BLACKWELL SUBDIVISION UNIT 1

NEW BRAUNFELS, TEXAS ETJ
STREET, DRAINAGE, WATER, SANITARY SEWER, AND UTILITY IMPROVEMENTS

CONSTRUCTION PLAN NOTES

REVISED 03/2020

THESE NOTES MUST APPEAR ON THE COVER AND/OR "NOTES" SHEET OF ALL SUBDIVISION CONSTRUCTION PLANS AND ON COMMERCIAL PLANS WHERE APPLICABLE:

IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.

THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SCHEDULE A PRECONSTRUCTION MEETING.

FOR PUBLIC INFRASTRUCTURE PERMIT OR GRADING PERMIT PROJECTS:
- FOR INSPECTIONS, YOU MUST CALL BEFORE 12:00 P.M., 48 HOURS PRIOR TO YOUR INSPECTION REQUEST.
- EACH INSPECTION WILL BE ALLOTTED 1 HOUR UNLESS YOU REQUEST FOR MORE TIME.
- ONCE YOUR REQUEST HAS BEEN ACCEPTED, YOU WILL RECEIVE A CALL FROM THE CITY OF NEW BRAUNFELS INSPECTOR.

FOR COMMERCIAL PERMIT **(CP)** PROJECTS:
- ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
- FAXED IN AT 830-608-2117 OR,
- E-MAILED AT INSPECTIONS@NBTEXAS.ORG.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF, IN THE OPINION OF THE ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

A TXDOT TYPE II B-B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS, IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TXDOT MATERIAL, EPOXY AND ADHESIVE SPECIFICATIONS.

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS

AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING" PLANS, AND A DIGITAL COPY OF ALL PLANS (PDF COPY) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE

ENGINEER OF RECORD IS RESPONSIBLE TO ENSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE

DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

SOILS TESTING

PROCTORS SHALL BE SAMPLED FROM ON-SITE MATERIAL (ON-SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS
-PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO ANY DENSITY TESTS.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OR FILL/EMBANKMENT MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED EIGHT INCHES (8") LOOSE. THE REQUIRED DENSITY FOR THE FILL/EMBANKMENT MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 132. THE REQUIRED DENSITY FOR THE FLEXIBLE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 247, EACH LAYER OF MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT. UPON COMPLETION OF TESTING, THE GEOTECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE
BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

ITEM 340

ASPHALTIC CONCRETE PAVEMENT SHALL BE THE TYPE OF HOT MIX ASPHALT AS DEFINED IN TXDOT'S STANDARD SPECIFICATIONS FOR CURRENT TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES.

THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS.

THE ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE ASPHALTIC CONCRETE PAVEMENT SUB-SURFACE COURSES SHALL BE PLANT MIXED, HOT LAID TYPE "B" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE MIXTURE SHALL BE DESIGNED PER THE DESIGN REQUIREMENTS SPECIFIED IN TXDOT ITEM 340 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX-227-F. PLACE THE MIXTURE WHEN THE ROADWAY SURFACE TEMPERATURE IS AT OR ABOVE 60°F. COMPLETE ALL COMPACTION OPERATIONS BEFORE THE PAVEMENT TEMPERATURE DROPS BELOW 160°F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF ±0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

UTILITY TRENCH COMPACTION (ADDED TO THE CONSTRUCTION PLANS ON ALL UTILITY PLAN SHEETS).

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREETS INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION

(INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS).
1. SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
2. SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE.

STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3"X5" ROCK TO BE PLACED A MINIMUM LENGTH OF 25-FT, AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT- OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

(NOTES TO BE PLACED ON ALL WW PLAN & DETAIL SHEETS)

ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS. NO VALVES, HYDRANTS, ETC. SHALL BE

CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24 HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SEEDING AND ESTABLISHMENT OF VEGETATION WITHIN EARTHEN CHANNELS, STORMWATER BASINS AND DISTURBED AREAS

SEEDING FOR THE PURPOSE OF ESTABLISHING VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED IN ACCORDANCE WITH ITEM 164 (SEEDING FOR EROSION CONTROL OF TXDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES MANUAL. ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15 IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1-NOV 30, CEREAL RYE AND SEED SPECIES SPECIFIED FOR THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED. FOR COOL SEASON SEEDING APPLICATIONS, COOL SEASON SEED MIXES SHALL BE USED IN CONJUNCTION WITH SEED MIXES FOR THE SAN ANTONIO DISTRICT AS SPECIFIED IN TABLE 1 AND 2 UNDER ITEM 164.

IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E. COMPOST/ FERTILIZER INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL, COMPOST AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL, RESPECTIVELY.

AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET TXDOT SPECIFICATIONS FOR ITEM 160 TOPSOIL. TESTING PER TEX-128-E WILL BE REQUIRED AT THE CITY'S REQUEST.

WATERING MAY ALSO BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL SHALL BE ADHERED TO FOR VEGETATIVE WATERING.

IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR/ DEVELOPER SHALL PROVIDE A PLAN TO THE CITY OF NEW BRAUNFELS DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

LEGAL DESCRIPTION

BEING 16.181 ACRES OF LAND INCLUSIVE OF 0.354 ACRES OF RIGHT OF WAY DEDICATION TO TXDOT OUT OF THE R. XIMESES SURVEY IN GUADALUPE COUNTY, TEXAS, AND BEING THAT PROPERTY CONVEYED TO BRIAN P. BRANDY AND 1044 LAND PARTNERS, LLC A TEXAS LIMITED LIABILITY COMPANY IN A WARRANTY DEED RECORDED IN VOLUME 2299014953 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

CONSTRUCTION PLAN NOTES

a. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD

b. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID

c. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLAN. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY.

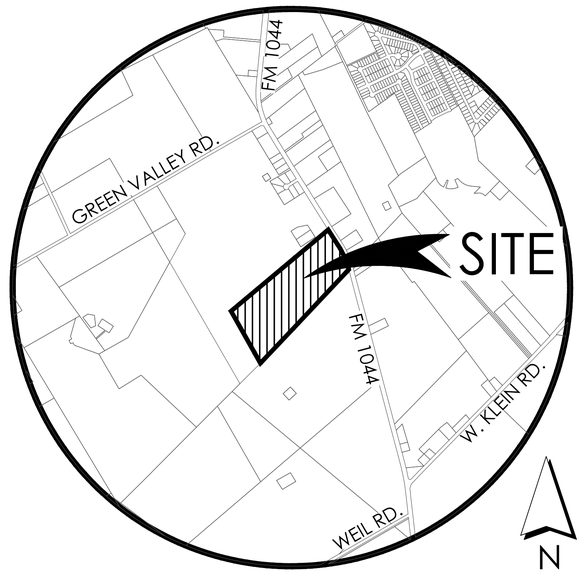
d. PROJECT IS A TYPE 3 DEVELOPMENT

e. THIS PROJECT IS LOCATED WITHIN FEMA FLOOD HAZARD ZONE X AS SHOWN ON FEMA FIRM MAP 48091C0445F EFFECTIVE DATE 09/02/2009

f. THIS PROJECT IS NOT LOCATED OVER ANY AREAS PERTAINING TO THE EDWARDS AQUIFER

LOCATION MAP

NOT-TO-SCALE



BLACKWELL UNIT 1	
Sheet Number	Sheet Title
0.0	COVER SHEET
0.1	GENERAL NOTES
0.2	SUBDIVISION PLAT
0.3	SUBDIVISION PLAT
1.0	OVERALL UTILITY PLAN
1.1	OVERALL UTILITY PLAN
2.0	ONSITE MASTER DRAINAGE PLAN - ULTIMATE CONDITIONS
2.1	ONSITE MASTER DRAINAGE PLAN - INTERIM CONDITIONS
2.2	PRE-PROJECT SCS INFORMATION
2.3	POST-PROJECT SCS INFORMATION
3.0	OVERALL GRADING PLAN
3.1	OVERALL GRADING PLAN
4.0	DRAIN A STA 0+40.00 - 4+40.00
4.1	DRAIN A STA 4+40.00 - 7+60.00
4.2	DRAIN A STA 7+60.00 - END
4.3	DRAIN B STA 0+40.00 - END
4.4	DRAIN C STA 0+40.00 - END
4.5	DRAIN D 0+40.00 - END
4.6	DRAIN E STA 0+40.00 - END
4.7	DRAIN F STA 0+96.39 - END
4.8	DRAIN G STA 0+57.70 - END
4.9	DRAIN H STA 0+57.70 - END
4.10	DETENTION POND A
4.11	DETENTION POND DETAILS
4.12	MISC. DETAIL (SHEET 1 OF 5)
4.13	MISC. DETAIL (SHEET 2 OF 5)
4.14	MISC. DETAIL SHEET (SHEET 3 OF 5)
4.15	MISC. DETAIL SHEET (SHEET 4 OF 5)
4.16	MISC. DETAIL (SHEET 5 OF 5)
5.0	FM 1044 RIGHT TURN LANE
5.1	FM 1044 ACCELERATION LANE
5.2	TXDOT DETAIL SHEET (SHEET 1 OF 4)
5.3	TXDOT DETAIL SHEET (SHEET 2 OF 4)
5.4	TXDOT DETAIL SHEET (SHEET 3 OF 4)
5.5	TXDOT DETAIL SHEET (SHEET 4 OF 4)
5.6	SPRINGBOK RUN STA 1+00.00 - END
5.7	ORYX GARDEN & IMPALA HILL STA 1+00.00 - END
5.8	WATERBUCK COVE STA 1+00.00 - END
5.9	STREET SIGNAGE PLAN (SHEET 1 OF 2)
5.10	STREET SIGNAGE PLAN (SHEET 2 OF 2)
5.11	PAVEMENT RECOMENDATION PLAN
5.12	CONB STANDARD DETAILS
5.13	PEDESTRIAN ACCESS DETAILS
5.14	FIRE EMERGENCY ACCESS ROAD STA 1+00.00 - END
5.15	FIRE EMERGENCY ACCESS ROAD
5.16	TXDOT TRAFFIC CONTROL PLAN
6.0	SANITARY SEWER PLAN COVER SHEET
6.1	OVERALL SANITARY SEWER PLAN
6.2	OVERALL SANITARY SEWER PLAN
6.3	SANITARY SEWER LINE A (1 OF 2)
6.4	SANITARY SEWER LINE A (2 OF 2)
6.5	SANITARY SEWER LINE B
6.6	SANITARY SEWER LINE C
6.7	SANITARY SEWER LINE E
6.8	GBRA SANITARY SEWER DETAIL SHEET (1 OF 2)
6.9	GBRA SANITARY SEWER DETAIL SHEET (2 OF 2)
7.0	WATER COVER SHEET
7.1	OVERALL WATER PLAN
7.2	OVERALL WATER PLAN
7.3	16IN WATER PLAN AND PROFILE
7.4	GVSUD WATER DETAILS (SHEET 1 OF 2)
7.5	GVSUD WATER DETAILS (SHEET 2 OF 2)
8.0	STORMWATER POLLUTION PREVENTION PLAN
8.1	STORMWATER POLLUTION PREVENTION PLAN
8.2	STORMWATER POLLUTION PREVENTION PLAN DETAIL SHEET

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

04/06/2026

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.918.1494

Date: 12/13/2023 3:37:16 PM
K:\Civil\Active Projects\Blackwell Subdivision\CAD\Sheet\CO_BLACKWELL.dwg

THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

LEGAL DESCRIPTION

BEING 16.181 ACRES OF LAND INCLUSIVE OF 0.354 ACRES OF RIGHT OF WAY DEDICATION TO TXDOT OUT OF THE R. XIMESES SURVEY IN GUADALUPE COUNTY, TEXAS, AND BEING THAT PROPERTY CONVEYED TO BRIAN P. BRANDY AND 1044 LAND PARTNERS, LLC A TEXAS LIMITED LIABILITY COMPANY IN A WARRANTY DEED RECORDED IN VOLUME 2299014953 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

GVEC NOTES:

WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.

GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.

ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.

ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.

ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5'X 30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES.

ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.

ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.

THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

GBRA NOTES:

CONSTRUCTION NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH GBRA STANDARDS AS PUBLISHED AT THE FOLLOWING WEBSITE: HTTP://WWW.GBRA.ORG/PUBLIC/WATERWASTEWATERSERVICES.ASPX

2. COPIES OF EACH CONSTRUCTION SUBMITTAL (SHOP DRAWINGS, PRODUCT DATA, ETC.) SHALL BE PROVIDED FOR GBRA REVIEW AND APPROVAL PRIOR TO FABRICATION. USE CLOUDS, BOXES, ARROWS, ETC., TO CLEARLY MARK ALL PROPOSED OPTIONS AND PART NUMBERS. LIST ANY PROPOSED DEVIATIONS ON THE SUBMITTAL COVER SHEET. ALLOW 21 CALENDAR DAYS FOR REVIEW.

3. ALL WATER AND WASTEWATER INSTALLATIONS MUST BE INSPECTED AND APPROVED BY GBRA PRIOR TO BACKFILLING OR OTHERWISE COVERING THE WORK. THIS INCLUDES CROSSINGS OF WATER AND WASTEWATER BY OTHER UTILITIES. GBRA WILL PERFORM A MAXIMUM OF ONE (1) INSPECTION DAILY FOR ONE (1) HOUR DURATION BETWEEN 8:00 AM AND 5:00 PM EXCLUDING WEEKENDS AND HOLIDAYS. CALL 830-379-5822 TO SCHEDULE INSPECTIONS (48 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL INSPECTIONS).

4. TRENCH EXCAVATION AND PIPE INSTALLATION WILL NOT BE PERMITTED UNTIL SUBGRADE HAS BEEN ESTABLISHED. SURVEY STAKING MUST BE INSTALLED PRIOR TO AND MAINTAINED DURING TRENCH EXCAVATION AND PIPE INSTALLATION. SURVEY STAKING SHALL INCLUDE HORIZONTAL AND VERTICAL CONTROL AT A MINIMUM OF 50 FOOT STATION INTERVALS. HORIZONTAL OFFSETS SHALL BE 15 FEET MAXIMUM. INSTALL PROPERTY PINS AND STAKES. MARK FINISH GRADE LINES WITH CUT/FILL ON OFFSET STAKES AND PROPERTY STAKES. ALL MARKS SHALL FACE THE PIPELINE. SURVEY STAKING SHALL BE PERFORMED BY THE CONTRACTOR.

5. BACKFLOW PREVENTION IN THE FORM OF A REDUCED PRESSURE BACKFLOW ASSEMBLY MUST BE PROVIDED FOR TEMPORARY CONNECTIONS TO EXISTING WATER LINES. BACKFLOW DEVICES SHALL BE TESTED BY A LICENSED BACKFLOW PREVENTION ASSEMBLY TESTER. SUBMIT TEST REPORTS.

6. PVC MALE ADAPTERS ARE NOT ALLOWED.

7. SANITARY TAPPING SADDLES ARE NOT ALLOWED.

8. MANHOLE INTERNAL DROPS ARE NOT ALLOWED.

9. PIPE BELLS SHALL BE INSTALLED IN UPSTREAM DIRECTION.

10. ALL PIPING SHALL BE DESIGNED IN STRAIGHT ALIGNMENT VERTICALLY AND HORIZONTALLY. PIPE CURVATURE AND/OR DEFLECTION ARE NOT ALLOWED.

11. INSTALL CONCRETE THRUST BLOCKING AND MECHANICAL RESTRAINTS FOR PRESSURE PIPING SYSTEMS.

12. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 12 INCHES VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.

13. WATER AND WASTEWATER PIPE LENGTHS SHALL BE CENTERED AT CROSSINGS WITH ALL OTHER UTILITIES, INCLUDING DRY UTILITY SERVICES. BOTH PIPES SHALL BE CENTERED AT WATER AND WASTEWATER CROSSINGS, INCLUDING WASTEWATER SERVICE LATERALS AND FIRE HYDRANT LEADS.

14. WATER AND WASTEWATER PIPING (INCLUDING MAINS, SERVICES, AND LATERALS) SHALL BE SLEEVED IF LOCATED UNDER CONCRETE CHANNELS, BOX CULVERTS, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE AND SINGLE BARRELS 30" OR LARGER.

15. VALVE BOXES, EXPOSED PIPING AND VALVES, AND APPURTENANCES SHALL BE PAINTED. PROVIDE PAINTED CURB CUT MARKINGS AT VALVES AND SERVICES.

16. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH ¾" CHAMFER STRIPS.

17. EXISTING FACILITIES THAT ARE DISTURBED SHALL BE RESTORED AND TESTED TO BE IN FULL COMPLIANCE WITH CURRENT GBRA STANDARDS. THE CONTRACTOR SHALL ADJUST EXISTING WATER AND WASTEWATER FACILITIES TO PROPOSED FINISH GRADES INCLUDING BUT NOT LIMITED TO MANHOLES, CLEANOUTS, VALVES, HYDRANTS, APPURTENANCES, ETC.

18. EXISTING MANHOLES THAT ARE DISTURBED SHALL BE RESTORED TO BE IN FULL COMPLIANCE WITH CURRENT GBRA STANDARDS INCLUDING TESTING, CORROSION RESISTANT LINING, RINGS AND COVERS, ETC.

19. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING WATER AND WASTEWATER SYSTEMS AT ALL TIMES DURING CONSTRUCTION. ANY WORK INVOLVING POWER OUTAGES, BYPASS PUMPING, PUMP AND HAUL, OR ANY OTHER INTERRUPTION OF FLOW MUST BE PERFORMED BETWEEN 8:00 AM AND 5:00 PM EXCLUDING WEEKENDS AND HOLIDAYS. ALL NECESSARY TEMPORARY POWER, BYPASS PUMPING, PUMP AND HAUL, TEMPORARY PLUGS, ETC., SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR. COORDINATE AND SCHEDULE ANY SUCH ACTIVITIES WITH GBRA AT LEAST TWO (2) WEEKS IN ADVANCE.

20. EXPLOSIVES AND BLASTING ARE NOT ALLOWED.

TXDOT

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT OF WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SET-BACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
2. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY "ACCESS MANAGEMENT MANUAL". THIS PROPERTY IS ELIGIBLE FOR A MAXIMUM TOTAL OF TWO (2) ACCESS POINT(S) ALONG IH-10 FRONTAGE ROAD, BASED ON THE OVERALL PLATTED HIGHWAY FRONTAGE OF 769.01 LINEAR FEET.
3. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT-OF-WAY SHALL BE DIRECTED BY TXDOT.

SEQUENCE OF CONSTRUCTION:

CONSTRUCTION NOTES

1. INSTALLATION OF APPROVED SEDIMENTATION AND EROSION CONTROL MEASURES

2. BEGIN CLEARING AND GRUBBING

3. CONDUCT DEMOLITION AND HAUL OFF AS NECESSARY

4. BEGIN GRADING AND ROUGH CUT OF STREETS

5. INSTALLATION OF UTILITIES INCLUDING DRY AND WET UTILITIES

6. INSTALL AND CONSTRUCT DRAINAGE INFRASTRUCTURE

7. INSTALL INLET PROTECTION, ROCK BERM, AND OTHER APPROVE SW3P MEASURES TO PROTECT DRAINS FROM CONSTRUCTION DEBRIS RUNOFF

8. REVEGETATE ALL BASINS AND CHANNELS

9. LAY CURB AND PREPARE STREETS FOR PAVING

10. PAVE ROADS

11. FINALIZE ALL LOT GRADES AND PREPARE LANDSCAPING/STREETSCAPING WHERE REQUIRED

12. FINALIZE REVEGETATION AND REMOVE TEMPORARY EROSION CONTROL

GVSUD GENERAL NOTES:

1. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE. PVC MAIN GREATER THAN 12-INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 48-INCHES IN ALL AREAS.
2. ALL WATER PIPE SHALL BE INSTALLED MINIMUM 4-FEET BEYOND BACK OF CURB.
3. ALL WATER MAINS TO BE INSTALLED 4-FEET MINIMUM BEHIND BACK OF CURB.
4. NO PRESSURIZED FITTINGS UNDER ROADWAYS, PAVEMENT, OR SIDEWALKS.
5. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE COPPER ANTI-SEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTER ADAPTOR OR ANCHOR NIPPLE, FOSTER ADAPTER, ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES.
6. TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 6-INCH OR 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING INITIAL BACKFILL.
7. OVER INSERTING BELL JOINTS AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION.
8. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT WEDGE GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN. ONLY MUELLER HYDRANTS AND EJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE.
9. ALL FIRE HYDRANT ASSEMBLIES SHALL HAVE AN IN-LINE UPSTREAM AND DOWNSTREAM VALVE.
10. ALL TEES SHALL INCLUDE THREE (3) VALVES.
11. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.
12. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS.
13. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.
14. SMALL SERVICE TAPS SHALL BE 1-INCH REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT OR 2-INCH YELOMINE PVC ASTM D1784 WITH HARCO FITTINGS OR APPROVED EQUIVALENT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE OR DUAL BANDED STAINLESS-STEEL FLAT-STRAP EPOXY SADDLE WITH IRON PIPE THREADS.
15. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1-INCH SERVICE REQUIRES 3-INCH CASING AND 2-INCH SERVICE REQUIRES 4-INCH CASING. CASING SHALL BE WHITE COLOR PVC SCHEDULE 40 OR APPROVED EQUAL.
16. 5/8" & ¾" METER BOXES SHALL BE DFW36C 16" X 11". ALL METER BOXES SHALL BE PLASTIC WITH LIDS AND KNOCKOUT.
17. DUAL SERVICES ARE NOT PERMITTED.
18. TAPPING MACHINES MUST RETAIN COUPON.
19. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS AND PAINT BLUE.
20. WATER LINES CROSSING CUL-DE-SACS SHALL BE FULLY RESTRAINED UNDER PAVEMENT AND CASED.
21. ALL STREET CROSSINGS ARE TO BE CASED FROM EDGE OF IMPERMEABLE COVER TO EDGE OF IMPERMEABLE COVER.
22. ALL BENDS, FITTINGS, AND VALVES SHALL HAVE ONE (1) RESTRAINT UPSTREAM AND DOWNSTREAM REGARDLESS OF LENGTH.

23. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655; THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO GVSUD.
24. OPERATION OF EXISTING VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL BE OPERATED BY GVSUD PERSONNEL ONLY, UNLESS APPROVED BY GVSUD INSPECTOR.
25. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND ANSI/AWWA.
26. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 1200 LF (MAX) OF WATER LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.
27. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL THE INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY GVSUD THE GIS PACKAGE FOR APPROVAL.
28. A FINAL WALK THROUGH FOR FIELD ACCEPTANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK-THROUGH PUNCH LIST ITEMS HAVE BEEN COMPLETED.
29. PROVIDE RESTRAINT LENGTHS AT ALL BENDS, VALVES, TEES, AND ALL OTHER FITTINGS.
30. ALL MASTER METERED DISTRIBUTION LINES SHALL BE PROTECTED BY AN RPZ BACKFLOW PREVENTER.
31. ALL NON-CHEMICAL FIRE LINES SHALL BE PROTECTED BY A DCDA BACKFLOW PREVENTER.
32. ALL CHEMICALLY INJECTED FIRE LINES SHALL BE PROTECTED BY AN RPZ BACKFLOW PREVENTER.

MATERIALS:

1. PVC MAINS 12 INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 48 INCHES IN ALL AREAS.
2. 2-INCH SERVICE CROSSINGS SHALL BE YELOMINE ASTM D2241 OR APPROVED EQUIVALENT.
3. TAPPING SADDLES SHALL BE SINGLE BRASS STRAP OR DUAL BANDED STAINLESS-STEEL FLAT-STRAP EPOXY SADDLE WITH IRON PIPE THREADS.
4. ALL FASTENERS SHALL BE 304 STAINLESS-STEEL (E.G. HARDWARE, SCREWS, ANCHOR BOLTS, RODS, FLANGE BOLTS AND NUTS, ETC.). ALL BOLTS AND NUTS SHALL BE HEAVY HEX. FIELD-APPLY NICKEL ANTI-SEIZE COMPOUND PRIOR TO ASSEMBLY. BOLTS AND NUTS SHALL NOT BE PAINTED.
5. ALL BURIED METAL PIPE, FITTINGS, AND VALVES SHALL BE WRAPPED WITH 8MIL POLY.
6. PAINT SHALL BE HIGH-BUILD EPOXY WITH TOPCOAT OF POLYURETHANE.
7. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON C151 OR APPROVED EQUIVALENT.

TESTING:

1. ALL TESTING SHALL BE ARRANGED AND PAID FOR BY THE CONTRACTOR AND WITNESSED BY GVSUD.
2. ALL TESTING MUST BE COMPLETE PRIOR TO PAVING STREETS.
3. THE CONTRACTOR SHALL PROVIDE GVSUD COPIES OF ALL TEST RESULTS PRIOR TO ACCEPTANCE OF THE PROJECT.
4. ALL TESTING MUST BE COMPLETE PRIOR TO PERFORMING TIE-INS TO EXISTING WATER SYSTEMS.
5. ALL OTHER UTILITIES MUST BE COMPLETE AND OFFSITE PRIOR TO PERFORMING HYDROSTATIC PRESSURE TESTING.
6. CONTRACTOR SHALL PERFORM SPIKE TEST AT 200 PSI FOR 15 MINUTES THEN REDUCE PRESSURE TO 150 PSI FOR 2 HOURS.
7. CONTRACTOR SHALL PERFORM PRE-TESTING TO VERIFY PASSING RESULTS PRIOR TO REQUESTING GVSUD INSPECTION. PROVIDE CONNECTION POINT FOR GVSUD DIGITAL TEST GAUGE (QUICK CONNECT).
8. PERFORM TRENCH BACKFILL DENSITY TESTING AT INTERVALS SPECIFIED BY THE DESIGN ENGINEER. EXACT LOCATIONS TO BE DESIGNATED BY INSPECTOR. SCHEDULE WITH GVSUD TO WITNESS 48 HOURS PRIOR TO TEST. PROVIDE COPIES OF REPORTS TO GVSUD.
9. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 1200 LF (MAX) OF WATER LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.

CONSTRUCTION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH GVSUD STANDARDS AS PUBLISHED AT THE FOLLOWING WEBSITE: HTTP://WWW.GVSUD.ORG/
2. MATERIAL SUBMITTALS SHALL BE PROVIDED FOR GVSUD REVIEW AND APPROVAL. ALLOW 21 CALENDAR DAYS FOR REVIEW.
3. ALL WATER INSTALLATIONS MUST BE INSPECTED AND APPROVED BY GVSUD PRIOR TO BACKFILLING OR OTHERWISE COVERING THE WORK. GVSUD WILL REJECT ANYTHING BACKFILLED PRIOR TO GVSUD APPROVAL. THIS INCLUDES CROSSINGS OF WATER AND WASTEWATER BY OTHER UTILITIES. GVSUD WILL PERFORM A MAXIMUM OF ONE (1) INSPECTION DAILY FOR ONE (1) HOUR DURATION BETWEEN 7:30AM AND 4:00PM EXCLUDING WEEKENDS AND HOLIDAYS. CALL TO SCHEDULE INSPECTIONS (48-HOURS ADVANCE NOTICE IS REQUIRED FOR ALL INSPECTIONS).
4. TRENCH EXCAVATION AND PIPE INSTALLATION WILL NOT BE PERMITTED UNTIL SUBGRADE HAS BEEN ESTABLISHED. SURVEY STAKING MUST BE INSTALLED PRIOR TO AND MAINTAINED DURING TRENCH EXCAVATION AND PIPE INSTALLATION. SURVEY STAKING SHALL INCLUDE HORIZONTAL AND VERTICAL CONTROL AT A MINIMUM OF 50-FOOT STATION INTERVALS. SURVEY STAKING SHALL BE PERFORMED BY THE CONTRACTOR.
5. PROPER SHORING AND/OR BENCHING MUST BE PRESENT AT ALL TIMES FOR ANYTHING 4-FEET IN DEPTH OR DEEPER. GVSUD WILL STOP WORK UNTIL PROPER SAFETY PROTOCOLS HAVE BEEN ESTABLISHED.
6. BACKFLOW PREVENTION IN THE FORM OF A REDUCED PRESSURE ZONE BACKFLOW PREVENTION ASSEMBLY MUST BE PROVIDED FOR TEMPORARY CONNECTIONS TO EXISTING WATER LINES. BACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED BY A LICENSED BACKFLOW PREVENTION ASSEMBLY TESTER.
7. ALL PIPING SHALL BE INSTALLED IN STRAIGHT ALIGNMENT. PIPE DEFLECTION IS NOT ALLOWED.
8. INSTALL CONCRETE THRUST BLOCKING AND MECHANICAL RESTRAINTS FOR PRESSURIZED PIPING SYSTEMS.
9. WATER PIPE SHALL BE INSTALLED ABOVE WASTEWATER AND ALL PIPE JOINTS SHALL BE CENTERED AT CROSSINGS WITH ALL OTHER UTILITIES. BOTH PIPE JOINTS SHALL BE CENTERED WHERE WATER CROSSES WASTEWATER MAINS AND LATERALS 10-FEET IN EITHER DIRECTION.
10. MAINTAIN A MINIMUM OF 10-FEET HORIZONTAL AND 24-INCH VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.
11. WATER PIPING SHALL BE SLEEVED IF LOCATED UNDER BOX CULVERTS, SINGLE BARREL, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE.
12. VALVE BOXES AND APPURTENANCES SHALL BE PAINTED. PROVIDE PAINTED CURB CUT MARKINGS AT VALVES AND SERVICES.
13. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH ¾" CHAMFER STRIPS. CONCRETE IN UNPAVED AREAS SHALL BE 2" ABOVE FINISH GRADE.
14. THE CONTRACTOR SHALL PROVIDE A COMPETENT AND QUALIFIED SUPERINTENDENT TO SUPERVISE ALL WORK. THE SUPERINTENDENT SHALL BE PRESENT DURING ALL CONSTRUCTION ACTIVITIES, INCLUDING INSPECTIONS.
NO SEPARATE PAY WILL BE GIVEN TO DE-WATER TRENCHES OR OTHER EXCAVATED AREAS.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante

12/11/2025

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

GENERAL NOTES

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

0.1

Date: 2/7/2024 2:44:23 PM
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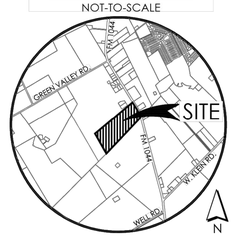
THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

LOCATION MAP

NOT-TO-SCALE



PLAT NOTES

1. ALL LOTS WITHIN THE SUBDIVISION WILL BE PROVIDED WATER SERVICES BY GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD). SEWER SERVICES WILL BE PROVIDED BY GUADALUPE-BLANCO RIVER AUTHORITY (GBRA) AND ELECTRIC SERVICES WILL BE PROVIDED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC). TELEPHONE AND CABLE SERVICES FOR THE SUBMISSION WILL BE PROVIDED BY AT&T COMMUNICATIONS AND/OR SPECTRUM AND/OR HOT WIRE.
2. ALL BEARINGS AND COORDINATES SHOWN HEREON ARE BASED UPON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204). NORTH AMERICAN DATUM 1983, GRID. DISTANCES SHOWN HEREON ARE BASED UPON GRID MEASUREMENTS.
3. THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
4. THIS SUBDIVISION IS WITHIN THE EXTRATERRITORIAL JURISDICTION LIMITS OF THE CITY OF NEW BRAUNFELS, TEXAS WITH VESTED RIGHTS VR023-042.
5. THIS SUBDIVISION IS WITHIN THE COMAL INDEPENDENT SCHOOL DISTRICT.
6. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE ADOPTED FLOOD MAPS OF THE CITY OF NEW BRAUNFELS. AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187I0059F, EFFECTIVE DATE NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
7. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENT SHOWN OH THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
8. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
9. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE DEVELOPER AT THE TIME OF STREET CONSTRUCTION FOR ALL PEDESTRIAN CROSSING RAMPS AS WELL AS ALONG:

SPRINGBOK RUN
- a.LOT 901 BLOCK 1
- b.LOT 902 BLOCK 1
- c.LOT 903 BLOCK 1
- d.LOT 902 BLOCK 3

ORYX GARDEN
- b.LOT 901 BLOCK 2

IMPALA HILL
- c.LOT 902 BLOCK 2
- d.LOT 902 BLOCK 3

10. FIVE (5) FOOT SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ALONG FM1044 AT TIME OF SUBDIVISION CONSTRUCTION.
11. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE HOME BUILDER AT THE TIME OF BUILDING ALONG SPRINGBOK RUN, ORYX GRADEN, IMPALA HILL, AND WATERBUCK COVE.
12. THE ELEVATION OF THE LOWEST FLOOR OF A STRUCTURE SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE A FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE AND SHALL PREVENT WATER FROM LEAVING THE STREET.
13. THIS SUBDIVISION IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE THIS PLAT IS APPROVED FOR ONE DWELLING UNIT(S) PER BUILDABLE LOT WITH A MAXIMUM OF 200 BUILDABLE LOTS. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT(S) SHALL NOTIFY THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
14. THIS UNIT CONTAINS 55 BUILDABLE RESIDENTIAL LOTS AND 9 OPEN SPACE LOT 900S FOR FUTURE DEVELOPMENT.
15. ALL DRAINAGE EASEMENTS WITHIN THE LOTS WILL BE OWNED AND MAINTAINED BY PROPERTY OWNER.
16. PERMANENT WATER QUALITY CONTROLS ARE REQUIRED FOR THIS SUBDIVISION PLAT IN ACCORDANCE WITH THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL.
17. SIDEWALK ALONG THE RESIDENTIAL COLLECTOR WILL BE CONSTRUCTED MARRIED TO THE CURB IN ORDER TO REMAIN CONSISTENT WITH THE OTHER SIDEWALK TO BE CONSTRUCTED WITHIN THE SUBDIVISION

KNOWN ALL MEN BY THESE PRESENTS:

I, VICTOR M. GARZA HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR IN THE STATE OF TEXAS. THIS PLAT WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND AND THE SURVEY IS TRUE AND COMPLETE AS SHOWN. SAID SURVEY IS IN COMPLIANCE WITH THE CITY SUBDIVISION ORDINANCE, COUNTY ORDINANCE AND STATE LAW.

_____

VICTOR M. GARZA, RPLS
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4740
B & G LAND SURVEYING
1404 W. NORTH LOOP BLVD. AUSTIN, TEXAS 78756
PHONE: 512 458-6969

GREEN VALLEY SPECIAL UTILITY DISTRICT PLAT NOTES:

1) GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD) IS HEREBY DEDICATED THE EASEMENTS AND RIGHTS-OF-WAY IN THE AREAS DESIGNATED ON THIS PLAT AS "WATER" OR "SANITARY SEWER" FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, OPERATING, MAINTAINING, INSPECTING, REPAIRING, REMOVING, AND RELOCATING BURIED AND/OR EXPOSED WATER AND/OR WASTEWATER FACILITIES AND APPURTENANCES.

2) TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS, GVSUD SHALL HAVE THE RIGHT TO REMOVE SAID WATER EASEMENT OF ALL TREES OR PARTS THEREOF, OR ANY OTHER OBSTRUCTIONS WHICH MAY ENDANGER, OR INTERFERE WITH MAINTENANCE OF, THE FACILITIES AND APPURTENANCES.

3) OTHER UTILITIES, STRUCTURES, GRADING, DRAINAGE, CHANNELS,DETENTION/RETENTION PONDS, LANDSCAPING, TREE, ROADS, PARKING LOTS, FENCES, WALLS, CONSTRUCTION OF NAY TYPE, OR ANY OTHER IMPROVEMENTS OR OBSTRUCTIONS, ARE NOT ALLOWED WITHIN GVSUD EASEMENTS. OTHER UTILITIES, DRAINAGE CHANNELS, ROADS, AND FENCES MAY CROSS GVSUD UTILITY EASEMENTS AT OR NEAR A 90 DEGREE ANGLE TO THE LONGITUDINAL SIDE OF THE EASEMENT. DESIGNS FOR ANY PROPOSED ALTERATIONS OR CROSSINGS OF GVSUD EASEMENTS MUST BE APPROVED IN WRITING BY GVSUD AND THE INSTALLATION OF SUCH MUST BE INSPECTED AND APPROVED BY GVSUD.

4) THE PROPERTY OWNER MUST INSTALL 16-FOOT GATES IN ANY FENCES THAT CROSS GVSUD EASEMENTS. GATES MUST BE CENTERED ACROSS GVSUD UTILITIES.

5) MAINTENANCE OF EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER; HOWEVER, GVSUD MAY ELECT TO MAINTAIN THE EASEMENTS AS PROVIDED IN THE EASEMENT AGREEMENT.

6) GVSUD MAY REMOVE ALL TREES AND SHRUBBERY FROM EASEMENTS WITHOUT NOTICE OR COMPENSATION.

WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.

GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.

ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.

ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.

ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5'X 30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES.

ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.

ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.

THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

THIS SUBDIVISION PLAT OF BLACKWELL SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC.FOR EASEMENTS.

_____

AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

EASEMENT CERTIFICATE:

THE OWNER OF THE LAND SHOWN ON THIS PLAT AND WHOSE NAME IS SUBSCRIBED HERETO, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE GREEN VALLEY SPECIAL UTILITY DISTRICT OF MARION, TEXAS, ITS SUCCESSORS AND ASSIGNEES, A PERPETUAL EASEMENT WITH THE RIGHT TO ERECT, CONSTRUCT, INSTALL AND LAY OVER AND ACROSS THOSE AREAS MARKED AS "WATERLINE EASEMENT" AND IN ALL STREETS AND BYWAYS, SUCH PIPELINES, SERVICE LINES, WATER METERS AND OTHER WATER SYSTEM APPURTENANCES AS IT REQUIRES, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS, THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES, SHRUBS, GRASSES, PAVEMENTS, FENCES, STRUCTURES, IMPROVEMENTS, OR OTHER OBSTRUCTIONS WHICH MAY INTERFERE WITH THE FACILITY OR THE ACCESS THERETO. IT IS AGREED AND UNDERSTOOD THAT NO BUILDING, CONCRETE SLAB OR WALLS WILL BE PLACED WITHIN SAID EASEMENT AREAS. NO OTHER UTILITY LINES MAY BE LOCATED WITHIN 36" PARALLEL TO WATER LINES.

ANY MONETARY LOSS TO GREEN VALLEY S.U.D. RESULTING FROM MODIFICATIONS REQUIRED OF UTILITY EQUIPMENT LOCATED WITHIN SAID EASEMENTS DUE TO GRADE CHANGE OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS, UPON ENTERING IN AND UPON SAID EASEMENT, THE DISTRICT WILL ENDEAVOR TO RESTORE THE LAND SURFACE TO A USEABLE CONDITION BUT IS NOT OBLIGATED TO RESTORE IT TO A PRE-EXISTING CONDITION.

THIS LAND DEVELOPMENT PLAT HAS BEEN SUBMITTED TO AND APPROVED BY GREEN VALLEY SPECIAL UTILITY DISTRICT FOR EASEMENTS, UPON REQUEST OF THE CUSTOMER AND PAYMENT OF THE REQUIRED FEES, THE DISTRICT WILL PROVIDE DOMESTIC WATER SERVICE TO EACH LOT IN THIS SUBDIVISION BY AGREEMENT WITH THE DEVELOPER.

_____

AGENT FOR GREEN VALLEY SPECIAL UTILITY DISTRICT.

GUADALUPE BLANCO RIVER AUTHORITY NOTES:

1. THE GUADALUPE BLANCO RIVER AUTHORITY (GBRA) IS HEREBY DEDICATED THE EASEMENT AND RIGHTS-OF-WAYS IN THE AREAS DESIGNED N THIS PLAT AS "GBRA EASEMENT" AS WELL AS THOSE EASEMENTS AND RIGHTS-OF-WAYS SPECIFICALLY DEDICATED TO IT FOR THE PURPOSE OF ACCESSING, INSTALLING, CONSTRUCTING, RECONSTRUCTING, OPERATING, MAINTAINING, INSPECTING, REPAIRING, REMOVING, AND RELOCATING BURIED AND/OR EXPOSED SANITARY SEWER FACILITIES AND APPURTENANCES.
2. TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS, GBRA SHALL HAVE THE RIGHT TO REMOVE SAID LANDS OF ALL TREES OR PARTS THEREOF, OR ANY OTHER OBSTRUCTIONS WHICH MAY ENDANGER, OR INTERFERE WITH MAINTENANCE OF THE FACILITIES AND APPURTENANCES.
3. OTHER UTILITIES, STRUCTURES, GRADING, DRAINAGE, DETENTION/RETENTION PONDS, LANDSCAPING, TREES, ROADS, PARKING LOTS, FENCES, WALLS, CONSTRUCTION OF ANY TYPE, OR ANY OTHER IMPROVEMENTS OR OBSTRUCTIONS, ARE NOT ALLOWED WITHIN GBRA EASEMENT.
4. DESIGNS FOR ANY PROPOSED ALTERATIONS OR CROSSING OF GBRA EASEMENTS MUST BE APPROVED IN WRITING BY GBRA AND THE INSTALLATION OF SUCH MUST BE INSPECTED AND APPROVED BY GBRA.
5. MAINTENANCE OF EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER.
6. THE PROPERTY OWNER MUST INSTALL 16-FOOT GATES IN ANY FENCES THAT CROSS GBRA UTILITIES: GATES MUST BE CENTERED ACROSS GBRA UTILITIES.
7. CUSTOMER SANITARY SEWER SERVICES SHALL NOT BE INSTALLED WITHIN FENCED AREAS.

TXDOT

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

2. THE OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY. OUTFALLS FOR WATER QUALITY AND/OR DETENTION PONDS TREATING IMPERVIOUS COVER RELATED TO THE DEVELOPMENT AND STRUCTURES FOR REDUCTION OF DISCHARGE VELOCITY WILL NOT ENCROACH BY STRUCTURE OR GRADING INTO STATE ROW OR INTO AREAS OF ROW RESERVATION OR DEDICATION. FOR PROJECTS IN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONES, PLACEMENT OF PERMANENT STRUCTURAL BEST MANAGEMENT PRACTICE DEVICES OR VEGETATIVE FILTER STRIPS WITHIN STATE ROW OR INTO AREAS OF ROW RESERVATION OR DEDICATION WILL NOT BE ALLOWED. NO NEW EASEMENTS OF ANY TYPE SHOULD BE LOCATED IN AREAS OF ROW RESERVATION OR DEDICATION

3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TXDOT'S, "ACCESS MANAGEMENT MANUAL". THE PROPERTY IS ELIGIBLE FOR MAXIMUM COMBINED TOTAL OF 1 (ONE) ACCESS POINT AND 1 (ONE) EMERGENCY ACCESS SECURED WITH A KNOX BOX, BASED ON AN OVERALL PLATTED HIGHWAY FRONTAGE OF APPROXIMATELY 756 FEET. WHERE TOPOGRAPHY OR OTHER EXISTING CONDITIONS MAKE IT INAPPROPRIATE OR NOT FEASIBLE TO CONFORM TO THE CONNECTION SPACING INTERVALS, THE LOCATION OF REASONABLE ACCESS WILL BE DETERMINED WITH CONSIDERATION GIVEN TO TOPOGRAPHY, ESTABLISHED PROPERTY OWNERSHIPS, UNIQUE PHYSICAL LIMITATIONS, AND/OR PHYSICAL DESIGN CONSTRAINTS. THE SELECTED LOCATION SHOULD SERVE AS MANY PROPERTIES AND INTERESTS AS POSSIBLE TO REDUCE THE NEED FOR ADDITIONAL DIRECT ACCESS TO THE HIGHWAY. IN SELECTING LOCATIONS FOR FULL MOVEMENT INTERSECTIONS, PREFERENCE WILL BE GIVEN TO PUBLIC ROADWAYS THAT ARE ON LOCAL THOROUGHFARE PLANS.

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

5. ANY TRAFFIC CONTROL MEASURES (LEFT-TURN LANE, RIGHT-TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

OPEN SPACE NOTE

LOT 901 BLOCK 1 ARE DESIGNATED AS OPEN SPACE AND COMMON AREAS

LINE TAG TABLE		
LINE TAG	LENGTH	DIRECTION
L1	13.02	S8° 02' 35"E
L2	60.04	S32° 36' 26"E
L3	55.85	N73° 29' 05"E
L4	49.47	N19° 28' 47"W
L5	68.56	N39° 52' 11"W
L6	22.50	N50° 07' 49"E
L7	25.00	S39° 52' 11"E
L8	22.50	N50° 07' 49"E
L9	54.39	N39° 52' 11"W

LINE TAG TABLE		
LINE TAG	LENGTH	DIRECTION
L10	37.00	N50° 07' 49"E
L11	27.94	S8° 02' 35"E
L12	37.00	S50° 07' 49"W
L13	16.00	N39° 52' 11"W
L14	100.00	N50° 07' 49"E
L15	79.96	N39° 52' 11"W
L16	49.85	N19° 28' 47"W
L17	96.68	N67° 33' 21"E
L18	3.85	S32° 36' 26"E

CURVE TAG TABLE					
CURVE TAG	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	434.43	1392.50	17°52'30"	N23° 38' 40"W	432.67
C2	170.19	55.00	177°17'52"	S16° 41' 45"E	109.97
C3	133.29	55.00	138°51'31"	S2° 31' 26"W	102.99
C4	278.67	55.00	290°18'01"	S39° 52' 11"E	62.86
C5	106.16	540.00	11°15'49"	N64° 53' 18"E	105.99
C6	24.34	15.00	92°57'52"	S27° 00' 09"W	21.75
C7	44.48	125.00	20°23'24"	S29° 40' 29"E	44.25
C8	10.18	15.00	38°52'15"	S59° 18' 19"E	9.98
C9	146.38	50.00	167°44'30"	N5° 07' 49"E	99.43
C10	10.18	15.00	38°52'15"	S69° 33' 56"W	9.98
C11	23.56	15.00	90°00'00"	S5° 07' 49"W	21.21
C12	31.42	20.00	90°00'00"	N84° 52' 11"W	28.28
C13	31.42	20.00	90°00'00"	N5° 07' 49"E	28.28
C14	23.56	15.00	90°00'00"	N84° 52' 11"W	21.21

CURVE TAG TABLE					
CURVE TAG	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C15	23.56	15.00	90°00'00"	N5° 07' 49"E	21.21
C16	62.28	175.00	20°23'24"	S29° 40' 29"E	61.95
C17	24.84	15.00	94°52'56"	N66° 55' 15"W	22.10
C18	131.27	485.00	15°30'28"	S57° 53' 03"W	130.87
C19	190.39	535.00	20°23'24"	S60° 19' 31"W	189.39
C20	92.41	480.00	11°01'50"	N65° 00' 18"E	92.27
C21	247.62	1327.50	10°41'15"	N27° 32' 54"W	247.26
C22	427.03	1372.50	17°49'36"	N23° 40' 07"W	425.31
C23	92.54	1327.50	3°59'38"	S24° 12' 05"E	92.52
C24	278.67	55.00	290°18'01"	S39° 52' 11"E	62.86
C25	14.44	15.00	55°09'00"	S22° 33' 19"W	13.89
C26	14.44	15.00	55°09'00"	N77° 42' 19"E	13.89
C27	14.44	15.00	55°09'00"	S22° 33' 19"W	13.89
C28	14.44	15.00	55°09'00"	N77° 42' 19"E	13.89

SINGLE FAMILY RESIDENTIAL LOTS = 55

FINAL PLAT NO. xxxx-xx

BLACKWELL SUBDIVISION UNIT 1

BEING 17.05 ACRES OF LAND INCLUSIVE OF 0.354 ACRES OF RIGHT OF WAY DEDICATION TO TXDOT OUT OF THE R. XIMESES SURVEY IN GUADALUPE COUNTY, TEXAS, AND BEING THAT PROPERTY CONVEYED TO BRIAN P. BRANDY AND 1044 LAND PARTNERS, LLC A TEXAS LIMITED LIABILITY COMPANY IN A WARRANTY DEED RECORDED IN VOLUME 2299014953 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

DATE PREPARED: 10/17/2025

BLUESITE ENGINEERING

B&G Surveying

SURVEYORS NOTES

1. ALL INTERIOR LOT AND RIGHT OF WAY PROPERTY CORNERS ARE MONUMENTS WITH A BLUE CAPPED IRON ROD MARKED "B&G SURVEYING" UNLESS NOTED OTHERWISE.

2. BEARING ARE BASED ON THE STATE PLANE COORDINATE SYSTEM ESTABLISHED FOR THE TEXAS SOUTH CENTRAL ZONE NORTH AMERICAN DATUM (NAD) OF 1983.

3. THE COORDINATES SHOWN HEREON ARE GRID WITH GRID VALUES.

4. REFERENCE PROPERTY IS IN ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE REGULATED FLOODPLAIN FROM FEMA FLOOD MAP # 48029C0435G, COMMUNITY PANEL NO. 435 OF 785, DATED SEPTEMBER 9, 2010.

5. THE ELEVATIONS FOR THIS SURVEY ARE BASED ON NAVD88 (GEOID 18).

STATE OF TEXAS
COUNTY OF GUADALUPE

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT AND DESIGNATED HEREIN AT THE BLACKWELL SUBDIVISION UNIT 1, A SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF GUADALUPE, TEXAS, AND WHOSE NAME SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLIES, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

_____
DAVIDSON HOMES, LLC. DATE:

STATE OF TEXAS
COUNTY OF GUADALUPE:

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THE _____ DAY OF _____, 20_____

_____, MY COMMISSION EXPIRES_____
NOTARY PUBLIC, STATE OF TEXAS

APPROVED THIS THE _____ DAY OF _____, 20___ BY THE CITY OF NEW BRAUNFELS, TEXAS.

APPROVED FOR ACCEPTANCE

_____ _____
DATE PLANNING AND DEVELOPMENT SERVICES DIRECTOR

_____ _____
DATE CITY ENGINEER

PLAT STATUS: IN REVIEW
DATE APPROVED: XX/XX/XXXX

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED
PROFESSIONAL ENGINEER

Gabe Andonie
02.12.2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

SUBDIVISION PLAT

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

0.2

Date: 7/7/2024 2:44:52 PM
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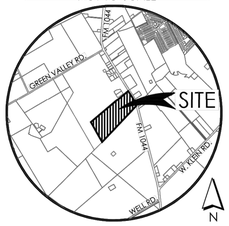
THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

LOCATION MAP

NOT-TO-SCALE



LEGEND

◘	SET ½" IRON ROD WITH BLUE CAP STAMPED "B&G SURVEYING"
●	FOUND ½" IRON ROD
⊗	FOUND METAL SPIKE
○	1" FOUND IRON PIPE
•	½" SET IRON ROD
ROW	RIGHT OF WAY
D.P.R.	DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS
O.P.R.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS
DOC. NO	DOCUMENT NUMBER
(N XX° XX' XX" E XXX.XX')	PER RECORD DATA

KEY NOTES

1. 20' GAS, ELECTRIC, TELEPHONE & CABLE T.V. EASEMENT
2. 20' BUILDING SETBACK LINE
3. 15' BUILDING SETBACK LINE
4. 20' RIGHT OF WAY DEDICATION TO TXDOT (0.118 ACRES)
5. 30' WATER AND PEDESTRIAN ACCESS EASEMENT
6. VARIABLE WIDTH DRAINAGE & ACCESS EASEMENT
7. 20' RIGHT OF WAY DEDICATION TO TXDOT (0.208 ACRES)
8. 55' TEMPORARY TURN AROUND SANITARY SEWER, DRAINAGE AND E.G.T.TV. EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED PUBLIC RIGHT-OF-WAY)(PERMEABLE)(0.224 AC.)
9. 30' SANITARY SEWER EASEMENT.
10. 15' GAS, ELECTRIC, TELEPHONE & CABLE T.V. EASEMENT
11. 37' DRAINAGE & ACCESS EASEMENT
12. 35' DRAINAGE & ACCESS EASEMENT
13. VARIABLE WIDTH TURN AROUND EASEMENT
14. OFF-LOT VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION OF PLATTED R.O.W.)(PERMEABLE)(0.117 AC.)
15. OFF-LOT VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION OF PLATTED R.O.W.)(PERMEABLE)(0.315 AC.)
16. OFF-LOT VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION OF PLATTED R.O.W.)(PERMEABLE)(0.275 AC.)

0' 100 200

SCALE: 1" = 100

FINAL PLAT NO. xxxx-xx

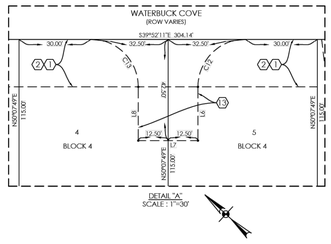
BLACKWELL SUBDIVISION UNIT 1

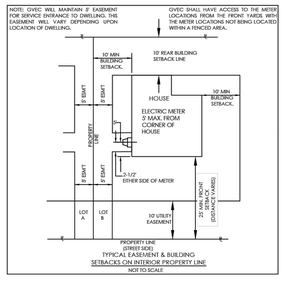
BEING 17.05 ACRES OF LAND INCLUSIVE OF 0.354 ACRES OF RIGHT OF WAY DEDICATION TO TXDOT OUT OF THE R. XIMESES SURVEY IN GUADALUPE COUNTY, TEXAS, AND BEING THAT PROPERTY CONVEYED TO BRIAN P. BRANDY AND 1044 LAND PARTNERS, LLC A TEXAS LIMITED LIABILITY COMPANY IN A WARRANTY DEED RECORDED IN VOLUME 2299014953 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

BLUESITE ENGINEERING

B&G Surveying

DATE PREPARED: 10/17/2025





KNOWN ALL MEN BY THESE PRESENTS:

I, VICTOR M. GARZA, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR IN THE STATE OF TEXAS. THIS PLAT WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND AND THE SURVEY IS TRUE AND COMPLETE AS SHOWN. SAID SURVEY IS IN COMPLIANCE WITH THE CITY SUBDIVISION ORDINANCE, COUNTY ORDINANCE AND STATE LAW.

VICTOR M. GARZA, RPLS
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4740
B & G LAND SURVEYING
1404 W. NORTH LOOP BLVD. AUSTIN, TEXAS 78756
PHONE: 512 458-6969

STATE OF TEXAS
COUNTY OF GUADALUPE

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT AND DESIGNATED HEREIN AT THE BLACKWELL SUBDIVISION UNIT 1 A SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF GUADALUPE, TEXAS, AND WHOSE NAME SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLIES, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

DAVIDSON HOMES, LLC. DATE:

STATE OF TEXAS
COUNTY OF GUADALUPE:

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THE _____ DAY OF _____, 20 _____

_____, MY COMMISSION EXPIRES_____
NOTARY PUBLIC, STATE OF TEXAS

APPROVED THIS THE _____ DAY OF _____, 20___ BY THE CITY OF NEW BRAUNFELS, TEXAS.

APPROVED FOR ACCEPTANCE

DATE PLANNING AND DEVELOPMENT SERVICES DIRECTOR

DATE CITY ENGINEER

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTI PAGE PLAT

SINGLE FAMILY RESIDENTIAL LOTS = 55

PLAT STATUS: IN REVIEW
DATE APPROVED: XX/XX/XXXX

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED PROFESSIONAL ENGINEER
02.12.2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

SUBDIVISION PLAT

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

0.3

Date: 2/7/2024 2:54:22 PM
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THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

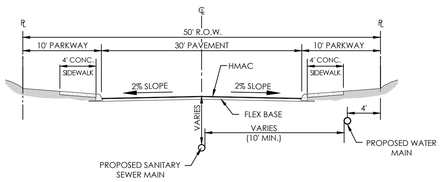
NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

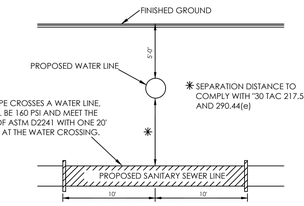


PROPOSED STREET SECTION
N.T.S.

PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.

TYPICAL CONDUIT DETAIL
NOT-TO-SCALE

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPERATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.

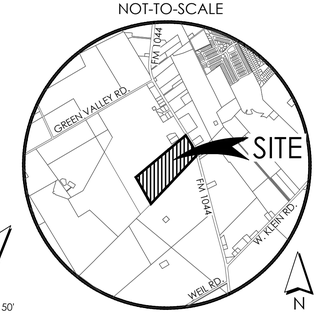


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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

LOCATION MAP

NOT-TO-SCALE



SCALE: 1" = 50'
0' 25' 50' 75' 100'

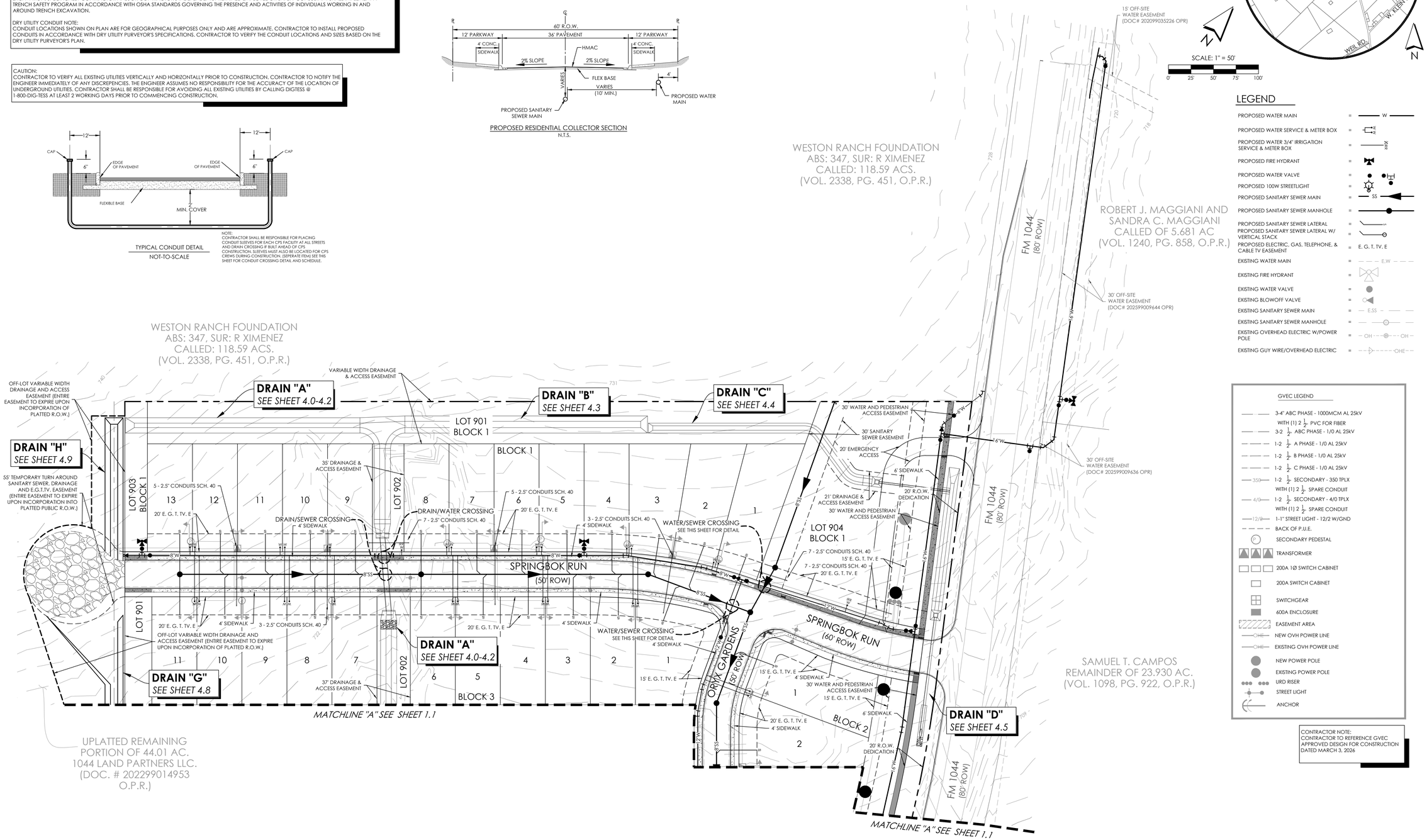
LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	IRR
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E, G, T, TV, E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING BLOWOFF VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OH
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE

GVEC LEGEND

- 3-4" ABC PHASE - 1000MCM AL 25kV WITH (1) 2 ½ PVC FOR FIBER
- 3-2 ½ ABC PHASE - 1/0 AL 25kV
- 1-2 ½ A PHASE - 1/0 AL 25kV
- 1-2 ½ B PHASE - 1/0 AL 25kV
- 1-2 ½ C PHASE - 1/0 AL 25kV
- 359 1-2 ½ SECONDARY - 350 TPLX WITH (1) 2 ½ SPARE CONDUIT
- 4/0 1-2 ½ SECONDARY - 4/0 TPLX WITH (1) 2 ½ SPARE CONDUIT
- 12/8 1-1" STREET LIGHT - 12/2 W/GND
- BACK OF P.U.E.
- SECONDARY PEDESTAL
- TRANSFORMER
- 200A 1Ø SWITCH CABINET
- 200A SWITCH CABINET
- SWITCHGEAR
- 600A ENCLOSURE
- EASEMENT AREA
- NEW OVH POWER LINE
- EXISTING OVH POWER LINE
- NEW POWER POLE
- EXISTING POWER POLE
- URD RISER
- STREET LIGHT
- ANCHOR

CONTRACTOR NOTE:
CONTRACTOR TO REFERENCE GVEC APPROVED DESIGN FOR CONSTRUCTION DATED MARCH 3, 2026



BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL UTILITY PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
1.0

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THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

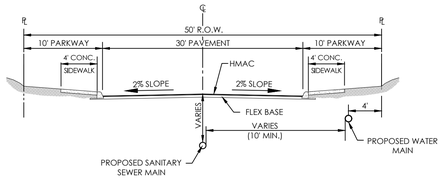
NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

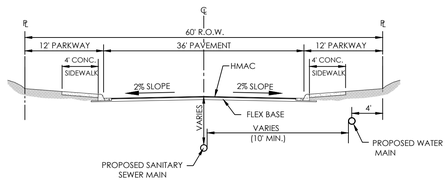
TRENCH EXCAVATION SAFETY PROTECTION:
THE CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

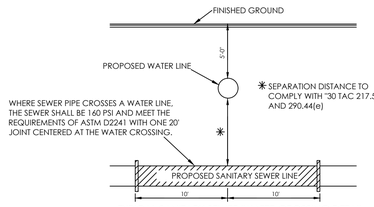
CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.



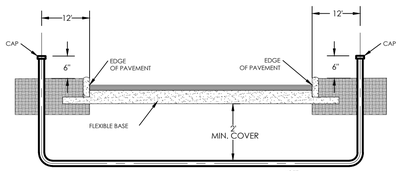
PROPOSED STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

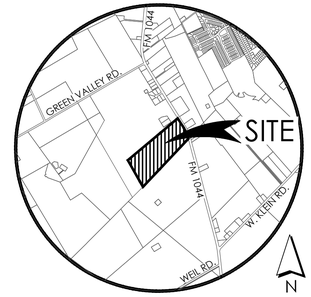


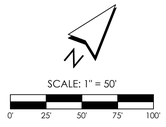
TYPICAL CONDUIT DETAIL
NOT-TO-SCALE

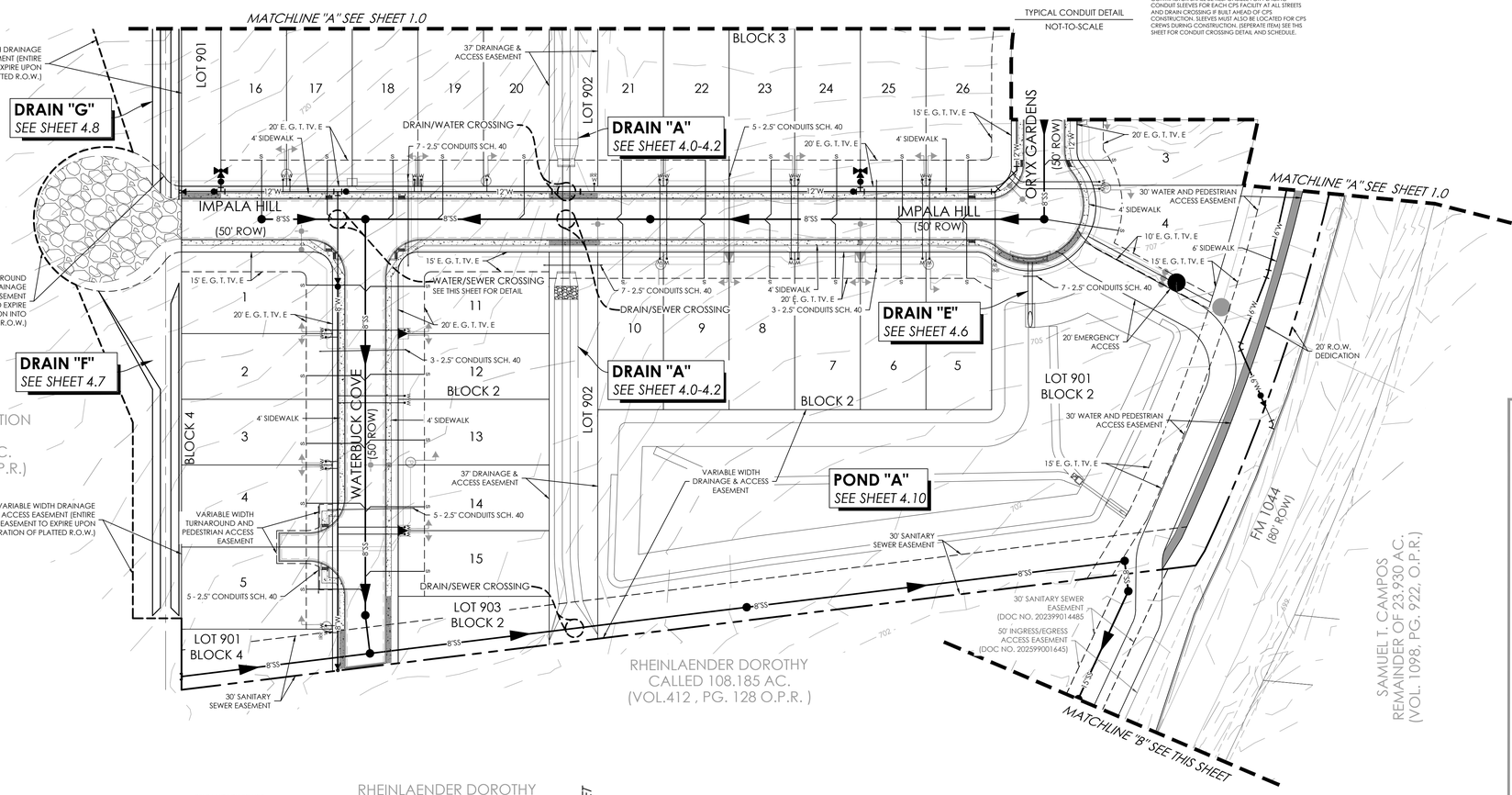
NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPERATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.

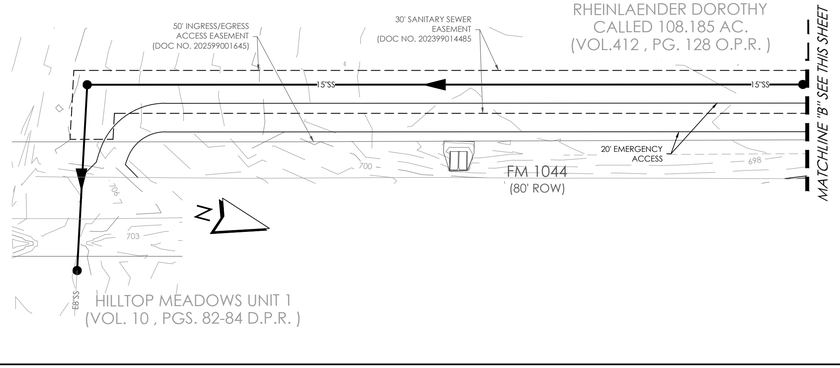
811
Know what's **below.**
Call before you dig.

LOCATION MAP
NOT-TO-SCALE









LEGEND

- PROPOSED WATER MAIN = W
- PROPOSED WATER SERVICE & METER BOX = W
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX = IRR
- PROPOSED FIRE HYDRANT =
- PROPOSED WATER VALVE =
- PROPOSED 100W STREETLIGHT =
- PROPOSED SANITARY SEWER MAIN = SS
- PROPOSED SANITARY SEWER MANHOLE =
- PROPOSED SANITARY SEWER LATERAL = SS
- PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK =
- PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT = E, G, T, TV, E
- EXISTING WATER MAIN = E.W
- EXISTING FIRE HYDRANT =
- EXISTING WATER VALVE =
- EXISTING BLOWOFF VALVE =
- EXISTING SANITARY SEWER MAIN = E.SS
- EXISTING SANITARY SEWER MANHOLE =
- EXISTING OVERHEAD ELECTRIC W/POWER POLE = OH
- EXISTING GUY WIRE/OVERHEAD ELECTRIC = OHE

GVEC LEGEND

- 3-4" ABC PHASE - 1000MCM AL 25kV WITH (1) 2 1/2 PVC FOR FIBER
- 3-2 1/2 ABC PHASE - 1/0 AL 25kV
- 1-2 1/2 A PHASE - 1/0 AL 25kV
- 1-2 1/2 B PHASE - 1/0 AL 25kV
- 1-2 1/2 C PHASE - 1/0 AL 25kV
- 1-2 1/2 SECONDARY - 350 TPLX WITH (1) 2 1/2 SPARE CONDUIT
- 1-2 1/2 SECONDARY - 4/0 TPLX WITH (1) 2 1/2 SPARE CONDUIT
- 1-1" STREET LIGHT - 12/2 W/GND
- BACK OF P.U.E.
- SECONDARY PEDESTAL
- TRANSFORMER
- 200A 1Ø SWITCH CABINET
- 200A SWITCH CABINET
- SWITCHGEAR
- 600A ENCLOSURE
- EASEMENT AREA
- NEW OVH POWER LINE
- EXISTING OVH POWER LINE
- NEW POWER POLE
- EXISTING POWER POLE
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CONTRACTOR NOTE:
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FIRM NO. 100363-00
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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL UTILITY PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
1.1

Date: 2/7/2024 3:44:22 PM
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ULTIMATE CONDITIONS - HYDROLOGY SUMMARY

RATIONAL METHOD

HYDROLOGIC STUDY POINT	DRAINAGE AREA	AREA (AC.)	C_2	C_{10}	C_{25}	C_{50}	C_{100}	$T_{conveyance}$ DESC.		T_{overl} (min)	T_{sc} (min)	T_{ch} (min)	T_c (min)	I_2 (in/hr)	I_{10} (in/hr)	I_{25} (in/hr)	I_{50} (in/hr)	I_{100} (in/hr)	Q_2 (ft^3/s)	Q_{10} (ft^3/s)	Q_{25} (ft^3/s)	Q_{50} (ft^3/s)	Q_{100} (ft^3/s)
A	DA-1	1.72	0.48	0.54	0.58	0.61	0.66			11.70	3.60	0.90	**16.20**	4.07	5.99	7.21	8.20	9.23	**3.34**	**5.53**	**7.20**	**8.66**	**10.44**
B	DA-1+DA-2	3.35	0.50	0.56	0.61	0.64	0.69	A	16.20			0.50	**16.70**	4.01	5.89	7.09	8.06	9.07	**6.74**	**11.13**	**14.45**	**17.35**	**20.87**
C	DA-1+DA-2+DA-3	5.24	0.53	0.59	0.64	0.67	0.72	B	16.70			1.40	**18.10**	3.85	5.64	6.79	7.72	8.69	**10.63**	**17.48**	**22.63**	**27.12**	**32.55**
D	DA-4	8.19	0.61	0.68	0.73	0.76	0.81			18.40	5.50	1.20	**25.10**	3.26	4.77	5.74	6.49	7.31	**16.34**	**26.63**	**34.22**	**40.63**	**48.55**
E	DA-5A	3.83	0.62	0.69	0.74	0.77	0.82			11.90	4.90	0.80	**17.60**	3.90	5.73	6.89	7.84	8.82	**9.27**	**15.16**	**19.48**	**23.25**	**27.75**
F	DA-4+DA-5A+DA5B	12.14	0.61	0.68	0.73	0.77	0.81	D	25.10			0.40	**25.50**	3.24	4.74	5.70	6.44	7.25	**24.03**	**39.20**	**50.38**	**59.79**	**71.42**
G	DA-4+DA-5A+DA-5B+DA-6	12.34	0.61	0.68	0.72	0.76	0.81	F	25.50			0.80	**26.30**	3.18	4.66	5.61	6.33	7.13	**23.87**	**39.00**	**50.12**	**59.48**	**71.04**
H	DA-4+DA-5A+DA-5B+DA-6+DA-7	13.40	0.60	0.67	0.72	0.76	0.80	G	26.30			1.00	**27.30**	3.13	4.58	5.50	6.21	6.99	**25.28**	**41.28**	**53.05**	**62.97**	**75.20**
I-1	DA-8A	4.26	0.63	0.71	0.75	0.79	0.84			9.00	3.20	0.00	**12.20**	4.67	6.92	8.39	9.54	10.75	**12.53**	**20.79**	**26.88**	**32.08**	**38.32**
I-2	DA-8B	3.48	0.63	0.71	0.75	0.79	0.84			11.30	4.20	0.50	**16.00**	4.10	6.03	7.26	8.25	9.29	**8.99**	**14.80**	**19.01**	**22.67**	**27.05**
I-3	DA-8A+DA-8B+DA-8C	8.06	0.63	0.71	0.75	0.79	0.84	I-2	16.00	0.00	0.00	0.60	**16.60**	4.02	5.91	7.12	8.09	9.10	**20.52**	**33.57**	**43.13**	**51.45**	**61.37**
J	DA-8A+DA-8B+DA-8C+DA-9	10.77	0.59	0.66	0.71	0.74	0.79	I-3	16.60			0.60	**17.20**	3.95	5.80	6.98	7.93	8.93	**25.14**	**41.20**	**53.07**	**63.42**	**75.81**
K	DA-10	1.19	0.62	0.69	0.73	0.77	0.82			13.70	1.70	0.00	**15.40**	4.18	6.16	7.42	8.44	9.50	**3.07**	**5.03**	**6.47**	**7.73**	**9.24**
L	DA-11	8.37	0.62	0.69	0.74	0.78	0.82			18.40	3.60	3.10	**25.10**	3.26	4.77	5.74	6.49	7.31	**16.95**	**27.61**	**35.46**	**42.09**	**50.26**
M	DA-11+DA-12	9.26	0.61	0.68	0.72	0.76	0.81	L	25.10			0.80	**25.90**	3.21	4.70	5.65	6.38	7.19	**18.01**	**29.42**	**37.82**	**44.88**	**53.61**
N	DA-11+DA-12+DA-13	10.68	0.58	0.65	0.70	0.73	0.78	M	25.90			0.80	**26.70**	3.16	4.63	5.56	6.29	7.07	**19.67**	**32.19**	**41.44**	**49.24**	**58.88**
O	DA-11+DA-12+DA-13+DA-14	12.72	0.56	0.62	0.67	0.70	0.75	N	26.70			1.10	**27.80**	3.10	4.54	5.45	6.15	6.93	**22.00**	**36.01**	**46.42**	**55.18**	**66.11**
P	DA-15	6.87	0.64	0.71	0.76	0.80	0.85			12.80	4.00	1.10	**17.90**	3.87	5.68	6.83	7.76	8.74	**17.07**	**27.85**	**35.73**	**42.61**	**50.79**
Q	DA-16	8.57	0.64	0.72	0.76	0.80	0.85			11.30	7.80	2.30	**21.40**	3.53	5.18	6.23	7.05	7.93	**19.53**	**31.83**	**40.83**	**48.49**	**57.78**
R	DA-17	2.67	0.64	0.72	0.76	0.80	0.85			14.60	1.70	0.60	**16.90**	3.98	5.85	7.04	8.01	9.01	**6.85**	**11.20**	**14.38**	**17.15**	**20.44**
S	DA-16+DA-17	11.24	0.64	0.72	0.76	0.80	0.85	Q	21.40			1.30	**22.70**	3.43	5.02	6.04	6.84	7.69	**24.86**	**40.49**	**51.93**	**61.66**	**73.48**
T	DA-15+DA-16+DA-17+DA-18	18.79	0.63	0.71	0.75	0.79	0.84	S	22.70			0.20	**22.90**	3.42	5.00	6.01	6.81	7.66	**40.69**	**66.29**	**85.06**	**101.02**	**120.46**
U	DA-19	0.77	0.62	0.69	0.73	0.77	0.82			20.00	1.00	0.00	**21.00**	3.57	5.23	6.29	7.12	8.01	**1.69**	**2.76**	**3.55**	**4.22**	**5.03**
V	DA-20	8.71	0.63	0.70	0.75	0.78	0.83			18.40	6.10	2.20	**26.70**	3.16	4.63	5.56	6.29	7.07	**17.30**	**28.22**	**36.21**	**42.95**	**51.22**

ULTIMATE CONDITIONS TIME OF CONCENTRATION

DRAINAGE AREA	OVERLAND FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW			TOTAL	
	n	L (ft)	P_2 (in)	s %	$T_{overland}$ (min)	Paved/Unpaved	V (ft/s)	L (ft)	s (%)	$T_{shallow\ concentrated}$ (min)	L (ft)	V (ft/s)	$T_{channel}$ (min)	T_c(min)	T_{tot}(min)
1	**0.24**	**100**	**3.34**	**3.1**	**11.7**	**unpaved**	**2.97505**	**651**	**3.4**	**3.6**	**333**	**6**	**0.9**	**16.2**	**9.72**
2	CARRY OVER FROM 1									16.2	167	6	0.5	**16.7**	**10.02**
3	CARRY OVER FROM 2									16.7	507	6	1.4	**18.1**	**10.86**
4	0.24	100	3.34	1.00	18.4	Unpaved	2.98	977	3.40	5.5	443	6	1.2	**25.1**	**15.06**
5A	**0.24**	**100**	**3.34**	**3**	**11.9**	**unpaved**	**2.97505**	**872**	**3.4**	**4.9**	**270**	**6**	**0.8**	**17.6**	**10.56**
5B	CARRY OVER FROM 4									25.1	148	6	0.4	**25.5**	**15.3**
6	CARRY OVER FROM 5B									25.5	294	6	0.8	**26.3**	**15.78**
7	CARRY OVER FROM 6									26.3	348	6	1.0	**27.3**	**16.38**
8A	**0.24**	**100**	**3.34**	**6**	**9**	**paved**	**3.52095**	**684**	**3**	**3.2**	**0**	**6**	**0**	**12.2**	**7.32**
8B	0.24	100	3.34	3.4	11.3	paved	2.65047	672	1.7	4.2	190	6	0.5	16	9.6
8C	**CARRYOVER FROM 8B**									**16**	**230**	**6**	**0.6**	**16.6**	**9.96**
9	CARRY OVER FROM 8C									16.6	220	6	0.6	**17.2**	**10.32**
10	**0.24**	**100**	**3.34**	**2.1**	**13.7**	**paved**	**3.21417**	**332**	**2.5**	**1.7**	**0**	**6**	**0**	**15.4**	**9.24**
11	0.24	100	3.34	1.00	18.4	Unpaved	2.84	606	3.10	3.6	1100	6	3.1	**25.1**	**15.06**
12	CARRY OVER FROM 11									25.1	294	6	0.8	**25.9**	**15.54**
13	CARRY OVER FROM 12									25.9	290	6	0.8	**26.7**	**16.02**
14	CARRY OVER FROM 13									26.7	398	6	1.1	**27.8**	**16.68**
15	0.24	100	3.34	2.50	12.8	paved	2.57	623	1.60	4.0	384	6	1.1	**17.9**	**10.74**
16	**0.24**	**100**	**3.34**	**3.4**	**11.3**	**paved**	**1.43742**	**675**	**0.5**	**7.8**	**822**	**6**	**2.3**	**21.4**	**12.84**
17A	0.24	100	3.34	1.80	14.6	paved	3.21	334	2.50	1.7	209	6	0.6	**16.9**	**10.14**
17B	CARRY OVER FROM 16									21.4	460	6	1.3	**22.7**	**13.62**
18	CARRY OVER FROM 17									22.7	89	6	0.2	**22.9**	**13.74**
19	**0.24**	**100**	**3.34**	**0.6**	**20**	**paved**	**2.03282**	**125**	**1**	**1**	**0**	**6**	**0**	**21**	**12.6**
20	0.24	100	3.34	1.00	18.4	Unpaved	2.75	1000	2.90	6.1	776	6	2.2	**26.7**	**16.02**

Composite I Values

DA	Area(ac)	R4(ac)	R2(ac)	Road (ac)	Undev(ac)	I
1	**1.72**	0.51	0.67	0	0.54	0.349
2	**1.63**	0.56	0.26	0.23	0.58	0.473
3	**1.89**	0.62	0	0.56	0.71	0.575
4	**8.19**	6.97	0.92	0	0.30	0.670
5A	**3.83**	3.48	0	0	0.34	0.691
5B	**0.12**	0.00	0	0	0.12	0.102
6	**0.20**	0	0	0	0.20	0.102
7	**0.90**	0.57	0	0	0.33	0.513
8 A-C	**8.05**	7.71	0	0	0.35	0.723
9	**2.71**	0.94	0	0	1.77	0.326
10	**1.38**	1.23	0	0	0.14	0.681
11	**8.37**	7.62	0	0	0.75	0.692
12	**0.89**	0.33	0	0	0.56	0.340
13	**1.42**	0.32	0	0	1.10	0.246
14	**2.01**	0.37	0	0	1.63	0.220
15	**6.87**	6.79	0	0	0.08	0.742
16	**8.57**	8.56	0	0	0.00	0.750
17A	**2.67**	2.67	0	0	0.00	0.749
17B	**2.67**	2.67	0	0	0.00	0.749
18	**0.68**	0.00	0	0	0.68	0.100
19	**0.77**	0.69	0	0	0.09	0.680
20	**8.71**	8.20	0	0	0.51	0.712

Composite I = SUM(I value * land use acreage)/total acreage

Composite C = SUM(individual C value * individual acreage)/total acreage

Composite C Values @ AREAS

C2	C10	C25	C50	C100
0.48	0.54	0.58	0.61	0.66
0.53	0.59	0.64	0.67	0.72
0.57	0.64	0.68	0.72	0.77
0.61	0.68	0.73	0.76	0.81
0.62	0.69	0.74	0.77	0.82
0.37	0.43	0.47	0.50	0.54
0.37	0.43	0.47	0.50	0.54
0.55	0.61	0.66	0.69	0.74
0.63	0.71	0.75	0.79	0.84
0.47	0.53	0.57	0.60	0.65
0.62	0.69	0.73	0.77	0.82
0.62	0.69	0.74	0.78	0.82
0.47	0.53	0.58	0.61	0.65
0.43	0.49	0.53	0.57	0.61
0.42	0.48	0.52	0.55	0.60
0.64	0.71	0.76	0.80	0.85
0.64	0.72	0.76	0.80	0.85
0.64	0.72	0.76	0.80	0.85
0.64	0.72	0.76	0.80	0.85
0.37	0.43	0.47	0.50	0.54
0.62	0.69	0.73	0.77	0.82
0.63	0.70	0.75	0.78	0.83

STUDY POINT	Composite C @ STUDY POINTS				
	C2	C10	C25	C50	C100
A	0.48	0.54	0.58	0.61	0.66
B	0.50	0.56	0.61	0.64	0.69
C	0.53	0.59	0.64	0.67	0.72
D	0.61	0.68	0.73	0.76	0.81
E	0.62	0.69	0.74	0.77	0.82
F	0.61	0.68	0.73	0.77	0.81
G	0.61	0.68	0.72	0.76	0.81
H	0.60	0.67	0.72	0.76	0.80
I1-3	0.63	0.71	0.75	0.79	0.84
J	0.59	0.66	0.71	0.74	0.79
K	0.62	0.69	0.73	0.77	0.82
L	0.62	0.69	0.74	0.78	0.82
M	0.61	0.68	0.72	0.76	0.81
N	0.58	0.65	0.70	0.73	0.78
O	0.56	0.62	0.67	0.70	0.75
P	0.64	0.71	0.76	0.80	0.85
Q	0.64	0.72	0.76	0.80	0.85
R	0.64	0.72	0.76	0.80	0.85
S	0.64	0.72	0.76	0.80	0.85
T	0.63	0.71	0.75	0.79	0.84
U	0.62	0.69	0.73	0.77	0.82
V	0.63	0.70	0.75	0.78	0.83

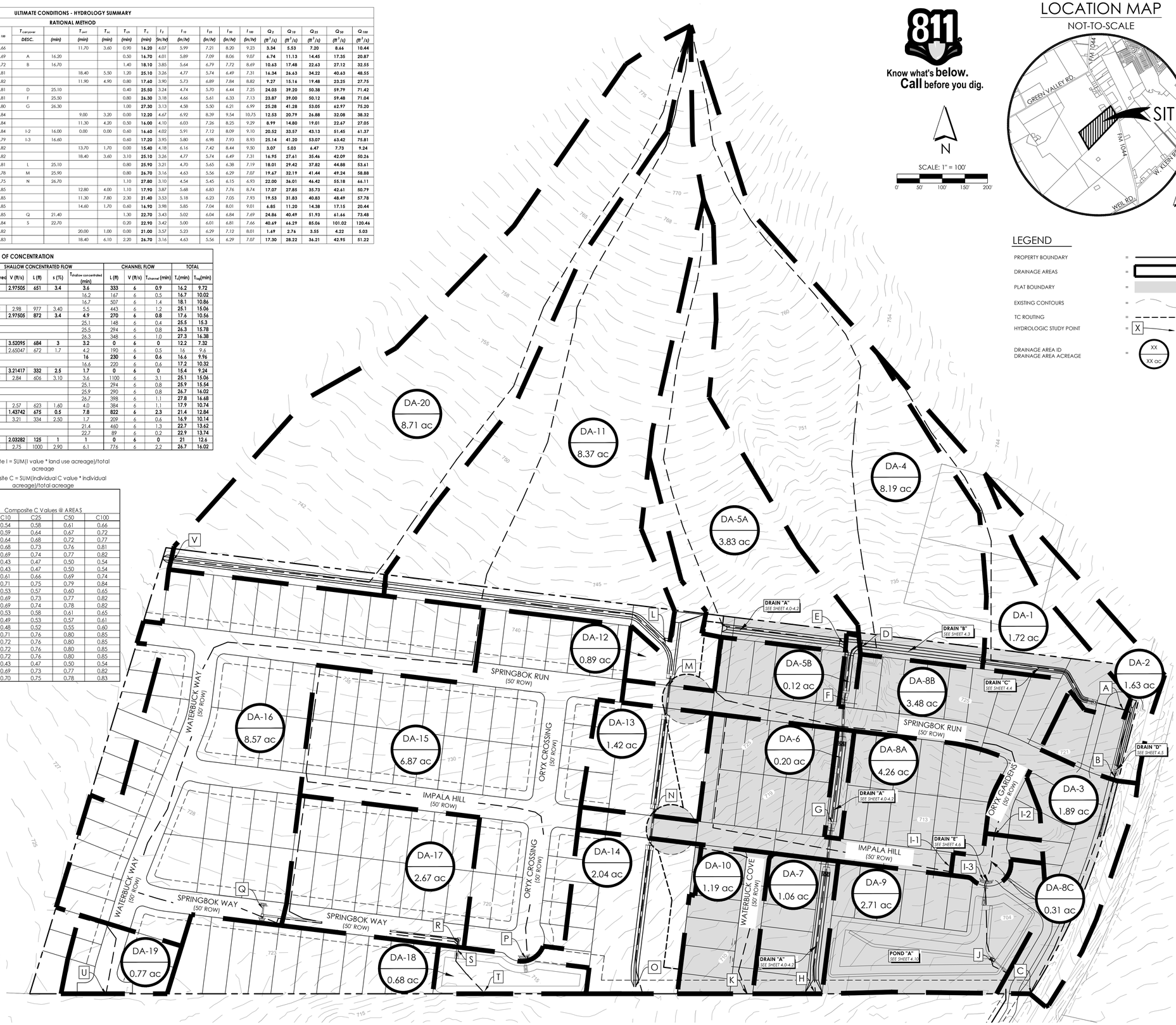
NEW BRAUNFELS C Values

YEAR	2	10	25	50	100
Asphalt	0.73	0.81	0.86	0.90	0.95
Concrete	0.75	0.83	0.88	0.92	0.97
fair grass(0-2%)	0.25	0.3	0.34	0.37	0.41
fair grass(2-7%)	0.33	0.38	0.42	0.45	0.49
fair grass(7+%)	0.37	0.42	0.46	0.49	0.53

Impervious Cover	
Type of development	I
undeveloped	0.1
r-4/r-5 residential	0.75
r-2 residential	0.25
roadway	0.98

COMPOSITE C VALUES = I*C1 + (1-I)*C2
I: IMPERVIOUS COVER, PERCENT
C1: C VALUE OF IMPERVIOUS COVER
C2: C VALUE OF PERVIOUS COVER

IMPERVIOUS PERCENTAGES TAKEN FROM NRCS TR-55, ALL OTHER VALUES ARE FROM NEW BRAUNFELS DRAINAGE MANUAL



811
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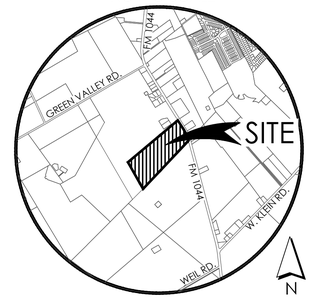
LOCATION MAP

NOT-TO-SCALE



N

SCALE: 1" = 100'

0' 50' 100' 150' 200'

LEGEND

- PROPERTY BOUNDARY =
- DRAINAGE AREAS =
- PLAT BOUNDARY =
- EXISTING CONTOURS =
- TC ROUTING =
- HYDROLOGIC STUDY POINT = X
- DRAINAGE AREA ID / DRAINAGE AREA ACREAGE = XX / XX ac

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER
03/23/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

ONSITE MASTER DRAINAGE PLAN - ULTIMATE CONDITIONS

LOCATION **NEW BRAUNFELS ETJ**

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INTERIM CONDITIONS - HYDROLOGY SUMMARY

RATIONAL METHOD

HYDROLOGIC STUDY POINT	DRAINAGE AREA	AREA (AC.)	C_2	C_{10}	C_{25}	C_{50}	C_{100}	$T_{carryover}$ DESC.		T_{ovrl} (min)	T_{sc} (min)	T_{ch} (min)	T_c (min)	I_2 (in/hr)	I_{10} (in/hr)	I_{25} (in/hr)	I_{50} (in/hr)	I_{100} (in/hr)	Q_2 (ft^3/s)	Q_{10} (ft^3/s)	Q_{25} (ft^3/s)	Q_{50} (ft^3/s)	Q_{100} (ft^3/s)
A	**DA-1**	1.18	0.50	0.57	0.61	0.64	0.69			12.00	2.00	0.40	14.40	4.33	6.38	7.70	8.76	9.87	**2.57**	**4.26**	**5.55**	**6.67**	**8.02**
B	**DA-1+DA-2**	2.34	0.46	0.52	0.56	0.60	0.64	A	14.40			0.80	15.20	4.21	6.20	7.47	8.50	9.57	**4.55**	**7.56**	**9.86**	**11.88**	**14.35**
C	**DA-1+DA-2+DA-3**	3.37	0.44	0.50	0.54	0.57	0.62	B	15.20			0.90	16.10	4.09	6.01	7.24	8.22	9.26	**6.06**	**10.08**	**13.18**	**15.88**	**19.21**

Composite I Values							Composite C Values @ AREAS					STUDY	Composite C @ STUDY POINTS				
DA	Area(ac)	R4(ac)	R2(ac)	Road (ac)	undev(ac)	I	C2	C10	C25	C50	C100	POINT	C2	C10	C25	C50	C100
1	**1.18**	0.57	0.00	0	0.61	0.414	0.50	0.57	0.61	0.64	0.69	**A**	0.50	0.57	0.61	0.64	0.69
2	**1.16**	0.20	0.00	0.00	0.96	0.212	0.42	0.48	0.52	0.55	0.59	**B**	0.46	0.52	0.56	0.60	0.64
3	**0.99**	0.06	0	0.00	0.93	0.139	0.39	0.44	0.48	0.52	0.56	**C**	0.44	0.50	0.54	0.57	0.62

DRAINAGE AREA	OVERLAND FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW			TOTAL	
	n	L (ft)	P_2 (in)	s %	$T_{overland}$ (min)	aved/Unpave	V (ft/s)	L (ft)	s (%)	$T_{shallow\ concentrated}$ (min)	L (ft)	V (ft/s)	$T_{channel}$ (min)	T_c(min)	T_{lag}(min)
1	0.24	100	3.34	2.9	12	unpaved	3.30659	398	4.2	2	150	6	0.4	**14.4**	**8.64**
2	CARRY OVER FROM 1									14.4	289	6	0.8	**15.2**	**9.12**
3	CARRY OVER FROM 2									15.2	341	6	0.9	**16.1**	**9.66**

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

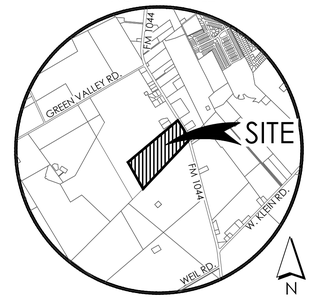
N

SCALE: 1" = 100'

0' 50' 100' 150' 200'

LOCATION MAP

NOT-TO-SCALE



COMPOSITE C VALUES = I*C1 + (1-I)*C2
I: IMPERVIOUS COVER, PERCENT
C1: C VALUE OF IMPERVIOUS COVER
C2: C VALUE OF PERVIOUS COVER

IMPERVIOUS PERCENTAGES TAKEN FROM NRCS TR-55, ALL OTHER VALUES ARE FROM NEW BRAUNFELS DRAINAGE MANUAL

LEGEND

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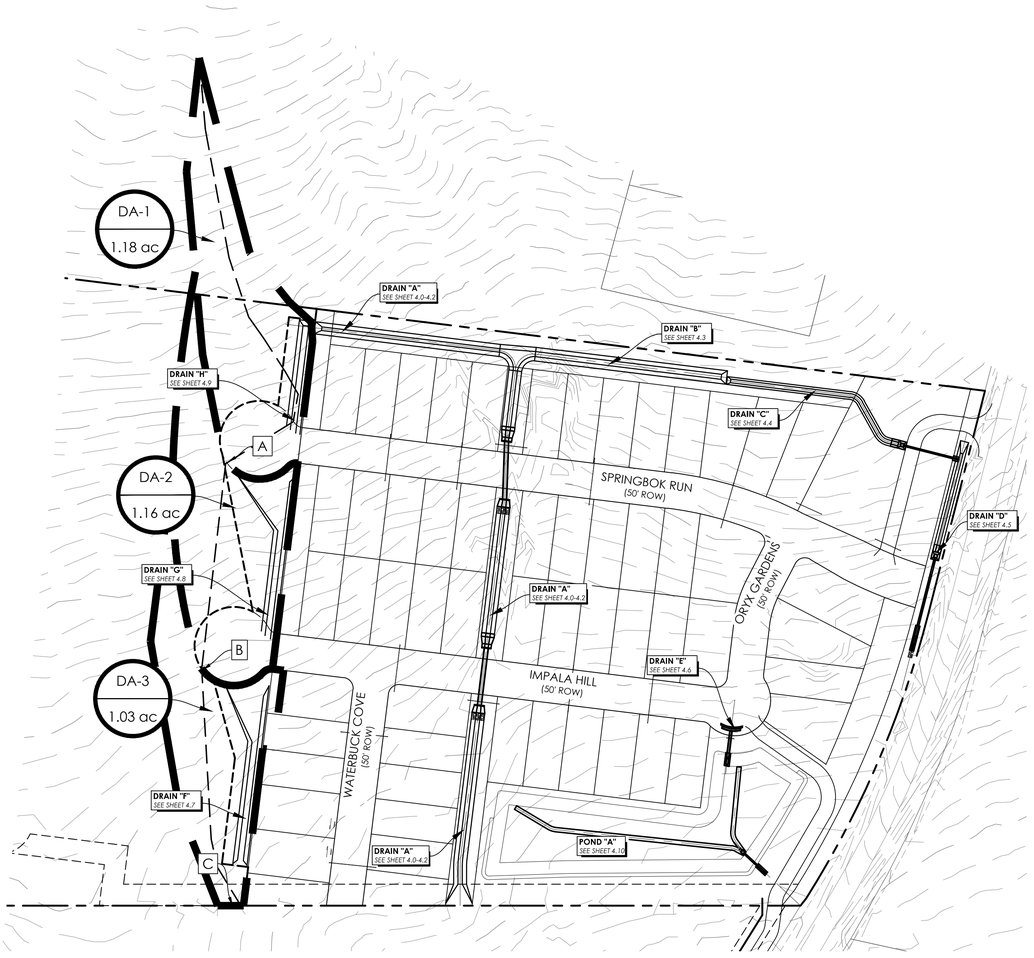

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REVISIONS

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BLACKWELL SUBDIVISION UNIT 1

SHEET

ONSITE MASTER DRAINAGE PLAN - INTERIM CONDITIONS

LOCATION **NEW BRAUNFELS ETJ**

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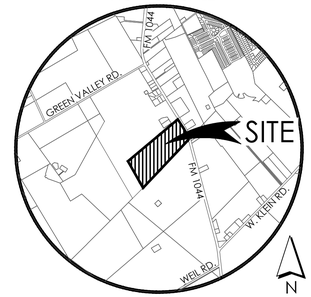
LOCATION MAP

NOT-TO-SCALE

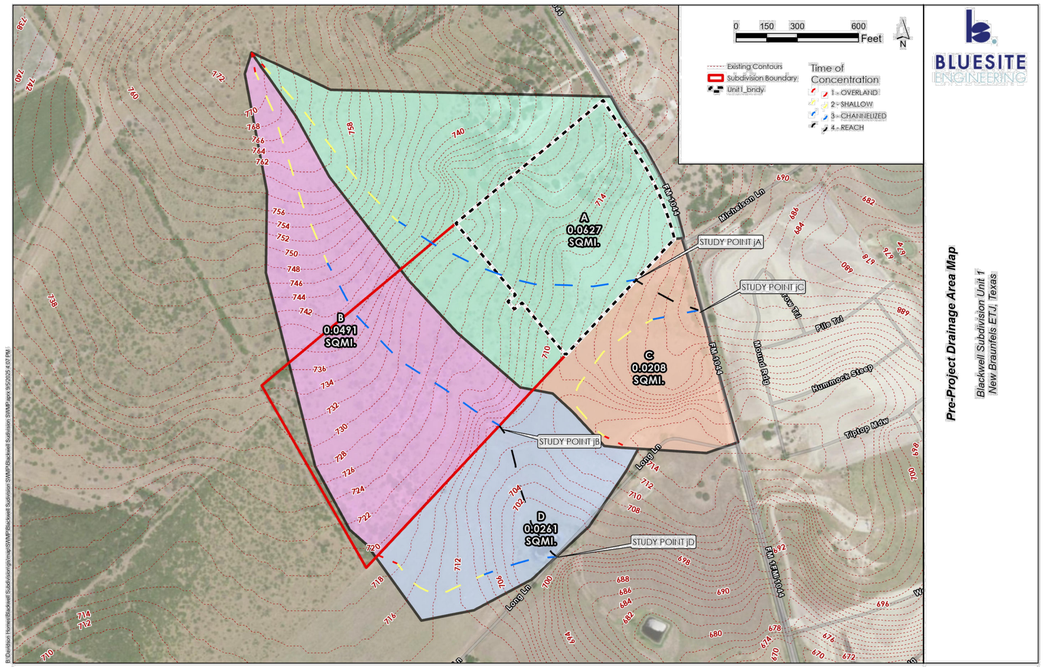


PRE-PROJECT 002				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0491	62.7	01Jan2024, 12:20	6.3
jB	0.0491	62.7	01Jan2024, 12:20	6.3
rD	0.0491	62	01Jan2024, 12:25	6.3
D	0.0261	23.2	01Jan2024, 12:20	2.2
A	0.0627	75.5	01Jan2024, 12:20	7.2
jA	0.0627	75.5	01Jan2024, 12:20	7.2
rC	0.0627	75.5	01Jan2024, 12:20	7.2
C	0.0208	29.2	01Jan2024, 12:20	2.7
jC	0.0835	104.6	01Jan2024, 12:20	9.9
jD	0.0752	84.5	01Jan2024, 12:20	8.4

PRE-PROJECT 010				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0491	115.7	01Jan2024, 12:20	13
jB	0.0491	115.7	01Jan2024, 12:20	13
rD	0.0491	113.5	01Jan2024, 12:20	13
D	0.0261	52.1	01Jan2024, 12:20	5.2
A	0.0627	146.3	01Jan2024, 12:20	15.4
jA	0.0627	146.3	01Jan2024, 12:20	15.4
rC	0.0627	146.3	01Jan2024, 12:20	15.4
C	0.0208	53.1	01Jan2024, 12:20	5.5
jC	0.0835	199.4	01Jan2024, 12:20	20.9
jD	0.0752	165.5	01Jan2024, 12:20	18.2

PRE-PROJECT 025				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0491	145	01Jan2024, 12:20	18.3
jB	0.0491	145	01Jan2024, 12:20	18.3
rD	0.0491	142.6	01Jan2024, 12:20	18.3
D	0.0261	69.5	01Jan2024, 12:20	7.8
A	0.0627	185.9	01Jan2024, 12:20	22.1
jA	0.0627	185.9	01Jan2024, 12:20	22.1
rC	0.0627	185.9	01Jan2024, 12:20	22.1
C	0.0208	65.9	01Jan2024, 12:20	7.8
jC	0.0835	251.8	01Jan2024, 12:20	29.9
jD	0.0752	212	01Jan2024, 12:20	26.1

PRE-PROJECT 100				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0491	197	01Jan2024, 12:20	28.7
jB	0.0491	197	01Jan2024, 12:20	28.7
rD	0.0491	194	01Jan2024, 12:20	28.7
D	0.0261	100.8	01Jan2024, 12:20	13.1
A	0.0627	256.5	01Jan2024, 12:20	35.3
jA	0.0627	256.5	01Jan2024, 12:20	35.3
rC	0.0627	256.5	01Jan2024, 12:20	35.3
C	0.0208	89	01Jan2024, 12:20	12.2
jC	0.0835	345.5	01Jan2024, 12:20	47.5
jD	0.0752	294.7	01Jan2024, 12:20	41.9

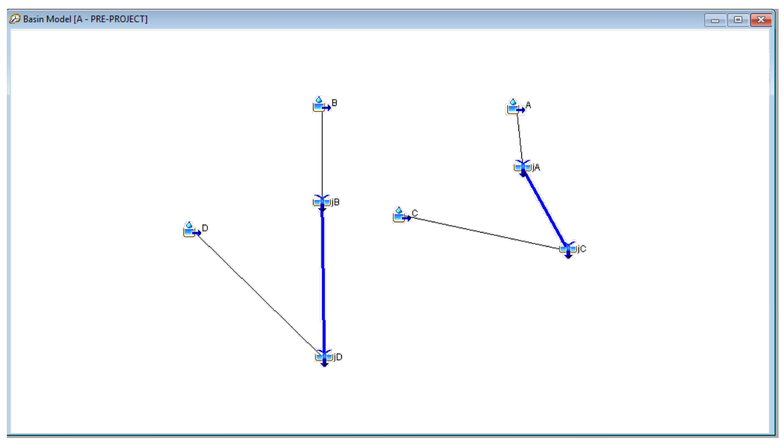


Pre-Project Drainage Area Map

Blackwell Subdivision Unit 1
New Braunfels ETJ, Texas

Pre-Project Landuse Exhibit

Blackwell Subdivision Unit 1
New Braunfels ETJ, Texas



TIME OF CONCENTRATION CALCULATION
PRE-PROJECT CONDITIONS

DRAINAGE AREA	OVERLAND FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW			TOTAL	
	n	L (ft)	P_2 (in)	s %	$T_{overland}$ (min)	Paved/Unpaved	V (ft/s)	L (ft)	s (%)	$T_{shallow\ concentrated}$ (min)	L (ft)	V (ft/s)	$T_{channel}$ (min)	T_c(min)	T_{lag}(min)
A	0.24	100	3.34	1.14	**17.5**	UNPAVED	2.60161	1000	2.6	**6.4**	1236	6	**3.4**	**27.3**	**16.38**
B	0.24	100	3.34	0.5	**20**	UNPAVED	2.42018	1000	2.25	**6.9**	1185	6	**3.3**	**30.2**	**18.12**
C	0.24	100	3.34	0.88	**19.4**	UNPAVED	2.20045	806	1.86	**6.1**	227	6	**0.6**	**26.1**	**15.66**
D	0.24	100	3.34	0.5	**20**	UNPAVED	2.24148	500	1.93	**3.7**	369	6	**1**	**24.7**	**14.82**
rC											344	6	**1**	**1**	**0.6**
rD											716	6	**2**	**2**	**1.2**

$$T_C = T_{overland} + T_{shallow\ concentrated} + T_{channel}$$

$$T_{overland} = \frac{0.007 * (nL)^{0.8}}{P_2^{0.5} * s^{0.4}}$$

$$T_{shallow\ concentrated} = \frac{L}{3600 * V}$$

$$if\ paved\ surface\ V = 20.3282 * s^{0.5}$$

$$if\ unpaved\ surace\ V = 16.1345 * s^{0.5}$$

$$T_{channel} = \frac{L}{3600 * V}$$

$$V = \frac{1.49}{n} * R^{2/3} * S^{0.5}$$

$$T_{lag} = T_C * 0.6$$

UNPAVED

Assumptions
Minimum $T_{overland}$ 5 min Minimum $L_{Overland}$ 300 feet
Maximum $T_{overland}$ 20 min
P_2 3.34 Per Table 3-2 New Braunfels Area Depth-Duration Value

Sample Overland and Channel Conditions	Manning's "n" Value
Concrete Lined Channel	0.015
Grass Lined Channel with regular maintenance	0.035
Vegetated Channel with trees, little or no underbrush	0.055
Natural Channel with trees, moderate underbrush	0.075
Natural Channel with dense trees and dense underbrush	0.100
Smooth paved, gravel, or bare soil	0.110
Short Grass (Mowed)	0.150
Dense Grass	0.240
Woods light underbrush	0.400
Woods Heavy underbrush	0.800

COMPOSITE CN CALCULATIONS
PRE-PROJECT CONDITIONS

BASIN NAME	BASIN SIZE		LANDUSE	HSG	CN	SIZE		CPMPOSITE CN
	AC	Mi^2				AC	Mi^2	
A	40.10	0.0627	Open Space	D	84	25.1497	0.0393	80.51
			Open Space	B	69	7.06503	0.01104	
			residential 2 ac	B	75	5.54701	0.00867	
			residential 2 ac	D	87	1.54547	0.00242	
			roadway	D	98	0.5061	0.00079	
			roadway	B	98	0.28804	0.00045	
B	31.42	0.0491	Open Space	D	84	30.7581	0.04806	83.68
			Open Space	B	69	0.66065	0.00103	
C	13.31	0.0208	Open Space	D	84	11.5711	0.01808	84.08
			Open Space	B	69	0.80504	0.00126	
			roadway	D	98	0.66242	0.00104	
			roadway	B	98	0.27334	0.00043	
D	16.73	0.0261	Open Space	B	69	12.6933	0.01983	72.62
			Open Space	D	84	4.03839	0.00631	

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REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

PRE-PROJECT SCS INFORMATION

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

2.2

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POST-PROJECT 002				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0317	58.4	01Jan2024, 12:15	5.3
POND B	0.0317	56.1	01Jan2024, 12:20	5.3
jB	0.0317	56.1	01Jan2024, 12:20	5.3
rD	0.0317	54.9	01Jan2024, 12:20	5.3
D	0.028	27.1	01Jan2024, 12:20	2.4
A - BYPASS	0.0512	64.8	01Jan2024, 12:20	6.1
rC - BYPASS	0.0512	63.8	01Jan2024, 12:20	6.1
A - POND	0.0163	29.2	01Jan2024, 12:15	2.4
POND A	0.0163	10.1	01Jan2024, 12:40	2.4
jA	0.0163	10.1	01Jan2024, 12:40	2.4
C	0.0208	29.2	01Jan2024, 12:20	2.7
rC - POND	0.0163	10.1	01Jan2024, 12:40	2.4
jC	0.0883	101.9	01Jan2024, 12:20	11.2
jD	0.0597	82	01Jan2024, 12:20	7.7

ULTIMATE 100				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0317	150.1	01Jan2024, 12:15	20.3
POND B	0.0317	147.8	01Jan2024, 12:20	20.3
jB	0.0317	147.8	01Jan2024, 12:20	20.3
rD	0.0317	145.6	01Jan2024, 12:20	20.3
D	0.028	131.6	01Jan2024, 12:15	17.1
A - BYPASS	0.0512	221.7	01Jan2024, 12:20	31.4
rC - BYPASS	0.0512	220.3	01Jan2024, 12:20	31.4
A - POND	0.0163	81.5	01Jan2024, 12:15	10
POND A	0.0163	40	01Jan2024, 12:30	10
jA	0.0163	40	01Jan2024, 12:30	10
C	0.0208	92.9	01Jan2024, 12:20	13.4
rC - POND	0.0163	40	01Jan2024, 12:30	10
jC	0.0883	343.6	01Jan2024, 12:20	54.7
jD	0.0597	269.4	01Jan2024, 12:20	37.3

POST-PROJECT 010				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0317	95.9	01Jan2024, 12:15	9.9
POND B	0.0317	93	01Jan2024, 12:20	9.8
jB	0.0317	93	01Jan2024, 12:20	9.8
rD	0.0317	91.3	01Jan2024, 12:20	9.8
D	0.028	60.7	01Jan2024, 12:15	5.8
A - BYPASS	0.0512	123.1	01Jan2024, 12:20	12.9
rC - BYPASS	0.0512	121.7	01Jan2024, 12:20	12.9
A - POND	0.0163	50.8	01Jan2024, 12:15	4.7
POND A	0.0163	13.9	01Jan2024, 12:45	4.7
jA	0.0163	13.9	01Jan2024, 12:45	4.7
C	0.0208	53.1	01Jan2024, 12:20	5.5
rC - POND	0.0163	13.9	01Jan2024, 12:45	4.7
jC	0.0883	187.1	01Jan2024, 12:20	23.1
jD	0.0597	149.9	01Jan2024, 12:20	15.6

POST-PROJECT 025				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0317	114.8	01Jan2024, 12:15	13.4
POND B	0.0317	112.8	01Jan2024, 12:20	13.4
jB	0.0317	112.8	01Jan2024, 12:20	13.4
rD	0.0317	111	01Jan2024, 12:20	13.4
D	0.028	80.5	01Jan2024, 12:15	8.6
A - BYPASS	0.0512	155.2	01Jan2024, 12:20	18.4
rC - BYPASS	0.0512	153.9	01Jan2024, 12:20	18.4
A - POND	0.0163	61.4	01Jan2024, 12:15	6.5
POND A	0.0163	19.7	01Jan2024, 12:40	6.5
jA	0.0163	19.7	01Jan2024, 12:40	6.5
C	0.0208	65.9	01Jan2024, 12:20	7.8
rC - POND	0.0163	19.7	01Jan2024, 12:40	6.5
jC	0.0883	233.9	01Jan2024, 12:20	32.7
jD	0.0597	188.1	01Jan2024, 12:20	22

POST-PROJECT 100				
HYDROLOGIC ELEMENT	DRAINAGE AREA (MI2)	PEAK DISCHARGE (CFS)	TIME OF PEAK	VOLUME (AC-FT)
B	0.0317	150.1	01Jan2024, 12:15	20.3
POND B	0.0317	147.8	01Jan2024, 12:20	20.3
jB	0.0317	147.8	01Jan2024, 12:20	20.3
rD	0.0317	145.6	01Jan2024, 12:20	20.3
D	0.028	116.5	01Jan2024, 12:15	14.3
A - BYPASS	0.0512	212.7	01Jan2024, 12:20	29.2
rC - BYPASS	0.0512	211.1	01Jan2024, 12:20	29.2
A - POND	0.0163	81.5	01Jan2024, 12:15	10
POND A	0.0163	40	01Jan2024, 12:30	10
jA	0.0163	40	01Jan2024, 12:30	10
C	0.0208	89	01Jan2024, 12:20	12.2
rC - POND	0.0163	40	01Jan2024, 12:30	10
jC	0.0883	330.4	01Jan2024, 12:20	51.4
jD	0.0597	256.1	01Jan2024, 12:20	34.6

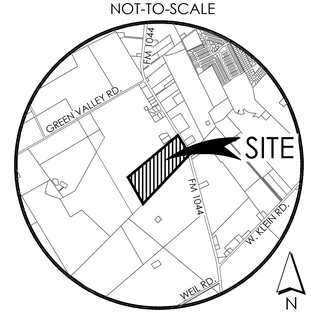
PRE-PROJECT				
	002-YEAR	010-YEAR	025-YEAR	100-YEAR
jB	62.7	115.7	145	197
jA	75.5	146.3	185.9	256.5
jC	104.6	199.4	251.8	345.5
jD	84.5	165.5	212	294.7

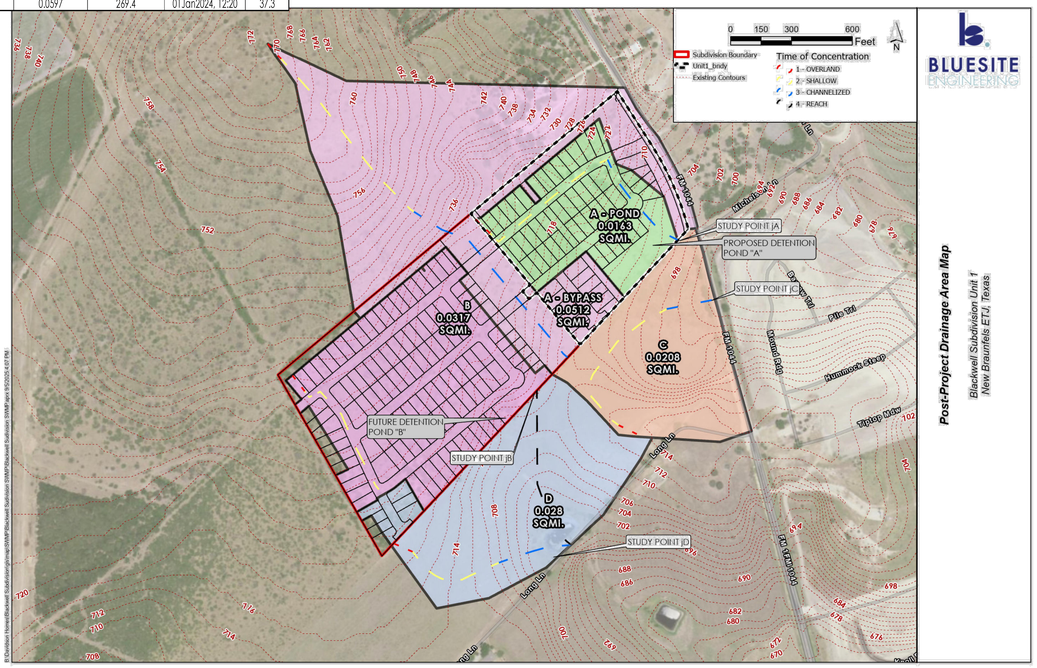
DELTA				
	002-YEAR	010-YEAR	025-YEAR	100-YEAR
jB	-6.6	-22.7	-32.2	-49.2
jA	-65.4	-132.4	-166.2	-216.5
jC	-2.7	-12.3	-17.9	-15.1
jD	-2.5	-15.6	-23.9	-38.6

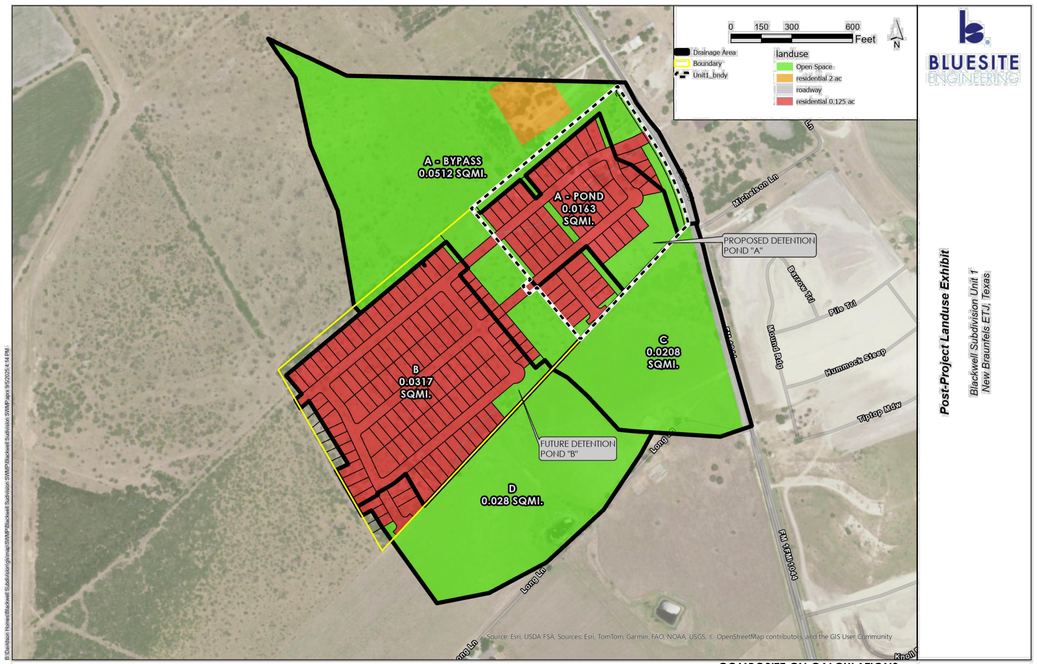
Know what's **below.** **Call** before you dig.

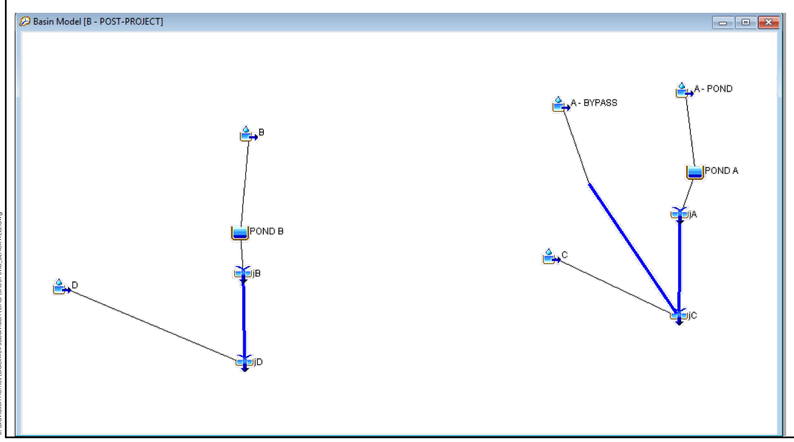
LOCATION MAP

NOT-TO-SCALE









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TIME OF CONCENTRATION CALCULATION
POST-PROJECT CONDITIONS

DRAINAGE AREA	OVERLAND FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW			TOTAL	
	n	L (ft)	P_2 (in)	s %	$T_{overland}$ (min)	Paved/Unpaved	V (ft/s)	L (ft)	s (%)	$T_{shallow\ concentrated}$ (min)	L (ft)	V (ft/s)	$T_{channel}$ (min)	T_c(min)	T_{lag}(min)
A - BYPASS	0.24	100	3.34	1.14	**17.5**	UNPAVED	2.60161	1000	2.6	**6.4**	1064	6	**3**	**26.9**	**16.14**
A - POND	0.24	100	3.34	3	**11.9**	UNPAVED	1.68449	31	1.09	**0.3**	538	6	**1.5**	**19.2**	**11.52**
						PAVED	2.12233	704	1.09	**5.5**					
B	0.24	100	3.34	1.5	**15.7**	UNPAVED	1.94954	18	1.46	**0.2**	935	6	**2.6**	**22.9**	**13.74**
						PAVED	2.45627	647	1.46	**4.4**					
C	0.24	100	3.34	0.88	**19.4**	UNPAVED	2.20045	806	1.86	**6.1**	227	6	**0.6**	**26.1**	**15.66**
D	0.24	100	3.34	1.14	**17.5**	UNPAVED	2.24148	500	1.93	**3.7**	369	6	**1**	**22.2**	**13.32**
rC -BYPASS											788	6	**2.2**	**2.2**	**1.32**
rC -POND											344	6	**1**	**1**	**0.6**
rD											811	6	**2.3**	**2.3**	**1.38**

Assumptions
Minimum $T_{overland}$ 5 min Minimum $L_{Overland}$ 300 feet
Maximum $T_{overland}$ 20 min
P_2 3.34 Per Table 3-2 New Braunfels Area Depth-Duration Value

$$T_C = T_{overland} + T_{shallow\ concentrated} + T_{channel}$$
$$T_{overland} = \frac{0.007 * (nL)^{0.8}}{P_2^{0.5} * s^{0.4}}$$
$$T_{shallow\ concentrated} = \frac{L}{3600 * V}$$
$$if\ paved\ surface\ V = 20.3282 * s^{0.5}$$
$$if\ unpaved\ surace\ V = 16.1345 * s^{0.5}$$
$$T_{channel} = \frac{L}{3600 * V}$$
$$V = \frac{1.49}{n} * R^{2/3} * S^{0.5}$$
$$T_{lag} = T_C * 0.6$$

Sample Overland and Channel Conditions	Manning's "n" Value
Concrete Lined Channel	0.015
Grass Lined Channel with regular maintenance	0.035
Vegetated Channel with trees, little or no underbrush	0.055
Natural Channel with trees, moderate underbrush	0.075
Natural Channel with dense trees and dense underbrush	0.100
Smooth paved, gravel, or bare soil	0.110
Short Grass (Mowed)	0.150
Dense Grass	0.240
Woods light underbrush	0.400
Woods Heavy underbrush	0.800

COMPOSITE CN CALCULATIONS
POST-PROJECT CONDITIONS

BASIN NAME	BASIN SIZE AC	BASIN SIZE MI^2	LANDUSE	HSG	CN	SIZE AC	SIZE MI^2	COMPOSITE CN
A - BYPASS	32.77	0.0512	roadway	B	98	0.288	0.0005	81.60
			roadway	D	98	0.506	0.0008	
			residential 2 ac	B	75	1.852	0.0029	
			Open Space	B	69	6.650	0.0104	
			Open Space	D	84	19.882	0.0311	
			residential 0.125 ac	B	85	0.308	0.0005	
			residential 0.125 ac	D	92	3.288	0.0051	
A - POND	10.44	0.0163	Open Space	B	69	0.257	0.0004	87.48
			Open Space	D	84	2.064	0.0032	
			residential 0.125 ac	B	85	3.546	0.0055	
			residential 0.125 ac	D	92	4.577	0.0072	
B	20.30	0.0317	Open Space	B	69	0.113	0.0002	91.43
			Open Space	D	84	0.645	0.0010	
			residential 0.125 ac	B	85	0.548	0.0009	
			residential 0.125 ac	D	92	18.990	0.0297	
C	13.28	0.0208	roadway	B	98	0.273	0.0004	84.08
			roadway	D	98	0.662	0.0010	
			Open Space	B	69	0.805	0.0013	
			Open Space	D	84	11.538	0.0180	
			residential 0.125 ac	D	92	0.002	0.0000	
D	17.92	0.0280	Open Space	B	69	12.693	0.0198	73.85
			Open Space	D	84	4.152	0.0065	
			residential 0.125 ac	B	85	0.000	0.0000	
			residential 0.125 ac	D	92	1.074	0.0017	

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
POST-PROJECT SCS INFORMATION

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
2.3

THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

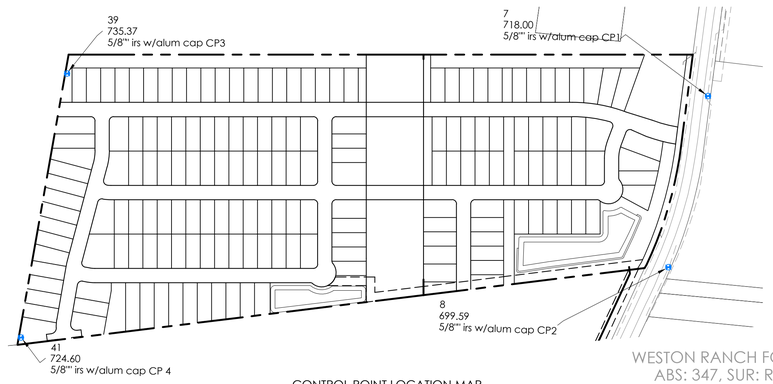
UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N)



CONTROL POINT LOCATION MAP
1" = 250'

SURVEY NOTE:
CONTRACTOR TO CONTACT B & G SURVEY FOR CONTROL CAD PRIOR TO CONSTRUCTION.

DATE OF SURVEY:
8/21/25

CONTROL POINTS

CP 1
5/8" IRS WITH ALUM CAP
NORTHING: 13783944.01000
EASTING: 2244184.57300
ELEV: 717.99700

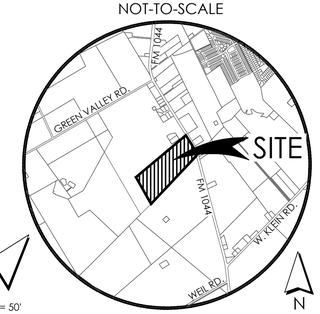
CP2
5/8" IRS WITH ALUM CAP
NORTHING: 13783396.23900
EASTING: 2244461.62400
ELEV: 699.59100

CP3
5/8" IRS WITH ALUM CAP
NORTHING: 13782568.79900
EASTING: 2242415.83400
ELEV: 735.36600

CP4
5/8" IRS WITH ALUM CAP
NORTHING: 13781757.88400
EASTING: 2242882.88600
ELEV: 724.59400

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

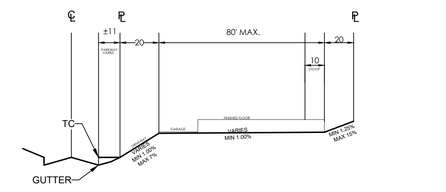
LOCATION MAP
NOT-TO-SCALE



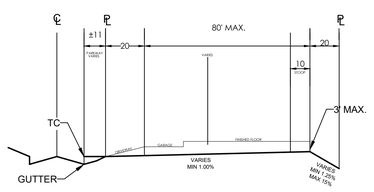
SCALE: 1" = 50'
0' 25' 50' 75' 100'

LEGEND

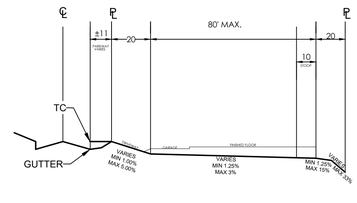
LOT GRADING DESIGNATION	(A)
PROPOSED FLOW DIRECTION	
PROPOSED CONTOUR ELEVATION	5222
EXISTING CONTOUR ELEVATION	535



PROPOSED "A" LOT GRADING CRITERIA
NOT-TO-SCALE



PROPOSED "B" LOT GRADING CRITERIA
NOT-TO-SCALE



PROPOSED "C" LOT GRADING CRITERIA

WESTON RANCH FOUNDATION
ABS: 347, SUR: R XIMENEZ
CALLED: 118.59 ACS.
(VOL. 2338, PG. 451, O.P.R.)

WESTON RANCH FOUNDATION
ABS: 347, SUR: R XIMENEZ
CALLED: 118.59 ACS.
(VOL. 2338, PG. 451, O.P.R.)

15' OFF-SITE WATER EASEMENT (DOC# 202099035226 OPR)

30' OFF-SITE WATER EASEMENT (DOC# 202599009644 OPR)

ROBERT J. MAGGIANI AND SANDRA C. MAGGIANI
CALLED OF 5.681 AC
(VOL. 1240, PG. 858, O.P.R.)

15' OFF-SITE WATER EASEMENT (DOC# 202099035226 OPR)

FM 1044 (80' ROW)

DRAIN "A" *SEE SHEET 4.0-4.2*

DRAIN "B" *SEE SHEET 4.3*

DRAIN "C" *SEE SHEET 4.4*

DRAIN "D" *SEE SHEET 4.5*

DRAIN "G" *SEE SHEET 4.8*

DRAIN "H" *SEE SHEET 4.9*

47' DRAINAGE & ACCESS EASEMENT

35' DRAINAGE & ACCESS EASEMENT

37' DRAINAGE & ACCESS EASEMENT

OFF-LOT VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION OF PLATTED R.O.W.)

VARIABLE WIDTH R.O.W. DRAINAGE, WATER, SEWER, ACCESS, & E. G. T. TV. E

LOT 901 BLOCK 1 — LOT 902 BLOCK 1 — LOT 903 BLOCK 1 — LOT 904 BLOCK 1

LOT 901 BLOCK 3 — LOT 902 BLOCK 3

LOT 901 BLOCK 2

20' E. G. T. TV. E

15' E. G. T. TV. E

30' WATER AND PEDESTRIAN ACCESS EASEMENT

30' SANITARY SEWER EASEMENT

21' DRAINAGE & ACCESS EASEMENT

20' R.O.W. DEDICATION

20' EMERGENCY ACCESS

SPRINGBOK RUN (50' ROW)

ORYX GARDENS (50' ROW)

SAMUEL T. CAMPOS
REMAINDER OF 23.930 AC.
(VOL. 1098, PG. 922, O.P.R.)

SAMUEL T. CAMPOS
REMAINDER OF 23.930 AC.
(VOL. 1098, PG. 922, O.P.R.)

UPLATTED REMAINING PORTION OF 44.01 AC.
1044 LAND PARTNERS LLC.
(DOC. # 202299014953 O.P.R.)

MATCHLINE "A" SEE SHEET 3.1

MATCHLINE "A" SEE SHEET 3.1

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL GRADING PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
3.0

Date: 2/7/2024 2:44:23 PM
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NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

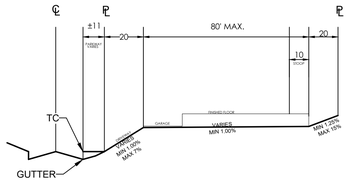
UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

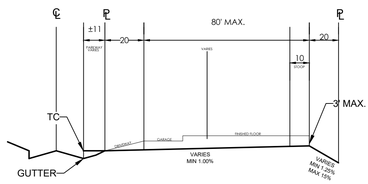
DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

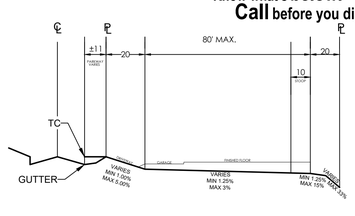
STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N)



PROPOSED "A" LOT GRADING CRITERIA
NOT-TO-SCALE



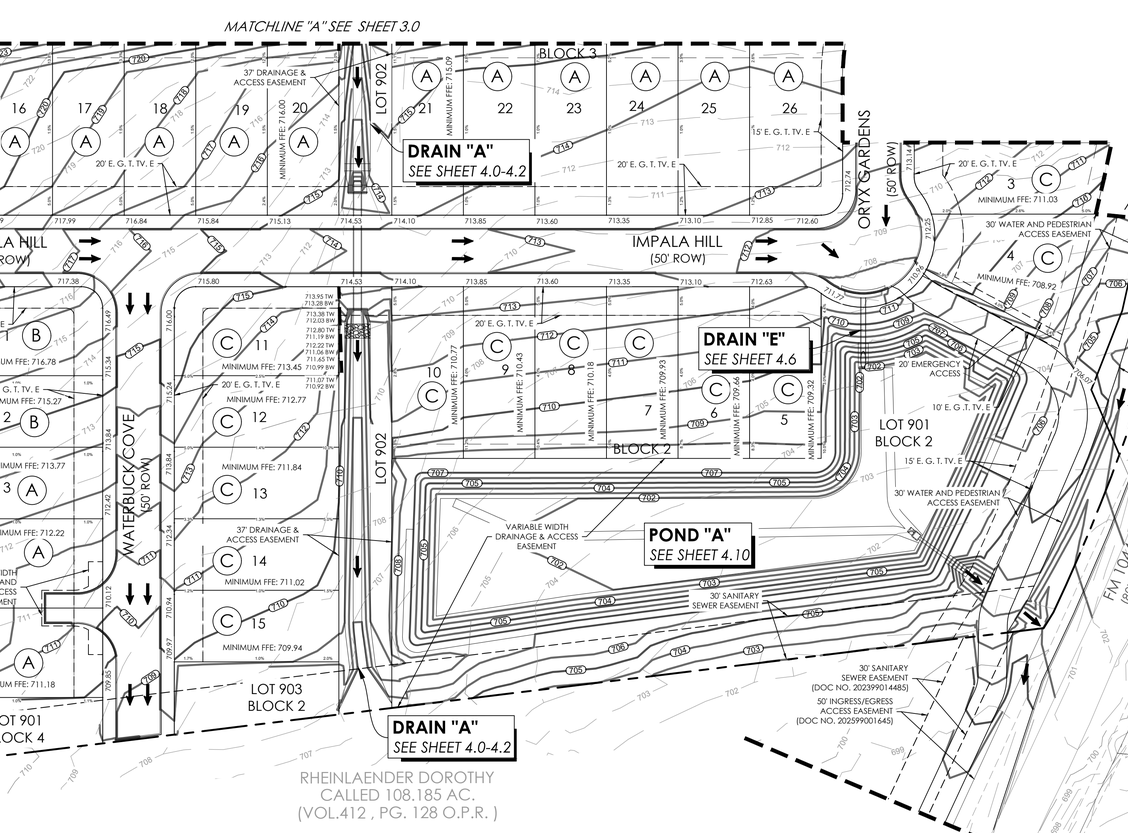
PROPOSED "B" LOT GRADING CRITERIA
NOT-TO-SCALE



PROPOSED "C" LOT GRADING CRITERIA
NOT-TO-SCALE

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

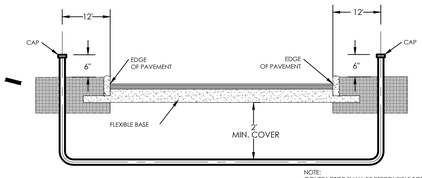
LOCATION MAP
NOT-TO-SCALE



SCALE: 1" = 50'
0' 25' 50' 75' 100'

LEGEND

LOT GRADING DESIGNATION	A
PROPOSED FLOW DIRECTION	
PROPOSED CONTOUR ELEVATION	522
EXISTING CONTOUR ELEVATION	535



TYPICAL CONDUIT DETAIL
NOT-TO-SCALE

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPERATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.

SURVEY NOTE:
CONTRACTOR TO CONTACT B & G SURVEY FOR CONTROL CAD PRIOR TO CONSTRUCTION.

DATE OF SURVEY:
8/21/25

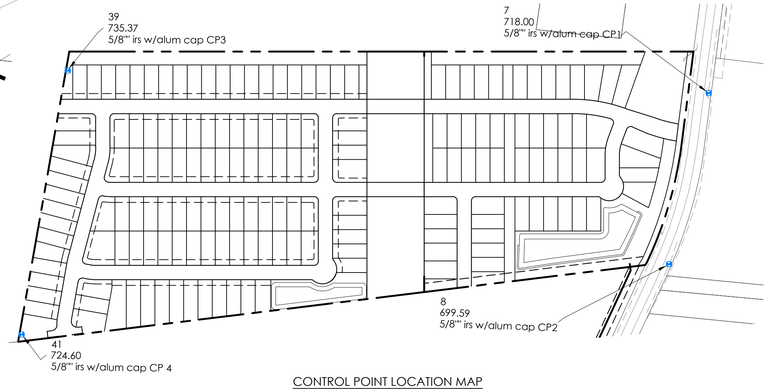
CONTROL POINTS

CP 1
5/8" IRS WITH ALUM CAP
NORTHING: 13783944.01000
EASTING: 2244184.57300
ELEV: 717.99700

CP2
5/8" IRS WITH ALUM CAP
NORTHING: 13783396.23900
EASTING: 2244461.62400
ELEV: 699.59100

CP3
5/8" IRS WITH ALUM CAP
NORTHING: 13782568.79900
EASTING: 2242415.83400
ELEV: 735.36600

CP4
5/8" IRS WITH ALUM CAP
NORTHING: 13781757.88400
EASTING: 2242882.88600
ELEV: 724.59600



CONTROL POINT LOCATION MAP
1" = 250'

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL GRADING PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
3.1

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By: Christian Haines (Bluesite) K:\Subdivision\CAD\Sheet\CIR_BLACKWELL.dwg

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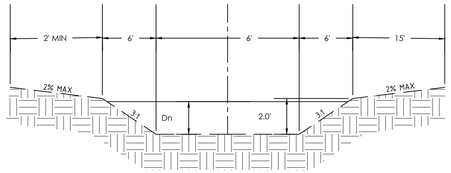
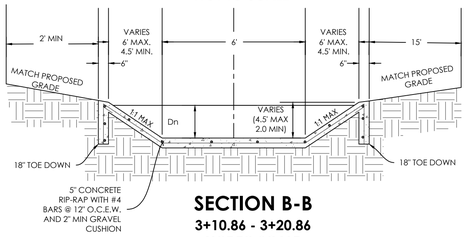
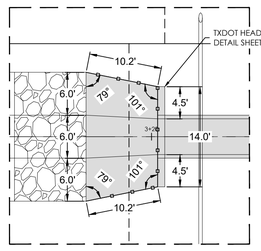


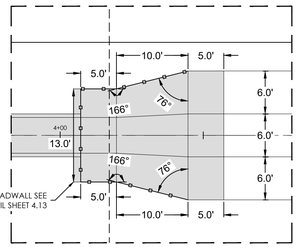
SECTION A-A
0+40.00 - 3+10.86
4+22.86 - 6+00.86
NOT TO SCALE



SECTION B-B
3+10.86 - 3+20.86
NOT TO SCALE



DETAIL "A" DOWNSTREAM
1" = 10'



DETAIL "B" UPSTREAM
1" = 10'

COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

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Drain A Q2 Open Channel calculations

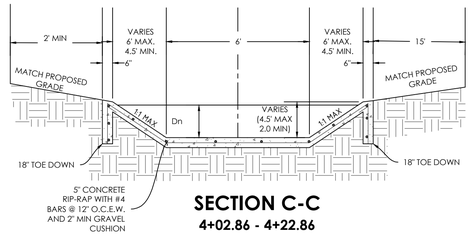
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+43.00	3+00.86	25.28	0.035	6	0.7	0.99	2	1.01	8.88	12.26	2.85	0.13	0.72	0.32
3+00.86	3+10.86	25.28	0.035	6	1.55	0.8	2	1.2	6.72	11.06	3.76	0.22	0.61	0.59
3+10.86	3+20.86	25.28	0.015	6	0.5	0.69	2	1.31	5.57	10.36	4.54	0.32	0.54	0.17
4+22.86	4+64.10	23.87	0.035	6	2	0.73	2	1.27	5.98	10.62	3.99	0.25	0.56	0.70

Drain A Q25 Open Channel calculations

START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+43.00	3+00.86	53.05	0.035	6	0.7	1.46	2	0.54	15.15	15.23	3.5	0.19	0.99	0.43
3+00.86	3+10.86	53.05	0.035	6	1.55	1.19	2	0.81	11.39	13.53	4.66	0.34	0.84	0.81
3+10.86	3+20.86	53.05	0.015	6	0.5	1.02	2	0.98	9.24	12.45	5.74	0.51	0.74	0.23
4+22.86	4+64.10	50.12	0.035	6	2	1.08	2	0.92	9.98	12.83	5.02	0.39	0.78	0.97

Drain A Q100 Open Channel calculations

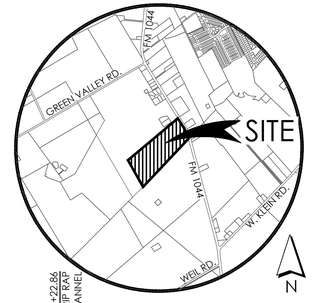
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+43.00	3+00.86	75.2	0.035	6	0.7	1.74	2	0.26	19.52	17	3.85	0.23	1.15	0.59
3+00.86	3+10.86	75.2	0.035	6	1.55	1.42	2	0.58	14.57	14.98	5.16	0.41	0.97	0.94
3+10.86	3+20.86	75.2	0.015	6	0.5	1.23	2	0.77	11.92	13.78	6.31	0.62	0.87	0.27
4+22.86	4+64.10	71.04	0.035	6	2	1.29	2	0.71	12.73	14.16	5.58	0.48	0.90	1.12



SECTION C-C
4+02.86 - 4+22.86
NOT TO SCALE

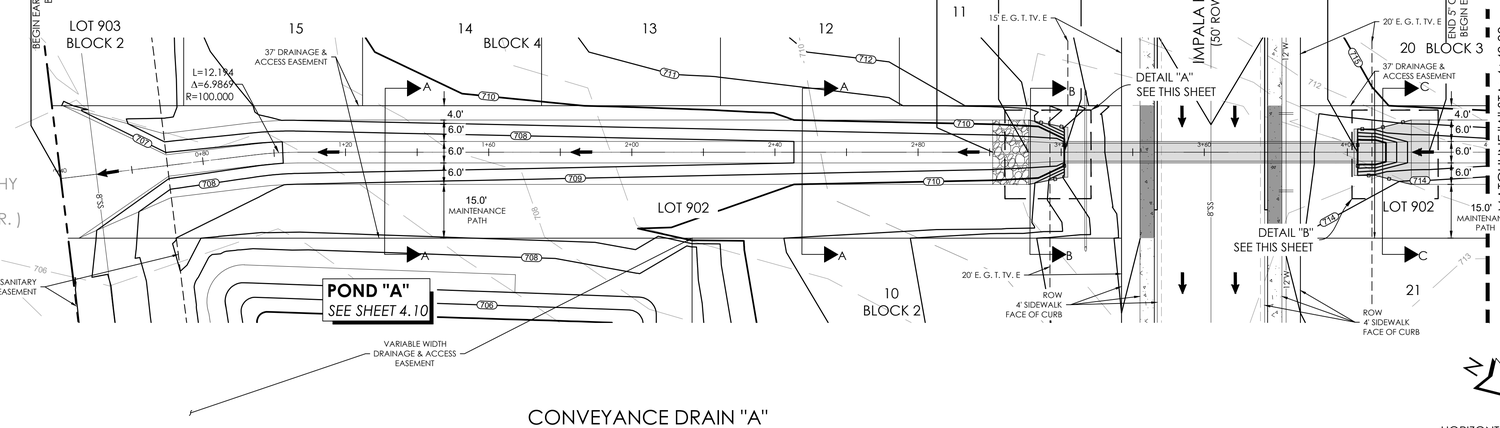
811
Know what's **below.**
Call before you dig.

LOCATION MAP
NOT-TO-SCALE



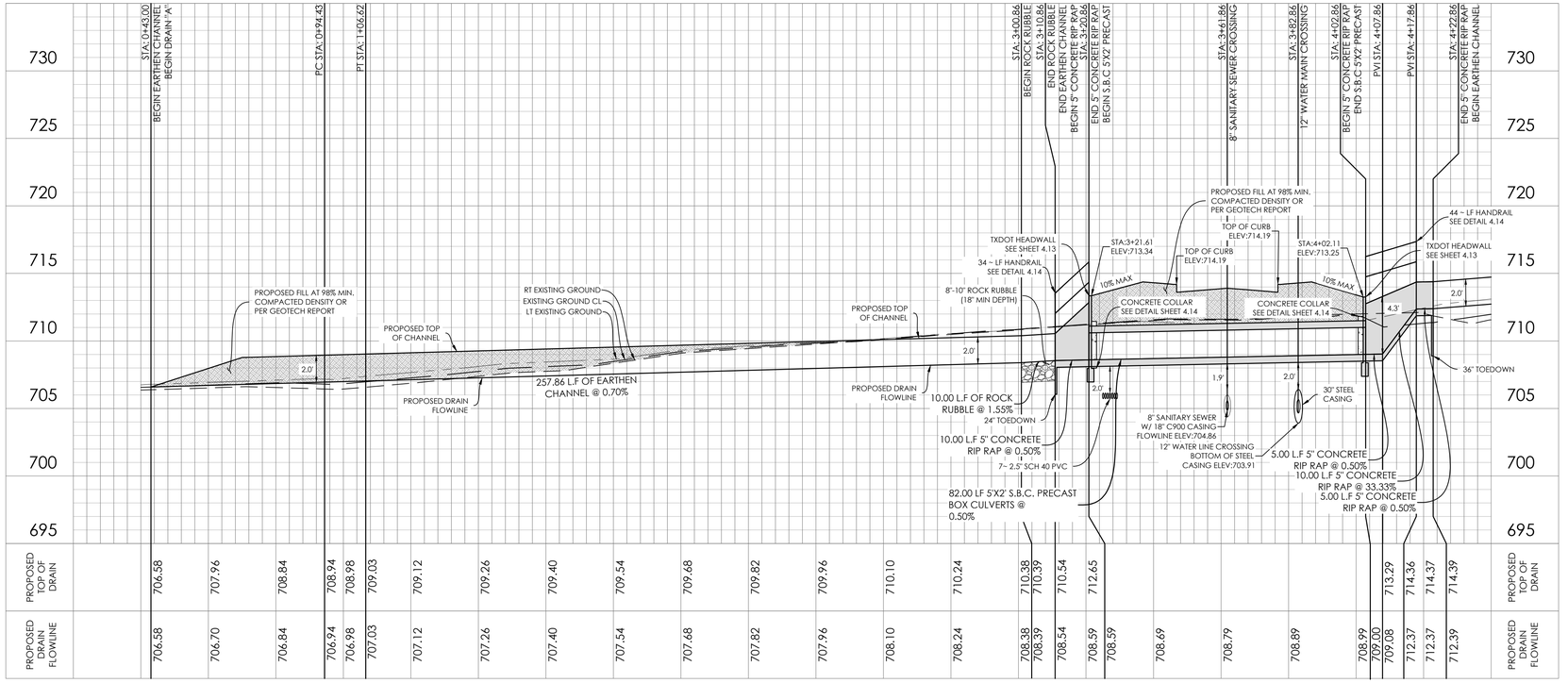
Culvert Summary Table - Drain A OS

	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	HW / D	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
Q25	**60.12**	**60.12**	**711.65**	**2.65**	**1.88**	**1.28**	**6-S2n**	**1.35**	**1.44**	**1.35**	**1.15**	**7.40**	**4.02**
	52.21	52.21	711.64	2.64	2.24	1.32	5-S2n	1.39	1.50	1.39	1.17	7.49	4.68
	54.30	54.30	711.74	2.74	2.34	1.37	5-S2n	1.43	1.54	1.43	1.20	7.58	4.73
	56.40	56.40	711.83	2.83	2.43	1.42	5-S2n	1.47	1.58	1.47	1.22	7.67	4.78
Q50	**59.48**	**59.48**	**711.98**	**2.98**	**2.58**	**1.49**	**6-S2n**	**1.52**	**1.64**	**1.53**	**1.26**	**7.79**	**4.85**
	60.58	60.58	712.03	3.03	2.63	1.52	5-S2n	1.54	1.66	1.55	1.27	7.83	4.88
	62.67	62.67	712.14	3.14	2.74	1.57	5-S2n	1.58	1.70	1.59	1.29	7.91	4.92
	64.76	64.76	712.24	3.24	2.84	1.62	5-S2n	1.62	1.73	1.62	1.31	7.98	4.97
	66.86	66.86	712.35	3.35	2.95	1.68	5-S2n	1.66	1.77	1.66	1.33	8.06	5.01
	68.95	68.95	712.47	3.47	3.07	1.73	5-S2n	1.69	1.81	1.70	1.35	8.13	5.06
Q100	**71.04**	**71.04**	**712.59**	**3.59**	**3.18**	**1.78**	**6-S2n**	**1.73**	**1.84**	**1.73**	**1.38**	**8.20**	**5.10**



CONVEYANCE DRAIN "A"
STA. 0+40.00 - 4+40.00

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett La Plante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN A STA 0+40.00 - 4+40.00

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.0

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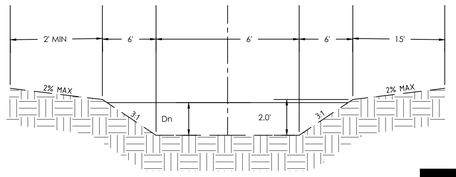


SECTION A-A
4+22.86 - 6+00.86
7+13.16 - 7+92.16
NOT TO SCALE

Drain A Q2 Open Channel calculations

START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
4+64.10	5+90.86	23.87	0.035	6	4.25	0.59	2	1.41	4.58	9.73	5.21	0.42	0.47	1.25
5+90.86	6+00.86	23.87	0.035	6	4.25	0.59	2	1.41	4.58	9.73	5.21	0.42	0.47	1.25
6+00.86	6+10.86	23.87	0.015	6	0.5	0.67	2	1.33	5.37	10.24	4.45	0.31	0.52	0.16
7+13.16	7+92.16	24.03	0.035	6	1.75	0.75	2	1.25	6.19	10.74	3.88	0.23	0.58	0.63

Drain A Q25 Open Channel calculations

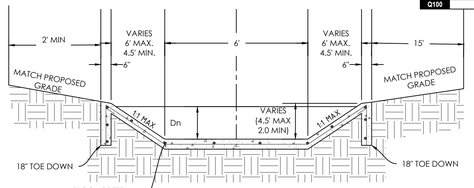
START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
4+64.10	5+90.86	50.12	0.035	6	4.25	0.88	2	1.12	7.6	11.57	6.59	0.67	0.66	1.74
5+90.86	6+00.86	50.12	0.035	6	4.25	0.88	2	1.12	7.6	11.57	6.59	0.67	0.66	1.74
6+00.86	6+10.86	50.12	0.015	6	0.5	0.99	2	1.01	8.88	12.26	5.64	0.49	0.72	0.23
7+13.16	7+92.16	50.38	0.035	6	1.75	1.12	2	0.88	10.48	13.08	4.81	0.36	0.80	0.87

Drain A Q100 Open Channel calculations

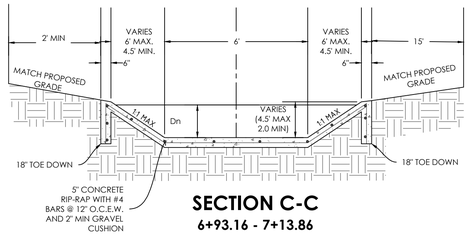
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
4+64.10	5+90.86	71.04	0.035	6	4.25	1.06	2	0.94	9.73	12.7	7.3	0.83	0.77	2.03
5+90.86	6+00.86	71.04	0.035	6	4.25	1.06	2	0.94	9.73	12.7	7.3	0.83	0.77	2.03
6+00.86	6+10.86	71.04	0.015	6	0.5	1.19	2	0.81	11.39	13.53	6.24	0.60	0.84	0.26
7+13.16	7+92.16	71.42	0.035	6	1.75	1.34	2	0.66	13.43	14.47	5.32	0.44	0.93	1.01

Culvert Summary Table - Drain A US

	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	HW / D	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
Q25	**50.38**	**50.38**	**722.04**	**2.66**	**1.90**	**1.28**	**6-S2n**	**1.36**	**1.47**	**1.36**	**0.88**	**7.41**	**6.62**
	52.48	52.48	722.13	2.65	2.26	1.33	5-S2n	1.40	1.51	1.40	0.90	7.50	6.70
	54.59	54.59	722.23	2.75	2.35	1.37	5-S2n	1.44	1.55	1.44	0.92	7.59	6.78
	56.69	56.69	722.33	2.85	2.45	1.42	5-S2n	1.47	1.59	1.48	0.94	7.67	6.85
Q50	**59.79**	**59.79**	**722.47**	**2.99**	**2.60**	**1.50**	**6-S2n**	**1.53**	**1.64**	**1.53**	**0.97**	**7.79**	**6.96**
	60.90	60.90	722.53	3.05	2.65	1.52	5-S2n	1.55	1.66	1.56	0.97	7.83	7.00
	63.00	63.00	722.63	3.15	2.75	1.58	5-S2n	1.59	1.70	1.59	0.99	7.91	7.07
	65.11	65.11	722.74	3.26	2.86	1.63	5-S2n	1.63	1.74	1.63	1.01	7.99	7.14
	67.21	67.21	722.85	3.37	2.97	1.69	5-S2n	1.66	1.78	1.67	1.03	8.06	7.20
	69.32	69.32	722.97	3.49	3.09	1.74	5-S2n	1.70	1.81	1.71	1.04	8.13	7.27
Q100	**71.42**	**71.42**	**723.09**	**3.61**	**3.20**	**1.80**	**6-S2n**	**1.74**	**1.85**	**1.74**	**1.06**	**8.20**	**7.33**



SECTION B-B
6+00.86-6+10.86
NOT TO SCALE



SECTION C-C
6+93.16 - 7+13.86
NOT TO SCALE

811
Know what's **below.**
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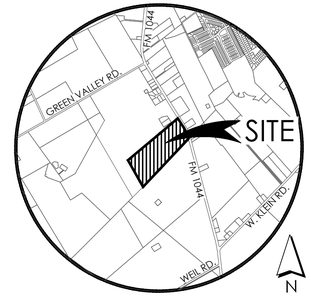
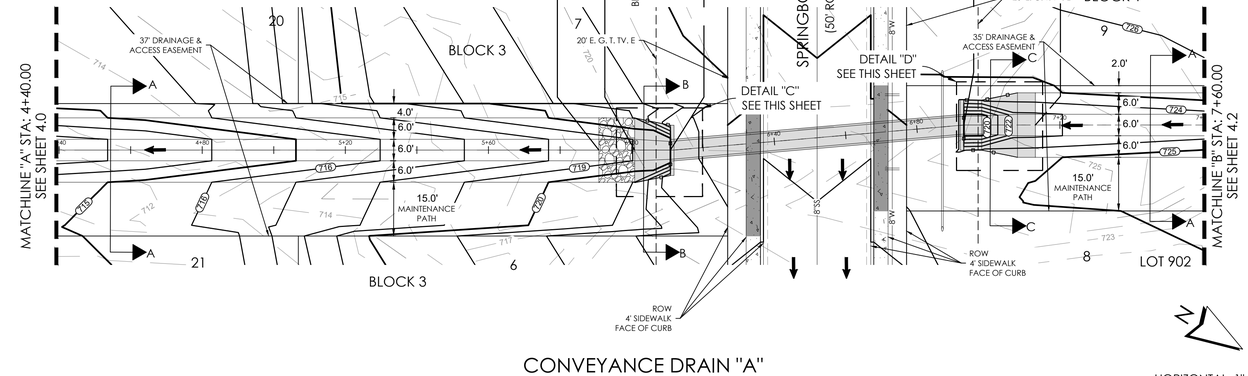
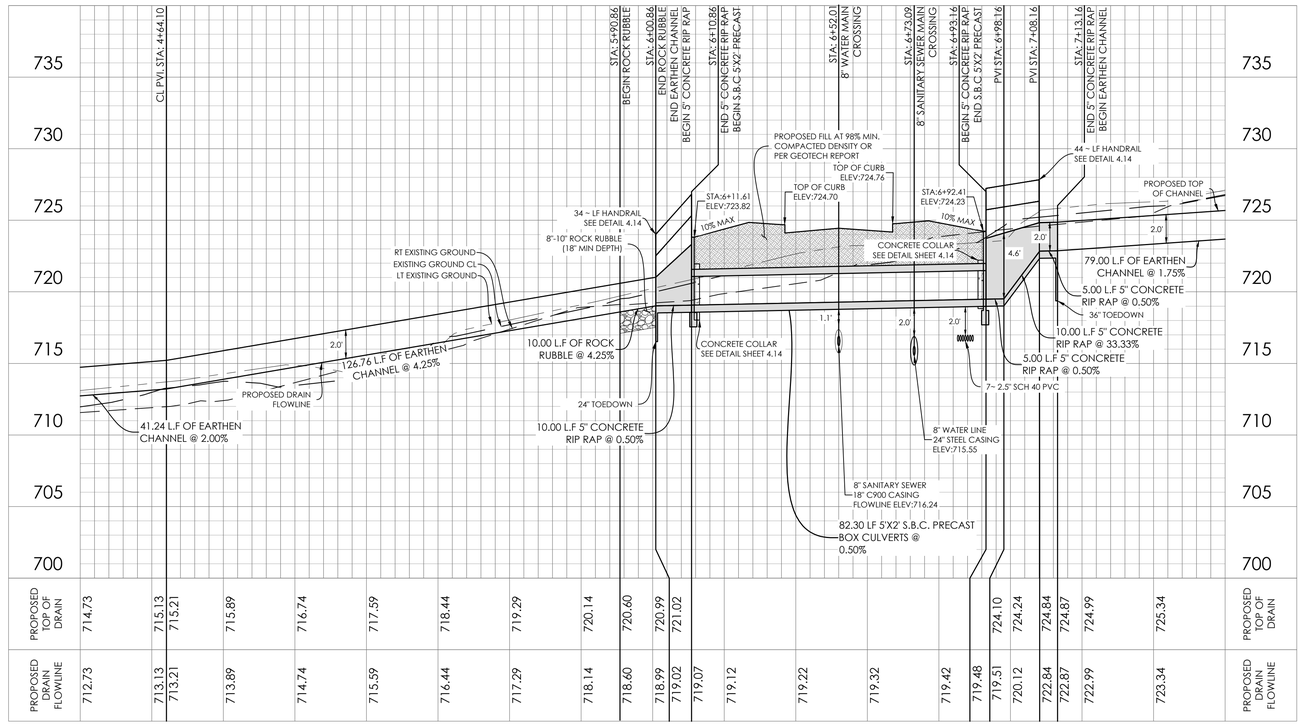
LOCATION MAP
NOT-TO-SCALE

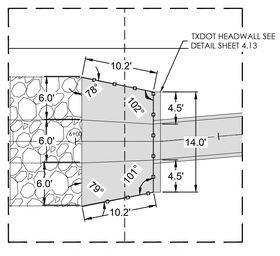




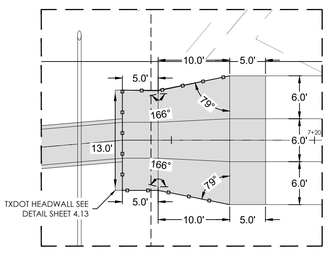
CONVEYANCE DRAIN "A"
STA. 4+40.00 - 7+60.00

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'





DETAIL "C" DOWNSTREAM
1" = 10'



DETAIL "D" UPSTREAM
1" = 10'

CAUTION:
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COMPACTION NOTE

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TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

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BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett La Plante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN A STA 4+40.00 - 7+60.00

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.1

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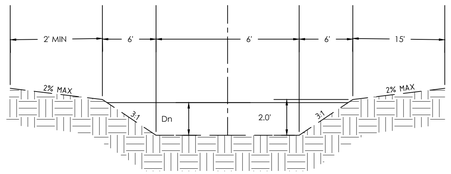
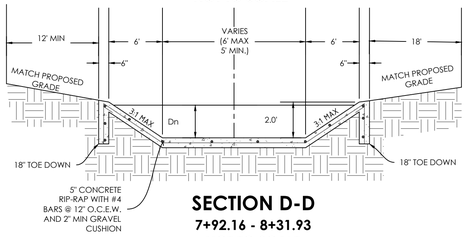
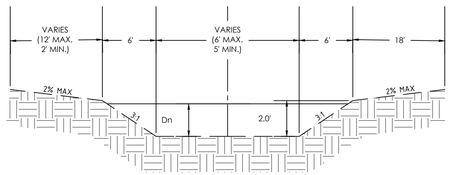


SECTION A-A
7+13.16 - 7+92.16
NOT TO SCALE



SECTION D-D
7+92.16 - 8+31.93
NOT TO SCALE



SECTION E-E
7+92.16 - END
NOT TO SCALE

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Date: 7/7/2026 2:44:02 PM
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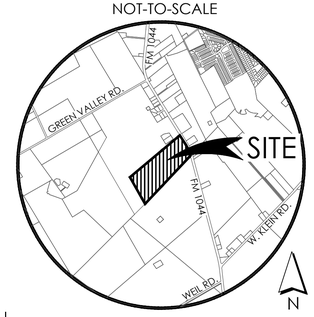
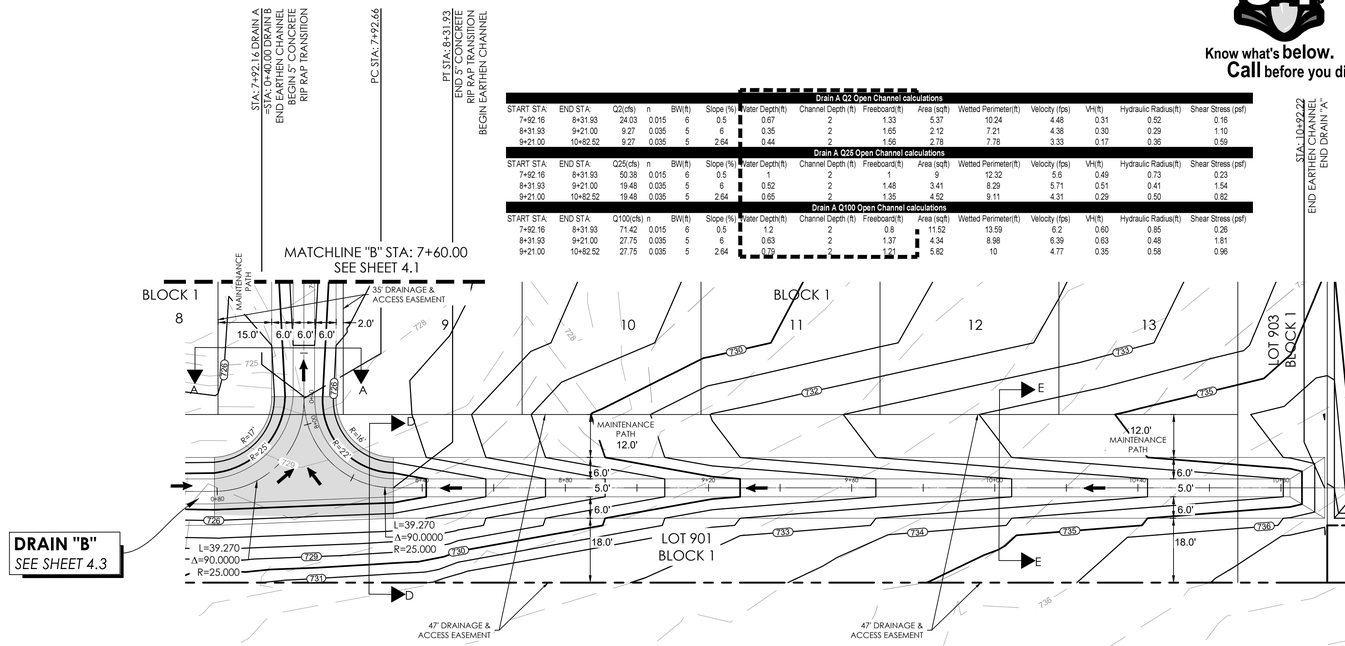
811
Know what's **below.**
Call before you dig.

LOCATION MAP
NOT-TO-SCALE





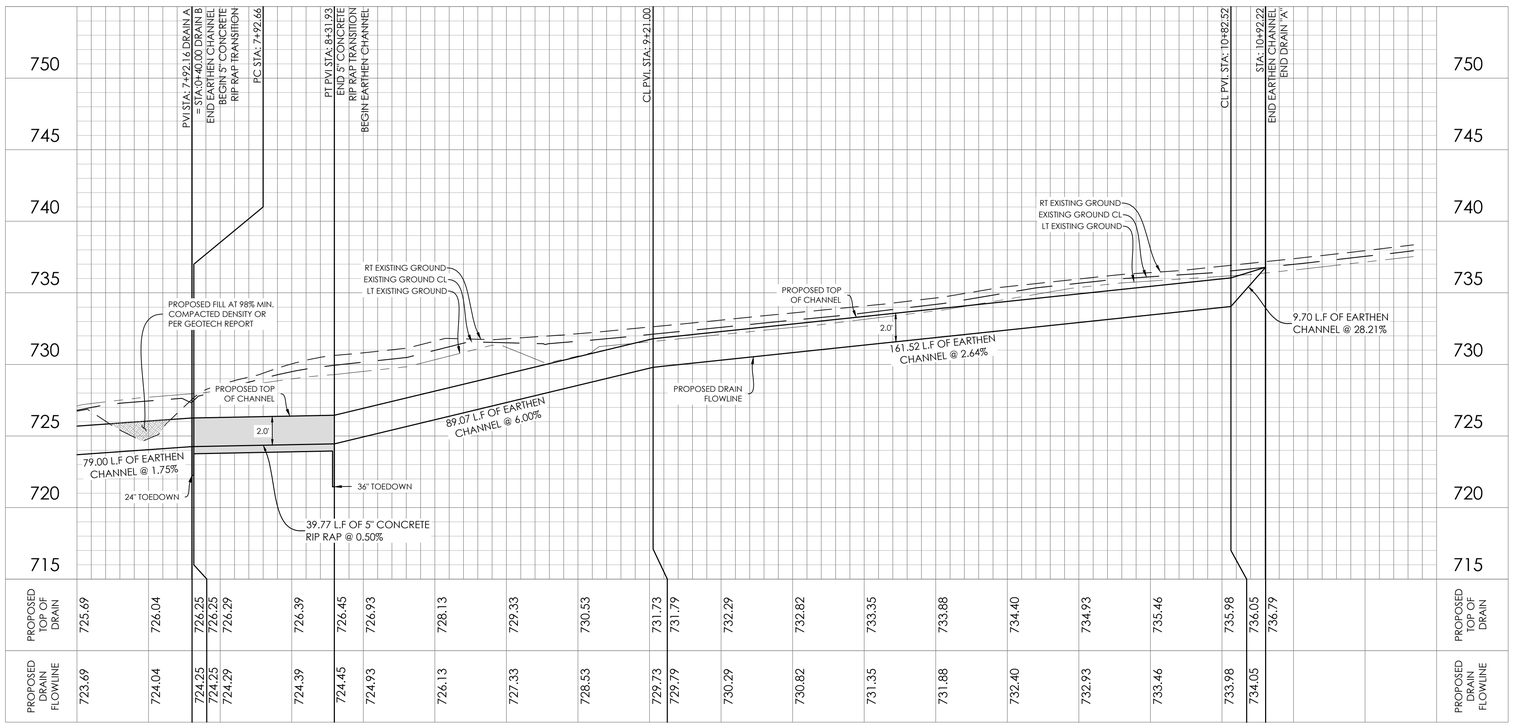
Drain A Q2 Open Channel calculations												
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
7+92.16	8+31.93	24.03	0.015	6	0.5	0.67	2	1.33	5.37	10.24	4.48	0.31	0.52	0.16
8+31.93	9+21.00	9.27	0.035	5	6	0.35	2	1.65	2.12	7.21	4.38	0.30	0.29	1.10
9+21.00	10+82.52	9.27	0.035	5	2.64	0.44	2	1.56	2.78	7.78	3.33	0.17	0.36	0.59

Drain A Q25 Open Channel calculations												
START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
7+92.16	8+31.93	50.38	0.015	6	0.5	1	2	1	9	12.32	5.6	0.49	0.73	0.23
8+31.93	9+21.00	19.48	0.035	5	6	0.52	2	1.48	3.41	8.29	5.71	0.51	0.41	1.54
9+21.00	10+82.52	19.48	0.035	5	2.64	0.65	2	1.35	4.52	9.11	4.31	0.29	0.50	0.82

Drain A Q100 Open Channel calculations												
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
7+92.16	8+31.93	71.42	0.015	6	0.5	1.2	2	0.8	11.52	13.59	6.2	0.60	0.85	0.26
8+31.93	9+21.00	27.75	0.035	5	6	0.63	2	1.37	4.34	8.98	6.39	0.63	0.48	1.81
9+21.00	10+82.52	27.75	0.035	5	2.64	0.79	2	1.21	5.82	10	4.77	0.35	0.58	0.96

INTERCEPTOR DRAIN "A"
STA. 7+60.00 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN A STA 7+60.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.2

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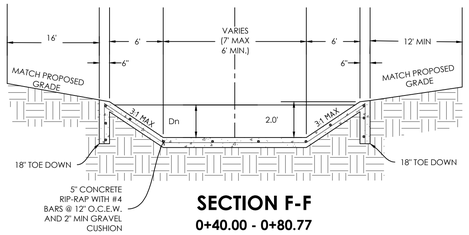
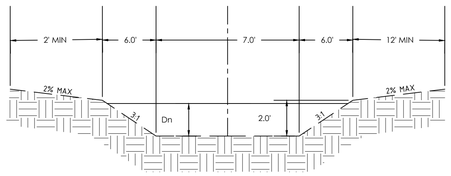


SECTION F-F
0+40.00 - 0+80.77
NOT TO SCALE



SECTION G-G
0+80.77- END
NOT TO SCALE

Drain B Q2 Open Channel calculations

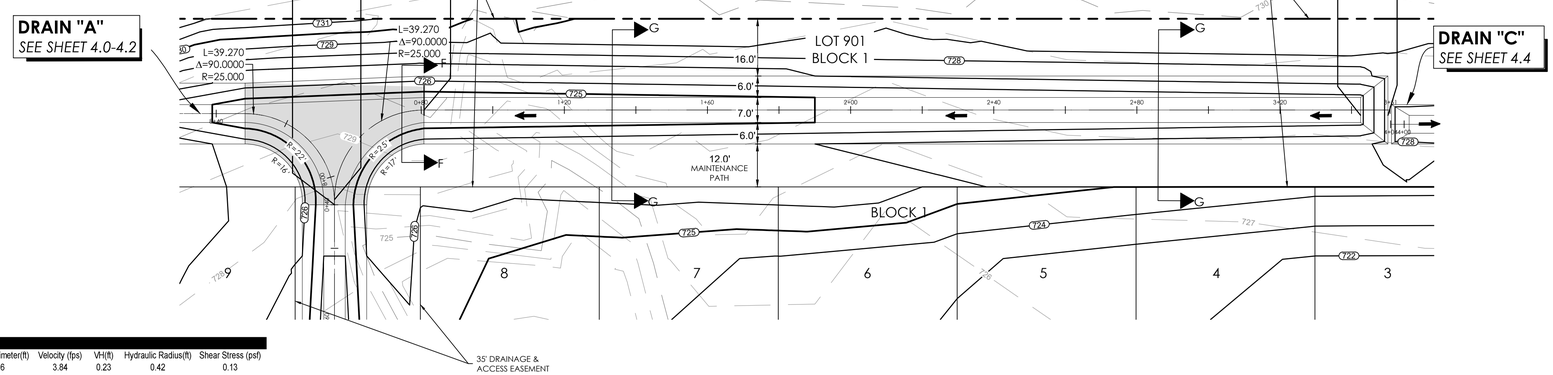
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+40.00	0+80.78	16.34	0.015	7	0.5	0.5	2	1.5	4.25	10.16	3.84	0.23	0.42	0.13
0+80.78	3+42.56	16.34	0.035	7	0.5	0.8	2	1.2	7.52	12.06	2.17	0.07	0.62	0.19

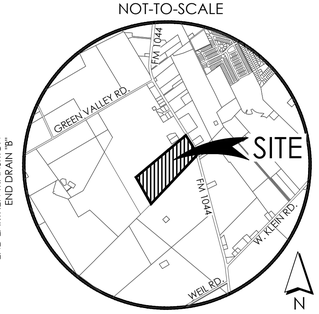
Drain B Q25 Open Channel calculations

START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+40.00	0+80.78	34.22	0.015	7	0.5	0.76	2	1.24	7.05	11.81	4.85	0.37	0.60	0.19
0+80.78	3+42.56	34.22	0.035	7	0.5	1.19	2	0.81	12.58	14.53	2.72	0.11	0.87	0.27

Drain B Q100 Open Channel calculations

START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+40.00	0+80.78	48.55	0.015	7	0.5	0.91	2	1.09	8.85	12.76	5.48	0.47	0.69	0.22
0+80.78	3+42.56	48.55	0.035	7	0.5	1.43	2	0.57	16.14	16.04	3.01	0.14	1.01	0.31

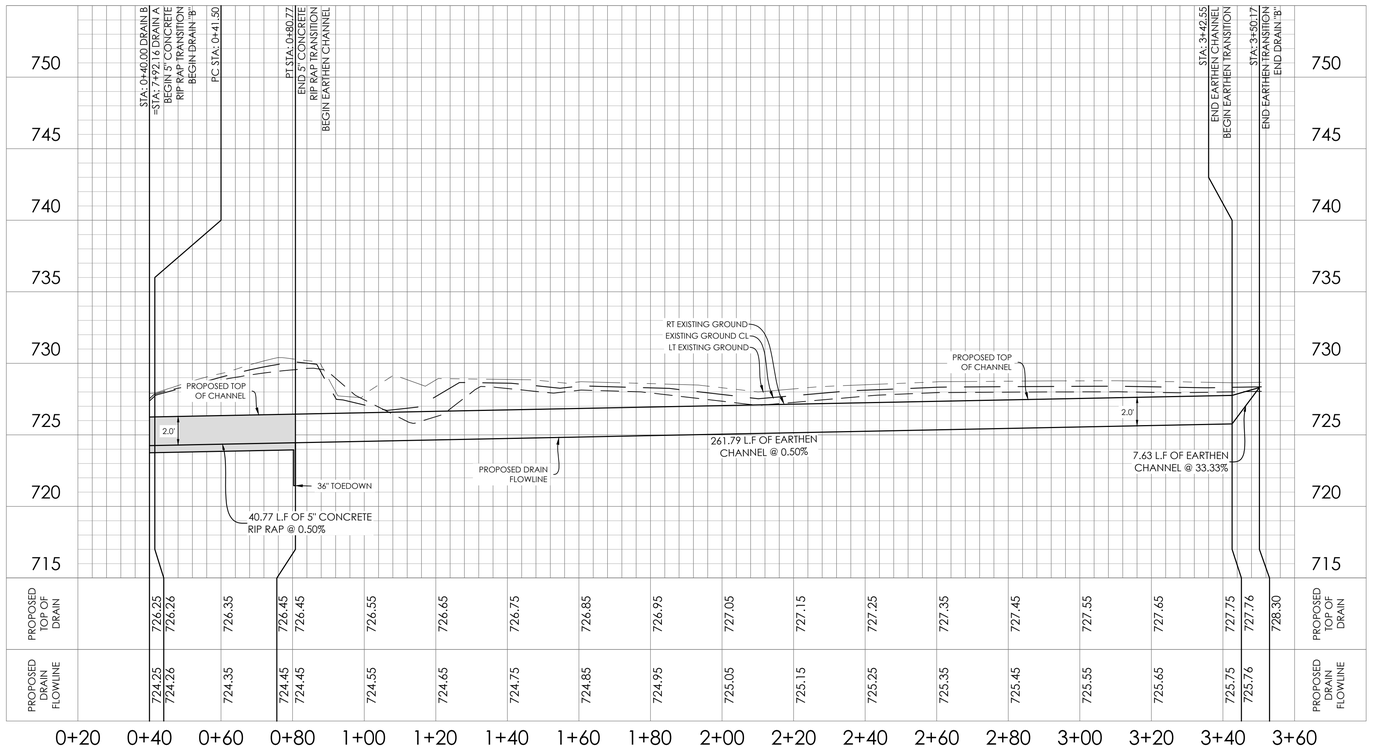




811
Know what's **below.**
Call before you dig.

INTERCEPTOR DRAIN "B"
STA. 0+40.00 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



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TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

Date: 2/7/2024 2:44:23 PM
R:\Davidson Homes\Blackwell & Subdivision\CAD\Sheet\SWPP BLACKWELL.dwg

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN B STA 0+40.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.3

THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

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CAUTION:
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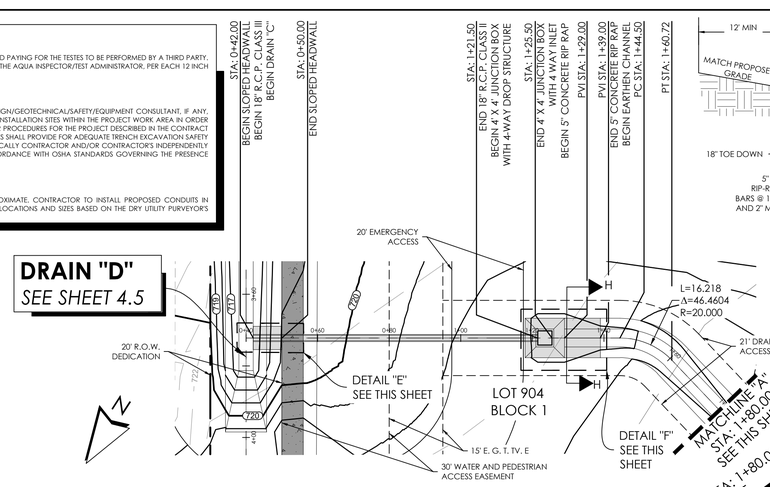
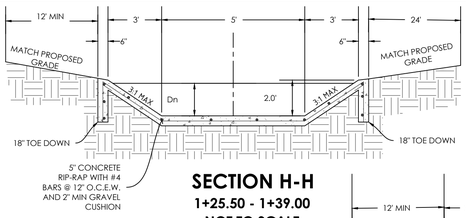
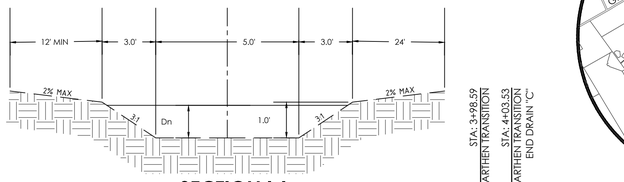
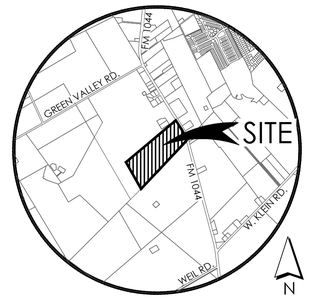




SECTION H-H
1+25.50 - 1+39.00
NOT TO SCALE



SECTION I-I
1+39.00 - END
NOT TO SCALE



LOCATION MAP
NOT-TO-SCALE

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

Drain C Q2 Open Channel calculations													
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
1+29.00	1+39.00	3.34	0.015	5	1.5	0.18	1	0.82	0.997	6.14	3.35	0.17	0.16	0.15
1+39.00	2+60.00	3.34	0.035	5	2.7	0.24	1	0.76	1.37	6.52	2.43	0.09	0.21	0.35
2+60.00	3+98.59	3.34	0.035	5	1.6	0.28	1	0.72	1.64	6.77	2.04	0.06	0.24	0.24

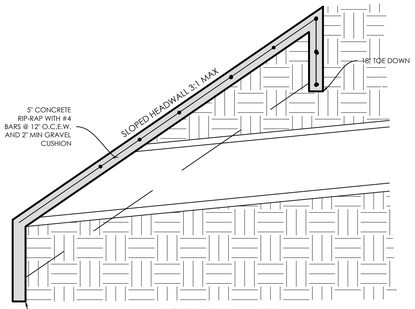
Drain C Q25 Open Channel calculations													
START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
1+29.00	1+39.00	7.2	0.015	5	1.5	0.27	1	0.73	1.57	6.71	4.59	0.33	0.23	0.22
1+39.00	2+60.00	7.2	0.035	5	2.7	0.38	1	0.62	2.33	7.4	3.09	0.15	0.31	0.53
2+60.00	3+98.59	7.2	0.035	5	1.6	0.43	1	0.57	2.71	7.72	2.66	0.11	0.35	0.35

Drain C Q100 Open Channel calculations													
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
1+29.00	1+39.00	10.44	0.015	5	1.5	0.34	1	0.66	2.05	7.15	5.1	0.40	0.29	0.27
1+39.00	2+60.00	10.44	0.035	5	2.7	0.46	1	0.54	2.94	7.91	3.56	0.20	0.37	0.63
2+60.00	3+98.59	10.44	0.035	5	1.6	0.53	1	0.47	3.49	8.35	2.99	0.14	0.42	0.42

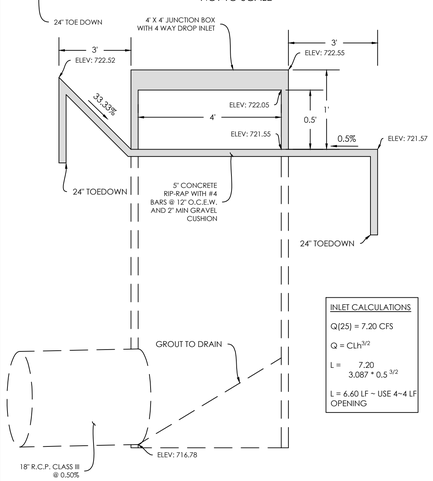
WESTON RANCH FOUNDATION
ABS: 347, SUR: R XIMENEZ
CALLED: 118.59 ACS.
(VOL. 2338, PG. 451, O.P.R.)

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'

DRAIN "C"
STA. 0+42.00 - END

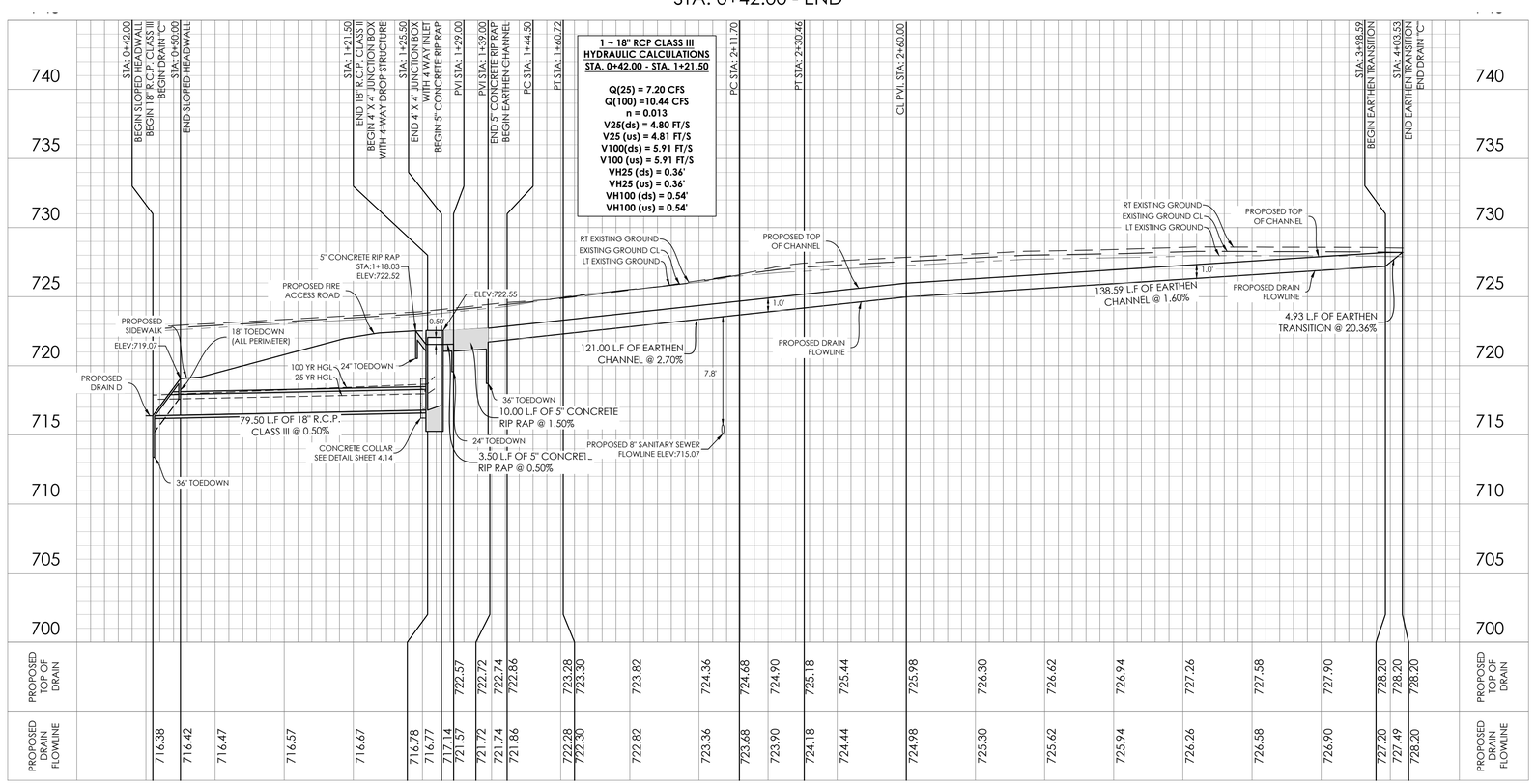


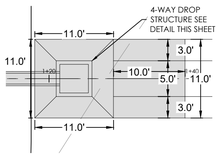
SLOPED HEADWALL DETAIL
NOT-TO-SCALE



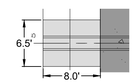
INLET CALCULATIONS
Q(25) = 7.20 CFS
$Q = CLh^{3/2}$
$L = \frac{7.20}{3.087 * 0.5^{3/2}}$
L = 6.60 LF ~ USE 4-4 LF OPENING

4-WAY DROP STRUCTURE DETAIL
N.T.S.





DETAIL "F" UPSTREAM
1" = 10'



DETAIL "E" DOWNSTREAM
1" = 10'

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN C STA 0+40.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.4

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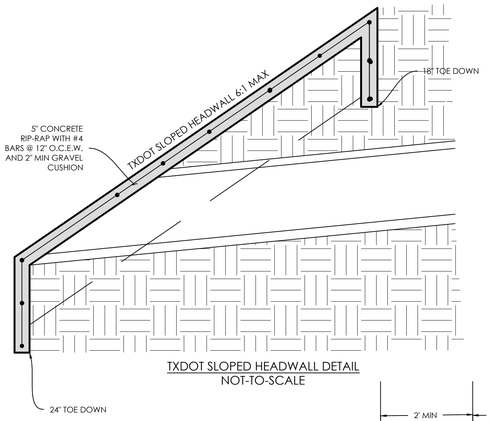
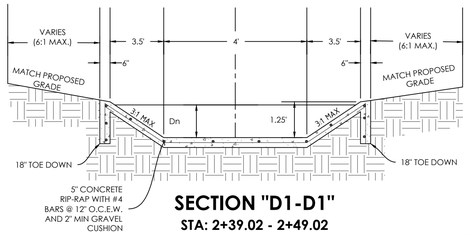


TXDOT SLOPED HEADWALL DETAIL
NOT-TO-SCALE

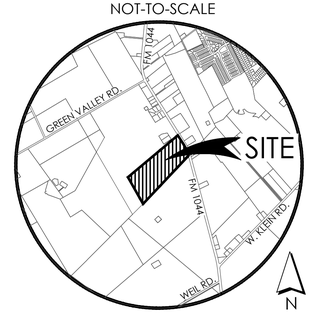


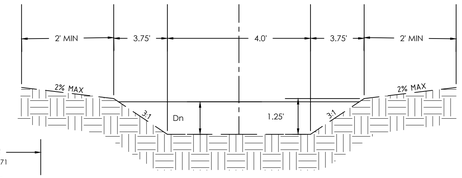
SECTION "D1-D1"
STA: 2+39.02 - 2+49.02
NOT TO SCALE

Drain D Q2 Open Channel calculations												
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
2+36.02	2+39.02	6.74	0.015	4	2	0.27	1.25	0.98	1.3	5.71	5.19	0.42	0.23	0.28
2+39.02	2+49.02	6.74	0.015	4	0.69	0.37	1.25	0.88	1.89	6.34	3.56	0.20	0.30	0.13
2+49.02	3+98.45	6.74	0.035	4	1.25	0.5	1.25	0.75	2.75	7.16	2.45	0.09	0.38	0.30
Drain D Q25 Open Channel calculations												
START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
2+36.02	2+39.02	14.45	0.015	4	2	0.42	1.25	0.83	2.21	6.66	6.54	0.66	0.33	0.41
2+39.02	2+49.02	14.45	0.015	4	0.69	0.56	1.25	0.69	3.18	7.54	4.54	0.32	0.42	0.18
2+49.02	3+98.45	14.45	0.035	4	1.25	0.75	1.25	0.5	4.69	8.74	3.08	0.15	0.54	0.42
Drain D Q100 Open Channel calculations												
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
2+36.02	2+39.02	20.87	0.015	4	2	0.51	1.25	0.74	2.82	7.23	7.4	0.85	0.39	0.49
2+39.02	2+49.02	20.87	0.015	4	0.69	0.68	1.25	0.57	4.11	8.3	5.08	0.40	0.50	0.21
2+49.02	3+98.45	20.87	0.035	4	1.25	0.91	1.25	0.34	6.12	9.76	3.41	0.18	0.63	0.49

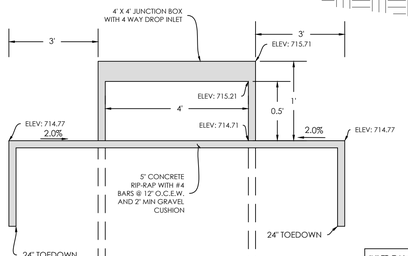
811
Know what's **below.**
Call before you dig.

LOCATION MAP
NOT-TO-SCALE





SECTION "D2-D2"
STA: 2+49.02 - 3+92.82
NOT TO SCALE



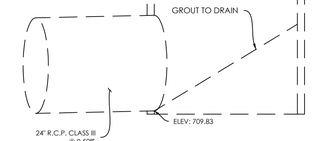
INLET CALCULATIONS

Q(25) = 14.45 CFS

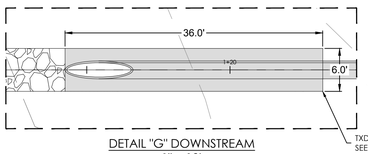
$Q = CLh^{3/2}$

$L = \frac{14.45}{3.087 * 0.5^{3/2}}$

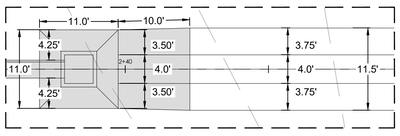
L = 13.24 LF – USE 4~4 LF OPENING



4-WAY DROP STRUCTURE DETAIL
N.T.S.



DETAIL "G" DOWNSTREAM
1" = 10'



DETAIL "H" UPSTREAM
1" = 10'

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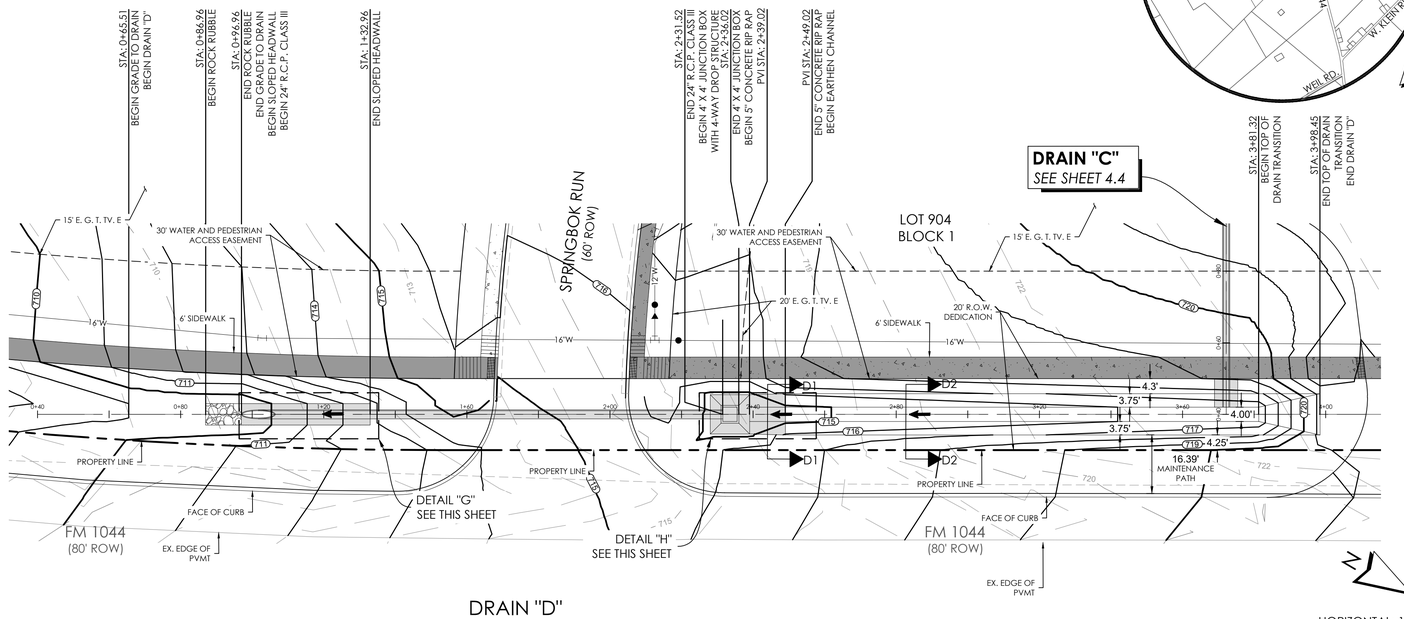
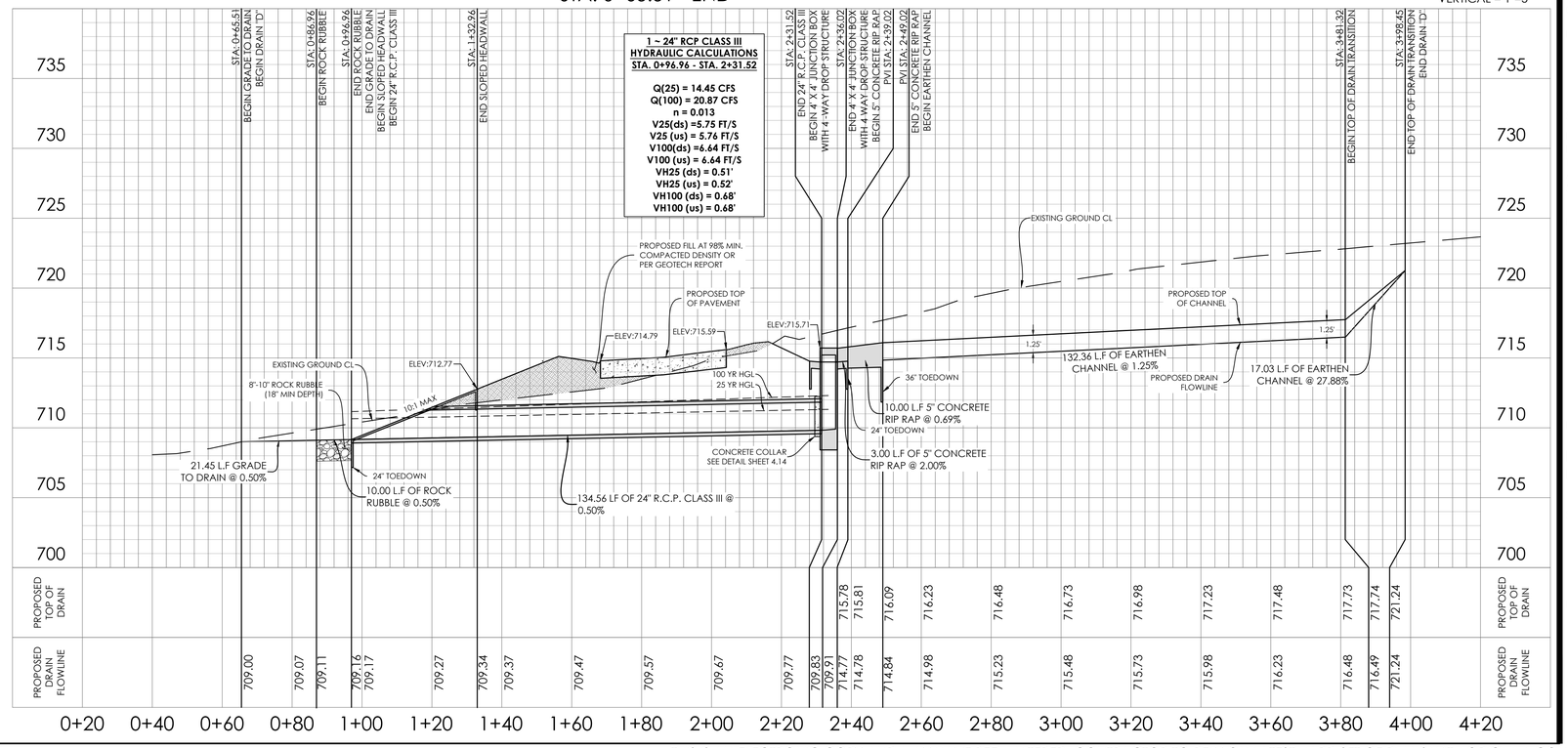


DRAIN "D"
STA. 0+65.51 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

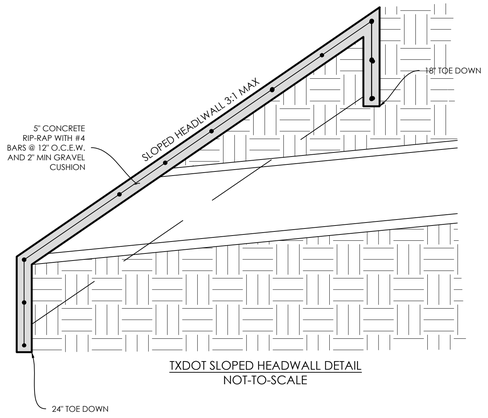
SHEET
DRAIN D 0+40.00 - END

LOCATION **NEW BRAUNFELS ETJ**

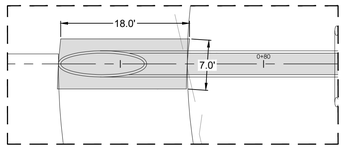
SHEET NO.
4.5

Date: 2/7/2024 2:44:23 PM
By: Christian Hermes\Bluesite Subdivision\CAD\Sheet\ 06PP_BLACKWELL.dwg

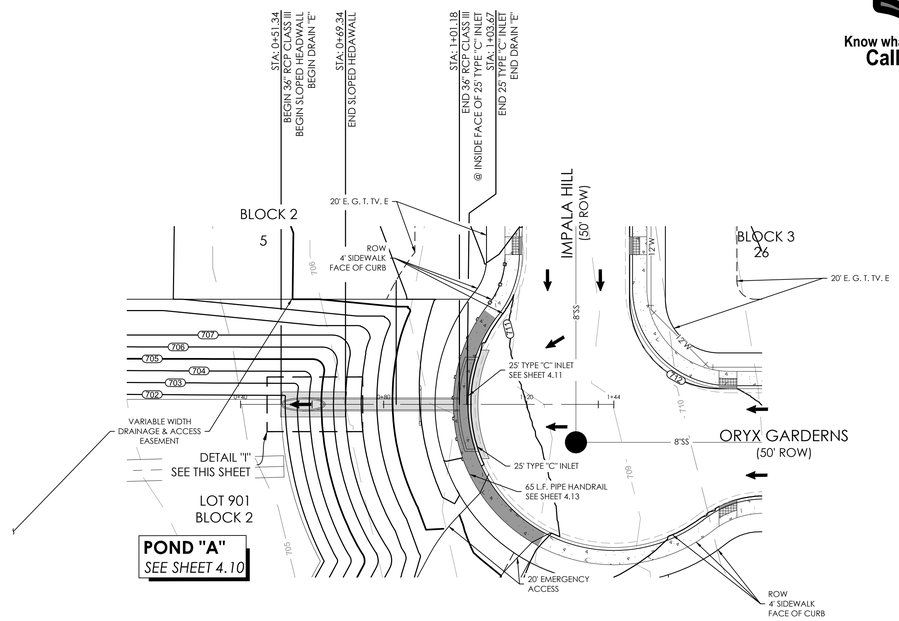
THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.



TXDOT SLOPED HEADWALL DETAIL
NOT-TO-SCALE



DETAIL "I" DOWNSTREAM
1" = 10'



INLET CALCULATIONS

Q(25) = 43.13 CFS

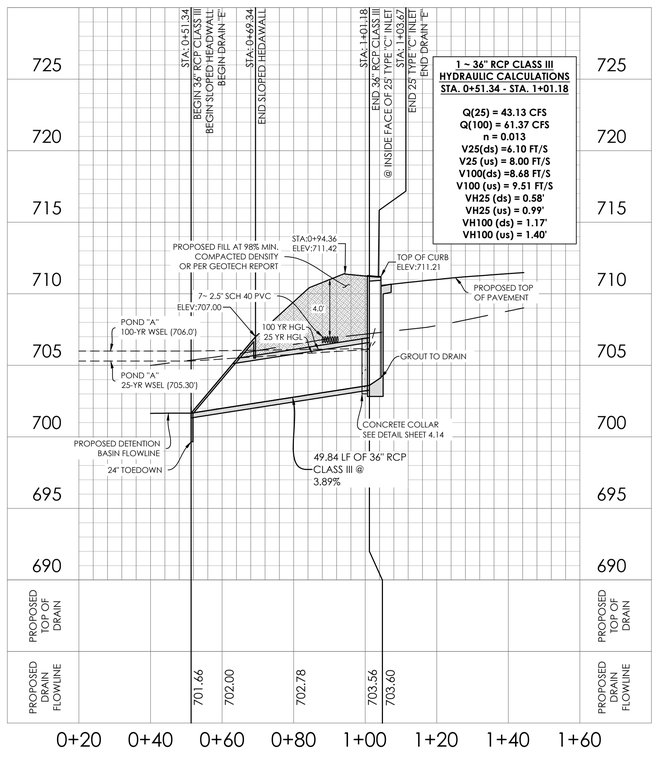
$Q = CLh^{3/2}$

$L = \frac{43.13}{3.087 * 0.79^{3/2}}$

L = 19.90 LF ~ USE 25 LF OPENING

DRAIN "E"
STA. 0+40.00 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



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DRY UTILITY CONDUIT NOTE

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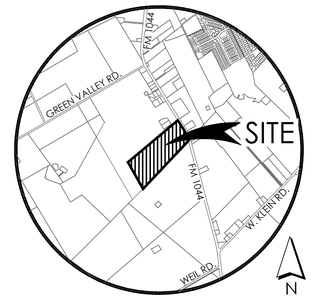
Know what's **below.** **Call** before you dig.

LOCATION MAP
NOT-TO-SCALE



BLUESITE ENGINEERING
NO. F-22528
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SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN E STA 0+40.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.6

Date: 2/7/2024 2:54:22 PM
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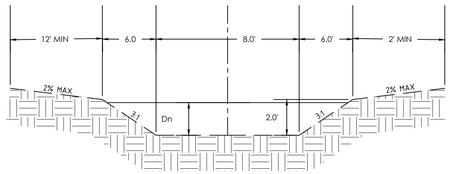
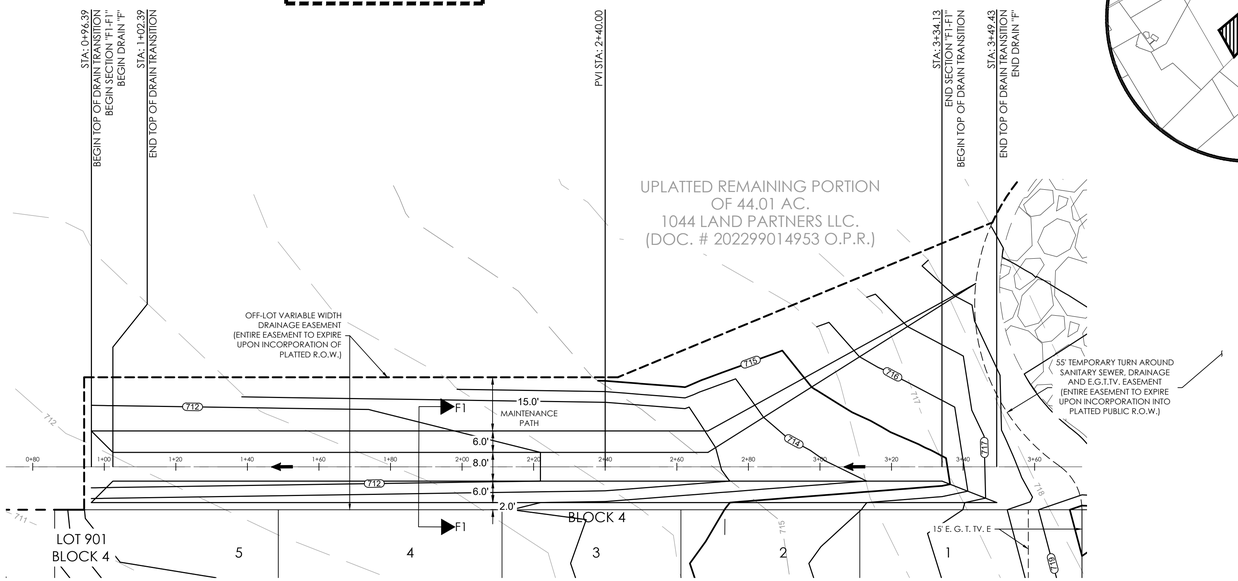


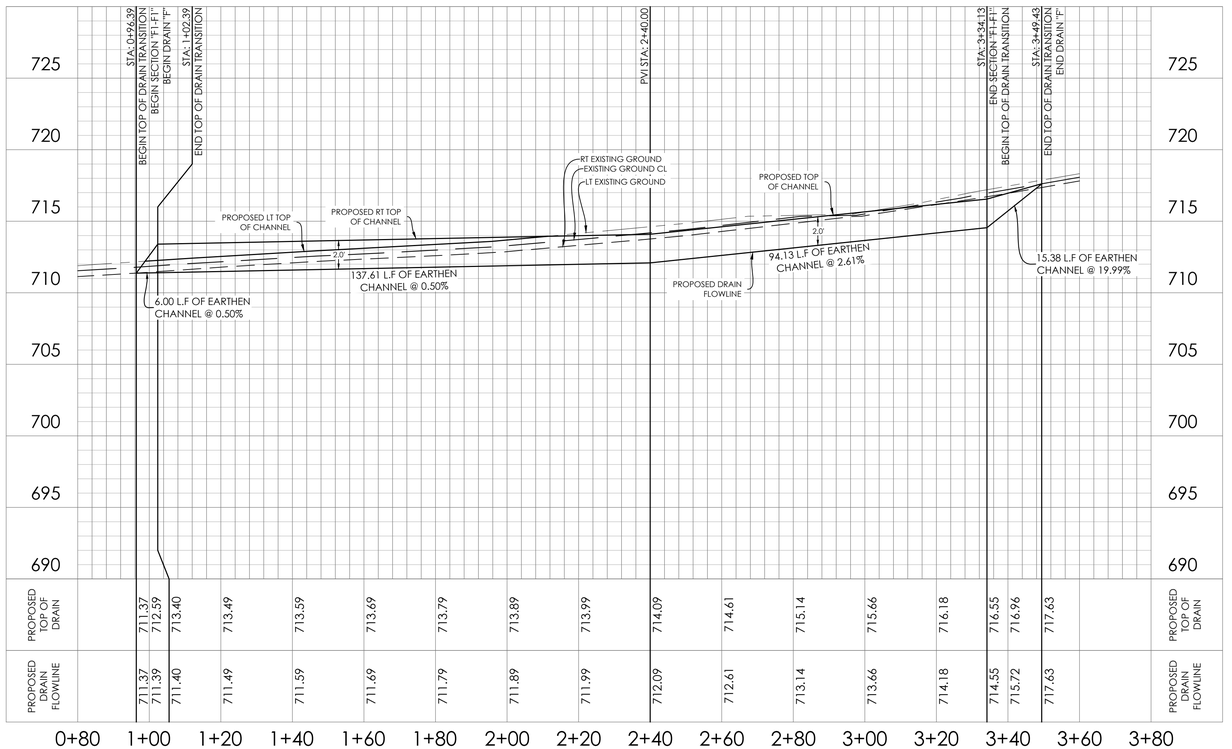
SECTION "F1-F1"
STA: 0+96.39 - 3+34.13
NOT TO SCALE

Drain F Q2 Open Channel calculations														
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+96.39	2+40.00	6.06	0.035	8	0.5	0.43	2	1.57	3.99	10.72	1.52	0.04	0.37	0.12
2+40.00	3+49.43	6.06	0.035	8	2.61	0.27	2	1.73	2.38	9.71	2.55	0.10	0.25	0.40
Drain F Q25 Open Channel calculations														
START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+96.39	2+40.00	13.18	0.035	8	0.5	0.67	2	1.33	6.71	12.24	1.97	0.06	0.55	0.17
2+40.00	3+49.43	13.18	0.035	8	2.61	0.42	2	1.58	3.89	10.66	3.39	0.18	0.36	0.59
Drain F Q100 Open Channel calculations														
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+96.39	2+40.00	19.21	0.035	8	0.5	0.82	2	1.18	8.58	13.19	2.24	0.08	0.65	0.20
2+40.00	3+49.43	19.21	0.035	8	2.61	0.52	2	1.48	4.97	11.29	3.86	0.23	0.44	0.72



DRAIN "F" (OFF-LOT INTERCEPTOR)
STA. 0+96.39 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



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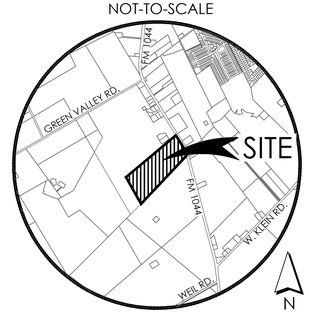
LOCATION MAP
NOT-TO-SCALE



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AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

DRAIN F STA 0+96.39 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

4.7

Date: 2/7/2024 2:44:23 PM
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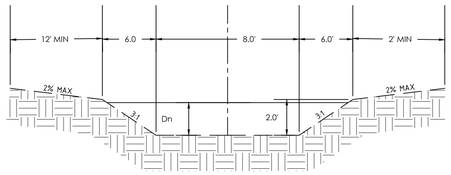
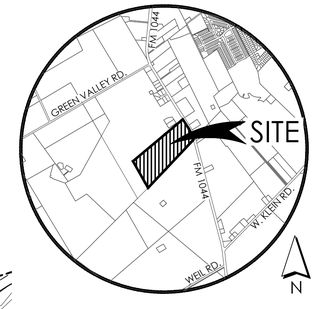
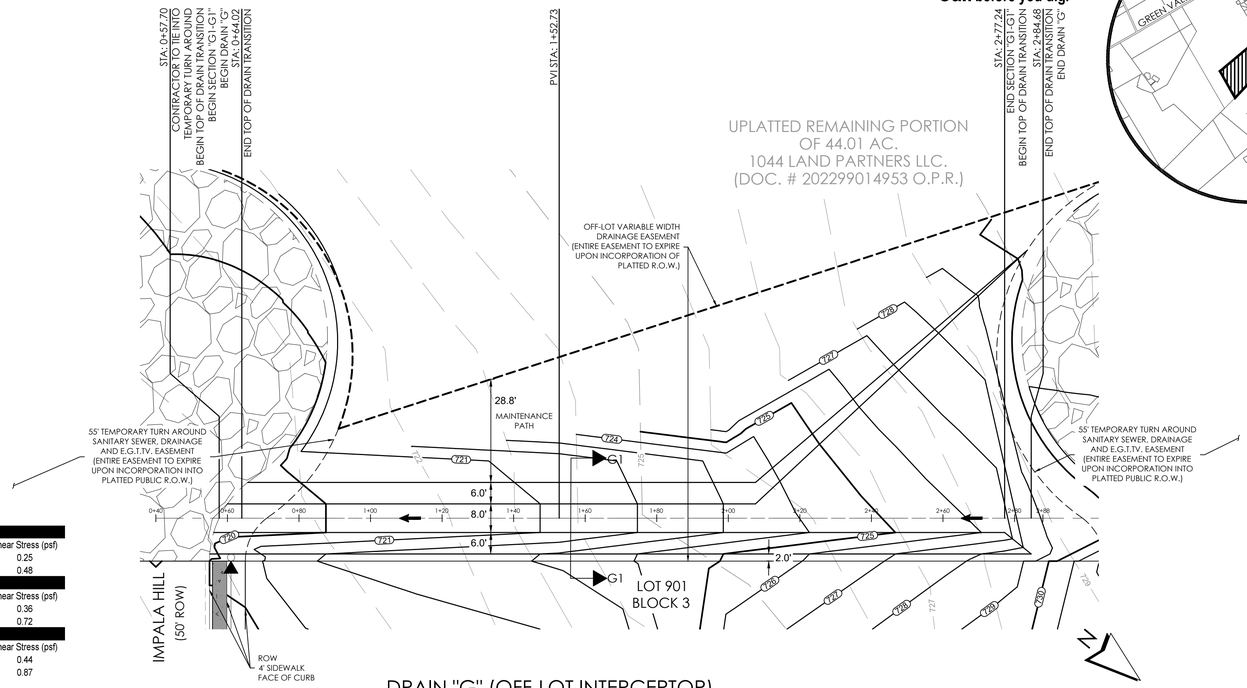


SECTION "G1-G1"
STA: 0+57.70 - 2+78.68
NOT TO SCALE

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

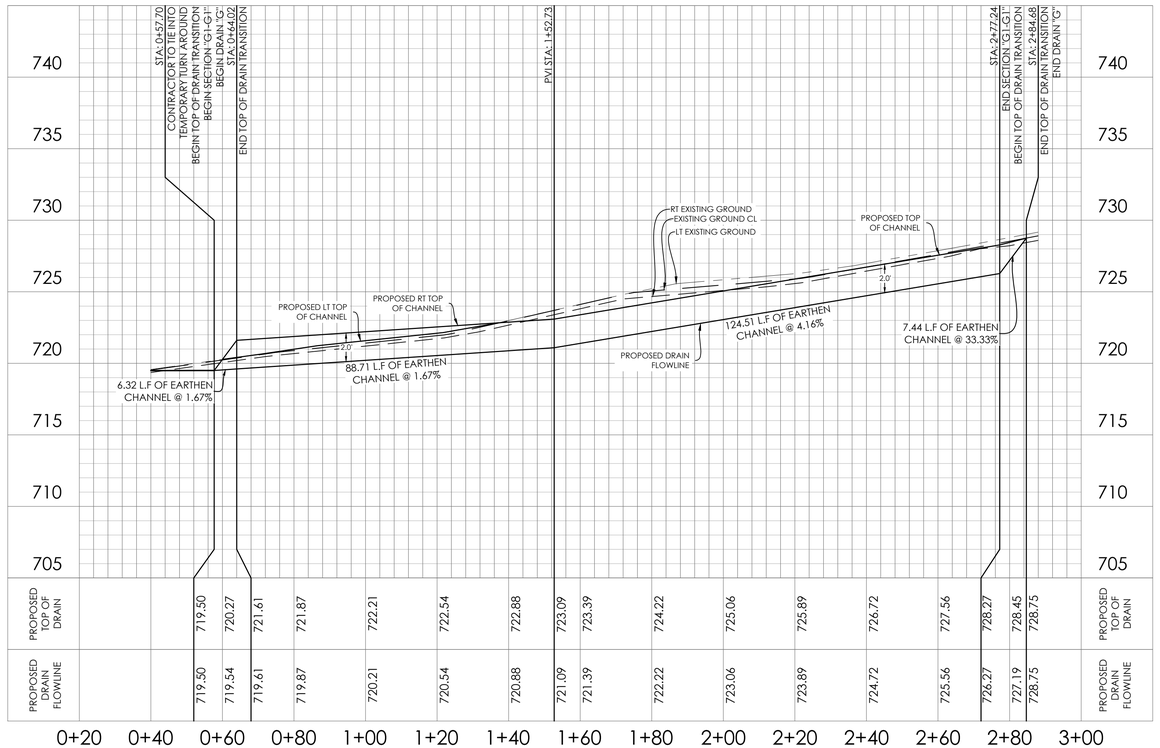
LOCATION MAP
NOT-TO-SCALE





DRAIN "G" (OFF-LOT INTERCEPTOR)
STA. 0+57.70 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



Drain G Q2 Open Channel calculations

START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+57.70	1+52.73	4.55	0.035	8	1.67	0.26	2	1.74	2.28	9.64	1.99	0.06	0.24	0.25
1+52.73	2+77.24	4.55	0.035	8	4.16	0.2	2	1.8	1.72	9.26	2.65	0.11	0.19	0.48

Drain G Q25 Open Channel calculations

START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+57.70	1+52.73	9.86	0.035	8	1.67	0.4	2	1.6	3.68	10.53	2.68	0.11	0.35	0.36
1+52.73	2+77.24	9.86	0.035	8	4.16	0.31	2	1.69	2.77	9.96	3.56	0.20	0.28	0.72

Drain G Q100 Open Channel calculations

START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+57.70	1+52.73	14.35	0.035	8	1.67	0.5	2	1.5	4.75	11.16	3.02	0.14	0.43	0.44
1+52.73	2+77.24	14.35	0.035	8	4.16	0.38	2	1.62	3.47	10.4	4.13	0.26	0.33	0.87

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Date: 2/7/2024 2:44:23 PM
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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN G STA 0+57.70 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.8

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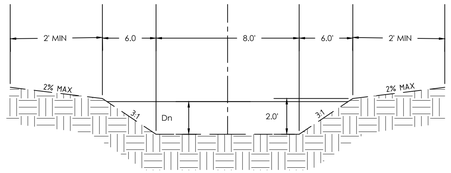
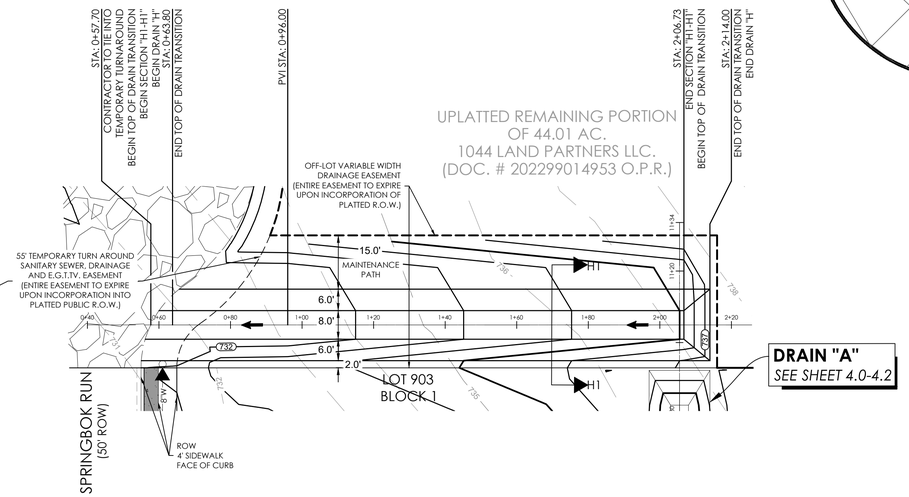


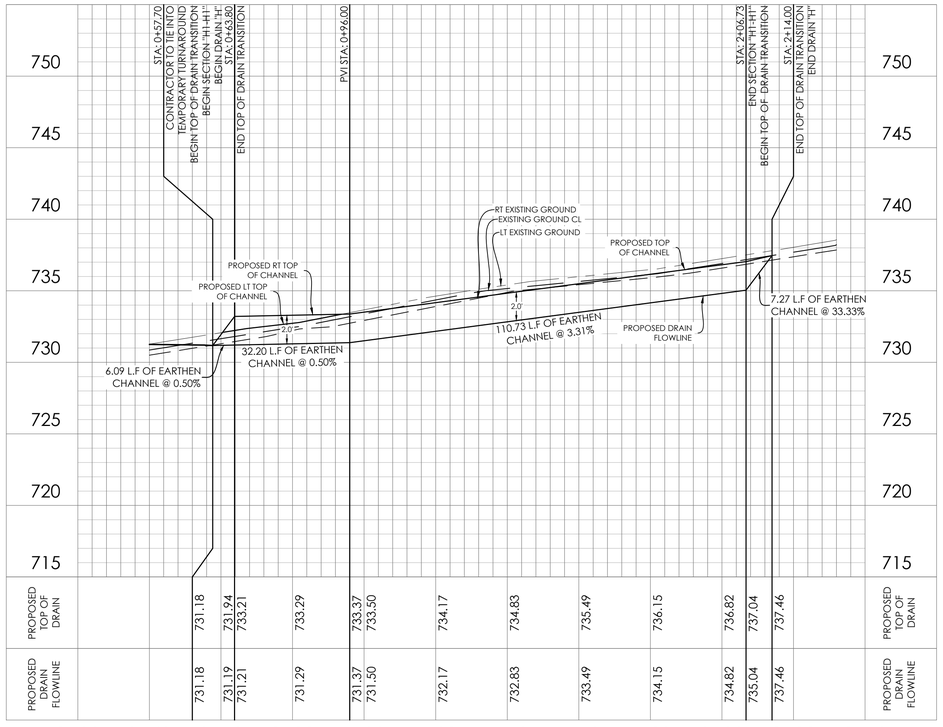
SECTION "H1-H1"
STA: 0+57.70 - 2+08.00
NOT TO SCALE

Drain H Q2 Open Channel calculations													
START STA:	END STA:	Q2(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+57.70	0+96.00	2.57	0.035	8	0.5	0.26	2	1.74	2.28	9.64	1.13	0.02	0.24	0.07
0+96.00	2+06.73	2.57	0.035	8	3.31	0.15	2	1.85	1.27	8.95	2.03	0.06	0.14	0.29
Drain H Q25 Open Channel calculations													
START STA:	END STA:	Q25(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+57.70	0+96.00	5.55	0.035	8	0.5	0.41	2	1.59	3.78	10.59	1.47	0.03	0.36	0.11
0+96.00	2+06.73	5.55	0.035	8	3.31	0.24	2	1.76	2.09	9.52	2.65	0.11	0.22	0.45
Drain H Q100 Open Channel calculations													
START STA:	END STA:	Q100(cfs)	n	BW(ft)	Slope (%)	Water Depth(ft)	Channel Depth (ft)	Freeboard(ft)	Area (sqft)	Wetted Perimeter(ft)	Velocity (fps)	VH(ft)	Hydraulic Radius(ft)	Shear Stress (psf)
0+57.70	0+96.00	8.02	0.035	8	0.5	0.5	2	1.5	4.75	11.16	1.69	0.04	0.43	0.13
0+96.00	2+06.73	8.02	0.035	8	3.31	0.29	2	1.71	2.57	9.83	3.12	0.15	0.26	0.54



DRAIN "H"(OFF-LOT INTERCEPTOR)
STA. 0+57.70 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'



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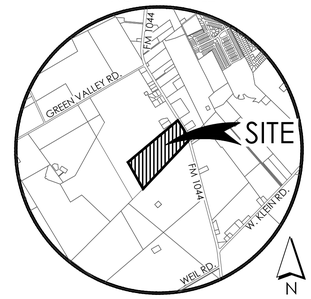
THE CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

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

LOCATION MAP
NOT-TO-SCALE



BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
DRAIN H STA 0+57.70 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.9

Date: 7/7/2023 2:44:23 PM
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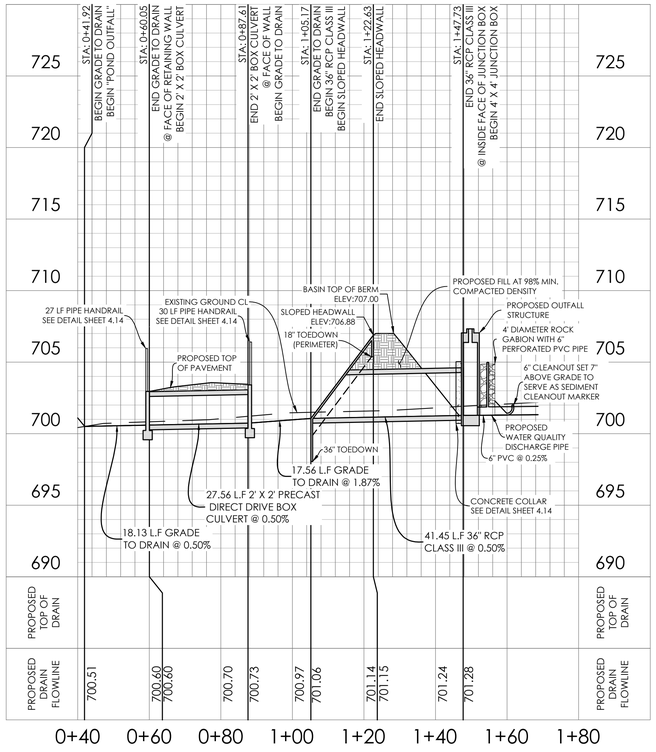
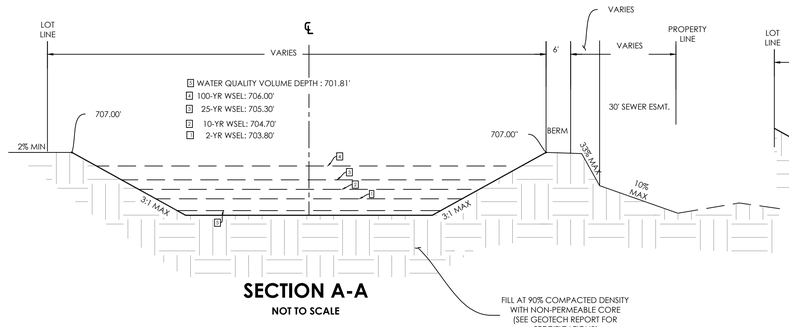
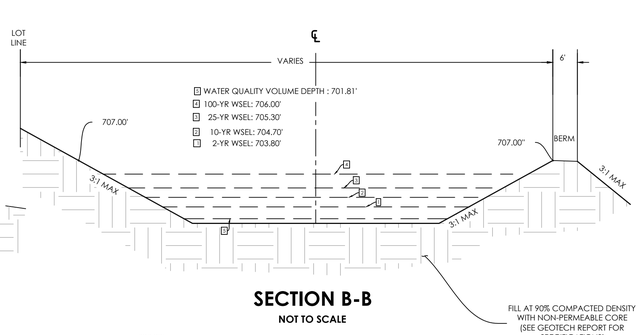
POND "A" OUTFALL
STA. 0+41.92 - END

HORIZONTAL: 1"=20'
VERTICAL = 1"=5'

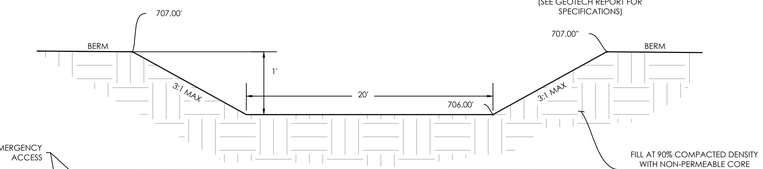




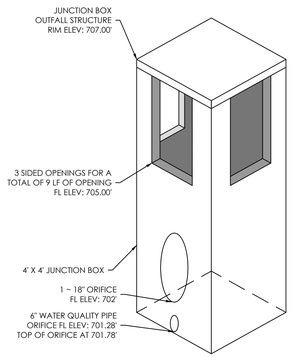
SECTION A-A
NOT TO SCALE



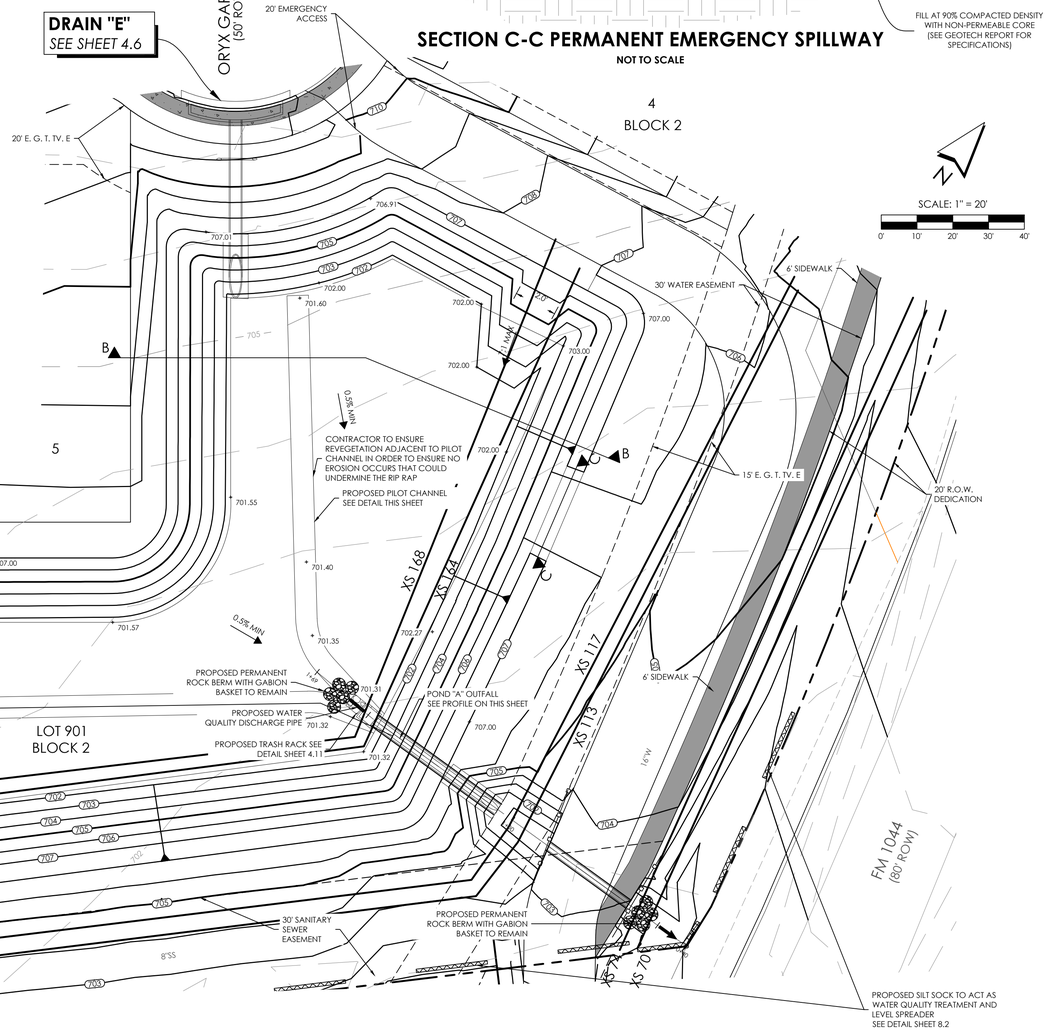
SECTION B-B
NOT TO SCALE

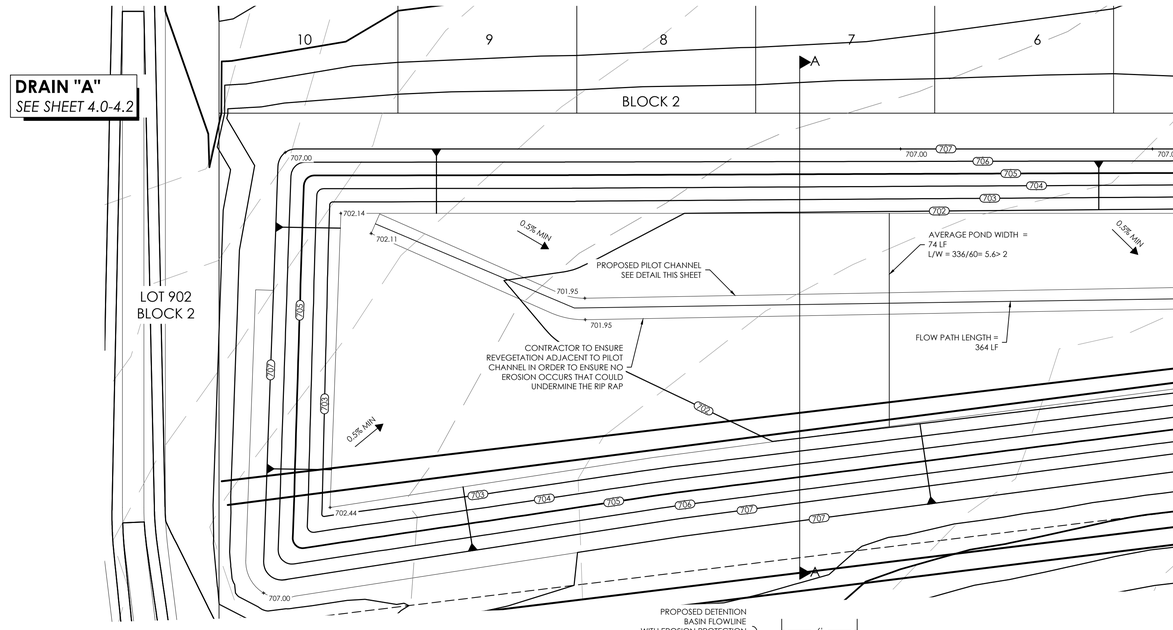


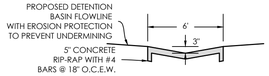
SECTION C-C PERMANENT EMERGENCY SPILLWAY
NOT TO SCALE



POND A			
STORM EVENT	WSE (FT)	Storage(ac-ft)	DISCHARGE (CFS)
2-YEAR	703.8	1.3	10.1
10-YEAR	704.7	2.1	13.9
25-YEAR	705.3	2.6	19.7
100-YEAR	706	3.2	40







CONCRETE PILOT CHANNEL
NOT TO SCALE

COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

BLUESITE ENGINEERING
NO. F-22528
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STATE OF TEXAS
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1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

DETENTION POND A

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

4.10

Date: 2/7/2024 2:44:23 PM
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OVERALL DRAIN MAINTENANCE PLAN

1. ALL SILT SHALL BE REMOVED FROM CHANNELS, INLETS AND STORM DRAIN INFRASTRUCTURE AS NEEDED TO ENSURE ALL STORMWATER IS ABLE TO FLOW UNIMPEDED INTO INLETS AND BE PROPERLY CONVEYED OFF-SITE

2. ALL TRASH SHOULD BE REMOVED FROM INLETS, PIPES AND CHANNELS TO PREVENT CLOGGING OR PREVENT ANY ADVERSE IMPACT TO THE DESIGNED FUNCTION OF THE STORMWATER INFRASTRUCTURE

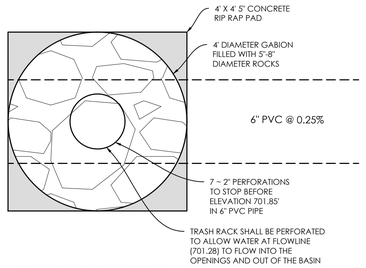
3. ALL EARTHEN CHANNELS SHOULD BE MOWED AND MAINTAINED REGULARLY TO PREVENT ANY ADVERSE IMPACT TO VELOCITIES OR WATER SURFACE ELEVATIONS FLOWING WITHIN THE CHANNEL

4. INLETS AND JUNCTION BOXES SHOULD BE ROUTINELY INSPECTED AND CLEANED OUT IF NECESSARY TO PREVENT ANY TRASH OR SEDIMENT BUILD UP WITHIN THE INLET, JUNCTION BOX OR STORM DRAIN SYSTEM

5. ROCK RUBBLE AND EARTHEN CHANNELS SHOULD BE ROUTINELY INSPECTED TO ENSURE NO EROSION HAS OCCURRED THAT MAY CAUSE ANY ADVERSE IMPACT TO THE FUNCTION OF THE DRAINAGE INFRASTRUCTURE

6. PROPER SWPPP INFRASTRUCTURE INCLUDING INLET PROTECTION MUST BE MAINTAINED DURING CONSTRUCTION TO PREVENT RUNOFF OF CONSTRUCTION DEBRIS AND SILT BUILD UP THAT COULD CAUSE DRAIN FUNCTIONS TO NOT OPERATE AS DESIGNED

7. POSITIVE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES, MAINTENANCE SHALL BE CARRIED OUT IN ANY CASES WHERE WATER FAILS TO DRAIN. NO PONDING OR STANDING WATER SHALL BE PERMITTED WITHIN THE CHANNELS, DRAINS OR DETENTION POND(FOR ANY PERIOD LONGER THAN 36 HOURS PER CONB DETENTION CRITERIA).



TRASH RACK PLAN DETAIL
NOT-TO-SCALE

OUTFALL CULVERT TABLES

Plan: POND	POND OUTFALL	POND OUTFALL RS 112	Culv Group:	Culvert #1	Profile: 002 YR
Q Culv Group (cfs)	10.1	Culv Full Len (ft)			
# Barrels	1	Culv Vel US (ft/s)	4.67		
Q Barrel (cfs)	10.1	Culv Vel DS (ft/s)	5.46		
E.G. US. (ft)	702.32	Culv Inv El Up (ft)	700.73		
W.S. US. (ft)	702.31	Culv Inv El Dn (ft)	700.6		
E.G. DS (ft)	701.3	Culv Frctn Ls (ft)	0.16		
W.S. DS (ft)	701.24	Culv Exit Loss (ft)	0.69		
Delta EG (ft)	1.02	Culv Entr Loss (ft)	0.17		
Delta WS (ft)	1.07	Q Weir (cfs)			
E.G. IC (ft)	702.25	Weir Sta Lft (ft)			
E.G. OC (ft)	702.32	Weir Sta Rgt (ft)			
Culvert Control	Outlet	Weir Submerg			
Culv WS Inlet (ft)	701.81	Weir Max Depth (ft)			
Culv WS Outlet (ft)	701.53	Weir Avg Depth (ft)			
Culv Nml Depth (ft)	1.13	Weir Flow Area (sq ft)			
Culv Crt Depth (ft)	0.93	Min El Weir Flow (ft)	703.62		

Plan: POND	POND OUTFALL	POND OUTFALL RS 163	Culv Group:	Culvert #1	Profile: 002 YR
Q Culv Group (cfs)	10.1	Culv Full Len (ft)			
# Barrels	1	Culv Vel US (ft/s)	4.73		
Q Barrel (cfs)	10.1	Culv Vel DS (ft/s)	3.61		
E.G. US. (ft)	702.83	Culv Inv El Up (ft)	701.28		
W.S. US. (ft)	702.83	Culv Inv El Dn (ft)	701.06		
E.G. DS (ft)	702.32	Culv Frctn Ls (ft)	0.14		
W.S. DS (ft)	702.31	Culv Exit Loss (ft)	0.19		
Delta EG (ft)	0.51	Culv Entr Loss (ft)	0.17		
Delta WS (ft)	0.51	Q Weir (cfs)			
E.G. IC (ft)	702.66	Weir Sta Lft (ft)			
E.G. OC (ft)	702.83	Weir Sta Rgt (ft)			
Culvert Control	Outlet	Weir Submerg			
Culv WS Inlet (ft)	702.31	Weir Max Depth (ft)			
Culv WS Outlet (ft)	702.31	Weir Avg Depth (ft)			
Culv Nml Depth (ft)	1	Weir Flow Area (sq ft)			
Culv Crt Depth (ft)	1.01	Min El Weir Flow (ft)	707.01		

Plan: POND	POND OUTFALL	POND OUTFALL RS 112	Culv Group:	Culvert #1	Profile: 025 YR
Q Culv Group (cfs)	19.7	Culv Full Len (ft)			
# Barrels	1	Culv Vel US (ft/s)	5.73		
Q Barrel (cfs)	19.7	Culv Vel DS (ft/s)	6.82		
E.G. US. (ft)	703.21	Culv Inv El Up (ft)	700.73		
W.S. US. (ft)	703.21	Culv Inv El Dn (ft)	700.6		
E.G. DS (ft)	701.56	Culv Frctn Ls (ft)	0.19		
W.S. DS (ft)	701.45	Culv Exit Loss (ft)	1.21		
Delta EG (ft)	1.66	Culv Entr Loss (ft)	0.26		
Delta WS (ft)	1.76	Q Weir (cfs)			
E.G. IC (ft)	703.1	Weir Sta Lft (ft)			
E.G. OC (ft)	703.21	Weir Sta Rgt (ft)			
Culvert Control	Outlet	Weir Submerg			
Culv WS Inlet (ft)	702.45	Weir Max Depth (ft)			
Culv WS Outlet (ft)	702.04	Weir Avg Depth (ft)			
Culv Nml Depth (ft)	1.92	Weir Flow Area (sq ft)			
Culv Crt Depth (ft)	1.44	Min El Weir Flow (ft)	703.62		

Plan: POND	POND OUTFALL	POND OUTFALL RS 163	Culv Group:	Culvert #1	Profile: 025 YR
Q Culv Group (cfs)	19.7	Culv Full Len (ft)			
# Barrels	1	Culv Vel US (ft/s)	4.04		
Q Barrel (cfs)	19.7	Culv Vel DS (ft/s)	3.64		
E.G. US. (ft)	703.61	Culv Inv El Up (ft)	701.28		
W.S. US. (ft)	703.61	Culv Inv El Dn (ft)	701.06		
E.G. DS (ft)	703.22	Culv Frctn Ls (ft)	0.07		
W.S. DS (ft)	703.21	Culv Exit Loss (ft)	0.2		
Delta EG (ft)	0.4	Culv Entr Loss (ft)	0.13		
Delta WS (ft)	0.41	Q Weir (cfs)			
E.G. IC (ft)	703.32	Weir Sta Lft (ft)			
E.G. OC (ft)	703.61	Weir Sta Rgt (ft)			
Culvert Control	Outlet	Weir Submerg			
Culv WS Inlet (ft)	703.23	Weir Max Depth (ft)			
Culv WS Outlet (ft)	703.21	Weir Avg Depth (ft)			
Culv Nml Depth (ft)	1.44	Weir Flow Area (sq ft)			
Culv Crt Depth (ft)	1.42	Min El Weir Flow (ft)	707.01		

Plan: POND	POND OUTFALL	POND OUTFALL RS 112	Culv Group:	Culvert #1	Profile: 100 YR
Q Culv Group (cfs)	23.73	Culv Full Len (ft)			
# Barrels	1	Culv Vel US (ft/s)	6.07		
Q Barrel (cfs)	23.73	Culv Vel DS (ft/s)	7.25		
E.G. US. (ft)	703.63	Culv Inv El Up (ft)	700.73		
W.S. US. (ft)	703.61	Culv Inv El Dn (ft)	700.6		
E.G. DS (ft)	701.97	Culv Frctn Ls (ft)	0.2		
W.S. DS (ft)	701.77	Culv Exit Loss (ft)	1.09		
Delta EG (ft)	1.66	Culv Entr Loss (ft)	0.37		
Delta WS (ft)	1.84	Q Weir (cfs)	0.17		
E.G. IC (ft)	703.63	Weir Sta Lft (ft)	157.15		
E.G. OC (ft)	703.63	Weir Sta Rgt (ft)	180.5		
Culvert Control	Inlet	Weir Submerg	0		
Culv WS Inlet (ft)	702.68	Weir Max Depth (ft)	0.02		
Culv WS Outlet (ft)	702.24	Weir Avg Depth (ft)	0.02		
Culv Nml Depth (ft)	2	Weir Flow Area (sq ft)	0.46		
Culv Crt Depth (ft)	1.64	Min El Weir Flow (ft)	703.62		

Plan: POND	POND OUTFALL	POND OUTFALL RS 163	Culv Group:	Culvert #1	Profile: 100 YR
Q Culv Group (cfs)	40	Culv Full Len (ft)			
# Barrels	1	Culv Vel US (ft/s)	6.35		
Q Barrel (cfs)	40	Culv Vel DS (ft/s)	6.24		
E.G. US. (ft)	704.72	Culv Inv El Up (ft)	701.28		
W.S. US. (ft)	704.72	Culv Inv El Dn (ft)	701.06		
E.G. DS (ft)	703.63	Culv Frctn Ls (ft)	0.19		
W.S. DS (ft)	703.61	Culv Exit Loss (ft)	0.59		
Delta EG (ft)	1.09	Culv Entr Loss (ft)	0.31		
Delta WS (ft)	1.11	Q Weir (cfs)			
E.G. IC (ft)	704.57	Weir Sta Lft (ft)			
E.G. OC (ft)	704.72	Weir Sta Rgt (ft)			
Culvert Control	Outlet	Weir Submerg			
Culv WS Inlet (ft)	703.78	Weir Max Depth (ft)			
Culv WS Outlet (ft)	703.61	Weir Avg Depth (ft)			
Culv Nml Depth (ft)	2.33	Weir Flow Area (sq ft)			
Culv Crt Depth (ft)	2.06	Min El Weir Flow (ft)	707.01		

DETENTION POND MAINTENANCE PLAN

1. ALL SILT SHALL BE REMOVED AND THE BASIN RETURNED TO ORIGINAL GRADE WHEN BASIN STORAGE VOLUME IS REDUCED BY MORE THAN 10% OR WHEN THE BASIN IS NOT ABLE TO FULLY DRAIN WITHIN THE 36 HOURS ALLOWED BY CITY OF NEW BRAUNFELS

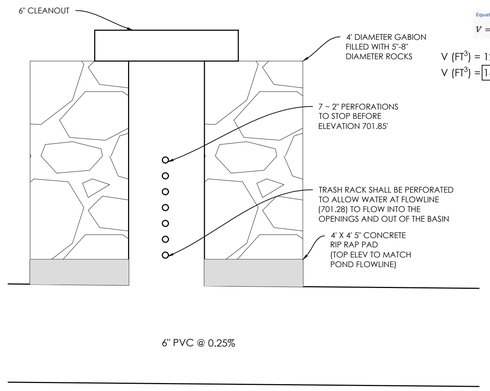
2. ALL TRASH SHOULD BE REMOVED FROM DETENTION POND EVERY 6 MONTHS OR AS NEEDED TO ENSURE PROPER BASIN FUNCTION

3. DETENTION POND SHOULD BE MOWED WHEN POSSIBLE AND REQUIRED TO ENSURE PROPER DRAINAGE CONTINUES AND THE BASIN FUNCTIONS AS INTENDED

4. EROSION ALONG PILOT CHANNEL MUST BE MAINTAINED AS REQUIRED BY CITY OF NEW BRAUNFELS TO PREVENT ANY UNDERMINING OR EROSION OF THE PILOT CHANNEL

5. ACCESS TO THE BASIN FOR MAINTENANCE SHOULD BE VIA THE 12' MAINTENANCE RAMP PROVIDED ALONG THE FIRE ACCESS ROAD ONLY

6. STRUCTURAL INTEGRITY OF THE BASIN AND BERMS SHOULD BE MAINTAINED AT ALL TIME. ANY CONSTRUCTION ACTIVITY IN THE VICINITY OF THE BASIN SHOULD BE MONITORED TO ENSURE THE BASIN BERMS AND OUTFALL STRUCTURES ARE NOT DAMAGED OR ALTERED IN ANYWAY THAT COULD AFFECT THE DESIGNED PERFORMANCE OF THE POND

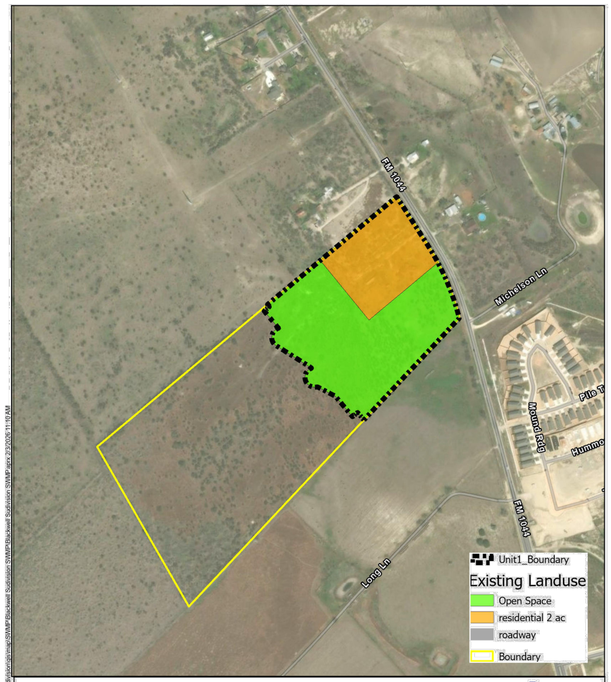


TRASH RACK PROFILE DETAIL
NOT-TO-SCALE

WATER QUALITY VOLUME CALCULATIONS

STEP 1: CALCULATE EXISTING AND PROPOSED IMPERVIOUS COVER ASSUMPTIONS FOR PLATTED AREA

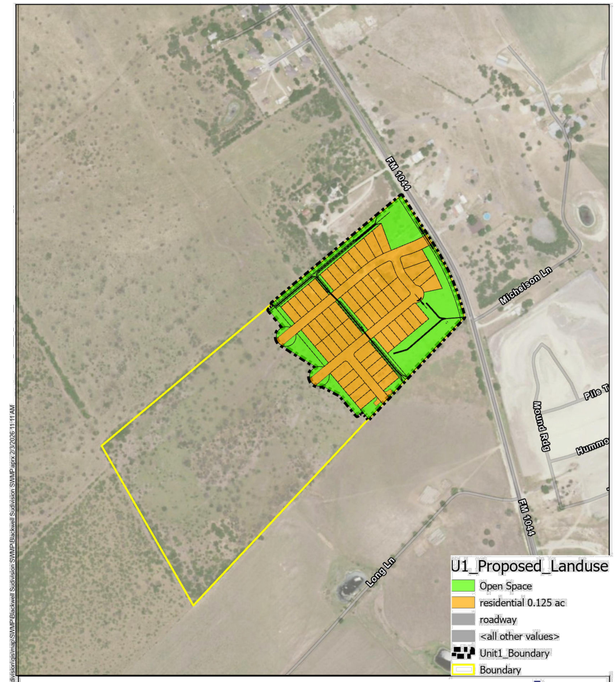
EXISTING CONDITIONS



Existing Landuse Unit 1
Blackwell Subdivision
City of New Braunfels, TX

BLUESITE ENGINEERING

PROPOSED CONDITIONS



Proposed Landuse Unit 1
Blackwell Subdivision
City of New Braunfels, TX

BLUESITE ENGINEERING

Existing						
Name	Plat Area	Landuse Information (from Map)			Impervious Cover Calculations	
		Existing Landuse	Impervious Cover %	Area (Ac)	Area (SQFT)	Impervious Cover Area (SqFt)[1]	Impervious area[2] (sqft)
Unit 1	17.05	Open Space	0	11.814	514628	0	57110
		residential 2 ac	25	5.237	228108	57027	
		roadway	98	0.002	85	83	

NOTES:
1 IMPERVIOUS COVER AREA = AREA OF LANDUSE (in sqft) * IMPERVIOUS COVER % (in percentage)
2 SUM OF IMPERVIOUS COVER AREAS

Proposed						
Name	Plat Area	Landuse Information (from Map)			Impervious Cover Calculations	
		Existing Landuse	Impervious Cover %	Area (Ac)	Area (SQFT)	Impervious Cover Area (SqFt)[1]	Impervious area[2] (sqft)
Unit 1	17.05	residential 0.125 ac	75	10.799	470414	352810	352894
		Open Space	0	6.252	272322	0	
		roadway	98	0.002	85	83	

NOTES:
1 IMPERVIOUS COVER AREA = AREA OF LANDUSE (in sqft) * IMPERVIOUS COVER % (in percentage)
2 SUM OF IMPERVIOUS COVER AREAS

STEP 2: USE EQUATION 13-1 TO CALCULATE WQV

Equation 13-1

$$WQV\ (cubic\ feet) = \frac{0.5\ inches}{12\frac{inch}{foot}} \times (IC\ Area\ Post\ Construction - IC\ Area\ Pre\ Construction)(sq.\ ft.)$$

WQV (FT^3) = 0.5 INCHES * (352894 SQFT - 57110 SQFT)
12 INCH/FOOT

WQV (FT^3) = 12324

STEP 3: USE EQUATION 13-2 TO CALCULATE V

Equation 13-2

$$V = WQV * 1.2$$

V (FT^3) = 12324 * 1.2
V (FT^3) = 14789 FT^3

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Feb 3 2026

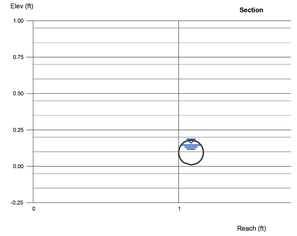
Blackwell Trash Rack Perforation

Circular
Diameter (ft) = 0.17

Invert Elev (ft) = 0.01
Slope (%) = 0.50
N-Value = 0.013

Calculations
Compute by: Q vs Depth
No. Increments = 5

Highlighted
Depth (ft) = 0.14
Q (cfs) = 0.022
Area (sqft) = 0.02
Velocity (ft/s) = 1.12
Wetted Perim (ft) = 0.38
Crit Depth, Yc (ft) = 0.10
Top Width (ft) = 0.14
EGL (ft) = 0.16



STEP 4: COMPARE REQUIRED VOLUME (V) VS. PROPOSED VOLUME FROM BASIN

VOLUME REQUIRED = 14,789 CUBIC FEET

VOLUME PROVIDED = 174,772 CUBIC FEET

VOLUME PROVIDED > VOLUME REQUIRED

POND "A"		
CONTOUR	SQFT	AC
701.27	0	0.00
702	21223	0.49
703	30733	0.71
704	34494	0.79
705	38356	0.88
706	42319	0.97
707	46383	1.06

HEIGHT	5.73
AVG. CONTOUR AREA (SQFT)	30501
VOLUME PROVIDED	**174772**

STEP 5: SIZE THE WATER QUALITY OUTFALL STRUCTURE TO RELEASE:
1) 50% OF VOLUME IN 12 HOURS
2) 100% OF VOLUME IN 24 HOURS

WQV = 12,324 FT^3

TO RELEASE 100% OF WQV IN 1 DAY:

$$\frac{12{,}324\ FT^3 * 1\ HOUR * 1\ MIN}{24\ HOURS\ \ 60\ MIN\ \ 60\ SECONDS} = 0.143\ CFS\ IS\ OUR\ MAXIMUM\ RELEASE$$

A 2" PIPE CAN CONVEY ROUGHLY .022CFS THEREFORE TO ACHIEVE THE MAXIMUM FLOW RATE OF 0.143FT^3/S FOR WATER QUALITY DISCHARGE REQUIREMENTS: 0.143CFS/.022CFS = **7 PIPES**

WATER QUALITY DEPTH: BOTTOM CONTOUR AREA = 21,223 FT^2

12324FT^3 / 21223 FT^2 = .58 OR 7" OF DEPTH THEREFORE OUR FIRST OUTFALL PIPE FLOWLINE WILL BE 7" ABOVE THE BOTTOM OF POND TO ENSURE REQUIRED WATER QUALITY VOLUME WILL FLOW THROUGH THE TRASH RACK AND IT'S 7~2" PIPES AS CALCULATED ABOVE

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED PROFESSIONAL ENGINEER
02.11.2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

DETENTION POND DETAILS

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

4.11

Date: 2/7/2024 2:44:22 PM
B:\Davidson Homes\Blackwell Subdivision\CAD\Sheet\PONDS_BLACKWELL.dwg

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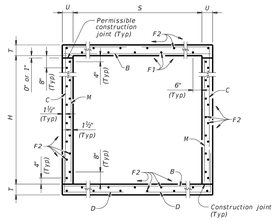
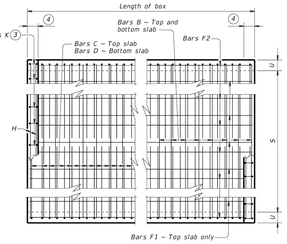
DATE:
FILE:



TYPICAL SECTION



PLAN OF REINF STEEL

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 3" high, Bars K may be omitted.
4. 1'-0" typical. 2"-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars 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).

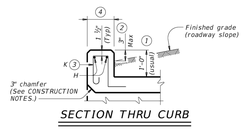
CONSTRUCTION NOTES:
Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised; Bars C and D may be reversed.

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.

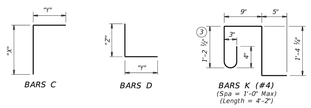
Provide bar laps, where required, as follows:
- Uncoated or galvanized – #4 = 1'-8" Min
- Uncoated or galvanized – #5 = 2'-1" Min
- Uncoated or galvanized – #6 = 2'-6" Min

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Single Box Culverts Cast-In-Place Miscellaneous Detail (SCC-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.



SECTION THRU CURB



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

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE
0' TO 30' FILL

SCC-5 & 6

FILE: CD-SCC56-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
04/2021 Updated X values.	DIST	COUNTY		SHEET NO.

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SECTION DIMENSIONS

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

QUANTITIES

FILL HEIGHT (5)	S	H	T	U	Bars B No.	Bars B Size	Bars B Spa	Bars B Length	Bars B Weight	Bars C No.	Bars C Size	Bars C Spa	Bars C Length	Bars C Weight	Bars C "X"	Bars C "Y"	Bars D No.	Bars D Size	Bars D Spa	Bars D Length	Bars D Weight	Bars D "Y"	Bars D "Z"	Bars M – #4 No.	Bars M – #4 Spa	Bars M – #4 Length	Bars M – #4 Weight	Bars F1 – #4 at 18" Spa No.	Bars F1 – #4 at 18" Spa Length	Bars F1 – #4 at 18" Spa Wt	Bars F2 – #4 at 18" Spa No.	Bars F2 – #4 at 18" Spa Length	Bars F2 – #4 at 18" Spa Weight	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)
26"	5'-0"	2'-0"	8"	7"	108	#6	9"	5'-11"	960	108	#5	9"	6'-3"	704	2'-6"	3'-9"	108	#5	9"	6'-5"	723	3'-9"	2'-8"	108	9"	2'-0"	144	4	39'-9"	106	22	39'-9"	584	5'-11"	16	14	39	0.391	80.5	0.5	55	16.1	3,276
30"	5'-0"	2'-0"	9"	7"	108	#6	9"	5'-11"	960	108	#5	9"	6'-4"	713	2'-7"	3'-9"	108	#5	9"	6'-6"	732	3'-9"	2'-9"	108	9"	2'-0"	144	4	39'-9"	106	22	39'-9"	584	5'-11"	16	14	39	0.429	81.0	0.5	55	17.6	3,294
26"	5'-0"	3'-0"	8"	7"	108	#6	9"	5'-11"	960	108	#5	9"	7'-3"	817	3'-6"	3'-9"	108	#5	9"	6'-5"	723	3'-9"	2'-8"	108	9"	3'-0"	216	4	39'-9"	106	26	39'-9"	690	5'-11"	16	14	39	0.434	87.8	0.5	55	17.8	3,567
30"	5'-0"	3'-0"	9"	7"	108	#6	9"	5'-11"	960	108	#5	9"	7'-4"	826	3'-7"	3'-9"	108	#5	9"	6'-6"	732	3'-9"	2'-9"	108	9"	3'-0"	216	4	39'-9"	106	26	39'-9"	690	5'-11"	16	14	39	0.472	88.3	0.5	55	19.3	3,585
26"	5'-0"	4'-0"	8"	7"	108	#6	9"	5'-11"	960	108	#5	9"	8'-3"	929	4'-6"	3'-9"	108	#5	9"	6'-5"	723	3'-9"	2'-8"	108	9"	4'-0"	289	4	39'-9"	106	26	39'-9"	690	5'-11"	16	14	39	0.477	92.4	0.5	55	19.5	3,752
30"	5'-0"	4'-0"	9"	7"	108	#6	9"	5'-11"	960	108	#5	9"	8'-4"	939	4'-7"	3'-9"	108	#5	9"	6'-6"	732	3'-9"	2'-9"	108	9"	4'-0"	289	4	39'-9"	106	26	39'-9"	690	5'-11"	16	14	39	0.515	92.9	0.5	55	21.1	3,771
26"	5'-0"	5'-0"	8"	7"	108	#6	9"	5'-11"	960	108	#5	9"	9'-3"	1,042	5'-6"	3'-9"	108	#5	9"	6'-5"	723	3'-9"	2'-8"	108	9"	5'-0"	361	4	39'-9"	106	30	39'-9"	797	5'-11"	16	14	39	0.521	99.7	0.5	55	21.3	4,044
30"	5'-0"	5'-0"	9"	7"	108	#6	9"	5'-11"	960	108	#5	9"	9'-4"	1,051	5'-7"	3'-9"	108	#5	9"	6'-6"	732	3'-9"	2'-9"	108	9"	5'-0"	361	4	39'-9"	106	30	39'-9"	797	5'-11"	16	14	39	0.559	100.2	0.5	55	22.8	4,062
26"	6'-0"	2'-0"	8"	7"	108	#6	9"	6'-11"	1,122	108	#5	9"	6'-7"	742	2'-6"	4'-1"	108	#5	9"	6'-9"	760	4'-1"	2'-8"	108	9"	2'-0"	144	5	39'-9"	133	25	39'-9"	664	6'-11"	18	16	45	0.440	89.1	0.5	63	18.1	3,628
30"	6'-0"	2'-0"	9"	7"	108	#6	9"	6'-11"	1,122	162	#5	6"	6'-8"	1,126	2'-7"	4'-1"	162	#5	6"	6'-10"	1,155	4'-1"	2'-9"	108	9"	2'-0"	144	5	39'-9"	133	25	39'-9"	664	6'-11"	18	16	45	0.485	108.6	0.5	63	19.9	4,407
26"	6'-0"	2'-0"	10"	8"	108	#6	9"	7'-1"	1,149	162	#5	6"	6'-10"	1,155	2'-8"	4'-2"	162	#5	6"	7'-0"	1,183	4'-2"	2'-10"	82	12"	2'-0"	110	5	39'-9"	133	25	39'-9"	664	7'-1"	19	18	50	0.551	109.9	0.5	69	22.6	4,463
26"	6'-0"	3'-0"	8"	7"	108	#6	9"	6'-11"	1,122	108	#5	9"	7'-7"	854	3'-6"	4'-1"	108	#5	9"	6'-9"	760	4'-1"	2'-8"	108	9"	3'-0"	216	5	39'-9"	133	29	39'-9"	770	6'-11"	18	16	45	0.484	96.4	0.5	63	19.9	3,918
30"	6'-0"	3'-0"	9"	7"	108	#6	9"	6'-11"	1,122	162	#5	6"	7'-8"	1,295	3'-7"	4'-1"	162	#5	6"	6'-10"	1,155	4'-1"	2'-9"	108	9"	3'-0"	216	5	39'-9"	133	29	39'-9"	770	6'-11"	18	16	45	0.528	117.3	0.5	63	21.6	4,754
26"	6'-0"	3'-0"	10"	8"	108	#6	9"	7'-1"	1,149	162	#5	6"	7'-10"	1,324	3'-8"	4'-2"	162	#5	6"	7'-0"	1,183	4'-2"	2'-10"	82	12"	3'-0"	164	5	39'-9"	133	29	39'-9"	770	7'-1"	19	18	50	0.601	118.1	0.5	69	24.6	4,792
26"	6'-0"	4'-0"	8"	7"	108	#6	9"	6'-11"	1,122	108	#5	9"	8'-7"	967	4'-6"	4'-1"	108	#5	9"	6'-9"	760	4'-1"	2'-8"	108	9"	4'-0"	289	5	39'-9"	133	29	39'-9"	770	6'-11"	18	16	45	0.527	101.0	0.5	63	21.6	4,104
30"	6'-0"	4'-0"	9"	7"	108	#6	9"	6'-11"	1,122	162	#5	6"	8'-8"	1,464	4'-7"	4'-1"	162	#5	6"	6'-10"	1,155	4'-1"	2'-9"	108	9"	4'-0"	289	5	39'-9"	133	29	39'-9"	770	6'-11"	18	16	45	0.571	123.3	0.5	63	23.4	4,996
26"	6'-0"	4'-0"	10"	8"	108	#6	9"	7'-1"	1,149	162	#5	6"	8'-10"	1,493	4'-8"	4'-2"	162	#5	6"	7'-0"	1,183	4'-2"	2'-10"	82	12"	4'-0"	219	5	39'-9"	133	29	39'-9"	770	7'-1"	19	18	50	0.650	123.7	0.5	69	26.5	5,016
30"	6'-0"	5'-0"	8"	7"	108	#6	9"	6'-11"	1,122	108	#5	9"	9'-1"	1,080	5'-6"	4'-1"	108	#5	9"	6'-9"	760	4'-1"	2'-8"	108	9"	5'-0"	361	5	39'-9"	133	33	39'-9"	876	6'-11"	18	16	45	0.570	108.3	0.5	63	23.3	4,395
26"	6'-0"	5'-0"	9"	7"	108	#6	9"	6'-11"	1,122	162	#5	6"	9'-8"	1,633	5'-7"	4'-1"	162	#5	6"	6'-10"	1,155	4'-1"	2'-9"	108	9"	5'-0"	361	5	39'-9"	133	33	39'-9"	876	6'-11"	18	16	45	0.614	132.0	0.5	63	25.1	5,343
30"	6'-0"	5'-0"	10"	8"	108	#6	9"	7'-1"	1,149	162	#5	6"	9'-10"	1,661	5'-8"	4'-2"	162	#5	6"	7'-0"	1,183	4'-2"	2'-10"	82	12"	5'-0"	274	5	39'-9"	133	33	39'-9"	876	7'-1"	19	18	50	0.700	131.9	0.5	69	28.5	5,345
26"	6'-0"	6'-0"	8"	7"	108	#6	9"	6'-11"	1,122	108	#5	9"	10'-7"	1,192	6'-6"	4'-1"	108	#5	9"	6'-9"	760	4'-1"	2'-8"	108	9"	6'-0"	433	5	39'-9"	133	37	39'-9"	982	6'-11"	18	16	45	0.613	115.6	0.5	63	25.0	4,685
30"	6'-0"	6'-0"	9"	7"	108	#6	9"	6'-11"	1,122	162	#5	6"	10'-8"	1,802	6'-7"	4'-1"	162	#5	6"	6'-10"	1,155	4'-1"	2'-9"	108	9"	6'-0"	433	5	39'-9"	133	37	39'-9"	982	6'-11"	18	16	45	0.657	140.7	0.5	63	26.8	5,690
26"	6'-0"	6'-0"	10"	8"	108	#6	9"	7'-1"	1,149	162	#5	6"	10'-10"	1,830	6'-8"	4'-2"	162	#5	6"	7'-0"	1,183	4'-2"	2'-10"	82	12"	6'-0"	329	5	39'-9"	133	37	39'-9"	982	7'-1"	19	18	50	0.749	140.2	0.5	69	30.5	5,675

(5) For direct tra c culverts (ll height ≤ 2 ft.), identify the required box size and select the option with the minimum ll height.

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation | Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE
0' TO 30' FILL

SCC-5 & 6

FILE: CD-SCC56-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
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REVISIONS				
04/2021 Updated X values.	DIST	COUNTY		SHEET NO.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED
PROFESSIONAL ENGINEER

02.12.2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

MISC. DETAIL (SHEET 1 OF 5)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

4.12

Date: 7/7/2024 2:44:22 PM
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TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing length (2-wings) (3)	
					Bars J1		Bars J2			
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	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
D	#5	–	1'-0"
E	#4	–	1'-0"
F	#4	–	1'-0"
G	#6	4	–
M	#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) ÷ cosine (30°)

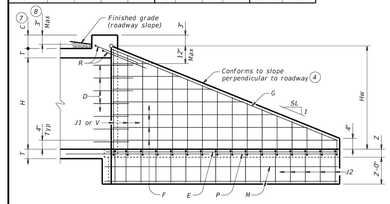
For cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)

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

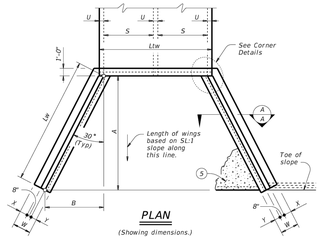
Total wingwall area (two wings – SF) = (Hw + 0.333) (Lw)

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

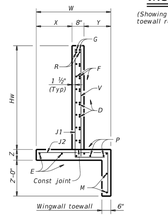
See applicable box culvert standard sheet for H, S, T, and U values.



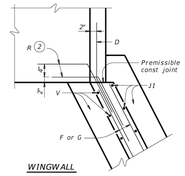
INSIDE ELEVATION
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



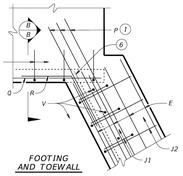
PLAN
(Showing dimensions.)



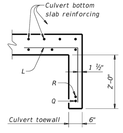
SECTION A-A



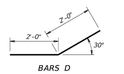
CORNER DETAILS
(Culvert and culvert toewall reinforcing not shown for clarity.)



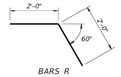
FOOTING AND TOEWALL



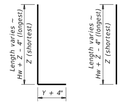
SECTION B-B (5)



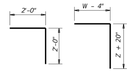
BARS D



BARS R



BARS J1 BARS V



BARS L BARS J2

1. Extend Bars P 3'-0" minimum into bottom slab of box culvert.
2. Adjust as necessary to maintain 1 1#2" 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 6" wide by 1'-6" 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.

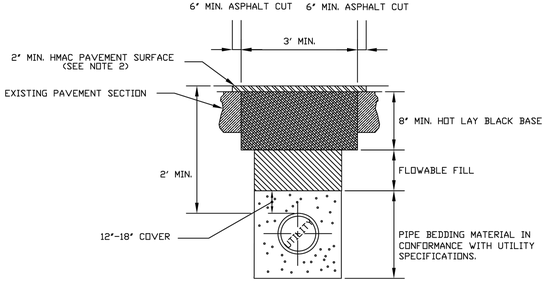
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation — Bridge Division Standard

CONCRETE WINGWALLS
WITH FLARED WINGS FOR 0° SKEW BOX CULVERTS

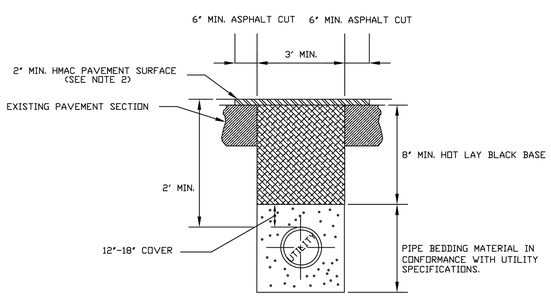
FW-0

FILE: CD-FW0-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.



NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE AT A MINIMUM OF 12"WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
2. REPLACEMENT HMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   A) MIN. 2"HMAC TYPE "D"FOR TRENCH REPAIRS IN LOCAL/RESIDENTIAL STREETS.
   B) MIN. 3"HMAC TYPE "C"FOR TRENCH REPAIRS IN COLLECTOR/ARTERIAL STREETS.
3. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED
4. PRIME AND TACK COAT ALL EXPOSED EDGES AND SURFACES.
5. HOT LAY BLACK BASE LAYED IN 8"LIFTS @ 95% COMPACTION.
6. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE. THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
7. CALICHE OR EXISTING MATERIAL SHALL NOT BE USED TO BACKFILL THE UTILITY EXCAVATION.

TRENCH REPAIR DETAIL		CITY OF NEW BRAUNFELS ENGINEERING DIVISION
ISSUE DATE: APRIL 2015	SCALE: N.T.S	424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PHONE: 830 221 4020 FAX: 830 626 3600
DRAWN BY: AMF	CONTACT: GF	



NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE AT A MINIMUM OF 12"WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
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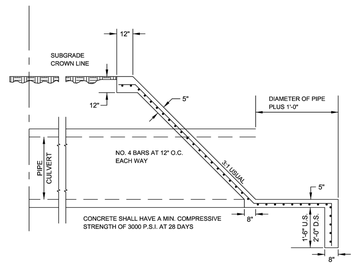
4. PRIME AND TACK COAT ALL EXPOSED EDGES AND SURFACES.
5. HOT LAY BLACK BASE LAYED IN 8"LIFTS @ 95% COMPACTION.
6. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE. THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
7. CALICHE OR EXISTING MATERIAL SHALL NOT BE USED TO BACKFILL THE UTILITY EXCAVATION
8. FOR EXCAVATIONS OF EXCESSIVE DEPTH, WIDTHS GREATER THAN 3' MAY BE REQUIRED TO ACHIEVE PROPER COMPACTION.

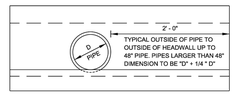
TRENCH REPAIR DETAIL BLACK BASE		CITY OF NEW BRAUNFELS ENGINEERING DIVISION
ISSUE DATE: APRIL 2015	SCALE: N.T.S	424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PHONE: 830 221 4020 FAX: 830 626 3600
DRAWN BY: AMF	CONTACT: GF	

RIPRAP HEADWALL

HALF SECTION



END VIEW



DATE APPROVED: 07/2008	DWG. NO: ST-023	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 1	
FILENAME: RIPRAP HEADWALL		

City of New Braunfels — ENGINEERING DEPARTMENT

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED PROFESSIONAL ENGINEER
02.12.2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
MISC. DETAIL (SHEET 2 OF 5)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.13

Date: 2/7/2025 2:54:22 PM
R:\Davidson Homes\Blackwell & Subdivision\1 CAD\Sheet\DR_DETAILS_BLACKWELL.dwg

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DATE:
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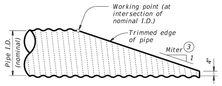
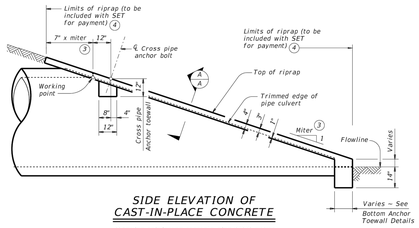


NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

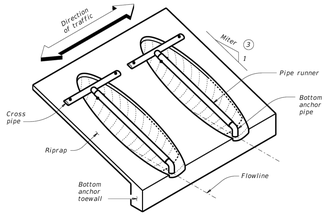
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(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.)

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				4:1 Side Slope				6:1 Side Slope					
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	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' – 6"	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)

Side 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				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	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

(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.

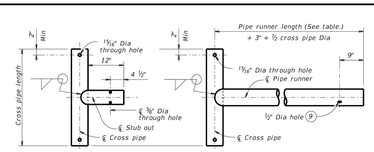
SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

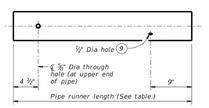
SAFETY END TREATMENT
FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE
SETP-CD

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.

DATE:
FILE:

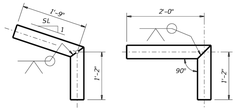


CROSS PIPE AND CONNECTIONS DETAILS

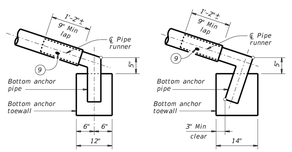


NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

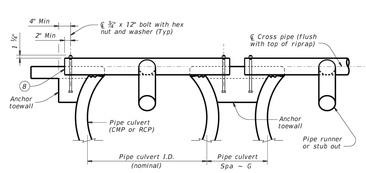


BOTTOM ANCHOR PIPE DETAILS (10)

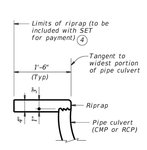


BOTTOM ANCHOR TOEWALL DETAILS

(Culvert and riprap not shown for clarity.)



SHOWING CROSS PIPE AND ANCHOR TOEWALL



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SECTION A-A

(4) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."

(6) 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.

(7) Note that actual slope of pipe runner may vary slightly from side slope of riprap and trimmed culvert pipe edge.

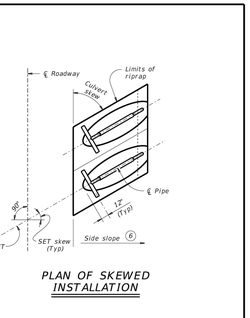
(8) Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.

(9) After installation, inspect the ½" hole to ensure that the lap of the pipe runner with the bottom anchor pipe is adequate.

(10) 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."



PLAN OF SKEWED INSTALLATION

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)

SHEET 2 OF 2

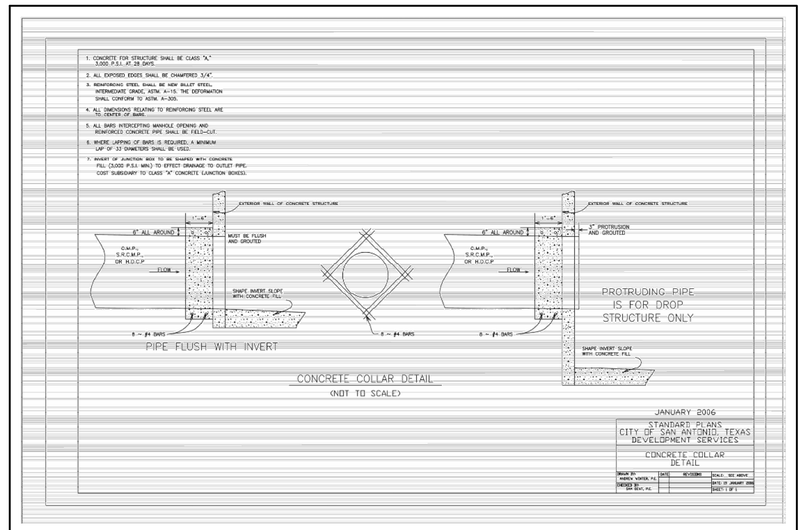
Texas Department of Transportation | Bridge Division Standard

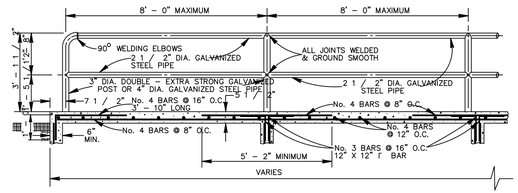
SAFETY END TREATMENT
FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE
SETP-CD

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.

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

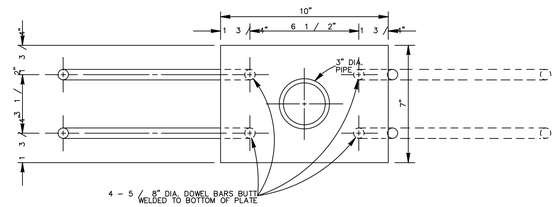
DATE:
FILE:

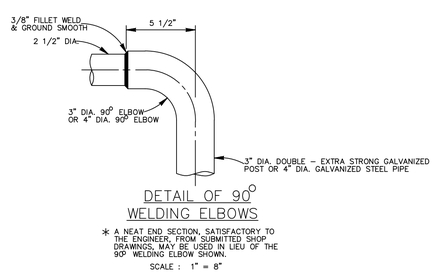




TYPICAL SIDEWALK BRIDGE & SIDEWALK PIPE RAILING SECTION

SCALE : 1" = 4"

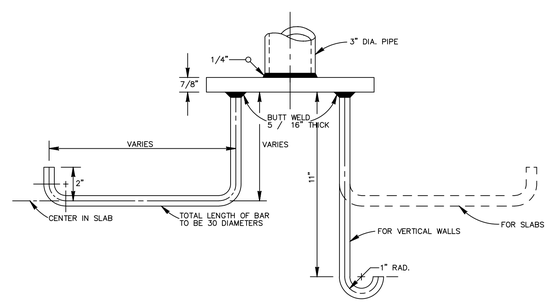




DETAIL OF 90° WELDING ELBOWS

* A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.

SCALE : 1" = 8"



PIPE ANCHORAGE DETAILS

SCALE : 1" = 6"

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.467.4414

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED PROFESSIONAL ENGINEER

02.12.2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

MISC. DETAIL SHEET (SHEET 3 OF 5)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

4.14

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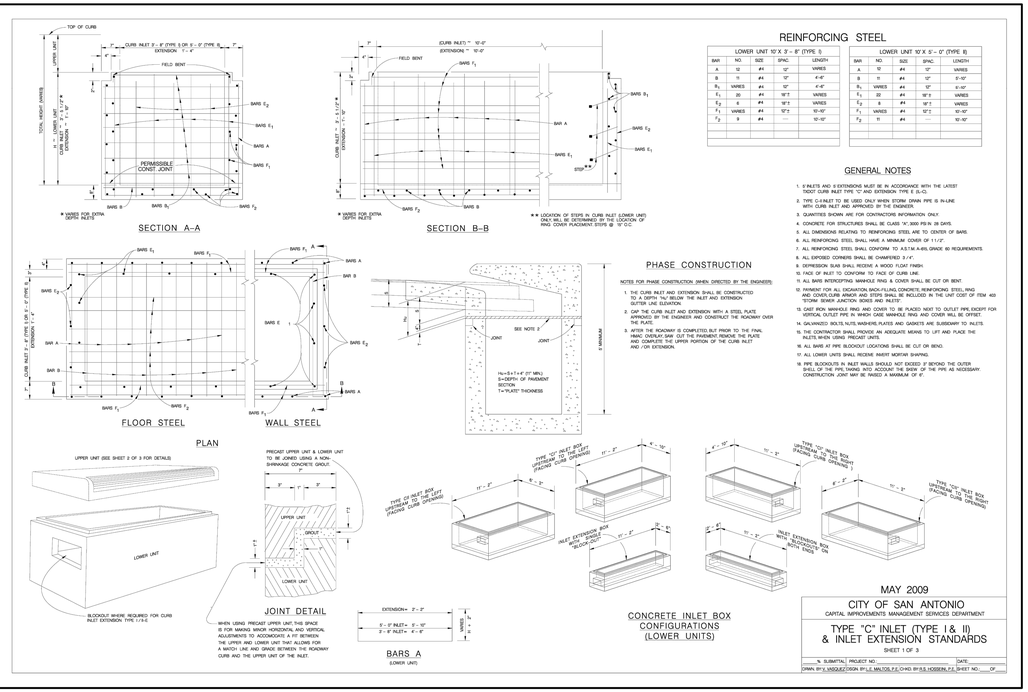

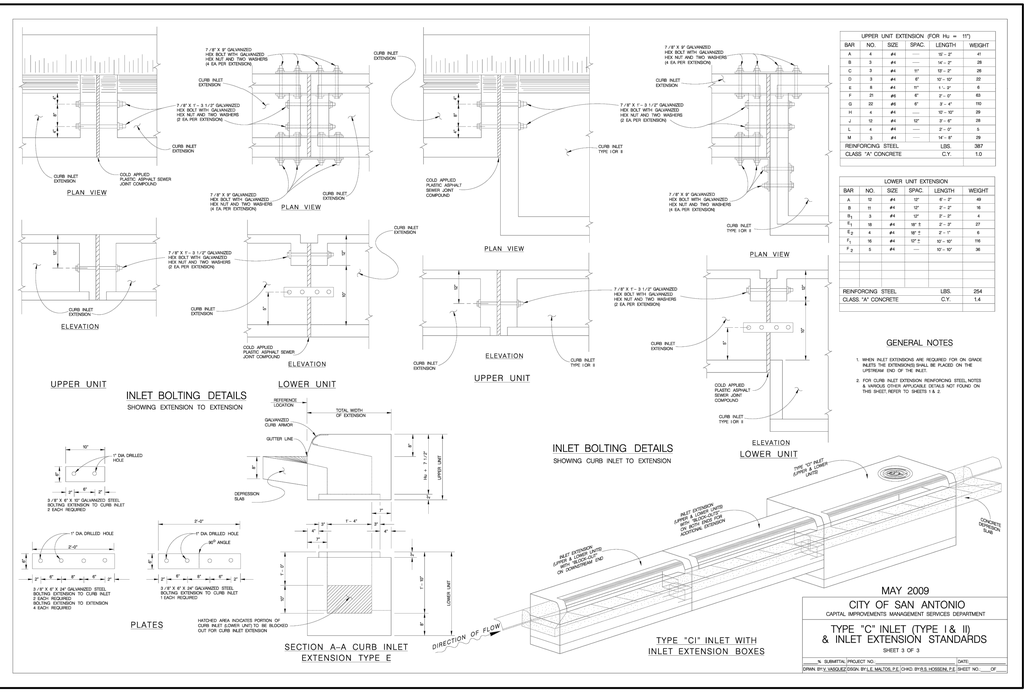

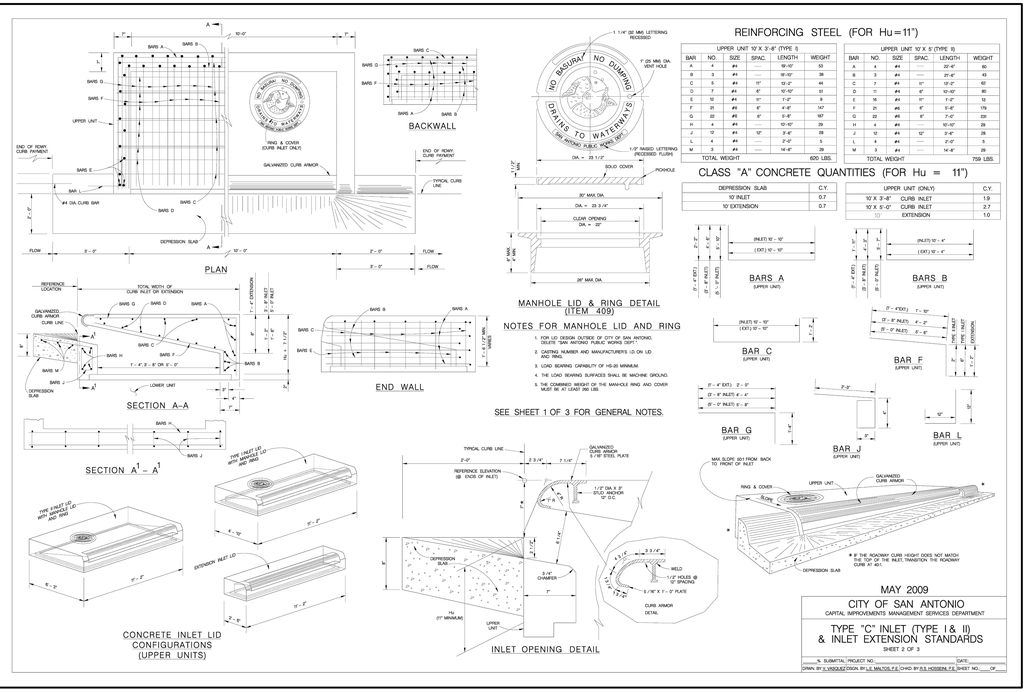

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1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
MISC. DETAIL SHEET (SHEET 4 OF 5)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
4.15

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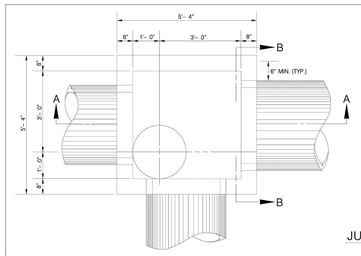
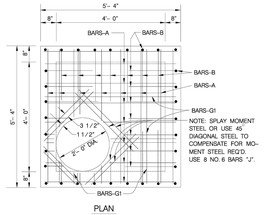


PLAN



PLAN

JUNCTION BOX TOP SLAB SHOWING STEEL

BARS-C

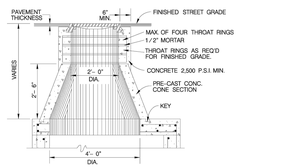
SCHEDULE FOR REINFORCING STEEL

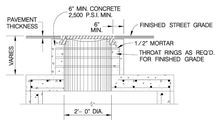
J/B NO. 1 & 4	SHAPE	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
4'X 4'	STRAIGHT	A	16	4	9" O.C.	5'- 1"	54
		B	32	5	8" O.C.	6'- 10"	228
		C	32	5	8" O.C.	4'- 3"	142
	STRAIGHT	D	16	4	9" O.C.	5'- 1"	54
	STRAIGHT	E	16	3	12" O.C.	3'-11"	24
	STRAIGHT	G	16	4	12" O.C.	5'-1"	54
	STRAIGHT	G_1	8	4	AS SHOWN	5'-1"	27
	STRAIGHT	H	20	3	12" O.C.	4'-5"	33
A=	STRAIGHT	J	8	6	3 1/2"	2'- 10"	34
						TOTAL	650 LBS.

CLASS "A" CONCRETE= 3.43 CU. YDS.
(DOES NOT EXCLUDE MANHOLE OPENINGS OR PIPE OPENING)

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

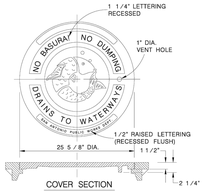
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3 /4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM A-15. THE DEFORMATION SHALL CONFORM TO ASTM A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER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





VARIATION OF VERTICAL STACK

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



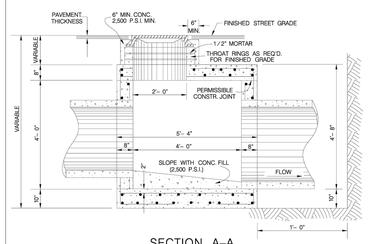
COVER SECTION

MANHOLE LID & RING DETAIL

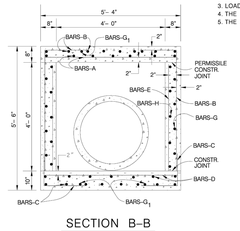
SCALE: 1 : 16

NOTES FOR MANHOLE LID AND RING

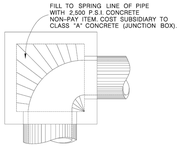
1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT.".
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER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



SECTION A–A



SECTION B–B



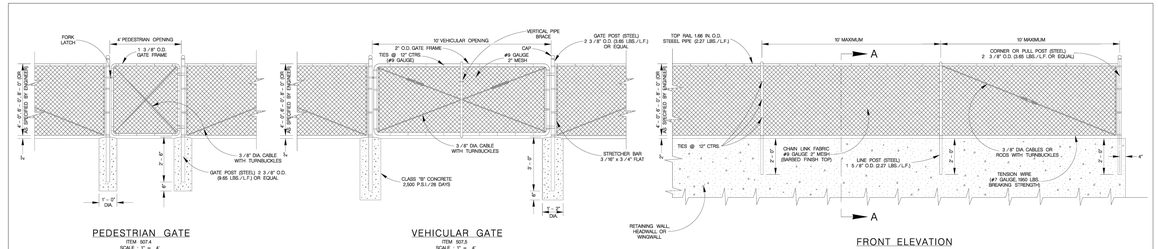
CURVED DEFLECTOR DETAIL

JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

4'x4'x4' JUNCTION BOX STANDARDS

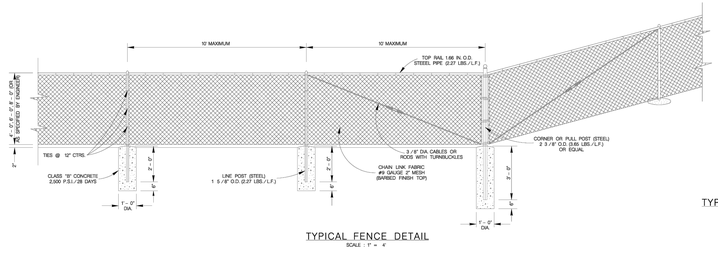
% SUBMITTAL | PROJECT NO.: | DATE:
DRAWN BY: | DSGN. BY: | CHKD. BY: | SHEET NO.: | OF:



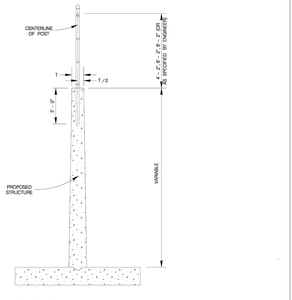
PEDESTRIAN GATE
ITEM 507.4
SCALE : 1" = 4'

VEHICULAR GATE
ITEM 507.3
SCALE : 1" = 4'

FRONT ELEVATION
SCALE : 1" = 4'



TYPICAL FENCE DETAIL
SCALE : 1" = 4'



SECTION VIEW "A–A"
SCALE : 1" = 4'

TYPICAL FOR FENCING IN RETAINING WALLS, HEADWALLS & WINGWALLS

GENERAL NOTES

1. ALL CONCRETE FOOTINGS SHALL BE CROWNED A MINIMUM OF 1" ABOVE THE EXISTING GROUND WHERE FOOTINGS ARE REQUIRED ONLY.
2. FENCING SHALL BE LOCATED IN RETAINING WALLS,HEADWALLS & WINGWALLS AT LOCATIONS SHOWN ON THE PLANS.
3. CORNER OR PULL POSTS WILL BE REQUIRED AT ALL END POINTS AND ANGLE POINTS.
4. CONCRETE FOR SEPARATE POST FOOTINGS SHALL BE IN ACCORDANCE WITH ITEM 360-B CLASS B CONCRETE.
5. PAYMENT SHALL BE MADE AS SPECIFIED IN ITEM NO.507 "CHAIN LINK WIRE FENCE OF CITY OF SAN ANTONIO" STANDARD SPECIFICATIONS FOR CONSTRUCTION.

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CHAIN LINK WIRE FENCE STANDARDS

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

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.467.4414

STATE OF TEXAS
GABRIEL ANDONIE SEGURA
137018
LICENSED PROFESSIONAL ENGINEER

02.12.2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

MISC. DETAIL (SHEET 5 OF 5)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

4.16

Date: 2/7/2025 2:54:22 PM
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COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR. PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

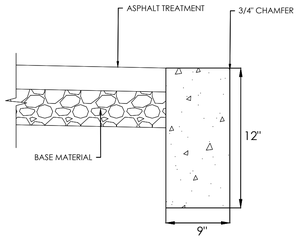
TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-900-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.



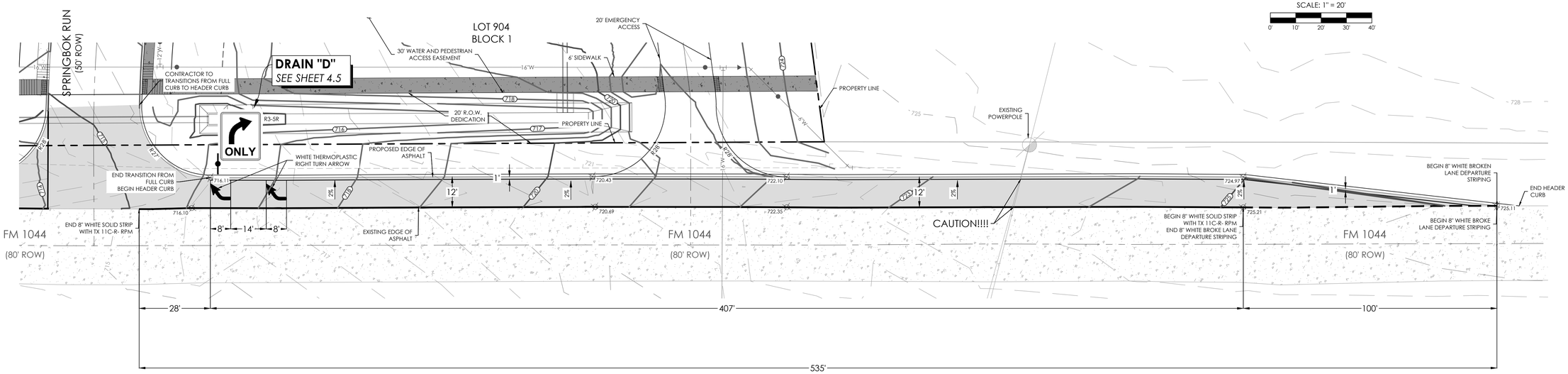
HEADER CURB DETAIL

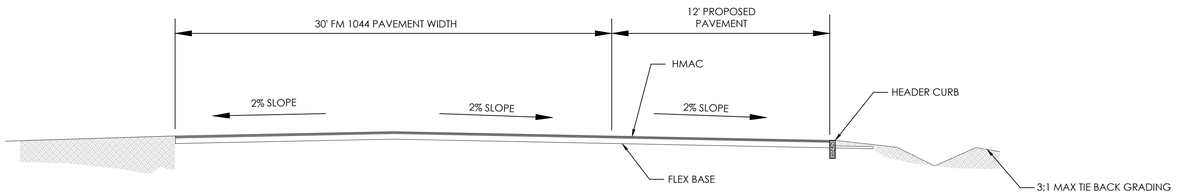
811
Know what's **below.**
Call before you dig.

LEGEND

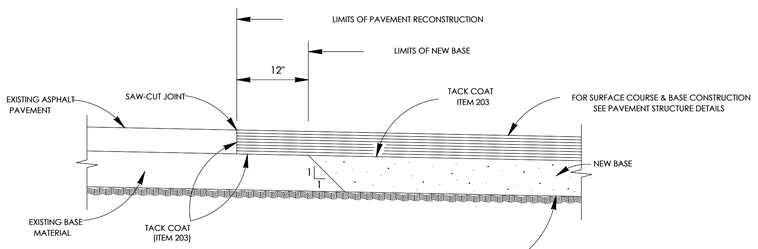
PROPOSED STRIPING	
PROPOSED PAVEMENT	
EXISTING PAVEMENT	
H.P.	HIGHPOINT
EOP	EDGE OF PAVEMENT
TOC	TOP OF CURB
ROW	RIGHT OF WAY
E.G.T.TV.E	ELECTRIC, GAS, TELEPHONE, & TELEVISION EASEMENT

SCALE: 1" = 20'
0' 10' 20' 30' 40'

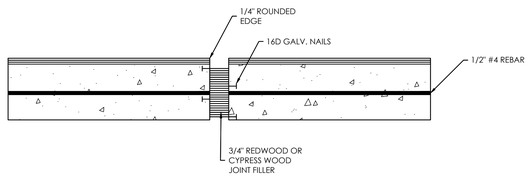




PROPOSED STREET SECTION - DECEL LANE

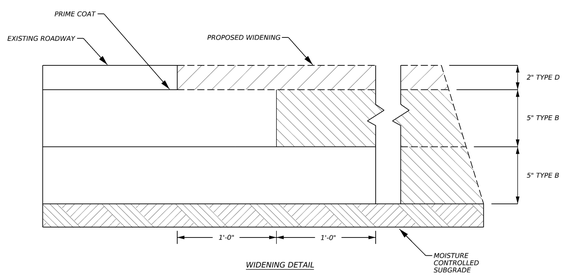


PAVEMENT JUNCTION DETAILS
N.T.S



EXPANSION JOINTS TO BE PLACED AT BEGINNINGS AND END OF CURVES, DRIVEWAYS, WHEELCHAIR RAMPS, INLETS ILLUMINATION/SIGNAL FOUNDATIONS AND OTHER FIXED OBJECTS.

TYPICAL CURB EXPANSION JOINT DETAIL



WIDENING DETAIL

GENERAL NOTES:

1. ROADWAY WIDENING FOR DECELERATION LANE, STREET, OR DRIVEWAYS WILL COMPLY WITH TXDOT SPECIFICATION 112, 132, 316, 340, AND 530.
2. FINISHED GRADING AT THE EDGE OF EXISTING PROPOSED ROADWAY PAVEMENT AND ALL DISTURBED SOILS WILL INCLUDE A LAYOR OF TOP SOIL TO BE PLACED AT A MINIMUM OF 4" DEPTH.
3. APPROVED COMPACTION BY PROOF ROLL WITH TXDOT INSPECTOR.

NOT TO SCALE

Texas Department of Transportation
NEW BRAUNFELS AREA OFFICE STANDARD
WIDENING DETAIL
STANDARD SHEET OF
CONT SECT JOB HIGHWAY
DIST COUNTY SHEET NO.

DATE: 8/24/16
NO. REVISIONS

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

Brett La Plante
03/31/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
FM 1044 RIGHT TURN LANE

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.0

Date: 2/7/2024 2:44:22 PM
R:\Davidson Homes\Blackwell II subdivision\CAD\Sheet\SHEETS_BLACKWELL.dwg

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COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR. PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

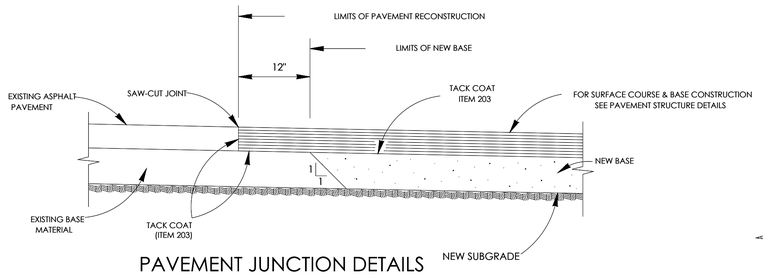
TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

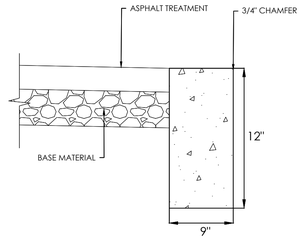
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.



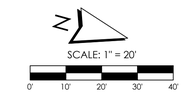
PAVEMENT JUNCTION DETAILS

N.T.S



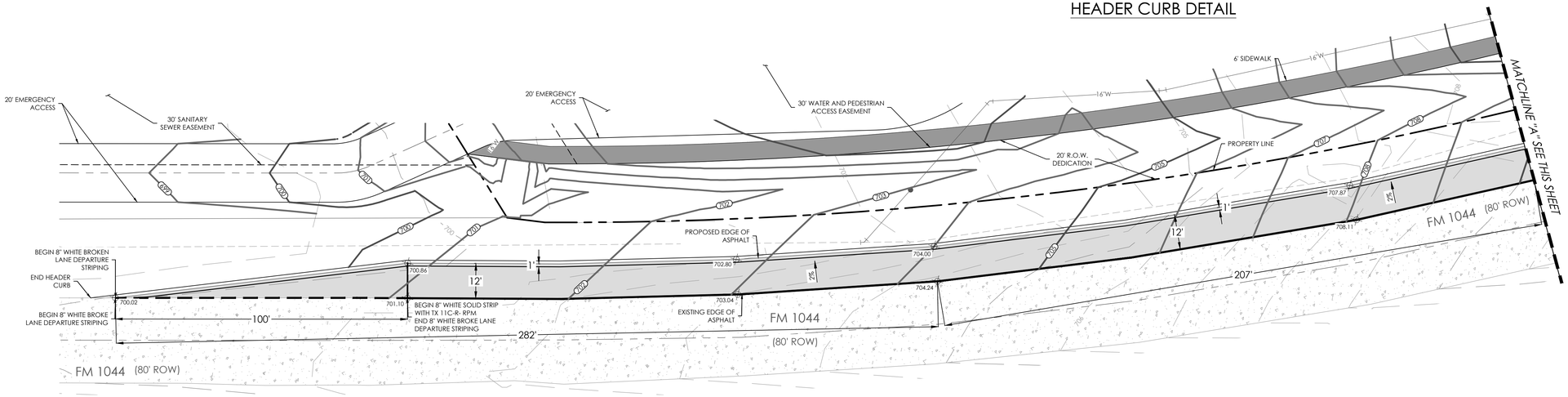
HEADER CURB DETAIL

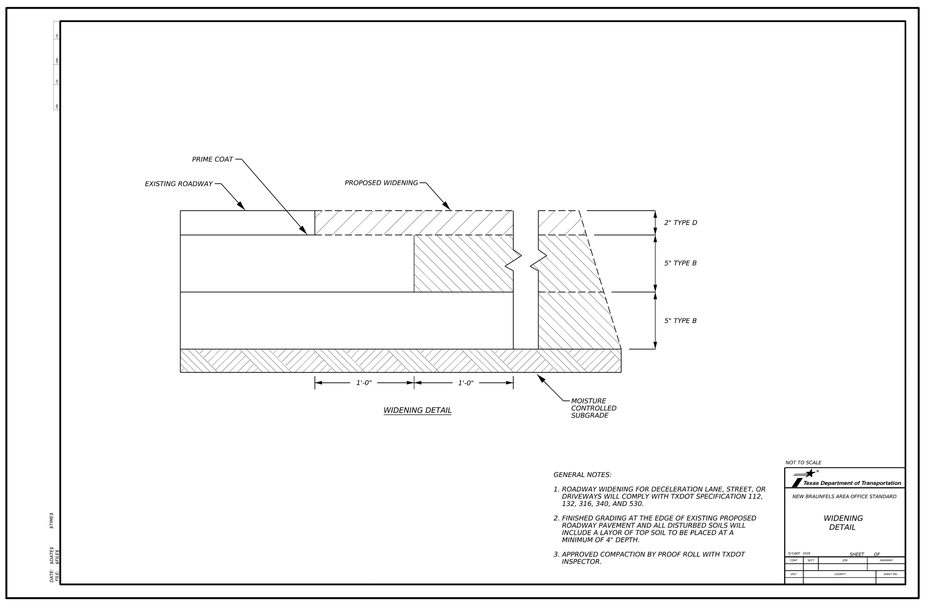
Know what's **below.**
Call before you dig.



LEGEND

PROPOSED STRIPING	
PROPOSED PAVEMENT	
EXISTING PAVEMENT	
H.P.	HIGHPOINT
EOP	EDGE OF PAVEMENT
TOC	TOP OF CURB
ROW	RIGHT OF WAY
E.G.T.TV.E	ELECTRIC, GAS, TELEPHONE, & TELEVISION EASEMENT





WIDENING DETAIL

GENERAL NOTES:

1. *ROADWAY WIDENING FOR DECELERATION LANE, STREET, OR DRIVEWAYS WILL COMPLY WITH TXDOT SPECIFICATION 112, 132, 316, 340, AND 530.*
2. *FINISHED GRADING AT THE EDGE OF EXISTING PROPOSED ROADWAY PAVEMENT AND ALL DISTURBED SOILS WILL INCLUDE A LAYOR OF TOP SOIL TO BE PLACED AT A MINIMUM OF 4" DEPTH.*
3. *APPROVED COMPACTION BY PROOF ROLL WITH TXDOT INSPECTOR.*

NOT TO SCALE

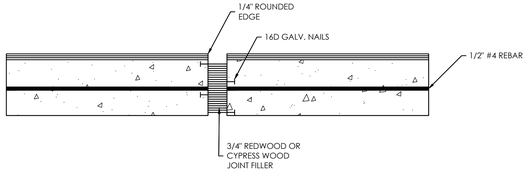
Texas Department of Transportation

NEW BRAUNFELS AREA OFFICE STANDARD

WIDENING DETAIL

DATE	BASED ON
8-1-95	8-1-95
8-1-95	8-1-95
8-1-95	8-1-95

DIST	COUNTY	SHEET NO.



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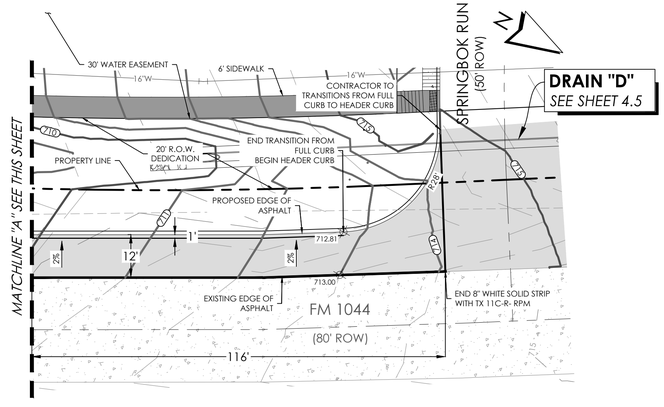
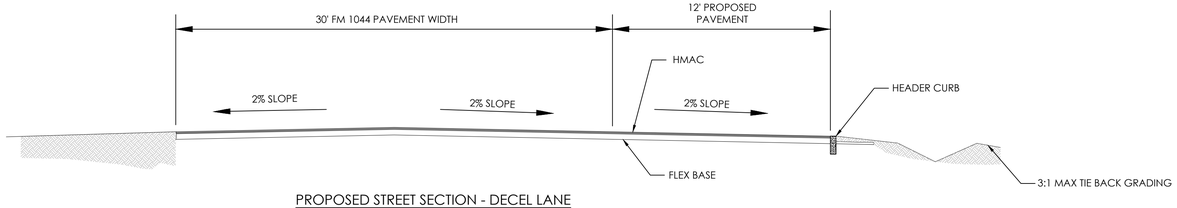
TYPICAL CURB EXPANSION JOINT DETAIL





PROPOSED STREET SECTION - DECEL LANE

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/31/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

FM 1044 ACCELERATION LANE

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.1

Date: 2/7/2024 2:44:23 PM
By: Davidson Homes\Blackwell Subdivision\CAD\Sheet\USCEL_BLACKWELL.dwg

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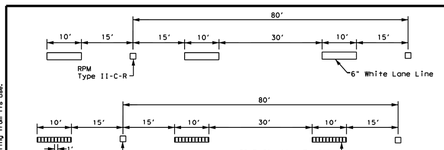
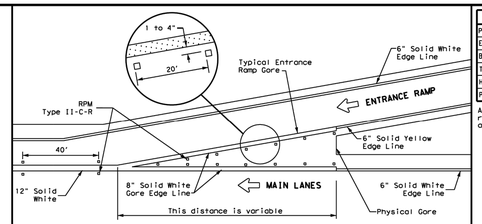
DATE:
FILE:



NOTE

Reflectorized raised pavement markers Type II-C-R shall be spaced on 80' centers with the clear face toward normal traffic and the red face toward wrong way traffic. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.

TRAFFIC LANE LINES PAVEMENT MARKING



TYPICAL ENTRANCE RAMP GORE MARKING

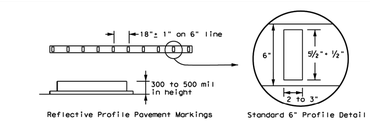
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

LEGEND	
⇦	Traffic flow
↱	Pavement marking arrows (white)
▫	Reflectorized Raised Markers (RPM) Type II-C-R

GENERAL NOTE

On concrete pavements the raised pavement markers shall be placed to one side of the longitudinal joints.

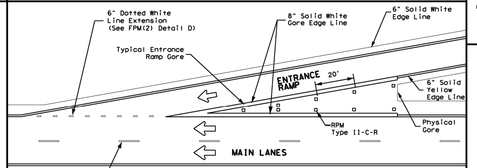


Reflective Profile Pavement Markings — Standard 6" Profile Detail

NOTE

Edge lines should typically be 6" wide and the materials shall be as specified in the plans. See details above if reflective profile pavement markings are to be used.

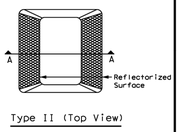
EDGE LINE PAVEMENT MARKINGS

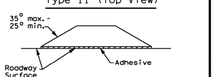


NOTE

See the Roadway Design Manual Chapter 3 to determine if a tapered acceleration lane may be used.

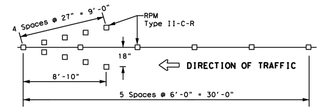
TAPERED ACCELERATION LANE





SECTION A

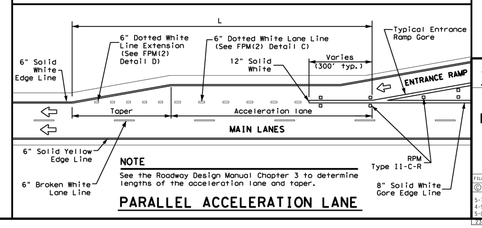
REFLECTORIZED RAISED PAVEMENT MARKER (RPM)



NOTES

1. Reflectorized raised pavement markers Type-II-C-R in the wrong way arrow shall have the clear face toward normal traffic and the red face toward the wrong way traffic.
2. Red reflectorized wrong way arrows, not to exceed two, may be placed on exit ramps. Locations of the arrows shall be as shown in the plans or as directed by the engineer.

WRONG WAY ARROW



NOTE

See the Roadway Design Manual Chapter 3 to determine lengths of the acceleration lane and taper.

PARALLEL ACCELERATION LANE

Texas Department of Transportation — Traffic Safety Division Standard

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS WITH RAISED PAVEMENT MARKERS

FPM(1)-22

FILE: fpm(11)-22.dgn — DN: TxDOT — CK: TxDOT — DW: TxDOT — CK: TxDOT
©TxDOT October 2022 — CONT — SECT — JOB — HIGHWAY
REVISIONS
5-74 8-00 2-12
4-92 2-08 10-22
5-00 2-10
DIST — COUNTY — SHEET NO.

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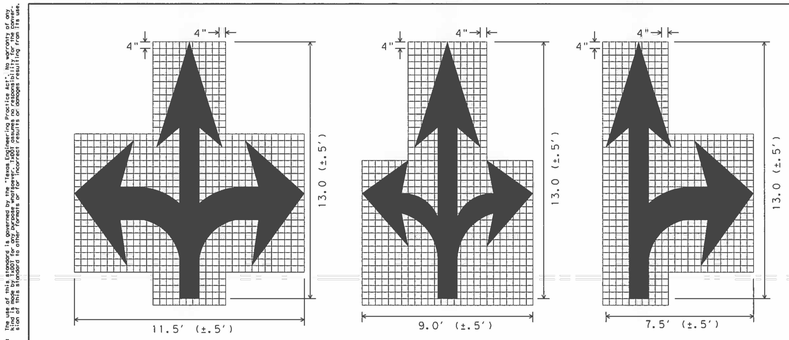
DATE:
FILE:



GENERAL NOTES:

1. Minimum 8 foot white markings should be used, unless otherwise noted. If message consists of more than one word, it should be placed with first word nearest the driver.
2. These details are standard size for normal installations; sizes may be reduced approximately one-third for low speed urban conditions, larger sizes may be necessary for freeways, interchange conditions or other special locations.
3. The longitudinal space between markings should be at least four times the height of the markings, on low speed roads, but should not exceed ten times the height under any condition.
4. Markings considered appropriate for use when warranted include the following:
   A. Regulatory
      STOP
      RIGHT (LEFT) TURN ONLY
      25 MPH
      SYMBOL ARROWS
   B. Warning
      STOP AHEAD
      SIGNAL AHEAD
      SCHOOL
      SCHOOL X-ING
      PED X-ING
      R X R (see RPM standard)
   C. Guide
      US XXX
      ROUTE XXX
      STATE XXX
      Other words or symbols may be necessary under certain conditions
5. Unwarranted use of pavement markings can result in unnecessary clutter and symbol markings should be no more than three lines.
6. The word "STOP" shall not be used on the pavement unless accompanied by a Stop line and Stop sign. The word "STOP" shall not be placed on the pavement in advance to a stop line, unless every vehicle is required to stop at all times.
7. Pavement markings should generally be no more than one lane in width, with School messages being the exception. For details of School and School crossing pavement markings, refer to Part VII of the "Texas Manual on Uniform Traffic Control Devices".
8. Spacing between letters should be approximately 4 inches. The width of letters may vary depending on the width of the travel lanes.
9. Lane-Use arrow markings may be used to convey either guidance or mandatory messages. Arrows used to convey a mandatory movement must be accompanied by standard signs and the pavement marking word "ONLY".
10. Pavement markings are to be located as specified elsewhere in the plans.

SPACING BETWEEN LINES OF PAVEMENT MARKINGS	
MPH	SPACING
≤45	MINIMUM = 4 TIMES THE LETTER HEIGHT
>45	MINIMUM = 4 TIMES THE LETTER HEIGHT; MAXIMUM = 10 TIMES THE LETTER HEIGHT

Texas Department of Transportation
Traffic Operations Division

STANDARD PAVEMENT MARKINGS (ARROWS)

PM(6)-01

©TxDOT March 2001 — DN: TxDOT — CK: TxDOT — DW: TxDOT — CK: TxDOT
REVISIONS — CONT — SECT — JOB — HIGHWAY
DIST — COUNTY — SHEET NO.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

11/03/2025

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

TXDOT DETAIL SHEET (SHEET 1 OF 4)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.2

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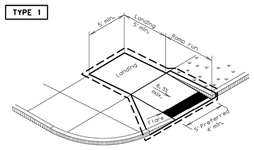
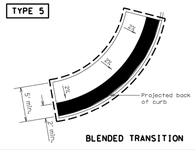
DATE:
FILE:

TYPE 1



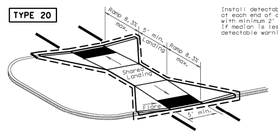
PERPENDICULAR CURB RAMP

TYPE 5



BLENDED TRANSITION

TYPE 20

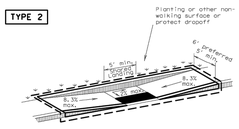


Install detectable warning surface at each end of cut-through ramp with minimum 2" smooth surface between. If median is less than 6' wide, eliminate detectable warning surfaces.

TYPE 21

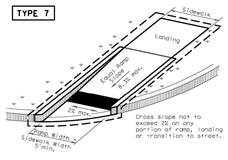
CURB RAMPS AT MEDIAN ISLANDS

TYPE 2



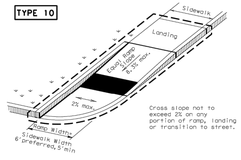
PARALLEL CURB RAMP
(Use only where water will not pond in the landing.)

TYPE 7



(Sidewalk set back from curb)

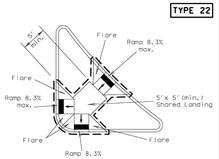
TYPE 10



(Sidewalk adjacent to curb)

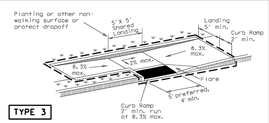
DIRECTIONAL RAMPS WITHIN RADIUS

TYPE 22

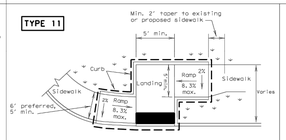


COMBINATION ISLAND RAMPS

TYPE 3

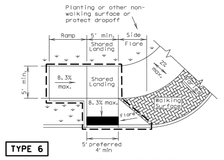


TYPE 11



OFFSET PARALLEL CURB RAMP

TYPE 6



COMBINATION CURB RAMPS

NOTES / LEGEND:

See General Notes on sheet 2 of 4 for more information.

Denotes planting or non-walking surfaces not part of pedestrian circulation path.

Ramp Limits of Payment

Detectable Warning Surface

SHEET 1 OF 4

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-12A

FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT	CK: VP
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REVISIONS				
VP June 13, 2012	DIST	COUNTY		SHEET NO.

DATE:
FILE:

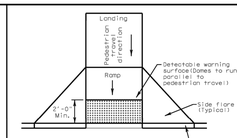
General Notes

Curb Ramps

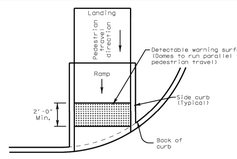
1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
4. Landings shall be 5'x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever an accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

Detectable Warning Material

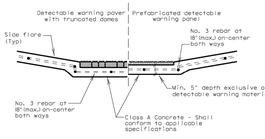
18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.



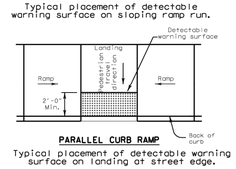
PERPENDICULAR CURB RAMP
Typical placement of detectable warning surface on sloping ramp run.



DIRECTIONAL CURB RAMP
Typical placement of detectable warning surface on sloping ramp run.



SECTION: CURB RAMP AT DETECTABLE WARNING



PARALLEL CURB RAMP
Typical placement of detectable warning surface on landing at street edge.

DETECTABLE WARNINGS

Detectable Warning Pavers

24. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
25. Lay full-size units first followed by closure units consisting of at least 25 percent of a full unit. Cut detectable warning paver units using a power saw.

Sidewalks

26. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
27. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
28. Street grades and cross slopes shall be as shown elsewhere in the plans.
29. Changes in level greater than 1/4 inch are not permitted.
30. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than 5% must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 505.
31. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
32. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
33. Sidewalk details are shown elsewhere in the plans.

SHEET 2 OF 4

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-12A

FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT	CK: VP
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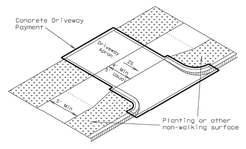
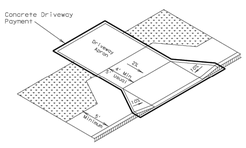
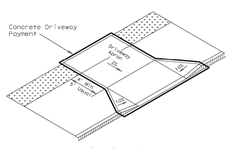
REVISIONS				
VP June 13, 2012	DIST	COUNTY		SHEET NO.



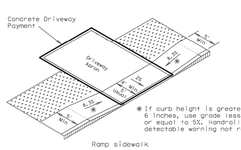
Setback sidewalk



Apron offset sidewalk



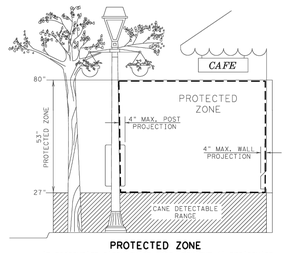
Wide sidewalk



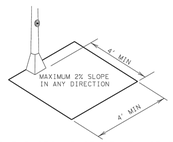
*If curb height is greater than 6 inches, use grade less than or equal to 5%. Handrail and detectable warning not required.

Ramp sidewalk

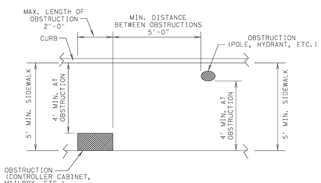
SIDEWALK TREATMENT AT DRIVEWAYS



PROTECTED ZONE
In pedestrian circulation area, maximum 4" projection for post or wall mounted objects between 27"and 80" above the surface.

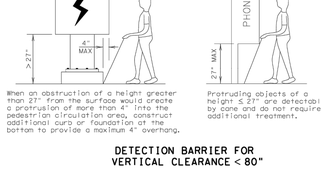


CLEAR GROUND SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



PLAN VIEW

PLACEMENT OF STREET FIXTURES
(ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' x 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.)



DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

SHEET 3 OF 4

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-12A

FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT	CK: VP
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REVISIONS				
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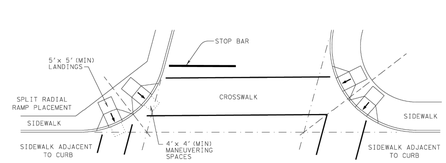
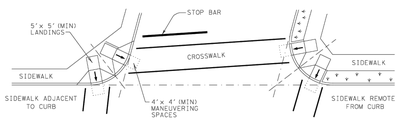
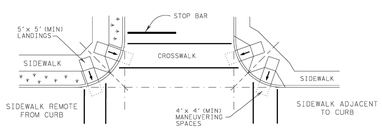


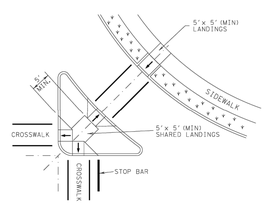
SKEWED INTERSECTION WITH "LARGE" RADIUS



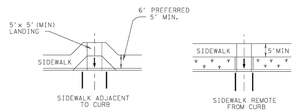
SKEWED INTERSECTION WITH "SMALL" RADIUS



NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND



MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

TYPICAL CROSSING LAYOUTS

SHEET 4 OF 4

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-12A

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BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

Brett LaPlante
11/03/2025

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

TXDOT DETAIL SHEET (SHEET 2 OF 4)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.3

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Date: 2/7/2024 2:44:22 PM
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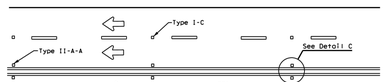
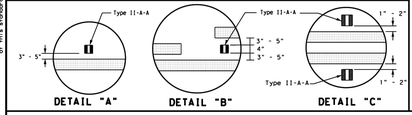
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

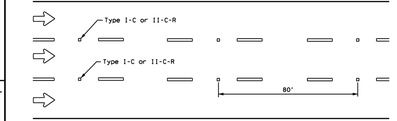
CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS



CENTERLINE & LANE LINES
FOR FOUR LANE TWO-WAY ROADWAYS



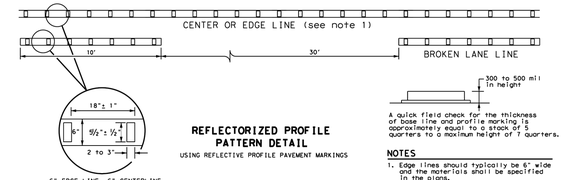
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

See Note 3.



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKERS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

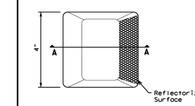
1. Edge lines should typically be 6" wide and the material is shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

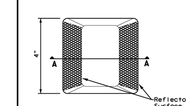
1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements, the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians, and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

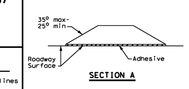
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation — Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS PM(2)-22

FILE:	pm2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS					
4-97	8-00 5-00				
4-98	3-03 12-22				
9-00	2-10	DIST	COUNTY		SHEET NO.

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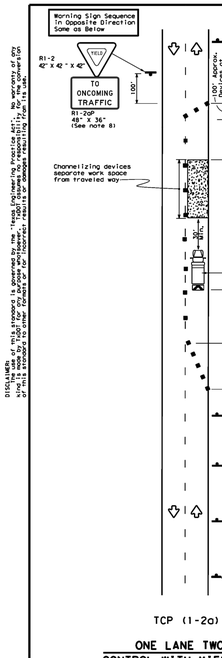
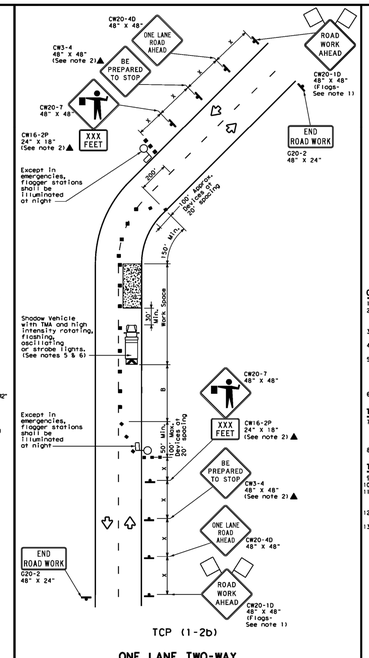
Warning Sign Sequence in Opposite Direction Same as Below



TCP (1-2a)

ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS

(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY CONTROL WITH FLAGGERS

LEGEND

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "a" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	L = WS²/60	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45		450'	495'	540'	45'	90'	320'	195'	360'
50	L=WS	500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

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

TYPICAL USAGE

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation — Traffic Operations Division Standard

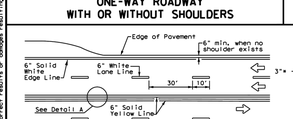
TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-18

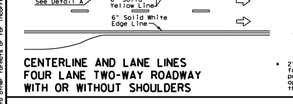
FILE:	tcp1-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS					
4-90	4-98				
3-94	2-12				
1-97	2-18	DIST	COUNTY		SHEET NO.

TCP(1-2)-18

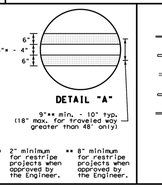
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the Texas Department of Transportation for any purpose whatsoever. The Texas Department of Transportation shall not be liable for any damages resulting from the incorrect results or damages resulting from its use.



EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

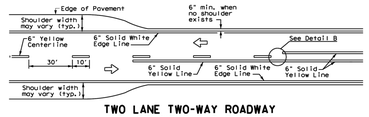


CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



DETAIL "A"

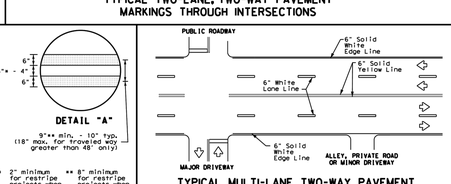
* 2" minimum for restripe projects when approved by the Engineer.
** 6" minimum for restripe projects when approved by the Engineer.



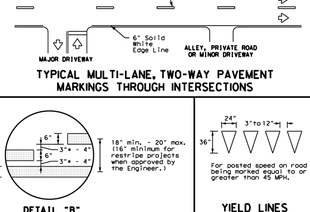
TWO LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

DETAIL "B"

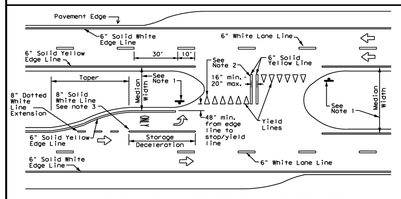
* 2" minimum for restripe projects when approved by the Engineer.



TYPICAL TWO-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

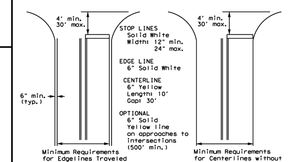
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

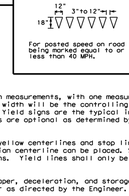
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways



Texas Department of Transportation — Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-22

FILE:	pm1-22.dgn	DN:	CK:	DW:	CK:
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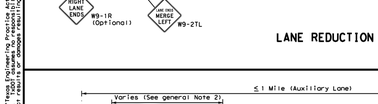
REVISIONS					
11-78	8-00 5-00				
8-95	3-03 12-22				
5-00	2-10	DIST	COUNTY		SHEET NO.

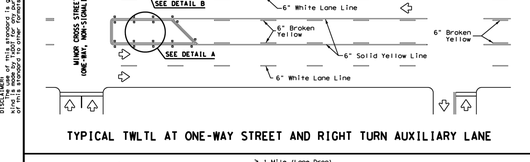


LANE REDUCTION

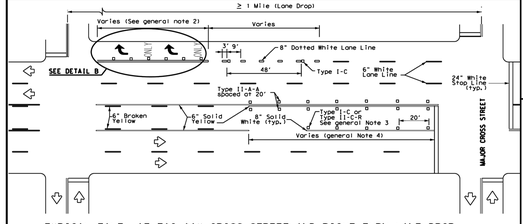
NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	L = WS²/60
35 MPH	565	
40 MPH	670	
45 MPH	775	
50 MPH	885	L=WS
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	



TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP

A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

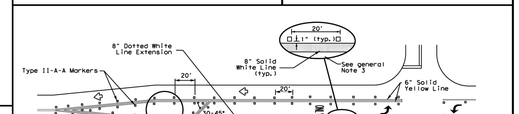
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

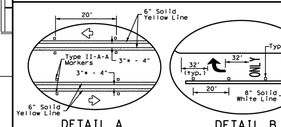
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection are required to make turns. Lane use word and arrow markings should be installed in such a way as to allow ease of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation — Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3)-22

FILE:	pm3-22.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS					
4-98	3-03 8-00				
5-00	2-10 12-22				
9-00	2-12	DIST	COUNTY		SHEET NO.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

Brett LaPlante
03/31/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

TXDOT DETAIL SHEET (SHEET 3 OF 4)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.4

THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

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R:\Davidson Homes\Blackwell Subdivision\CAD\Sheet\DETAIL SHEETS\3 OF 4\TXDOT DETAIL SHEET (SHEET 3 OF 4).dwg

TXDOT GENERAL NOTES:

1. THE DESIGN AND CONSTRUCTION SHALL PROVIDE FOR PRESERVATION OF ALL EXISTING FEATURES IN OR NEAR THE STATE RIGHT-OF-WAY BEING AFFECTED BY THE WIDENING. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING DRIVEWAY GATE SET-BACKS, RELOCATION OF ELECTRONIC PRIVATE PROPERTY GATES, MAILBOX TURNOUTS, MAILBOXES AND SUPPORTS, CATTLE GUARDS, ROADWAY SIGNING, EXISTING RIP-RAP OR OTHER PERMANENT EROSION CONTROL FEATURES, DIVERSIONARY BERMS, SWALES, DITCHES, AMOUNT AND CONFIGURATION OF DRIVEWAY FLARES AND DRIVEWAY CENTERLINE PROFILE, GUARDRAIL AND END TREATMENTS, ETC. EXISTING DRIVEWAY CULVERTS AND SAFETY END TREATMENTS IF AFFECTED BY ROADWAY WIDENING SHALL BE RECONSTRUCTED TO PRESERVE EXISTING FRONT SLOPES. THE COORDINATION OF ITEMS THAT AFFECT EXISTING PRIVATE PROPERTY ACCESS, MAIL DELIVERY, ETC. IS THE RESPONSIBILITY OF THE DEVELOPER. THE WRITTEN CONCURRENCE OF ANY AFFECTED PROPERTY OWNERS FOR CONSTRUCTION AFFECTING THEIR DRIVEWAYS OR MAILBOX TURNOUTS SHALL BE OBTAINED BY THE DEVELOPER AND PROVIDED TO TXDOT PRIOR TO TXDOT DRIVEWAY PERMITS BEING ISSUED.

2. FOR WORK IN STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR COORDINATION OF, OBTAINING PERMITS FOR, AND COMPLYING WITH ANY AND ALL STATE AND FEDERAL REGULATORY AGENCIES AND ALL APPLICABLE LAWS, RULES, AND REGULATIONS PERTAINING TO THE REGULATION OF DRAINAGE, PRESERVATION OF CULTURAL RESOURCES, NATURAL RESOURCES, AND THE ENVIRONMENT. THE DEVELOPER SHALL BE RESPONSIBLE FOR DETERMINING IF THE PROJECT IS IN AN ENVIRONMENTALLY SENSITIVE AREA SUCH AS WITHIN THE RECHARGE OR CONTRIBUTING ZONE OF PROTECTED AQUIFERS, AND SHALL ACT IN ACCORDANCE WITH ALL RESOURCE AGENCY REGULATIONS.

   a. IF TXDOT HAS A CZP OR WPAP ON FILE WITH TCEQ, THE DEVELOPER SHALL BE RESPONSIBLE FOR AMENDING TXDOT'S PERMIT, OBTAINING TCEQ APPROVAL, AND PROVIDING TXDOT WITH THE APPROVED AMENDED PERMIT. THE AMENDED PERMIT SHALL ADDRESS THE RELOCATION OF TXDOT'S PERMANENT BMP'S, INCLUDING VEGETATIVE FILTER STRIPS THAT MAY BE IMPACTED BY WORK DONE WITHIN TXDOT ROW.
   b. IF TXDOT DOES NOT HAVE A CZP OR WPAP ON FILE WITH TCEQ, ANY PERMANENT BMP'S, INCLUDING VEGETATIVE FILTER STRIPS, THAT MAY BE REQUIRED IN ORDER TO TREAT ADDITIONAL IMPERVIOUS COVER PLACED IN TXDOT ROW SHALL BE LOCATED IN PRIVATE PROPERTY AND THE DEVELOPER WILL PROVIDE TXDOT WITH EVIDENCE OF TCEQ APPROVAL OF THE ADDITIONAL IMPERVIOUS COVER.
   c. THE DEVELOPER SHALL NOT OPERATE UNDER RESOURCE AGENCY ENVIRONMENTAL CLEARANCE OF A PREVIOUS OR ONGOING TXDOT PROJECT, BUT SHALL OBTAIN SEPARATE RESOURCE/ENVIRONMENTAL AGENCY CLEARANCE.

3. IF WASTE AREAS OR MATERIAL SOURCE AREAS RESULT FROM THIS PROJECT, THE CONTRACTOR SHALL FOLLOW ALL SPECIFICATIONS IN THE PLANS UNLESS SUPERSEDED BY THE REQUIREMENTS OF THE TEXAS AGGREGATE QUARRY AND PIT SAFETY ACT. IN ADDITION, IT IS REQUESTED THAT THESE AREAS NOT BE VISIBLE FROM ANY HIGHWAY ON THE STATE SYSTEM.

   a. ANY MATERIALS REMOVED AND NOT REUSED AND DETERMINED TO BE SALVAGEABLE SHALL BE STORED WITHIN THE PROJECT LIMITS AT AN APPROVED LOCATION OR DELIVERED UNDAMAGED TO THE STORAGE YARD AS DIRECTED. PROPERLY DISPOSE UNSALVAGEABLE MATERIALS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. DEFACE TRAFFIC SIGNS SO THAT THEY WILL NOT REAPPEAR IN PUBLIC AS SIGNS.

4. ANY TREES EXISTING WITHIN STATE RIGHT OF WAY ARE THE NATURAL RESOURCES OF THE STATE AND WILL BE PROTECTED. IN THE EVENT THAT TREES MUST BE REMOVED, TXDOT WRITTEN PERMISSION WILL BE RECEIVED IN ADVANCE AND WILL IDENTIFY THE SPECIFIC TREES BY SPECIES, DIAMETER AND LOCATION TO BE REMOVED. THE DEVELOPER WILL BE FINED FOR ANY UNPERMITTED REMOVAL OF TREES.

   a. IN THE EVENT THAT THERE ARE AREAS OF PUBLIC ROW DEDICATION OR RESERVATION RESULTING FROM THE PLATTING PROCESS, THE AREA WITHIN THE PUBLIC ROW DEDICATION DOES NOT PASS INTO TXDOT OWNERSHIP AS A RESULT OF PLATTING. HOWEVER, THE DEVELOPER WILL REMOVE ANY OLD FENCING, GATES, AND UNSIGHTLY VEGETATION WITHIN THE AREA OF THE ROW DEDICATION, LEAVING IT IN AN AESTHETICALLY PLEASING CONDITION. THE AREA OF ROW DEDICATION SHALL NOT BE MOWED OR OTHERWISE MAINTAINED BY TXDOT. PRIOR TO REMOVAL OF TREES IN THE AREA OF ROW DEDICATION, THE TREES SHALL FIRST BE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL TREE PROTECTION ORDINANCES AND THE WRITTEN CONCURRENCE OF THE LOCAL JURISDICTION SHALL BE PROVIDED TO TXDOT.

5. THE DEVELOPER SHALL MAINTAIN AT THE PROJECT SITE, AND MAKE AVAILABLE UPON REQUEST, COPIES OF ALL APPROVED JOINT ENVIRONMENTAL PLANS AND PERMITS RELATING TO WORK IN STATE RIGHT OF WAY.

6. PRIOR TO BEGINNING GRADING ACTIVITY, THE CONTRACTOR WILL SET AND MAINTAIN ROADWAY STATIONING, CONTROL POINTS, MARKS, STAKES TO ESTABLISH LINES, SLOPES, GRADES AND CENTERLINES.

7. ANY SLOPES IN STATE RIGHT OF WAY WHICH BECOME STEEPER THAN 3:1 AS A RESULT OF THE WORK WILL BE TREATED WITH 4" THICK REINFORCED CONCRETE RIP-RAP AND BE PROTECTED BY INSTALLATION OF GUARDRAIL AND END TREATMENTS. THIS MAY REQUIRE ADDITIONAL RIP-RAP, GUARDRAIL, OR END TREATMENTS BEYOND THAT SHOWN IN THE PLANS.

   a. UNLESS OTHERWISE SHOWN ON THE PLANS, WHERE EXISTING CONCRETE RIP-RAP IS REMOVED, MODIFIED OR EXTENDED, THE PORTION TO BE REMOVED SHALL BE NEATLY SAW-CUT PRIOR TO REMOVAL AND THE NEW RIP-RAP SHALL BE FORMED TO MATCH THE EXISTING LINES AND GRADES OF THE EXISTING RIP-RAP AND SHALL BE DOWELED INTO THE EXISTING RIP-RAP WITH #3 BARS PLACED AT 12" ON CENTERS. THE DOWEL BARS SHALL BE EPOXIED IN PLACE WITH EPOXY MEETING TXDOT REQUIREMENTS, TO A MINIMUM EMBEDMENT LENGTH OF 9". THIS SHALL APPLY TO ANY TYPE OF CONCRETE RIP-RAP INCLUDING MOW STRIP FOR CABLE BARRIER AND GUARDRAIL SYSTEMS.

8. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE TXDOT MAINTENANCE OFFICE A MINIMUM OF 48 HOURS PRIOR TO COMMENDING WORK IN STATE RIGHT OF WAY TO SCHEDULE A PRECONSTRUCTION MEETING.

   a. DUANE HOFFERICHTER (830) 609-0707 IN COMAL COUNTY (NEW BRAUNFELS)
   b. TRAVIS YOUNG (830) 303-0130 IN GUADALUPE COUNTY (SEGUIN)
   c. JASON PFEIL, (830) 393-3144 IN WILSON COUNTY (FLORESVILLE)

9. STATE RIGHT OF WAY SHALL NOT BE USED AS AN AREA FOR CONTRACTOR PARKING OR FOR STAGING THE RECEIPT OF MATERIALS OR EQUIPMENT.

10. TRAFFIC CONTROL AND CONSTRUCTION BARRICADES SHALL MEET THE REQUIREMENTS OF THE TEXAS MUTCD.
11. THE CONTRACTOR SHALL PROVIDE ADVANCE NOTIFICATION TO THE ENGINEER OF IMPENDING/UPCOMING LANE CLOSURES FOR ALL TEMPORARY AND/OR PERMANENT LANE, RAMP, CONNECTOR, FRONTAGE, SHOULDER, MEDIAN CROSSOVER, ETC. CLOSURES OR DETOURS.

12. ACCESS TO ADJOINING PROPERTY SHALL BE MAINTAINED AT ALL TIMES.

13. UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE AREA ENGINEER OR MAINTENANCE SUPERVISOR, DAILY LANE CLOSURES SHALL BE LIMITED ACCORDING TO THE FOLLOWING RESTRICTIONS:
   a. NIGHTTIME: MAINTENANCE SUPERVISOR AND/OR AREA ENGINEER APPROVAL REQUIRED (WITH UNIFORMED OFF DUTY LAW ENFORCEMENT OFFICERS).
   b. WEEKEND CLOSURES: MAINTENANCE SUPERVISOR AND/OR AREA ENGINEER APPROVAL REQUIRED.
   c. WEEKDAYS: LANE CLOSURES SHALL NOT BE PLACED BETWEEN 7:00 A.M. AND 9:00 A.M., AND 4:00 P.M AND 6:00 P.M.

14. NO LANE CLOSURES OR ROADWAY CLOSURES WILL BE PERMITTED FOR THE FOLLOWING KEY DATES AND/OR SPECIAL EVENTS:
   a. BETWEEN DECEMBER 15 AND JANUARY 1.
   b. WEDNESDAY BEFORE THANKSGIVING THRU THE SUNDAY AFTER THANKSGIVING
   c. SATURDAY AND SUNDAY BEFORE MEMORIAL DAY AND LABOR DAY
   d. SATURDAY OR SUNDAY WHEN JULY 4 FALLS ON A FRIDAY OR MONDAY.

15. AT NO TIME WILL THE ROADWAY TRAVEL WAY BE BLOCKED.

16. LANE CLOSURES WILL ONLY BE PERMITTED WITH 48-HOUR PRIOR APPROVAL OF THE TXDOT MAINTENANCE SUPERVISOR. LANE CLOSURES WILL BE PERMITTED ONLY BETWEEN 9: 00 A.M. AND 4: 00 P.M. MONDAY THROUGH FRIDAY.
   a. FOR LANE CLOSURES ON TWO-LANE TWO-WAY ROADWAYS, INCLUDING DURING PILOT CAR OPERATIONS, FLAGGERS SHALL BE PLACED AT THE BEGINNING AND END OF THE WORK ZONE AS WELL AS AT EACH INDIVIDUAL DRIVEWAY AND SIDE ROAD INTERSECTION WITHIN THE LIMITS OF THE WORK ZONE TO CONTROL, WARN, AND DIRECT SIDE ROAD AND DRIVEWAY TRAFFIC OF THE CHANGE IN TRAFFIC OPERATIONS. WHENEVER ONE WAY TRAFFIC CONTROL IS ACCOMPLISHED BY TRAFFIC SIGNALS WORK ZONE FLAGGERS WILL BE SIMILARLY STATIONED AT EACH INDIVIDUAL DRIVEWAY AND SIDE ROAD INTERSECTION WITHIN THE LIMITS OF THE WORK. ALL FLAGGERS SHALL BE IN CONSTANT RADIO CONTACT.

17. A MINIMUM 3:1(H:V) TEMPORARY SAFETY SLOPE OF STABLE COMPACTED MATERIAL SHALL BE REQUIRED ADJACENT TO THE STATE HIGHWAY EDGE OF PAVEMENT AT ALL TIMES DURING NON-WORKING HOURS.

18. ONLY ONE SIDE OF THE ROADWAY SHALL BE UNDER CONSTRUCTION AT A TIME. WORK SHALL BE COMPLETED, AND PAVEMENT EDGES BACKFILLED ON ONE SIDE OF THE ROAD BEFORE WORK MAY BEGIN ON THE OPPOSITE SIDE OF THE ROADWAY.

19. ALL MILLING, PAVING, AND SEAL COAT OPERATIONS SHALL PROCEED IN THE DIRECTION OF TRAFFIC.
20. ANY PAVEMENT EDGE DROP-OFFS BETWEEN 1 AND 2 INCHES IN HEIGHT SHALL HAVE CW 8-11 WARNING SIGNS. ANY PAVEMENT EDGE DROP-OFF 2 INCHES OR GREATER SHALL HAVE A 3:1 COMPACTED SAFETY SLOPE AND CW 8-9A OR CW 8-11 SIGNS PLUS CHANNELIZING DEVICES. PAVEMENT EDGES SHALL BE SHOULDERED UP WITH COMPACTED EMBANKMENT MATERIAL AND 4 INCHES OF TOPSOIL AS SOON AS POSSIBLE AFTER PAVING IS COMPLETED ON THE SIDE OF THE ROAD BEING WIDENED.

21. PROOF-ROLLING OF SUBGRADE IS REQUIRED AND SHALL BE WITNESSED BY TXDOT PRIOR TO PLACEMENT OF PAVEMENT STRUCTURE UNLESS OTHERWISE APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR. THE REQUIREMENT FOR PROOF-ROLLING OF SUBGRADE IS NOT SUPERSEDED BY ANY OTHER REQUIREMENTS INCLUDING THOSE OF ANY GEOTECHNICAL REPORT.

22. ALL FLEXIBLE BASE SHALL HAVE A MINIMUM PLASTICITY INDEX OF 4.

23. ALL COURSES OF ASPHALT CONCRETE PAVEMENT (REGARDLESS OF TYPE) SHALL BE PLACED WITH ASPHALT PAVING EQUIPMENT MEETING THE REQUIREMENTS OF THE 2024 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES, ITEM 320, "EQUIPMENT FOR ASPHALT CONCRETE PAVEMENT", UNLESS OTHERWISE APPROVED BY THE MAINTENANCE SUPERVISOR.
   a. TACK COAT SHALL BE APPLIED IN ACCORDANCE WITH THE 2024 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES.

24. ALL SURFACE AGGREGATES SHALL MEET THE REQUIREMENTS OF TXDOT FRICTION CLASSIFICATION "B" AND SHALL MEET PG BINDER GRADE 70-22.

25. ALL SURFACE ASPHALT CONCRETE PAVEMENT SHALL BE UNDER-SEALED WITH A ONE COURSE SURFACE TREATMENT, UNLESS OTHERWISE DIRECTED.

26. ALL ASPHALTIC CONCRETE PAVEMENT USED IN BASE COURSES SHALL BE TYPE "A" OR "B" AND WILL MEET PG BINDER GRADE 64-22.

27. ALL PAVEMENT WIDENING INCLUDING SHOULDERS SHALL MATCH THE EXISTING PAVEMENT CROSS SLOPE.

28. ALL PAVEMENT MARKINGS SHALL BE TYPE I THERMOPLASTIC (100MIL) WITH UNDER-SEAL MEETING THE THE 2024 STANDARD SPECIFICATIONS ITEM 666, RETRO REFLECTORIZED PAVEMENT MARKINGS. THE CONTRACTOR SHALL PLACE GUIDE MARKS IN ACCORDANCE WITH ITEM 666 AND SHALL MAKE ARRANGEMENTS FOR TXDOT INSPECTION OF THE PAVEMENT MARKING LAYOUT PRIOR TO PLACEMENT OF STRIPING. EQUIPMENT USED FOR THE PLACEMENT OF STRIPING SHALL MEET THE PRODUCTION REQUIREMENTS OF ITEM 666 UNLESS OTHERWISE APPROVED IN ADVANCE BY THE TXDOT MAINTENANCE SUPERVISOR.

29. ALL MATERIALS AND CONSTRUCTION METHODS USED IN STATE RIGHT OF WAY SHALL MEET TXDOT SPECIFICATIONS. THIS SUPERSEDES ALL OTHER SPECIFICATIONS IN THE PLANS.

30. ALL PORTLAND CEMENT CONCRETE PAVEMENT IN STATE ROW SHALL MEET THE REQUIREMENTS OF THE 2024 STANDARD SPECIFICATION ITEM 360, CONCRETE PAVEMENT, AND SHALL BE BATCHED AT CONCRETE PLANTS
    HAVING A CURRENT APPROVED MIX DESIGN. CLASS P CONCRETE SHALL HAVE 7- AND 28-DAY COMPRESSIVE STRENGTH OF 3,200 PSI AND 4,400 PSI RESPECTIVELY.

31. WHEN WIDENING EXISTING CONCRETE PAVEMENTS, JOINTS IN THE NEW PAVEMENT SHALL MATCH JOINTS IN EXISTING PAVEMENT AND CURB.

32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT TXDOT APPROVED MATERIALS, MIX DESIGNS, APPROVED SOURCES AND PRODUCTS ARE USED FOR ALL WORK IN STATE ROW. THE CONTRACTOR SHALL ARRANGE FOR THE SERVICES OF A QUALIFIED TESTING LABORATORY FOR ALL ITEMS REQUIRING TESTING AND SHALL NOTIFY TXDOT OF ANY DISCREPANCIES BETWEEN TEST RESULTS AND TXDOT SPECS IN A TIMELY MANNER. THE CONTRACTOR SHALL PROVIDE TO TXDOT INVOICES AND TESTING RESULTS AS SOON THEY ARE AVAILABLE. FAILURE TO DO THIS SHALL RESULT IN REJECTION OF THE WORK.

33. SAWING OF CONTRACTION/CONSTRUCTION JOINTS IN CONCRETE PAVEMENT SHALL BE ACCOMPLISHED AS SOON AS PERSONNEL CAN WALK ON THE CONCRETE WITHOUT DAMAGING THE SURFACE REGARDLESS OF TIME OF DAY OR WEATHER CONDITIONS. STAND-BY POWER DRIVEN CONCRETE SAWS SHALL BE PROVIDED DURING THE SAWING OPERATION. CURING COMPOUND SHALL BE RE-APPLIED TO THE SAWED JOINT IMMEDIATELY UPON SAWING THE JOINT.

34. GUARDRAIL SET'S SHALL BE TYPE 3 UNLESS OTHERWISE APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR. GUARDRAIL MOWSTRIP PLACED ADJACENT TO OTHER CONCRETE RIP-RAP WILL BE SEPARATED BY A FORMED CONSTRUCTION JOINT.

35. ANY CONCRETE CURB TO BE REMOVED SHALL BE SAW-CUT AT THE LIMITS OF REMOVAL AND BE REMOVED ENTIRELY. SLICING THE TOP PORTION OF THE CURB OFF AND LEAVING REMAINING PORTION OF CURB IN PLACE IS UNACCEPTABLE.

36. ANY DAMAGE TO TXDOT FACILITIES SHALL BE REPAIRED AT NO EXPENSE TO TXDOT, AND TO TXDOT'S SATISFACTION.

37. SIDEWALKS PLACED IN THE HIGHWAY RIGHT-OF-WAY SHALL BE A MINIMUM WIDTH OF 5' OR COMPLY WITH THE MORE STRINGENT WIDTH AS REQUIRED BY CITY ORDINANCE AND SHALL MEET ALL OTHER REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. PEDESTRIAN RAMPS SHALL BE PROVIDED AT STREET AND DRIVEWAY INTERSECTIONS AS SHOWN ON THE CURRENT STATE STANDARD FOR PEDESTRIAN FACILITIES. COLOR CONTRAST AND TEXTURING OF PEDESTRIAN RAMPS SHALL BE PLACED AT STREET INTERSECTION RAMPS ONLY AS SHOWN ON THE CURRENT STATE STANDARD FOR PEDESTRIAN FACILITIES. PEDESTRIAN RAMPS AT DRIVEWAY INTERSECTIONS WILL NOT RECEIVE ANY COLOR CONTRAST OR TEXTURING. METAL PLATING FOR SIDEWALK BRIDGES SHALL MATCH THE TYPICAL WIDTH OF THE APPROACH SIDEWALK. THIS MAY RESULT IN A WIDTH THAT IS GREATER THAN SHOWN IN THE STANDARD DETAILS INCLUDED IN THE PLANS.
38. THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE EROSION AND SEDIMENTATION IN THE STATE RIGHT OF WAY RESULTING FROM THE PROPOSED CONSTRUCTION. RE-VEGETATION OF DISTURBED AREAS SHALL BE COMPLETED IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATIONS. PERMANENT VEGETATIVE COVER MUST ACHIEVE 70% COVERAGE PRIOR TO PROJECT ACCEPTANCE. SOIL RETENTION BLANKETS MAY BE REQUIRED TO PREVENT EROSION OF TOPSOIL PRIOR TO VEGETATION RE-ESTABLISHMENT.

39. PRIOR TO SEEDING OR RE-VEGETATION THE FRONT SLOPES SHALL BE SHOULDERED UP WITH TOPSOIL TO ELIMINATE ANY PAVEMENT EDGE DROP-OFF.

40. MUD TRACKED ONTO THE ROADWAY FROM THE SITE SHALL BE IMMEDIATELY REMOVED TO THE SATISFACTION OF TXDOT.

41. THE DEVELOPER/OWNER SHALL CLEAN OUT, TO THE STATE'S SATISFACTION, ANY DRAINAGE STRUCTURE OR STORM SEWER SYSTEM THAT BECOMES SILTED AS A RESULT OF THEIR OPERATIONS.

42. THE ADJUSTMENT OF ANY UTILITIES IN STATE RIGHT OF WAY OR ADJACENT PRIVATE EASEMENT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

43. THE CONTRACTOR SHALL PLACE AND MAINTAIN EXISTING SIGNS ON TXDOT APPROVED TEMPORARY MOUNTS UNTIL PERMANENT SIGNS ARE PLACED.

44. THE FINAL PLACEMENT OF PERMANENT SIGNS SHALL BE COORDINATED PRIOR TO PLACEMENT WITH THE LOCAL TXDOT MAINTENANCE SUPERVISOR.

45. FOR WORK WITHIN THE STATE RIGHT OF WAY MATERIALS OR DEBRIS WITHIN THE CONSTRUCTION LIMITS AND NOT INCORPORATED IN THE FINISHED ROADWAY SECTION OF RIGHT OF WAY SHALL BE DISPOSED OF IN A MANNER ACCEPTABLE TO THE MAINTENANCE SUPERVISOR AT NO EXPENSE TO THE STATE. MATERIALS THAT ARE NOT DETERMINED TO BE SALVAGEABLE BY THE MAINTENANCE SUPERVISOR BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL AT THEIR EXPENSE. MATERIALS DETERMINED TO BE SALVAGEABLE SHALL BE RETURNED TO THE STATE AND DELIVERED TO THE LOCATION AS DETERMINED BY THE MAINTENANCE SUPERVISOR.

46. REGARDLESS OF ERRORS AND OMISSIONS IN INFORMATION PROVIDED IN THE PLANS OR CROSS-SECTIONS, THE PERMITEE IS RESPONSIBLE FOR PROVIDING FOR POSITIVE DRAINAGE OUTFALLS WITHIN AND OFF THE LIMITS OF THE PROJECT.

47. KEEP THE SIGNALS IN OPERATION AT ALL TIMES EXCEPT WHEN NECESSARY FOR SPECIFIC INSTALLATION OPERATIONS, INCLUDING ANY MODIFICATIONS TO EXISTING SIGNAL HEADS TO MAINTAIN CLEAR VISIBILITY AT ALL TIMES. WHEN IT IS NECESSARY FOR A SIGNAL TO BE TURNED OFF, PROVIDE OFF DUTY POLICE OFFICERS TO CONTROL TRAFFIC UNTIL THE SIGNALS ARE BACK IN SATISFACTORY CONDITION.
48. **FOR WORK IN CITY OF NEW BRAUNFELS**, ALL TRAFFIC SIGNALS ON THE STATE HIGHWAY SYSTEM WITHIN THE NEW BRAUNFELS CITY LIMITS, WITH THE EXCEPTION OF SIGNALS ON IH 35, ARE THE RESPONSIBILITY OF THE CITY OF NEW BRAUNFELS AND THE CITY OF NEW BRAUNFELS WILL PERFORM CONSTRUCTION INSPECTION. CONTACT GARRY FORD, P.E. AT (830) 221-4645, 48 HOURS PRIOR TO THE NEED FOR ANY INSPECTIONS. ALSO WHEN NON- TRAFFIC SIGNAL WORK IS BEING PERFORMED WITHIN 400 FEET OF AN EXISTING SIGNALIZED INTERSECTION, FLASHING BEACON OR SCHOOL ZONE FLASHER OR OTHER TYPE OF SIGNAL, IF WITHIN THE CITY OF NEW BRAUNFELS AREA OF RESPONSIBILITY, CONTACT GARRY FORD, P.E. TO DETERMINE/VERIFY THE LOCATION OF LOOP DETECTORS, CONDUIT, GROUND-BOXES, ETC. FOR ALL OTHER LOCATIONS, CONTACT TXDOT REPRESENTATIVE JORGE RAMOS, AT (210) 731-5136. THE CONTRACTOR IS SHALL REPAIR OF REPLACE ANY SIGNAL EQUIPMENT DAMAGED BY CONSTRUCTION OPERATIONS. THE METHOD OF REPAIR OR REPLACEMENT SHALL BE PRE- APPROVED AND INSPECTED. DEPENDING ON THE TYPE AND EXTENT OF THE DAMAGE, THE ENGINEER RESERVES THE RIGHT TO PERFORM THE REPAIR OR REPLACEMENT WORK AND THE CONTRACTOR SHALL BE BILLED FOR THIS WORK. WHEN WORKING NEAR AERIAL ELECTRICAL LINES OR UTILITY POLES, COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

49. ***FOR AREAS OTHER THAN CITY OF NEW BRAUNFELS*** WHEN NON- TRAFFIC SIGNAL WORK IS BEING PERFORMED WITHIN 400 FEET OF AN EXISTING SIGNALIZED INTERSECTION, FLASHING BEACON OR SCHOOL ZONE FLASHER OR OTHER TYPE OF SIGNAL, CONTACT TXDOT REPRESENTATIVE JORGE RAMOS (210) 731-5136. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY SIGNAL EQUIPMENT DAMAGED BY CONSTRUCTION OPERATIONS. THE METHOD OF REPAIR OR REPLACEMENT SHALL BE PRE-APPROVED AND INSPECTED. DEPENDING ON THE ON THE TYPE AND EXTENT OF THE DAMAGE, THE ENGINEER RESERVES THE RIGHT TO PERFORM THE REPAIR OR REPLACEMENT WORK AND THE CONTRACTOR SHALL BE BILLED FOR THIS WORK. WHEN WORKING NEAR AERIAL ELECTRICAL LINES OR UTILITY POLES, COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

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NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

03/31/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

TXDOT DETAIL SHEET (SHEET 4 OF 4)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.5

Date: 2/7/2024 2:42:23 PM
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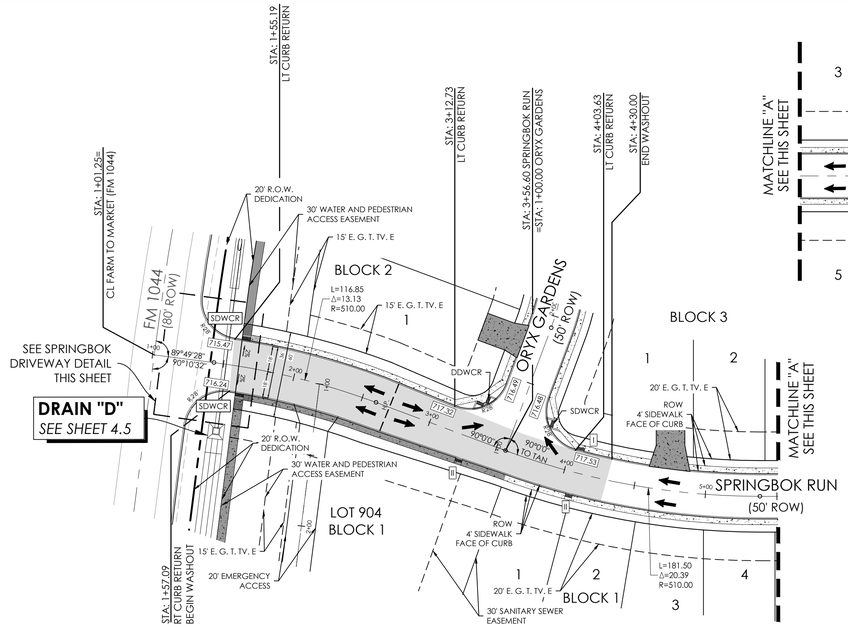

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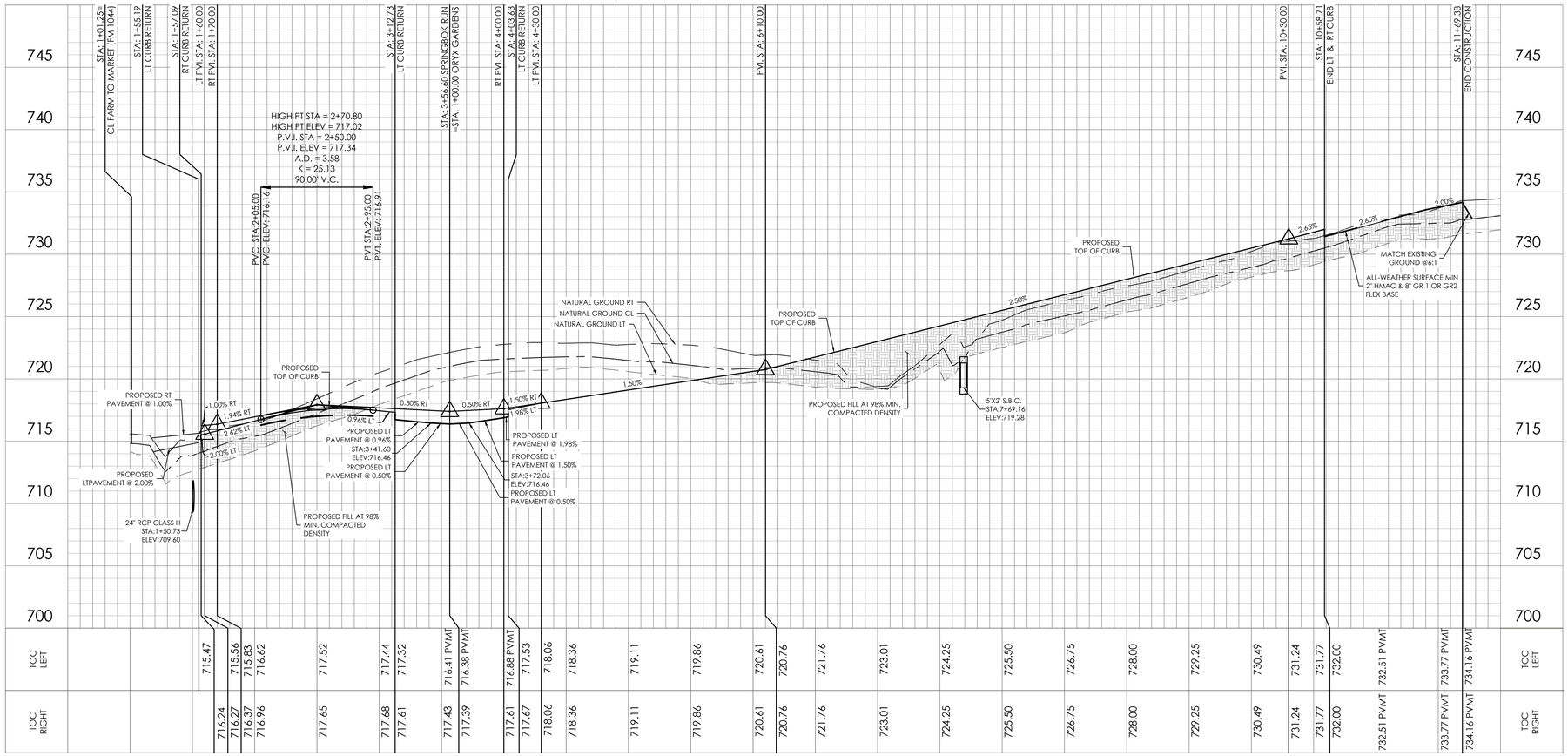
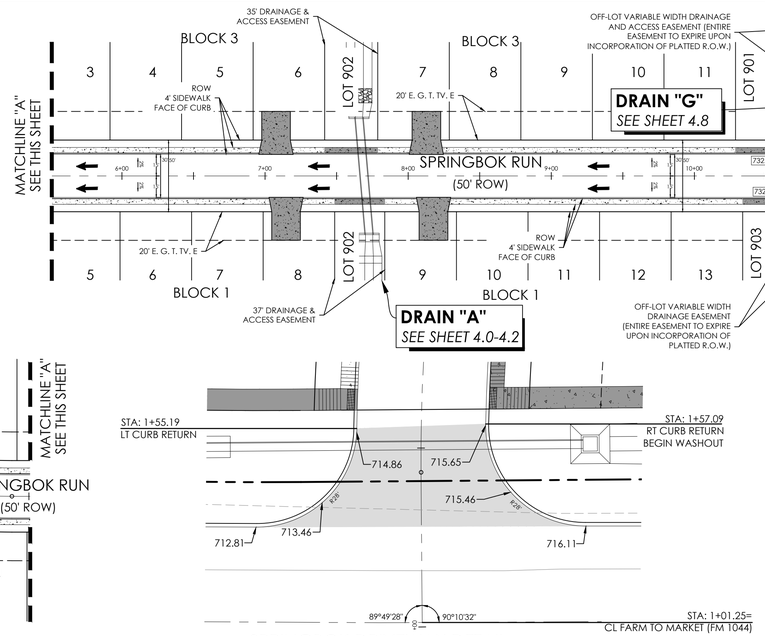




SPRINGBOK DRIVEWAY DETAIL

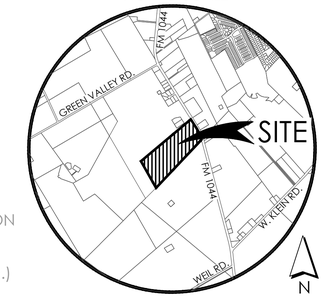
1" = 20'

PROFILE STATIONS 1+01.25-1+57.09

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

LOCATION MAP

NOT-TO-SCALE



LEGEND

- PROPOSED FLOW DIRECTION
- WASHOUT CROWN
- DEVELOPER RESPONSIBLE SIDEWALK
- HOMEBUILDER RESPONSIBLE SIDEWALK
- PROPOSED DRIVEWAY
- SDWCR — SINGLE DIRECTIONAL WHEELCHAIR RAMP
- DDWCR — DOUBLE DIRECTIONAL WHEELCHAIR RAMP
- 1 — TYPE 1 WHEELCHAIR RAMP
- H.P. — HIGHPOINT
- EOP — EDGE OF PAVEMENT
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- ROW — RIGHT OF WAY
- E.G.T.TV.E — ELECTRIC, GAS, TELEPHONE, & TELEVISION EASEMENT

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

TXDOT NOTE:
A TXDOT RIGHT OF WAY PERMIT IS REQUIRED PRIOR TO WORK COMMENCING WITHIN THE EXISTING TXDOT RIGHT OF WAY

STREET TIE IN NOTE:

CONTRACTOR TO VERIFY STREET TIE IN ELEVATIONS. CONTRACTOR TO NOTIFY ENGINEERING IMMEDIATELY IF ANY DISCREPANCIES ARE IDENTIFIED.

GENERAL NOTE:
1. LOCAL STREETS HAVE BEEN DESIGNED TO POSTED SPEED LIMIT OF 25 MILES PER HOUR.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM THE STREET STUB OUT ENDS SO THAT NO PONDING OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114-98(A)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

COMPACTION NOTE

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TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

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SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/31/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
SPRINGBOK RUN STA 1+00.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.6

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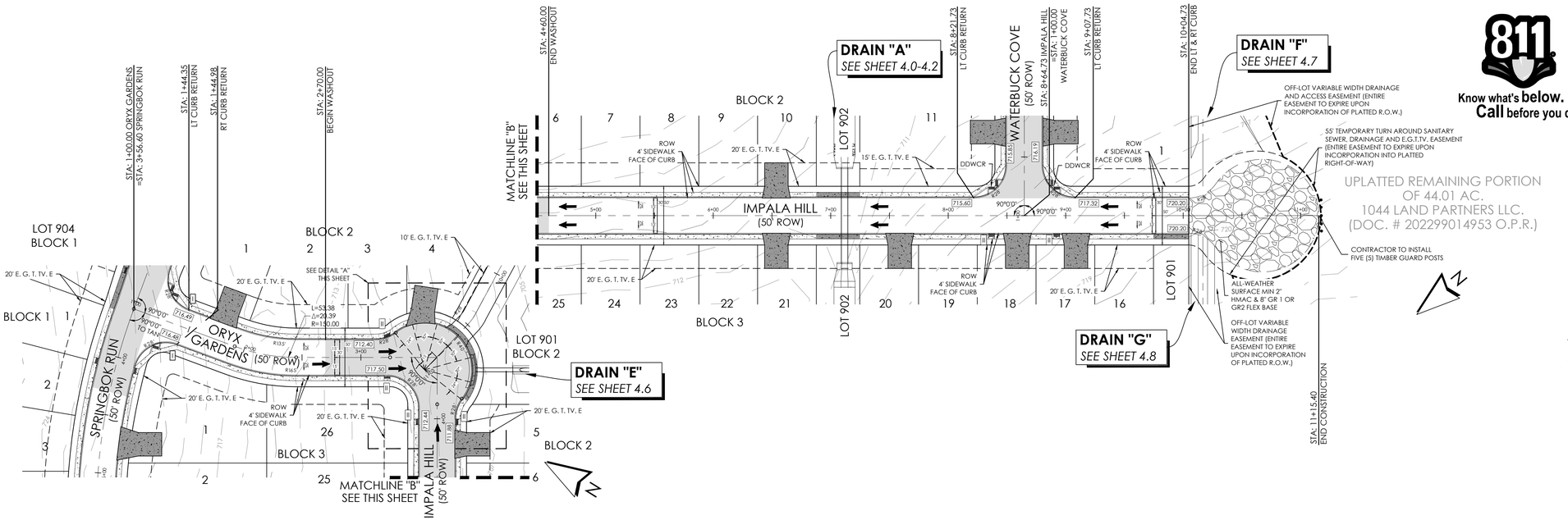

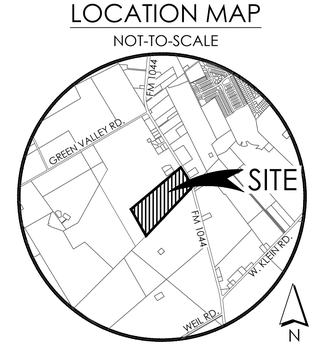

811
Know what's below.
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LEGEND

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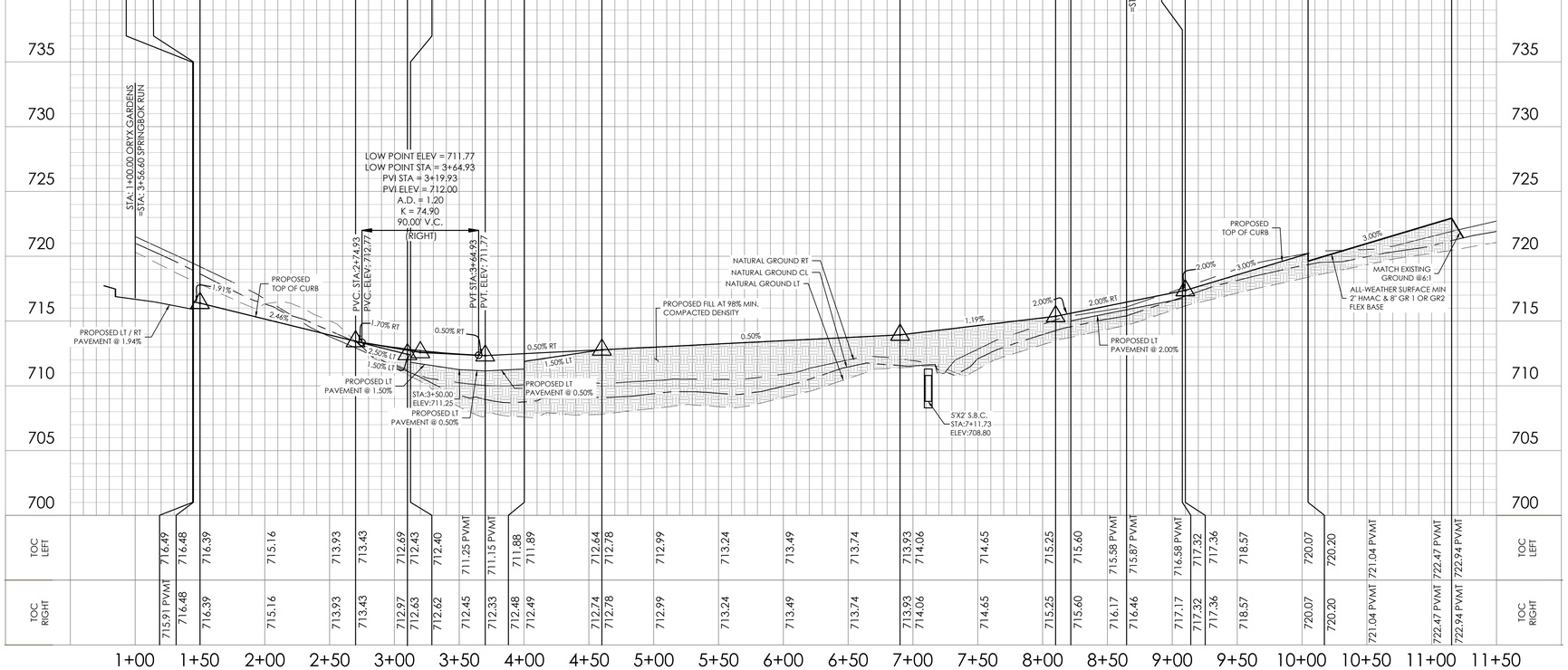
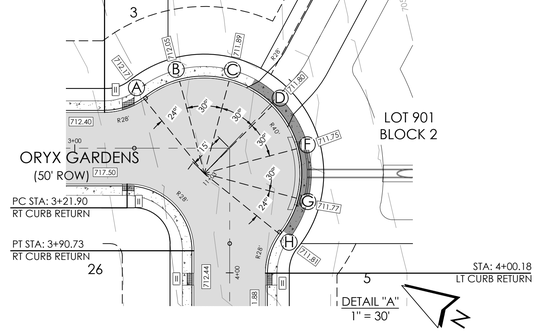
ORYX GARDEN STA: 1+00.00 - 3+56.32
IMPALA HILL STA: 3+56.32 - END

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





GENERAL NOTES:
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03/23/2026

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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
ORYX GARDEN & IMPALA HILL STA 1+00.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.7

Date: 2/7/2024 2:44:23 PM
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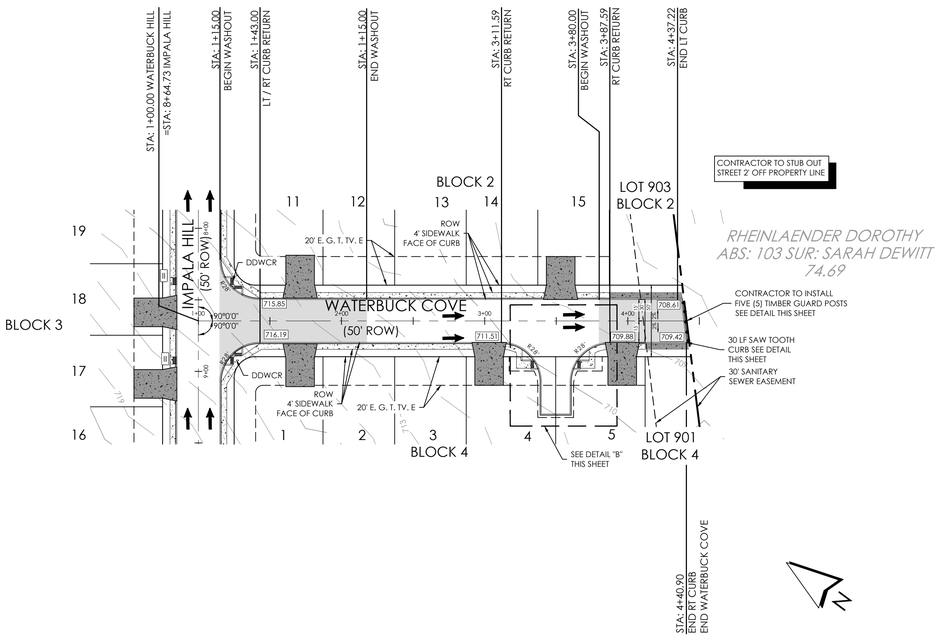

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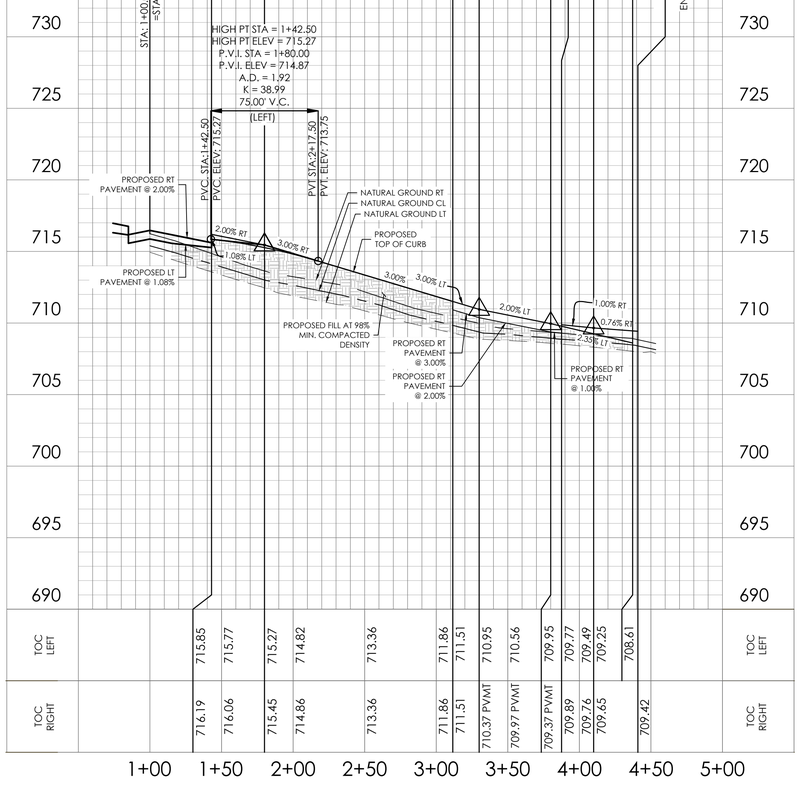
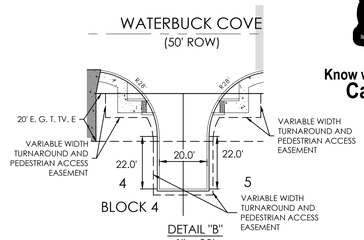
HORIZONTAL: 1"=50'
VERTICAL = 1"=5'

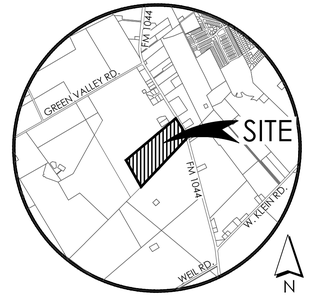


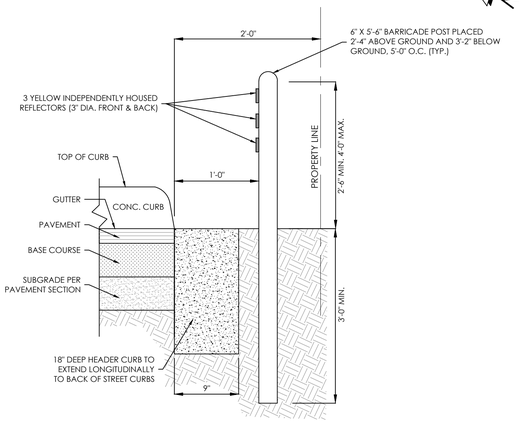


Know what's **below.** **Call** before you dig.

LOCATION MAP

NOT-TO-SCALE

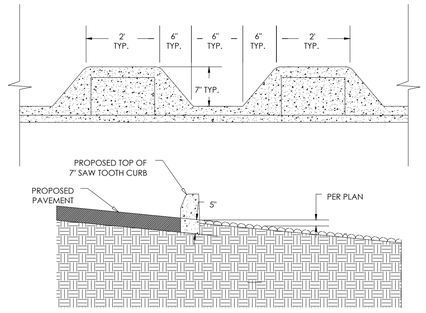




HEADER CURB & BARRICADE POST DETAIL

LEGEND

PROPOSED FLOW DIRECTION	
WASHOUT CROWN	
DEVELOPER RESPONSIBLE SIDEWALK	
HOMEBUILDER RESPONSIBLE SIDEWALK	
PROPOSED DRIVEWAY	
SDWCR	SINGLE DIRECTIONAL WHEELCHAIR RAMP
DDWCR	DOUBLE DIRECTIONAL WHEELCHAIR RAMP
1	TYPE 1 WHEELCHAIR RAMP
H.P.	HIGHPOINT
EOP	EDGE OF PAVEMENT
TOC	TOP OF CURB
ROW	RIGHT OF WAY
E.G.T.TV.E	ELECTRIC, GAS, TELEPHONE, & TELEVISION EASEMENT



SECTION VIEW

GENERAL NOTES:
1. LOCAL STREETS HAVE BEEN DESIGNED TO POSTED SPEED LIMIT OF 25 MILES PER HOUR.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM THE STREET STUB OUT ENDS SO THAT NO PONDING OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114-98(A)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'/

COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

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BLUESITE ENGINEERING
NO. F-22528
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SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
WATERBUCK COVE STA 1+00.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.8

Date: 2/7/2024 2:44:22 PM
N:\Davidson Homes\Blackwell Subdivision\CAD\Sheet\SSPP BLACKWELL.dwg

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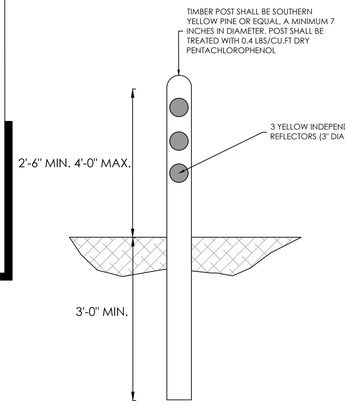
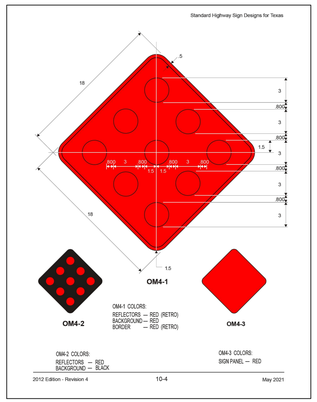
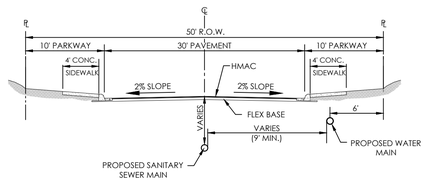
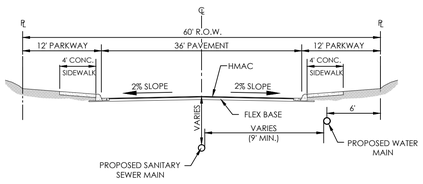


TIMBER GUARD POST DETAIL

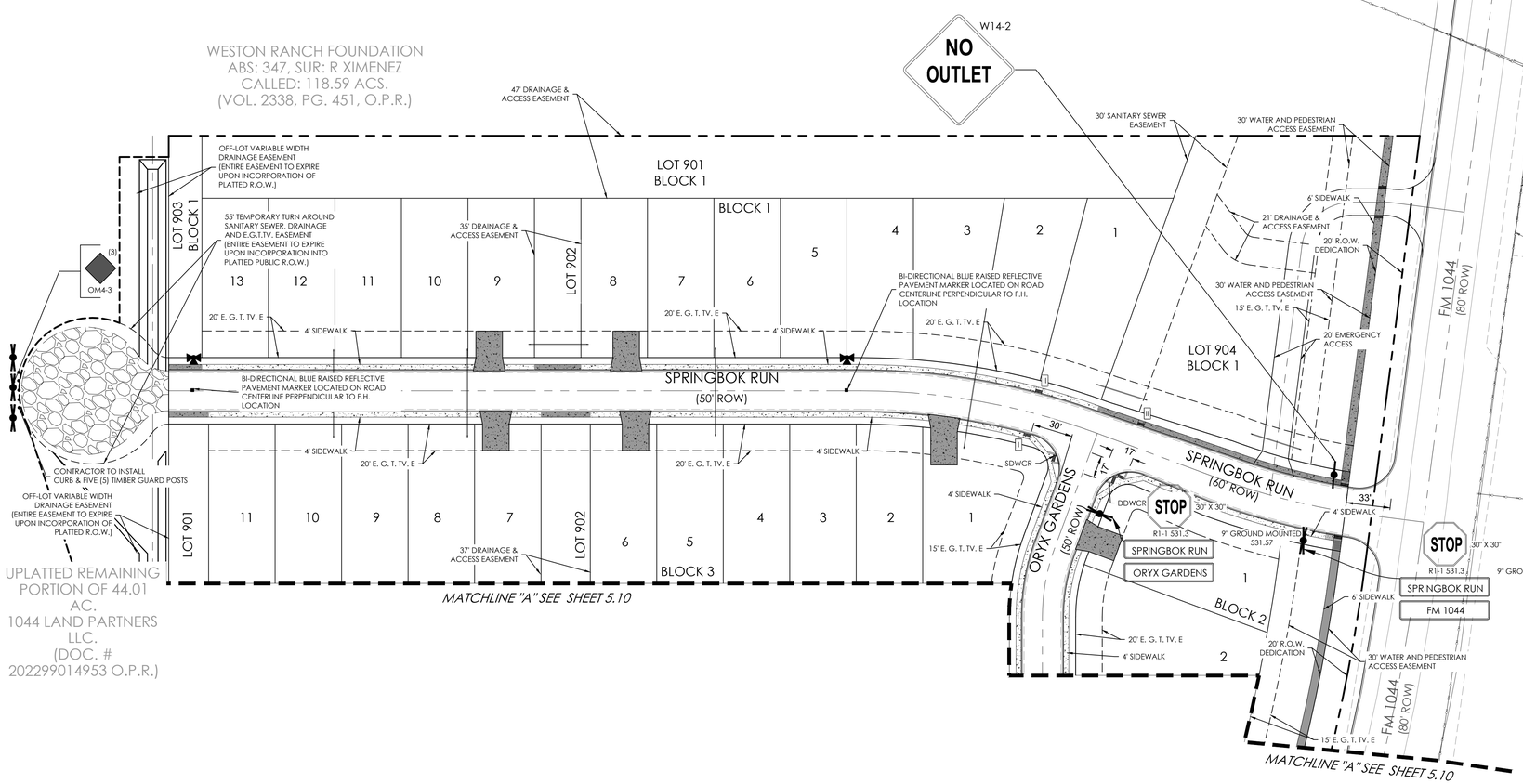




PROPOSED LOCAL STREET SECTION
N.T.S.



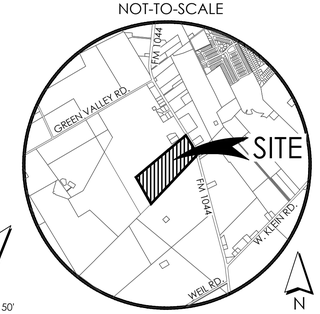
PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.



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

LOCATION MAP

NOT-TO-SCALE



SCALE: 1" = 50'
0' 25' 50' 75' 100'

LEGEND

- PROPOSED FLOW DIRECTION
- WASHOUT CROWN
- DEVELOPER RESPONSIBLE SIDEWALK
- HOMEBUILDER RESPONSIBLE SIDEWALK
- PROPOSED DRIVEWAY
- SDWCR — SINGLE DIRECTIONAL WHEELCHAIR RAMP
- DDWCR — DOUBLE DIRECTIONAL WHEELCHAIR RAMP
- 1 — TYPE 1 WHEELCHAIR RAMP
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- MULTIPLE SIGNS
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AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
STREET SIGNAGE PLAN (SHEET 1 OF 2)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.9

Date: 7/7/2024 2:44:22 PM
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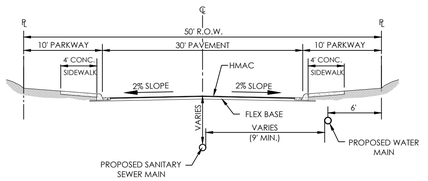
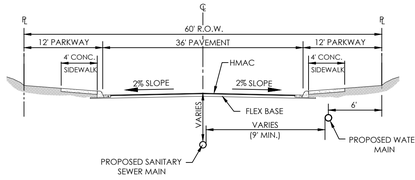
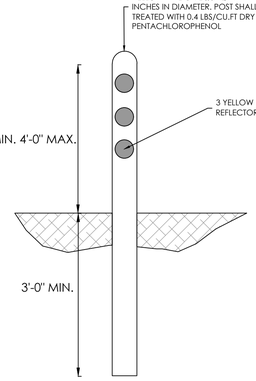


PROPOSED LOCAL STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.

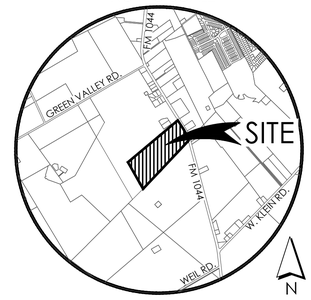


TIMBER GUARD POST DETAIL

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

LOCATION MAP

NOT-TO-SCALE



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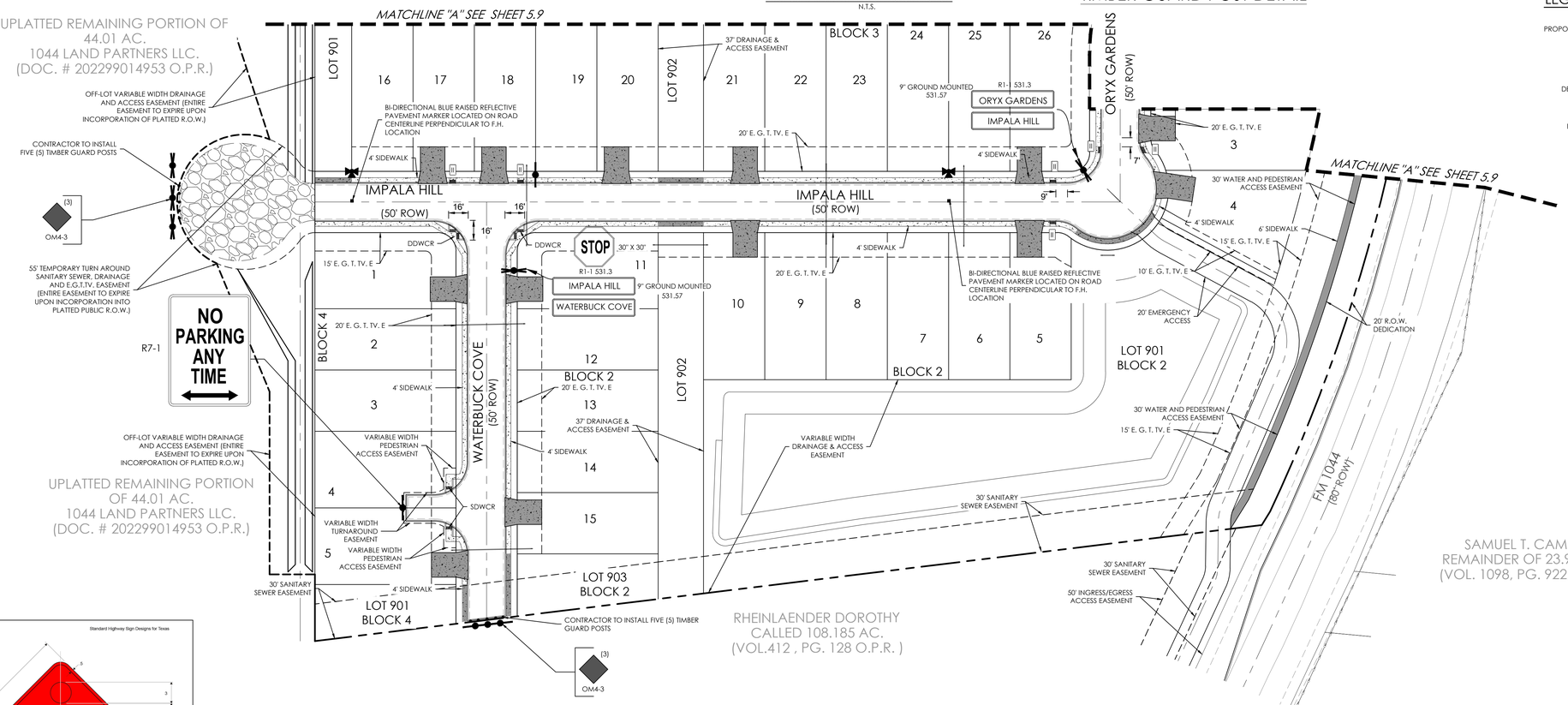

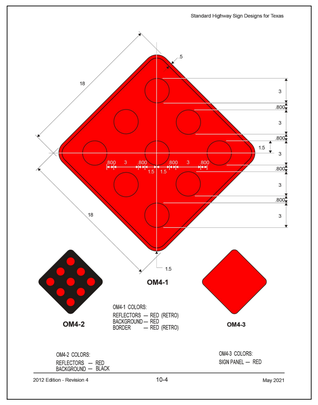

LEGEND

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REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

STREET SIGNAGE PLAN (SHEET 2 OF 2)

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.10

Date: 1/7/2026 2:44:22 PM
B:\Subdivision Internet Blackwell Subdivision\CAD\Sheet\01_BLACKWELL.dwg

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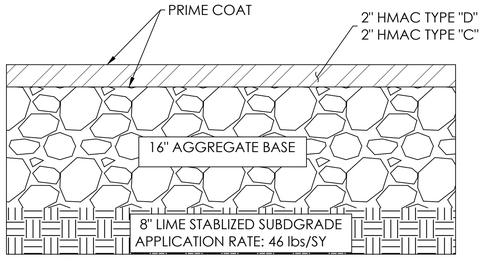
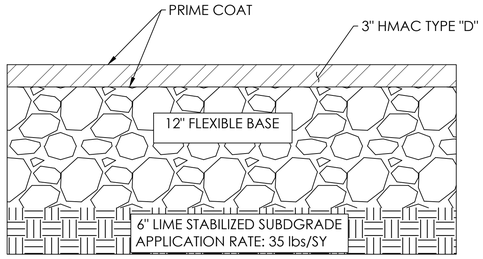
NOTE:
THE GEOTECHNICAL REPORT SUPPORTING THE STRUCTURAL PAVEMENT DESIGN INDICATES THAT SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULFATE CONTENT PRIOR TO LIME TREATMENT

CONTRACTOR TO REFERENCE SIGN & SEALED GEOTECHNICAL REPORT PROJECT INTEC PROJECT NO. S24119-P



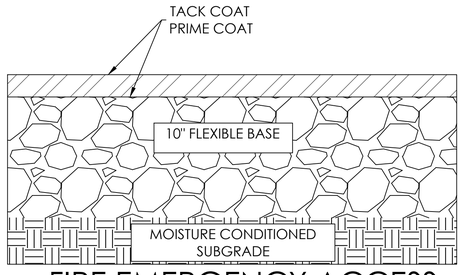
ASPHALT PAVEMENT DETAIL FOR RESIDENTIAL COLLECTOR

SPRINGBOK RUN = 1+00.00 - 4+00.06



ASPHALT PAVEMENT DETAIL FOR LOCAL STREETS

SPRINGBOK RUN = 4+00.06 - END
ORYX GARDENS = 1+00.00 - END
WATERBUCK COVE = 1+00.00 - END



FIRE EMERGENCY ACCESS DETAIL

FIRE EMERGENCY ACCESS ROAD = 1+00.00 - END

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11/17/2025

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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
PAVEMENT RECOMENDATION PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.11

Date: 7/7/2024 2:44:22 PM
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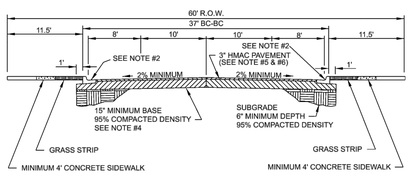
THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

RESIDENTIAL COLLECTOR
PARKING BOTH SIDES

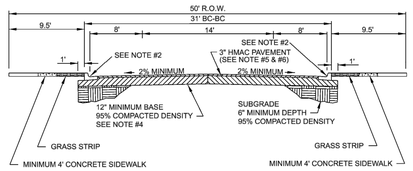


NOTES:

1. STRUCTURAL SECTION REQUIRES DETAILED ENGINEERING DESIGN, SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. CITY WILL ACCEPT DESIGNS THAT INCORPORATE BIAXIAL GEOGRID.
2. CITY WILL ACCEPT CURB AND GUTTER OR STAND-ALONE GUTTER. SEE CURB DETAIL ST-013 (CURB & GUTTER) & ST-013a (STAND-ALONE GUTTER).
3. ROADWAY MEASUREMENT SHOWN FROM BACK OF CURB (BC).
4. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TXDOT STD.
5. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TXDOT ITEM 340 (2004).
6. IN NO CASE SHALL THE HMAC SECTION BE LESS THAN THAT SHOWN.
7. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 12" MINIMUM THICKNESS.

City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL	SCALE: N.T.S. APPROVED DATE: STANDARD NO: ST-007

ONE & TWO FAMILY RESIDENTIAL
LOCAL
PARKING BOTH SIDES



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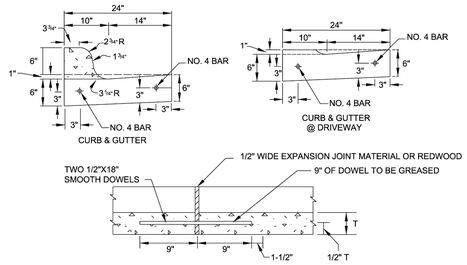
3. ROADWAY MEASUREMENT SHOWN FROM BACK OF CURB (BC).
4. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TXDOT STD.
5. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TXDOT ITEM 340 (2004).
6. IN NO CASE SHALL THE HMAC SECTION BE LESS THAN THAT SHOWN.
7. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 9" MINIMUM THICKNESS

City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL	SCALE: N.T.S. APPROVED DATE: STANDARD NO: ST-011

CURB AND GUTTER



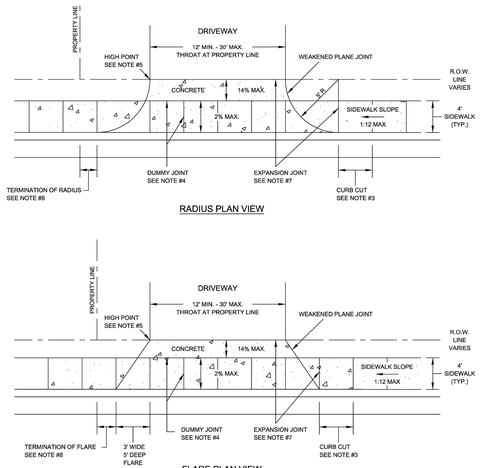
LONGITUDINAL SECTION THRU CURB AND GUTTER
SHOWING TYPICAL EXPANSION JOINT DETAILS.
REINFORCING STEEL SHALL NOT CROSS EXPANSION JOINTS.
STEEL SHALL BE TERMINATED 3" (+ OR -) 1" FROM FACE OF THE JOINT.

NOTES:

1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT ± 10'. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GREATER THAN 100' AND AT ALL ADJACENT STRUCTURES.
4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER OF DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE CITY ENGINEER.
5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.
6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

DATE APPROVED: 07/2008	DWG. NO: ST-013	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: CURB & GUTTER			

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)

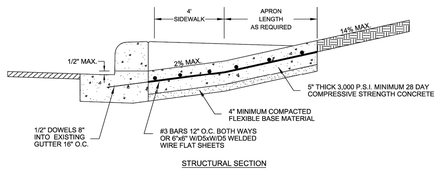


RADIUS PLAN VIEW

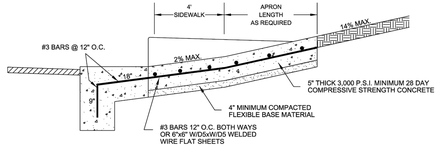
FLARE PLAN VIEW

DATE APPROVED: 04/2016	DWG. NO: ST-014.1	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 2		
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)			

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



STRUCTURAL SECTION



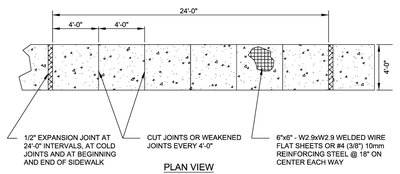
NO EXISTING CURB STRUCTURAL SECTION

NOTES:

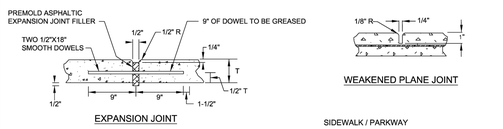
1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
3. CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
4. DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.
5. PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
6. DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
7. PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 1/2" ASPHALTIC MATERIAL WITH 1/2" DOWELS 16" O.C.
8. THE TANGENT POINT OF THE DRIVEWAY CURB RETURN AT THE PUBLIC ROADWAY LINE OR FLARE SHALL BE A MINIMUM DISTANCE OF 1' OFF THE PROPERTY PROJECTED PERPENDICULAR TO THE STREET CENTERLINE, EXCEPT SINGLE FAMILY OR ZERO LOT LINE LOTS. ON SINGLE FAMILY ZERO LOT LINE LOTS WHERE THE DRIVE IS ON THE ZERO LOT LINE, THE TANGENT POINT OR FLARE SHALL BE NO GREATER THAN 3' BEYOND THE ADJOINING PROPERTY LINE PROJECTED PERPENDICULAR TO THE STREET CENTERLINE.

DATE APPROVED: 04/2016	DWG. NO: ST-014.2	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 2 OF 2		
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)			

SIDEWALK
(RESIDENTIAL)

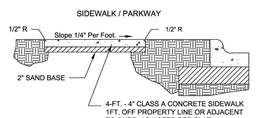


PLAN VIEW



EXPANSION JOINT

WEAKENED PLANE JOINT



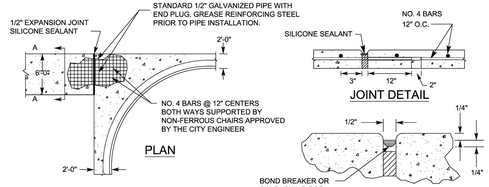
TYPICAL SECTION

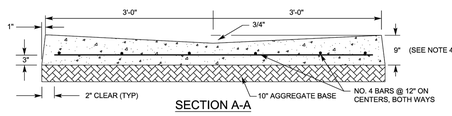
NOTES:

1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

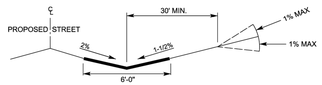
DATE APPROVED: 07/2008	DWG. NO: ST-016	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: SIDEWALK (RESIDENTIAL)			

CROSS GUTTER





SECTION A-A



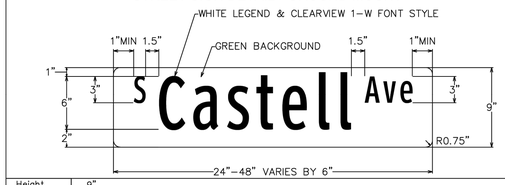
TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTION

NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI.
2. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
3. CONSTRUCTION OF CROSS GUTTER IS NOT ALLOWED ACROSS MAJOR COLLECTOR OR ARTERIAL STREETS.
4. ADJACENT SPANDREL SHALL BE 9" THICK CLASS "A" 3,000 PSI CONCRETE.

DATE APPROVED: 07/2008	DWG. NO: ST-020	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: CROSS GUTTER			

STREET SIGN DETAIL - GROUND MOUNT



Height	9"
Length	24" min 48" max 6" increments in length
Thickness	0.080"
Substrate	Flat aluminum sheeting with ¾" radius circular fillets at corners conforming to the requirements of ASTM B 209, Alloys 6061–T–6, or 5052–H38.
Sign Face Materials	Green film over High Intensity Prismatic sheeting
Legend	Legends shall be Clearview 1–W font style. Reduced spacing between the letters or words should not be used as a means of reducing the overall size of a street name sign unless approved by the City Traffic Engineer.
Color	White legend on green background

Notes:

1. Street name signs shall be double sided when center mounted on top of sign post. Only one street name sign should be installed on top of sign post with STOP or YIELD sign.
2. When two sets of street name signs are required (e.g. at "T" intersections), one double-sided street name sign shall be mounted on sign post. The sign assembly shall meet minimum height requirements as required in the Texas Manual on Uniform Traffic Control Devices (TMUTCD). When required, DEAD END (W14-1a) or NO OUTLET (W14-2a) signs shall also be mounted on the sign post.
3. Street name signs greater than 36" long and center mounted on top of sign post shall be mounted on post top bracket with 12" slot. All other street name signs center mounted on top of sign post shall be mounted on post top bracket with 5 ¼" slot.
4. Street name signs mounted on sign post shall be mounted with double-sided round pole brackets. Two holes should be punched in the center of the 9" street name sign blank 1" from edge of the blank with 7"spacing between holes.
5. The lettering for names of streets shall be composed of a combination of lower-case letters with initial upper-case letters. Acceptable abbreviations per TMUTCD may be used except for the street name itself.
6. Red background (red film over High Intensity Prismatic) should be used for private street name signs.

Street Sign Detail - Ground Mount			City of New Braunfels ENGINEERING DIVISION 424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PHONE: 830 221 4020 FAX: 830 626 3600
ISSUE DATE: February 2013	DWG. NO: ST-024	SCALE: N.T.S.	
DRAWN BY: RAS	CONTACT: GF	SHEET: 1 OF 1	
P:\2010 ENGINEERING-AUTOCAD\DETAILS\NB-PUBLIC WORKS DETAILS\NB-UNAPPROVED DETAILS-2013\ST-2013.024 STREET SIGN DETAIL - GROUND MOUNT.DWG			

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

Brett LaPlante

11/03/2025

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

CONB STANDARD DETAILS

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

5.12

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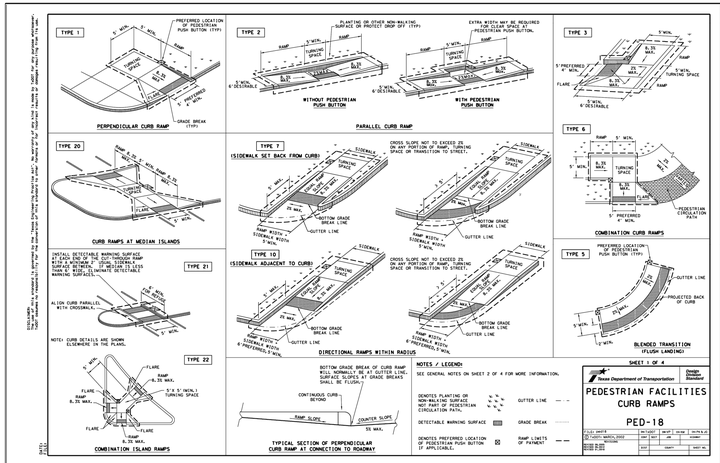
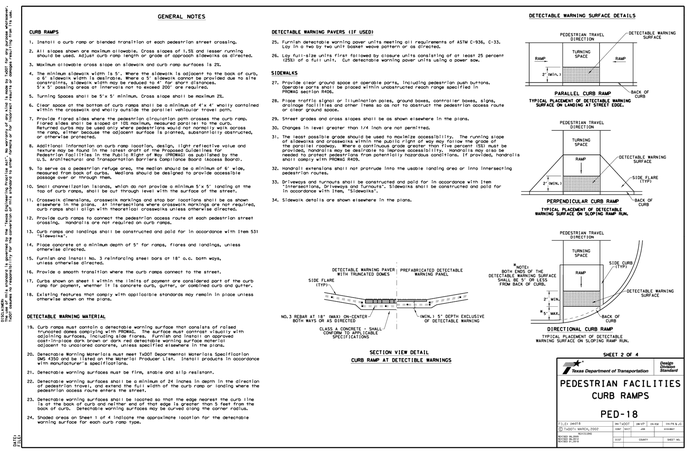
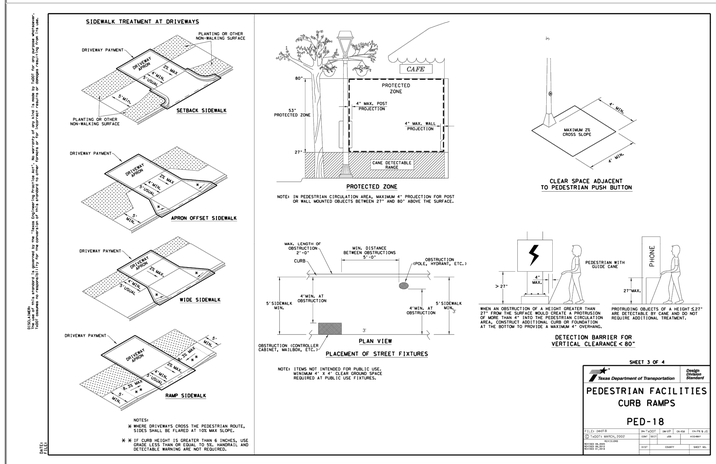
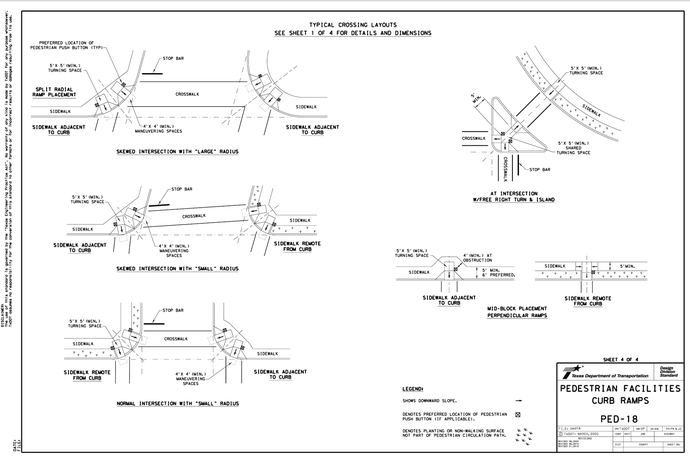
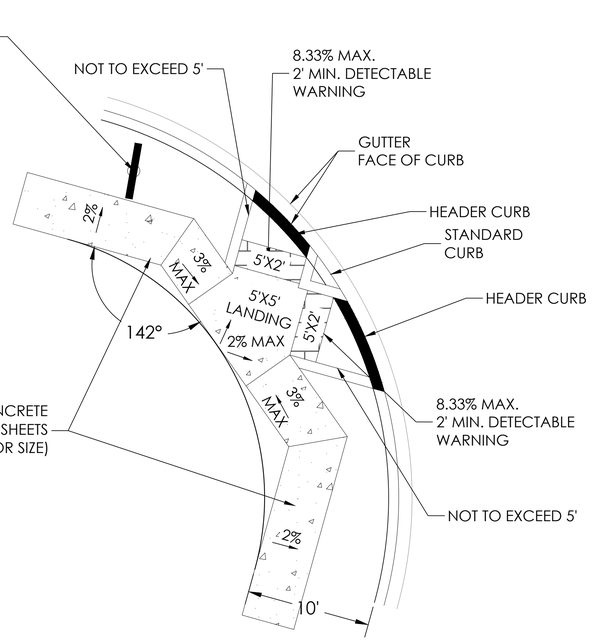


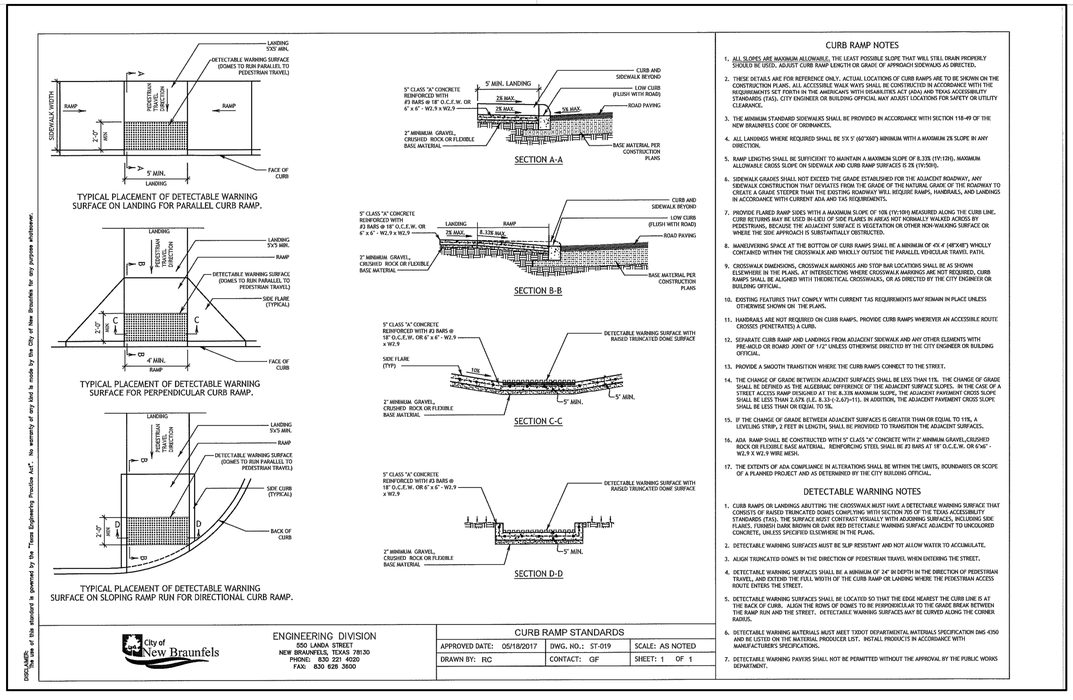








DOUBLE DIRECTIONAL WHEELCHAIR RAMP

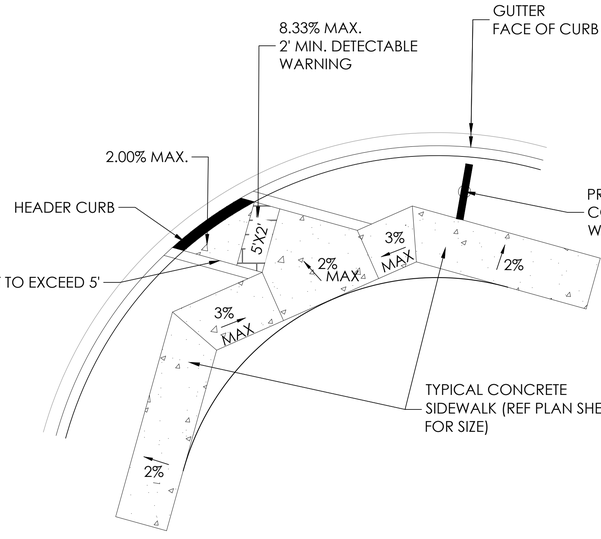


CURB RAMP NOTES

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
2. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMPS ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE WALK WAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS). CITY ENGINEER OR BUILDING OFFICIAL MAY ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
3. THE MINIMUM STANDARD SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 118-49 OF THE NEW BRAUNFELS CODE OF ORDINANCES.
4. ALL LANDINGS WHERE REQUIRED SHALL BE 5'X 5' (60"X60") MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
5. RAMP LENGTHS SHALL BE SUFFICIENT TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1Y:12X), MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1Y:50X).
6. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE GRADE OF THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS, AND LANDINGS IN ACCORDANCE WITH CURRENT ADA AND TAS REQUIREMENTS.
7. PROVIDE FLARED RAMP SIDES WITH A MAXIMUM SLOPE OF 10% (1Y:10X) MEASURED ALONG THE CURB LINE. CURB RETURNS MAY BE USED IN LIEU OF SIDE FLARES IN AREAS NOT NORMALLY WALKED ACROSS BY PEDESTRIANS, BECAUSE THE ADJACENT SURFACE IS VEGETATION OR OTHER NON-WALKING SURFACE OR WHERE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
8. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'X 4' (48"X48") WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
9. CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, CURB RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
10. EXISTING FEATURES THAT COMPLY WITH CURRENT TAS REQUIREMENTS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
11. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
12. SEPARATE CURB RAMP AND LANDINGS FROM ADJACENT SIDEWALK AND ANY OTHER ELEMENTS WITH PRE-MOLD OR BOARD JOINT OF 1/2" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
13. PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
14. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33-(-2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
15. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
16. ADA RAMP SHALL BE CONSTRUCTED WITH 5" CLASS "A" CONCRETE WITH 2" MINIMUM GRAVEL,-CRUSHED ROCK OR FLEXIBLE BASE MATERIAL. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6"x6" - W2.9 X W2.9 WIRE MESH.
17. THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.

DETECTABLE WARNING NOTES

1. CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 705 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FUNNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALIGN THE ROWS OF DOMES TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. DETECTABLE WARNING MATERIALS MUST MEET TXDOT DEPARTMENTAL MATERIALS SPECIFICATION DMS 4350 AND BE LISTED ON THE MATERIAL PRODUCER LIST. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
7. DETECTABLE WARNING PAVERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL BY THE PUBLIC WORKS DEPARTMENT.



SINGLE DIRECTIONAL WHEELCHAIR RAMP

ENGINEERING DIVISION
550 LANDA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 628 3600

CURB RAMP STANDARDS		
APPROVED DATE: 05/16/2017	DWG. NO.: ST-019	SCALE: AS NOTED
DRAWN BY: RC	CONTACT: GF	SHEET: 1 OF 1

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the City of New Braunfels for any purpose whatsoever.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE 810
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

11/03/2025

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
PEDESTRIAN ACCESS DETAILS

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.13

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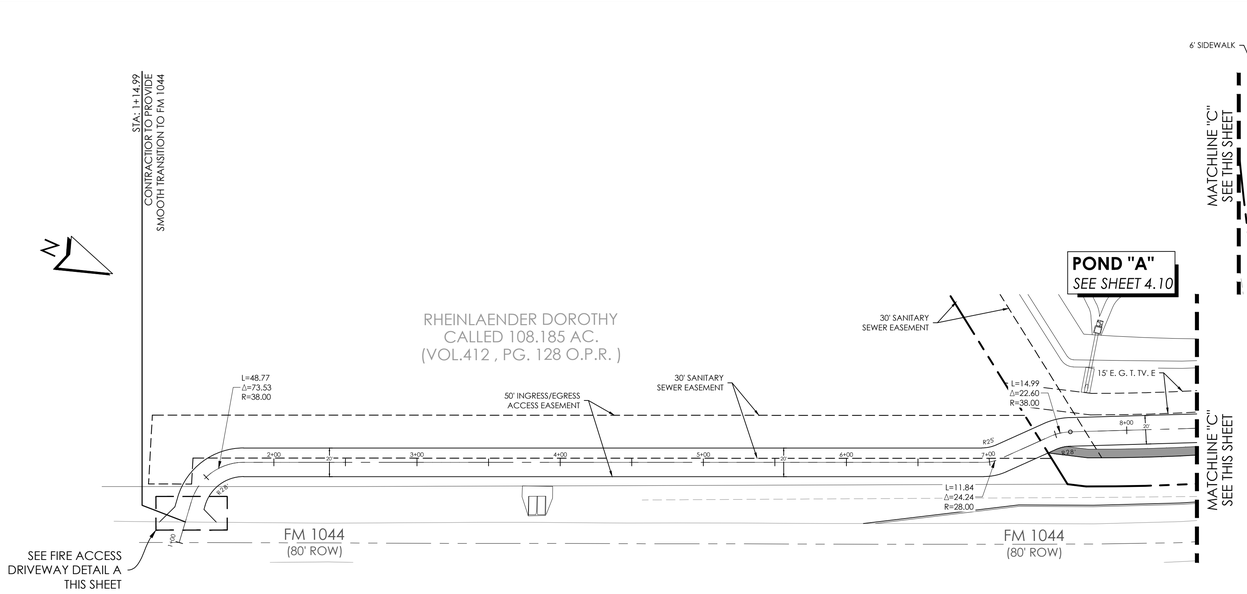
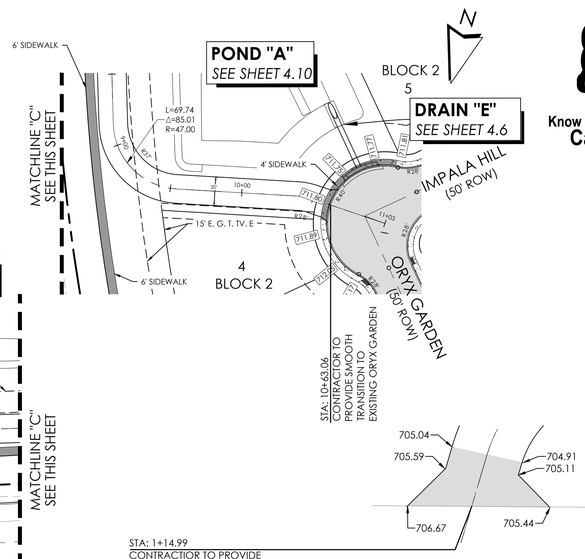
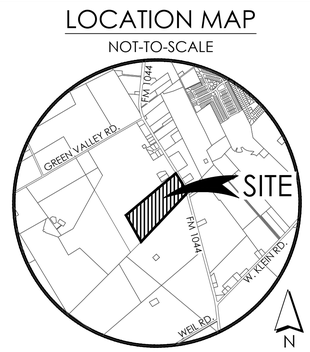




FIRE ACCESS DRIVEWAY DETAIL A
1" = 20'
PROFILE STA: 1+14.99-1+30.06



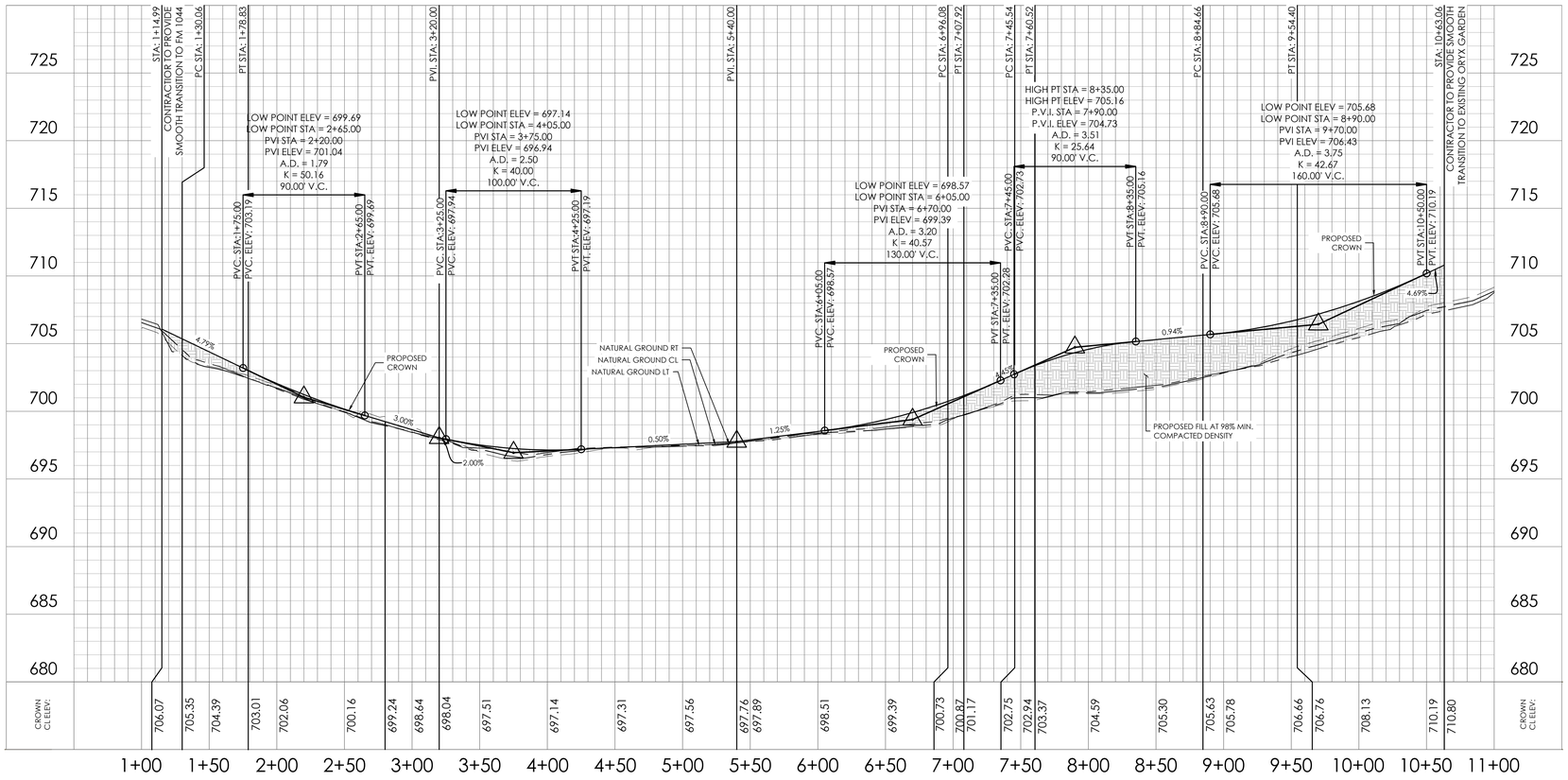
811
Know what's **below.**
Call before you dig.

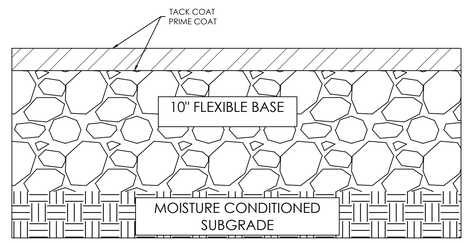
LEGEND

PROPOSED FLOW DIRECTION	
WASHOUT CROWN	
DEVELOPER RESPONSIBLE SIDEWALK	
HOMEBUILDER RESPONSIBLE SIDEWALK	
PROPOSED DRIVEWAY	
SDWCR	SINGLE DIRECTIONAL WHEELCHAIR RAMP
DDWCR	DOUBLE DIRECTIONAL WHEELCHAIR RAMP
1	TYPE 1 WHEELCHAIR RAMP
H.P.	HIGHPOINT
EOP	EDGE OF PAVEMENT
TOC	TOP OF CURB
ROW	RIGHT OF WAY
E.G.T.TV.E	ELECTRIC, GAS, TELEPHONE, & TELEVISION EASEMENT

FIRE EMERGENCY ACCESS ROAD STA: 1+00.00 - END

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





FIRE EMERGENCY ACCESS DETAIL

GENERAL NOTES:
1. LOCAL STREETS HAVE BEEN DESIGNED TO POSTED SPEED LIMIT OF 25 MILES PER HOUR.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM THE STREET STUB OUT ENDS SO THAT NO PONDING OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114-98(A)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

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BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/31/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
FIRE EMERGENCY ACCESS ROAD STA 1+00.00 - END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
5.14

Date: 2/7/2024 2:44:23 PM
By: Davidson Homes\Blackwell Subdivision\CAD\Sheet\SFPP_BLACKWELL.dwg

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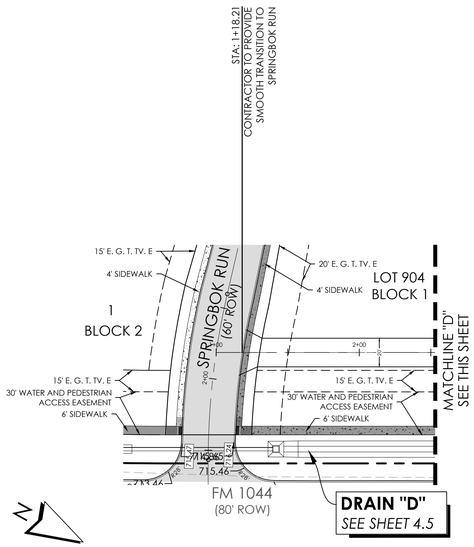
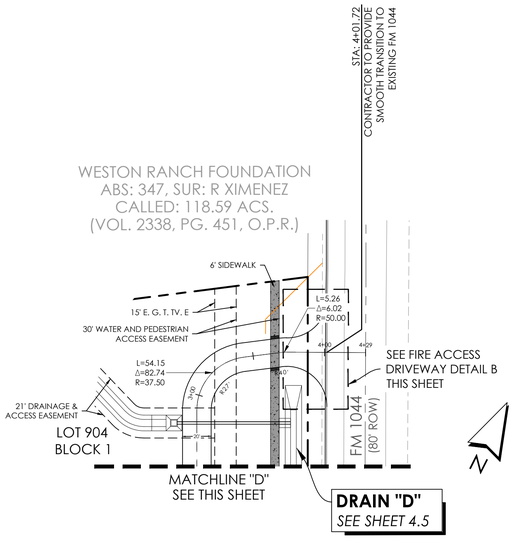
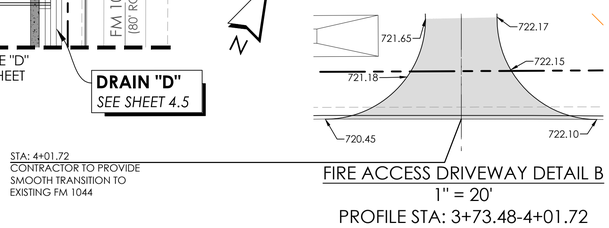


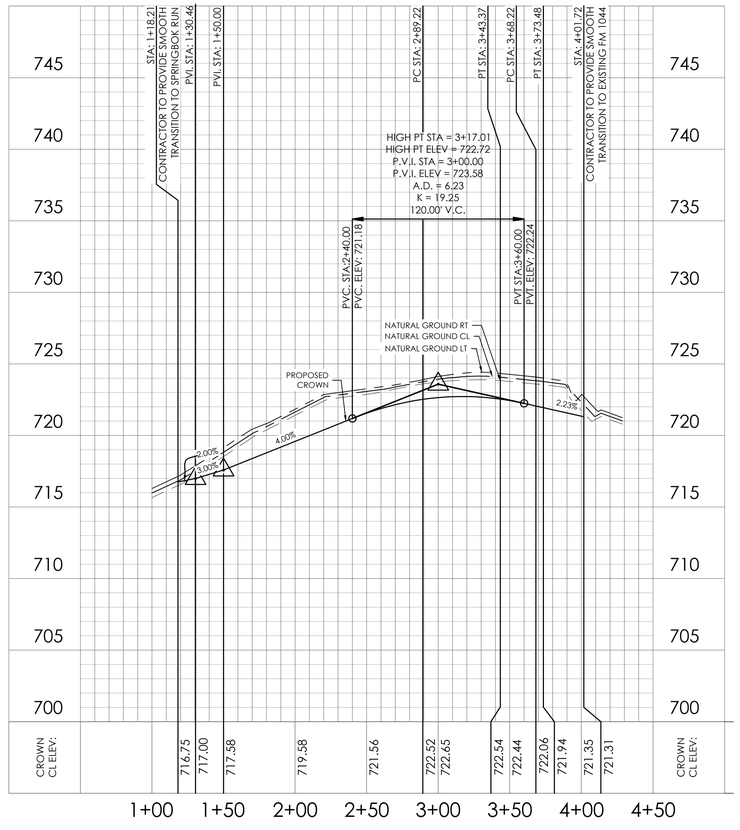




FIRE ACCESS DRIVEWAY DETAIL B
1" = 20'
PROFILE STA: 3+73.48-4+01.72

FIRE EMERGENCY ACCESS ROAD #2
STA: 1+00.00 - END

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



LEGEND

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WASHOUT CROWN	
DEVELOPER RESPONSIBLE SIDEWALK	
HOMEBUILDER RESPONSIBLE SIDEWALK	
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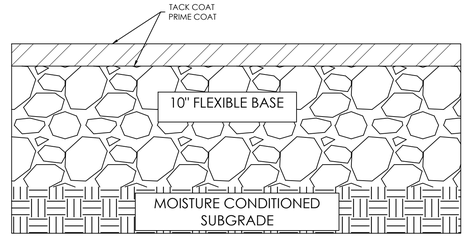

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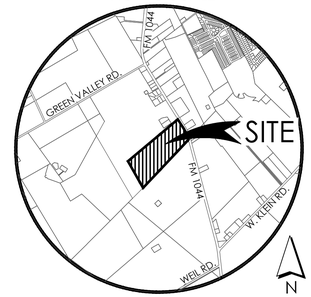
811 Know what's **below.** **Call** before you dig.

LOCATION MAP
NOT-TO-SCALE



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FIRM NO. 100363-00
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AUSTIN, TEXAS 78756
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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
FIRE EMERGENCY ACCESS ROAD#2 STA. 1+00.00-END

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
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Date: 2/7/2024 2:44:23 PM
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BLACKWELL SUBDIVISION UNIT 1

NEW BRAUNFELS, TEXAS ETJ

SANITARY SEWER PLAN CONSTRUCTION PLANS

GENERAL CONSTRUCTION:

A. All work shall be in accordance with approved conformed drawings, specifications and contract documents, TCEQ rules, AWWA standards, applicable federal, state and local laws, rules and regulations, and shall be in accordance with GBRA Standards and Design Guidelines published on GBRA's Developer Resources web page. In the event of conflict among any such requirements, the most stringent requirement shall apply.

B. If multiple materials are submitted in the same submittal package, include a table naming each material and corresponding manufacturer.

C. Contractor's superintendent must be on-site to supervise all work, including work performed by subcontractors and vendors.

D. All work must be inspected and approved by GBRA prior to backfilling, closing walls or forms, placing concrete, or otherwise covering the work. This includes crossings by other utilities. Any work that is covered prior to inspection and approval must be uncovered. GBRA will perform a maximum of one (1) inspection daily for one (1) hour duration between 8:00am and 5:00pm excluding weekends and holidays. Advance notice of two (2) business days (48 hours) is required for all inspections. Contractor shall utilize SharePoint to submit all requests for inspections. SharePoint instructions will be provided by GBRA. Contractor shall provide safe access to the work for inspector. Contractor shall provide assistance for inspector to verify lines and grades. Photos will not be accepted as substitute for inspections.

E. Existing water and wastewater systems shall remain in service at all times during construction unless specifically approved otherwise by GBRA. Any work involving tie-ins, shutdowns, power outages, or any other interruptions, must be performed between 8:00am and 5:00pm excluding weekends and holidays, unless specifically approved otherwise by GBRA. All temporary power, bypass pumping, pump and haul, temporary plugs, etc., necessary to maintain system operations and accomplish the work, shall be furnished and performed by the contractor. Coordinate and schedule any such activities with GBRA at least ten (10) business days in advance.

F. In the event bypass pumping or pump and haul are required, the contractor shall provide a pumping and monitoring plan for GBRA review, comment, and approval. The pumping system for each diversion must be fully redundant and rated for peak flow with the largest pump out of service. The contractor shall furnish, install, operate, and maintain all necessary pumping, plugs, and associated appurtenances including automatic controls and 24-hour remote monitoring or onsite pump watch personnel to ensure that no overflows or spills occur. The contractor shall be responsible for all necessary cleanup and reporting efforts due to failure of equipment or activities associated with the pumping operations contributing to either a surcharge or Sanitary Sewer Overflow (SSO). The cost of any related fines, penalties, or damages and the cost of any effort by GBRA or other third parties to mitigate damages resulting from any surcharging or SSOs shall be the direct and sole responsibility of the contractor.

G. Contractor shall field verify vertical and horizontal location of all existing utilities prior to ordering materials and prior to performing any work. Schedule GBRA to witness. Notify engineer of any discrepancies or conflicts.

H. Contractor shall field verify configuration of all proposed tie-ins to existing facilities prior to ordering materials and prior to performing any work. Schedule GBRA to witness. Notify engineer of any discrepancies or conflicts.

I. Survey staking and layout shall be performed by the contractor for all work. Survey staking and layout must be installed prior to and maintained during performance and inspection of the work. Survey staking and layout shall include vertical and horizontal control at maximum 50-foot station intervals, grade/alignment changes, structures, sitework, equipment, etc. Horizontal offsets shall be 15 feet maximum. Install property pins and stakes. Mark finished grade lines with cut/fill on offset stakes and property stakes. All marks shall face the work.

J. Trench excavation and installation of utilities will not be permitted until subgrade has been established.

K. Pipe bells shall be installed in upstream direction.

L. All piping shall be installed in straight alignment vertically and horizontally between bend fittings for pressure systems and between manholes for gravity systems. Pipe curvature and/or deflection are not allowed.

M. Maintain a minimum of 10 feet horizontal and 12 inches vertical clearance between water and wastewater lines and other utilities. Shared trenches are not allowed.

N. Pipe lengths shall be centered at all water and wastewater crossings. Both pipes shall be centered at each crossing including but not limited to mains, service laterals, fire hydrant leads, appurtenances, etc.

O. Water and wastewater piping (including mains, services, and laterals) shall be sleeved if located under concrete channels, box culverts, or multiple barrel storm sewer crossings regardless of size and single barrels nominal 30" or larger, and other utilities nominal 30"or larger. Sleeves shall extend horizontally beyond the limits of these items for a distance equal to the maximum vertical separation plus outside diameter of sleeve plus 10 LF minimum on each end.

P. Buried pressure piping systems shall be mechanically restrained. Refer to Detail 480 for restrained length requirements. Engineer shall evaluate soils and determine if any additional restraints are required. If the engineer requires concrete thrust blocking in addition to mechanical restraints, the concrete thrust blocking must be installed in accordance with Detail 540.

Q. Base plates shall bear on non-shrink grout unless specifically approved otherwise (e.g. columns, towers, equipment, stanchion pipe supports, light poles, etc.). Shims must be removed and leveling nuts must be lowered during the grouting process. Bevel edges of grout pads at 45-degrees.

R. Valve boxes, equipment, piping, valves, and appurtenances shall be painted. Field painting is not required if factory coatings meet or exceed the requirements specified in GBRA Standards and Design Guidelines Section 2.2.

S. Provide painted curb cut markings at water and wastewater valves and services. Markings shall be placed on lip of gutter. Provide "V" marking for each valve and "X" marking for each service. Paint shall be color coded polyurethane.

T. Provide 6" minimum clearance between concrete penetrations, and between concrete penetrations and concrete joints, as measured from nearest edge to nearest edge.

U. All exposed vertical and horizontal concrete edges shall be formed with ¾" chamfer strips. Sidewalks are exempt from this requirement.

V. For formed concrete surfaces exposed to weather or earth, rebar clearance shall be 2" minimum. For concrete surfaces cast against earth, rebar clearance shall be 3" minimum. All other rebar clearances shall be 1 1/2" minimum, including clearances from embedded items.

W. Rub finish all exposed vertical concrete surfaces. Inside hydraulic structures, rub finish 2 feet below the lowest operating level and all surfaces above that level.

X. Provide broom finish and clear sealer for all horizontal concrete surfaces exposed to weather unless noted otherwise. Broom finish shall be parallel to any specified slope. Clean and remove stains from concrete prior to applying sealer.

Y. The contractor shall adjust existing water and wastewater facilities to proposed finished grades including but not limited to manholes, cleanouts, valves, hydrants, appurtenances, etc.

Z. Existing facilities that are disturbed shall be restored and tested to be in full compliance with current GBRA standards.

AA. Existing manholes that are disturbed shall be restored to be in full compliance with current GBRA standards including testing, chemical resistant lining, rings and covers, etc.

BB. All restoration must be complete prior to installing tie-ins.

CC. The contractor shall furnish and install backflow prevention in the form of a reduced pressure backflow assembly for all temporary connections to existing water lines. Backflow devices must be tested and certified by a licensed professional. Contractor shall arrange and pay for testing and provide a copy of certification for GBRA review and approval prior to installation.

DD. Contractor shall furnish, install, maintain, and remove temporary fencing and gates as necessary to secure and access the work and to prevent livestock from entering the work area.

EE. Contractor shall perform dewatering as necessary to accomplish the work.

FF. Contractor shall restore and revegetate all disturbed areas.

GG. Unless noted otherwise, contractor shall properly dispose of excess spoils off site in accordance with local laws, ordinances, and regulations.

HH. Burial or burning of refuse is not allowed, contractor shall properly dispose of such material off site in accordance with local laws, ordinances, and regulations.

II. Explosives and blasting are not allowed.

JJ. Submit all items required for final completion in accordance with GBRA Standards and Design Guidelines Section 1.4.

CIVIL AND MECHANICAL TESTING NOTES:

GENERAL

A. All other utilities must be complete prior to performing any water or wastewater testing.

B. If allowed by the inspector from the jurisdiction overseeing street installation, the contractor may pave streets at the contractor's own risk prior to testing water and wastewater systems.

C. All testing shall be performed by the contractor and witnessed by GBRA.

D. All testing shall be arranged and paid for by the contractor.

E. Testing equipment must be calibrated within the previous 12 months.

F. Field and laboratory testing firms shall include GBRA on the distribution list for all test reports related to GBRA facilities.

G. Contractor shall perform pre-testing to verify passing results prior to requesting GBRA inspection.

H. Any work that fails testing must be corrected and retested.

I. Any work that is disturbed must be retested.

J. All testing must be complete, with passing results, prior to performing tie-ins to existing water or wastewater systems. Tie-ins must be tested as well.

K. Contractor shall provide all water, equipment, hoses, temporary ports, caps, plugs, piping, valves, fittings, air releases, and appurtenances necessary for testing.

L. Contractor shall provide connection point for GBRA digital test gauge.

M. Perform trench backfill density testing as follows unless specified more stringent by the design engineer or authority with jurisdiction (e.g. HOA/POA, city, county, state, etc.). Test each lift at maximum 100 LF intervals, including unpaved areas, minimum two (2) tests for each lift at all road crossings including but not limited to services and fire hydrant leads, 95% to 102% compaction, +/- 2% optimum moisture, exact locations to be randomly selected by GBRA inspector. Jetting and/or potholing are not allowed. Test each lift prior to installing subsequent lifts. Schedule GBRA to witness testing. Provide copies of test reports to GBRA. Failed lifts shall be removed and recompacted 50 LF each way from test location and shall be retested.

N. Examine paint, coatings, and associated surface preparation. Perform dry film thickness testing for each coat prior to application of subsequent coat. Repair any delamination, deficiencies, or other defects.

O. Examine grout and concrete work and perform nondestructive testing in accordance with ACI 201.1R and ACI 228.2R. Repair any delamination, voids, cracks, or other defects.

P. Examine chemical resistant lining inside manholes, wet wells, and structures. Perform holiday testing. Perform nondestructive testing in accordance with ACI 201.1R and ACI 228.2R. Repair any delamination, voids, cracks, blisters, holidays, or other defects.

Q. Fenced Facilities

1. Hydraulic structures must pass leakage testing after installation of any penetrations, prior to backfilling or otherwise covering the work, and prior to application of any toppings, coatings, or linings. Fill with clean water to overflow level. Allow minimum 24-hour saturation period. Test duration is 1 hour. No allowable leakage. Test each basin or chamber separately. Adjacent basins, chambers, and exterior surfaces must be clean and dry. Any areas of visible moisture shall be repaired and retested.

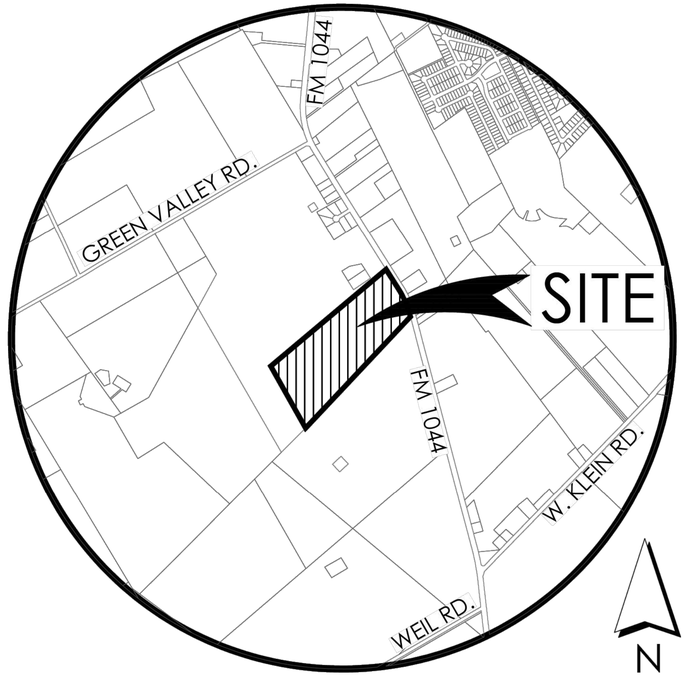
2. Water storage tanks must be tested in accordance with the procedures described herein for hydraulic structures, and shall be further tested and disinfected in accordance with applicable AWWA standards.

3. Pumping systems shall be selected based on maximum wire-to-water efficiency. Pump duty point shall be within 70% to 120% of pump flow at best efficiency point for each pump operating individually and for each combination of pumps in operation. Field draw down testing is required to demonstrate the specified performance for each pump operating individually and for each combination of pumps in operation.

4. All measuring and/or recording devices and instruments shall be field calibrated by a licensed professional. Contractor shall arrange and pay for calibration and provide copies of calibration certificates to GBRA prior to demonstration testing.

5. Contractor shall perform operational demonstration testing of the entire project and each specified phase thereof. Prior to demonstration testing, contractor shall: (1) retain the services of qualified manufacturer technical representatives to startup, test, and verify all devices, instruments, equipment, and systems are installed properly and are fully functional and calibrated; and (2) submit all O&M manuals in accordance with Section 1.4 herein. Once the contractor verifies the work is ready for demonstration testing, the contractor shall request GBRA to inspect the project. Within ten (10) business days after the inspection, GBRA will endeavorto provide a list of critical items that must be corrected prior to demonstration testing. After the contractor has corrected all critical items, the contractor shall request GBRA to inspect the project. Once all critical items are completed to GBRA's satisfaction, the contractor shall utilize clean water to perform demonstration testing. The demonstration testing must be witnessed by GBRA. During demonstration testing, contractor shall retain the services of qualified manufacturer technical representatives to demonstrate all devices, instruments, equipment, and systems are fully functional and calibrated. Contractor shall coordinate demonstration testing schedule, and any reschedule, with GBRA at least ten (10) business days in advance.

6. Contractor shall provide onsite training of GBRA operating personnel after successful operational demonstration testing of the entire project and each specified phase thereof. training shall not occur on the same day as testing. All training must be complete prior to placing the facility, or specified phase thereof, into service and prior to issuing substantial completion. Contractor shall operate the facility, or specified phase thereof, with clean water during training. Contractor shall retain the services of qualified manufacturer technical representatives to conduct the training. These shall be the same manufacturer representatives who performed the respective field installation and functional testing services. Provide training for all devices, instruments, equipment, and systems. training shall include operation, adjustments, calibration, troubleshooting, and maintenance procedures. Contractor shall coordinate schedule, and any reschedule, with GBRA at least ten (10) business days in advance



Sheet List Table	
Sheet Number	Sheet Title
6.0	SANITARY SEWER PLAN COVER SHEET
6.1	OVERALL SANITARY SEWER PLAN
6.2	OVERALL SANITARY SEWER PLAN
6.3	SANITARY SEWER LINE A (1 OF 2)
6.4	SANITARY SEWER LINE A (2 OF 2)
6.5	SANITARY SEWER LINE B
6.6	SANITARY SEWER LINE C & LINE D
6.7	SANITARY SEWER LINE E
6.8	GBRA SANITARY SEWER DETAIL SHEET (1 OF 2)
6.9	GBRA SANITARY SEWER DETAIL SHEET (2 OF 2)

WASTEWATER NOTES:

A. Refer to Civil and Mechanical testing notes herein for general testing requirements.

B. All gravity wastewater piping shall be subject to low pressure air testing in accordance with TCEQ requirements. Infiltration and exfiltration testing are not allowed.

C. Mandrel testing shall be performed for all gravity wastewater mains after final backfill has been in place for at least thirty (30) calendar days, but prior to installation of manhole interior grouting and lining.

D. All manholes shall be vacuum tested after completion of backfill, compaction, and final grading, including compaction and final grading of road base where applicable, but prior to installation of manhole interior grouting and lining. Vacuum testing shall be performed with a plate type test head placed on top of manhole metal casting ring that has been installed and encased in concrete at final grade. Manholes shall be tested at 10 inches of mercury for 2 minutes duration. Allowable loss is 1 inch of mercury. Any grout necessary to remedy a failed vacuum test must be applied to the exterior of the manhole. Infiltration and exfiltration testing are not allowed.

E. Perform video inspection and golf ball testing of gravity wastewater piping after successful vacuum, grout, and lining testing. Pipe and manholes must be cleaned free of dirt, rocks, scale, mud, silt, and any other foreign matter prior to performing video inspection and golf ball testing. Flood system with water immediately prior to performing video inspection and golf ball testing. Hang and drag a golf ball in front of camera. Pipe grade is out of tolerance if golf ball becomes fully submerged. Any visible piping imperfections must be corrected. Schedule GBRA to witness video inspection and golf ball testing. Provide copies of videos and reports to GBRA onsite immediately upon conclusion of each inspection.

F. Follow TCEQ pipe testing procedures and allowable leakage for force mains. Test every valved section (i.e. test against every valve in closed position). Test pressure shall be the maximum rating of material installed.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

03/23/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

SANITARY SEWER PLAN COVER SHEET

LOCATION

NEW BRAUNFELS ETJ

SHEET NO.

6.0

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Date: 12/13/2023 3:37:16 PM
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Date: 2/7/2024 2:44:22 PM
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NOTES:

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NOTE:
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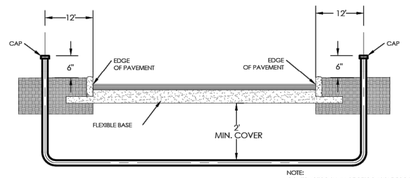

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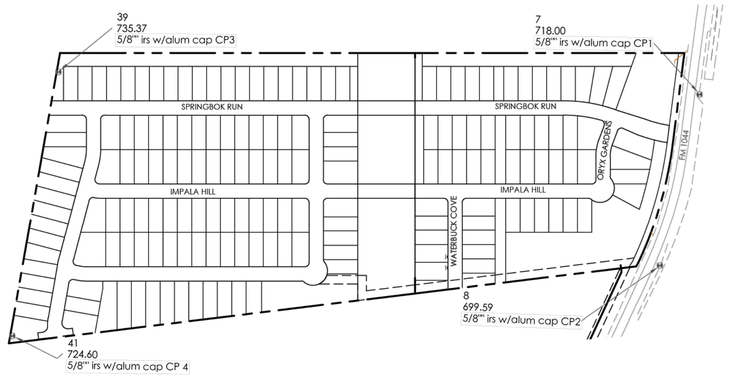
TYPICAL CONDUIT DETAIL
NOT-TO-SCALE



CONTROL POINTS

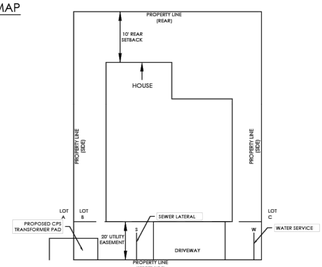
CP 1
5/8" IRS WITH ALUM CAP
NORTHING: 13783944.01000
EASTING: 2244184.57300
ELEV: 717.99700

CP2
5/8" IRS WITH ALUM CAP
NORTHING: 13783396.23900
EASTING: 2244461.62400
ELEV: 699.59100

CP3
5/8" IRS WITH ALUM CAP
NORTHING: 13782568.79900
EASTING: 2242415.83400
ELEV: 735.36600

CP4
5/8" IRS WITH ALUM CAP
NORTHING: 13781757.88400
EASTING: 2242882.88600
ELEV: 724.59600

CONTROL POINT LOCATION MAP
1" = 250'

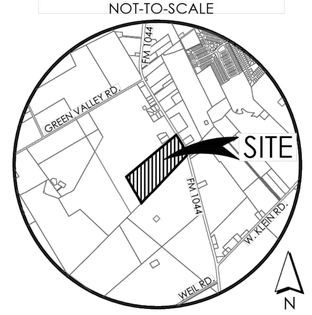


TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE

SCALE: 1" = 50'
0' 25' 50' 75' 100'

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

LOCATION MAP
NOT-TO-SCALE



LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W/M
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	IRR/M
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	LA
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E, G, T, TV, E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
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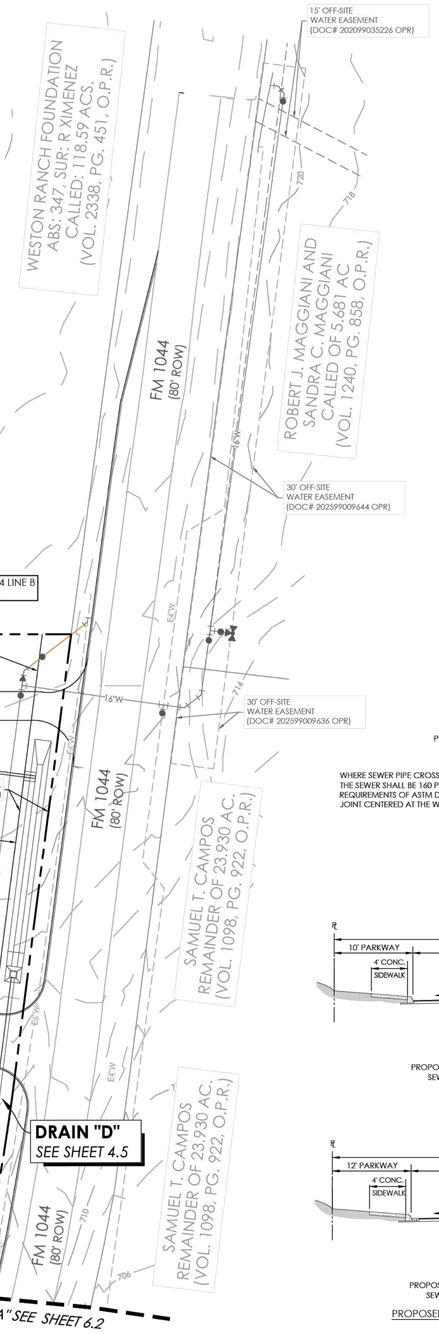
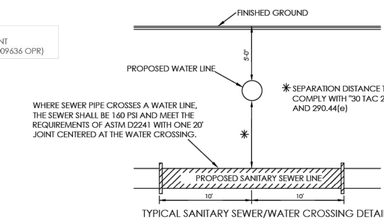
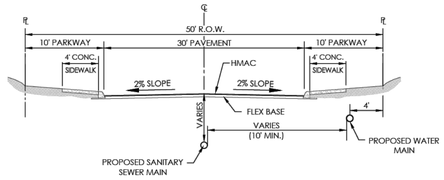
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE
PROPOSED DRIVEWAY	=	

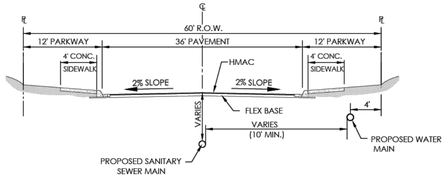




TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



PROPOSED STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.

BLUESITE ENGINEERING
TBPE NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett La Plante
03/23/2026

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SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
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AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL SANITARY SEWER PLAN

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.1

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Date: 2/7/2024 2:44:22 PM
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Date: 12/13/2023 3:37:16 PM
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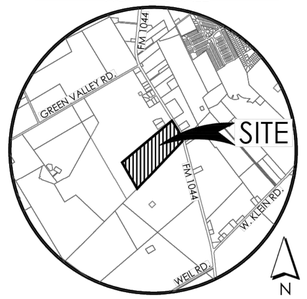

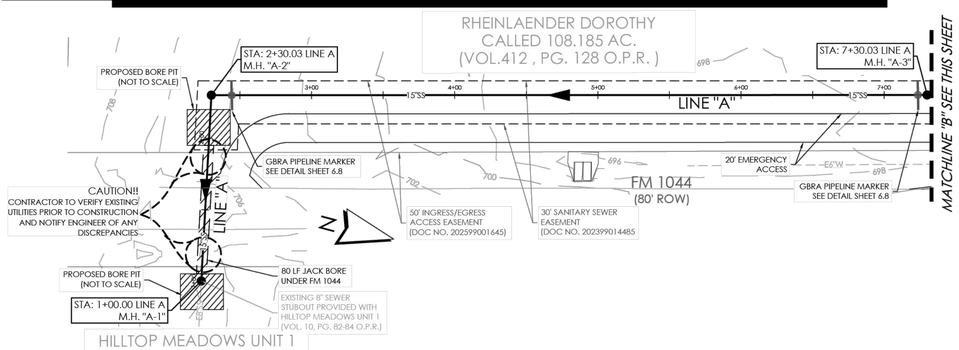

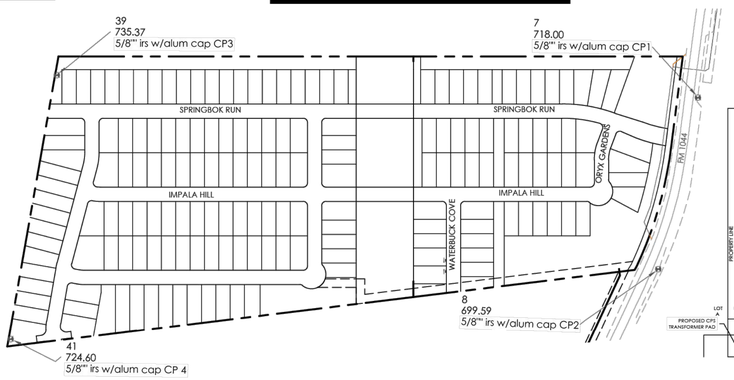

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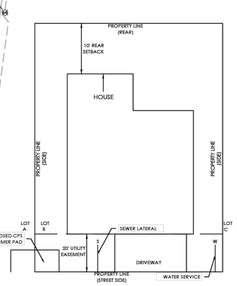

TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE

LEGEND

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PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E. G. T. TV. E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING BLOWOFF VALVE	=	
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EXISTING SANITARY SEWER MANHOLE	=	
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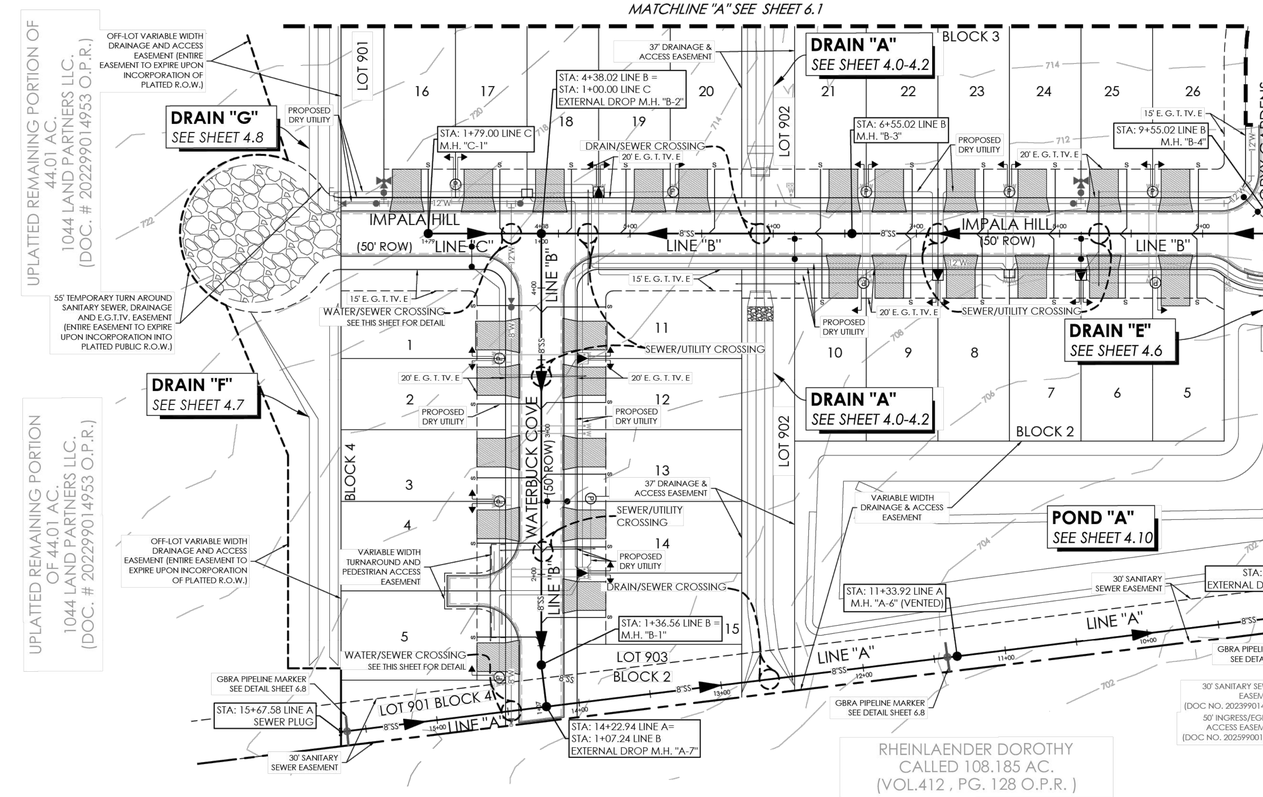
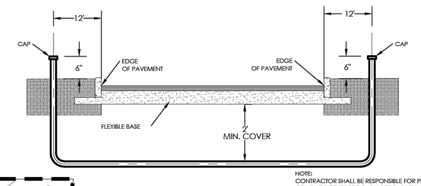
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE
PROPOSED DRIVEWAY	=	





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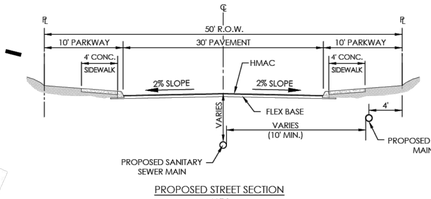
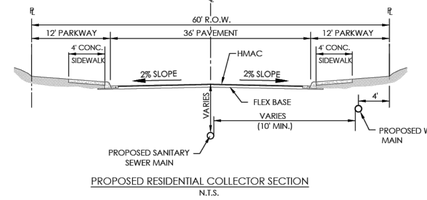
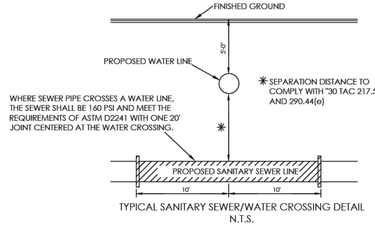


PROPOSED STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL SANITARY SEWER PLAN

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.2

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Date: 12/13/2023 3:37:16 PM
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Date: 2/7/2024 2:44:22 PM
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COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

TRENCH EXCAVATION SAFETY PROTECTION

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DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

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5. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR 26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS.
6. REFER TO ALL GBRA NOTES ON SHEET 6.0

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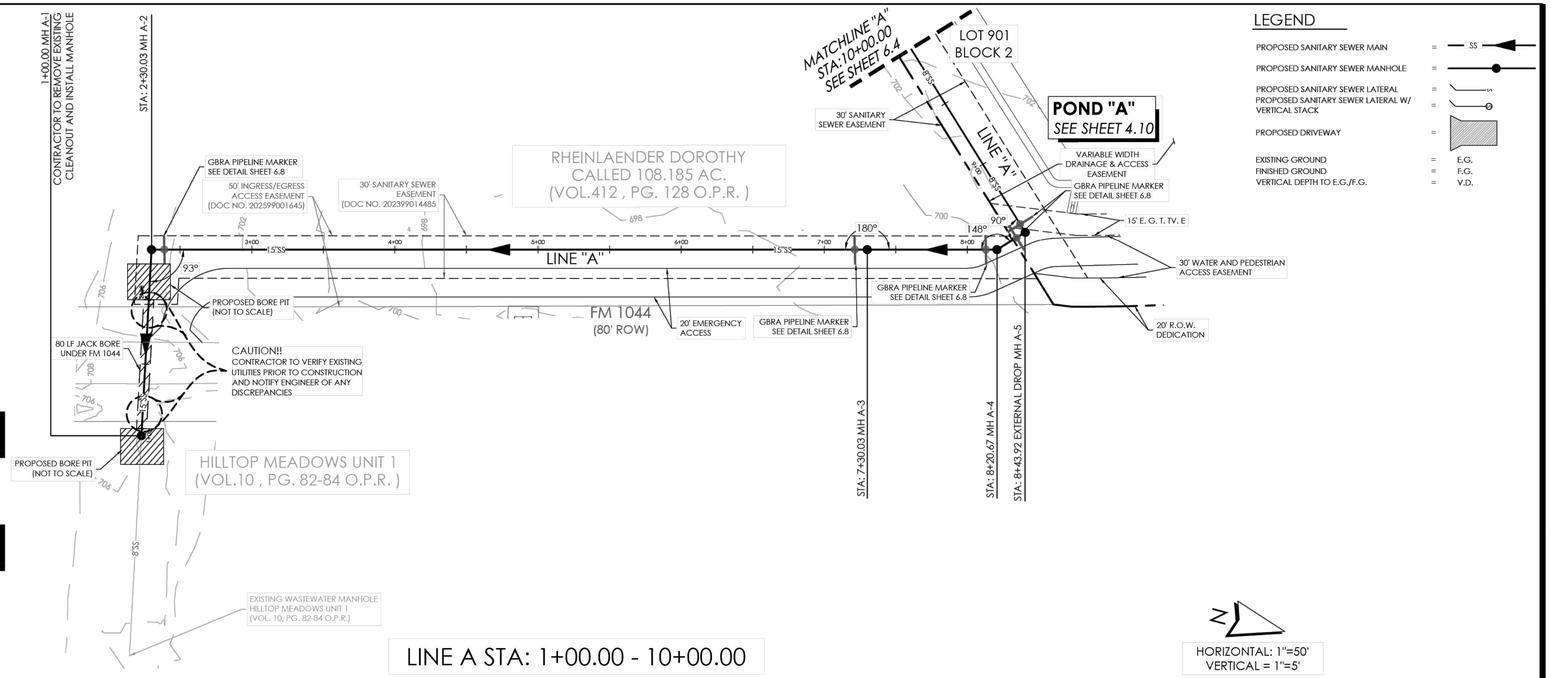

LEGEND

PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED DRIVEWAY	=	
EXISTING GROUND	=	E.G.
FINISHED GROUND	=	F.G.
VERTICAL DEPTH TO E.G./F.G.	=	V.D.

LINE A STA: 1+00.00 - 10+00.00

HORIZONTAL: 1"=50'
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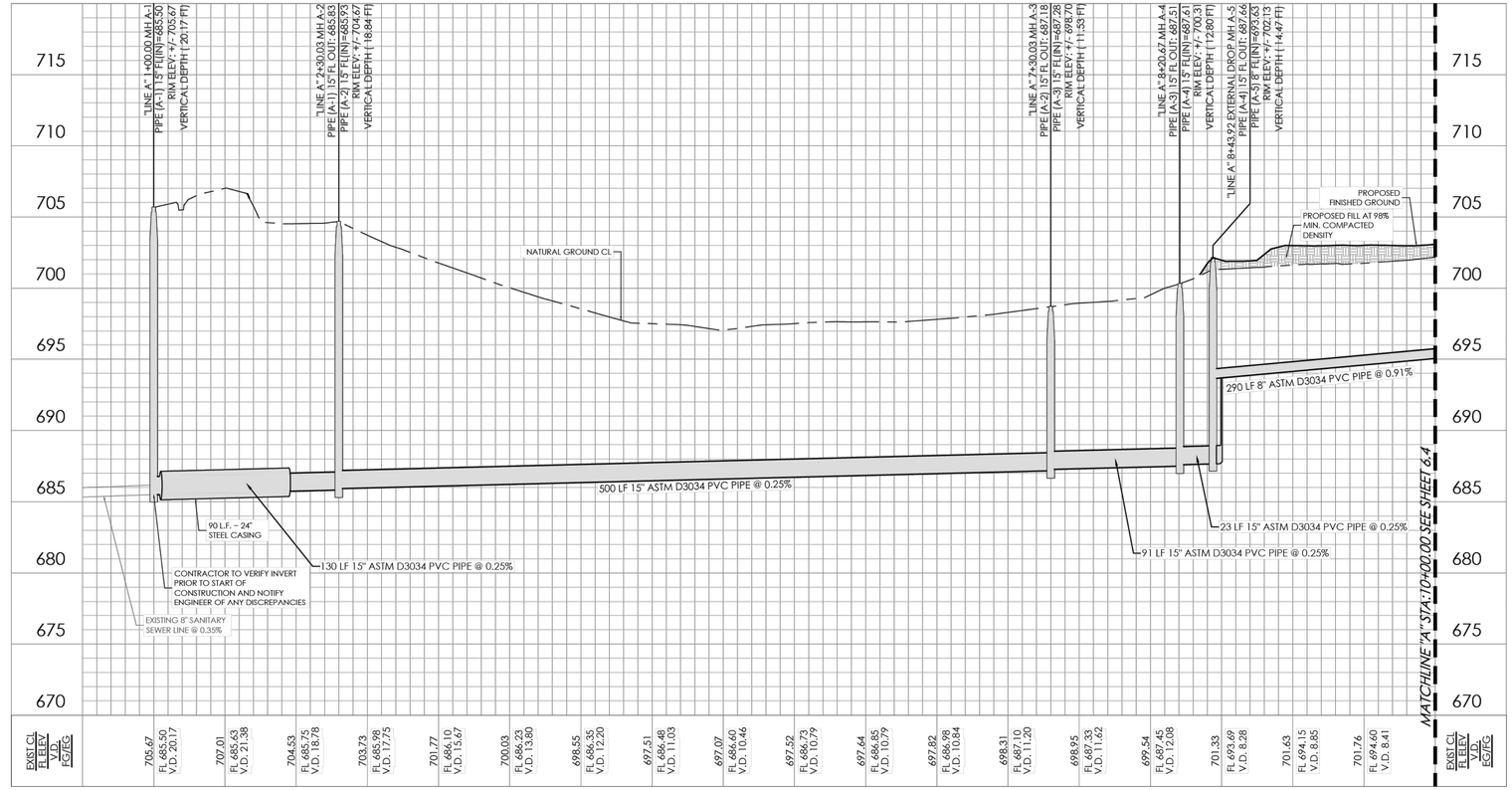
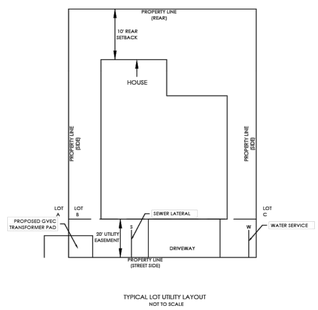
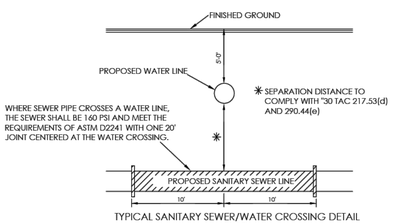




TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
SANITARY SEWER LINE A (1 OF 2)

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.3

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Date: 2/7/2024 2:44:22 PM
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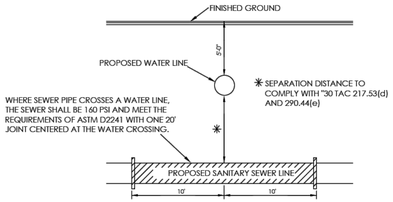
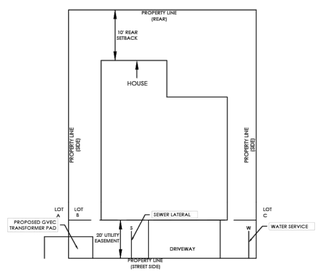
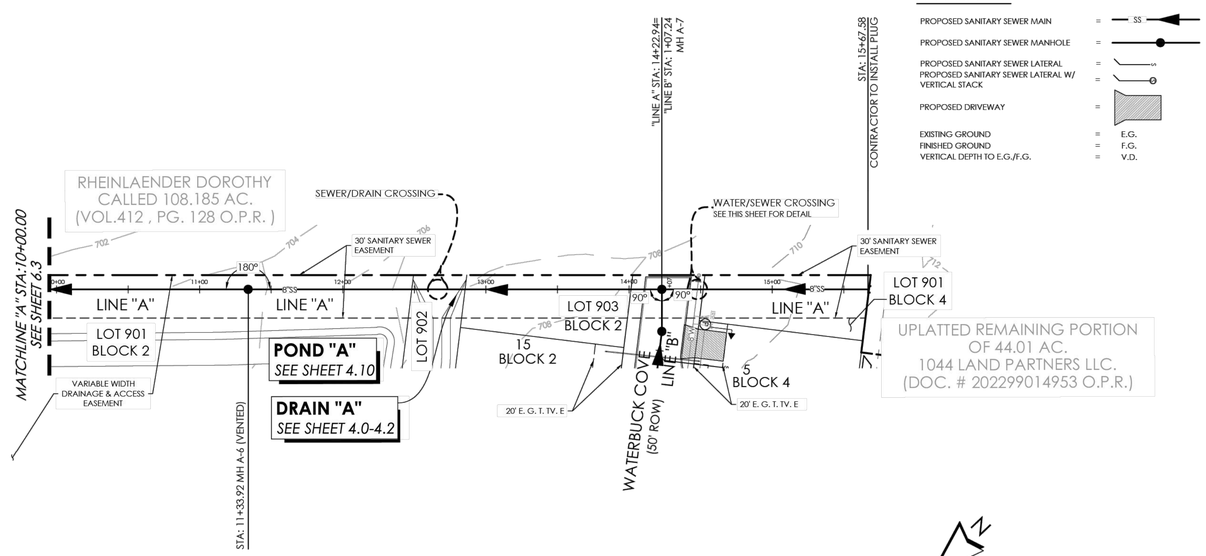


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE



HORIZONTAL: 1"=50'
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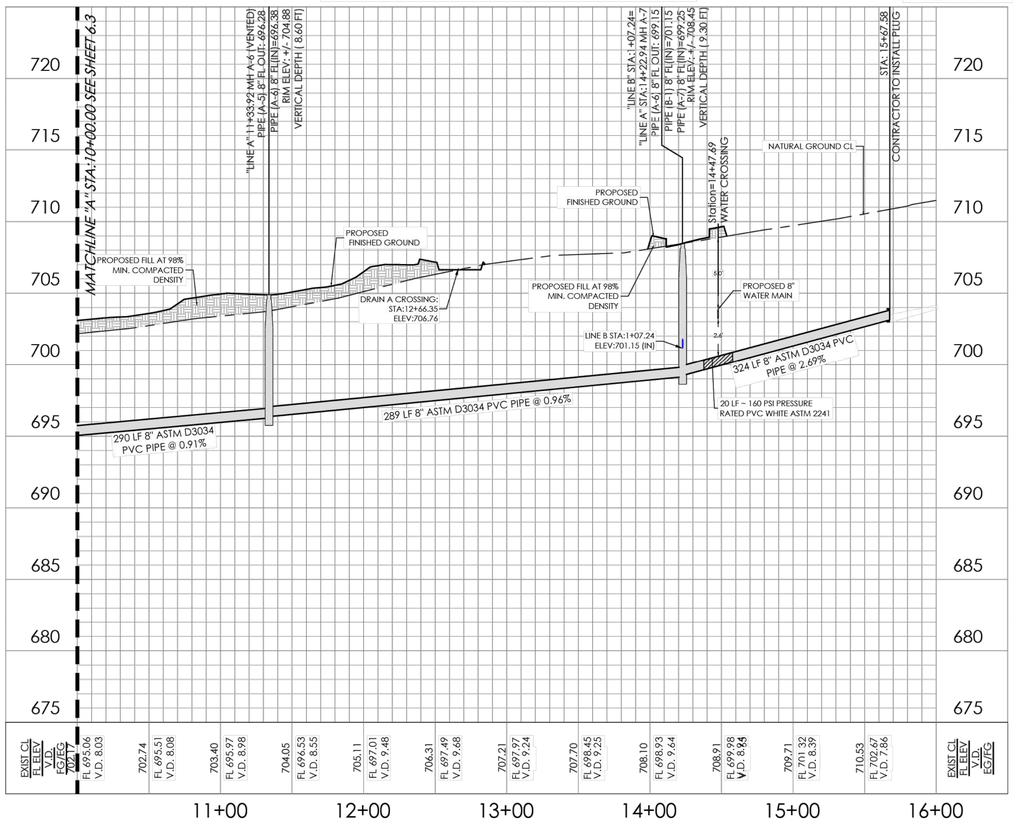
LINE A STA: 10+00.00 - 15+67.58



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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
SANITARY SEWER LINE A (2 OF 2)

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.4

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Date: 2/7/2024 2:44:02 PM
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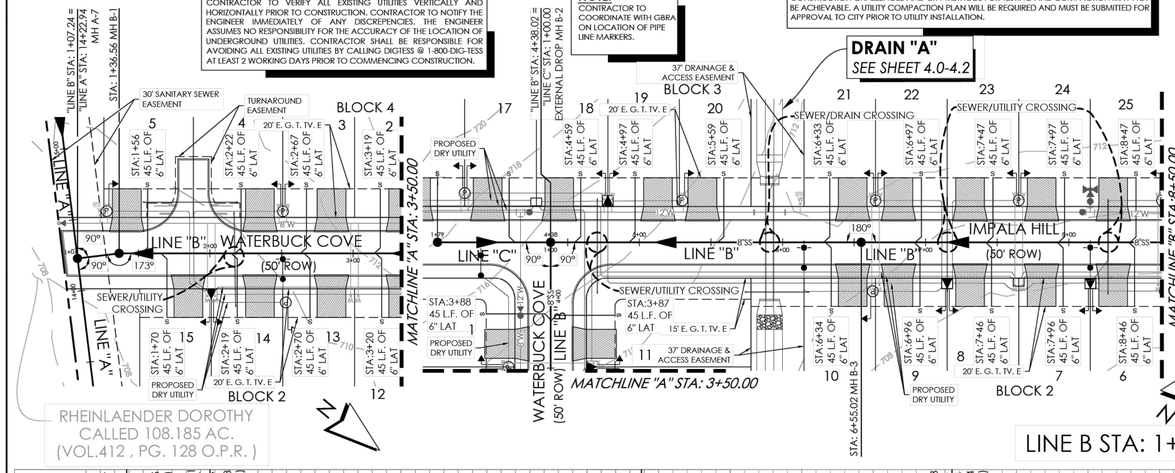
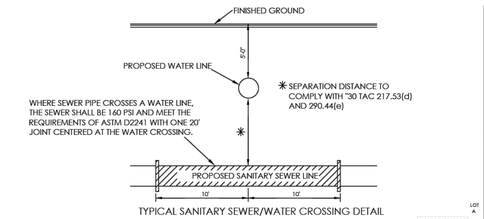
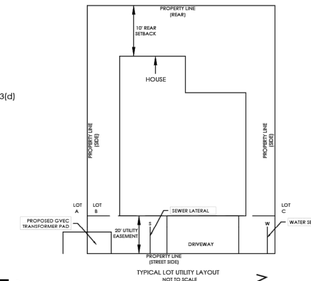




TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE

LEGEND

PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED DRIVEWAY	=	
EXISTING GROUND	=	E.G.
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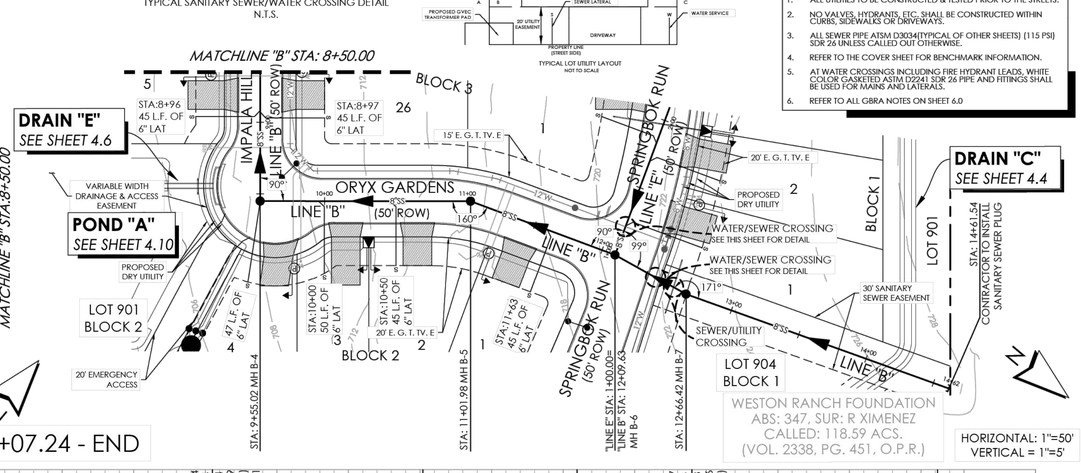

LINE B STA: 1+07.24 - END

HORIZONTAL: 1"=50'
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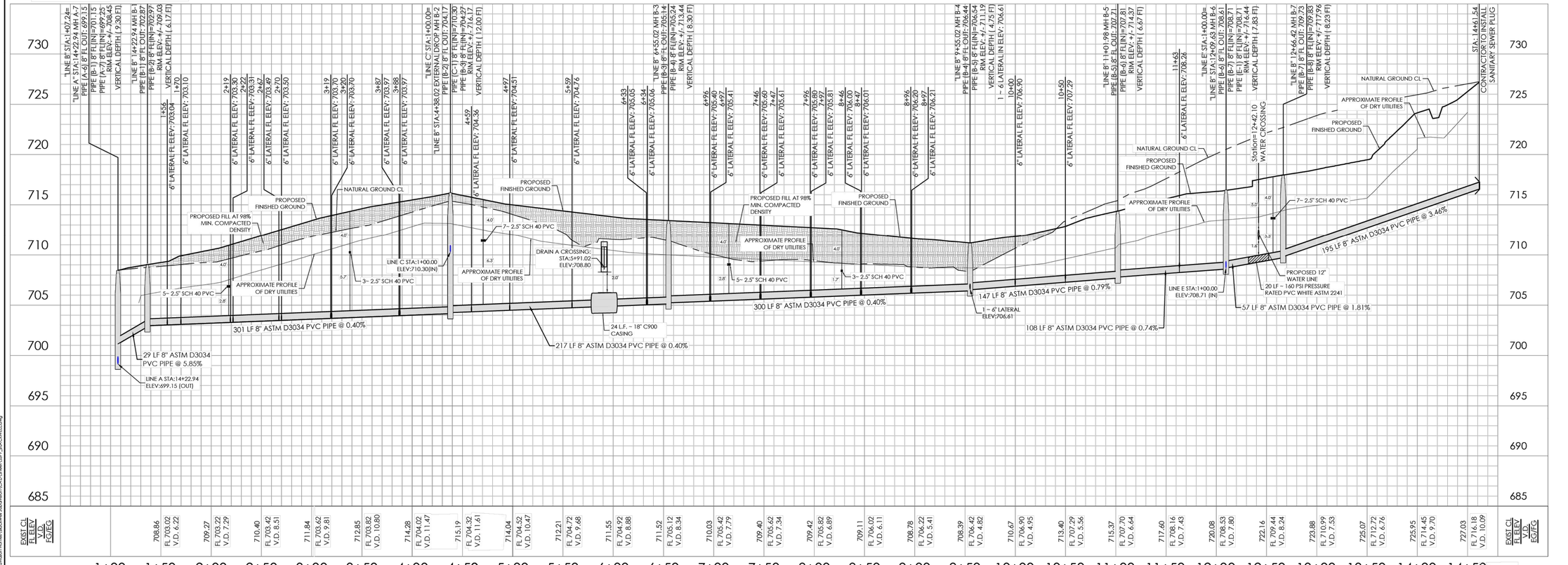

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COMPACTION NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTES TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE AQUA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM.

TRENCH EXCAVATION SAFETY PROTECTION

THE 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 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.

DRY UTILITY CONDUIT NOTE

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY TRENCH COMPACTION (DEEP)

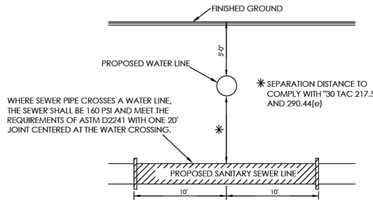
THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY NOTES:

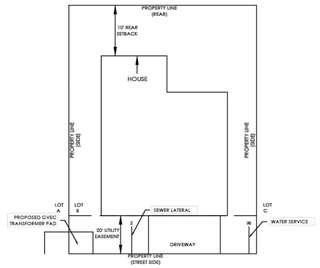
1. ALL UTILITIES TO BE CONSTRUCTED & TESTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM D3034(TYPICAL OF OTHER SHEETS) (115 PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
4. REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.
5. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR CASKEETED ASTM D2241 SDR 26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS.
6. REFER TO ALL GBRA NOTES ON SHEET 6.0

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

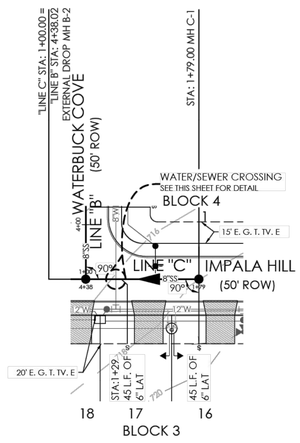
NOTE:
CONTRACTOR TO COORDINATE WITH GBRA ON LOCATION OF PIPE LINE MARKERS.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE



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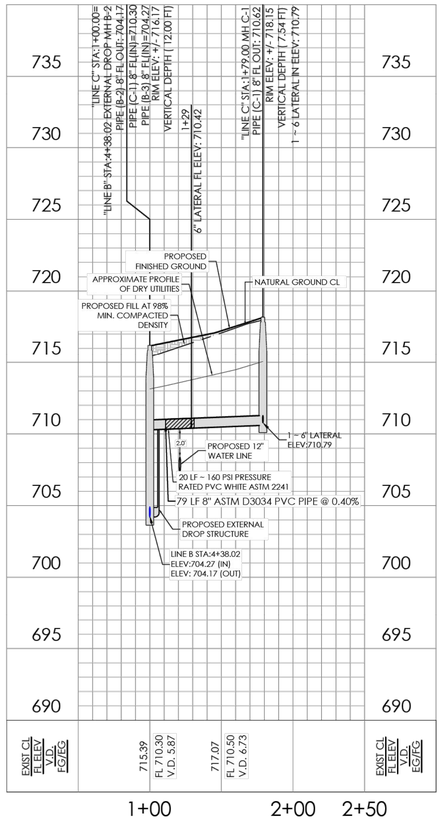
VERTICAL = 1"=5'



LEGEND

PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED DRIVEWAY	=	
EXISTING GROUND	=	E.G.
FINISHED GROUND	=	F.G.
VERTICAL DEPTH TO E.G./F.G.	=	V.D.

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
SANITARY SEWER LINE C

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.6

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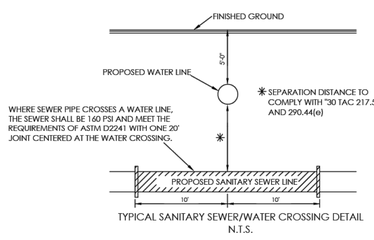
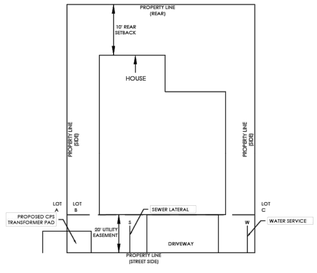
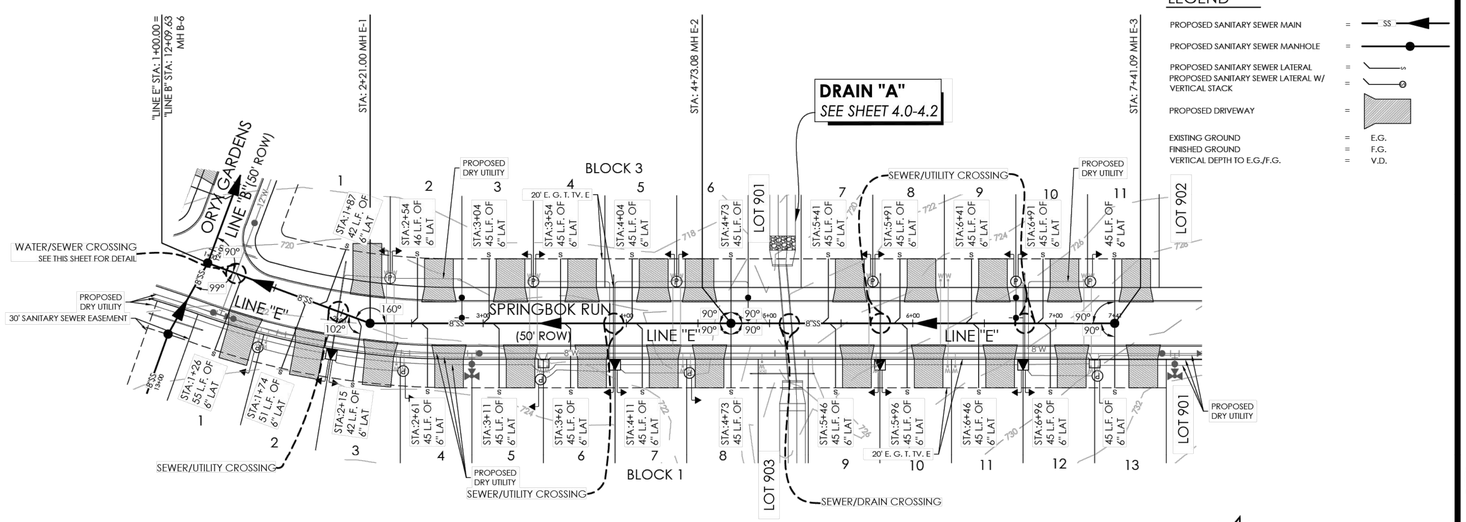


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



TYPICAL LOT UTILITY LAYOUT
NOT TO SCALE



LEGEND

PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED DRIVEWAY	=	
EXISTING GROUND	=	E.G.
FINISHED GROUND	=	F.G.
VERTICAL DEPTH TO E.G./F.G.	=	V.D.

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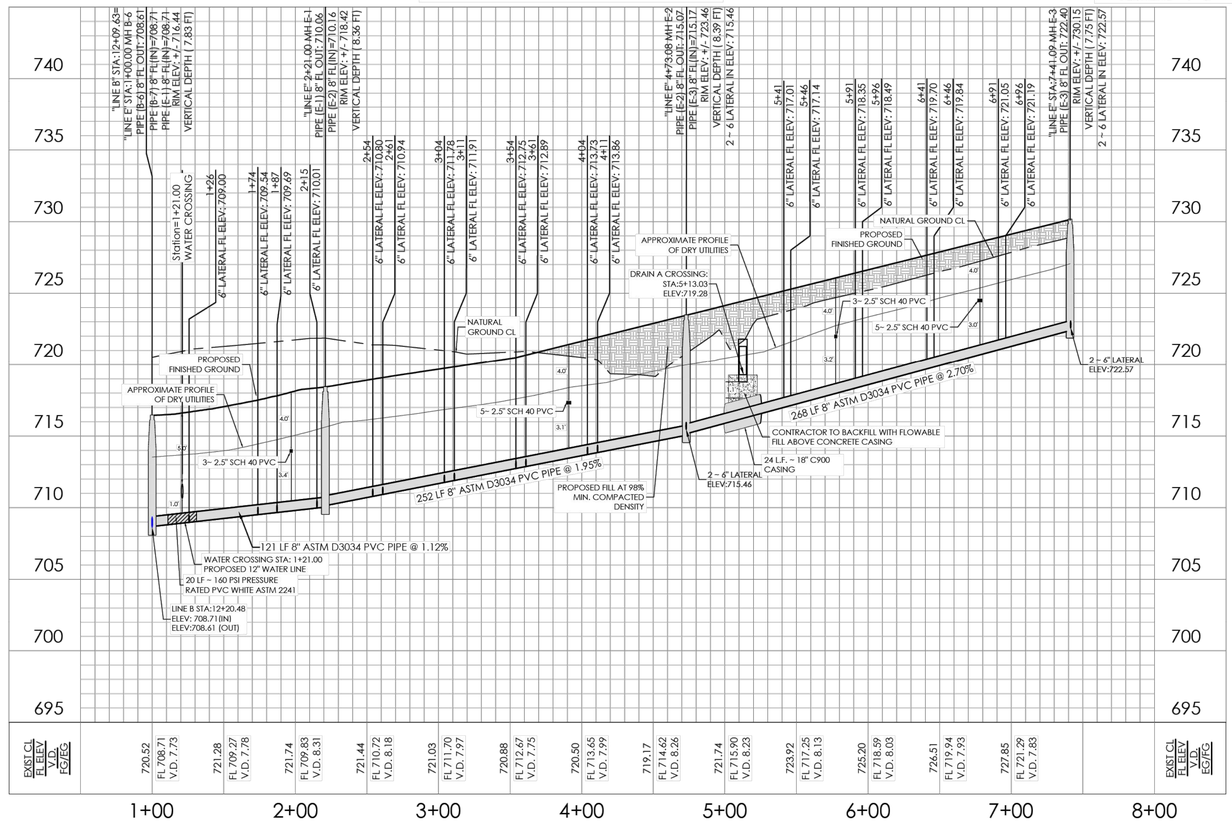
LINE E STA: 1+00.00 - END



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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
SANITARY SEWER LINE E

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.7

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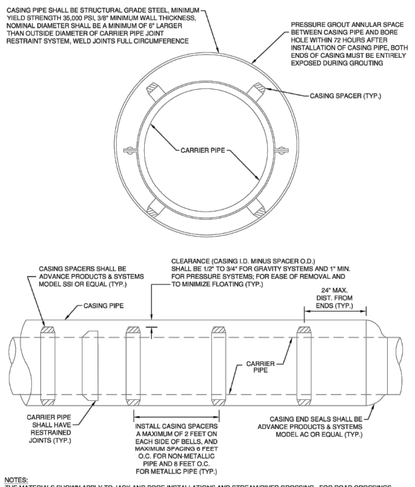

NOTES:
THE MATERIALS SHOWN APPLY TO JACK AND BORE INSTALLATIONS AND STREAM/RIVER CROSSING. FOR ROAD CROSSINGS, CASING SHALL EXTEND 5 FEET MINIMUM BEYOND ROW ON EACH END. OPEN CUT SLEEVING OF SUBDIVISION UTILITIES UNDER STORM SEWER MAY BE C900 DR18 CASING (COLOR TO MATCH CARRIER PIPE) AND ADVANCE PRODUCTS & SYSTEMS MODEL CI SPACERS, OR EQUAL, WITH STAINLESS STEEL HARDWARE. REFERENCE GBRA STANDARDS AND DESIGN GUIDELINES FOR ADDITIONAL SLEEVE REQUIREMENTS. THE CLEARANCE AND DIMENSIONS SHOWN APPLY TO ALL INSTALLATIONS.

GBRA Guadalupe-Blanco River Authority

CASING AND SPACERS

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 230	

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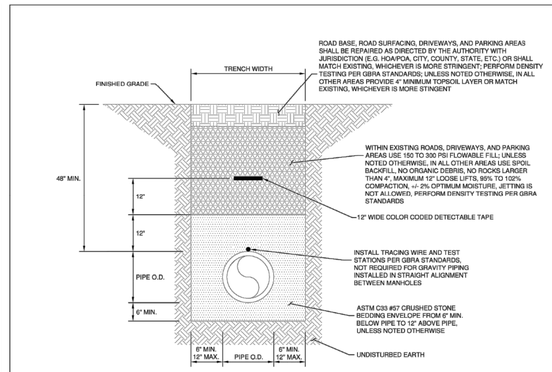

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PIPE TRENCH

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 420	

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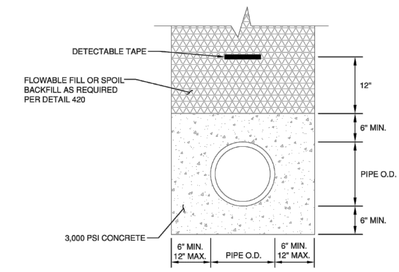

NOTES:
1. REFERENCE DETAIL 420 FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL SECURE PIPE TO MAINTAIN LINE AND GRADE DURING CONCRETE PLACEMENT.

GBRA Guadalupe-Blanco River Authority

PIPELINE CONCRETE ENCASEMENT

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 450	

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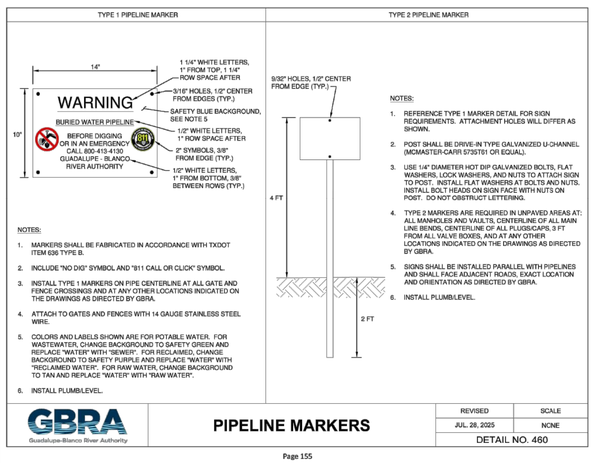

NOTES:
1. MARKERS SHALL BE FABRICATED IN ACCORDANCE WITH TXDOT ITEM 636 TYPE B.
2. INCLUDE "NO DIG" SYMBOL AND "811 CALL OR CLICK" SYMBOL.
3. INSTALL TYPE 1 MARKERS ON PIPE CENTERLINE AT ALL GATE AND FENCE CROSSINGS AND AT ANY OTHER LOCATIONS INDICATED ON THE DRAWINGS AS DIRECTED BY GBRA.
4. ATTACH TO GATES AND FENCES WITH 14 GAUGE STAINLESS STEEL WIRE.
5. COLORS AND LABELS SHOWN ARE FOR POTABLE WATER. FOR WASTEWATER, CHANGE BACKGROUND TO SAFETY GREEN AND REPLACE "WATER" WITH "SEWER". FOR RECLAIMED, CHANGE BACKGROUND TO SAFETY PURPLE AND REPLACE "WATER" WITH "RECLAIMED WATER". FOR RAW WATER, CHANGE BACKGROUND TO TAN AND REPLACE "WATER" WITH "RAW WATER".
6. INSTALL PLUMB-LEVEL.

NOTES:
1. REFERENCE TYPE 1 MARKER DETAIL FOR SIGN REQUIREMENTS. ATTACHMENT HOLES WILL DIFFER AS SHOWN.
2. POST SHALL BE DRIVE-IN TYPE GALVANIZED U-CHANNEL (MCMASTER-CARR 5729T51 OR EQUAL).
3. USE 1/4" DIAMETER HOT DIP GALVANIZED BOLTS, FLAT WASHERS, LOCK WASHERS, AND NUTS TO ATTACH SIGN TO POST. INSTALL FLAT WASHERS AT BOLTS AND NUTS. INSTALL BOLT HEADS ON SIGN FACE WITH NUTS ON POST. DO NOT OBSTRUCT LETTERING.
4. TYPE 2 MARKERS ARE REQUIRED IN UNPAVED AREAS AT: ALL MANHOLES AND VAULTS, CENTERLINE OF ALL MAIN LINE BENDS, CENTERLINE OF ALL PLUGS/CAPS, 3 FT FROM ALL VALVE BOXES, AND AT ANY OTHER LOCATIONS INDICATED ON THE DRAWINGS AS DIRECTED BY GBRA.
5. SIGNS SHALL BE INSTALLED PARALLEL WITH PIPELINES AND SHALL FACE ADJACENT ROADS, EXACT LOCATION AND ORIENTATION AS DIRECTED BY GBRA.
6. INSTALL PLUMB-LEVEL.

GBRA Guadalupe-Blanco River Authority

PIPELINE MARKERS

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 460	

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DESCRIPTION	MINIMUM RESTRAINED LENGTH (FT. EACH WAY)
11 1/4° BENDS	30
22 1/2° BENDS	40
45° BENDS	50
90° BENDS, TEES, REDUCERS, TAPPING SLEEVES	60
VALVES, DEAD ENDS	100

NOTES:
1. THE TABLE ABOVE INDICATES MINIMUM RESTRAINED LENGTH REQUIREMENTS FOR BURIED PRESSURE PIPING SYSTEMS. THE RESTRAINED LENGTHS SHALL BE PROVIDED EACH WAY FROM ALL FITTINGS, VALVES, DEAD ENDS, ETC. THE DESIGN ENGINEER SHALL EVALUATE SOILS AND SYSTEM HYDRAULICS AND DETERMINE IF ANY ADDITIONAL RESTRAINTS ARE REQUIRED.
2. IF THE DESIGN ENGINEER REQUIRES CONCRETE THRUST BLOCKING IN ADDITION TO MECHANICAL RESTRAINTS, THE CONCRETE THRUST BLOCKING MUST BE INSTALLED IN ACCORDANCE WITH DETAIL 540.
3. REFERENCE GBRA STANDARDS FOR PIPE, FITTING, AND RESTRAINT MATERIAL REQUIREMENTS.

GBRA Guadalupe-Blanco River Authority

RESTRAINED LENGTHS

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 480	

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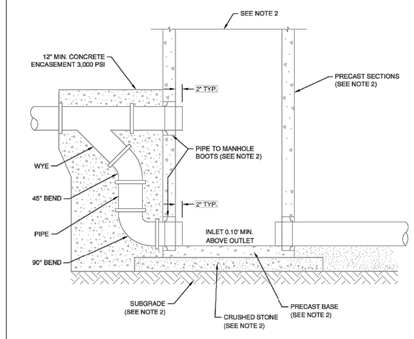

NOTES:
1. A WASTEWATER COLLECTION SYSTEM PIPE, INCLUDING SERVICE LATERALS, ENTERING A MANHOLE MORE THAN 24" ABOVE THE MANHOLE OUT INVERT MUST HAVE AN EXTERNAL DROP PIPE. INTERNAL DROPS ARE NOT ALLOWED.
2. REFERENCE DETAIL 620 FOR ADDITIONAL REQUIREMENTS.

GBRA Guadalupe-Blanco River Authority

WASTEWATER DROP MANHOLE

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 560	

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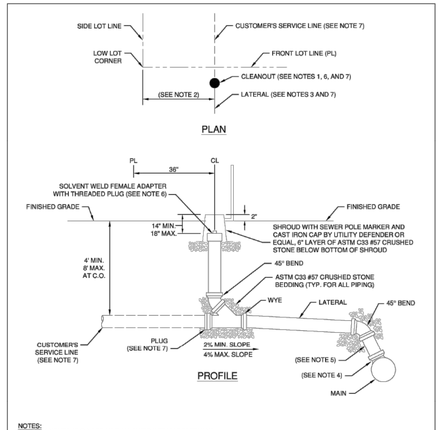

NOTES:
1. CLEANOUTS (C.O.) ARE NOT ALLOWED WITHIN DRIVEWAYS.
2. PROVIDE SINGLE WASTEWATER SERVICES 5 FT FROM LOW LOT CORNER (TYPICAL). PROVIDE 8 FT WHERE LOT CORNER IS SHARED WITH DRY UTILITIES AND 10 FT WHERE LOT CORNER IS SHARED WITH A FIRE HYDRANT OR AIR RELEASE VALVE.
3. PIPE AND FITTINGS SHALL BE 6" DIAMETER, GREEN COLOR, GASKETED ASTM D3034 SDR26, UNLESS NOTED OTHERWISE. AT WATER CROSSINGS PIPE AND FITTINGS SHALL BE WHITE COLOR, GASKETED, AND 150 PSI MINIMUM PRESSURE RATED.
4. UTILIZE SANITARY TEES FOR NEW CONSTRUCTION. UTILIZE TAPPING SADDLES FOR EXISTING MAINS (NAPCO PART H4306-6R OR EQUAL, ADJUST PART NUMBER FOR SIZE REQUIRED). TAPPING SADDLES ARE NOT ALLOWED FOR NEW CONSTRUCTION.
5. INSTALL PIPE BETWEEN FITTINGS IF NECESSARY. INSTALL PER VERTICAL STACK DETAIL 580 IF NECESSARY OR WHERE SHOWN.
6. CLEANOUT RISER AND SHROUD SHALL BE INSTALLED PLUMB/LEVEL. CENTERLINE (CL) OF CLEANOUT RISER SHALL BE 3 FT FROM PROPERTY LINE (PL).
7. ENTIRE ASSEMBLY SHALL BE FURNISHED AND INSTALLED BY THE STREET UTILITY CONTRACTOR, WITH EXCEPTION OF CUSTOMER'S SERVICE LINE. CUSTOMER'S PLUMBER SHALL REMOVE PLUG, INSTALL CUSTOMER'S SERVICE LINE, VERIFY ANY FINISHED GRADE MODIFICATIONS AND ADJUST ASSEMBLY ACCORDINGLY, AND RESTORE ANY DISTURBED WORK.

GBRA Guadalupe-Blanco River Authority

WASTEWATER LATERAL AND CLEANOUT

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 570	

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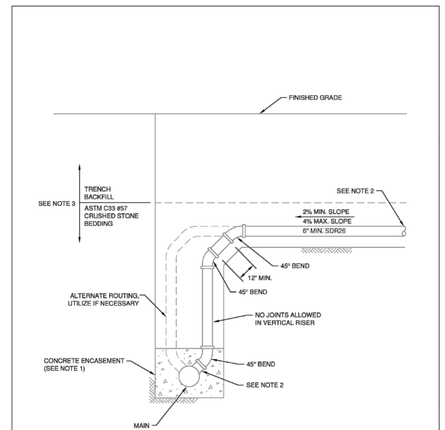

NOTES:
1. CONCRETE ENCASEMENT SHALL BE PLACED, UPON AND AGAINST UNDISTURBED EARTH.
2. REFERENCE DETAIL 570 FOR ADDITIONAL REQUIREMENTS.
3. REFERENCE DETAIL 420 FOR ADDITIONAL REQUIREMENTS.
4. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GBRA Guadalupe-Blanco River Authority

WASTEWATER LATERAL VERTICAL STACK

REVISED	SCALE
JUL. 28, 2025	NONE
DETAIL NO. 580	

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BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
GBRA SANITARY SEWER DETAIL SHEET (1 OF 2)

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.8

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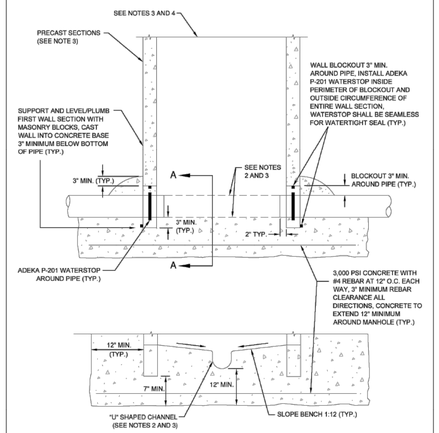

SECTION "A-A"

NOTES:
1. THIS DETAIL SHALL BE USED TO INSTALL MANHOLES ON EXISTING MAINS ONLY.
2. AFTER SUCCESSFUL VACUUM TESTING, REMOVE EXISTING PIPE FULL CIRCUMFERENCE AND SHAPE CHANNELS FOR NEW AND EXISTING PIPES.
3. REFERENCE DETAIL 620 FOR CHEMICAL RESISTANT MATERIAL REQUIREMENTS.
4. REFERENCE DETAIL 620 FOR ADDITIONAL REQUIREMENTS.

GBRA Guadalupe-Blanco River Authority	WASTEWATER MANHOLE CAST IN PLACE BASE	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 590	

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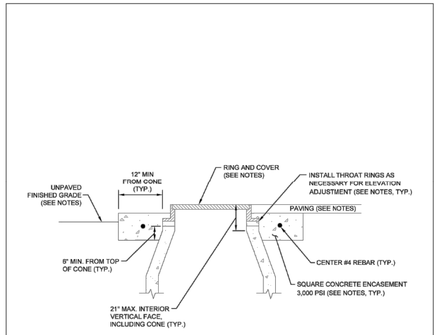

NOTES:
1. MANHOLE RING CONCRETE ENCASEMENT IS REQUIRED FOR ALL MANHOLES.
2. INSTALL CONCRETE ENCASEMENT SQUARE WITH CURB.
3. MANHOLE RIM ELEVATIONS SHOWN IN PLAN AND PROFILE VIEWS ARE APPROXIMATE.
4. IN UNPAVED AREAS, ASSEMBLY SHALL BE INSTALLED PLUMB/LEVEL, TOP OF CONCRETE ENCASEMENT SHALL BE 3" ABOVE FINISHED GRADE, COVERS SHALL BE 2" ABOVE TOP OF CONCRETE ENCASEMENT, ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
5. IN PAVED AREAS, RINGS AND COVERS SHALL BE FLUSH WITH PAVING AND SLOPED TO MATCH PAVING.
6. THROAT RINGS SHALL BE PRECAST CONCRETE. ALL INTERIOR SURFACES OF MANHOLES SHALL BE CHEMICAL RESISTANT INCLUDING THROAT. UTILIZE NON-SHRINK GROUT FOR INSTALLATION OF THROAT RINGS. GROUT SHALL BE COMPATIBLE WITH THE CHEMICAL RESISTANT SYSTEM.
7. MANHOLE RINGS AND COVERS SHALL BE EJCO PRODUCT NUMBER 424532109W01, SIP INDUSTRIES ITEM NUMBER 4087, OR EQUAL.
8. SCHEDULE GBRA INSPECTOR TO WITNESS FINAL BOLTING OF MANHOLE COVERS.

GBRA Guadalupe-Blanco River Authority	WASTEWATER MANHOLE RING ENCASEMENT	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 600	

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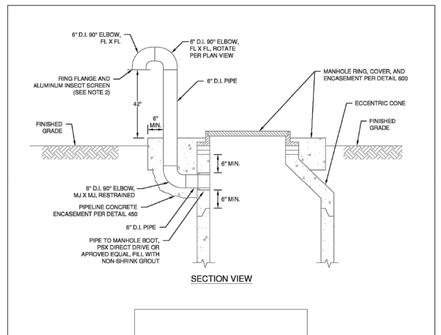
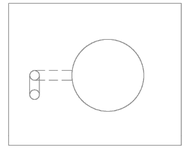


SECTION VIEW



PLAN VIEW

NOTES:
1. REFERENCE DETAIL 620 FOR ADDITIONAL REQUIREMENTS.
2. INSTALL A TEMPORARY BLIND FLANGE FOR MANHOLE VACUUM TESTING.

GBRA Guadalupe-Blanco River Authority	WASTEWATER MANHOLE VENT	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 610	

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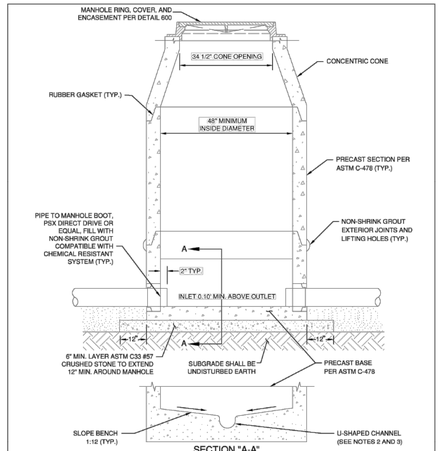

SECTION "A-A"
TYPICAL PRECAST BASE

NOTES:
1. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.
2. ALL INTERIOR SURFACES SHALL BE CHEMICAL RESISTANT INCLUDING THROAT RINGS, BENCH, AND CHANNEL INVERTS. REFERENCE GBRA STANDARDS FOR CHEMICAL RESISTANT MATERIAL REQUIREMENTS.
3. IF CHEMICAL RESISTANT LINING IS UTILIZED, ADJUST CHANNEL INVERTS TO ACCOMMODATE THICKNESS OF LINING SUCH THAT CHANNEL INVERTS, AFTER LINING, MATCH PIPE INVERTS.
4. PROVIDE 6" MINIMUM CLEARANCE BETWEEN CONCRETE PENETRATIONS, AND BETWEEN CONCRETE PENETRATIONS AND CONCRETE JOINTS, AS MEASURED FROM NEAREST EDGE TO NEAREST EDGE.

GBRA Guadalupe-Blanco River Authority	WASTEWATER PRECAST MANHOLE	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 620	

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BLUESITE ENGINEERING
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STATE OF TEXAS
144014
LICENSED
PROFESSIONAL ENGINEER
BRETT A. LAPLANTE

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03/23/2026

OWNER/DEVELOPER:
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FIRM NO. 100363-00
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AUSTIN, TEXAS 78756
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REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
GBRA SANITARY SEWER DETAIL SHEET (2 OF 2)

LOCATION
NEW BRAUNFELS ETJ

SHEET NO.
6.9

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BLACKWELL SUBDIVISION UNIT 1

NEW BRAUNFELS, TEXAS ETJ

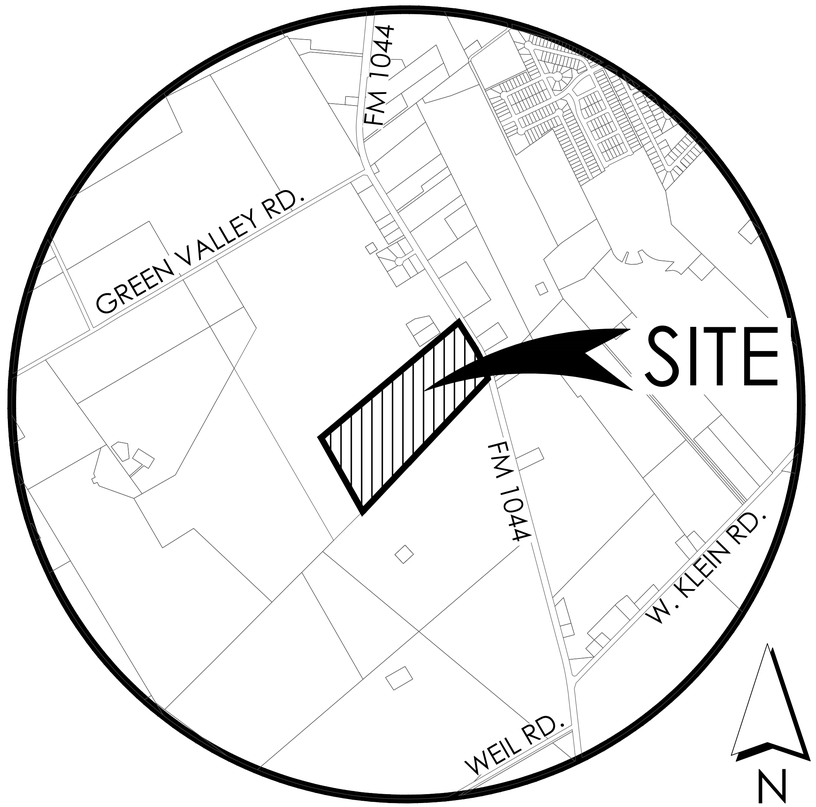
WATER DISTRIBUTION PLAN

GVSUD GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS FOR THE WATER SYSTEM SHALL CONFORM TO THE WATER STANDARDS AND DESIGN CRITERIA OF GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD).
2. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 5-FEET BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER AREAS.
3. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE KOPR KOTE OR APPROVED EQUAL ANTISEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTERM ADAPTOR OR ANCHOR NIPPLE. FOSTER ADAPTER, ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES.
4. TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING INITIAL BACKFILL.
5. EXCEEDING MAXIMUM DEFLECTION IS PROHIBITED. THE ANGULAR DEFLECTION AT BELLSPIGOT JOINTS SHOULD NOT EXCEED ONE (1) DEGREE. THIS WILL PRODUCE A 4-INCH OFFSET FOR EVERY 20-FOOT SECTION OF PIPE. JOINT DEFLECTION IS ACHIEVED AFTER THE JOINT IS ASSEMBLED IN STRAIGHT ALIGNMENT AND DEFLECTED TO THE REFERENCE MARK. THE BELL SHOULD BE BRACED TO ALLOW THE FREE END TO MOVE LATERALLY UNDER STEADY PRESSURE USING A PRY BAR OR OTHER SUITABLE MEANS. CARE SHOULD BE TAKEN NOT TO EXCEED THE MAXIMUM DEFLECTION ALLOWED OR TO DAMAGE THE PIPE WITH MACHINERY. ABRUPT CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS.
6. OVER STRESSING THE BELL BY OVER INSERTING THE JOINTS, OVERBELLING, AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION.
7. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN ONLY MUELLER HYDRANTS AND EJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE.
8. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.
9. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS.
10. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.
11. SMALL SERVICE TAPS SHALL BE EITHER 1-INCH OR 2 INCH AND SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE WITH IRON PIPE THREADS. EXCEPTION: IF LOCATED WITHIN CITY OF CIBOLO- SERVICE TAPS TO BE MADE WITH DOUBLE STAINLESS STRAP EPOXY COATING SADDLES WITH IRON PIPE THREADS.
12. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1 INCH SERVICE REQUIRES 3 INCH CASING AND 2 INCH SERVICE REQUIRES 4 INCH CASING. CASING SHALL BE PVC SCHEDULE 40 OR APPROVED EQUAL.
13. SINGLE 5/8" & ¾" METER BOXES SHALL BE DFW36C 16" X 11", DUAL 5/8" & ¾" METER BOXES SHALL BE DFW38C 17" X 15". 1-INCH METER BOXES SHALL BE DFW65C-14-1A 15 1/4" X 30 3/8". ALL METER BOXES SHALL BE PLASTIC WITH LIDS HAVING REBAR, ARM, AND KNOCKOUT.
14. THE FORD U BRANCH IS TO BE USED ON ALL DUAL SERVICES (U48-43Q) WITH THE 5/8" X 3/4" FEMALE THREAD ANGLE HEAD. ALL OTHER ANGLE HEADS WILL BE THE FORD Q NUT. ALL CORPORATION STOPS WILL BE IPS X Q NUT. ALL BRASS VALVES TO BE 'BALL' TYPE MINIMUM 200 PSI PRESSURE RATING. "CC" THREADED CORPORATION STOPS PROHIBITED.
15. TAPPING MACHINES UTILIZED FOR INSTALLING ANY TYPE OF TAP 1-INCH TO 2-INCHES WILL BE OF THE PURGE TYPE, WHICH AT THE TIME OF TAPPING SHALL EXPEL ALL CHIPS AND RESIDUE TO ATMOSPHERE THROUGH AN APPROPRIATE OUTLET AND/OR BE ABLE TO RETAIN THE COUPON.
16. ALL WATER MAIN, PIPE, CASINGS, FITTINGS, AND VALVES SHALL BE LAID IN MANUFACTURED SAND EMBEDMENT PER DETAILS. THE SAND SHALL FULLY ENCASE ALL PIPES, INCLUDING FITTINGS AND VALVES, BY A MINIMUM OF 12-INCHES. ALL FITTINGS AND VALVES ARE TO RECEIVE THRUST BLOCKING, FOSTER ADAPTER, ANCHOR NIPPLE, FORD UNI-FLANGE RETAINER GLAND JOINT RESTRAINTS, AND BELL JOINT RESTRAINTS WHEN SPECIFIED BY GVSUD OR THE DISTRICT'S ENGINEER.
17. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS.
18. PRIOR TO CONSTRUCTION OF THE SEWER AND WATER MAINS, ALL R.O.W. ROADWAYS AND PARKWAY SHALL HAVE REFERENCE SURVEY STAKING AND BE EXCAVATED OR PROPERLY FILLED TO SUB-GRADE ELEVATION.
19. SURVEY STAKING OFFSETS ARE REQUIRED FOR ALL WATER MAIN AND APPURTENANCES.
20. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. CONTRACTOR SHALL INVESTIGATE AND FIELD VERIFY UTILITY LOCATIONS A MINIMUM OF 300 LF AHEAD OF CROSSING AND TIE-IN LOCATIONS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE PROTECTION OF THE EXISTING UTILITIES, WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.
21. ALL WASTEWATER PIPES CROSSING THE POTABLE WATER DISTRIBUTION SYSTEM WILL BE HELD IN STRICT ACCORDANCE WITH TCEQ RULES AND REGULATIONS. PROPOSED SUB-GRADE LIMITS AND DIMENSIONS MUST BE SHOWN ON THE PLANS, AND CONSTRUCTION PROCEDURES WILL BE INSPECTED TO VERIFY COMPLIANCE WITH TCEQ 290.44(E).
22. OTHER UTILITIES SHALL NOT BE LOCATED CLOSER THAN 3-FEET TO WATER MAINS.
23. THE GREEN VALLEY INSPECTOR SHALL BE NOTIFIED AT LEAST FORTY-EIGHT HOURS PRIOR TO BACK FILLING OR TESTING.
24. A FIELD PRE-CONSTRUCTION MEETING SHALL BE HELD BEFORE CONSTRUCTION BEGINS AND MATERIAL SHALL BE AVAILABLE ON-SITE FOR INSPECTION.
25. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655; THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO GVSUD.
26. OPERATION OF EXISITNG VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL ONLY BE AS APPROVED BY GVSUD AND IN THE PRESENCE OF GVSUD PERSONNEL. THE CONTRACTOR SHALL NOTIFY GVSUD WHEN A VALVE NEEDS TO BE OPERATED AND MAY ONLY OPERATE A VALVE IN THE PRESENCE OF THE GVSUD INSPECTOR.
27. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND ANSI/AWWA.
28. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 200 LF (MAX) OF LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.
29. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH AND CONFINED SPACE ENTRY SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION AND ALL RELATED WORK. ANY TRENCH PROTECTION SAFETY VIOLATION WILL BE DOCUMENTED AND WILL RESULT IN AN IMMEDIATE WORK STOPPAGE BY THE GVSUD INSPECTOR AT MINUMUM UNTIL THE NEXT WORKDAY.
30. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING.
31. NO TREES MAY BE PLANTED IN THE AREAS DESIGNATED AS WATER OR UTILITY EASEMENTS, OR AREAS WHERE WATER MAINS AND WATER SERVICE CROSSINGS EXIST OR ARE PLANNED TO BE CONSTRUCTED.
32. ALL GARBAGE OR SPOIL MATERIAL FROM THE WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
33. CONTRACTOR SHALL PROVIDE "AS-BUILT" WATER LINE PLANS AT THE PRELIMINARY WALK THRU FOR THE GVSUD INSPECTOR AND ENGINEER. THE PLANS SHALL LIST MATERIAL MANUFACTURERS, LINE LENGTH FROM FITTING TO FITTING, AND TAP LOCATIONS.
34. GPS FILES SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AND GVSUD INSPECTOR FOR THE PLAN OF RECORD. CONTRACTOR SHALL PROVIDE AN ASCII COMMA DELIMITED OR EXCEL FILE CONTAINING THREE-DIMENSIONAL GPS SURVEY POINTS WITH FOUR (4) DECIMAL PLACES OF PRECISION, LESS THAN FOUR (4) INCHES OF HORIZONTAL POSITION ACCURACY, AND LESS THAN EIGHT (8) INCHES OF VERTICAL POSITION ACCURACY. POINTS SHALL BE PROVIDED FOR A MINIMUM OF THREE (3) CONTROL POINTS AND ALL FITTINGS, APPURTENANCES, ENCASEMENTS, VAULTS, AND TANKS. THE ENGINEER SHALL FURNISH PLAN OF RECORD DRAWINGS TO GVSUD FOR APPROVAL HAVING FINAL MEASUREMENTS AND THAT MATCH THE GPS 'X', 'Y', AND 'Z' COORDINATES.
35. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL THE INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY GVSUD THE GIS PACKAGE FOR APPROVAL.
36. A FINAL WALK THRU FOR FINAL FIELD ACCPETANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK THRU PUNCH LIST ITEMS HAVE BEEN COMPLETED AND AFTER THE GIS PACKAGE IS APPROVED AND ACCEPTED BY GVSUD.
37. GVSUD CONTACT NUMBER: 830-914-2330

LOCATION MAP

NOT-TO-SCALE



BLACKWELL WATER	
Sheet Number	Sheet Title
7.0	WATER COVER SHEET
7.1	OVERALL WATER PLAN
7.2	OVERALL WATER PLAN
7.3	16IN WATER PLAN AND PROFILE

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED
PROFESSIONAL ENGINEER

Brett LaPlante

03/23/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

WATER COVER SHEET

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

7.0

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NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE, DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

MINIMUM PIPE COVER NOTE:

CONTRACTOR TO INSTALL WATER PIPE AT A MINIMUM DEPTH SPECIFIED IN THE THE MOST RECENT GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PIPE FITTINGS & CONTRACTOR NOTES:

CONTRACTOR TO ENSURE THAT NO PRESSURIZED PIPE FITTINGS FALL UNDER ANY SIDEWALK OR ROADWAY PER GVSUD STANDARDS.

FIRE FLOW NOTE:

IN AN EFFORT TO MEET THE CITY OF NEW BRAUNFELS' FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF CONVERSE DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE CITY OF CONVERSE'S FIRE MARSHAL.

JOINT RESTRAINT NOTE

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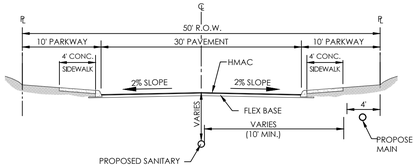
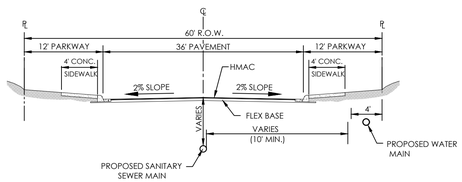
CONTRACTOR/ GVSUD NOTES:

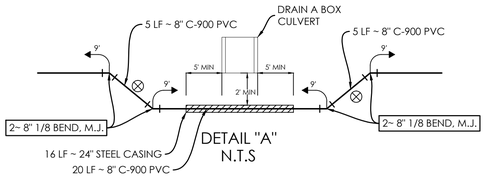
1. CONTRACTOR TO FIELD VERIFY THAT NO GATE VALVES ARE LOCATED WITHIN THE PROPOSED INTERNAL STREET PAVEMENT SECTIONS, PROPOSED CURB, AND/OR PROPOSED SIDEWALK PER GVSUD STANDARDS.
2. CONTRACTOR TO FIELD VERIFY THAT NO GATE VALVES ARE LOCATED WITHIN THE PROPOSED PVC CASINGS WHERE A PROPOSED WATER MAIN IS LOCATED WITHIN A PROPOSED INTERNAL STREET PAVEMENT SECTION, PROPOSED CURB, AND/OR PROPOSED SIDEWALK.
3. WHERE A PROPOSED WATER MAIN IS LOCATED WITHIN A PROPOSED INTERNAL STREET PAVEMENT SECTION, PROPOSED CURB, AND/OR PROPOSED SIDEWALK; THE CONTRACTOR IS TO FIELD VERIFY THAT THE PROPOSED PVC CASING EXTENDS A MINIMUM 1' BEYOND THE LIMITS OF THE PROPOSED INTERNAL STREET PAVEMENT, PROPOSED CURB, AND/OR PROPOSED SIDEWALK.
4. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY IF DISCREPANCIES ARE IDENTIFIED IN THE FIELD.



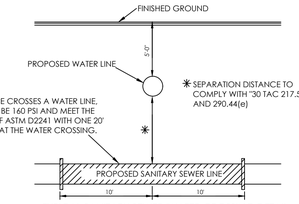
PROPOSED STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.



DETAIL "A"
N.T.S



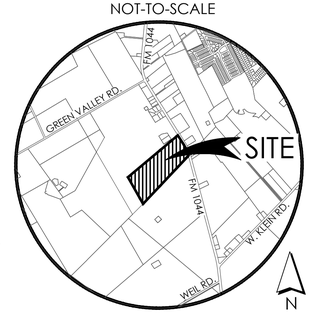
WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

✱ SEPARATION DISTANCE TO COMPLY WITH "30 TAC 217.53(d) AND 290.44(e)

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

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

LOCATION MAP
NOT-TO-SCALE



SCALE: 1" = 50'
0' 25' 50' 75' 100'

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett La Plante
03/31/2026

LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W M
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	IRR M
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	S
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	S
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E. G. T. TV. E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING BLOWOFF VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OH OH
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE

WESTON RANCH FOUNDATION
ABS: 347, SUR: R XIMENEZ
CALLED: 118.59 ACS.
(VOL. 2338, PG. 451, O.P.R.)

LINE A STA: 10+00.00
CONTRACTOR SHALL TIE INTO EXISTING 16" WATER MAIN AFTER DISINFECTION AND ACCEPTANCE BY GVSUD. FOR CHLORINATION INJECTION:
2- 1" CORPORATION STOP, C.C. X I.P.
2- 1" COPPER TUBING, CUT AS REQ'D
2- 1 1/4 " THD. SOLID CAPS, THR.
2- 1" COMP. X 1 1/4" COUPLING, CURB STOP
CONTRACTOR SHALL PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN.
1- 2" BLOWOFF ASSEMBLY (TEMPORARY)

6 LF ~ 16" C-900 PVC

LINE A STA: 10+09.36
1 ~ 16" 1/8 BEND, M.J.
7 LF ~ 16" C-900 PVC

LINE A STA: 10+15.90
1 ~ 16" 1/8 BEND, M.J.

LINE A STA: 10+21.45
1 ~ 16" GATE VALVE, M.J.
1 ~ 6" VALVE BOX COMPLETE

30' OFF-SITE WATER EASEMENT (DOC.# 202599009644 OPR)

ROBERT J. MAGGIANI AND SANDRA C. MAGGIANI
CALLED OF 5.681 AC
(VOL. 1240, PG. 858, O.P.R.)

FM 1044 (80' ROW)

LINE E STA: 1+66.09
TIE TO EXISTING 6" WATER MAIN

CONTRACTOR SHALL TIE INTO EXISTING 6" WATER MAIN AFTER DISINFECTION AND ACCEPTANCE BY GVSUD. FOR CHLORINATION INJECTION:
2- 1" CORPORATION STOP, C.C. X I.P.
2- 1" COPPER TUBING, CUT AS REQ'D
2- 1 1/4 " THD. SOLID CAPS, THR.
2- 1" COMP. X 1 1/4" COUPLING, CURB STOP
CONTRACTOR SHALL PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN.
1- 2" BLOWOFF ASSEMBLY (TEMPORARY)

EXISTING 4" WATER MAIN TO BE ABANDONED AFTER TESTING

CONTRACTOR TO LOCATE EXISTING WATER METER AND RELOCATE.

137 LF ~ 16" C-900 PVC

LINE "A"

56 LF ~ 6" C-900 PVC

LINE E STA: 1+26.36
1 ~ 6" GATE VALVE, M.J.
1~6" VALVE BOX COMPLETE

LINE E STA: 1+10.16
1 ~ 6" 1/8 BEND , M.J.
1 ~ 16"X6" REDUCER

45 LF ~ 16" C-900 PVC

LINE A STA: 13+94.86
1 ~ 16"X6" ANCHOR TEE, M.J.
1 ~ 16" GATE VALVE, M.J.
1 ~ 6" GATE VALVE, M.J.
2 ~ 6" VALVE BOX, COMPLETE
1 ~ 6" 1/4 ANCHOR BEND, M.J.
1 ~ STANDARD FIRE HYDRANT
1~ 6" ANCHOR NIPPLE, M.J.

10 LF ~ 6" C-900 PVC

30' WATER AND PEDESTRIAN ACCESS EASEMENT

CONTRACTOR TO INSTALL 9 L.F. OF 18" STEEL CASING

30' OFF-SITE WATER EASEMENT (DOC# 202599009636 OPR)

LINE A STA: 14+40.16
1 ~ 16" 1/8 BEND, M.J.

15 LF ~ 16" C-900 PVC

LINE A STA: 14+55.12
1 ~ 16" 1/8 BEND, M.J.

LINE A STA: 14+69.76
1 ~ 16" X 4" TEE, M.J.
1 ~ 4" GATE VALVE, M.J.
1 ~ 6" VALVE BOX COMPLETE

CONTRACTOR TO TIE EXISTING 4" WATER MAIN TO PROPOSED 16" WATER MAIN

LINE A STA: 15+69.52 =
LINE E STA: 1+00.00
1 ~ 16"X16" CUT IN TEE, M.J. ANCHOR
2 ~ 16" GATE VALVE, M.J.
2 ~ 6" VALVE BOX COMPLETE
1 ~ 16"X6" REDUCER, M.J.

114 LF ~ 16" C-900 PVC

30' BORING UNDER EXISTING PAVEMENT

CONTRACTOR TO INSTALL 106 L.F. OF 30" STEEL CASING VIA JACK AND BORE

20' EMERGENCY ACCESS

20' R.O.W. DEDICATION

LINE B STA: 2+75.01
WATER/SEWER CROSSING
SEE THIS SHEET FOR DETAIL

LINE B STA: 1+27.11
1 ~ 12" 1/32 BEND, M.J.

162 LF ~ 12" C-900 PVC

LOT 904
BLOCK 1

222 LF ~ 16" C-900 PVC

EXISTING 6" WATER MAIN TO BE ABANDONED AFTER TESTING

SAMUEL T. CAMPOS
REMAINDER OF 23.930 AC.
(VOL. 1098, PG. 922, O.P.R.)

LINE A STA: 17+91.56 =
LINE B STA: 1+00.00
1 ~ 16"X12" ANCHOR TEE, M.J.
1 ~ 16" GATE VALVE, M.J.
1 ~ 12" GATE VALVE, M.J.
2 ~ 6" VALVE BOX COMPLETE
1 ~ 16"X12" REDUCER, M.J.

LINE "B"

SPRINGBOK RUN
(50' ROW)

LINE B STA: 1+38.66
1 ~ 12" 1/16 BEND, M.J.

12 LF ~ 12" C-900 PVC

27 LF ~ 12" C-900 PVC

10 LF ~ 16" C-900 PVC

CONTRACTOR TO INSTALL 45 L.F. OF 30" PVC CASING

30' WATER AND PEDESTRIAN ACCESS EASEMENT
15' E. G. T. TV. E

LINE A STA: 19+01.29
1 ~ 16" 1/32 BEND, M.J.

20' R.O.W. DEDICATION

EXISTING 6" WATER MAIN TO BE ABANDONED AFTER TESTING

163 LF ~ 16" C-900 PVC

SAMUEL T. CAMPOS
REMAINDER OF 23.930 AC.
(VOL. 1098, PG. 922, O.P.R.)

LINE C STA: 1+00.00 =
LINE B STA: 3+00.97
1 ~ 12" X 12" ANCHOR TEE, M.J.
1 ~ 8" GATE VALVE, M.J.
1~ 12" GATE VALVE, M.J.
2~ 6" VALVE BOX COMPLETE
1 ~ 12" X 8" REDUCER, M.J.

45 LF ~ 8" C-900 PVC

88 LF ~ 8" C-900 PVC

LINE C STA: 1+44.52
1 ~ 8" 1/32 BEND, M.J.

LINE C STA: 2+32.24
1 ~ 8" 1/32 BEND, M.J.

LINE C STA: 2+78.65
1 ~ 8"X6" ANCHOR TEE, M.J.
1 ~ 8" GATE VALVE, M.J.
1 ~ 6" GATE VALVE, M.J.
2 ~ 6" VALVE BOX, COMPLETE
1 ~ 6" 1/4 ANCHOR BEND, M.J.
1 ~ STANDARD FIRE HYDRANT
1~ 6" ANCHOR NIPPLE, M.J.

LINE C STA: 5+00.61
WATER/DRAIN CROSSING
SEE DETAIL "A" THIS SHEET

LINE C STA: 7+88.66
1 ~ 2" BLOWOFF (PERM)

LINE C STA: 7+69.66
1 ~ 8"X6" ANCHOR TEE, M.J.
1 ~ 8" GATE VALVE, M.J.
1 ~ 6" GATE VALVE, M.J.
2 ~ 6" VALVE BOX, COMPLETE
1 ~ 6" 1/4 ANCHOR BEND, M.J.
1 ~ STANDARD FIRE HYDRANT
1~ 6" ANCHOR NIPPLE, M.J.

19 LF ~ 8" C-900 PVC

258 LF ~ 8" C-900 PVC

212 LF ~ 8" C-900 PVC

46 LF ~ 8" C-900 PVC

LINE "C"

SPRINGBOK RUN
(50' ROW)

LOT 901 BLOCK 1

LOT 902

BLOCK 1

BLOCK 3

20' E. G. T. TV. E

35' DRAINAGE & ACCESS EASEMENT

37' DRAINAGE & ACCESS EASEMENT

6" CONDUIT FOR IRRIGATION

55' TEMPORARY TURN AROUND SANITARY SEWER, DRAINAGE AND E.G.T.TV. EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED PUBLIC R.O.W.)

OFF-LOT VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION OF PLATTED R.O.W.)

OFF-LOT VARIABLE WIDTH DRAINAGE AND ACCESS EASEMENT (ENTIRE EASEMENT TO EXPIRE UPON INCORPORATION OF PLATTED R.O.W.)

CONTRACTOR TO INSTALL 65 L.F. OF 24" PVC CASING

LINE B STA: 3+31.73
WATER/SEWER CROSSING
SEE THIS SHEET FOR DETAIL

127 LF ~ 12" C-900 PVC

LINE B STA: 3+69.26
1 ~ 12" GATE VALVE, M.J.
1~6" VALVE BOX COMPLETE

30 LF ~ 12" C-900 PVC

ORYX GARDENS
(50' ROW)

LINE B STA: 4+27.90
1 ~ 12" 1/32 BEND, M.J.

LINE B STA: 4+57.99
1 ~ 12" 1/32 BEND, M.J.

98 LF ~ 12" C-900 PVC

BLOCK 2

LINE "A"

FM 1044 (80' ROW)

DRAIN "H" *SEE SHEET 4.9*

DRAIN "A" *SEE SHEET 4.0-4.2*

DRAIN "B" *SEE SHEET 4.3*

DRAIN "C" *SEE SHEET 4.4*

DRAIN "G" *SEE SHEET 4.8*

DRAIN "A" *SEE SHEET 4.0-4.2*

DRAIN "D" *SEE SHEET 4.5*

MATCHLINE "A" SEE SHEET 7.2

MATCHLINE "A" SEE SHEET 7.2

OWNER/DEVELOPER:
DAVIDSON HOMES, LLC.

SURVEYOR:
B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
OVERALL WATER PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
7.1

Date: 7/7/2024 2:44:22 PM
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THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE, DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

MINIMUM PIPE COVER NOTE:

CONTRACTOR TO INSTALL WATER PIPE AT A MINIMUM DEPTH SPECIFIED IN THE THE MOST RECENT GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FIRE FLOW NOTE:

IN AN EFFORT TO MEET THE CITY OF NEW BRAUNFELS' FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF CONVERSE DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE CITY OF CONVERSE'S FIRE MARSHAL.

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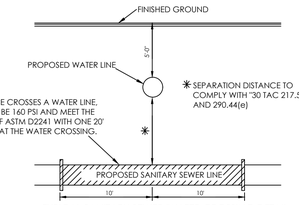
4. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY IF DISCREPANCIES ARE IDENTIFIED IN THE FIELD.

PIPE FITTINGS AND CONTRACTOR NOTES:

CONTRACTOR TO ENSURE THAT NO PRESSURIZED PIPE FITTINGS FALL UNDER ANY SIDEWALK OR ROADWAY PER GVSUD STANDARDS.



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N.T.S.

811
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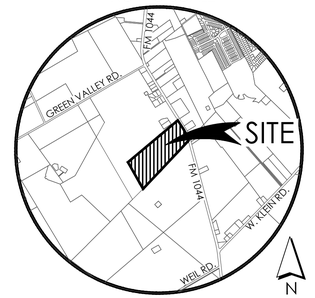
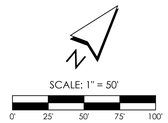
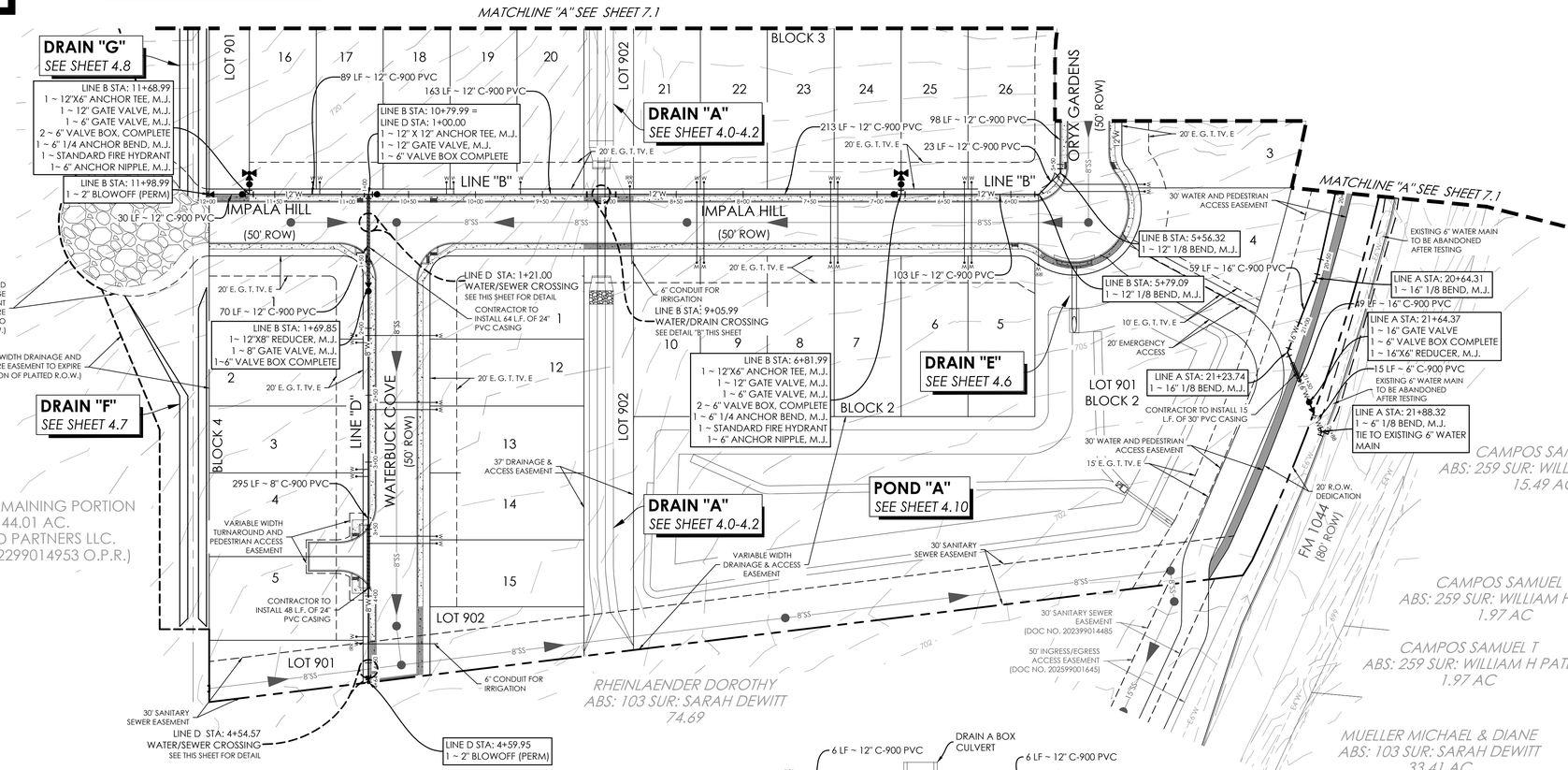
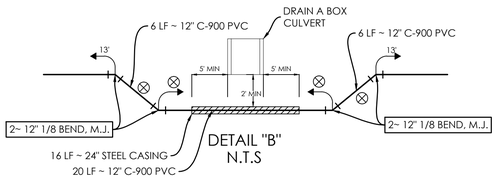
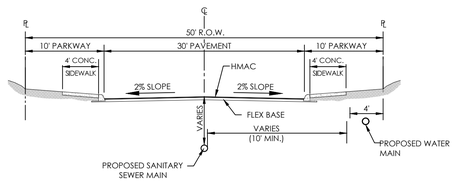




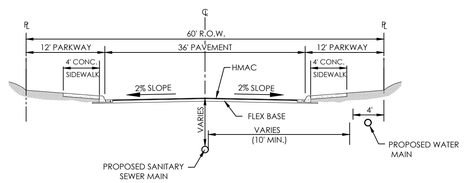




DETAIL "B"
N.T.S



PROPOSED STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.

LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	SS
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E, G, T, TV, E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING BLOWOFF VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OH
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE

BLUESITE ENGINEERING
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210.469.4414

STATE OF TEXAS
BRETT A LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
03/23/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

OVERALL WATER PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

7.2

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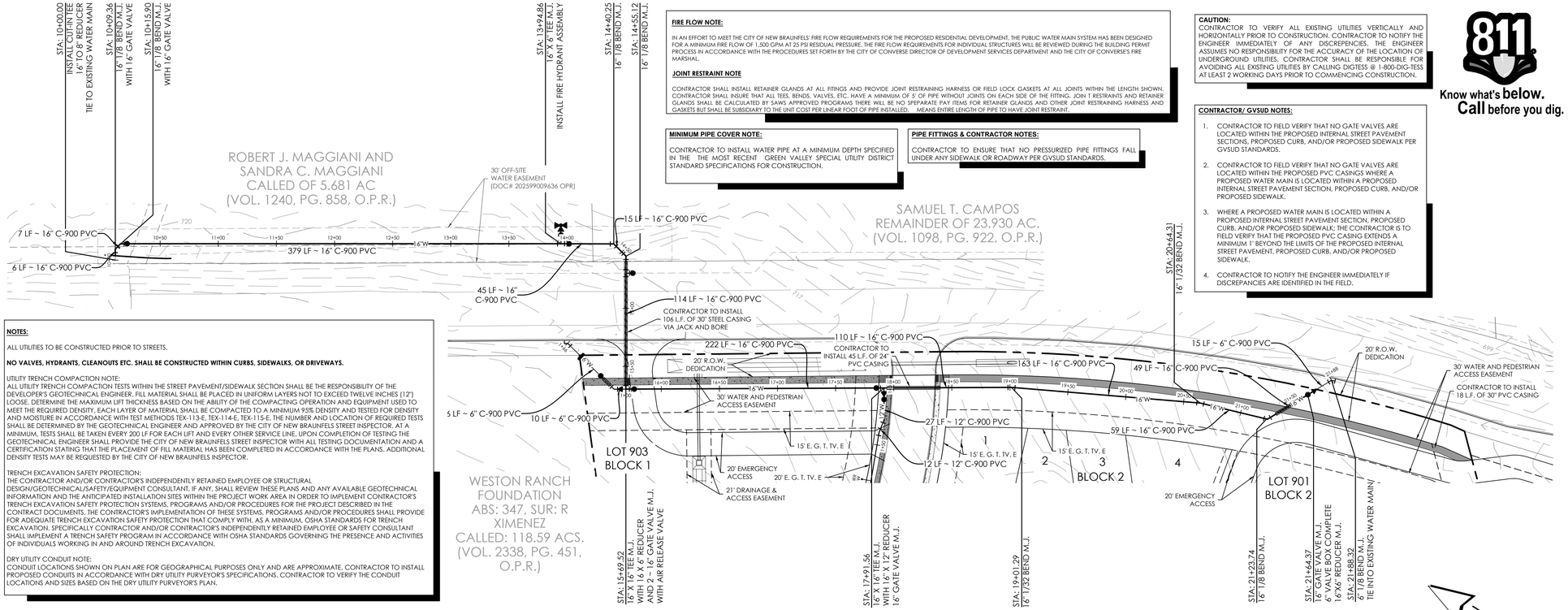


FIRE FLOW NOTE:

IN AN EFFORT TO MEET THE CITY OF NEW BRAUNFELS' FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT. THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF CONVERSE DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE CITY OF CONVERSE'S FIRE MARSHAL.

JOINT RESTRAINT NOTE

CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5' OF PIPE WITHOUT JOINTS ON EACH SIDE OF THE FITTING. JOIN T RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS THERE WILL BE NO SPEPARATE PAY ITEMS FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAR FOOT OF PIPE INSTALLED. MEANS ENTIRE LENGTH OF PIPE TO HAVE JOINT RESTRAINT.

MINIMUM PIPE COVER NOTE:

CONTRACTOR TO INSTALL WATER PIPE AT A MINIMUM DEPTH SPECIFIED IN THE THE MOST RECENT GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PIPE FITTINGS & CONTRACTOR NOTES:

CONTRACTOR TO ENSURE THAT NO PRESSURIZED PIPE FITTINGS FALL UNDER ANY SIDEWALK OR ROADWAY PER GVSUD STANDARDS.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGITESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

CONTRACTOR/ GVSUD NOTES:

1. CONTRACTOR TO FIELD VERIFY THAT NO GATE VALVES ARE LOCATED WITHIN THE PROPOSED INTERNAL STREET PAVEMENT SECTIONS, PROPOSED CURB, AND/OR PROPOSED SIDEWALK PER GVSUD STANDARDS.
2. CONTRACTOR TO FIELD VERIFY THAT NO GATE VALVES ARE LOCATED WITHIN THE PROPOSED PVC CASINGS WHERE A PROPOSED WATER MAIN IS LOCATED WITHIN A PROPOSED INTERNAL STREET PAVEMENT SECTION, PROPOSED CURB, AND/OR PROPOSED SIDEWALK.
3. WHERE A PROPOSED WATER MAIN IS LOCATED WITHIN A PROPOSED INTERNAL STREET PAVEMENT SECTION, PROPOSED CURB, AND/OR PROPOSED SIDEWALK; THE CONTRACTOR IS TO FIELD VERIFY THAT THE PROPOSED PVC CASING EXTENDS A MINIMUM 1' BEYOND THE LIMITS OF THE PROPOSED INTERNAL STREET PAVEMENT, PROPOSED CURB, AND/OR PROPOSED SIDEWALK.
4. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY IF DISCREPANCIES ARE IDENTIFIED IN THE FIELD.

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

NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

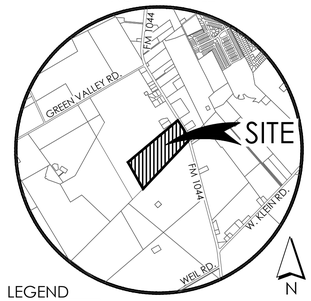
UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E. TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

LOCATION MAP

NOT-TO-SCALE

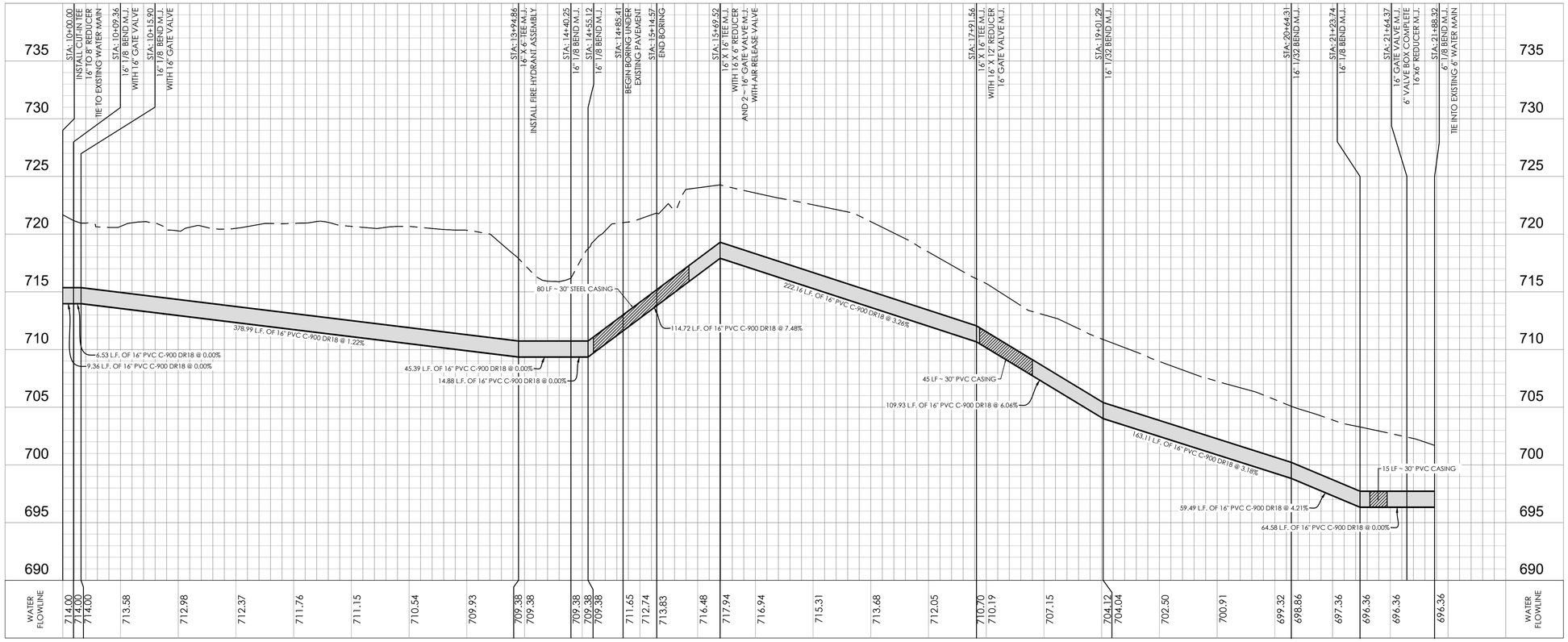


LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	IRR W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	SS
PROPOSED SANITARY SEWER LATERAL W/ VERTICAL STACK	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E, G, T, TV, E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING BLOWOFF VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OH OH
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE

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

16" WATER LINE
STA. 10+00.00 - END



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AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT
BLACKWELL SUBDIVISION UNIT 1

SHEET
16IN WATER PLAN AND PROFILE

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.
7.3

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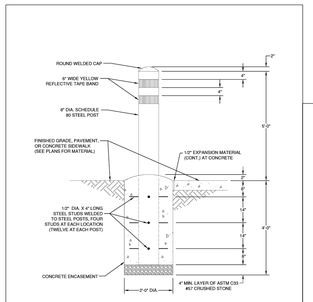
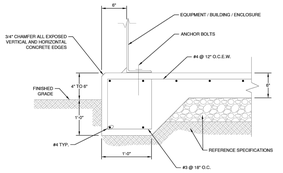


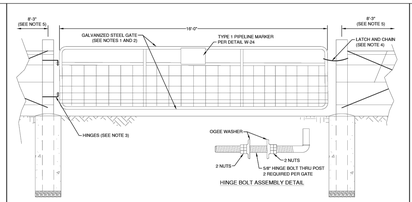
NOTES:
1. BOLLARDS ARE REQUIRED FOR ALL BURIED VALVES IN UNPAVED AREAS AND AT ALL ABOVE GROUND BACKFLOW PREVENTION ASSEMBLY.
2. ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
3. INSTALL ASSEMBLY PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
BOLLARD	NOVEMBER 2025	NONE
DETAIL NO. G-1	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



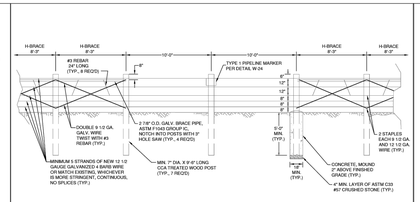
NOTES:
1. THIS DETAIL SHALL BE UTILIZED FOR FIBERGLASS BUILDINGS, GENERATORS, TRANSFORMERS, BLOWERS, PUMP SKIDS, RF2 CELL TOWERS, AND OTHER EQUIPMENT AS REQUIRED BY THE MANUFACTURER OR ENGINEER SPECIFIED MORE STRINGENT BY THE DESIGN ENGINEER.
2. UNLESS INDICATED OTHERWISE, INSTALL ASSEMBLY PLUMB/LEVEL.
3. FOR SLOPED FLOORS, CLEARANCE BELOW SLAB REBAR MAY BE REDUCED TO 3" MINIMUM.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
EQUIPMENT PAD	NOVEMBER 2025	NONE
DETAIL NO. G-2	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



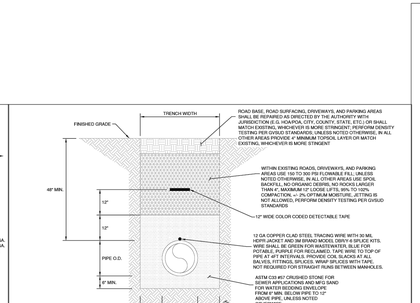
NOTES:
1. INSTALL GATE IN CENTER OF PERMANENT EASEMENT OR CENTERED ON PIPELINE AS DIRECTED BY GVSUD INSPECTOR.
2. GATES SHALL BE CONSTRUCTED OF 18 GAUGE GALVANIZED STEEL 1 5/8" O.D. TUBING WITH WELDED SADDLE CONNECTIONS AND 4 GAUGE GALVANIZED HOG WIRE. CRIMPED CONNECTIONS ARE NOT ACCEPTABLE.
3. HINGES SHALL BE 3 1/2" STRAP, GALVANIZED, THRU BOLT TYPE AT POST, WITH RECEIVERS WELDED TO GATE.
4. LATCH SHALL BE 3 1/2" BRASS DOUBLE BOLT BAMP HOOK WITH 1/4" DIAMETER HOT DIP GALVANIZED CHAIN AROUND POST. SECURE CHAIN TO POST WITH FENCE STAPLES.
5. INSTALL DUAL H-BRACES ON EACH SIDE OF GATE PER DETAIL G-4.
6. FASTEN EXISTING FENCE WIRES TO NEW BRACE POSTS BEFORE CUTTING THE EXISTING WIRES.
7. ALL MATERIAL SHALL BE NEW AND UNUSED.
8. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
BARBED WIRE FENCE GATE	NOVEMBER 2025	NONE
DETAIL NO. G-3	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



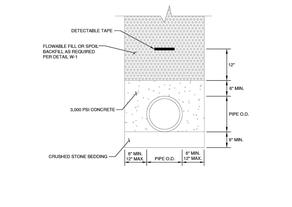
NOTES:
1. ALL MATERIAL SHALL BE NEW AND UNUSED.
2. FASTEN EXISTING FENCE WIRES TO NEW BRACE POSTS BEFORE CUTTING THE EXISTING WIRES.
3. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
BARBED WIRE FENCE REPAIR	NOVEMBER 2025	NONE
DETAIL NO. G-4	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



NOTES:
1. TRACING WIRE TEST STATIONS ARE REQUIRED AT ALL FIRE HYDRANTS OR OTHERWISE TO ADEQUATELY MEET LOCAL TESTING STATIONS SHALL BE COLOR CODED COPPERHEAD MODEL RBY-TP. INSTALLWITHIN VALVE BOX CONCRETE COLLARS WITH 4" MINIMUM CLEARANCE TO COVER ON ALL SIDES. LEAVE 12" WIRE SLACK INSIDE TEST STATIONS. NOT REQUIRED FOR STRAIGHT RUNS BETWEEN MANHOLES.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPE TRENCH	NOVEMBER 2025	NONE
DETAIL NO. W-1	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



NOTES:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL SECURE PIPE TO MAINTAIN LINE AND GRADE DURING CONCRETE PLACEMENT.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE CONCRETE CAP TYPE 1	NOVEMBER 2025	NONE
DETAIL NO. W-2	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	

NOTES:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE CONCRETE CAP TYPE 2	NOVEMBER 2025	NONE
DETAIL NO. W-3	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	

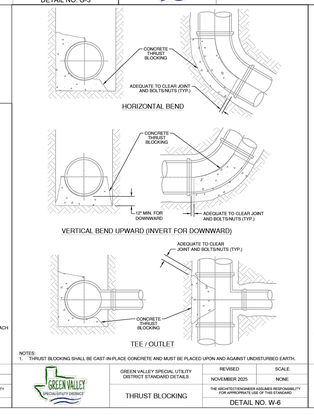
NOTE:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL SECURE PIPE TO MAINTAIN LINE AND GRADE DURING CONCRETE PLACEMENT.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE CONCRETE ENCASEMENT	NOVEMBER 2025	NONE
DETAIL NO. W-4	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	

DESCRIPTION	MINIMUM RESTRAINED LENGTH (FT., EACH WAY)
11 1/4° BENDS	30
22 1/2° BENDS	40
45° BENDS	50
90° BENDS, TEES, REDUCERS, TAPPING SLEEVES	60
VALVES, DEAD ENDS	100

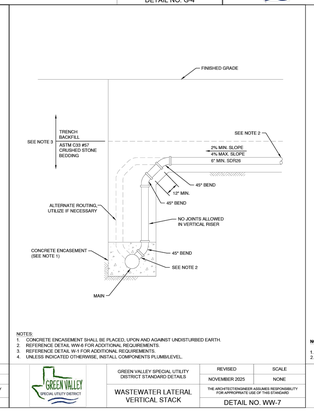
NOTES:
1. THE TABLE ABOVE INDICATES MINIMUM RESTRAINED LENGTH REQUIREMENTS FOR BURIED PRESSURE PIPING SYSTEMS. THE RESTRAINED LENGTHS SHALL BE PROVIDED EACH WAY FROM ALL FITTINGS, VALVES, DEAD ENDS, ETC. THE DESIGN ENGINEER SHALL EVALUATE SOILS AND SYSTEM HYDRAULICS AND DETERMINE IF ANY ADDITIONAL RESTRAINTS ARE REQUIRED.
2. IF THE DESIGN ENGINEER REQUIRES CONCRETE THRUST BLOCKING IN ADDITION TO MECHANICAL RESTRAINTS, THE CONCRETE THRUST BLOCKING MUST BE INSTALLED IN ACCORDANCE WITH DETAIL W-6.
3. REFERENCE GVSUD STANDARDS FOR PIPE, FITTING, AND RESTRAINT MATERIAL REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
RESTRAINED LENGTHS	NOVEMBER 2025	NONE
DETAIL NO. W-5	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



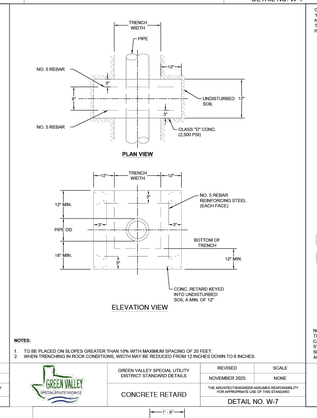
NOTES:
1. THRUST BLOCKING SHALL BE CAST-IN-PLACE CONCRETE AND MUST BE PLACED UPON AND AGAINST UNDISTURBED EARTH.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
THRUST BLOCKING	NOVEMBER 2025	NONE
DETAIL NO. W-6	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



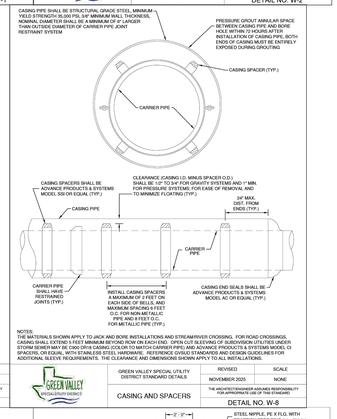
NOTES:
1. CONCRETE ENCASEMENT SHALL BE PLACED, UPON AND AGAINST UNDISTURBED EARTH.
2. REFERENCE DETAIL W-W-6 FOR ADDITIONAL REQUIREMENTS.
3. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.
4. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER LATERAL VERTICAL STACK	NOVEMBER 2025	NONE
DETAIL NO. WW-7	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



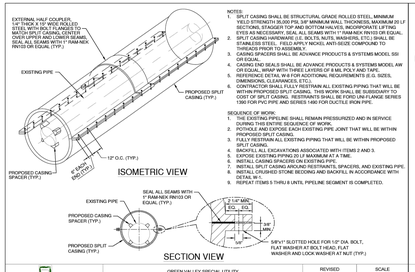
NOTES:
1. TO BE PLACED ON SLOPES GREATER THAN 10% WITH MAXIMUM SPACING OF 20 FEET.
2. WHEN TRENCHING IN ROCK CONDITIONS, WIDTH MAY BE REDUCED FROM 12 INCHES DOWN TO 8 INCHES.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
CONCRETE RETARD	NOVEMBER 2025	NONE
DETAIL NO. W-7	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



NOTES:
1. ALL MATERIALS SHOWN APPLY TO JACK AND BORE INSTALLATIONS AND STREAM/RIVER CROSSING. FOR ROAD CROSSINGS, CASING SHALL EXTEND 5 FEET MINIMUM BEYOND ROW ON EACH END. OPEN CUT SLEEVING OF SUBDIVISION UTILITIES UNDER STORM SEWER MAY BE C900 DR18 CASING (COLOR TO MATCH CARRIER PIPE) AND ADVANCE PRODUCTS & SYSTEMS MODEL CI SPACERS, OR EQUAL, WITH STAINLESS STEEL HARDWARE. REFERENCE GVSUD STANDARDS AND DESIGN GUIDELINES FOR ADDITIONAL SLEEVE REQUIREMENTS. THE CLEARANCE AND DIMENSIONS SHOWN APPLY TO ALL INSTALLATIONS.

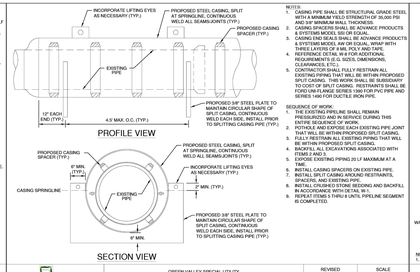
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
CASING AND SPACERS	NOVEMBER 2025	NONE
DETAIL NO. W-8	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



NOTES:
1. SPLIT CASING SHALL BE STRUCTURAL GRADE ROLLED STEEL, MINIMUM YIELD STRENGTH 35,000 PSI, 3/8" MINIMUM WALL THICKNESS, MAXIMUM 20 LF SECTIONS, STAGGER TOP AND BOTTOM HALVES, INCORPORATE LIFTING EYES AS NECESSARY. SEAL ALL SEAMS WITH 1" RAM-NEK RW100 OR EQUAL OVER UPPER AND LOWER SEAMS, SEAL ALL SEAMS WITH 1" RAM-NEK RW100 OR EQUAL (TYP.)
2. SPLIT CASING HARDWARE (I.E. BOLTS, NUTS, WASHERS, ETC.) SHALL BE STAINLESS STEEL. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO ALL HARDWARE PRIOR TO INSTALLATION.
3. CASING SPACERS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL SSI OR EQUAL.
4. CASING END SEALS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL AW OR EQUAL. WRAP WITH THREE LAYERS OF 4 MIL POLY AND TAPE.
5. CASING PIPE SHALL MEET STRUCTURAL REQUIREMENTS (E.G. SIZES, DIMENSIONS, CLEARANCES, ETC.)
6. CONTRACTOR SHALL FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING. THIS WORK SHALL BE SUBSIDIARY TO COST OF SPLIT CASING. RESTRAINTS SHALL BE FORD UNI-FLANGE SERIES 1390 FOR PVC PIPE AND SERIES 1490 FOR DUCTILE IRON PIPE.

SEQUENCE OF WORK:
1. THE EXISTING PIPELINE SHALL REMAIN PRESSURIZED AND IN SERVICE DURING THIS ENTIRE SEQUENCE OF WORK.
2. POTHOLE AND EXPOSE EACH EXISTING PIPE JOINT THAT WILL BE WITHIN PROPOSED SPLIT CASING.
3. FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING.
4. BACKFILL ALL EXCAVATIONS ASSOCIATED WITH ITEMS 2 AND 3.
5. EXPOSE EXISTING PIPING 20 LF MAXIMUM AT A TIME.
6. INSTALL CASING SPACERS ON EXISTING PIPE.
7. INSTALL SPLIT CASING AND RESTRAINTS, SPACERS, AND EXISTING PIPE.
8. INSTALL CRUSHED STONE BEDDING AND BACKFILL IN ACCORDANCE WITH DETAIL W-1.
9. REPEAT ITEMS 5 THRU 8 UNTIL PIPELINE SEGMENT IS COMPLETED.

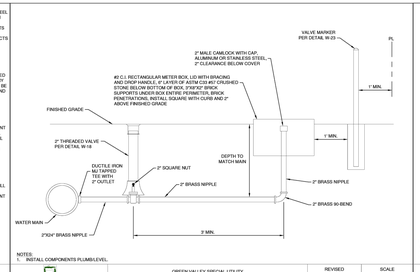
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
SPLIT CASING - BOLTED	NOVEMBER 2025	NONE
DETAIL NO. W-9	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



NOTES:
1. CASING PIPE SHALL BE STRUCTURAL GRADE STEEL WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI AND 3/8" MINIMUM WALL THICKNESS.
2. CASING SPACERS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL SSI OR EQUAL.
3. CASING END SEALS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL AW OR EQUAL. WRAP WITH THREE LAYERS OF 4 MIL POLY AND TAPE.
4. REFERENCE DETAIL W-A FOR ADDITIONAL REQUIREMENTS (E.G. SIZES, DIMENSIONS, CLEARANCES, ETC.)
5. CONTRACTOR SHALL FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING. THIS WORK SHALL BE SUBSIDIARY TO COST OF SPLIT CASING. RESTRAINTS SHALL BE FORD UNI-FLANGE SERIES 1390 FOR PVC PIPE AND SERIES 1490 FOR DUCTILE IRON PIPE.

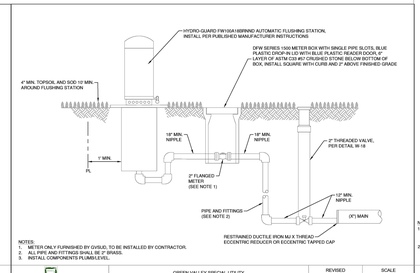
SEQUENCE OF WORK:
1. THE EXISTING PIPELINE SHALL REMAIN PRESSURIZED AND IN SERVICE DURING THIS ENTIRE SEQUENCE OF WORK.
2. POTHOLE AND EXPOSE EACH EXISTING PIPE JOINT THAT WILL BE WITHIN PROPOSED SPLIT CASING.
3. FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING.
4. BACKFILL ALL EXCAVATIONS ASSOCIATED WITH ITEMS 2 AND 3.
5. EXPOSE EXISTING PIPING 20 LF MAXIMUM AT A TIME.
6. INSTALL CASING SPACERS ON EXISTING PIPE.
7. INSTALL SPLIT CASING AND RESTRAINTS, SPACERS, AND EXISTING PIPE.
8. INSTALL CRUSHED STONE BEDDING AND BACKFILL IN ACCORDANCE WITH DETAIL W-1.
9. REPEAT ITEMS 5 THRU 8 UNTIL PIPELINE SEGMENT IS COMPLETED.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
SPLIT CASING - WELDED	NOVEMBER 2025	NONE
DETAIL NO. W-10	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



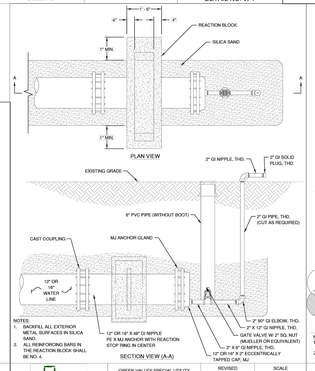
NOTES:
1. INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
2" DRAIN VALVE	NOVEMBER 2025	NONE
DETAIL NO. W-11	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



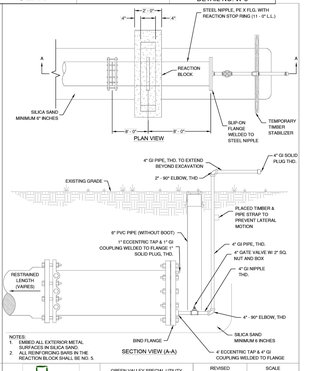
NOTES:
1. METER ONLY FURNISHED BY GVSUD, TO BE INSTALLED BY CONTRACTOR.
2. ALL PIPE AND FITTINGS SHALL BE 2" BRASS.
3. INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
2" FLUSH VALVE	NOVEMBER 2025	NONE
DETAIL NO. W-12	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



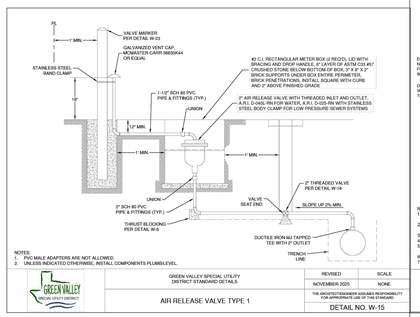
NOTES:
1. BACKFILL ALL EXTERIOR METAL SURFACES IN SILICA SAND.
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 4.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" TO 16" MAINS	NOVEMBER 2025	NONE
DETAIL NO. W-13	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	



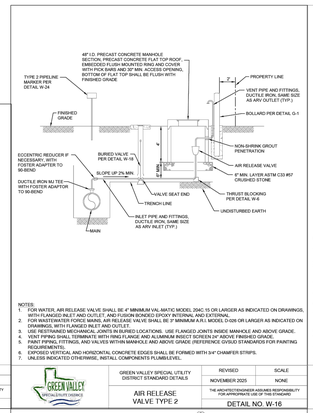
NOTES:
1. EMBED ALL EXTERIOR METAL SURFACES IN SILICA SAND.
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 5.

| GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS | REVISED | SCAL



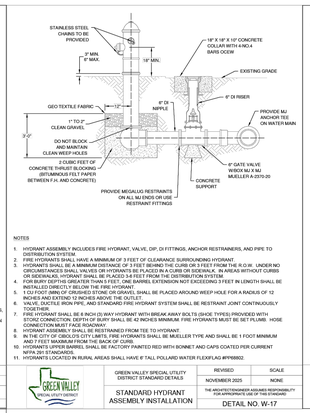
NOTES:
1. PVC MALE ADAPTERS ARE NOT ALLOWED.
2. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
AIR RELEASE VALVE TYPE 1	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-15		



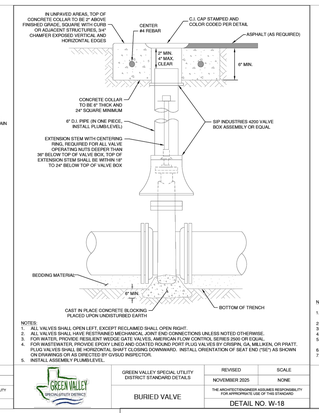
NOTES:
1. FOR WATER, AIR RELEASE VALVE SHALL BE 4" MINIMUM VIL-MATIC MODEL 204C-15 OR LARGER AS INDICATED ON DRAWINGS, WITH FLANGED INLET AND OUTLET, AND SHALL BE FURNISHED WITH A BLOW-OFF VALVE.
2. FOR WASTEWATER FORCE MAINS, AIR RELEASE VALVE SHALL BE 2" MINIMUM A.R.I. MODEL D-026 OR LARGER AS INDICATED ON DRAWINGS, WITH FLANGED INLET AND OUTLET.
3. USE RESTRAINED MECHANICAL JOINTS IN BURIED LOCATIONS. USE FLANGED JOINTS INSIDE MANHOLE AND ABOVE GRADE.
4. VENT PIPING SHALL TERMINATE WITH FINNED FLANGE AND ALUMINUM INSECT SCREEN OR ABOVE FINISHED GRADE.
5. ALL PIPING, FITTINGS, AND VALVES WITHIN MANHOLE AND ABOVE GRADE (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
6. EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
7. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
AIR RELEASE VALVE TYPE 2	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-16		



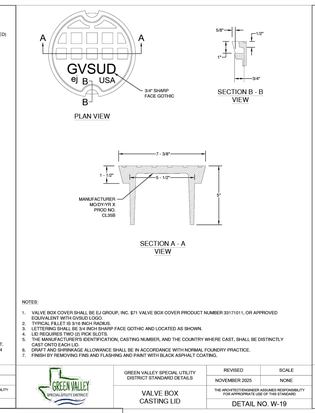
NOTES
1. HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT, VALVE, DIP, DI FITTINGS, ANCHOR RESTRAINERS, AND PIPE TO DISTRIBUTION SYSTEM.
2. HYDRANTS SHALL BE SET TO HAVE A MINIMUM OF 3 FEET OF CLEARANCE SURROUNDING HYDRANT.
3. HYDRANTS SHALL BE 4 MAXIMUM DISTANCE OF 3 FEET BEHIND THE CURB OR 3 FEET FROM THE R.O.W. UNDER NO CIRCUMSTANCES SHALL VALVES OR HYDRANTS BE PLACED IN A CURB OR SIDEWALK. IN AREAS WITHOUT CURBS OR SIDEWALKS, HYDRANT SHALL BE PLACED 3-6 FEET FROM THE DISTRIBUTION SYSTEM.
4. FOR BURY DEPTHS GREATER THAN 5 FEET, ONE BARREL EXTENSION NOT EXCEEDING 3 FEET IN LENGTH SHALL BE USED FOR EACH FOOT OF BURY DEPTH.
5. 1 CU FOOT (MIN) OF CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND WEEP HOLE FOR A RADIUS OF 12 INCHES AND EXTEND 12 INCHES ABOVE THE OUTLET.
6. VALVE, DUCTILE IRON PIPE, AND STANDARD FIRE HYDRANT SYSTEM SHALL BE RESTRAINT JOINT CONTINUOUSLY TOGETHER.
7. THE HYDRANT SHALL BE 6 INCH (6") WAY HYDRANT WITH BREAK AWAY BOLTS (SHOE TYPE(S)) PROVIDED WITH 7 FEET MINIMUM BURY DEPTH. DEPTH OF BURY SHALL BE AS NEEDED MINIMUM FIRE HYDRANTS MUST BE SET PLUMB. HOSE CONNECTION MUST FACE ROADWAY.
8. HYDRANTS SHALL BE SET TO BE RETAINED FROM TEE TO HYDRANT.
9. IN THE STATION SHALL BE (2) INSTALL FIRE HYDRANTS SHALL BE MUELLER TYPE AND SHALL BE 1 FOOT MINIMUM AND 6" FEET MAXIMUM FROM THE BACK OF CURB.
10. HYDRANTS UPPER BARREL SHALL BE FACTORY PAINTED RED WITH BONNET AND CAPS COATED PER CURRENT NFPA 291 STANDARDS.
11. HYDRANTS LOCATED IN RURAL AREAS SHALL HAVE 6" TALL POLLARD WATER FLEXFLAG #PPRB6802.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
STANDARD HYDRANT ASSEMBLY INSTALLATION	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-17		



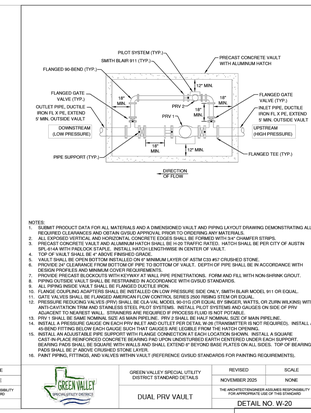
NOTE:
1. ALL VALVES SHALL OPEN LEFT, EXCEPT RECLAIMED SHALL OPEN RIGHT.
2. ALL VALVES SHALL HAVE RESTRAINED MECHANICAL JOINT END CONNECTIONS UNLESS NOTED OTHERWISE.
3. FOR WATER, PROVIDE RESILIENT WEDGE GATE VALVES, AMERICAN FLOW CONTROL SERIES 2500 OR EQUAL.
4. FOR WASTEWATER, PROVIDE RESILIENT WEDGE GATE VALVES, AMERICAN FLOW CONTROL SERIES 2500 OR EQUAL. PLUG VALVES SHALL BE HORIZONTAL, SHAFT FACING DOWNWARD. INSTALL ORIENTATION OF SEAT END ("SE") AS SHOWN ON DRAWINGS OR AS DIRECTED BY GVSUD INSPECTOR.
5. INSTALL ASSEMBLY PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
BURIED VALVE	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-18		



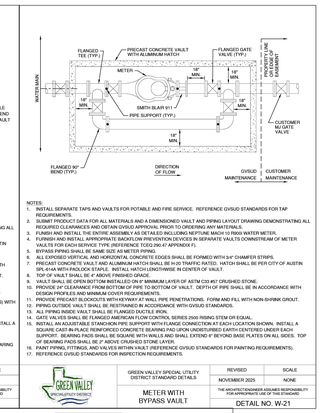
NOTES:
1. VALVE BOX COVER SHALL BE EJ GROUP, INC. EJ1 VALVE BOX COVER PRODUCT NUMBER 3317101-1, OR APPROVED EQUAL WITH GVSUD LOGO.
2. TYPICAL FILLET IS 5/16 INCH (5/16").
3. VALVE BOX SHALL BE EJ GROUP, INC. 3 PIECE FACE GOTHIC AND LOCATED AS SHOWN.
4. LID REQUIRES TWO (2) PICK SLOTS.
5. THE MANUFACTURER'S IDENTIFICATION, CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINS AND FLASHING AND PAINT WITH BLACK ASPHALT COATING.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
VALVE BOX CASTING LID	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-19		



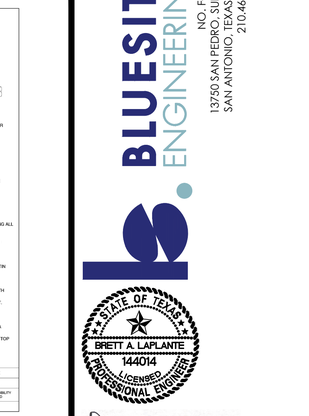
NOTES:
1. SUBMIT PRODUCT DATA FOR ALL MATERIALS AND A DIMENSIONED VAULT AND PIPING LAYOUT DRAWING DEMONSTRATING ALL REQUIRED CLEARANCES AND OBTAIN GVSUD APPROVAL PRIOR TO ORDERING ANY MATERIALS.
2. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
3. PROVIDE PRECAST CONCRETE VAULT AND ALUMINUM HATCH SHALL BE H-20 TRAFFIC RATED. HATCH SHALL BE PER CITY OF AUSTIN SPL-814A WITH PADLOCK STAPLE. INSTALL HATCH LENGTHWISE IN CENTER OF VAULT.
4. TOP OF VAULT SHALL BE 4" ABOVE FINISHED GRADE.
5. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
6. PROVIDE 24" CLEARANCE FROM BOTTOM OF PIPE TO BOTTOM OF VAULT. DEPTH OF PIPE SHALL BE IN ACCORDANCE WITH DESIGN PROFILES AND MINIMUM COVER REQUIREMENTS.
7. PROVIDE PRECAST SLOCKOUTS WITH KEYWAY AT WALL PIPE PENETRATIONS. FORM AND FILL WITH NON-SHRINK GROUT.
8. PIPING OUTSIDE VAULT SHALL BE RESTRAINED IN ACCORDANCE WITH GVSUD STANDARDS.
9. ALL PIPING INSIDE VAULT SHALL BE FLANGED.
10. GATE VALVES SHALL BE FLANGED AMERICAN FLOW CONTROL SERIES 2500 RISING STEM OR EQUAL.
11. INSTALL AN ADJUSTABLE STANCHION PIPE SUPPORT WITH FLANGE CONNECTION AT EACH LOCATION SHOWN. INSTALL A SQUARE CAST-IN-PLACE REINFORCED CONCRETE BEARING PAD UPON UNDISTURBED EARTH CENTERED UNDER EACH SUPPORT. BEARING PADS SHALL BE SQUARE WITH WALLS AND SHALL EXTEND 6" BEYOND BASE PLATES ON ALL SIDES. TOP OF BEARING PADS SHALL BE 2" ABOVE CRUSHED STONE LAYER.
12. PAINT PIPING, FITTINGS, AND VALVES WITHIN VAULT (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
13. REFERENCE GVSUD STANDARDS FOR INSPECTION REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
DUAL PRV VAULT	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-20		



NOTES:
1. INSTALL SEPARATE TAPS AND VALVES FOR POTABLE AND FIRE SERVICE. REFERENCE GVSUD STANDARDS FOR TAP REQUIREMENTS.
2. SUBMIT PRODUCT DATA FOR ALL MATERIALS AND A DIMENSIONED VAULT AND PIPING LAYOUT DRAWING DEMONSTRATING ALL REQUIRED CLEARANCES AND OBTAIN GVSUD APPROVAL PRIOR TO ORDERING ANY MATERIALS.
3. FLUSH AND INSTALL THE ENTIRE ASSEMBLY AS DETAILED INCLUDING NEPTUNE MACH 10 RMG WATER METER.
4. FURNISH AND INSTALL APPROPRIATE BACKFLOW PREVENTION DEVICES IN SEPARATE VAULTS DOWNSTREAM OF METER (REFER TO GVSUD STANDARDS FOR BACKFLOW REQUIREMENTS AT APPENDIX 7).
5. BYPASS PIPING SHALL BE SAME SIZE AS METER INTAKE.
6. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
7. PRECAST CONCRETE VAULT AND ALUMINUM HATCH SHALL BE H-20 TRAFFIC RATED. HATCH SHALL BE PER CITY OF AUSTIN SPL-814A WITH PADLOCK STAPLE. INSTALL HATCH LENGTHWISE IN CENTER OF VAULT.
8. TOP OF VAULT SHALL BE 4" ABOVE FINISHED GRADE.
9. VAULT SHALL BE OPEN BOTTOM INSTALLED ON 6" MINIMUM LAYER OF ASTM C33 #57 CRUSHED STONE.
10. PROVIDE 24" CLEARANCE FROM BOTTOM OF PIPE TO BOTTOM OF VAULT. DEPTH OF PIPE SHALL BE IN ACCORDANCE WITH DESIGN PROFILES AND MINIMUM COVER REQUIREMENTS.
11. PROVIDE PRECAST SLOCKOUTS WITH KEYWAY AT WALL PIPE PENETRATIONS. FORM AND FILL WITH NON-SHRINK GROUT.
12. PIPING OUTSIDE VAULT SHALL BE RESTRAINED IN ACCORDANCE WITH GVSUD STANDARDS.
13. ALL PIPING INSIDE VAULT SHALL BE FLANGED.
14. GATE VALVES SHALL BE FLANGED AMERICAN FLOW CONTROL SERIES 2500 RISING STEM OR EQUAL.
15. INSTALL AN ADJUSTABLE STANCHION PIPE SUPPORT WITH FLANGE CONNECTION AT EACH LOCATION SHOWN. INSTALL A SQUARE CAST-IN-PLACE REINFORCED CONCRETE BEARING PAD UPON UNDISTURBED EARTH CENTERED UNDER EACH SUPPORT. BEARING PADS SHALL BE SQUARE WITH WALLS AND SHALL EXTEND 6" BEYOND BASE PLATES ON ALL SIDES. TOP OF BEARING PADS SHALL BE 2" ABOVE CRUSHED STONE LAYER.
16. PAINT PIPING, FITTINGS, AND VALVES WITHIN VAULT (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
17. REFERENCE GVSUD STANDARDS FOR INSPECTION REQUIREMENTS.

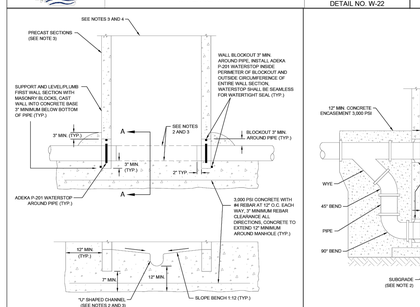
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
METER WITH BYPASS VAULT	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. W-21		



SECTION "A-A"
TYPICAL PRECAST BASE

NOTES:
1. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.
2. PROVIDE SINGLE WASTEWATER SERVICES 6 FT FROM LOW LOT CORNER (TYPICAL). PROVIDE 8 FT WHERE LOT CORNER IS SHARED WITH DRY UTILITIES AND 10 FT WHERE LOT CORNER IS SHARED WITH A FIRE HYDRANT OR AIR RELEASE VALVE.
3. IF CHEMICAL RESISTANT LINING IS UTILIZED, ADJUST CHANNEL INVERTS TO ACCOMMODATE THICKNESS OF LINING SUCH THAT CHANNEL INVERTS, AFTER LINING, MATCH PIPE INVERTS.
4. PROVIDE 6" MINIMUM CLEARANCE BETWEEN CONCRETE PENETRATIONS, AND BETWEEN CONCRETE PENETRATIONS AND CONCRETE JOINTS, AS MEASURED FROM NEAREST EDGE TO NEAREST EDGE.

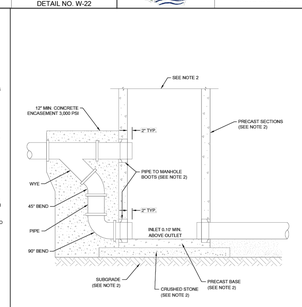
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER PRECAST MANHOLE	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. WW-1		



SECTION "A-A"

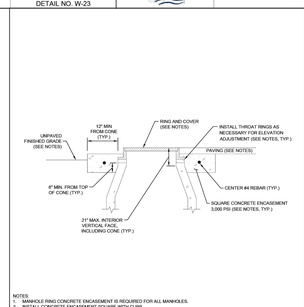
NOTES:
1. THIS DETAIL SHALL BE USED TO INSTALL MANHOLES ON EXISTING MAINS ONLY.
2. AFTER SUCCESSFUL VACUUM TESTING, REMOVE EXISTING PIPE FULL CIRCUMFERENCE AND SHAPE CHANNELS FOR NEW AND EXISTING PIPES.
3. REFERENCE DETAIL WW-1 FOR CHEMICAL RESISTANT MATERIAL REQUIREMENTS.
4. REFERENCE DETAIL WW-1 FOR ADDITIONAL REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER MANHOLE CAST IN PLACE BASE	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. WW-2		



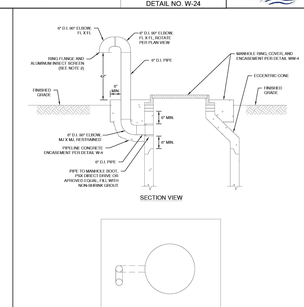
NOTES:
1. A WASTEWATER COLLECTION SYSTEM PIPE, INCLUDING SERVICE LATERALS, ENTERING A MANHOLE MORE THAN 24" ABOVE THE MANHOLE OUT INVERT MUST HAVE AN EXTERNAL DROP PIPE. INTERNAL DROPS ARE NOT ALLOWED.
2. REFERENCE DETAIL WW-1 FOR ADDITIONAL REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER DROP MANHOLE	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. WW-3		



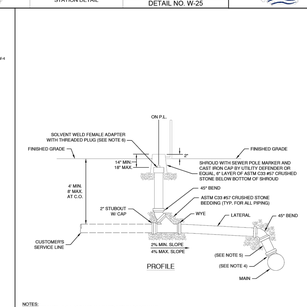
NOTES:
1. MANHOLE RING CONCRETE ENCASEMENT IS REQUIRED FOR ALL MANHOLES.
2. INSTALL CONCRETE ENCASEMENT SQUARE WITH CURB.
3. MANHOLE RIM ELEVATIONS SHOWN IN PLAN AND PROFILE VIEWS ARE APPROXIMATE.
4. WHEN PAVING IS NOT PRESENT, TOP OF CONCRETE ENCASEMENT SHALL BE 4" ABOVE FINISHED GRADE, CENTER SHALL BE 2" ABOVE TOP OF CONCRETE ENCASEMENT, ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
5. IN PAVED AREAS, RINGS AND COVERS SHALL BE FLUSH WITH PAVING AND SLOPED TO MATCH PAVING.
6. THROAT RINGS SHALL BE PRECAST CONCRETE. ALL INTERIOR SURFACES OF MANHOLES SHALL BE CHEMICAL RESISTANT WITH THE USE OF A CHEMICAL RESISTANT CEMENTITIOUS GROUT FOR INSTALLATION OF THROAT RINGS. GROUT SHALL BE COMPATIBLE WITH THE CHEMICAL RESISTANT SYSTEM.
7. MANHOLE RINGS AND COVERS SHALL BE EJCO PRODUCT NUMBER 41400094W01, OR EQUAL.
8. SCHEDULE GVSUD INSPECTOR TO WITNESS FINAL ROLTING OF MANHOLE COVERS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER MANHOLE RING ENCASEMENT	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. WW-4		



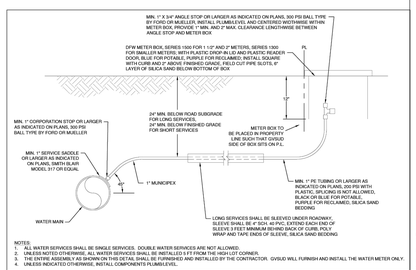
NOTES:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.
2. INSTALL A TEMPORARY BLIND FLANGE FOR MANHOLE VACUUM TESTING.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER MANHOLE VENT	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. WW-5		



NOTES:
1. CLEANOUTS (C.O.) ARE NOT ALLOWED WITHIN DRIVEWAYS.
2. PROVIDE SINGLE WASTEWATER SERVICES 6 FT FROM LOW LOT CORNER (TYPICAL). PROVIDE 8 FT WHERE LOT CORNER IS SHARED WITH DRY UTILITIES AND 10 FT WHERE LOT CORNER IS SHARED WITH A FIRE HYDRANT OR AIR RELEASE VALVE.
3. PIPE AND FITTINGS SHALL BE 4" DIAMETER, GREEN COLOR, GASKETED ASTM D3034 SDR35, UNLESS NOTED OTHERWISE. AT CLEANOUTS, PIPE SHALL BE SCH 40, GREEN COLOR, GASKETED, AND 160 PSI MINIMUM PRESSURE RATED.
4. UTILIZE SANITARY TEES FOR NEW CONSTRUCTION.
5. INSTALL PIPE BETWEEN FITTINGS IF NECESSARY. INSTALL PER VERTICAL STACK PER DETAIL WW-7 IF NECESSARY OR WHERE NOTED.
6. CLEANOUT RISER AND SHROUD SHALL BE INSTALLED PLUMB/LEVEL. CENTERLINE (CL) OF CLEANOUT RISER SHALL BE CENTERED ON PROPERTY LINE.
7. TAPPING SADDLES ARE NOT ALLOWED.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WASTEWATER LATERAL AND CLEANOUT	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
DETAIL NO. WW-6		



NOTES:
1. ALL WATER SERVICES SHALL BE SINGLE SERVICES. DOUBLE WATER SERVICES ARE NOT ALLOWED

NOTES:

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

UTILITY TRENCH COMPACTION NOTE:
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

TRENCH EXCAVATION SAFETY PROTECTION:
THE 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 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

NOTES:

- FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION BE PERMITTED
- INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH CITY/COUNTY RULES AND REGULATIONS
- CONTRACTYOR MAY NOT BLOCK, DIRECT, IMPEDE OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFICE NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICES IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS THAT ARE REQUIRED TO COMPLY WITH THE CITY/COUNTY CODE REGARDING EXCAVATION IN WITHIN RIGHT-OF-WAY
- CONTRACTOR SHALL CLEAN UP SPOILS THAT MIGRATE INTO EXISTING RIGHT-OF-WAY AT LEAST ONCE PER DAY
- CONTRACTOR SHALL INSTALL CHAIN LINK FENCE AT ALL POINTS WHERE LIMITS OF CONSTRUCTION IS SHOWN (AS REQUIRED)
- ALL STORM WATER LEAVING SITE DURING CONSTRUCTION ACTIVITIES MUST BASS THROUGH THE SILT FENCE
- IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTUTRBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING
- THIS EXHIBIT IS TO BE USED FOR THE PORPUSES OF STROMWATER POLLUTION PREVENTION ONLY. OTHER CIVIL ENGINEERING INFORMATION SHALL BE OBTAINED FROM APPRPRIATE CONSTRUCTION DOCUMENTS

INSTALLATION:

- ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCED AND ALL MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION
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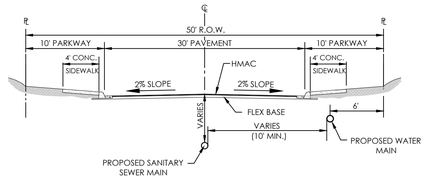
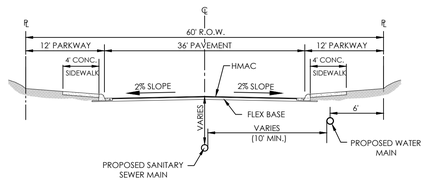
PROJECT COMPLETTION

- CONTRACTOR TO ENSURE THEY HAVE MET ALL REQUIREMENTS OF THE SWPPP BEFORE FILING A NOTICE OF TERMINATION
- ALL DISTURBED AREAS NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMPS.
- BMPS ARE TO REMAIN IN PLACE UNTIL UNLESS OTHERWISE NOTATED ON THE PROJECT SPECIFICATIONS

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPENCIES. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.



PROPOSED LOCAL STREET SECTION
N.T.S.

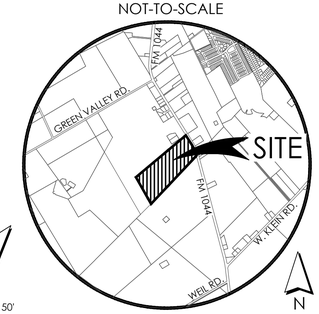


PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.

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

LOCATION MAP

NOT-TO-SCALE



SCALE: 1" = 50'
0' 25' 50' 75' 100'

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante

04/06/2026

LEGEND

- DISTURBED AREA
- PROPOSED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- ESTABLISH VEGETATION
- INLET PROTECTION
- ROCK BERM W/ GABION
- SF — CONCRETE WASHOUT PIT
- TP — TP — TREE PROTECTION PLAN
- SF — SF — SF — SILT FENCE
- — — LOC — — — LIMITS OF CONSTRUCTION
- PROPOSED DIRECTIONAL FLOW ARROW

SWPPP MODIFICATIONS

DATE	SIGNATURE	ISSUE/DESCRIPTION

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

STORMWATER POLLUTION PREVENTION PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

8.0

Date: 2/7/2024 2:44:23 PM
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THIS IS AN ELECTRONIC COPY AND MAY HAVE BEEN ALTERED. CONTRACTOR TO RELY ON LATEST HARD SET OF PLANS WITH ORIGINAL CONSULTANT SEAL AND SIGNATURE.

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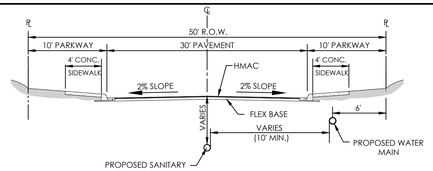
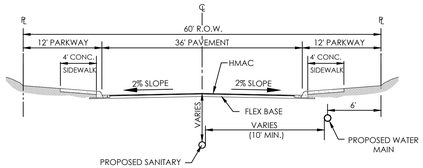


PROPOSED LOCAL STREET SECTION
N.T.S.



PROPOSED RESIDENTIAL COLLECTOR SECTION
N.T.S.

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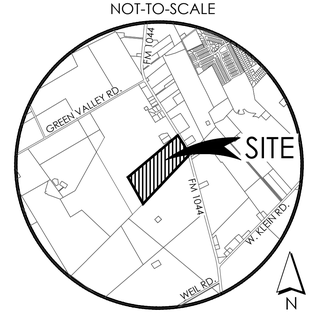
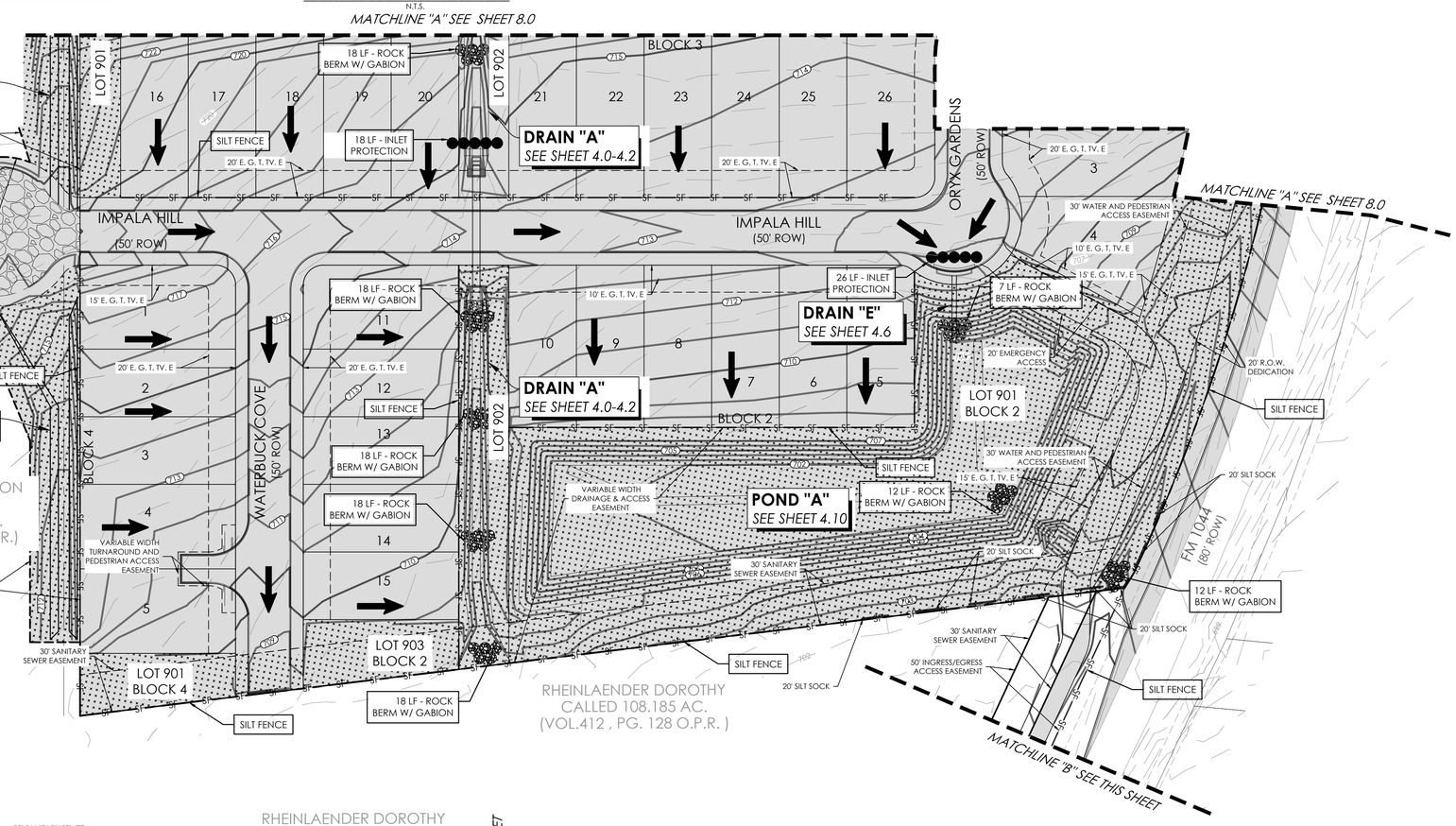
- BMPS ARE TO REMAIN IN PLACE UNTIL UNLESS OTHERWISE NOTATED ON THE PROJECT SPECIFICATIONS

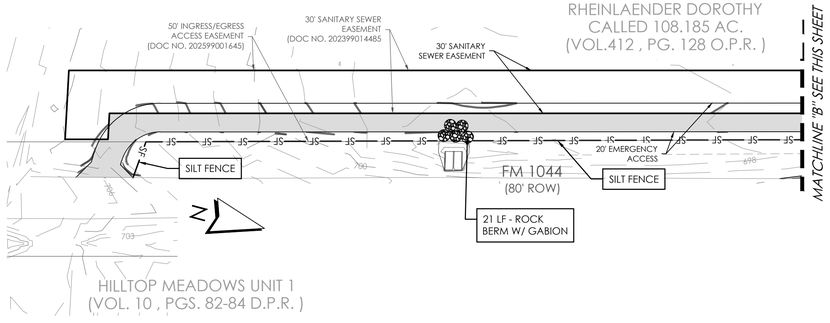
811 Know what's below. Call before you dig.

LOCATION MAP

NOT-TO-SCALE







LEGEND

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- SF — SF — SF — SILT FENCE
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- PROPOSED DIRECTIONAL FLOW ARROW

SWPPP MODIFICATIONS

DATE	SIGNATURE	ISSUE/DESCRIPTION

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
04/06/2026

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

STORMWATER POLLUTION PREVENTION PLAN

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

8.1

Date: 2/7/2024 2:44:22 PM
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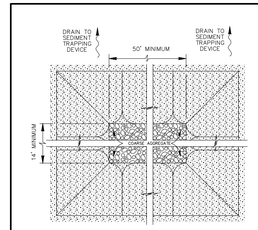
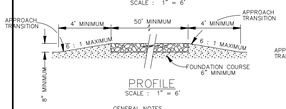


PLAN
SCALE : 1" = 6'

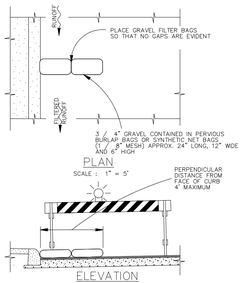


PROFILE
SCALE : 1" = 6'

GENERAL NOTES

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

CONSTRUCTION EXIT – TYPE 1

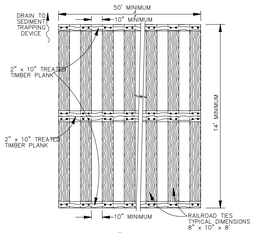


PLAN
SCALE : 1" = 5'

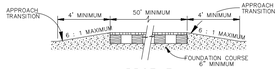
ELEVATION
SCALE : 1" = 5'

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

GRAVEL FILTER BAGS



PLAN
SCALE : 1" = 6'

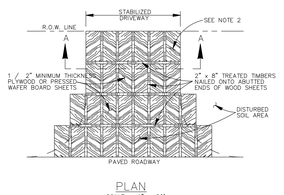


PROFILE
SCALE : 1" = 6'

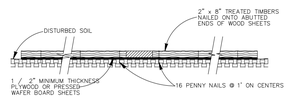
GENERAL NOTES

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

CONSTRUCTION EXIT – TYPE 2



PLAN
SCALE : 1" = 20'

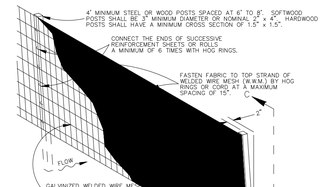


SECTION A–A
SCALE : 1" = 2'

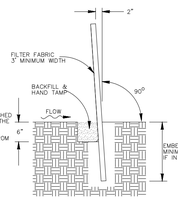
GENERAL NOTES

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

CONSTRUCTION EXIT – TYPE 3



ISOMETRIC VIEW
SCALE : 1" = 2'



SECTION C–C
SCALE : 1" = 2'

SEDIMENT CONTROL FENCE USAGE GUIDELINES

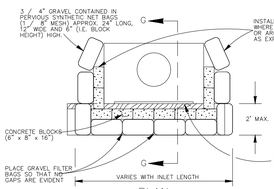
A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

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

GENERAL NOTES

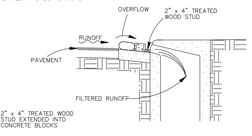
1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE



PLAN
SCALE : 1" = 5'

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



SECTION G–G
SCALE : 1" = 5'

CURB INLET GRAVEL FILTER

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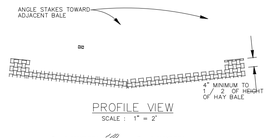
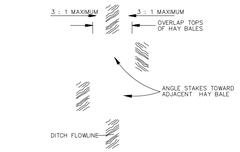
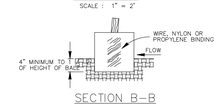
TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1



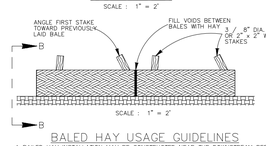
PROFILE VIEW
SCALE : 1" = 2'



PLAN VIEW
SCALE : 1" = 2'



SECTION B–B
SCALE : 1" = 2'



SCALE : 1" = 2'

BALED HAY USAGE GUIDELINES

A BALED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. BALED HAY INSTALLATIONS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 1 GPM PER SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

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

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

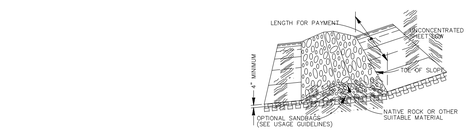
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

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

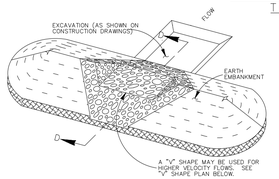
GENERAL NOTES

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

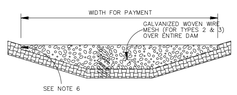
BALED HAY FOR EROSION CONTROL



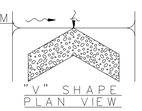
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE : 1" = 10'

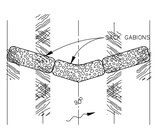


TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 10'

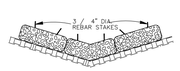


TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE : 1" = 6'



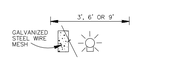


PLAN VIEW
SCALE : 1" = 10'



SECTION E–E
SCALE : 1" = 10'

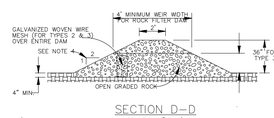
TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW



TYPE 4 SACK GABION DETAIL
SCALE : 1" = 6'

SECTION F–F
SCALE : 1" = 6'

ROCK FILTER DAMS



SECTION D–D
SCALE : 1" = 6'

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM / FT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

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

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT. / SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (A" DEEP KEY) AND AT THE TERMINUS (DOWNSLOPE) OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH) :

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

TYPE 3 (36" HIGH WITH WIRE MESH) :

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

TYPE 4 (SACK GABIONS) :

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

GENERAL NOTES

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

JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

BLUESITE ENGINEERING
NO. F-22528
13750 SAN PEDRO, SUITE B10
SAN ANTONIO, TEXAS 78232
210.469.4414

STATE OF TEXAS
BRETT A. LAPLANTE
144014
LICENSED PROFESSIONAL ENGINEER

Brett LaPlante
11/03/2025

OWNER/DEVELOPER:

DAVIDSON HOMES, LLC.

SURVEYOR:

B&G SURVEYING, LLC
FIRM NO. 100363-00
1404 WEST NORTH LOOP BLVD.
AUSTIN, TEXAS 78756
512.458.6969

REVISIONS

PROJECT

BLACKWELL SUBDIVISION UNIT 1

SHEET

STORMWATER POLLUTION PREVENTION PLAN DETAIL SHEET

LOCATION **NEW BRAUNFELS ETJ**

SHEET NO.

8.2

Date: 7/7/2024 2:44:22 PM
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