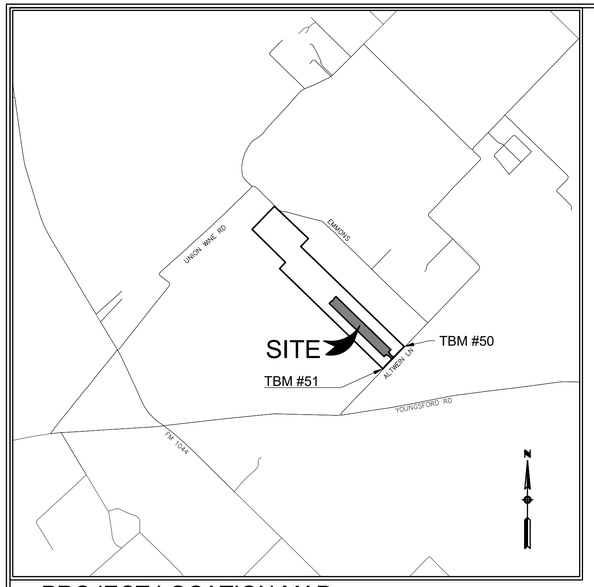
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX
NEW BRAUNFELS, TX
CIVIL SITE CONSTRUCTION PLANS



PROJECT LOCATION MAP SCALE: N.T.S.

PROJECT BENCHMARK

TBM #50
MAG SPIKE IN ASPH
N: 13770290.7347
E: 2256602.2969
ELEV: 629.10'

TBM #51
MAG SPIKE IN ASPH
N: 13769673.9320
E: 2256005.9019
ELEV: 622.89'

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF 95 PROPOSED RESIDENTIAL LOTS WITH ASSOCIATED GRADING, DRAINAGE, STREETS, AND UTILITY IMPROVEMENTS

LEGAL DESCRIPTION

BEING 14.30 ACRES OF LAND BEING OUT OF THE WASHINGTON D MILLER SURVEY, ABSTRACT NO. 232, GUADALUPE COUNTY, TEXAS, THE J.S. JOHNSON SURVEY NO. 47, ABSTRACT NO. 190, GUADALUPE COUNTY, TEXAS, AND THE DANIEL CHANDLER SURVEY NO. 489, ABSTRACT NO. 100, GUADALUPE COUNTY, TEXAS, ALSO BEING THAT SAME TRACT OF LAND CALLED 106.25 ACRES RECORDED IN VOLUME 247, PAGE 552, DOC NO. 202399025577, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.

LENNAR HOMES OF TEXAS LAND & CONSTRUCTION, LTD
100 NE LOOP 410, SUITE 1155
SAN ANTONIO, TX 78216

REQUIRED PERMITS	NUMBER
1. CITY OF NEW BRAUNFELS	#
2. GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD)	#
3. GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC)	#
4. GUADALUPE-BLANCO RIVER AUTHORITY (GBRA)	#
5. TXDOT	#

OCTOBER 2025

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
10/28/2025

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.

Matthew T. Abrahamsen P.E.
License No. 154638

PREPARED BY:

HMT
ENGINEERING & SURVEYING

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
HMTNB.COM
(830) 625-8555
TBPELS FIRM F-10961
TBPELS FIRM 10153600

COLINA RANCH UNIT 1 NEW BRAUNFELS, TX
CIVIL SITE CONSTRUCTION PLANS
HMT # 337.110

SHEET LIST TABLE

SHEET NO.	SHEET TITLE
C0.00	COVER
C0.01	GENERAL NOTES (1 OF 2)
C0.02	GENERAL NOTES (2 OF 2)
C0.03	PLAT (1 OF 4)
C0.04	PLAT (2 OF 4)
C0.05	PLAT (3 OF 4)
C0.06	PLAT (4 OF 4)
C0.07	APPROVED COLINA RANCH MASTER PLAN
C1.01	EXISTING DRAINAGE AREA MAP
C1.02	ULTIMATE DRAINAGE AREA MAP
C1.03	PROPOSED DRAINAGE AREA MAP
C1.04	ULTIMATE SUB DRAINAGE AREA MAP
C1.05	PROPOSED UNIT 1 SUB DRAINAGE AREA MAP
C2.01	EROSION CONTROL PLAN (1 OF 2)
C2.02	EROSION CONTROL PLAN (2 OF 2)
C2.03	HAUL ROUTE
C2.04	HAUL ROUTE CROSSING EXHIBT
C2.05	EROSION CONTROL DETAILS
C2.06	DEMOLITION PLAN
C3.01	COLINA RANCH PLAN & PROFILE (1 OF 2)
C3.02	COLINA RANCH PLAN & PROFILE (2 OF 2)
C3.03	PINEHURST PLAN & PROFILE
C3.04	IRIS WAY PLAN & PROFILE
C3.05	BERRY BROOK PLAN & PROFILE
C3.06	SIGNAGE PLAN
C3.07	STREET DETAILS (1 OF 3)
C3.08	STREET DETAILS (2 OF 3)
C3.09	STREET DETAILS (3 OF 3)
C4.01	GRADING PLAN (1 OF 2)
C4.02	GRADING PLAN (2 OF 2)
C4.03	GRADING DETAILS
C5.01	OVERALL STORM
C5.02	STROM DRAIN LINE A1 (1 OF 2)

SHEET LIST TABLE

SHEET NO.	SHEET TITLE
C5.03	STROM DRAIN LINE A1 (2 OF 2)
C5.04	STORM DRAIN LINE A1.1 & A1.2
C5.05	EXTENDED DETENTION BASIN PLAN
C5.06	BASIN DETAILS (1 OF 2)
C5.07	BASIN DETAILS (2 OF 2)
C5.08	STORM DETAILS (1 OF 2)
C5.09	STORM DETAILS (2 OF 2)
C6.01	OVERALL WATER (1 OF 2)
C6.02	OVERALL WATER (2 OF 2)
C6.03	WATER LINE A PLAN & PROFILE (1 OF 6)
C6.04	WATER LINE A PLAN & PROFILE (2 OF 6)
C6.05	WATER LINE A PLAN & PROFILE (3 OF 6)
C6.06	WATER LINE A PLAN & PROFILE (4 OF 6)
C6.07	WATER LINE A PLAN & PROFILE (5 OF 6)
C6.08	WATER LINE A PLAN & PROFILE (6 OF 6)
C6.09	WATER LINE B, C, & D
C6.10	WATER DETAILS (1 OF 2)
C6.11	WATER DETAILS (2 OF 2)
C7.01	OVERALL WASTEWATER PLAN (1 OF 2)
C7.02	OVERALL WASTEWATER PLAN (2 OF 2)
C7.03	WASTEWATER LINE A PLAN & PROFILE (1 OF 5)
C7.04	WASTEWATER LINE A PLAN & PROFILE (2 OF 5)
C7.05	WASTEWATER LINE A PLAN & PROFILE (3 OF 5)
C7.06	WASTEWATER LINE A PLAN & PROFILE (4 OF 5)
C7.07	WASTEWATER LINE A PLAN & PROFILE (5 OF 5)
C7.08	WASTEWATER LINE B & C PLAN & PROFILE
C7.09	WASTEWATER LINE D, G & H PLAN & PROFILE
C7.10	WASTEWATER LINE I & J PLAN & PROFILE
C7.11	WASTEWATER DETAILS
C8.01	OVERALL UTILITY PLAN (1 OF 2)
C8.02	OVERALL UTILITY PLAN (2 OF 2)

GENERAL NOTES:

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. 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.
3. 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 IN RECORD.
4. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION AND MEETING REQUESTS.
   - 4.1 ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
   - 4.2 FAXED IN AT 830-608-2117 OR,
   - 4.3 E-MAILED AT INSPECTIONS@NEWBRAUNFELS.GOV.
5. 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 THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
7. THIS DEVELOPMENT IS A TYPE 3 DEVELOPMENT.
8. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FIRM PANEL NUMBER 48187C0255F EFFECTIVE DATE NOVEMBER, 02, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
9. THIS PROJECT IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONE.
10. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY, IF APPLICABLE.
11. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER AND WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, CITY OF NEW BRAUNFELS, SOUND ENGINEERING JUDGEMENT AND ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES.

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

ANY QUANTITIES PROVIDED BY HMT OR OWNER ON THE PLANS, OPINION OF PROBABLE COST, BID SUMMARIES, ETC. ARE FOR CURSORY USE ONLY. CONTRACTOR IS RESPONSIBLE FOR BIDDING SIGNED AND SEALED CONSTRUCTION PLANS. IF A DISCREPANCY EXIST, CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY.

CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LOCATION AND ELEVATION OF ALL DOWNSTREAM CONNECTION POINTS PRIOR TO CONSTRUCTION. IF A DISCREPANCY EXIST, CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY.

CONTRACTOR SHALL INSTALL ALL GRAVITY SEWER, GRAVITY STORM SEWER, CURBS AND PAVEMENT FROM THE MOST DOWNSTREAM POINT OF CONNECTION. IF IMPROVEMENTS ARE CONSTRUCTED FROM UPSTREAM TO DOWNSTREAM, THEN THE CONTRACTOR WILL TAKE FULL RISK AND LIABILITY OF ANY ISSUES THAT MIGHT ARISE FROM FLOWLINE ELEVATION DISCREPANCIES, UTILITY CONFLICTS, ETC.

CONTRACTOR IS RESPONSIBLE FOR THE STOCKPILING OF ANY EXCESS DIRT. ALL BIDS FROM CONTRACTOR SHOULD ACCOUNT FOR THE REMOVAL AND PLACEMENT OF ALL EARTHWORK TO INCLUDE STOCKPILING, EXPORT, IMPORT, ETC. IF A LOCATION OF PLACEMENT OF EXCESS DIRT IS NOT SHOWN ON THE PLANS, THEN CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY TO DETERMINE THE MOST SUITABLE STOCKPILE LOCATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR TO ALL EXISTING COUNTY STUB DAMAGED DURING CONSTRUCTION ACTIVITIES.

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbs\337110_COVER.dwg User: ksmdend Oct 28, 2025 - 9:53am

CITY OF NEW BRAUNFELS GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY WITH:

A. CURRENT CITY OF NEW BRAUNFELS CONSTRUCTION SPECIFICATIONS AND STANDARDS AS OF THE DATE OF THIS CONTRACT

B. THE MOST CURRENT EDITION OF TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES." ALONG WITH CURRENT CITY OF NEW BRAUNFELS AND **GUADALUPE** COUNTY SPECIFICATIONS. ANY DISCREPANCIES BETWEEN SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AREA AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENT AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY ITEM)

WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100YR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

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

WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES, AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN DURING REMOVAL OF CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.

ITEM OF WORK DESIGNATED "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.

ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.

ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 4, ACCORDING TO TXDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN -2 AND +3 OF OPTIMUM PERCENT MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2922.

ASPHALT PAVEMENT SHALL BE THE TYPE SPECIFIED ON THE PLANS AND ACCORDING TO TXDOT ITEM 340 "HOT MIX ASPHALT CONCRETE PAVEMENT".

PRIME COAT USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO LAYING ASPHALTIC CONCRETE PAVEMENT. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLONS PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND THE TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TXDOT ITEM 300.3.

CONCRETE SHALL BE CLASS "A" ACCORDING TO TXDOT ITEM 421 UNLESS OTHERWISE ON PLANS.

REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TXDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.

ALL SAWED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING,

ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.

ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG. (F).

ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

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

ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL HAVE A MANNING'S "N" VALUE OF 0.024., UNLESS OTHERWISE SHOWN ON PLANS.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTING PER CURRENT CITY OF NEW BRAUNFELS REQUIREMENTS. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ENGINEER AND OWNER RESERVE THE RIGHT TO HAVE THE CONTRACTOR REMOVE AND REPLACE ANY MATERIAL THAT WAS NOT TESTED OR FAILED TESTING. ALL COST ASSOCIATED WITH THE REMOVAL, REPLACEMENT AND TESTING SHALL BE PAID BY THE CONTRACTOR.

ALL PVC SLEEVES SHALL BE INSTALLED 3 FEET BELOW FINISHED GRADE AND ENDS SHALL BE MARKED SO THAT LOCATIONS OF SLEEVES CAN BE EASILY IDENTIFIED.

PRE-CONSTRUCTION CONFERENCE IS REQUIRED, ENGINEER WILL ARRANGE SUCH CONFERENCE IN COORDINATION WITH CITY OF NEW BRAUNFELS STREET INSPECTOR & NEW BRAUNFELS UTILITIES INSPECTOR. NO CONSTRUCTION MAY BEGIN PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.

CONTRACTOR SHALL COORDINATE WITH DRY UTILITY INSTALLERS AND SHARED TRENCHING SHALL BE UTILIZED. CUTTING THE STREETS AFTER COMPLETION BY DRY UTILITIES SHALL NOT BE ACCEPTABLE.

AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL 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 DRAWINGS" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) 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.

EROSION / SEDIMENTATION CONTROL

AT A MINIMUM, THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. HAY BALES SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.

STRIPPING OF VEGETATION FROM THE PROJECT SITE SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AREA TO SOIL EROSION FOR THE SHORTEST PERIOD OF TIME.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE CONTROLS WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED {31 TAC 313.5 (C)(12)}. ADDITIONAL PROTECTION MAY BE REQUIRED IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER/ENGINEER.

PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE DISTURBANCE OF THE STRUCTURES HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN ENGINEER APPROVED DESIGNATED DISPOSAL AREA.

CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT NO EROSION CONTROL MEASURES BLOCK THE DRAINAGE SYSTEM FROM WORKING AS DESIGNED.

CITY OF NEW BRAUNFELS CONSTRUCTION NOTES

REVISED 03/2020

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 NEWBRAUNFELS.GOV.
- ☐

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.

CITY OF NEW BRAUNFELS CONSTRUCTION NOTES (CONTINUED)

REVISED 03/2020

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.

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.

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.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.
ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

GUADALUPE-BLANCO RIVER AUTHORITY (SEWER)	(830) 379-5822
GREEN VALLEY ELECTRIC COMPANY (ELECTRIC)	(830) 223-4832
GREEN VALLEY SPECIAL UTILITY DISTRICT (WATER)	(855) 914-2330
CENTERPOINT ENERGY (GAS)	(800) 752-8036
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545
ENERGY TRANSFER (PETROLEUM PIPELINE) (GILBERT DE LA GARZA)	(512) 212-6134

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
10. TPDES REQUIREMENTS – DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY WILL BEGIN AGAIN WITHIN 21 DAYS

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

GENERAL NOTES (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C0.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbs\337.110_COVER.dwg User: kamdend Oct 28, 2025 - 9:53am

GVSUD WATER NOTES

General:

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.

GVSUD WATER NOTES

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.

GVSUD WATER NOTES

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.

GVSUD WATER NOTES

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.
15. No separate pay will be given to de-water trenches or other excavated areas.

GBRA WASTEWATER CONSTRUCTION NOTES REVISED 3/09/18

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 8:00AM AND 5:00PM 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. PVC MALE ADAPTERS ARE NOT ALLOWED.
6. SANITARY TAPPING SADDLES ARE NOT ALLOWED.
7. MANHOLE INTERNAL DROPS ARE NOT ALLOWED.
8. PIPE BELLS SHALL BE INSTALLED IN UPSTREAM DIRECTION.
9. ALL PIPING SHALL BE DESIGNED IN STRAIGHT ALIGNMENT VERTICALLY AND HORIZONTALLY. PIPE CURVATURE AND/OR DEFLECTION ARE NOT ALLOWED.
10. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 12 INCHES VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.
11. 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.
12. 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.
13. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH ¾"CHAMFER STRIPS.
14. 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.
15. 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.
16. 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 8:00AM AND 5:00PM 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.
17. EXPLOSIVES AND BLASTING ARE NOT ALLOWED.

MATERIAL NOTES:

1. GRAVITY WASTEWATER PIPE AND FITTINGS SHALL BE GREEN COLOR GASKETED ASTM D3034 SDR26. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS. SANITARY TAPPING SADDLES ARE NOT ALLOWED.
2. MJ TEE BOLTS AND NUTS FOR BURIED LOCATIONS SHALL BE CORTEN, EXCEPT FOR PROJECTS NEAR OR EAST OF INTERSTATE 35 USE TYPE 304 STAINLESS STEEL. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO THREADS PRIOR TO ASSEMBLY.
3. ALL OTHER FASTENERS SHALL BE TYPE 304 STAINLESS STEEL (E.G. HARDWARE, SCREWS, ANCHOR BOLTS, RODS, BOLTS, NUTS, ETC. FOR PIPING, VALVES, PUMPS, MOTORS, EQUIPMENT, ETC.) INCLUDING THOSE FOR FACTORY ASSEMBLY OF COMPONENTS. ALL BOLTS AND NUTS SHALL BE HEAVY HEX. ANCHOR BOLTS INSTALLED WITHIN HYDRAULIC STRUCTURES SHALL BE EPOXY TYPE. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO THREADS PRIOR TO ASSEMBLY. STAINLESS STEEL ITEMS SHALL NOT BE PAINTED
4. PVC MALE ADAPTERS ARE NOT ALLOWED.

TESTING NOTES:

1. ALL OTHER UTILITIES MUST BE COMPLETE PRIOR TO PERFORMING ANY WATER OR WASTEWATER TESTING.
2. ALL TESTING MUST BE COMPLETE PRIOR TO PAVING STREETS.
3. ALL TESTING MUST BE COMPLETE PRIOR TO PERFORMING TIE-INS TO EXISTING WATER OR WASTEWATER SYSTEMS.
4. CONTRACTOR SHALL PERFORM PRE-TESTING TO VERIFY PASSING RESULTS PRIOR TO REQUESTING GBRA INSPECTION. PROVIDE CONNECTION POINT FOR GBRA DIGITAL TEST GAUGE.
5. ALL TESTING SHALL BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY GBRA.
6. PERFORM TRENCH BACKFILL DENSITY TESTING AT INTERVALS SPECIFIED BY THE DESIGN ENGINEER, EXACT LOCATIONS TO BE DESIGNATED BY INSPECTOR. SCHEDULE GBRA TO WITNESS TESTING. PROVIDE COPIES OF REPORTS TO GBRA.
7. ALL GRAVITY WASTEWATER PIPING SHALL BE SUBJECT TO LOW PRESSURE AIR TESTING IN ACCORDANCE WITH TCEQ REQUIREMENTS. INFILTRATION AND EXFILTRATION TESTING ARE NOT ALLOWED.
8. MANDREL TESTING SHALL BE PERFORMED FOR ALL GRAVITY WASTEWATER MAINS PRIOR TO INSTALLATION OF CORROSION RESISTANT MANHOLE LINING.
9. ALL MANHOLES, REGARDLESS OF VEHICULAR TRAFFIC DETOURING, SHALL BE VACUUM TESTED AFTER COMPLETION OF BACKFILL, COMPACTION, AND FINAL GRADING OF ROAD BASE BUT PRIOR TO PAVING STREETS AND PRIOR TO CORROSION RESISTANT MANHOLE LINING. VACUUM TESTING SHALL BE PERFORMED WITH A PLATE TYPE TEST HEAD PLACED ON TOP OF COMPLETED MANHOLE METAL CASTING RING WHICH 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. INFILTRATION AND EXFILTRATION TESTING ARE NOT ALLOWED.
10. PERFORM VIDEO INSPECTION AND GOLF BALL TESTING OF GRAVITY WASTEWATER PIPING AFTER CORROSION RESISTANT MANHOLE LINING BUT PRIOR TO PAVING STREETS. 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. HANG AND DRAG A GOLF BALL IN FRONT OF CAMERA. PIPE GRADE IS OUT OF TOLERANCE IF GOLF BALL BECOMES FULLY SUBMERGED. SCHEDULE GBRA TO WITNESS VIDEO INSPECTION. PROVIDE DVD'S AND WRITTEN REPORTS TO GBRA.

DESIGN AND DOCUMENTS:

1. AS-BUILT AND RECORD DRAWINGS: PROVIDE COMPLETE PROJECT DRAWING SETS INCLUDING DRY UTILITIES, ROADS, GRADING, STORM SEWER, SANITARY SEWER, WATER, ETC. SUBMIT ELECTRONIC PRELIMINARY COPIES FOR GBRA REVIEW AND APPROVAL PRIOR TO PRINTING FINAL COPIES. I. CONTRACTOR SHALL PROVIDE ONE (1) PRINTED AND BOUND FULL SIZE COPY OF RED LINED ASBUILT DRAWINGS AND ONE (1) CD/PDF ELECTRONIC COPY, EACH SHEET STAMPED "ASBUILT DRAWING". II. ENGINEER SHALL PREPARE CORRECTED CAD DRAWINGS, EACH SHEET STAMPED "RECORD DRAWING", AND SUBMIT TO GBRA FIVE (5) PRINTED AND BOUND HALF SIZE COPIES AND FIVE (5) CD/PDF SEARCHABLE ELECTRONIC COPIES OF THE CORRECTED CAD DRAWINGS. SCANNED AND/OR PHOTOCOPIES ARE NOT ACCEPTABLE. H. RECORDED PLATS AND EASEMENTS. I. TITLE COMPANY REVIEW FOR RELEASE OF ALL LIENS.

GBRA NOTES

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

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

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

GENERAL NOTES (2 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

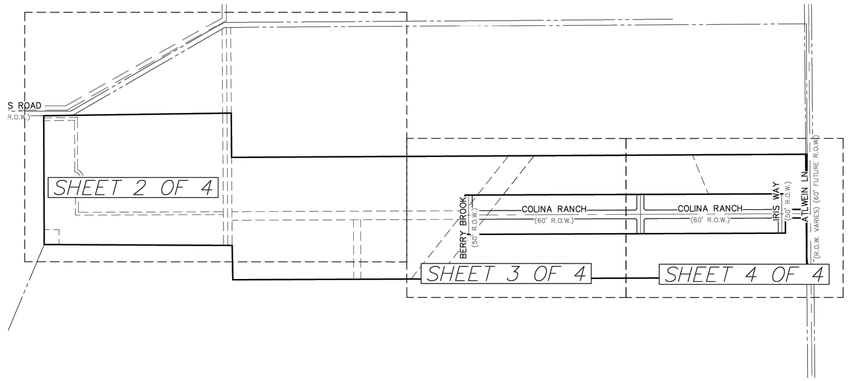
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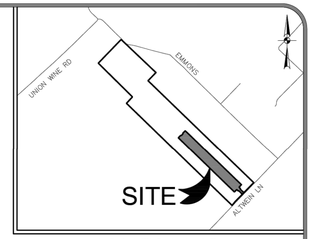
Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\C0s\337.110_COVER.dwg User: kamdend Oct 28, 2025 - 9:53am

FINAL PLAT ESTABLISHING

COLINA RANCH, UNIT 1

BEING 14.30 ACRES OF LAND BEING OUT OF THE WASHINGTON D MILLER SURVEY, ABSTRACT NO. 232, GUADALUPE COUNTY, TEXAS, THE J.S. JOHNSON SURVEY NO. 47, ABSTRACT NO. 190, GUADALUPE COUNTY, TEXAS, AND THE DANIEL CHANDLER SURVEY NO. 489, ABSTRACT NO. 100, GUADALUPE COUNTY, TEXAS, ALSO BEING OUT OF THAT SAME TRACT OF LAND CALLED 106.25 ACRES RECORDED IN VOLUME 247, PAGE 552, DOC NO. 202399025577, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.





LOCATION MAP
NOT TO SCALE

PLAT NOTES:

1. THIS PROPERTY WILL BE SERVICED BY THE FOLLOWING
   ELECTRIC – GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC)
   TELEPHONE AND CABLE – AT&T/SPECTRUM
   WATER – GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD)
   SEWER – GUADALUPE–BLANCO RIVER AUTHORITY (GBRA)
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 SURFACE MEASUREMENTS. TO CONVERT SURFACE DISTANCES TO GRID, APPLY A COMBINED SCALE FACTOR OF 1.00015.
3. MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION. MONUMENTS AND LOT MARKERS WILL BE SET WITH 1/2" IRON PINS WITH PLASTIC CAP STAMPED "HMT" IMMEDIATELY AFTER COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
4. THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
5. THIS SUBDIVISION IS WITHIN THE CITY OF NEW BRAUNFELS EXTRATERRITORIAL JURISDICTION (ETJ).
6. THIS SUBDIVISION IS WITHIN THE SEGUIN INDEPENDENT SCHOOL DISTRICT.
7. 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 48187C0250F, EFFECTIVE DATE NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
8. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON 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.
9. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
10. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE DEVELOPER AT THE TIME OF STREET CONSTRUCTION ALONG:
    A. COLINA RANCH – LOT 901 BLOCK 3, LOT 902 BLOCK 4.
11. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS ADJACENT TO THE CURB AT THE TIME OF BUILDING CONSTRUCTION ALONG:
    COLINA RANCH
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 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 95 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 95 BUILDABLE RESIDENTIAL LOTS. ALL LOTS MEET THE MINIMUM SQUARE FOOTAGE REQUIREMENT ACCORDING TO THE ZONING ORDINANCE.
15. ALL DRAINAGE EASEMENTS WITHIN THE LOTS WILL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION, ITS SUCCESSORS, AND/OR ASSIGNS.
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. LOT 901, BLOCK 3 (OPEN SPACE) & LOT 902, BLOCK 4 (OPEN SPACE) SHALL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION, ITS SUCCESSORS, AND/OR ASSIGNS.

GVSUD 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, TREES, ROADS, PARKING LOTS, FENCES, WALLS, CONSTRUCTION OF ANY 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 EASEMENT AS PROVIDED IN THE EASEMENT AGREEMENT.
6. GVSUD MAY REMOVE ALL TREES AND SHRUBBERY FROM EASEMENTS WITHOUT NOTICE OR COMPENSATION.

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED DOROTHY J. TAYLOR, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE.

DOROTHY J. TAYLOR
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6295
290 S. CASTELL AVE., SUITE 100, NEW BRAUNFELS, TEXAS 78130

PLAT PREPARED JULY 21, 2025

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

GBRA NOTES:

1. THE GUADALUPE–BLANCO RIVER AUTHORITY (GBRA) IS HEREBY DEDICATED THE EASEMENT AND RIGHTS–OF–WAY IN THE AREAS DESIGNATED ON THIS PLAT AS "SANITARY SEWER" AS WELL AS THOSE EASEMENTS AND RIGHTS–OFWAY 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 CROSSINGS 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.

THIS SUBDIVISION PLAT HAS BEEN SUBMITTED TO AND APPROVED FOR EASEMENTS. UPON REQUEST OF THE CUSTOMER AND PAYMENT OF THE REQUIRED FEES, GBRA WILL PROVIDE DOMESTIC SEWER SERVICE TO EACH LOT IN THIS SUBDIVISION, BY AGREEMENT WITH THE DEVELOPER.

STATE OF TEXAS
COUNTY OF GUADALUPE

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

_____
O UNION WINE RD, LLC.
BY: FRED HEIMER – AUTHORIZED AGENT
130 S. SEGUIN AVE., STE. 100
NEW BRAUNFELS, TEXAS 78130

STATE OF TEXAS
COUNTY OF _____,

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS

_____ DAY OF _____, 20___,

BY _____

_____
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: _____

GVEC NOTES:

1. TYPICAL FOR METER LOCATIONS.
2. 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.
3. ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT–OF–WAY ARE SUBJECT TO A 5'X30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES.
4. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
5. ANY EASEMENT DESIGNED AS A GVEC 20'X20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
6. ALL UTILITY EASEMENTS AREA FOR 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.
7. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.
8. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRICAL FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
9. 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 COLINA RANCH, UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

_____
AGENT FOR GUADALUPE VALLEY ELECTRIC COOP, INC.

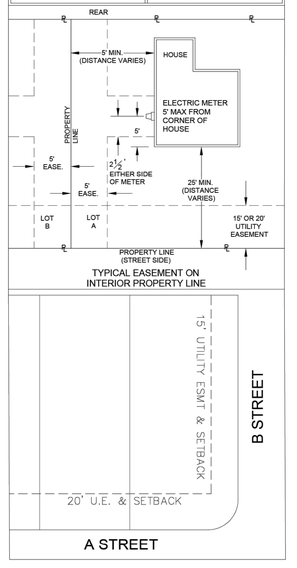
APPROVED THIS THE _____ DAY OF _____, 20___, BY THE CITY OF NEW BRAUNFELS, TEXAS.

APPROVED FOR ACCEPTANCE

_____ _____
DATE PLANNING DIRECTOR

_____ _____
DATE CITY ENGINEER

NOTE: G.V.E.C. WILL MAINTAIN 5' EASEMENT FOR SERVICE ENTRANCE TO DWELLING. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING.	G.V.E.C. SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARDS WITH THE METER LOCATIONS NOT BEING LOCATED WITHIN A FENCED AREA.



TYPICAL BUILDING SETBACK LINE AND UTILITY EASEMENT DIAGRAM
NOT–TO–SCALE

SHEET 1 OF 4

FOR REFERENCE ONLY

This plat will be submitted to the Planning Division following approval of the construction plans.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

PLAT (1 OF 4)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

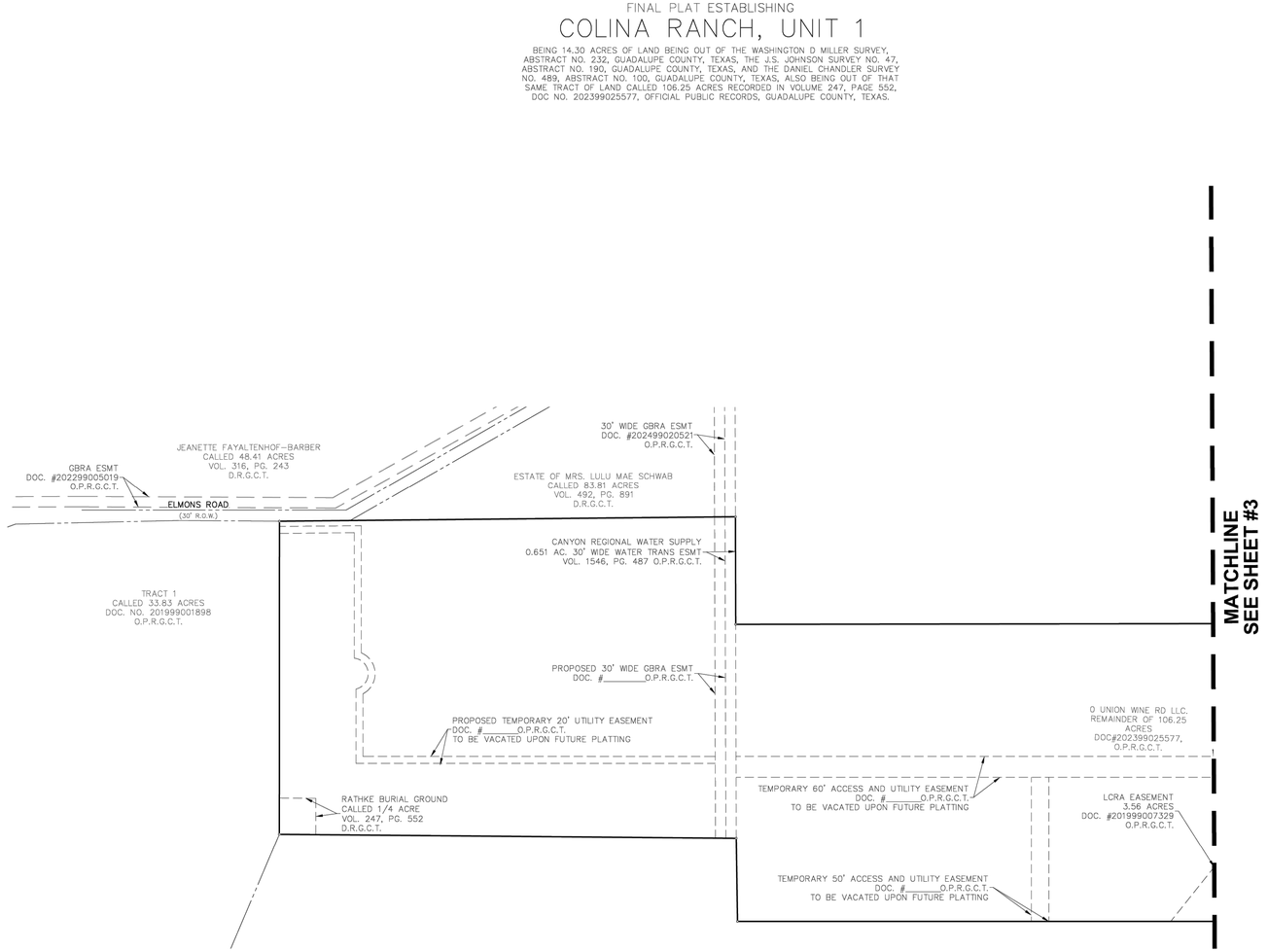
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Drawing Name: T:\337 – Lennar Homes\110 – Colina Ranch Phase 1\Plat\337.110_PLAT PHASE 1.dwg User: ksmdend Oct 14, 2025 - 3:51pm

FINAL PLAT ESTABLISHING

COLINA RANCH, UNIT 1

BEING 14.30 ACRES OF LAND BEING OUT OF THE WASHINGTON D MILLER SURVEY, ABSTRACT NO. 232, GUADALUPE COUNTY, TEXAS, THE J.S. JOHNSON SURVEY NO. 47, ABSTRACT NO. 190, GUADALUPE COUNTY, TEXAS, AND THE DANIEL CHANDLER SURVEY NO. 489, ABSTRACT NO. 100, GUADALUPE COUNTY, TEXAS, ALSO BEING OUT OF THAT SAME TRACT OF LAND CALLED 106.25 ACRES RECORDED IN VOLUME 247, PAGE 552, DOC NO. 202399025577, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.



0 100 200 400

SCALE: 1:200

LEGEND:

- ● = FND 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT" (UNLESS NOTED OTHERWISE)
- ○ = SET 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT"
- VOL. = VOLUME
- PG. = PAGE
- DOC. = DOCUMENT
- R.O.W. = RIGHT-OF-WAY
- O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
- D.R.G.C.T. = DEED RECORDS, GUADALUPE COUNTY, TEXAS
- ESMT = EASEMENT

PLAT PREPARED MARCH 13, 2025

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

Drawing Name: T:\337 - Lennar Homes\110 - Colina Ranch Phase 1\Plat\337.110_PLAT PHASE 1.dwg User: kamdend Oct 14, 2025 - 3:51pm

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Dbs\337.110_PLAT PHASE 1.dwg User: kamdend Oct 28, 2025 - 9:53am

FOR REFERENCE ONLY

This plat will be submitted to the Planning Division following approval of the construction plans.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

PLAT (2 OF 4)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

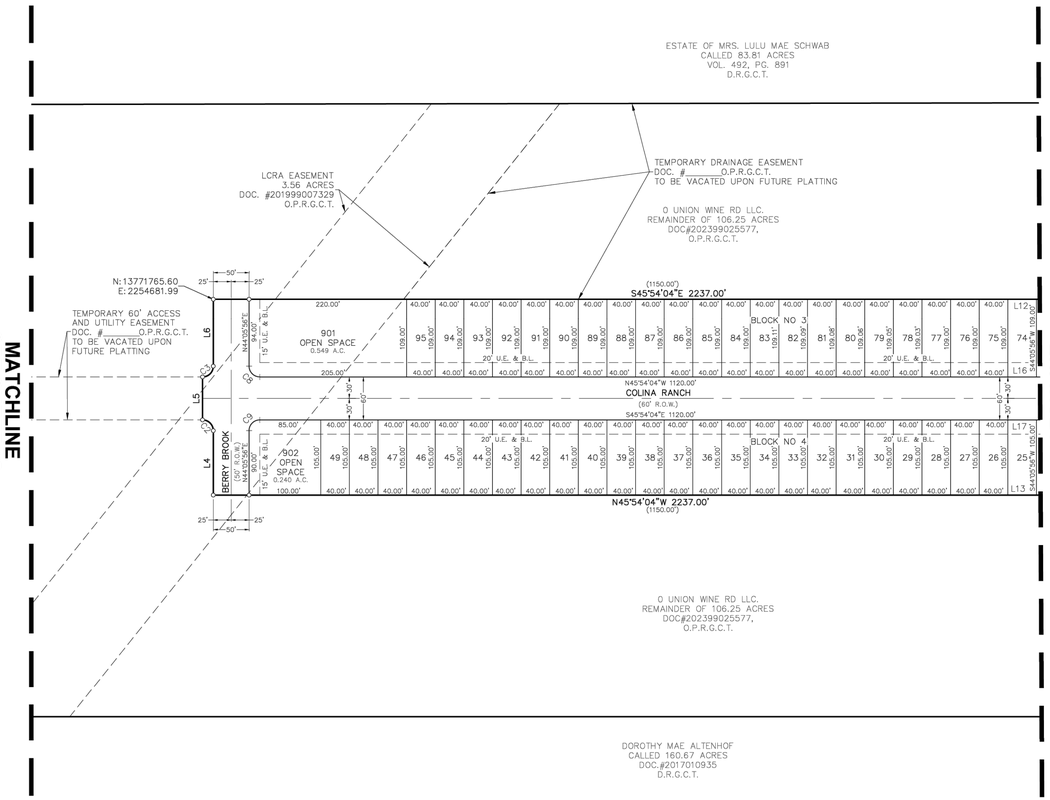
SHEET

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FINAL PLAT ESTABLISHING

COLINA RANCH, UNIT 1

BEING 14.30 ACRES OF LAND BEING OUT OF THE WASHINGTON D MILLER SURVEY, ABSTRACT NO. 232, GUADALUPE COUNTY, TEXAS, THE J.S. JOHNSON SURVEY NO. 47, ABSTRACT NO. 190, GUADALUPE COUNTY, TEXAS, AND THE DANIEL CHANDLER SURVEY NO. 489, ABSTRACT NO. 100, GUADALUPE COUNTY, TEXAS, ALSO BEING OUT OF THAT SAME TRACT OF LAND CALLED 106.25 ACRES RECORDED IN VOLUME 247, PAGE 552, DOC NO. 202399025577, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.



0 50 100 200

SCALE: 1:100

LEGEND:

- ● = FND 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT" (UNLESS NOTED OTHERWISE)
- ○ = SET 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT"
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- AC. = ACRE
- DOC. = DOCUMENT
- U.E. = UTILITY EASEMENT
- R.O.W. = RIGHT-OF-WAY
- O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
- D.R.G.C.T. = DEED RECORDS, GUADALUPE COUNTY, TEXAS

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	23.28'	N08°59'15"E
L2	117.32'	N45°54'04"W
L3	90.00'	S44°05'56"W
L4	90.00'	N44°05'56"E
L5	60.00'	N44°05'56"E
L6	94.00'	N44°05'56"E
L7	94.00'	S44°05'56"W
L8	116.37'	S45°54'04"E
L9	24.19'	N78°59'40"E
L10	98.89'	S43°48'24"W
L11	50.00'	S45°54'04"E
L12	40.00'	S45°54'04"E
L13	40.00'	N45°54'04"W
L14	50.00'	N45°54'04"W
L15	35.00'	N45°54'04"W
L16	40.00'	S45°54'04"E
L17	40.00'	S45°54'04"E
L18	35.00'	S45°54'04"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD LENGTH	CHORD BEARING
C1	23.56'	15.00'	21.21'	S89°05'56"W
C2	23.56'	15.00'	21.21'	N00°54'04"W
C3	23.56'	15.00'	21.21'	N89°05'56"E
C4	23.56'	15.00'	21.21'	S00°54'04"E
C5	23.56'	15.00'	21.21'	S89°05'56"W
C6	23.56'	15.00'	21.21'	N00°54'04"W
C7	23.56'	15.00'	21.21'	S89°05'56"W
C8	23.56'	15.00'	21.21'	N00°54'04"W
C9	23.56'	15.00'	21.21'	N89°05'56"E
C10	23.56'	15.00'	21.21'	S00°54'04"E
C11	23.56'	15.00'	21.21'	N89°05'56"E
C12	23.56'	15.00'	21.21'	S00°54'03"E

PLAT PREPARED MARCH 13, 2025

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

FOR REFERENCE ONLY

This plat will be submitted to the Planning Division following approval of the construction plans.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

PLAT (3 OF 4)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

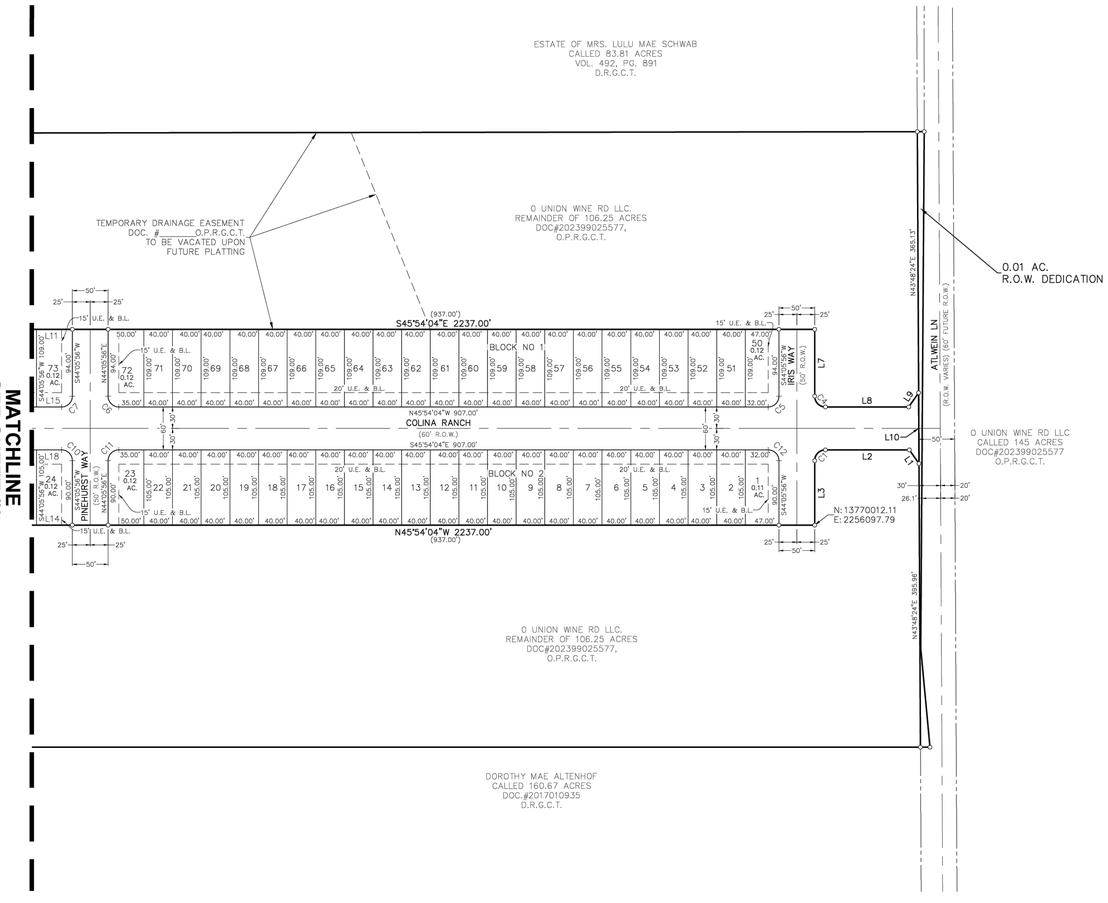
SHEET
C0.05

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Dbs\337.110_PLAT PHASE 1.dwg User: kamdend Oct 28, 2025 - 9:53am
Drawing Name: T:\337 - Lennar Homes\110 - Colina Ranch Phase 1\Plat\337.110_PLAT PHASE 1.dwg User: kamdend Oct 14, 2025 - 3:51pm

FINAL PLAT ESTABLISHING

COLINA RANCH, UNIT 1

BEING 14.30 ACRES OF LAND BEING OUT OF THE WASHINGTON D MILLER SURVEY, ABSTRACT NO. 232, GUADALUPE COUNTY, TEXAS, THE J.S. JOHNSON SURVEY NO. 47, ABSTRACT NO. 190, GUADALUPE COUNTY, TEXAS, AND THE DANIEL CHANDLER SURVEY NO. 489, ABSTRACT NO. 100, GUADALUPE COUNTY, TEXAS, ALSO BEING OUT OF THAT SAME TRACT OF LAND CALLED 106.25 ACRES RECORDED IN VOLUME 247, PAGE 552, DOC NO. 202399025577, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.



0 50 100 200

SCALE: 1:100

LEGEND:

- ● = FND 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT" (UNLESS NOTED OTHERWISE)
- ○ = SET 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT"
- VOL. = VOLUME
- PG. = PAGE
- B.L. = BUILDING LINE
- AC. = ACRE
- DOC. = DOCUMENT
- U.E. = UTILITY EASEMENT
- R.O.W. = RIGHT-OF-WAY
- O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
- D.R.G.C.T. = DEED RECORDS, GUADALUPE COUNTY, TEXAS

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	23.28'	N08°59'15"E
L2	117.32'	N45°54'04"W
L3	90.00'	S44°05'56"W
L4	90.00'	N44°05'56"E
L5	60.00'	N44°05'56"E
L6	94.00'	N44°05'56"E
L7	94.00'	S44°05'56"W
L8	116.37'	S45°54'04"E
L9	24.19'	N78°59'40"E
L10	98.89'	S43°48'24"W
L11	50.00'	S45°54'04"E
L12	40.00'	S45°54'04"E
L13	40.00'	N45°54'04"W
L14	50.00'	N45°54'04"W
L15	35.00'	N45°54'04"W
L16	40.00'	S45°54'04"E
L17	40.00'	S45°54'04"E
L18	35.00'	S45°54'04"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD LENGTH	CHORD BEARING
C1	23.56'	15.00'	21.21'	S89°05'56"W
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C12	23.56'	15.00'	21.21'	S00°54'03"E

PLAT PREPARED MARCH 13, 2025

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

FOR REFERENCE ONLY

This plat will be submitted to the Planning Division following approval of the construction plans.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

PLAT (4 OF 4)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET

C0.06

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\C0s\337.110_PLAT PHASE 1.dwg User: ksmdend Oct 28, 2025 - 9:53am
Drawing Name: I:\337 - Lennar Homes\110 - Colina Ranch Phase 1\Plat\337.110_PLAT PHASE 1.dwg User: ksmdend Oct 14, 2025 - 3:52pm

MASTER PLAN FOR COLINA RANCH SUBDIVISION

NOTES:

1. ALL LOTS WITHIN THE SUBDIVISION WILL BE PROVIDED WATER BY GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD). SEWER SERVICE WILL BE PROVIDED BY GUADALUPE-BLANCO RIVER AUTHORITY (GBRA). ELECTRIC SERVICE WILL BE PROVIDED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC). TELEPHONE AND CABLE SERVICES FOR THE SUBDIVISION WILL BE PROVIDED BY AT&T COMMUNICATIONS AND/OR SPECTRUM.
2. THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
3. THIS SUBDIVISION IS NOT WITHIN THE CITY LIMITS OF NEW BRAUNFELS.
4. THIS SUBDIVISION IS WITHIN THE NEW BRAUNFELS AND SEGUIN INDEPENDENT SCHOOL DISTRICTS.
5. A PORTION OF THE SUBDIVISION IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187C0115F, EFFECTIVE DATE NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
6. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON 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.
7. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
8. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME STREET CONSTRUCTION ALONG:
   A. EXISTING ELMONS RD AND EXISTING ALTWEIN LN
9. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
   A. STREET A, STREET B, STREET C, STREEDT D, STREET E, STREET F, STREET G, AND STREET H
10. LAND USE FOR THIS SUBDIVISION IS SINGLE-FAMILY RESIDENTIAL.
11. PERMANENT WATER QUALITY CONTROLS ARE REQUIRED FOR THIS SUBDIVISION MASTER PLAN IN ACCORDANCE WITH THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL.
12. THIS SUBDIVISION IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS MASTER PLAN IS APPROVED FOR ONE DWELLING UNIT PER BUILDABLE LOT WITH A MAXIMUM OF 506 BUILDABLE LOTS WHERE FEES ARE DUE AT THE TIME OF FINAL PLAT RECORDATION. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.

GBRA NOTES:

1. PROVIDE DEDICATED EASEMENTS IN THE NAME OF GBRA. EASEMENTS SHALL NOT OVERLAP OR BE WITHIN RESIDENTIAL LOTS.
2. WHERE OUTSIDE OF PUBLIC RIGHT-OF-WAY, PROVIDE DEDICATED EASEMENTS WITH A MINIMUM WIDTH EQUAL TO PIPE OUTSIDE DIAMETER, ROUNDED UP TO THE NEAREST FOOT, PLUS 10 FEET MINIMUM ON EACH SIDE. FOR EASEMENTS WITH MULTIPLE PIPES, PROVIDE 10 FEET MINIMUM HORIZONTAL CLEARANCE BETWEEN PIPES. PROVIDE ADDITIONAL WIDTH FOR EASEMENTS THAT ARE NOT LOCATED ADJACENT TO PUBLIC RIGHT-OF-WAY.
3. THE GUADALUPE-BLANCO RIVER AUTHORITY (GBRA) IS HEREBY DEDICATED THE EASEMENT AND RIGHTS-OF-WAY IN THE AREAS DESIGNATED ON THIS PLAN FOR WASTEWATER FACILITIES FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, OPERATING, MAINTAINING, INSPECTING, REPAIRING, REMOVING, AND RELOCATING BURIED AND/OR EXPOSED WASTEWATER FACILITIES AND APPURTENANCES.
4. 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.
5. 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 EASEMENTS.
6. DESIGNS FOR ANY PROPOSED ALTERATIONS OR CROSSINGS OF GBRA EASEMENTS MUST BE APPROVED IN WRITING BY GBRA AND THE INSTALLATION OF SUCH MUST BE INSPECTED AND APPROVED BY GBRA.
7. MAINTENANCE OF EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER.
8. THE PROPERTY OWNER MUST INSTALL 16-FOOT GATES IN ANY FENCES THAT CROSS GBRA UTILITIES. GATES MUST BE CENTERED ACROSS GBRA UTILITIES.
9. CUSTOMER WASTEWATER SERVICES SHALL NOT BE INSTALLED WITHIN FENCED AREAS.

GVEC NOTES:

1. 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.
2. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
3. ANY EASEMENT DESIGNATED AS A GVEC 20'x20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
4. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES.
5. WHERE ELECTRIC 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.
6. EACH LOT IS SUBJECT TO A FLOATING 10' WIDE BY 40' LONG GUY WIRE EASEMENT TO BE LOCATED BY GVEC.
7. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
8. ANY EASEMENT DESIGNED AS A GVEC 20'X20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
9. ALL UTILITY EASEMENTS AREA FOR 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.
10. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE
11. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELCTRICAL FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
12. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESOTRE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

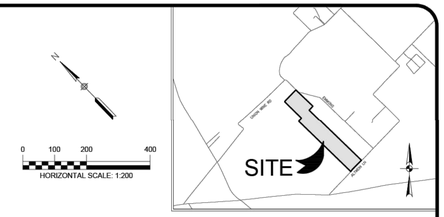
GVSUD NOTES:

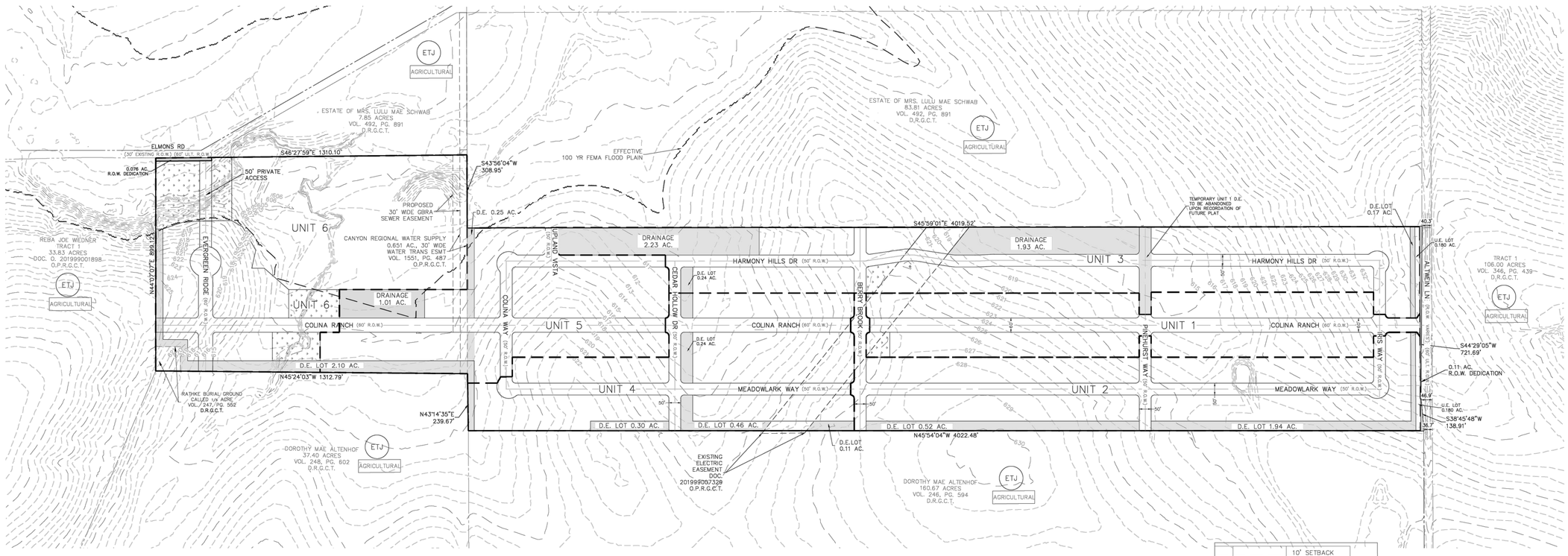
EASEMENT CERTIFICATE

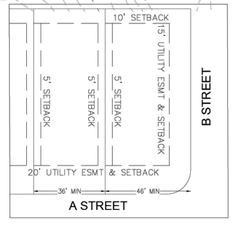
THE OWNER OF THE LAND SHOWN ON THIS PLAT AND WHOSE NAME IS SUBSCRIBED HERETO, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO GREEN VALLEY SPECIAL UTILITY DISTRICT OF MARION, TEXAS, ITS SUCCESSORS AND ASSIGNS, A PERPETUAL EASEMENT WIT THE RIGHT TO ERECT, CONSTRUCT, INSTALL AND LAY OVER AND ACROSS THOSE AREAS MARKED AS "UTILITY EASEMENT" AND IN ALL STREETS AND BYWAYS, SUCH PIPELINES, SERVICE LINES, WATER METERS, AND OTHER WATER SYSTEM APPURTENANCES AS IT REQUIRES, TOGETHER WIT THE RIGHT OF INGRESS AND EGRESS, THE RIGHT TO REMOVE FROM SAID LAND 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 SUD RESULTING FROM MODIFICATIONS REQUIRED OF UTILITY EQUIPMENT LOCATED WITHIN SAID EASEMENTS DUE TO GRADE CHANGE OR GROUND ELEVATION ALTERATION 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.

THE EASEMENT CONVEYED HEREIN WAS OBTAINED OR IMPROVED THROUGH FEDERAL FINANCIAL ASSISTANCE. THIS EASEMENT IS SUBJECT TO THE PROVISION OF TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, AND THE REGULATION ISSUED PURSUANT THERETO FOR SO LONG AS THE EASEMENT CONTINUES TO BE USED FOR THE SAME OR SIMILAR PURPOSE FOR WHICH FINANCIAL ASSISTANCE WAS EXTENDED OR FOR AS LONG AS THE GRANTEE OWNS IT, WHICHEVER IS LONGER.







TYPICAL BUILDING SETBACK LINE AND UTILITY EASEMENT DIAGRAM
NOT-TO-SCALE

RESIDENTIAL LOT SUMMARY	
	MAX. # OF LOTS
UNIT 1 (13.41AC.)	95
UNIT 2 (17.89 AC.)	110
UNIT 3 (21.93AC.)	106
UNIT 4 (15.95 AC.)	87
UNIT 5 (14.47 AC.)	81
UNIT 6 (22.75 AC.)	27
TOTAL RESIDENTIAL LOTS	506
GREENSPACE LOTS	7
DRAINAGE LOTS (11.44 AC.)	13
PARK LOTS (8.89AC.)	
TOTAL LOTS	526
TOTAL ACREAGE	106.39 AC.

LOT DENSITY (LOTS/AC) = **4.77 UNITS** PER ACRE (RESIDENTIAL)

OWNER/DEVELOPER:
O UNION WINE, LLC
130 S. SEGUIN AVE
NEW BRAUNFELS, TX 78132

ENGINEER/SURVEYOR:
HMT ENGINEERING AND SURVEYING
290 S. CASTELL AVE., SUITE 100
NEW BRAUNFELS, TX 78130
PH: (830) 625-8555

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

APPROVED COLINA RANCH MASTER PLAN

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C0.07

Drawing Name: N:_Projects\337 - Lennar\10 - Colina Ranch Phase 1 (123 Lots)\C0\a337110_PLAT PHASE 1.dwg User: kamdend Oct 28, 2025 - 9:53am

Table 1 - Offsite Conditions Hydrology Calculations - City of New Braunfels

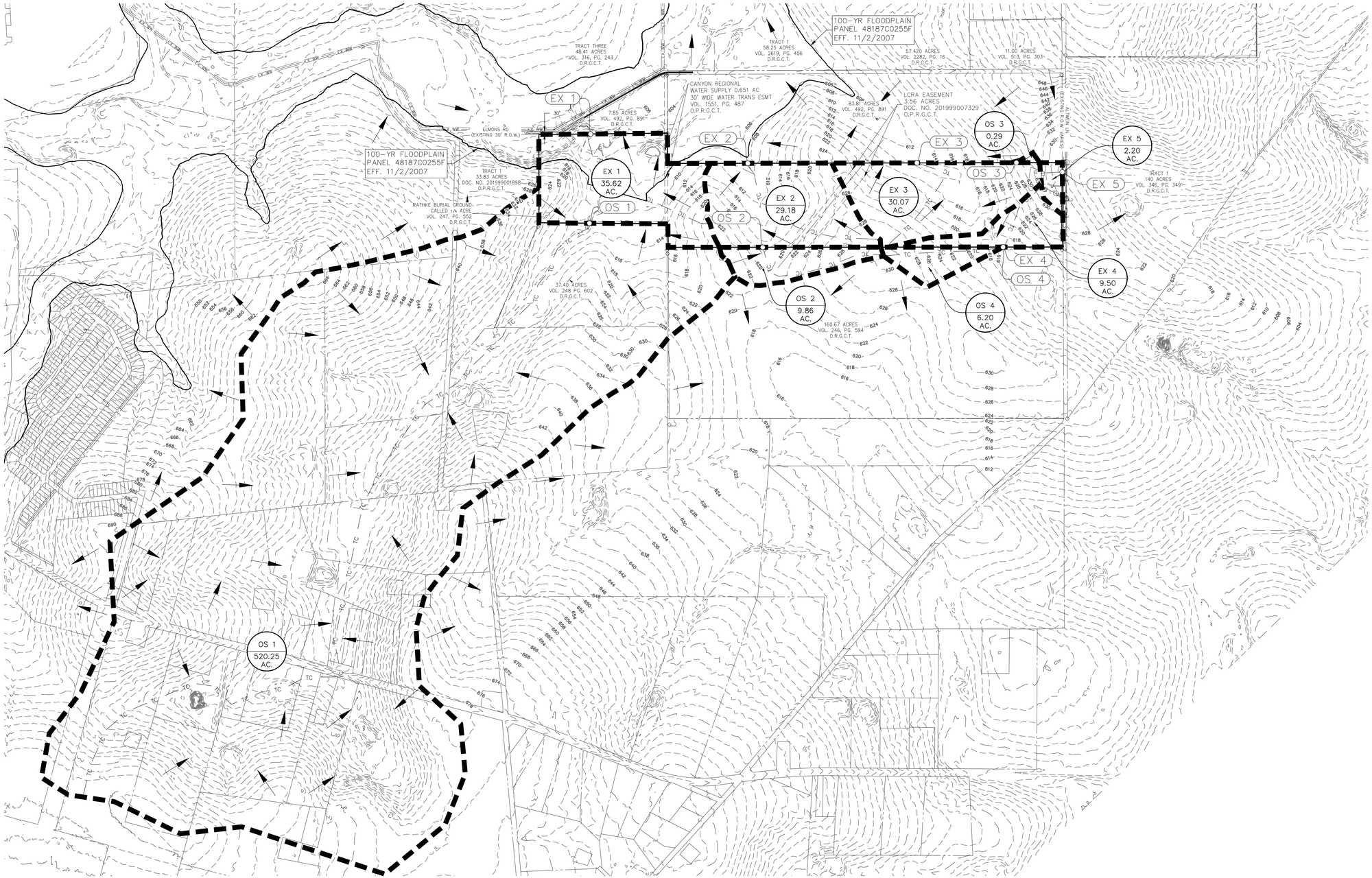
Point of Concentration	Drainage Area	Area	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
OS 1	OS 1	520.25	48.3	80	585.44	1266.36	1802.19	2282.82	2834.21
OS 2	OS 2	9.86	23.4	89	21.97	41.10	55.59	68.47	83.22
OS 3	OS 3	0.29	10.0	89	0.81	1.51	2.04	2.51	3.05
OS 4	OS 4	6.20	19.9	89	14.57	27.22	36.80	45.32	55.07

Table 2 - Existing Conditions Hydrology Calculations - City of New Braunfels

Point of Concentration	Drainage Area	Area	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
EX 1	EX 1	35.62	21.0	80	58.47	126.06	178.94	226.56	281.16
STUDY PT EX 1	EX 1 + OS 1				647.29	1398.24	1987.35	2517.48	3125.63
EX 2	EX 2	29.18	26.8	80	44.58	95.98	136.22	172.48	214.05
STUDY PT EX 2	EX 2 + OS 2				66.11	136.71	191.52	240.55	296.74
EX 3	EX 3	30.07	18.2	80	52.05	112.09	159.29	201.58	250.05
STUDY PT EX 3	EX 3 + OS 3				52.73	113.47	161.15	203.86	252.82
EX 4	EX 4	9.50	10.0	80	19.51	42.11	59.77	75.59	93.71
STUDY PT EX 4	EX 4 + OS 4				33.51	67.95	94.51	118.22	145.37
EX 5	EX 5	2.20	11.1	80	4.52	9.75	13.84	17.5	21.7

Time of Concentration Calculations - Existing Conditions

	SF				Tc	SCF		Tc	CF		Tc	Total Tc
Drainage Area	L(ft)	Slope	2-Year P	n	(Min.)	L(ft)	Slope	(Min.)	Lft)	Vel (ft/s)	(Min.)	(Min.)
OS 1	100	0.69%	4.08	0.13	11.84	2110.6	1.52%	17.68	6743.3	6	18.73	48.3
OS 2	100	0.25%	4.08	0.06	9.58	1305.0	0.95%	13.83	-	-	-	23.4
OS 3	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
OS 4	100	0.25%	4.08	0.06	9.58	1122.0	1.25%	10.37	-	-	-	19.9
EX 1	100	1.16%	4.08	0.13	9.62	1105.8	1.31%	9.98	499	6	1.39	21.0
EX 2	100	0.30%	4.08	0.13	16.53	1212.0	1.90%	9.08	427	6	1.19	26.8
EX 3	100	0.93%	4.08	0.13	10.51	876.0	1.80%	6.74	326	6	0.91	18.2
EX 4	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
EX 5	100	1.00%	4.08	0.13	10.21	145.0	2.70%	0.91	-	-	-	11.1





LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- A-1 — POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DA / ACRES — DRAINAGE AREA LABEL

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

EXISTING DRAINAGE AREA MAP

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C1.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Dsn\337.110_DRNG (LT.dwg User: komdend Oct 28, 2025 - 9:54am

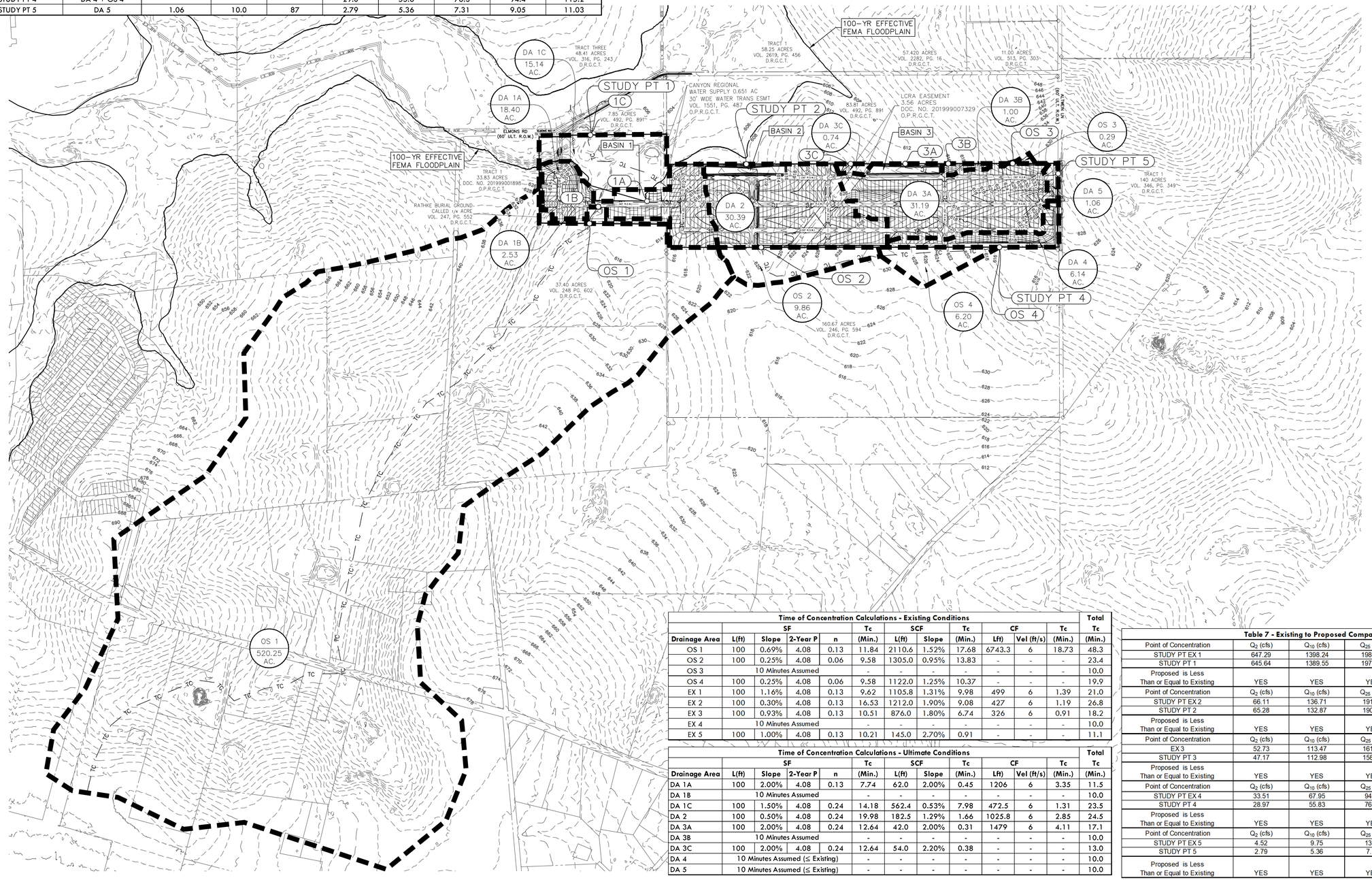
Table 1 - Offsite Conditions Hydrology Calculations - City of New Braunfels									
Point of Concentration	Drainage Area	Area	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
OS 1	OS 1	520.25	48.3	80	585.44	1266.36	1802.19	2282.82	2834.21
OS 2	OS 2	9.86	23.4	89	21.97	41.10	55.59	68.47	83.22
OS 3	OS 3	0.29	10.0	89	0.81	1.51	2.04	2.51	3.05
OS 4	OS 4	6.20	19.9	89	14.57	27.22	36.80	45.32	55.07

Table 3 - Ultimate Conditions Hydrology Calculations - City of New Braunfels									
Point of Concentration	Drainage Area	Area	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
1A	DA 1A	18.40	11.5	87	48.550	93.27	127.2	157.43	191.97
1B	DA 1B	2.53	10.0	80.00	5.195	11.21	15.92	20.130	24.96
1C	DA 1C	15.14	23.5	80.4	23.500	50.23	71.13	89.93	111.48
STUDY PT 1	DA 1A-1C + OS 1				645.64	1389.6	1971.5	2489.6	3089.57
2	DA 2	30.39	24.5	87	59.35	114.17	155.95	193.11	235.62
STUDY PT 2	DA 2 + OS 2				65.28	132.87	190.23	239.45	295.72
3A	DA 3A	31.19	17.1	87	69.03	132.87	181.39	224.53	273.88
3B	DA 3B	1.00	10.0	87	2.63	5.06	6.90	8.53	10.40
3C	DA 3C	0.74	13.0	81	1.60	3.37	4.75	5.98	7.39
STUDY PT 3	DA 3A-3C + OS 3				47.17	112.98	158.62	199.76	246.83
4	DA 4	6.14	10.0	85	15.05	29.9	41.3	51.4	63.0
STUDY PT 4	DA 4 + OS 4				29.0	55.8	76.3	94.4	115.2
STUDY PT 5	DA 5	1.06	10.0	87	2.79	5.36	7.31	9.05	11.03

Table 4 - Combined Water Quailty and Detention Basin 1(Ultimate Conditions)					
	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Discharge (cfs)	46.79	92.68	126.71	157.23	188.93
Volume (SQ-FT)	28449.00	29284.00	29593.00	29871.00	31912.00
Water Surface Elevation	101.43	101.65	101.81	101.96	102.09
Freeboard (ft)	1.67	1.45	1.29	1.14	1.01

Table 5 - Combined Water Quailty and Detention Basin 2 (Ultimate Conditions)					
	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Discharge (cfs)	65.28	132.87	190.23	239.45	295.72
Volume (SQ-FT)	113411.00	154220.00	176967.00	193956.00	211931.00
Water Surface Elevation	610.87	611.54	611.91	612.17	612.44
Freeboard (ft)	2.58	1.91	1.54	1.28	1.01

Table 6 - Combined Water Quailty and Detention Basin 3 (Ultimate Conditions)					
	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Discharge (cfs)	44.86	108.46	152.04	191.57	236.17
Volume (SQ-FT)	111390.0	150865.0	175210.0	195333.0	217161.0
Water Surface Elevation	616.31	617.04	617.45	617.8	618.16
Freeboard (ft)	3.04	2.31	1.9	1.55	1.19





LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- DRAINAGE AREA
- TC TC TIME OF CONCENTRATION
- A-1 POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DA / ACRES DRAINAGE AREA LABEL

Time of Concentration Calculations - Existing Conditions												Total
	SF				Tc	SCF		Tc	CF		Tc	Tc
Drainage Area	L(ft)	Slope	2-Year P	n	(Min.)	L(ft)	Slope	(Min.)	Lft)	Vel (ft/s)	(Min.)	(Min.)
OS 1	100	0.69%	4.08	0.13	11.84	2110.6	1.52%	17.68	6743.3	6	18.73	48.3
OS 2	100	0.25%	4.08	0.06	9.58	1305.0	0.95%	13.83	-	-	-	23.4
OS 3	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
OS 4	100	0.25%	4.08	0.06	9.58	1122.0	1.25%	10.37	-	-	-	19.9
EX 1	100	1.16%	4.08	0.13	9.62	1105.8	1.31%	9.98	499	6	1.39	21.0
EX 2	100	0.30%	4.08	0.13	16.53	1212.0	1.90%	9.08	427	6	1.19	26.8
EX 3	100	0.93%	4.08	0.13	10.51	876.0	1.80%	6.74	326	6	0.91	18.2
EX 4	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
EX 5	100	1.00%	4.08	0.13	10.21	145.0	2.70%	0.91	-	-	-	11.1

Time of Concentration Calculations - Ultimate Conditions												Total
	SF				Tc	SCF		Tc	CF		Tc	Tc
Drainage Area	L(ft)	Slope	2-Year P	n	(Min.)	L(ft)	Slope	(Min.)	Lft)	Vel (ft/s)	(Min.)	(Min.)
DA 1A	100	2.00%	4.08	0.13	7.74	62.0	2.00%	0.45	1206	6	3.35	11.5
DA 1B	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
DA 1C	100	1.50%	4.08	0.24	14.18	562.4	0.53%	7.98	472.5	6	1.31	23.5
DA 2	100	0.50%	4.08	0.24	19.98	182.5	1.29%	1.66	1025.8	6	2.85	24.5
DA 3A	100	2.00%	4.08	0.24	12.64	42.0	2.00%	0.31	1479	6	4.11	17.1
DA 3B	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
DA 3C	100	2.00%	4.08	0.24	12.64	54.0	2.20%	0.38	-	-	-	13.0
DA 4	10 Minutes Assumed (≤ Existing)				-	-	-	-	-	-	-	10.0
DA 5	10 Minutes Assumed (≤ Existing)				-	-	-	-	-	-	-	10.0

Table 7 - Existing to Proposed Comparison					
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
STUDY PT EX 1	647.29	1398.24	1987.35	2517.48	3125.63
STUDY PT 1	645.64	1389.55	1971.53	2489.58	3089.57
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
STUDY PT EX 2	66.11	136.71	191.52	240.55	296.74
STUDY PT 2	65.28	132.87	190.23	239.45	295.72
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
EX3	52.73	113.47	161.15	203.86	252.82
STUDY PT 3	47.17	112.98	158.62	199.76	246.83
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
STUDY PT EX 4	33.51	67.95	94.51	118.22	145.37
STUDY PT 4	28.97	55.83	76.25	94.42	115.20
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
STUDY PT EX 5	4.52	9.75	13.84	17.50	21.70
STUDY PT 5	2.79	5.36	7.31	9.05	11.03
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

ULTIMATE DRAINAGE AREA MAP

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C1.02

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbs\337110_DRNG ULT.dwg User: kamdend Oct 28, 2025 - 9:54am

Table 1 - Offsite Conditions Hydrology Calculations - City of New Braunfels

Point of Concentration	Drainage Area	Area	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
OS 1	OS 1	520.25	48.3	80	585.44	1266.36	1802.19	2282.82	2834.21
OS 2	OS 2	9.86	23.4	89	21.97	41.10	55.59	68.47	83.22
OS 3	OS 3	0.29	10.0	89	0.81	1.51	2.04	2.51	3.05
OS 4	OS 4	6.20	19.9	89	14.57	27.22	36.80	45.32	55.07

Table 3 - Proposed Unit 1 Conditions Hydrology Calculations - City of New Braunfels

Point of Concentration	Drainage Area	Area	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
1	DA 1	35.62	21.0	80	58.57	126.06	178.94	226.56	281.16
2	DA 2	29.06	26.8	80.16	44.57	95.79	135.88	181.98	213.37
STUDY PT 2	DA 2 + OS 2	38.92			66.11	136.53	191.18	240.05	296.06
3	DA 3	30.84	16.3	82.70	62.31	128.30	179.18	224.56	276.48
STUDY PT 3	OS 3 + DA 3	31.13			30.53	98.81	144.07	184.32	230.12
4	DA 4	9.09	10.0	80.59	19.11	40.81	57.72	72.84	90.16
STUDY PT 4	OS 4 + DA 4	15.29			33.10	66.7	92.5	115.5	141.9
STUDY PT 5	DA 5	1.97	11.1	81.10	4.42	9.35	13.18	16.60	20.52

Table 4a - Combined Water Quality and Detention Basin 3 (Unit 1 Conditions)

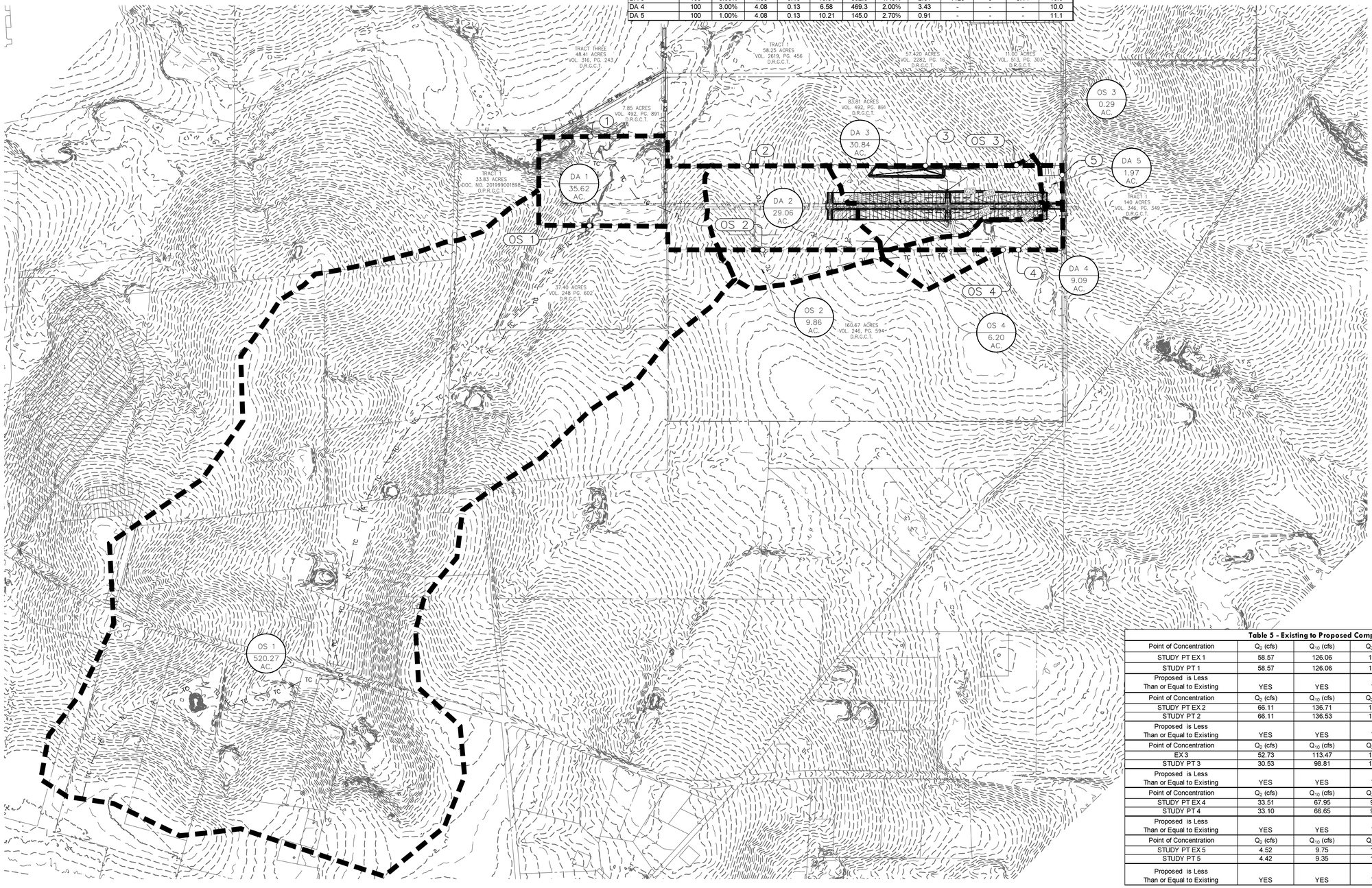
	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Discharge (cfs)	30.53	98.81	144.07	184.32	230.12
Volume (SQ-FT)	98672.00	145356.00	170959.00	191741.00	214161.00
Water Surface Elevation	616.10	616.94	617.38	617.74	618.11
Freeboard (ft)	3.25	2.41	1.97	1.61	1.24

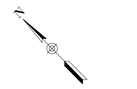
Time of Concentration Calculations - Existing Conditions

	SF				Tc	SCF		Tc	CF		Tc	Total Tc
Drainage Area	L(ft)	Slope	2-Year P	n	(Min.)	L(ft)	Slope	(Min.)	Lft)	Vel (ft/s)	(Min.)	(Min.)
OS 1	100	0.25%	4.08	0.13	17.78	2570.6	2.18%	17.98	3726	6	10.35	46.1
OS 2	100	0.25%	4.08	0.06	9.58	1305.0	0.95%	13.83	-	-	-	23.4
OS 3	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
OS 4	100	0.25%	4.08	0.06	9.58	1122.0	1.25%	10.37	-	-	-	19.9
EX 1	100	1.16%	4.08	0.13	9.62	1105.8	1.31%	9.98	499	6	1.39	21.0
EX 2	100	0.30%	4.08	0.13	16.53	1212.0	1.90%	9.08	427	6	1.19	26.8
EX 3	100	0.93%	4.08	0.13	10.51	876.0	1.80%	6.74	326	6	0.91	18.2
EX 4	10 Minutes Assumed				-	-	-	-	-	-	-	10.0
EX 5	100	1.00%	4.08	0.13	10.21	145.0	2.70%	0.91	-	-	-	11.1

Time of Concentration Calculations - Proposed Unit 1 Conditions

	SF				Tc	SCF		Tc	CF		Tc	Total Tc
Drainage Area	L(ft)	Slope	2-Year P	n	(Min.)	L(ft)	Slope	(Min.)	Lft)	Vel (ft/s)	(Min.)	(Min.)
DA 1	100	1.16%	4.08	0.13	9.62	1105.8	1.31%	9.98	499	6	1.39	21.0
DA 2	100	0.30%	4.08	0.13	16.53	1212.0	1.90%	9.08	427	6	1.19	26.8
DA 3	100	0.93%	4.08	0.13	10.51	302.0	1.43%	2.61	1129	6	3.14	16.3
DA 4	100	3.00%	4.08	0.13	6.58	469.3	2.00%	3.43	-	-	-	10.0
DA 5	100	1.00%	4.08	0.13	10.21	145.0	2.70%	0.91	-	-	-	11.1





LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- A–1 — POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DA / ACRES — DRAINAGE AREA LABEL

Table 5 - Existing to Proposed Comparison

Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
STUDY PT EX 1	58.57	126.06	178.94	226.56	281.16
STUDY PT 1	58.57	126.06	178.94	226.56	281.16
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
STUDY PT EX 2	66.11	136.71	191.52	240.55	296.74
STUDY PT 2	66.11	136.53	191.18	240.05	296.06
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
EX 3	52.73	113.47	161.15	203.86	252.82
STUDY PT 3	30.53	98.81	144.07	184.32	230.12
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
STUDY PT EX 4	33.51	67.95	94.51	118.22	145.37
STUDY PT 4	33.10	66.65	92.47	115.51	141.87
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES
Point of Concentration	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
STUDY PT EX 5	4.52	9.75	13.84	17.50	21.70
STUDY PT 5	4.42	9.35	13.18	16.60	20.52
Proposed is Less Than or Equal to Existing	YES	YES	YES	YES	YES

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
10/28/2025

PROPOSED DRAINAGE AREA MAP

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

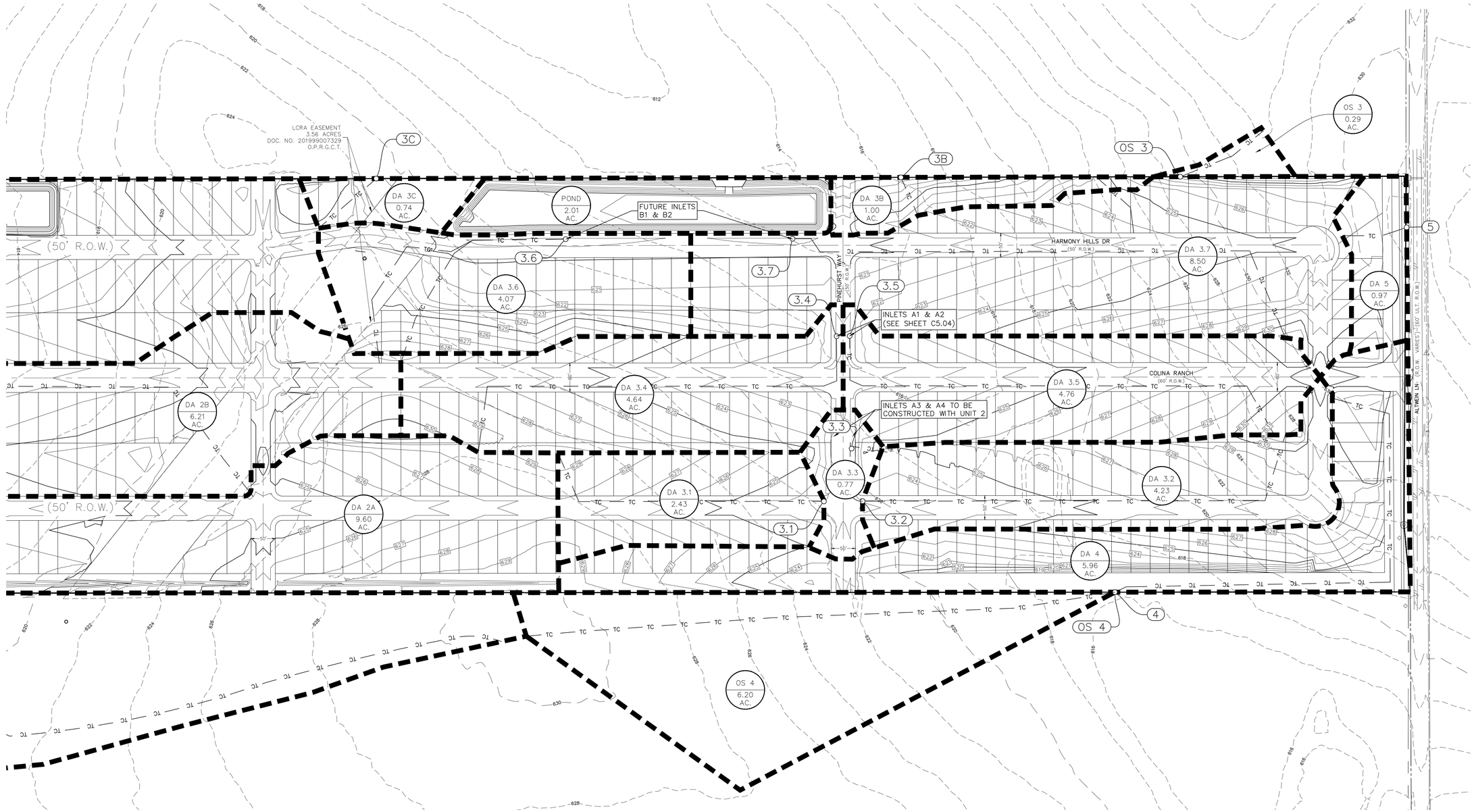
DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C1.03

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\03s\337.110_DRNG UNIT 1.dwg User: kamdend Oct 28, 2025 - 9:55am

Table 1 - Ultimate Conditions Rational Hydrology Calculations - City of New Braunfels								
Drainage Area	**Point of Concentration**	**Description**	**Drainage Area (ac)**	**T_c**	**Q_2 (cfs)**	**Q_{10} (cfs)**	**Q_{25} (cfs)**	**Q_{100} (cfs)**
OS 3	OS 3	Offsite Contributing	0.29	10.00	0.55	0.93	1.24	1.85
OS 4	OS 4	Offsite Contributing	6.20	19.94	7.21	12.28	16.42	24.65
DA 3B	DA 3B	Free Release	1.00	10.89	1.88	3.18	4.26	6.35
DA 3C	DA 3C	Free Release	0.74	13.03	1.25	2.11	2.81	4.19
DA 3.1	3.1	Street Capacity	2.43	14.82	6.27	10.31	13.36	19.18
DA 3.2	3.2	Street Capacity	4.23	15.27	10.55	17.32	22.36	32.09
DA 3.3	3.3	Street Capacity	0.77	10.00	2.44	4.05	5.25	7.50
DA 3.1-3.3	-	Inlet A3 & A4 Sizing	7.43	15.66	18.52	30.41	39.28	56.37
DA 3.4	3.4	Street Capacity	4.64	15.18	11.57	18.99	24.53	35.20
DA 3.5	3.5	Street Capacity	4.76	15.30	11.87	19.48	25.16	36.11
DA 3.4-3.5	-	Inlet A1 & A2 Sizing	9.40	15.30	23.44	38.48	49.69	71.31
DA 3.6	3.6	Inlet Sizing C1	4.07	11.50	12.13	20.19	26.19	37.44
DA 3.7	3.7	Street Capacity	8.50	15.97	21.19	34.79	44.94	64.49
OS 3 + DA 3.7	3.7	Inlet Sizing C2	8.79	15.97	21.91	35.98	46.47	66.69
DA 4	4	Channel Sizing	5.96	15.35	14.86	24.40	31.51	45.22
DA 5	5	Channel Sizing	0.97	24.36	1.91	3.11	4.00	5.70
DA 4 + OS 4	4	Channel Sizing	12.16	35.30	22.07	36.67	47.93	69.87

Ultimate Inlet Sizing			
INLET	**10yr**	**25yr**	**100yr**
A1	19.24	24.85	35.66
A2	19.24	24.85	35.66
A3	15.21	19.64	28.18
A4	15.21	19.64	28.18
B1	20.19	26.19	37.44
B2	35.98	46.47	66.69





LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

ULTIMATE SUB DRAINAGE AREA MAP

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C1.04

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\Cds\337.110_DRNG ULT SUB.dwg User: kamdend Oct 28, 2025 - 9:55am

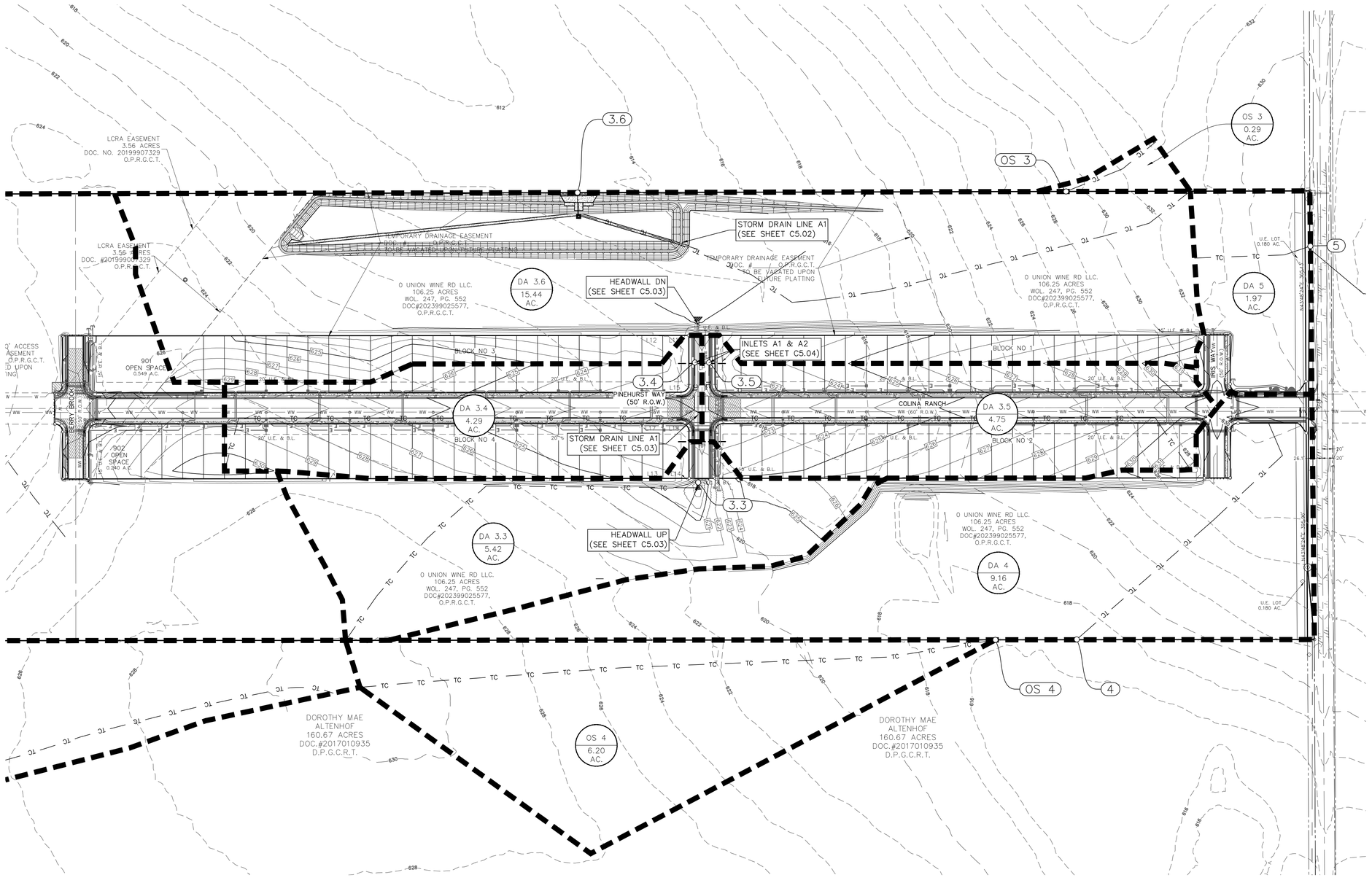
Unit 1 Conditions Rational Hydrology Calculations - City of New Braunfels								
Drainage Area	**Point of Concentration**	**Description**	**Drainage Area (ac)**	**T_c**	**Q_2 (cfs)**	**Q_{10} (cfs)**	**Q_{25} (cfs)**	**Q_{100} (cfs)**
OS 3	OS 3	Offsite Contributing	0.29	10.00	0.86	1.43	1.86	2.67
OS 4	OS 4	Offsite Contributing	6.20	19.94	7.21	12.28	16.42	24.65
DA 3.3	3.3	Storm Drain Sizing	5.42	14.47	5.95	10.52	14.41	22.29
DA 3.4	3.4	Street Capacity	4.29	15.34	10.70	17.56	22.68	32.55
DA 3.5	3.5	Street Capacity	4.75	15.57	11.84	19.44	25.11	36.04
DA 3.4-3.5	-	Inlet A1 & A2 Sizing	9.04	15.57	22.54	37.00	47.79	68.58
DA 3.6	3.6	Offsite	15.44	16.25	24.22	40.69	53.62	79.03
DA 4	4	Offsite	9.16	10.01	15.27	26.11	35.09	52.51
DA 5	5	Offsite	1.97	24.36	3.87	6.31	8.13	11.58
DA 4 + OS 4	4	Offsite	15.36	29.95	22.47	38.38	51.50	77.17

Unit 1 Inlet Sizing			
INLET	**10yr**	**25yr**	**100yr**
A1	18.50	23.90	34.29
A2	18.50	23.90	34.29

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- A–1 — POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DA / ACRES — DRAINAGE AREA LABEL

0 50 100 200
HORIZONTAL SCALE: 1:100



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

PROPOSED UNIT 1 SUB DRAINAGE AREA MAP

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C1.05

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\C0x\337.110_DRNG UNIT 1 SUB.dwg User: kamdend Oct 28, 2025 - 9:56am

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) AND SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES IN 21 DAYS, PER TPDES REQUIREMENTS.

0 50 100 200
SCALE: 1" = 100'

LEGEND

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- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- DRAINAGE FLOW DIRECTION
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  - PHASE 1 (DONE BY GC AT START OF PROJECT)
  - PHASE 2 (DONE BY GC AT COMPLETION OF LOT AND CHANNEL GRADING
  - PHASE 3 (DONE BY HOME BUILDER (NOT IN BID TO GC)
- LOC LOC — LIMIT OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER DIKE CURB INLET PROTECTION
- TYPE 2 ROCK BERM
- EARTHEN BERM CHECK DAM

NOTE:

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3327 LF SILT FENCE
~ PHASE 1

1871 LF SILT FENCE
~ PHASE 1

MATCHLINE
SEE SHEET C2.02

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
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TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

EROSION CONTROL PLAN (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C2.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbs\337.110_ESC PLAN.dwg User: kamdeed Oct 28, 2025 - 10:43am

SEQUENCE OF CONSTRUCTION

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0 50 100 200
SCALE: 1" = 100'

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
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- STABILIZED CONSTRUCTION ENTRANCE
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- TYPE 2 ROCK BERM
- EARTHEN BERM CHECK DAM

NOTE:

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MATCHLINE
SEE SHEET C2.01

TEMPORARY SEDIMENTATION POND
AREA TO BE STABILIZED UPON COMPLETION OF WORK
927 LF SILT FENCE ~ PHASE 2
30 LF ROCK CHECK BERM
40 LF TYPE 2 ROCK BERM
24 LF INLET PROTECTION
2505 LF SILT FENCE ~ PHASE 3
1871 LF SILT FENCE ~ PHASE 1
41 LF EARTHEN CHECK BERM
40 LF ROCK CHECK BERM
2079 LF SILT FENCE ~ PHASE 3
563 LF SILT FENCE ~ PHASE 1
EXISTING BUILDING
3047 LF SILT FENCE ~ PHASE 1
284 LF SILT FENCE ~ PHASE 1
STABILIZED CONSTRUCTION ENTRANCE
208 LF SILT FENCE ~ PHASE 1
CONCRETE WASHOUT PIT
TEMPORARY SPOILS & STAGING AREA
270 LF SILT FENCE ~ PHASE 1
82 LF SILT FENCE ~ PHASE 1
2071 LF SILT FENCE ~ PHASE 3
164 LF SILT FENCE ~ PHASE 1
2497 LF SILT FENCE ~ PHASE 3
2360 LF SILT FENCE ~ PHASE 2
BLOCK NO 1
BLOCK NO 2
BLOCK NO 3
BLOCK NO 4
901 OPEN SPACE 0.549 A.C.
902 OPEN SPACE 0.240 A.C.

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HMT ENGINEERING & SURVEYING
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NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/21/2025

EROSION CONTROL PLAN (2 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C2.02

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\CDs\337.110_ESC PLAN.dwg User: kamdend Oct 28, 2025 - 3:05pm

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
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0 100 200 400

SCALE: 1" = 200'

LEGEND

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- 700 — PROPOSED CONTOURS
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- LOC LOC — LIMIT OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER DIKE CURB INLET PROTECTION
- TYPE 2 ROCK BERM
- EARTHEN BERM CHECK DAM
- HAUL ROUTE
- CUT AREA

NOTE:

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COLINA RANCH UNIT 1

BNDY : 1
14.30 AC

CONSTRUCTION TRAFFIC CROSSING ALTWEIN RD (SEE SHEET C2.04)

ALTWEIN RD

CUT AREA

3,050 LF HAUL ROUTE

3,050 LF SILT FENCE PHASE 1

STABILIZED CONSTRUCTION ENTRANCE

BOTANICAL FARM

AUTUMN RIDGE

YOUNGSFORD RD

1.580 AC. PROPOSED VARIABLE WIDTH R.O.W. DEDICATION

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HMT ENGINEERING & SURVEYING
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NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

HAUL ROUTE

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

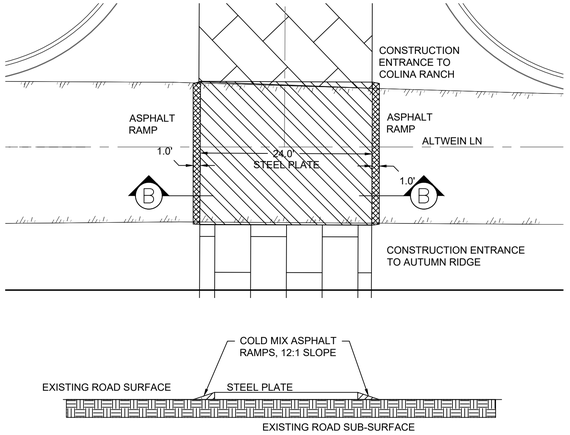
NO.	DESCRIPTION	DATE

REVISION DESCRIPTION / REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

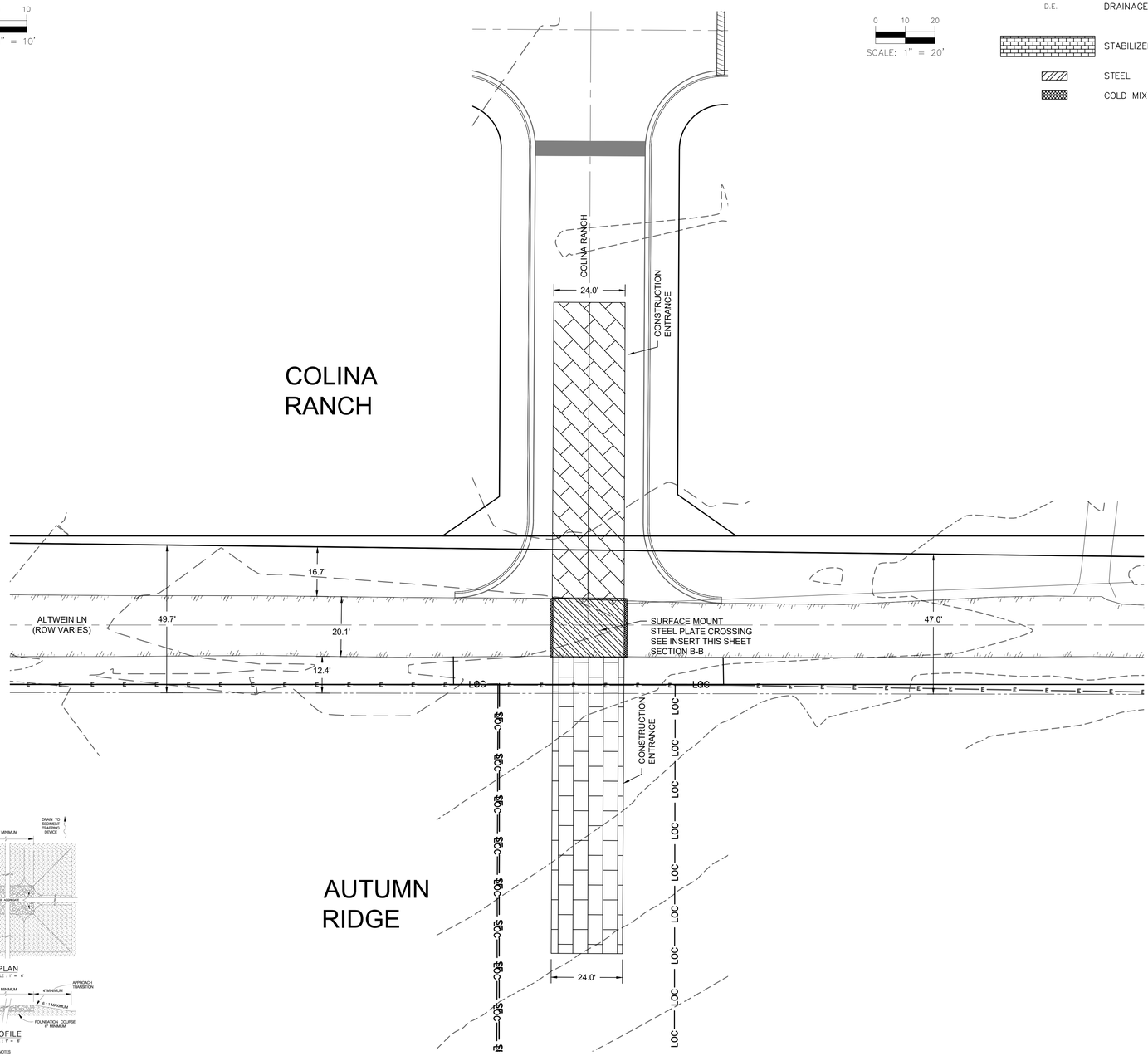
SHEET
C2.03

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cds\337.110_ESC PLAN.dwg User: kamdenc Oct 28, 2025 - 9:56am



SECTION B-B
N.T.S.

0 5 10
SCALE: 1" = 10'



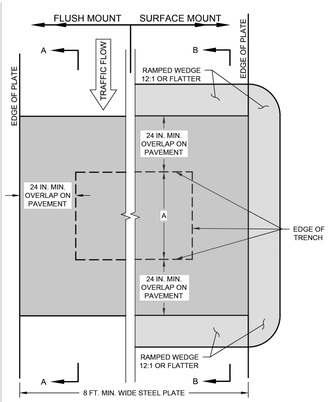
COLINA RANCH

AUTUMN RIDGE

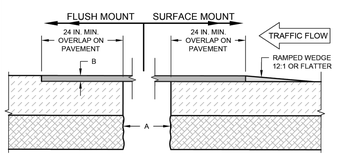
0 10 20
SCALE: 1" = 20'

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	STABILIZED CONSTRUCTION ENTRANCE
	STEEL
	COLD MIX ASPHALT



PLAN VIEW

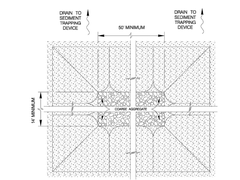


SECTION A-A **SECTION B-B**

STEEL PLATE DETAILS
(NO SCALE)

TRENCH WIDTH DIMENSION A	MINIMUM STEEL PLATE THICKNESS DIMENSION B
< 5 FT.	1 IN.
≥ 5 FT.	SEE NOTE #1

MINIMUM DIMENSIONS OF PLATE SHALL BE 8 FT. WIDE X (A + 4 FT.) LONG



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 MATERIAL, RECYCLED 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

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

HAUL ROUTE CROSSING EXHIBIT

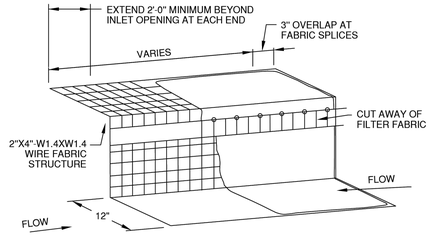
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C2.04

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\03a\337.110_ESC PLAN.dwg User: kamdend Oct 28, 2025 – 9:56am

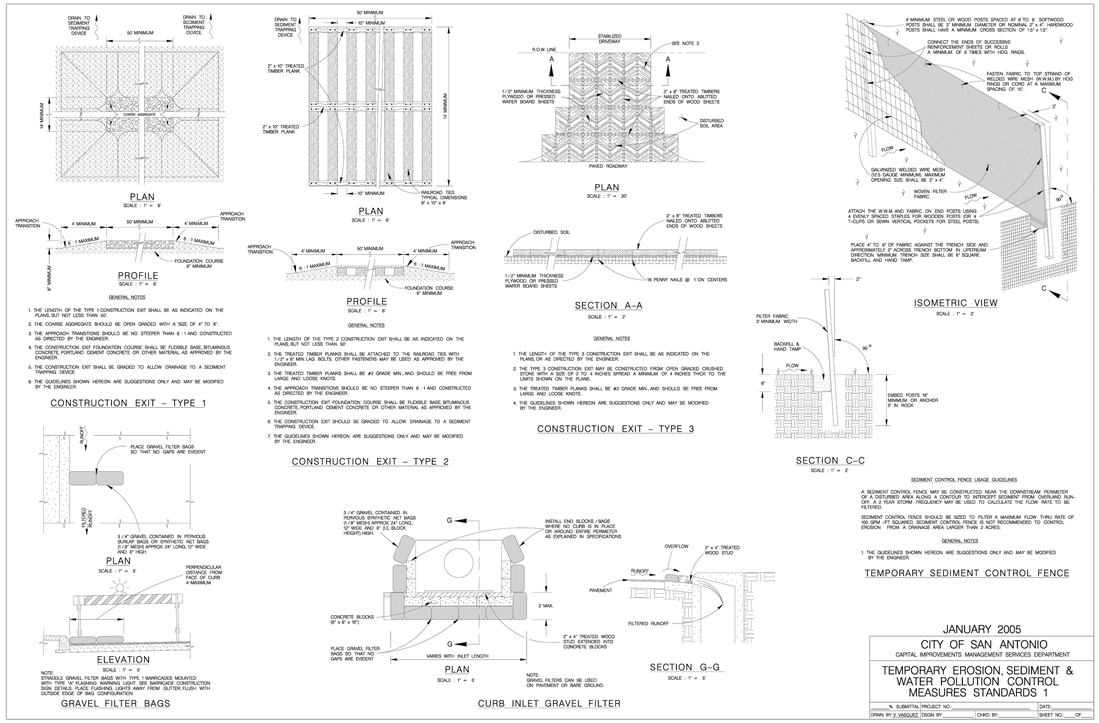


NOTES:

1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVER-TOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	STANDARD DRAWING:			
H Shadrock	**FILTER DIKE CURB INLET PROTECTION**			
APPROVED BY:	UPDATED:	SCALE:	SHEET	DRAWING NO.
	4-29-03	N.T.S.	1 OF 1	505



JANUARY 2005

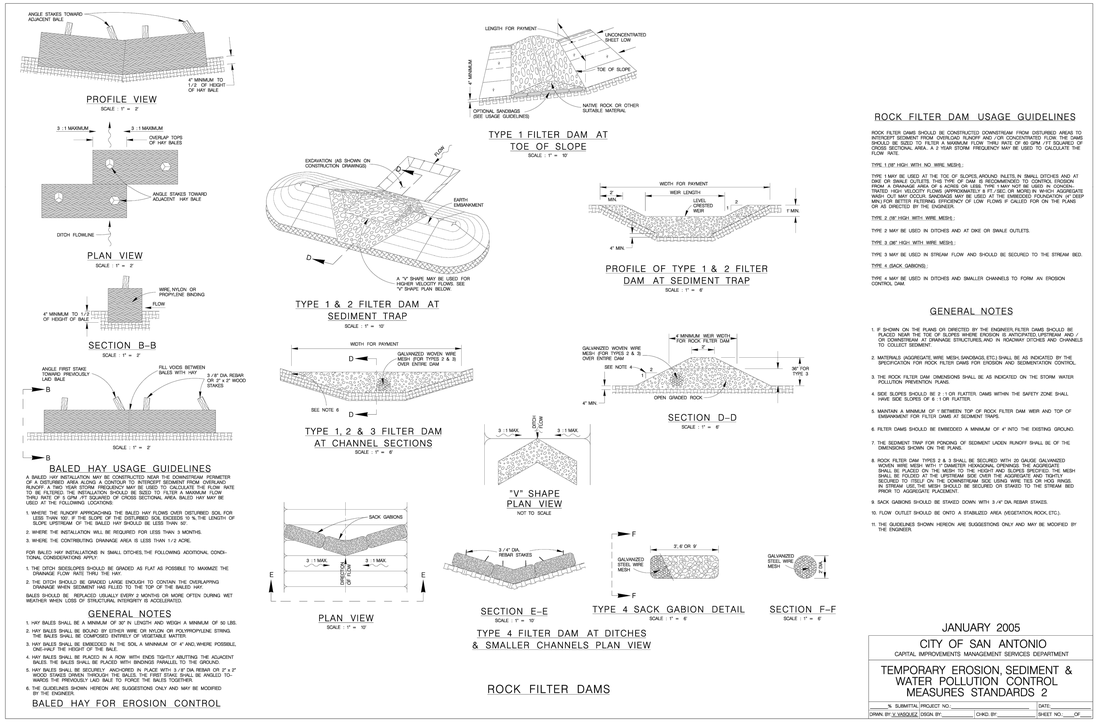
CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

N. SUBMITTAL PROJECT NO.:		DATE:
DRAWN BY: V. VASQUEZ	DSGN BY:	CHKD BY:

SHEET NO.: OF



ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF FROM LOW CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MINIMUM FLOW THRU RATE OF 100 GPM PT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (NF 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 LESS THAN 1/4 ACRE. TYPE 1 MAY BE USED IN AREAS WITH 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 AT DEEP OR LARGE FLOWS TO INSURE SUFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (NF HIGH, WITH WIRE MESH) :

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

TYPE 3 (NF 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 FROM 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 (1" MESH) WITH A MINIMUM WIDTH OF 42". REINFORCEMENT FABRIC SHALL BE PLACED ON THE WEIR TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY FASTENED TO THE OPPOSITE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE,THE MESH SHOULD BE SECURED ON 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.

GENERAL NOTES

JANUARY 2005

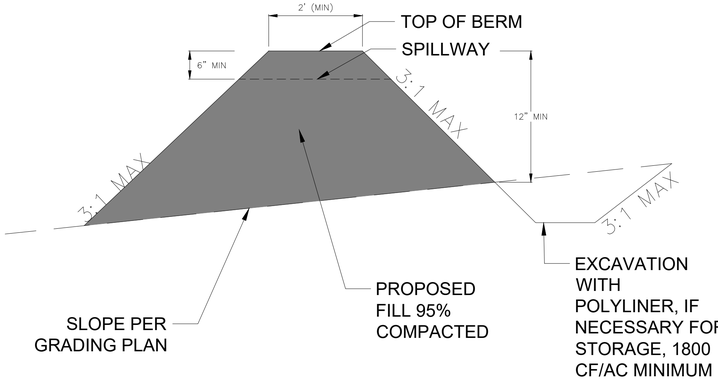
CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

N. SUBMITTAL PROJECT NO.:		DATE:
DRAWN BY: V. VASQUEZ	DSGN BY:	CHKD BY:

SHEET NO.: OF



EARTHEN BERM W/POLYLINER AND SPILLWAY
NOT TO SCALE

NOTE: EARTHEN BERMS ARE TO SPAN ACROSS PROPOSED STREET SECTION (APPROX. 30 FEET WIDE) FROM CURB TO CURB

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) AND SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES IN 21 DAYS, PER TPDES REQUIREMENTS.

CONCRETE WASHOUT AREAS

THE PURPOSE OF CONCRETE WASHOUT AREAS IS TO PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORMWATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:

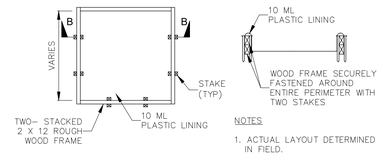
- INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO MATERIAL SUPPLIER AND SUBCONTRACTOR AGREEMENTS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE.
- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

FOR ONSITE WASHOUT:

- LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
- WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

BELOW GRADE CONCRETE WASHOUT FACILITIES ARE TYPICAL. THESE CONSIST OF A LINED EXCAVATION SUFFICIENTLY LARGE TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL. ABOVE GRADE FACILITIES ARE USED IF EXCAVATION IS NOT PRACTICAL. TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS SECTION, WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.



CONCRETE WASHOUT PIT DETAIL
TYPE "ABOVE GRADE"
NOT TO SCALE

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen
10/28/2025

EROSION CONTROL DETAILS

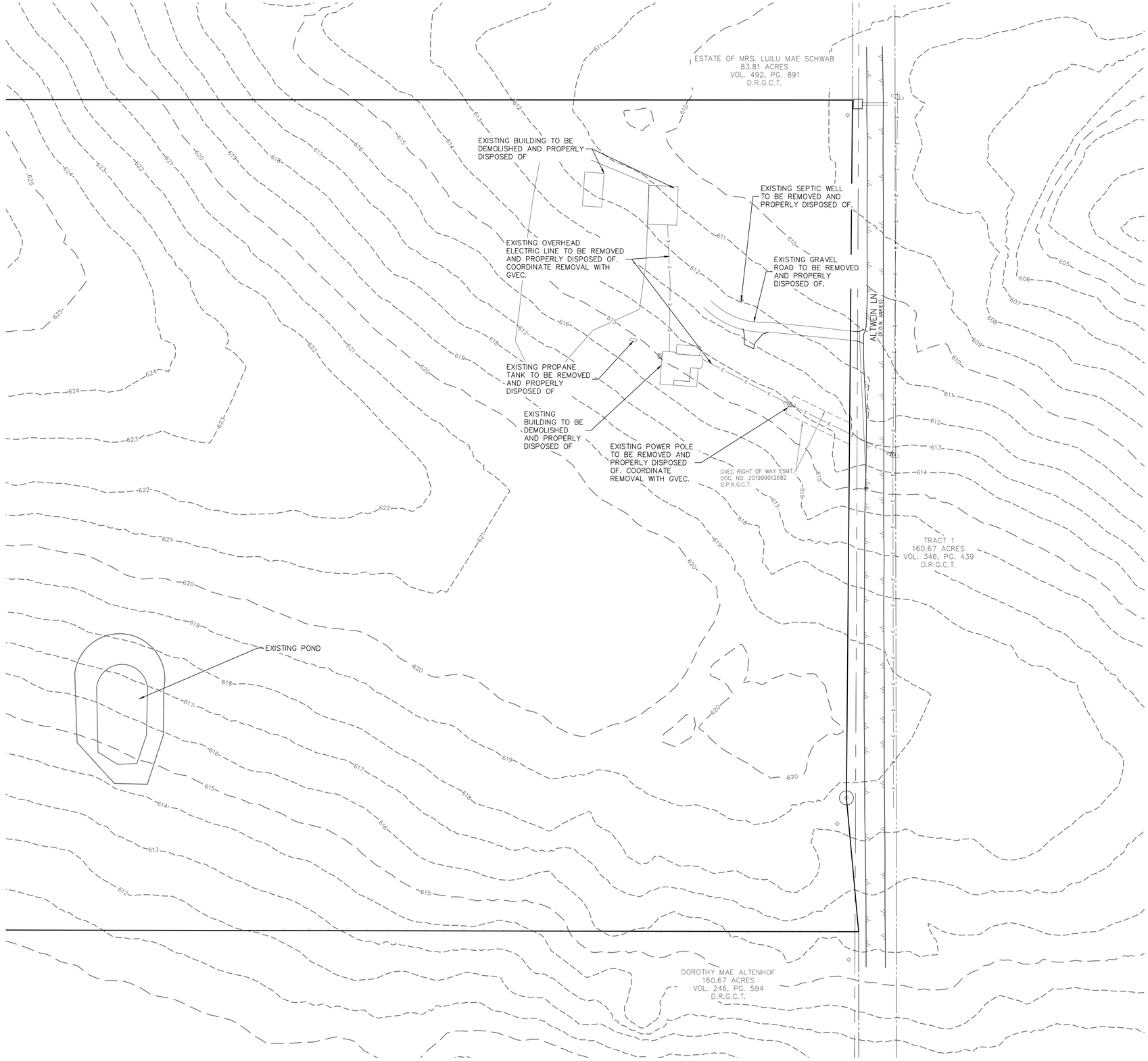
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C2.05

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\Cbs\337110_ESC PLAN.dwg User: kamdend Oct 28, 2025 - 9:56am



LEGEND

700 EXISTING CONTOURS

0 25 50 100
SCALE: 1" = 50'

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

DEMOLITION PLAN

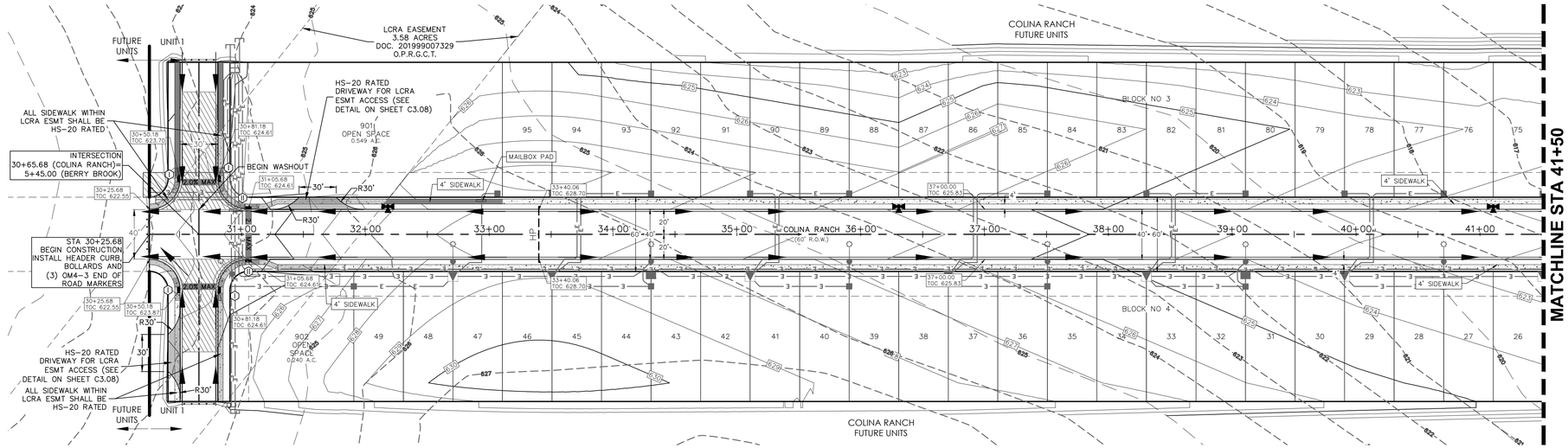
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

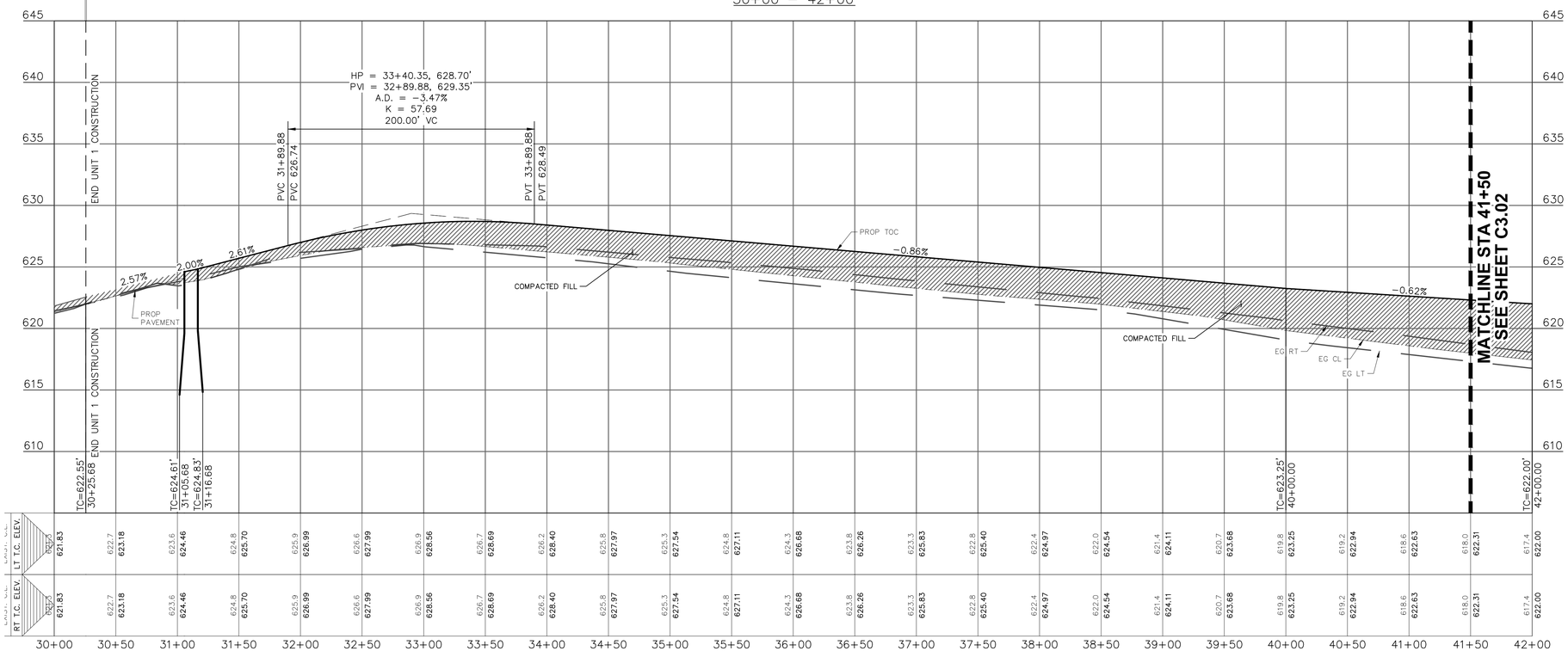
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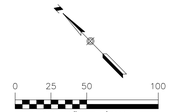
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DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C2.06

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03s\337110_EXC COND & DEMO.dwg User: kamdend Oct 28, 2025 - 9:57am







LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- A.D.A. RAMP
- HS-20 RATED SIDEWALK
- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
- EXISTING GROUND CENTER (EG CTR)
- PROPOSED TOP OF CURB (PR TC)
- 2.0% MAX — ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.08)

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF 25 MPH.
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.
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6. 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'
7. SIDEWALK INFRASTRUCTURE SHALL BE INSTALLED ALONG ALL STREET FRONT OF LOTS AT THE TIME OF LOT IMPROVEMENTS.

LCRA NOTES

1. USE OF LCRA EASEMENTS AS A TEMPORARY WORKSPACE SHALL NOT AT ANY TIME IMPEDE ACCESS TO LCRA TSC ROW.
2. TRENCHING WITHIN 30 FEET OF ANY STRUCTURE IS NOT PERMITTED.
3. VISIBLE UNDERGROUND ELECTRIC/WATER MARKERS SHALL BE PROVIDED AT ALL SIDES OF ROW/EASEMENT WHERE UNDERGROUND UTILITIES SHALL BE INSTALLED.
4. PROVIDE UNDERGROUND WARNING TABLE ALONG ALL PROPOSED UTILITIES.
5. PROVIDE HS-20 RATED CONDUITS FOR ALL UNDERGROUND UTILITY CROSSINGS.

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HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

COLINA RANCH PLAN & PROFILE (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C3.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\CDs\337.110_STREETS N-S P&P.dwg User: kcmdend Oct 28, 2025 - 9:57am

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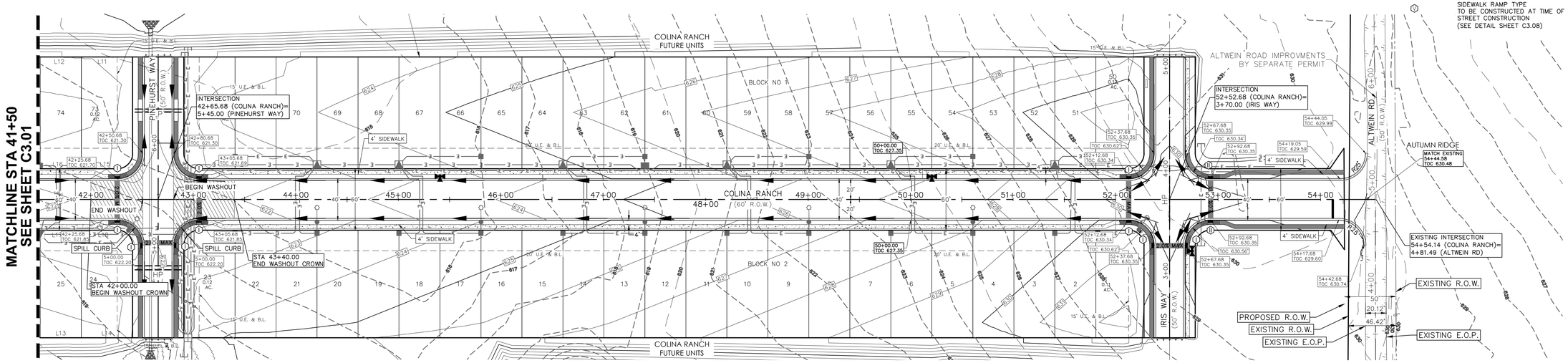
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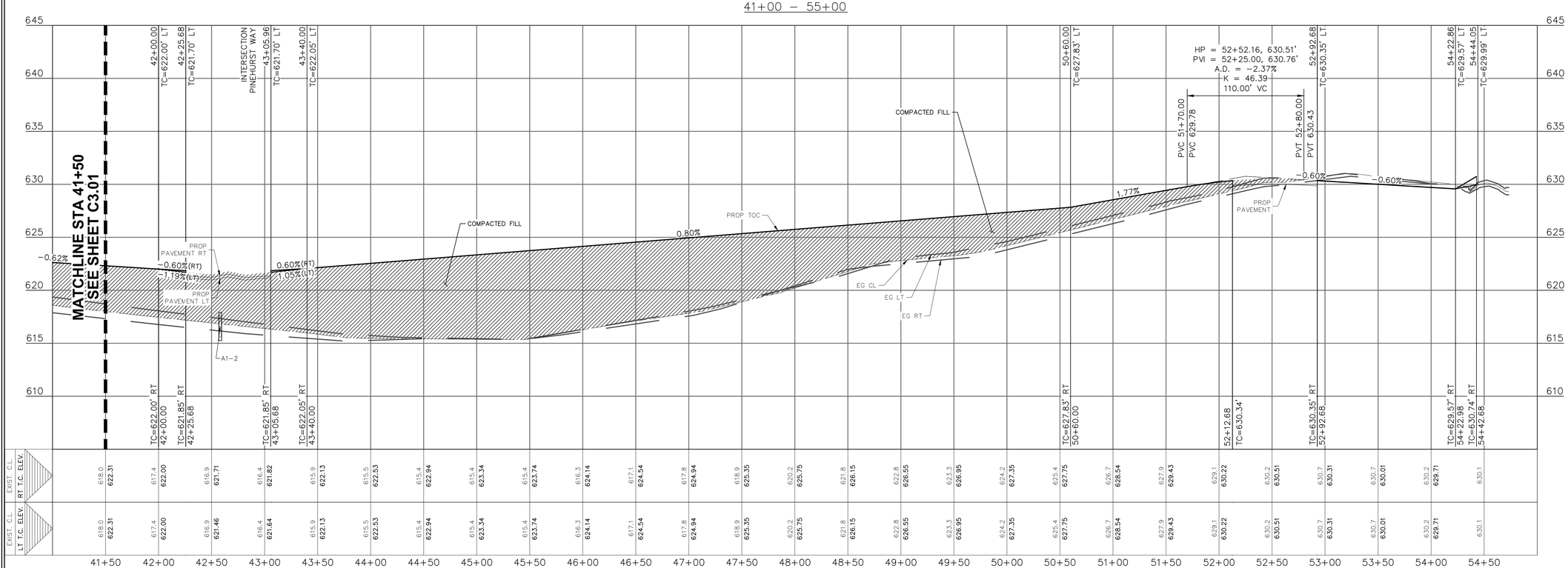
0 25 50 100
SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

LEGEND

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- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.08)



COLINA RANCH
41+00 - 55+00



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COLINA RANCH PLAN & PROFILE (2 OF 2)

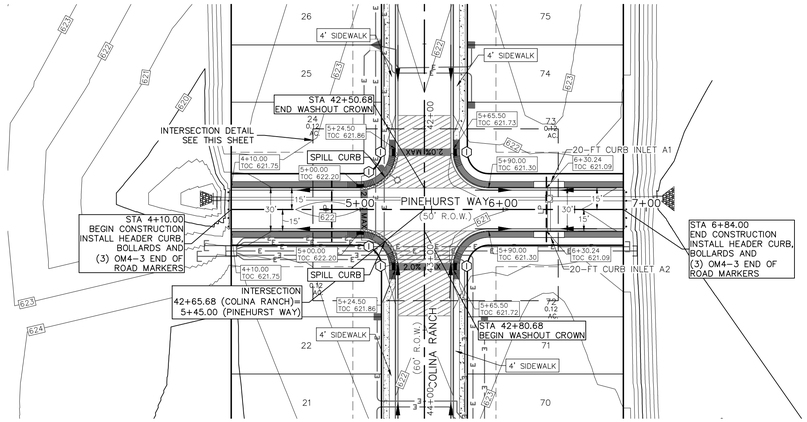
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

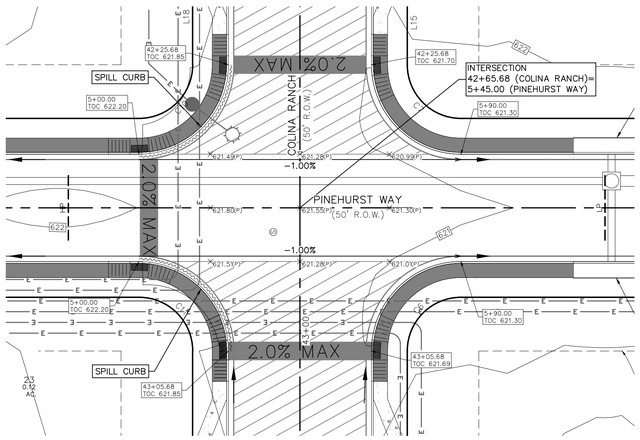
DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C3.02

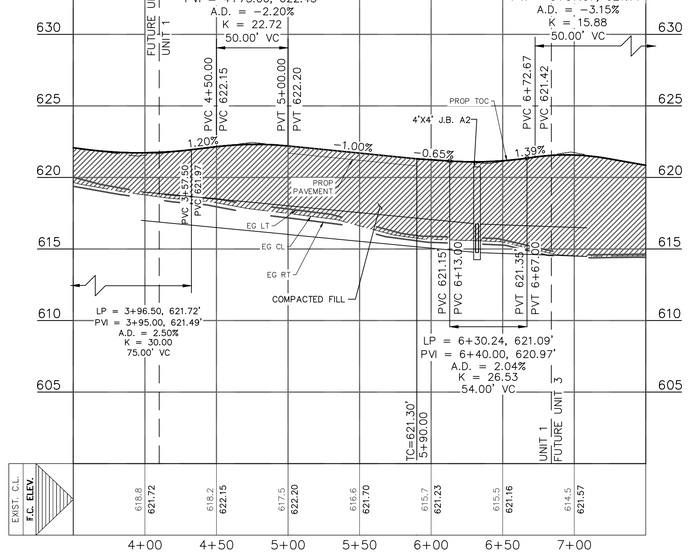
Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03dk\337.110_STREETS N-S P&P.dwg User: kamdend Oct 28, 2025 - 9:57am



PINEHURST WAY & COLINA RANCH INTERSECTION DETAIL



PINEHURST WAY
3+50 – 7+50



LEGEND

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- 700 — PROPOSED CONTOURS
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- D.E. — DRAINAGE EASEMENT
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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
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LICENSED
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10/28/2025

PINEHURST PLAN & PROFILE

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

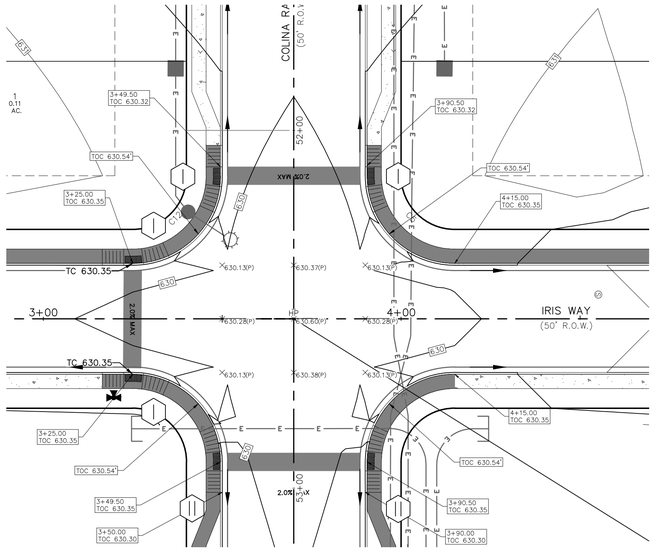
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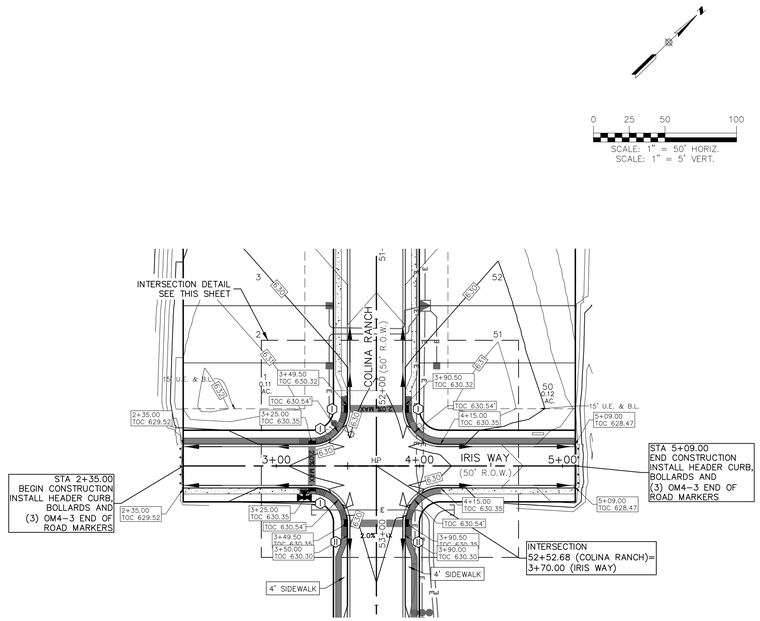
DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

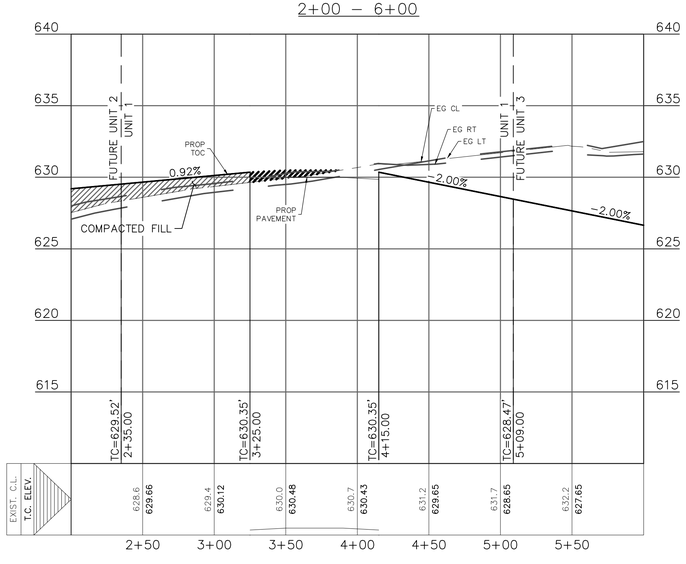
SHEET
C3.03

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03a\337110_STREETS E-W P&P.dwg User: kamdend Oct 28, 2025 - 9:58am

IRIS WAY & COLINA RANCH INTERSECTION DETAIL







LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
- EXISTING GROUND CENTER (EG CTR)
- PROPOSED TOP OF CURB (PR TC)
- 2.0% MAX — ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- ① — SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.08)

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF 25 MPH.
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. WHERE NO HOME BUILDING IS PROPOSED, SIDEWALKS ARE REQUIRED TO BE CONSTRUCTED WITH THE STREET CONSTRUCTION.
5. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
6. 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'
7. SIDEWALK INFRASTRUCTURE SHALL BE INSTALLED ALONG ALL STREET FRONT OF LOTS AT THE TIME OF LOT IMPROVEMENTS.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

IRIS WAY PLAN & PROFILE

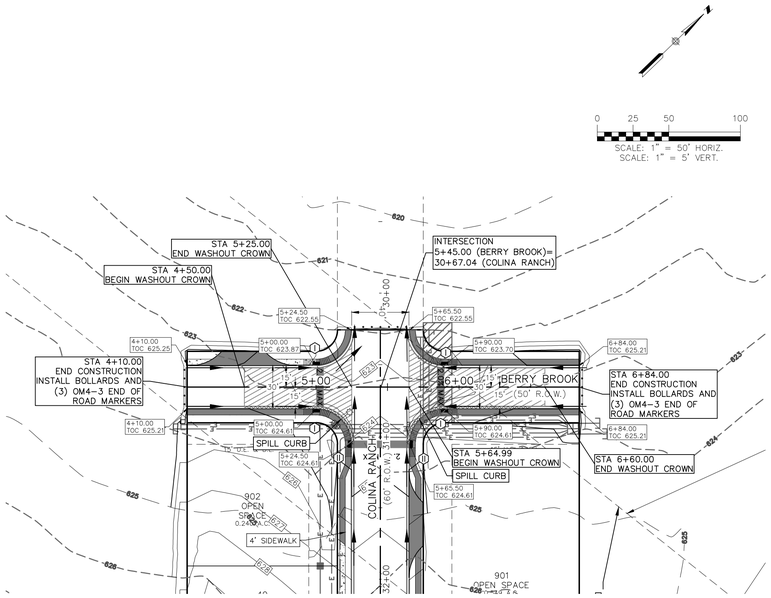
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

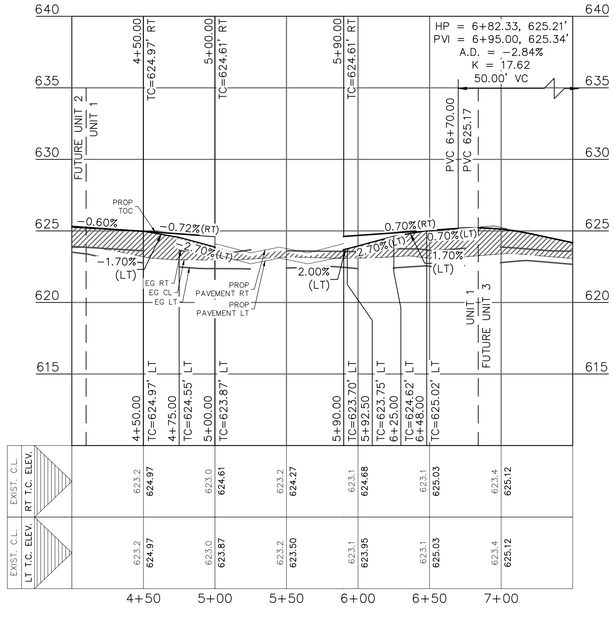
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DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C3.04

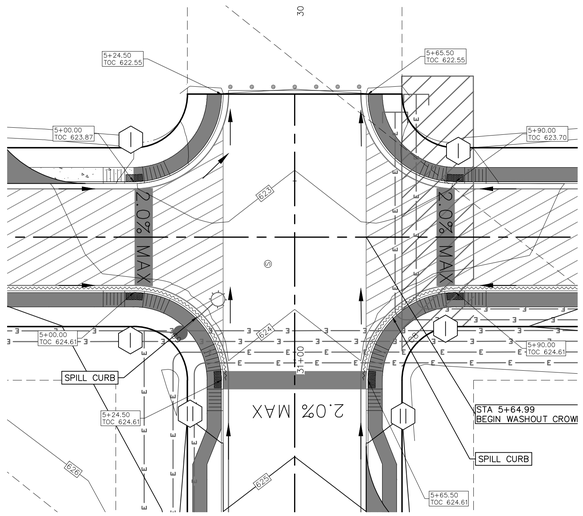
Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\CDs\337.110_STREETS E-W P&P.dwg User: kamaland Oct 28, 2025 - 9:58am



BERRY BROOK
4+00 – 7+50



BERRY BROOK WAY & COLINA RANCH INTERSECTION DETAIL



LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
- EXISTING GROUND LEFT (EG LT)
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- EXISTING GROUND CENTER (EG CTR)
- PROPOSED TOP OF CURB (PR TC)
- 2.0% MAX — ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.08)

NOTES

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6. 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'
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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

BERRY BROOK PLAN & PROFILE

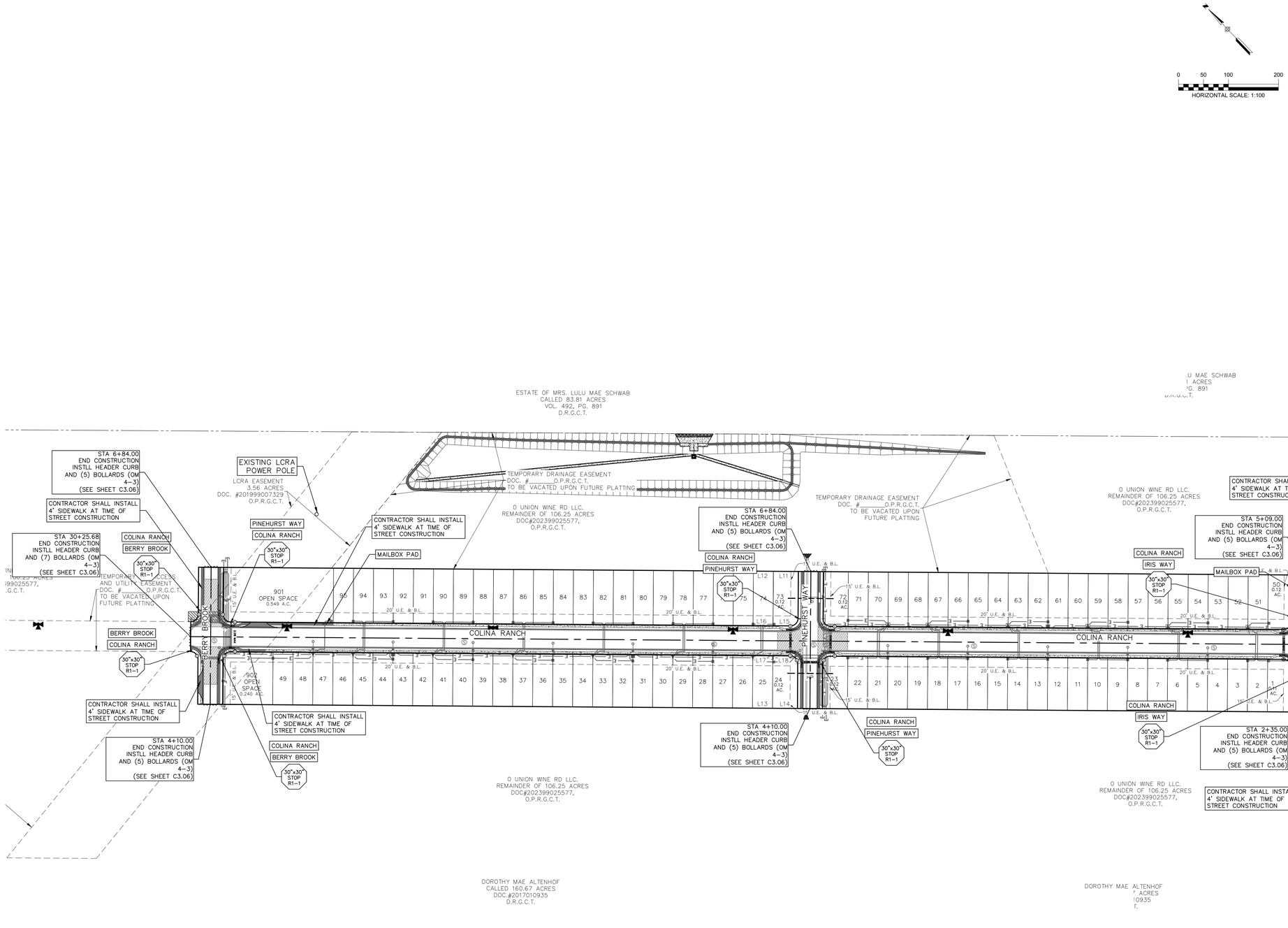
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C3.05

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cds\337.110_STREETS E-W P&P.dwg User: kamdenol Oct 28, 2025 - 9:38am



LEGEND

B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
2.0% MAX	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.08)
	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

SIGNAGE PLAN

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

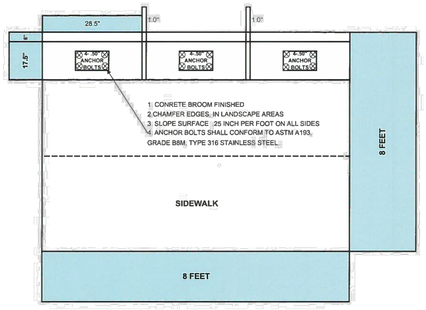
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
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REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

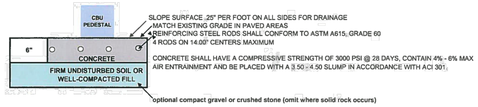
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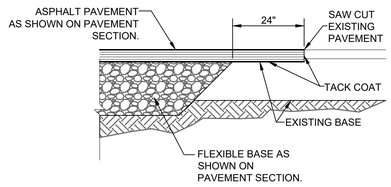
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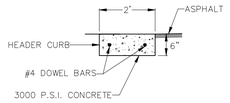


1 CBU 8' DEEP X 4' WIDE TO INCLUDE SIDEWALK
2 CBU'S 8' DEEP X 6' WIDE TO INCLUDE SIDEWALK
3 CBU'S 8' DEEP X 8' WIDE TO INCLUDE SIDEWALK
4 CBU'S 8' DEEP X 11' WIDE TO INCLUDE SIDEWALK





NEW PAVEMENT TO EXISTING
NOT TO SCALE

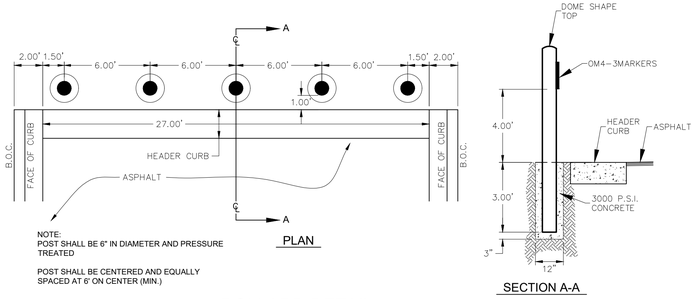


HEADER CURB DETAIL
NOT TO SCALE

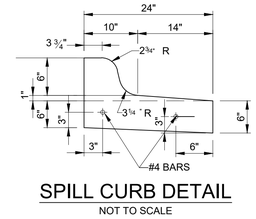
FLEXIBLE PAVEMENTS		
	RESIDENTIAL	COLLECTOR
PAVEMENT MATERIAL		
TYPE "D" HMAC	3"	4.5"
IMPORT FLEXIBLE BASE	12"	16"
LIME TREATED SUBGRADE	8"	8"

NOTE:

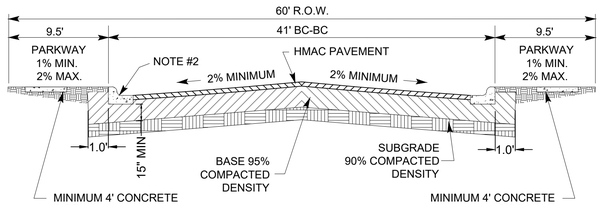
1. ALL PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE TO THE "GEOTECHNICAL ENGINEERING REPORT, COLINA RANCH - STREETS" PSI PROJECT No. 0312-3499-R1 BY: INTERTEK PSI, DATED: AUGUST 1, 2025.
2. ALL PAVEMENT SECTIONS SHOWN ON THE ABOVE TABLE SHALL SUPERCEDE ANY STANDARD DETAILS WITH RESPECT TO DEPTH OF MATERIALS ASSOCIATED WITH THIS PROJECT.
3. THE SUBGRADE SHOULD BE STABILIZED USING LIME IN ACCORDANCE WITH THE GEOTECHNICAL REPORT IN ORDER TO ACHIEVE THE FOLLOWING:
   3.1. PLASTICITY INDEX OF 20 OR LESS
   3.2. PH OF 12.43 OR GREATER
4. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
5. REFERENCE GEOTECHNICAL REPORT FOR LIME STABILIZATION NOTES
6. CONTRACTOR SHALL BE RESPOSIBLE TO ATTAIN A COPY OF THE GEOTECH REPORT AND THE CONTENTS OF THE REPORT.



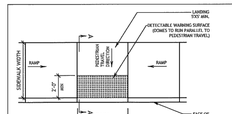
BOLLARD DETAIL
NOT TO SCALE



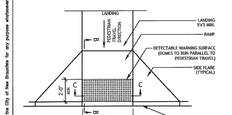
SPILL CURB DETAIL
NOT TO SCALE



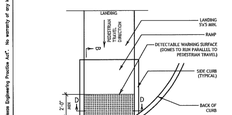
COLLECTOR STREET PAVEMENT SECTION (60' R-O-W)
NOT TO SCALE



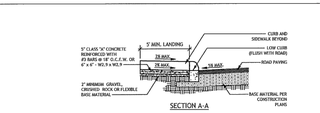
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



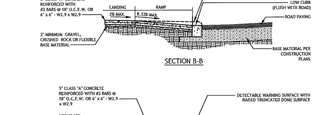
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.



TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN FOR DIRECTIONAL CURB RAMP.



SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

CURB RAMP NOTES

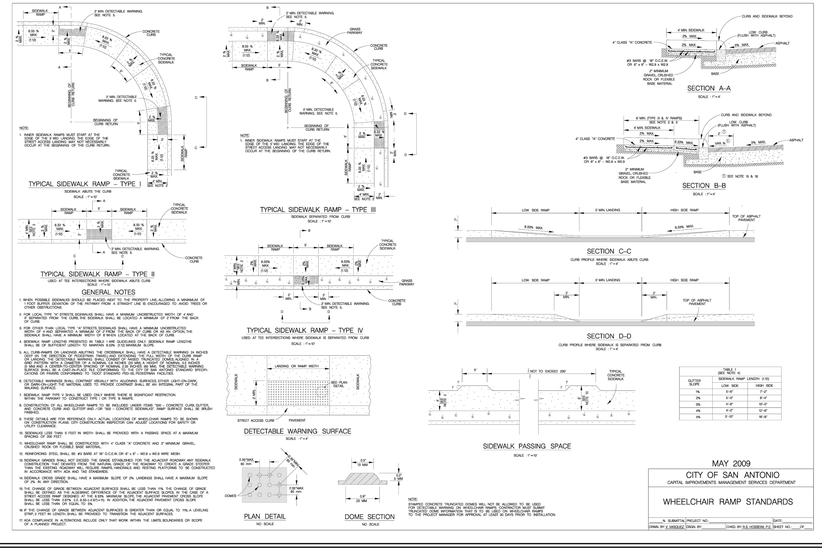
1. ALL SLOPES ARE MAXIMUM ALLOWABLE, THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ALIGHT CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
2. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMPS ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE 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") ARRANGN 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 GRAIN 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 10X (10:100) MEASURED ALONG THE CURB LINE, WHERE THE SIDEWALK IS ADJACENT TO THE CURB RAMP AND WHERE PEDESTRIANS 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 SOAND 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 2.0% (I.E. 8.33-2.0=6.33<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 GRADES.
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 ADJOINING 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, FERRIERS 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 EXISTING 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.

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

CURB RAMP STANDARDS		
APPROVED DATE: 05/18/2017	DWG. NO.: ST-019	SCALE: AS NOTED
DRAWN BY: RIC	CONTACT: GF	SHEET: 1 OF 1



290 S. CASTELL AVE., STE. 100
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TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

STREET DETAILS (1 OF 3)

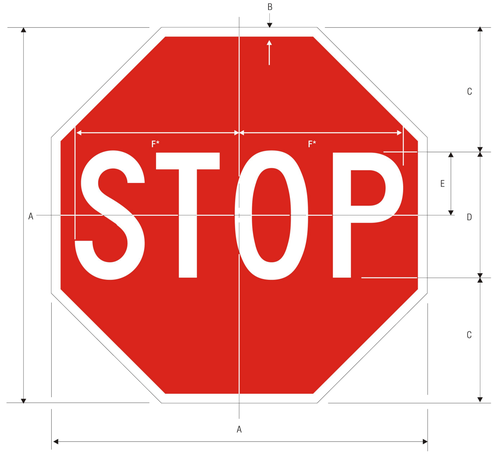
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C3.07

Drawing Name: N:\...\Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\03a\337110_STREET DETAILS.dwg User: kamdeed Oct 28, 2025 - 9:58am
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 whatever.



R1-1

STOP

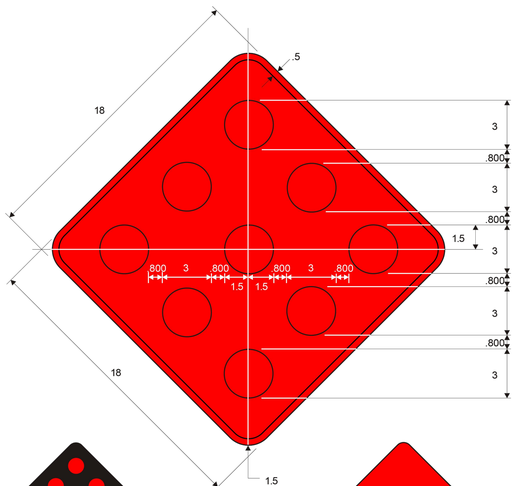
*Reduce spacing 40%

	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
C	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

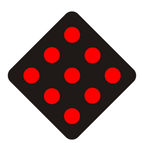
COLORS: LEGEND — WHITE (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

1-1

Standard Highway Sign Designs for Texas

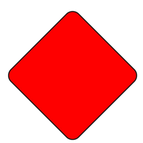


OM4-1



OM4-2

OM4-1 COLORS:
REFLECTORS — RED (RETRO)
BACKGROUND — RED
BORDER — RED (RETRO)



OM4-3

OM4-3 COLORS:
SIGN PANEL — RED



R1-4

ALL WAY

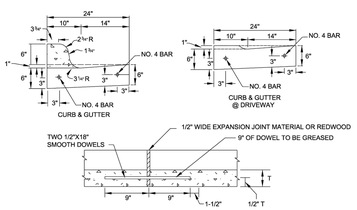
*Series 2000 Standard Alphabets.

	A	B	C	D	E	F	G	H
C	18	6	.5	1.5	3 C	1.5	7	1.5
	24	9	.5	2	5 C	2	11	1.5
	30	12	.75	3	6 C	3	13.25	1.875
	36	15	.75	4	7 C	4	15.771	2.25
	48	18	1	4.5	9 C	4.5	20.415	3

COLORS: LEGEND — WHITE (RETRORREFLECTIVE)
BACKGROUND — RED (RETRORREFLECTIVE)

1-5

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.

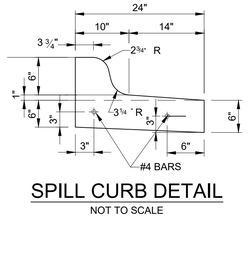
NOTES:

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
DRAWN BY: RAS	SHEET: 1 OF 1
FILENAME: CURB & GUTTER	

SCALE: N.T.S.

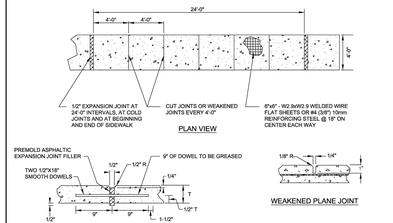
City of New Braunfels ENGINEERING DEPARTMENT



SPILL CURB DETAIL

NOT TO SCALE

SIDEWALK (RESIDENTIAL)



NOTES:

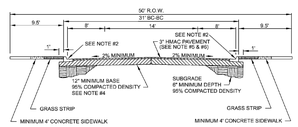
1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 07/2008	DWG. NO: ST-016
DRAWN BY: RAS	SHEET: 1 OF 1
FILENAME: SIDEWALK (RESIDENTIAL)	

SCALE: N.T.S.

City of New Braunfels ENGINEERING DEPARTMENT

ONE & TWO FAMILY RESIDENTIAL LOCAL PARKING BOTH SIDES

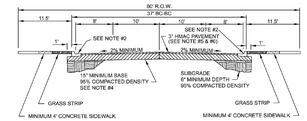


NOTES:

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 CURB. SEE CURB DETAIL ST-015 (CURB & GUTTER) & ST-015a (STAND-ALONE CURB).
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

RESIDENTIAL COLLECTOR PARKING BOTH SIDES

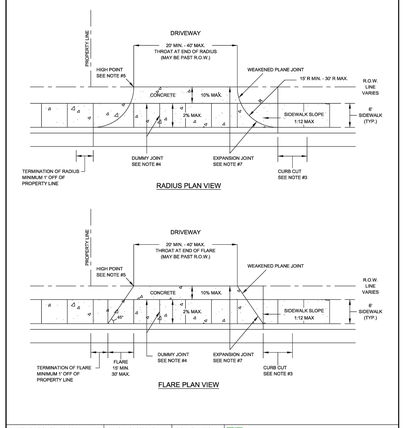


NOTES:

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-015 (CURB & GUTTER) & ST-015a (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

DRIVEWAY APRON (COMMERCIAL - MULTIFAMILY - INDUSTRIAL) (RADIAL/FLARED)

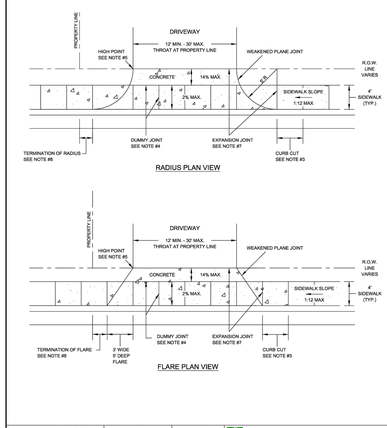


DATE APPROVED: 07/2008	DWG. NO: ST-015.1
DRAWN BY: RAS	SHEET: 1 OF 2
FILENAME: DRIVEWAY (COMMERCIAL - MULTIFAMILY - INDUSTRIAL)	

SCALE: N.T.S.

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON (RESIDENTIAL - ONE OR TWO FAMILY)

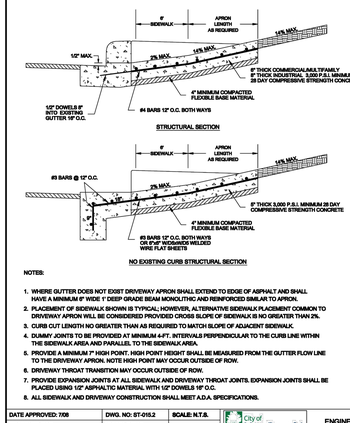


DATE APPROVED: 04/2016	DWG. NO: ST-014.1
DRAWN BY: RAS	SHEET: 1 OF 2
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)	

SCALE: N.T.S.

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON (COMMERCIAL - MULTIFAMILY - INDUSTRIAL)



NOTES:

1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 8" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK BROWN 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 18" O.C.
8. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 7/08	DWG. NO: ST-015.2
DRAWN BY: RAS	SHEET: 2 OF 2
FILENAME: DRIVEWAY (Commercial - Multifamily - Industrial)	
P:\CURRENT NEW BRAUNFELS DETAILS\2008\	

SCALE: N.T.S.

City of New Braunfels ENGINEERING DEPARTMENT

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

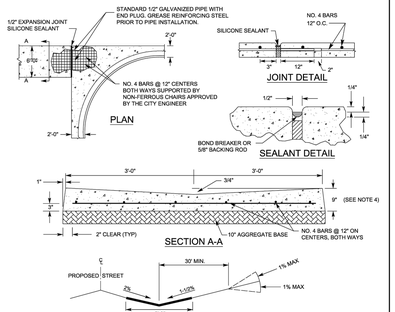
MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (TWT) - 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (SLIP-1-3)-08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS D & OM (1 & 2)-15.

CROSS GUTTER



TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTION

NOTES:

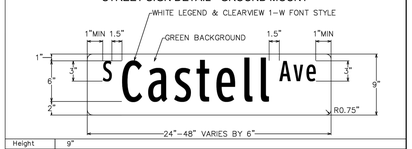
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI.
2. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
3. CONSTRUCTION OF CROSS GUTTER IS NOT ALLOWED ACROSS MAJOR COLLECTOR OR ARTERIAL STREETS.
4. ADJACENT SPANDREL SHALL BE 9" THICK CLASS "A" 3,000 PSI CONCRETE.

DATE APPROVED: 07/2008	DWG. NO: ST-020
DRAWN BY: RAS	SHEET: 1 OF 1
FILENAME: CROSS GUTTER	

SCALE: N.T.S.

City of New Braunfels ENGINEERING DEPARTMENT

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 ½" 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			
ISSUE DATE: February 2013	DWG. NO: ST-024	SCALE: N.T.S.	
DRAWN BY: RAS	CONTACT: GF	SHEET: 1 OF 1	

City of New Braunfels ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830.221.4020
FAX: 830.626.3600

P:\2010 ENGINEERING-AUTOCAD\CTAB\BNB-PUBLIC WORKS DETAILS\BNB-UNAPPROVED DETAILS-2013\ST-2013-024 STREET SIGN DETAIL - GROUND MOUNT.DWG

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

STREET DETAILS (2 OF 3)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

REVISION DATE | REVISION DESCRIPTION | NO.

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET

C3.08

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\COs\337.110_STREET DETAILS.dwg User: kamdend Oct 28, 2025 - 9:58am

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 and shall not be liable for any damages resulting from the reuse of this standard or for any modification or adaptation hereof.

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

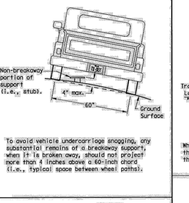
Post Type
- FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
- TWT = Thin-Walled Tubing (see SMD(TWT))
- 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
- SBD = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

Anchor Type
- UA = Universal Anchor - Concreted (see SMD(FRP)) and (TWT))
- UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
- WS = Wedge Anchor Steel - (see SMD(TWT))
- WP = Wedge Anchor Plastic (see SMD(TWT))
- SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
- SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation
- P = Prefab. "Posiln" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
- T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
- U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
- IF REQUIRED
- 1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
- BA = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
- WC = 1_12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
- EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

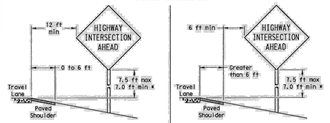
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel pathsl.

SIGN LOCATION

PAVED SHOULDERS



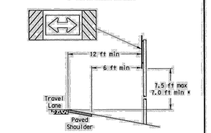
LESS THAN 6 FT. WIDE

When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.

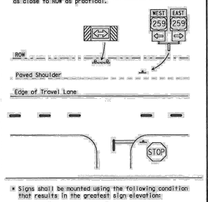
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

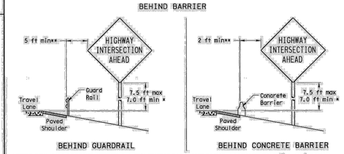
T-INTERSECTION



When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER



BEHIND GUARDRAIL

*Sign clearance based on distance required for proper guard rail or concrete barrier performance.

BEHIND CONCRETE BARRIER

* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 ft a maximum of 7.5 feet above the edge of the travel lane or

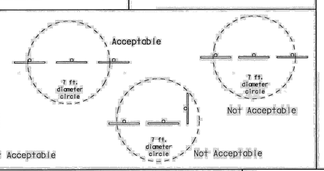
(2) a minimum of 7 ft a maximum of 7.5 feet above the grade of the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign slipbase, Triangular Slipbase System components and Wedge Anchor System components.

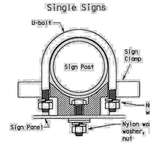
The website address is: http://www.txdot.gov/publications/traffic.htm

No more than 2 sign posts should be located within a 7 ft. circle.

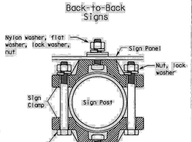


TYPICAL SIGN ATTACHMENT DETAIL

Single Signs



Back-to-Back Signs



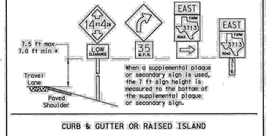
Bolts used to mount sign panels to the clamps are: 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

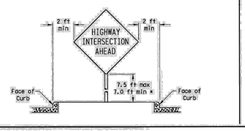
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



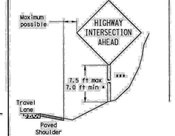
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. Ta not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

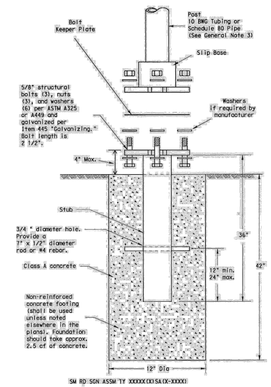
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

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	STATE	DISTRICT	COUNTY
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264

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. https://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

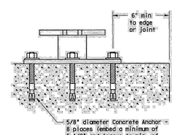
1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Materials used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.625" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric resistance welded steel tubing or pipe
   Steel shall be ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.865" to 2.885"
   Galvanization per ASTM A123 or ASTM A653 G210, For precoated steel tubing (ASTM A653), recoat cut tube outside diameter and seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 GR C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   55,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.268" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.885"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe and of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 1 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

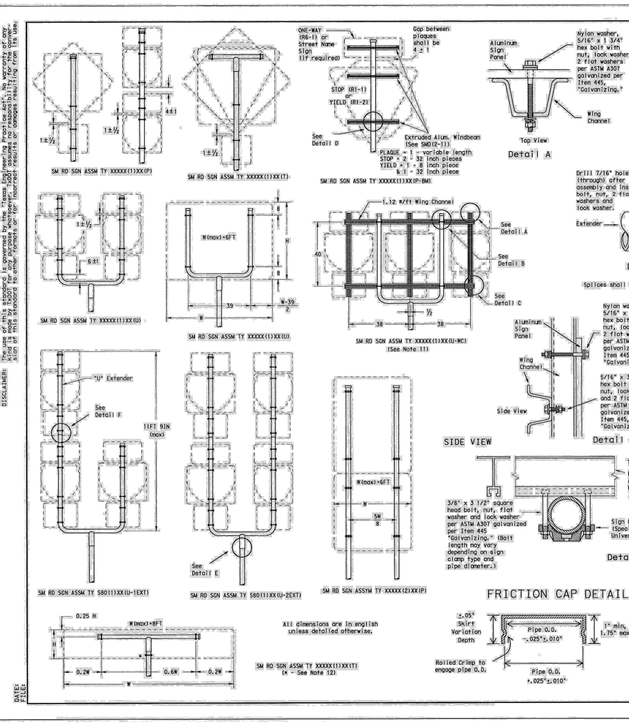
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

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268



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp crosses or indentations and show no evidence of metal fractures.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

1. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
2. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
3. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
4. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
5. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
6. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
7. Wing channel shall meet ASTM A 1011 SS GR 50 and be galvanized per ASTM A 123.
8. Excess plow, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
9. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable sign area per table.
10. Additional sign clamps required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
11. Post open ends shall be fitted with Friction Caps.
12. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
SIGN DESCRIPTION		SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

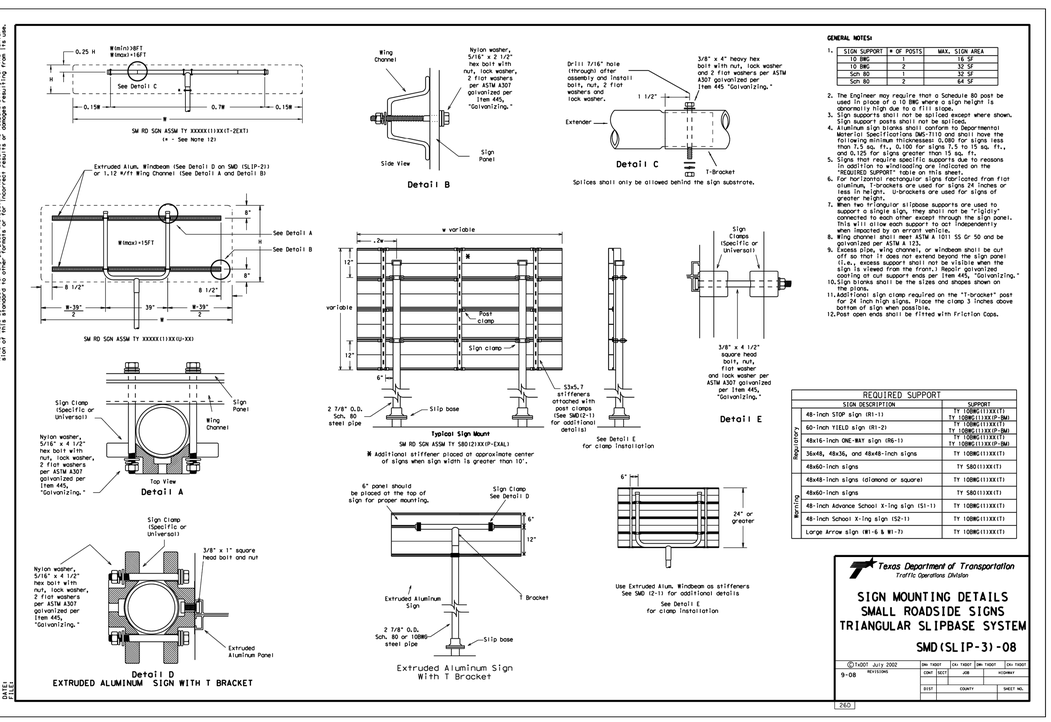
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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	STATE	DISTRICT	COUNTY
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266



REQUIRED SUPPORT		
SIGN DESCRIPTION		SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
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Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

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260

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen
10/28/2025

STREET DETAILS (3 OF 3)

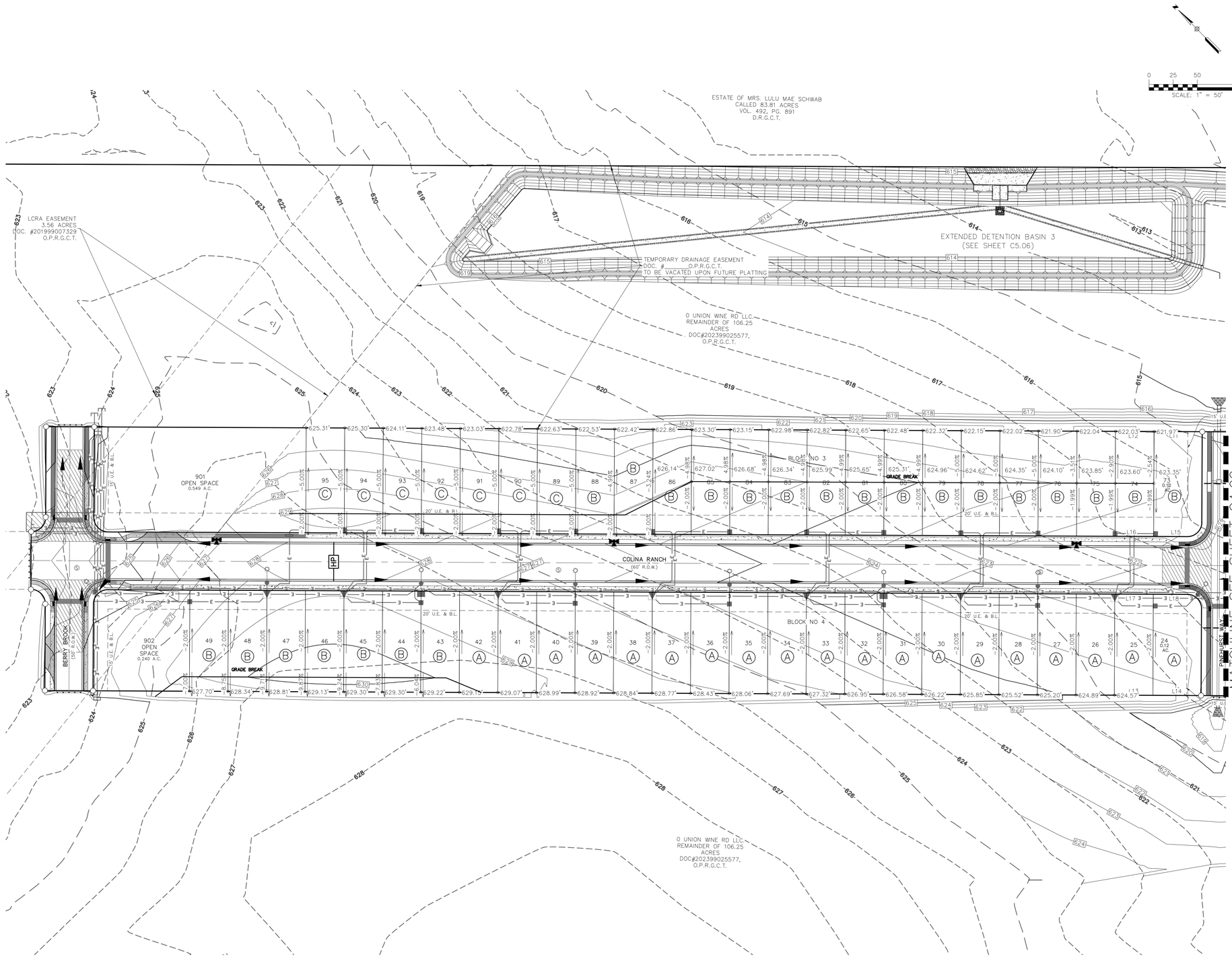
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C3.09

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cds\337.110_STREET DETAILS.dwg User: kamdeed Oct 28, 2025 - 2:57pm



NOTES:

1. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
2. ALL FINISHED FLOOR ELEVATIONS SHALL MEET THE FOLLOWING REQUIREMENTS:
   2.A. PER NOTE 10 ON PLAT SHEET 12.
   2.B. HUD DETAILS SHOWN ON SHEET C4.03.
3. WHEN POSSIBLE, CONTRACTOR SHALL PHASE GRADING SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST PERIOD OF TIME.
4. FOR ANY LOTS ADJACENT TO A DRAINAGE STRUCTURE, HOME BUILDER TO ENSURE FINISHED FLOOR HAS A MINIMUM ELEVATION AS LABELED OR AS PER NOTE 2 ABOVE, WHICHEVER IS GREATER.
5. 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).
6. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING AND/OR HYDROMULCH DOES NOT CONSTITUTE STABILIZATION, MINIMUM 70 PERCENT VEGETATIVE COVER OF DISTURBED AREAS IS REQUIRED.
7. ALL SIDEWALKS SHALL HAVE A MAX RUNNING SLOPE OF 5%.
8. ALL SIDEWALKS SHALL HAVE A MAX CROSS SLOPE OF 2%.
9. RAMPS SHALL NOT EXCEED 8.33%. RAMPS LONGER THAN 6' REQUIRE HANDRAILS. RAMPS LONGER THAT 30' REQUIRE A LEVEL LANDING.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
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TBPELS FIRM F-10961
TBPELS FIRM 10153600

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MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

GRADING PLAN (1 OF 2)

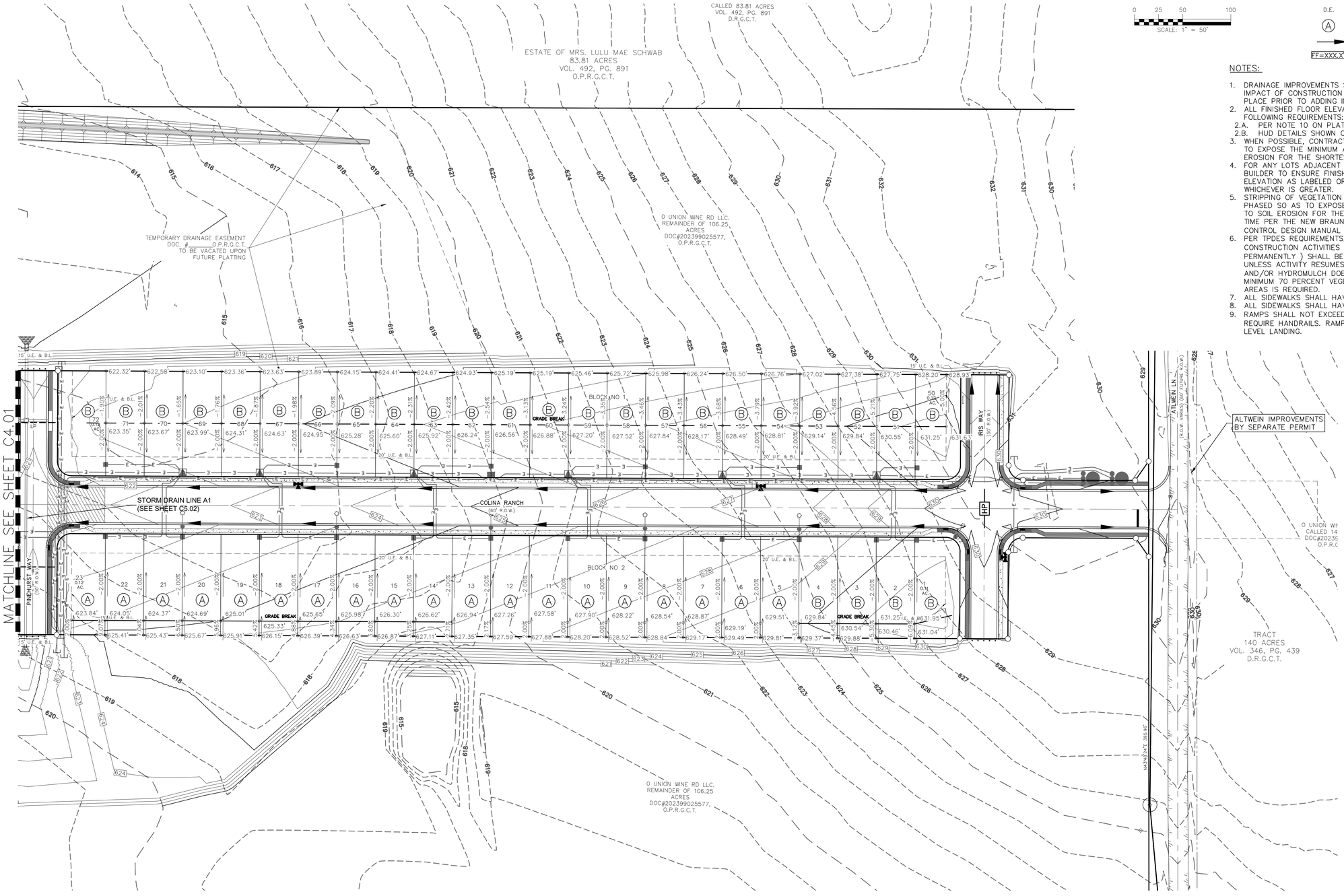
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C4.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\20s\337.110_GRADING.dwg User: kamsland Oct 28, 2025 - 9:59am



NOTES:

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MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

GRADING PLAN (2 OF 2)

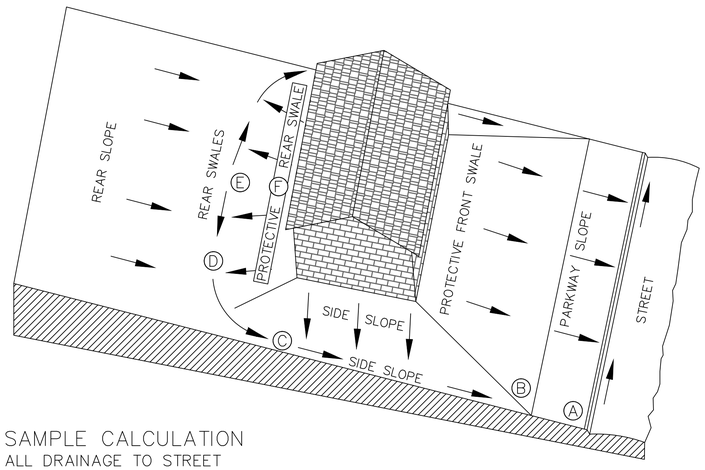
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C4.02

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03s\337.110_GRADING.dwg User: kamdend Oct 28, 2025 - 9:59am



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

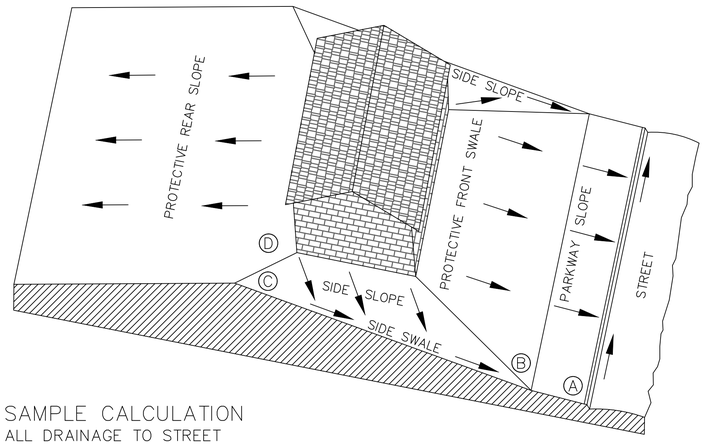
SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	
A	CURB–TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')
$\overline{CD}$	SWALE TURN WITH 10' RADIUS:16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{DE}$**	REAR SWALE: 13' GRASS AT 1/4"/FT. (2%)	3"	(0.3')	2"	(0.2')
$\overline{EF}$*	PROTECTIVE REAR SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AF}$ FROM CURB TOP TO GROUND AT REAL BLDG WALL		35"	(3.0')	20"	(1.7')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 35" + 8"		43"	(3.6')	28"	(2.3')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		54"	(4.5')	39"	(3.3')

CALCULATIONS FOR 2% SWALES
15 x 0.25" = 3¾"
85 x 0.25" = 21¼"
16 x 0.25" = 4"
13 x 0.25" = 3¼"
10 x 0.25" = 2½"
34¾"

CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

** LENGTH $\overline{DE}$ = [1/2(LOT WIDTH – (2x SWALE TURN RADIUS))] – [LOT WIDTH x (STREET GRADIENT x SWALE GRADIENT)]



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

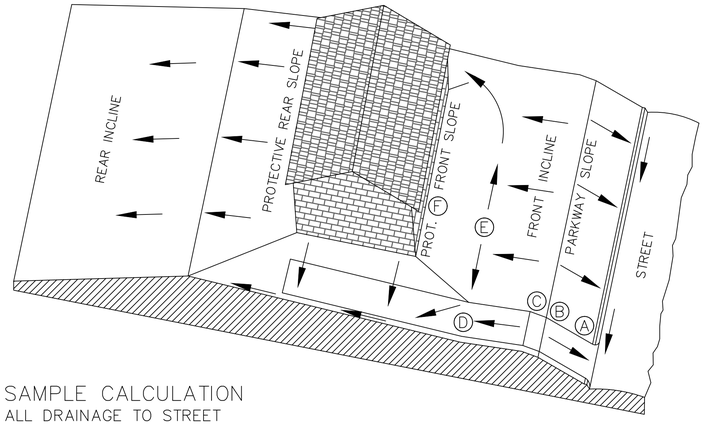
SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	
A	CURB–TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')
$\overline{CD}$*	PROTECTIVE SIDE SLOPE @ REAR BLDG. WALL EXTENSION	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AD}$ FROM CURB TOP TO GROUND AT REAL BLDG WALL		27"	(2.4')	16"	(1.4')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 27" + 8"		35"	(2.9')	24"	(2.0')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		46"	(3.8')	35"	(2.9')

CALCULATIONS FOR 2% SWALES
15 x 0.25" = 3¾"
85 x 0.25" = 21¼"
6 x 0.25" = 1½"
26½"

CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE $\overline{AF}$ FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 13.5% DRIVEWAY, AND 16' FRONT SWALE $\overline{DE}$ AT 2.0%.				RESULTS OF 1% SWALES	
A	CURB–TOP HIGH SIDE OF DRIVE NEAR LOW LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	DRIVEWAY GRADE CHANGE: 4' VERTICAL CURVE FROM UP–GRADE DRIVE IN STREET TO DOWN–GRADE DRIVE ON LOT	0"	(0.0')	0"	(0.0')
$\overline{CD}$	DRIVEWAY DOWN–GRADE TO POINT 10 FEET OUT FROM FRONT OF BUILDING: –11' AT 1⅝"/FT (13.5%)	–18"	(–1.5')	–18"	(–1.5')
$\overline{DE}$	FRONT SWALE: 16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{EF}$*	PROT. FRONT SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AF}$ FROM CURB TOP TO GROUND AT FRONT BLDG WALL		–7"	(–1.0')	–11"	(1.3')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: –7" + 8"		1"	(–0.3')	–3"	(0.7')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: –7" + 19"		12"	(–0.6')	8"	(0.3')

CALCULATIONS FOR SWALES
15 x 0.25" = 3¾"
0 x 0.25" = 0"
–11 x 1.625" = –17⅞"
16 x 0.25" = 4"
10 x 0.25" = 2½"
–7½"

CALCULATION:
USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.
USE 1.625" PER FOOT GRADIENT FOR A 13.5% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

LOT TYPE Ⓐ

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION
THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCARIFYING THE AREA TO BE FILLED
ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED
FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE THD–TEX–113–E COMPACTION PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHA/HUD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G.

FILL MATERIALS
THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE.
EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMAPCTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

ROCK
WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTION OF FILL LAYER
COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTION OF SLOPES
THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

DENSITY TEST
FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATED DESIRED TIME OF TESTING. WHEN THESE TEST INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEO–TECHNICAL ENGINEER OR STAFF.

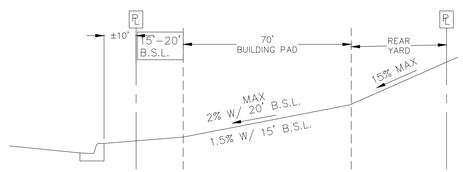
1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8–12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
3. FILLS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL.
4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE: HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

CUT/FILL LOTS
AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN., AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.
HUD 79–G
HUD 79–G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79–G COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79–G. AFTER SITE GRADING IS COMPLETED, GEO–TECHNICAL ENGINEER SHALL PROVIDE THE CONTRACTOR AND OWNER A 79–G LETTER.

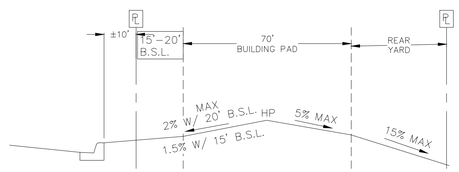
DRAINAGE NOTE
FINISHED FLOOR ELEVATIONS
THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST 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.

LOT TYPE Ⓑ

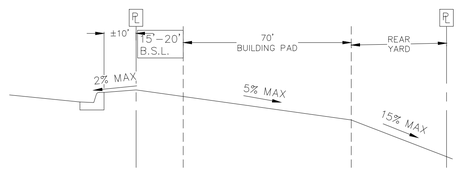
LOT TYPE Ⓒ



"A" LOT



"B" LOT



"C" LOT

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

GRADING DETAILS

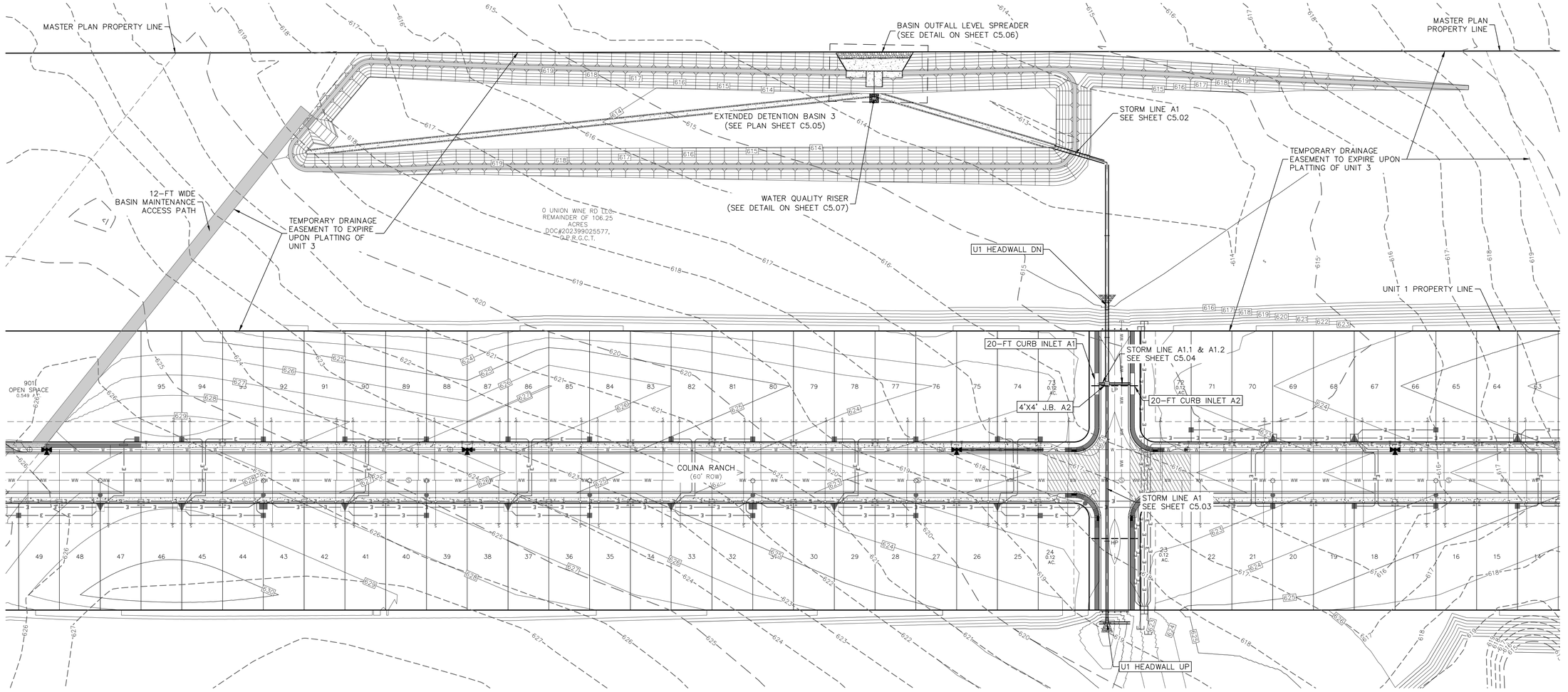
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C4.03

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\120\337.110_GRADING DETAILS.dwg User: kamdend Oct 28, 2025 - 9:59am



DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

SILT SHALL BE REMOVED AND THE BASIN RETURNED TO ORIGINAL LINES AND GRADES WHEN STANDING WATER CONDITIONS OCCUR OR THE BASIN STORAGE VOLUME IS REDUCED BY MORE THAN 10%.

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

C. BASINS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

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MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

OVERALL STORM

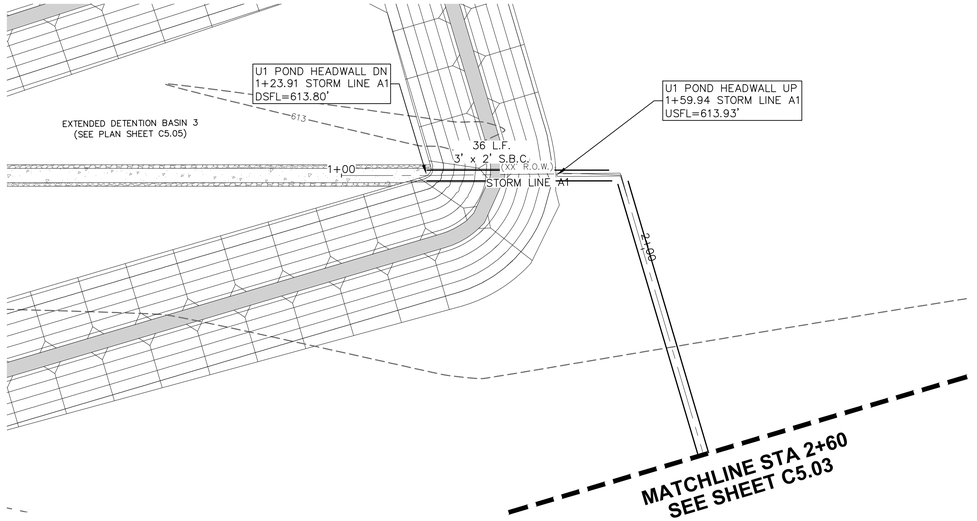
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

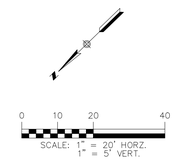
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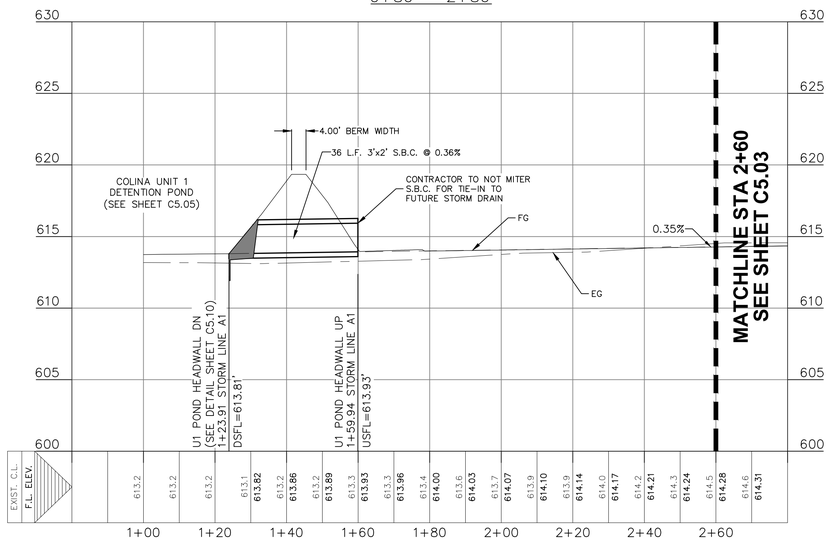


LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING



STORM LINE A1 (1 OF 2)
0+80 – 2+80



DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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F. MAINTENANCE VEHICLE FOR POND ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

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HMT ENGINEERING & SURVEYING
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TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

STROM DRAIN LINE A1 (1 OF 2)

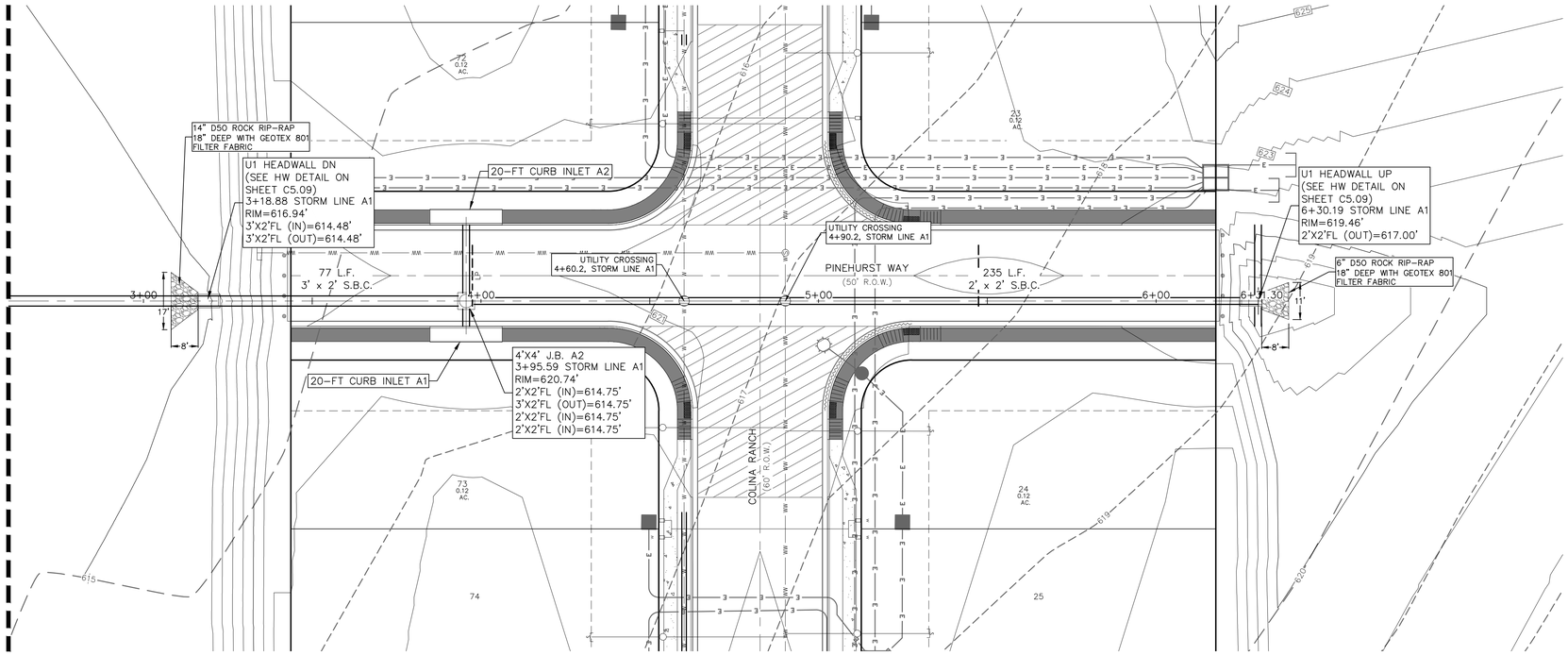
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

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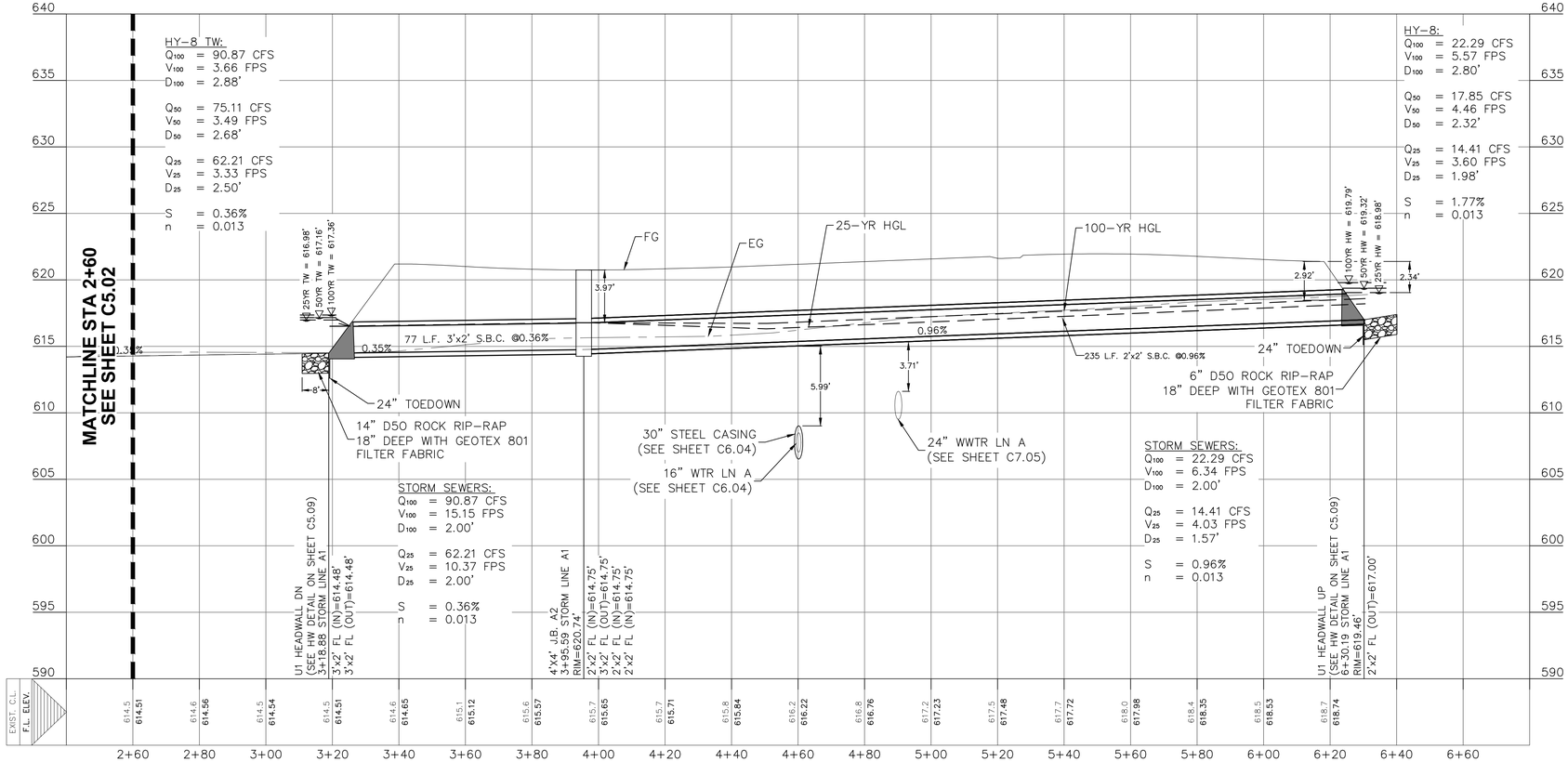
DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C5.02

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\CDs\337.110_STRM.dwg User: kamdend Oct 28, 2025 - 10:00am



STORM LINE A1
2+40 – 6+80



LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING

0 10 20 40
SCALE: 1" = 20' HORZ.
1" = 5' VERT.

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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LICENSED
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10/28/2025

STROM DRAIN LINE A1 (2 OF 2)

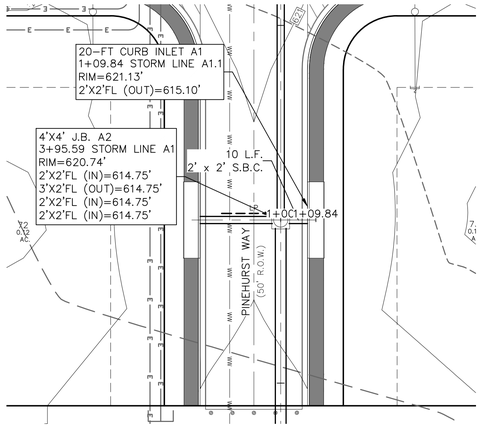
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

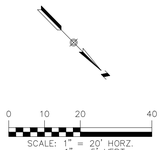
NO.	REVISION DESCRIPTION	REVISION DATE

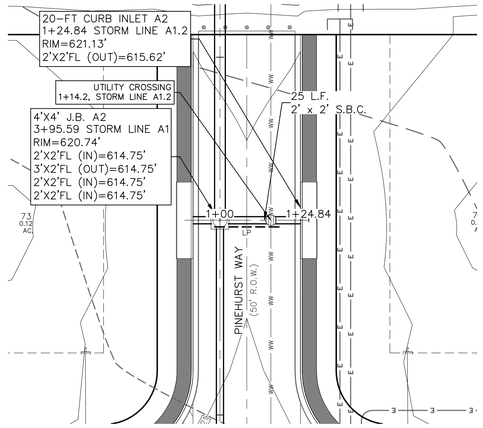
DATE: OCTOBER 2025
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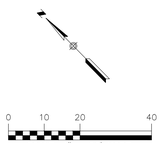
SHEET
C5.03

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbk\337.110_STRM.dwg User: kamdend Oct 28, 2025 - 10:00am





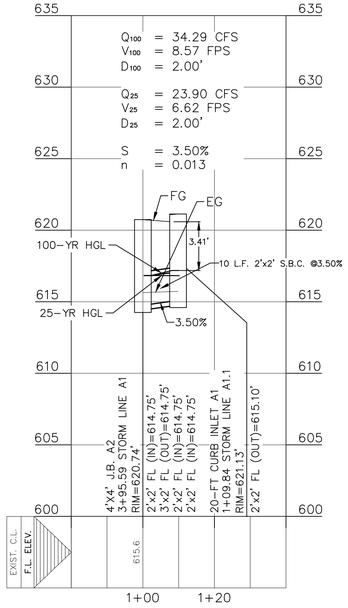




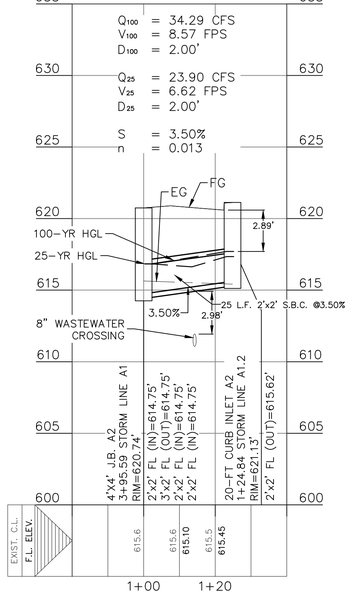
LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING

STORM LINE A1.1
0+80 – 1+40



STORM LINE A1.2
0+80 – 1+40



DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

SILT SHALL BE REMOVED AND THE BASIN RETURNED TO ORIGINAL LINES AND GRADES WHEN STANDING WATER CONDITIONS OCCUR OR THE BASIN STORAGE VOLUME IS REDUCED BY MORE THAN 10%.

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

C. BASINS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

STORM DRAIN LINE A1.1 & A1.2

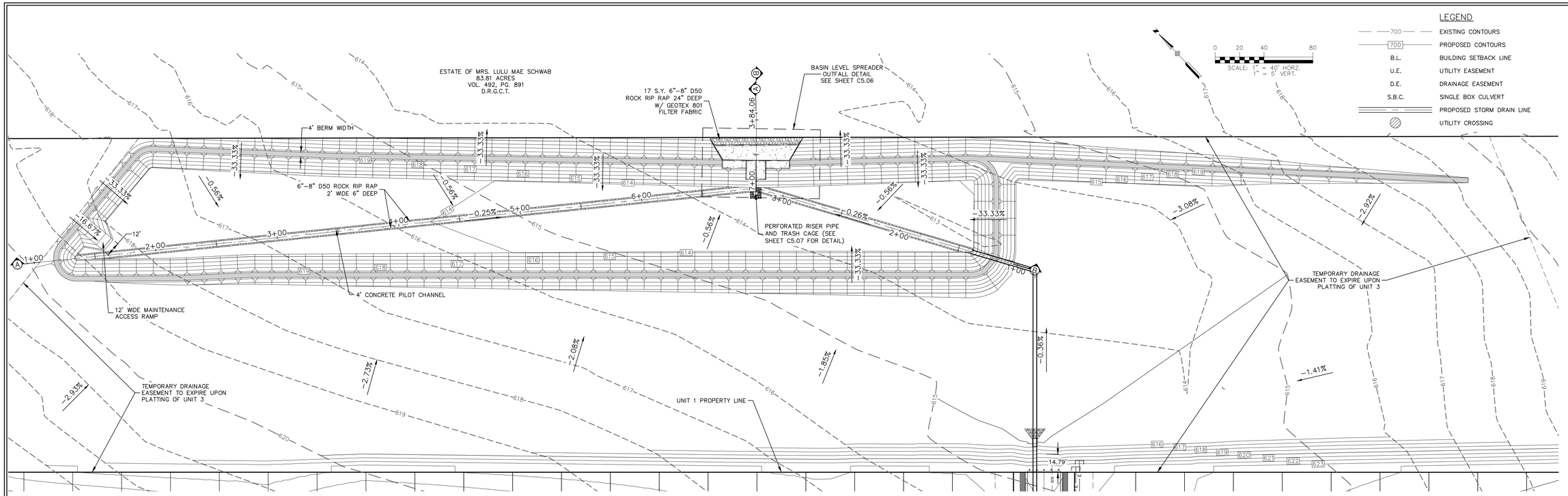
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

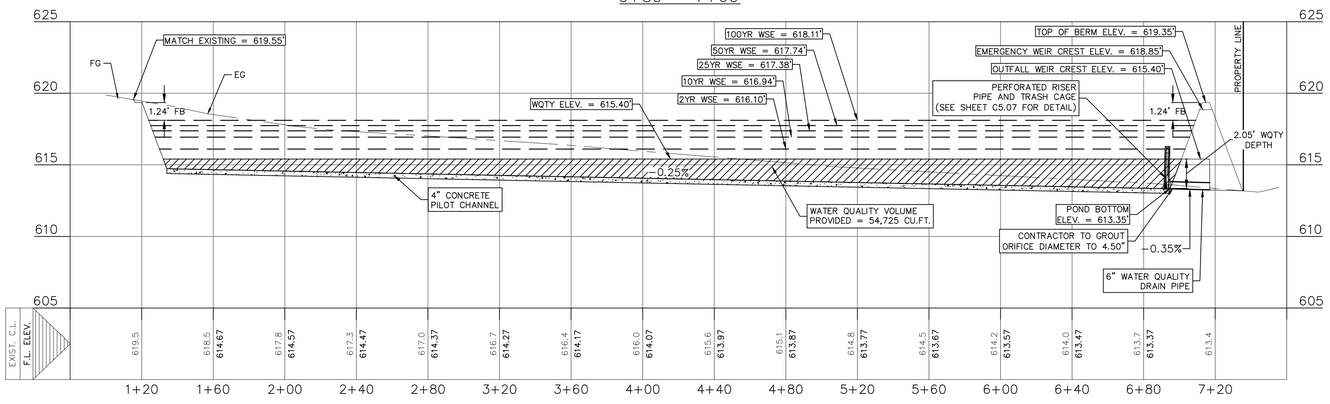
DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C5.04

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03s\337.110_STRM.dwg User: komdend Oct 28, 2025 - 10:00am



BASIN SECTION A–A
0+80 – 7+60



BASIN SECTION B–B
0+80 – 4+00

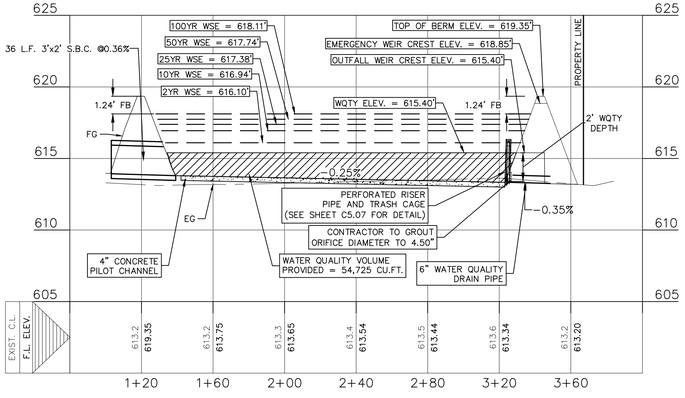


Table 4a - Combined Water Quality and Detention Basin 3 (Unit 1 Conditions)

	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Discharge (cfs)	30.53	98.81	144.07	184.32	230.12
Volume (SQ-FT)	98672.00	145356.00	170959.00	191741.00	214161.00
Water Surface Elevation	616.10	616.94	617.38	617.74	618.11
Freeboard (ft)	3.25	2.41	1.97	1.61	1.24

Table 6 - Combined Water Quality and Detention Basin 3 (Ultimate Conditions)

	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Discharge (cfs)	44.86	108.46	152.04	191.57	236.17
Volume (SQ-FT)	111390.0	150865.0	175210.0	195333.0	217161.0
Water Surface Elevation	616.31	617.04	617.45	617.8	618.16
Freeboard (ft)	3.04	2.31	1.9	1.55	1.19

Table 7 - Ultimate Water Quality Pond Summary

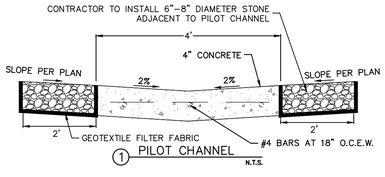
	Colina Ranch Basin 3
Impervious Cover (sf)	1,052,888.8
Required WQ Volume (cuft) = Impervious Cover (1/2" * 1.20)	52,644.4
Provided Water Quality Volume (cuft)	54,725.0
Orifice Outlet Size (in)	4.50

Basin 3 Stage/Storage/Discharge

Stage	Elevation (ft)	Storage (ft^3)	Discharge (ft^3/s)
0.00	613.35	0.00	0.00
0.85	614.00	10,078	0.00
1.85	615.00	45,217	0.00
2.05 (WQTY EL.)	615.40	54,725	0.00
2.85	616.00	94,675	23.99
3.85	617.00	148,504	104.46
4.85	618.00	207,230	216.39
5.85	619.00	270,905	352.55
6.00	619.35	280,959	405.19

Impervious Cover Calculations - Colina Ranch Extended Detention Basin 3

Drainage Area	Total Area (Acres)	Residential Area (Acres)	Impervious Cover (Sq. Ft) ~ (Res. Area * 70%)
3A	31.19	28.66	873,900.72
3B	1.00	1.00	30,492.00
3C	0.74	0.14	4,268.88
4	6.14	4.12	125,627.04
5	1.06	0.61	18,600.12
Total	40.13	34.53	**1,052,888.76**



DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

EXTENDED DETENTION BASIN PLAN

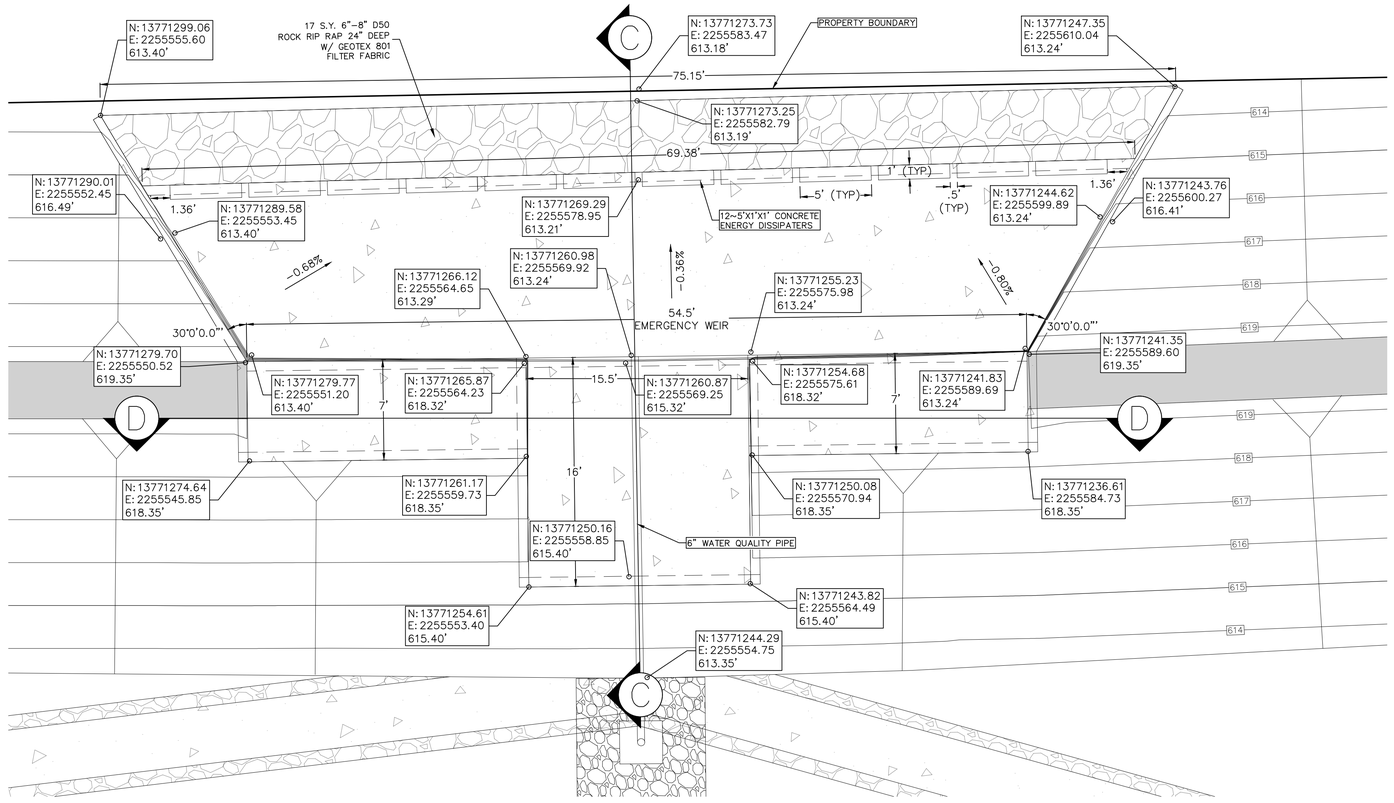
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

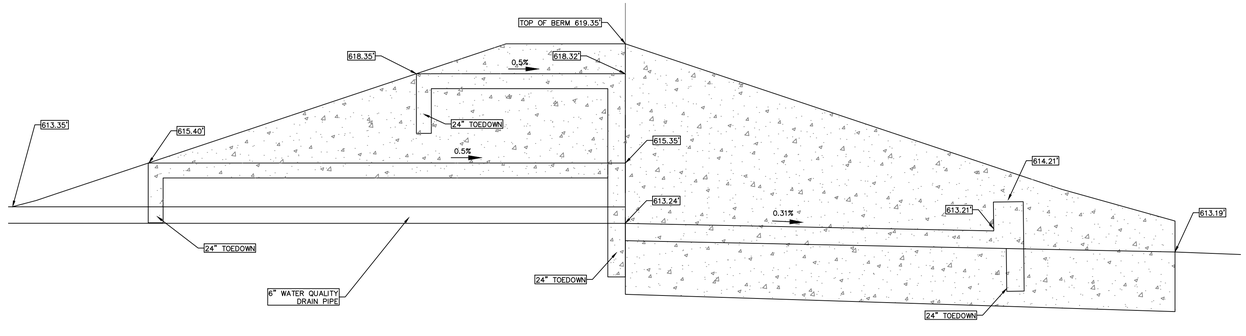
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

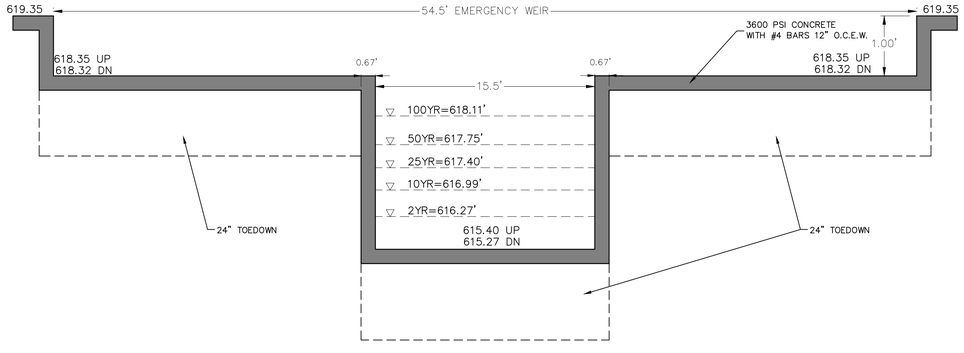
SHEET
C5.05

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\C05\337.110_STRM.dwg User: kamdend Oct 28, 2025 - 10:00am





2 BASIN B OUTFALL SECTION C–C
N.T.S.



2 BASIN B OUTFALL SECTION D–D
N.T.S.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

SCALE: 1" = 5'

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

BASIN DETAILS (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C5.06

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\20s\337.110_STRM.dwg User: kamdend Oct 28, 2025 - 10:00am

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DATE:
FILE:

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

Maximum Wingwall Height Hw	Dimensions W	X	Y	Z	Variable Reinforcing Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Estimated Quantities per ft of wing length (2-wings) (3) 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'
Lw = (Hw - 0.333') (SL)

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

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

Total Wingwall Area (two wings ~ SF) = (Hw + 0.333') (Lw)

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

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

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

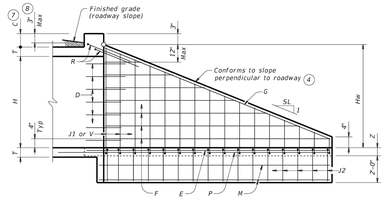
MATERIAL NOTES:

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.

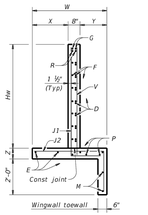
GENERAL NOTES:

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.

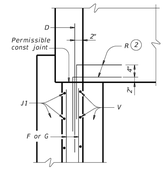
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.



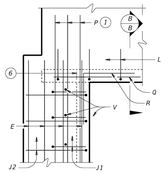
INSIDE ELEVATION
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



SECTION A-A

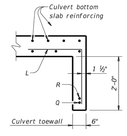


WINGWALL

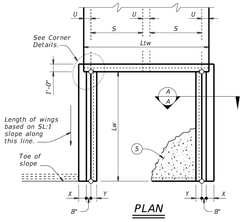


FOOTING AND TOEWALL

CORNER DETAILS



SECTION B-B



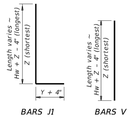
PLAN
(Showing dimensions.)



BARS R

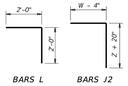


BARS D



BARS J1

BARS V



BARS L

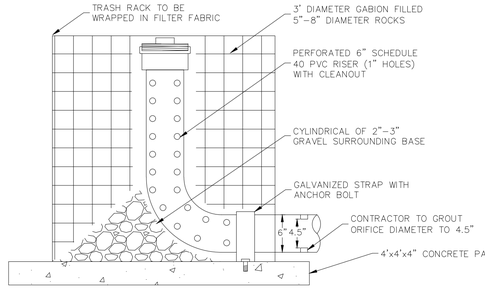
BARS J2

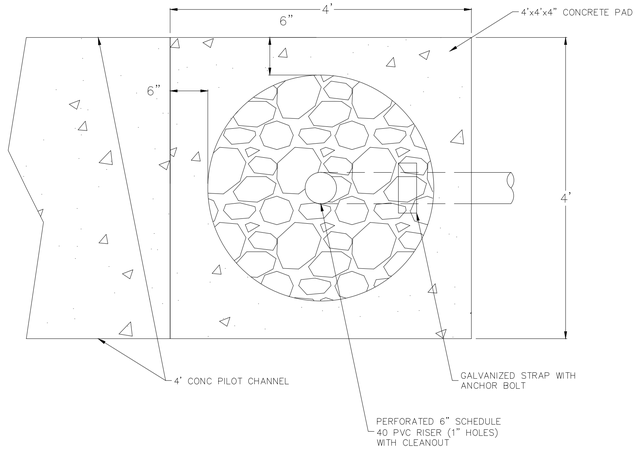
Texas Department of Transportation — Bridge Division Standard

CONCRETE WINGWALLS WITH STRAIGHT WINGS FOR 0° SKEW BOX CULVERTS

SW-O

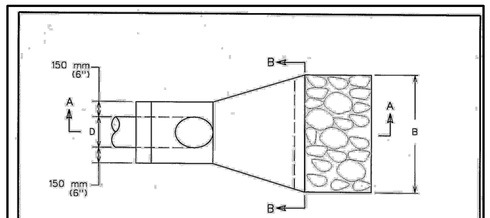
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©TxDOT	February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

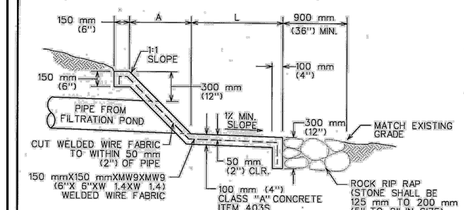




TYP. PERFORATED PIPE IN ROCK GABION

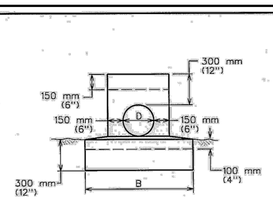
NOT-TO-SCALE





SECTION A - A

CITY OF AUSTIN — DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.	STANDARD NO.
George E. Lowell 3/15/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-15 1 OF 2



SECTION B - B

A	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	675 mm (27")
B	750 mm (30")	800 mm (32")	850 mm (34")	1.05 m (42")	1.27 m (51")
D	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	375 mm (15")
L	600 mm (24")	600 mm (24")	750 mm (30")	900 mm (36")	1.2 m (48")

CITY OF AUSTIN — DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.	STANDARD NO.
George E. Lowell 3/15/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-15 2 OF 2

Table 10 - Water Quality Drain Time Calculation*

100 Year WSE	618.11
Bottom of Pond	613.35
Top of SWQ	615.40
SWQ Depth	2.05
Size SWQ Orifice (ft)	0.375
Area of openings (sf)	0.11
Effective Head for 1/2 drainage H_0 (Assumes WQ Pond is 3/4 full)	1.35
Effective Head for full drainage H_0 (Assumes WQ Pond is 1/2 full)	0.84
Volume of SWQ (CF)	54,725
1/2 SWQ Volume (CF)	27,363
1/2 Drainage Average Discharge Rate (cfs)	0.62
Time to drain 1/2 WQV (hr)	**12.3**
Time to Drain half WQV Over 12 Hours?	**Yes**
Full Drainage Average Discharge Rate (cfs)	0.49
Time to Drain Full WQV (hr)	**31.2**
Time to Drain Full WQV Over 24 Hours?	**Yes**
Total Pond Volume Drain Time Calculation**	
Head above Weir Crest (ft)	2.71
Broad-Crested Weir Length (ft)	15.50
Broad-Crested Weir Coefficient	2.60
Total Detention Volume of Pond (cf)	226,234
Total Pond Average Discharge Rate (cfs)	179.79
Time to Drain Total Volume (hr)	**31.60**
Required Time to Drain less than 36 hours?	Yes

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

BASIN DETAILS (2 OF 2)

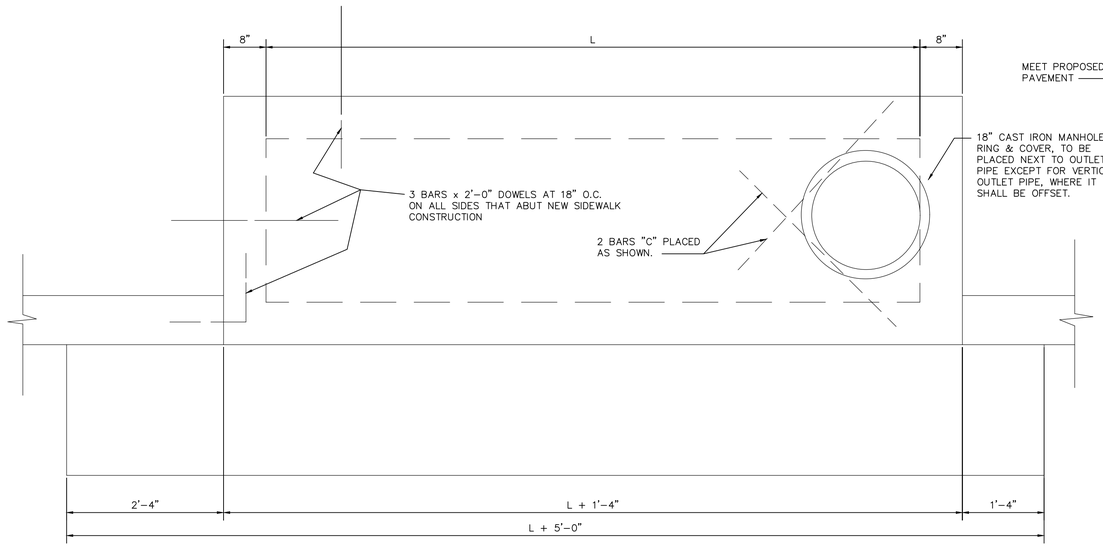
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: 337.110

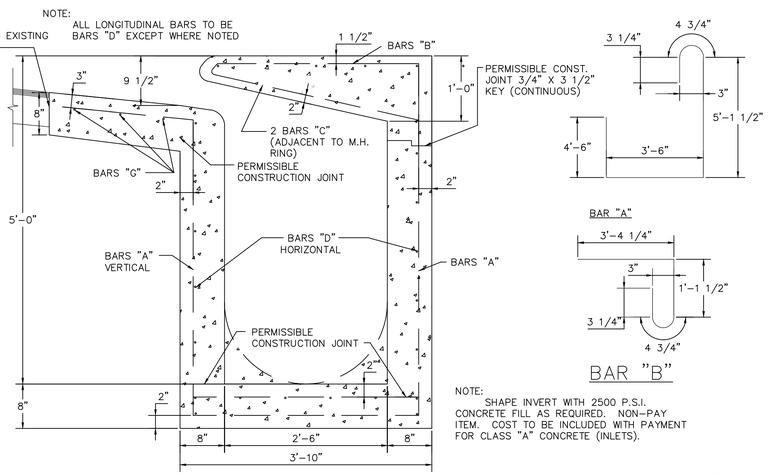
SHEET
C5.07

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\CDs\337.110_STRM.dwg User: kamdend Oct 28, 2025 - 3:10pm



PLAN VIEW

SCALE: N.T.S.

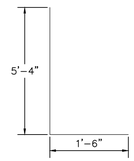


SECTION A-A

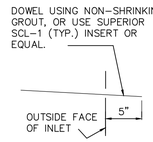
SCALE: N.T.S.

BAR "B"

NOTE:
SHAPE INVERT WITH 2500 P.S.I. CONCRETE FILL AS REQUIRED. NON-PAY ITEM. COST TO BE INCLUDED WITH PAYMENT FOR CLASS "A" CONCRETE (INLETS).



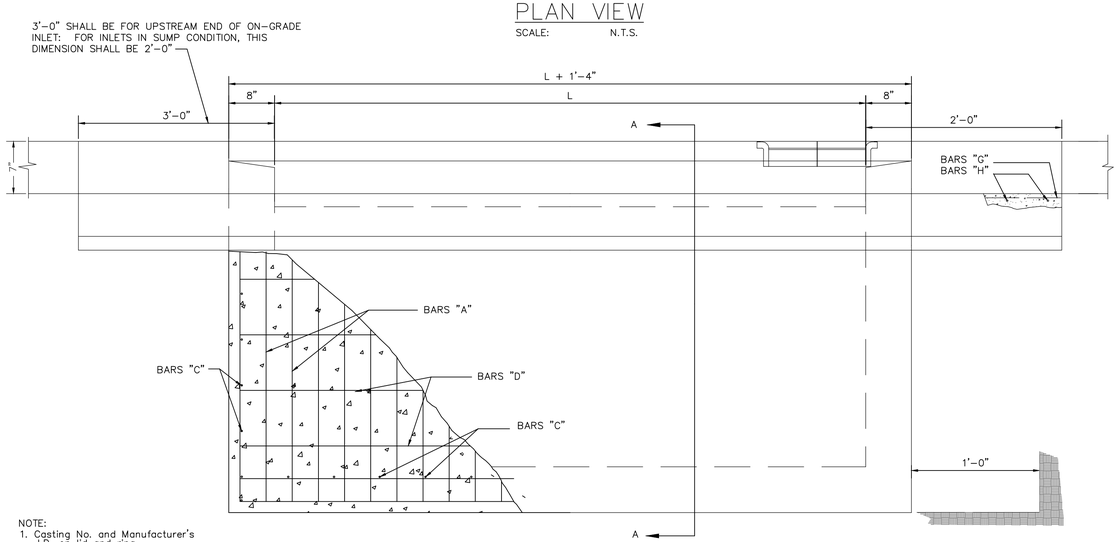
BAR "E"



BAR "F"

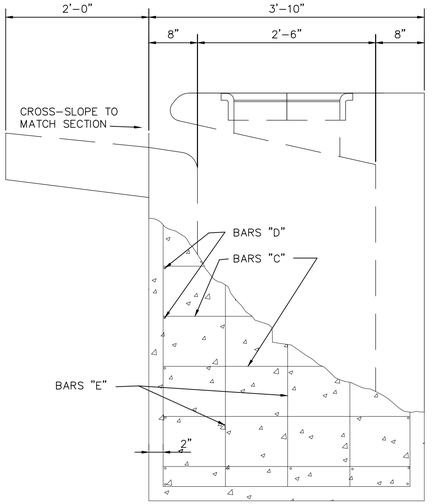
Reinforcing Steel Schedule						
	BAR	NO.	SIZE	SPA.	LENGTH	WEIGHT
L=5'-00"	A	15	4	5"OC	13"-9 1/2"	138
	B	15	4	5"	5'-1"	52
	C	23	4	9"	3'-6"	54
	D	22	4	10"	6'-1"	89
	E	10	4	10 1/2"	6'-10"	46
	F	6	5	12"	2'-3"	14
	G	3	4	12"	9'-8"	20
	H	5	5	12"	1'-8"	9
*CONCRETE TOTAL=353 CY. MANHOLE CASTING=100 LBS. STEEL TOTAL=422 LBS.						
10'	A	27	4	5"OC	13"-9 1/2"	249
	B	27	4	5"	5'-1"	93
	C	30	4	9"	3'-6"	70
	D	22	4	10"	11'-1"	163
	E	10	4	10 1/2"	6'-10"	46
	F	12	5	12"	2'-3"	27
	G	3	4	12"	14'-8"	30
	H	5	5	12"	1'-8"	9
*CONCRETE TOTAL=5.75CY MANHOLE CASTING=100LBS. STEEL TOTAL=687LBS						
15'	A	39	4	5"OC	13"-9 1/2"	359
	B	39	4	5"	5'-1"	134
	C	36	4	9"	3'-6"	84
	D	22	4	10"	16'-1"	236
	E	10	4	10 1/2"	6'-10"	46
	F	17	5	12"	2'-3"	38
	G	3	4	12"	19'-8"	40
	H	5	5	12"	1'-8"	9
*CONCRETE TOTAL=7.97CY. MANHOLE CASTING=100LBS STEEL TOTAL=946LBS						
20'	A	51	4	5"OC	13"-9 1/2"	470
	B	51	4	5"	5'-1"	175
	C	43	4	9"	3'-6"	101
	D	22	4	10"	6'-1"	310
	E	10	4	10 1/2"	6'-10"	46
	F	22	5	12"	2'-3"	50
	G	3	4	12"	9'-8"	50
	H	5	5	12"	1'-8"	9
*CONCRETE TOTAL=10.19CY MANHOLE CASTING=100LBS STEEL TOTAL=1211LBS						
25'	A	63	4	5"OC	13"-9 1/2"	580
	B	63	4	5"	5'-1"	217
	C	50	4	9"	3'-6"	117
	D	22	4	10"	6'-1"	383
	E	10	4	10 1/2"	6'-10"	46
	F	27	5	12"	2'-3"	61
	G	3	4	12"	9'-8"	60
	H	5	5	12"	1'-8"	9
*CONCRETE TOTAL=12.41CY. MANHOLE CASTING=100LBS STEEL TOTAL=1473LB						
30'	A	75	4	5"OC	13"-9 1/2"	691
	B	75	4	5"	5'-1"	258
	C	56	4	9"	3'-6"	131
	D	22	4	10"	6'-1"	457
	E	10	4	10 1/2"	6'-10"	46
	F	32	5	12"	2'-3"	72
	G	3	4	12"	9'-8"	70
	H	5	5	12"	1'-8"	9
*CONCRETE TOTAL=14.63CY MANHOLE CASTING=100LBS STEEL TOTAL=1734LB						

*These figures do not exclude concrete and steel intercepted by Manhole and Reinforced Concrete Pipe.
*Includes concrete gutter for on-grade inlet. Reduce by .05 cy for inlets in sump.



FRONT VIEW

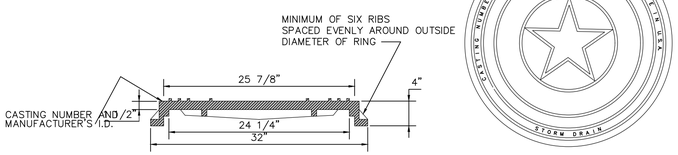
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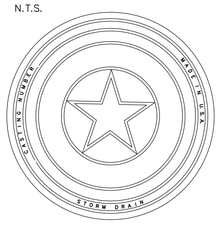


SIDE VIEW

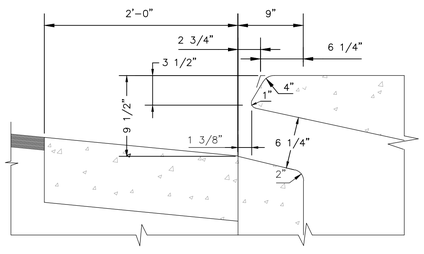
SCALE: N.T.S.

NOTE:
1. Casting No. and Manufacturer's I.D. on lid and ring.
2. Load bearing capability of N-20 minimum.
3. The load bearing surface shall be machine ground.
4. The combined weight of the manhole ring and cover must be at least 260 lbs.

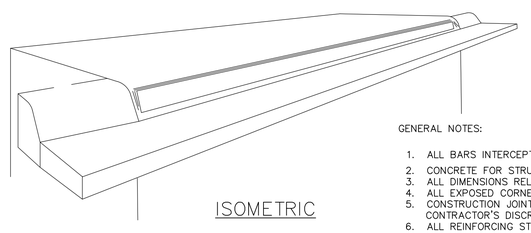




MANHOLE RING & COVER DETAILS



OPENING DETAIL FOR CURB SECTION



ISOMETRIC

GENERAL NOTES:

1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 P.S.I. IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4"
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION. ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A-615, GRADE 60.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

STORM DETAILS (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C5.08

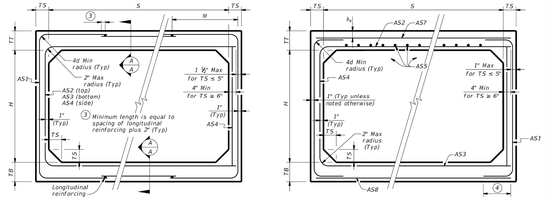
Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03s\337.110_STRM DETAILS.dwg User: kamsland Oct 28, 2025 - 10:00am

BOX DAT.A

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) ②						① Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
3	2	7	6	4	< 2	-	0.17	0.25	0.16	0.10	0.17	0.17	0.14	3.1
3	2	4	4	4	2 < 3	31	0.13	0.19	0.18	0.10	-	-	-	2.4
3	2	4	4	4	3 - 5	31	0.10	0.11	0.12	0.10	-	-	-	2.4
3	2	4	4	4	10	31	0.10	0.10	0.10	0.10	-	-	-	2.4
3	2	4	4	4	15	31	0.10	0.13	0.13	0.10	-	-	-	2.4
3	2	4	4	4	20	31	0.11	0.17	0.17	0.10	-	-	-	2.4
3	2	4	4	4	25	31	0.14	0.21	0.21	0.10	-	-	-	2.4
3	2	4	4	4	30	31	0.17	0.25	0.25	0.10	-	-	-	2.4
3	2	4	4	4	35	31	0.20	0.29	0.30	0.10	-	-	-	2.4
3	3	7	6	4	< 2	-	0.17	0.27	0.17	0.10	0.17	0.17	0.14	3.7
3	3	4	4	4	2 < 3	31	0.10	0.22	0.21	0.10	-	-	-	2.8
3	3	4	4	4	3 - 5	31	0.10	0.14	0.14	0.10	-	-	-	2.8
3	3	4	4	4	10	31	0.10	0.11	0.11	0.10	-	-	-	2.8
3	3	4	4	4	15	31	0.10	0.14	0.15	0.10	-	-	-	2.8
3	3	4	4	4	20	31	0.10	0.18	0.19	0.10	-	-	-	2.8
3	3	4	4	4	25	31	0.10	0.23	0.23	0.10	-	-	-	2.8
3	3	4	4	4	30	31	0.12	0.27	0.28	0.10	-	-	-	2.8
3	3	4	4	4	35	31	0.14	0.32	0.32	0.10	-	-	-	2.8

① For box length = 8'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

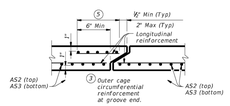


CORNER OPTION "A" CORNER OPTION "B" CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER

FILL HEIGHT LESS THAN 2 FT

④ Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING

Texas Department of Transportation | Bridge Division Standard

SINGLE BOX CULVERTS PRECAST 3'-0" SPAN

SCP-3

FILE:	sc3dxts-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020		CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

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DATE FILE

| MAX DEPTH = 15 ft. to top of BASE SLAB | | | | | |

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD (WATER)	(830)-914-2331
GUADALUPE-BLANCO RIVER AUTHORITY (SEWER)	(830)-379-5822
GVEC (ELECTRIC)	(830)-223-4832
TIME WARNER CABLE	(830)-625-3408
Damaged Lines	(888)-876-5786
AT&T	(830)-303-1333
Texas One Call	(830)-545-6005

CONTRACTOR SHALL REFERENCE GVEC PLAN FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

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.

COLINA RANCH UNIT 1 QUANITIES

QUANTITY	UNIT	ITEM
6427	LF	16" WATER MAIN
3	EA	16"X8" CROSS
1	EA	16" TEE
35	EA	16" GATE VALVE
687	LF	8" WATER MAIN
6	EA	8" GATE VALVE
24	EA	¾" LONG DUAL WATER SERVICE
1	EA	¾" LONG SINGLE WATER SERVICE
18	EA	¾" SHORT DUAL WATER SERVICE
10	EA	¾" SHORT SINGLE WATER SERVICE
13	EA	FIRE HYDRANT ASSEMBLY
1	EA	2" PERMANENT BLOW-OFF ASSEMBLY
7	EA	2" TEMPORARY BLOW-OFF ASSEMBLY
3	EA	AIR RELEASE VALVE ASSEMBLY

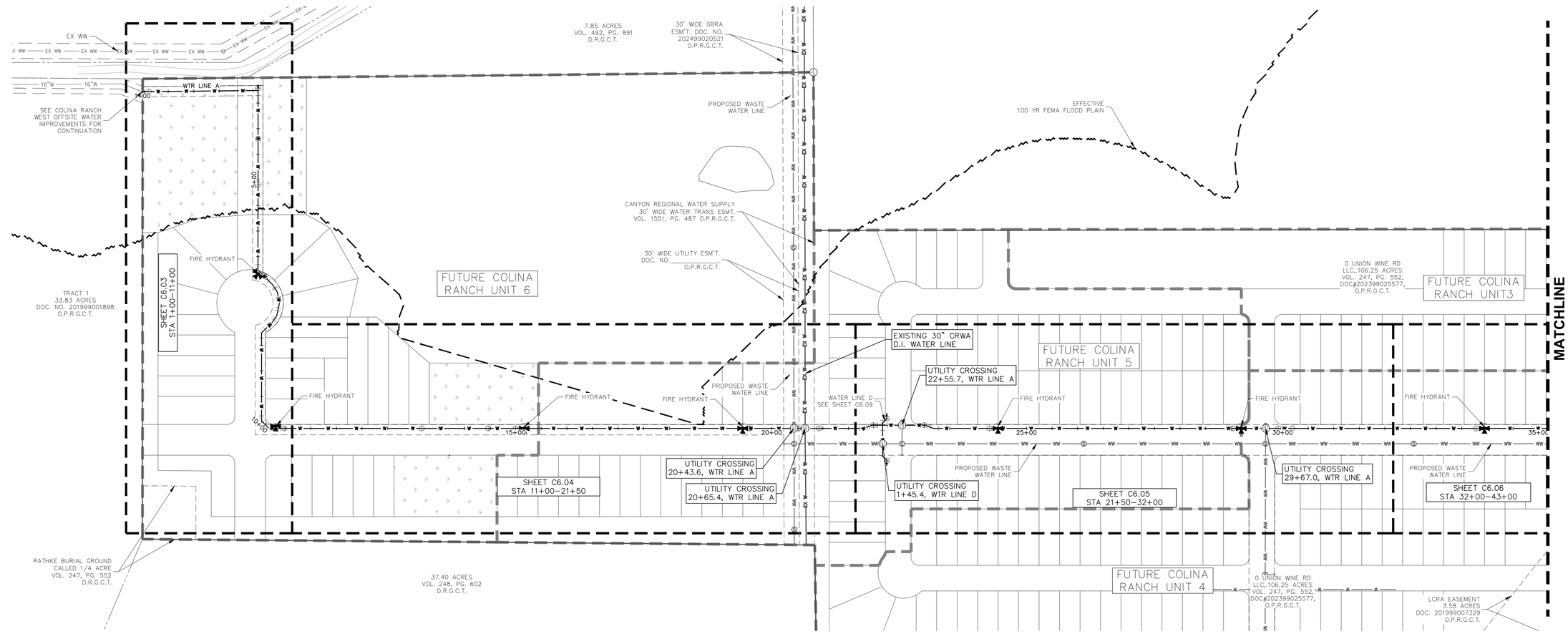
EDU COUNT

LOTS	SERVICES	EDU
95	95	95

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX W — EX W — EXISTING WATER LINE
- EX WW — EX WW — EXISTING WASTE WATER LINE
- W — W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING
- FIRE HYDRANT

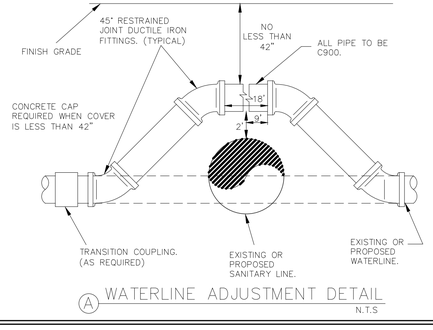
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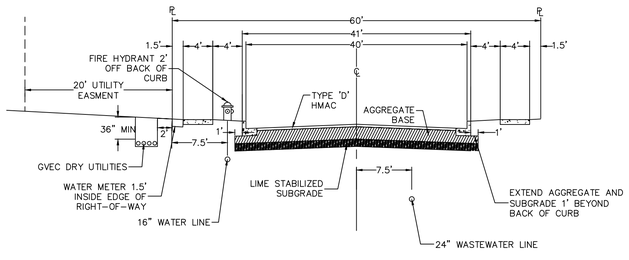
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THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOIN ON EACH END. THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.



A WATERLINE ADJUSTMENT DETAIL
N.T.S



TYPICAL UTILITY ASSIGNMENTS

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
4. MOISTURE DENSITY COMPACTION TESTING FREQUENCY-WATER MAIN TRENCHES REQUIRED 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
5. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
6. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM BACK OF CURB.
7. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
8. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
9. 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.
10. WATER MAINS GREATER THAN 16" SHALL HAVE AN ABSOLUTE MINIMUM OF 48-INCHES IN ALL AREAS.
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REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

OVERALL WATER (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	OCTOBER 2025
DRAWN BY:	AE
DESIGNED BY:	WRC
REVIEWED BY:	MTA
HMT PROJECT NO.:	337.110

SHEET
C6.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\CDs\337.110_WATR OVERALL.dwg User: kamdeed Oct 28, 2025 - 10:01am

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD (WATER)	(830)–914–2331
GUADALUPE–BLANCO RIVER AUTHORITY (SEWER)	(830)–379–5822
GVEC (ELECTRIC)	(830)–223–4832
TIME WARNER CABLE	(830)–625–3408
Damaged Lines	(888)–876–5786
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Texas One Call	(830)–545–6005

CONTRACTOR SHALL REFERENCE GVEC PLAN FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1–800–545–6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1–800–545–6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

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 SERWICE 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.

COLINA RANCH UNIT 1 QUANITIES

QUANTITY	UNIT	ITEM
6427	LF	16" WATER MAIN
3	EA	16"X8" CROSS
1	EA	16" TEE
35	EA	16" GATE VALVE
687	LF	8" WATER MAIN
6	EA	8" GATE VALVE
24	EA	¾" LONG DUAL WATER SERVICE
1	EA	¾" LONG SINGLE WATER SERVICE
18	EA	¾" SHORT DUAL WATER SERVICE
10	EA	¾" SHORT SINGLE WATER SERVICE
13	EA	FIRE HYDRANT ASSEMBLY
1	EA	2" PERMANENT BLOW–OFF ASSEMBLY
7	EA	2" TEMPORARY BLOW–OFF ASSEMBLY
3	EA	AIR RELEASE VALVE ASSEMBLY

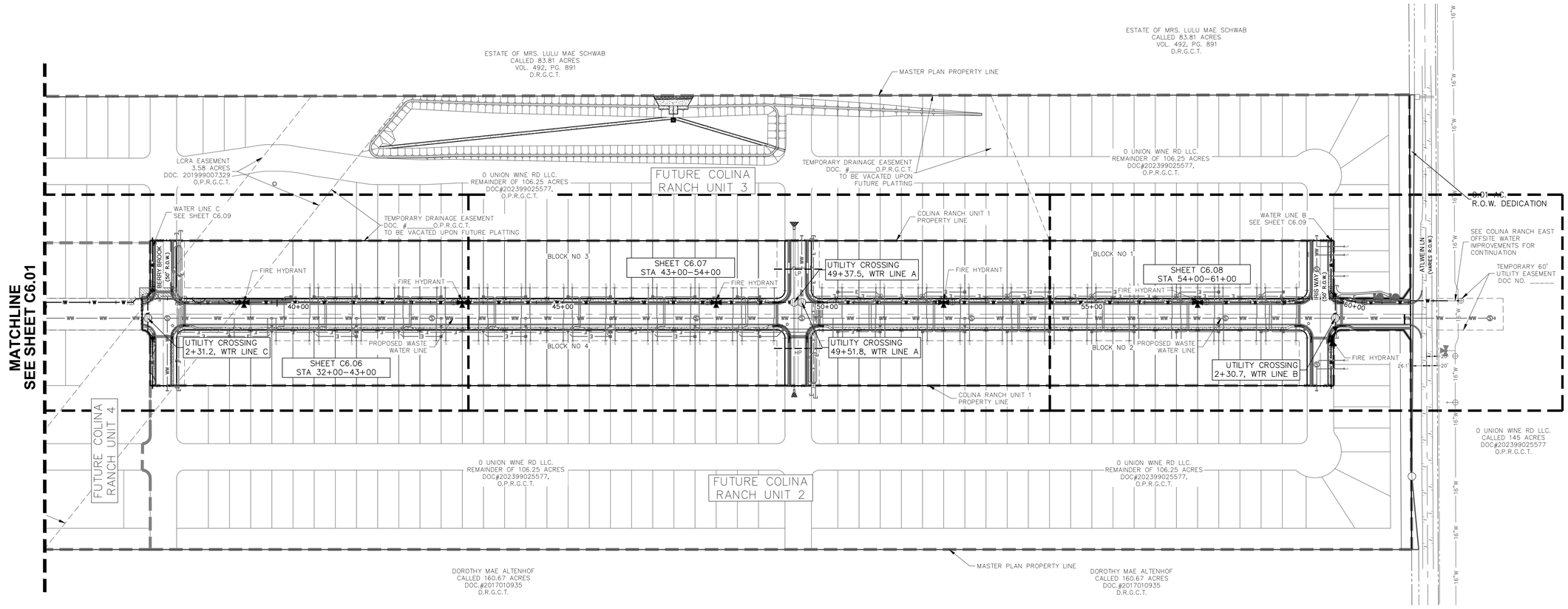
EDU COUNT

LOTS	SERVICES	EDU
95	95	95

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX W — EXISTING WATER LINE
- EX WW — EXISTING WASTE WATER LINE
- W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING
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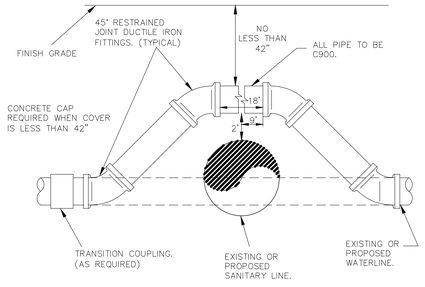
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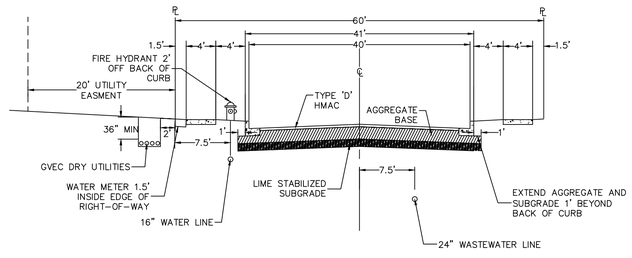
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A WATERLINE ADJUSTMENT DETAIL
N.T.S



TYPICAL UTILITY ASSIGNMENTS

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LCRA NOTES:

1. USE OF LCRA EASEMENTS AS A TEMPORARY WORKSPACE SHALL NOT AT ANY TIME IMPEDE ACCESS TO LCRA TSC ROW.
2. TRENCHING WITHIN 30 FEET OF ANY STRUCTURE IS NOT PERMITTED.
3. VISIBLE UNDERGROUND ELECTRIC/WATER MARKERS SHALL BE PROVIDED AT ALL SIDES OF ROW/EASEMENT WHERE UNDERGROUND UTILITIES SHALL BE INSTALLED.
4. PROVIDE UNDERGROUND WARNING TABLE ALONG ALL PROPOSED UTILITIES.
5. PROVIDE HS–20 RATED CONDUITS FOR ALL UNDERGROUND UTILITY CROSSINGS.

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HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

OVERALL WATER (2 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C6.02

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\C0s\337110_WATR OVERALL.dwg User: kamdend Oct 28, 2025 – 10:01am

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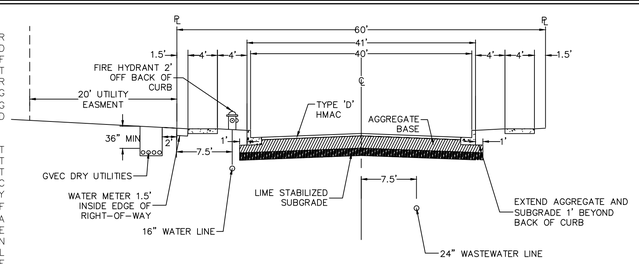
UTILITY TRENCH COMPACTION (DEEP)

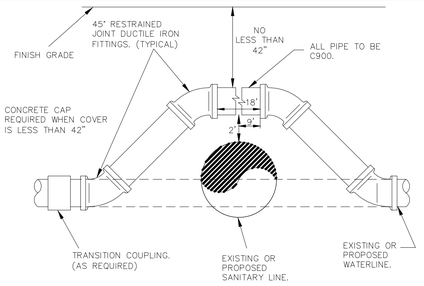
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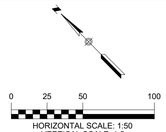
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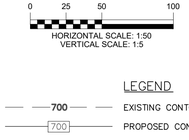


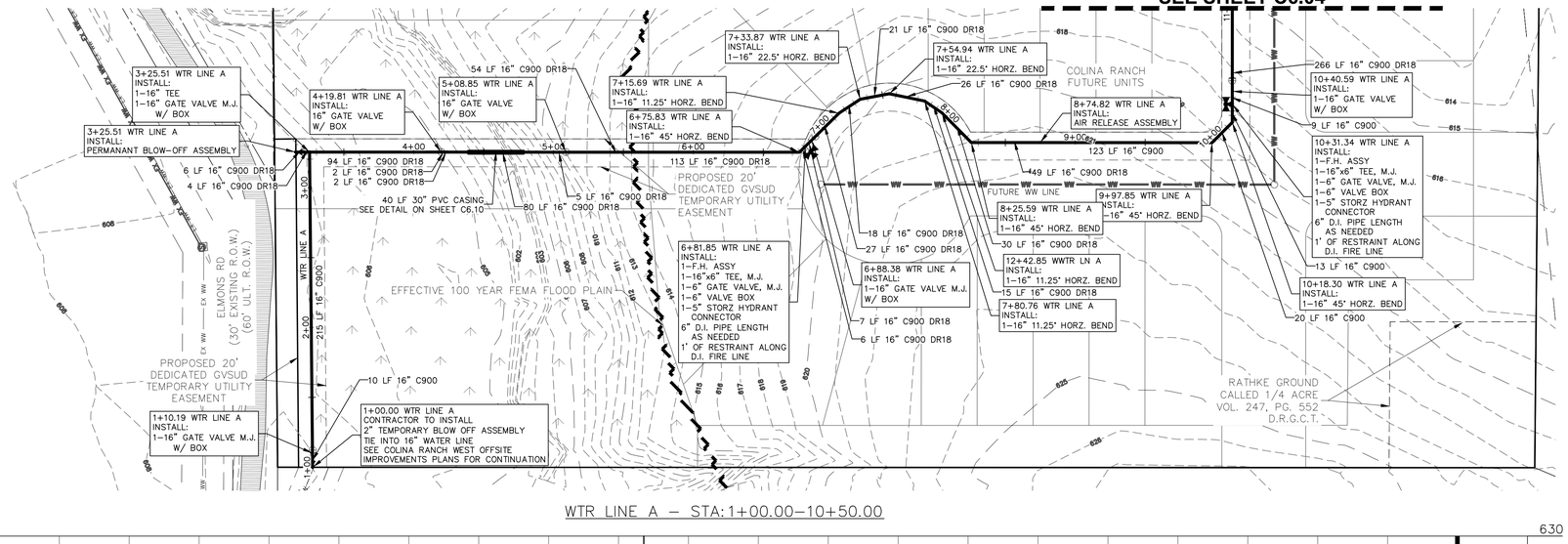


TYPICAL UTILITY ASSIGNMENTS

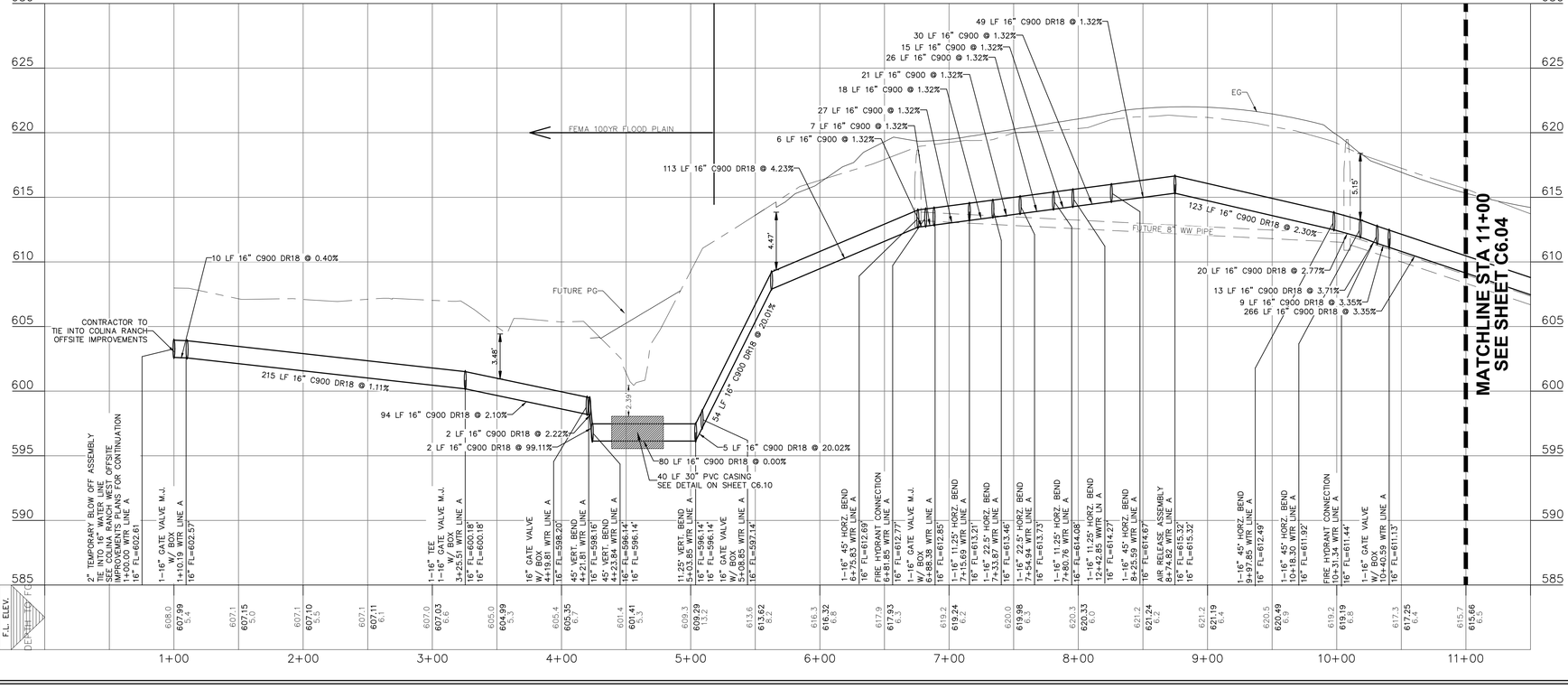
(A) WATERLINE ADJUSTMENT DETAIL

N.T.S





WTR LINE A – STA:1+00.00–10+50.00



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

Required Restraints

Water Line	Pipe Size	STA Begin	STA End	Length (ft)
A	16"	1+00.00	11+00.00	1000.00

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

WATER LINE A PLAN & PROFILE (1 OF 6)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C6.03

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\20s\337.110_WATR LINE A P&P (1-3).dwg User: samdend Oct 28, 2025 – 10:02am

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.

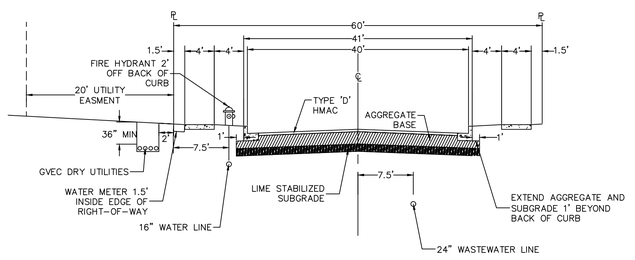
UTILITY TRENCH COMPACTION (DEEP)

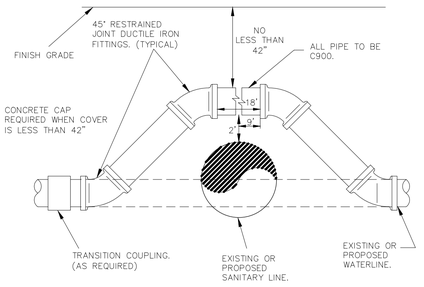
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TCEQ WATER MAIN/ WASTEWATER CROSSING NOTES:

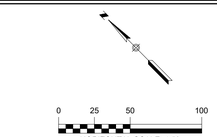
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THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOIN ON EACH END. THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.





TYPICAL UTILITY ASSIGNMENTS



LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX W — EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
4. MOISTURE DENSITY COMPACTION TESTING FREQUENCY-WATER MAIN TRENCHES REQUIRED 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
5. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
6. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM BACK OF CURB.
7. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
8. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
9. 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.
10. WATER MAINS GREATER THAN 16" SHALL HAVE AN ABSOLUTE MINIMUM OF 48-INCHES IN ALL AREAS.
11. WATER MAINS ≤ 12" SHALL HAVE A MINIMUM 42" BELOW ROADWAY LEVEL AND 36" IN ALL OTHER AREAS.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD (WATER)
(830)-914-2331
GUADALUPE-BLANCO RIVER AUTHORITY (SEWER)
(830)-379-5822
GVEC (ELECTRIC)
(830)-223-4832
TIME WARNER CABLE
(830)-625-3408
Damaged Lines
(888)-876-5786
AT&T
(830)-303-1333
Texas One Call
(830)-545-6005
CONTRACTOR SHALL REFERENCE GVEC PLAN FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

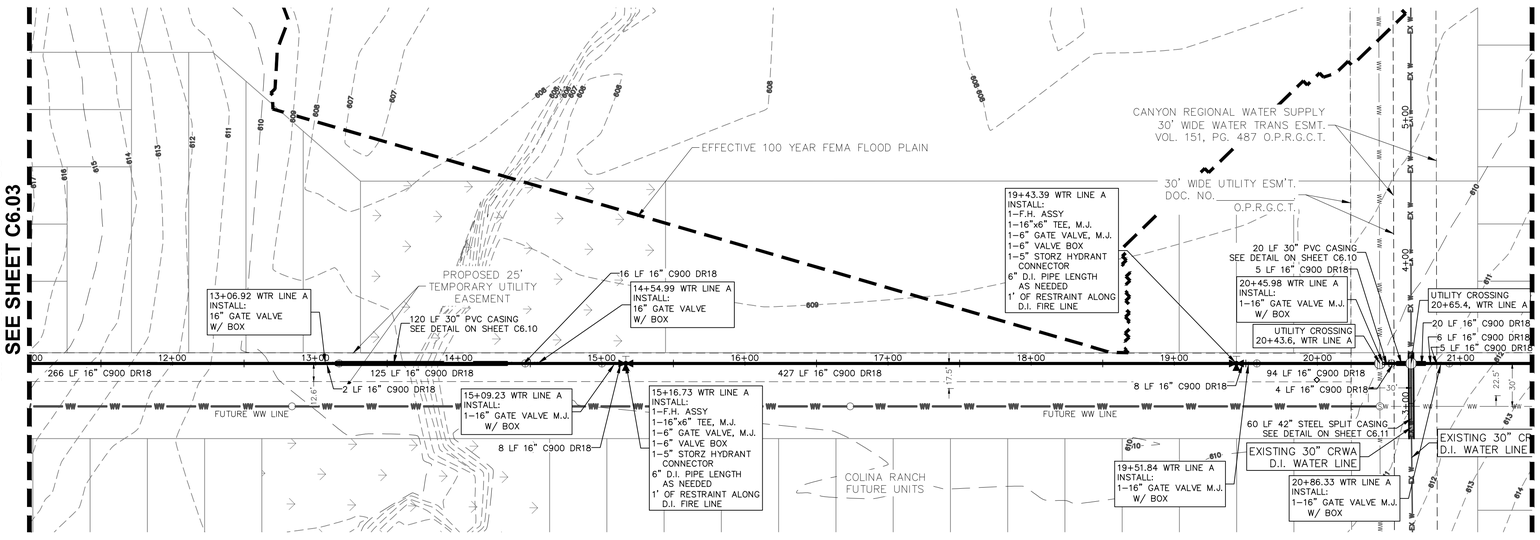
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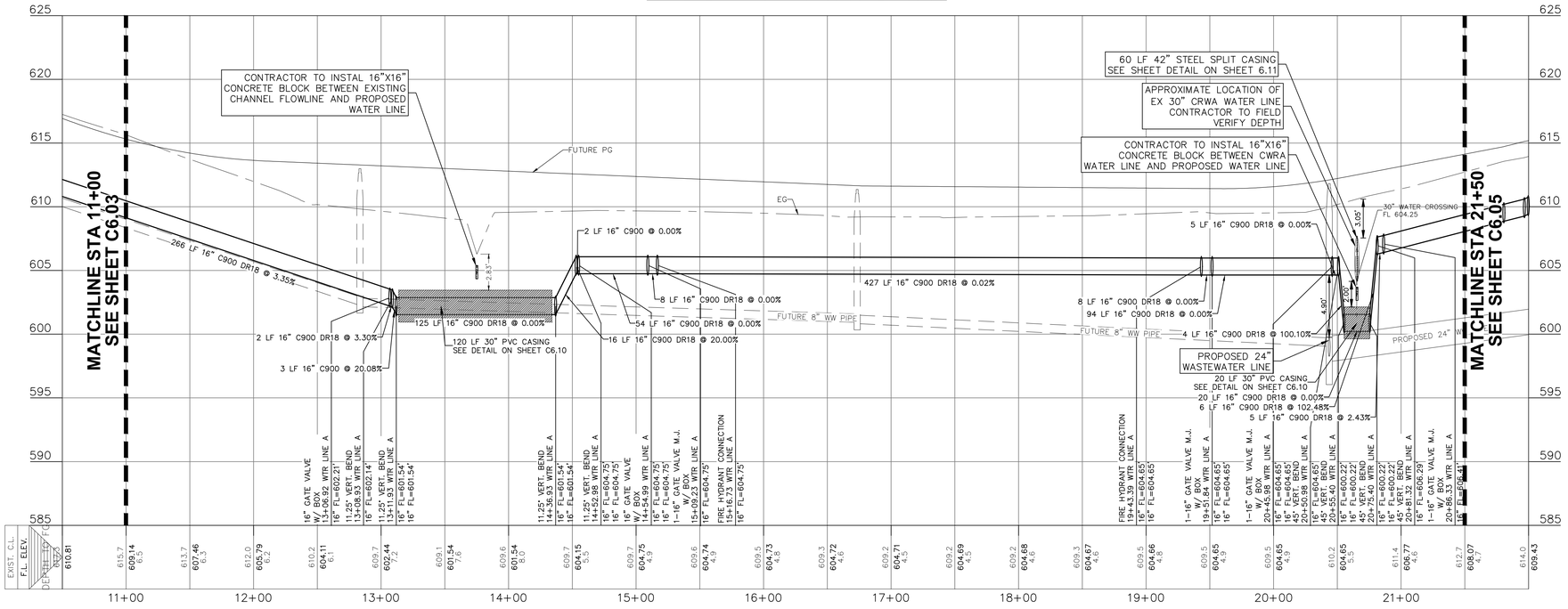
Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
A	16"	11+00.00	16+51.22	551.22
A	16"	18+09.84	21+50.00	340.16

A WATERLINE ADJUSTMENT DETAIL

N.T.S



WTR LINE A - STA:10+50.00-21+50.00



REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

WATER LINE A PLAN & PROFILE (2 OF 6)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.04

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\20s\337.110_WATR LINE A P&P (1-3).dwg User: ramdeed Oct 28, 2025 - 10:02am

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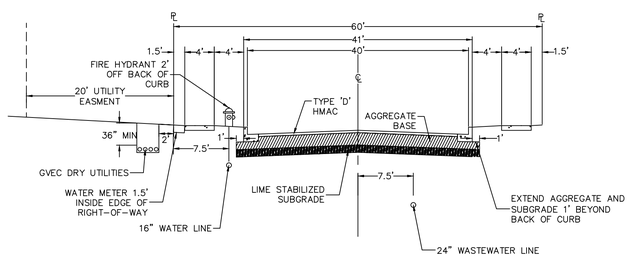
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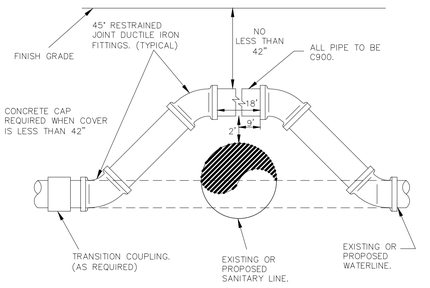
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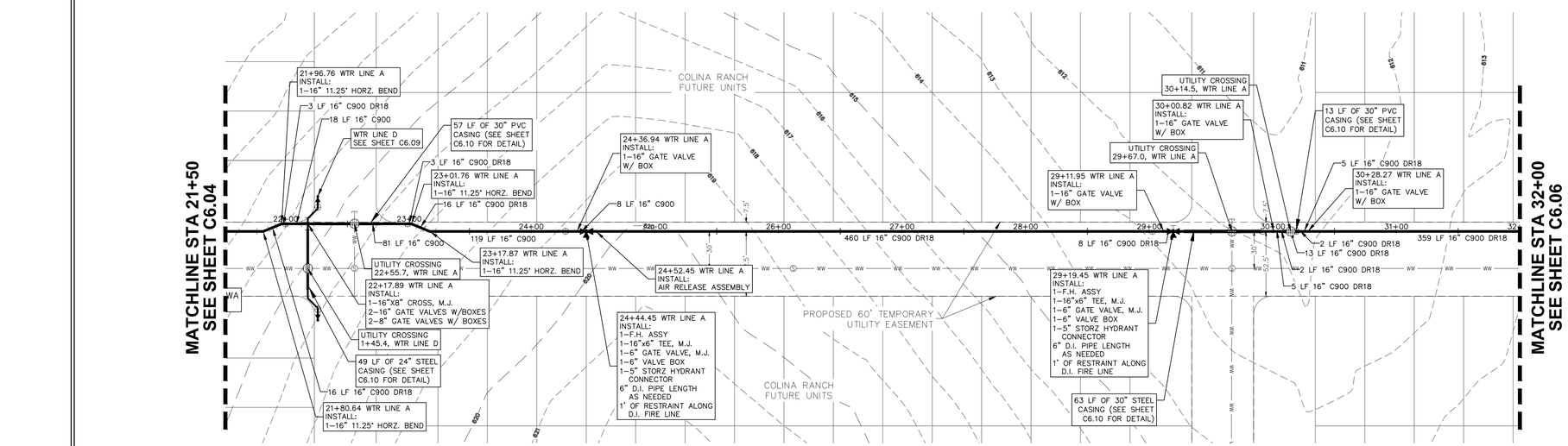
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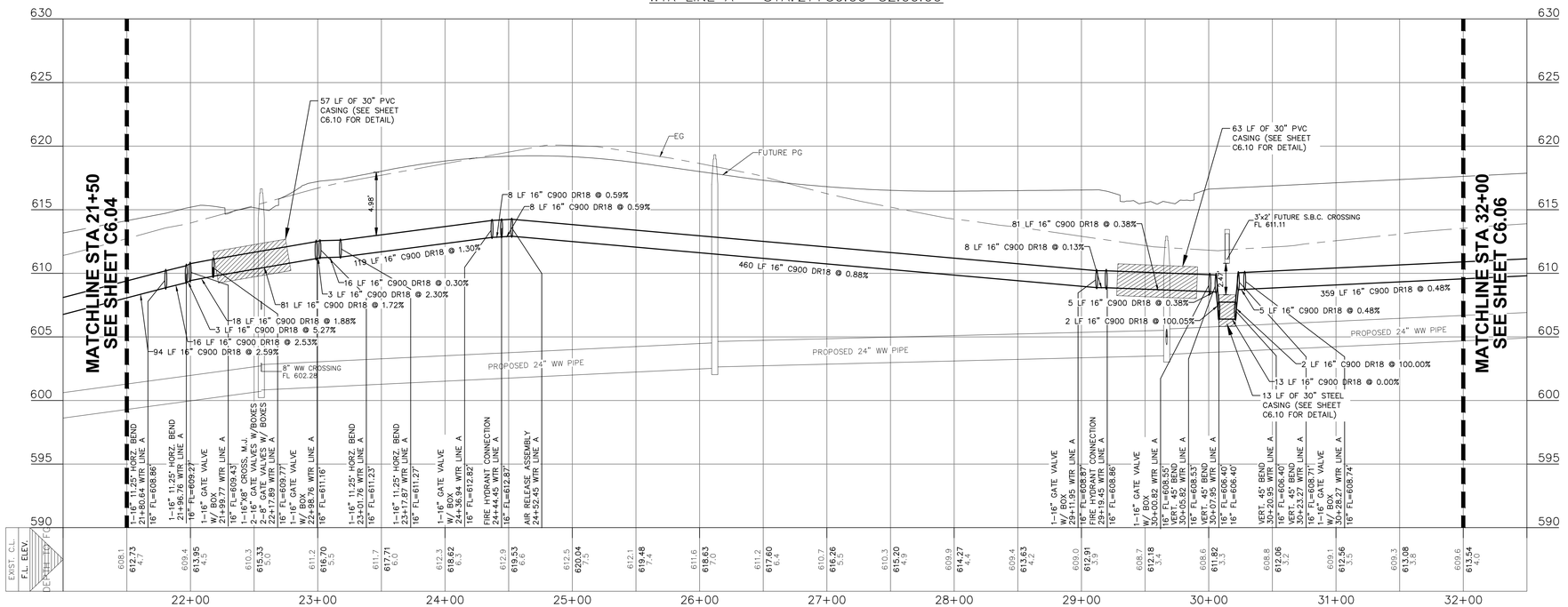
TYPICAL UTILITY ASSIGNMENTS



Ⓐ WATERLINE ADJUSTMENT DETAIL
N.T.S



WTR LINE A – STA: 21+50.00–32.00.00



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GUADALUPE–BLANCO RIVER AUTHORITY (SEWER)	(830)–379–5822
GVEC (ELECTRIC)	(830)–223–4832
TIME WARNER CABLE	(830)–625–3408
Damaged Lines	(888)–876–5786
AT&T	(830)–303–1333
Texas One Call	(830)–545–6005

CONTRACTOR SHALL REFERENCE GVEC PLAN FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT

C.P.E. LOCATOR

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Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
A	16"	21+50.00	25+78.94	428.94
A	16"	27+69.95	31+70.27	400.32

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0 25 50 100
HORIZONTAL SCALE: 1:50
VERTICAL SCALE: 1:5

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EX W — EX W — EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

WATER LINE A PLAN & PROFILE (3 OF 6)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.05

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\C6x\337.110_WATR LINE A P&P (1–3).dwg User: kamberd Oct 28, 2025 – 10:02am

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.

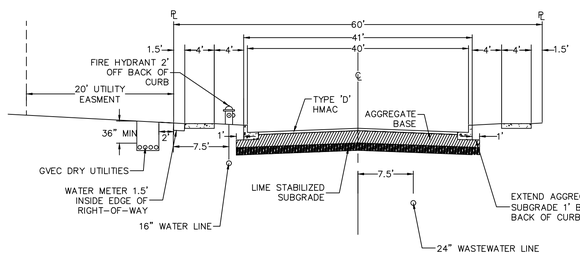
UTILITY TRENCH COMPACTION (DEEP)

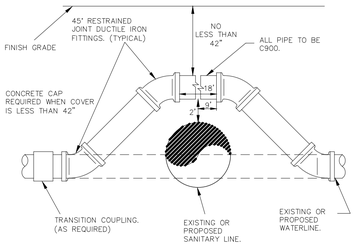
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TCEQ WATER MAIN/ WASTEWATER CROSSING NOTES:

WHERE A POTABLE WATERLINE CROSSES A WASTEWATER MAIN OR LATERAL ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER MAIN OR LATERAL AT THE CROSSING SHALL BE PRESSURE RATED PIPE (ASTM 224) WITH A MINIMUM RATING OF 160 PSI, WHENEVER POSSIBLE THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL.

THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOIN ON EACH END. THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.





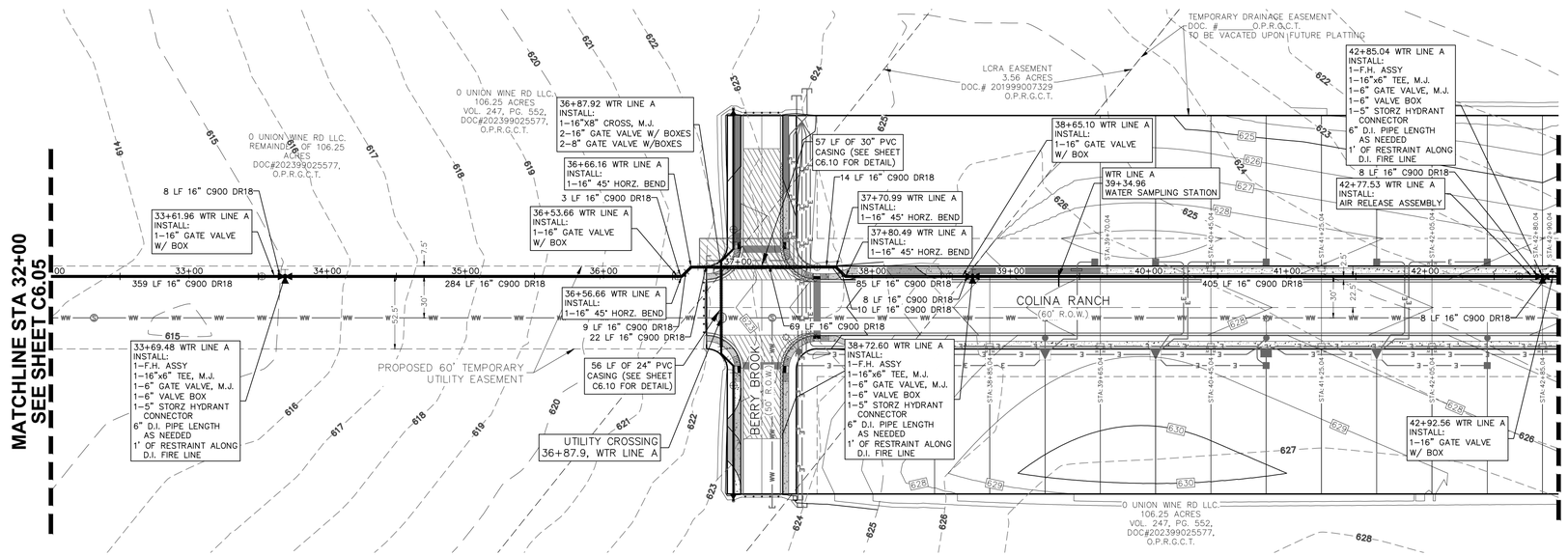
A WATERLINE ADJUSTMENT DETAIL
N.T.S

LEGEND

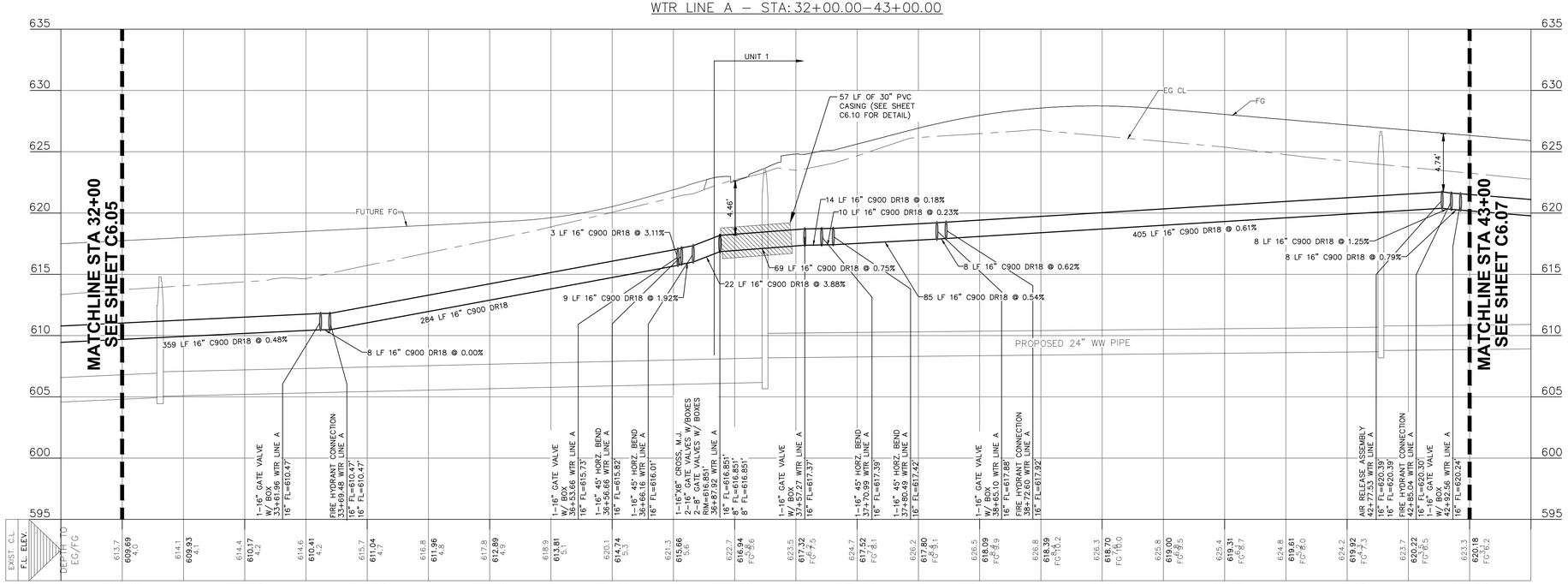
- 700 — EXISTING CONTOURS
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- D.E. — DRAINAGE EASEMENT
- EX W — EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING

0 25 50 100
HORIZONTAL SCALE: 1:50
VERTICAL SCALE: 1:5

TYPICAL UTILITY ASSIGNMENTS



WTR LINE A – STA: 32+00.00–43+00.00



UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
4. MOISTURE DENSITY COMPACTION TESTING FREQUENCY–WATER MAIN TRENCHES REQUIRED 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
5. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION–VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
6. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM BACK OF CURB.
7. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
8. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
9. 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.
10. WATER MAINS GREATER THAN 16" SHALL HAVE AN ABSOLUTE MINIMUM OF 48–INCHES IN ALL AREAS.
11. WATER MAINS ≤ 12" SHALL HAVE A MINIMUM 42" BELOW ROADWAY LEVEL AND 36" IN ALL OTHER AREAS.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD (WATER)	(830)–914–2331
GUADALUPE–BLANCO RIVER AUTHORITY (SEWER)	(830)–379–5822
GVEC (ELECTRIC)	(830)–223–4832
TIME WARNER CABLE	(830)–625–3408
Damaged Lines	(888)–876–5786
AT&T	(830)–303–1333
Texas One Call	(830)–545–6005

CONTRACTOR SHALL REFERENCE GVEC PLAN FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1–800–545–6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1–800–545–6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

LCRA NOTES:

1. USE OF LCRA EASEMENTS AS A TEMPORARY WORKSPACE SHALL NOT AT ANY TIME IMPEDE ACCESS TO LCRA TSC ROW.
2. TRENCHING WITHIN 30 FEET OF ANY STRUCTURE IS NOT PERMITTED.
3. VISIBLE UNDERGROUND ELECTRIC/WATER MARKERS SHALL BE PROVIDED AT ALL SIDES OF ROW/EASEMENT WHERE UNDERGROUND UTILITIES SHALL BE INSTALLED.
4. PROVIDE UNDERGROUND WARNING TABLE ALONG ALL PROPOSED UTILITIES.
5. PROVIDE HS–20 RATED CONDUITS FOR ALL UNDERGROUND UTILITY CROSSINGS.

Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
A	16"	32+19.96	40+07.09	787.13
A	16"	41+35.53	43+00.00	164.47

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

WATER LINE A PLAN & PROFILE (4 OF 6)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.06

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03a\337110_WATR LINE A P&P (4-6).dwg User: kamdend Oct 28, 2025 - 10:03am

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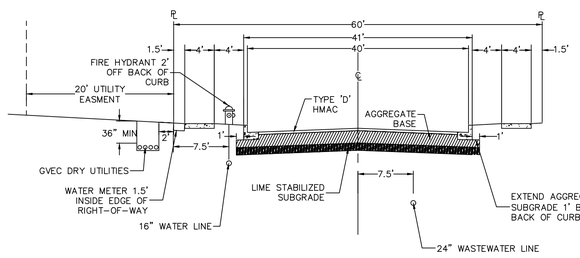
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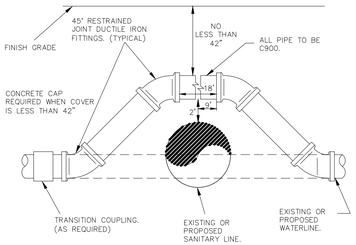
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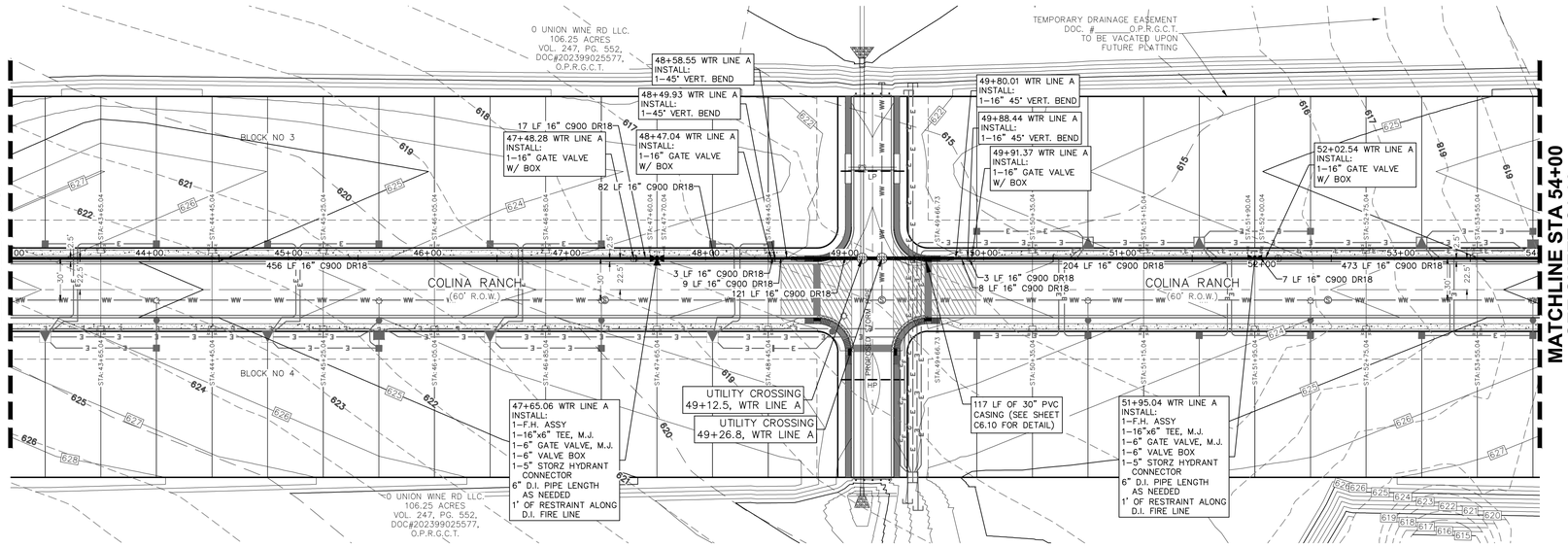
Ⓐ WATERLINE ADJUSTMENT DETAIL
N.T.S

LEGEND

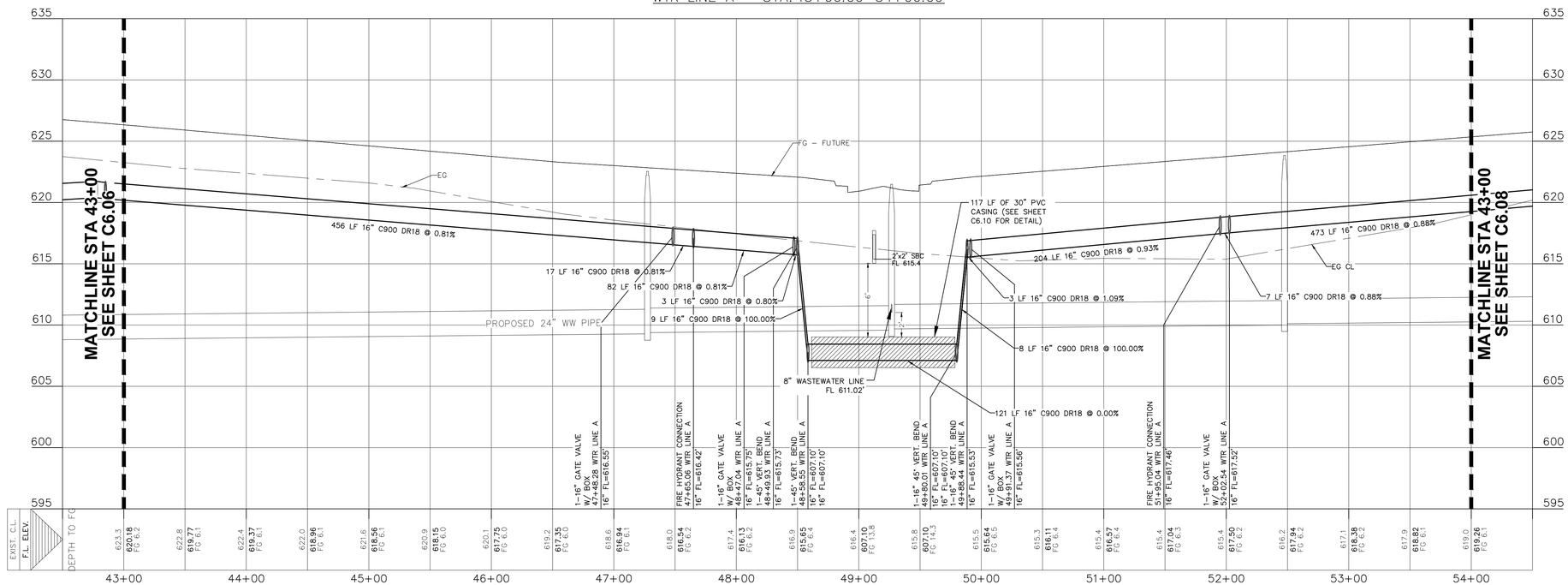
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- PROPOSED WATER SERVICE
- UTILITY CROSSING

0 25 50 100
HORIZONTAL SCALE: 1:50
VERTICAL SCALE: 1:5

TYPICAL UTILITY ASSIGNMENTS



WTR LINE A – STA: 43+00.00–54+00.00



UTILITY NOTES:

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Required Restraints

Water Line	Pipe Size	STA Begin	STA End	Length (ft)
A	16"	43+00.00	44+34.54	134.54
A	16"	46+06.28	53+44.56	738.28

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

WATER LINE A PLAN & PROFILE (5 OF 6)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.07

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cds\337.110_WATR LINE A P&P (4-6).dwg User: ksmdend Oct 28, 2025 - 10:04am

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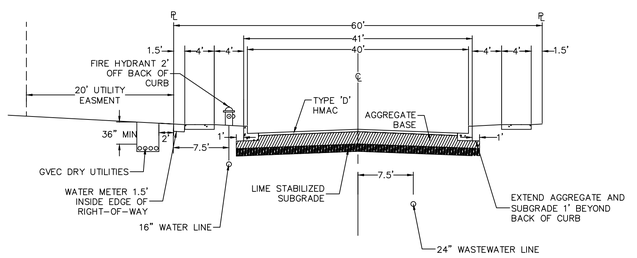
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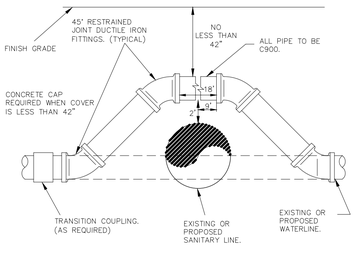
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WHERE A POTABLE WATERLINE CROSSES A WASTEWATER MAIN OR LATERAL ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER MAIN OR LATERAL AT THE CROSSING SHALL BE PRESSURE RATED PIPE (ASTM 224) WITH A MINIMUM RATING OF 160 PSI, WHENEVER POSSIBLE THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL.

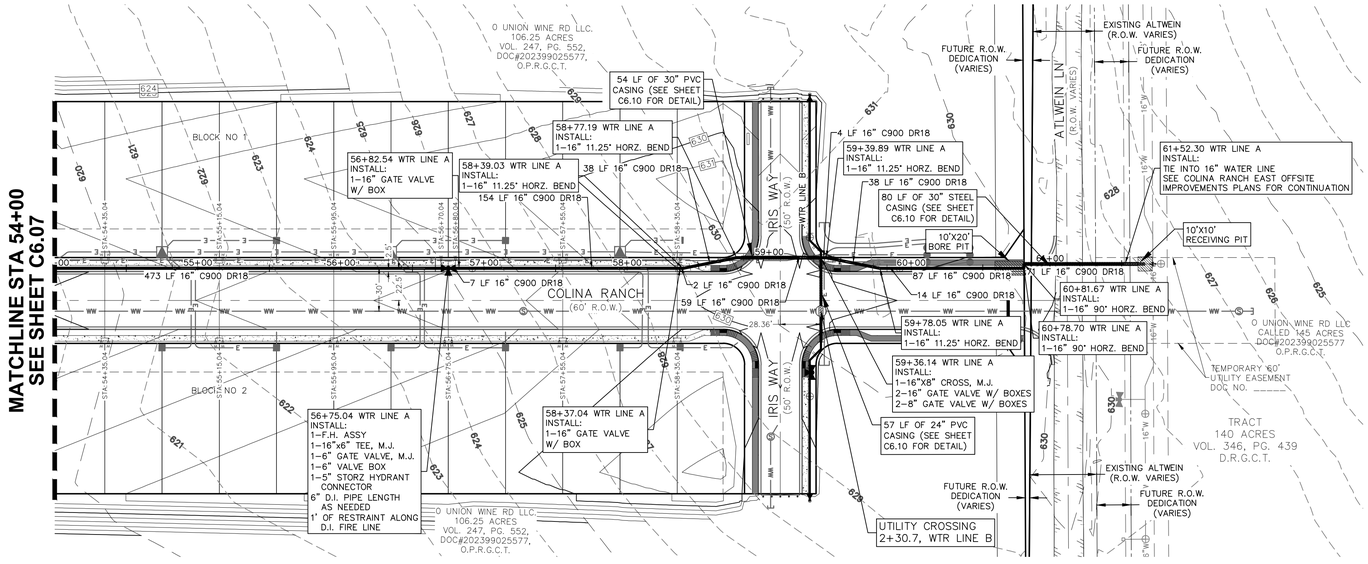
THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOIN ON EACH END. THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.



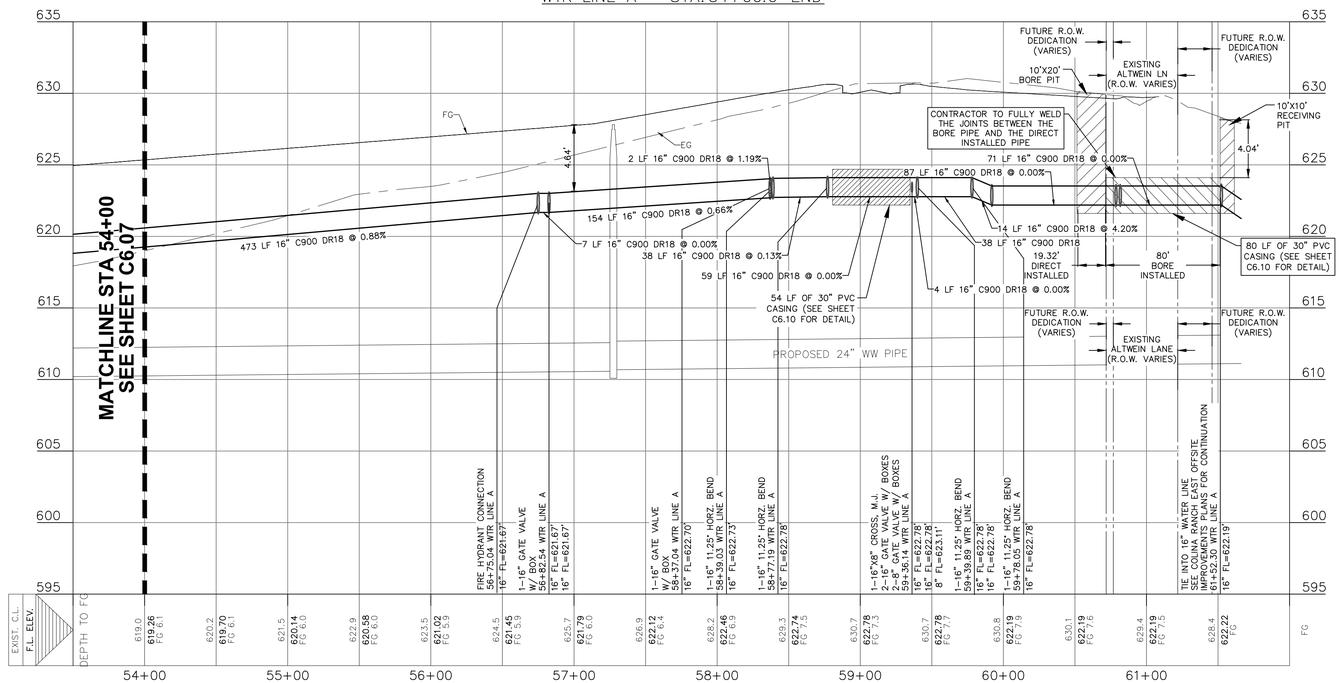


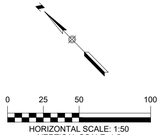
A WATERLINE ADJUSTMENT DETAIL
N.T.S

TYPICAL UTILITY ASSIGNMENTS



WTR LINE A – STA: 54+00.0–END





LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX W — EX W — EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
4. MOISTURE DENSITY COMPACTION TESTING FREQUENCY–WATER MAIN TRENCHES REQUIRED 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
5. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION–VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
6. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM BACK OF CURB.
7. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
8. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
9. 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.
10. WATER MAINS GREATER THAN 16" SHALL HAVE AN ABSOLUTE MINIMUM OF 48–INCHES IN ALL AREAS.
11. WATER MAINS ≤ 12" SHALL HAVE A MINIMUM 42" BELOW ROADWAY LEVEL AND 36" IN ALL OTHER AREAS.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD (WATER)	(830)–914–2331
GUADALUPE–BLANCO RIVER AUTHORITY (SEWER)	(830)–379–5822
GVEC (ELECTRIC)	(830)–223–4832
TIME WARNER CABLE	(830)–625–3408
Damaged Lines	(888)–876–5786
AT&T	(830)–303–1333
Texas One Call	(830)–545–6005

CONTRACTOR SHALL REFERENCE GVEC PLAN FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1–800–545–6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1–800–545–6005,. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
A	16"	55+40.56	61+49.34	608.78

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

WATER LINE A PLAN & PROFILE (6 OF 6)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.08

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\20s\337.110_WATR LINE A P&P (4-6).dwg User: ksmdend Oct 28, 2025 - 10:04am

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.

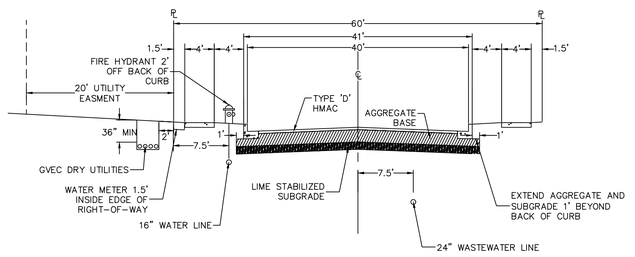
UTILITY TRENCH COMPACTION (DEEP)

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.

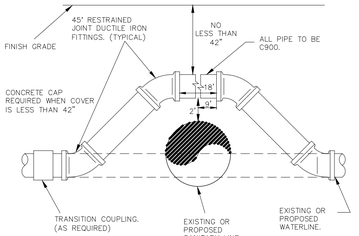
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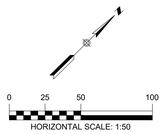
TYPICAL UTILITY ASSIGNMENTS



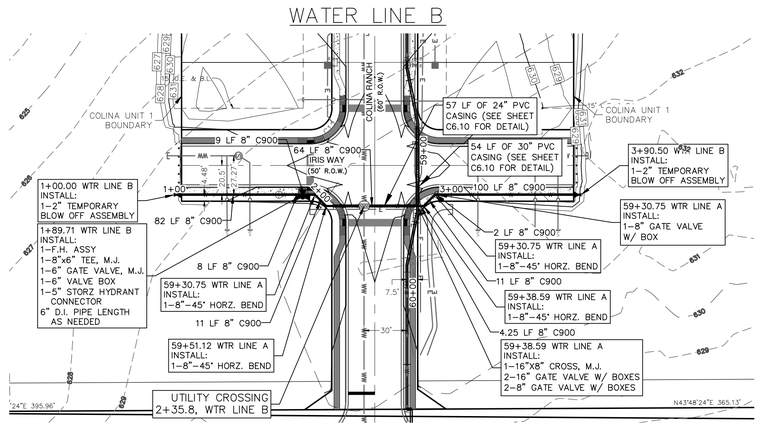
A WATERLINE ADJUSTMENT DETAIL
N.T.S

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX W — EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- UTILITY CROSSING

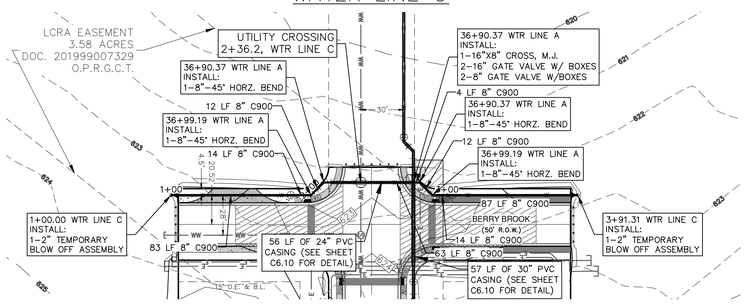


WATER LINE B



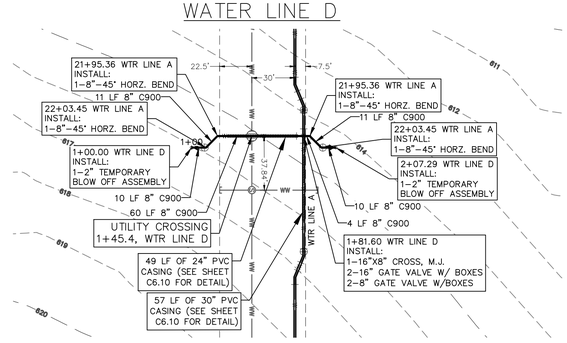
Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
B	8"	1+00.00	3+90.50	290.50

WATER LINE C



Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
C	8"	1+00.00	3+91.31	291.31

WATER LINE D



Required Restraints				
Water Line	Pipe Size	STA Begin	STA End	Length (ft)
D	8"	1+00.00	2+07.29	107.29

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HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

WATER LINE B, C, & D

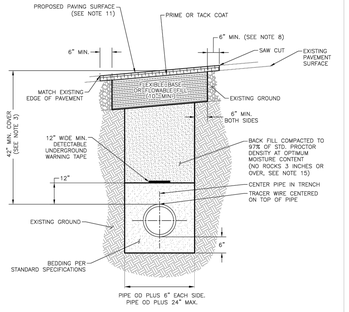
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.09

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbs\337.110_WATR LINE B, C & D.dwg User: kamdend Oct 28, 2025 - 10:05am

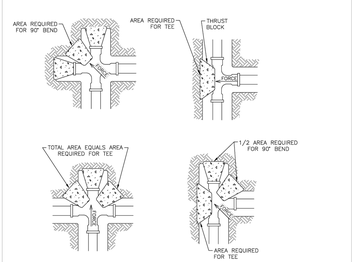


GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR PAVED AREAS (1 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-1

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE SHALL BE USED IN WASTEWATER WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE BLUE IN COLOR.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCH MINIMUM COVER AND 72 INCH MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCH MINIMUM COVER AND 15 FOOT MAXIMUM COVER.
4. GENERAL CONTRACTOR SHALL CONTACT THE APPROPRIATE STREET OWNER AND PROCESS, POST FISCAL SURETY, AND HAVE STREET CUT PERMIT ISSUED IN THEIR NAME.
5. CONTRACTOR TO REPAIR PAVED AREA TO STREET OWNER'S ROAD STANDARDS FOR ALL DISTURBED AREA. GREEN VALLEY SPECIAL UTILITY DISTRICT PAYS FOR QUANTITY OF REPAIR SHOWN IN DETAIL.
6. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
7. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE, A MINIMUM OF 12 INCHES WIDER THAN UNDISTURBED SIDES OF THE TRENCH AND SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
8. ANY CONCRETE PAVING SHALL BE CUT 6 INCHES WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
9. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH TEMPORARY COLD MIX ASPHALT CONCRETE OR TEMPORARY HOT MIXED ASPHALT CONCRETE. TEMPORARY MIX SHALL BE PLACED OVER FLEXIBLE BASE.
10. FLEXIBLE BASE SHALL BE REPLACED IN KIND WITH BASE AND PAVEMENT THICKNESS WITH BASE EQUAL TO EXISTING BASE THICKNESS PLUS 3 INCHES, BUT IN NO CASE LESS THAN 10 INCHES.
11. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 2 INCHES HOT MIXED ASPHALT CONCRETE AND A BASE OF 10 INCHES OR A THICKNESS MATCHING EXISTING, WHICHEVER IS GREATER.
12. TACK COAT ALL EXPOSED EDGES AND SURFACES.
13. TYPE AND THICKNESS OF PROPOSED PAVING SURFACE SHALL BE AS FOLLOWS:
    - TWO COURSE SURFACE TREATMENT: SHALL MATCH EXISTING SURFACE AND SHALL BE IN ACCORDANCE WITH SPECIFICATION 02770.
    - ASPHALT PAVING: SHALL BE IN ACCORDANCE WITH SPECIFICATION 02740. HOT MIXED ASPHALT CONCRETE TYPE 'D' SHALL BE USED FOR LIFT THICKNESS UP TO 2 INCHES, AND TYPE 'C' FOR LIFT THICKNESS OVER 2 INCHES AND UP TO 3 INCHES. LIFT THICKNESS SHALL NOT BE MORE THAN 3 INCHES.
14. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE DETECTABLE UNDERGROUND WARNING TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE.
15. PIPE BEDDING SHALL BE PLACED BEFORE PIPING IS LAID, UP TO BOTTOM OF PIPE, AND COMPACTED TO 97% STANDARD PROCTOR DENSITY.
16. PLACE PIPE BEDDING IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
17. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR PAVED AREAS (2 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-1

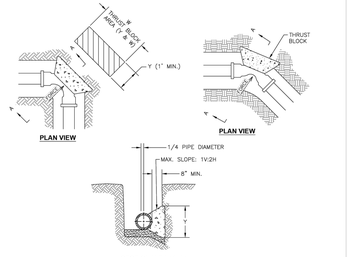


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

NOTES:

1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500 PSI).
4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE THRUST BLOCKING (1 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-4

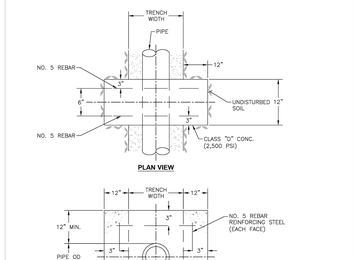


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

NOTES:

1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500 PSI).
4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

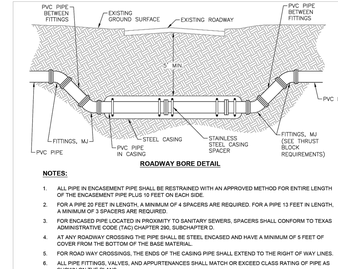
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE THRUST BLOCKING (2 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-4



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 6 INCHES.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE RETARD	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-5



ROADWAY BORE DETAIL

NOTES:

1. ALL PIPE IN ENCASEMENT PIPE SHALL BE RESTRAINED WITH AN APPROVED METHOD FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
2. FOR A PIPE 25 FEET IN LENGTH, A MINIMUM OF 4 SPACERS ARE REQUIRED. FOR A PIPE 13 FEET IN LENGTH, A MINIMUM OF 3 SPACERS ARE REQUIRED.
3. FOR ENCASED PIPE LOCATED IN PROXIMITY TO SANITARY SEWERS, SPACERS SHALL CONFORM TO TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290, SUBCHAPTER D.
4. AT ANY ROADWAY CROSSING THE PIPE SHALL BE STEEL ENCASED AND HAVE A MINIMUM OF 5 FEET OF COVER FROM THE BOTTOM OF THE BASE MATERIAL.
5. FOR ROAD WAY CROSSINGS, THE ENDS OF THE CASING PIPE SHALL EXTEND TO THE RIGHT OF WAY LINES.
6. ALL PIPE FITTINGS, VALVES, AND APPURTENANCES SHALL MATCH OR EXCEED CLASS RATING OF PIPE AS SHOWN ON THE PLANS.
7. SEE ENCASEMENT DETAIL WITH ENCASEMENT SPACER DETAIL W-6.
8. DUCTILE IRON PIPE AMERICAN ZINC COATED AWWA/ANSI C-151 MAY BE USED IN LIEU OF STEEL CASING WHEN APPROVED BY GVSUD.

WATER LINE IN ENCASEMENT PIPE			
WATER LINE SIZE (INCHES)	NOM. DIA. STEEL (INCHES)	ENCASEMENT PIPE THICKNESS (INCHES)	PIPE WEIGHT (LBS/LIFT.)
6	18	0.375	70.59
8	24	0.375	94.62
12	24	0.375	94.62
16	30	0.375	118.65
20	36	0.438	166.19
24	42	0.438	194.02
30	48	0.50	259.02
36	54	0.50	291.07

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	INSTALLATION OF PIPE IN STEEL ENCASEMENT UNDER ROADS	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-7

NOTES:

1. ENCASEMENT PIPE SHALL BE NEW STEEL PIPE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARD C200, LATEST EDITION.
2. ALL PIPE JOINTS WITHIN THE CASING ARE TO BE RESTRAINED WITH AN APPROVED METHOD FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
3. FOR ROADWAY CROSSINGS, THE ENDS OF THE CASING PIPE SHALL EXTEND TO THE RIGHT OF WAY LINES.
4. ALL PIPE FITTINGS, VALVES, AND APPURTENANCES SHALL MATCH OR EXCEED PIPE CLASS RATING AS SHOWN ON THE PLANS.
5. REFER TO SPECIFICATION 02300 FOR CASING PIPE THICKNESS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TYPICAL JACKING, BORING, AND TUNNELING DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-9

TYPICAL SECTION

NOTES:

1. MAINTAIN A MINIMUM 5 FOOT HORIZONTAL AND 2 FOOT VERTICAL SEPARATION FROM BETWEEN UTILITIES AND WATER AND WASTEWATER PIPES AND SERVICES. GAS, ELECTRIC, CABLE, ETC. TO BE LOCATED OPPOSITE SIDES OF PROPERTIES.
2. UTILITY CROSSINGS SEPARATED BY LESS THAN 5 FEET SHALL BE ENCASED WITH A MINIMUM OF 6 INCHES OF CONCRETE.
3. SPECIFICATIONS: BEDDING MATERIAL MUST BE APPROVED BY AUTHORIZED GVSUD PERSONNEL, BEFORE START OF JOB.
4. AT ANY CREEK CROSSING OR DRAINAGE DITCH THE MAIN SHALL BE ENCASED WITH STEEL PIPE AND/OR 6 INCHES CONCRETE ENCASEMENT TO WITHIN 10 FEET OUTSIDE OF CREEK OR DRAINAGE DITCH AREA.
5. PIPE JOINTS SHALL BE AT LEAST 9 FEET HORIZONTALLY FROM CROSSINGS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	UTILITIES CROSSING DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-10

NOTES:

1. WELD 2 1/2 INCH X 2 INCH DEEP SOCKET TO 1 INCH (SCHEDULE 40) ROUND STEM EXTENSION AND ON OPERATING NUT. FOR PIPE EXTENSIONS OVER 10 FEET, STEM EXTENSION SHALL BE A SCHEDULE 80 PIPE.
2. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3 FEET DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 18 TO 24 INCHES FROM FINISHED GRADE.
3. CONCRETE COLLARS TO BE INSTALLED ON ALL VALVE BOXES LOCATED OUTSIDE PAVEMENT. SEE APPROPRIATE VALVE BOX ADJUSTMENT DETAILS.
4. GATE VALVES SHALL BE MUELLER TYPE OR APPROVED EQUAL.
5. FOR VALVE DEEPER THAN 5 FEET, ADD EXTENSION.
6. VALVE TURNS UNDERNEATH CAP.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	NON-RISING STEM VERTICAL GATE VALVE WITH BOX ASSEMBLY	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-11

NOTES:

1. VALVE BOX COVER SHALL BE EJ GROUP, INC. 571 VALVE BOX COVER PRODUCT NUMBER 33171011, OR APPROVED EQUIVALENT WITH GVSUD LOGO.
2. TYPICAL FILLET IS 3/16 INCH RADIUS.
3. LETTERING SHALL BE 3/4 INCH SHARP 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	VALVE BOX CASTING LID	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-12

NOTES:

1. SUBGRADE SHALL BE COMPACTED PER SPECIFICATIONS, SUBGRADE PREPARATION.
2. VALVE BOXES SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO BASE OF THE VALVE.
4. CONTRACTOR TO USE VALVE BOX ADJUSTING RISER TO ADJUST VALVE BOX TO GRADE.
5. WHERE CAST IRON CASTINGS ARE TO BE REMOVED IN EXCAVATION GREATER THAN 20 INCHES DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS FOR REINFORCING STEEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE BOX ADJUSTMENT IN PAVEMENT	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-13

NOTES:

1. MARKERS SHALL BE PLACED AT VALVES, AIR VALVES, AND ACCESS PORTS.
2. PLACE WATER/WASTEWATER LINE MARKERS AT EVERY FENCE, ROAD CROSSING, AND AT 500' INTERVALS ALONG THE PIPELINE.
3. SIGNS SHALL BE 20 GA. WITH BLACK BACKGROUND FINISH.
4. LETTERS USED FOR "CAUTION" SHALL BE WHITE. ALL REMAINING LETTERS SHALL BE ORANGE.
5. MARKERS SHALL BE OBTAINED FROM:
   5.1. RURAL WATER SPECIALTY CO.
   POST OFFICE BOX 927
   TULSA, OKLAHOMA 74101
   OR APPROVED EQUAL

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	UTILITY MARKER DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-16

RESTRAINED LENGTH FOR BENDS

PIPE SIZE (INCHES)	BEND ANGLE (DEG)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	90	23
6	45	9
6	22.5	5
6	11.25	2
8	90	30
8	45	12
8	22.5	6
8	11.25	3
12	90	43
12	45	18
12	22.5	8
12	11.25	4
16	90	63
16	45	26
16	22.5	13
16	11.25	7
24	90	85
24	45	35
24	22.5	17
24	11.25	9

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	BEND RESTRAINED LENGTH DESIGN	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-18

RESTRAINED LENGTH FOR REDUCERS

PIPE SIZE (INCHES)	SMALL SIZE (INCHES)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	4	30
8	4	55
8	6	32
12	4	95
12	6	80
12	8	58
16	4	131
16	6	120
16	8	104
16	12	60
24	16	110

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REDUCER RESTRAINED LENGTH DESIGN	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-19

RESTRAINED LENGTH FOR DEAD END/SINLINE VALVES

PIPE SIZE (INCHES)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
4	42
6	59
8	77
12	109
16	142
24	202

NOTES:

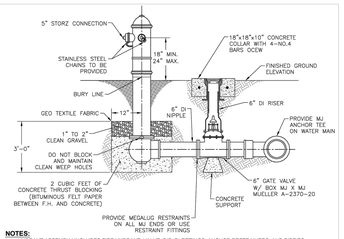
1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE AND DEAD END RESTRAINED LENGTH DESIGN	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-20

RESTRAINED LENGTH FOR TEES

PIPE SIZE (INCHES)	BRANCH SIZE (INCHES)	LENGTH OF RUN (FEET)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	4	0	42
6	4	5	7
6	4	10	1
6	6	0	59
6	6	5	35
6	6	10	11
8	4	0	42
8	4	5	1
8	6	0	59
8	6	5	28
8	6	10	1
8	8	0	77
8	8	5	53
8	8	10	30
8	8	15	6
12	4	0	42
12	4	5	1
12	6	0	59
12	6	5	13
12	6	10	1
12	8	0	77
12	8	5	42
12	8	10	7
12	8	15	1
12	12	0	109
12	12	5	86
12	12	10	63
12	12	15	39
16	4	0	42
16	4	5	1
16	6	0	59
16	6	5	1
16	8	0	78
16	8	5	39
16	8	10	1
16	12	0	110
16	12	5	84
16	12	10	59
16	12	15	33
16	12	20	7
16	16	0	142
16	16	5	123
16	16	10	104
16	16	15	85
16	16	20	65
24	24	5	169
24	24	10	136
24	24	15	103
24	24	20	70

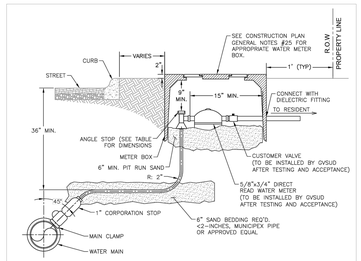
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TEE RESTRAINED LENGTH DESIGN	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO



NOTES:

1. HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT, VALVE, DIP, DI FITTINGS, ANCHOR RESTRAINERS, AND PIPE TO DISTRIBUTION SYSTEM.
2. FIRE HYDRANTS SHALL HAVE A MINIMUM OF 3 FEET OF CLEARANCE SURROUNDING HYDRANT.
3. HYDRANTS SHALL BE A MINIMUM 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 3-4 FEET FROM THE DISTRIBUTION SYSTEM.
4. FOR BURY DEPTHS GREATER THAN 5 FEET, ONE BARREL EXTENSION NOT EXCEEDING 3 FEET IN LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT.
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. FIRE HYDRANT SHALL BE 6 INCH (3) WAY HYDRANT WITH BREAK AWAY BOLTS (SHOE TYPES) PROVIDED WITH STORZ CONNECTION. DEPTH OF BURY SHALL BE 42 INCHES MINIMUM. FIRE HYDRANTS MUST BE SET PLUMB. HOSE CONNECTION MUST FACE ROADWAY.
8. HYDRANT ASSEMBLY SHALL BE RESTRAINED FROM TEE TO HYDRANT.
9. IN THE CITY OF CIBOLO'S CITY LIMITS, FIRE HYDRANTS SHALL BE MUELLER TYPE AND SHALL BE 1 FOOT MINIMUM AND 1 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 FLEXIFLAG #PP56802.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD HYDRANT ASSEMBLY INSTALLATION	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-22

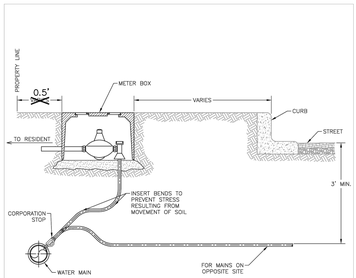


MAIN SIZE	METER SIZE	MAIN SADDLE	CORPORATION	ANGLE STOP
<12"	5/8" OR 3/4"	S-91804 IP	H-15028 IP 1"	B-24258N 1"x 3/4"
<12"	1"	S-91804 IP	H-15028 IP 1"	B-24258N 1"X1"

NOTES:

1. FITTINGS SHALL BE MUELLER OR APPROVED EQUAL.
2. A TRACER WIRE SHALL BE INSTALLED ON THE SERVICE LINE TAPED AT 10-INCH INCREMENTS.

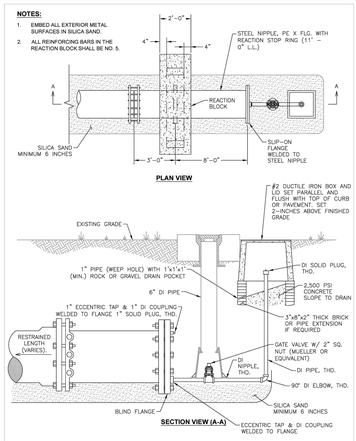
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD SERVICE CONNECTION	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-23



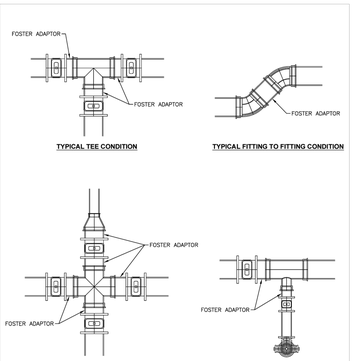
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TYPICAL SERVICE LOCATION DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-24

NOTES:

1. EMBED ALL EXTERIOR METAL SURFACES IN SILICA SAND.
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 5.



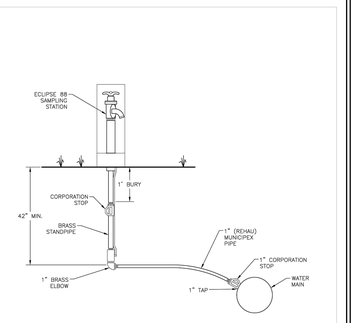
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	2" & 4" PERMANENT URBAN BLOW-OFF ASSEMBLY	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-28



NOTE:

1. FOSTER ADAPTORS, OR APPROVED EQUAL, REQUIRED AT ALL FITTING TO FITTING CONNECTIONS AND FITTING TO VALVE CONNECTIONS.
2. ANCHOR COUPLINGS MAY BE SUBSTITUTED FOR FOSTER ADAPTORS AT GVSUD'S DISCRETION.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	MECHANICAL JOINT ADAPTOR DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-31



GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	WATER SAMPLING STATION DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-33

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 RN103 OR EQUAL.
2. SPLIT CASING HARDWARE (I.E. BOLTS, NUTS, WASHERS, ETC.) SHALL BE STAINLESS STEEL. FIELD APPLY NICKEL ANTI-SEIZE COMPOUND TO THREADS PRIOR TO ASSEMBLY.
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, CONSISTING OF TWO LAYERS OF 8 MIL POLY AND TAPE.
5. REFERENCE DETAIL 230 FOR ADDITIONAL 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 1400 FOR DUCTILE IRON PIPE. RESTRAINTS FOR C303 PIPE SHALL BE IN ACCORDANCE WITH DETAIL 345.

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 AROUND RESTRAINTS, SPACERS, AND EXISTING PIPE.
8. INSTALL CRUSHED STONE BEDDING AND BACKFILL IN ACCORDANCE WITH DETAIL 420.
9. REPEAT ITEMS 5 THRU 8 UNTIL PIPELINE SEGMENT IS COMPLETED.

TO CONTRACTOR'S DISCRETION TO WELD CASING HALVES TOGETHER IN LIEU OF BOLTING

GBRA Guadalupe-Blanco River Authority	SPLIT CASING - BOLTED	REVISED: JUL. 28, 2025	SCALE: NONE
		DETAIL NO. 500	

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

WATER DETAILS (2 OF 2)

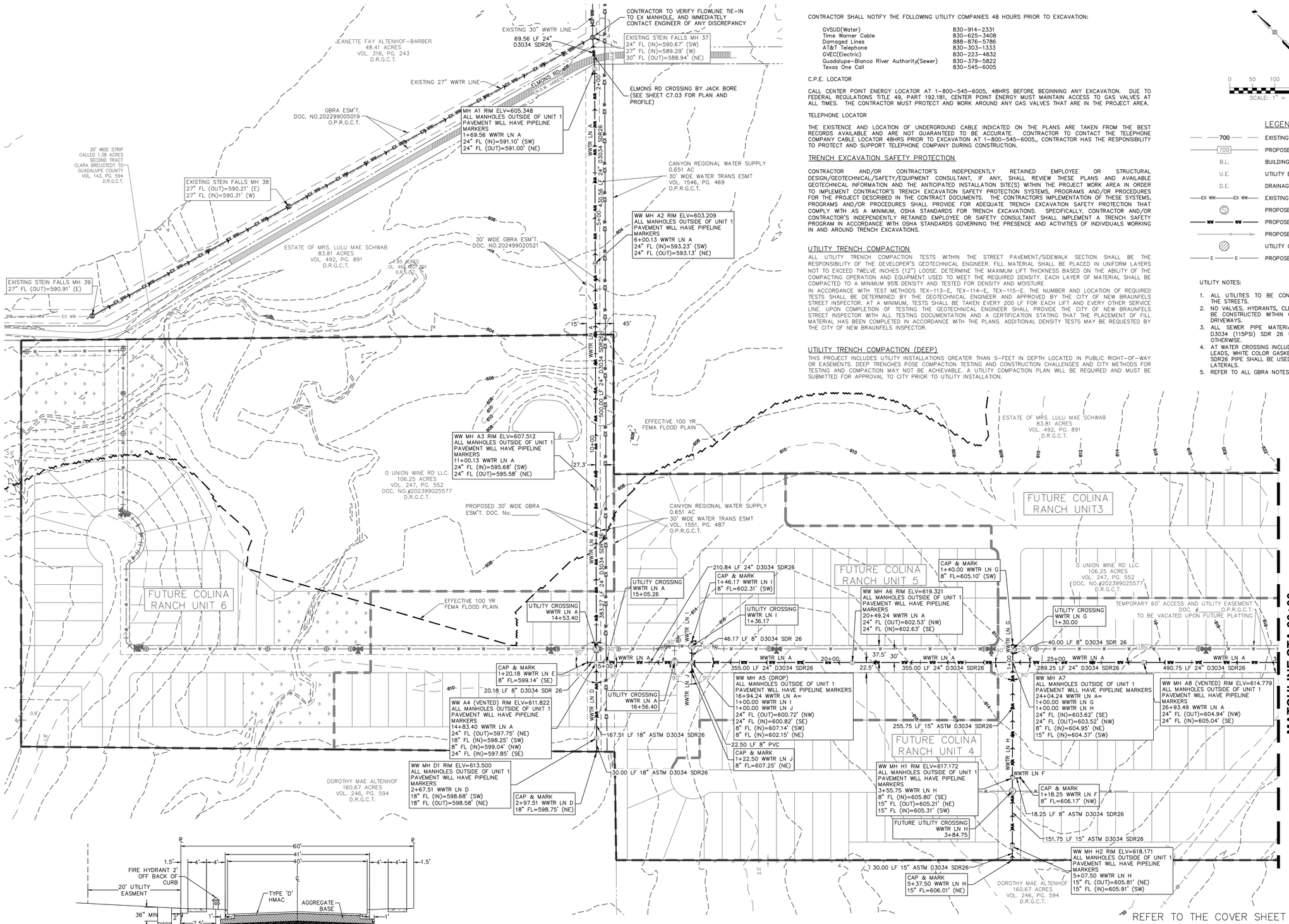
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

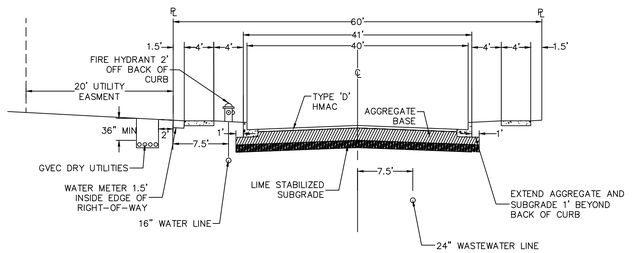
DATE: MAY 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C6.11

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cds\337.110_WATR-DETAILS.dwg User: kamdenl Oct 28, 2025 - 10:05am



MATCHLINE STA 30+00
SEE SHEET C7.02



TYPICAL UTILITY ASSIGNMENTS

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CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD(Water)	830-914-2331
Time Warner Cable	830-625-3408
Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
GVEC(Electric)	830-223-4832
Guadalupe-Blanco River Authority(Sewer)	830-379-5822
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

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TRENCH EXCAVATION SAFETY PROTECTION

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

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LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
EX WW	EXISTING WASTEWATER LINE
	PROPOSED WASTEWATER MANHOLE
WW	PROPOSED WASTEWATER LINE
	PROPOSED WASTEWATER SERVICE
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HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

OVERALL WASTEWATER PLAN (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.01

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbd\337.110_WWTR OVERALL.dwg User: kondend Oct 28, 2025 - 10:00am

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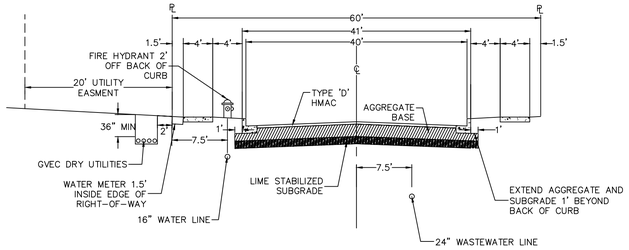
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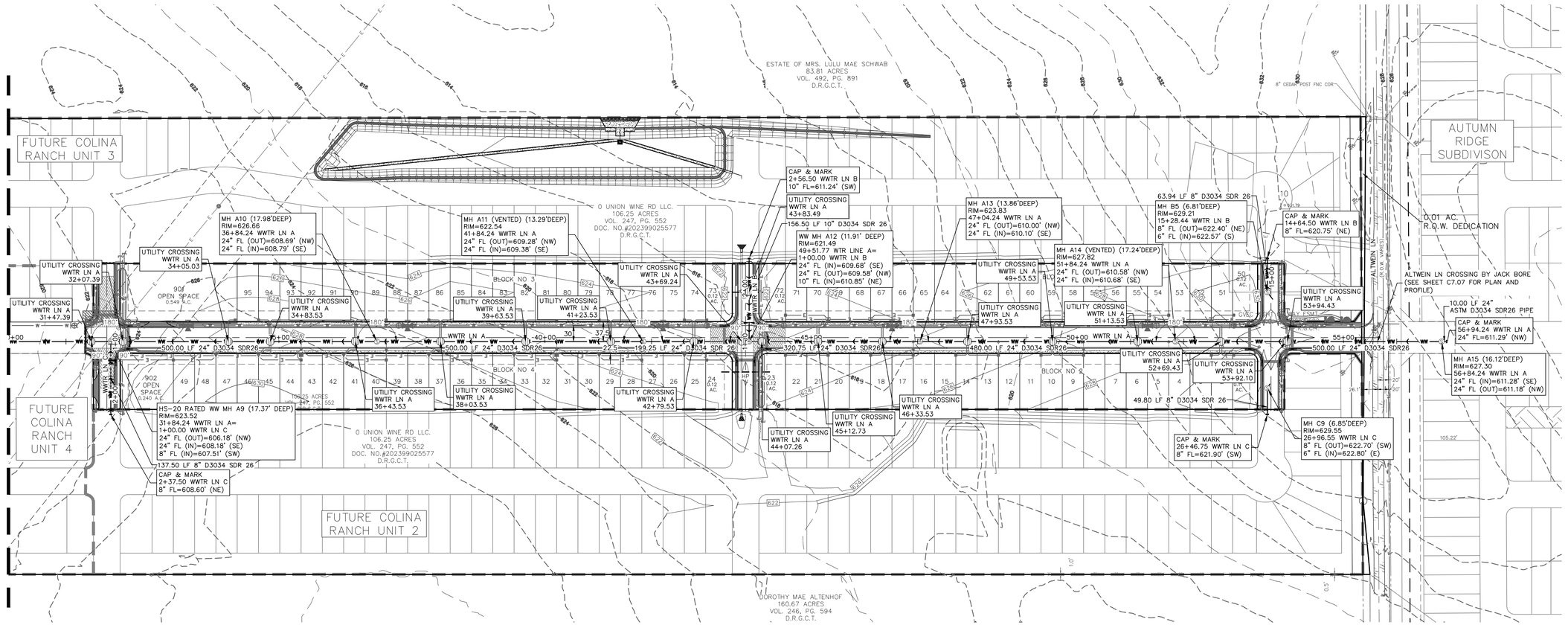
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0 50 100 200
SCALE: 1" = 100'

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
EX WW	EXISTING WASTEWATER LINE
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WW	PROPOSED WASTEWATER LINE
	PROPOSED WASTEWATER SERVICE
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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
10/28/2025

OVERALL WASTEWATER PLAN (2 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.02

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cbs\337110_WWTR OVERALL.dwg User: kamdend Oct 28, 2025 - 10:06am

UTILITY TRENCH COMPACTION

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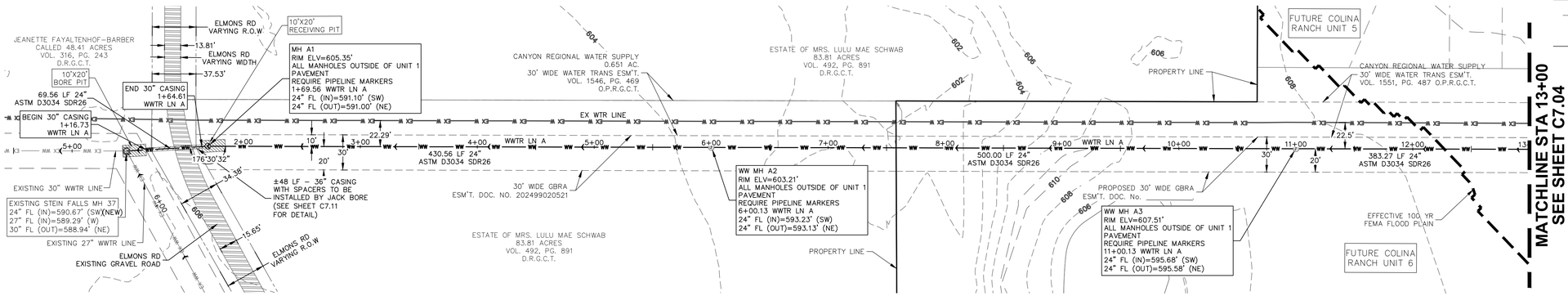
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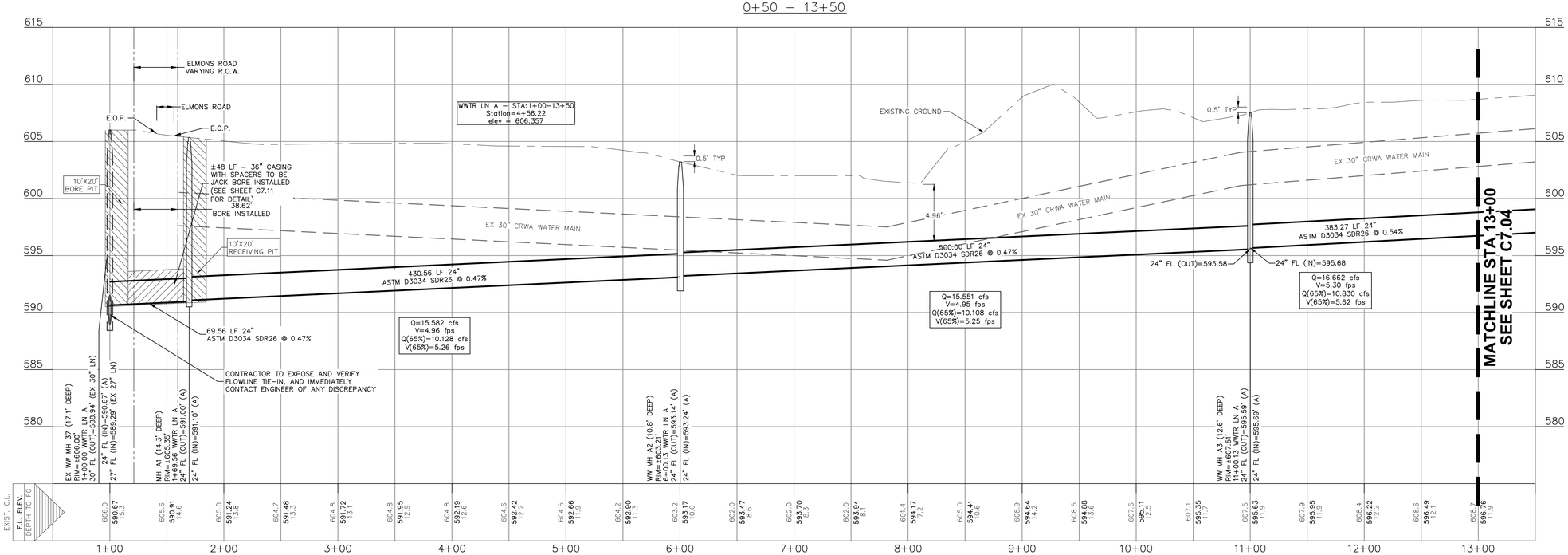
0 25 50 100
SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

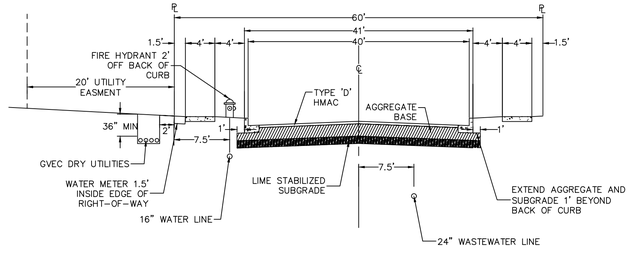
LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
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- PROPOSED WASTEWATER MANHOLE
- WW — WW — PROPOSED WASTEWATER LINE
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WWTR LN A
0+50 – 13+50





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10/28/2025

WASTEWATER LINE A PLAN & PROFILE (1 OF 5)

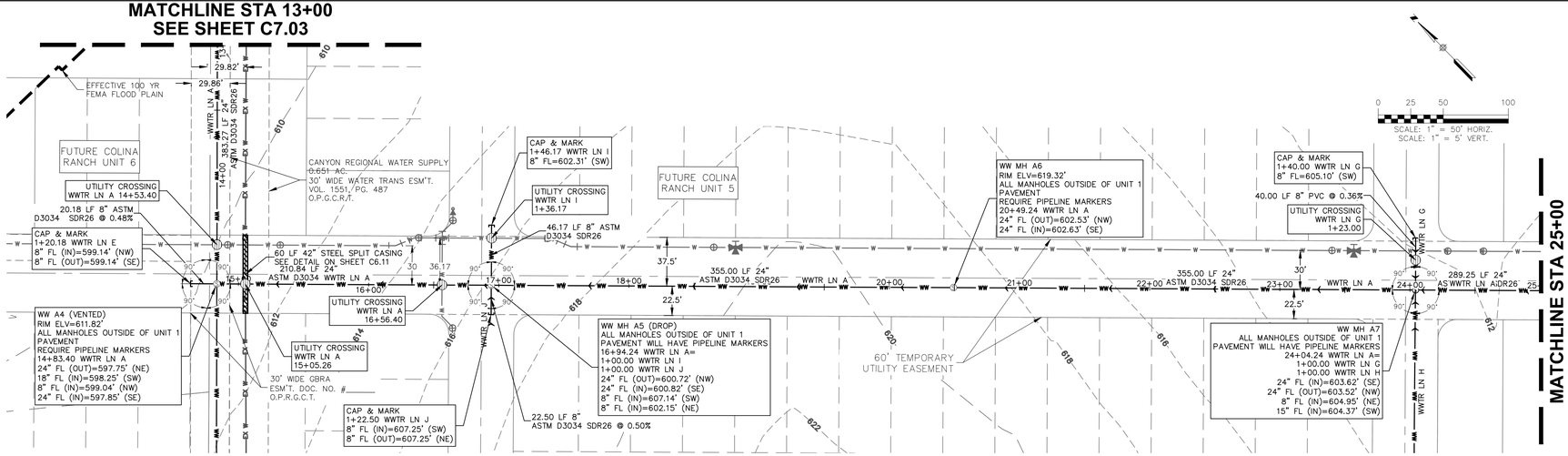
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.03

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\20s\337.110_WWTR LN A PP.dwg User: kamdand Oct 28, 2025 - 10:07am



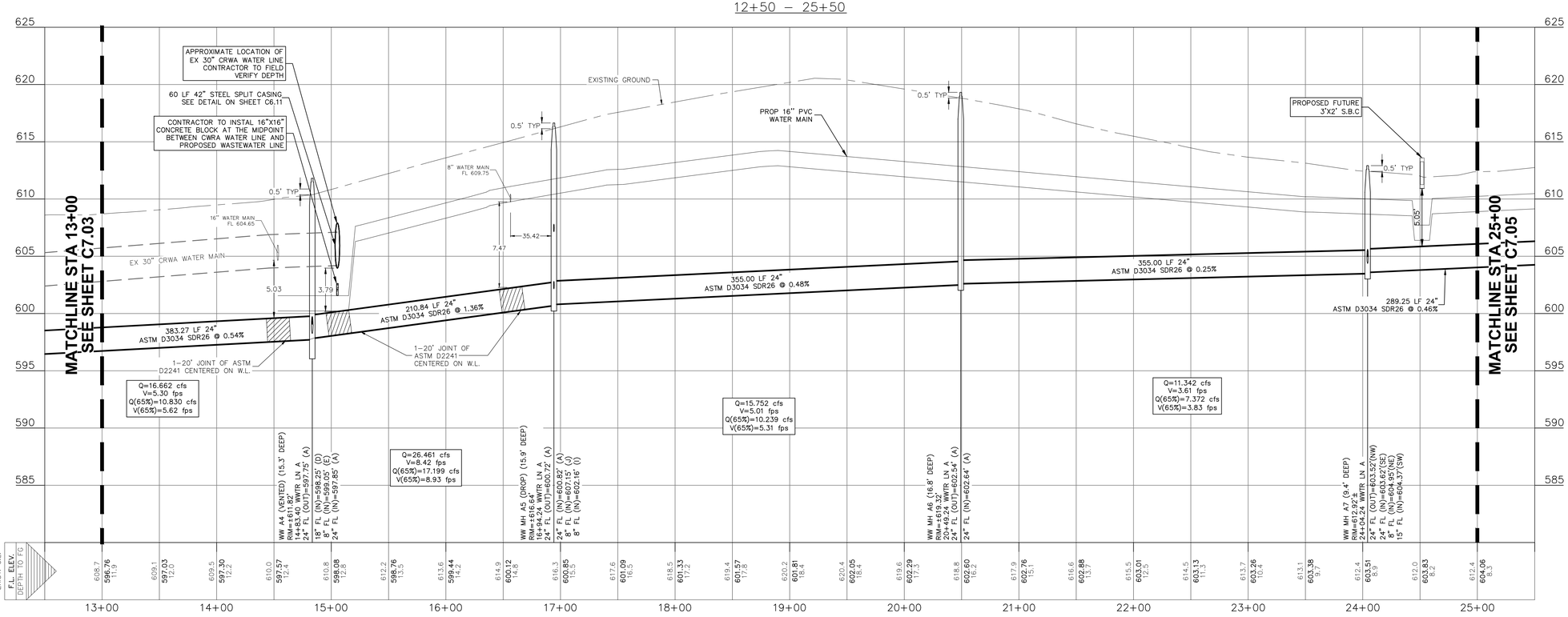
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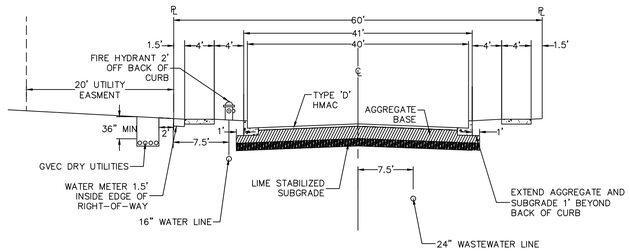
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B.L.	BUILDING SETBACK LINE
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D.E.	DRAINAGE EASEMENT
EX WW	EXISTING WASTEWATER LINE
S	PROPOSED WASTEWATER MANHOLE
WW	PROPOSED WASTEWATER LINE
	PROPOSED WASTEWATER SERVICE
	UTILITY CROSSING
E	PROPOSED ELECTRIC LINE

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
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3. ALL SEWER PIPE MATERIAL SHALL BE ASTM D3034 (115PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
4. AT WATER CROSSING INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR26 PIPE SHALL BE USED FOR MAINS AND LATERALS.
5. REFER TO ALL GBRA NOTES ON SHEET C0.02.

WWTR LN A
12+50 – 25+50





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GVSUD(Water)	830-914-2331
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Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
GVEC(Electric)	830-223-4832
Guadalupe-Blanco River Authority(Sewer)	830-379-5822
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

10/28/2025

WASTEWATER LINE A PLAN & PROFILE (2 OF 5)

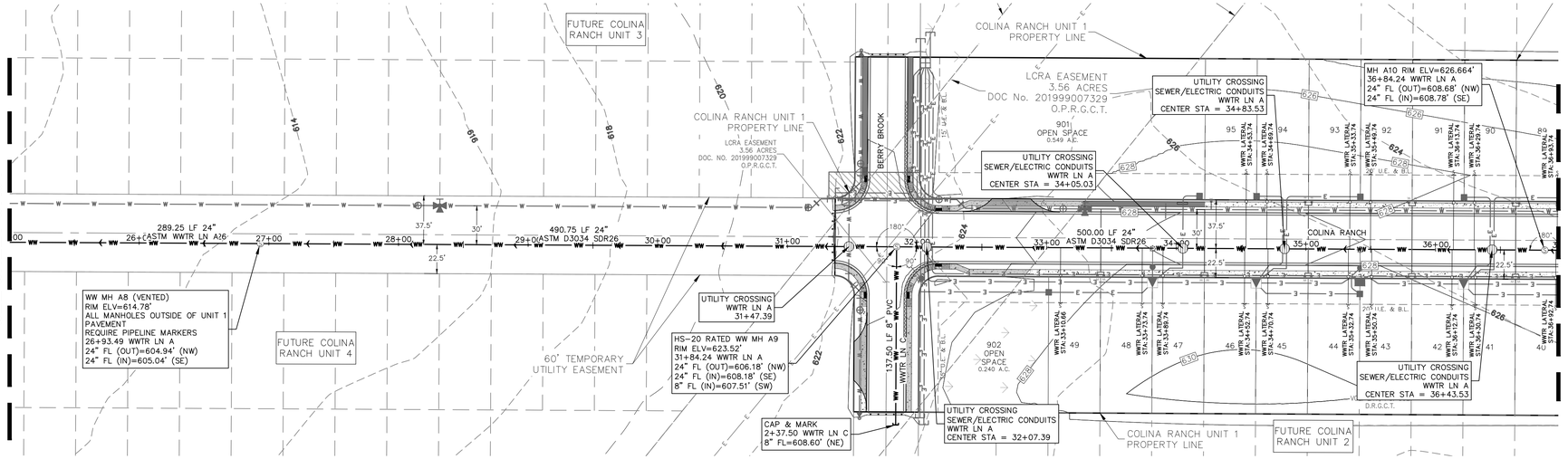
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

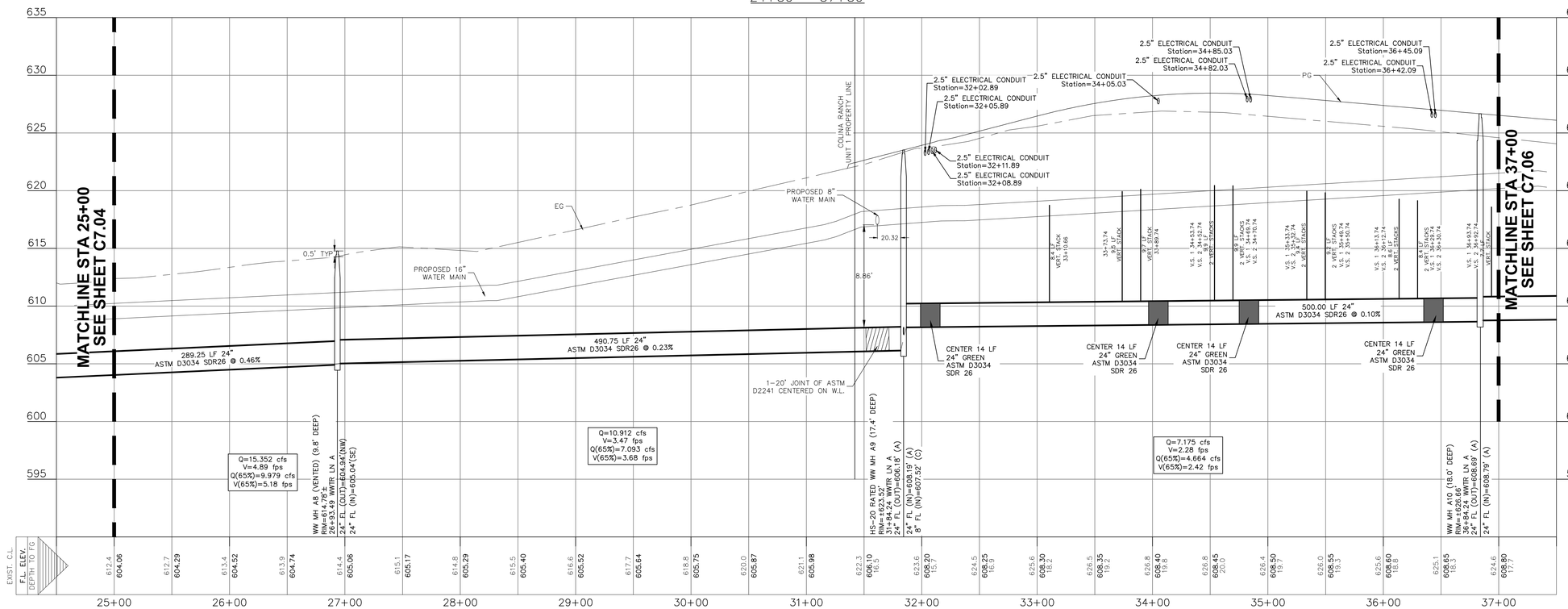
DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

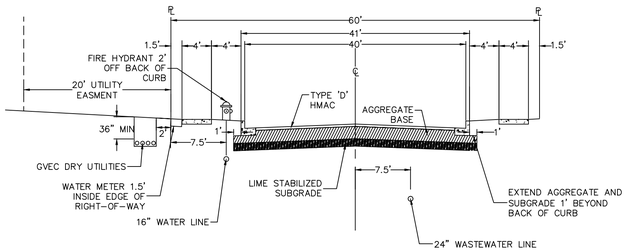
SHEET
C7.04

Drawing Name: N:_Projects\337 – Lennar\110 – Colina Ranch Phase 1 (123 Lots)\20s\337110_WWTR LN A PP.dwg User: kamdend Oct 28, 2025 - 10:08am



WWTR LN A
24+50 – 37+50





TYPICAL UTILITY ASSIGNMENTS

0 25 50 100
SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
EX WW	EXISTING WASTEWATER LINE
S	PROPOSED WASTEWATER MANHOLE
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	PROPOSED WASTEWATER SERVICE
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LCRA NOTES:

1. USE OF LCRA EASEMENTS AS A TEMPORARY WORKSPACE SHALL NOT AT ANY TIME IMPEDE ACCESS TO LCRA TSC ROW.
2. TRENCHING WTHIN 30 FEET OF ANY STRUCTURE IS NOT PERMITTED.
3. VISIBLE UNDERGROUND ELECTRIC/WATER MARKERS SHALL BE PROVIDED AT ALL SIDES OF ROW/EASEMENT WHERE UNDERGROUND UTILITIES SHALL BE INSTALLED.
4. PROVIDE UNDERGROUND WARNING TABLE ALONG ALL PROPOSED UTILITIES.
5. PROVIDE HS-20 RATED CONDUITS FOR ALL UNDERGROUND UTILITY CROSSINGS.

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10/28/2025

WASTEWATER LINE A PLAN & PROFILE (3 OF 5)

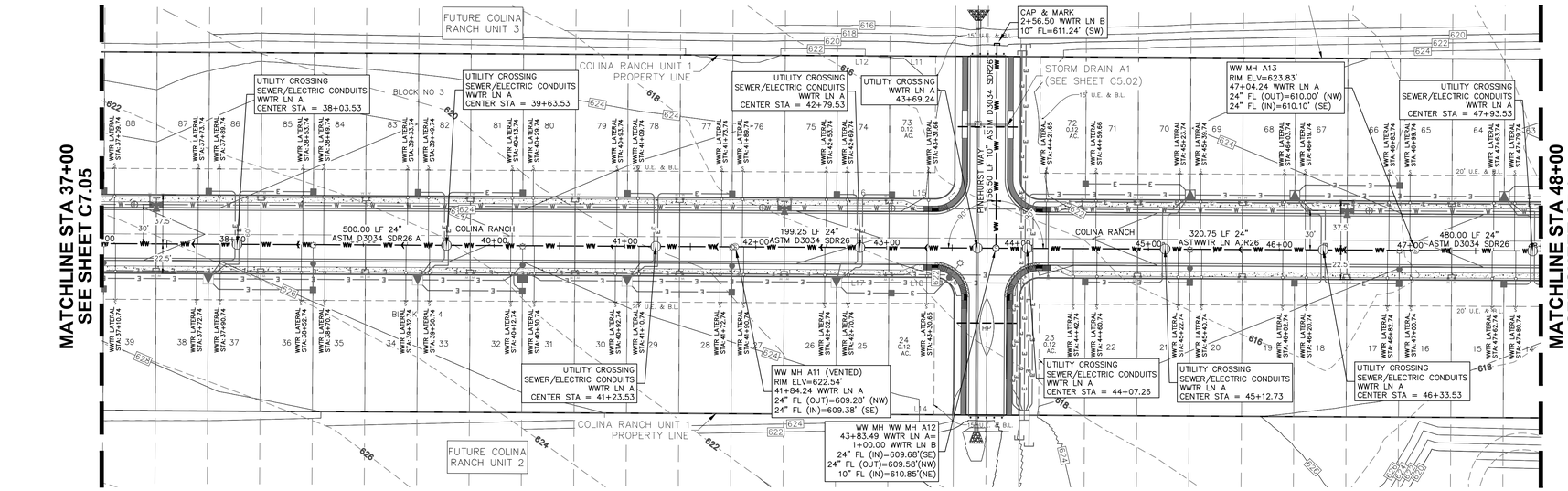
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.05

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\C0a\337110_WWTR LN A PP.dwg User: kamdend Oct 28, 2025 - 10:08am



SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

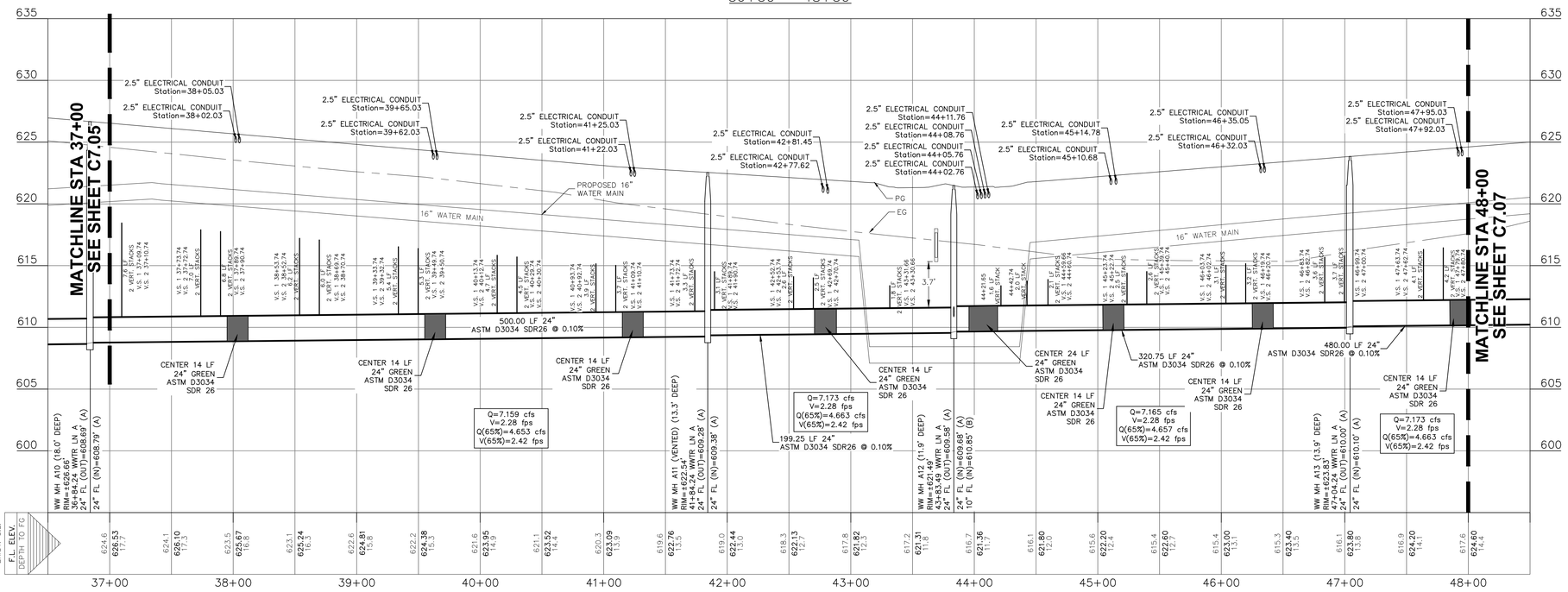
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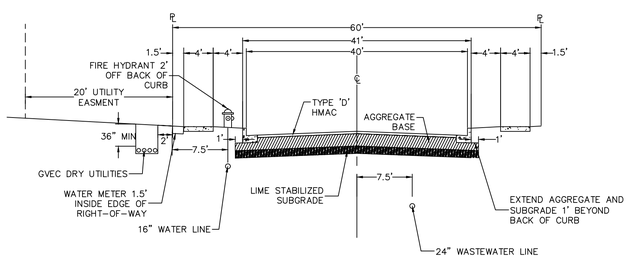
- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
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- PROPOSED WASTEWATER MANHOLE
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WWTR LN A
36+50 – 48+50





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STATE OF TEXAS
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PROFESSIONAL ENGINEER

10/28/2025

WASTEWATER LINE A PLAN & PROFILE (4 OF 5)

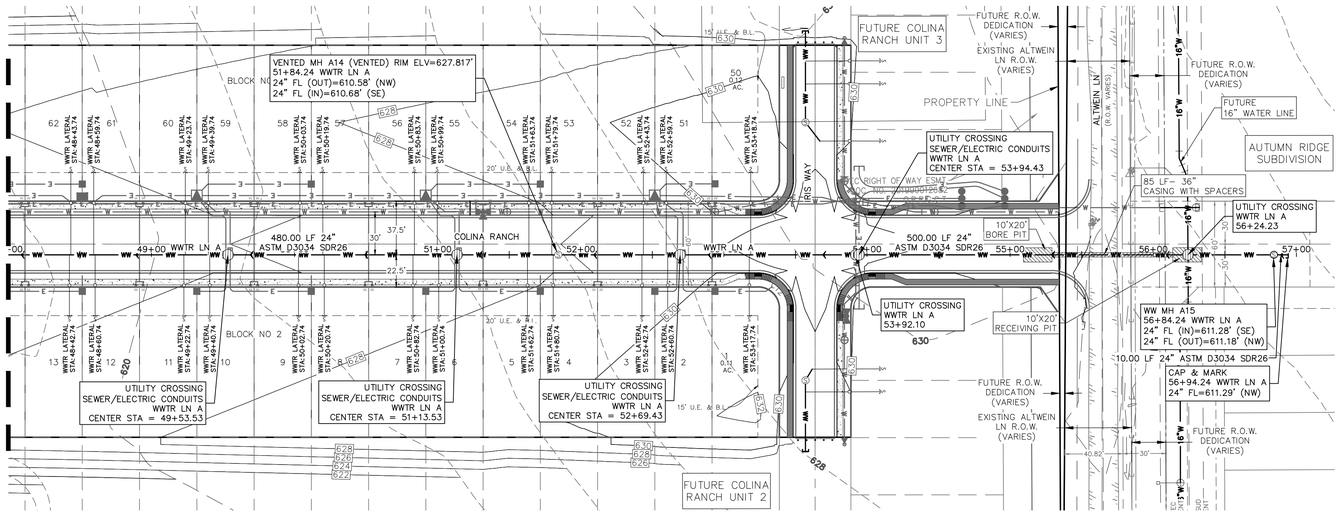
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.06

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03a\337.110_WWTR LN A PP.dwg User: kamdenol Oct 28, 2025 - 10:08am





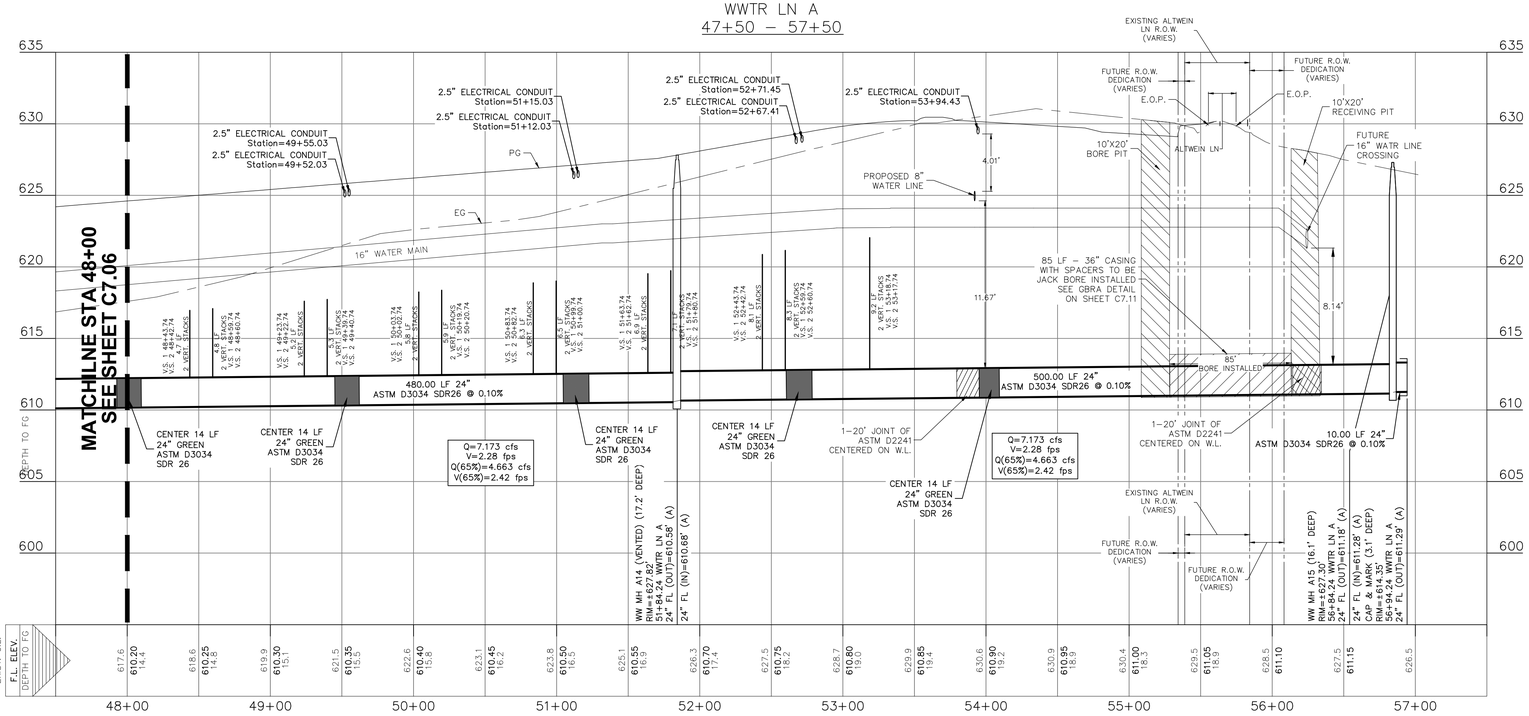
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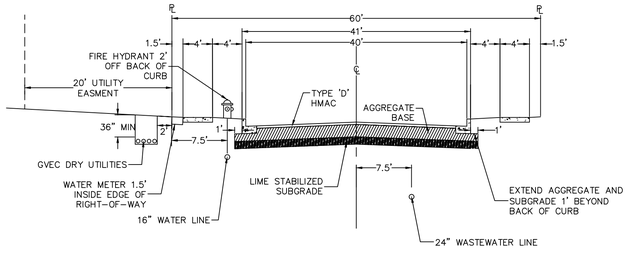
- 700 — EXISTING CONTOURS
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WWTR LN A
47+50 – 57+50





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MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

WASTEWATER LINE A
PLAN & PROFILE (5 OF 5)

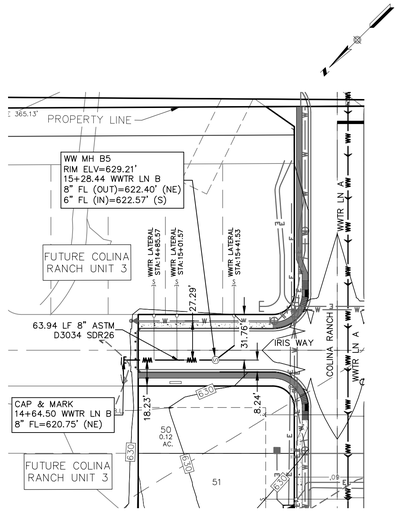
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

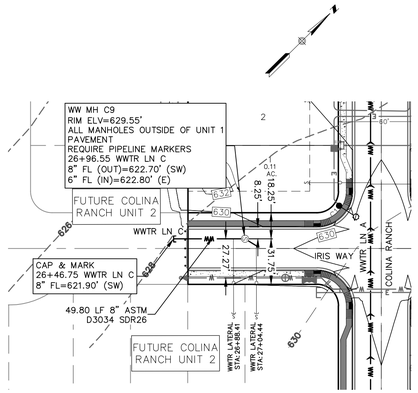
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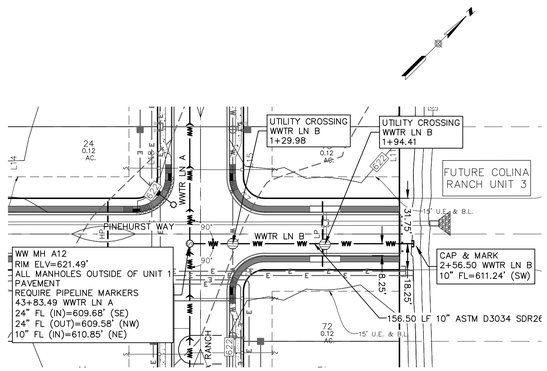
DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

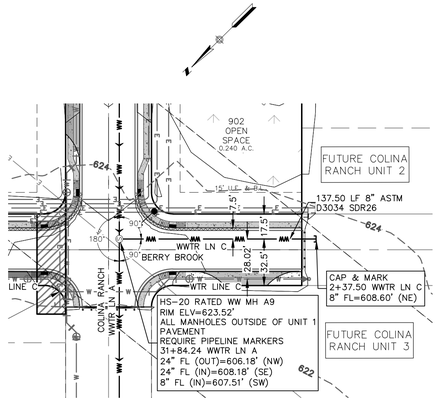
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C7.07

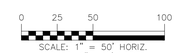
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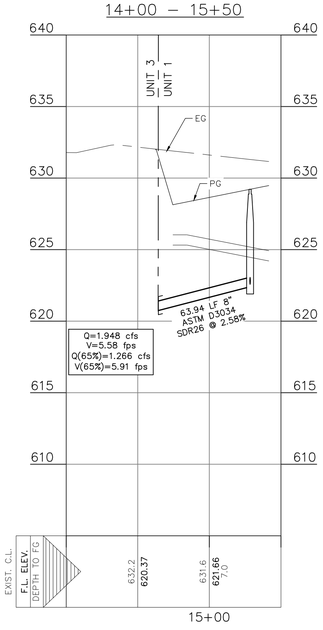
LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX WW — EX WW — EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- WW — WW — PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING
- E — E — PROPOSED ELECTRIC LINE

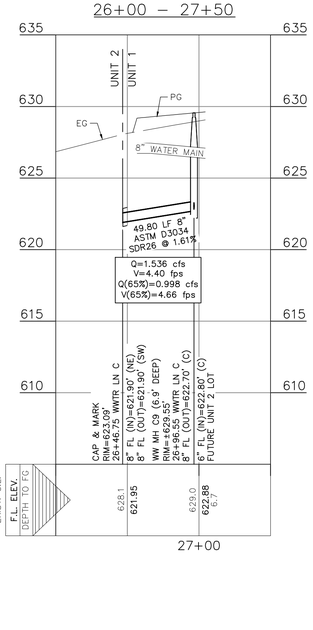
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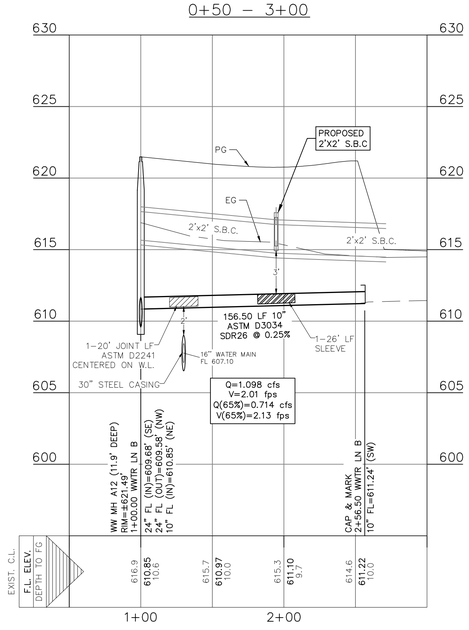
WWTR LN B
14+00 – 15+50



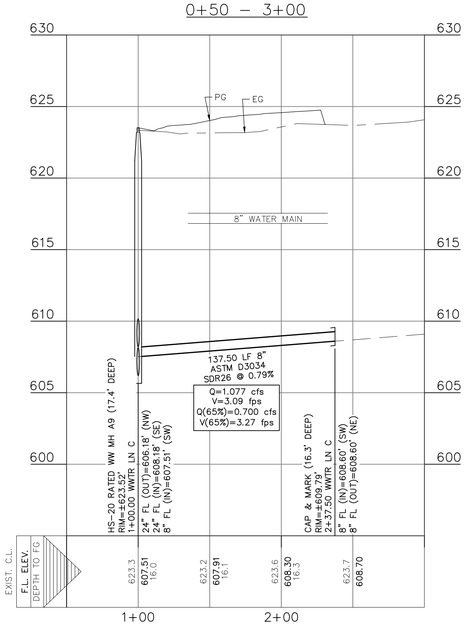
WWTR LN C
26+00 – 27+50

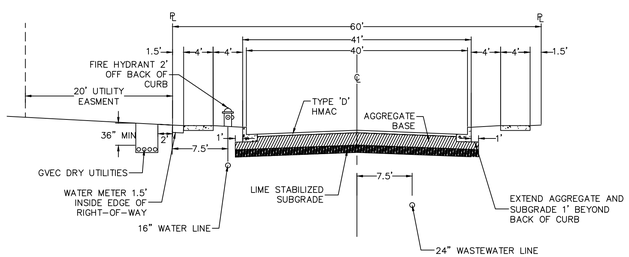


WWTR LN B
0+50 – 3+00



WWTR LN C
0+50 – 3+00





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WASTEWATER LINE B & C PLAN & PROFILE

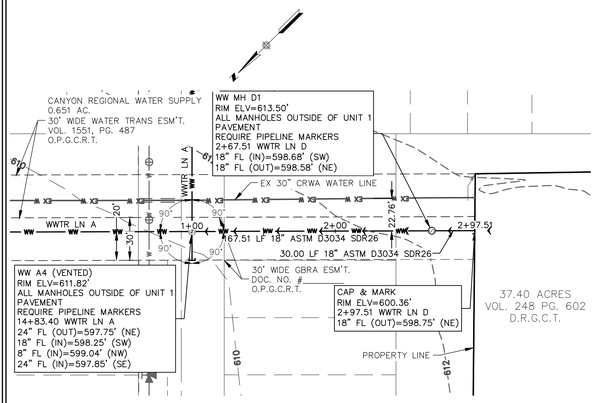
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

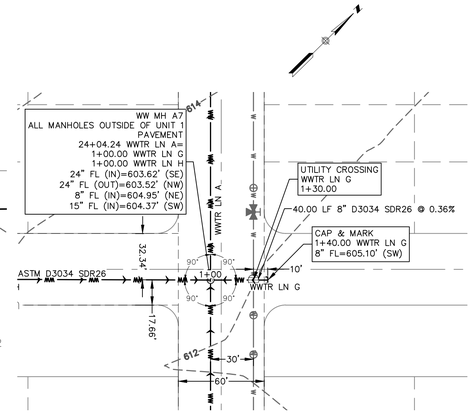
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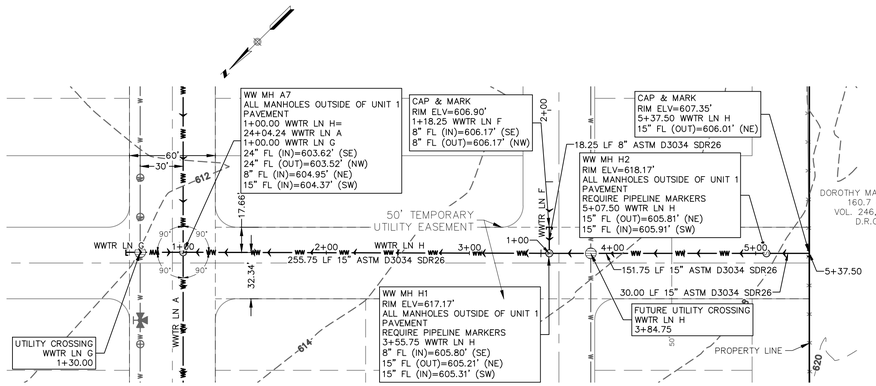
DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C7.08

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03s\337110_WWTR B-J PP.dwg User: kamdend Oct 28, 2025 - 10:09am







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SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

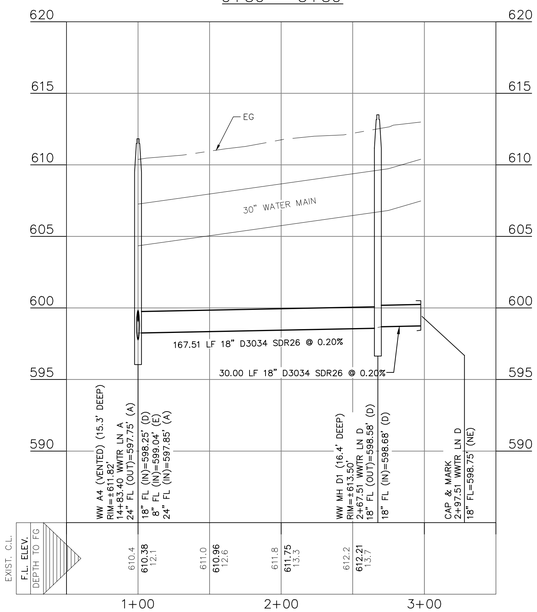
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U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
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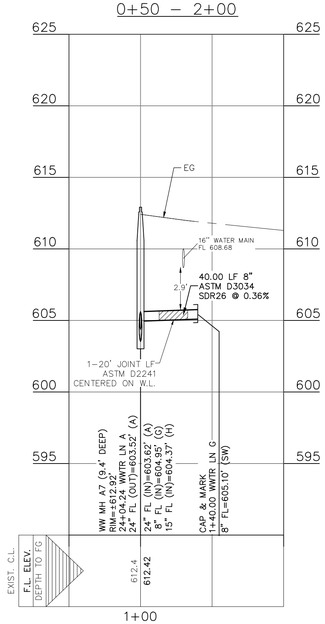
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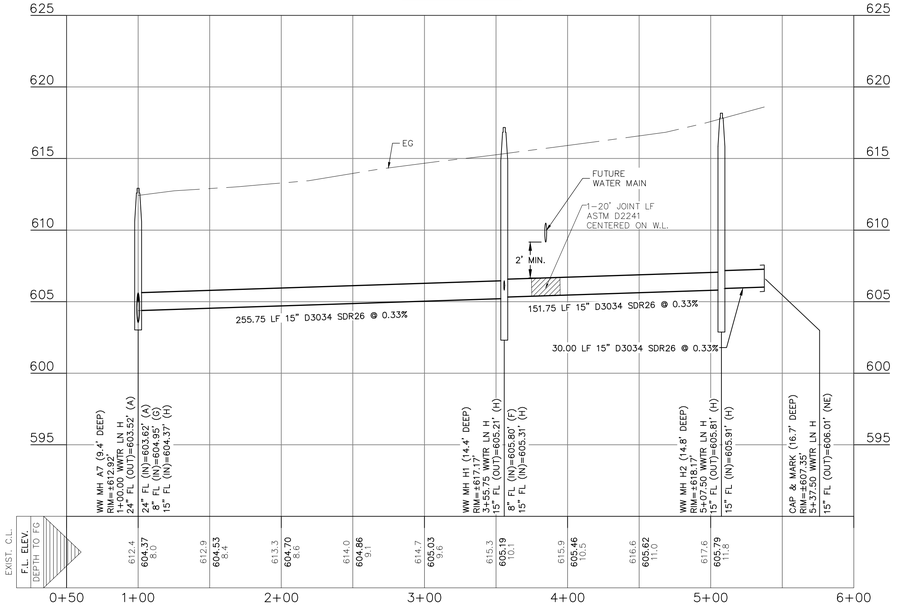
WWTR LN D
0+50 – 3+50

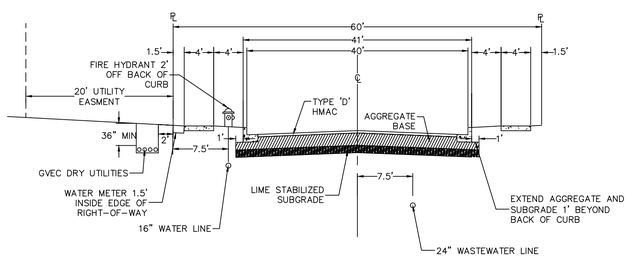


WWTR LN G
0+50 – 2+00



WWTR LN H
0+50 – 6+00





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WASTEWATER LINE D, G & H
PLAN & PROFILE

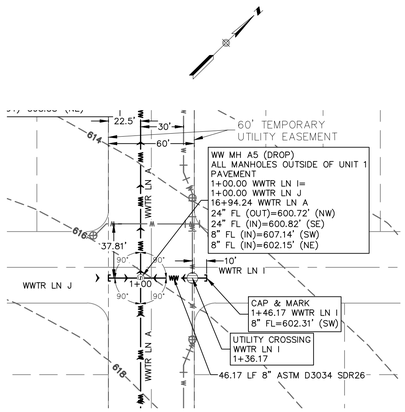
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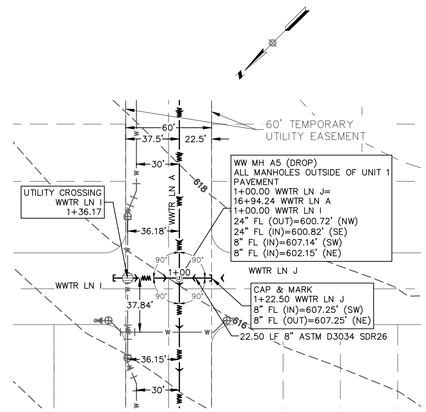
NO.	REVISION DESCRIPTION	REVISION DATE

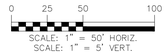
DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.09

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\03s\337110_WWTR B-J PP.dwg User: kondend Oct 28, 2025 - 10:10am







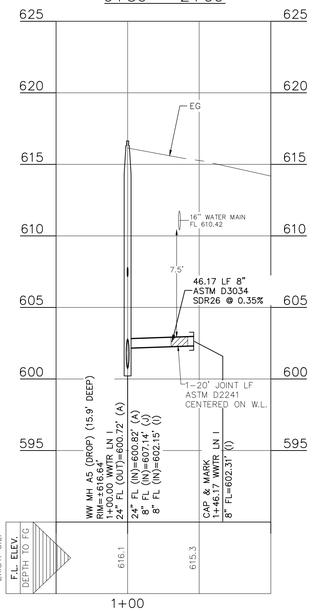
LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- EX WW — EXISTING WASTEWATER LINE
- S — PROPOSED WASTEWATER MANHOLE
- WW — PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING
- E — PROPOSED ELECTRIC LINE

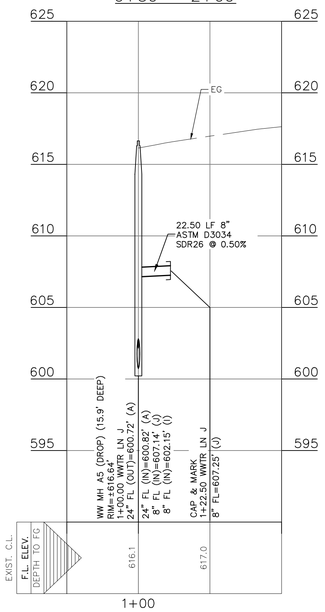
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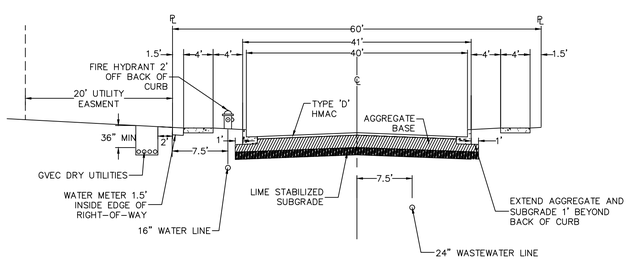
1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, CLEANOUTS, ECT. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALK OR DRIVEWAYS.
3. ALL SEWER PIPE MATERIAL SHALL BE ASTM D3034 (115PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
4. AT WATER CROSSING INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR26 PIPE SHALL BE USED FOR MAINS AND LATERALS.
5. REFER TO ALL GBRA NOTES ON SHEET C0.02.

WWTR LN I
0+50 – 2+00



WWTR LN J
0+50 – 2+00





TYPICAL UTILITY ASSIGNMENTS

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD(Water)	830-914-2331
Time Warner Cable	830-625-3408
Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
GVEC(Electric)	830-223-4832
Guadalupe-Blanco River Authority(Sewer)	830-379-5822
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

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.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

WASTEWATER LINE I & J PLAN & PROFILE

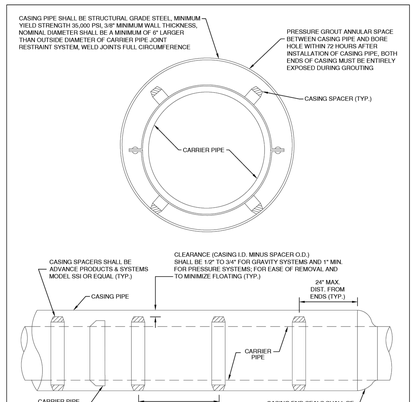
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

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C7.10

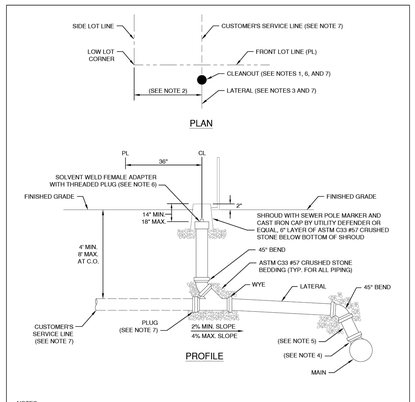
Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\C0s\337110_WWTR B-J PP.dwg User: komdend Oct 28, 2025 - 10:10am



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 SEWERS 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	

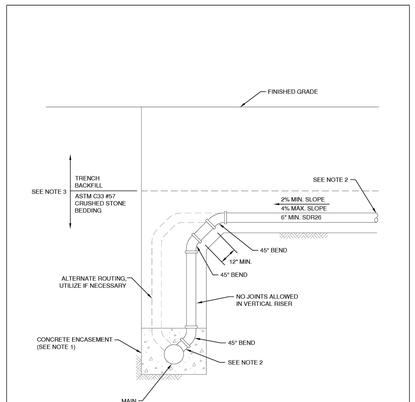
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NOTES:
1. CLEANOUTS (C.O.) ARE NOT ALLOWED WITHIN DRIVEWAYS.
2. PROVIDE SINGLE WASTEWATER SERVICE'S 5 FT FROM LOW LOT CORNER (TYPICAL). PROVIDE 8 FT WHERE LOT CORNER IS SHARED WITH DRY UTILITIES AND 10 FT WHERE LOT CORNER IS SHARED WITH A FIRE HYDRANT OR AIR RELEASE VALVE.
3. PIPE AND FITTINGS SHALL BE 6" DIAMETER, GREEN COLOR, GASKETED ASTM D3034 SDR35, 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	

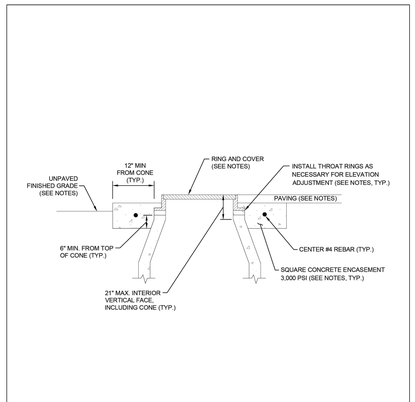
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NOTES:
1. CONCRETE ENCASEMENT SHALL BE PLACED, UPON AND AGAINST UNDISTURBED EARTH.
2. REFERENCE DETAIL 570 FOR ADDITIONAL REQUIREMENTS.
3. REFERENCE DETAIL 420 FOR ADDITIONAL REQUIREMENTS.
4. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GBRA Guadalupe-Blanco River Authority	WASTEWATER LATERAL VERTICAL STACK	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 580	

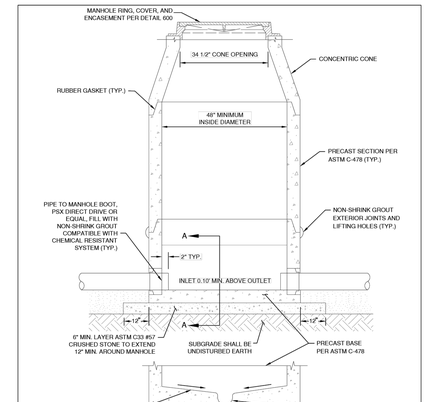
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NOTES:
1. MANHOLE RING CONCRETE ENCASEMENT IS REQUIRED FOR ALL MANHOLES.
2. INSTALL CONCRETE ENCASEMENT SQUARE WITH CURB.
3. MANHOLE RIM ELEVATIONS SHOWN IN PLAN AND PROFILE VIEWS ARE APPROXIMATE.
4. IN UNPAVED AREAS, ASSEMBLY SHALL BE INSTALLED PLUMB/LEVEL, TOP OF CONCRETE ENCASEMENT SHALL BE 2" 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 424321059W01, 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 "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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GBRA Guadalupe-Blanco River Authority	PIPE TRENCH	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 420	

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NOTES:
1. A WASTEWATER COLLECTION SYSTEM PIPE, INCLUDING SERVICE LATERALS, ENTERING A MANHOLE MORE THAN 24" ABOVE THE MANHOLE CUT 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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TYPE 1 PIPELINE MARKER	TYPE 2 PIPELINE MARKER

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 5735T61 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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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

10/28/2025

WASTEWATER DETAILS

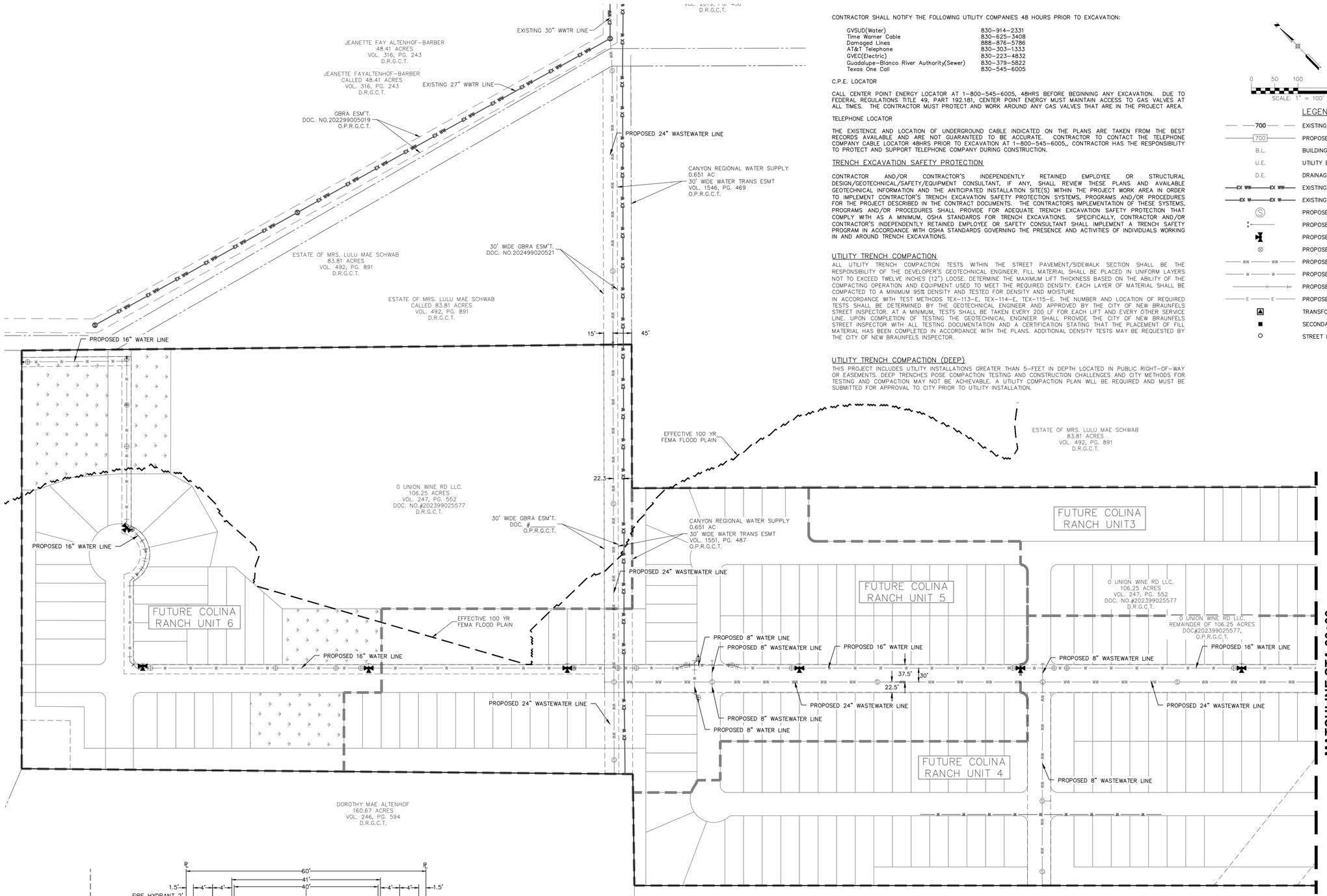
COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

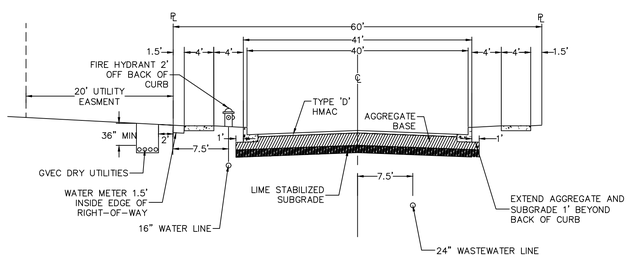
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: OCTOBER 2025
DRAWN BY: AE
DESIGNED BY: WRC
REVIEWED BY: MTA
HMT PROJECT NO.: 337.110

SHEET
C7.11

Drawing Name: N:_Projects\337 - Lennar\110 - Colina Ranch Phase 1 (123 Lots)\Cds\337.110_W-WTR-DETAILS.dwg User: kamdend Oct 28, 2025 - 10:11am





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UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, CLEANOUTS, ECT. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALK OR DRIVEWAYS.
3. ALL SEWER PIPE MATERIAL SHALL BE ASTM D3034 (115PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
4. AT WATER CROSSING INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR26 PIPE SHALL BE USED FOR MAINS AND LATERALS.
5. REFER TO ALL GBRA NOTES ON SHEET C0.02.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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0 50 100 200
SCALE: 1" = 100'

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
EX WW	EXISTING WASTEWATER LINE
EX W	EXISTING WASTEWATER LINE
S	PROPOSED WASTEWATER MANHOLE
	PROPOSED WATER SERVICE
	PROPOSED FIRE HYDRANT
	PROPOSED WATER GATE VALVE
WW	PROPOSED WASTEWATER LINE
W	PROPOSED WATER LINE
	PROPOSED WASTEWATER SERVICE
E	PROPOSED ELECTRIC LINE
	TRANSFORMER
	SECONDARY PEDESTAL
	STREET LIGHT

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

10/28/2025

OVERALL UTILITY PLAN (1 OF 2)

COLINA RANCH UNIT 1
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **OCTOBER 2025**
DRAWN BY: **AE**
DESIGNED BY: **WRC**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.110**

SHEET
C8.01

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CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

GVSUD(Water)	830-914-2331
Time Warner Cable	830-625-3408
Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
GVEC(Electric)	830-223-4832
Guadalupe-Blanco River Authority(Sewer)	830-379-5822
Texas One Call	830-545-6005

C.P.E. LOCATOR

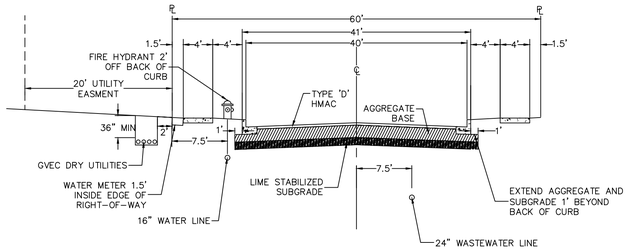
CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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



TYPICAL UTILITY ASSIGNMENTS

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.

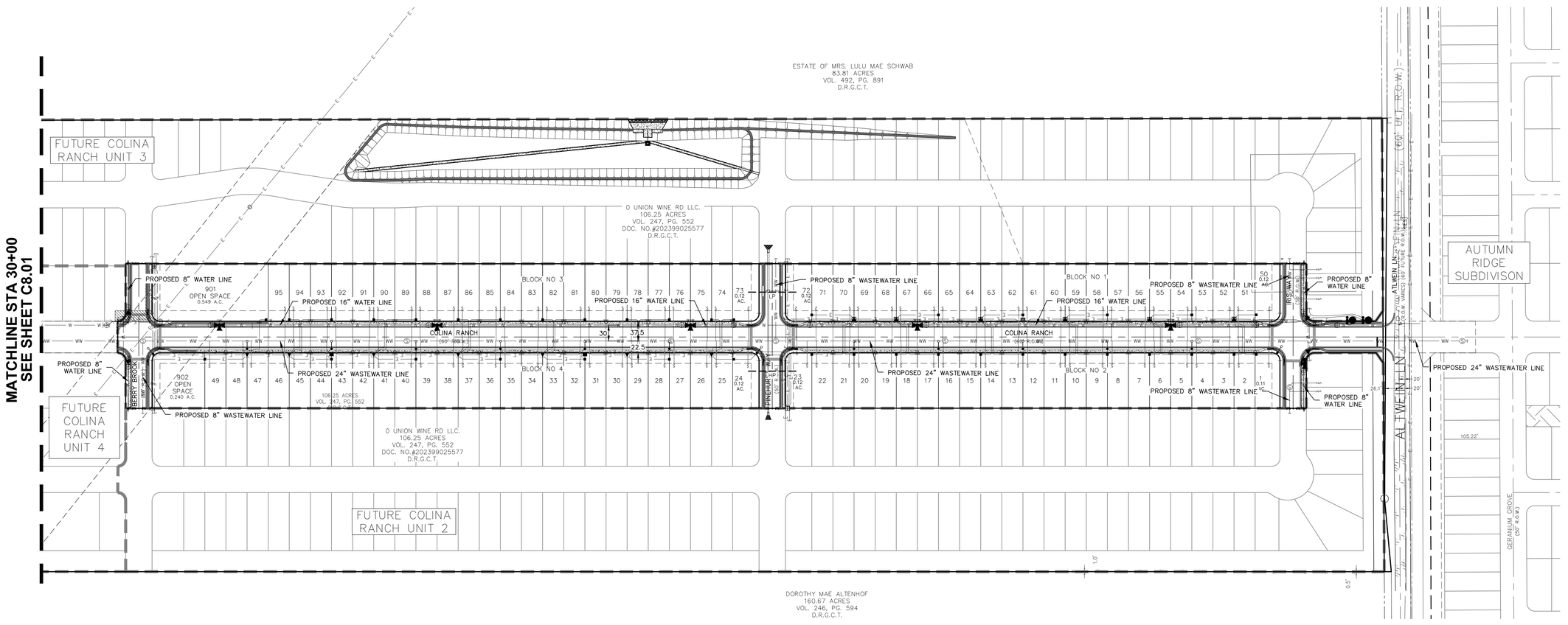
UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, CLEANOUTS, ECT. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALK OR DRIVEWAYS.
3. ALL SEWER PIPE MATERIAL SHALL BE ASTM D3034 (115PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
4. AT WATER CROSSING INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR26 PIPE SHALL BE USED FOR MAINS AND LATERALS.
5. REFER TO ALL GBRA NOTES ON SHEET C0.02.

0 50 100 200
SCALE: 1" = 100'

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
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D.E.	DRAINAGE EASEMENT
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EX W / EX W	EXISTING WASTEWATER LINE
Ⓢ	PROPOSED WASTEWATER MANHOLE
	PROPOSED WATER SERVICE
	PROPOSED FIRE HYDRANT
⊗	PROPOSED WATER GATE VALVE
WW / WW	PROPOSED WASTEWATER LINE
W / W	PROPOSED WATER LINE
	PROPOSED WASTEWATER SERVICE
E / E	PROPOSED ELECTRIC LINE
	TRANSFORMER
	SECONDARY PEDESTAL
	STREET LIGHT



REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

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