHTS OF WAY.

E. ASBESTOS OR OTHER HAZARDOUS MATERIAL ABATEMENT PLAN.

F. STORAGE, REMOVAL AND DISPOSITION OF SPOIL MATERIAL.

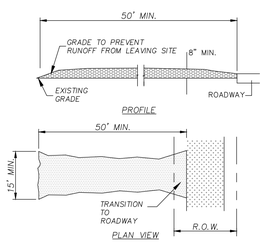
G. EROSION CONTROL MEASURES. INCLUDING TPDES PROCEDURES AND REGULATIONS.

H. POLLUTION AND DUST CONTROL MEASURES (DUST CONTROL, ETC.)

I. HEALTH DEPARTMENT NOTICE.

J. UTILITY COORDINATION WITH ALL AFFECTED UTILITIES, INCLUDING LOCATION OF FACILITIES, PROTECTION DURING DEMOLITION, DAMAGE REPAIRS AND DISRUPTION OF SERVICE.

2. THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.
3. THE PROJECT SITE SHALL BE CLEANED DAILY. DEBRIS, RUBBISH AND CONTRACTORS SALVAGED MATERIAL SHALL BE REMOVED PROMPTLY.
4. ALL SPOIL MATERIAL REMAINING AFTER OWNER SALVAGE IS COMPLETE AND RESULTING FROM DEMOLITION OPERATIONS BECOMES THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF SPOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS OWN EXPENSE. OWNER WILL PROVIDE LIST OF ITEMS TO BE SALVAGED.

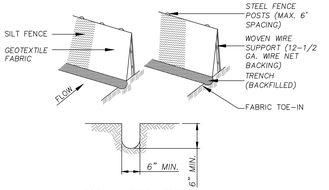


GENERAL NOTES:

1. STONE SIZE– 3 TO 5 INCH OPEN GRADED ROCK.
2. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS– NOT LESS THAN 8 INCHES.
4. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

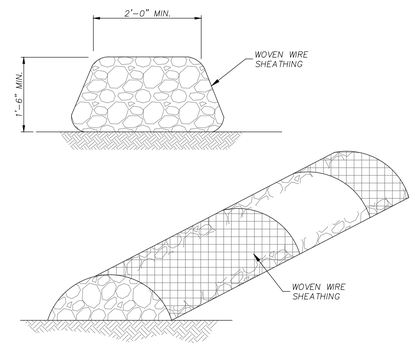


GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE

NOT TO SCALE



GENERAL NOTE:

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 BERM

NOT TO SCALE

LABUS PARK

STORMWATER POLLUTION PREVENTION PLAN
NOTES AND DETAILS

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sht_SWPPP (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
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LICENSED PROFESSIONAL ENGINEER

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TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C1.3

Last Modified: Feb 16, 26 – 16:37
Root Drawing: and 08.26 – 14:27

LOCATION MAP
N.T.S.

KEY NOTES

1. PROPOSED 4' CONCRETE SIDEWALK - DTL C10.0.1
2. TYP 6" CONCRETE CURB - DTL C10.0.2
3. TYP 4" WIDE STRIPE - DTL C10.0.3a/b
4. PROPOSED PAVEMENT - SEE SHEET C6.0 - C6.1
5. CONCRETE RAMP - DTL C10.0.4
6. PROPOSED DRIVEWAY
7. PROPOSED CONCRETE CHANNEL - SEE SHEET C8.0 - C8.1

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
TEL		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
		SEWER DRIP FIELD (BY OTHERS)

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (C) 20' BUILDING SETBACK
- (D) VARIABLE WIDTH WATER EASEMENT
- (E) VARIABLE WIDTH CPS EASEMENT

GENERAL SITE NOTES

1. CONTRACTOR SHALL COMPLY WITH THE BEXAR COUNTY BUILDING CODE AND REGULATIONS AND APPLICABLE TECHNICAL SPECIFICATIONS IN THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR THE CITY OF SAN ANTONIO." AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.

2. CONTRACTOR SHALL SECURE ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION PRIOR TO STARTING CONSTRUCTION.

3. LOCATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON A COMBINATION OF FIELD SURVEYING AND AVAILABLE UTILITY MAPS. CONTRACTOR TO DETERMINE VERTICAL AND HORIZONTAL LOCATIONS OF ALL UTILITIES (WHETHER SHOWN ON PLANS OR NOT) BY COORDINATING WITH THE RESPECTIVE UTILITY AGENCIES PRIOR TO CONSTRUCTION. THE FOLLOWING ARE NUMBERS OF THE RESPECTIVE AGENCIES:

TESS-STATEWIDE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-DIG-TESS

IF ANY NUMBER HAVE CHANGED OR ARE INCORRECT, THE CONTRACTOR IS STILL RESPONSIBLE FOR CONTACTING THE AGENCIES.

4. REMOVE ALL ASPHALT AND CONCRETE WITH A SMOOTH SAW-CUT.

5. COMPACT ALL PAVEMENT SUBGRADE TO 95% MAXIMUM DRY DENSITY. COMPACT AREAS TO RECEIVE LANDSCAPING AND/OR GRASS TO 85%.

6. PRIOR TO BIDDING, THE CONTRACTOR SHALL THOROUGHLY INVESTIGATE THE SITE AND FAMILIARIZE HIMSELF WITH ALL ASPECTS OF THE SITE WHICH MAY AFFECT HIS WORK. THIS INCLUDES ACCOUNTING FOR ALL VISIBLE FEATURES WHICH MAY IMPACT THE BID OR THE WORK.

7. CONTRACTOR SHALL CAREFULLY DEMOLISH AND REMOVE ALL ITEMS (ABOVE AND BELOW GROUND) AS REQUIRED TO CONSTRUCT THE PROJECTS AS SHOWN. ALL REMOVAL AND DISPOSAL ACTIVITIES MUST COMPLY WITH APPLICABLE CODES, LAWS AND ORDINANCES.

8. REMOVE AND DISPOSE OF ALL EXCESS EXCAVATION.

9. CONTRACTOR IS RESPONSIBLE FOR ALL VERTICAL AND HORIZONTAL CONTROL.

10. BASE MATERIAL AND INSTALLATION TO BE IN CONFORMANCE WITH ITEM 247 (TxDOT. STD. SPECS. LATEST ED.), TYPE A GRADE 2. COMPACT TO 95% MAXIMUM DRY DENSITY OF THE MODIFIED PROCTOR OR 98% MAXIMUM DRY DENSITY OF THE STANDARD PROCTOR.

11. LIME STABILIZED SUBGRADE SHALL BE COMPACTED WITHIN 3% OF OPTIMUM MOISTURE CONTENT TO AT LEAST 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR.

12. PRIME COAT MATERIAL AND INSTALLATION TO BE CUT-BACK ASPHALT TYPE IN ACCORDANCE WITH ITEM 310 (TxDOT. STD. SPECS. LATEST ED.) (0.2 GAL/S.Y.).

13. ALL ASPHALT MATERIAL AND INSTALLATION TO COMPLY WITH ITEM 340 TYPE "C" (TxDOT. STD. SPECS. LATEST ED.).

14. WHEELSTOPS SHALL BE OF PRE-CAST CONCRETE AND 6' IN LENGTH. DOWEL PRE-CAST CONCRETE WHEEL STOPS A MINIMUM OF 12" INTO BASE AND PAVEMENT.

15. CONTRACTOR TO FULLY COOPERATE WITH PARKING LOT LIGHT CONTRACTOR.

16. ALL SITE CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 P.S.I. IN 28 DAYS UNLESS OTHERWISE NOTED. ALL MATERIALS AND METHODOLOGIES USED SHALL CONFORM WITH ITEM 360 (TXDOT. STD. SPECS. LATEST ED.)

17. FOR ALL STRIPING AND TRAFFIC CONTROL MARKINGS, CONTRACTOR TO USE GLIDDEN TRAFFIC PAINT #63228 OR SHERWIN-WILLIAMS PRO-MAR TRAFFIC MARKING PAINT (SERIES B29W1). COLOR IS WHITE. APPLY TWO COATS.

18. INSTALL "FIRE LANE - TOW AWAY ZONE" SIGNS IN ACCORDANCE WITH THE FIRE MARSHALL'S REQUIREMENTS. PAINT CURBS AS REQUIRED BY FIRE MARSHALL.

19. DIMENSIONS ARE TO THE PAVEMENT EDGE OF THE CURB, FACE OF BUILDING OR PROPERTY LINE, OR STRIPING CENTERLINE.

20. THE CONCRETE DRIVE APPROACHES WITHIN CITY RIGHT-OF-WAY ARE SUBJECT TO CITY INSPECTION.

21. MAXIMUM SIDEWALK CURB CONTROL JOINT SPACING IS 5 FEET.

22. MAXIMUM SIDEWALK CURB EXPANSION JOINT SPACING IS 40 FEET.

23. CONTRACTOR MUST KEEP ALL PERMITS ON JOB SITE.

24. ALL EXISTING SIGNS AND BENCHES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING EXISTING SPRINKLER SYSTEM COMPONENTS WHICH CONFLICT WITH CONSTRUCTION.

26. PROPOSED CURBING TO BE TRANSITIONED SMOOTHLY TO MATCH EXISTING.

27. THE CONSTRUCTION SITE IS TO BE THOROUGHLY CLEANED BY THE CONTRACTOR PRIOR TO ISSUANCE OF PAYMENT BY THE OWNER.

28. CONTRACTOR SHALL INCLUDE ALL COSTS FOR ROUTING PEDESTRIAN AND VEHICULAR TRAFFIC IN THE BID AMOUNT. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE CURRENT LEASE HOLDER IN ORDER TO INSURE CONVENIENT ACCESS.

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

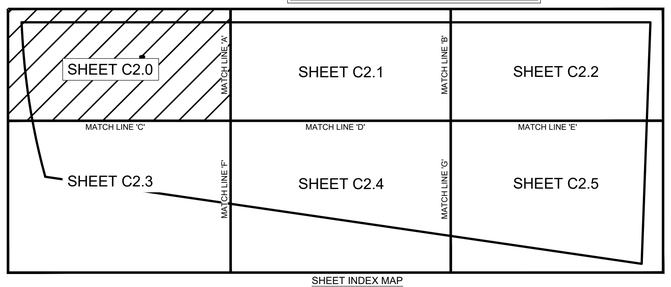
30. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND GENERALLY BE LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. DURING THE PROGRESS OF THE WORK THE CONTRACTOR SHALL PROVIDE ACCESS FOR LOCAL TRAFFIC.

31. ITEMS OF WORK NOTED "BY OTHERS" SHALL BE CONSIDERED AS NOT PART OF THIS CONTRACT.

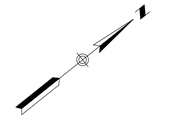
32. THE CONTRACTOR SHALL COORDINATE (WITH OWNER/ARCHITECT) WHICH TREES ARE TO BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT ACCORDINGLY AND PROVIDE WATER AS REQUIRED.

33. ON ALL GRAVITY LINES, CONTRACTOR MUST START AT DOWNSTREAM END AND PROCEED UPSTREAM TAKING CARE TO EXPOSE ALL EXISTING UTILITIES AND STRUCTURES WHICH MAY CONFLICT WITH THE PROPOSED LINE. ANY OTHER SEQUENCE OF CONSTRUCTION WILL BE AT THE CONTRACTOR'S RISK.

34. IN CASES WHERE HYDROMULCH HAS BEEN PROPERLY APPLIED, CONTRACTOR TO PROVIDE WATER AS REQUIRED TO ACHIEVE A MINIMUM OF 75% GERMINATION TOWARDS SUBSTANTIAL GROWTH.



SHEET INDEX MAP
SCALE : 1" = 300'



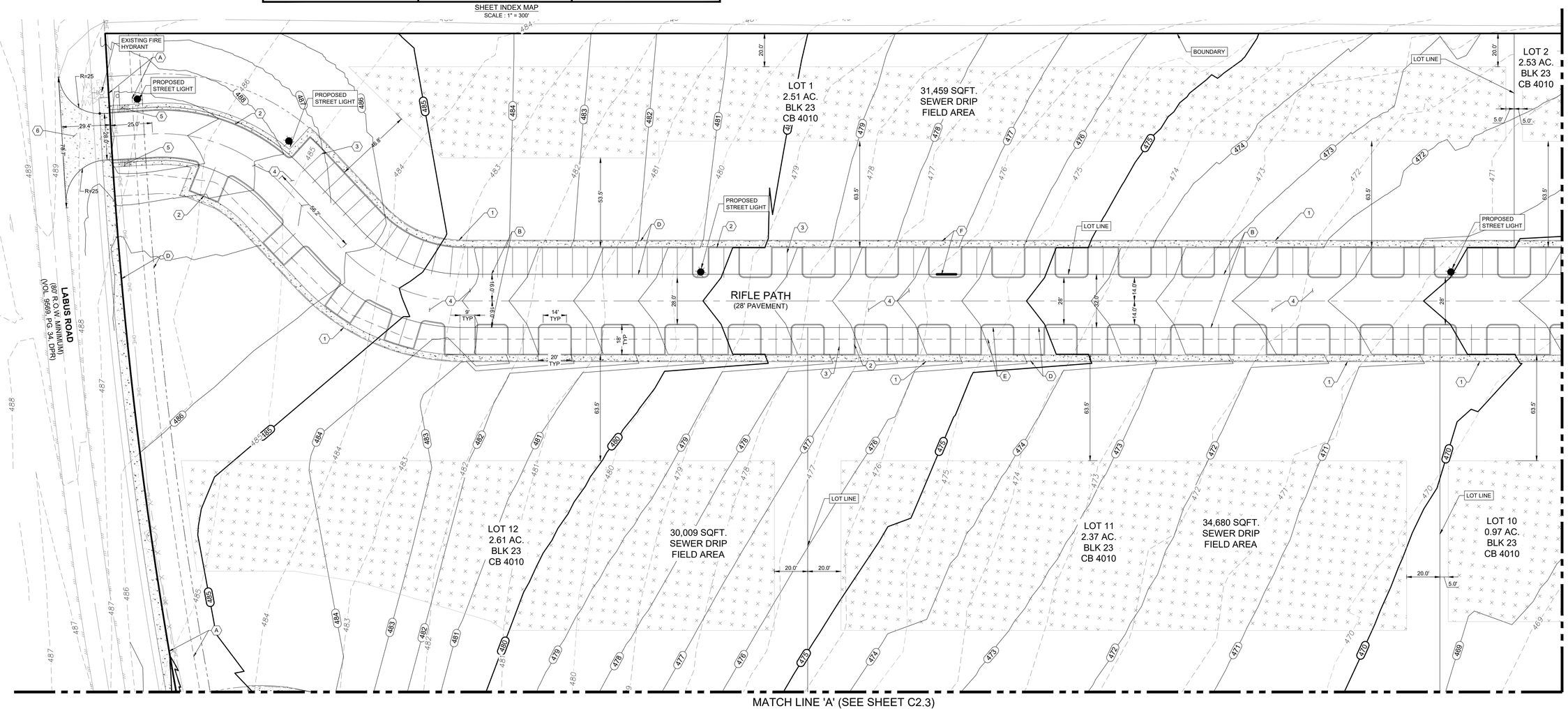
30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712

SITE PLAN NOTES:

1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. ALL CURB RADII ARE 5' UNLESS OTHERWISE NOTED/DIMENSIONED.
4. ALL PARKING SPACES ARE STANDARD 9'x18' DIMENSIONING UNLESS OTHERWISE DIMENSIONED.
5. TYP = TYPICAL IN DIRECT REFERENCE TO A TYPICAL DIMENSION ON SIMILAR GEOMETRY UNLESS DIMENSIONED OTHERWISE.



LABUS PARK
SITE PLAN
(SHEET 1)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: _snl_Site Plan (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
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PROFESSIONAL ENGINEER

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Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C2.0

Last Modified: Feb. 16, 26 - 17:42
Plot Scale: 1:1 Plot Date: Feb. 18, 26 - 14:22:13

LOCATION MAP
N.T.S.

KEY NOTES

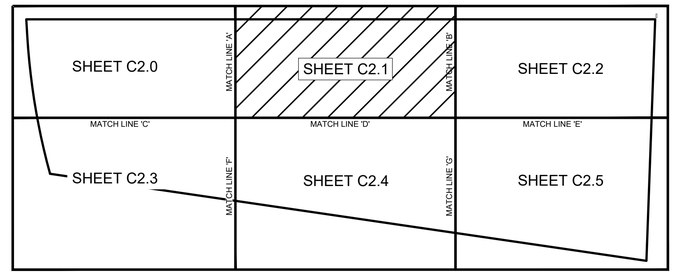
1. PROPOSED 4' CONCRETE SIDEWALK - DTL C10.0.1
2. TYP 6" CONCRETE CURB - DTL C10.0.2
3. TYP 4" WIDE STRIPE - DTL C10.0.3a/b
4. PROPOSED PAVEMENT - SEE SHEET C6.0 - C6.1
5. CONCRETE RAMP - DTL C10.0.4
6. PROPOSED DRIVEWAY
7. PROPOSED CONCRETE CHANNEL - SEE SHEET C8.0 - C8.1

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
		SEWER DRIP FIELD (BY OTHERS)

PLATTING TAGS

A	14' G.E.T.C.A. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT



SHEET INDEX MAP
SCALE : 1" = 300'

30 20 0 30 60
SCALE IN FEET
SCALE: 1"=30'

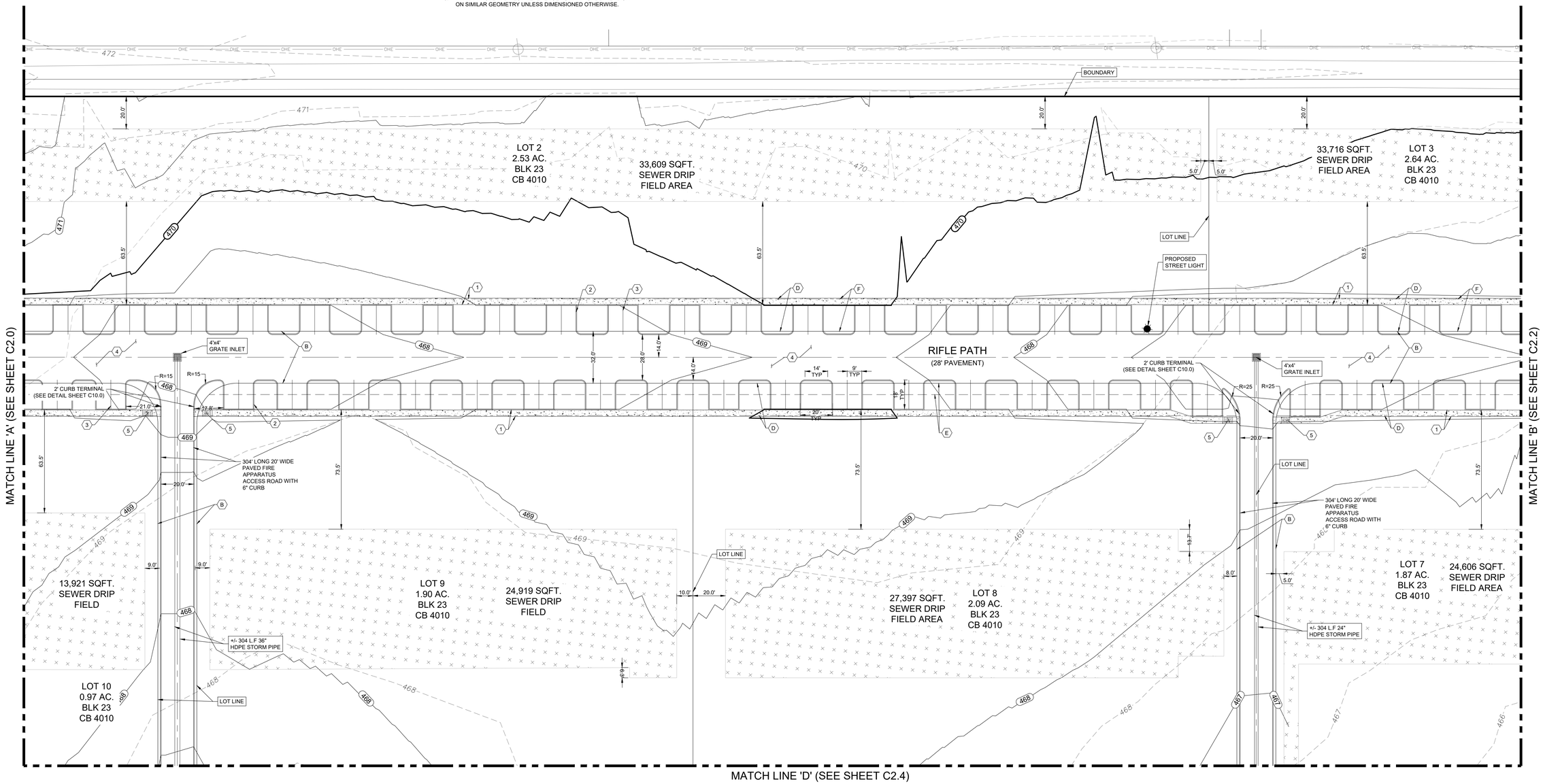
REFER TO SHEET C2.0 FOR "GENERAL SITE NOTES".

SITE PLAN NOTES:

1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED/DIMENSIONED.
4. ALL PARKING SPACES ARE STANDARD 9'x18' DIMENSIONING UNLESS OTHERWISE DIMENSIONED.
5. TYP = TYPICAL IN DIRECT REFERENCE TO A TYPICAL DIMENSION ON SIMILAR GEOMETRY UNLESS DIMENSIONED OTHERWISE.

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712



LABUS PARK
SITE PLAN
(SHEET 2)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: _ljc_Site Plan (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
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TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C2.1

Last Modified: Feb. 16, 26 - 17:42
Input Date/Time: Nov. 18, 25 - 12:02:19

LOCATION MAP
N.T.S.

KEY NOTES

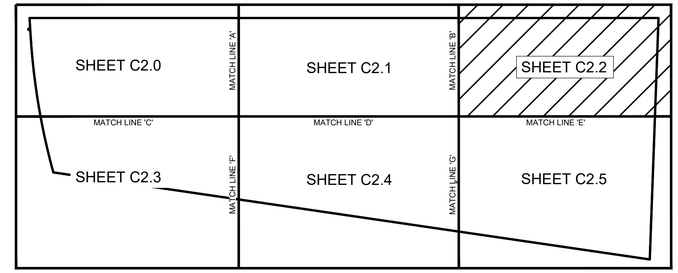
1. PROPOSED 4' CONCRETE SIDEWALK - DTL C10.0.1
2. TYP 6" CONCRETE CURB - DTL C10.0.2
3. TYP 4" WIDE STRIPE - DTL C10.0.3a/b
4. PROPOSED PAVEMENT - SEE SHEET C6.0 - C6.1
5. CONCRETE RAMP - DTL C10.0.4
6. PROPOSED DRIVEWAY
7. PROPOSED CONCRETE CHANNEL - SEE SHEET C8.0 - C8.1

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
		SEWER DRIP FIELD (BY OTHERS)

PLATTING TAGS

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT



SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'

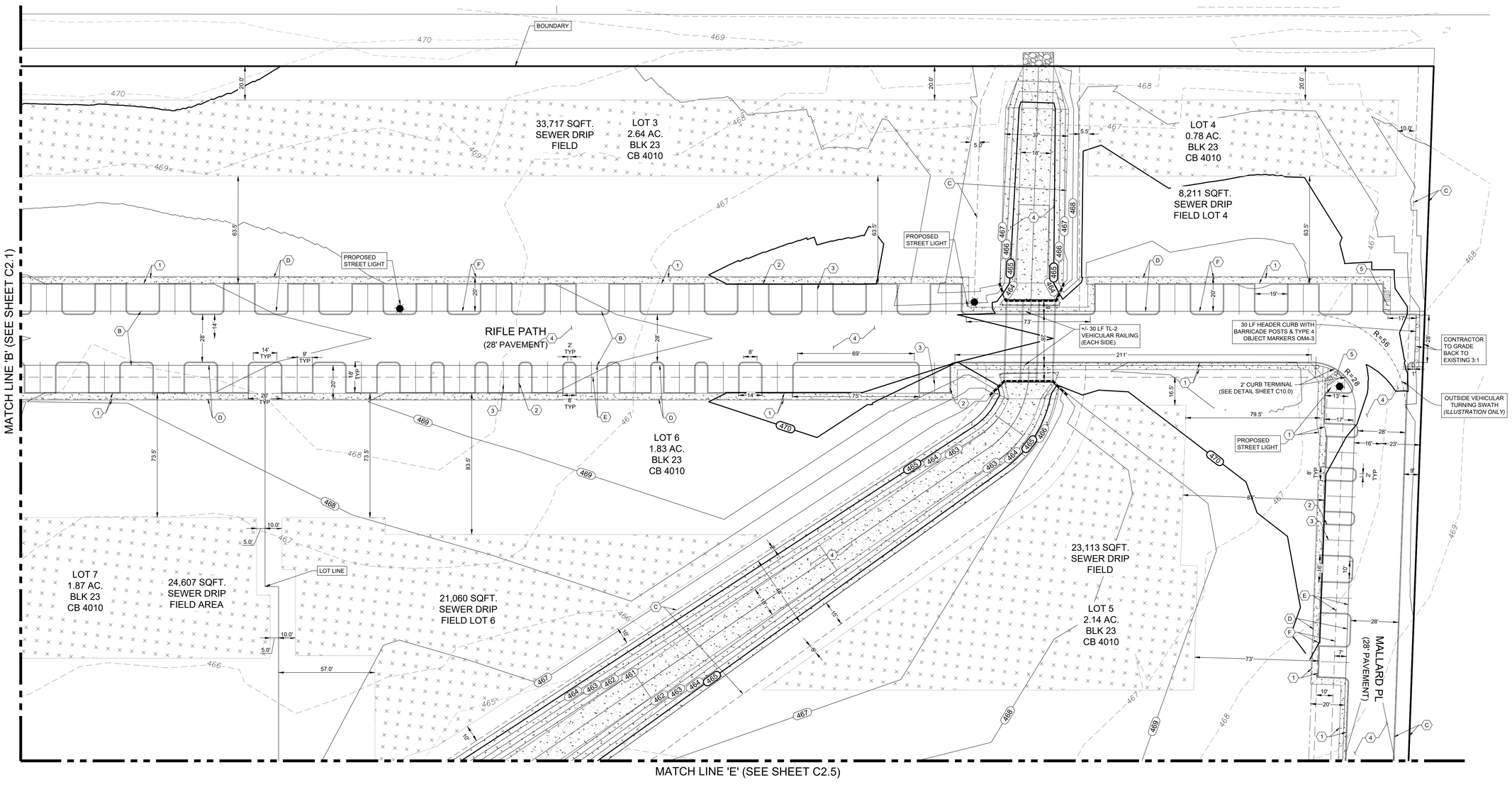
REFER TO SHEET C2.0 FOR "GENERAL SITE NOTES".

SITE PLAN NOTES:

1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED/DIMENSIONED.
4. ALL PARKING SPACES ARE STANDARD 9'x18' DIMENSIONING UNLESS OTHERWISE DIMENSIONED.
5. TYP = TYPICAL IN DIRECT REFERENCE TO A TYPICAL DIMENSION ON SIMILAR GEOMETRY UNLESS DIMENSIONED OTHERWISE.

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712



LABUS PARK
SITE PLAN
(SHEET 3)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: _sht_Site Plan (sht 3 - 6).dwg

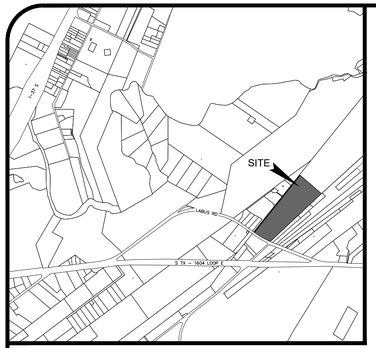
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C2.2

Last Modified: Feb. 16, 26 - 16:39
Plot Scale: 1:1 Plot Offset: 0in 18.25 - 14:22:50



LOCATION MAP
N.T.S.

KEY NOTES

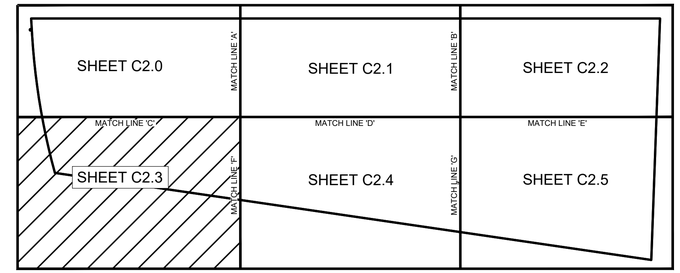
1. PROPOSED 4' CONCRETE SIDEWALK - DTL C10.0.1
2. TYP 6" CONCRETE CURB - DTL C10.0.2
3. TYP 4" WIDE STRIPE - DTL C10.0.3a/b
4. PROPOSED PAVEMENT - SEE SHEET C6.0 - C6.1
5. CONCRETE RAMP - DTL C10.0.4
6. PROPOSED DRIVEWAY
7. PROPOSED CONCRETE CHANNEL - SEE SHEET C8.0 - C8.1

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
		SEWER DRIP FIELD (BY OTHERS)

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



SHEET INDEX MAP
SCALE : 1" = 300'

30 20 0 30 60
SCALE IN FEET
SCALE: 1"=30'

REFER TO SHEET C2.0 FOR "GENERAL SITE NOTES".

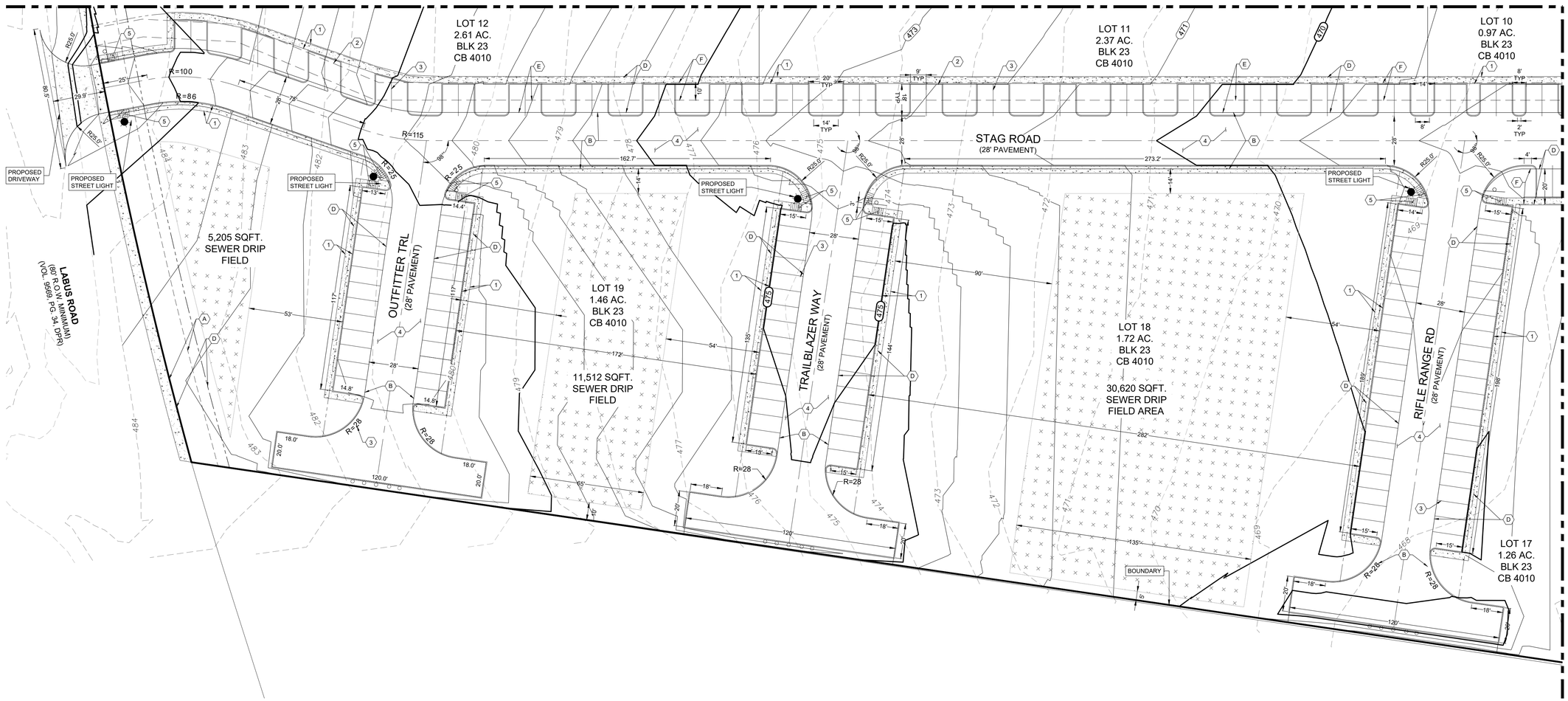
SITE PLAN NOTES:

1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED/DIMENSIONED.
4. ALL PARKING SPACES ARE STANDARD 9'x18' DIMENSIONING UNLESS OTHERWISE DIMENSIONED.
5. TYP = TYPICAL IN DIRECT REFERENCE TO A TYPICAL DIMENSION ON SIMILAR GEOMETRY UNLESS DIMENSIONED OTHERWISE.

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712

MATCH LINE 'C' (SEE SHEET C2.0)



LABUS PARK
SITE PLAN
(SHEET 4)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sht_Site Plan (sht 3 - 6).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C2.3

Last Modified: Feb. 16, 26 - 16:39
Plot Date/Time: Feb. 18, 26 - 14:22:53

LOCATION MAP
N.T.S.

KEY NOTES

1. PROPOSED 4' CONCRETE SIDEWALK - DTL C10.0.1
2. TYP 6" CONCRETE CURB - DTL C10.0.2
3. TYP 4" WIDE STRIPE - DTL C10.0.3a/b
4. PROPOSED PAVEMENT - SEE SHEET C6.0 - C6.1
5. CONCRETE RAMP - DTL C10.0.4
6. PROPOSED DRIVEWAY
7. PROPOSED CONCRETE CHANNEL - SEE SHEET C8.0 - C8.1

SITE PLAN NOTES:

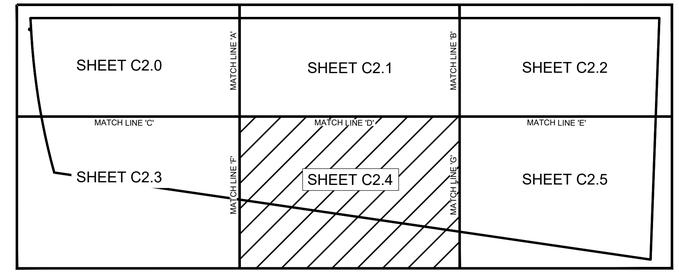
1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED/DIMENSIONED.
4. ALL PARKING SPACES ARE STANDARD 9'x18' DIMENSIONING UNLESS OTHERWISE DIMENSIONED.
5. TYP = TYPICAL IN DIRECT REFERENCE TO A TYPICAL DIMENSION ON SIMILAR GEOMETRY UNLESS DIMENSIONED OTHERWISE.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
		SEWER DRIP FIELD (BY OTHERS)

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (C) 20' BUILDING SETBACK
- (D) VARIABLE WIDTH WATER EASEMENT
- (E) VARIABLE WIDTH CPS EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



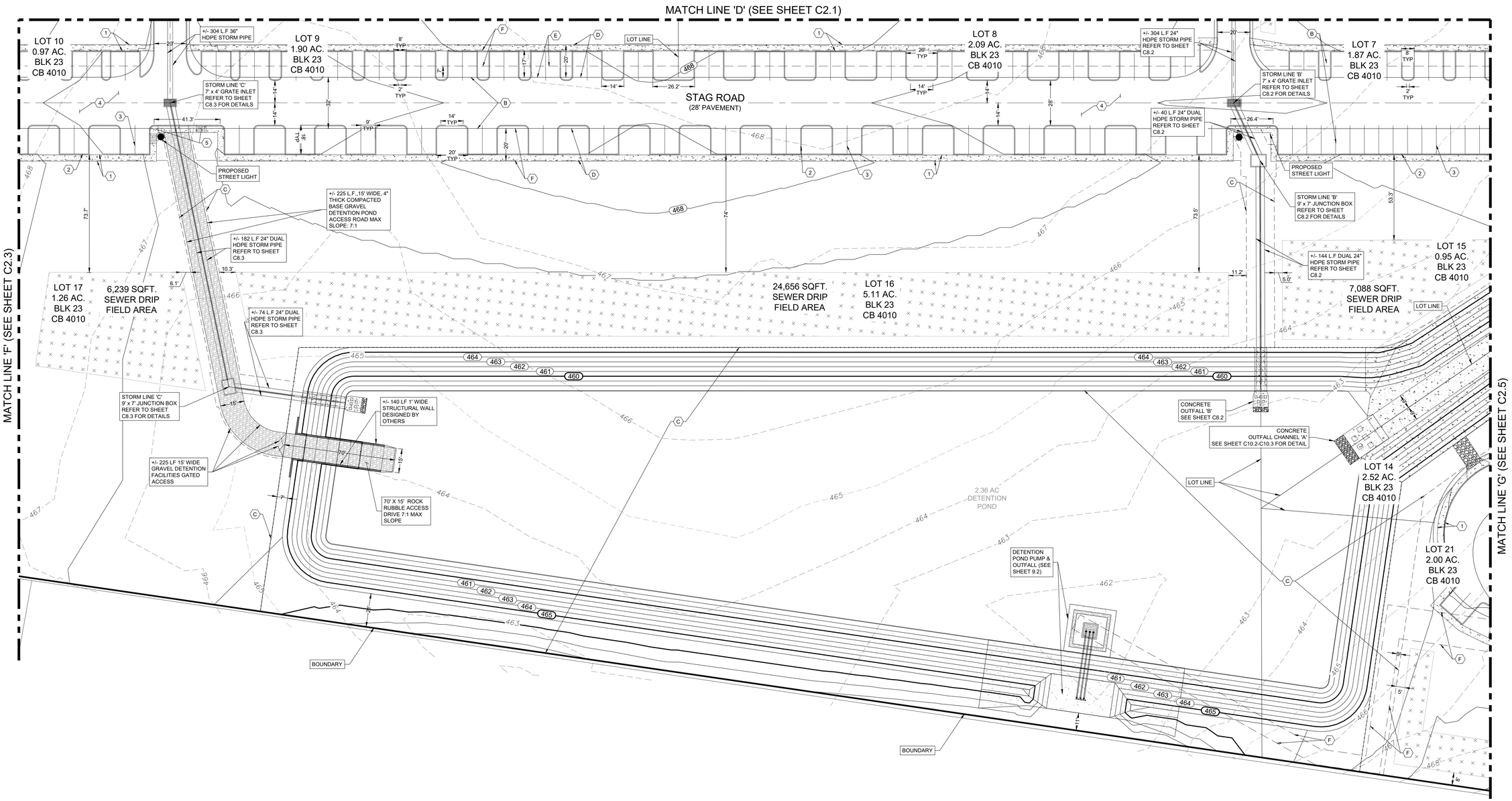
SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'

REFER TO SHEET C2.0 FOR "GENERAL SITE NOTES".

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712



LABUS PARK
SITE PLAN (SHEET 5)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: site_Site Plan (sht 3 - 5).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
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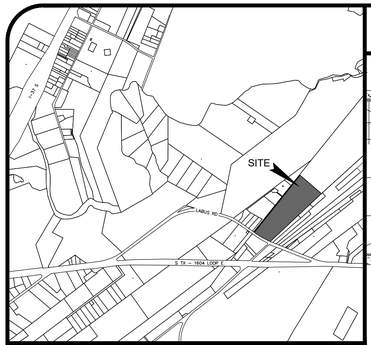
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C2.4

Last Modified: Feb 16, 26 - 16:39
Plot Date/Time: Feb 16, 26 - 14:22:08



LOCATION MAP
N.T.S.

30 15 0 30 60
SCALE IN FEET

KEY NOTES

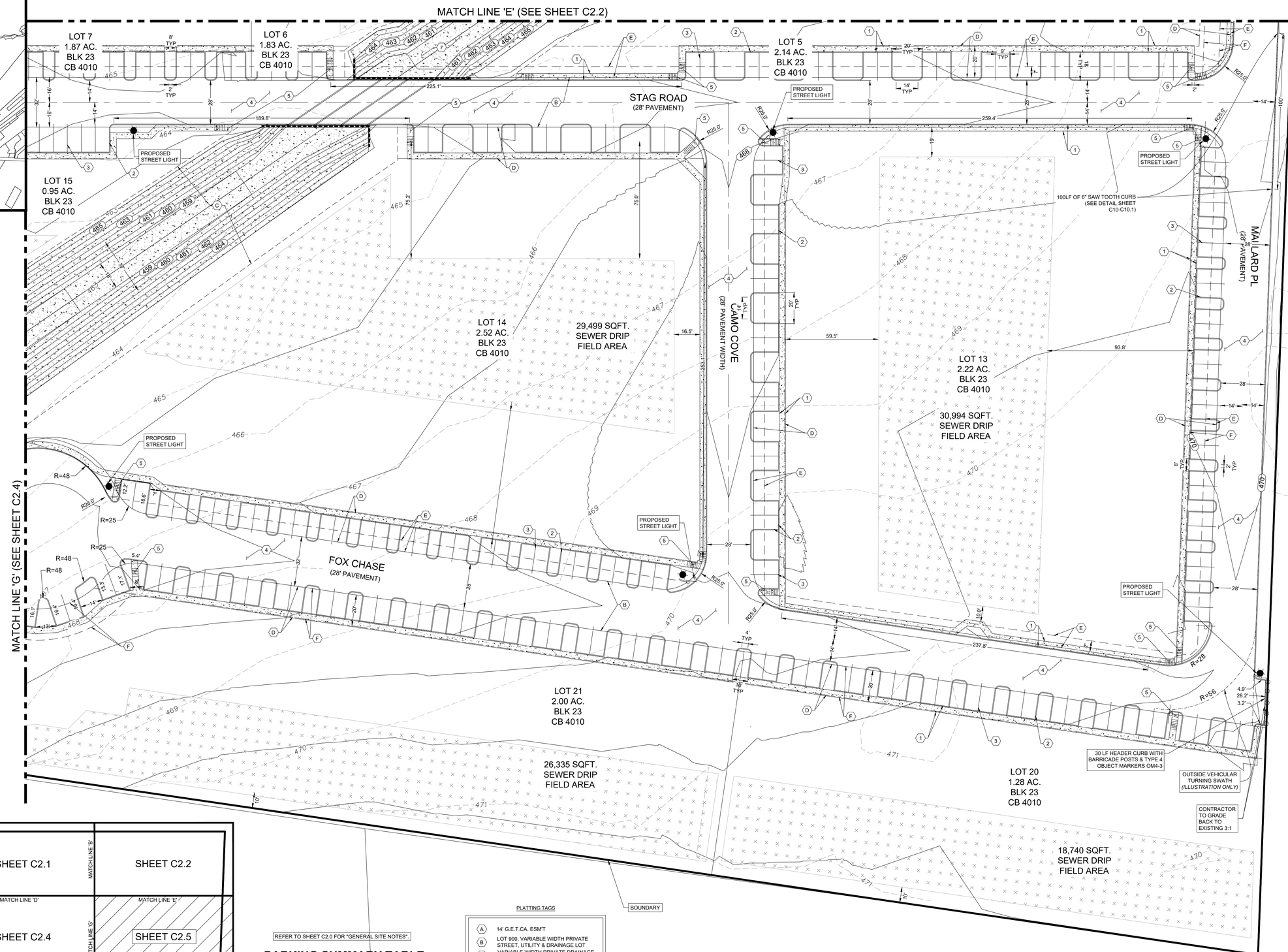
1. PROPOSED 4' CONCRETE SIDEWALK - DTL C10.0.1
2. TYP 6" CONCRETE CURB - DTL C10.0.2
3. TYP 4" WIDE STRIPE - DTL C10.0.3a/b
4. PROPOSED PAVEMENT - SEE SHEET C6.0 - C6.1
5. CONCRETE RAMP - DTL C10.0.4
6. PROPOSED DRIVEWAY
7. PROPOSED CONCRETE CHANNEL - SEE SHEET C8.0 - C8.1

LEGEND

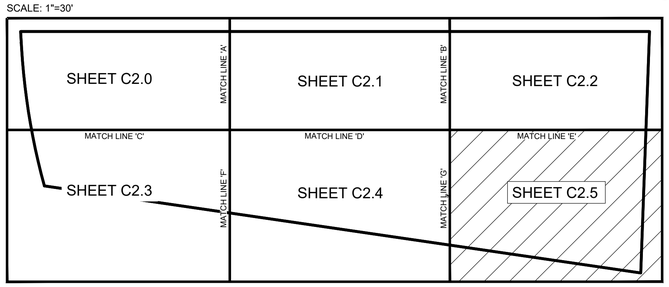
EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
		SEWER DRIP FIELD (BY OTHERS)

SITE PLAN NOTES:

1. ALL CURB RADIUS DIMENSIONS ARE TO FACE OF CURB. CONTRACTOR TO VERIFY ALL PLAN DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL SIDEWALKS SHALL HAVE 2% MAX CROSS SLOPE.
3. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED/DIMENSIONED.
4. ALL PARKING SPACES ARE STANDARD 9'x18' DIMENSIONING UNLESS OTHERWISE DIMENSIONED.
5. TYP = TYPICAL IN DIRECT REFERENCE TO A TYPICAL DIMENSION ON SIMILAR GEOMETRY UNLESS DIMENSIONED OTHERWISE.



SCALE: 1"=30'



SHEET INDEX MAP
SCALE : 1" = 300'

REFER TO SHEET C2.0 FOR "GENERAL SITE NOTES".

PARKING SUMMARY TABLE

LAND USE	MOBILE HOME PARK
ACTUAL/PROPOSED PARKING	712

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT

LABUS PARK
SITE PLAN
(SHEET 6)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: _ljlc_Site Plan (unit 3 - 6).dwg

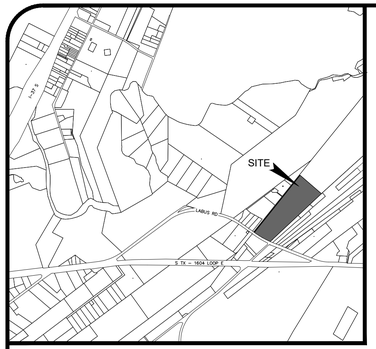
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C2.5

Last Modified: Feb 16, 26 - 16:39
You: Jonathan Cox 18.26 - 14:02:02



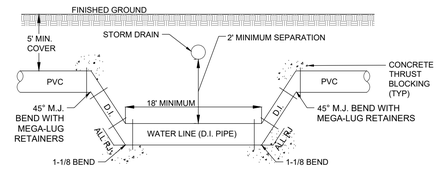
LOCATION MAP
N.T.S.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		WATER METER
WV		WATER VALVE
FH		FIRE HYDRANT
		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
TEL		TELEPHONE CABLE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY

PLATTING TAGS (REDUCED)

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (E) VARIABLE WIDTH SAWS WATER EASEMENT

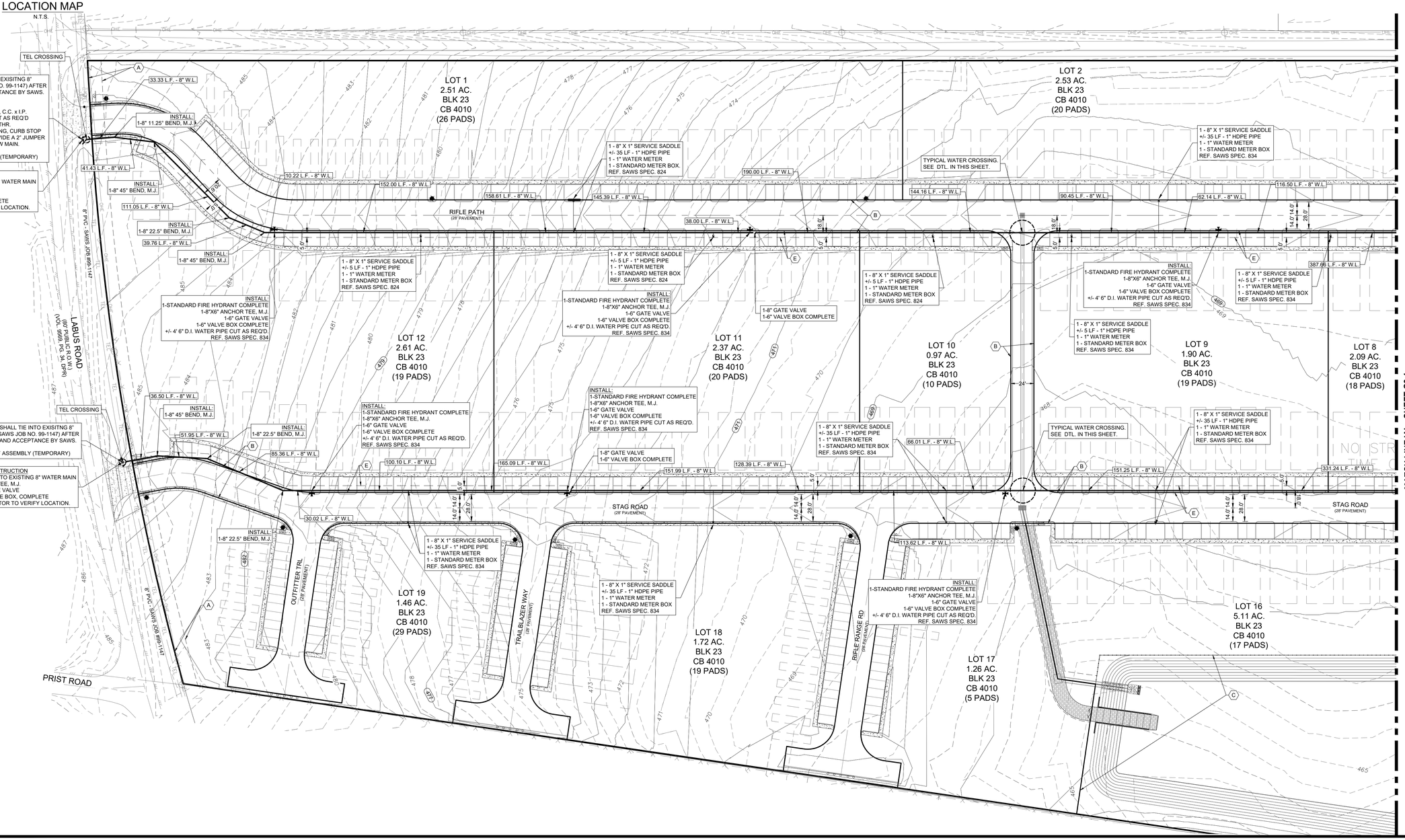


TYPICAL WATER CROSSING
NTS

SAWS PRESSURE ZONE 750

DEVELOPER'S NAME: LQ INVESTMENTS PORTFOLIO ELEVEN, LLC.
DEVELOPER'S ADDRESS: 1000 BRICKELL AVENUE, SUITE 715
CITY MIAMI STATE FLORIDA ZIP 33131
PHONE # 786-265-9164 FAX # N/A
SAWS BLOCK MAP # 198504 TOTAL EDU'S 42 TOTAL ACREAGE 49-AC
TOTAL LINEAR FOOTAGE OF PIPE: 6,857-LF PLAT NO. 24-11800486
NUMBER OF LOTS: 21 SAWS JOB NO. 24-1183

50 25 0 50 100
SCALE IN FEET
SCALE: 1"=50'



REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: Water Main Plan (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

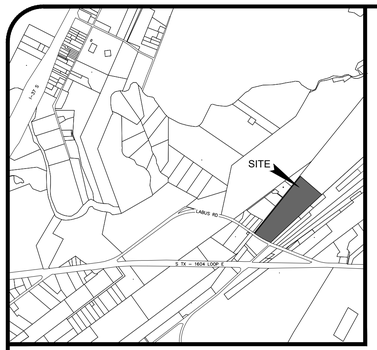
LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.0

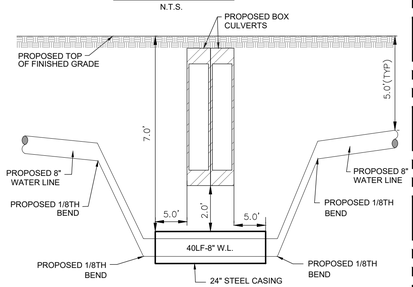
LABUS PARK
WATER LAYOUT PLAN (SHEET 1)

Last Modified: Feb 16, 26 - 17:43
Plot Date/Time: Feb 16, 26 - 14:22:23



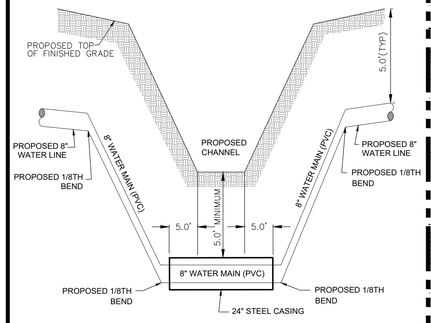
LOCATION MAP

N.T.S.



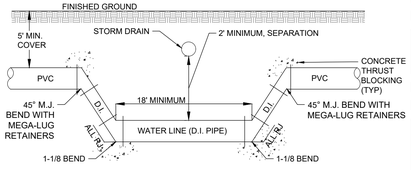
STORM SEWER/WATER CROSSING DETAIL"A"

NTS



WATER LINE/CHANNEL CROSSING DETAIL "B"

NTS



TYPICAL WATER CROSSING

NTS

MATCH LINE 'A' - SHEET C3.0

LOT 2
2.53 AC.
BLK 23
CB 4010
(20 PADS)

LOT 3
2.64 AC
BLK 23
CB 4010.
(20 PADS)

LOT 4
0.78 AC
BLK 23
CB 4010.
(5 PADS)

LOT 5
2.14 AC.
BLK 23
CB 4010
(15 PADS)

LOT 6
1.83 AC.
BLK 23
CB 4010
(14 PADS)

LOT 7
1.87 AC.
BLK 23
CB 4010
(19 PADS)

LOT 8
2.09 AC.
BLK 23
CB 4010
(18 PADS)

LOT 13
2.22 AC.
BLK 23
CB 4010
(20 PADS)

LOT 14
2.52 AC.
BLK 23
CB 4010
(19 PADS)

LOT 15
0.95 AC.
BLK 23
CB 4010
(10 PADS)

LOT 16
5.11 AC.
BLK 23
CB 4010
(17 PADS)

LOT 20
1.15 AC.
BLK 23
CB 4010
(12 PADS)

LOT 21
2.00 AC.
BLK 23
CB 4010
(18 PADS)

RIFLE PATH (28' PAVEMENT)
STAG ROAD (28' PAVEMENT)
FOX CHASE (28' PAVEMENT)
CAMO COVE (28' PAVEMENT)
MALLARD PL (28' PAVEMENT)
BOUNDARY

TYPICAL WATER CROSSING. SEE DTL. IN THIS SHEET.

1 - 8" X 1" SERVICE SADDLE
+/- 35 LF - 1" HDPE PIPE
1 - 1" WATER METER
1 - STANDARD METER BOX
REF. SAWS SPEC. 834

40 LF ~ 24" STEEL CASING. SEE DTL. "A" IN THIS SHEET.

1 - 8" X 1" SERVICE SADDLE
+- 35 LF - 1" HDPE PIPE
1 - 1" WATER SERVICE
1 - STANDARD METER BOX
REF. SAWS SPEC. 834

1 - 8" X 1" SERVICE SADDLE
+/- 5 LF - 1" HDPE PIPE
1 - 1" WATER METER
1 - STANDARD METER BOX
REF. SAWS SPEC. 834

1-8" GATE VALVE, M.J.
1-6" VALVE BOX COMPLETE

INSTALL:
1-STANDARD FIRE HYDRANT COMPLETE
1-8"X6" ANCHOR TEE, M.J.
1-6" GATE VALVE
1-6" VALVE BOX COMPLETE
+/- 4' 6" D.I. WATER PIPE CUT AS REQ'D.
REF. SAWS SPEC. 834

INSTALL:
1-8" 45° BEND, M.J.

INSTALL:
1-8"x8" TEE
3-8" GATE VALVES, M.J.
3-6" VALVE BOXES, COMPLETE

82 LF ~ 24" STEEL CASING. SEE DTL. "B" IN THIS SHEET.

1 - 8" X 1" SERVICE SADDLE
+/- 35 L.F. 1" HDPE PIPE
1 - 1" WATER METER
1 - STANDARD METER BOX
REF. SAWS SPEC. 834

1 - 8" X 1" SERVICE SADDLE
+/- 5 LF - 1" HDPE PIPE
1 - 1" WATER METER
1 - STANDARD METER BOX
REF. SAWS SPEC. 824

1 - 8" X 1" SERVICE SADDLE
+/- 36' 1" HDPE PIPE
1 - 1" WATER METER
1 - STANDARD METER BOX
REF. SAWS SPEC. 824

1 - 8" X 1" SERVICE SADDLE
+/- 5 LF - 1" HDPE PIPE
1 - 1" WATER METER
1 - STANDARD METER BOX
REF. SAWS SPEC. 824

1 - 8" X 8" TEE
1 - 8" GATE VALVE W/ BOX
2 - 8" X 2" REDUCER, M.J.
+/- 320 LF 2" HDPE PIPE

PERMANANT BLOW OFF ASSEMBLY

2" HDPE LOOP
+/- 320 LF

R=55'

387.66 L.F. - 8" W.L.
331.24 L.F. - 8" W.L.
41.92 L.F. - 8" W.L.
113.79 L.F. - 8" W.L.
186.30 L.F. - 8" W.L.
130.00 L.F. - 8" W.L.
351.08 L.F. - 8" W.L.
77.53 L.F. - 8" W.L.
12.40 L.F. - 8" W.L.
27.91 L.F. - 8" W.L.
118.01 L.F. - 8" W.L.
113.48 L.F. - 8" W.L.
44.41 L.F. - 8" W.L.
103.16 L.F. - 8" W.L.
58.51 L.F. - 8" W.L.
242.90 L.F. - 8" W.L.
350.18 L.F. - 8" W.L.
426.98 L.F. - 8" W.L.
59.83 L.F. - 8" W.L.
304.82 L.F. - 8" W.L.
223.49 L.F. - 8" W.L.
188.83 L.F. - 8" W.L.
32.33 L.F. - 8" W.L.
87.74 L.F. - 8" W.L.
42.80 L.F. - 8" W.L.
142.30 L.F. - 8" W.L.
57.56 L.F. - 8" W.L.
11.11 L.F. - 8" W.L.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X		WIRE FENCE
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY

PLATTING TAGS (REDUCED)

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (E) VARIABLE WIDTH SAWS WATER EASEMENT

SAWS PRESSURE ZONE 750

DEVELOPER'S NAME: LQ INVESTMENTS PORTFOLIO ELEVEN, LLC.
DEVELOPER'S ADDRESS: 1000 BRICKELL AVENUE, SUITE 715
CITY MIAMI STATE FLORIDA ZIP 33131
PHONE # 786-265-9164 FAX # N/A
SAWS BLOCK MAP # 198504 TOTAL EDU'S 42 TOTAL ACREAGE 49-AC
TOTAL LINEAR FOOTAGE OF PIPE: 6,857-LF PLAT NO. 24-11800486
NUMBER OF LOTS: 21 SAWS JOB NO. 24-1183

LABUS PARK

WATER LAYOUT PLAN (SHEET 2)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sht_ Water Main Plan (sht 1 - 2).dwg

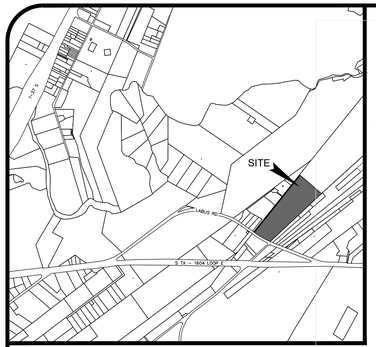
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2100
Fax 210.503.2149
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO.
C3.1

Last Modified: Feb. 16, 26 - 11:42
By: Wilson Hernandez
File: Labus Park - SHEET C3.1.dwg



LOCATION MAP
N.T.S.

SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

General Section

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:

   A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
   B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
   C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
   D. Current City of San Antonio "Standard Specifications for Public Works Construction".
   E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).

2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.

3. The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.

4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.

5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.

6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:

   - SAWS Utility Locates: http://www.saws.org/Service/Locates
   - COSA Drainage (210) 207-0724 or (210) 207-6026
   - COSA Traffic Signal Operations (210) 206-8480
   - COSA Traffic Signal Damages (210) 207-3951
   - Texas State Wide One Call Locator 1-800-545-6005 or 811

7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.

8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.

9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.

10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.

11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org.

    Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org.

    Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.

12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.

13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

Water Section

1. Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with the SAWS Construction Inspection Division at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.

   - For water mains 12" or higher: SAWS Emergency Operations Center (210) 233-2014

2. Asbestos Cement (AC) pipe, also known as transite pipe which is known to contain asbestos-containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Such work is to be made under Special Specification Item No. 3000, "Special Specification for Handling Asbestos Cement Pipe".

3. Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a cap/plug. (NSPI)

4. Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, plugs, caps, tees, crosses, valves, and bends, in accordance with the Standard Drawings DD-839 Series and Item No. 839, in the SAWS Standard Specifications for Construction.

5. All valves shall read "open right".

6. PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of _____ feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below___feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if *PRV is/are required for such lot(s), only single service connections shall be allowed.
   *Note: A pressure regulator is also known as a pressure reducing valve (PRV).

7. Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item No. 847.3): Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.

8. Backflow Prevention Devices:

   - All irrigation services within residential areas are required to have backflow prevention devices.
   - All commercial backflow prevention devices must be approved by SAWS prior to installation.

9. Final connection to the existing water main shall not be made until the water main has been pressure tested, chlorinated, and SAWS has released the main for tie-in and use.

10. Division Valves: Division Valves shown on plans or not shown on plans but found in the field shall only be operated by SAWS Distribution and Collection staff and only with prior written approval of the SAWS Director of Production and Operations and proper coordination with all SAWS departments. Contractor shall provide written notification to the inspector a minimum of two weeks in advance to start the coordination process and will be informed by the Inspector when the division valve will be operated by the SAWS Distribution and Collection staff. The Division Valve can only be operated by SAWS Distribution and Collection staff member not the inspector or the contractor. Operation of a Division Valve without the express prior written approval of the SAWS Distribution and Collection staff will constitute a material breach of any written SAWS contract or permit in addition to subjecting the Contractor to liability for any and all fines, fees, or other damages, direct or consequential, that may arise from or be caused by the operation of the valve without prior written permission. Please be informed that the approval of the operation or opening or closing of a division valve can take several weeks for approval. Division Valves will also have a valve lid labeled Division Valve and a locking mechanism

installed with a key. The lock and key mechanism will be paid for by the contractor but will be installed by SAWS Distribution and Collection staff.

Sewer Notes

1. The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:

   A. Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and an estimated volume or flow.
   B. Attempt to eliminate the source of the SSO.
   C. Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
   D. Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
   E. Clean the affected sewer mains and remove any debris.

   F. Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours.

   Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies.

   No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.

2. If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864, "Bypass Pumping".

3. Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.

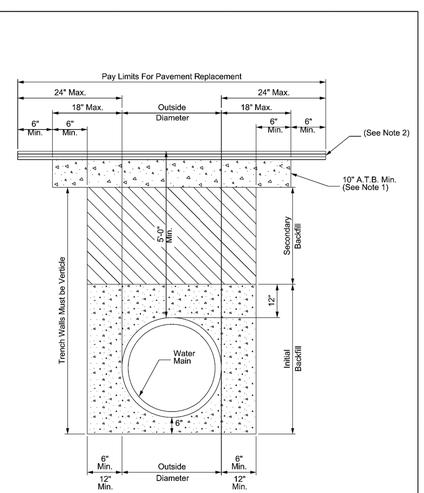
4. Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.

5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSPI)

6. Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.

7. Manhole and all pipe testing (including the TV inspection) must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division, as per the SAWS Specifications For Water and Sanitary Sewer Construction.

8. All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.



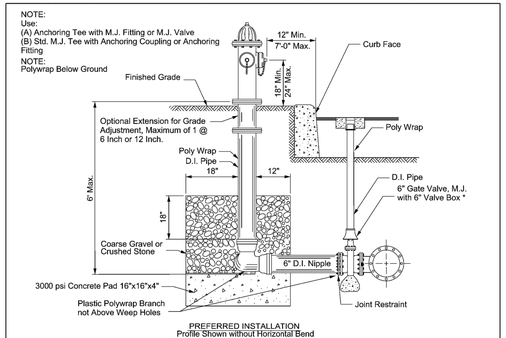
1. Asphalt Treated Base - As Specified COSA ROW - 10" Min. or Greater.

2. Replacement of Surface Layer Shall be of the Type and Thickness Base On Functional Classification.
   a. Min.2" HMAC Type "D" for Trench Repair in Local / Residential Streets.
   b. Min. 3" HMAC Type "C" for Trench Repair in Collector / Arterial Streets.

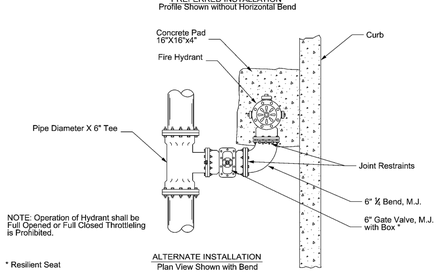
- Asphalt Treated Base (ATB)
- Hot Mix Asphalt Concrete (HMAC)

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	POTABLE AND RECYCLED WATER MAIN DETAIL	MARCH 2008	AUG 2019
		DD-812-01	SHEET 2 OF 9

NOTE:
Use:
(A) Anchoring Tee with M.J. Fitting or M.J. Valve
(B) Std. M.J. Tee with Anchoring Coupling or Anchoring Fitting
NOTE:
Polywrap Below Ground



PREFERRED INSTALLATION
Profile Shown without Horizontal Bend

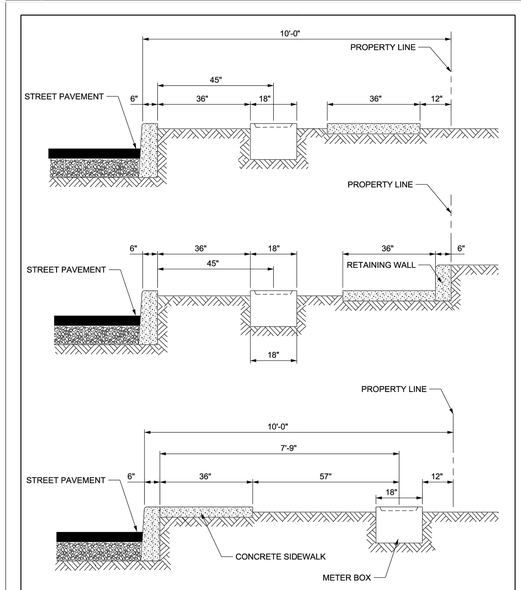


NOTE: Operation of Hydrant shall be Full Opened or Full Closed Throttleing is Prohibited.

* Resilient Seat

ALTERNATE INSTALLATION
Plan View Shown with Bend

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)	MAY 2013	AUG 2019
		DD-834-01	SHEET 1 OF 3



NOTE: METER BOX LOCATION IN COMMERCIAL AND INDUSTRIAL AREAS WILL BE AS DIRECTED BY THE INSPECTOR.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL METER BOX LOCATION	MARCH 2008	MAY 2013
		DD-833-01	SHEET 1 OF 1

LABUS PARK
SAWS CONSTRUCTION NOTES AND DETAILS

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING: Neighborhood Main Plan (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.2

Last Modified: Feb 16, 26 - 17:42
Plot Date/Time: Feb 16, 26 - 17:42:35

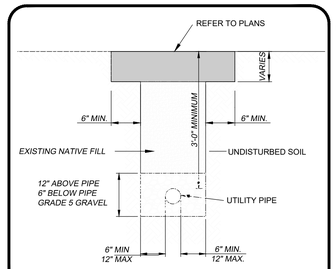
LOCATION MAP
N.T.S.

LEGEND

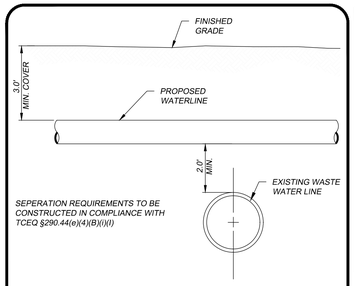
EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
x	x	WIRE FENCE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
	W.L.	WATER LINE
	S.S.	SANITARY SEWER
		SEWER DRIP FIELD AREA

PLATTING TAGS (REDUCED)

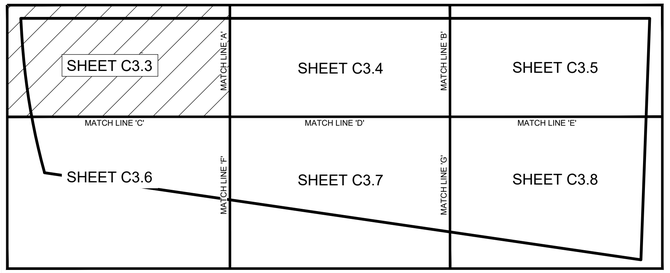
- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (E) VARIABLE WIDTH SAWS WATER EASEMENT



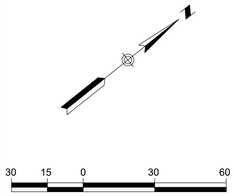
UTILITY TRENCH (PRIVATE) DETAIL
NTS



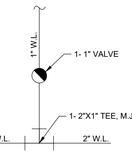
WATER/SEWER CROSSING DETAIL
NTS



SHEET INDEX MAP
SCALE : 1" = 300'



SCALE IN FEET
SCALE: 1"=30'



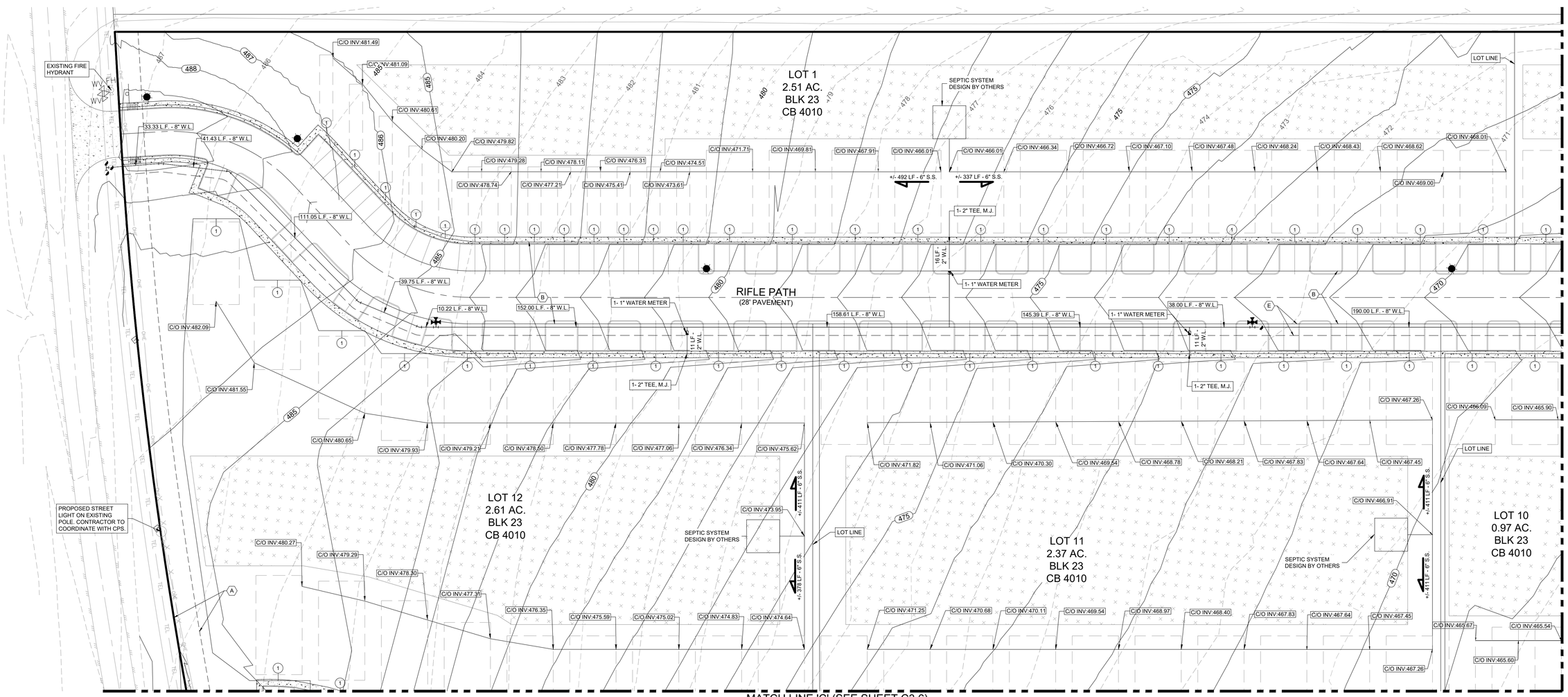
(1) 1 PRIVATE WATER SERVICE DETAIL
SCALE : N.T.S.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY PLAN AND CONSIDER EXISTING AND PROPOSED DRAINAGE PATTERNS DURING THE CONSTRUCTION OF THE PROJECT. IN ORDER TO ACCOMPLISH THIS, IT MAY BE NECESSARY TO PHASE THE GRADING, CONSTRUCT TEMPORARY BERMS AND SWALES WHILE FACTORING IN SURROUNDING CONDITIONS TO PROPERLY DIRECT AND CONTROL SURFACE RUNOFF. ADDITIONALLY, THE CONTRACTOR SHOULD TAKE INTO ACCOUNT THE TIMING OF CONSTRUCTING PONDS, CHANNELS AND STORM DRAINAGE SYSTEMS.

TRENCH EXCAVATION SAFETY PROTECTION

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

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. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



LABUS PARK
UTILITY PLAN (SHEET 1)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: SA_Utility Plan (sht 1 - 6).dwg

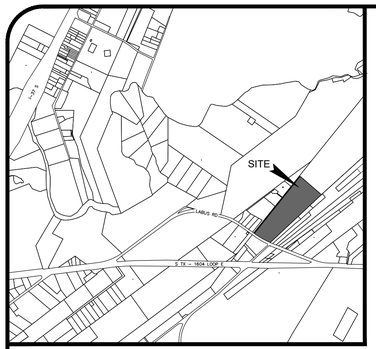
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.3

Last Modified: Feb. 16, 26 - 17:40
Plot Date/Time: Feb 16, 26 - 17:40:12



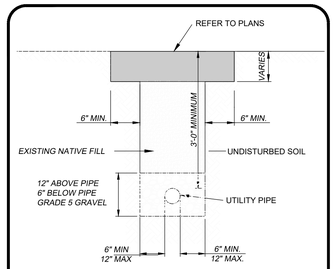
LOCATION MAP
N.T.S.

LEGEND

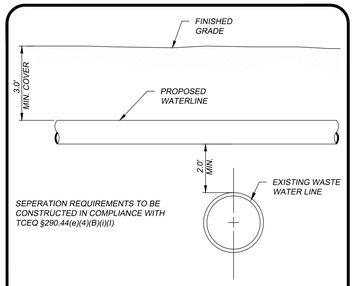
EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
x	x	WIRE FENCE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
	W.L.	WATER LINE
	S.S.	SANITARY SEWER
		SEWER DRIP FIELD AREA

PLATTING TAGS (REDUCED)

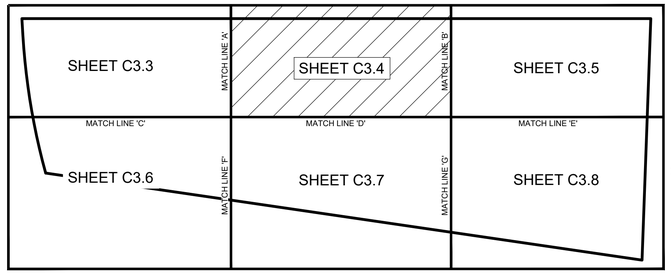
- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (E) VARIABLE WIDTH SAWS WATER EASEMENT



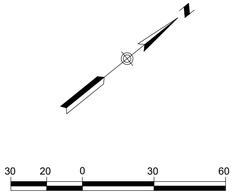
UTILITY TRENCH (PRIVATE) DETAIL
NTS



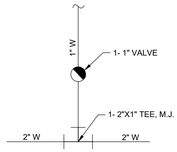
WATER/SEWER CROSSING DETAIL
NTS



SHEET INDEX MAP
SCALE : 1" = 300'



SCALE IN FEET
SCALE: 1"=30'



(1) 1 PRIVATE WATER SERVICE DETAIL
SCALE : 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 ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH

OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY PLAN AND CONSIDER EXISTING AND PROPOSED DRAINAGE PATTERNS DURING THE CONSTRUCTION OF THE PROJECT. IN ORDER TO ACCOMPLISH THIS, IT MAY BE NECESSARY TO PHASE THE GRADING, CONSTRUCT TEMPORARY BERMS AND SWALES WHILE FACTORING IN SURROUNDING CONDITIONS TO PROPERLY DIRECT AND CONTROL SURFACE RUNOFF. ADDITIONALLY, THE CONTRACTOR SHOULD TAKE INTO ACCOUNT THE TIMING OF CONSTRUCTING PONDS, CHANNELS AND STORM DRAINAGE SYSTEMS.

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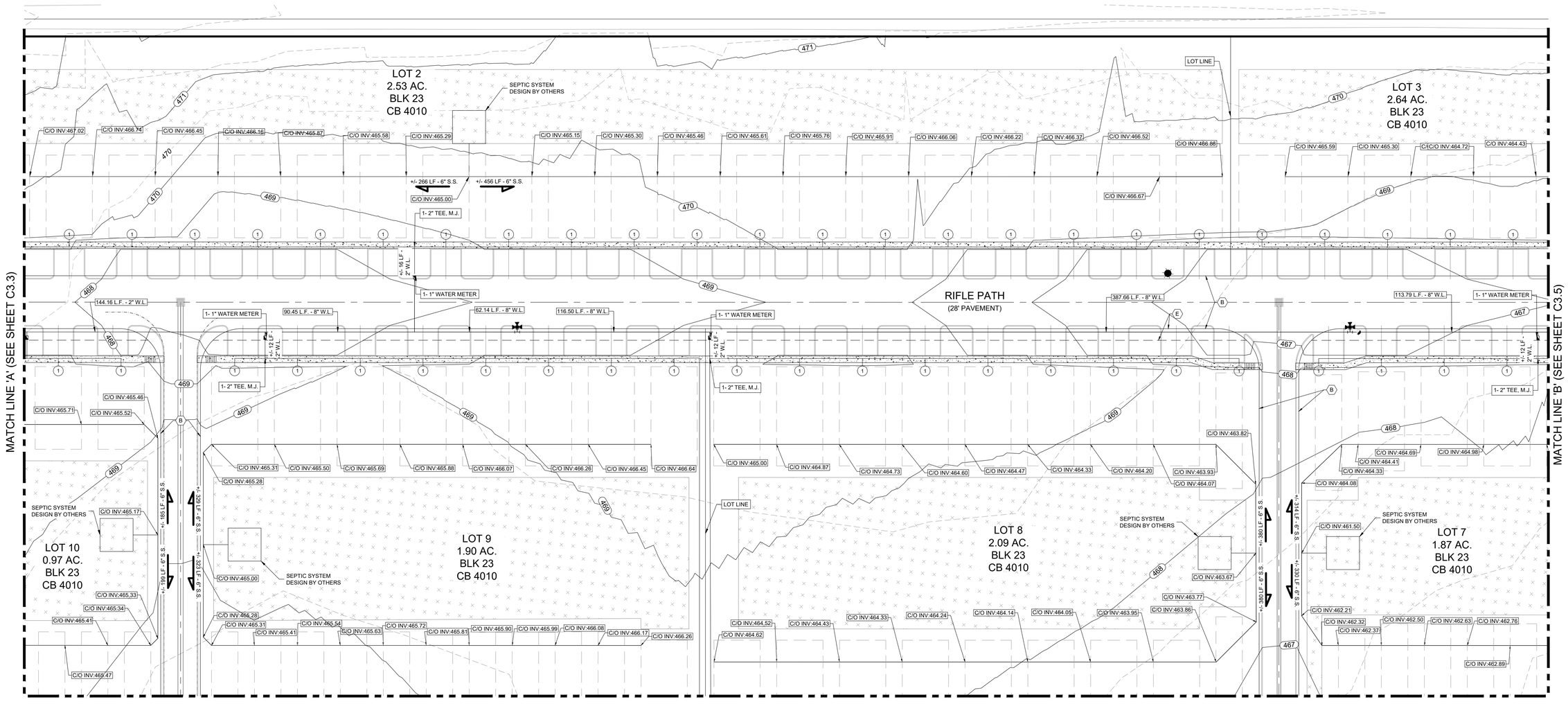

LABUS PARK
UTILITY PLAN (SHEET 2)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, VH
DRAWN BY: MAS
CHECKED BY: JC, VH
DRAWING NAME: sm_Utility Plan (sht 1 - 6).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

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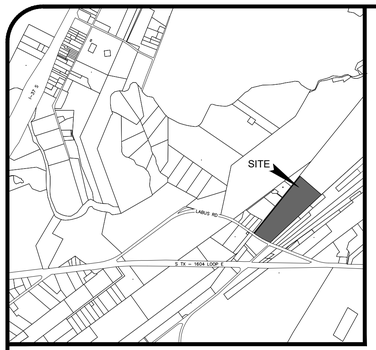
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.4

Last Modified: Feb 15, 26 - 17:40
Plot Scale: No 18.23" - 31.82"-14



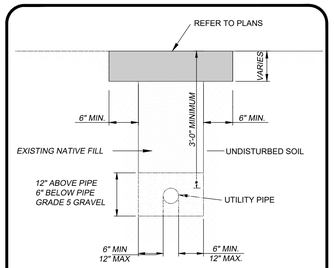
LOCATION MAP
N.T.S.

LEGEND

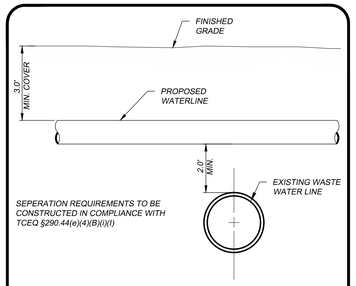
EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
x	x	WIRE FENCE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
	W.L.	WATER LINE
	S.S.	SANITARY SEWER
		SEWER DRIP FIELD AREA

PLATTING TAGS (REDUCED)

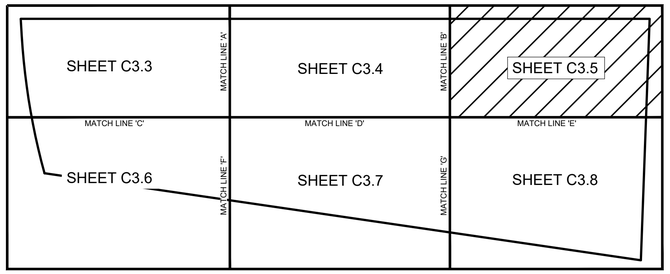
- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (E) VARIABLE WIDTH SAWS WATER EASEMENT



UTILITY TRENCH (PRIVATE) DETAIL
NTS

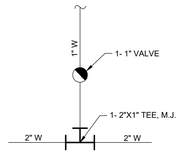


WATER/SEWER CROSSING DETAIL
NTS



SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'



(1) 1 PRIVATE WATER SERVICE DETAIL
SCALE : 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 ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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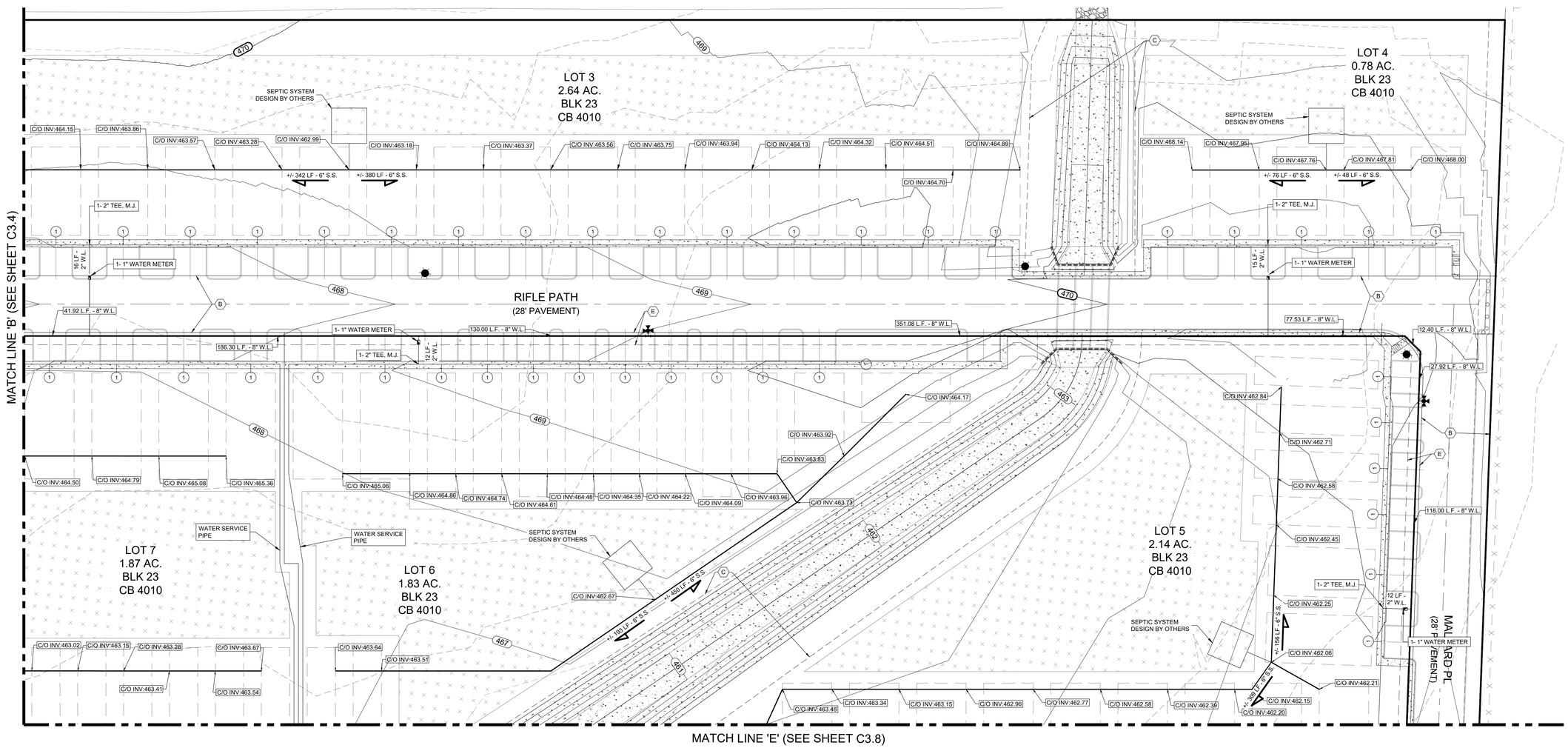

LABUS PARK
UTILITY PLAN (SHEET 3)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sm_Utility Plan (sht 1 - 6).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
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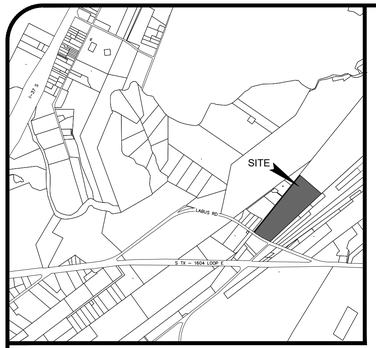
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO.
C3.5

Last Modified: Feb. 16, 26 - 17:40
Plot Date/Time: Feb. 18, 26 - 15:03:17



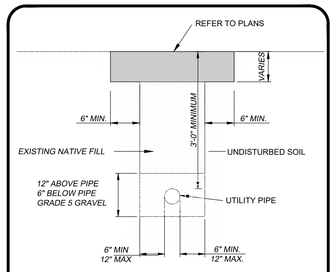
LOCATION MAP
N.T.S.

LEGEND

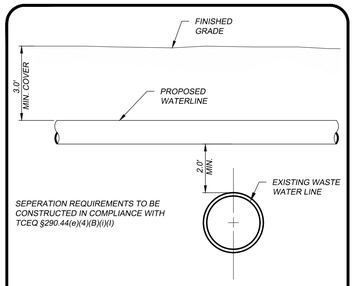
EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
x	x	WIRE FENCE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
	W.L.	WATER LINE
	S.S.	SANITARY SEWER
		SEWER DRIP FIELD AREA

PLATTING TAGS (REDUCED)

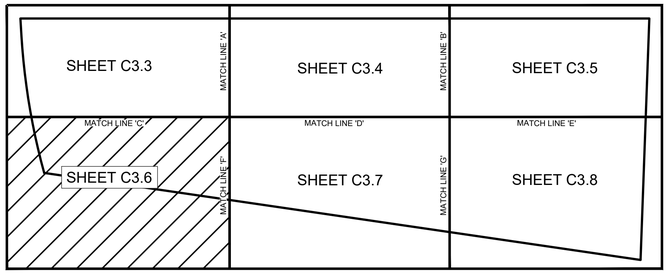
- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (E) VARIABLE WIDTH SAWS WATER EASEMENT



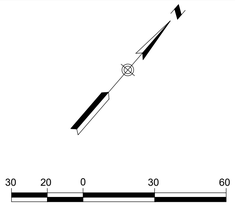
UTILITY TRENCH (PRIVATE) DETAIL
NTS



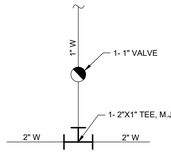
WATER/SEWER CROSSING DETAIL
NTS



SHEET INDEX MAP
SCALE : 1" = 300'



SCALE IN FEET
SCALE: 1"=30'



(1) 1 PRIVATE WATER SERVICE DETAIL
SCALE : N.T.S.

TRENCH EXCAVATION SAFETY PROTECTION

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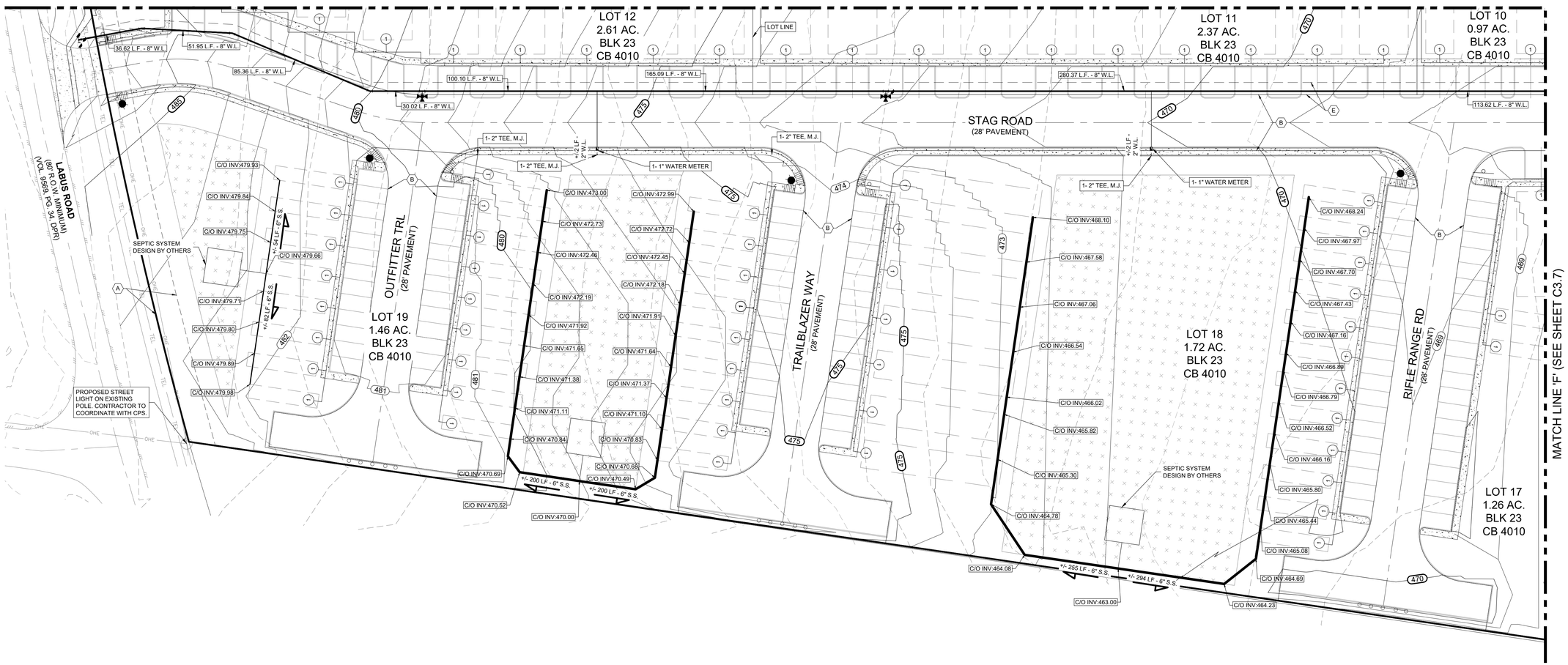
MATCH LINE 'C' (SEE SHEET C3.3)



MATCH LINE 'F' (SEE SHEET C3.7)

LABUS PARK
UTILITY PLAN (SHEET 4)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: and_Utility Plan (sht 1 - 6).dwg

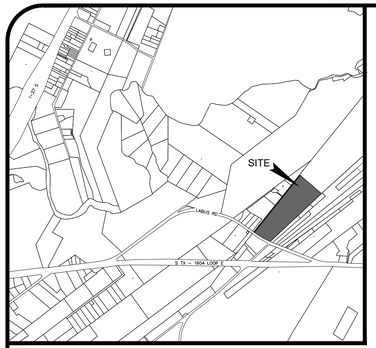
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.6

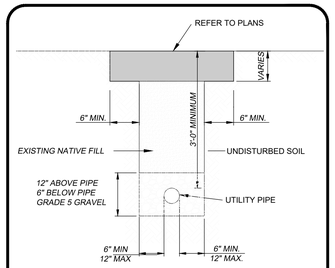
Last Modified: Feb. 16, 26 – 17:40
AutoCAD Plot: Feb. 16, 26 – 14:24:21



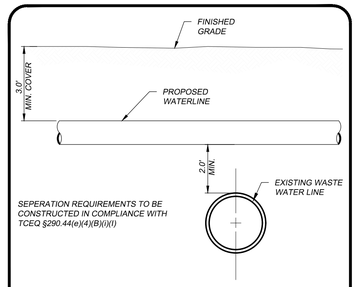
LOCATION MAP
N.T.S.

LEGEND

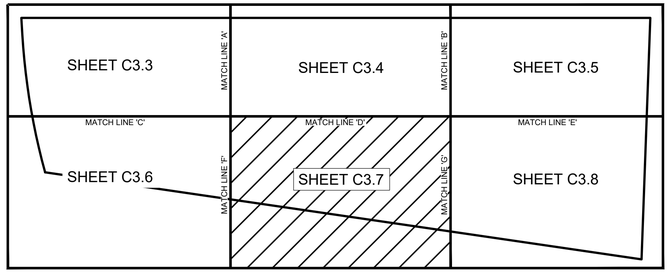
EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
DWM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
TP		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
x	x	WIRE FENCE
800	800	CONTOUR
	ESM'T	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
	W.L.	WATER LINE
	S.S.	SANITARY SEWER
		SEWER DRIP FIELD AREA



UTILITY TRENCH (PRIVATE) DETAIL
NTS



WATER/SEWER CROSSING DETAIL
NTS



SHEET INDEX MAP
SCALE : 1" = 300'

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY PLAN AND CONSIDER EXISTING AND PROPOSED DRAINAGE PATTERNS DURING THE CONSTRUCTION OF THE PROJECT. IN ORDER TO ACCOMPLISH THIS, IT MAY BE NECESSARY TO PHASE THE GRADING, CONSTRUCT TEMPORARY BERMS AND SWALES WHILE FACTORING IN SURROUNDING CONDITIONS TO PROPERLY DIRECT AND CONTROL SURFACE RUNOFF. ADDITIONALLY, THE CONTRACTOR SHOULD TAKE INTO ACCOUNT THE TIMING OF CONSTRUCTING PONDS, CHANNELS AND STORM DRAINAGE SYSTEMS.

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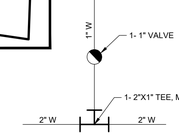
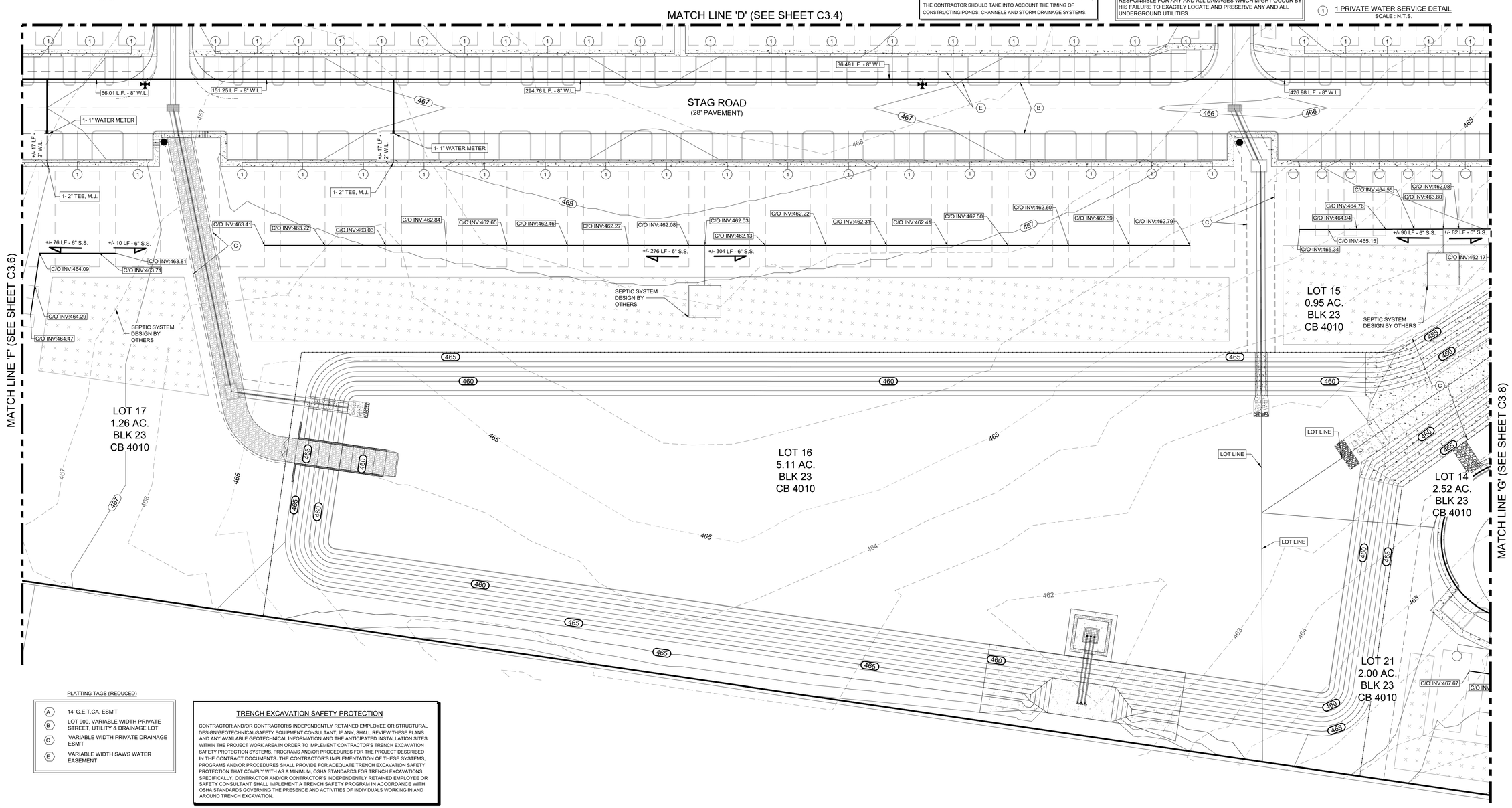
30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'



1 PRIVATE WATER SERVICE DETAIL
SCALE : N.T.S.



PLATTING TAGS (REDUCED)

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
E	VARIABLE WIDTH SAWS WATER EASEMENT

TRENCH EXCAVATION SAFETY PROTECTION

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LABUS PARK
UTILITY PLAN (SHEET 5)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sht2_Utility Plan (sht 1 - 6).dwg

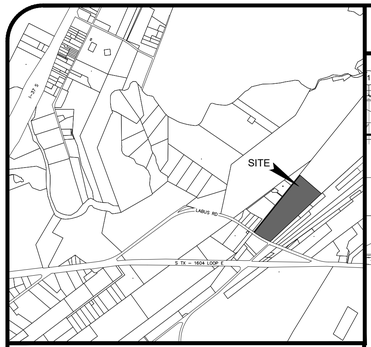
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.7

Last Modified: Feb. 16, 26 – 17:40
Plot Date/Time: Feb. 16, 26 – 14:24



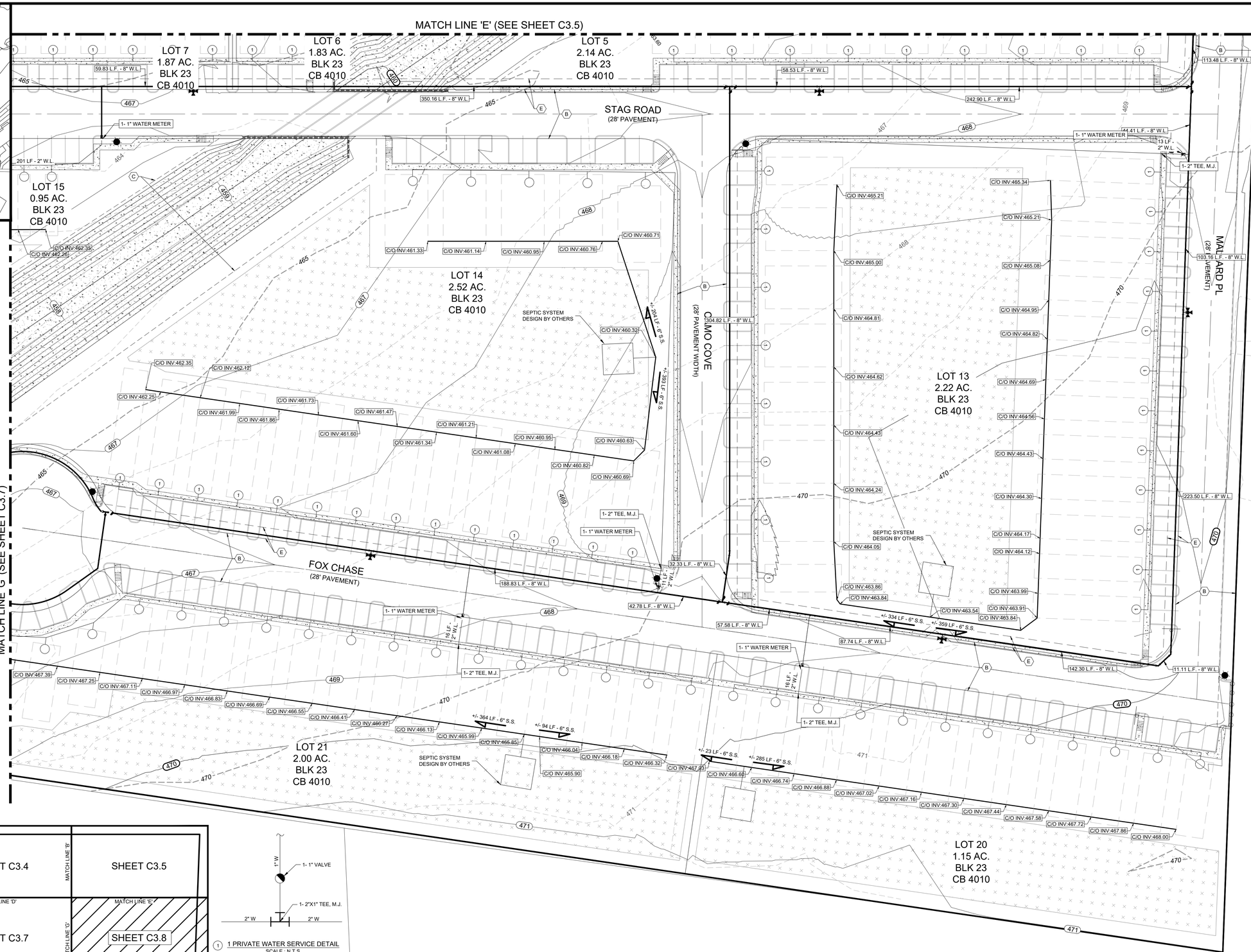
LOCATION MAP
N.T.S.

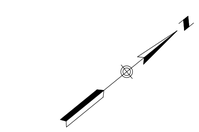
LEGEND

EXISTING	PROPOSED	DESCRIPTION
PP	PP	POWER POLE
WM		DUAL WATER SERVICE
WV		WATER VALVE
FH		FIRE HYDRANT
T		TELEPHONE PEDESTAL
OHE	OHE	OVERHEAD ELECTRIC
X	X	WIRE FENCE
800	800	CONTOUR
	ESMT	EASEMENT
	VOL.	VOLUME
	PG.	PAGE
	R.O.W.	RIGHT OF WAY
	W.L.	WATER LINE
	S.S.	SANITARY SEWER
		SEWER DRIP FIELD AREA

PLATTING TAGS (REDUCED)

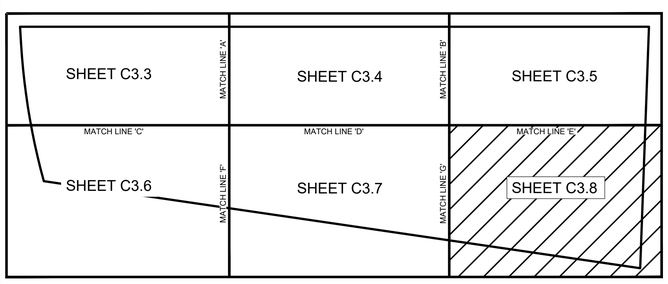
A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
E	VARIABLE WIDTH SAWS WATER EASEMENT





30 15 0 30 60

SCALE IN FEET
SCALE: 1"=30'



SHEET INDEX MAP
SCALE : 1" = 300'

1 1 PRIVATE WATER SERVICE DETAIL
SCALE : N.T.S.

LABUS PARK
UTILITY PLAN
(SHEET 6)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: SA_Utility Plan (sht 1 - 6).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C3.8

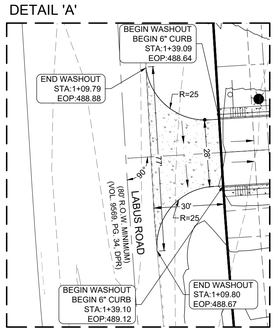
Last Modified: Feb 16, 26 - 17:40
You: mauricio.sanchez@lja.com

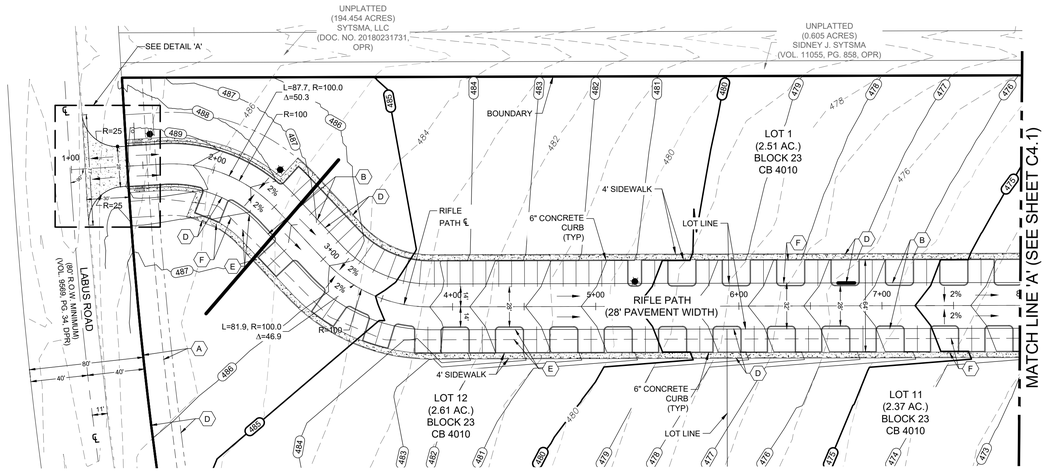
GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. CONTRACTOR TO PULL BEXAR COUNTY R.O.W PERMIT PRIOR TO WORK COMMENCEMENT IN BEXAR COUNTY R.O.W.
8. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

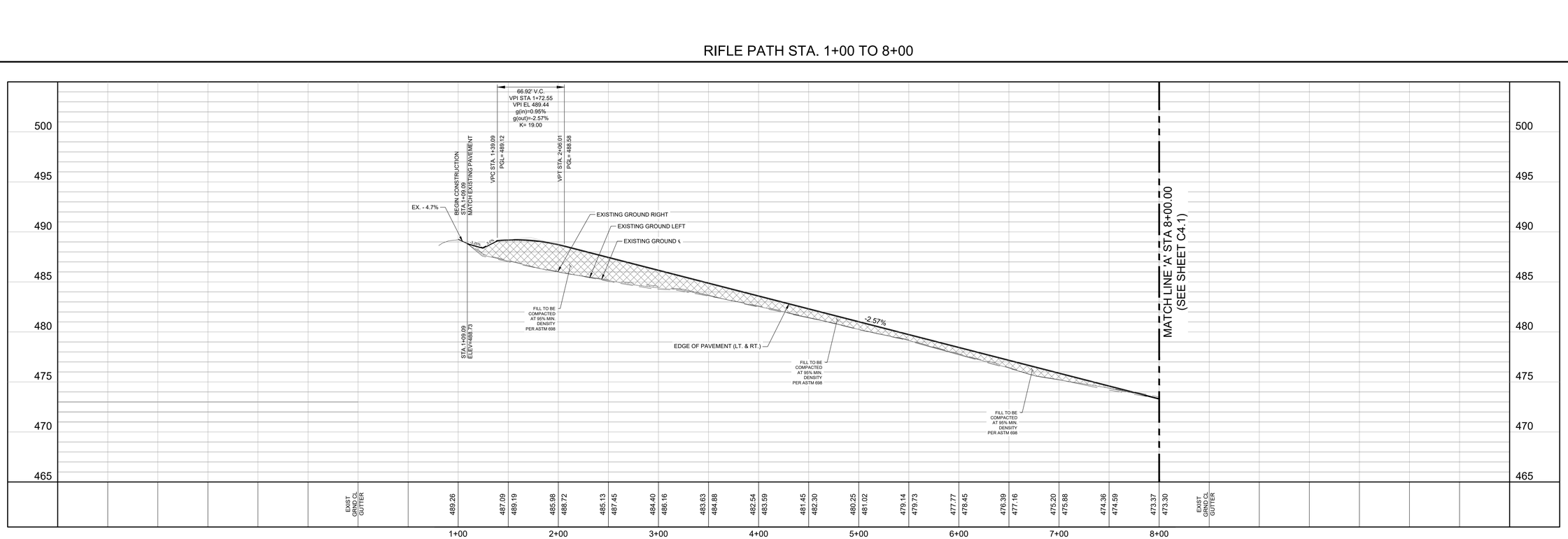
(A) 14' G.E.T.CA. ESM'T
(B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
(C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
(D) 20' BUILDING SETBACK
(E) VARIABLE WIDTH WATER EASEMENT
(F) VARIABLE WIDTH CPS EASEMENT

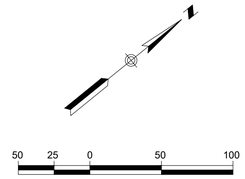
DETAIL 'A'





RIFLE PATH STA. 1+00 TO 8+00





LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

LABUS PARK

RIFLE PATH
STA 1+00 TO 8+00

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street #1 (1+00 to End).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

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Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C4.0

Last Modified: Feb 16, 26 - 17:30
RLD: C:\Drafting\Labus Park\SA5758-0401\Rifle Path.dwg

GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
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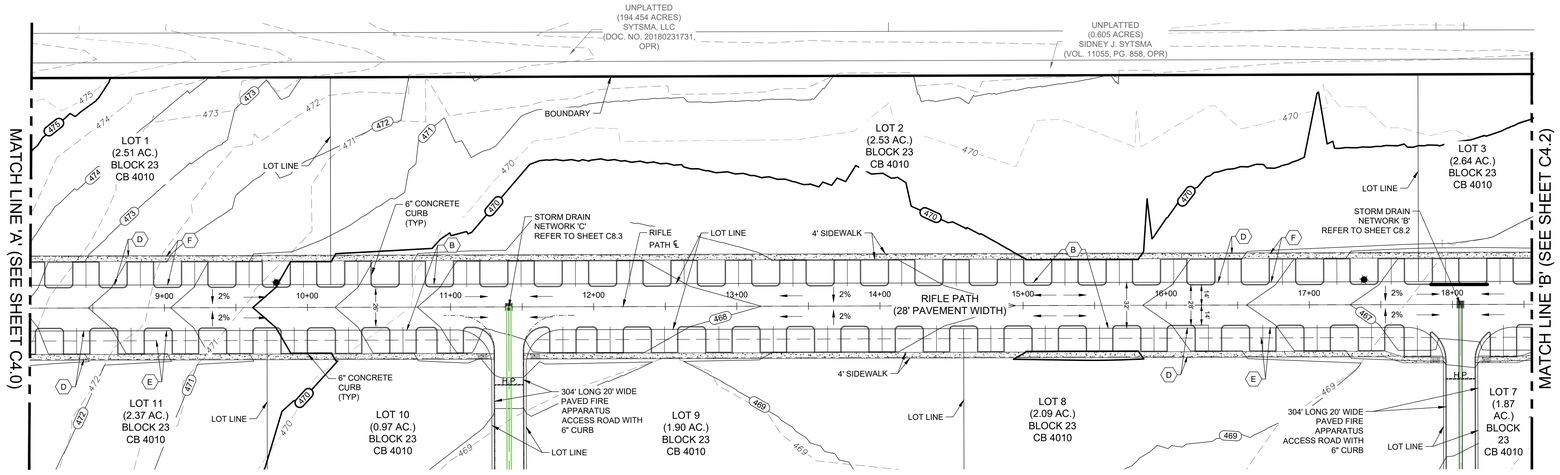
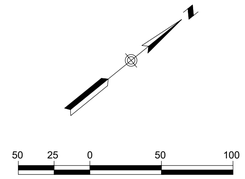
(D) 20' BUILDING SETBACK
(E) VARIABLE WIDTH WATER EASEMENT
(F) VARIABLE WIDTH CPS EASEMENT

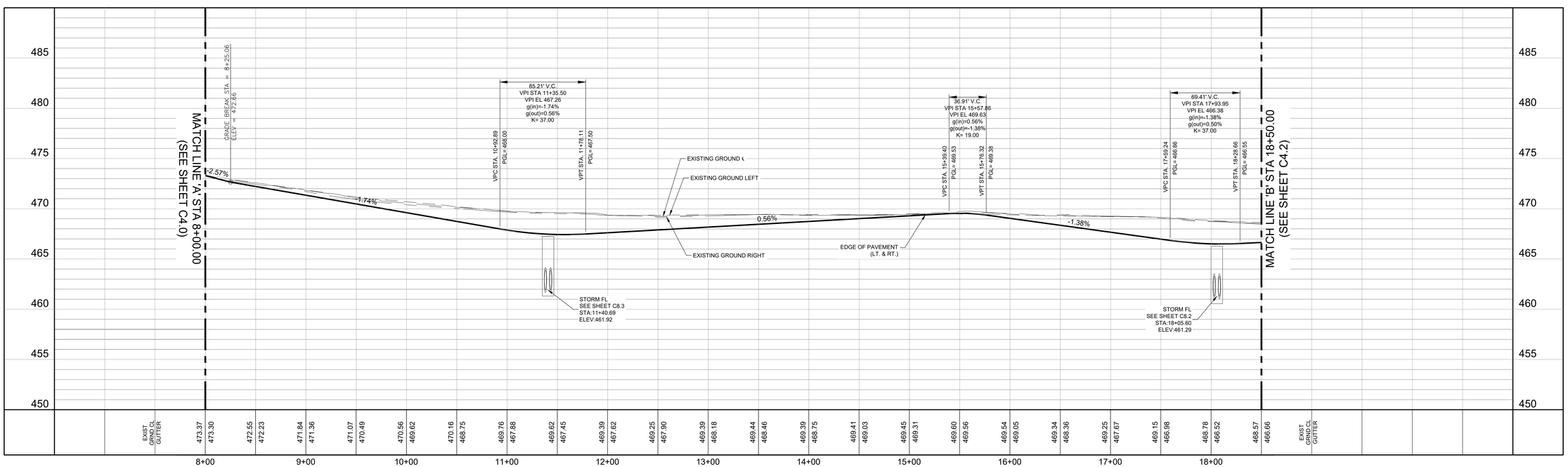


RIFLE PATH STA. 8+00 TO 18+50



LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT



LABUS PARK

RIFLE PATH
STA 8+00 TO 18+50

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street #1 (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

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TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO.
C4.1

Last Modified: Feb 16, 26 - 17:30
Plot Date/Time: Feb 16, 26 - 14:20:11

GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
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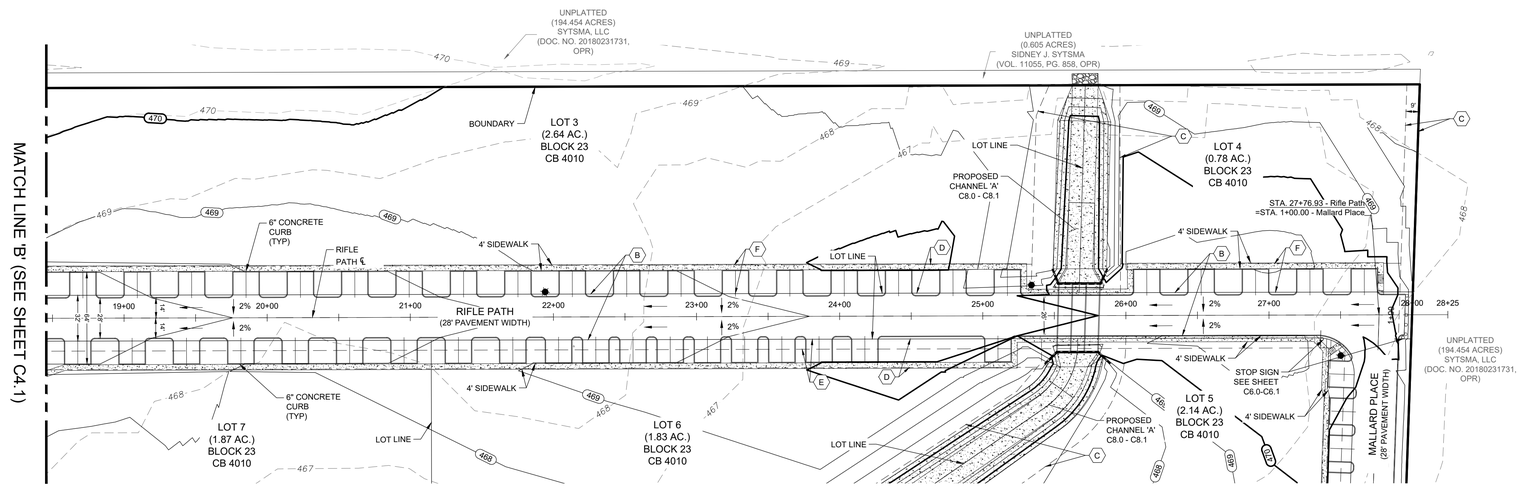
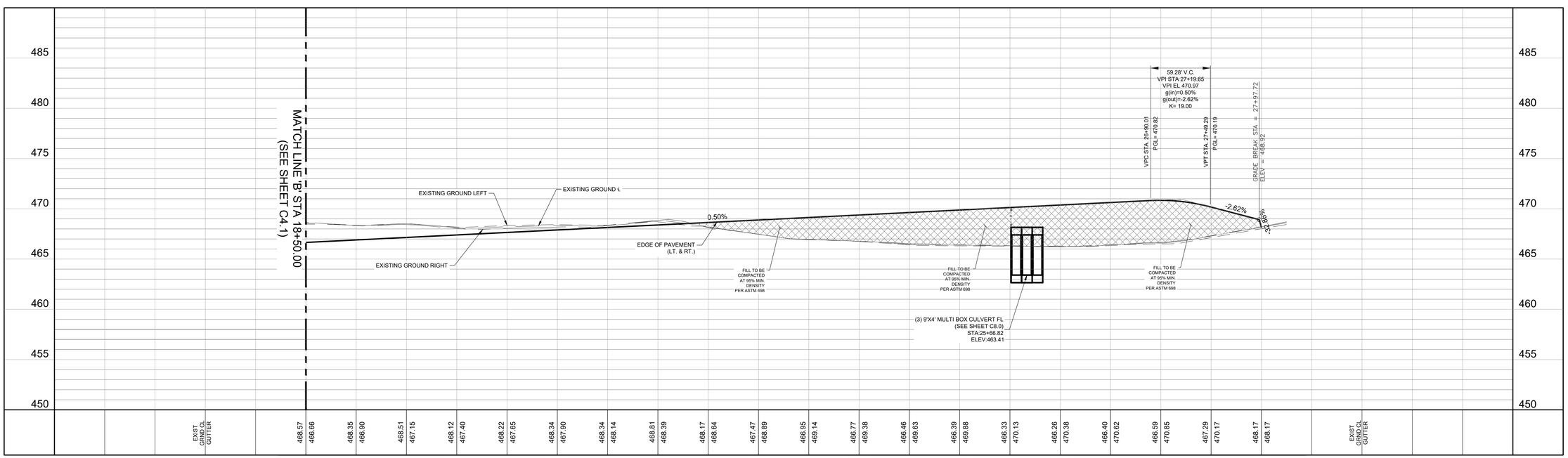
(F) VARIABLE WIDTH CPS EASEMENT



RIFLE PATH STA. 18+50 TO END



50 25 0 50 100

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

LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

LABUS PARK

RIFLE PATH
STA 18+50 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh. street #1 (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
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Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C4.2

Last Modified: Feb. 16, 26 – 17:30
RCP Grapher ver. 10.20 – 14/2016

GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
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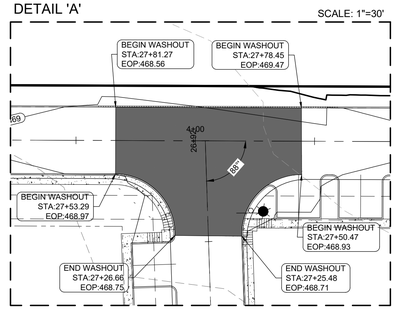
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

DETAIL 'A'

SCALE: 1"=30'



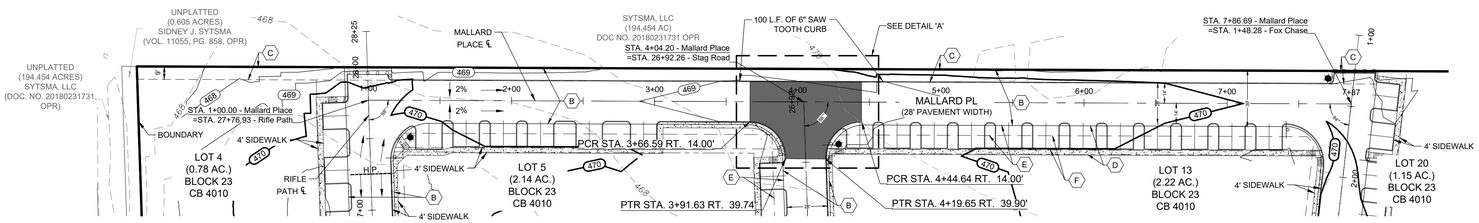
50 25 0 50 100

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

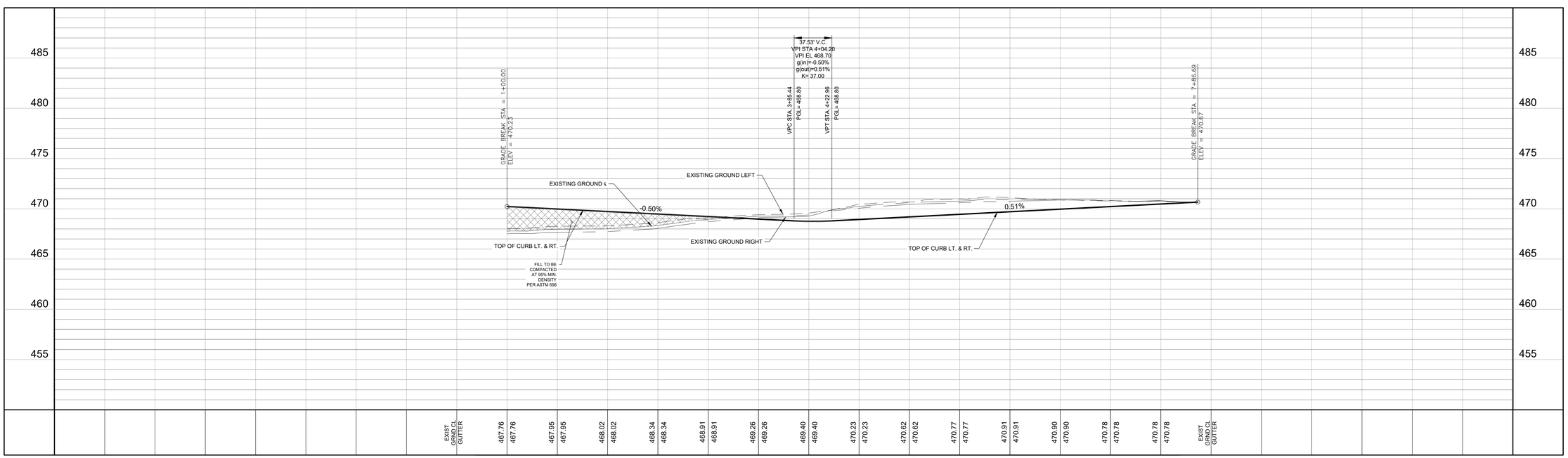
LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT



MALLARD STA. 1+00 to END



LABUS PARK

MALLARD PLACE
STA 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Mallard (1+00 to End).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

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San Antonio, Texas 78230
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Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C4.3

Last Modified: Feb 16, 26 - 17:32
Plot Date/Time: Feb 16, 26 - 14:25:47

GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
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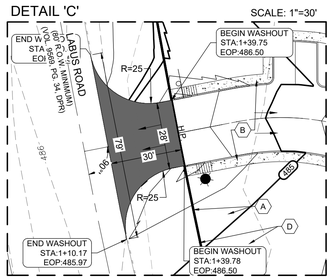

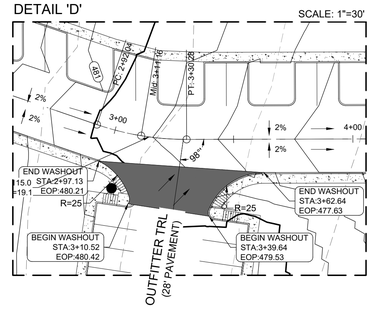

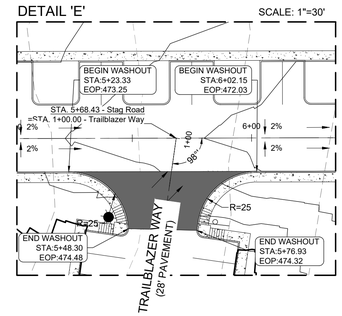

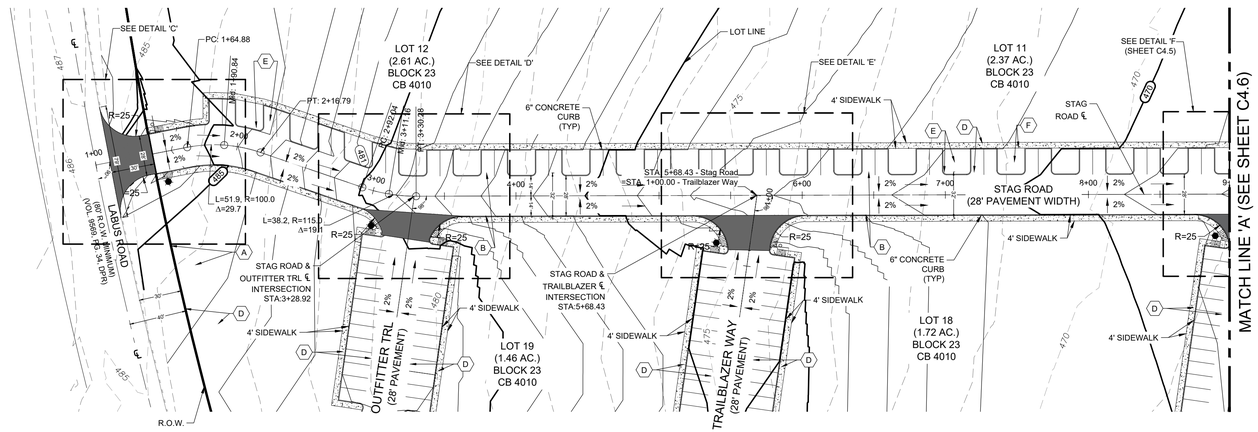

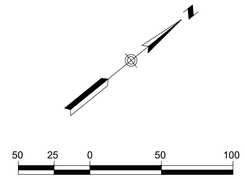

LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
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H.P.	PROPOSED GRADING HIGH POINT

A	14' G.E.T.CA. ESM'T
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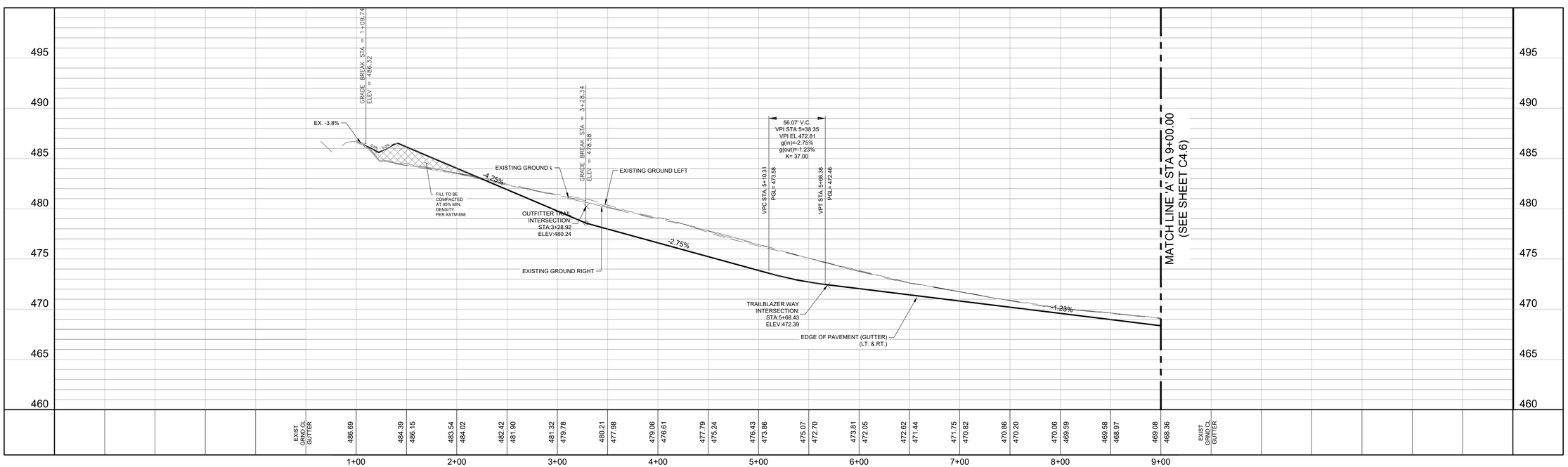
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

STAG ROAD STA. 1+00 TO 9+00



LABUS PARK

STAG ROAD
STA 1+00 TO 9+00

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street #2 (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
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Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C4.4

Last Modified: Feb. 16, 26 – 18:07
Plot Date/Time: Feb. 16, 26 – 14:20:24

GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
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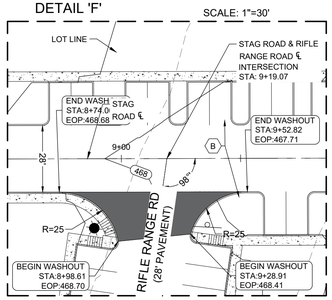
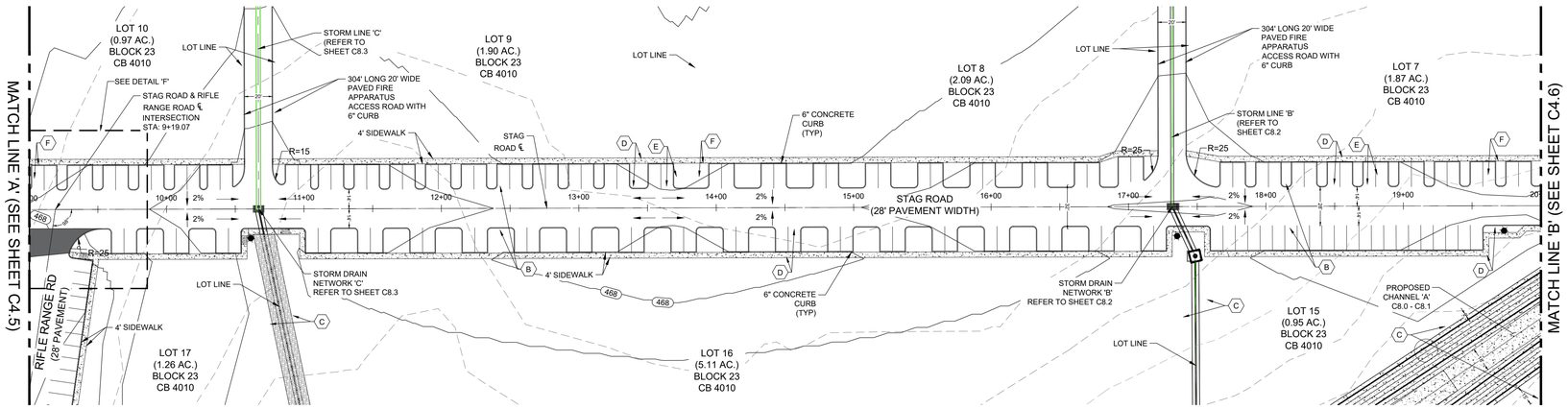
(C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
(D) 20' BUILDING SETBACK
(E) VARIABLE WIDTH WATER EASEMENT
(F) VARIABLE WIDTH CPS EASEMENT

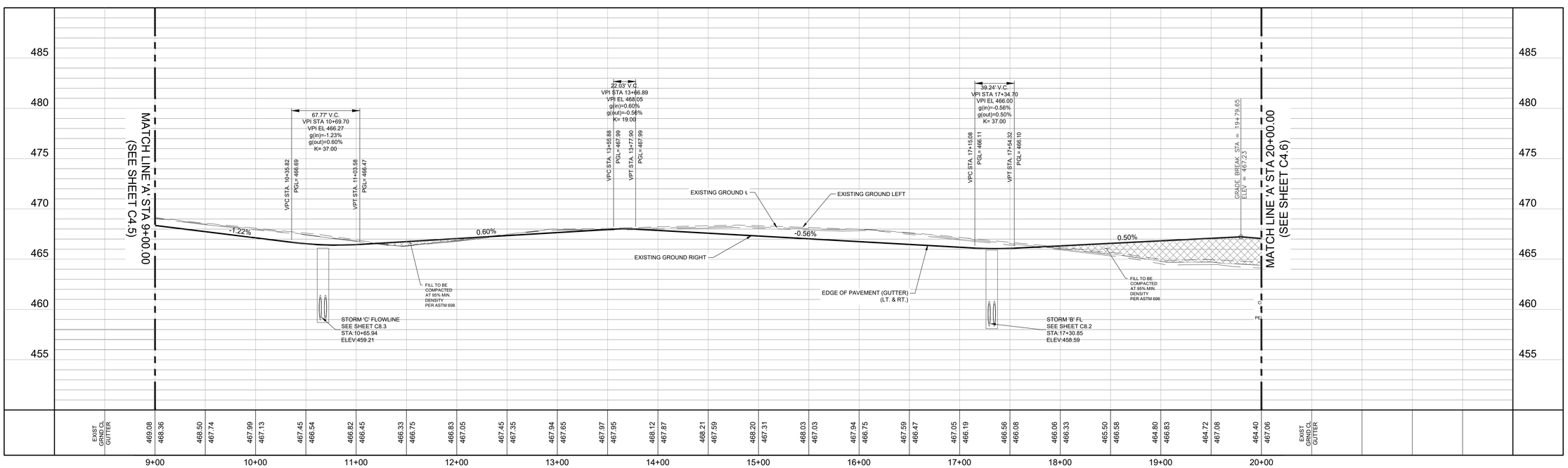
DETAIL 'F'

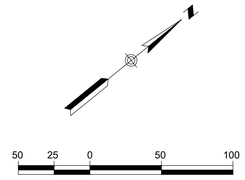
SCALE: 1"=30'





STAG ROAD STA. 9+00 TO 20+00





LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

LABUS PARK

STAG ROAD
STA 9+00 TO 20+00

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street #2 (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

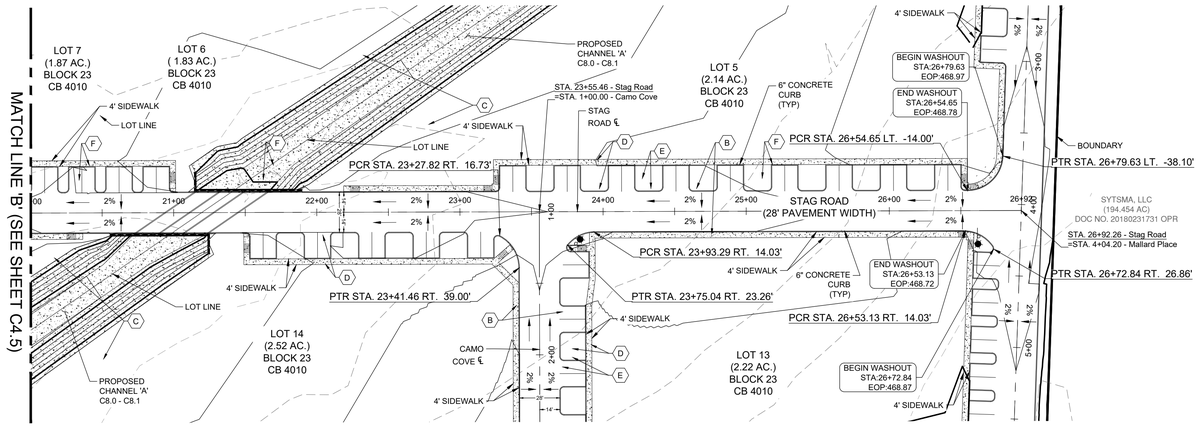
SHEET NO. **C4.5**

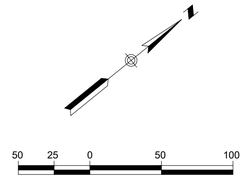
Last Modified: Feb. 16, 26 – 18:07
Plot Date/Time: Feb. 16, 26 – 14:20:34

GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

(A) 14' G.E.T.CA. ESM'T
(B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
(C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
(D) 20' BUILDING SETBACK
(E) VARIABLE WIDTH WATER EASEMENT
(F) VARIABLE WIDTH CPS EASEMENT

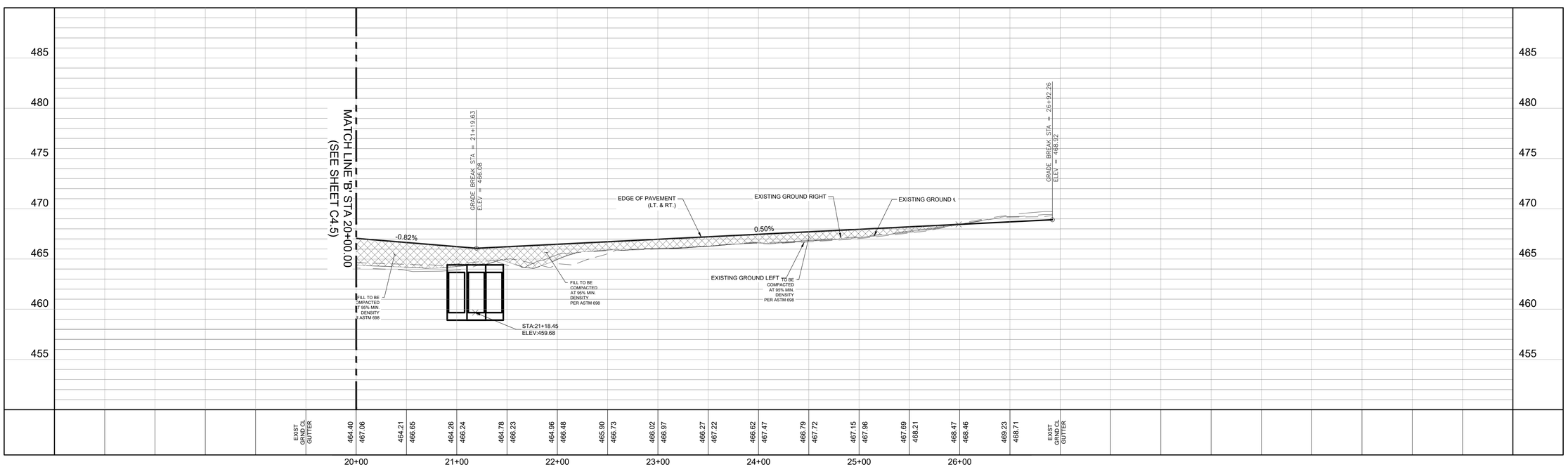




LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

STAG ROAD STA. 20+00 TO END



LABUS PARK
STAG ROAD
STA 20+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street #2 (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

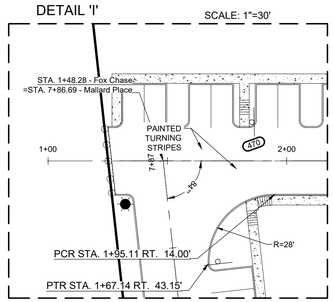
SHEET NO. C4.6

Last Modified: Feb. 16, 26 - 18:07
Plot Date/Time: Feb. 16, 26 - 14:24:41

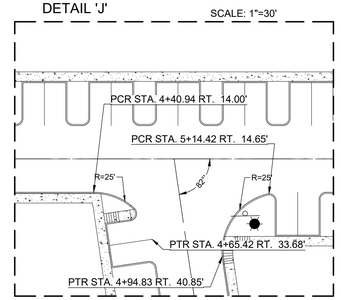
GENERAL NOTES:

1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

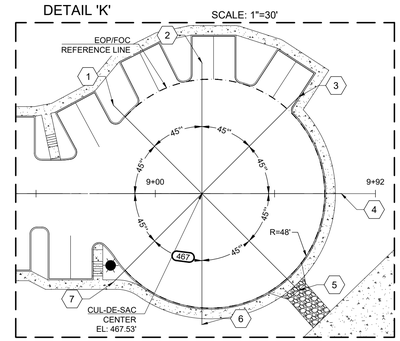
DETAIL 'I' SCALE: 1"=30'

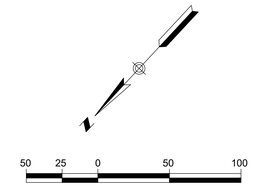


DETAIL 'J' SCALE: 1"=30'



DETAIL 'K' SCALE: 1"=30'





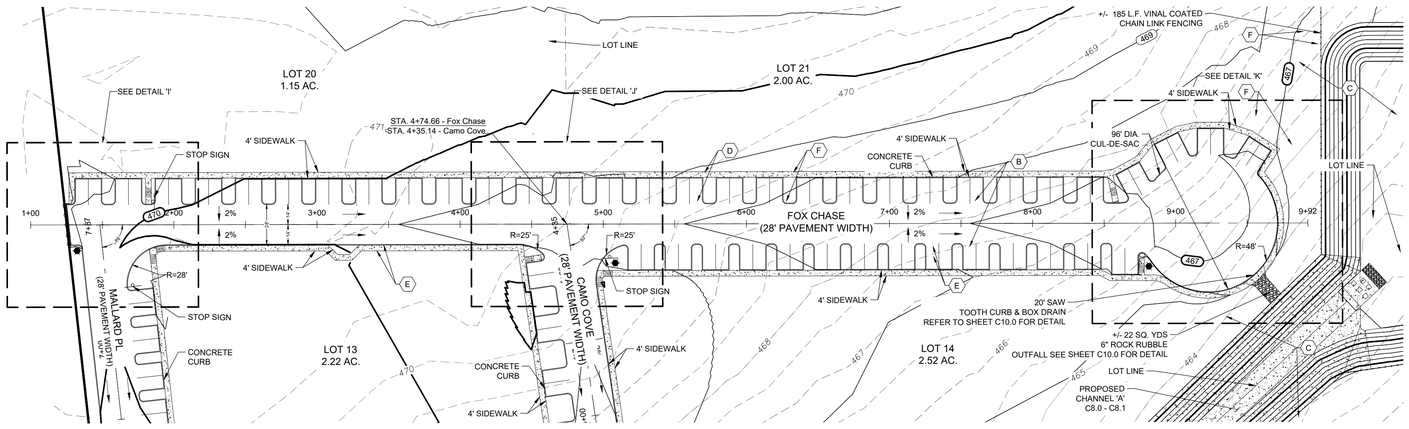
HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

LEGEND

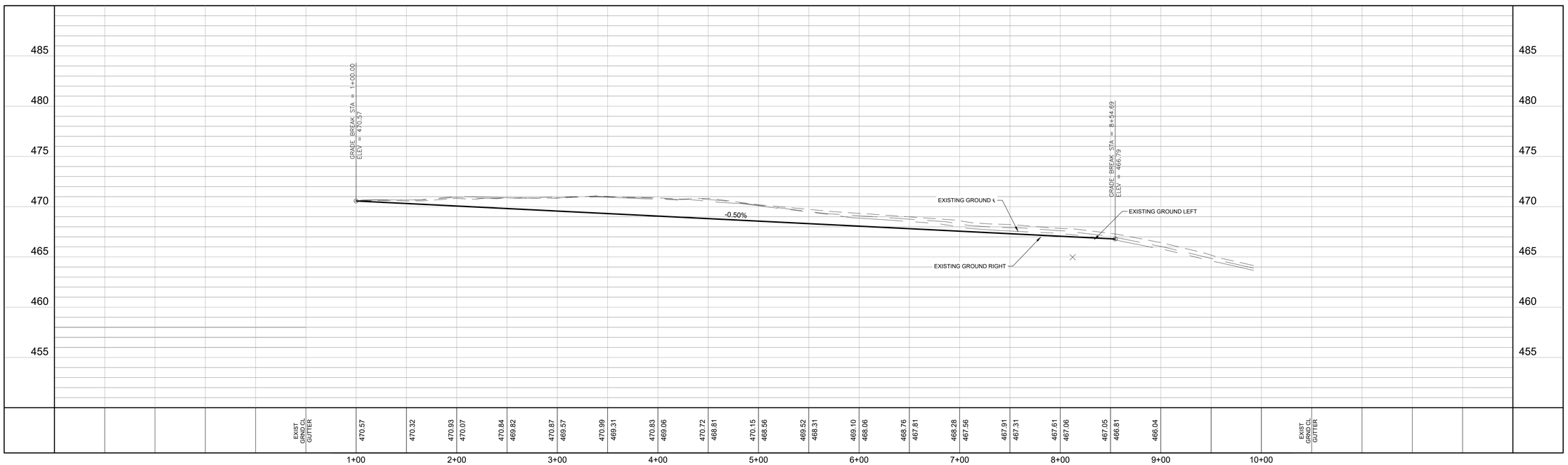
800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT

FOX CHASE DETAIL 'K'		
POINT	EDGE OF PVM'T/FOC	LOT LINE
1	467.30	467.38
2	467.07	467.15
3	466.82	466.94
4	466.56	466.43
5	466.33	466.23
6	466.52	466.45
7	466.73	466.85



FOX CHASE STA. 1+00 TO END



LABUS PARK
FOX CHASE
STA 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street (K) (1+00 to End).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C4.7

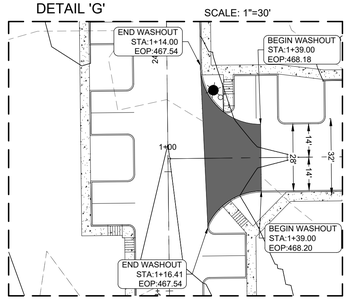
Last Modified: Feb 18, 26 - 10:49
AutoCAD Version: Arch 26.3 - 14.0218

GENERAL NOTES:

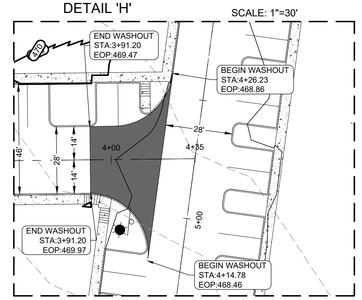
1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

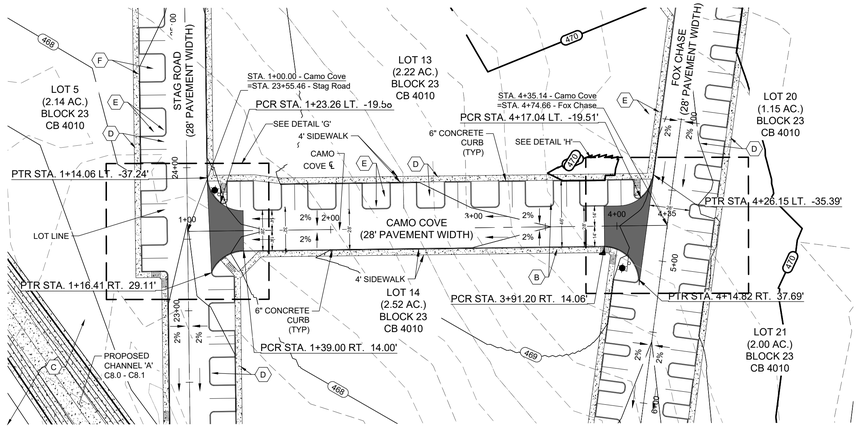
- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT

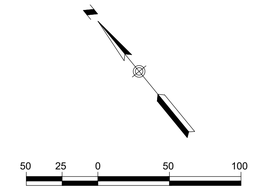
DETAIL 'G' SCALE: 1"=30'



DETAIL 'H' SCALE: 1"=30'





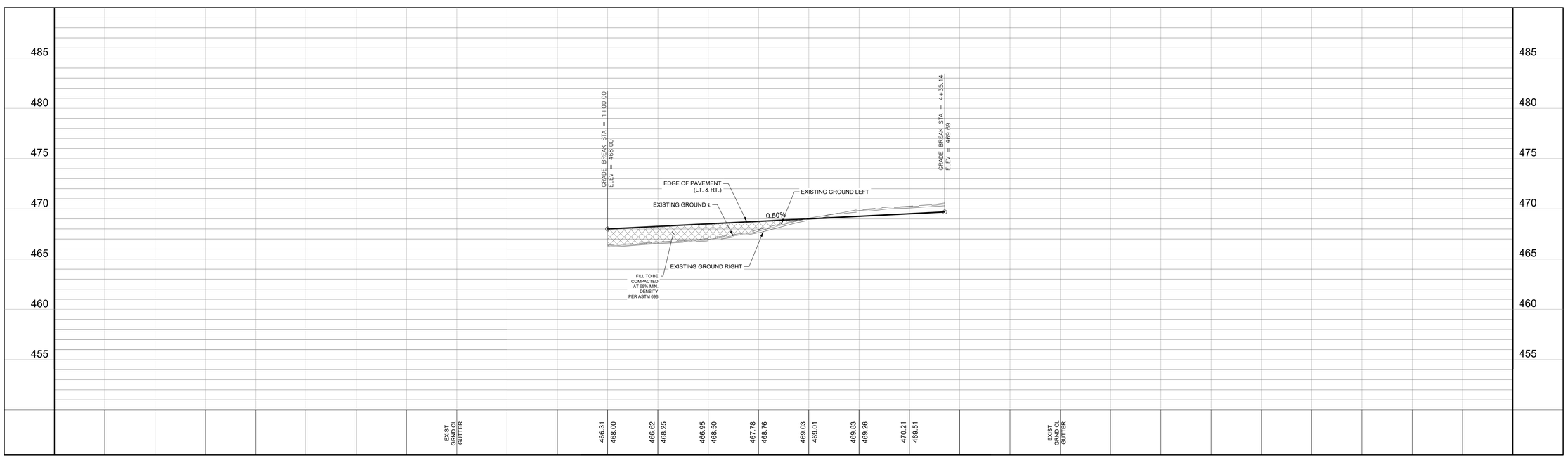


HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

CAMO COVE STA. 1+00 TO END



LABUS PARK

CAMO COVE
STA 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_street #4 (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C4.8

Last Modified: Feb 16, 26 - 18:06
Plot Date/Time: Feb 16, 26 - 14:20:10

GENERAL NOTES:

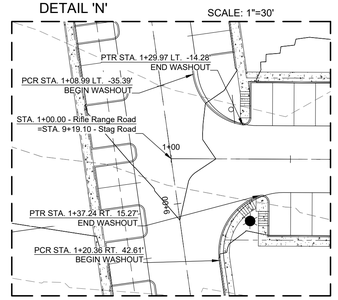
1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

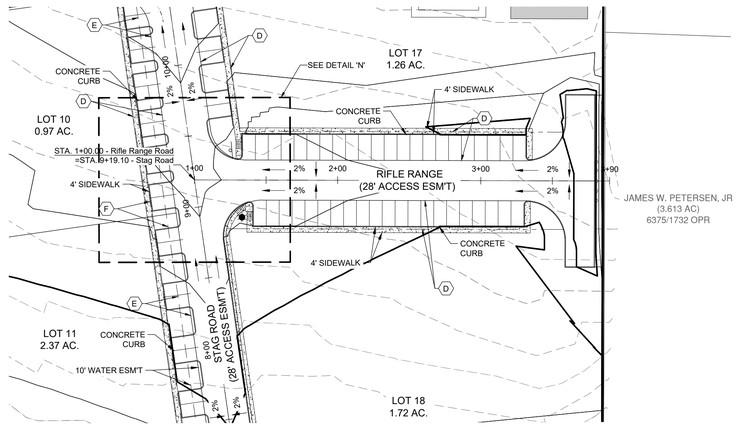
PLATTING TAGS

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

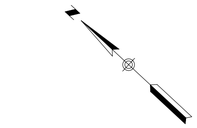
DETAIL 'N'

SCALE: 1"=30'





RIFLE RANGE STA. 1+00 TO END

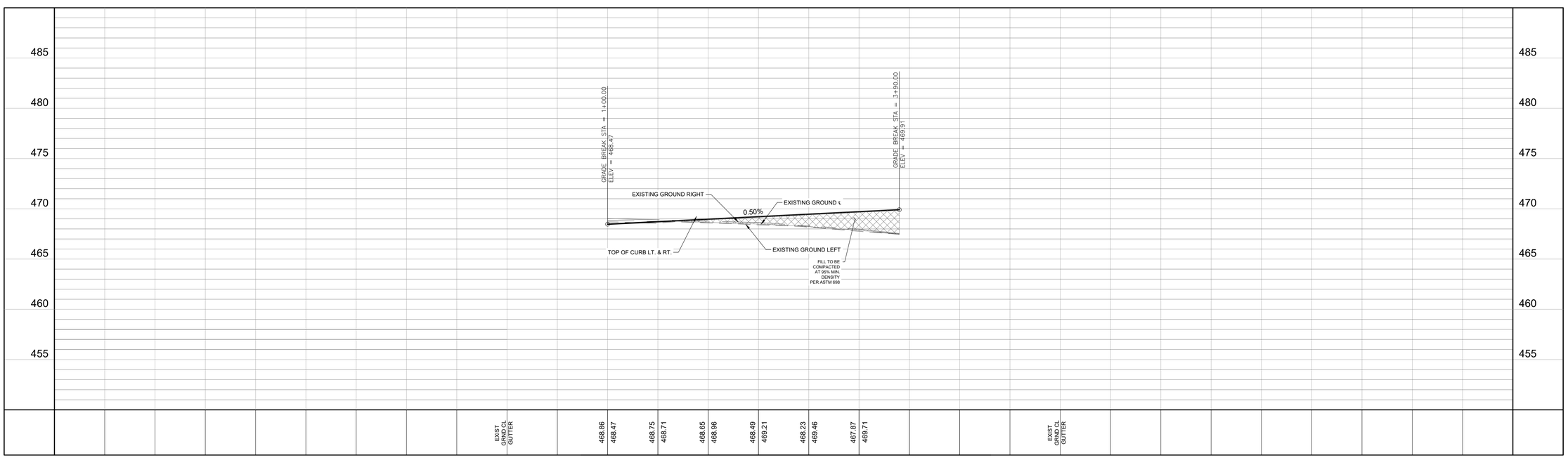


50 25 0 50 100

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

LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT



LABUS PARK

RIFLE RANGE
STA 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Rifle Range (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C4.9

Last Modified: Feb. 16, 26 - 18:06
RCP Drawing: sh_TB_25 - 14.dwg

GENERAL NOTES:

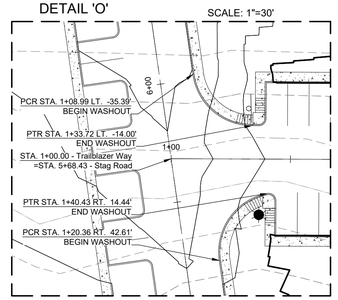
1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

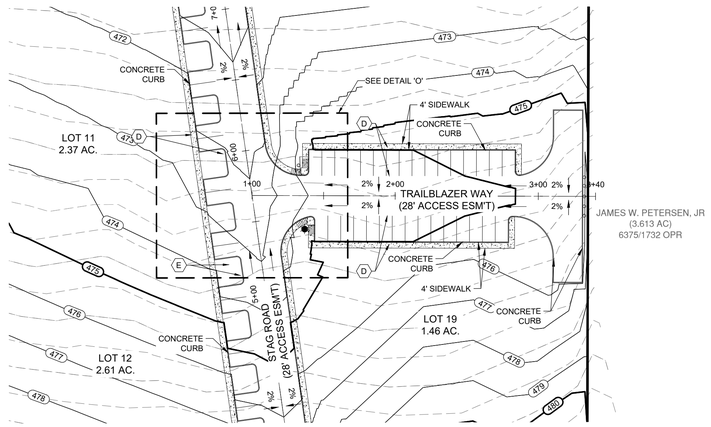
PLATTING TAGS

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

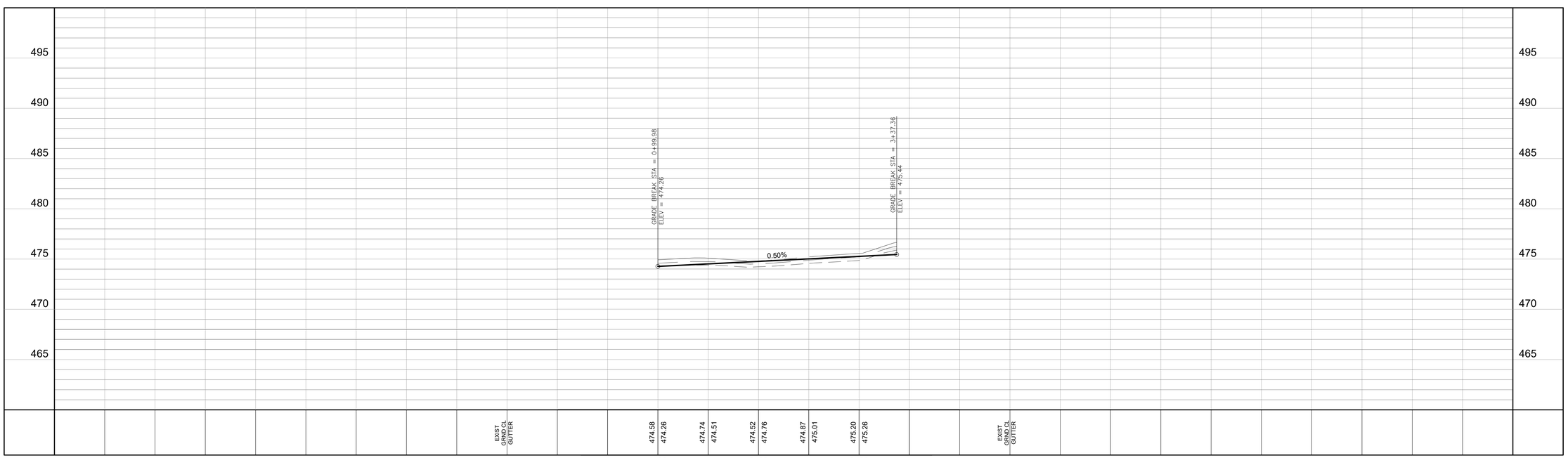
DETAIL 'O'

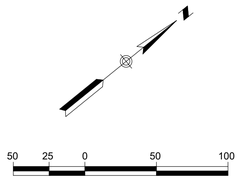
SCALE: 1"=30'





TRAILBLAZER WAY STA. 1+00 TO END





LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

LABUS PARK

TRAILBLAZER WAY STA 1+00 TO END

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_ Trailblazer (1+00 to End).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. **C4.10**

Last Modified: Feb. 16, 26 – 18:06
AutoCAD Version: AutoCAD 2018 – LMV2018

GENERAL NOTES:

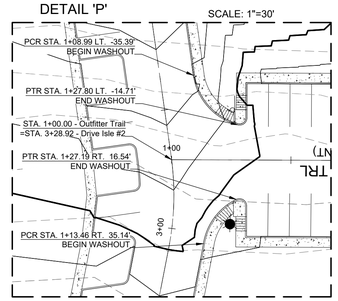
1. ALL ELEVATIONS ARE GUTTER UNLESS OTHERWISE NOTED.
2. PROPOSED STREET LIGHTS SHALL BE LOCATED BEHIND THE BACK OF CURB AND INSTALLED PER THE CPS DESIGN.
3. STREETS AND DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. REFER TO SHEET C10.0 FOR STREET AND PAVEMENT SECTION DETAIL AND CONCRETE CURB DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. DESIGN SPEED IS BASED ON 30 MPH.
9. ALL PARKING STALLS ARE TYPICAL 9'X18' DIMENSIONS.

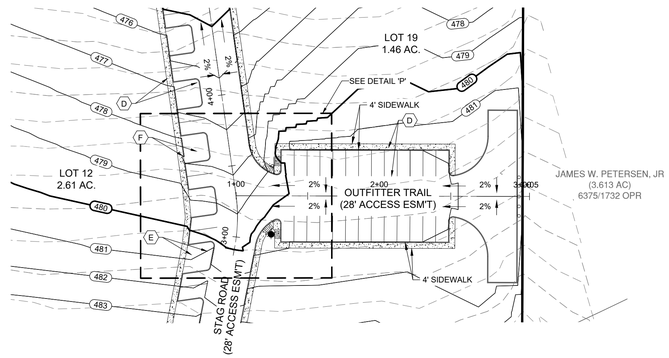
PLATTING TAGS

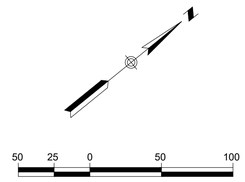
A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

DETAIL 'P'

SCALE: 1"=30'



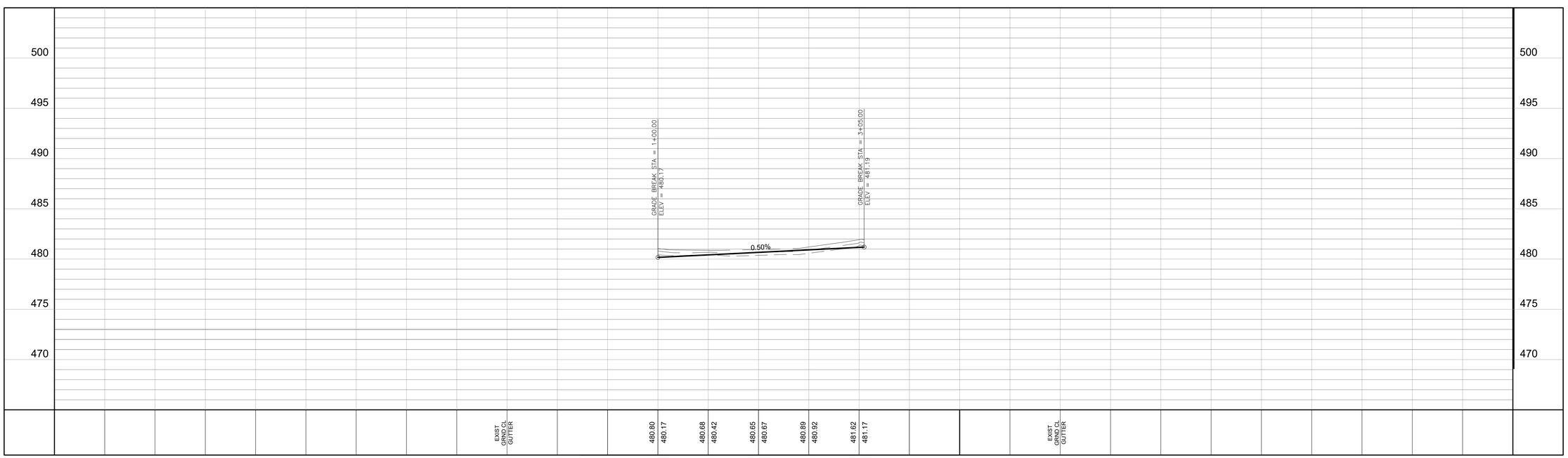




LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	EXISTING EDGE OF PAVEMENT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
CB	COUNTY BLOCK
	WASHOUT CROWN
	WASHOUT FLOW ARROW
	PROPOSED STREETLIGHT
H.P.	PROPOSED GRADING HIGH POINT

OUTFITTER TRAIL STA. 1+00 TO END



LABUS PARK

OUTFITTER TRAIL STA 1+00 TO END

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Outfitter (1+00 to End).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

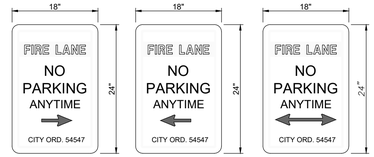
LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C4.11

Last Modified: Feb 16, 26 - 18:06
PCD: C:\Bentley\Projects\SA5758-0401\dgn\SA5758-0401-C4.11.dgn

LOCATION MAP
N.T.S.



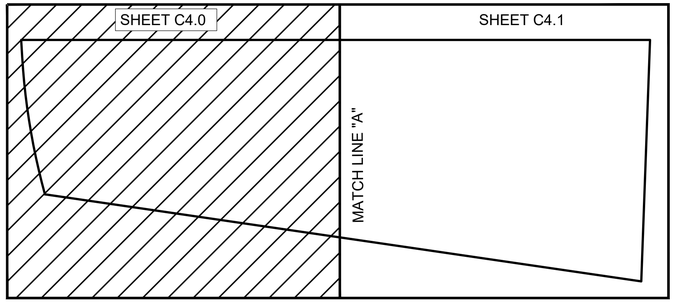
NOTES:

1. LETTERS AND BORDER IN RED ON WHITE BACKGROUND.
2. STANDARD SIZE OF SIGN SHALL BE 18"x24" AS SPECIFIED BY THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (R7-35)
3. FIRE PLAN REVIEWER OR FIRE INSPECTOR WILL MAP OUT THE LOCATIONS AND NUMBER OF SIGNS REQUIRED.
4. BOTTOM OF EDGE OF THE SIGN MUST BE AT LEAST SEVEN (7) FEET ABOVE GRADE WHERE THE SIGN IS INSTALLED AND AT LEAST TWO (2) FEET FROM THE BACK OF CURB.

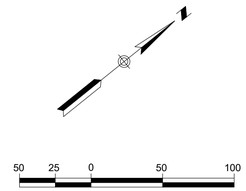
FIRE LANE SIGN DETAIL
NOT TO SCALE

TAG LEGEND

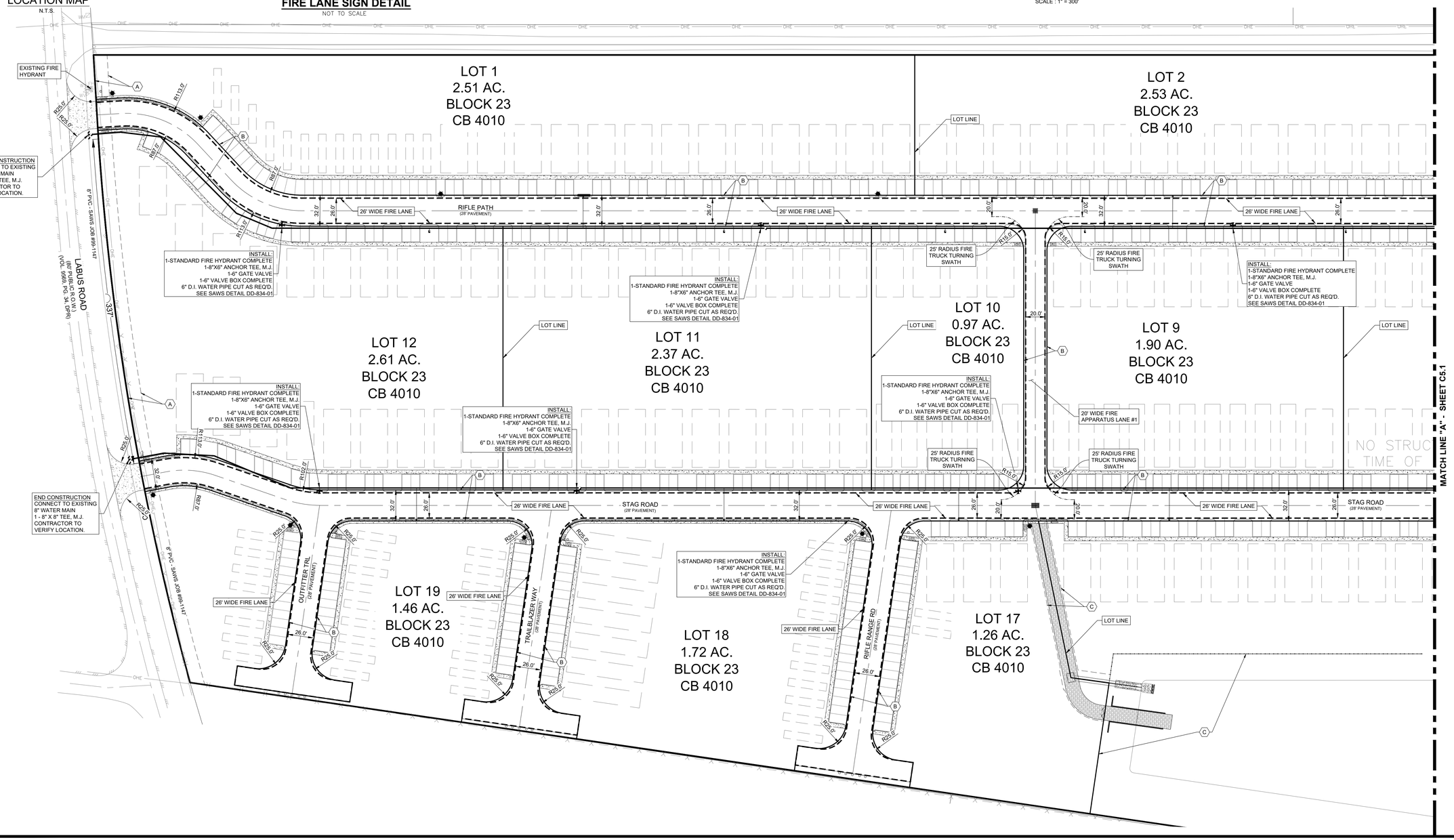
- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 999, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



SHEET INDEX MAP
SCALE : 1" = 300'



SCALE IN FEET
SCALE: 1"=50'



LABUS PARK
FIRE PROTECTION PLAN (SHEET 1)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 12/08/2025
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: Fire Protection Plan (sht 1 - 2).dwg

12/08/2025
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
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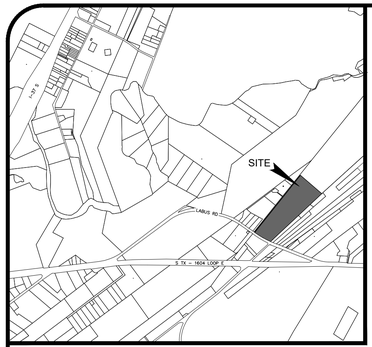
TBPE No. F-1386

JOB NUMBER: SA5758-0401

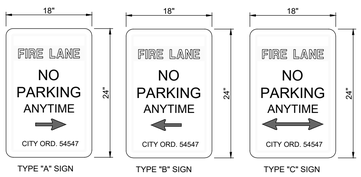
SHEET NO.
C5.0

Last Modified: Jan 30, 26 - 09:36
Plot Date/Time: Feb 18, 26 - 14:30:45



LOCATION MAP

N.T.S.



NOTES:

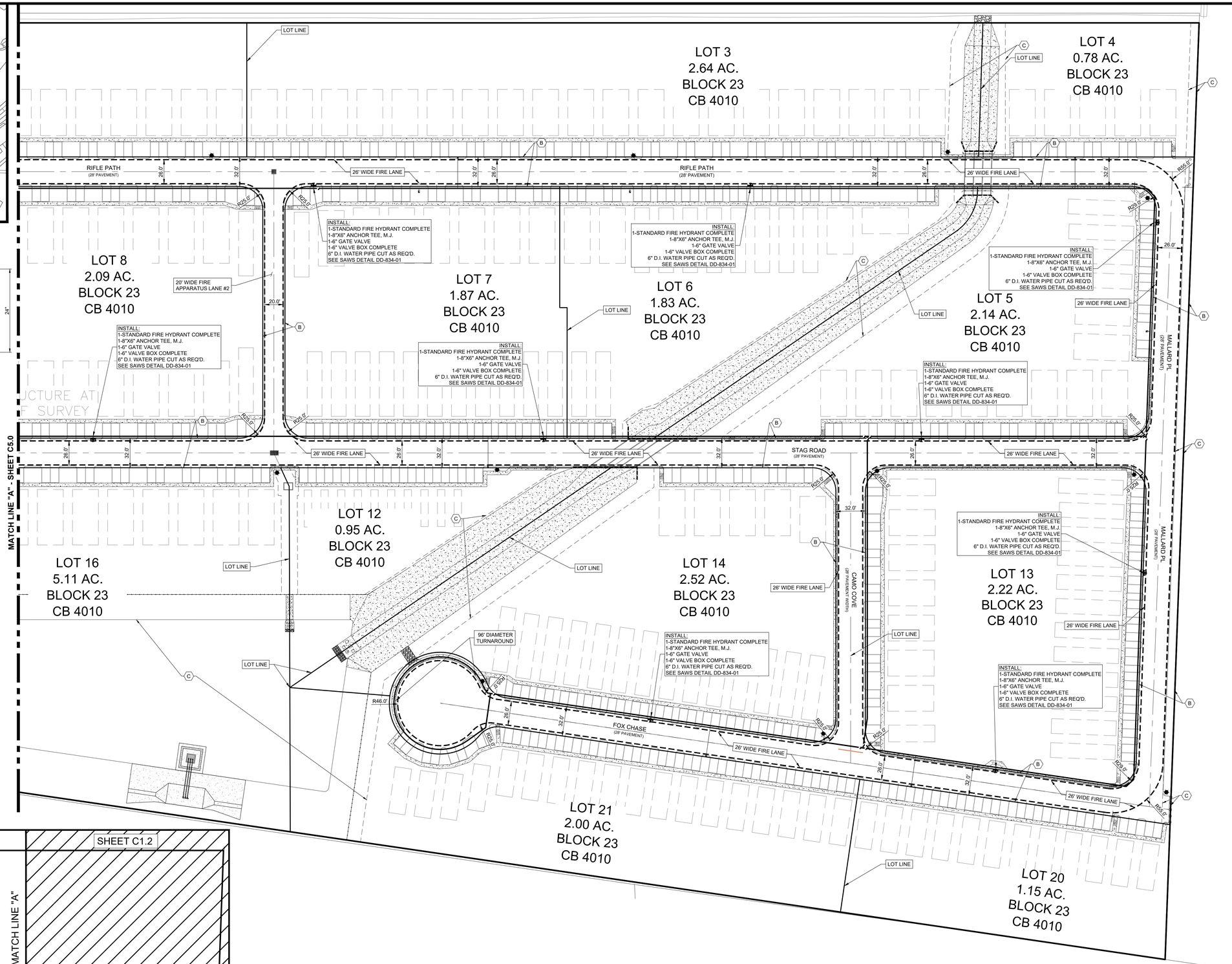
1. LETTERS AND BORDER IN RED ON WHITE BACKGROUND.
2. STANDARD SIZE OF SIGN SHALL BE 18"x24" AS SPECIFIED BY THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (R7-35)
3. FIRE PLAN REVIEWER OR FIRE INSPECTOR WILL MAP OUT THE LOCATIONS AND NUMBER OF SIGNS REQUIRED.
4. BOTTOM OF EDGE OF THE SIGN MUST BE AT LEAST SEVEN (7) FEET ABOVE GRADE WHERE THE SIGN IS INSTALLED AND AT LEAST TWO (2) FEET FROM THE BACK OF CURB.

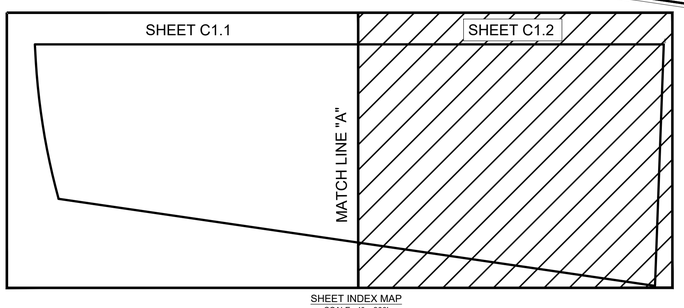
FIRE LANE SIGN DETAIL

NOT TO SCALE

TAG LEGEND

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 999, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT





SHEET INDEX MAP
SCALE : 1" = 300'

LABUS PARK

FIRE PROTECTION PLAN
(SHEET 2)

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE:	12/08/2025
DESIGNED BY:	JC, WH
DRAWN BY:	MAS
CHECKED BY:	JC, WH
DRAWING NAME:	Int. Fire Protection Plan (dirt T - 2).dwg

12/08/2025
STATE OF TEXAS
WILSON HERNANDEZ
140636
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
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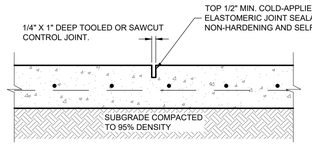
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

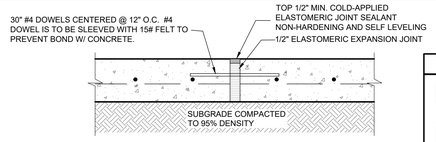
SHEET NO.
C5.1

Last Modified: Jan. 30, 26 - 09:34
Plot Scale: Plot Date: 36" x 24" = 1:300.03

LOCATION MAP
N.T.S.



CONTROL JOINT (CJ)
NTS



EXPANSION JOINT (EJ)
NTS

NOTES:
1) REFER TO GEOTECHNICAL ENGINEERING REPORT TITLED "PROPOSED LABUS PARK SUBDIVISION STREETS" PREPARED BY MEG DATED SEPTEMBER 3, 2025, REPORT NO. 07-25-29100R.
2) ADDITIONAL OPTIONS EXIST, REFER TO GEOTECHNICAL REPORT DESCRIBED ABOVE.
3) REFER TO GEOTECHNICAL ENGINEERING REPORT, MENTIONED ABOVE, FOR REBAR SCHEDULE

JOINTING CONSTRUCTION NOTES

1. CONTRACTOR TO PERFORM A 10'X10' GRID PAVING CONSTRUCTION TECHNIQUE. ALL REMAINING SECTION DIMENSIONS TO VARY.
2. CONTRACTOR TO ENSURE ALL JOINTS MEET THE CURB AT 90° ANGLES & SHALL BE A 2' MINIMUM IN LENGTH.
3. CONTRACTOR TO INSTALL EXPANSION JOINTS AT CURB RETURN AND AT 48' INTERVALS.

PAVEMENT LEGEND

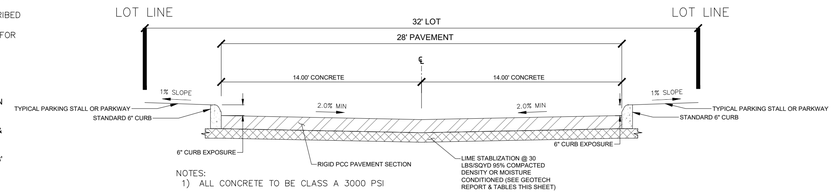
- TOTAL HEAVY DUTY CONCRETE DRIVE AREA - 8" IN DEPTH 243,303 SQ. FT.
- TOTAL LIGHT DUTY CONCRETE PARKING AREAS - 6" IN DEPTH 115,653 SQ. FT.

TAG LEGEND

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

	LIGHT DUTY	HEAVY DUTY
REINFORCED CONCRETE PAVEMENT	6"	8"
LIME TREATED SUBGRADE	8"	10"

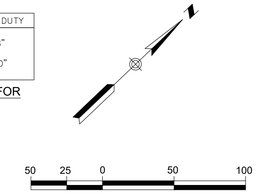
RECOMMENDED RIGID CONCRETE OPTION FOR RIFLE PATH STA: 1+09.62 TO 28+00

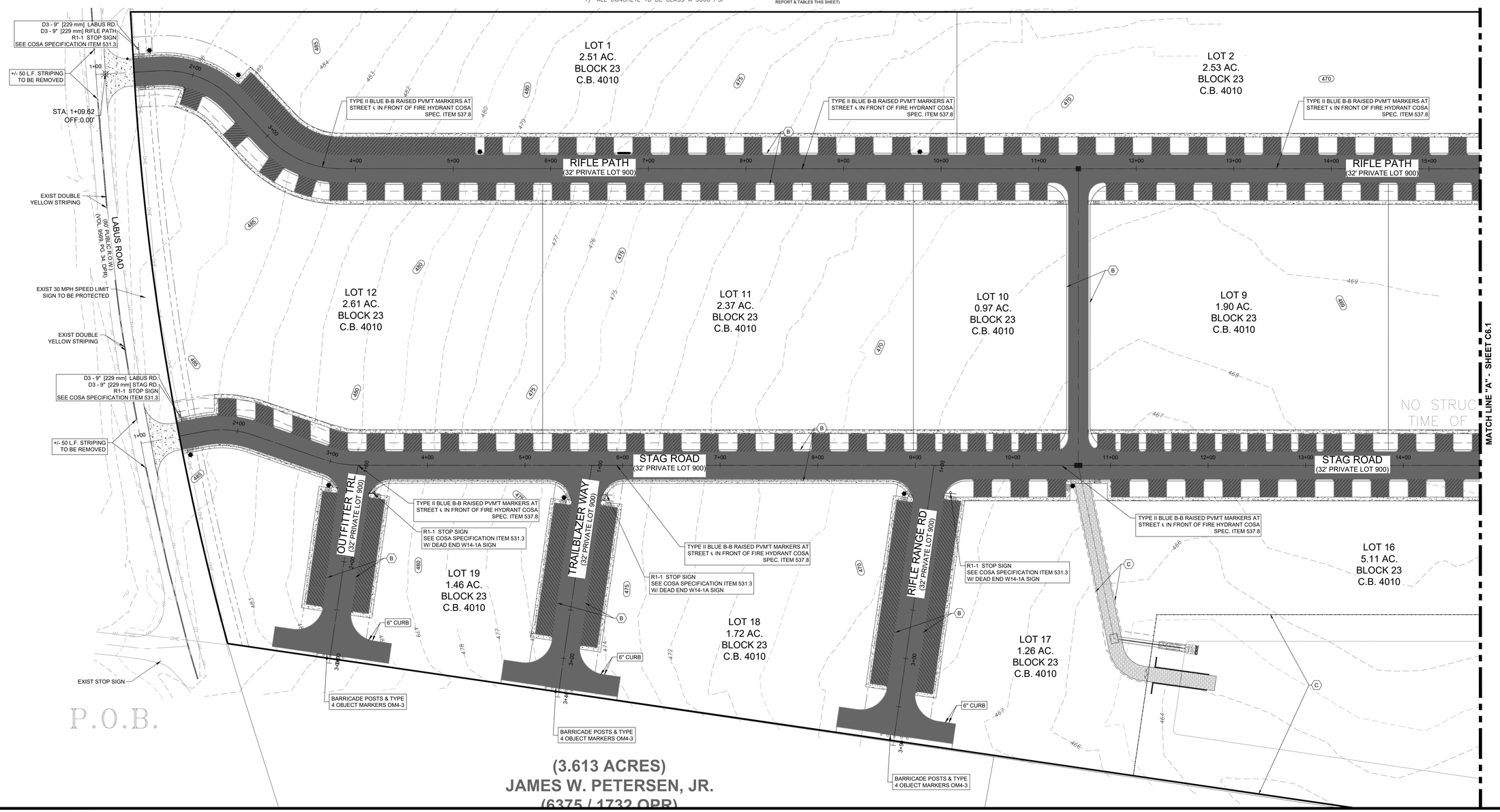


NOTES:
1) ALL CONCRETE TO BE CLASS A 3000 PSI

	LIGHT DUTY	HEAVY DUTY
REINFORCED CONCRETE PAVEMENT	6"	8"
MOISTURE CONDITIONED SUBGRADE	12"	12"

RECOMMENDED RIGID CONCRETE OPTION FOR ALL OTHER AREAS
(MALLARD PLACE STA: 1+00 TO END)
(STAG ROAD STA: 1+00 TO END)
(FOX CHASE STA: 1+00 TO END)
(CAMO COVE STA: 1+00 TO END)
(RIFLE RANGE STA: 1+00 TO END)
(TRAILBLAZER WAY STA: 1+00 TO END)
(OUTFITTER TRAIL STA: 1+00 TO END)





LABUS PARK
PAVING & SIGNAGE PLAN (SHEET 1)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, VH
DRAWN BY: MAS
CHECKED BY: JC, VH
DRAWING NAME: sht_ Pavement Plan (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

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9830 Colonnade Boulevard
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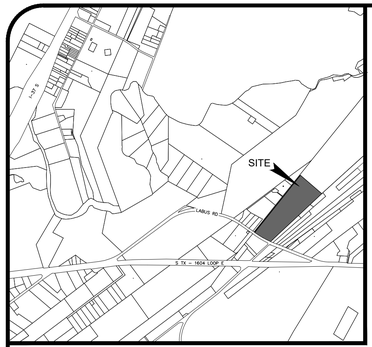
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

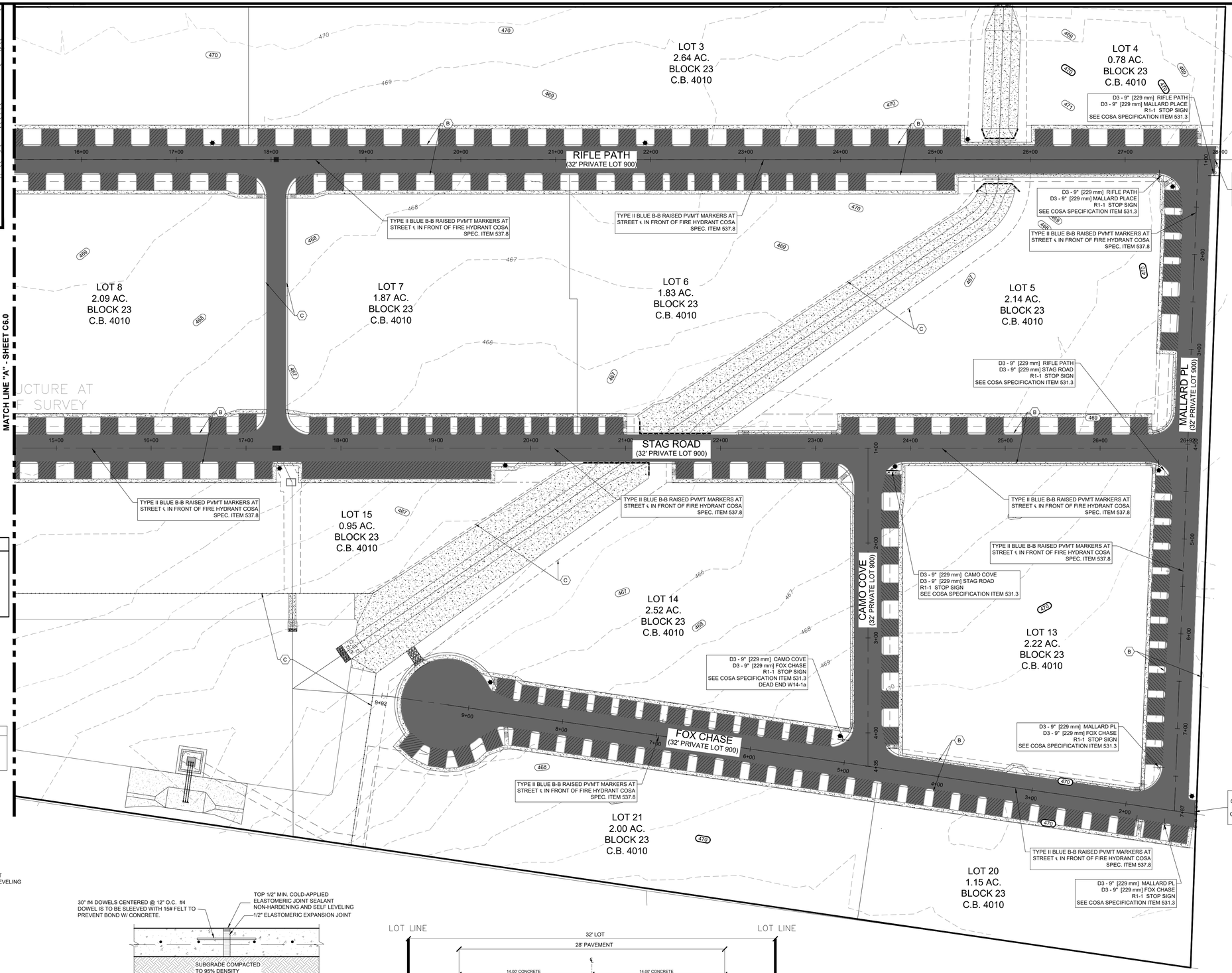
JOB NUMBER: SA5758-0401

SHEET NO.
C6.0

Last Modified: Feb. 18, 26 - 10:37
File Name: Pavement Plan (sht 1 - 2).dwg



LOCATION MAP
N.T.S.



50 25 0 50 100

SCALE IN FEET

SCALE: 1"=50'

TAG LEGEND

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
D	20' BUILDING SETBACK
E	VARIABLE WIDTH WATER EASEMENT
F	VARIABLE WIDTH CPS EASEMENT

PAVEMENT LEGEND

TOTAL HEAVY DUTY CONCRETE DRIVE AREA - 8" IN DEPTH 243,303 SQ. FT.

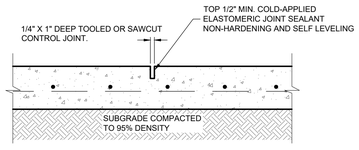
TOTAL LIGHT DUTY CONCRETE PARKING AREAS - 6" IN DEPTH 115,653 SQ. FT.

	LIGHT DUTY	HEAVY DUTY
REINFORCED CONCRETE PAVEMENT	6"	8"
LIME TREATED SUBGRADE	8"	10"

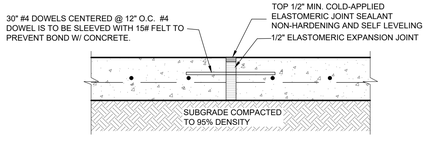
RECOMMENDED RIGID CONCRETE OPTION FOR RIFLE PATH STA: 1+09.62 TO 28+00

	LIGHT DUTY	HEAVY DUTY
REINFORCED CONCRETE PAVEMENT	6"	8"
MOISTURE CONDITIONED SUBGRADE	12"	12"

RECOMMENDED RIGID CONCRETE OPTION FOR ALL OTHER AREAS
(MALLARD PLACE STA: 1+00 TO END)
(STAG ROAD STA: 1+00 TO END)
(FOX CHASE STA: 1+00 TO END)
(CAMO COVE STA: 1+00 TO END)
(RIFLE RANGE STA: 1+00 TO END)
(TRAILBLAZER WAY STA: 1+00 TO END)
(OUTFITTER TRAIL STA: 1+00 TO END)



CONTROL JOINT
(CJ)

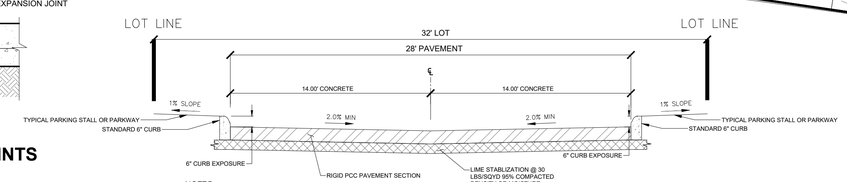


EXPANSION JOINT
(EJ)

EXPANSION AND CONTROL JOINTS

NOT TO SCALE

NOTES:
1) REFER TO GEOTECHNICAL ENGINEERING REPORT TITLED "PROPOSED LABUS PARK SUBDIVISION STREETS" PREPARED BY MEG DATED SEPTEMBER 3, 2025, REPORT NO. 07-25-29100R.
2) ADDITIONAL OPTIONS EXIST, REFER TO GEOTECHNICAL REPORT DESCRIBED ABOVE.
3) REFER TO GEOTECHNICAL ENGINEERING REPORT, MENTIONED ABOVE, FOR REBAR SCHEDULE



NOTES:
1) ALL CONCRETE TO BE CLASS A 3000 PSI

JOINTING CONSTRUCTION NOTES

1. CONTRACTOR TO PERFORM A 10'X10' GRID PAVING CONSTRUCTION TECHNIQUE. ALL REMAINING SECTION DIMENSIONS TO VARY.
2. CONTRACTOR TO ENSURE ALL JOINTS MEET THE CURB AT 90° ANGLES & SHALL BE A 2' MINIMUM IN LENGTH.
3. CONTRACTOR TO INSTALL EXPANSION JOINTS AT CURB RETURN AND AT 48' INTERVALS.

LABUS PARK

PAVING & SIGNAGE PLAN (SHEET 2)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sht_Pavement Plan (sht 1 - 2) Ang

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C6.1

Last Modified: Feb 18, 26 - 10:37
Plot Scale: Plot Date: 2026-02-18

LOCATION MAP
N.T.S.

LEGEND

PROPOSED	EXISTING	
800	800	CONTOUR
2%	2%	FLOW ARROW
		GRASSED DRAIN FLOW
706.41		FINISHED GRADE ELEVATION
♿		HANDICAP PARKING
L		LANDING
	R.O.W.	RIGHT OF WAY
	BSL	BUILDING SETBACK LINE
	RCP	REINFORCED CONCRETE PIPE
	G,E,T,TV	GAS, ELEC, TELE CABLE TV ESM'T.
	VOL	VOLUME
	PG	PAGE
	EX.	EXISTING
	ESM'T.	EASEMENT
	SD	STORM DRAIN
	HP	HIGH POINT
	EOP	EDGE OF PAVEMENT
		HANDRAIL

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT

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", THE CITY OF SAN ANTONIO SPECIFICATIONS, AND THE BEXAR COUNTY SPECIFICATIONS.
3. 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. 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. SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
8. EXISTING CONDITIONS AND CONTOUR DATA PROVIDED BY:
   ALLIANCE LAND SURVEYORS.
   TBPLS FIRM NO. 10194244
   18410 U.S. HWY 281 N., STE. 109
   SAN ANTONIO, TX 78259
   (210) 369-9509
9. THE CONTRACTOR SHALL ADJUST TOP OF MANHOLES AS NEEDED TO PROMOTE POSITIVE GRADING ALONG STREETS.
10. CONTRACTOR SHALL PROVIDE HANDRAILS ALONG ALL RETAINING WALLS, HANDICAP RAMPS AND DRAINAGE CHANNEL HEADWALLS..
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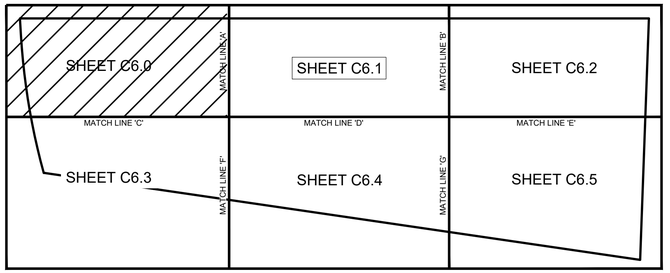
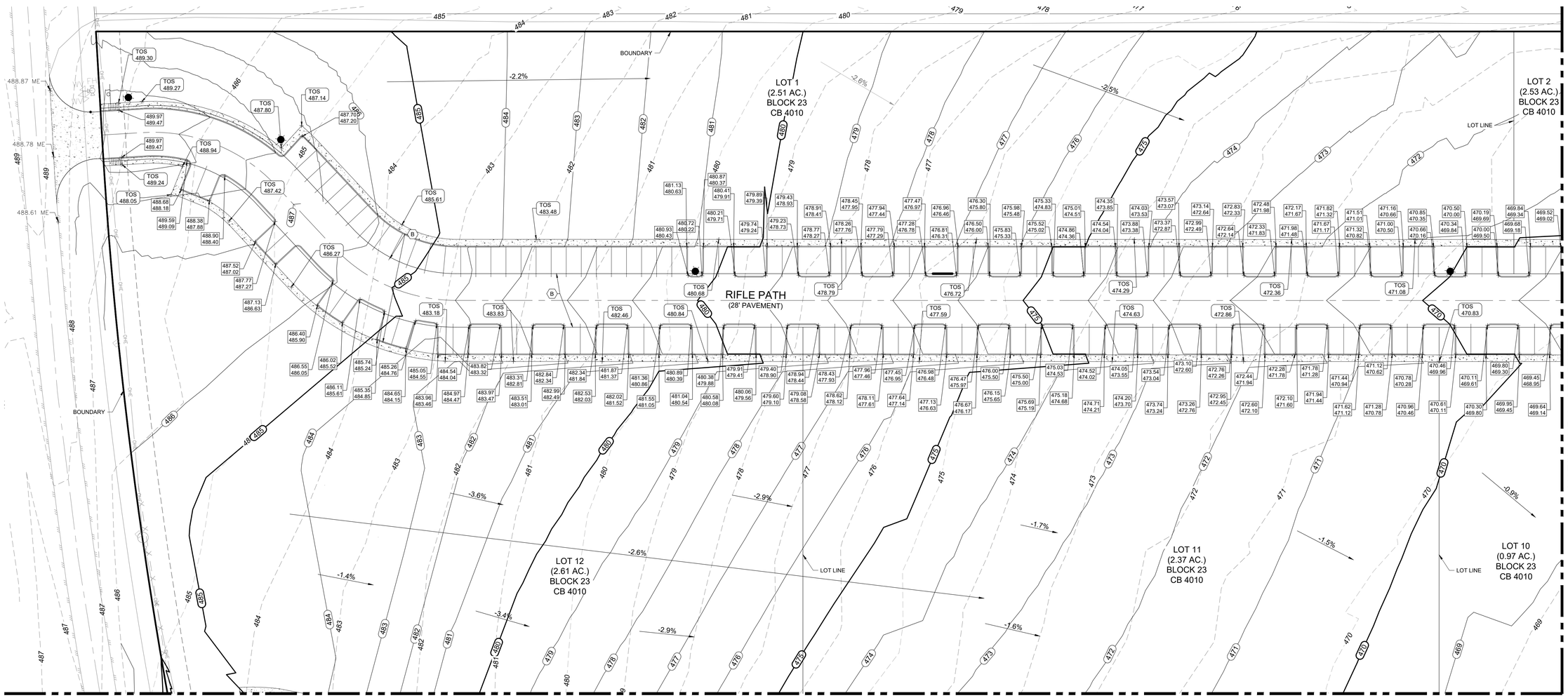
14. ALL H/C PARKING SPACES AND LANDING AREAS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.



SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'



LABUS PARK
GRADING PLAN (SHEET 1)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_grading (sht 1 - 2).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO.
C7.0

Last Modified: Feb 17, 26 - 17:00
Plot Date/Time: Feb 18, 26 - 14:22:25

LOCATION MAP
N.T.S.

LEGEND

PROPOSED	EXISTING	
800	800	CONTOUR
2%	2%	FLOW ARROW
		GRASSED DRAIN FLOW
706.41		FINISHED GRADE ELEVATION
♿		HANDICAP PARKING
L		LANDING
	R.O.W.	RIGHT OF WAY
	BSL	BUILDING SETBACK LINE
	RCP	REINFORCED CONCRETE PIPE
	G,E,T,TV	GAS, ELEC, TELE CABLE TV ESM'T.
	VOL	VOLUME
	PG	PAGE
	EX.	EXISTING
	ESM'T.	EASEMENT
	SD	STORM DRAIN
	HP	HIGH POINT
	EOP	EDGE OF PAVEMENT
		HANDRAIL

GRADING NOTES:

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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.
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   ALLIANCE LAND SURVEYORS.
   TBPLS FIRM NO. 10194244
   18410 U.S. HWY 281 N., STE. 109
   SAN ANTONIO, TX 78259
   (210) 369-9509
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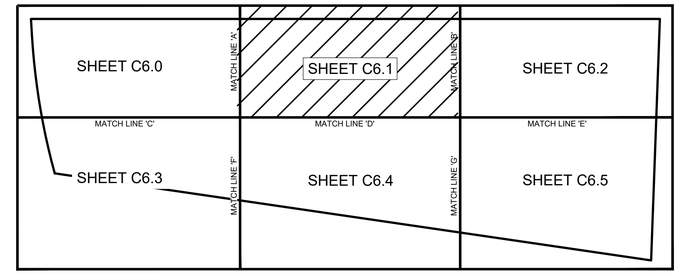
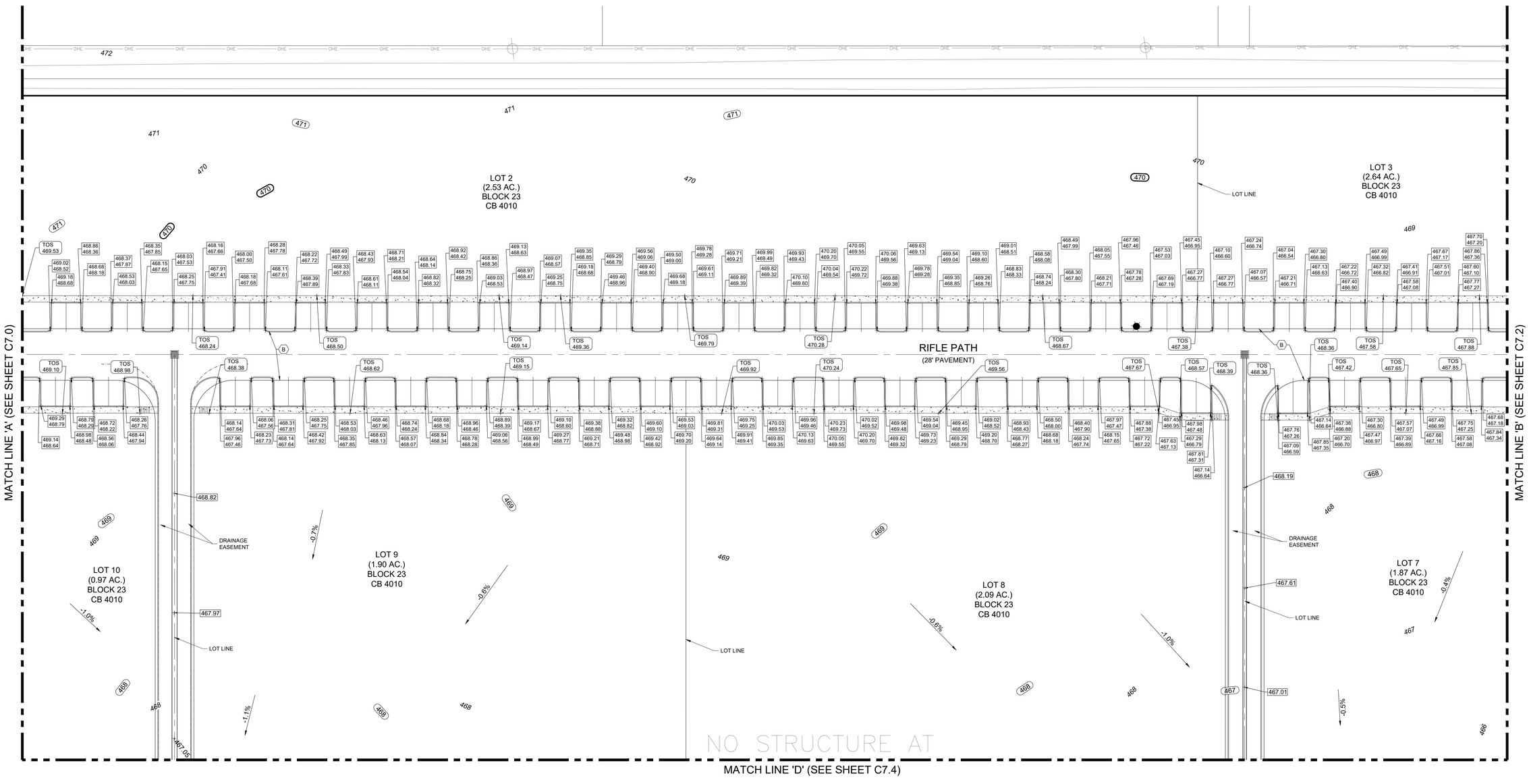


SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



LABUS PARK
GRADING PLAN (SHEET 2)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sa_grading (sht 1 - 2).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C7.1

Last Modified: Feb. 17, 26 – 17:00
RCD Offset: (-0.00,0.00) - M-2235

LOCATION MAP
N.T.S.

LEGEND

PROPOSED	EXISTING	
800	800	CONTOUR
2%	2%	FLOW ARROW
		GRASSED DRAIN FLOW
706.41		FINISHED GRADE ELEVATION
		HANDICAP PARKING
		LANDING
	R.O.W.	RIGHT OF WAY
	BSL	BUILDING SETBACK LINE
	RCP	REINFORCED CONCRETE PIPE
	G,E,T,TV	GAS, ELEC, TELE CABLE TV ESM'T.
	VOL	VOLUME
	PG	PAGE
	EX.	EXISTING
	ESM'T.	EASEMENT
	SD	STORM DRAIN
	HP	HIGH POINT
	EOP	EDGE OF PAVEMENT
		HANDRAIL

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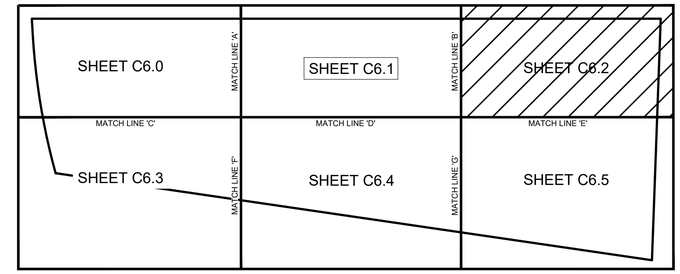

SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'

PLATTING TAGS

A	14' G.E.T.C.A. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
C	VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
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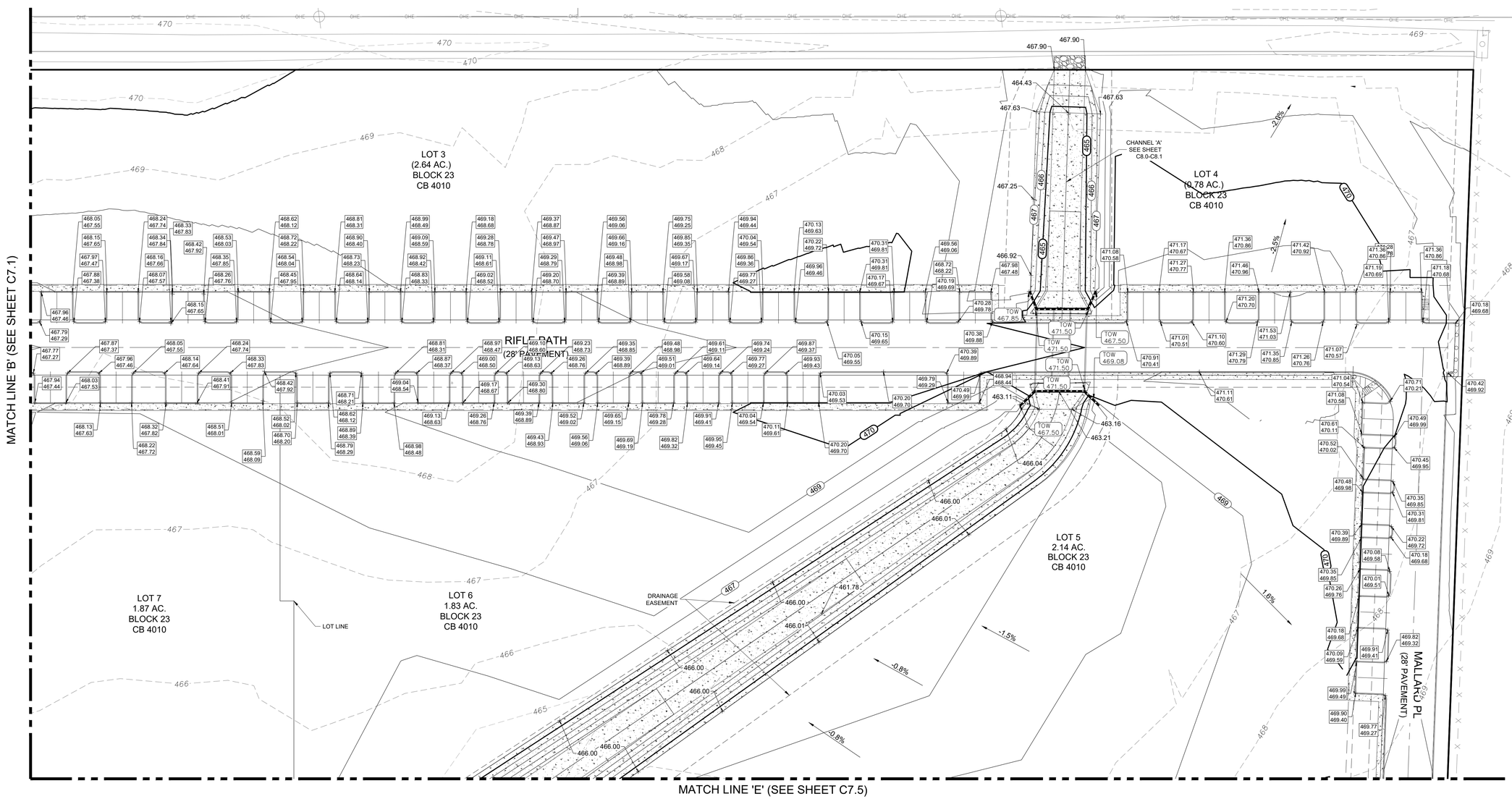

LABUS PARK
GRADING PLAN
(SHEET 3)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: ss_grading (sht 3 - 5).dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C7.2

Last Modified: Feb 17, 26 - 16:39
Plot Date/Time: Feb 26, 26 - 14:31:19

LOCATION MAP
N.T.S.

LEGEND

PROPOSED	EXISTING	
800	800	CONTOUR
2%	2%	FLOW ARROW
		GRASSED DRAIN FLOW
706.41		FINISHED GRADE ELEVATION
♿		HANDICAP PARKING
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	R.O.W.	RIGHT OF WAY
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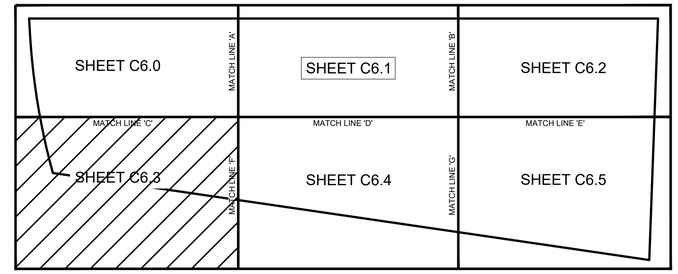
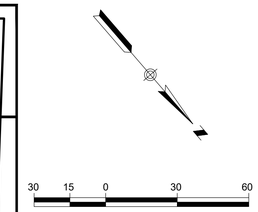


SHEET INDEX MAP
SCALE : 1" = 300'



PLATTING TAGS

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
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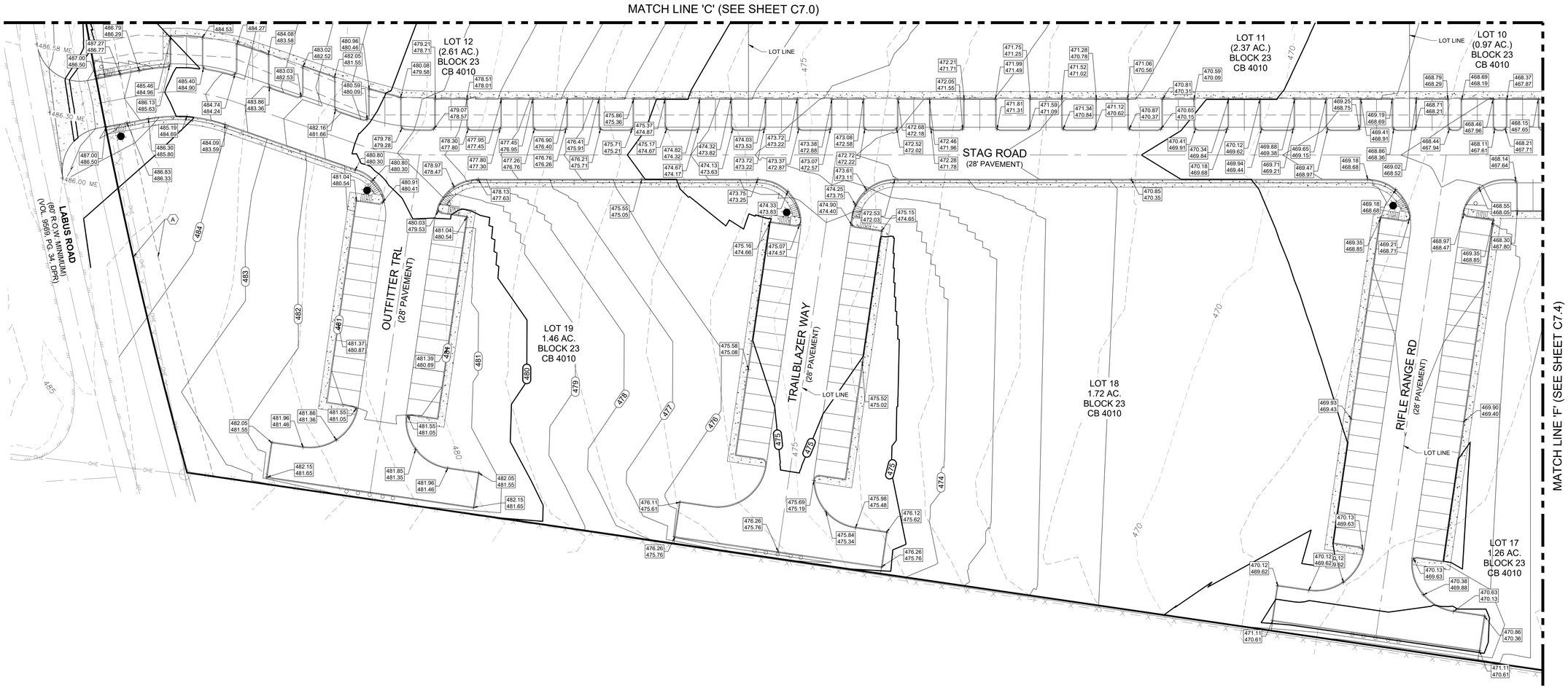

LABUS PARK
GRADING PLAN (SHEET 4)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sb_grading (sht 3 - 5).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C7.3

Last Modified: Feb. 17, 26 - 16:39
Plot Date/Time: Feb 18, 26 - 14:03:29

LOCATION MAP
N.T.S.

LEGEND

PROPOSED	EXISTING	
800	800	CONTOUR
2%	2%	FLOW ARROW
		GRASSED DRAIN FLOW
706.41		FINISHED GRADE ELEVATION
		HANDICAP PARKING
		LANDING
	R.O.W.	RIGHT OF WAY
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	VOL	VOLUME
	PG	PAGE
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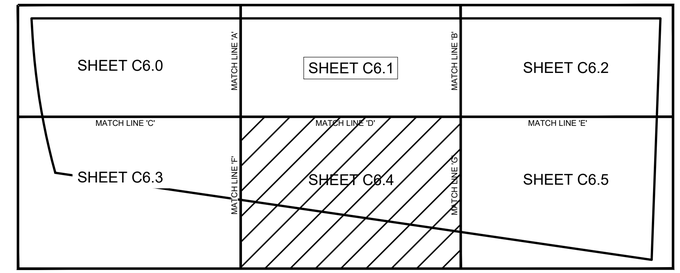

SHEET INDEX MAP
SCALE : 1" = 300'

30 15 0 30 60
SCALE IN FEET
SCALE: 1"=30'

PLATTING TAGS

A	14' G.E.T.CA. ESM'T
B	LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
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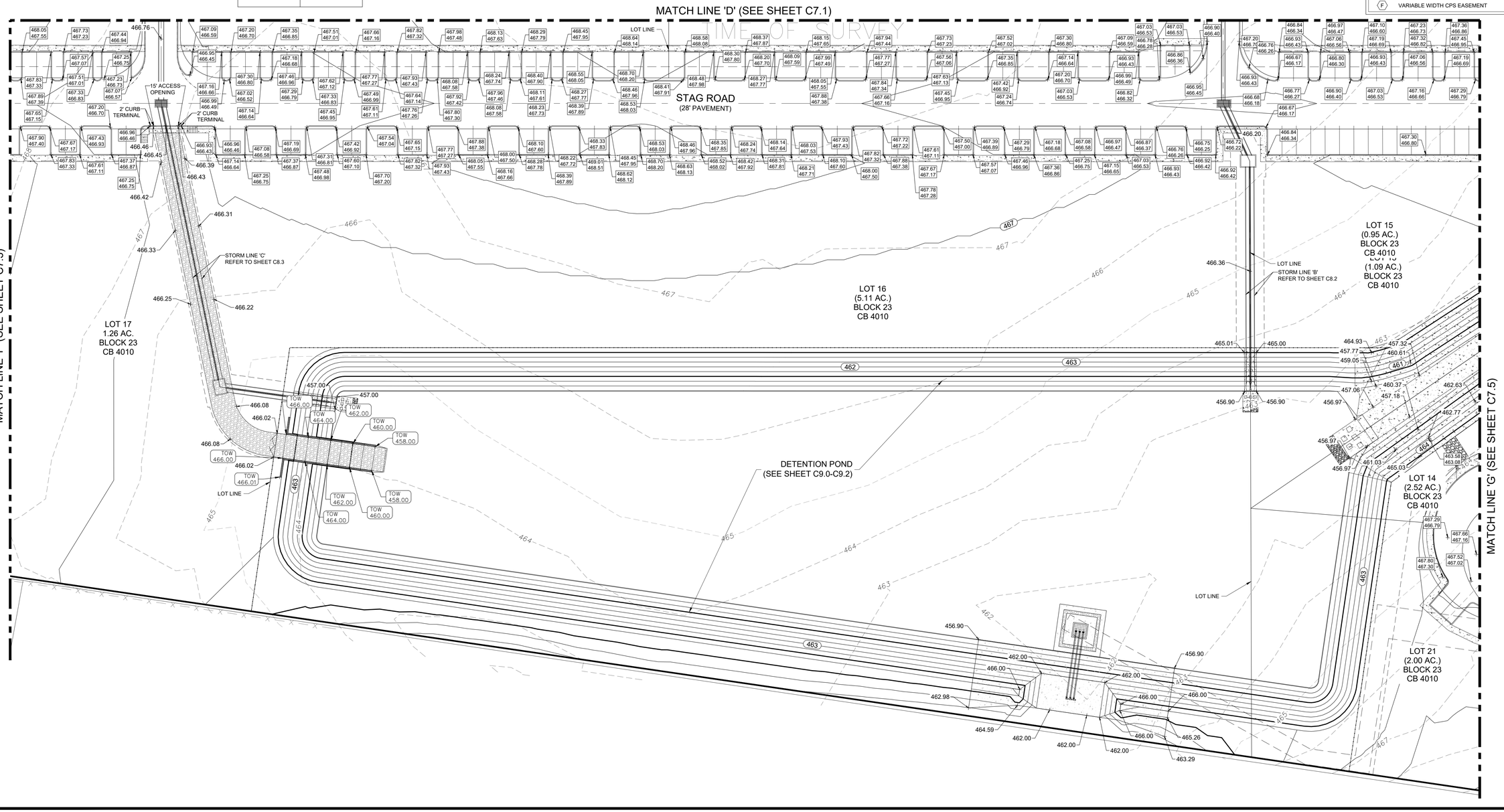

LABUS PARK
GRADING PLAN
(SHEET 5)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: _ph_grading (sht 3 - 5).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
106535
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
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Phone 210.503.2700
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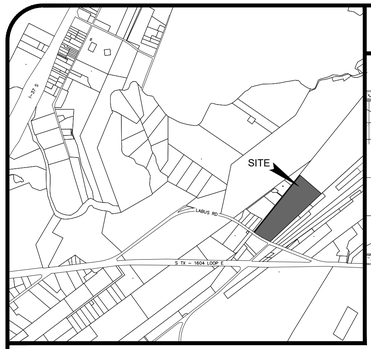
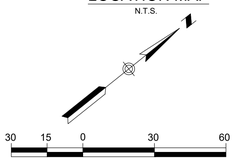
JOB NUMBER:
SA5758-0401

SHEET NO.
C7.4

Last Modified: Feb. 17, 26 - 14:59
Plot Scale: Feb. 18, 26 - 14:03:39



LOCATION MAP
N.T.S.



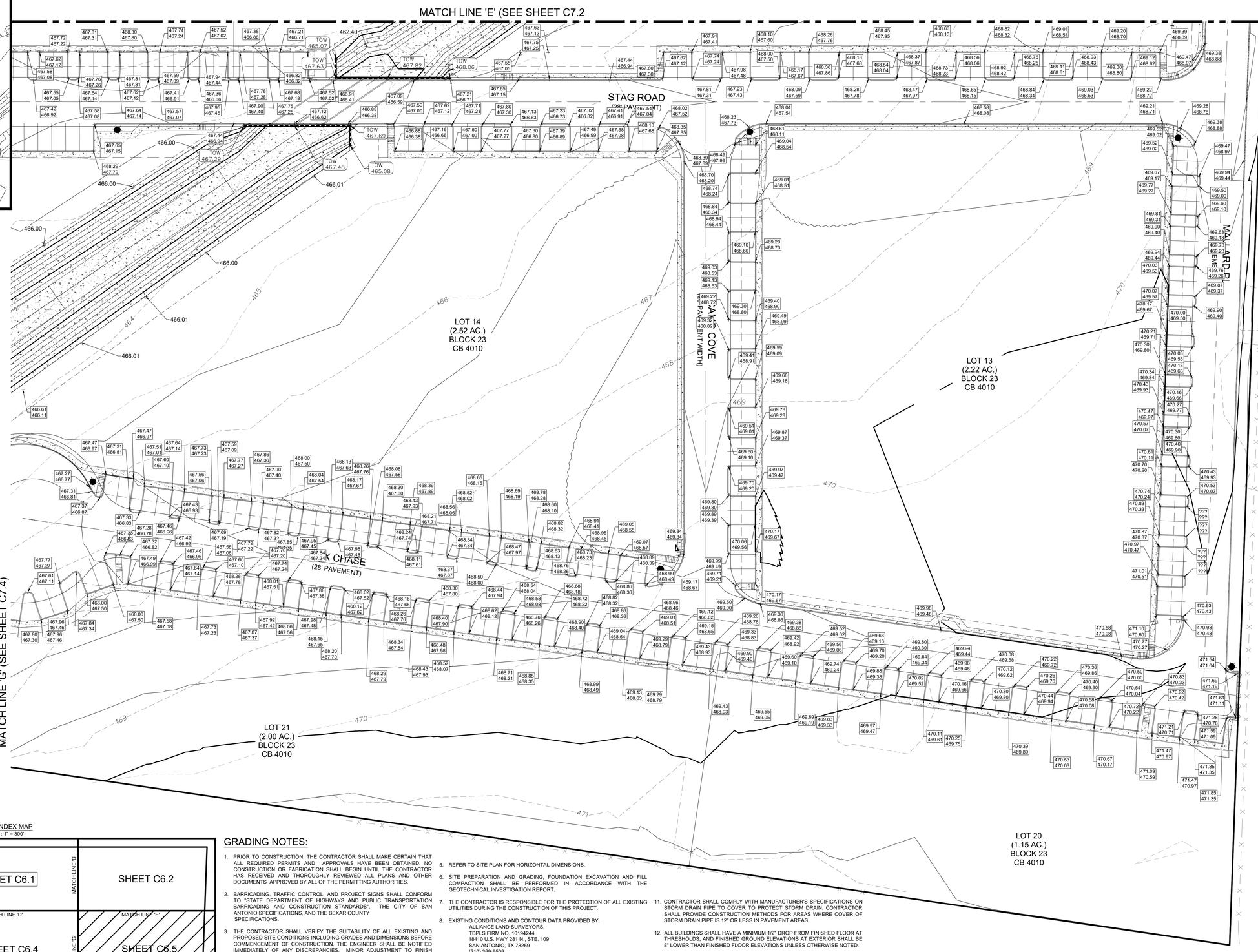
SCALE IN FEET
SCALE: 1"=30'

LEGEND

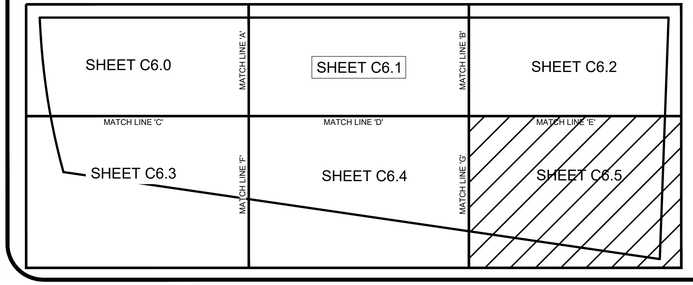
PROPOSED	EXISTING	
800	800	CONTOUR
2%	2%	FLOW ARROW
		GRASSED DRAIN FLOW
706.41		FINISHED GRADE ELEVATION
♿		HANDICAP PARKING
L		LANDING
	R.O.W.	RIGHT OF WAY
	BSL	BUILDING SETBACK LINE
	RCP	REINFORCED CONCRETE PIPE
	G,E,T,TV	GAS, ELEC, TELE CABLE TV ESM'T.
	VOL	VOLUME
	PG	PAGE
	EX.	EXISTING
	ESM'T.	EASEMENT
	SD	STORM DRAIN
	HP	HIGH POINT
	EOP	EDGE OF PAVEMENT
		HANDRAIL

PLATTING TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



SHEET INDEX MAP
SCALE : 1" = 300'



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", THE CITY OF SAN ANTONIO SPECIFICATIONS, AND THE BEXAR COUNTY SPECIFICATIONS.
3. 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. 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. SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
8. EXISTING CONDITIONS AND CONTOUR DATA PROVIDED BY:
   ALLIANCE LAND SURVEYORS.
   TBPLS FIRM NO. 10194244
   18410 U.S. HWY 281 N., STE. 109
   SAN ANTONIO, TX 78259
   (210) 369-9509
9. THE CONTRACTOR SHALL ADJUST TOP OF MANHOLES AS NEEDED TO PROMOTE POSITIVE GRADING ALONG STREETS.
10. CONTRACTOR SHALL PROVIDE HANDRAILS ALONG ALL RETAINING WALLS, HANDICAP RAMPS AND DRAINAGE CHANNEL HEADWALLS.
11. CONTRACTOR SHALL COMPLY WITH MANUFACTURER'S SPECIFICATIONS ON STORM DRAIN PIPE TO COVER TO PROTECT STORM DRAIN. CONTRACTOR SHALL PROVIDE CONSTRUCTION METHODS FOR AREAS WHERE COVER OF STORM DRAIN PIPE IS 12" OR LESS IN PAVEMENT AREAS.
12. ALL BUILDINGS SHALL HAVE A MINIMUM 1/2" DROP FROM FINISHED FLOOR AT THRESHOLDS, AND FINISHED GROUND ELEVATIONS AT EXTERIOR SHALL BE 8" LOWER THAN FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.
13. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS-SLOPE OF 2% AND A MAXIMUM RUN SLOPE OF 5%.
14. ALL H/C PARKING SPACES AND LANDING AREAS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.

LABUS PARK
GRADING PLAN
(SHEET 6)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: ...m_grading (sht 3 - 5).dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

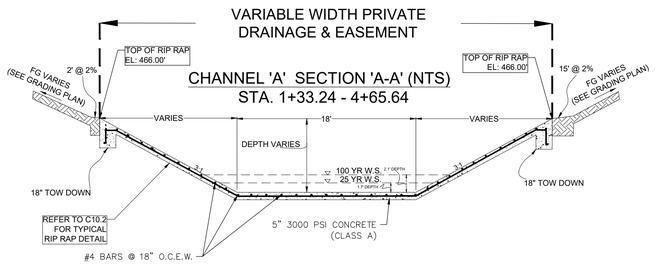
LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

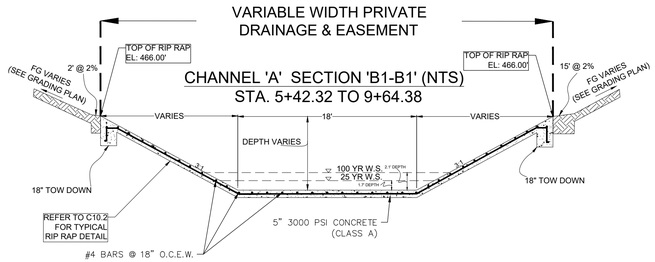
JOB NUMBER:
SA5758-0401

SHEET NO.
C7.5

Last Modified: Feb. 17, 26 - 16:39
PW Plotted: Feb. 18, 26 - 8:32:48

LOCATION MAP
N.T.S.

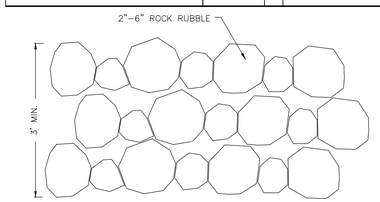




50 25 0 50 100
SCALE IN FEET
SCALE: 1"=50'

BAFFLE BLOCKS CALCULATIONS @ OUTFALL 'A'

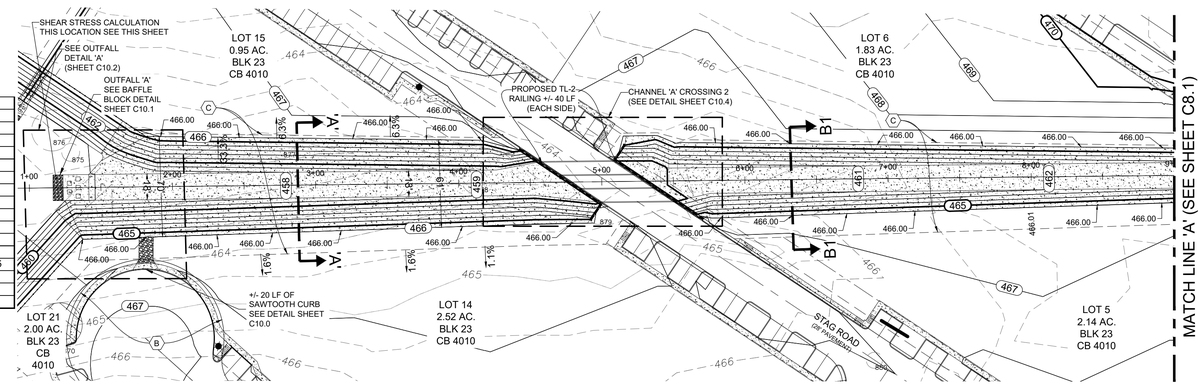
OUTFALL B DISSIPATER CALCULATIONS - *(ST ANTHONY FALL METHOD)*				
Q (cfs)=	596		Wb (Basin Width)	18
Froud Number (Fr)=	1.041500649		Lb (Length of Basin)	17.93072317
Culvert Span or Bottom Width of Channel (ft)	18		Bw (Width of Baffle Block)	3
Culvert Rise or Top of Channel (ft)	6		Space Between Blocks	3
Number of BARRELS	1		Nb (Number Of Blocks)	3
n	0.015		Height of Blocks	3.2
Slope (ft/ft)	0.0075		Distance to Floor Blocks	5.976907722
Velocity (ft/s)	11.82		Depth of Tail Water above the Stilling Basin Floor	4.891304589
Y1 (Depth Before Jump)	4		Height of Max Tail Water	6.385799265
Y2 (Sequent Depth Downstream)	4.483484027		Velocity after Baffle Blocks (fps)	6.769382382
C	1.090960637			
Y2'	4.891304589			
z	1.494494676		C=1.1-((Fr)^2/120)	When 1.7< Fr<5.5
			C=0.85	When 5.5< Fr<11
			C=1.0-((Fr)^2/800)	When 11< Fr<17



ROCK RUBBLE DETAIL
N.T.S.

ROCK RUBBLE CALCULATIONS:

18' BOTTOM WIDTH
S = .75%
N=0.025 (STONE, COBBLE, GRAVEL)
Q100=XXX.X/Q25=XXX (CFS)
V100=3.88/V25=X.XX (FPS)
D100=X.XX'/D25=X.XX'



SHEAR STRESS CALCULATION (THIS SHEET)

T =γRS (SA UDC EQ 9.3.8)
γ = 62.4 lb/ft^3
R = 1.7 ft
S = 0.0075 ft/ft

T = 0.80 lb/sq-ft or GRAVEL D50 2" - 6"

LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
FG	FINISHED GRADE

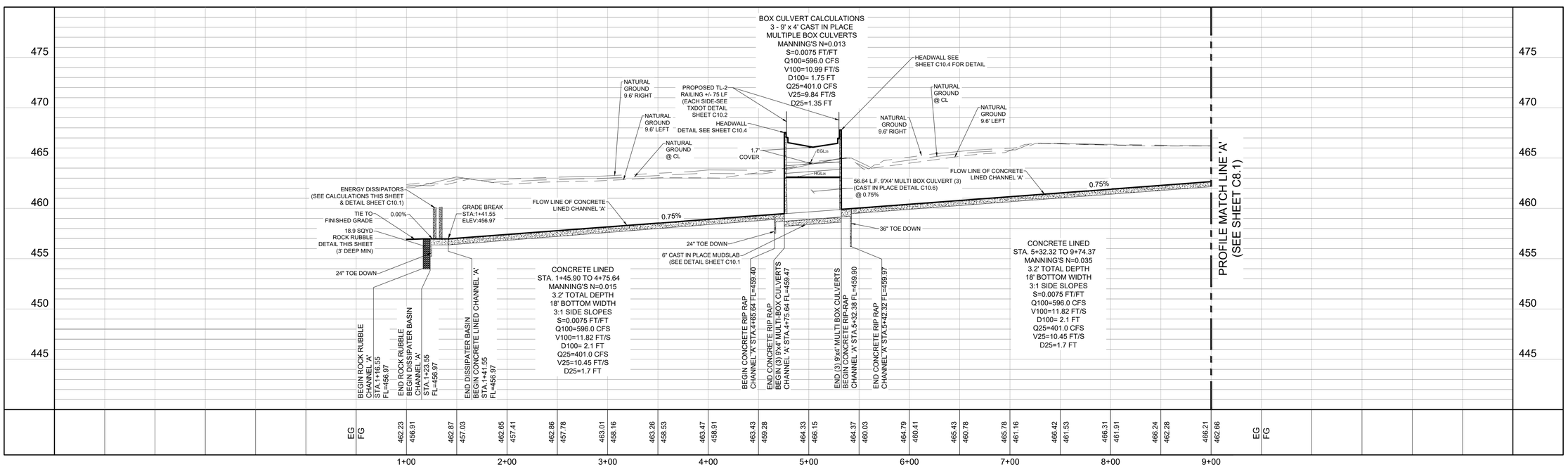
KEY TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT

GENERAL NOTES:

1. REFER TO SHEET C10.2 FOR TYPICAL RIP-RAP DETAIL.
2. PROVIDE CONCRETE COLLARS AT PIPE TO INLET AND BOX CONNECTIONS.

DRAINAGE CHANNEL 'A' STA. 1+00.00 TO 9+00.00



LABUS PARK
DRAINAGE CHANNEL 'A'
STA 1+00 TO STA 9+00

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Channel A.dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

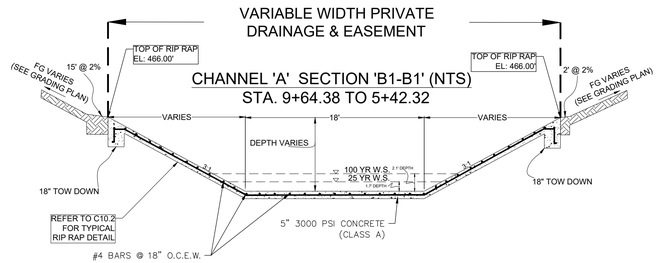
LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

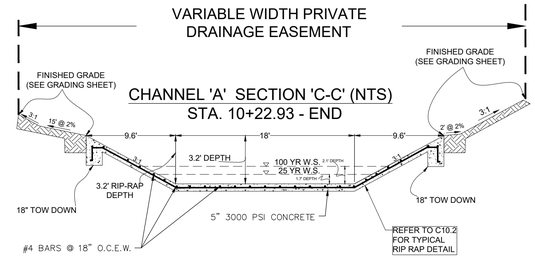
SHEET NO.
C8.0

Last Modified: Feb 17, 26 - 16:59
Plot Date/Time: Feb 18, 26 - 10:02:46

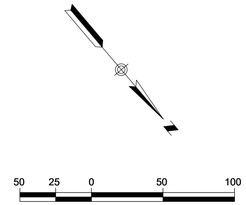
LOCATION MAP
N.T.S.



CHANNEL 'A' SECTION 'B1-B1' (NTS)
STA. 9+64.38 TO 5+42.32



CHANNEL 'A' SECTION 'C-C' (NTS)
STA. 10+22.93 - END



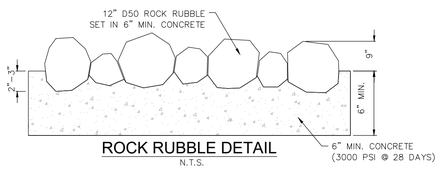
LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT

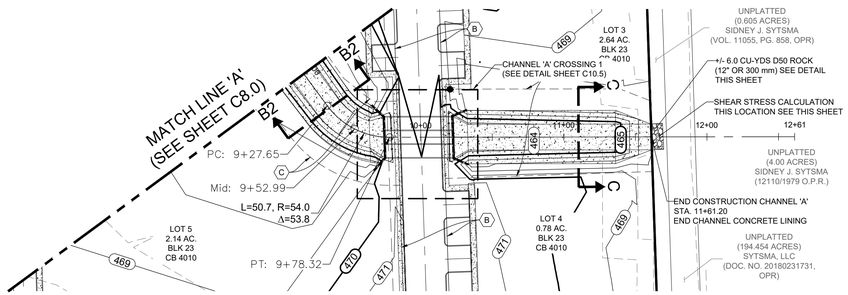
SHEAR STRESS CALCULATION (THIS SHEET)

T =yRS (SA UDC EQ 9.3.8)
y = 62.4 lb/ft^3
R = 0.9 ft
S = 0.09 ft/ft

T = 5.05 lb/sq-ft or D50 ROCK



ROCK RUBBLE DETAIL
N.T.S.



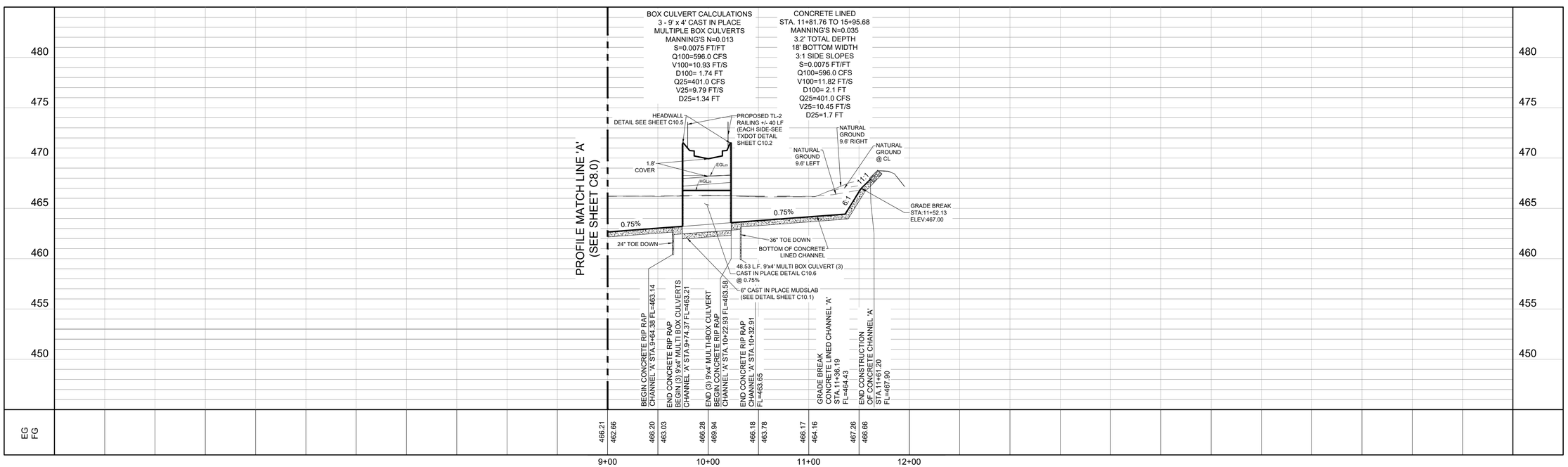
KEY TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT

GENERAL NOTES:

1. REFER TO SHEET C10.2 FOR TYPICAL RIP-RAP DETAIL.

DRAINAGE CHANNEL 'A' STA. 9+00.00 TO END



LABUS PARK
DRAINAGE CHANNEL 'A'
STA 6+00 TO STA 15+50

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Channel A.dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
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TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C8.1

Last Modified: Feb 17, 26 - 14:59
Plot Scale: Feb 18, 26 - 14:06:16

LOCATION MAP
N.T.S.

4'X4' GRATE INLET CALCULATIONS AT (STA. 6+01.63 S.L. 'B')

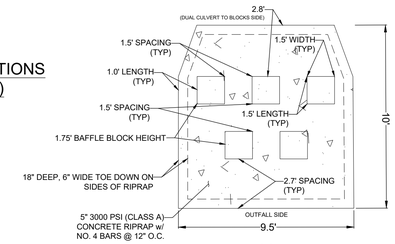
Q =CA(2gh)^0.5 (SA UDC EQ 8.3.2.b)
C = 0.7
g = 32.2 ft/sec^2
h = 0.47 ft
A = 16 sqft

Q = 14.66 cfs < L(design) = 61.62 cfs

7'X4' GRATE INLET CALCULATIONS AT (STA. 2+97.63 S.L. 'B')

Q =CA(2gh)^0.5 (SA UDC EQ 8.3.2.b)
C = 0.7
g = 32.2 ft/sec^2
h = 0.42 ft
A = 28 sqft

Q = 16.53 cfs < L(design) = 101.9 cfs



BAFFLE BLOCK DETAIL
(BOTTOM OF OUTFALL 'B')
N.T.S.

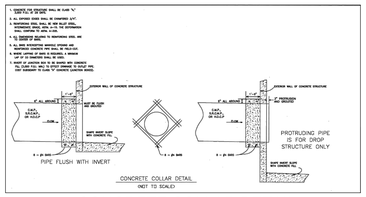
BAFFLE BLOCKS CALCULATIONS @ OUTFALL 'B'

OUTFALL B DISSIPATER CALCULATIONS				
Q (cfs)=	49		Wb (Basin Width)	7
Froud Number (Fr)=	1.35467587		Lb (Length of Basin)	7.586215259
Culvert Span or Bottom Width of Channel (ft)	3.5		Bw (Width of Baffle Block)	1.305
Culvert Rise or Top of Channel (ft)	2		Space Between Blocks	1.305
Number of Barrels	2		Nb (Number Of Blocks)	2.681992337
n	0.01		Height of Blocks	1.74
Slope (ft/ft)	0.0093		Distance to Floor Blocks	2.52873842
Velocity (ft/s)	10.14		Depth of Tail Water above the Stilling Basin Floor	2.498230593
Y1 (Depth Before Jump)	1.74		Height of Max Tail Water	3.265943391
Y2 (Sequent Depth Downstream)	2.303138394		Velocity after Baffle Blocks (fps)	2.801983139
C	1.084707111			
Y'2'	2.498230593			
z	0.767712798		C=1.1-((Fr)^2/120)	When 1.7< Fr<5.5
			C=0.85	When 5.5< Fr<11
			C=1.0-((Fr)^2/800)	When 11< Fr<17

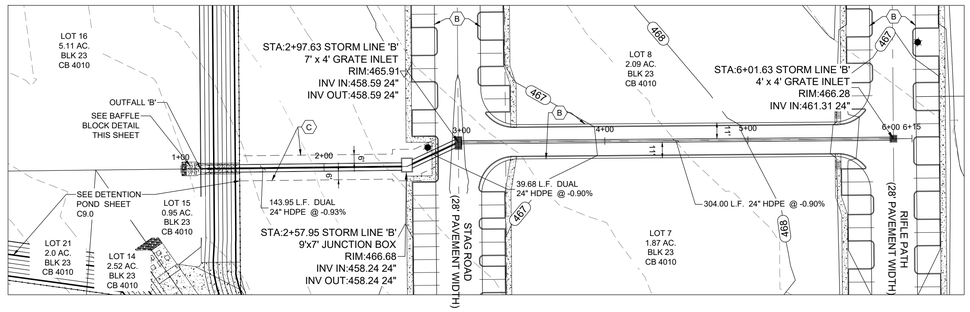
50 25 0 50 100
SCALE IN FEET
SCALE: 1"=50'

LEGEND

800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT

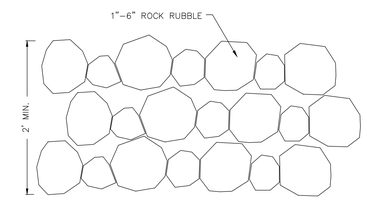


CONCRETE COLLAR DETAIL
N.T.S.



KEY TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



ROCK RUBBLE DETAIL
N.T.S.

ROCK RUBBLE CALCULATIONS:

10' BOTTOM WIDTH
S = .93%
N=0.025 (STONE, COBBLE, GRAVEL)
Q25=31.19 (CFS)
V25=9.06 (FPS)
D25=1.42'

GENERAL NOTES:

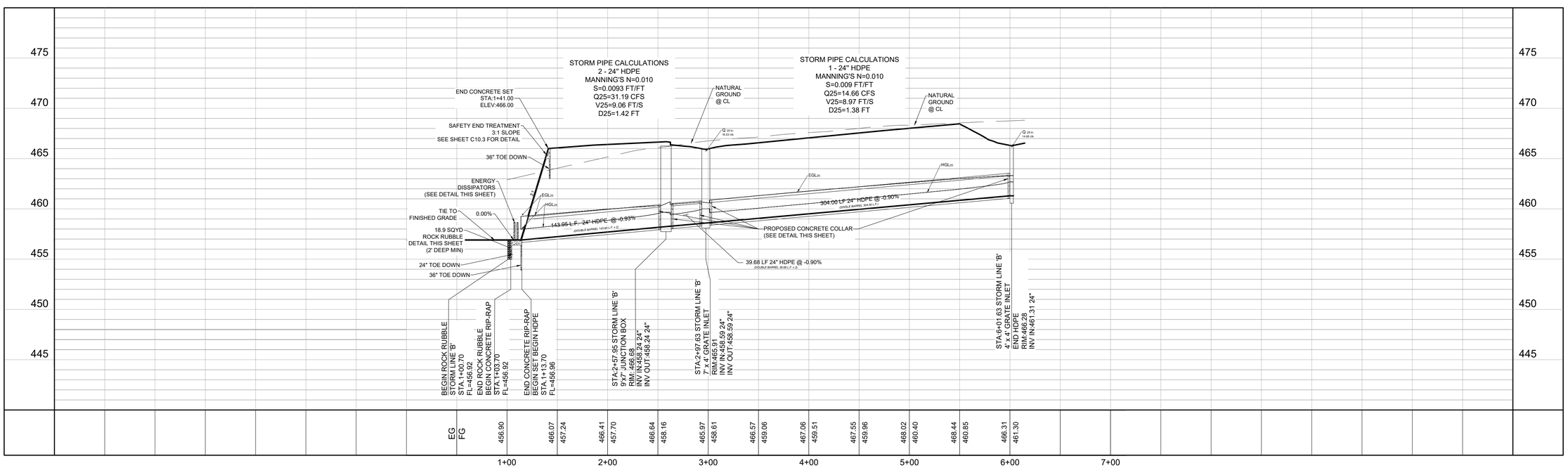
1. REFER TO SHEET C10.2 FOR TYPICAL RIP-RAP DETAIL.
2. PROVIDE CONCRETE COLLARS AT PIPE TO INLET AND BOX CONNECTIONS.

SHEAR STRESS CALCULATION (THIS SHEET)

T =γRS (SA UDC EQ 9.3.8)
γ = 62.4 lb/ft^3
R = 0.5 ft
S = 0.0093 ft/ft

T = 0.30 lb/sq-ft or GRAVEL D50 1" - 6"

STORM DRAIN LINE 'B' STA. 1+00.00 TO END



LABUS PARK
STORM DRAIN LINE 'B'
STA 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Storm Line B.dwg

STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C8.2

Last Modified: Feb 13, 26 - 16:09
Plot Date/Time: Feb 13, 26 - 16:09:33

LOCATION MAP
N.T.S.

4'X4' GRATE INLET CALCULATIONS AT (STA. 3+65.73 S.L. 'C')

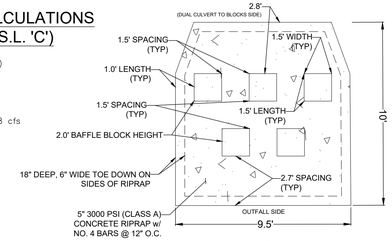
Q =CA(2gh)^0.5 (SA UDC EQ 8.3.2.b)
C = 0.7
g = 32.2 ft/sec^2
h = 0.45 ft
A = 16 sqft

Q = 28.54 cfs < L(design) = 60.3 cfs

7'X4' GRATE INLET CALCULATIONS AT (STA. 6+69.73 S.L. 'C')

Q =CA(2gh)^0.5 (SA UDC EQ 8.3.2.b)
C = 0.7
g = 32.2 ft/sec^2
h = 0.40 ft
A = 28 sqft

Q = 50.86 cfs < L(design) = 99.48 cfs



BAFFLE BLOCK DETAIL
(BOTTOM OF OUTFALL 'C')
N.T.S.

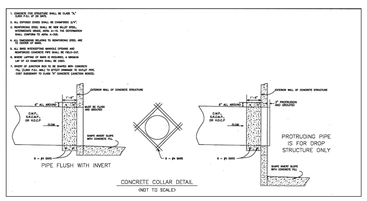
BAFFLE BLOCKS CALCULATIONS @ OUTFALL 'C'

OUTFALL C DISSIPATER CALCULATIONS - (ST ANTHONYS FALL METHOD)				
Q (cfs)=	79.2		Wb (Basin Width)	7
Froud Number (Fr)=	1.591365157		Lb (Length of Basin)	8.339187193
Culvert Span or Bottom Width of Channel (ft)	3.5		Bw (Width of Baffle Block)	1.4625
Culvert Rise or Top of Channel (ft)	2		Space Between Blocks	1.4625
Number of Barrels	2		Nb (Number Of Blocks)	2.393162393
n	0.01		Height of Blocks	1.95
Slope (ft/ft)	0.0086		Distance to Floor Blocks	2.779729064
Velocity (ft/s)	12.61		Depth of Tail Water above the Stilling Basin Floor	3.070546686
Y1 (Depth Before Jump)	1.95		Height of Max Tail Water	4.01921576
Y2 (Sequent Depth Downstream)	2.846007224		Velocity after Baffle Blocks (fps)	3.684778925
C	1.078896308			
Y2'	3.070546686			
z	0.948669075	C=1.1-((Fr)^2/120)		When 1.7< Fr<5.5
		C=0.85		When 5.5< Fr<11
		C=1.0-((Fr)^2/800)		When 11< Fr<17

50 25 0 50 100
SCALE IN FEET
SCALE: 1"=50'

LEGEND

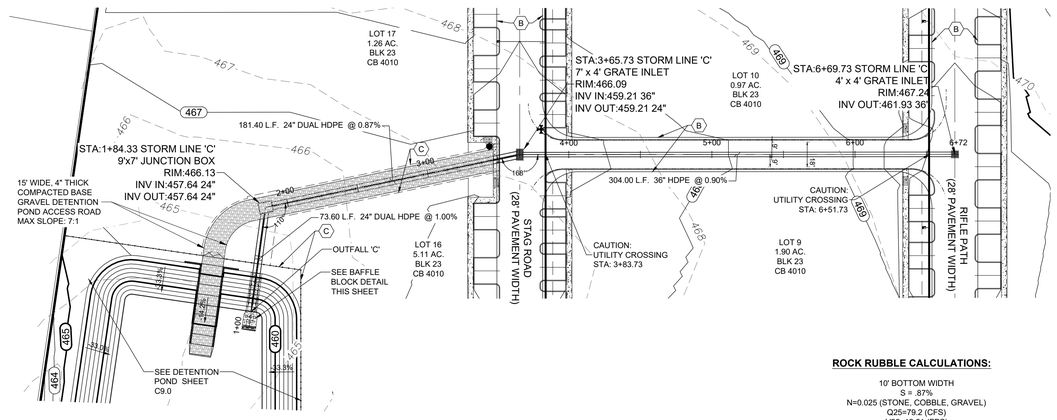
800	PROPOSED CONTOUR
2%	FLOW ARROW
	GRASSED DRAIN FLOW
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
G,E,T,CA	GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
BSL	BUILDING SETBACK LINE
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT



CONCRETE COLLAR DETAIL
N.T.S.

GENERAL NOTES:

1. REFER TO SHEET C10.2 FOR TYPICAL RIP-RAP DETAIL.
2. PROVIDE CONCRETE COLLARS AT PIPE TO INLET AND BOX CONNECTIONS.



ROCK RUBBLE CALCULATIONS:

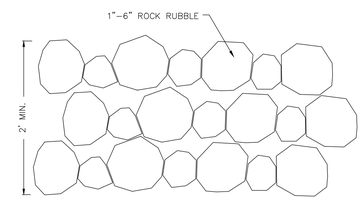
10' BOTTOM WIDTH
S = .87%
N=0.025 (STONE, COBBLE, GRAVEL)
Q25=79.2 (CFS)
V25=12.61 (FPS)
D25=1.95'

STORM DRAIN LINE 'C' STA. 1+00.00 TO END

SHEAR STRESS CALCULATION (THIS SHEET)

T =γRS (SA UDC EQ 9.3.8)
γ = 62.4 lb/ft^3
R = 0.5 ft
S = 0.0087 ft/ft

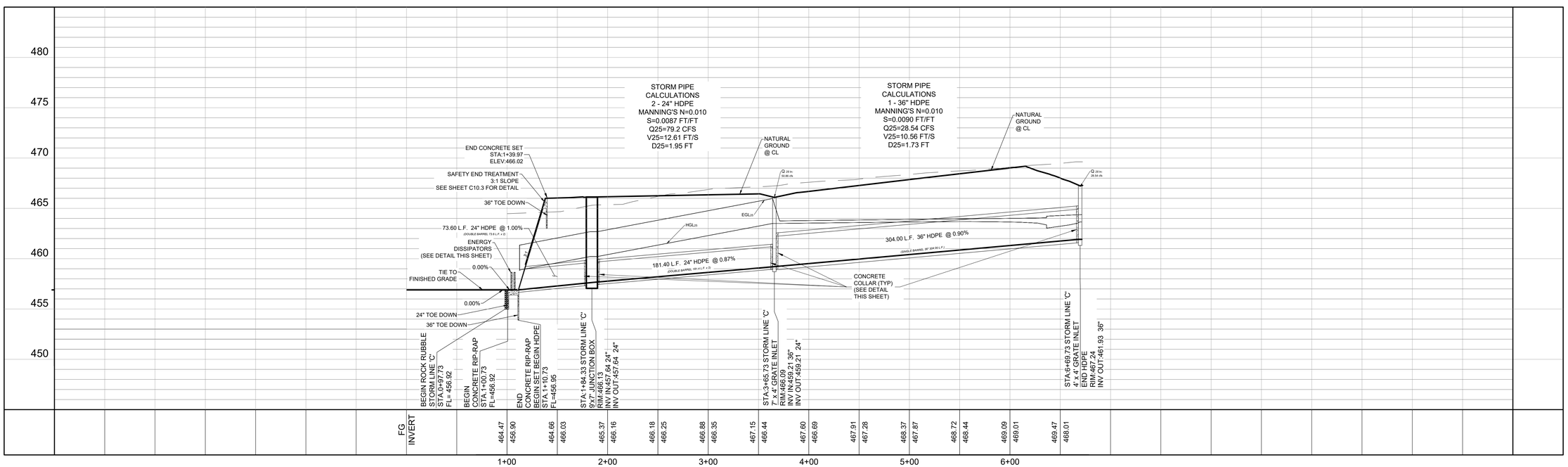
T = 0.27 lb/sq-ft or GRAVEL D50 1" – 6"



ROCK RUBBLE DETAIL
N.T.S.

KEY TAGS

- (A) 14' G.E.T.CA. ESM'T
- (B) LOT 900, VARIABLE WIDTH PRIVATE STREET, UTILITY & DRAINAGE LOT
- (C) VARIABLE WIDTH PRIVATE DRAINAGE ESM'T
- (D) 20' BUILDING SETBACK
- (E) VARIABLE WIDTH WATER EASEMENT
- (F) VARIABLE WIDTH CPS EASEMENT



LABUS PARK
STORM DRAIN LINE 'C'
STA 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Storm Line C.dwg

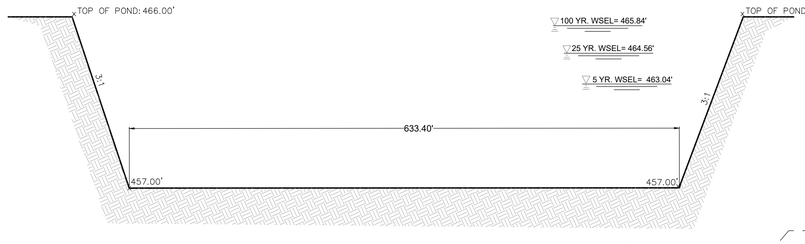
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

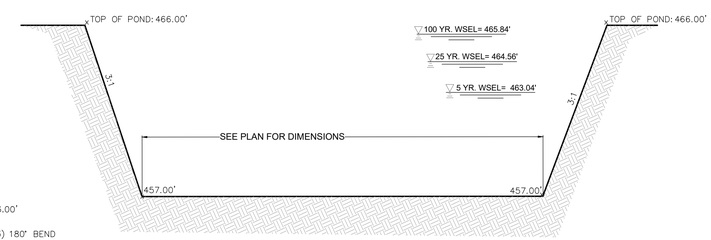
JOB NUMBER: SA5758-0401

SHEET NO.
C8.3

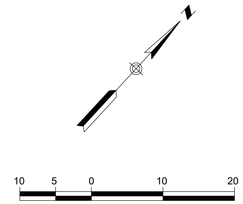
Last Modified: Feb 13, 26 – 16:25
PCD Checkfree: Feb 13, 26 – 14:02:21



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

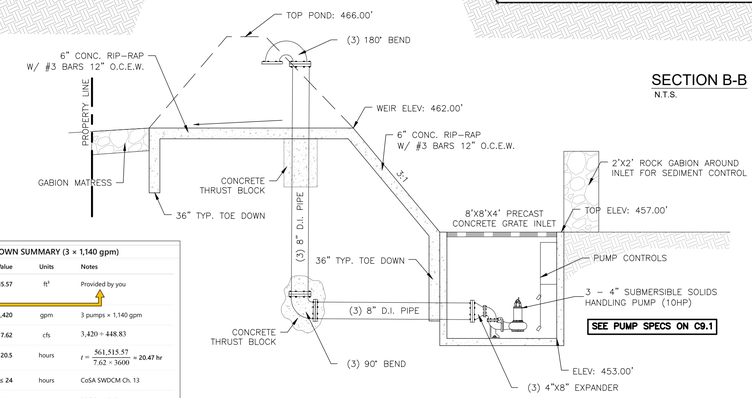


STAGE STORAGE TABLE

ELEV	AREA (sq. ft.)	DEPTH (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
457.00	90,288.51	N/A	N/A	0.00	N/A	0.00
458.00	98,350.65	1.00	94319.58	94319.58	94290.85	94290.85
459.00	106,571.56	1.00	102461.11	196780.69	102433.61	196724.46
460.00	116,586.84	1.00	111579.20	308359.89	111541.73	308266.19
461.00	126,448.01	1.00	121517.43	429877.32	121484.07	429750.26
462.00	137,155.12	1.00	131801.56	561678.88	131765.31	561515.57
463.00	148,691.63	1.00	142923.37	704602.25	142884.56	704400.13
464.00	161,674.79	1.00	155183.21	859785.46	155137.93	859538.05
465.00	173,434.74	1.00	167554.76	1027340.22	167520.36	1027058.42
466.00	184,366.48	1.00	178900.61	1206240.83	178872.77	1205931.19

DETENTION POND — DRAWDOWN SUMMARY (3 × 1,140 gpm)

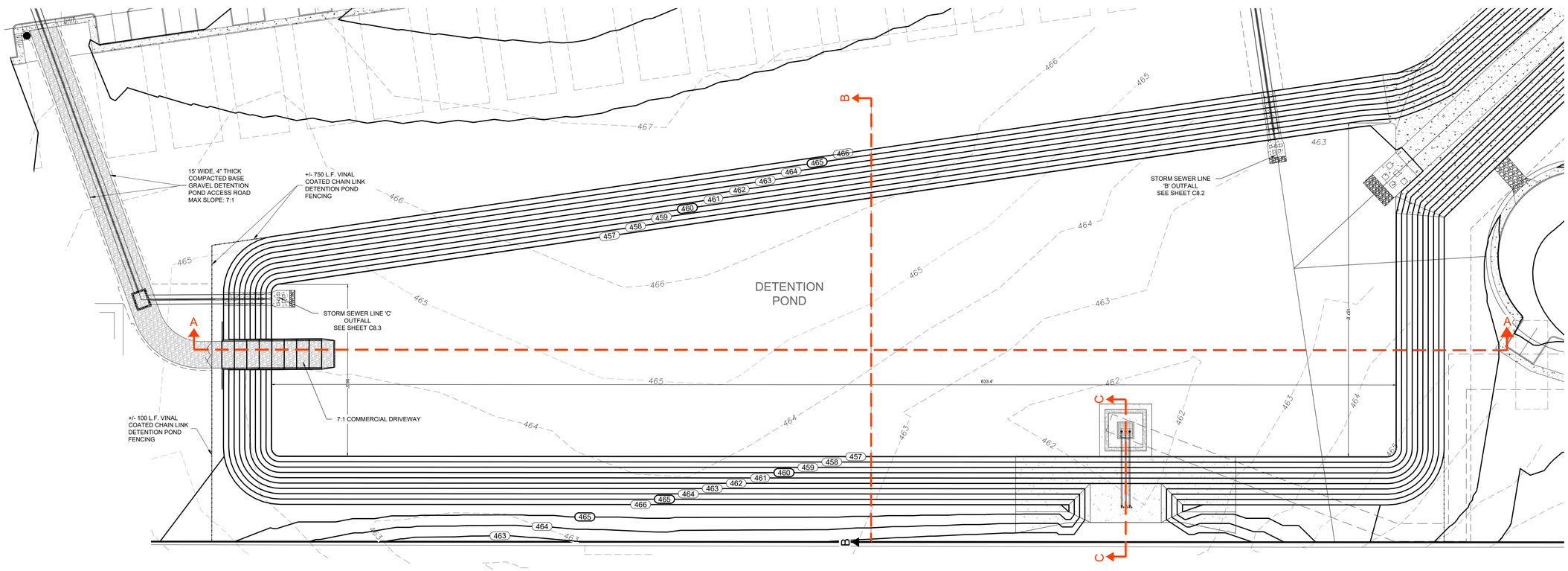
Item	Value	Units	Notes
Pumped Volume (≤ El. 462.0 ft)	561,515.57	ft^3	Provided by you
Total Pumping Capacity	3,420	gpm	3 pumps × 1,140 gpm
Total Discharge	7.62	cfs	3,420 ÷ 448.83
Drawdown Time	20.5	hours	$t = \frac{561,515.57}{7.62 \times 3600} = 20.47$ hr
COSA Drawdown Limit	≤ 24	hours	CoSA SWDCM Ch. 13
Compliance	☑ Meets	—	20.5 hr < 24 hr



SECTION C-C
N.T.S.

DETENTION POND OUTLET SUMMARY

STORM EVENT	ALLOWABLE DISCHARGE (CFS)	OUTLET DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT)	COMPLIANCE
5-YR (Q_5)	188.19	110.10	463.04	☑ MEETS ALLOWABLE
25-YR (Q_{25})	446.62	411.07	464.56	☑ MEETS ALLOWABLE
100-YR (Q_{100})	753.68	750.46	465.84	☑ MEETS ALLOWABLE



NOTES:

1. CONTRACTOR SHALL PHASE CONSTRUCTION AND/OR PROVIDE NECESSARY BMP'S 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.

2. DETENTION POND EXCAVATION AND/OR EMBANKMENT NECESSARY FOR PROVIDING STORAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO CONSTRUCTION OF FLEX BASE, PAVEMENT, POURING BUILDING SLABS OR CONSTRUCTING OTHER IMPERVIOUS COVER WITHIN THE WATERSHED DRAINING TO THE DETENTION POND(S). CONTACT (PUBLIC WORKS) FOR SITE INSPECTION.

LABUS PARK
DRAINAGE SPILL STRUCTURE

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: _drainage structure P&P.dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C9.0

Last Modified: Feb. 13, 26 – 16:26
PW Plotted: Feb. 13, 26 – 16:26

1. GENERAL

PROVIDE AND INSTALL A COMPLETE, FULLY FUNCTIONAL STORMWATER PUMP STATION CONSISTING OF THREE (3) SUBMERSIBLE PUMPS, DUCTILE IRON DISCHARGE PIPING, ELECTRICAL EQUIPMENT, CONTROLS, AND ACCESSORIES.
THE SYSTEM SHALL BE CAPABLE OF PUMPING THE POND STORAGE BELOW ELEVATION 462.00 FT TO THE GRAVITY OUTFALL AT ELEVATION 468.00 FT.
THE PUMP STATION SHALL COMPLY WITH THE CITY OF SAN ANTONIO STORM WATER DESIGN CRITERIA MANUAL (APRIL 2019), CHAPTER 13 – STORAGE FACILITIES.

2. DESIGN PARAMETERS

ITEM	VALUE	UNITS	NOTES
POND BOTTOM	457.00	FT	EXISTING SITE GRADE
WET WELL BOTTOM	453.00	FT	PUMP CENTERLINE
GRAVITY OUTFALL	468.00	FT	FREE DISCHARGE POINT
STATIC LIFT	15.00	FT	468 – 453
TOTAL DYNAMIC HEAD	18.00	FT	STATIC + FRICTION + MINOR LOSSES
PUMPED STORAGE VOLUME	561,515.57	FT^3	BELOW EL. 462.00
FLOW PER PUMP	1,140	GPM	AT 23.41 FT PER MANUFACTURER
TOTAL FLOW (3 PUMPS)	3,420	GPM	7.62 CFS TOTAL
DRAWDOWN TIME	20.5	HRS	COMPLIES WITH COSA ≤ 24 HR LIMIT
PUMP ON LEVEL	454.00	FT	ALL PUMPS ON SIMULTANEOUSLY
PUMP OFF LEVEL	453.50	FT	ALL PUMPS OFF SIMULTANEOUSLY
GRAVITY OVERFLOW LEVEL	462.00	FT	DISCHARGE ABOVE PUMP CAPACITY

3. PUMP EQUIPMENT

BASIS OF DESIGN: GRUNDFOS MODEL SL1.40.A60.100.EX.4.61R.C

- TYPE: SUBMERSIBLE SEWAGE PUMP, S-TUBE® IMPELLER
- CAPACITY: 1,140 GPM @ 23.41 FT TDH
- MOTOR POWER: 10 HP, 3×230/460 V, 60 HZ
- RATED CURRENT: 13.8 A @ 460 V THREE-PHASE
- TOTAL PUMP + MOTOR EFFICIENCY: 61.4%
- SOLIDS HANDLING: 3.94 IN MAXIMUM
- SPEED: 1,750 RPM
- ENCLOSURE: IP68
- INSULATION CLASS: H
- SEALS: DUAL MECHANICAL (SIC/SIC PRIMARY, CARBON/CERAMIC SECONDARY)
- CERTIFICATIONS: CSA, FM, CLASS I DIV 1, GROUPS C & D
- AUTO-COUPLING BASE: GRUNDFOS PART NO. 97626240
- POWER CABLE: 49 FT SEOOW 600 V
- NET WEIGHT: 433 LB PER PUMP

4. JUNCTION BOX (WET WELL)

- STRUCTURE SHALL BE A **CITY OF SAN ANTONIO STANDARD PRECAST CONCRETE GRATE INLET (JUNCTION BOX)** MODIFIED TO HOUSE THREE (3) PUMPS.
- ENTIRE TOP SHALL BE COVERED WITH A **REMOVABLE HEAVY-DUTY GALVANIZED STEEL GRATE** FOR ACCESS AND PUMP REMOVAL.
- STRUCTURE SHALL HAVE A MINIMUM INSIDE FLOOR DIMENSION OF 6 FT × 10 FT.
- INSTALL FACTORY-CAST PENETRATIONS AND ANCHOR INSERTS FOR AUTO-COUPLINGS AND ELECTRICAL CONDUITS.
- BOTTOM ELEVATION = 453.00 FT.
- CONCRETE COMPRESSIVE STRENGTH = 4,000 PSI MINIMUM, SULFATE-RESISTANT PER ACI 350.
- NO EPOXY COATING REQUIRED.

- PROVIDE ANTI-VORTEX PLATES BELOW EACH PUMP INLET.
- PROVIDE STAINLESS-STEEL LIFTING CHAINS AND RAILS FOR EACH PUMP.
- TRASH RACK AT INLET AND 6-INCH MINIMUM FLOOR SLOPE TOWARD PUMP LOCATIONS.

5. DISCHARGE PIPING

- MATERIAL: 8-INCH DUCTILE IRON PIPE, CLASS 53 (150 PSI MINIMUM).
- LENGTH: 50 FT PER PUMP.
- FITTINGS: (1) 90° ELBOW + (1) 180° RETURN BEND PER DISCHARGE.
- VALVES: 8-INCH SWING CHECK AND 8-INCH BUTTERFLY ISOLATION VALVE PER PUMP.
- TERMINATION: FREE DISCHARGE AT ELEVATION 468.00 FT.
- INSTALL AIR/VAC VALVE AT HIGHEST POINT IF REQUIRED.
- PROVIDE RESTRAINED JOINTS AND FLANGE ADAPTERS AT VALVE CONNECTIONS.

6. ELECTRICAL EQUIPMENT AND POWER CONVERSION

POWER SUPPLY: SINGLE-PHASE, 240/120 V, 60 HZ, SERVICE RATED AT 200 A MINIMUM.
TOTAL CONNECTED LOAD: 24.6 KW (3 PUMPS).
TOTAL RUNNING CURRENT: 144 A @ 230 V SINGLE-PHASE.

SERVICE CONFIGURATION:

- UTILITY METER (200 A, 240/120 V SINGLE-PHASE)
- MAIN PANELBOARD: 200 A, 240 V, 1Ø, WEATHERPROOF
- THREE (3) 60 A, 2-POLE CIRCUITS – ONE PER PUMP

PER-PUMP ELECTRICAL SPECIFICATIONS:

- PHASE CONVERTER: DIGITAL, PHASE PERFECT PT010 OR APPROVED EQUAL
  - INPUT: 230 V SINGLE-PHASE, 48 A
  - OUTPUT: 460 V THREE-PHASE, 10 HP CONTINUOUS RATING
- VARIABLE FREQUENCY DRIVE (VFD):
  - INPUT: 480 V 3Ø, 16 A MAXIMUM
  - OUTPUT: 480 V 3Ø, 14 A TO MOTOR
  - RATING: 10 HP, NEMA 3R/12 ENCLOSURE, UL 508A LISTED
  - FEATURES: HOA SWITCH, RUN/FAULT LIGHTS, 3-MIN MINIMUM RUN AND OFF TIME LOGIC
- PANEL DISCONNECT: 60 A, 240 V 1Ø, FUSED, LOCKABLE HANDLE
- SURGE PROTECTION: TYPE 1 SPD AT MAIN PANEL AND EACH PUMP PANEL
- CONTROL POWER TRANSFORMER: 480/120 V FOR FLOATS AND RELAYS
- CONDUCTORS:
  - SERVICE TO PANEL: (2) #6 AWG CU + #8 GND IN 1-1/4" CONDUIT
  - PANEL TO CONVERTER: (2) #6 AWG CU + #8 GND
  - CONVERTER TO VFD: (3) #12 AWG CU + #12 GND
  - VFD TO MOTOR: (3) #12 AWG CU SHIELDED VFD CABLE + #12 GND
- GROUNDING: BOND SERVICE PANEL, CONDUITS, BOX REBAR, AND PUMP FRAMES PER NEC 250.
- INSTALL TWO (2) 10-FT COPPER-CLAD GROUND RODS MINIMUM 6 FT APART.

AMPERAGE SUMMARY (PER PUMP):

STAGE	VOLTAGE	CURRENT	COMPONENT
SERVICE INPUT	230 V 1Ø	48 A	FEED TO CONVERTER
CONVERTER OUTPUT	460 V 3Ø	16 A	FEED TO VFD
VFD OUTPUT	460 V 3Ø	13.8 A	FEED TO MOTOR

MAIN SERVICE MINIMUM SIZE: 200 A, 240/120 V, SINGLE-PHASE.

7. CONTROL SYSTEM

- COMMON LEVEL CONTROL FOR ALL THREE PUMPS.
- LEVEL SENSOR: TWO FLOAT SWITCHES OR ONE PRESSURE TRANSDUCER INSTALLED IN JUNCTION BOX.
- SETPOINTS:
  - PUMP ON: EL. 454.00 FT
  - PUMP OFF: EL. 453.50 FT
- CONTROL LOGIC:
  - WHEN LEVEL ≥ 454.00 FT → START ALL THREE PUMPS AFTER 3-MIN OFF DELAY.
  - WHEN LEVEL ≤ 453.50 FT → STOP ALL THREE PUMPS AFTER 3-MIN RUN DELAY.
- EACH PUMP OPERATES IN PARALLEL AND IS CONTROLLED BY ITS OWN VFD.
- THERMAL AND MOISTURE PROTECTION: CONNECT PUMP SENSORS TO VFD FAULT CIRCUIT FOR AUTOMATIC SHUTDOWN AND MANUAL RESET.
- NO SCADA OR REMOTE ALARMS REQUIRED.
- PROVIDE LOCAL RUN/FAULT LIGHTS AND HOA SWITCHES.

8. PANEL LAYOUT

- ONE CONTROL PANEL PER PUMP.
- PANELS SHALL BE MOUNTED ON CONCRETE PAD NEAR WET WELL, NEMA 3R RATED.
- EACH PANEL SHALL CONTAIN:
  - PHASE CONVERTER, 10 HP, 230 V INPUT, 460 V OUTPUT
  - 10 HP VFD
  - CONTROL TRANSFORMER
  - SURGE PROTECTOR
  - HOA SWITCH
  - RUN/FAULT INDICATORS
  - TERMINAL BLOCKS AND LABELS

9. GROUNDING AND SAFETY

- ALL EQUIPMENT, PUMP FRAMES, AND STRUCTURES SHALL BE BONDED TO A COMMON GROUND GRID.
- USE #8 AWG COPPER GROUND CONDUCTORS THROUGHOUT.
- INSTALL TWO 10-FT COPPER-CLAD GROUND RODS MINIMUM 6 FT APART.
- INSTALL 120 V GFCI RECEPTACLE AND LED WORK LIGHT NEAR PANELS FOR MAINTENANCE.

10. STARTUP AND COMMISSIONING

1. VERIFY FLOAT OR TRANSDUCER CALIBRATION AT 454.00 FT AND 453.50 FT.
2. MEASURE INPUT CURRENT (230 V SIDE) AND OUTPUT CURRENT (460 V SIDE) UNDER LOAD.
   - EXPECTED INPUT: 48 A PER PUMP
   - EXPECTED OUTPUT: 13.8 A PER PUMP
3. VERIFY PHASE ROTATION AND MOTOR DIRECTION.
4. VERIFY VFD FREQUENCY LIMITS AND RUN/OFF DELAY SETTINGS.
5. TEST THERMAL AND MOISTURE PROTECTION TRIPS.
6. RECORD FLOW, HEAD, AMPS, AND VFD SPEED DURING STARTUP.
7. PROVIDE O&M MANUALS, SPARE SEAL KITS, AND FINAL STARTUP REPORT.

11. SUBMITTALS AND DOCUMENTATION

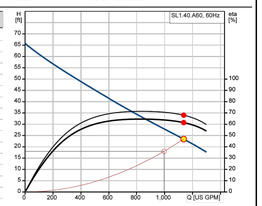
CONTRACTOR SHALL SUBMIT THE FOLLOWING PRIOR TO EQUIPMENT PURCHASE:

1. PUMP PERFORMANCE CURVES AT 1,140 GPM @ 18 FT TDH.
2. CONTROL PANEL SHOP DRAWINGS AND INTERNAL LAYOUT.
3. PHASE CONVERTER AND VFD CUT SHEETS WITH AMP RATINGS.
4. WIRING DIAGRAMS AND CONDUIT ROUTING PLAN.
5. FLOAT SWITCH OR TRANSDUCER SPECIFICATIONS.
6. GROUNDING AND SURGE PROTECTION DETAILS.
7. STARTUP AND TEST PROCEDURE TEMPLATE.

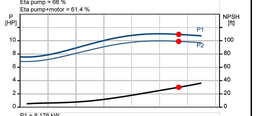
GRUNDFOS

Company name:
Created by:
Phone:
Date: 03/11/2025

Description	Value
General information:	
Product name:	SL1.40.A60 .100.EX.4.61R.C
Product No:	On request
EAN number:	On request
Price:	
Technical:	
Actual calculated flow:	1140 US GPM
Maximum flow:	1300 US GPM
Resulting head of the pump:	23.41 ft
Maximum head:	65.62 ft
Type of impeller:	S-TUBE
Max. Particle:	3.94 in
Primary shaft seal:	SIC/SIC
Approvals:	CSA, FM
Curve tolerance:	ANSI/HI11.6:2017 3B2
Cooling jacket (Yes/No):	N
Materials:	
Pump housing:	Cast iron
	EN 5.1301 EN-GJL-250
	ASTM A48-250B
Impeller:	Cast iron
	EN 5.1301 EN-GJL-250
	ASTM A48-250B
Motor:	EN-GJL-250
Installation:	
Range of ambient temperature:	-4 .. 104 °F
Maximum operating pressure:	87.02 psi
Type of inlet connection:	ANSI
Type of outlet connection:	ANSI
Size of inlet connection:	DN 150
Size of outlet connection:	DN 150
Pressure rating for connection:	PN 10
Maximum installation depth:	39.4 ft
Inst dry/wet:	SUBMERGED
Installation:	Vertical
Auto coupling:	97626240
Frame range:	D
Liquid:	
Liquid temperature range:	32 .. 104 °F
Selected liquid temperature:	68 °F
Density:	62.29 lb/ft³
Electrical data:	
Power input P1:	11.5 HP
Rated power - P2:	10 HP
Mains frequency:	60 Hz
Rated voltage:	3 x 230/460V V
Voltage tolerance:	+10/-10 %
Max starts per hour:	20
Rated current:	26/13.8 A
Starting current:	160 A
Cos phi - power factor:	0.87
Cos phi - p.f. at 3/4 load:	0.84
Cos phi - p.f. at 1/2 load:	0.75
Rated speed:	1750 rpm
Motor efficiency at full load:	90.3 %
Motor efficiency at 3/4 load:	91.1 %
Motor efficiency at 1/2 load:	90.9 %



Q = 1140 US GPM
H = 23.41 ft
Liquid temperature during operation = 68 °F
Eta pump = 68 %
Eta pump+motor = 61.4 %



P1 = 8.176 kW
P2 = 9.91 HP
NPSH = 29.95 ft

Printed from Grundfos Product Centre [2025.44.000] 8

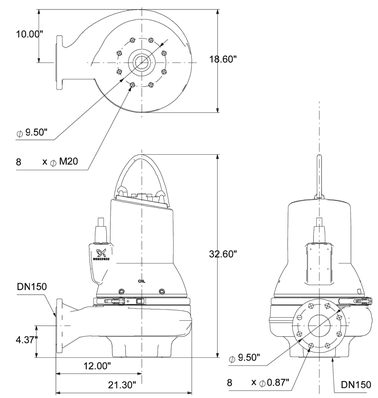
ALTERNATE EQUIPMENT AND DESIGN SUBMITTALS NOTE

1. CONTRACTOR MAY PROPOSE ALTERNATE EQUIPMENT, MATERIALS, OR DESIGNS PROVIDED THAT SUCH ALTERNATIVES MEET OR EXCEED THE PERFORMANCE, CAPACITY, AND QUALITY REQUIREMENTS SHOWN ON THE PLANS AND SPECIFICATIONS.
2. ALL PROPOSED ALTERNATIVES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO PROCUREMENT OR INSTALLATION.
3. SUBMITTAL SHALL INCLUDE MANUFACTURER DATA SHEETS, PERFORMANCE CURVES, DIMENSIONAL DRAWINGS, ELECTRICAL CHARACTERISTICS, AND INSTALLATION REQUIREMENTS DEMONSTRATING EQUIVALENT FUNCTION AND CAPABILITY TO THE BASIS-OF-DESIGN EQUIPMENT.
4. NO SUBSTITUTIONS OR DEVIATIONS FROM THE APPROVED DESIGN SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.

GRUNDFOS

Company name:
Created by:
Phone:
Date: 03/11/2025

On request SL1.40.A60 .100.EX.4.61R.C 60 Hz



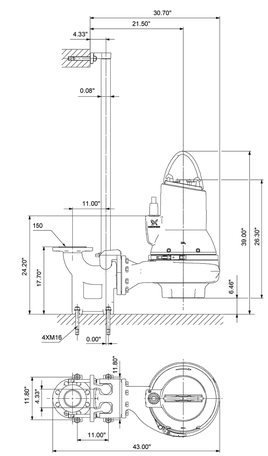
Note! All units are in [in] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Printed from Grundfos Product Centre [2025.44.000] 10

GRUNDFOS

Company name:
Created by:
Phone:
Date: 03/11/2025

On request SL1.40.A60 .100.EX.4.61R.C 60 Hz



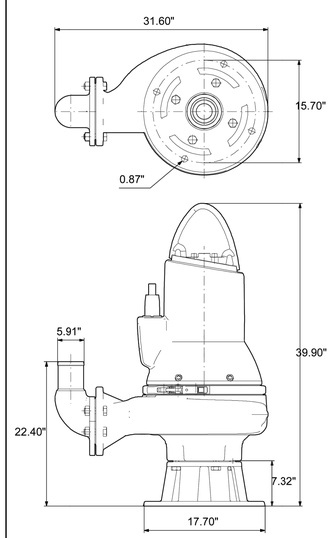
Note! All units are in [in] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Printed from Grundfos Product Centre [2025.44.000] 11

GRUNDFOS

Company name:
Created by:
Phone:
Date: 03/11/2025

On request SL1.40.A60 .100.EX.4.61R.C 60 Hz



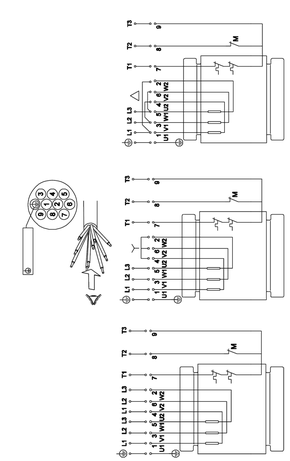
Note! All units are in [in] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Printed from Grundfos Product Centre [2025.44.000] 12

GRUNDFOS

Company name:
Created by:
Phone:
Date: 03/11/2025

On request SL1.40.A60 .100.EX.4.61R.C 60 Hz



Note! All units are in [in] unless others are stated.

Printed from Grundfos Product Centre [2025.44.000] 13

LABUS PARK
PUMP DETAILS

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh. drainage structure P&P.dwg

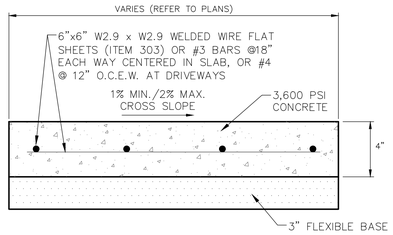
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER
1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. **C9.1**

Last Modified: Feb 13, 26 – 16:26
Full Name: C:\Users\mauricio.sanchez\Desktop\SA5758-0401_LABUS PARK_PUMP DETAILS_WH_JC.dwg



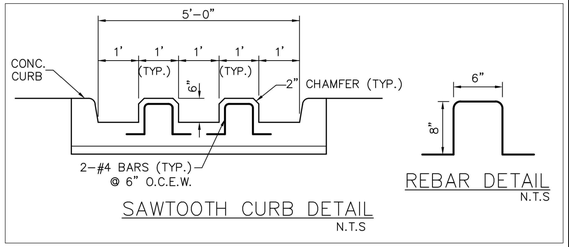
GENERAL NOTES FOR CONCRETE SIDEWALKS:

1. ALL SIDEWALKS SHALL BE A MINIMUM 3,600 PSI CONCRETE WITH NO. 3 BARS AT 18" INCHES ON CENTER.
2. SLOPE SIDEWALKS AWAY FROM BLDG. AS INDICATED ON DRAWINGS OR AT 2% MAX.
3. PROVIDE SIDEWALK WITH A HORIZONTAL (CROSS) BRUSH FINISH ON ALL SURFACES.
4. GROOVE CONTRACTION JOINTS SHALL BE SPACED 5 FT. ON CENTER.
5. PROVIDE A 1/2" ELASTOMERIC ISOLATION JOINT ALONG NEW BUILDING BETWEEN ALL NEW SIDEWALK

SIDEWALK DETAIL

N.T.S.

C10.0.1

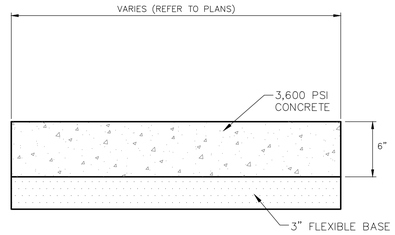


SAWTOOTH CURB DETAIL

N.T.S

SAWTOOTH CURB DETAIL

N.T.S.

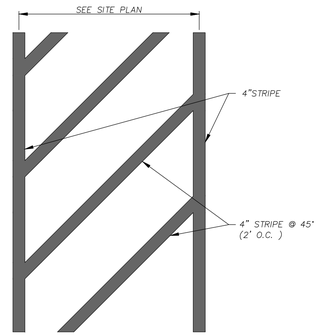


GENERAL NOTES FOR MUDSLABS:

1. SLOPE MUDSLABS IN DIRECTION AS INDICATED ON DRAWINGS FOR CHANNELS OR CULVERTS.
2. MUDSLAB TO SUPPORT FINAL INVERT ELEVATION OF JUNCTION BOX OR INLETS.
3. MUDSLAB WIDTH SHALL ENCOMPASS ENTIRE PROPOSED BASE OF STRUCTURE IT IS SUPPORTING.

MUDSLAB DETAIL

N.T.S.



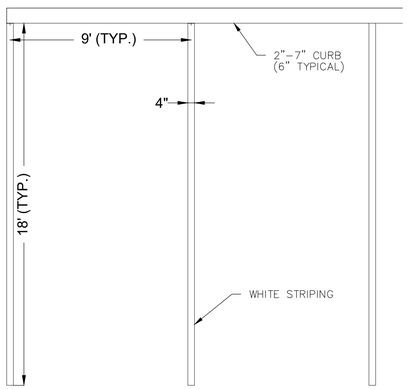
NOTE:

1. ACCESSIBLE ROUTE SHALL BE 2% MAX. CROSS SLOPE & 5% MAX. SLOPE IN DIRECTION OF TRAVEL, TYP. NOTIFY ENGINEER IMMEDIATELY IF MAXIMUM GRADES ARE EXCEEDED.
2. ALL STRIPING SHALL BE WHITE FOR ASPHALT PAVING AND YELLOW FOR CONCRETE PAVING

C10.0.3b

PAINTED CROSSWALK STRIPING

NOT TO SCALE

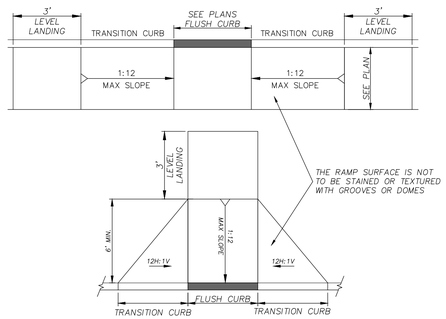


NOTE: REFER TO SITE PLAN FOR ACTUAL PARKING SPACE DIMENSIONS WHICH MAY VARY FROM THIS STANDARD DETAIL.

C10.0.3a

PARKING STRIPE TYPICAL DETAIL

NOT TO SCALE



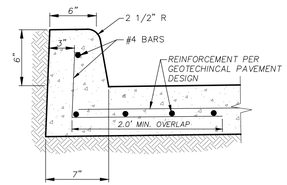
NOTE:

1. ALL RAMPS SHALL MEET ADA AND TAS STANDARD CRITERIA.
2. CONCRETE DESIGN AND THICKNESS PER SIDEWALK DETAIL.
3. CURB RAMPS WITHOUT WINGS SHALL ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK PERPENDICULAR ACROSS THE RAMP.
4. FLUSH CURB NEEDED IF PAVING IS ASPHALT. IF PAVING IS CONCRETE THEN THERE IS NO NEED FOR A FLUSH CURB ONLY CONCRETE PAVING

C10.0.4

CURB RAMP DETAIL

NOT TO SCALE



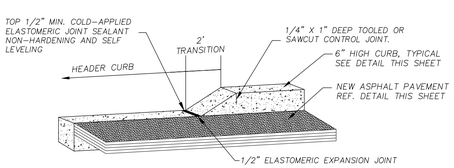
NOTES:

1. INSTALL 1/2" PREMOLDED EXPANSION JOINT MATERIAL AT 40.0' INTERVALS & AT BEGINNING & END OF ALL CURB RETURNS & DRIVE APPROACHES.
2. INSTALL 5/8"ø x 2.0' LONG, SMOOTH DOWEL BARS AT ALL EXPANSION JOINTS & AT BEGINNING & END OF ALL CURB RETURNS. EXTEND BARS 1.0' INTO EACH SIDE OF JOINT & WRAP ONE END W/ 147.3 LBS FELT, 1.25' LONG.
3. ALL CURB TO BE 3000 PSI CONCRETE.

C10.0.2

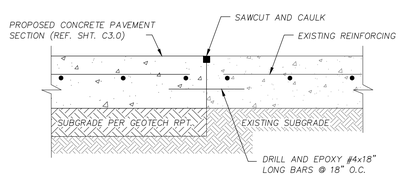
6" INTEGRAL CONCRETE CURB

NOT TO SCALE



2' CURB TERMINAL

NOT TO SCALE



CONCRETE TO EXISTING CONCRETE PAVEMENT TIE-IN

NOT TO SCALE

LABUS PARK

CIVIL DETAILS (SHEET 1 OF 3)

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Civil Details 2.dwg

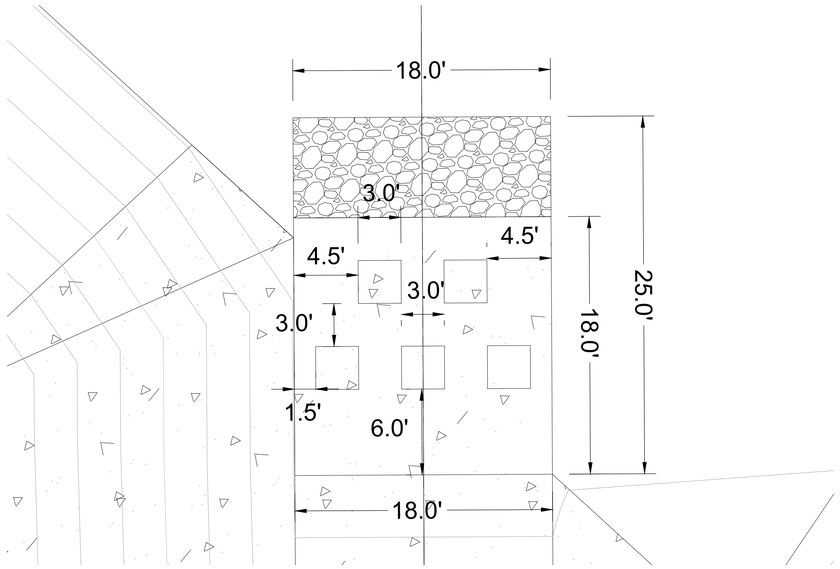
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

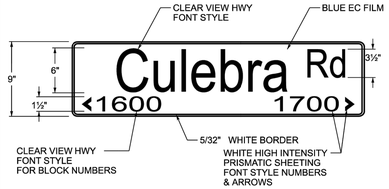
SHEET NO. C10.0

Last Modified: Feb 18, 26 - 09:39
Plot Date/Time: Feb 18, 26 - 14:20:20

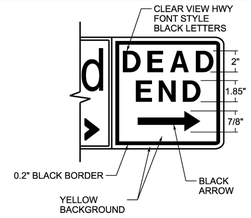


CHANNEL 'A' BAFFEL BLOCK DETAIL

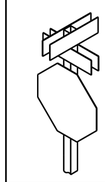
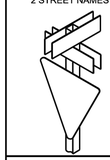
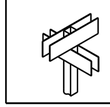
1"=5'



9" D3 - STREET NAME SIGN



9" D3 WITH DEAD END OR NO OUTLET SIGNAGE

STREET SIGN ASSEMBLY EXAMPLES	DESCRIPTION	UNIT	QUANTITY
STOP SIGN WITH 2 STREET NAMES 	R1-1 STOP	EA.	1
	9-IN STREET NAME PLATE	EA.	4
YIELD SIGN WITH 2 STREET NAMES 	R1-2 YIELD	EA.	1
	9-IN STREET NAME PLATE	EA.	4
2 STREET SIGNS 	9-IN STREET NAME SIGN	EA.	2
	9-IN STREET NAME PLATE	EA.	2

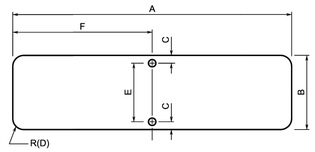
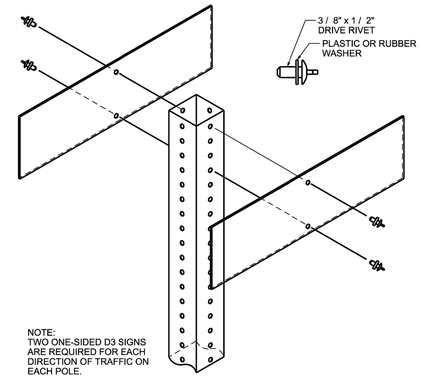


TABLE - D3 SIGNS

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

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	1 / 8" (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	STREET NAME 0% BLOCK NUMBERS 25%



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

D3 SIGN TO POLE INSTALLATION

GENERAL NOTES:

"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.

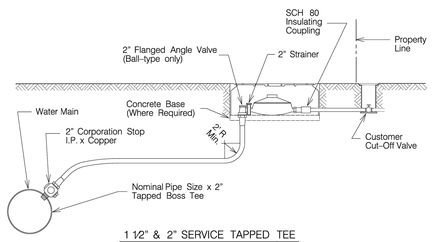
"9-INCH STREET NAME PLATE" (1-EA.) INCLUDES THE INSTALLATION OF (2) ONE-SIDED D3 SIGNS ON TOP OF EXISTING SIGN (I.E., STOP - SIGN OR YIELD SIGN), EXTRA LENGTH POLE AND APPURTENANCES REQUIRED TO MEET SPECIFICATIONS.

SEPTEMBER 2024
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING AND OPERATIONS STARDARDS
D3 STREET NAME SIGN MOUNTING
SHEET 02 OF 02 SM(2)-24

% SUBMITTAL	PROJECT NO.:	DATE: 01/31/2024
DRWN. BY:	DSGN. BY:	CHKD. BY: L.BANDA, P.E. / SHEET NO. ___ OF ___

PIPE TAPPING SCHEDULE

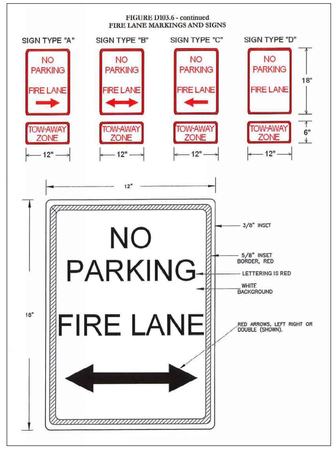
PIPE DIAMETER	SERVICE SIZE 3/4"	1"	1 1/2"	2"
6" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
6" C.I. or D.I.	Tap	Tap	Tap With Service Saddle	Tap With Service Saddle
8" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" C.I. or D.I.	Tap	Tap	Tap With Service Saddle	Tap With Service Saddle
8" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" C.I. or D.I.	Tap	Tap	Tap With Service Saddle	Tap With Service Saddle
10" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" C.I. or D.I.	Tap	Tap	Tap With Service Saddle	Tap With Service Saddle
12" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
16" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
16" C.I. or D.I.	Tap	Tap	Tap With Service Saddle	Tap With Service Saddle

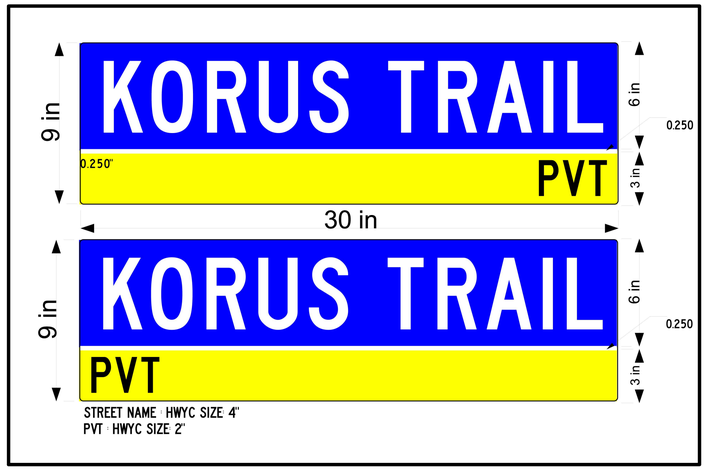


1 1/2" & 2" SERVICE TAPPED TEE

Note:
For direct tap to main, see Tapping Schedule

PROPERTY OF	COPPER SERVICE INSTALLATION TAPPING SCHEDULE	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		March 2008	
		DD–824–01	SHEET 3 OF 3





PRIVATE STREET DETAIL

NTS

LABUS PARK
CIVIL DETAILS (SHEET 2)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, VH
DRAWN BY: MAS
CHECKED BY: JC, VH
DRAWING NAME: sh_Civil Details 2.dwg

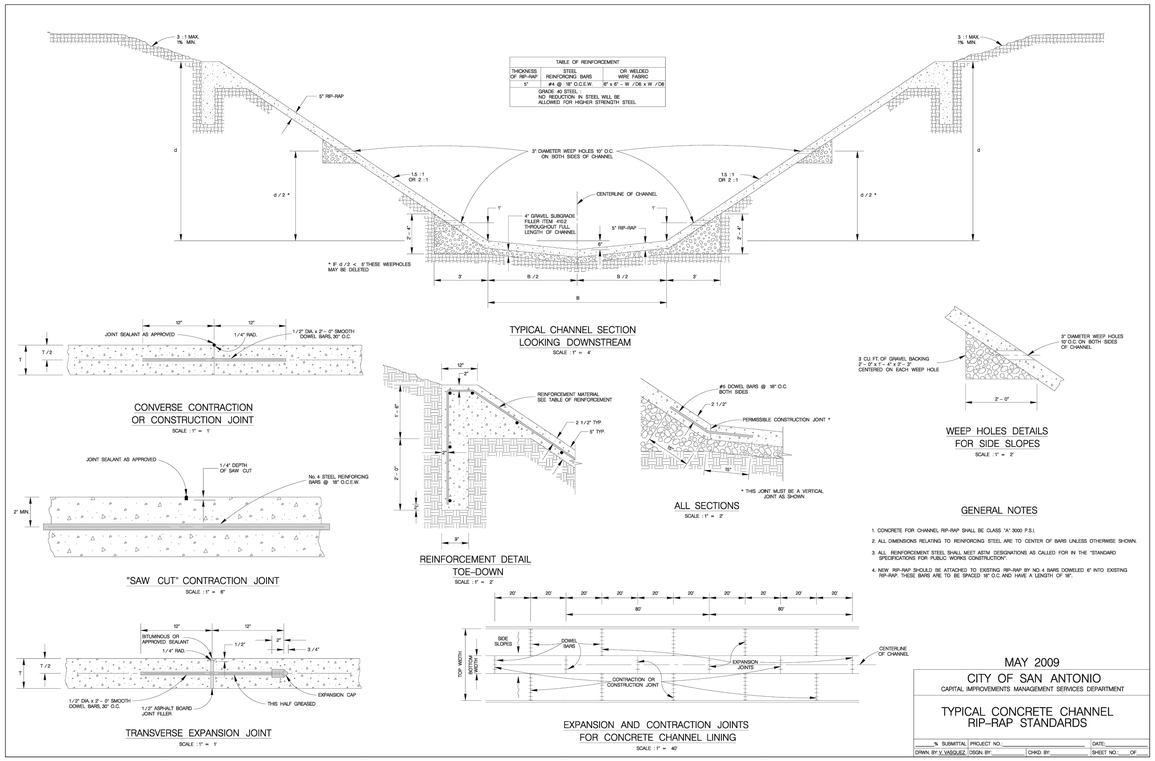
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

SHEET NO.
C10.1

Last Modified: Feb. 15, 26 – 09:39
File Location: Feb. 15, 26 – 9:30:24



GENERAL NOTES

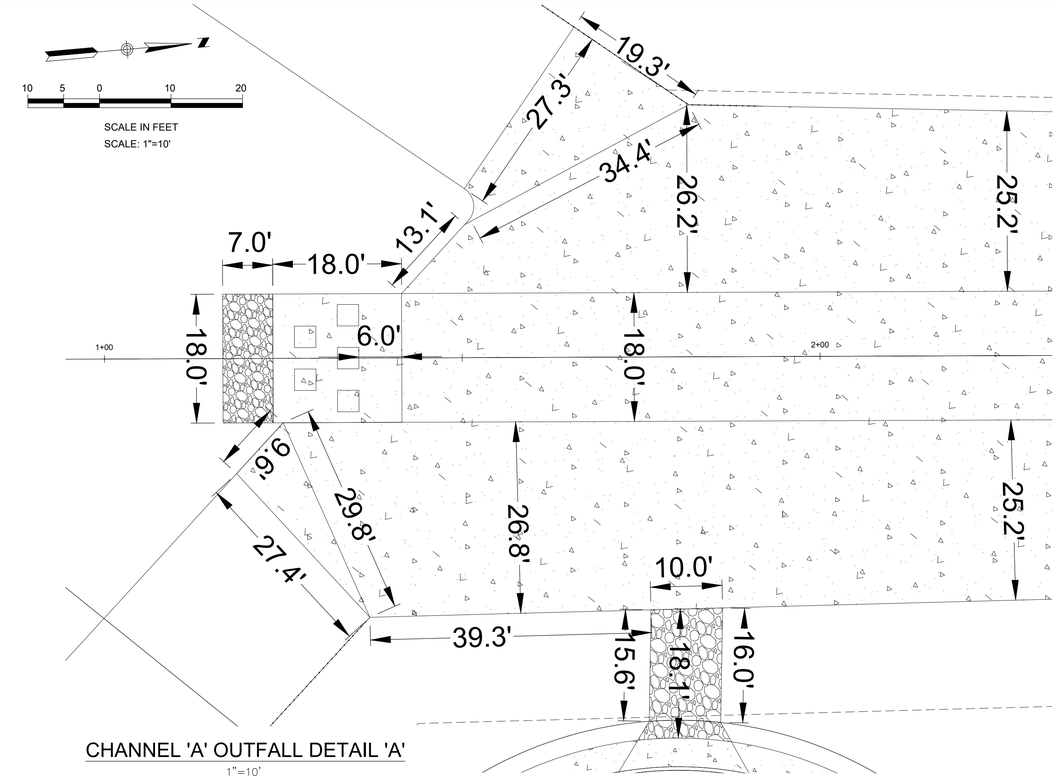
1. CONCRETE FOR CHANNEL RIP-RAP SHALL BE CLASS "A" 3000 P.S.I.
2. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN.
3. ALL REINFORCEMENT STEEL SHALL MEET ASTM DESIGNATIONS AS CALLED FOR IN THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
4. NEW RIP-RAP 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

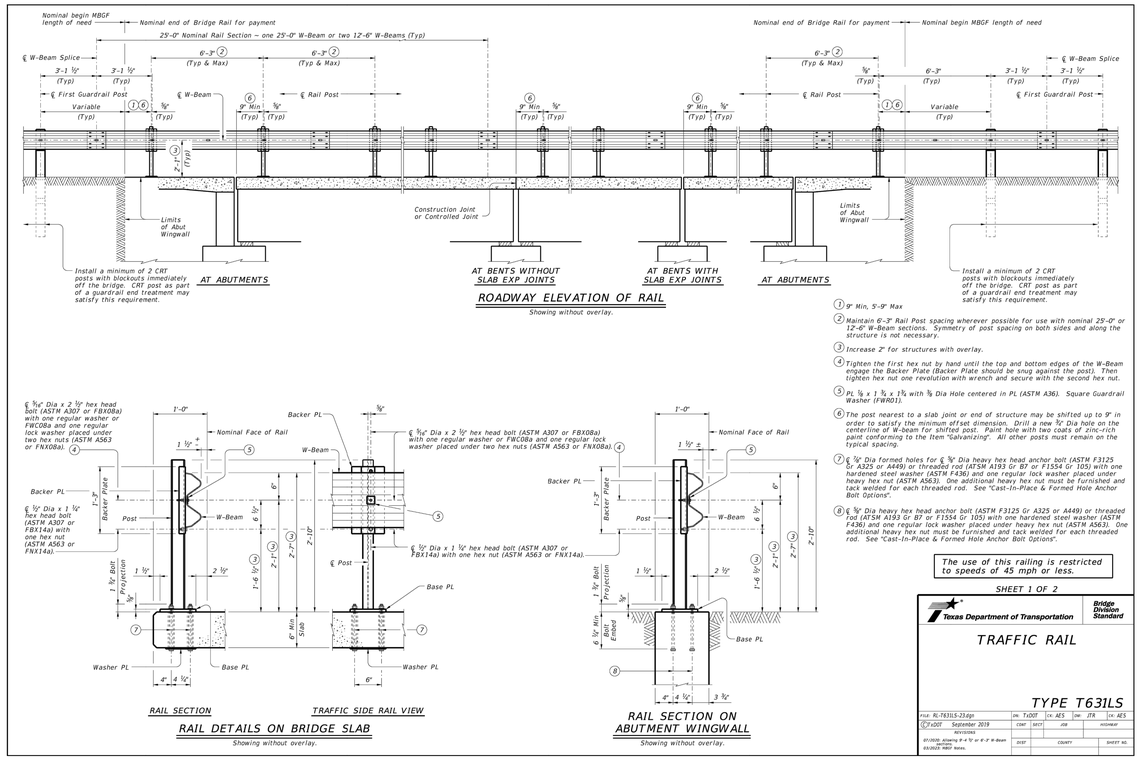
TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS

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



CHANNEL 'A' OUTFALL DETAIL 'A'

1"=10'



1. 9" Min, 5'-9" Max
2. Maintain 6'-3" Rail Post spacing wherever possible for use with nominal 25'-0" or 12'-6" W-Beam sections. Symmetry of post spacing on both sides and along the structure is not necessary.
3. Increase 2" for structures with overlay.
4. Tighten the first hex nut by hand until the top and bottom edges of the W-Beam engage the Backer Plate (Backer Plate should snug up against the post). Then tighten hex nut one revolution with wrench and secure with the second hex nut.
5. PL 1/8 x 1 3/4 x 1 3/4 with 3/8 Dia Hole centered in PL (ASTM A36). Square Guardrail Washer (FWR01).
6. The post nearest to a slab joint or end of structure may be shifted up to 9" in order to satisfy the minimum offset dimension. Drill a new 9/16" Dia hole on the centerline of W-Beam for shifted post. Paint hole with two coats of zinc-rich paint conforming to the Item "Galvanizing". All other posts must remain on the typical spacing.
7. ℄ 1/2" Dia formed holes for ℄ 3/4" Dia heavy hex head anchor bolt (ASTM F3125 Gr A325 or A449) or threaded rod (ATSM A193 Gr B7 or F1554 Gr 105) with one hardened steel washer (ASTM F436) and one regular lock washer placed under heavy hex nut (ASTM A563). One additional heavy hex nut must be furnished and tack welded for each threaded rod. See "Cast-In-Place & Formed Hole Anchor Bolt Options".
8. ℄ 3/4" Dia heavy hex head anchor bolt (ASTM F3125 Gr A325 or A449) or threaded rod (ATSM A193 Gr B7 or F1554 Gr 105) with one hardened steel washer (ASTM F436) and one regular lock washer placed under heavy hex nut (ASTM A563). One additional heavy hex nut must be furnished and tack welded for each threaded rod. See "Cast-In-Place & Formed Hole Anchor Bolt Options".

The use of this railing is restricted to speeds of 45 mph or less.

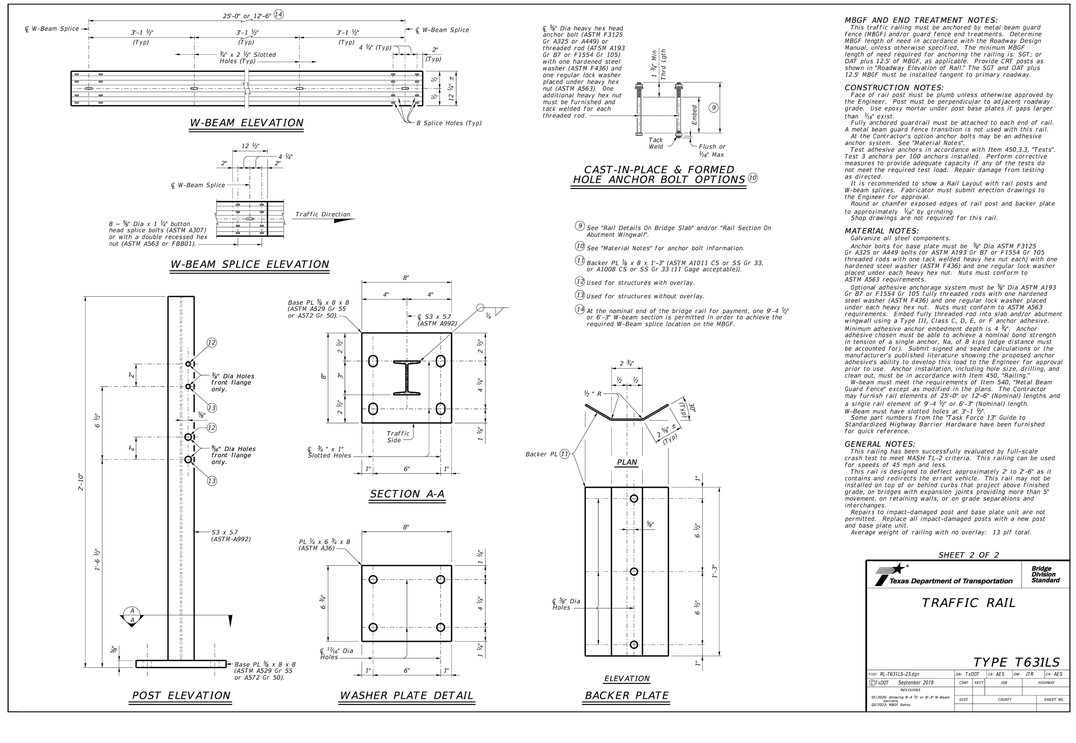
SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

TRAFFIC RAIL

TYPE T631LS

FILE: RL-T631LS-23.dgn	DN: TxDOT	CK: AES	DW: JTR	CK: AES
©TxDOT September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
01/2020 Allowing 9'-4 1/2" or 6'-3" W-Beam Rail Posts.	DIST		COUNTY	SHEET NO.
02/2021 MBGF Notes.				



MBGF AND END TREATMENT NOTES:

This traffic railing must be anchored by metal beam guard fence (MBGF) and/or guard fence end treatments. Determine MBGF length of need in accordance with the Roadway Design Manual, unless otherwise shown on the plans. Provide the length of need required for anchoring the railing is 50'-0" or DAT plus 12.5' of MBGF, as applicable. Provide CRT posts as shown in "Roadway Elevation of Rail." The 50' and DAT plus 12.5' MBGF must be installed tangent to primary roadway.

CONSTRUCTION NOTES:

Face of rail post must be plumb unless otherwise approved by the Engineer. Post must be perpendicular to adjacent roadway grade. Use epoxy mortar under post base plates if gaps larger than 1/16" exist.

Fully anchored guardrail must be attached to each end of rail. A metal beam guard fence transition is not used with this rail.

At the Contractor's option anchor bolts may be an adhesive anchor system. See "Material Notes".

Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

It is recommended to show a Rail Layout with rail posts and W-beam splices. Fabricator must submit erection drawings to the Engineer for approval.

Round or chamfer exposed edges of rail post and backer plate to approximately 1/16" by grinding.

Shop drawings are not required for this rail.

MATERIAL NOTES:

Galvanize all steel components.

Anchor bolts for base plate must be 3/4" Dia ASTM F3125 Gr A325 or A449 bolts (or ASTM A193 Gr B7 or F1554 Gr 105 threaded rods with one tack welded heavy hex nut each) with one hardened steel washer (ASTM F436) and one regular lock washer placed under each heavy hex nut. Nuts must conform to ASTM A563 requirements.

Optional adhesive anchorage system must be 3/4" Dia ASTM A193 Gr B7 or F1554 Gr 105 fully threaded rods with one hardened steel washer (ASTM F436) and one regular lock washer placed under each heavy hex nut. Nuts must conform to ASTM A563 requirements. Embed fully threaded rod into slab and/or abutment wingwall using a Type III, Class C, D, E, or F anchor adhesive. Minimum adhesive anchor embedment depth is 4 3/4". Anchor adhesive chosen must be able to achieve a nominal bond strength in cracked concrete of 1,000 psi. Use 0.45 as the strength reduction factor (φ) to be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing".

W-Beam must meet the requirements of Item 540, "Metal Beam Guard Fence" except as modified in the plans. The Contractor may furnish rail elements of 25'-0" or 12'-6" (Nominal) lengths and a single rail element of 9'-4 1/2" or 6'-3" (Nominal) length.

W-Beam must have slotted holes at 3'-1 1/2".

Some part numbers from the "Task Force 13" Guide to Standardized Highway Barrier Hardware have been furnished for quick reference.

GENERAL NOTES:

This railing has been successfully evaluated by full-scale crash test to meet MASH TL-2 criteria. This railing can be used for speeds of 45 mph and less.

This rail is designed to deflect approximately 2 to 2'-6" as it contains and redirects the errant vehicle. This rail may not be installed on top of or behind curbs that project above finished grade, on bridges with expansion joints providing more than 5" movement, on retaining walls, or on grade separations and interchanges.

Repairs to impact-damaged post and base plate unit are not permitted. Replace all impact-damaged posts with a new post and base plate unit.

Average weight of railing with no overlay: 13 plf total.

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

TRAFFIC RAIL

TYPE T631LS

FILE: RL-T631LS-23.dgn	DN: TxDOT	CK: AES	DW: JTR	CK: AES
©TxDOT September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
01/2020 Allowing 9'-4 1/2" or 6'-3" W-Beam Rail Posts.	DIST		COUNTY	SHEET NO.
02/2021 MBGF Notes.				

LABUS PARK

CIVIL DETAILS (SHEET 3)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 1/26/2026	DESIGNED BY: JC, WH	DRAWN BY: MAS	CHECKED BY: JC, WH
DRAWING NAME: sh. Civil Details 2.dwg			

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.593.2700
Fax 210.593.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO.
C10.2

Last Modified: Feb 18, 26 - 09:39
Plot Date/Time: Feb 18, 26 - 14:20:31

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Maximum Wingwall Height Hw	Dimensions W	X	Y	Z	Variable Reinforcing Bars J1 Size	Spa	Bars J2 Size	Spa	Estimated Quantities (2) per ft of wing length (2-wings) Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#4	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING
(2-wings)

Bar	Size	No.	Spa
D	#5	–	1'-0"
E	#4	–	1'-0"
F	#4	–	1'-0"
G	#6	4	–
H	#4	4	–
P	#4	–	1'-0"
R	#5	6	–
V	#4	–	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	–	1'-6"
Q	#4	1	–
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:

(All values are in feet.)

$Hw = H + T + C - 0.250$
$A = (Hw - 0.333)(SL)$
$B = (A)$ tangent $(30°)$
$Lw = (A) \div$ cosine $(30°)$

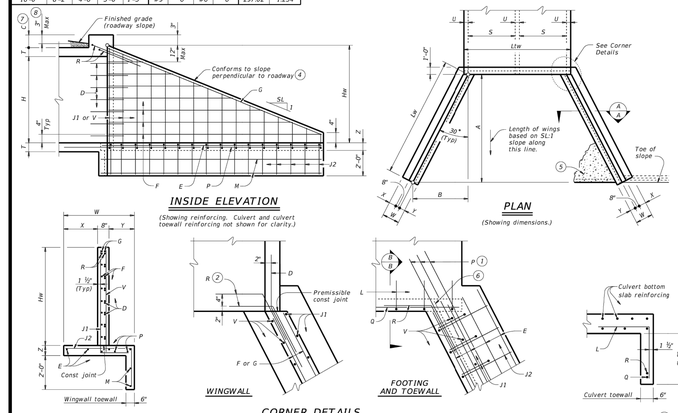
For cast-in-place culverts:
$Ltw = (N)(S) + (N - 1)(U)$

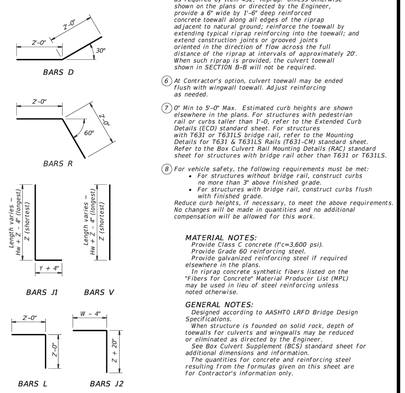
For precast culverts:
$Ltw = (N)(2U + S) + (N - 1)(0.5)$

Total wingwall area (two wings $= SF$) $= (Hw + 0.333)(Lw)$

Hw = Height of wingwall
$SL:1$ = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans

See applicable box culvert standard sheet for H, S, T, and U values.





1. Extend Bars P 3'-0" minimum into bottom slab of box culvert.
2. Adjust as necessary to maintain 1 1/4" clear cover and 4" minimum between bars.
3. Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.
4. Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.
5. When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap." Unless otherwise shown on the plans or directed by the Engineer, provide a 4' wide by 1'-0" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.
6. At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.
7. 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-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
8. 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.

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.
In riprap concrete synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

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 FLARED WINGS FOR 0° SKEW BOX CULVERTS

FW-0

FILE: CD-FW0-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
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REVISIONS	DIST		COUNTY	SHEET NO.

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Maximum Wingwall Height Hw	Dimensions W	X	Y	Z	Variable Reinforcing Bars J1 Size	Spa	Bars J2 Size	Spa	Estimated (2) Quantities per ft of wing length (2-wings) Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING
(2-wings)

Bar	Size	No.	Spa
DL	#5	–	1'-0"
DS	#5	–	1'-0"
E	#4	–	1'-0"
F	#4	–	1'-0"
G	#6	4	–
H	#4	4	–
P	#4	–	1'-0"
RS	#5	3	–
RL	#5	3	–
V	#4	–	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	–	1'-6"
Q	#4	1	–
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:

(All values are in feet.)

$Hw = H + T + C - 0.250$
$A = (Hw - 0.333)(SL)$
$B = (A)$ tangent $(\theta + 15°)$
$Lw = (A) \div$ cosine $(\theta + 15°)$

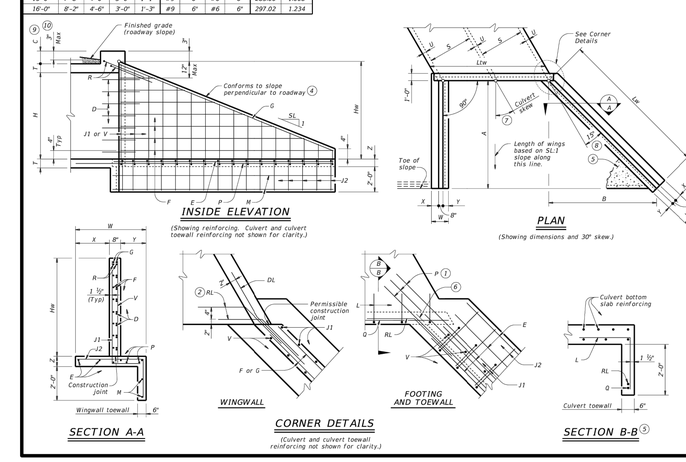
For cast-in-place culverts:
$Ltw = (N)(S) + (N + 1)(U) + \text{cosine } \theta$

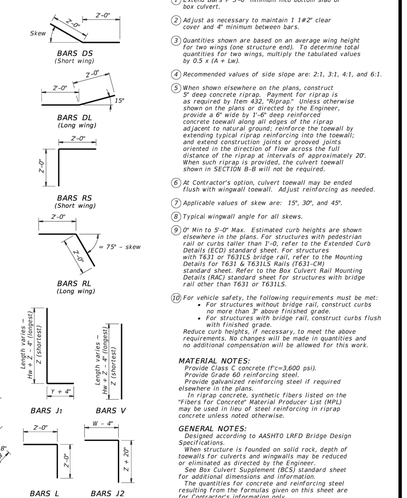
For precast culverts:
$Ltw = (N)(2U + S) + (N - 1)(0.5) + \text{cosine } \theta$

Total wingwall area (two wings $= SF$) $= 0.5\,(Hw + 0.333)\,(Lw + A)$

Hw = Height of wingwall
$SL:1$ = Side slope ratio (horizontal:1 vertical)
Lw = Length of short wingwalls
Lw = Length of long wingwalls
Ltw = Culvert toewall length
N = Number of culvert spans
θ = Culvert skew

See applicable box culvert standard sheet for H, S, T, and U values.





1. Extend Bars P 3'-0" minimum into bottom slab of box culvert.
2. Adjust as necessary to maintain 1 1/4" clear cover and 4" minimum between bars.
3. Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by 0.5 x (A + Lw).
4. Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.
5. When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap." Unless otherwise shown on the plans or directed by the Engineer, provide a 4' wide by 1'-0" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.
6. At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.
7. Applicable values of skew are: 15°, 30°, and 45°.
8. Typical wingwall angle for all skews.
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 T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) 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.

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.
In riprap concrete, 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.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

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 FLARED WINGS FOR SKEWED BOX CULVERTS

FW-S

FILE: CD-FWS-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
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REVISIONS	DIST		COUNTY	SHEET NO.

CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS (1) (2)

Nominal Culvert I.D.	Pipe Culvert Spa – G	Cross Pipe Length	Pipe Runner Length 3:1 Side Slope 0° Skew	15° Skew	30° Skew	45° Skew	4:1 Side Slope 0° Skew	15° Skew	30° Skew	45° Skew	6:1 Side Slope 0° Skew	15° Skew	30° Skew	45° Skew
24"	1'-7"	3'-5"	N/A	N/A	N/A	5'-10"	N/A	N/A	N/A	8'-1"	N/A	N/A	N/A	12'-9"
27"	1'-8"	3'-8"	N/A	N/A	5'-5"	6'-11"	N/A	N/A	7'-7"	9'-7"	N/A	N/A	11'-11"	14'-11"
30"	1'-10"	3'-11"	N/A	N/A	6'-4"	8'-0"	N/A	N/A	8'-9"	11'-0"	N/A	N/A	13'-8"	17'-0"
33"	1'-11"	4'-2"	6'-2"	6'-5"	7'-3"	9'-1"	8'-6"	8'-10"	10'-0"	12'-5"	13'-3"	13'-9"	15'-5"	19'-2"
36"	2'-1"	4'-5"	6'-11"	7'-3"	8'-2"	10'-2"	9'-6"	9'-11"	11'-2"	13'-10"	14'-9"	15'-3"	17'-2"	21'-3"
42"	2'-4"	4'-11"	8'-6"	8'-10"	9'-11"	12'-4"	11'-7"	12'-0"	13'-6"	16'-8"	17'-9"	18'-5"	20'-8"	25'-7"
48"	2'-7"	5'-5"	10'-1"	10'-5"	11'-9"	N/A	13'-7"	14'-2"	15'-10"	N/A	20'-9"	21'-6"	24'-2"	N/A
54"	3'-0"	5'-11"	11'-8"	12'-1"	N/A	N/A	15'-8"	16'-3"	N/A	N/A	23'-10"	24'-8"	N/A	N/A
60"	3'-3"	6'-5"	13'-3"	N/A	N/A	N/A	17'-9"	N/A	N/A	N/A	26'-10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS (3)

Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED (2)

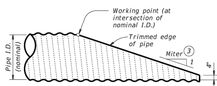
Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (no skew)	Always required
42" thru 60"	Always required	Always required

STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS (1)

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10'-0"
4" STD	4.500"	4.026"	19'-8"
5" STD	5.563"	5.047"	34'-2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) (5)

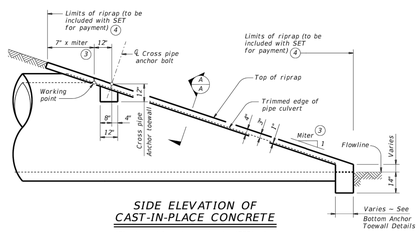
Nominal Culvert I.D.	3:1 Side Slope 0° Skew	15° Skew	30° Skew	45° Skew	4:1 Side Slope 0° Skew	15° Skew	30° Skew	45° Skew	6:1 Side Slope 0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A



NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts 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.

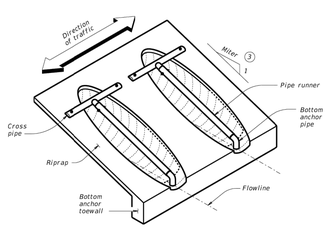
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. Pipe runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

1. Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.
2. This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

   For 60" culvert pipes, the skew must not exceed 0°.
   For 54" culvert pipes, the skew must not exceed 15°.
   For 48" culvert pipes, the skew must not exceed 30°.
   For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

   If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.
3. Miter = slope of mitered end of pipe culvert.
4. Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."
5. 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.

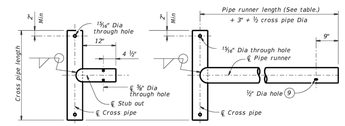
SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE

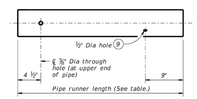
SETP-CD

FILE: CD-SETP-CD-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST		COUNTY	SHEET NO.



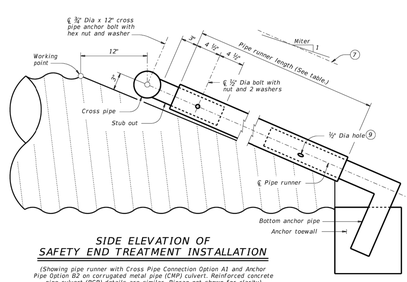
OPTION A1 — OPTION A2

CROSS PIPE AND CONNECTIONS DETAILS



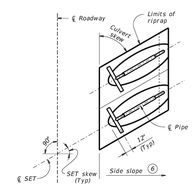
NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

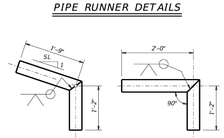


SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION

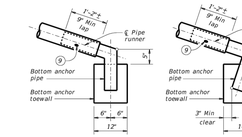
(Showing pipe runner with Cross Pipe Connection Option A1 and Anchor Pipe Option B2 on corrugated metal pipe (CMP) culvert. Reinforced concrete pipe culvert (RCP) details are similar. Riprap not shown for clarity)



PLAN OF SKEWED INSTALLATION

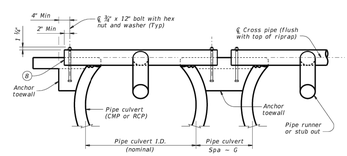


BOTTOM ANCHOR PIPE DETAILS (10)



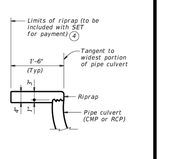
BOTTOM ANCHOR TOEWALL DETAILS

(Culvert and riprap not shown for clarity.)



SHOWING CROSS PIPE AND ANCHOR TOEWALL

SECTION A-A



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

6. Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."
7. Recommended values of side slope are 3:1, 4:1, and 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.
8. Note that actual slope of pipe runner may vary slightly from side slope of riprap and trimmed culvert pipe edge.
9. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.
10. After installation, inspect the ½" hole to ensure that the lap of the pipe runner with the bottom anchor pipe is adequate.
11. At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

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, cross pipes, and anchor pipes conforming to the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.
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:
Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.
Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.
Payment for riprap and toewall is included in the price bid for each safety end treatment.
Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap."

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE: CD-SETP-CD-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST		COUNTY	SHEET NO.

LABUS PARK

CIVIL DETAILS (SHEET 4)

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Civil Details 2.dwg

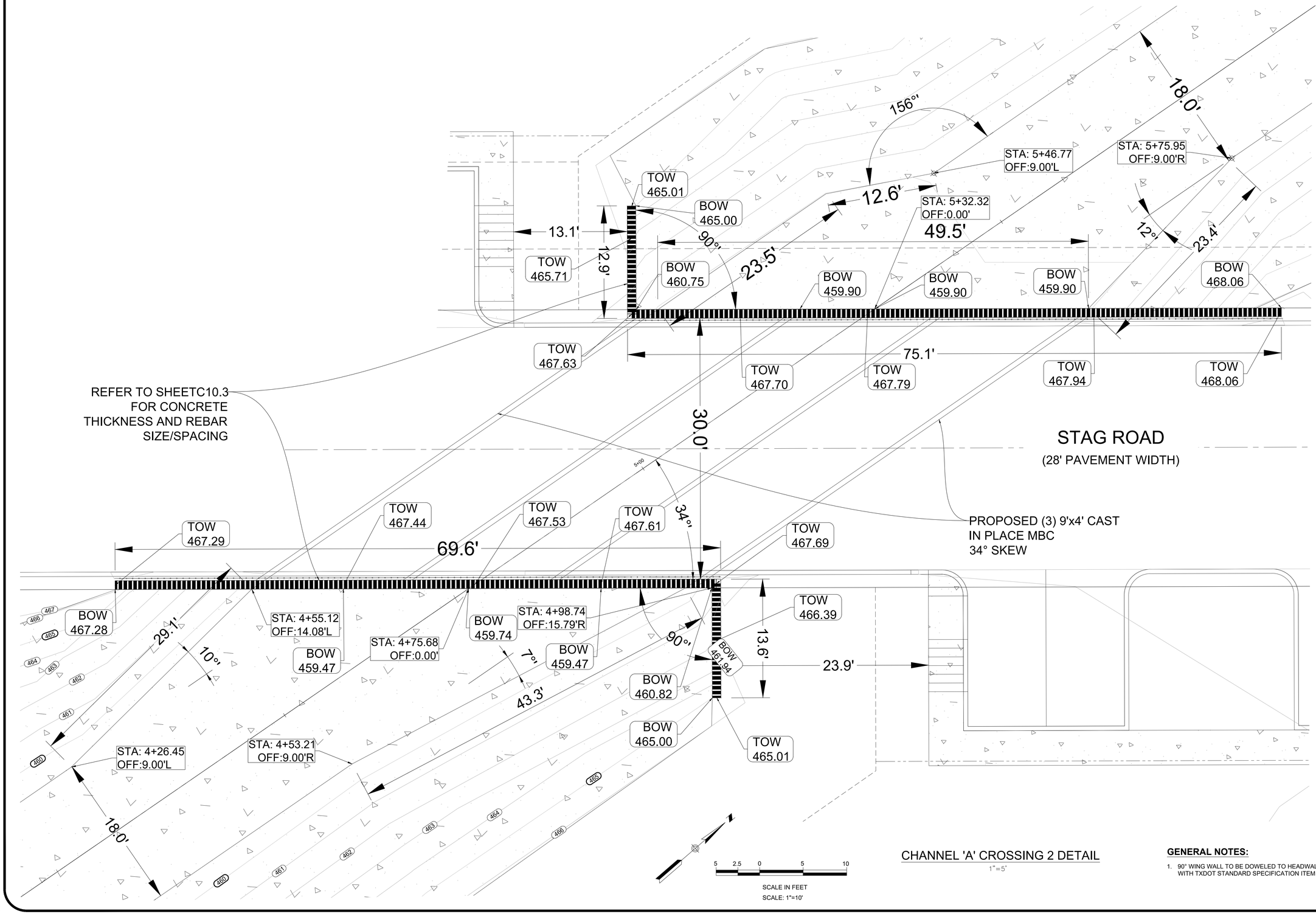
STATE OF TEXAS — WILSON HERNANDEZ 140636 — 1/26/2026

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C10.3

Last Modified: Feb 19, 26 – 09:39
Roll Plot/Plot and Pen: 24 – 14:30:43



CHANNEL 'A' CROSSING 2 DETAIL

1"=5'

GENERAL NOTES:

1. 90° WING WALL TO BE DOWELED TO HEADWALL IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATION ITEM 420 SECTION 4.7.10.

LABUS PARK

CIVIL DETAILS (SHEET 5)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Civil Details 2.dwg

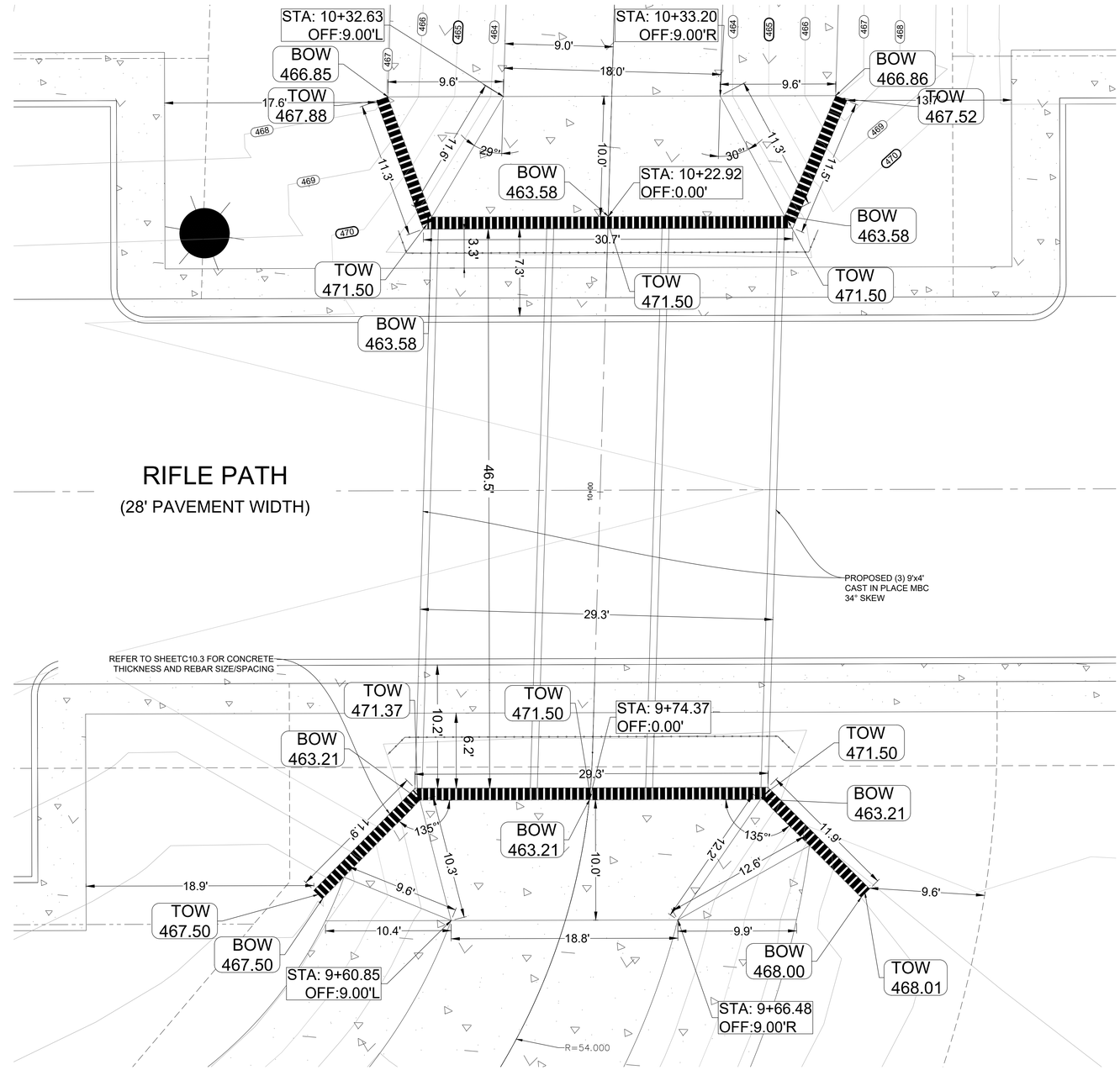
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C10.4

Last Modified: Feb. 18, 26 – 09:39
RCS Office: San Antonio



5 2.5 0 5 10

SCALE IN FEET

CHANNEL 'A' CROSSING 2 DETAIL

1"=5'

GENERAL NOTES:

1. 90° WING WALL TO BE DOWELED TO HEADWALL IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATION ITEM 420 SECTION 4.7.10.

LABUS PARK

CIVIL DETAILS (SHEET 5)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Civil Details 2.dwg

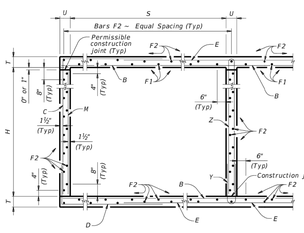
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

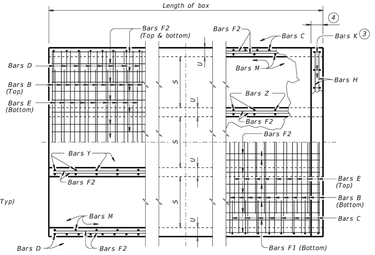
JOB NUMBER:
SA5758-0401

SHEET NO.
C10.5

Last Modified: Feb 18, 26 - 09:39
Plot Date/Time: Feb 18, 26 - 11:06:06



TYPICAL SECTION



BOTTOM SLAB

PART PLANS

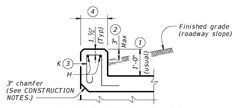
TOP SLAB

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-CM) 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 7" 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 B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min 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).



SECTION THRU CURB

TABLE OF BAR DIMENSIONS		
H	"X"	"Y"
4'-0"	4'-7 ½"	5'-5"
5'-0"	5'-7 ½"	5'-5"
6'-0"	6'-7 ½"	5'-5"
7'-0"	7'-7 ½"	5'-5"
8'-0"	8'-7 ½"	5'-5"
9'-0"	9'-7 ½"	5'-5"

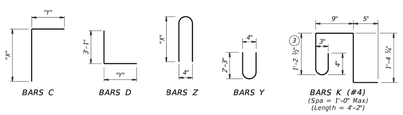
CONSTRUCTION NOTES:
Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be 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 overlay,
- 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.



BARS C BARS D BARS Z BARS Y BARS K (#4) (Spa = 1'-0" Max) (Length = 4'-2")

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS
CAST-IN-PLACE
9'-0" SPAN
0' TO 10' FILL
MC-9-10

FILE: CD-MC910-20.dgn	DN: TBE	CK: BKP	DW: TxDOT	CK: TxDOT
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REVISIONS	DIST		COUNTY	SHEET NO.

NUMBER OF SPANS

SECTION DIMENSIONS

BILLS OF REINFORCING STEEL (For Box Length = 40 feet)

QUANTITIES

S	H	T	U	Bars B No.	Bars B Size	Bars B Spa	Bars B Length	Bars B Wt	Bars C & D No.	Bars C & D Size	Bars C & D Spa	Bars C Length	Bars C Wt	Bars D Length	Bars D Wt	Bars E No.	Bars E Size	Bars E Spa	Bars E Length	Bars E Wt	Bars F1 ~ #4 No.	Bars F1 ~ #4 Spa	Bars F1 ~ #4 Length	Bars F1 ~ #4 Wt	Bars F2 ~ #4 No.	Bars F2 ~ #4 Spa	Bars F2 ~ #4 Length	Bars F2 ~ #4 Wt	Bars M ~ #4 No.	Bars M ~ #4 Spa	Bars M ~ #4 Length	Bars M ~ #4 Wt	Bars Y & Z ~ #4 No.	Bars Y & Z ~ #4 Spa	Bars Y Length	Bars Y Wt	Bars Z Length	Bars Z Wt	Bars H 4 ~ #4 Length	Bars H 4 ~ #4 Wt	Bars K No.	Bars K Wt	Per Foot of Barrel Conc (CY)	Per Foot of Barrel Reinf (Lb)	Curb Conc (CY)	Curb Reinf (Lb)	Total Conc (CY)	Total Reinf (Lb)
2	9'-0"	4'-0"	9"	7"	162	#6	6"	19'-6"	4,745	108	#6	9"	10'-1"	1,636	8'-7"	1,392	162	#6	6"	14'-1"	3,427	14	18"	39'-9"	372	62	18"	39'-9"	1,646	108	9"	4'-0"	289	54	9"	4'-9"	171	9'-5"	340	19'-6"	52	42	117	1.356	350.5	1.5	169	55.7	14,187
3	9'-0"	4'-0"	9"	7"	162	#6	6"	29'-1"	7,077	108	#6	9"	10'-1"	1,636	8'-7"	1,392	162	#6	6"	23'-8"	5,759	21	18"	39'-9"	558	89	18"	39'-9"	2,363	108	9"	4'-0"	289	108	9"	4'-9"	343	9'-5"	679	29'-1"	78	62	173	1.975	502.4	2.2	251	81.2	20,347
4	9'-0"	4'-0"	9"	7"	162	#6	6"	38'-8"	9,409	108	#6	9"	10'-1"	1,636	8'-7"	1,392	162	#6	6"	33'-3"	8,091	28	18"	39'-9"	743	116	18"	39'-9"	3,080	108	9"	4'-0"	289	162	9"	4'-9"	514	9'-5"	1,019	38'-8"	103	80	223	2.594	654.3	2.9	326	106.6	26,499
5	9'-0"	4'-0"	9"	7"	162	#6	6"	48'-3"	11,740	108	#6	9"	10'-1"	1,636	8'-7"	1,392	162	#6	6"	42'-10"	10,422	35	18"	39'-9"	929	143	18"	39'-9"	3,797	108	9"	4'-0"	289	216	9"	4'-9"	685	9'-5"	1,359	48'-3"	129	100	278	3.213	806.2	3.6	407	132.1	32,656
6	9'-0"	4'-0"	9"	7"	162	#6	6"	57'-10"	14,072	108	#6	9"	10'-1"	1,636	8'-7"	1,392	162	#6	6"	52'-5"	12,754	42	18"	39'-9"	1,115	170	18"	39'-9"	4,514	108	9"	4'-0"	289	270	9"	4'-9"	857	9'-5"	1,698	57'-10"	155	118	328	3.832	958.2	4.3	483	157.6	38,810
2	9'-0"	5'-0"	9"	7"	162	#6	6"	19'-6"	4,745	108	#6	9"	11'-1"	1,798	8'-7"	1,392	162	#6	6"	14'-1"	3,427	14	18"	39'-9"	372	68	18"	39'-9"	1,806	108	9"	5'-0"	361	54	9"	4'-9"	171	11'-5"	412	19'-6"	52	42	117	1.421	362.1	1.5	169	58.3	14,653
3	9'-0"	5'-0"	9"	7"	162	#6	6"	29'-1"	7,077	108	#6	9"	11'-1"	1,798	8'-7"	1,392	162	#6	6"	23'-8"	5,759	21	18"	39'-9"	558	97	18"	39'-9"	2,576	108	9"	5'-0"	361	108	9"	4'-9"	343	11'-5"	824	29'-1"	78	62	173	2.062	517.2	2.2	251	84.6	20,939
4	9'-0"	5'-0"	9"	7"	162	#6	6"	38'-8"	9,409	108	#6	9"	11'-1"	1,798	8'-7"	1,392	162	#6	6"	33'-3"	8,091	28	18"	39'-9"	743	126	18"	39'-9"	3,346	108	9"	5'-0"	361	162	9"	4'-9"	514	11'-5"	1,235	38'-8"	103	80	223	2.702	672.2	2.9	326	111.0	27,215
5	9'-0"	5'-0"	9"	7"	162	#6	6"	48'-3"	11,740	108	#6	9"	11'-1"	1,798	8'-7"	1,392	162	#6	6"	42'-10"	10,422	35	18"	39'-9"	929	155	18"	39'-9"	4,116	108	9"	5'-0"	361	216	9"	4'-9"	685	11'-5"	1,647	48'-3"	129	100	278	3.343	827.3	3.6	407	137.3	33,497
6	9'-0"	5'-0"	9"	7"	162	#6	6"	57'-10"	14,072	108	#6	9"	11'-1"	1,798	8'-7"	1,392	162	#6	6"	52'-5"	12,754	42	18"	39'-9"	1,115	184	18"	39'-9"	4,886	108	9"	5'-0"	361	270	9"	4'-9"	857	11'-5"	2,059	57'-10"	155	118	328	3.983	982.4	4.3	483	163.6	39,777
2	9'-0"	6'-0"	9"	7"	162	#6	6"	19'-6"	4,745	108	#6	9"	12'-1"	1,960	8'-7"	1,392	162	#6	6"	14'-1"	3,427	14	18"	39'-9"	372	74	18"	39'-9"	1,965	108	9"	6'-0"	433	54	9"	4'-9"	171	13'-5"	484	19'-6"	52	42	117	1.486	373.7	1.5	169	60.9	15,118
3	9'-0"	6'-0"	9"	7"	162	#6	6"	29'-1"	7,077	108	#6	9"	12'-1"	1,960	8'-7"	1,392	162	#6	6"	23'-8"	5,759	21	18"	39'-9"	558	105	18"	39'-9"	2,788	108	9"	6'-0"	433	108	9"	4'-9"	343	13'-5"	968	29'-1"	78	62	173	2.148	532.0	2.2	251	88.1	21,529
4	9'-0"	6'-0"	9"	7"	162	#6	6"	38'-8"	9,409	108	#6	9"	12'-1"	1,960	8'-7"	1,392	162	#6	6"	33'-3"	8,091	28	18"	39'-9"	743	136	18"	39'-9"	3,611	108	9"	6'-0"	433	162	9"	4'-9"	514	13'-5"	1,452	38'-8"	103	80	223	2.810	690.1	2.9	326	115.3	27,931
5	9'-0"	6'-0"	9"	7"	162	#6	6"	48'-3"	11,740	108	#6	9"	12'-1"	1,960	8'-7"	1,392	162	#6	6"	42'-10"	10,422	35	18"	39'-9"	929	167	18"	39'-9"	4,434	108	9"	6'-0"	433	216	9"	4'-9"	685	13'-5"	1,936	48'-3"	129	100	278	3.472	848.3	3.6	407	142.5	34,338
6	9'-0"	6'-0"	9"	7"	162	#6	6"	57'-10"	14,072	108	#6	9"	12'-1"	1,960	8'-7"	1,392	162	#6	6"	52'-5"	12,754	42	18"	39'-9"	1,115	198	18"	39'-9"	5,257	108	9"	6'-0"	433	270	9"	4'-9"	857	13'-5"	2,420	57'-10"	155	118	328	4.134	1,006.5	4.3	483	169.6	40,743
2	9'-0"	7'-0"	9"	7"	162	#6	6"	19'-6"	4,745	108	#6	9"	13'-1"	2,122	8'-7"	1,392	162	#6	6"	14'-1"	3,427	14	18"	39'-9"	372	74	18"	39'-9"	1,965	108	9"	7'-0"	505	54	9"	4'-9"	171	15'-5"	556	19'-6"	52	42	117	1.551	381.4	1.5	169	63.5	15,424
3	9'-0"	7'-0"	9"	7"	162	#6	6"	29'-1"	7,077	108	#6	9"	13'-1"	2,122	8'-7"	1,392	162	#6	6"	23'-8"	5,759	21	18"	39'-9"	558	105	18"	39'-9"	2,788	108	9"	7'-0"	505	108	9"	4'-9"	343	15'-5"	1,112	29'-1"	78	62	173	2.235	541.4	2.2	251	91.6	21,907
4	9'-0"	7'-0"	9"	7"	162	#6	6"	38'-8"	9,409	108	#6	9"	13'-1"	2,122	8'-7"	1,392	162	#6	6"	33'-3"	8,091	28	18"	39'-9"	743	136	18"	39'-9"	3,611	108	9"	7'-0"	505	162	9"	4'-9"	514	15'-5"	1,668	38'-8"	103	80	223	2.918	701.4	2.9	326	119.6	28,381
5	9'-0"	7'-0"	9"	7"	162	#6	6"	48'-3"	11,740	108	#6	9"	13'-1"	2,122	8'-7"	1,392	162	#6	6"	42'-10"	10,422	35	18"	39'-9"	929	167	18"	39'-9"	4,434	108	9"	7'-0"	505	216	9"	4'-9"	685	15'-5"	2,224	48'-3"	129	100	278	3.602	861.3	3.6	407	147.7	34,860
6	9'-0"	7'-0"	9"	7"	162	#6	6"	57'-10"	14,072	108	#6	9"	13'-1"	2,122	8'-7"	1,392	162	#6	6"	52'-5"	12,754	42	18"	39'-9"	1,115	198	18"	39'-9"	5,257	108	9"	7'-0"	505	270	9"	4'-9"	857	15'-5"	2,781	57'-10"	155	118	328	4.285	1,021.4	4.3	483	175.7	41,338
2	9'-0"	8'-0"	9"	7"	162	#6	6"	19'-6"	4,745	108	#6	9"	14'-1"	2,285	8'-7"	1,392	162	#6	6"	14'-1"	3,427	14	18"	39'-9"	372	80	18"	39'-9"	2,124	108	9"	8'-0"	577	54	9"	4'-9"	171	17'-5"	628	19'-6"	52	42	117	1.616	393.0	1.5	169	66.1	15,890
3	9'-0"	8'-0"	9"	7"	162	#6	6"	29'-1"	7,077	108	#6	9"	14'-1"	2,285	8'-7"	1,392	162	#6	6"	23'-8"	5,759	21	18"	39'-9"	558	113	18"	39'-9"	3,000	108	9"	8'-0"	577	108	9"	4'-9"	343	17'-5"	1,257	29'-1"	78	62	173	2.321	556.2	2.2	251	95.0	22,499
4	9'-0"	8'-0"	9"	7"	162	#6	6"	38'-8"	9,409	108	#6	9"	14'-1"	2,285	8'-7"	1,392	162	#6	6"	33'-3"	8,091	28	18"	39'-9"	743	146	18"	39'-9"	3,877	108	9"	8'-0"	577	162	9"	4'-9"	514	17'-5"	1,885	38'-8"	103	80	223	3.026	719.3	2.9	326	123.9	29,099
5	9'-0"	8'-0"	9"	7"	162	#6	6"	48'-3"	11,740	108	#6	9"	14'-1"	2,285	8'-7"	1,392	162	#6	6"	42'-10"	10,422	35	18"	39'-9"	929	179	18"	39'-9"	4,753	108	9"	8'-0"	577	216	9"	4'-9"	685	17'-5"	2,513	48'-3"	129	100	278	3.731	882.4	3.6	407	152.8	35,703
6	9'-0"	8'-0"	9"	7"	162	#6	6"	57'-10"	14,072	108	#6	9"	14'-1"	2,285	8'-7"	1,392	162	#6	6"	52'-5"	12,754	42	18"	39'-9"	1,115	212	18"	39'-9"	5,629	108	9"	8'-0"	577	270	9"	4'-9"	857	17'-5"	3,141	57'-10"	155	118	328	4.437	1,045.6	4.3	483	181.8	42,305
2	9'-0"	9'-0"	9"	7"	162	#6	6"	19'-6"	4,745	108	#6	9"	15'-1"	2,447	8'-7"	1,392	162	#6	6"	14'-1"	3,427	14	18"	39'-9"	372	86	18"	39'-9"	2,284	108	9"	9'-0"	649	54	9"	4'-9"	171	19'-5"	700	19'-6"	52	42	117	1.681	404.7	1.5	169	68.7	16,356
3	9'-0"	9'-0"	9"	7"	162	#6	6"	29'-1"	7,077	108	#6	9"	15'-1"	2,447	8'-7"	1,392	162	#6	6"	23'-8"	5,759	21	18"	39'-9"	558	121	18"	39'-9"	3,213	108	9"	9'-0"	649	108	9"	4'-9"	343	19'-5"	1,401	29'-1"	78	62	173	2.407	571.0	2.2	251	98.4	23,090
4	9'-0"	9'-0"	9"	7"	162	#6	6"	38'-8"	9,409	108	#6	9"	15'-1"	2,447	8'-7"	1,392	162	#6	6"	33'-3"	8,091	28	18"	39'-9"	743	156	18"	39'-9"	4,142	108	9"	9'-0"	649	162	9"	4'-9"	514	19'-5"	2,101	38'-8"	103	80	223	3.134	737.2	2.9	326	128.2	29,814
5	9'-0"	9'-0"	9"	7"	162	#6	6"	48'-3"	11,740	108	#6	9"	15'-1"	2,447	8'-7"	1,392	162	#6	6"	42'-10"	10,422	35	18"	39'-9"	929	191	18"	39'-9"	5,072	108	9"	9'-0"	649	216	9"	4'-9"	685	19'-5"	2,802	48'-3"	129	100	278	3.861	903.5	3.6	407	158.0	36,545
6	9'-0"	9'-0"	9"	7"	162	#6	6"	57'-10"	14,072	108	#6	9"	15'-1"	2,447	8'-7"	1,392	162	#6	6"	52'-5"	12,754	42	18"	39'-9"	1,115	226	18"	39'-9"	6,001	108	9"	9'-0"	649	270	9"	4'-9"	857	19'-5"	3,502	57'-10"	155	118	328	4.588	1,069.7	4.3	483	187.8	43,272

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS
CAST-IN-PLACE
9'-0" SPAN
0' TO 10' FILL
MC-9-10

FILE: CD-MC910-20.dgn	DN: TBE	CK: BKP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST		COUNTY	SHEET NO.

LABUS PARK

CIVIL DETAILS (SHEET 5)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_Civil Details 2.dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2100
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO. C10.6

Last Modified: Feb. 18, 26 – 09:39
File: C:\pwworking\ljaus\d1035\D0393022

Tree Inventory Worksheet to Determine Preservation and Canopy Shade Coverage

Tag #	Species	Understory Species* 5.0" - 11.5" Removed	Understory Species* 5.0" - 11.5" Preserved	Significant Tree 6" - 23.5" Removed	Significant Tree 6" - 23.5" Preserved	Significant Tree** 10.0" - 23.5" Removed	Significant Tree** 10.0" - 23.5" Preserved	Heritage 3:1 24" + HERITAGE TREES PRESERVED AT 100% Removed	Heritage 3:1 24" + HERITAGE TREES PRESERVED AT 100% Preserved	Heritage 1:1 24" + HERITAGE TREES PRESERVED AT 100% Removed	Heritage 1:1 24" + HERITAGE TREES PRESERVED AT 100% Preserved	Additional Inches Preserved for Mitigation *** Preserved	Tree Canopy Cover Shade Value
854	SUGARBERRY - (Out of Bounds)			0									0
855	MESQUITE- (Easement)						0						0
856	MESQUITE						12						550
857	MESQUITE						15						550
858	SUGARBERRY- (Out of Bounds)				0								0
859	SUGARBERRY- (Out of Bounds)								0				0
860	SUGARBERRY- (Out of Bounds)								0				0
861	SUGARBERRY								24				875
862	SUGARBERRY- (Out of Bounds)				0								0
863	SUGARBERRY								34				875
864	SUGARBERRY- (Out of Bounds)				0								0
865	SUGARBERRY- (Out of Bounds)								0				0
866	SUGARBERRY- (Out of Bounds)				0								0
867	SUGARBERRY- (Easement)			0									0
868	SUGARBERRY				9								875
869	MESQUITE- (Out of Bounds)						0						0
870	OAK								31				875
871	OAK				18								875
872	SUGARBERRY - (Easement)			0									0
873	SUGARBERRY - (Easement)			0									0
874	SUGARBERRY - (Easement)			0									0
875	SUGARBERRY - (Easement)			0									0
876	OAK - (Easement)			0									0
877	MESQUITE - (Easement)					0							0
878	MESQUITE - (Easement)					0							0
879	MESQUITE - (Easement)					0							0
880	SUGARBERRY - (Easement)			0									0
881	PECAN								28				1200
882	OAK				22								875
883	MESQUITE					22							0
884	SUGARBERRY- (Out of Bounds)				0								0
885	SUGARBERRY- (Easement)								0				0
886	SUGARBERRY- (Easement)				0								0
887	SUGARBERRY				14								875
888	SUGARBERRY			10									
Subtotal Inches		**0**	**0**	**10**	**63**	**22**	**27**	**0**	**117**	**0**	**0**	**0**	**8425**
TOTAL INCHES		**0**		**73**		**49**		**117**		**0**			

Preservation by Category:	Percent Preserved	Did You Met the Requirements of the City Tree Ordinance?
Understory Species	100%	Yes
Significant Trees	74%	Yes
Heritage Trees (3:1)	100%	Yes
Heritage Trees (1:1)	100%	Yes

TREE CANOPY CALCULATIONS

TOTAL AREA BEING PLATTED = 48.99 ACRES = 2,134,004.40 SQ-FT

CANOPY REQUIRED = 25% = 533,501.1 SQ-FT

SQ-FT OF EXISTING CANOPY PRESERVED = 17,950 SQ-FT

PROPOSED CANOPY = PAYMENT = 533,501.1 - 9,300 = 524,201.1 SQ-FT

524,201.1 / 787.5 SF (90% of 875) = 665.7 1.5" CALIPER TREES = 998.5" x $200 = $199,700.00 to TREE CANOPY FUND

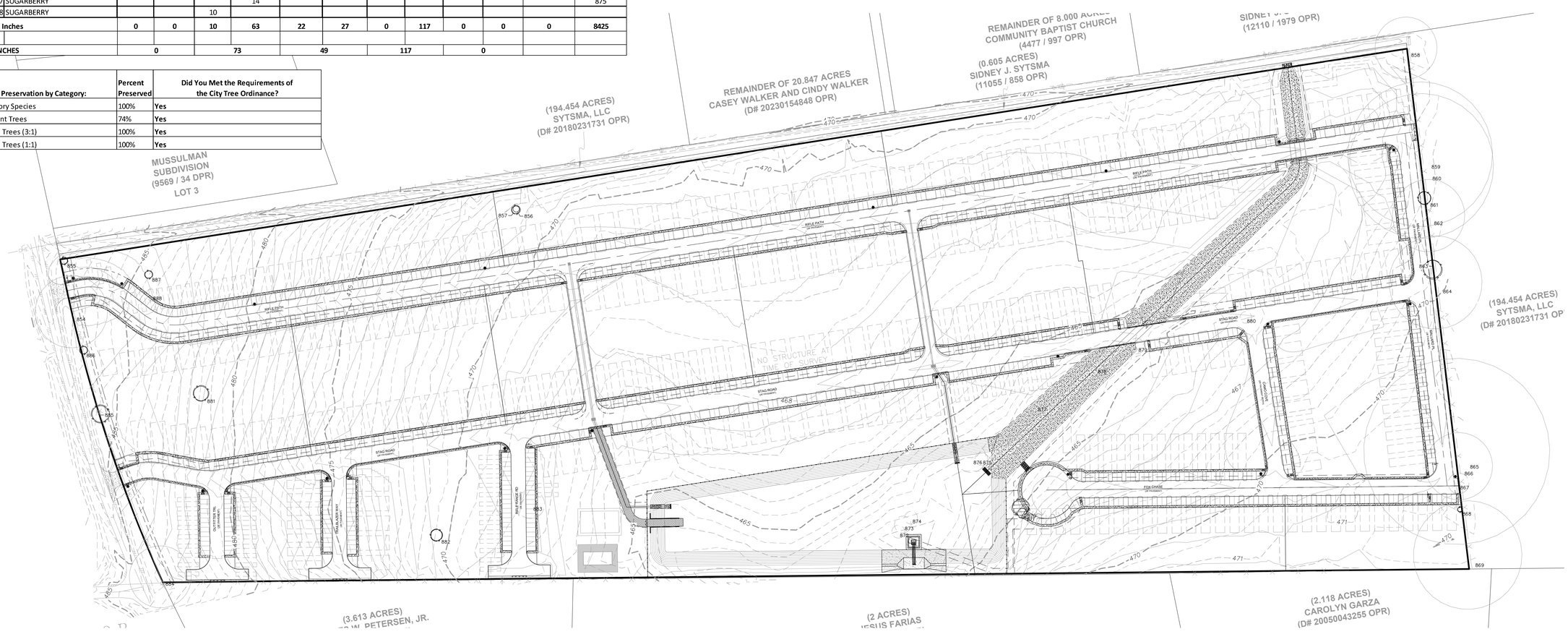
TREE NOTES:

1. ALL PRESERVED AND PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATING, FERTILIZING, PRUNING, AND OTHER MAINTENANCE AS NEEDED.
2. ALL TREE PROTECTION SHALL CONSIST OF LEVEL I FENCE PROTECTION UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PROTECT ALL OUT OF BOUNDS TREES UNLESS OTHERWISE NOTED (TREE #854).

100 50 0 100 200

SCALE IN FEET
SCALE: 1"=100'

TP — TREE PROTECTION
TREE (PRESERVE)
TREE (REMOVE)
HERITAGE TREE (PRESERVE)
HERITAGE TREE (REMOVE)
TREE (OUT OF SITE BOUNDARY)



LABUS PARK
TREE PRESERVATION PLAN

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: RM, MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_trees.dwg

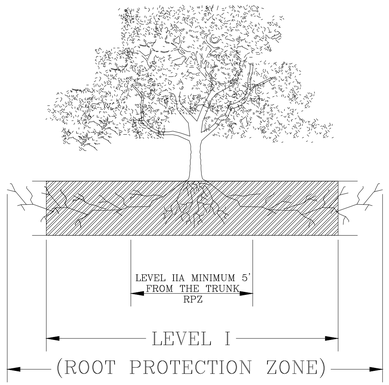
1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
140636
LICENSED
PROFESSIONAL ENGINEER

LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER:
SA5758-0401

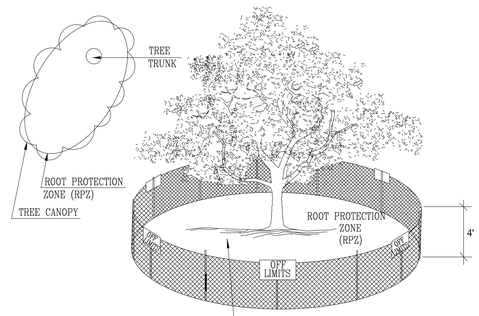
SHEET NO.
C11.0

Last Modified: Jan. 30, 26 - 11:57
File Name: Fri, Jan 16, 26 - 9:40:05



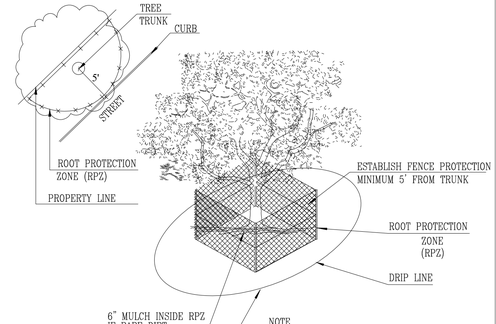
1.1.1 ELEVATION
N. T. S.

ROOT PROTECTION ZONE–THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR ROOT PROTECTION ZONE.



NOTE:
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

1.1.2 LEVEL I & FENCE PROTECTION
N. T. S.



NOTE
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

1.1.3 LEVEL II A FENCE PROTECTION
N. T. S.

GENERAL NOTES

1. ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802. TREE PRUNING, SOIL AMENDING AND FERTILIZATION, UNLESS SPECIFIED, TREES SHALL RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 802. TREES TO RECEIVE LEVEL 2 A PROTECTION AS PER ITEM No. 802 ARE IDENTIFIED ON THE TREE PROTECTION PLAN.

2. ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.

3. NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.

4. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.

5. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.

6. THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS 1 FOOT PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A 10–INCH DIAMETER TREE WOULD HAVE A 5–FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. LIVE OAK WOUNDS SHALL BE PAINTED OVER, WITHIN 20 MINUTES TO PREVENT OAK WILT.

7. ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER OR CITY INSPECTOR.

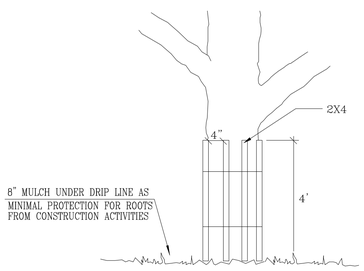
8. GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL WITHIN THE FENCED ROOT ZONE AREAS.

9. TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND AS DIRECTED BY THE PROJECT MANAGER OR CITY INSPECTOR.

10. TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE ENGINEER'S SATISFACTION.

11. EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.

12. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST PRIOR TO ITS REMOVAL.

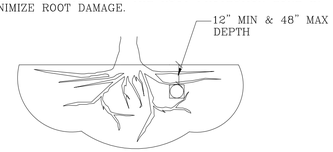


NOTE
WRAP TREE TRUNK WITH 2"X4" STUDS AND ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

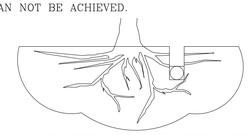
1.1.4 LEVEL II B FENCE PROTECTION
N. T. S.

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS TROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.

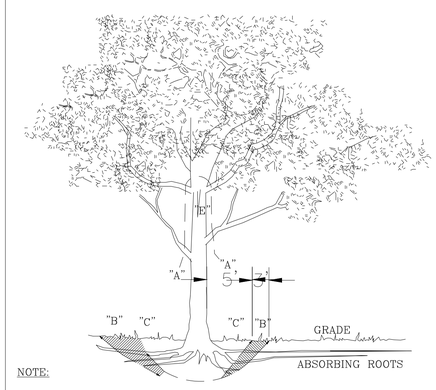


TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE–DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

1.2 BORING THRU TREE ROOT ZONE
N. T. S.



NOTE:

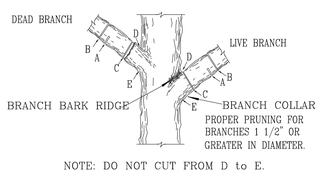
A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.

"B" BEGIN EXCAVATION APPROX. 8' FROM THE TRUNK – CUT THRU ANCHOR ROOTS AT AN ANGLE – 3' TO 4' DEEP

"C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)

"D" BACKFILL HOLE AND CLEAN UP.

1.3 TREE REMOVAL DIAGRAM
N. T. S.



NOTE: DO NOT CUT FROM D to E.

A. FIRST CUT – TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
B. SECOND CUT – TO REDUCE THE WEIGHT OF BRANCH.
C. FINAL CUT – ALLOW FOR HEALING COLLAR BUT NO STUBS
D. BRANCH RIDGES – INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.

1.4 BRANCH PRUNING DETAIL
N. T. S.

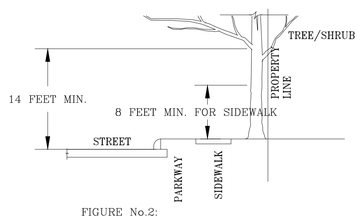
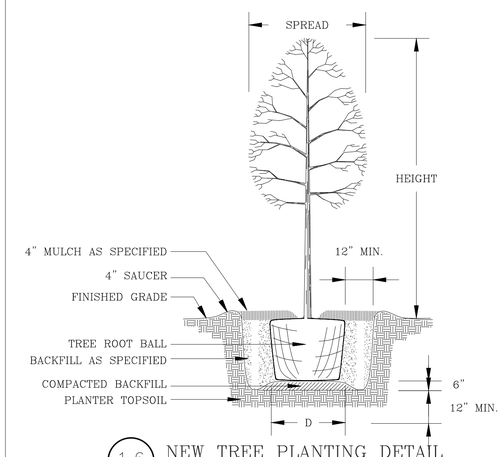


FIGURE No.2:

A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

1.5 BRANCH CLEARANCE DETAIL
N. T. S.



1.6 NEW TREE PLANTING DETAIL
N. T. S.

LABUS PARK
TREE PRESERVATION PLAN DETAILS

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE: 1/26/2026
DESIGNED BY: JC, WH
DRAWN BY: MAS
CHECKED BY: JC, WH
DRAWING NAME: sh_trees.dwg

1/26/2026
STATE OF TEXAS
WILSON HERNANDEZ
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TBPE No. F-1386

JOB NUMBER: SA5758-0401

SHEET NO.
C11.1

Last Modified: Jan 30, 26 – 11:57
File: C11.1 Trees.dwg