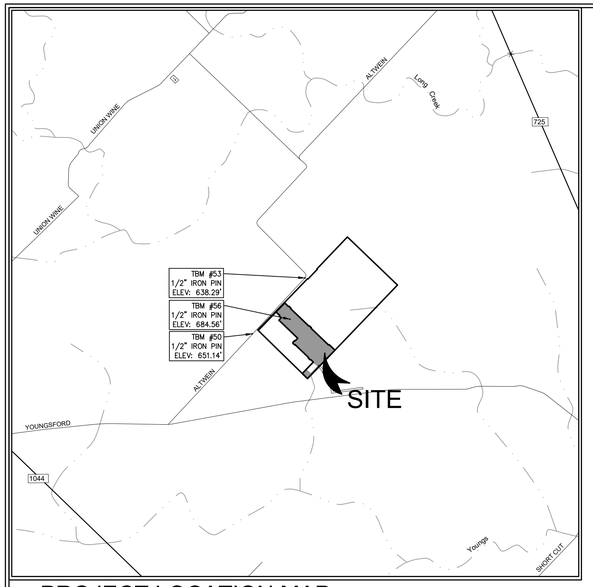
BOTANICAL FARM, UNIT 1

GUADALUPE COUNTY, TEXAS

CIVIL SITE CONSTRUCTION PLANS



PROJECT LOCATION MAP SCALE: N.T.S.

PROJECT BENCHMARK

SITE TBM #50
SET 1/2" IRON PIN
N: 13770945.25
E: 2257207.72
ELEV: 651.14'

SITE TBM #56
SET 1/2" IRON PIN
N: 13771354.40
E: 2258260.99
ELEV: 684.56'

SITE TBM #53
SET 1/2" IRON PIN
N: 13772507.10
E: 2258681.66
ELEV: 638.29'

LEGAL DESCRIPTION

BEING A 26.543 ACRE TRACT OF LAND OUT OF THE 160.980 TRACT OF LAND LOCATED IN THE WILLIAM BRACKEN SURVEY, ABSTRACT NO 52, GUADALUPE COUNTY, TEXAS, BEING ALL OF THE REMAINDER OF A CALLED 106 ACRE TRACT, "TRACT I", SAVE AND EXCEPT A 15' STRIP AND ALL OF A CALLED 55.15 ACRE TRACT, "TRACT I", RECORDED IN VOLUME 735, PAGE 1095, DEED RECORDS, GUADALUPE COUNTY, TEXAS

PROJECT DESCRIPTION

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

BOTANICAL FARM MUNICIPAL UTILITY DISTRICT (M.U.D.)

REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

_____
DISTRICT ENGINEER

GENERAL NOTES:

1. THE MOST CURRENT EDITIONS OF GUADALUPE COUNTY 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 GUADALUPE COUNTY STANDARD DETAILS.
2. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, GUADALUPE COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER IN RECORD.
3. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT GUADALUPE COUNTY 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 _____ OR,
   4.2 FAXED IN AT _____ OR,
   4.3 E-MAILED AT _____.

4. 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.
5. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
6. 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, 2, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
7. THIS PROJECT IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONE.
8. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE COUNTY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY, IF APPLICABLE.
9. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER AND WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, GUADALUPE COUNTY, GVSUD WATER STANDARDS & DESIGN CRITERIA, SOUND ENGINEERING JUDGEMENT AND ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES.

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

REQUIRED PERMITS	NUMBER
1. GUADALUPE COUNTY	#
2. GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD)	#
3. GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC)	#
4. GUADALUPE-BLANCO RIVER AUTHORITY (GBRA)	#

MARCH 2026

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

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

Sheet List Table	
Sheet No	Sheet Title
C0.01	COVER SHEET
C0.02	GENERAL NOTES
C0.03	PLAT (1 OF 3)
C0.04	PLAT (2 OF 3)
C0.05	PLAT (3 OF 3)
C1.01	EXISTING DRAINAGE AREA MAP
C1.02	ULTIMATE DRAINAGE AREA MAP
C1.03	UNIT 1 PROPOSED DRAINAGE AREA MAP
C1.04	ULTIMATE SUB-DRAINAGE AREA MAP – CHANNELS AND SIDEWALK BOXES
C1.05	ULTIMATE SUB-DRAINAGE AREA MAP – STREET CAPACITY
C1.06	PROPOSED SUB-DRAINAGE AREA MAP
C2.01	EROSION & SEDIMENT CONTROL PLAN
C2.02	EROSION & SEDIMENT CONTROL DETAILS
C3.01	ALOE AVE PLAN & PROFILE
C3.02	WALNUT GROVE AVE PLAN & PROFILE
C3.03	FUCHSIA PATH PLAN & PROFILE
C3.04	TANGERINE TRL PLAN & PROFILE (1 OF 2)
C3.05	TANGERINE TRL PLAN & PROFILE (2 OF 2)
C3.06	BAMBOO BLVD PLAN & RPROFILE (1 OF 2)
C3.07	BAMBOO BLVD PLAN & PROFILE (2 OF 2)
C3.08	RASPBERRY RIDGE PLAN & PROFILE
C3.09	SIGNAGE PLAN (1 OF 2)
C3.10	SIGNAGE PLAN (2 OF 2)
C3.11	FIRE ACCESS PLAN
C3.12	STREET DETAILS (1 OF 4)
C3.13	STREET DETAILS (2 OF 4)
C3.14	STREET DETAILS (3 OF 4)
C3.15	STREET DETAILS (4 OF 4)
C4.01	GRADING PLAN (1 OF 2)
C4.02	GRADING PLAN (2 OF 2)
C4.03	GRADING DETAILS
C5.01	OVERALL STORM
C5.02	CHANNEL A PLAN & PROFILE (1 OF 2)
C5.03	CHANNEL A PLAN & PROFILE (2 OF 2)
C5.04	CHANNEL B PLAN & PROFILE
C5.05	CHANNEL C PLAN & PROFILE
C5.06	TEMPORARY CHANNEL A PLAN & PROFILE (1 OF 3)
C5.07	TEMPORARY CHANNEL A PLAN & PROFILE (2 OF 3)
C5.08	TEMPORARY CHANNEL A PLAN & PROFILE (3 OF 3)
C5.09	TEMPORARY CHANNEL B PLAN & PROFILE (1 OF 2)
C5.10	TEMPORARY CHANNEL B PLAN & PROFILE (2 OF 2)
C5.11	DETENSION BASIN A
C5.12	DETENSION BASIN A OUTFALL DETAIL
C5.13	DETENTION BASIN C
C5.14	BASIN DETAILS
C5.15	STORM DETAILS (1 OF 2)
C5.16	STORM DETAILS (2 OF 2)
C6.01	OVERALL WATER PLAN (1 OF 2)
C6.02	OVERALL WATER PLAN (2 OF 2)
C6.03	WATER DETAILS (1 OF 2)
C6.04	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
C7.04	WASTEWATER LINE B PLAN & PROFILE
C7.05	WASTEWATER LINE C & D PLAN & PROFILE (1 OF 3)
C7.06	WASTEWATER LINE D PLAN & PROFILE (2 OF 3)
C7.07	WASTEWATER LINE D PLAN & PROFILE (3 OF 3)
C7.08	WASTEWATER LINE E PLAN & PROFILE (1 OF 2)
C7.09	WASTEWATER LINE E PLAN & PROFILE (2 OF 2)
C7.10	WASTEWATER DETAILS

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.

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GUADALUPE COUNTY PLAN REVIEW

1. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE COUNTY SHALL ATTEND A PRECONSTRUCTION MEETING INCLUDING (BUT NOT LIMITED TO) THE CITY, ENGINEER, CONTRACTOR, DEVELOPER'S INSPECTION REPRESENTATIVE, AND DEVELOPER'S CONSTRUCTION MATERIAL TESTING REPRESENTATIVE.
2. DURING CONSTRUCTION, NOTIFY THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AT LEAST 48 HOURS IN ADVANCE OF ANY WORK TO BE PERFORMED AFFECTING SUBGRADE, BASE, OR PAVEMENT INCLUDING BACKFILL OF ANY PROPOSED UTILITIES UNDERNEATH THE PAVEMENT AND FILL AREAS UPON WHICH PAVEMENT IS PROPOSED TO BE PLACED. SUCH NOTIFICATION IS ALSO REQUIRED BEFORE IMPLEMENTING ANY APPROVED TRAFFIC CONTROL PLANS ON EXISTING COUNTY-MAINTAINED ROADS. FULL CLOSURE OF COUNTY ROADS REQUIRES AT LEAST ONE MONTH ADVANCE NOTICE AND IS SUBJECT TO THE DISCRETION OF THE COUNTY ENGINEER AND POSSIBLE APPROVAL BY GUADALUPE COUNTY COMMISSIONERS COURT PER TRANSPORTATION CODE, CHAPTER 251.
3. DURING CONSTRUCTION, PROVIDE ALL INSPECTION AND TESTING REPORTS TO THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AS SOON AS AVAILABLE FOR IDENTIFICATION AND CORRECTION OF ANY EMERGING DEFICIENCIES.
4. AT THE COMPLETION OF CONSTRUCTION, PROVIDE AS BUILT DRAWINGS AND A LETTER SIGNED AND SEALED BY THE ENGINEER OF RECORD CERTIFYING THAT:
   - 4.1. ALL IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS AND COUNTY REGULATIONS.
   - 4.2. ANY CHANGED IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE COUNTY'S REGULATIONS.
   - 4.3. THE ELEVATIONS AND GRADES WERE TAKEN BY AN ON SITE SURVEY ON A DATE SPECIFIED TO ENSURE THAT ALL PAVEMENT, INLETS, MANHOLES AND APPURTENANCES ARE CONSTRUCTED TO GRADE AS SHOWN ON THE RECORD DRAWINGS AND ARE IN COMPLIANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
   - 4.4. ALL TRUNK STORM SEWERS AND LEADS ARE OF THE PROPER SIZE AND THAT ALL IMPROVEMENTS ARE CAPABLE OF PERFORMANCE AS DESIGNED AND APPROVED.

GVEC NOTES:

1. 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.
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'X 20'UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.
4. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.
5. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
6. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

GBRA WASTEWATER CONSTRUCTION NOTES

REVISED 10/01/2025

GENERAL:

- A. ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED CONFORMED DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENTS, TCEQ RULES, AWWA STANDARDS, APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS, AND SHALL BE IN ACCORDANCE WITH GBRA STANDARDS AND DESIGN GUIDELINES PUBLISHED ON GBRA'S DEVELOPER RESOURCES WEB PAGE. IN THE EVENT OF CONFLICT AMONG ANY SUCH REQUIREMENTS, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
- B. SUBMIT ALL PROPOSED MATERIALS IN ACCORDANCE WITH GBRA STANDARDS AND DESIGN GUIDELINES SECTION 1.3.
- C. CONTRACTOR'S SUPERINTENDENT MUST BE ON-SITE TO SUPERVISE ALL WORK, INCLUDING WORK PERFORMED BY SUBCONTRACTORS AND VENDORS.
- D. ALL WORK MUST BE INSPECTED AND APPROVED BY GBRA PRIOR TO BACKFILLING, CLOSING WALLS OR FORMS, PLACING CONCRETE, OR OTHERWISE COVERING THE WORK. THIS INCLUDES CROSSINGS BY OTHER UTILITIES. ANY WORK THAT IS COVERED PRIOR TO INSPECTION AND APPROVAL MUST BE UNCOVERED. GBRA WILL PERFORM A MAXIMUM OF ONE (1) INSPECTION DAILY FOR ONE (1) HOUR DURATION BETWEEN 8:00AM AND 5:00PM EXCLUDING WEEKENDS AND HOLIDAYS. ADVANCE NOTICE OF TWO (2) BUSINESS DAYS (48 HOURS) IS REQUIRED FOR ALL INSPECTIONS. CONTRACTOR SHALL UTILIZE SHAREPOINT TO SUBMIT ALL REQUESTS FOR INSPECTIONS. SHAREPOINT INSTRUCTIONS WILL BE PROVIDED BY GBRA. CONTRACTOR SHALL PROVIDE SAFE ACCESS TO THE WORK FOR INSPECTOR. CONTRACTOR SHALL PROVIDE ASSISTANCE FOR INSPECTOR TO VERIFY LINES AND GRADES. PHOTOS WILL NOT BE ACCEPTED AS SUBSTITUTE FOR INSPECTIONS.
- E. EXISTING WATER AND WASTEWATER SYSTEMS SHALL REMAIN IN SERVICE AT ALL TIMES DURING CONSTRUCTION UNLESS SPECIFICALLY APPROVED OTHERWISE BY GBRA. ANY WORK INVOLVING TIE-INS, SHUTDOWNS, POWER OUTAGES, OR ANY OTHER INTERRUPTIONS, MUST BE PERFORMED BETWEEN 8:00AM AND 5:00PM EXCLUDING WEEKENDS AND HOLIDAYS, UNLESS SPECIFICALLY APPROVED OTHERWISE BY GBRA. ALL TEMPORARY POWER, BYPASS PUMPING, PUMP AND HAUL, TEMPORARY PLUGS, ETC., NECESSARY TO MAINTAIN SYSTEM OPERATIONS AND ACCOMPLISH THE WORK, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR. COORDINATE AND SCHEDULE ANY SUCH ACTIVITIES WITH GBRA AT LEAST TEN (10) BUSINESS DAYS IN ADVANCE.
- F. IN THE EVENT BYPASS PUMPING OR PUMP AND HAUL ARE REQUIRED, THE CONTRACTOR SHALL PROVIDE A PUMPING AND MONITORING PLAN FOR GBRA REVIEW, COMMENT, AND APPROVAL. THE PUMPING SYSTEM FOR EACH DIVERSION MUST BE FULLY REDUNDANT AND RATED FOR PEAK FLOW WITH THE LARGEST PUMP OUT OF SERVICE. THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING, PLUGS, AND ASSOCIATED APPURTENANCES INCLUDING AUTOMATIC CONTROLS AND 24-HOUR REMOTE MONITORING OR ONSITE PUMP WATCH PERSONNEL TO ENSURE THAT NO OVERFLOWS OR SPILLS OCCUR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CLEANUP AND REPORTING EFFORTS DUE TO FAILURE OF EQUIPMENT OR ACTIVITIES ASSOCIATED WITH THE PUMPING OPERATIONS CONTRIBUTING TO ANY SURCHARGE OR SANITARY SEWER OVERFLOW (SSO). THE COST OF ANY RELATED FINES, PENALTIES, OR DAMAGES AND THE COST OF ANY EFFORT BY GBRA OR OTHER THIRD PARTIES TO MITIGATE DAMAGES RESULTING FROM ANY SURCHARGING OR SSOS SHALL BE THE DIRECT AND SOLE RESPONSIBILITY OF THE CONTRACTOR.
- G. CONTRACTOR SHALL FIELD VERIFY VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ORDERING MATERIALS AND PRIOR TO PERFORMING ANY WORK. SCHEDULE GBRA TO WITNESS. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
- H. CONTRACTOR SHALL FIELD VERIFY CONFIGURATION OF ALL PROPOSED TIE-INS TO EXISTING FACILITIES PRIOR TO ORDERING MATERIALS AND PRIOR TO PERFORMING ANY WORK. SCHEDULE GBRA TO WITNESS. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
- I. SURVEY STAKING AND LAYOUT SHALL BE PERFORMED BY THE CONTRACTOR FOR ALL WORK. SURVEY STAKING AND LAYOUT MUST BE INSTALLED PRIOR TO AND MAINTAINED DURING PERFORMANCE AND INSPECTION OF THE WORK. SURVEY STAKING AND LAYOUT SHALL INCLUDE VERTICAL AND HORIZONTAL CONTROL AT MAXIMUM 50-FOOT STATION INTERVALS, GRADE/ALIGNMENT CHANGES, STRUCTURES, SITEWORK, EQUIPMENT, ETC. HORIZONTAL OFFSETS SHALL BE 15 FEET MAXIMUM. INSTALL PROPERTY PINS AND STAKES. MARK FINISHED GRADE LINES WITH CUT/FILL ON OFFSET STAKES AND PROPERTY STAKES. ALL MARKS SHALL FACE THE WORK.
- J. TRENCH EXCAVATION AND INSTALLATION OF UTILITIES WILL NOT BE PERMITTED UNTIL SUBGRADE HAS BEEN ESTABLISHED.
- K. PIPE BELLS SHALL BE INSTALLED IN UPSTREAM DIRECTION.
- L. ALL PIPING SHALL BE INSTALLED IN STRAIGHT ALIGNMENT VERTICALLY AND HORIZONTALLY BETWEEN BEND FITTINGS FOR PRESSURE SYSTEMS AND BETWEEN MANHOLES FOR GRAVITY SYSTEMS. PIPE CURVATURE AND/OR DEFLECTION ARE NOT ALLOWED.
- M. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 12 INCHES VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER LINES AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.
- N. PIPE LENGTHS SHALL BE CENTERED AT ALL WATER AND WASTEWATER CROSSINGS. BOTH PIPES SHALL BE CENTERED AT EACH CROSSING INCLUDING BUT NOT LIMITED TO MAINS, SERVICE LATERALS, FIRE HYDRANT LEADS, APPURTENANCES, ETC.
- O. WATER AND WASTEWATER PIPING (INCLUDING MAINS, SERVICES, AND LATERALS) SHALL BE SLEEVED IF LOCATED UNDER CONCRETE CHANNELS, BOX CULVERTS, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE AND SINGLE BARRELS NOMINAL 30"OR LARGER, AND OTHER UTILITIES NOMINAL 30"OR LARGER. SLEEVES SHALL EXTEND HORIZONTALLY BEYOND THE LIMITS OF THESE ITEMS FOR A DISTANCE EQUAL TO THE MAXIMUM SEPARATION OF OUTSIDE DIAMETER OF SLEEVE PLUS 10 LF MINIMUM ON EACH SIDE.
- P. BURIED PRESSURE PIPING SYSTEMS SHALL BE MECHANICALLY RESTRAINED. REFER TO DETAIL 480 FOR RESTRAINED LENGTH REQUIREMENTS. ENGINEER SHALL EVALUATE SOILS AND DETERMINE IF ANY ADDITIONAL RESTRAINTS ARE REQUIRED. IF THE ENGINEER REQUIRES CONCRETE THRUST BLOCKING IN ADDITION TO MECHANICAL RESTRAINTS, THE CONCRETE THRUST BLOCKING MUST BE INSTALLED IN ACCORDANCE WITH DETAIL 540.
- Q. BASE PLATES SHALL BEAR ON NON-SHRINK GROUT UNLESS SPECIFICALLY APPROVED OTHERWISE (E.G. COLUMNS, TOWERS, EQUIPMENT, STANCHION PIPE SUPPORTS, LIGHT POLES, ETC.). SHIMS MUST BE REMOVED AND LEVELING NUTS MUST BE LOWERED DURING THE GROUTING PROCESS. BEVEL EDGES OF GROUT PADS AT 45-DEGREES.
- R. VALVE BOXES, EQUIPMENT, PIPING, VALVES, AND APPURTENANCES SHALL BE PAINTED. FIELD PAINTING IS NOT REQUIRED IF FACTORY COATINGS MEET OR EXCEED THE REQUIREMENTS SPECIFIED IN GBRA STANDARDS AND DESIGN GUIDELINES SECTION 2.2.
- S. PROVIDE PAINTED CURB CUT MARKINGS AT WATER AND WASTEWATER VALVES AND SERVICES. MARKINGS SHALL BE PLACED ON LIP OF GUTTER. PROVIDE "V"MARKING FOR EACH VALVE AND "X"MARKING FOR EACH SERVICE. PAINT SHALL BE COLOR CODED POLYURETHANE.
- T. PROVIDE 6"MINIMUM CLEARANCE BETWEEN CONCRETE PENETRATIONS, AND BETWEEN CONCRETE PENETRATIONS AND CONCRETE JOINTS, AS MEASURED FROM NEAREST EDGE TO NEAREST EDGE.
- U. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH ¾"CHAMFER STRIPS. SIDEWALKS ARE EXEMPT FROM THIS REQUIREMENT.
- V. FOR FORMED CONCRETE SURFACES EXPOSED TO WEATHER OR EARTH, REBAR CLEARANCE SHALL BE 2"MINIMUM. FOR CONCRETE SURFACES CAST AGAINST EARTH, REBAR CLEARANCE SHALL BE 3"MINIMUM. ALL OTHER REBAR CLEARANCES SHALL BE 1 1/2"MINIMUM, INCLUDING CLEARANCES FROM EMBEDDED ITEMS.
- W. RUB FINISH ALL EXPOSED VERTICAL CONCRETE SURFACES. INSIDE HYDRAULIC STRUCTURES, RUB FINISH 2 FEET BELOW THE LOWEST OPERATING LEVEL AND ALL SURFACES ABOVE THAT LEVEL.
- X. PROVIDE BROOM FINISH AND CLEAR SEALER FOR ALL HORIZONTAL CONCRETE SURFACES EXPOSED TO WEATHER UNLESS NOTED OTHERWISE. BROOM FINISH SHALL BE PARALLEL TO ANY SPECIFIED SLOPE. CLEAN AND REMOVE STAINS FROM CONCRETE PRIOR TO APPLYING SEALER.
- Y. THE CONTRACTOR SHALL ADJUST EXISTING WATER AND WASTEWATER FACILITIES TO PROPOSED FINISHED GRADES INCLUDING BUT NOT LIMITED TO MANHOLES, CLEANOUTS, VALVES, HYDRANTS, APPURTENANCES, ETC.
- Z. EXISTING FACILITIES THAT ARE DISTURBED SHALL BE RESTORED AND TESTED TO BE IN FULL COMPLIANCE WITH CURRENT GBRA STANDARDS.
- AA. EXISTING MANHOLES THAT ARE DISTURBED SHALL BE RESTORED TO BE IN FULL COMPLIANCE WITH CURRENT GBRA STANDARDS INCLUDING TESTING, CHEMICAL RESISTANT LINING, RINGS AND COVERS, ETC.
- AB. ALL RESTORATION MUST BE COMPLETE PRIOR TO INSTALLING TIE-INS.
- AC. THE CONTRACTOR SHALL FURNISH AND INSTALL BACKFLOW PREVENTION IN THE FORM OF A REDUCED PRESSURE BACKFLOW ASSEMBLY FOR ALL TEMPORARY CONNECTIONS TO EXISTING WATER LINES. BACKFLOW DEVICES MUST BE TESTED AND CERTIFIED BY A LICENSED PROFESSIONAL. CONTRACTOR SHALL ARRANGE AND PAY FOR TESTING AND PROVIDE A COPY OF CERTIFICATION FOR GBRA REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- AD. CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE TEMPORARY FENCING AND GATES AS NECESSARY TO SECURE AND ACCESS THE WORK AND TO PREVENT LIVESTOCK FROM ENTERING THE WORK AREA.
- AE. CONTRACTOR SHALL PERFORM DEWATERING AS NECESSARY TO ACCOMPLISH THE WORK.
- AF. CONTRACTOR SHALL RESTORE AND REVEGETATE ALL DISTURBED AREAS.
- AG. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL PROPERLY DISPOSE OF EXCESS SPOILS OFF SITE IN ACCORDANCE WITH LOCAL LAWS, ORDINANCES, AND REGULATIONS.
- AH. BURIAL OR BURNING OF REFUSE IS NOT ALLOWED, CONTRACTOR SHALL PROPERLY DISPOSE OF SUCH MATERIAL OFF SITE IN ACCORDANCE WITH LOCAL LAWS, ORDINANCES, AND REGULATIONS.
- AI. EXPLOSIVES AND BLASTING ARE NOT ALLOWED.
- AJ. SUBMIT ALL ITEMS REQUIRED FOR FINAL COMPLETION IN ACCORDANCE WITH GBRA STANDARDS AND DESIGN GUIDELINES SECTION 1.4.

MATERIAL NOTES:

1. MANHOLES SHALL BE PRECAST REINFORCED CEMENTITIOUS CONCRETE WITH CHEMICAL RESISTANT LINING OR ADMIXTURE, OR PRECAST REINFORCED CHEMICAL RESISTANT POLYMER CONCRETE. CHEMICAL RESISTANT MATERIAL SHALL BE SCP DROPLINER OR SPECTRASHIELD LINING, CONSHIELD OR XYPEX BIO-SANCS00 ADMIXTURE, ARMOROCK OR ROCKHARDSCP OR U.S. COMPOSITE PIPE POLYMER CONCRETE, OR PRE-APPROVED EQUAL PRIOR TO BID. INSTALL IN ACCORDANCE WITH PUBLISHED MANUFACTURER RECOMMENDATIONS. CONCRETE SURFACE PREPARATION FOR LINING SHALL BE CSP 5 MINIMUM. PROVIDE A MINIMUM 10-YEAR MANUFACTURER WARRANTY FOR CHEMICAL RESISTANT MATERIALS TO INCLUDE LABOR, MATERIAL, AND EQUIPMENT FOR REMOVAL, REPAIR, AND REPLACEMENT.
2. SANITARY TAPPING SADDLES ARE NOT ALLOWED FOR NEW CONSTRUCTION. FOR EXISTING LINES, SANITARY TAPPING SADDLES SHALL BE NAPCO PART H4306-6R OR EQUAL (ADJUST PART NUMBER FOR SIZE REQUIRED). SADDLES SHALL BE INSTALLED 24"MINIMUM FROM THE NEAREST PIPE BELL AS MEASURED FROM THE NEAREST EDGE OF THE SADDLE TO THE NEAREST END OR TAPER OF BELL WHICHEVER IS CLOSER.
3. CLEANOUTS SHALL HAVE SHROUDS WITH SEWER POLE MARKERS AND CAST IRON CAPS IN ACCORDANCE WITH DETAIL 570.
4. BURIED GRAVITY WASTEWATER PIPE AND FITTINGS SHALL BE GREEN COLOR GASKETED ASTM D3034 SDR26. PIPE BELL JOINT RESTRAINTS, WHERE REQUIRED, SHALL BE FORD UNI-FLANGE SERIES 1390-P OR EQUAL; RESTRAINED JOINT PIPE MAY BE UTILIZED IN LIEU OF BELL JOINT RESTRAINTS. AT WATER CROSSINGS, INCLUDING BUT NOT LIMITED TO WATER MAINS, SERVICES, FIRE HYDRANT LEADS, APPURTENANCES, ETC., WHITE COLOR GASKETED 150 PSI MINIMUM PRESSURE RATED PIPE AND FITTINGS SHALL BE UTILIZED FOR WASTEWATER MAINS AND LATERALS.

TESTING NOTES:

1. ALL OTHER UTILITIES MUST BE COMPLETE PRIOR TO PERFORMING ANY WATER OR WASTEWATER TESTING.
2. IF ALLOWED BY THE INSPECTOR FROM THE JURISDICTION OVERSEEING STREET INSTALLATION, THE CONTRACTOR MAY PAVE STREETS AT THE CONTRACTOR'S OWN RISK PRIOR TO TESTING WATER AND WASTEWATER SYSTEMS.
3. ALL TESTING SHALL BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY GBRA.
4. ALL TESTING SHALL BE ARRANGED AND PAID FOR BY THE CONTRACTOR.
5. TESTING EQUIPMENT MUST BE CALIBRATED WITHIN THE PREVIOUS 12 MONTHS.
6. FIELD AND LABORATORY TESTING FIRMS SHALL INCLUDE GBRA ON THE DISTRIBUTION LIST FOR ALL TEST REPORTS RELATED TO GBRA FACILITIES.
7. CONTRACTOR SHALL PERFORM PRE-TESTING TO VERIFY PASSING RESULTS PRIOR TO REQUESTING GBRA INSPECTION.
8. ANY WORK THAT FAILS TESTING MUST BE CORRECTED AND RETESTED.
9. ANY WORK THAT IS DISTURBED MUST BE RETESTED.
10. ALL TESTING MUST BE COMPLETE, WITH PASSING RESULTS, PRIOR TO PERFORMING TIE-INS TO EXISTING WATER OR WASTEWATER SYSTEMS. TIE-INS MUST BE TESTED AS WELL.
11. CONTRACTOR SHALL PROVIDE ALL WATER, EQUIPMENT, HOSES, TEMPORARY PORTS, CAPS, PLUGS, PIPING, VALVES, FITTINGS, AIR RELEASES, AND APPURTENANCES NECESSARY FOR TESTING.
12. CONTRACTOR SHALL PROVIDE CONNECTION POINT FOR GBRA DIGITAL TEST GAUGE.
13. PERFORM TRENCH BACKFILL DENSITY TESTING AS FOLLOWS UNLESS SPECIFIED MORE STRINGENT BY THE DESIGN ENGINEER OR AUTHORITY WITH JURISDICTION (E.G. HOA/POA, CITY, COUNTY, STATE, ETC.). TEST EACH LIFT AT MAXIMUM 100 LF INTERVALS, INCLUDING UNPAVED AREAS, MINIMUM TWO (2) TESTS FOR EACH LIFT AT ALL ROAD CROSSINGS INCLUDING BUT NOT LIMITED TO SERVICES AND FIRE HYDRANT LEADS, 95% TO 102% COMPACTION, +/- 2% OPTIMUM MOISTURE, EXACT LOCATIONS TO BE RANDOMLY SELECTED BY GBRA INSPECTOR. JETTING AND/OR POTHOLING ARE NOT ALLOWED. TEST EACH LIFT PRIOR TO INSTALLING SUBSEQUENT LIFTS. SCHEDULE GBRA TO WITNESS TESTING. PROVIDE COPIES OF TEST REPORTS TO GBRA. FAILED LIFTS SHALL BE REMOVED AND RECOMPACTED 50 LF EACH WAY FROM TEST LOCATION AND SHALL BE RETESTED.
14. EXAMINE PAINT, COATINGS, AND ASSOCIATED SURFACE PREPARATION. PERFORM DRY FILM THICKNESS TESTING FOR EACH COAT PRIOR TO APPLICATION OF SUBSEQUENT COAT. REPAIR ANY DELAMINATION, DEFICIENCIES, OR OTHER DEFECTS.
15. EXAMINE GROUT AND CONCRETE WORK AND PERFORM NONDESTRUCTIVE TESTING IN ACCORDANCE WITH ACI 201.1R AND ACI 228.2R. REPAIR ANY DELAMINATION, VOIDS, CRACKS, OR OTHER DEFECTS.
16. EXAMINE CHEMICAL RESISTANT LINING INSIDE MANHOLES, WET WELLS, AND STRUCTURES. PERFORM HOLIDAY TESTING. PERFORM NONDESTRUCTIVE TESTING IN ACCORDANCE WITH ACI 201.1R AND ACI 228.2R. REPAIR ANY DELAMINATION, VOIDS, CRACKS, BLISTERS, HOLIDAYS, OR OTHER DEFECTS.

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 OF 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.

GVSUD CONSTRUCTION NOTES

1. ALL WORKMANSHIP AND MATERIALS FOR THE WATER SYSTEM SHALL CONFORM TO THE WATER STANDARDS AND DESIGN CRITERIA OF GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD).
2. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 5-FEET BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER AREAS.
3. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE KOPR KOTE OR APPROVED EQUAL 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.
4. TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING INITIAL BACKFILL.
5. EXCEEDING MAXIMUM DEFLECTION IS PROHIBITED. THE ANGULAR DEFLECTION AT BELL SPIGOT JOINTS SHOULD NOT EXCEED ONE (1) DEGREE. THIS WILL PRODUCE A 4-INCH OFFSET FOR EVERY 20-FOOT SECTION OF PIPE. JOINT DEFLECTION IS ACHIEVED AFTER THE JOINT IS ASSEMBLED IN STRAIGHT ALIGNMENT AND DEFLECTED TO THE REFERENCE MARK. THE BELL SHOULD BE BRACED TO ALLOW THE FREE END TO MOVE LATERALLY UNDER STEADY PRESSURE USING A PRY BAR OR OTHER SUITABLE MEANS. CARE SHOULD BE TAKEN NOT TO EXCEED THE MAXIMUM DEFLECTION ALLOWED OR TO DAMAGE THE PIPE WITH MACHINERY. ABRUPT CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS.
6. OVER STRESSING THE BELL BY OVER INSERTING THE JOINTS, OVERBELLING, AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION.
7. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST ONLY MUELLER HYDRANTS AND EJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE.8. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.
9. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS.
10. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.
11. SMALL SERVICE TAPS SHALL BE EITHER 1-INCH OR 2 INCH AND SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE WITH IRON PIPE THREADS. EXCEPTION: IF LOCATED WITHIN CITY OF CIBOLO- SERVICE TAPS TO BE MADE WITH DOUBLE STAINLESS STRAP EPOXY COATING SADDLES WITH IRON PIPE THREADS.
12. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1 INCH SERVICE REQUIRES 3 INCH CASING AND 2 INCH SERVICE REQUIRES 4 INCH CASING. CASING SHALL BE PVC SCHEDULE 40 OR APPROVED EQUAL.
13. SINGLE 5/8"& ¾"METER BOXES SHALL BE DFW36C 16"X 11". DUAL 5/8"& ¾"METER BOXES SHALL BE DFW38C 17"X 15". 1-INCH METER BOXES SHALL BE DFW65C-14-1A 15 1/4" X 30 3/8". ALL METER BOXES SHALL BE PLASTIC WITH LIDS HAVING REBAR, ARM, AND KNOCKOUT.
14. THE FORD U BRANCH IS TO BE USED ON ALL DUAL SERVICES (U48-43Q) WITH THE 5/8"X 3/4"FEMALE THREAD ANGLE HEAD. ALL OTHER ANGLE HEADS WILL BE THE FORD Q NUT. ALL CORPORATION STOPS WILL BE IPS X Q NUT. ALL BRASS VALVES TO BE 'BALL'TYPE MINIMUM 200 PSI PRESSURE RATING. "CC" THREADED CORPORATION STOPS PROHIBITED.
15. TAPPING MACHINES UTILIZED FOR INSTALLING ANY TYPE OF TAP 1-INCH TO 2-INCHES WILL BE OF THE PURGE TYPE, WHICH AT THE TIME OF TAPPING SHALL EXPEL ALL CHIPS AND RESIDUE TO ATMOSPHERE THROUGH AN APPROPRIATE OUTLET AND/OR BE ABLE TO RETAIN THE COUPON.
16. ALL WATER MAIN, PIPE, CASINGS, FITTINGS, AND VALVES SHALL BE LAID IN MANUFACTURED SAND EMBEDMENT PER DETAILS. THE SAND SHALL FULLY ENCASE ALL PIPES, INCLUDING FITTINGS AND VALVES, BY A MINIMUM OF 12-INCHES. ALL FITTINGS AND VALVES ARE TO RECEIVE THRUST BLOCKING, FOSTER ADAPTER, ANCHOR NIPPLE, FORD UNI-FLANGE RETAINER GLAND JOINT RESTRAINTS, AND BELL JOINT RESTRAINTS WHEN SPECIFIED BY GVSUD OR THE DISTRICT'S ENGINEER.
17. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS.
18. PRIOR TO CONSTRUCTION OF THE SEWER AND WATER MAINS, ALL R.O.W. ROADWAYS AND PARKWAY SHALL HAVE REFERENCE SURVEY STAKING AND BE EXCAVATED OR PROPERLY FILLED TO SUB-GRADE ELEVATION.
19. SURVEY STAKING OFFSETS ARE REQUIRED FOR ALL WATER MAIN AND APPURTENANCES.
20. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. CONTRACTOR SHALL INVESTIGATE AND FIELD VERIFY UTILITY LOCATIONS A MINIMUM OF 300 LF AHEAD OF CROSSING AND TIE-IN LOCATIONS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE PROTECTION OF THE EXISTING UTILITIES, WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.
21. ALL WASTEWATER PIPES CROSSING THE POTABLE WATER DISTRIBUTION SYSTEM WILL BE HELD IN STRICT ACCORDANCE WITH TCEQ RULES AND REGULATIONS. PROPOSED SUB-GRADE LIMITS AND DIMENSIONS MUST BE SHOWN ON THE PLANS, AND CONSTRUCTION PROCEDURES WILL BE INSPECTED TO VERIFY COMPLIANCE WITH TCEQ 290.44(E).
22. OTHER UTILITIES SHALL NOT BE LOCATED CLOSER THAN 3-FEET TO WATER MAINS.
23. THE GREEN VALLEY INSPECTOR SHALL BE NOTIFIED AT LEAST FORTY-EIGHT HOURS PRIOR TO BACK FILLING OR TESTING.
24. A FIELD PRE-CONSTRUCTION MEETING SHALL BE HELD BEFORE CONSTRUCTION BEGINS AND MATERIAL SHALL BE AVAILABLE ON-SITE FOR INSPECTION

FINAL PLAT ESTABLISHING

BOTANICAL FARM, UNIT 1

BEING A 26.543 ACRE TRACT OF LAND OUT OF THE 160.980 TRACT OF LAND LOCATED IN THE WILLIAM BRACKEN SURVEY, ABSTRACT NO 52, GUADALUPE COUNTY, TEXAS, RECORDED IN DOCUMENT NO 202599001525, DEED RECORDS, GUADALUPE COUNTY, TEXAS

PLAT NOTES:

1. ALL LOTS WITHIN THE SUBDIVISION WILL BE SERVED BY THE FOLLOWING:
   ELECTRIC - GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC)
   TELEPHONE AND CABLE - AT&T/SPECTRUM
   WATER - GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD)
   WASTEWATER - 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 NEW BRAUNFELS EXTRA TERRITORIAL JURISDICTION IN GUADALUPE COUNTY, TEXAS.
6. THIS SUBDIVISION IS WITHIN THE SEGUIN INDEPENDENT SCHOOL DISTRICT.
7. THIS SUBDIVISION IS WITHIN PRECINCT 1.
8. THIS SUBDIVISION DOES NOT LIE WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE ADOPTED FLOOD MAPS, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187C0255F, EFFECTIVE DATE NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
9. THIS UNIT CONTAINS 95 BUILDABLE RESIDENTIAL LOTS, 1 OPEN SPACE AND DRAINAGE LOT, 1 DRAINAGE LOT, AND 1 OPEN SPACE AND UTILITY LOT.
10. ALL DRAINAGE RELATED EASEMENTS, LOTS, STRUCTURES, PONDS, AND APPURTENANCES WILL BE OWNED AND MAINTAINED BY THE BOTANICAL FARM MUNICIPAL UTILITY DISTRICT.
11. LOT 901, BLOCK 1 (OPEN SPACE AND DRAINAGE), LOT 902, BLOCK 16 (DRAINAGE) AND LOT 903, BLOCK 7 (OPEN SPACE AND UTILITY) SHALL BE OWNED AND MAINTAINED BY THE MUNICIPAL UTILITY DISTRICT, ITS SUCCESSORS AND/OR ASSIGNS.
12. ROW ACREAGE FOR THIS UNIT IS AS FOLLOWS:
    1. ALOE AVE = 0.502 AC.
    2. BAMBOO BLVD = 2.786 AC.
    3. WALNUT GROVE AVE = 0.700 AC.
    4. TANGERINE TRAIL = 2.399 AC.
    5. RASPBERRY RIDGE = 1.651 AC.
    6. FUSCHIA PATH = 0.950 AC.

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" 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 THE 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 THE EASEMENT AGREEMENT.
6. GVSUD MAY REMOVE ALL TREES AND SHRUBBERY FROM EASEMENTS WITHOUT NOTICE OR COMPENSATION.

_____
GREEN VALLEY SPECIAL UTILITY DISTRICT DATE

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. I DO HEREBY CERTIFY THAT THIS PLAT COMPLIES WITH THE SUBDIVISION REGULATIONS ADOPTED BY GUADALUPE COUNTY, TEXAS.

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

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:_____

PLAT PREPARED February 19, 2026

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

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. 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 BOTANICAL FARM, UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

_____
AGENT FOR GUADALUPE VALLEY ELECTRIC COOP, INC. DATE

STATE OF TEXAS
COUNTY OF GUADALUPE

THIS PLAT OF BOTANICAL FARMS UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY THE COMMISSIONERS COURT OR GUADALUPE COUNTY, TEXAS, WHICH COURT ACKNOWLEDGES THAT THE PLAT CONFORMS TO THE SUBDIVISION REGULATIONS OF SAID COUNTY AND DOES HEREBY APPROVE SUCH PLAT ON THIS _____ DAY OF _____ _____, 20_____.

_____ _____
KYLE KUTSCHER DATE TERESA KIEL DATE
COUNTY JUDGE COUNTY CLERK

_____ _____
JACQUELINE OTT DATE DREW ENGELKE DATE
COMMISSIONER PCT 1 COMMISSIONER PCT 2

_____ _____
JIM WOLVERTON DATE STEPHEN GERMANN DATE
COMMISSIONER PCT 3 COMMISSIONER PCT 4

STATE OF TEXAS
COUNTY OF _____

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS BOTANICAL FARM, UNIT 1, A SUBDIVISION TO GUADALUPE COUNTY, 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.

_____
RIF 2 LLC

BY: _____ - 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:_____

GBRA NOTES:

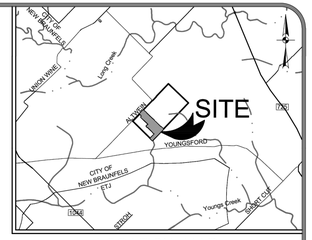
1. THE GUADALUPE-BLANCO RIVER AUTHORITY (GBRA) IS HEREBY DEDICATED THE EASEMENT AND RIGHTS-OF-WAY IN THE AREAS DESIGNATED ON THIS PLAT AS "SANITARY SEWER" AS WELL AS THOSE EASEMENTS AND RIGHTS-OF-WAY SPECIFICALLY DEDICATED TO IT FOR THE PURPOSE OF ACCESSING, INSTALLING, CONSTRUCTING, RECONSTRUCTING, 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.

_____
GUADALUPE-BLANCO RIVER AUTHORITY DATE

GUADALUPE COUNTY NOTES:

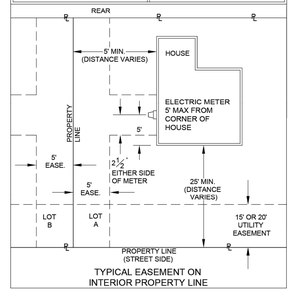
1. ALL PERMITS MUST BE OBTAINED FROM THE COUNTY PRIOR TO COMMENCING ANY WORK WITHIN GUADALUPE COUNTY ROW.
2. NO FURTHER IMPROVEMENTS ARE PROPOSED OR WILL BE CONTEMPLATED WITHOUT ADDITIONAL APPROVAL OF THE GUADALUPE COUNTY ENGINEER.
3. FUTURE IMPROVEMENTS WILL BE CONSIDERED CUMULATIVELY WITH PRIOR AND EXISTING STRUCTURES ON SITE FOR THE PURPOSES OF DRAINAGE IMPACT.
4. SUBSEQUENT SUBDIVISION OF THE PROPERTY INTO SMALLER TRACTS WILL NULLIFY THIS APPROVAL AND WILL REQUIRE SUBMITTAL OF A DRAINAGE STUDY FOR REVIEW IN ADDITION TO APPLICABLE PLATTING REQUIREMENTS. DETENTION OR OTHER MITIGATION MAY BE REQUIRED PER PROPOSED TRACT AND ACCOUNT FOR EXISTING IMPROVEMENTS.
5. CHANGE IN USE OF THE IMPROVEMENTS REQUIRES APPROVAL BY GUADALUPE COUNTY AND DETENTION OR OTHER DRAINAGE MITIGATION MAY BE REQUIRED AT THAT TIME.
6. TRANSFER OF PROPERTY OWNERSHIP DOES NOT RELEASE SUBSEQUENT OWNER(S) FROM THE OBLIGATIONS IMPOSED HEREIN.
7. I, THE OWNER, BY FILING THIS RECORD DOCUMENT, AND ALL FUTURE OWNERS OF THIS PROPERTY, ACKNOWLEDGE AND AGREE THAT GUADALUPE COUNTY SHALL HAVE NO OBLIGATION WHATSOEVER TO REPAIR OR ACCEPT MAINTENANCE OF THE STREETS SHOWN ON THIS APPROVED DEVELOPMENT PLAT UNTIL AND UNLESS (OWNER) AND/OR THE PROPERTY OCCUPANTS OR TENANTS HAVE IMPROVED THE STREETS TO THE THEN CURRENT STANDARDS REQUIRED BY GUADALUPE COUNTY AND THE STREETS HAVE BEEN ACCEPTED FOR MAINTENANCE BY FORMAL, WRITTEN ACTION OF THE COUNTY COMMISSIONERS COURT AND THE STREETS, WITH ALL REQUIRED ROW AND BUILDING SETBACKS, HAVE BEEN DEDICATED BY THE OWNERS THEREOF, AND ACCEPTED BY THE COUNTY, AS PUBLIC STREETS. UNTIL SUCH TIME, (OWNER) AND ALL FUTURE OWNERS OF PROPERTY WITHIN THE LIMITS OF THE APPROVED DEVELOPMENT PLAT SHALL LOOK SOLELY TO THE OWNER, DEVELOPER OR ENTITY CREATED FOR THAT PURPOSE FOR FUTURE MAINTENANCE AND REPAIR OF THE STREETS INCLUDED IN THE DEVELOPMENT PLAT.
8. IN ORDER TO PROMOTE SAFE USE OF STREETS AND PRESERVE THE CONDITION OF THE PUBLIC STREETS, NO DRIVEWAY CONSTRUCTED ON ANY LOT WITHIN THIS SUBDIVISION SHALL BE PERMITTED ACCESS ONTO A PUBLICLY DEDICATED COUNTY ROW UNLESS A DRIVEWAY PERMIT HAS BEEN ISSUED BY THE GUADALUPE COUNTY ROAD & BRIDGE DEPARTMENT SPECIFICATIONS.
9. NO STRUCTURES, WALLS, OR OTHER OBSTRUCTION OF ANY KIND SHALL BE PLACED WITHIN THE BOUNDARIES OF DRAINAGE EASEMENTS. NO LANDSCAPING, FENCES, OR OTHER TYPES OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENT OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT SHALL BE ALLOWED.
10. NO FENCES OR STRUCTURES THAT WILL INTERFERE WITH ADEQUATE DRAINAGE FLOW WILL BE ALLOWED ON OR ACROSS SUCH LINES.
11. MAINTENANCE NOTE:
    THE MAINTENANCE OF ALL PUBLIC STREETS, OPEN SPACES, GREEN BELTS, PARKS, TREE SAVE AREAS, DRAINAGE EASEMENTS, AND EASEMENTS OF ANY OTHER NATURE WITHIN THE SUBDIVISION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE BOTANICAL FARM MUNICIPAL UTILITY DISTRICT, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF THE CITY OF NEW BRAUNFELS OR GUADALUPE COUNTY.
12. EASEMENTS EXPIRING TO ROW:
    EASEMENTS TO EXPIRE UPON INCORPORATION INTO PLATTED PUBLIC STREET RIGHT-OF-WAY.
13. NO STRUCTURES/HOMES ARE TO BE BUILT OR BROUGHT ONTO THE LOT UNTIL AN ON-SITE SEWAGE FACILITY PERMIT HAS BEEN ISSUED OR PUBLIC SEWER HAS BEEN PROVIDED, AND ROAD CONSTRUCTION IS COMPLETED AND APPROVED



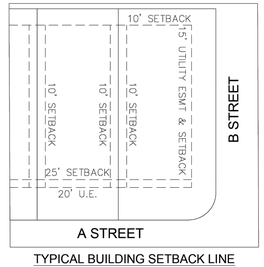
LOCATION MAP
NOT TO SCALE

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 EASEMENT ON INTERIOR PROPERTY LINE



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

FOR REFERENCE ONLY

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
03/02/2026

PLAT (1 OF 3)

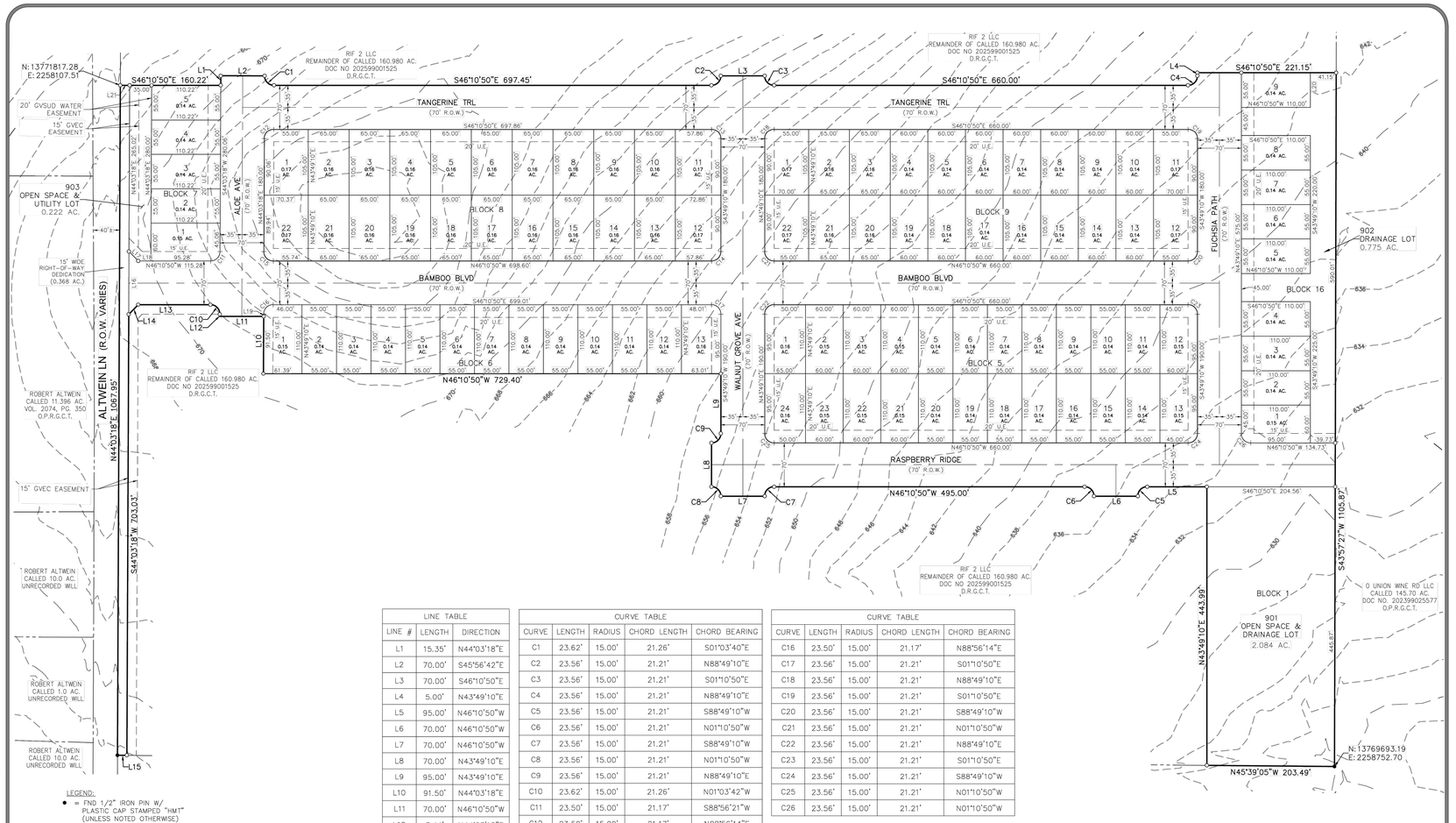
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C0.03

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_PLAT.dwg User: edwardu Mar 02, 2026 - 11:10am
Drawing Name: I:\337 - Lennar Homes\113 - Botanical Farm Unit 1\Plat\337.113_Botanical Farm U1 Plat.dwg User: chad-f Feb 19, 2026 - 1:45pm



LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	15.35'	N44°03'18"E
L2	70.00'	S45°56'42"E
L3	70.00'	S46°10'50"E
L4	5.00'	N43°49'10"E
L5	95.00'	N46°10'50"W
L6	70.00'	N46°10'50"W
L7	70.00'	N46°10'50"W
L8	70.00'	N43°49'10"E
L9	95.00'	N43°49'10"E
L10	91.50'	N44°03'18"E
L11	70.00'	N46°10'50"W
L12	3.44'	N44°03'18"E
L13	115.16'	N46°10'50"W
L14	21.30'	S88°49'45"W
L15	15.00'	N45°39'05"W
L16	100.04'	N44°03'18"E
L17	21.15'	N01°06'09"W
L18	20.00'	S46°10'50"E
L19	3.56'	N44°03'18"E
L20	55.00'	S43°49'10"W
L21	15.00'	S46°11'02"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD LENGTH	CHORD BEARING
C1	23.62'	15.00'	21.26'	S01°03'40"E
C2	23.56'	15.00'	21.21'	N88°49'10"E
C3	23.56'	15.00'	21.21'	S01°10'50"E
C4	23.56'	15.00'	21.21'	N88°49'10"E
C5	23.56'	15.00'	21.21'	S88°49'10"W
C6	23.56'	15.00'	21.21'	N01°10'50"W
C7	23.56'	15.00'	21.21'	S88°49'10"W
C8	23.56'	15.00'	21.21'	N01°10'50"W
C9	23.56'	15.00'	21.21'	N88°49'10"E
C10	23.62'	15.00'	21.26'	N01°03'42"W
C11	23.50'	15.00'	21.17'	S88°56'21"W
C12	23.50'	15.00'	21.17'	N88°56'14"E
C13	23.56'	15.00'	21.21'	S01°10'50"E
C14	23.56'	15.00'	21.21'	S88°49'10"W
C15	23.62'	15.00'	21.26'	N01°03'46"W

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD LENGTH	CHORD BEARING
C16	23.50'	15.00'	21.17'	N88°56'14"E
C17	23.56'	15.00'	21.21'	S01°10'50"E
C18	23.56'	15.00'	21.21'	N88°49'10"E
C19	23.56'	15.00'	21.21'	S01°10'50"E
C20	23.56'	15.00'	21.21'	S88°49'10"W
C21	23.56'	15.00'	21.21'	N01°10'50"W
C22	23.56'	15.00'	21.21'	N88°49'10"E
C23	23.56'	15.00'	21.21'	S01°10'50"E
C24	23.56'	15.00'	21.21'	S88°49'10"W
C25	23.56'	15.00'	21.21'	N01°10'50"W
C26	23.56'	15.00'	21.21'	N01°10'50"W

LEGEND:
- ● = FND 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT" (UNLESS NOTED OTHERWISE)
- ○ = SET 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT"
- U.E. = UTILITY EASEMENT
- EASE. = EASEMENT
- R.O.W. = RIGHT-OF-WAY
- DOC = DOCUMENT
- NO = NUMBER
- AC = ACRE
- VOL = VOLUME
- PG = PAGE
- D.R.G.C.T. = DEED RECORDS, GUADALUPE COUNTY, TEXAS
- O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
- = PLAT BOUNDARY
- = LOT LINE
- = EASEMENT LINE
- = CENTER LINE

0 50 100 200
SCALE: 1:100

PLAT PREPARED February 19, 2026

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

FINAL PLAT ESTABLISHING

BOTANICAL FARM, UNIT 1

BEING A 26.543 ACRE TRACT OF LAND OUT OF THE 160.980 TRACT OF LAND LOCATED IN THE WILLIAM BRACKEN SURVEY, ABSTRACT NO 52, GUADALUPE COUNTY, TEXAS, RECORDED IN DOCUMENT NO 202599001525, DEED RECORDS, GUADALUPE COUNTY, TEXAS

FOR REFERENCE ONLY

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
03/02/2026

PLAT (2 OF 3)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

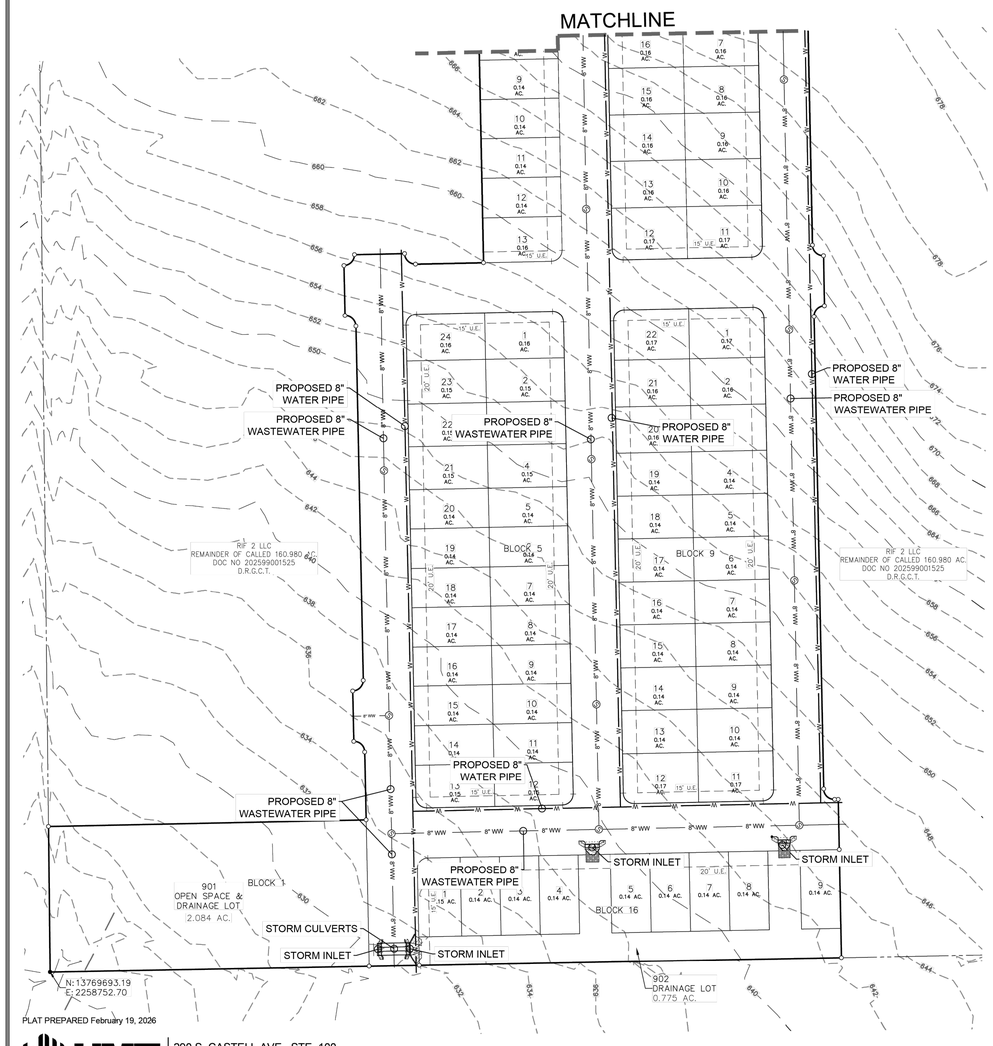
SHEET
C0.04

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\C0s\337.113_PLAT.dwg User: edwardu Mar 02, 2026 - 11:10am
Drawing Name: I:\337 - Lennar Homes\113 - Botanical Farm Unit 1\Plat\337.113_Botanical Farm U1 Plat.dwg User: chad-f Feb 19, 2026 - 2:42pm

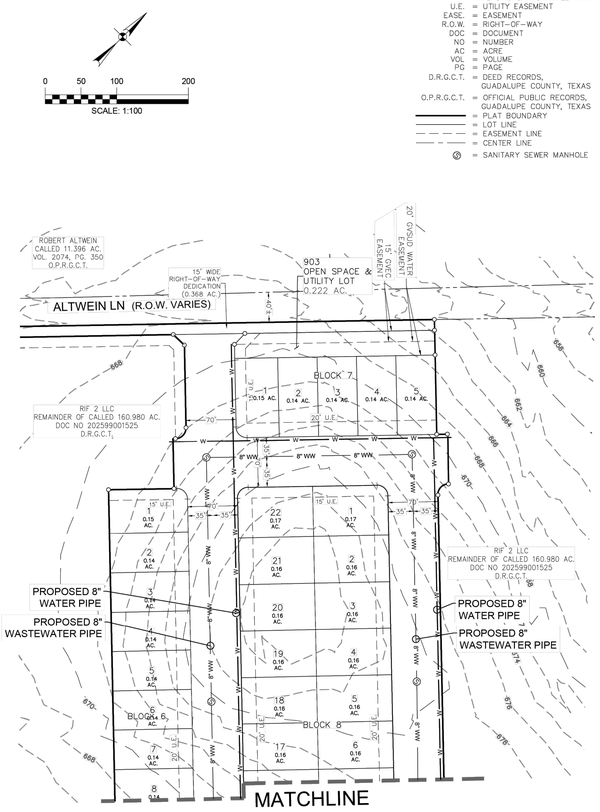
FINAL PLAT ESTABLISHING

BOTANICAL FARM, UNIT 1

BEING A 26.543 ACRE TRACT OF LAND OUT OF THE 160.980 TRACT OF LAND LOCATED IN THE WILLIAM BRACKEN SURVEY, ABSTRACT NO 52, GUADALUPE COUNTY, TEXAS, RECORDED IN DOCUMENT NO 202599001525, DEED RECORDS, GUADALUPE COUNTY, TEXAS



PROPOSED IMPROVEMENTS



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"
- U.E. = UTILITY EASEMENT
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- O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
- = PLAT BOUNDARY
- = LOT LINE
- = EASEMENT LINE
- = CENTER LINE
- Ⓢ = SANITARY SEWER MANHOLE

PLAT PREPARED February 19, 2026

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

SHEET 3 OF 3

FOR REFERENCE ONLY

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

PLAT (3 OF 3)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C0.05

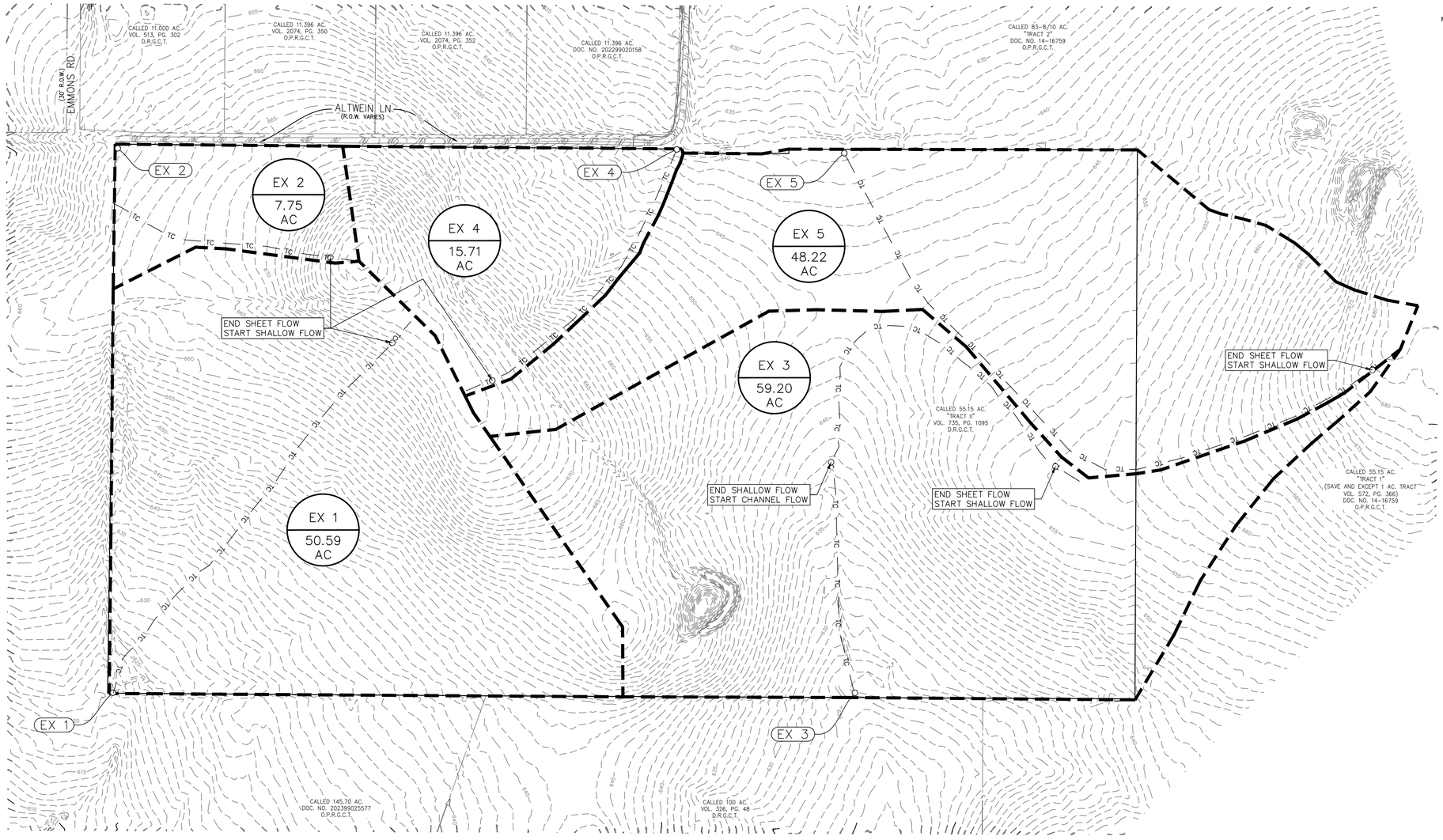
Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cbk\337.113_PLAT.dwg User: edwardu Mar 02, 2026 - 11:10am

Drawing Name: N:_337 - Lennar Homes\113 - Botanical Farm Unit 1\Plat\337.113_Botanical Farm U1 Plat.dwg User: chad-f Feb 19, 2026 - 1:48pm

HYDROLOGY CALCULATIONS

Inlet/Study Point	Structure/ Description	Contributing Areas	Area	CN	Overland Flow *(Equation 4-4, NB DCM)*					Shallow Concentrated Flow *(Equation 4-5 & 4-6, NB DCM)*				Channel Flow			Total Time of Conc.	T Lag (0.6*Tc)	Q2	Q10	Q25	Q100
					Surface Description	Manning's "n"	P2	Length	Slope	Tov.	Surface Roughness	Length	Slope	Tvc.	Length	Velocity	Tch	Tc	Tc Lag				
			(acres)				*(in.)*	*(ft)*	*(ft/ft)*	*(min)*		*(ft)*	*(ft/ft)*	*(min)*	*(ft)*	*(ft/s)*	*(min)*	*(min)*	*(min)*	*(cfs)*	*(cfs)*	*(cfs)*	*(cfs)*
Existing Conditions																							
EX-1	Existing Low	EX-1	50.59	78	Range (natural)	0.13	3.99	100	0.030	6.7	Unpaved	1472	0.038	7.8	128	6.0	0.4	15	9	114.2	221.2	293.7	408.3
EX-2	Existing Roadside Swale	EX-2	7.75	78	Range (natural)	0.13	3.99	100	0.025	7.2	Unpaved	808	0.029	4.9	0	6.0	0.0	12	7	19.2	37.2	49.4	68.7
EX-3	Existing Low	EX-3	59.20	78	Range (natural)	0.13	3.99	100	0.003	16.7	Unpaved	1375	0.015	11.6	824	6.0	2.3	31	18	97.0	189.9	252.6	352.2
EX-4	Existing Roadside Swale	EX-4	15.71	78	Range (natural)	0.13	3.99	100	0.011	9.9	Unpaved	1069	0.037	5.7	0	6.0	0.0	16	9	35.5	68.7	91.2	126.8
EX-5	Existing Low	EX-5	48.22	78	Range (natural)	0.13	3.99	100	0.010	10.3	Unpaved	2516	0.02	18.4	0	6.0	0.0	29	17	81.5	159.2	211.2	294.4

Drainage Area	Total Area (Ac.)	Land Description	Soil Rating	CN Values	Area (Ac.)	CN Composite
EXISTING						
EX-1	50.59	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	50.59	**78**
EX-2	7.75	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	7.75	**78**
EX-3	59.20	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	59.2	**78**
EX-4	15.71	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	15.71	**78**
EX-5	48.22	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	48.22	**78**



0 100 200 400
HORIZONTAL SCALE: 1:200

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

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF MATTHEW T. ABRAHAMSEN

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

EXISTING DRAINAGE AREA MAP

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C1.01

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\20a\337.113_DRNG.dwg User: edwardu Mar 02, 2026 - 11:11am

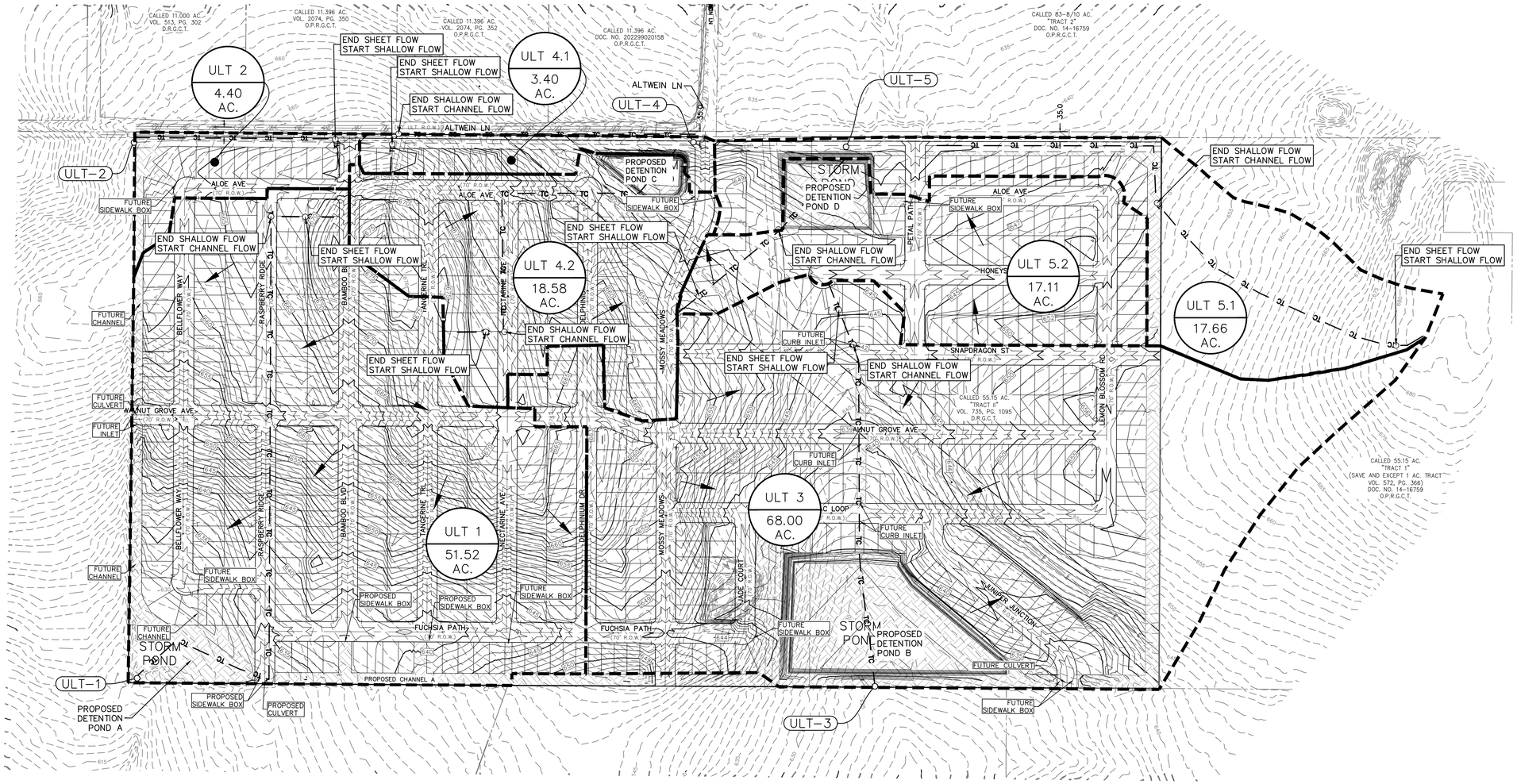
Drainage Area	Total Area (Ac.)	Land Description	Soil Rating	CN Values	Area (Ac.)	CN Composite
ULTIMATE						
ULT-1	51.52	Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	5.98	**86**
		R-1/R-1A Single Family	D	87	45.54	
ULT-2	4.40	Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	1.07	**85**
		R-1/R-1A Single Family	D	87	3.33	
ULT-3	68.00	Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	18.83	**85**
		R-1/R-1A Single Family	D	87	49.17	
ULT-4.1	3.40	Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	1.90	**83**
		R-1/R-1A Single Family	D	87	1.50	
ULT-4.2	18.58	R-1/R-1A Single Family	D	87	16.17	**86**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	2.41	
ULT-5.1	17.66	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	10.89	**80**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	3.23	
		R-1/R-1A Single Family	D	87	3.54	
ULT-5.2	17.11	R-1/R-1A Single Family	D	87	13.55	**86**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	3.56	

Inlet/Study Point	Structure/ Description	Contributing Areas	Area	CN	Overland Flow *(Equation 4-4, NB DCM)*						Shallow Concentrated Flow *(Equation 4-5 & 4-6, NB DCM)*				Channel Flow			Total Time of Conc.	T Lag (0.6*Tc)	Q2	Q10	Q25	Q100
					Surface Description	Manning's "n"	P2	Length	Slope	Tov.	Surface Roughness	Length	Slope	Tsc.	Length	Velocity	Tch	Tc	Tc Lag				
			(acres)				*(in.)*	*(ft)*	*(ft/ft)*	*(min)*		*(ft)*	*(ft/ft)*	*(min)*	*(ft)*	*(ft/s)*	*(min)*	*(min)*	*(min)*	*(cfs)*	*(cfs)*	*(cfs)*	*(cfs)*
Ultimate Conditions																							
ULT-1	Proposed Detention Pond	ULT-1	51.52	86	Dense Grasses	0.24	3.99	100	0.030	10.9	Paved	120	0.03	0.6	2080	6.0	5.8	17	10 (EX-9)	157.2	267.1	337.4	446.9
	Pond Outfall	ULT-1 (DETAINED)																		90.8	202.3	270.3	370.4
ULT-2	Existing Roadside Swale	ULT-2	4.40	85	Dense Grasses	0.24	3.99	100	0.010	16.9	Unpaved	584	0.036	3.2	0	6.0	0.0	20	12 (EX-7)	14.3	24.6	31.2	41.6
ULT-3	Proposed Detention Pond	ULT-3	68.00	85	Dense Grasses	0.24	3.99	100	0.017	13.6	Unpaved	130	0.02	0.9	1215	6.0	3.4	18	11	184.9	318.8	405.2	539.7
	Pond Outfall	ULT-3 (DETAINED)																		(DESIGN WITH FUTURE UNIT)			
ULT-4	Existing Roadside Swale	ULT-4.1	3.40	83	Dense Grasses	0.24	3.99	100	0.010	16.9	Unpaved	45	0.045	0.2	1043	6.0	2.9	20	12 (EX-9)	9.3	16.6	21.4	28.8
	Proposed Detention Pond	ULT-4.2	18.58	86	Dense Grasses	0.24	3.99	100	0.015	14.3	Unpaved	61	0.0175	0.5	1171	6.0	3.3	18	11 (EX-9)	56.7	96.3	121.7	161.2
	Pond Outfall	ULT-4.2 (DETAINED)																		25.3	54.2	74.0	105.4
	Existing Roadside Swale	ULT-4.1+4.2 (COMBINED)																		30.1	64.4	88.3	125.6
ULT-5	Property Line	ULT-5.1	17.66	80	Range (natural)	0.13	3.99	100	0.010	10.3	Unpaved	1000	0.032	5.8	974	6.0	2.7	19	11	39.9	74.5	97.7	134.1
	Proposed Detention Pond	ULT-5.2	17.11	86	Dense Grasses	0.24	3.99	100	0.025	11.7	Unpaved	362	0.015	3.1	392	6.0	1.1	16	10	50.4	85.2	107.5	142.2
	Pond Outfall	ULT-5.2 (DETAINED)																		(DESIGN WITH FUTURE UNIT)			
	Property Line	ULT-5.1+5.2 (COMBINED)																					

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

0 100 200 400
HORIZONTAL SCALE: 1:200



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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

ULTIMATE DRAINAGE AREA MAP

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

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C1.02

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\C0s\337.113_DRNG.dwg User: edwardu Mar 02, 2026 - 4:04pm

Drainage Area	Total Area (Ac.)	Land Description	Soil Rating	CN Values	Area (Ac.)	CN Composite
UNIT 1 PROPOSED						
PRO-1.1	44.88	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	22.22	**82**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	3.26	
		R-1/R-1A Single Family	D	87	19.40	
PRO-1.2	5.78	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	5.78	**78**
PRO-2	7.08	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	6.21	**79**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	0	
		R-1/R-1A Single Family	D	87	0.87	
PRO-4.1	7.37	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	6.55	**79**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	0.28	
		R-1/R-1A Single Family	D	87	0.54	
PRO-4.2	8.96	Meadow-continuous grass, protected from grazing and generally mowed for hay	D	78	5.47	**81**
		Open Space (Lawn, parks, golf courses, cemeteries, etc.): Good Condition (grass cover 75%)	D	80	1.09	
		R-1/R-1A Single Family	D	87	2.40	

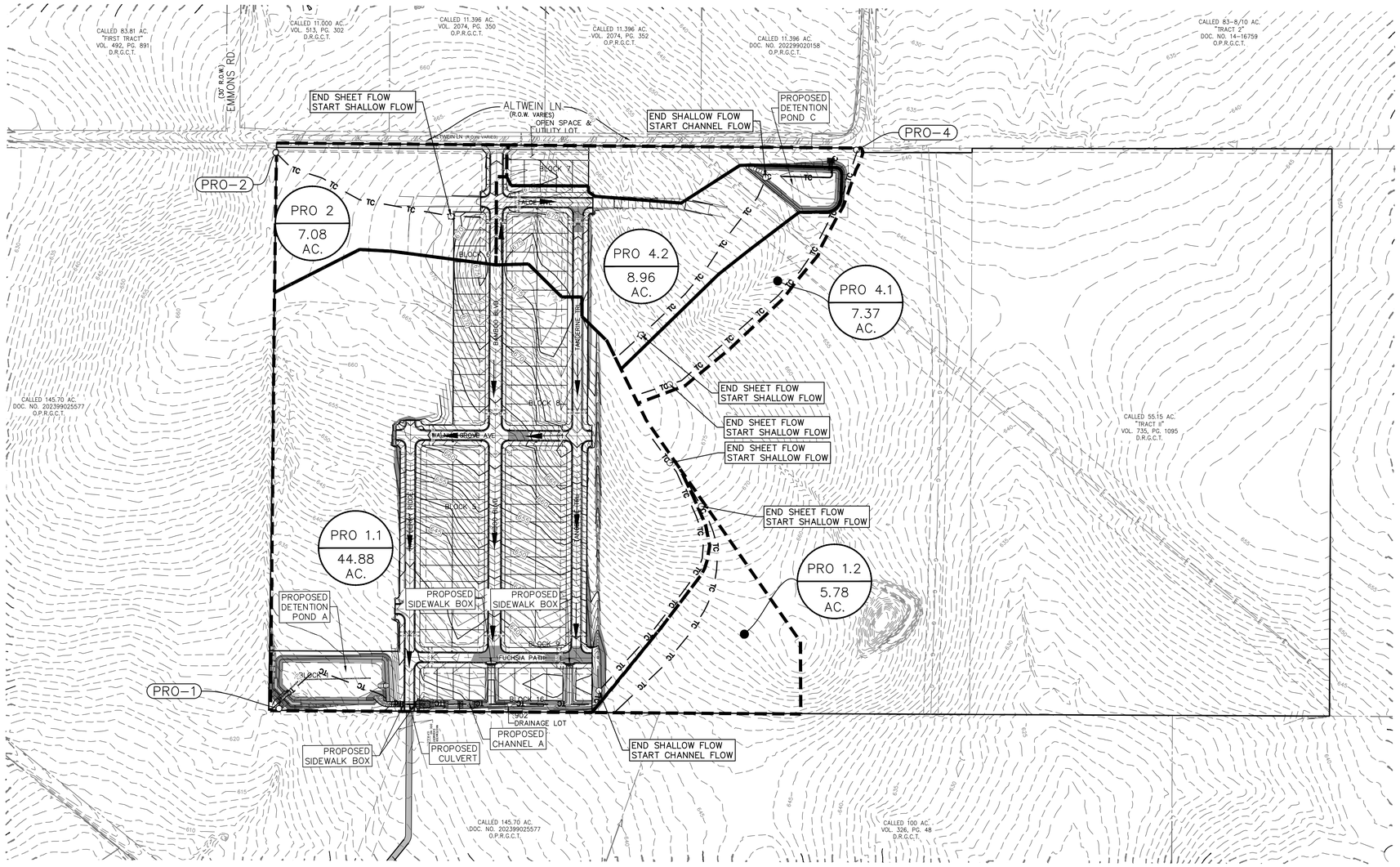
HYDROLOGY CALCULATIONS

Inlet/Study Point	Structure/ Description	Contributing Areas	Area	CN	Overland Flow *(Equation 4-4, NB DCM)*					Shallow Concentrated Flow *(Equation 4-5 & 4-6, NB DCM)*				Channel Flow			Total Time of Conc.	T Lag (0.6*Tc)	Q2	Q10	Q25	Q100
					Surface Description	Manning's "n"	P2	Length	Slope	Tov.	Surface Roughness	Length	Slope	Tsc.	Length	Velocity	Tch	Tc	Tc Lag				
			(acres)				*(in.)*	*(ft)*	*(ft/ft)*	*(min)*		*(ft)*	*(ft/ft)*	*(min)*	*(ft)*	*(ft/s)*	*(min)*	*(min)*	*(min)*	*(cfs)*	*(cfs)*	*(cfs)*	*(cfs)*
Proposed Conditions																							
PRO-1	Existing Low	PRO-1.1	44.88	82	Range (natural)	0.13	3.99	100	0.015	8.8	Unpaved	976	0.035	5.4	1089	6.0	3.0	17	10 (EX-9)	118.8	215.2	278.3	377.0
	Pond Outfall	PRO-1.1 (DETAINED)																		53.9	151.8	214.5	308.1
	Property Line	PRO-1.2	5.78	78	Range (natural)	0.13	3.99	100	0.030	6.7	Unpaved	836	0.035	4.6	0	6.0	0.0	11	7	14.3	27.8	36.8	51.2
	Property Line	PRO-1.1+1.2 (COMBINED)																		59.2	168.2	238.4	341.7
PRO-2	Existing Roadside Swale	PRO-2	7.08	79	Dense Grasses	0.24	3.99	100	0.020	12.8	Unpaved	1170	0.04	6.0	0	6.0	0.0	19	11 (EX-7)	18.2	34.9	45.9	63.4
PRO-4	Existing Roadside Swale	PRO-4.1	7.37	79	Range (natural)	0.13	3.99	100	0.030	6.7	Unpaved	810	0.04	4.2	281	6.0	0.8	12	7	19.0	36.3	47.8	66.0
	Existing Roadside Swale	PRO-4.2	8.96	81	Range (natural)	0.13	3.99	100	0.017	8.4	Unpaved	1052	0.037	5.7	0	6.0	0.0	14	8	24.1	44.2	57.3	78.0
	Pond Outfall	PRO-4.2 (DETAINED)																		9.5	18.6	26.1	41.3
	Pond Outfall	PRO-4.1+4.2 (COMBINED)																		24.5	48.8	64.8	92.4

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

0 100 200 400
HORIZONTAL SCALE: 1:200



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154638
LICENSED
PROFESSIONAL ENGINEER

UNIT 1 PROPOSED DRAINAGE AREA MAP

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C1.03

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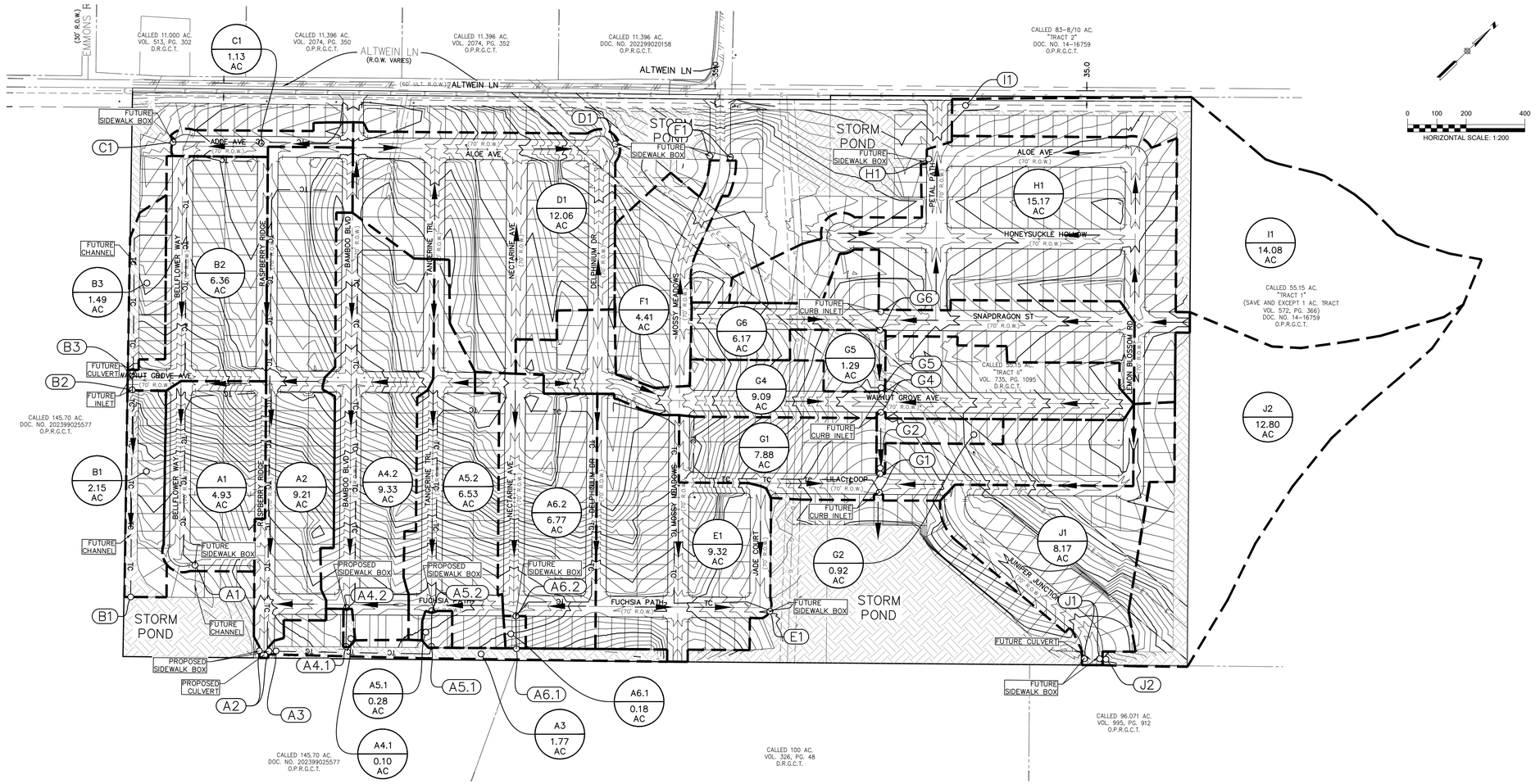

Ultimate Sub-Drainage Area Calculations

		Sheet Flow				Tc	Shallow Flow		Tc	Channel Flow		Tc	Total Tc
Drainage Area	Structure/Study Point	L (ft)	Slope	2-Year P	n	(Min.)	L (ft)	Slope	(Min.)	L (ft)	Vel (ft/s)	(Min.)	(Min.)
A2-7	Channel A	100	1.25	3.99	0.24	15	122	2.00	0.89	1663	6.00	4.6	20.9
A2	Sidewalk Bridge	100	3.50	3.99	0.24	10.2	115	3.50	0.63	1580	6.00	4.4	15.2
A3+ 1/ 2 A2 + A4-7	Culvert / Channel A	100	1.25	3.99	0.24	15.4	122	2.00	0.89	1363	6.00	3.8	20.1
A4.1+ A4.2	Channel B	100	2.50	3.99	0.24	11.7	62	3.06	0.37	1349	6.00	3.7	15.8
A4.2	Sidewalk Bridge	100	2.50	3.99	0.24	11.7	62	3.06	0.37	1219	6.00	3.4	15.4
A5.1+ A5.2	Channel C	100	1.25	3.99	0.24	15.4	122	2.00	0.89	787	6.00	2.2	18.5
A5.2	Sidewalk Bridge	100	1.25	3.99	0.24	15.4	122	2.00	0.89	667	6.00	1.9	18.2

*Ultimate condition calculations provided only for areas contributing to drainage infrastrucutre constructed as part of Botanical Farm Unit 1 plans. Drainage analysis will be required when future drainage infrastructure is designed as part of subsequent construction plans.

Ultimate Sub-Drainage Area Calculations

Drainage Area	Structure/Study Point	Description	Area (Acres)	T_c	C (2 yr)	C (10 yr)	C (25 yr)	C (50 yr)	C (100 yr)	I (2 yr)	I (10 yr)	I (25 yr)	I (50 yr)	I (100 yr)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
A2-7	Channel A	Channel A	34.17	20.9	0.59	0.66	0.73	0.78	0.79	3.65	5.36	6.45	7.31	8.23	73.34	120.15	161.11	193.58	221.32
A2	Sidewalk Bridge	Sidewalk Bridge	9.21	15.2	0.59	0.66	0.73	0.78	0.79	4.24	6.24	7.52	8.56	9.64	22.96	37.70	50.63	61.10	69.87
A3+ 1/ 2 A2 + A4-7	Culvert / Channel A	Culvert / Channel A	29.57	20.1	0.59	0.66	0.73	0.78	0.79	3.65	5.36	6.45	7.31	8.23	63.45	103.96	139.40	167.49	191.49
A4.1+ A4.2	Channel B	Channel B	9.43	15.8	0.59	0.66	0.73	0.78	0.79	4.24	6.24	7.52	8.56	9.64	23.51	38.60	51.84	62.56	71.54
A4.2	Sidewalk Bridge	Sidewalk Bridge	9.33	15.4	0.59	0.66	0.73	0.78	0.79	4.24	6.24	7.52	8.56	9.64	23.26	38.19	51.29	61.90	70.78
A5.1+ A5.2	Channel C	Channel C	6.81	18.5	0.59	0.66	0.73	0.78	0.79	3.86	5.66	6.81	7.74	8.71	15.46	25.29	33.90	40.85	46.68
A5.2	Sidewalk Bridge	Sidewalk Bridge	6.53	18.2	0.59	0.66	0.73	0.78	0.79	3.86	5.66	6.81	7.74	8.71	14.82	24.25	32.51	39.17	44.76

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

ULTIMATE SUB-DRAINAGE AREA MAP - CHANNELS AND SIDEWALK BOXES

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

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C1.04

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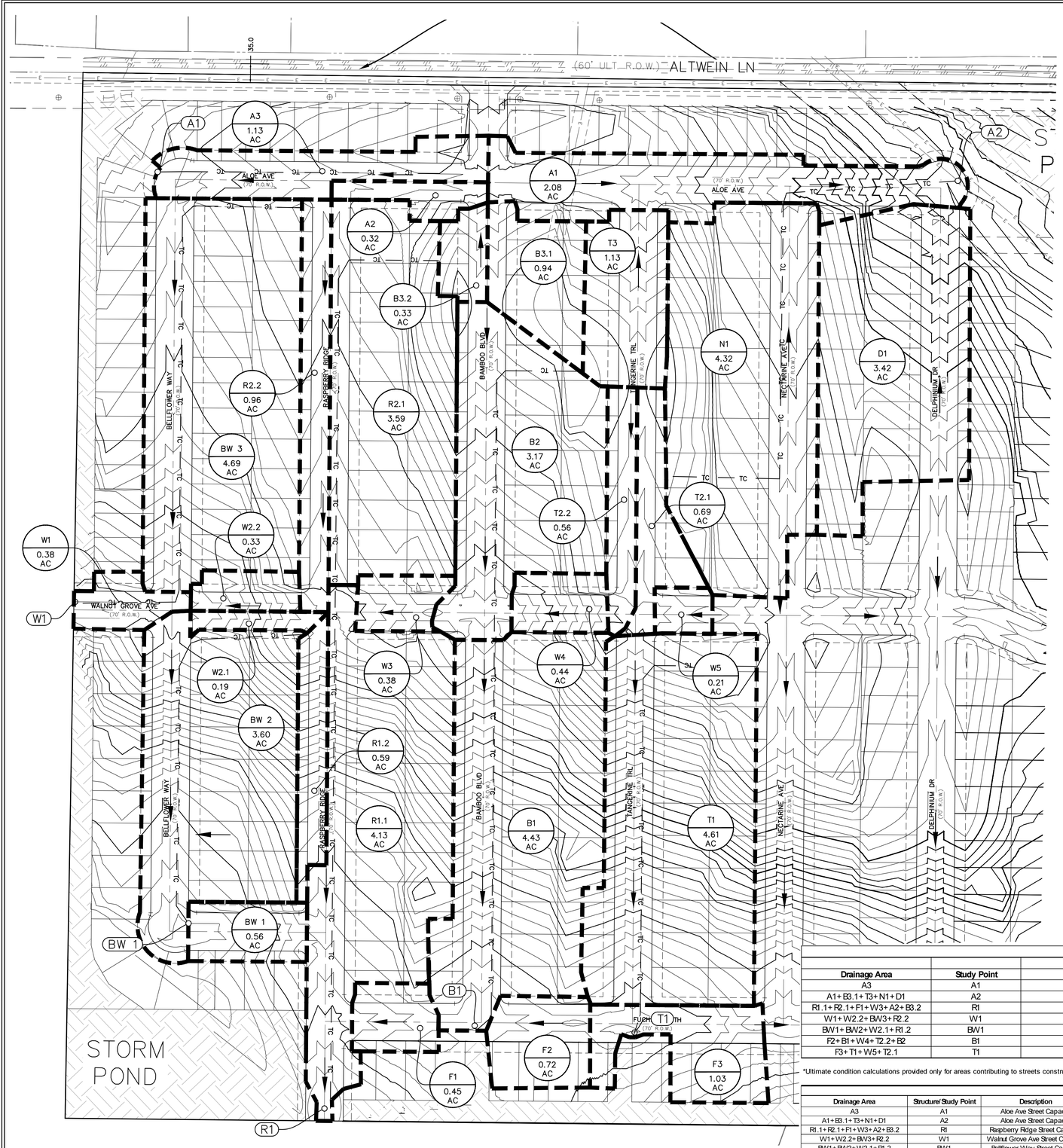

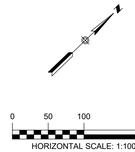

LEGEND

- 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

Ultimate Sub-Drainage Tc Calculations - Street Capacity

Drainage Area	Study Point	Sheet Flow L (ft)	Sheet Flow Slope	Sheet Flow 2-Year P	Sheet Flow n	Sheet Flow Tc (Min.)	Shallow Flow L (ft)	Shallow Flow Slope	Shallow Flow Tc (Min.)	Channel Flow L (ft)	Channel Flow Vel (ft/s)	Channel Flow Tc (Min.)	Total Tc (Min.)
A3	A1	62	2.85	3.99	0.24	7.6	27	2.50	0.18	523	6.00	1.5	10.0
A1+B3.1+T3+N1+D1	A2	100	1.00	3.99	0.24	16.9	97	1.50	0.82	850	6.00	2.4	20.0
R1.1+R2.1+F1+W3+A2+B3.2	R1	100	3.50	3.99	0.24	10.2	115	3.50	0.63	1580	6.00	4.4	15.2
W1+W2.2+BW3+R2.2	W1	100	1.60	3.99	0.24	14.0	100	2.30	0.68	916	6.00	2.5	17.2
BW1+BW2+W2.1+R1.2	BW1	100	4.50	3.99	0.24	9.2	116	4.25	0.58	533	6.00	1.5	11.3
F2+B1+W4+T2.2+B2	B1	100	2.50	3.99	0.24	11.7	62	3.06	0.37	1219	6.00	3.4	15.4
F3+T1+W5+T2.1	T1	100	2.50	3.99	0.24	11.7	122	2.50	0.80	667	6.00	1.9	14.3

*Ultimate condition calculations provided only for areas contributing to streets constructed as part of Botanical Farm Unit 1 plans. Drainage analysis will be required when future streets are designed as part of subsequent construction plans.

Ultimate Sub-Drainage Area Calculations - Street Capacity

Drainage Area	Structure/ Study Point	Description	Area (Acres)	T_c	C(2 yr)	C(10 yr)	C(25 yr)	C(50 yr)	C(100 yr)	I (2 yr)	I (10 yr)	I (25 yr)	I (50 yr)	I (100 yr)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
A3	A1	Aloe Ave Street Capacity	1.13	10.0	0.59	0.66	0.73	0.78	0.79	5.05	7.50	9.12	10.38	11.70	3.36	5.56	7.53	9.09	10.40
A1+B3.1+T3+N1+D1	A2	Aloe Ave Street Capacity	11.89	20.0	0.59	0.66	0.73	0.78	0.79	3.65	5.36	6.45	7.31	8.23	25.52	41.81	56.06	67.36	77.01
R1.1+R2.1+F1+W3+A2+B3.2	R1	Raspberry Ridge Street Capacity	9.20	15.2	0.59	0.66	0.73	0.78	0.79	4.24	6.24	7.52	8.56	9.64	22.94	37.66	50.57	61.03	69.80
W1+W2.2+BW3+R2.2	W1	Walnut Grove Ave Street Capacity	6.36	17.2	0.59	0.66	0.73	0.78	0.79	3.97	5.83	7.02	7.98	8.98	14.85	24.32	32.64	39.33	44.95
BW1+BW2+W2.1+R1.2	BW1	Bellflower Way Street Capacity	4.94	11.3	0.59	0.66	0.73	0.78	0.79	4.87	7.23	8.78	9.99	11.26	14.15	23.43	31.71	38.25	43.78
F2+B1+W4+T2.2+B2	B1	Bamboo Blvd Street Capacity	9.32	15.4	0.59	0.66	0.73	0.78	0.79	4.24	6.24	7.52	8.56	9.64	23.24	38.15	51.23	61.83	70.71
F3+T1+W5+T2.1	T1	Tangerine Trl Street Capacity	6.54	14.3	0.59	0.66	0.73	0.78	0.79	4.39	6.47	7.82	8.90	10.03	16.88	27.76	37.39	45.11	51.62

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MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

ULTIMATE SUB-DRAINAGE AREA MAP - STREET CAPACITY

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

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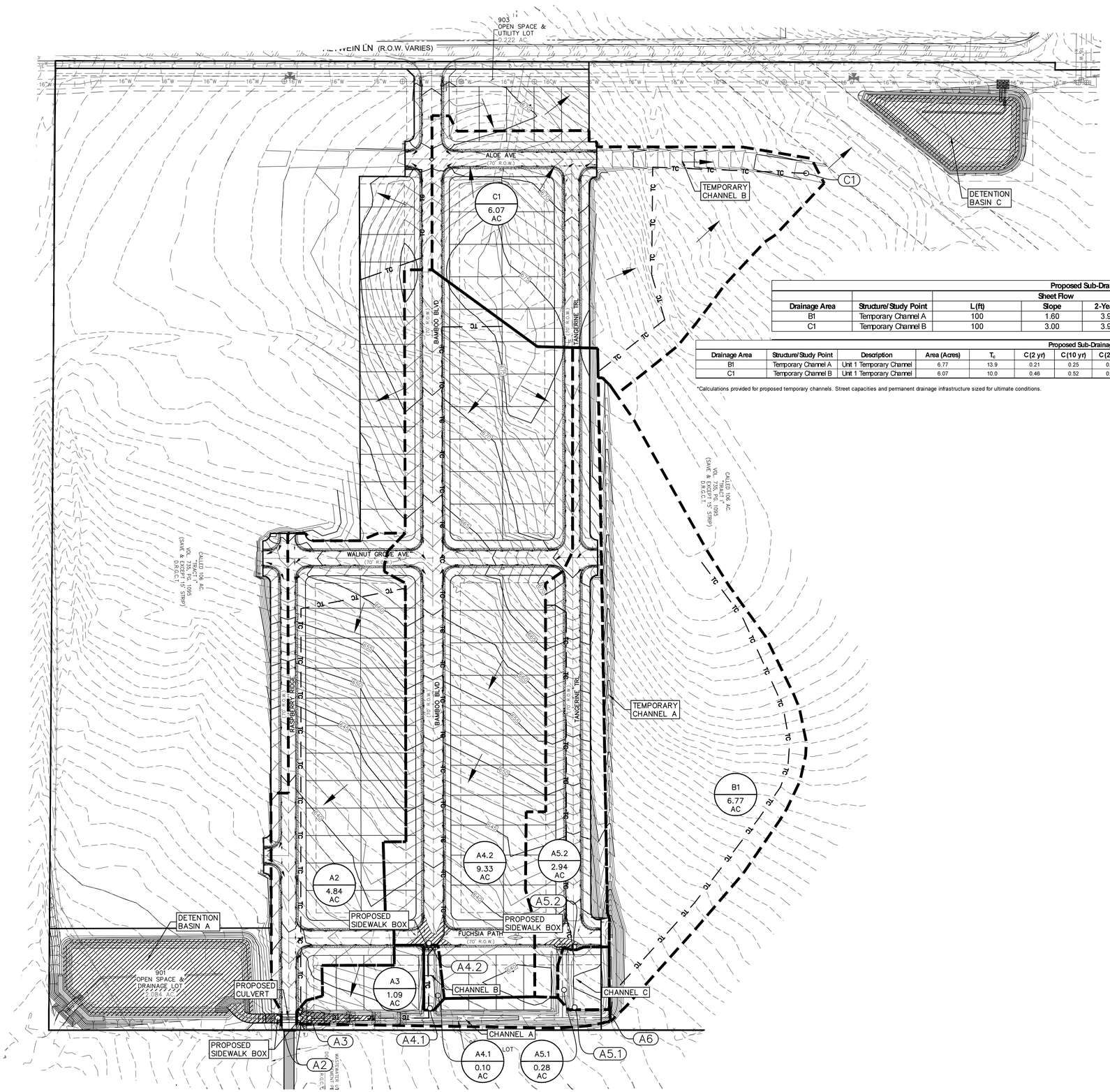

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- DRAINAGE AREA
- TIME OF CONCENTRATION
- POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DRAINAGE AREA LABEL
- INUNDATED AREAS

Proposed Sub-Drainage Time of Concentration Calculations

		Sheet Flow				Tc	Shallow Flow		Tc	Channel Flow		Tc	Total Tc
Drainage Area	Structure/Study Point	L (ft)	Slope	2-Year P	n	(Min.)	L (ft)	Slope	(Min.)	L (ft)	Vel (ft/s)	(Min.)	(Min.)
B1	Temporary Channel A	100	1.60	3.99	0.13	9	976	3.50	5.39	0	6.00	0.0	13.9
C1	Temporary Channel B	100	3.00	3.99	0.13	6.7	374	3.60	2.04	307	6.00	0.9	10.0

Proposed Sub-Drainage Area Calculations

Drainage Area	Structure/Study Point	Description	Area (Acres)	T_c	C (2 yr)	C (10 yr)	C (25 yr)	C (50 yr)	C (100 yr)	I (2 yr)	I (10 yr)	I (25 yr)	I (50 yr)	I (100 yr)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
B1	Temporary Channel A	Unit 1 Temporary Channel	6.77	13.9	0.21	0.25	0.29	0.32	0.36	4.54	6.72	8.13	9.25	10.42	6.45	11.37	15.96	20.04	25.40
C1	Temporary Channel B	Unit 1 Temporary Channel	6.07	10.0	0.46	0.52	0.58	0.62	0.64	5.05	7.50	9.12	10.38	11.70	14.10	23.60	32.20	39.12	45.62

*Calculations provided for proposed temporary channels. Street capacities and permanent drainage infrastructure sized for ultimate conditions.

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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

Matthew T. Abrahamsen

PROPOSED SUB-DRAINAGE AREA MAP

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C1.06

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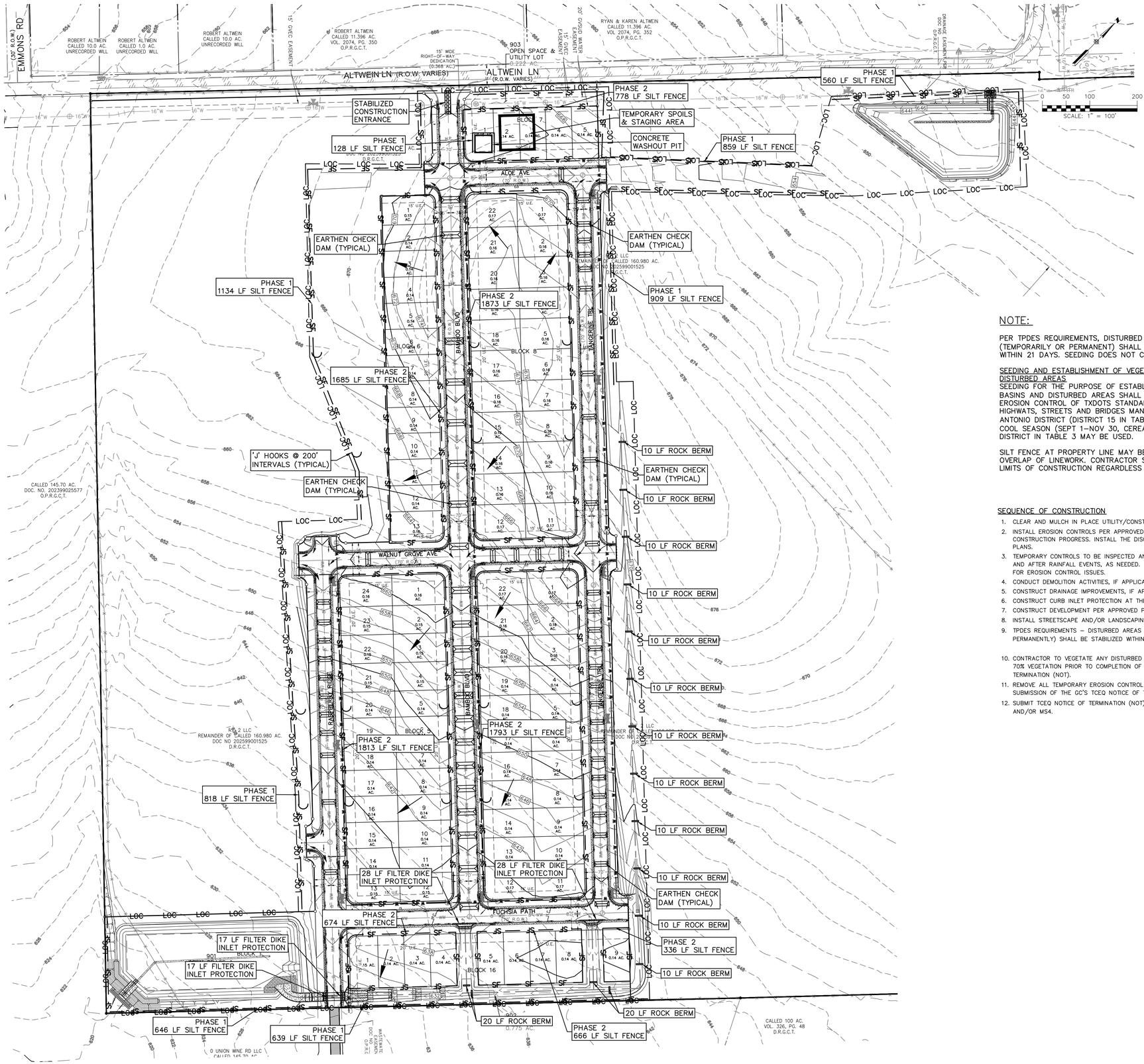


LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- DRAINAGE FLOW DIRECTION
- SILT FENCE
- LIMIT OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER DIKE CURB INLET PROTECTION
- ROCK BERM
- EARTHEN BERM CHECK DAM (TO BE PLACED EVERY 2' OF ELEVATION)

NOTE:

PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

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 TXDOTS 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.

SILT FENCE AT PROPERTY LINE MAY BE SHOWN GRAPHICALLY OFFSET FROM PROPERTY LINE TO AVOID OVERLAP OF LINEWORK. CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES BEYOND LIMITS OF CONSTRUCTION REGARDLESS OF GRAPHIC REPRESENTATION.

SEQUENCE OF CONSTRUCTION

1. CLEAR AND MULCH IN PLACE UTILITY/CONSTRUCTION RIGHT OF WAY (ROW).
2. INSTALL EROSION CONTROLS PER APPROVED PLAN. SEDIMENT CONTROLS TO BE INSTALLED PHASED TO MATCH THE CONSTRUCTION PROGRESS. INSTALL THE DISCHARGE ROCK BERMS ONCE THE AREAS ARE CLEARED PER APPROVED PLANS.
3. 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.
4. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
5. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
6. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
7. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
8. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
9. 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
10. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO SUBMISSION OF THE GC'S TCEQ NOTICE OF TERMINATION (NOT).
11. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO SUBMISSION OF THE GC'S TCEQ NOTICE OF TERMINATION (NOT).
12. SUBMIT TCEQ NOTICE OF TERMINATION (NOT) TO THE TCEQ AND SUBMIT A COPY TO THE LOCAL CITY/MUNICIPALITY AND/OR MS4.

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL PLAN

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET
C2.01

Drawing Name: N:_Projects\337 – Lennon\113 – Botanical Farm Phase 1 (96 Lots)\Cbk\337.113_EPD.dwg User: edwardu Mar 02, 2026 - 11:12am

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:

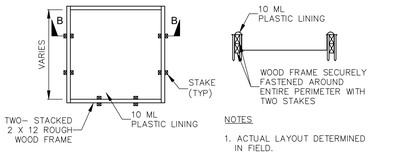
- INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO MATERIAL SUPPLIER AND SUBCONTRACTOR AGREEMENTS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE.
- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR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



PLAN

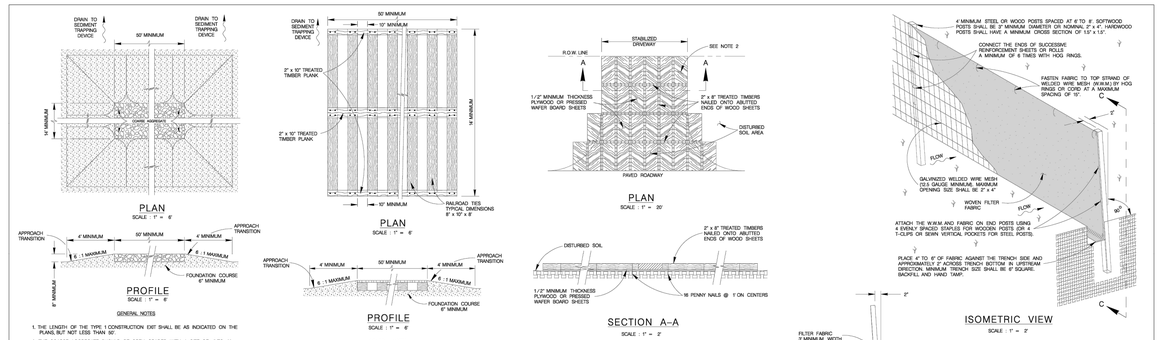
NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.

SECTION B–B

CONCRETE WASHOUT PIT DETAIL

TYPE "ABOVE GRADE"
NOT TO SCALE



JANUARY 2005

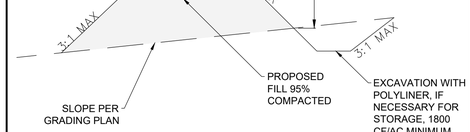
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

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

NOTE:

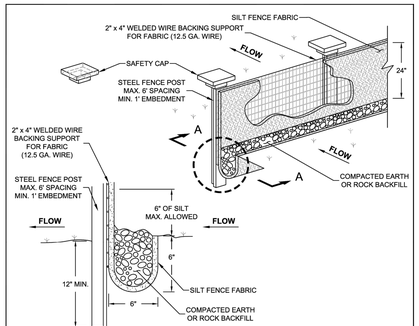
CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) AND SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES IN 21 DAYS, PER TPDES REQUIREMENTS.



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

EARTHEN BERM CHECK DAM

NOT TO SCALE

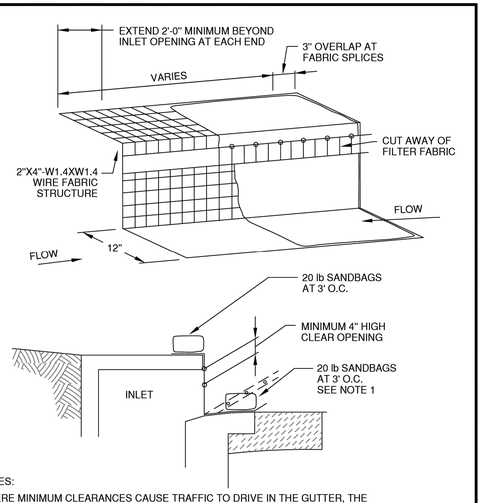


SECTION A-A

NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS SHALL MATCH THE TOP OF THE FENCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1'.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 6" DEEP AND 6" WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY AND REPAIR OR REPLACEMENT SHALL BE MADE WITHIN 24 HOURS OF INSPECTION.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS PERMANENTLY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WITHIN 24 HOURS WHEN IT REACHES A DEPTH OF 6" OR AS DIRECTED BY OWNER. THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. INSTALL J-HOOK SPACING PER ENGINEER'S DESIGN , BUT NOT TO EXCEED 200'.

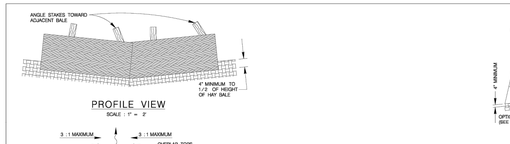
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2022	SILT FENCE
RECORD COPY SIGNED BY	1/1/2020	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 2



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



BALED HAY USAGE GUIDELINES

A BALED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 5 GPM /FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR A MAXIMUM OF ONE ACRE PER 100 FEET OF BARRIER AND THE SLOPE IS NOT MORE THAN 10 %. THE LENGTH OF SLOPE UPSTREAM OF THE BALED HAY SHOULD BE LESS THAN 100'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1/2 ACRE.

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

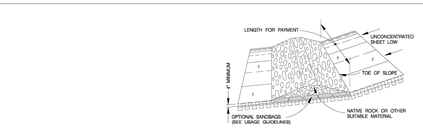
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BALED HAY.

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

GENERAL NOTES

1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND, WHERE POSSIBLE, LAID WITH THE BINDING ON THE SIDES.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 2–18" DIA. REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

BALED HAY FOR EROSION CONTROL



TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

ROCK FILTER DAMS

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 65 GPM / FT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 DAM (HIGH, WITH NO WIRE MESH) :

TYPE 1 MAY BE USED AT THE TOE OF SLOPES AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. THIS TYPE OF DAM IS NOT TO BE USED IN TRENCH HIGH VELOCITY FLOWS APPROXIMATELY 1 FT / SEC OR MORE OR WHERE AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

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

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

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

TYPE 4 (SACK GABIONS) :

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

GENERAL NOTES

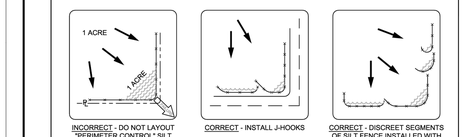
1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED UPSTREAM AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL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

JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

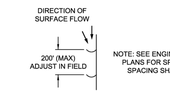
% SUBMITTAL PROJECT NO.		DATE:
DRAWN BY: V. VASQUEZ	DESIGN BY:	CHKD. BY:	SHEET NO.	OF



SILT FENCE PLACEMENT FOR PERIMETER CONTROL

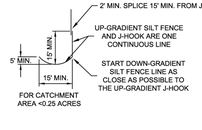
PLAN VIEW

I. SPACING REQUIREMENTS:



NOTE: SEE ENGINEER'S DESIGN PLANS FOR SPACING. MAX SPACING SHALL BE 200'

II. SIZING REQUIREMENTS:



The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2022	SILT FENCE
RECORD COPY SIGNED BY	1/1/2020	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1-SM
LAURIE MOYER, P.E.	ADOPTED		2 OF 2

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
03/02/2026

EROSION & SEDIMENT CONTROL DETAILS

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C2.02

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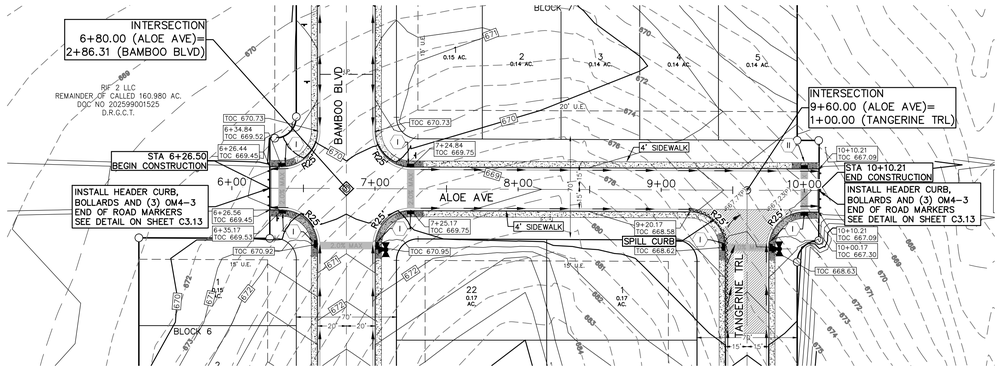

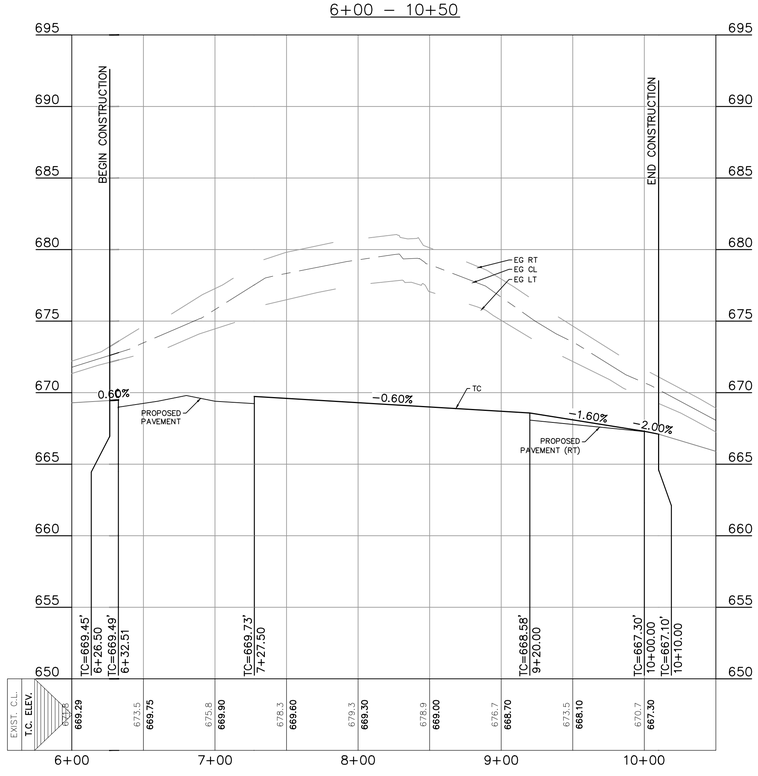

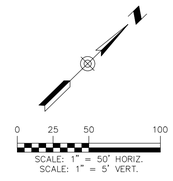

LEGEND

- EXISTING CONTOURS
- 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
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.13)
- SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

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. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.

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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STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
03/02/2026

ALOE AVE PLAN & PROFILE

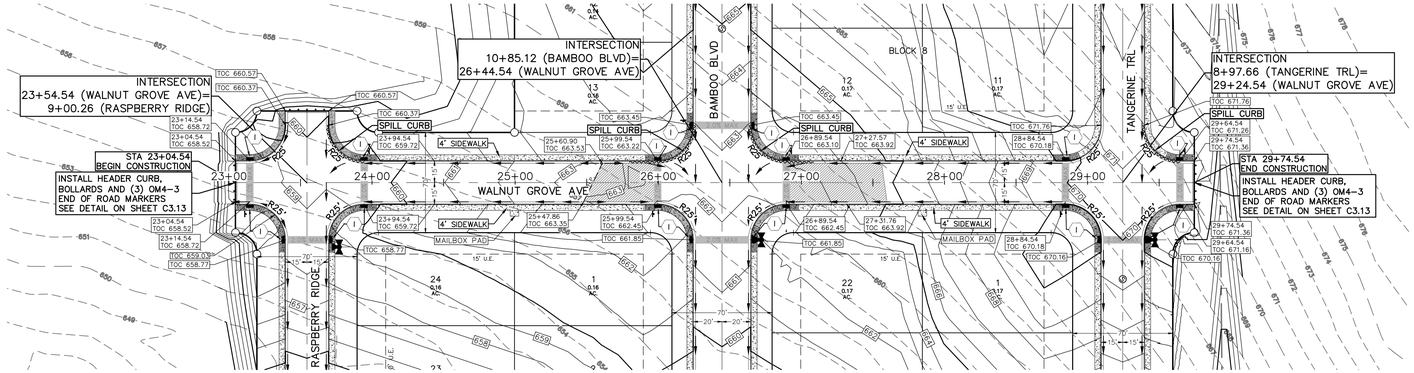
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

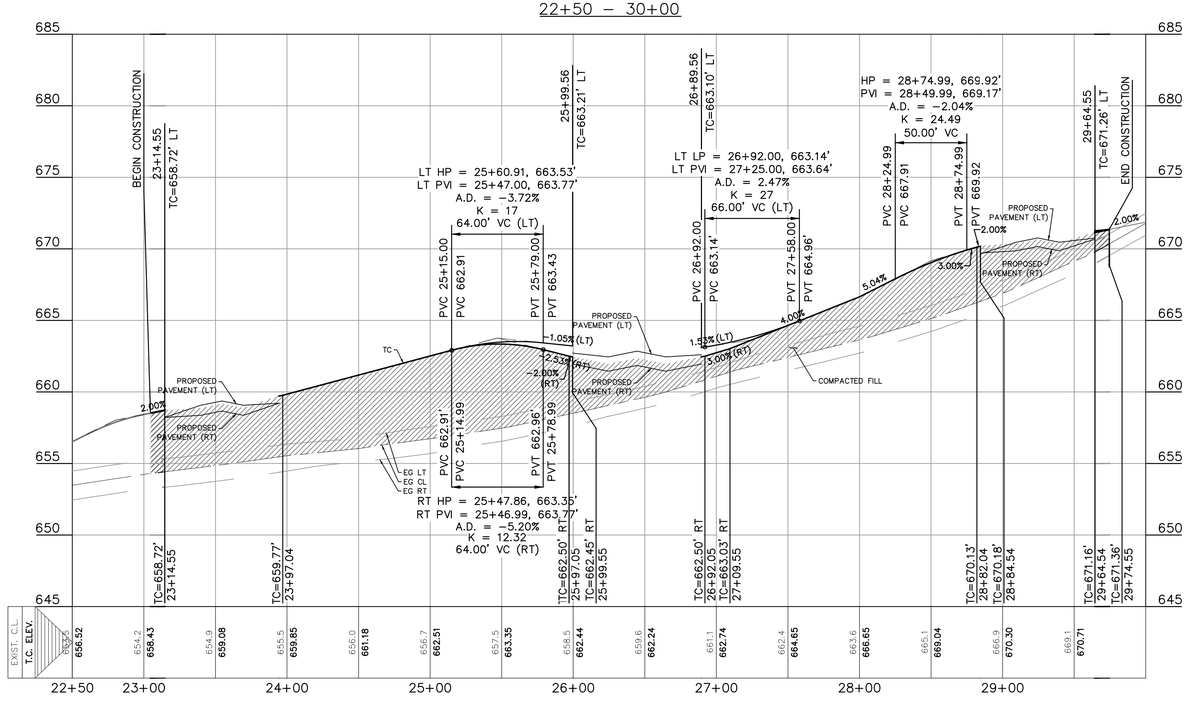
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

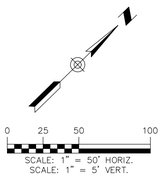
SHEET
C3.01

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_STREET E-W PP.dwg User: edwardu Mar 02, 2026 - 11:14am



WALNUT GROVE AVE
22+50 – 30+00





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
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.13)
- SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

WALNUT GROVE AVE PLAN & PROFILE

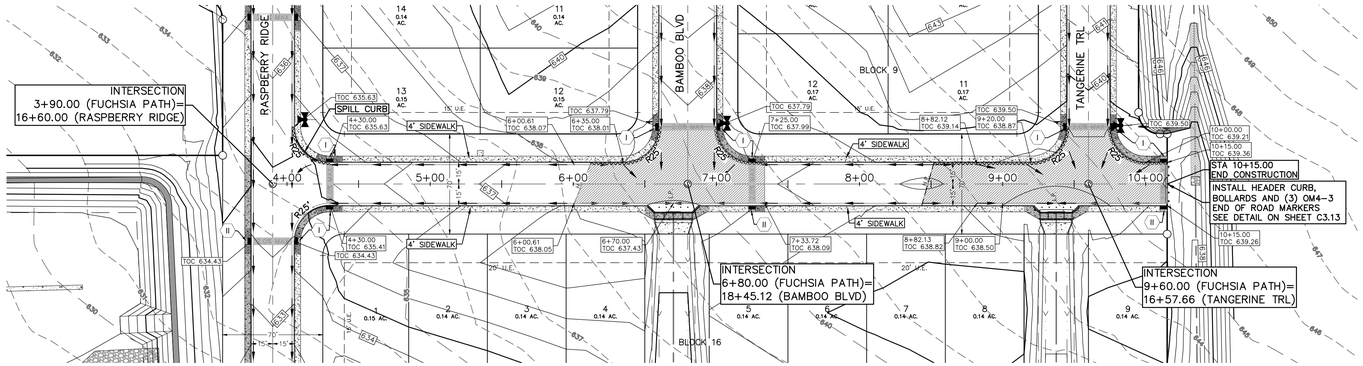
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

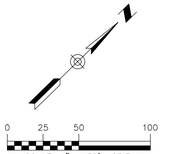
NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET
C3.02

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (86 Lots)\02a\337.113_STREET E-W PP.dwg User: edwardu Mar 02, 2026 - 11:15am





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
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.13)
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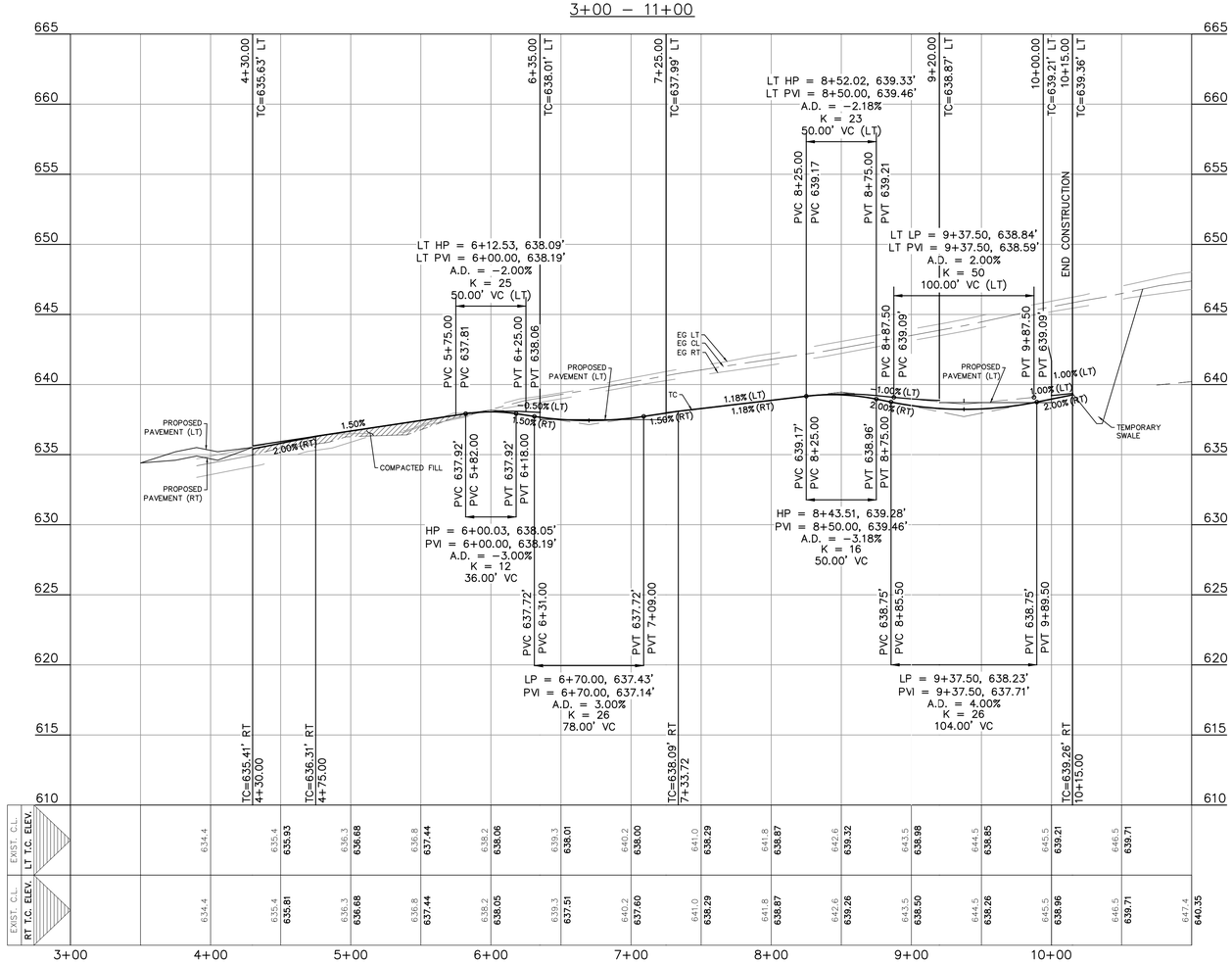
FUCHSIA PATH
3+00 – 11+00



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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

FUCHSIA PATH PLAN & PROFILE

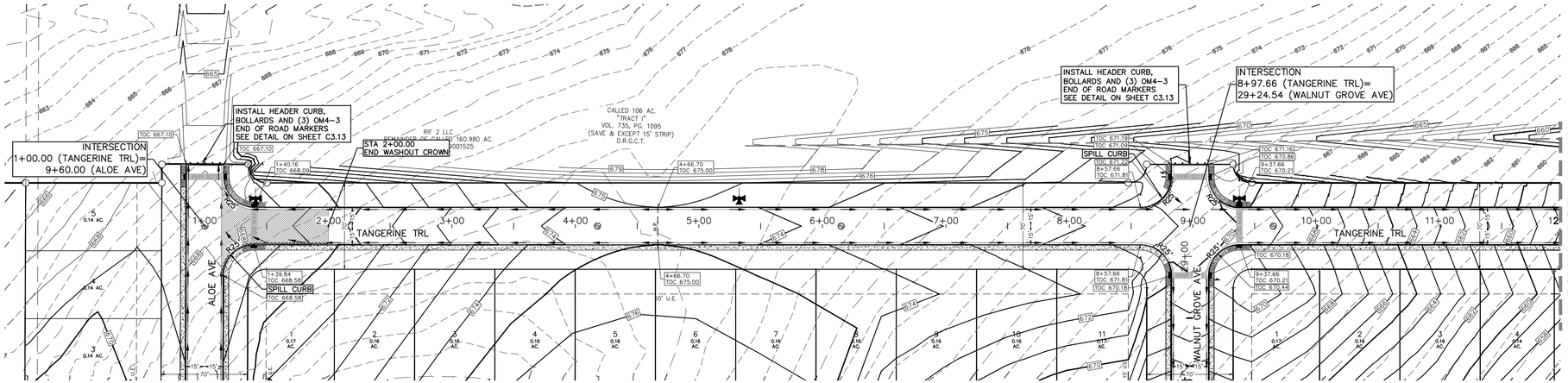
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

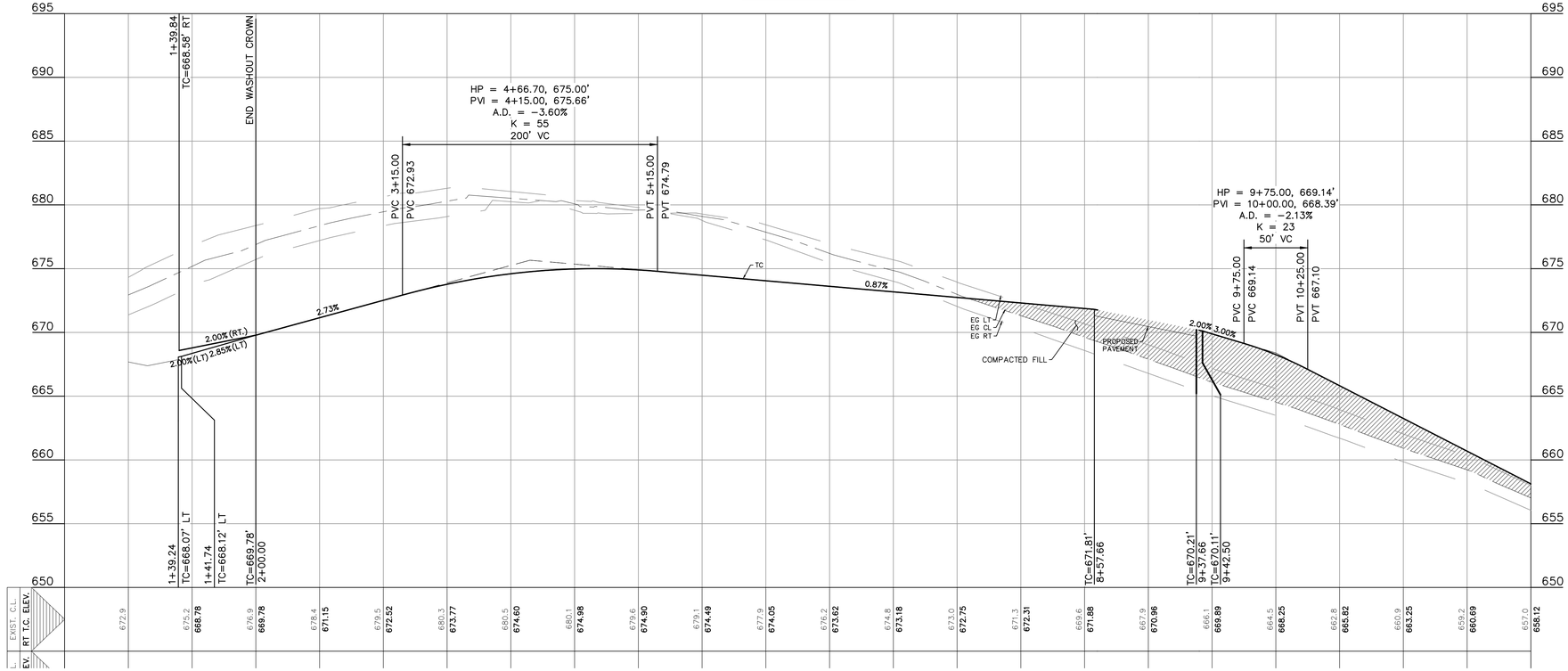
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

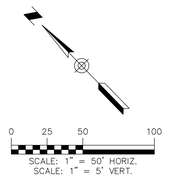
SHEET
C3.03

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cbfs\337.113_STREET E-W PP.dwg User: edwardu Mar 02, 2026 - 11:16am



TANGERINE TRL
0+50 – 12+00





LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
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- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
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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
03/02/2026

TANGERINE TRL PLAN & PROFILE (1 OF 2)

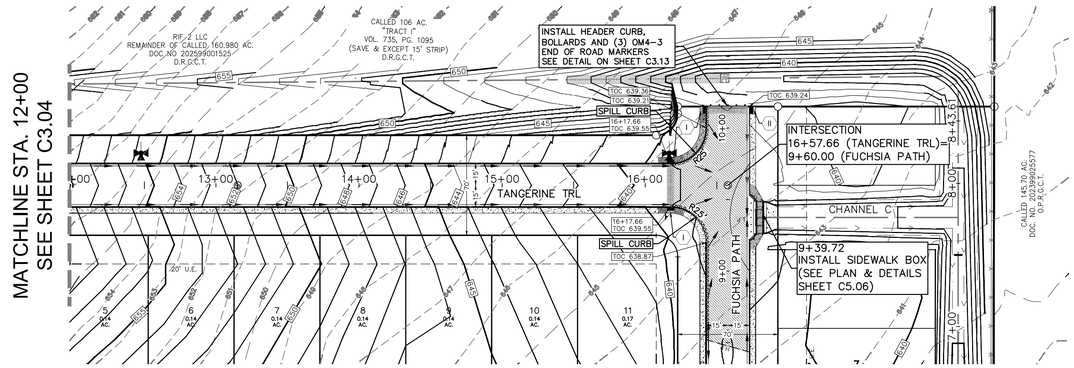
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

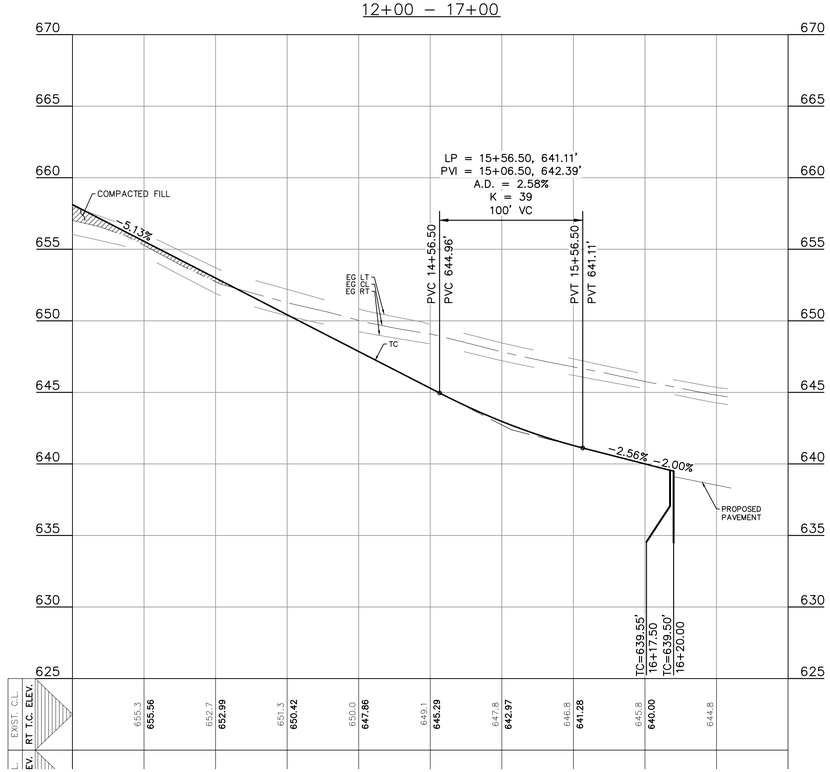
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

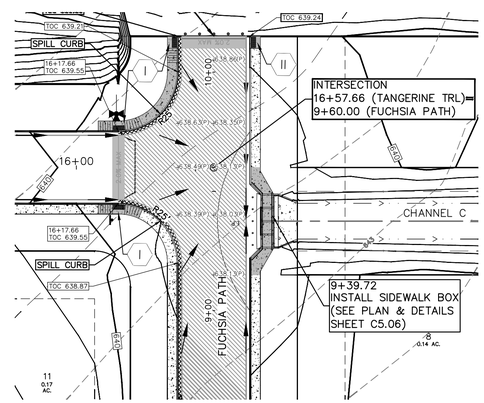
SHEET
C3.04

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STREET N-S PP.dwg User: edwardu Mar 02, 2026 - 11:18am



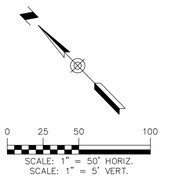
TANGERINE TRL
12+00 – 17+00





INTERSECTION DETAIL

SCALE: 1"=30'



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

STATE OF TEXAS
MATTHEW T. ABRAHAMSON
154638
LICENSED
PROFESSIONAL ENGINEER
03/02/2026

Matthew T. Abrahamson

TANGERINE TRL PLAN & PROFILE (2 OF 2)

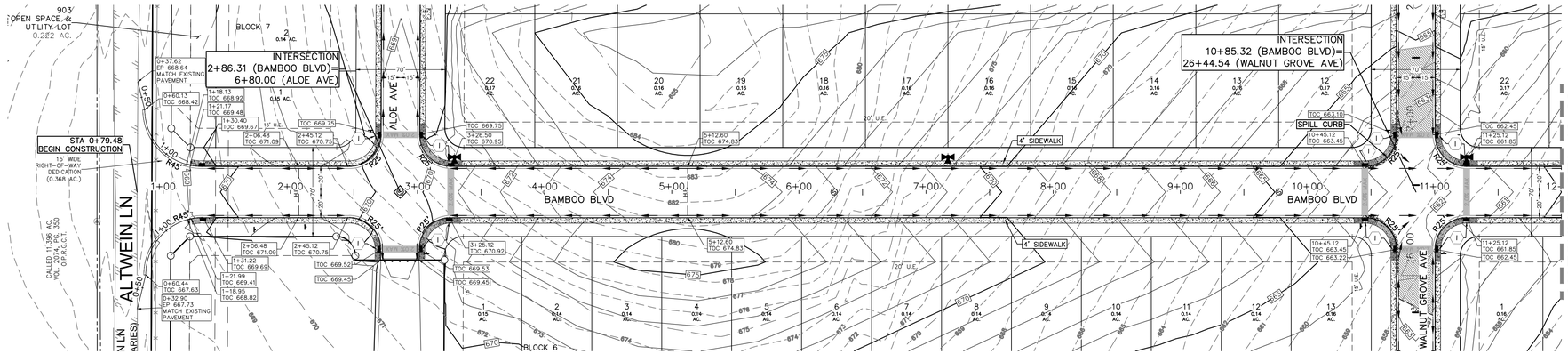
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

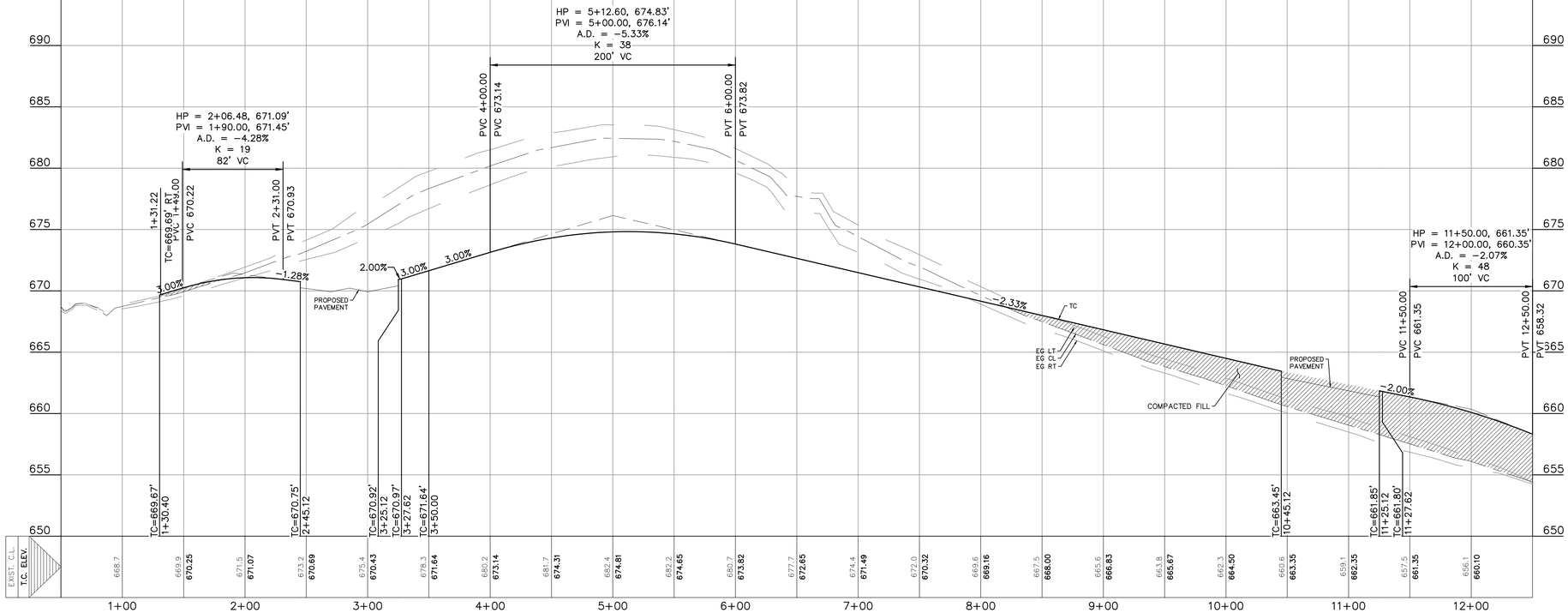
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

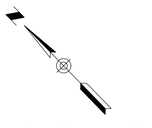
SHEET
C3.05

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STREET N-S PP.dwg User: edwardu Mar 02, 2026 - 11:18am



BAMBOO BLVD
0+50 – 12+50





LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
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NEW BRAUNFELS, TX 78130
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TBPELS FIRM 10153600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
03/02/2026
Matthew T. Abrahamsen

BAMBOO BLVD PLAN & PROFILE (1 OF 2)

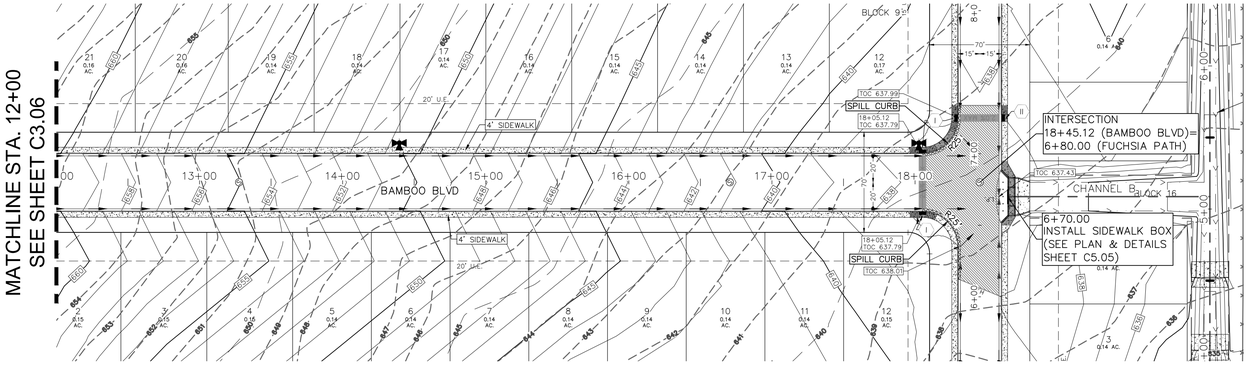
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

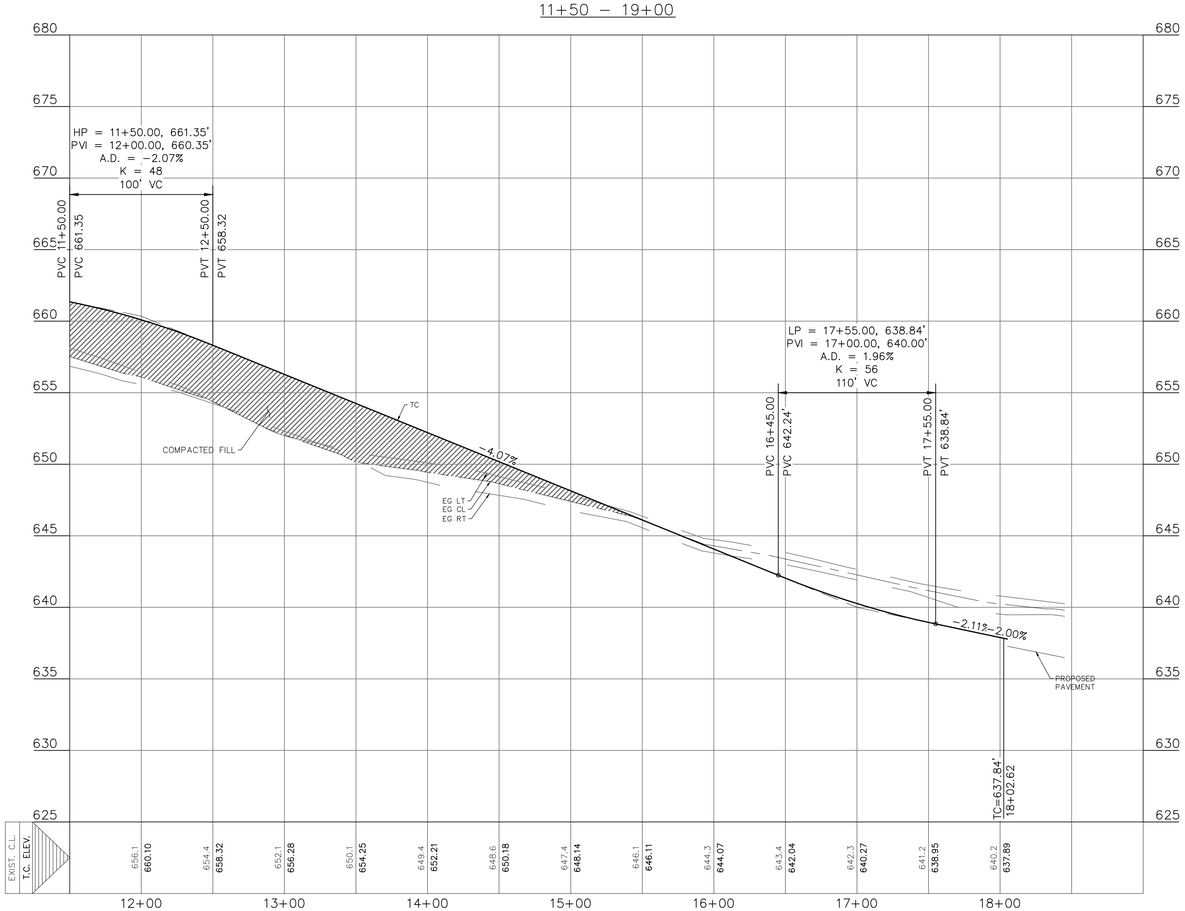
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C3.06

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (94 Lots)\03a\337.113_STREET N-S PP.dwg User: edwardu Mar 02, 2026 – 3:04pm



BAMBOO BLVD
11+50 – 19+00



LEGEND

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- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
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- 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
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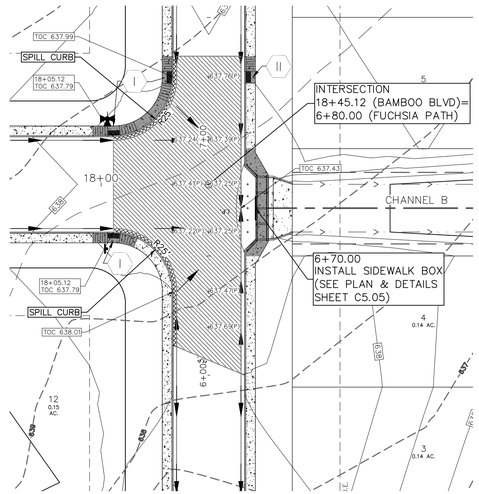

INTERSECTION DETAIL
SCALE: 1"=30'

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

BAMBOO BLVD PLAN & PROFILE (2 OF 2)

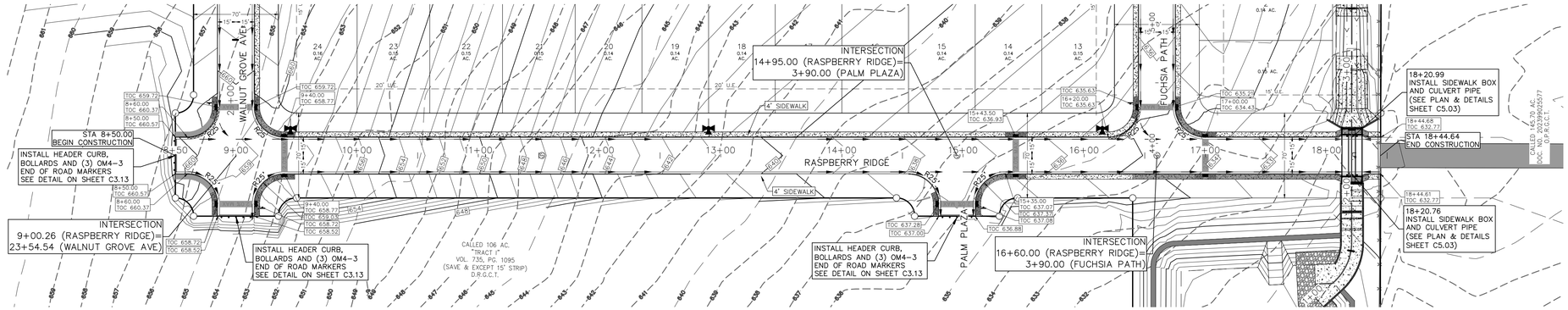
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

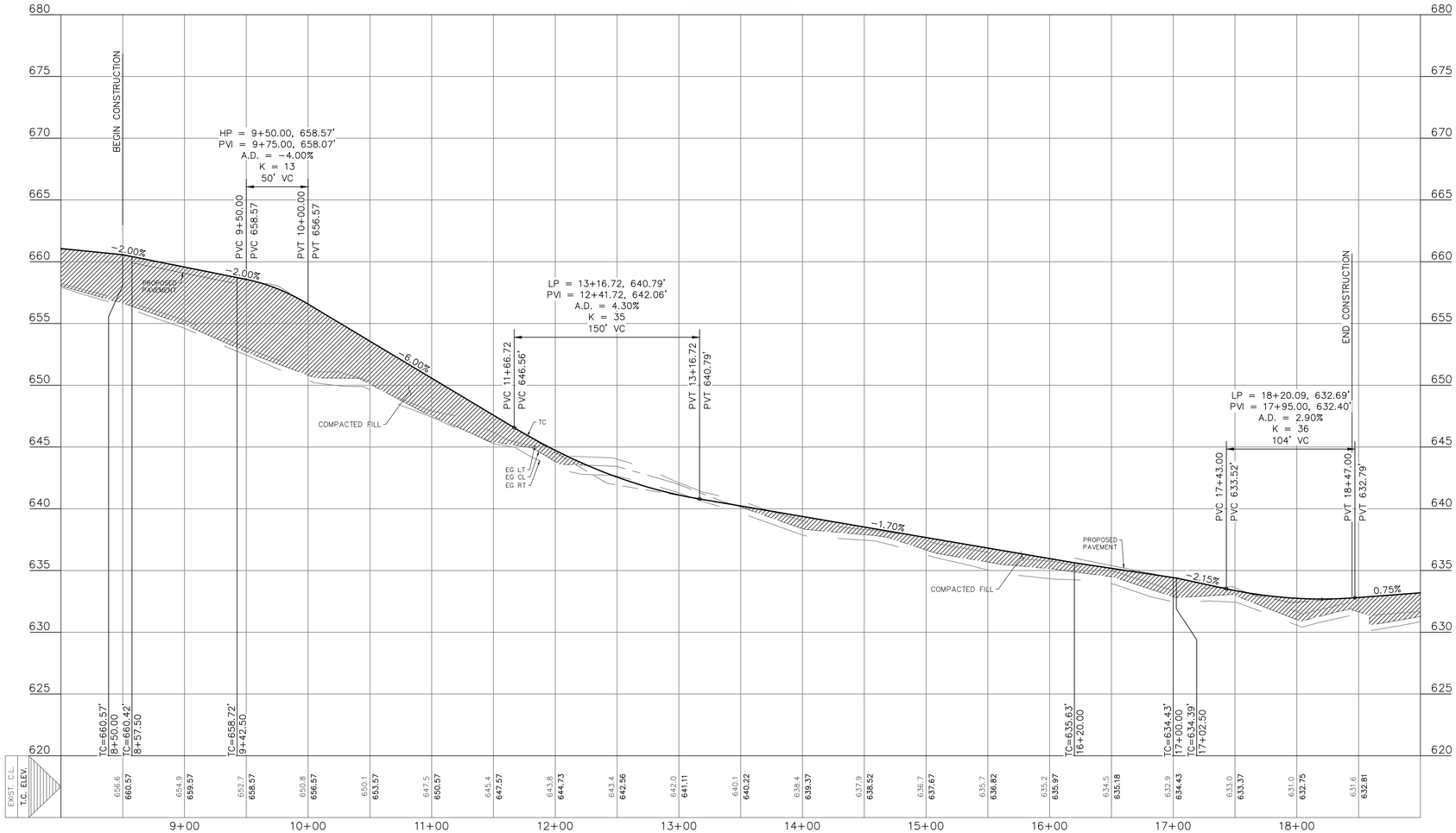
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

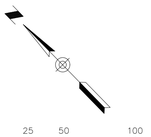
SHEET
C3.07

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (9lk Lots)\C3d\337.113_STREET N-S PP.dwg User: edwardu Mar 02, 2026 - 3:04pm



RASPBERRY RIDGE
8+00 – 19+00





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 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 C3.11 & C3.12)
- SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

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. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.

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
03/02/2026

RASPBERRY RIDGE PLAN & PROFILE

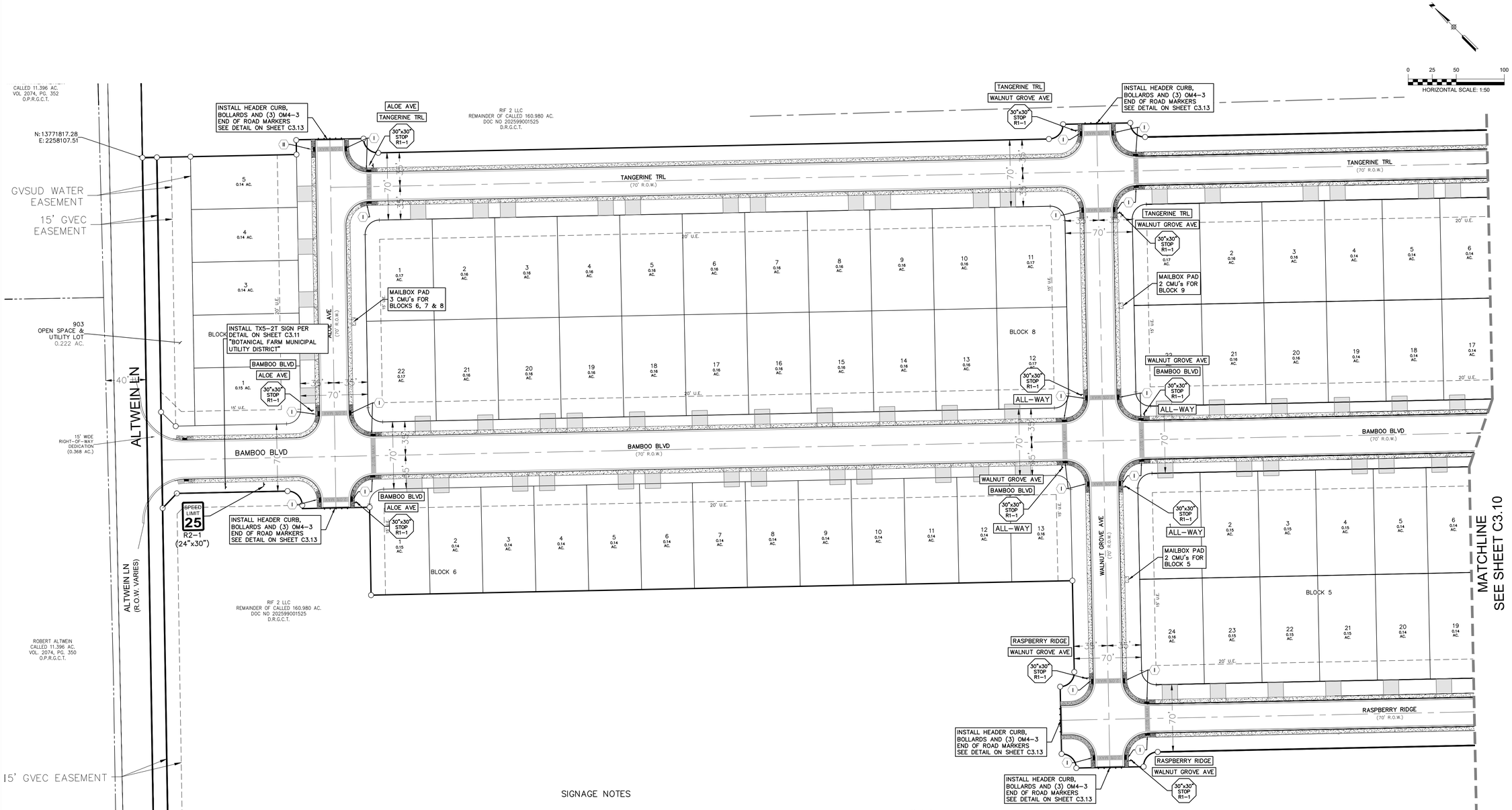
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C3.08

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\03a\337113_STREET N-S PP.dwg User: edeandu Mar 02, 2026 - 3:05pm



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 - 5) - 10.

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
0	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C3.12 - C3.14)
	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

SIGNAGE PLAN (1 OF 2)

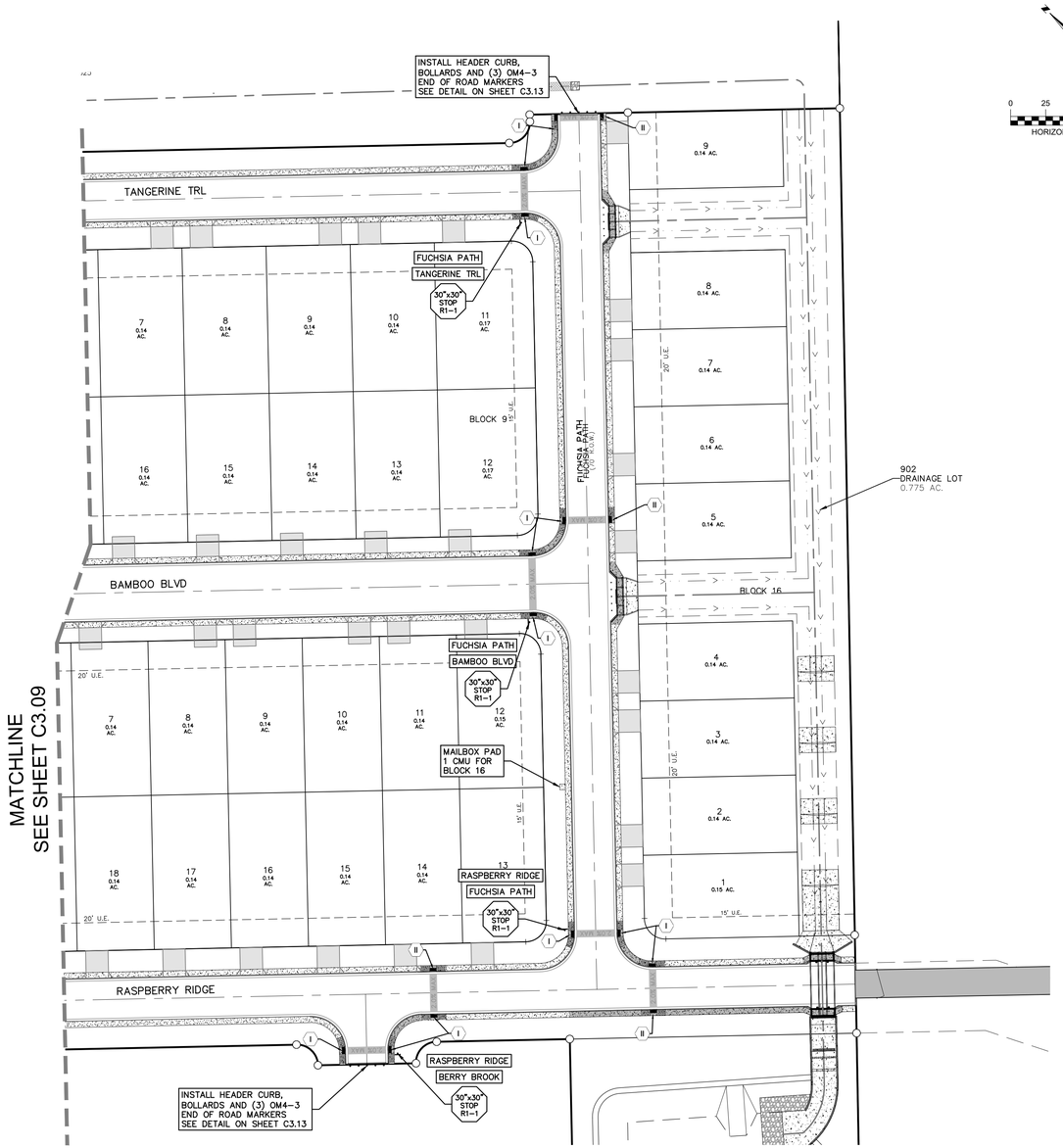
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET
C3.09

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\CDs\337.113_ST SIGNAGE.dwg User: edwardu Mar 02, 2026 - 11:20am



SIGNAGE NOTES

INSTALLATION

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OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS D & OM (1 - 5) - 10.

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 C3.12 - C3.14)
	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

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TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
03/02/2026

SIGNAGE PLAN (2 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C3.10

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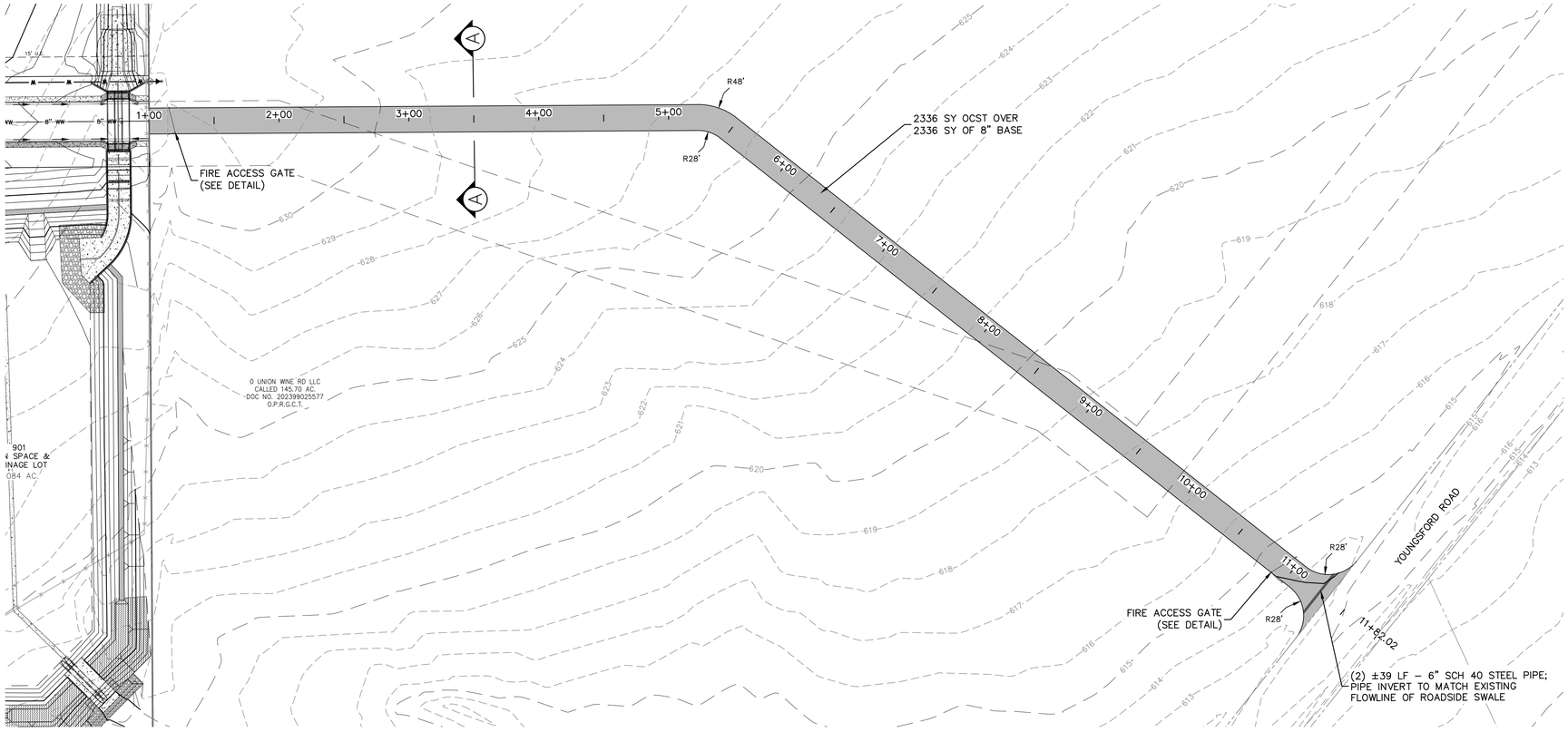
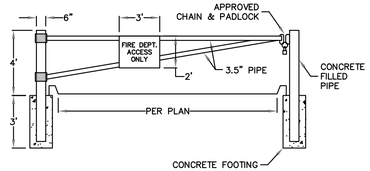


0 25 50 100

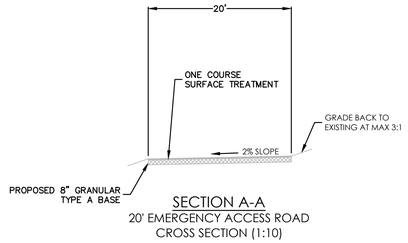
HORIZONTAL SCALE: 1:50

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP

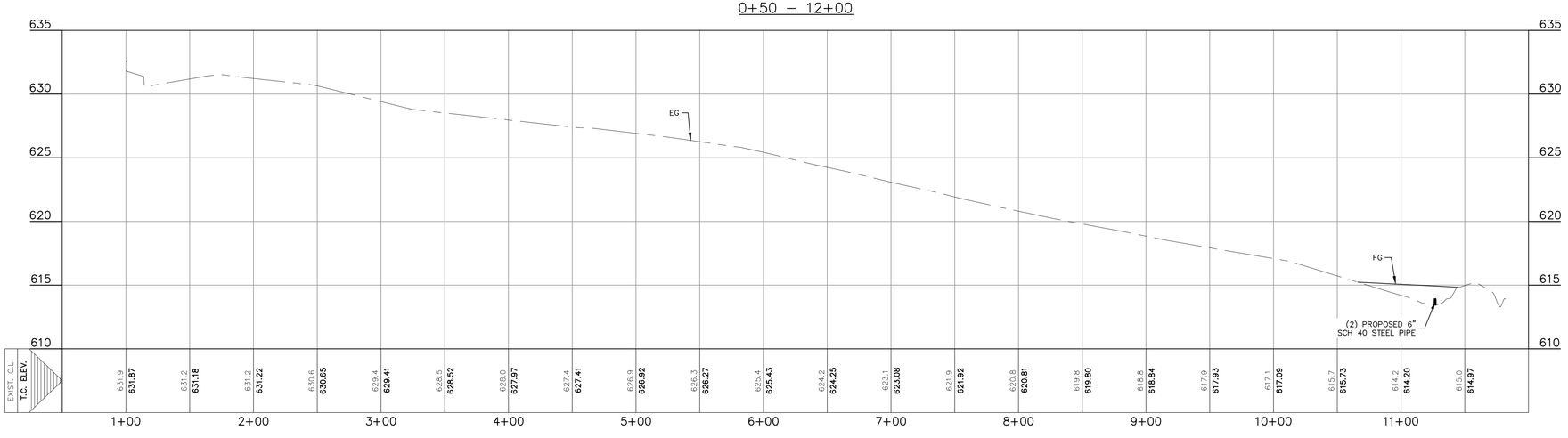


SCALE: N.T.S. FIRE DEPT. ACCESS GATE



SECTION A-A
20' EMERGENCY ACCESS ROAD
CROSS SECTION (1:10)

FIRE ACCESS
0+50 – 12+00



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TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
03/02/2026

FIRE ACCESS PLAN

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

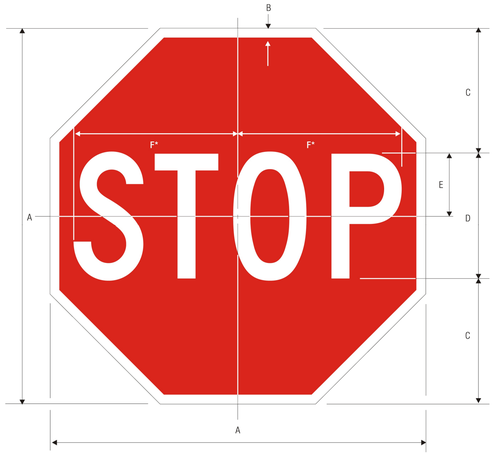
NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET

C3.11

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cbh\337.113_FIRE ACCESS.dwg User: edwardu Mar 02, 2026 - 11:20am



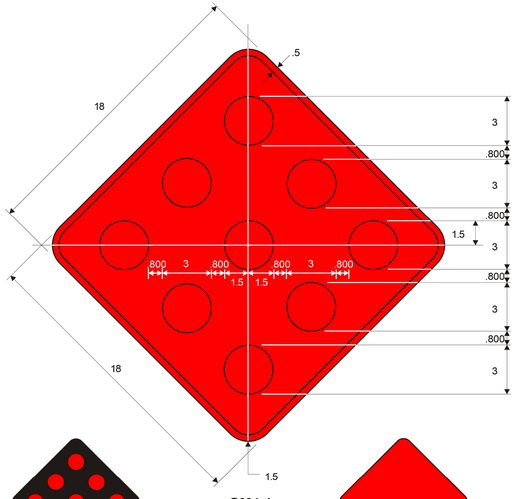
R1-1
STOP

*Reduce spacing 40%

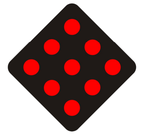
	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
C	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

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

1-1

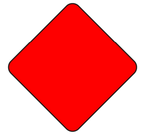


OM4-1



OM4-2

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

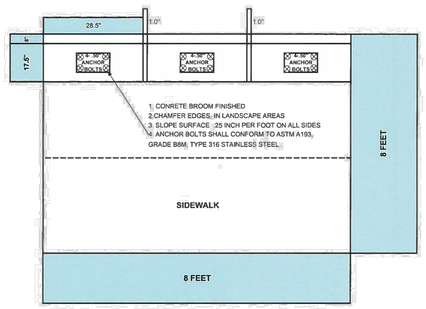


OM4-3

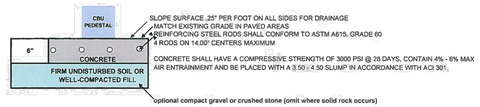
OM4-2 COLORS:
REFLECTORS — RED
BACKGROUND — BLACK

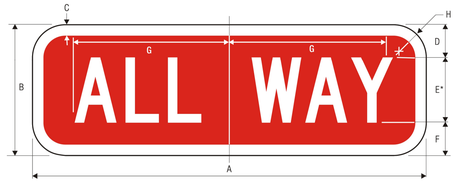
OM4-3 COLORS:
SIGN PANEL — RED

UNITED STATES POSTAL SERVICE



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





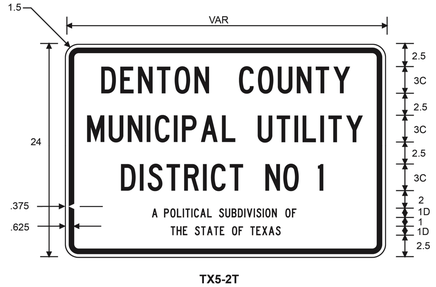
R1-4
ALL WAY

*Series 2000 Standard Alphabets.

C	A	B	C	D	E	F	G	H
	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 (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

1-5

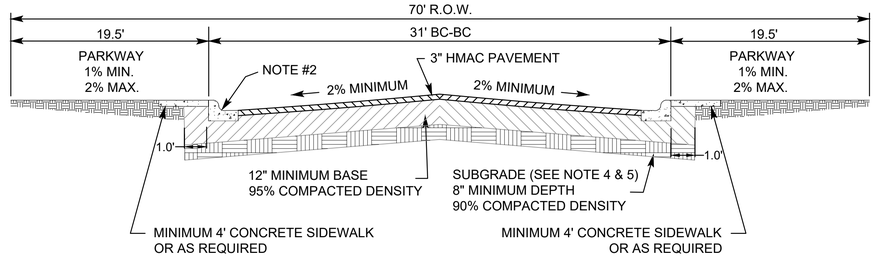


TX5-2T
COUNTY MUNICIPAL UTILITY DISTRICT NO

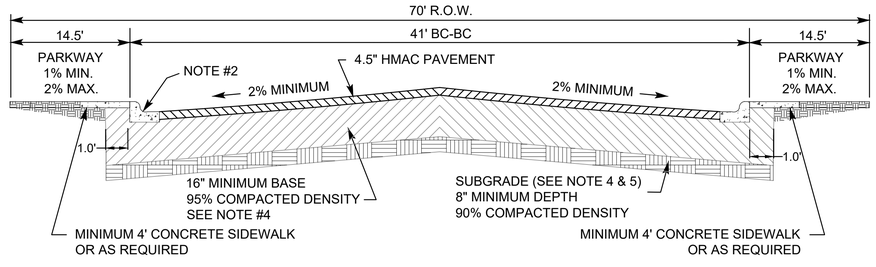
FLEXIBLE PAVEMENTS	SECONDARY	COLLECTOR	MINOR ARTERIAL
ESTIMATED ESALs	130,000	1,091,000	2,100,000
TYPE "D" HMAC	3"	4.5"	7"
CRUSH LIMESTONE BASE MATERIAL	12"	16"	16"
LIME TREATED SUBGRADE	8"	8"	8"

NOTE:

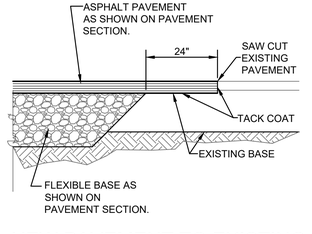
1. ALL PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE TO THE "BOTANICAL FARM SUBDIVISION - STREETS", BY INTERTEK PSI, PROJECT No. 0321-3498-R1, DATED AUGUST 5, 2025.
2. ALL PAVEMENT SECTIONS SHOWN ON THE ABOVE TABLE SHALL SUPERCEDE ANY STANDARD DETAILS WITH RESPECT TO DEPTH OF MATERIALS ASSOCIATED 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 12.4 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.



LOCAL STREET PAVEMENT SECTION (70' R-O-W)
NOT TO SCALE



COLLECTOR STREET PAVEMENT SECTION (70' R-O-W)
NOT TO SCALE



NEW PAVEMENT TO EXISTING
NOT TO SCALE

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

STREET DETAILS (1 OF 4)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

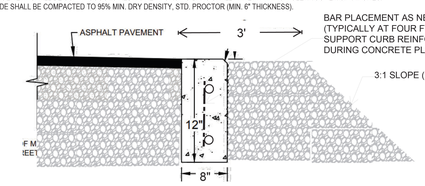
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

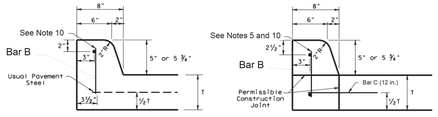
SHEET
C3.12

Drawing Name: N:_Projects\337 - Lennox\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_STREET DETAILS.dwg User: edwards Mar 02, 2026 - 11:20am

GENERAL CONCRETE RIBBON CURB NOTES
1. CONCRETE COMPRESSIBLE STRENGTH SHALL BE 3,000 PSI MINIMUM STRENGTH AT 28 DAYS.
2. REINFORCEMENT SHALL BE CONTINUOUS #3 REBAR. REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 3 INCHES.
3. SUBGRADE SHALL BE COMPACTED TO 95% MIN. DRY DENSITY, STD. PROCTOR (MIN. 6" THICKNESS).

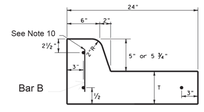


CONCRETE RIBBON CURB DETAIL



TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT

TYPE II CURB
5" - 5 ¾" HEIGHT



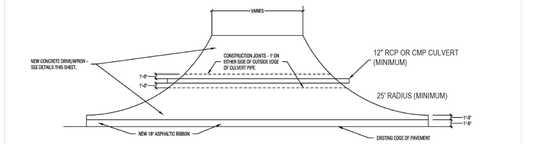
TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT

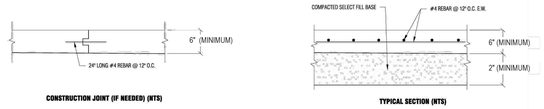
GENERAL CONCRETE CURB AND GUTTER NOTES
1. REFERENCE TXDOT CONCRETE CURB AND CURB AND GUTTER DETAIL (CCGG-22).
2. REINFORCEMENT SHALL BE NO. 4 BARS.
3. ROUND EXPOSED SHARP EDGES WITH A ROUNDING TOOL, TO A MINIMUM RADIUS OF 1/4 INCH.
4. ALL EXISTING CURBS AND DRIVEWAYS TO BE REMOVED SHALL BE SAWED OR REMOVED AT EXISTING JOINTS.
5. WHERE CONCRETE CURB IS TO BE PLACED ON EXISTING CONCRETE PAVEMENT, BAR B MAY BE DRILLED AND GROUTED IN PLACE, OR MAY BE INSERTED INTO FRESH CONCRETE.
6. EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH PAVEMENT JOINTS IN ALL CURBS AND CURB AND GUTTER ADJACENT TO JOINTED CONCRETE PAVEMENT. WHERE PLACEMENT OF CURB OR CURB AND GUTTER IS NOT ADJACENT TO CONCRETE PAVEMENT, EXPANSION JOINTS SHALL BE PROVIDED AT STRUCTURES, CURB RETURNS AT STREETS, AND AT LOCATIONS DIRECTED BY THE ENGINEER.
7. VERTICAL AND HORIZONTAL DOWEL BARS AND TRANSVERSE REINFORCING BARS SHALL BE PLACED AT FOUR FEET C-C.
8. DIMENSION 'T' SHOWN IS THE THICKNESS OF CONCRETE PAVEMENT AND IS 7 INCHES.
9. ONE-HALF INCH EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB OR CURB AND GUTTER IS ADJACENT TO SIDEWALK OR RIPRAP.
10. BAR B PLACEMENT AS NEEDED (TYPICALLY AT FOUR FT C-C) TO SUPPORT CURB REINFORCING STEEL DURING CONCRETE PLACEMENT.

CONCRETE CURB AND GUTTER DETAIL

CONCRETE CURB DETAILS

GUADALUPE COUNTY STANDARD DETAILS





TYPE	WIDTH		CONCRETE THICKNESS	DRIVEWAY BASE
	MIN	MAX		
RESIDENTIAL	10'	24'	6"	2" (MIN.) GRAVEL, CRUSHED ROCK OR FLEX BASE
COMMERCIAL	24'	40'		

GENERAL NOTES
1. SAWCUT (IF REQUIRED) AND EXCAVATION OF DRIVEWAY AREA WILL NOT BEGIN WITHOUT ALL MATERIALS IN PLACE TO COMPLETE THE WORK WITHIN ONE BUSINESS DAY. EXCAVATION LEFT OPEN ADJACENT TO THE COUNTY ROAD WILL NOT BE ALLOWED.
2. SAWCUT INTO EXISTING COUNTY ROAD IS NOT PERMITTED.
3. WELDED WIRE MESH OF EQUAL OR GREATER EQUIVALENT CROSS SECTIONAL AREA MAY BE PERMITTED WITH GUADALUPE COUNTY APPROVAL.

CONCRETE DRIVEWAY DETAIL

GUADALUPE COUNTY STANDARD DETAILS

SITE PREPARATION AND DRAINAGE
1. AT A MINIMUM, WHERE SITE SURFACE SOILS CONSIST OF CLAY OR CLAYEY MATERIALS, A MINIMUM OF 6 INCHES OF SURFACE SOILS SHALL BE EXCAVATED. IN THE CASE OF HEAVY BLACK OR BROWN CLAYS, THE MINIMUM DEPTH OF SOILS REMOVAL IS RECOMMENDED AT 8 INCHES. PROOF ROLLING, SOILS CONSOLIDATION, AND COMPACTING ARE RECOMMENDED. IN THE ABSENCE OF ANY GEOTECHNICAL REPORT, SELECT STRUCTURAL FILLS ARE TO BE PROVIDED AT THE LOCATION OF THE DRIVEWAY FOUNDATION. A MINIMUM DEPTH OF FILL MATERIAL SHALL BE SPECIFIED IN THE GEOTECHNICAL REPORT, OR EQUAL TO THE DEPTH OF SURFACE SOILS EXCAVATION, THEREAFTER. ADDITIONAL FILL MATERIAL SHALL BE PROVIDED TO FORM A STRUCTURAL BASED AT THE GREATER OF A MINIMUM OF 12 INCHES IN HEIGHT, OR AS REQUIRED FOR PROPER FOUNDATION EXPOSURE. THE STRUCTURAL FILLS SHALL CONSIST OF TYPE A CRUSHED LIMESTONE, OR TYPE B CLAYEY CRUSHED GRAVEL, IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 247 FOR GRADE 1 FILL MATERIALS. STRUCTURAL FILL SHALL BE PLACED IN LIFTS OF 8 INCHES, AND COMPACTED ACCORDANCE WITH TXDOT SPECIFICATION TEX-113-E, WITH MOISTURE CONTENT CONTROLLED TO CONFORM TO TXDOT SPECIFICATION ITEM 204 "SPRINKLING".

2. TREES WITH A DISTANCE TO THE SLAB OF ONE TIMES THE MATURE TREE HEIGHT MAY DAMAGE THE FOUNDATION. TREE REMOVAL SHALL BE REQUIRED AT THE DIRECTION OF THE COUNTY ROAD ADMINISTRATOR.

3. VOIDS (HOLES) CREATED AS A RESULT OF DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, TREES, AND OTHER EXISTING OBJECTS SHALL BE FILLED WITH WELL COMPACTED SELECT FILL MATERIAL.

4. SITE SURFACE DRAINAGE DURING CONSTRUCTION SHALL BE CONTROLLED BY PROVIDING POSITIVE DRAINAGE AWAY FROM THE DRIVEWAY SLAB. THE APPLICANT IS RESPONSIBLE FOR THE INSTALLATION OF BERMS OR SWALES ON THE UPHILL SIDE OF THE CONSTRUCTION AREA TO DIVERT SURFACE RUNOFF AWAY FROM THE SLAB DURING CONSTRUCTION.

FOUNDATION CONSTRUCTION
1. FILL MATERIAL PLACED BENEATH THE SLAB SHALL BE WELL GRADED GRANULAR LOW PLASTICITY SELECT FILL MATERIAL HAVING A PI OF 5 TO 20 WITH A LIQUID LIMIT NOT EXCEEDING 40 PERCENT. THE FILL MATERIAL SHALL BE FREE OF ORGANICS, TRASH, RUBBLE, OR OTHER DELETERIOUS MATERIALS AND SHALL HAVE NO PARTICLE SIZE GREATER THAN 3 INCHES IN DIAMETER. CRUSHED LIMESTONE OR CRUSHED AND UNCRUSHED GRAVEL FMATERIAL MEETING THE REQUIREMENTS OF TXDOT ITEM 247, TYPE A OR B, GRADE 1 OR 2 IS REQUIRED.

2. SLAB FILL MATERIAL SHALL BE A MINIMUM OF 12 INCHES THICK BENEATH ALL SLAB AREAS AND PLACED TO FINISH GRADE ELEVATION EQUAL TO THE GRADE ELEVATION AT THE BOTTOM OF THE SLAB. THE SLAB FILL MATERIAL SHALL BE PLACED IN 6 INCH LIFTS AND MACHINE TAMPED TO REDUCE FILL SETTLEMENT.

3. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 302.1R.

4. PROPER CURING OF ALL CONCRETE SURFACES SHALL BE PROVIDED BY THE APPLICANT AND IN ACCORDANCE WITH THE LATEST EDITION OF ACI 308.

5. DO NOT PLACE CONCRETE WHEN TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT UNLESS COLD WEATHER CONCRETE PROCEDURES ARE FOLLOWED. CALCIUM CHLORIDE SHALL NOT BE USED. PROVIDE SPECIAL CARE TO PREVENT HIGH TEMPERATURES DURING HOT WEATHER CONDITIONS IN FRESH CONCRETE. USE WATER REDUCING SET RETARDING ADMIXTURES IN SUCH QUANTITIES AS SPECIFICALLY RECOMMENDED BY THE MANUFACTURER TO ASSURE THE CONCRETE REMAINS WORKABLE.

6. NO HORIZONTAL JOINTS WILL BE PERMITTED IN THE CONCRETE EXCEPT AS NOTED.

CONCRETE AND REINFORCING STEEL
1. ALL CONCRETE AND REINFORCING STEEL SHALL MEET THE LATEST EDITION OF ASTM A615 AND ACI 117 "STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".

2. TESTING SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT.

3. CONCRETE COMPRESSIBLE STRENGTH SHALL BE 4,000 PSI MINIMUM STRENGTH AT 28 DAYS.

4. CEMENT SHALL BE TYPE 1 (GRAY) PORTLAND. MAXIMUM WATER CEMENT RATIO SHALL BE 0.5 AND A SLUMP RANGE OF 2 TO 5 INCHES. THE APPLICANT SHALL SATISFY FOR THEMSELVES THAT THE MIX DESIGN IS ACCEPTABLE FOR ITS INTENDED PURPOSE.

5. REINFORCING STEEL SHALL MEET LATEST EDITION OF A-615, GRADE 60 DEFORMED BARS.

6. ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED AT 48 INCHES ON CENTER TO PREVENT VERTICAL AND HORIZONTAL MOVEMENT DURING THE PLACEMENT OF CONCRETE. METAL, PLASTIC, CONCRETE, OR MASONRY CHAIRS MAY BE USED TO SUPPORT REINFORCEMENT. SLAB REINFORCEMENT SHALL BE CENTERED IN CONCRETE SLAB THICKNESS.

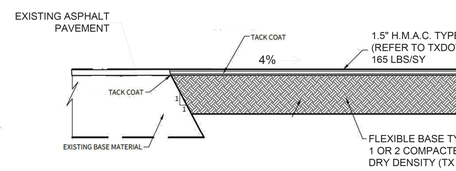
7. SLAB REINFORCING BARS SHALL BE TIED AT EVERY OTHER INTERSECTION AND SUPPORTED AT 48 INCHES ON CENTER WITH METAL, PLASTIC, CONCRETE, OR MASONRY CHAIRS. WOOD OR OTHER ORGANIC MATERIAL IS PROHIBITED. EVERY STIRRUP BAR SHALL BE TIED AT BOTH TOP AND BOTTOM BEAM REINFORCING BAR LOCATION. STIRRUPS ARE TO INSTALLED VERTICALLY. ANGLED STIRRUPS ARE NOT PERMITTED.

8. ALL BEAM REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 3 INCHES FROM THE BOTTOM OF THE BEAM AND 2 INCHES FROM THE TOP AND SIDES OF THE BEAM.

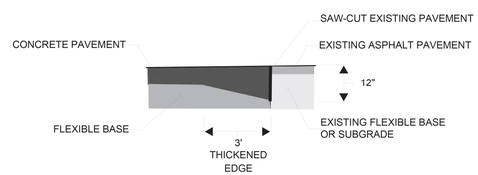
9. REINFORCING STEEL LAPS AND SPLICES SHALL BE A MINIMUM OF 30 BAR DIAMETERS, BUT NO LESS THAN 12 INCHES, SPLICES OF THE TOP AND BOTTOM BEAM REINFORCEMENT SHALL BE PER TXDOT SPECIFICATION ITEM 440, TABLE 6.

CONCRETE DRIVEWAY DETAIL NOTES

GUADALUPE COUNTY STANDARD DETAILS



ROADWAY WIDENING DETAIL

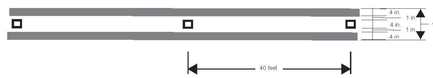


CONCRETE TO ASPHALT PAVEMENT JUNCTION DETAIL

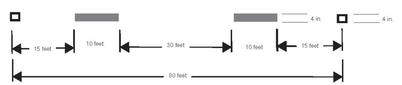
CONCRETE/ASPHALT PAVEMENT JUNCTION DETAIL NOTES
1. CONCRETE PAVEMENT SHALL BE JOINTED REINFORCED CONCRETE PAVEMENT (JRCP) ONLY.

MISCELLANEOUS DETAILS

GUADALUPE COUNTY STANDARD DETAILS



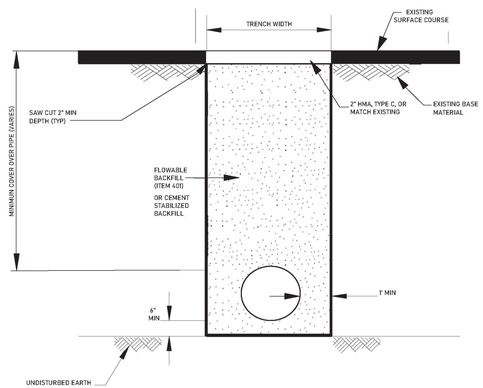
CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS
NO PASSING ZONE



CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS
REFLECTIVE RAISED PAVEMENT MARKERS GUIDANCE

STRIPING DETAIL

GUADALUPE COUNTY STANDARD DETAILS



TRENCH BACKFILL WITH PAVED SURFACE DETAIL

- Note: Open cut trenching of county roads is prohibited except in limited circumstances to be approved by Guadalupe County prior to construction.

TRENCH DETAIL

GUADALUPE COUNTY STANDARD DETAILS

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

STREET DETAILS (2 OF 4)

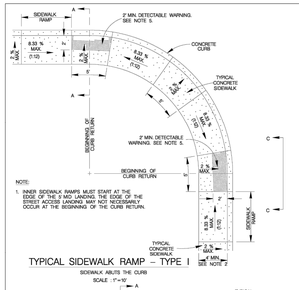
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C3.13

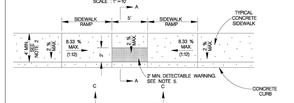
Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\03a\337.113_STREET DETAILS.dwg User: edwardu Mar 02, 2026 – 11:20am



TYPICAL SIDEWALK RAMP – TYPE I

SIDEWALK ABUTS THE CURB

SCALE: 1"=5'



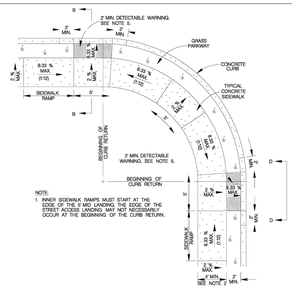
TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB

SCALE: 1"=5'

GENERAL NOTES

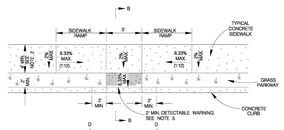
1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE ALLOWING A MINIMUM OF 1 FOOT BUFFER. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND 5' SEPARATED FROM THE CURB. THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 5' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESCRIBED IN TABLE 3 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN A 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES IN A SQUARE GRID PATTERN, WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB IS 6 INCHES (150 MM) FROM THE BACK OF CURB. STANDARD SPECIFICATIONS ON WHERE CONFORMING TO TXDOT STANDARD PED-05, PEDESTRIAN FACILITIES.
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 – CONCRETE CURB, GUTTER, AND CURB INLET CURB AND GUTTER AND / OR "506 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLOWABLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN 5% SHALL BE CONSIDERED A RAMP AND SHALL HAVE HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33-5.67=11). IF ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11% A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



TYPICAL SIDEWALK RAMP – TYPE III

SIDEWALK SEPARATED FROM CURB

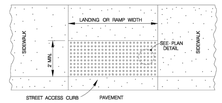
SCALE: 1"=10'



TYPICAL SIDEWALK RAMP – TYPE IV

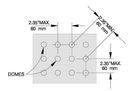
USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE: 1"=10'



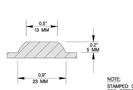
DETECTABLE WARNING SURFACE

SCALE: 1"=4'



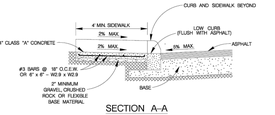
PLAN DETAIL

NO SCALE



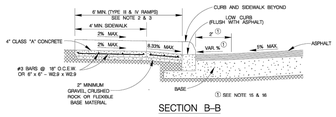
DOME SECTION

NO SCALE



SECTION A–A

SCALE: 1"=4'



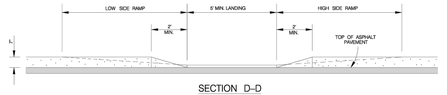
SECTION B–B

SCALE: 1"=4'

SECTION C–C

CURB PROFILE WHERE SIDEWALK ABUTS CURB

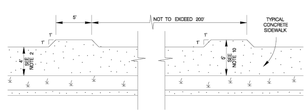
SCALE: 1"=4'



SECTION D–D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE: 1"=4'



SIDEWALK PASSING SPACE

SCALE: 1"=10'

NOTE:
STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRE-CAST CONCRETE TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-8"	7'-0"
2%	5'-0"	8'-4"
3%	4'-4"	10'-0"
4%	4'-2"	12'-0"
5%	3'-10"	16'-8"

MAY 2009

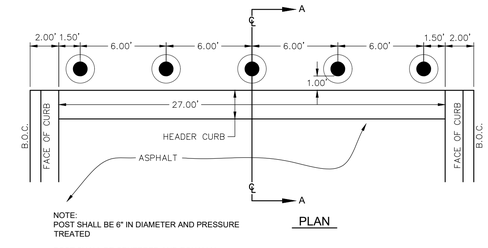
CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

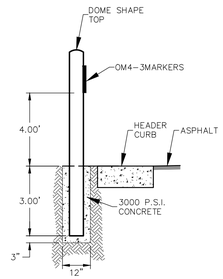
WHEELCHAIR RAMP STANDARDS

_% SUBMITTAL PROJECT NO.:_____ DATE:_____

DRAWN BY: V. VASQUEZ DSGN BY:_____ CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.:____OF____



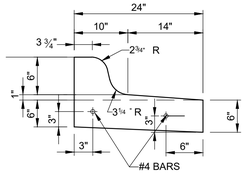
PLAN



SECTION A-A

BOLLARD DETAIL

NOT TO SCALE



SPILL CURB DETAIL

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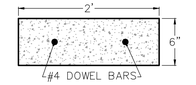
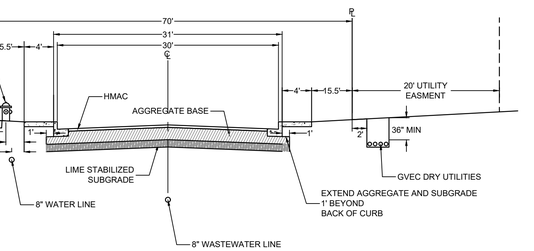


1. MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF NEW BRAUNFELS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. DOWEL BARS IF REQUIRED SHALL BE PLACED AS SHOWN.
3. EXPANSION JOINTS SHALL BE INSTALLED AT INTERVALS NOT TO EXCEED 40 FEET.

RIBBON CURB DETAIL

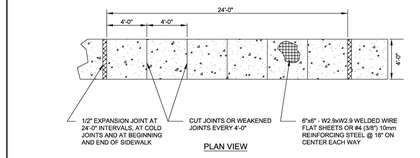
NOT TO SCALE



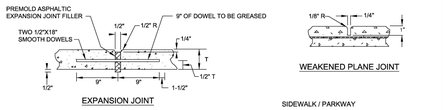
TYPICAL UTILITY LOCATION

NOT TO SCALE

SIDEWALK
(RESIDENTIAL)

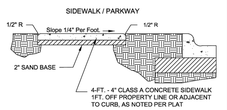


PLAN VIEW



EXPANSION JOINT

WEAKENED PLANE JOINT



TYPICAL SECTION

NOTES:

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

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

City of New Braunfels ENGINEERING DEPARTMENT

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
03/02/2026

Matthew T. Abrahamsen

STREET DETAILS (3 OF 4)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C3.14

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\CDs\337.113_STREET DETAILS.dwg User: edwardu Mar 02, 2026 – 11:21am

DISCLAIMER
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SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

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

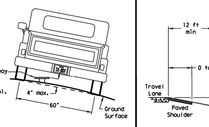
Post Type
FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
SB0 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

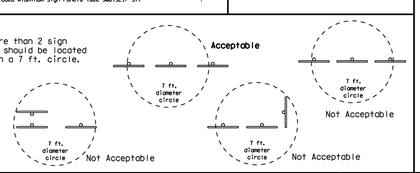
Anchor Type
UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WS = Wedge Anchor Steel - (see SMD(TWT))
WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see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

Sign Mounting Designation
P = Prefab. "Plain" (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
(EXT or ZEXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BW = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 K/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

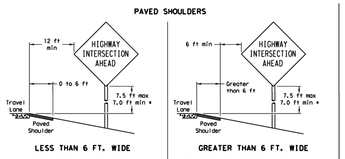


To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).



SIGN LOCATION

PAVED SHOULDERS



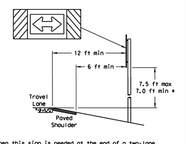
LESS THAN 6 FT. WIDE

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.

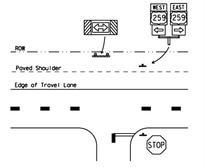
GREATER THAN 6 FT. WIDE

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.

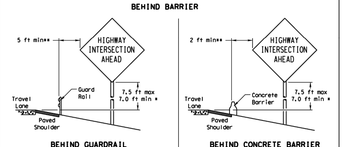
T-INTERSECTION



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



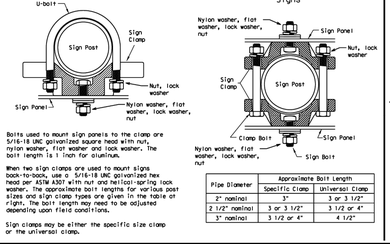
BEHIND GUARDRAIL

BEHIND CONCRETE BARRIER

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

* Signs shall be mounted using the following condition that results in the greatest sign elevation
(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
(2) a minimum of 7 to a maximum of 7.5 feet above the grade at 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 clamps, Triangular Slipbase System components and Wedge Anchor System components.
The website address is:
http://www.txdot.gov/publications/trraffic.htm

TYPICAL SIGN ATTACHMENT DETAIL



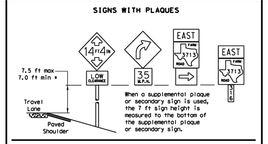
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

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.

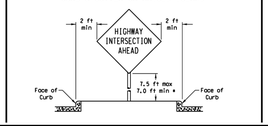
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



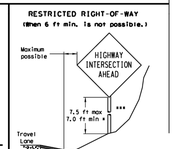
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is 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

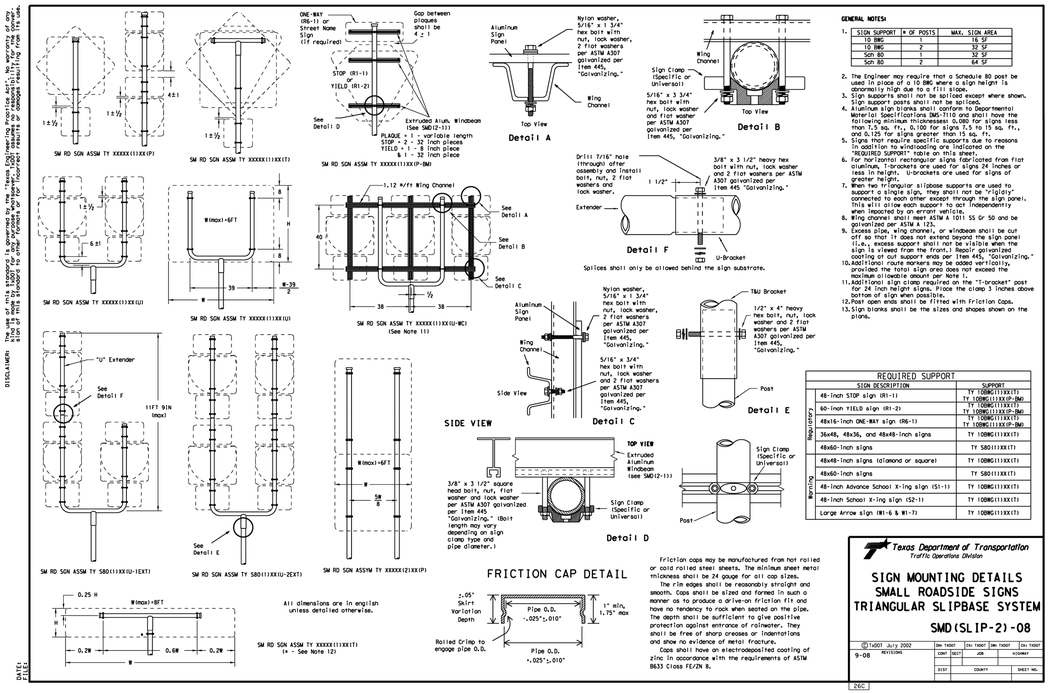
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

©TxDOT July 2002	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26A

DATE:
FILE:



GENERAL NOTES:

1. | 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 |
2. 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.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 6.0 sq. ft., 0.100 for signs 6.0 to 7.5 sq. ft., and 0.125 for signs greater than 10 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. 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.
7. 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 and thus help to minimize suspension loads when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, 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."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Mount signs with wing channel and on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with friction Caps.
13. 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(11)XX(T) TY 10BWG(11)XX(P-BW)
	60-inch YIELD sign (R1-2)	TY 10BWG(11)XX(T) TY 10BWG(11)XX(P-BW)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(11)XX(T) TY 10BWG(11)XX(P-BW)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(11)XX(T)
	48x60-inch signs	TY SB0(11)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(11)XX(T)
Warning	48x60-inch signs	TY SB0(11)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(11)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(11)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(11)XX(T)

FRICTION CAP DETAIL

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 creases or indentations and show no evidence of metal fracture.

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

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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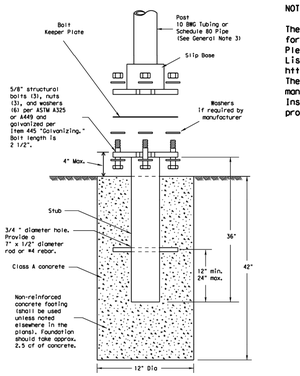
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26C

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(3)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://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:

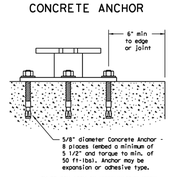
1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the followings
   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 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld 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 followings
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
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/trraffic.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 7 to 7.5 feet above the edge of the roadway (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 roadway. 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



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

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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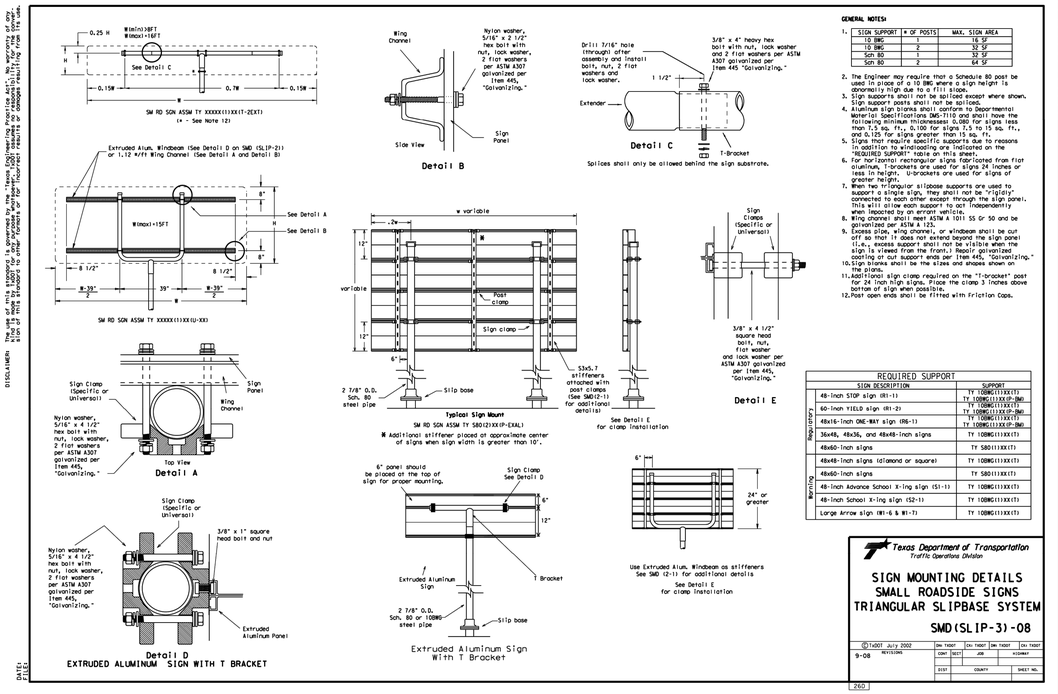
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26B

DATE:
FILE:



GENERAL NOTES:

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4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 6.0 sq. ft., 0.100 for signs 6.0 to 7.5 sq. ft., and 0.125 for signs greater than 10 sq. ft.
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8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, 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."
10. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
11. Post open ends shall be fitted with friction Caps.

REQUIRED SUPPORT		
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	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(11)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

©TxDOT July 2002	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26D

DATE:
FILE:

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

03/02/2026

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

Matthew T. Abrahamsen

STREET DETAILS (4 OF 4)

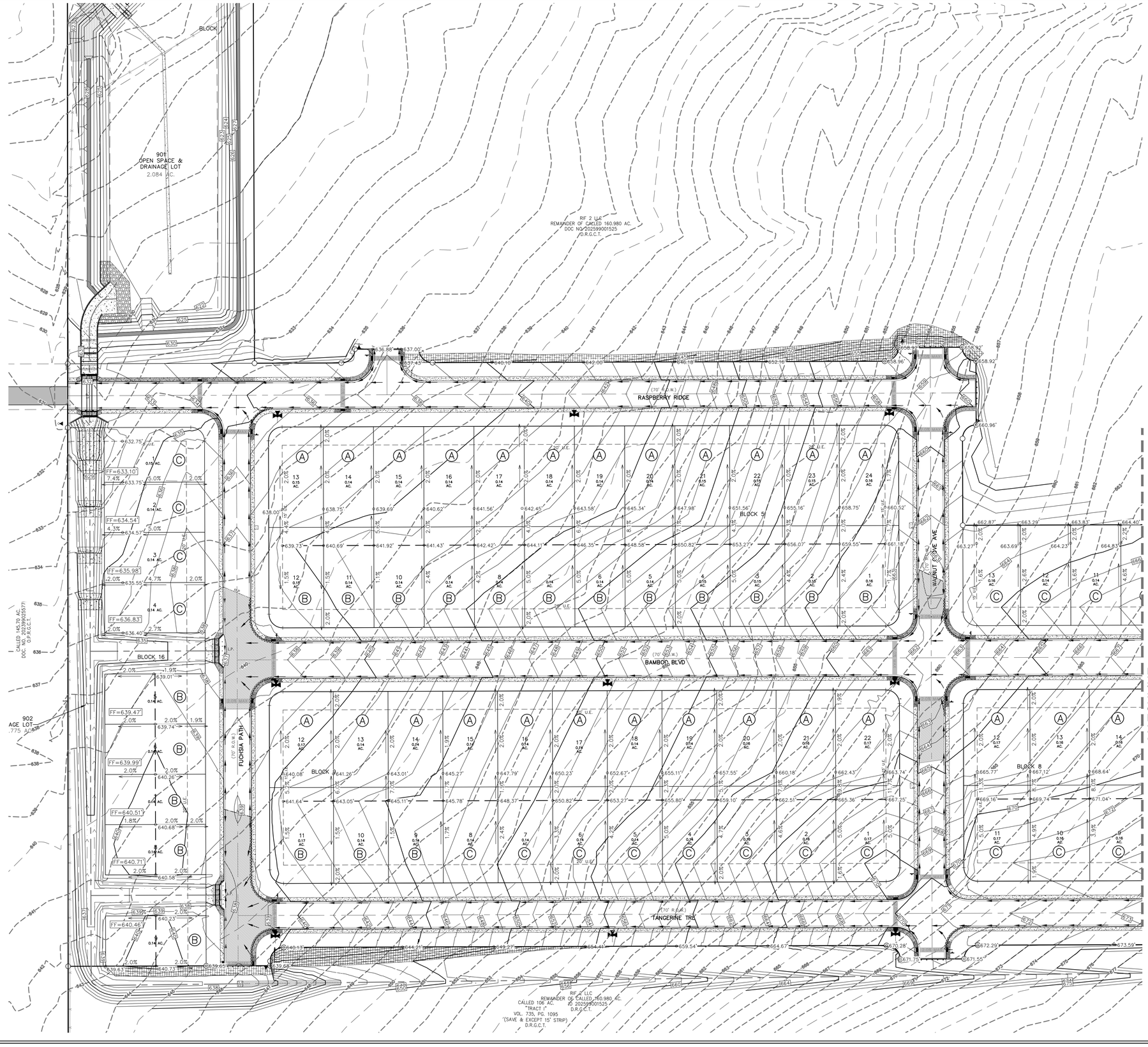
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C3.15

Drawing Name: N:_Projects\337 — Lennar\113 — Botanical Farm Phase 1 (96 Lots)\Cbk\337.113_STREET DETAILS.dwg User: edwardu Mar 02, 2026 - 11:21am



0 25 50 100

SCALE: 1" = 50'

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
A	LOT GRADING SEE GRADING DETAILS
	GRADE BREAK LINE
	DRAINAGE FLOW DIRECTION
FF=XXX.X	MINIMUM FINISHED FLOOR ELEVATION
	CURLEX 1 CL FIBERNET QUICKGRASS TO BE INSTALLED ON ALL SLOPES 3:1 OR STEEPER

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 C0.04.
   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.

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
03/02/2026

Matthew T. Abrahamsen

GRADING PLAN (1 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

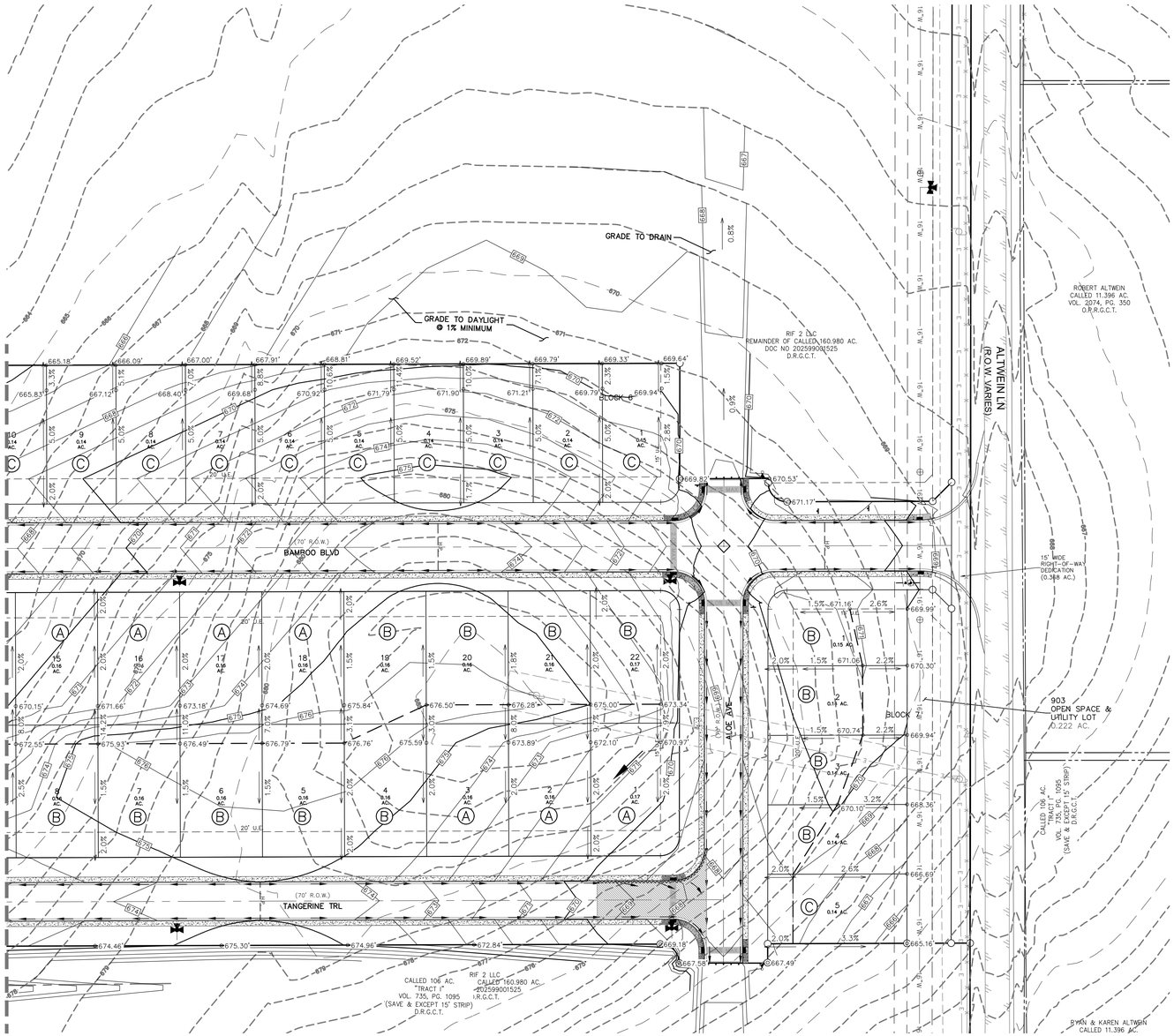
NO.	REVISION DESCRIPTION	REVISION DATE

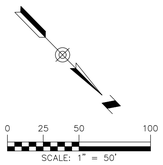
DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET

C4.01

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\Cbk\337.113_GRADING.dwg User: edwardu Mar 02, 2026 – 11:21am





LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
A	LOT GRADING SEE GRADING DETAILS
	GRADE BREAK LINE
	DRAINAGE FLOW DIRECTION
FF=XXX.X'	MINIMUM FINISHED FLOOR ELEVATION

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 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
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

03/02/2026

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER

Matthew T. Abrahamsen

GRADING PLAN (2 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

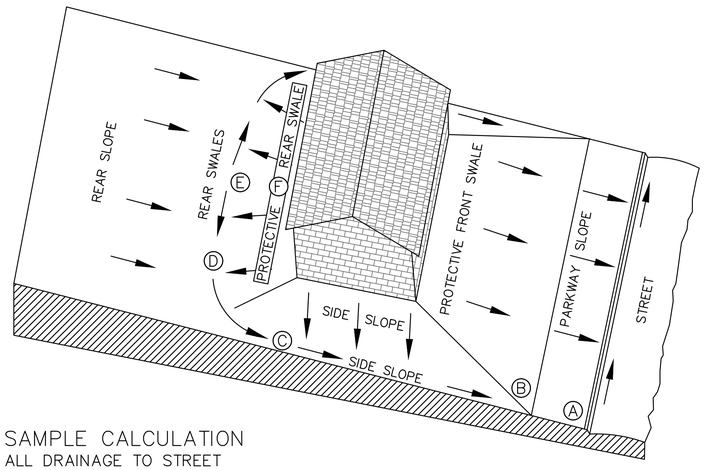
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET

C4.02

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (66 Lots)\Cds\337.113_GRADING.dwg User: edwardu Mar 02, 2026 - 11:22am



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')

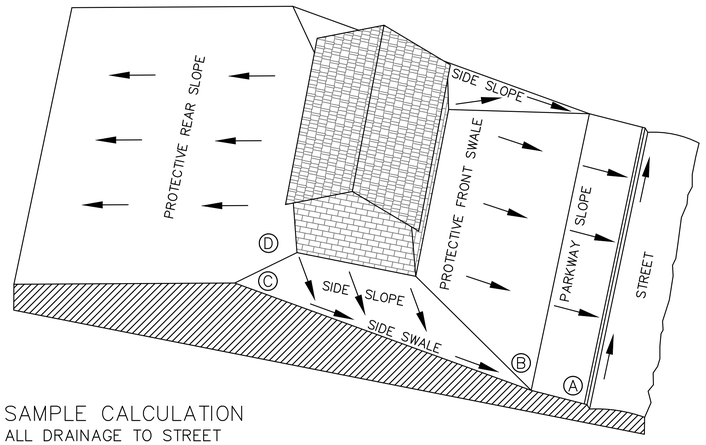
CALCULATIONS FOR 2% SWALES

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')

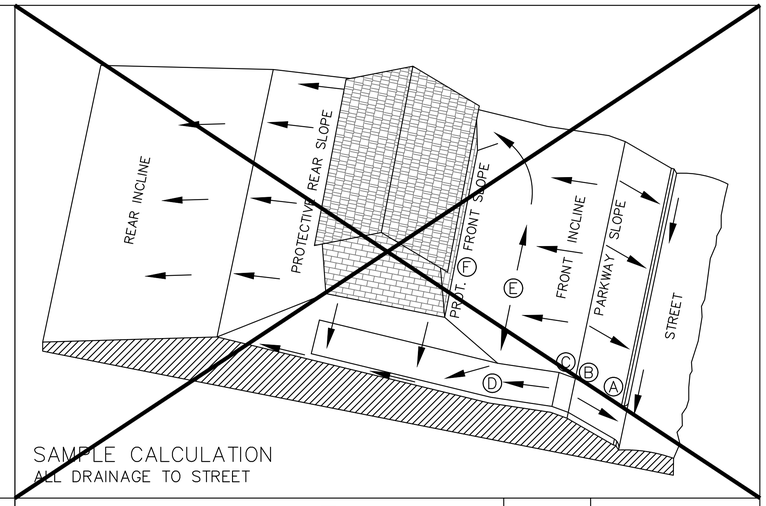
CALCULATIONS FOR 2% SWALES

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 1⅜"/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.

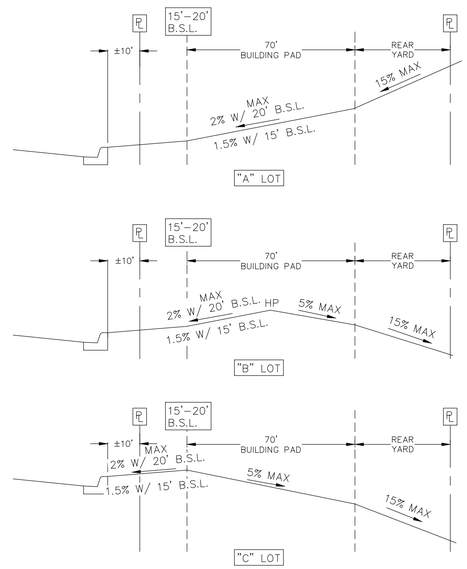
USE 1.625" PER FOOT GRADIENT FOR A 13.5% SWALE.

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

LOT TYPE Ⓐ

LOT TYPE Ⓑ

LOT TYPE Ⓒ



LENNAR LOT GRADING STANDARDS
MINIMUM SLOPE FOR ALL LOT TYPES SHALL BE 1.50%

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.

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

GRADING DETAILS

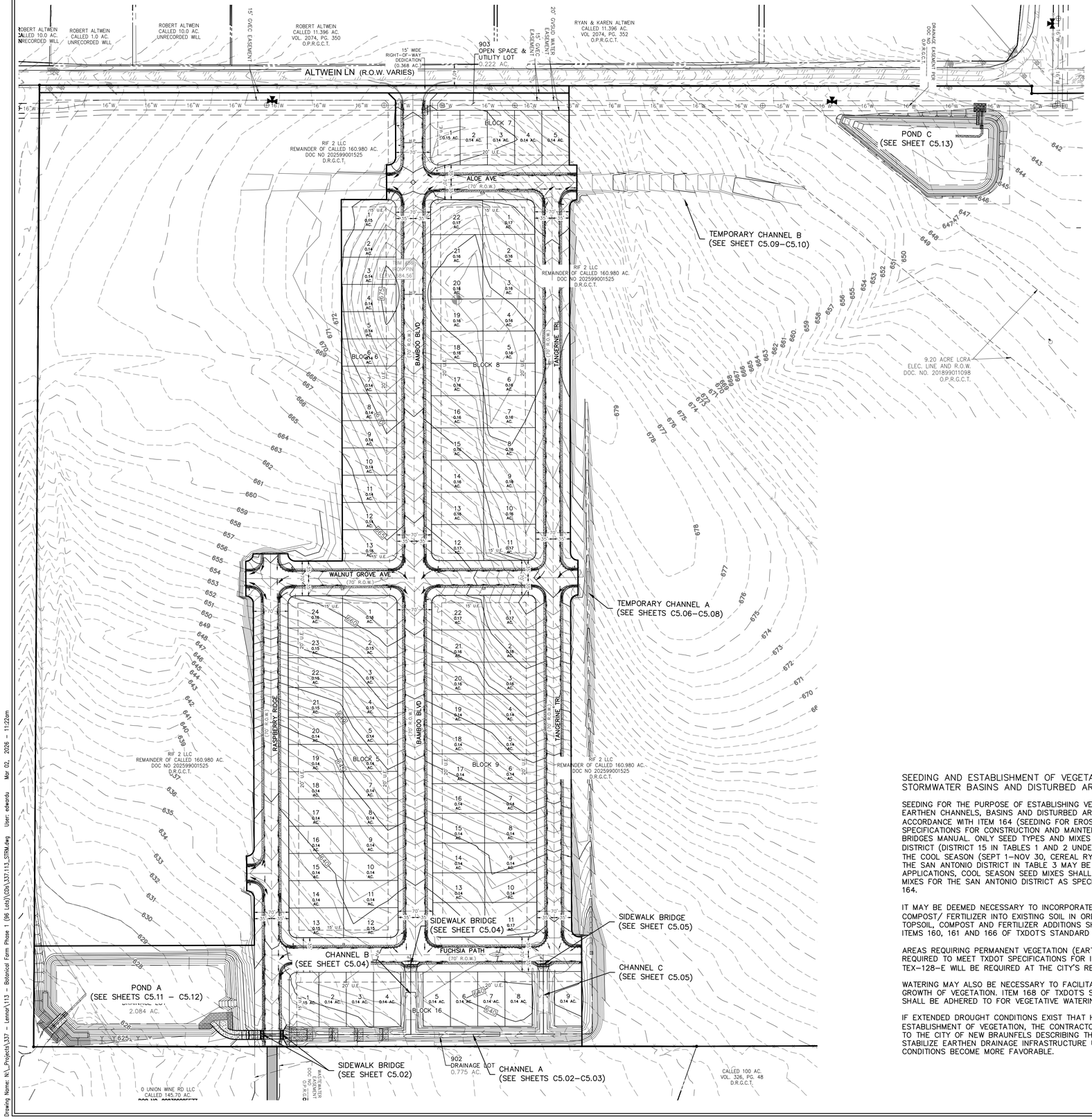
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

REVISION DATE	REVISION DESCRIPTION	NO.

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C4.03

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\03a\337.113_GRADING DETAILS.dwg User: edwardu Mar 02, 2026 – 11:22am



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
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING

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.

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.

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
03/02/2026

OVERALL STORM

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET

C5.01

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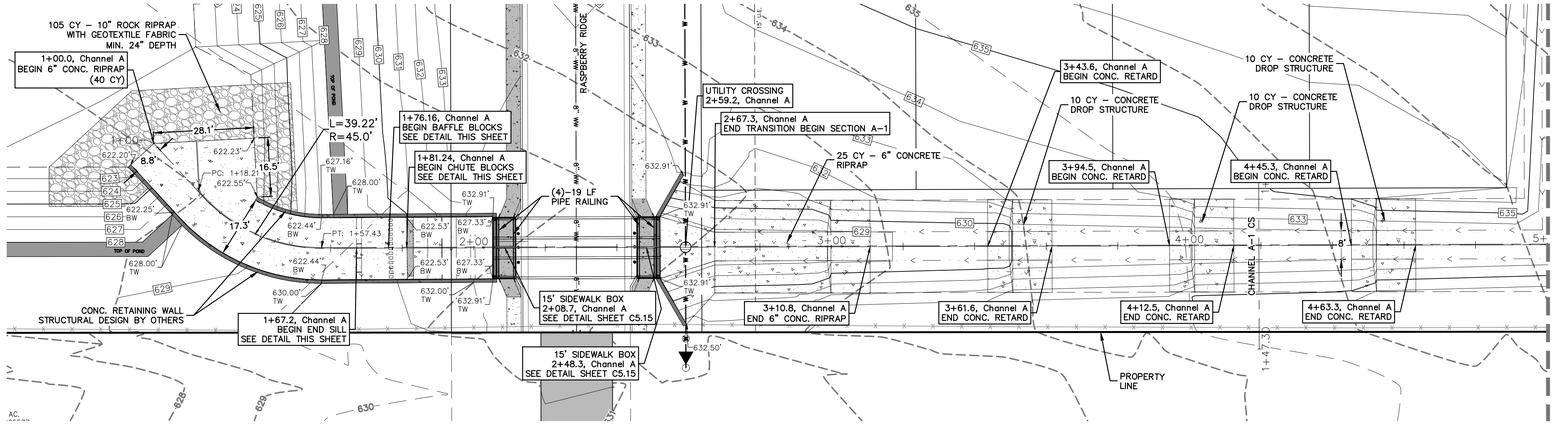
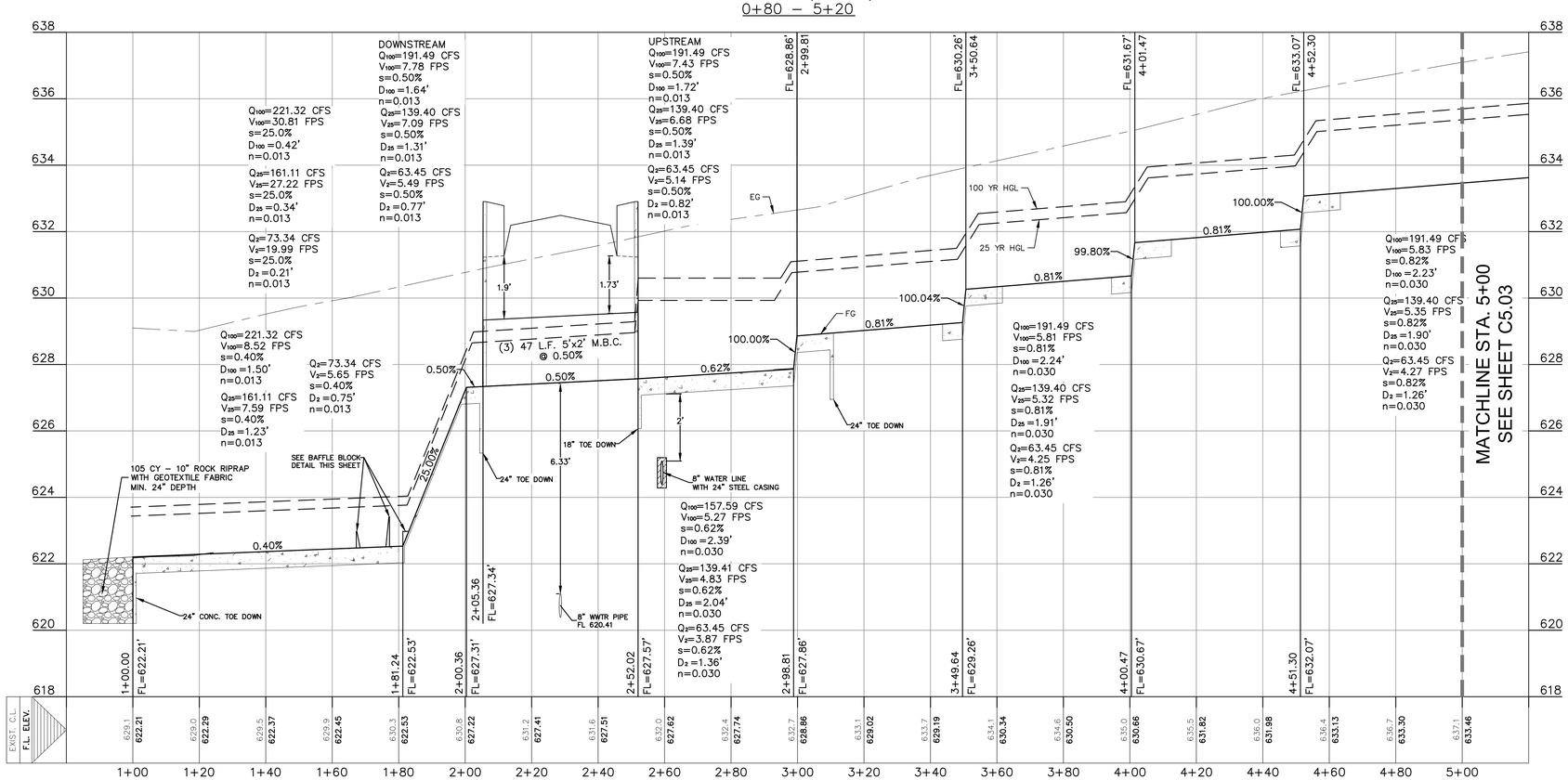
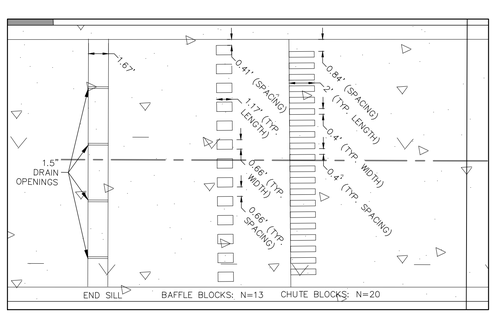
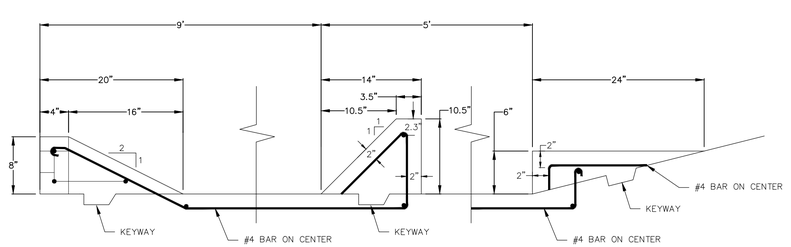


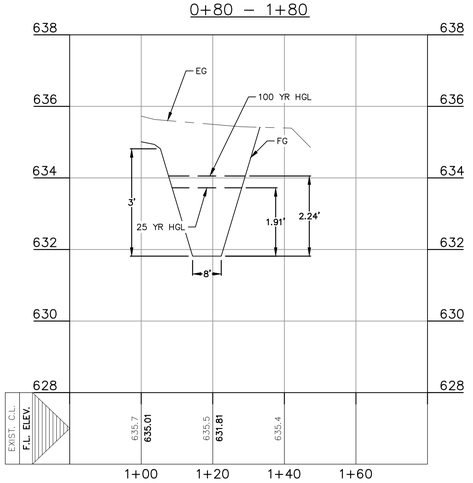
Channel A (1 OF 2)
0+80 – 5+20







A BAFFLE BLOCK DETAIL
N.T.S



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.

REF. SHEET C5.15 FOR CONCRETE RIPRAP & RETARD DETAILS

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
M.B.C.	MULTIPLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING
	HYDRAULIC GRADE LINE

SCALE: 1" = 20' HORZ. 1" = 2' VERT.

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
03/02/2026

CHANNEL A PLAN & PROFILE (1 OF 2)

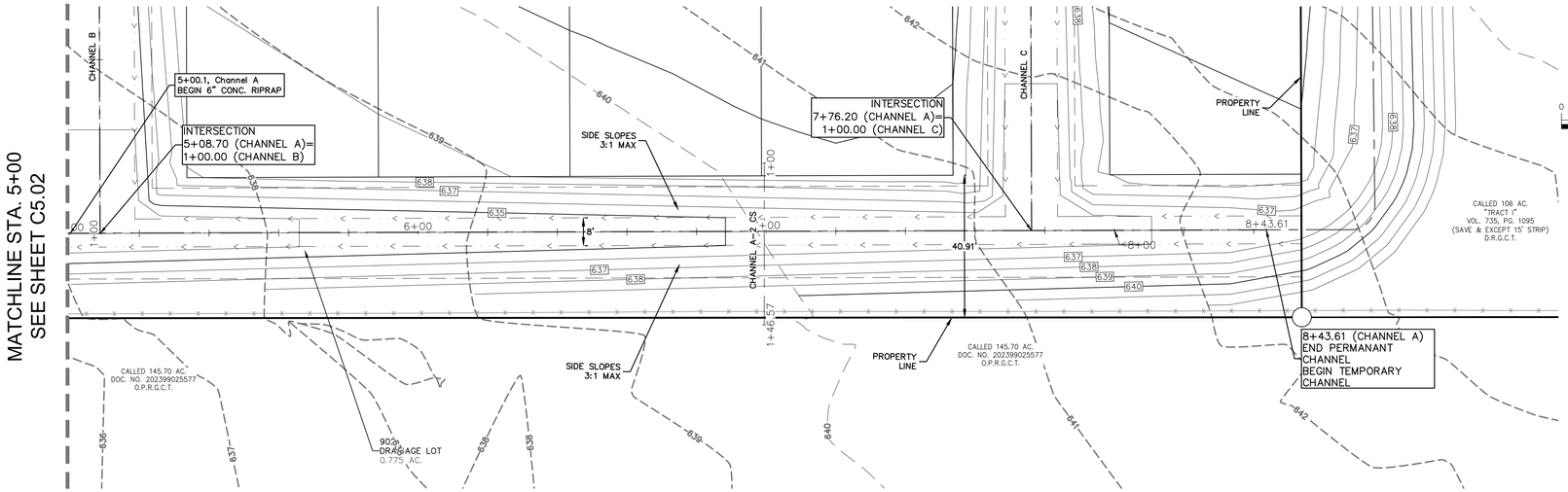
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

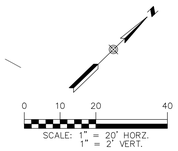
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.02

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STRM CHANNEL A PP.dwg User: edwards Mar 02, 2026 - 11:23am





LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
M.B.C.	MULTIPLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING
	HYDRAULIC GRADE LINE

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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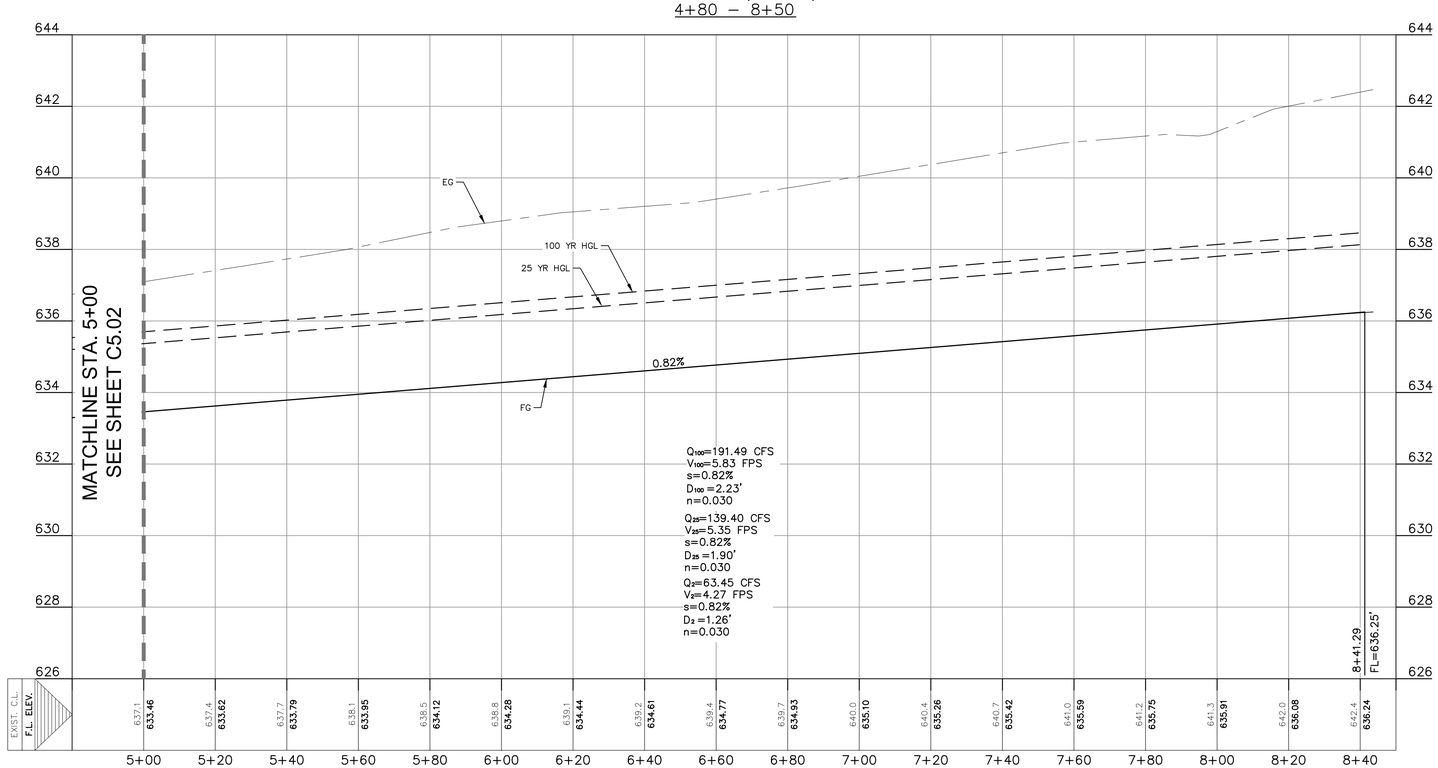
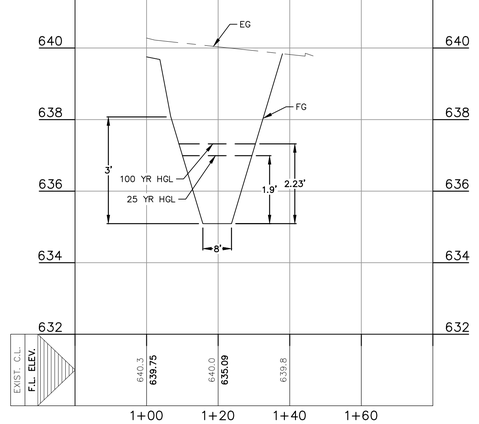
REF. SHEET C5.15 FOR CONCRETE RIPRAP & RETARD DETAILS

Channel A (2 OF 2)
4+80 – 8+50



CHANNEL A–2 CS
0+80 – 1+80



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TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

CHANNEL A PLAN & PROFILE (2 OF 2)

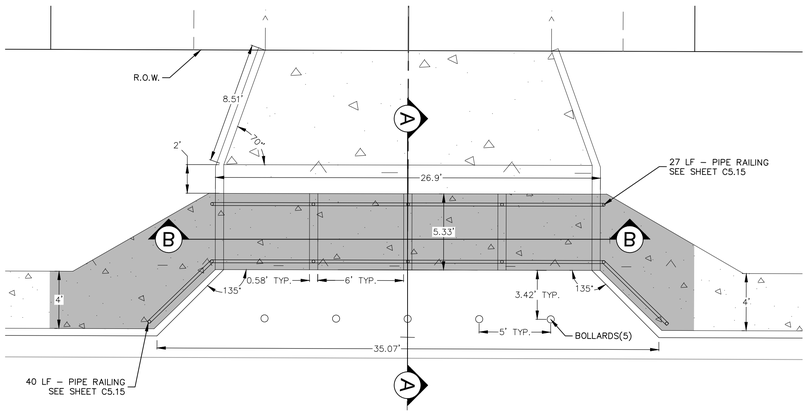
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.03

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STRM CHANNEL A PP.dwg User: edwards Mar 02, 2026 - 11:23am



24' SIDEWALK BOX
SCALE: 1"=5'

NOTE:

ALL DISTURBED AREAS, WHICH WILL NOT RECEIVE FLATWORK, SHALL BE RESEARCHED IN ACCORDANCE WITH TCEQ GENERAL CONSTRUCTION PERMIT REQUIREMENTS USING APPROPRIATE SEASONAL MIX PRIOR TO PROJECT COMPLETION.

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
	WASHOUT AREA

REF. SHEET C5.16 FOR CONCRETE CHANNEL DETAILS

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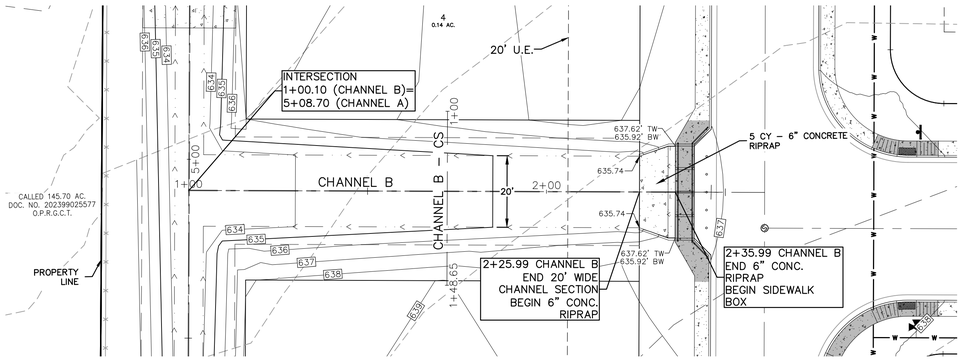
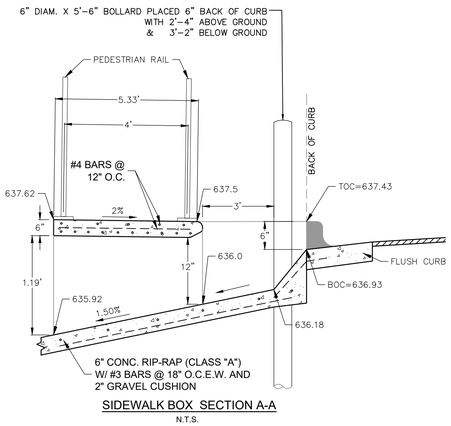
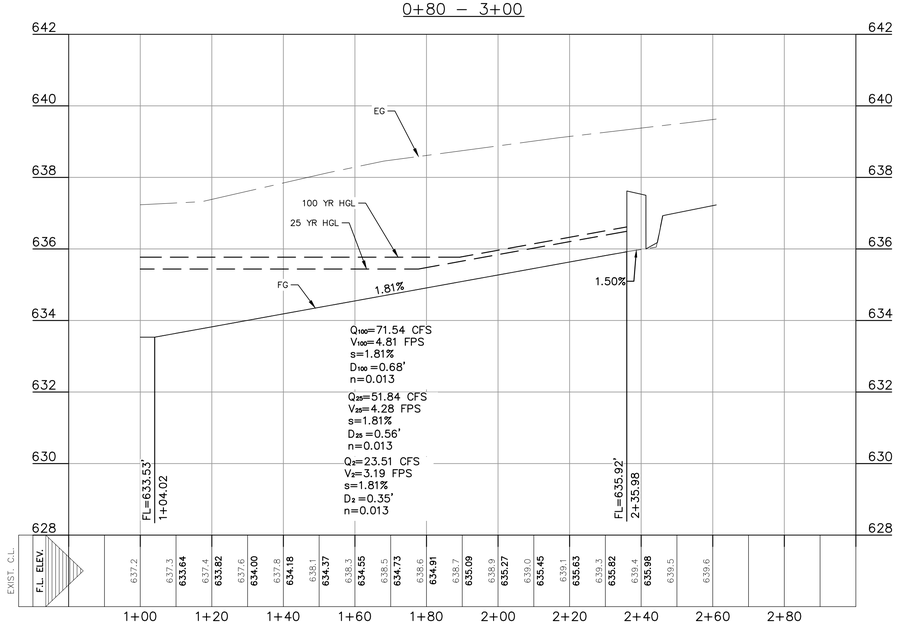
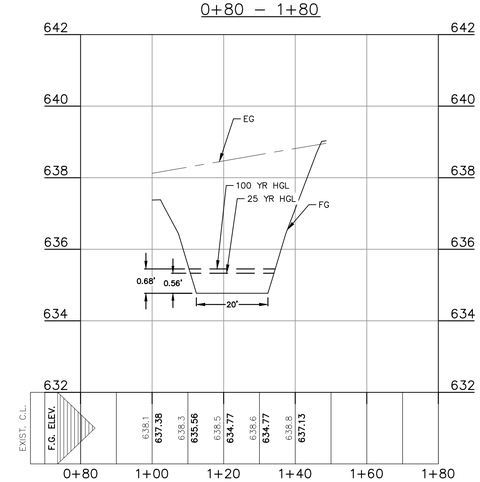
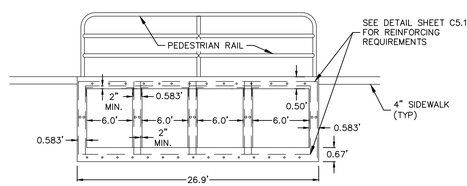




SIDEWALK BOX SECTION A-A
N.T.S.







SIDEWALK BOX SECTION B-B
N.T.S.

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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HMT ENGINEERING & SURVEYING

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSON
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamson

CHANNEL B PLAN & PROFILE

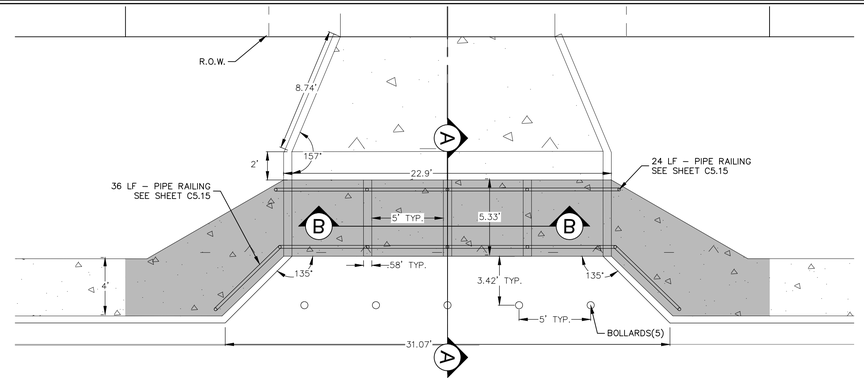
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

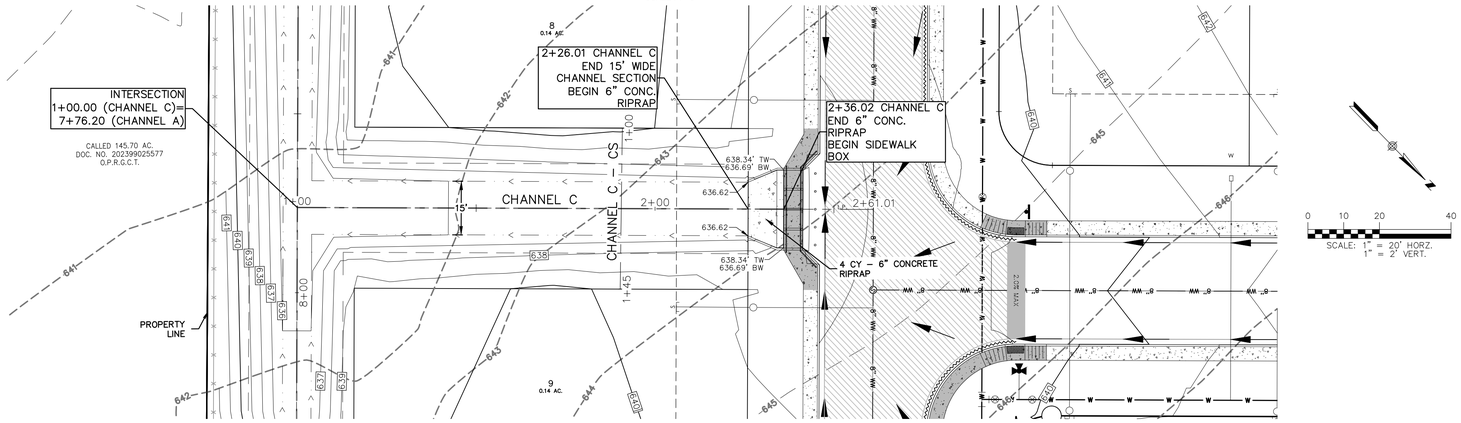
DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET
C5.04

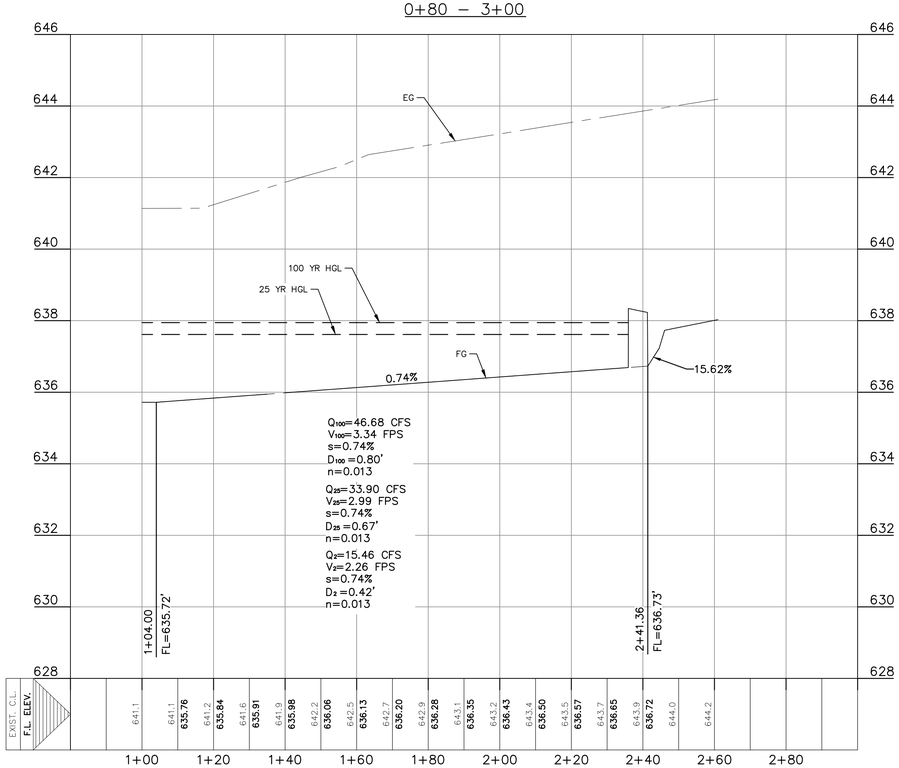
Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (66 Lots)\Cds\337.113_STRM CHANNEL B PP.dwg User: edwards Mar 02, 2026 – 11:23am



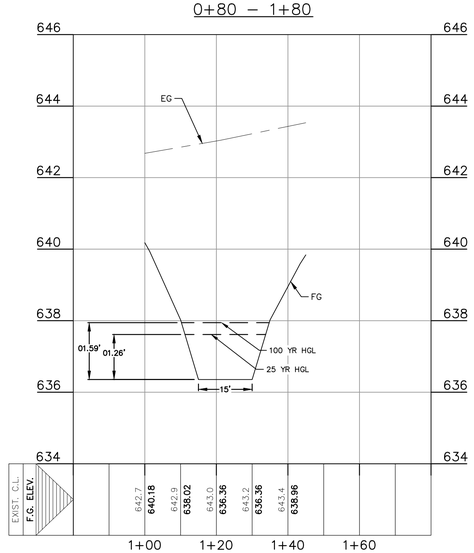
20' SIDEWALK BOX
SCALE : 1"=5'



Channel C
0+80 – 3+00



CHANNEL C – CS
0+80 – 1+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
	WASHOUT AREA

REF. SHEET C5.16 FOR
CONCRETE CHANNEL DETAILS

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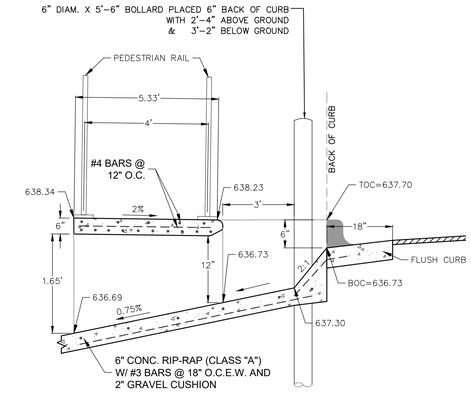
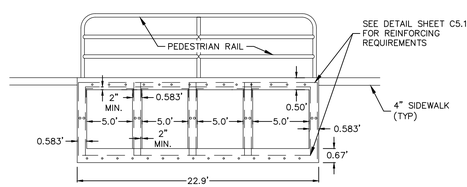


SIDEWALK BOX SECTION A-A
N.T.S.



SIDEWALK BOX SECTION B-B
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TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
03/02/2026

CHANNEL C PLAN & PROFILE

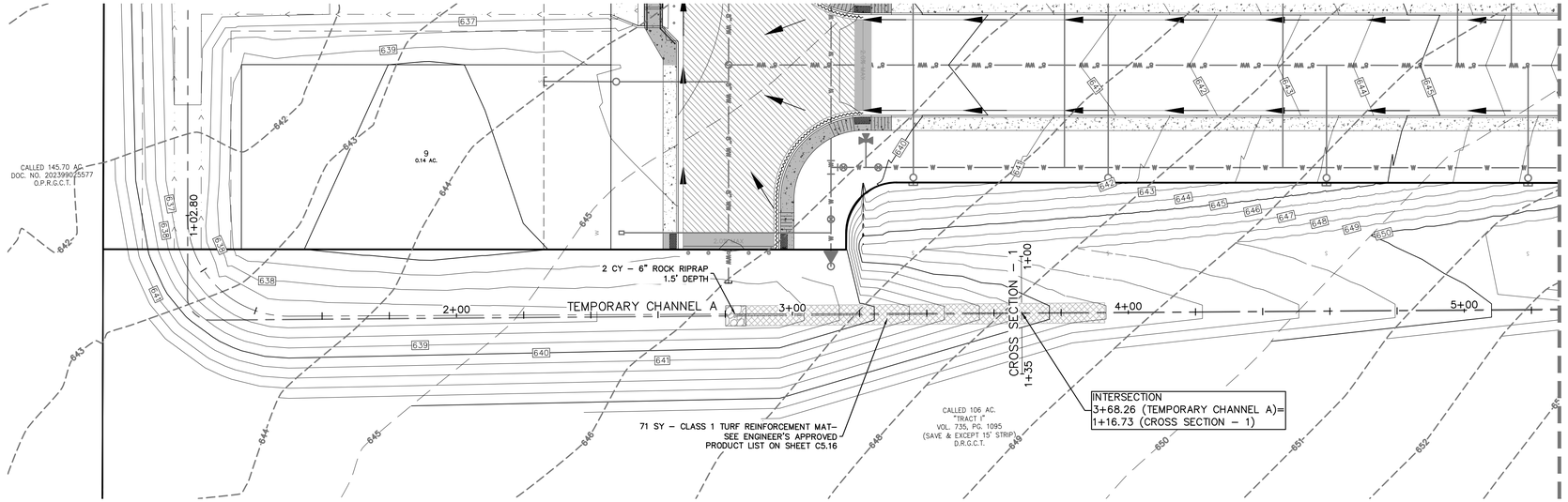
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

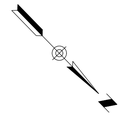
NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET
C5.05

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (66 Lots)\Civil\337.113_STRM CHANNEL C PP.dwg User: edwards Mar 02, 2026 – 11:24am





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

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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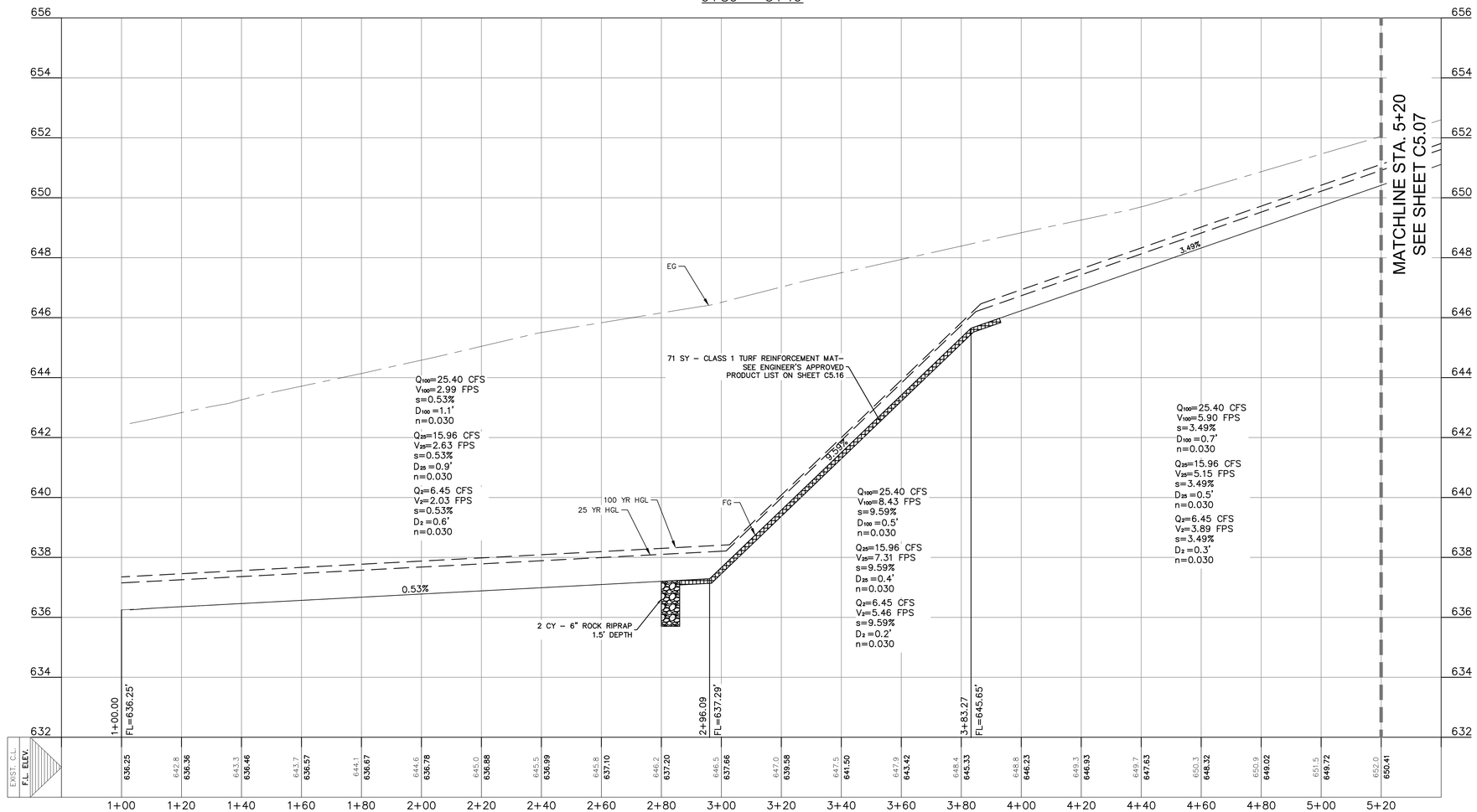
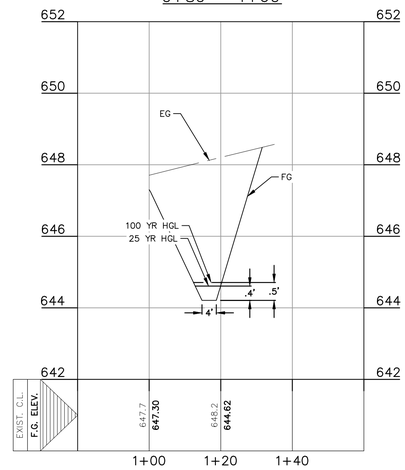
TEMPORARY CHANNEL A (1 OF 3)
0+80 – 5+40



CROSS SECTION – 1
0+80 – 1+60



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NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

03/02/2026

STATE OF TEXAS
MATTHEW T. ABRAHAMSON
154638
LICENSED
PROFESSIONAL ENGINEER

Matthew T. Abrahamson

TEMPORARY CHANNEL A PLAN & PROFILE (1 OF 3)

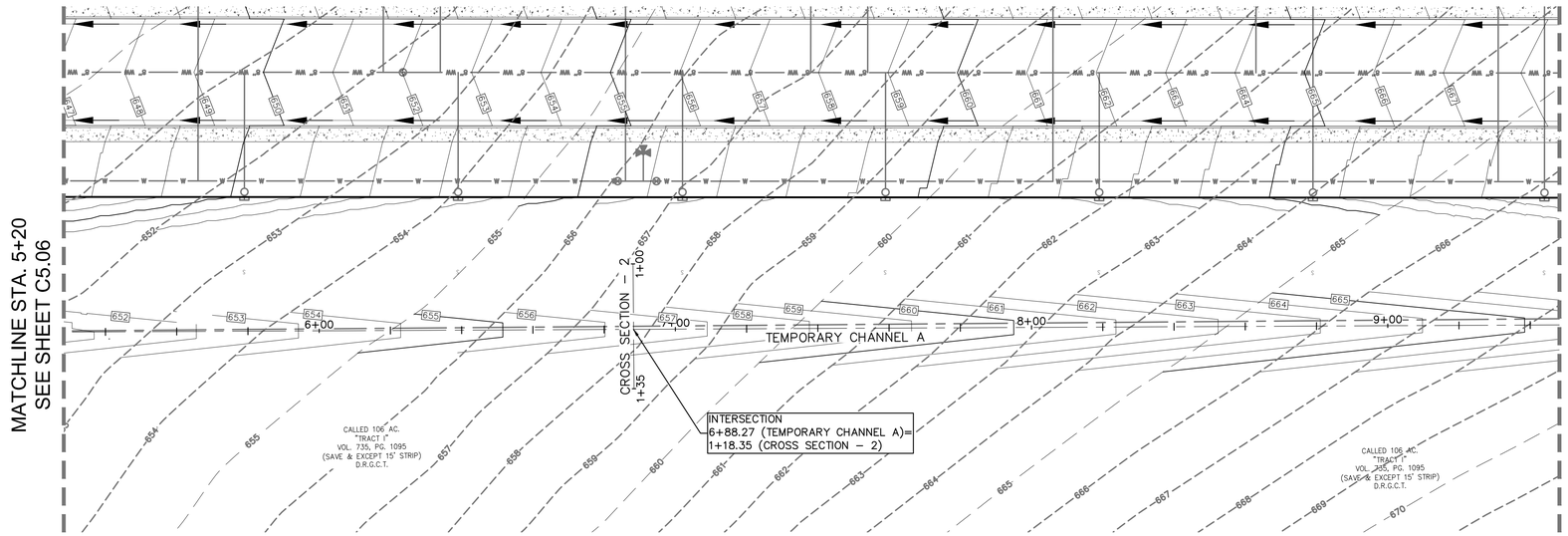
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

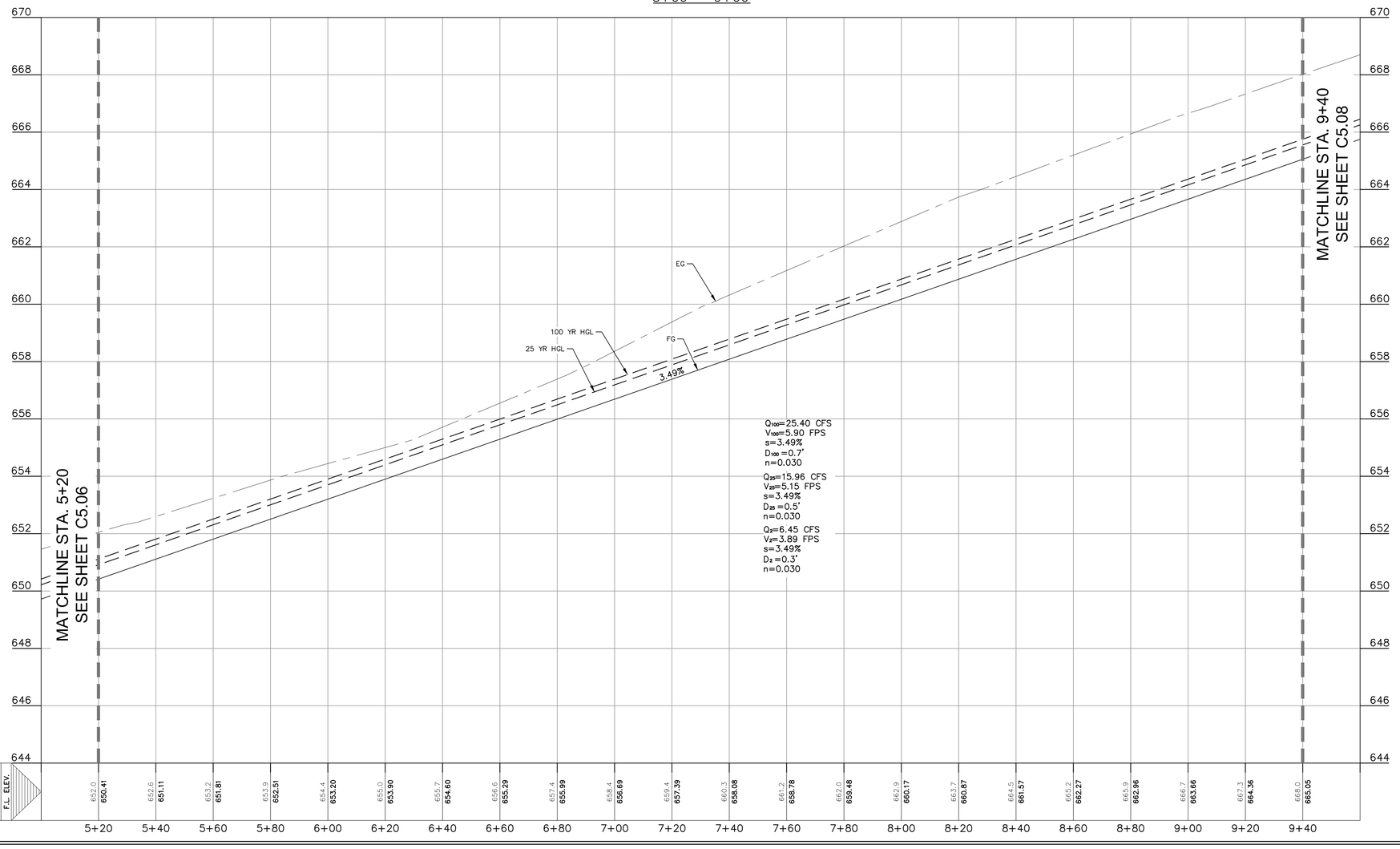
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

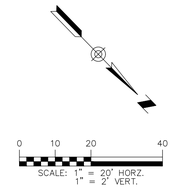
SHEET
C5.06

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\Cds\337.113_STRM TEMP CHANNEL.dwg User: edwardu Mar 02, 2026 – 11:24am



TEMPORARY CHANNEL A (2 OF 3)
5+00 – 9+60





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 STORM DRAIN LINE
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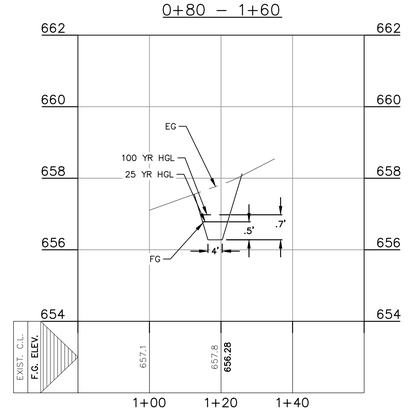
CROSS SECTION – 2
0+80 – 1+60



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TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
03/02/2026

TEMPORARY CHANNEL A PLAN & PROFILE (2 OF 3)

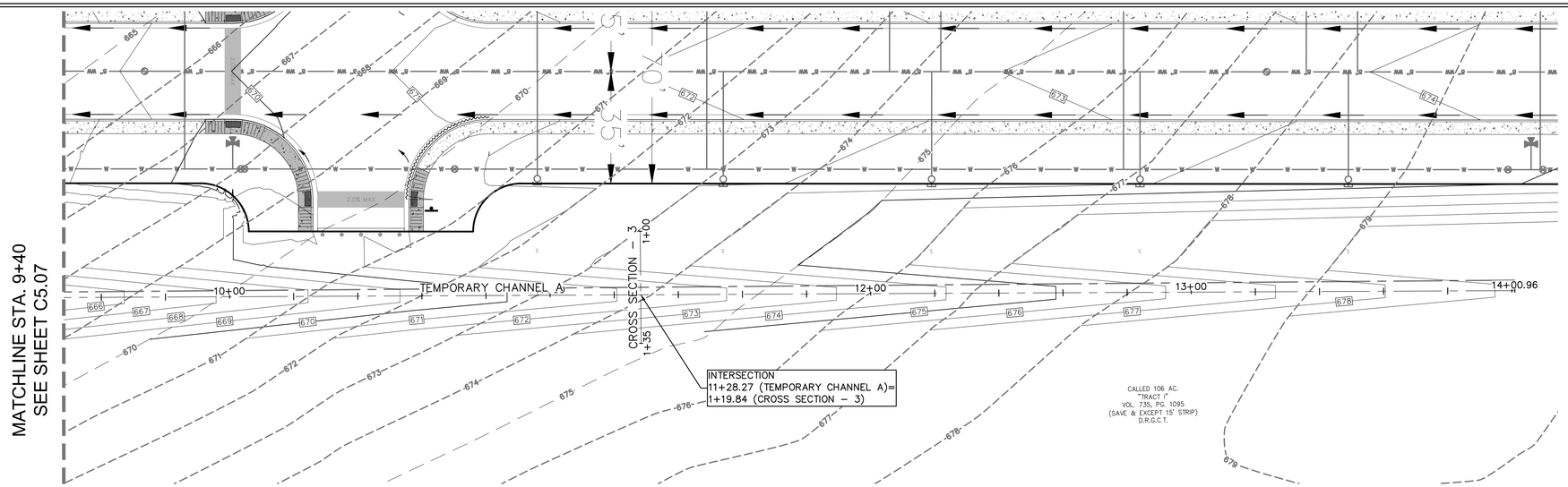
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

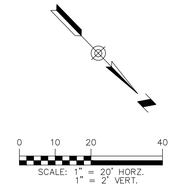
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.07

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_STRM TEMP CHANNEL.dwg User: edwardu Mar 02, 2026 - 11:24am





LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
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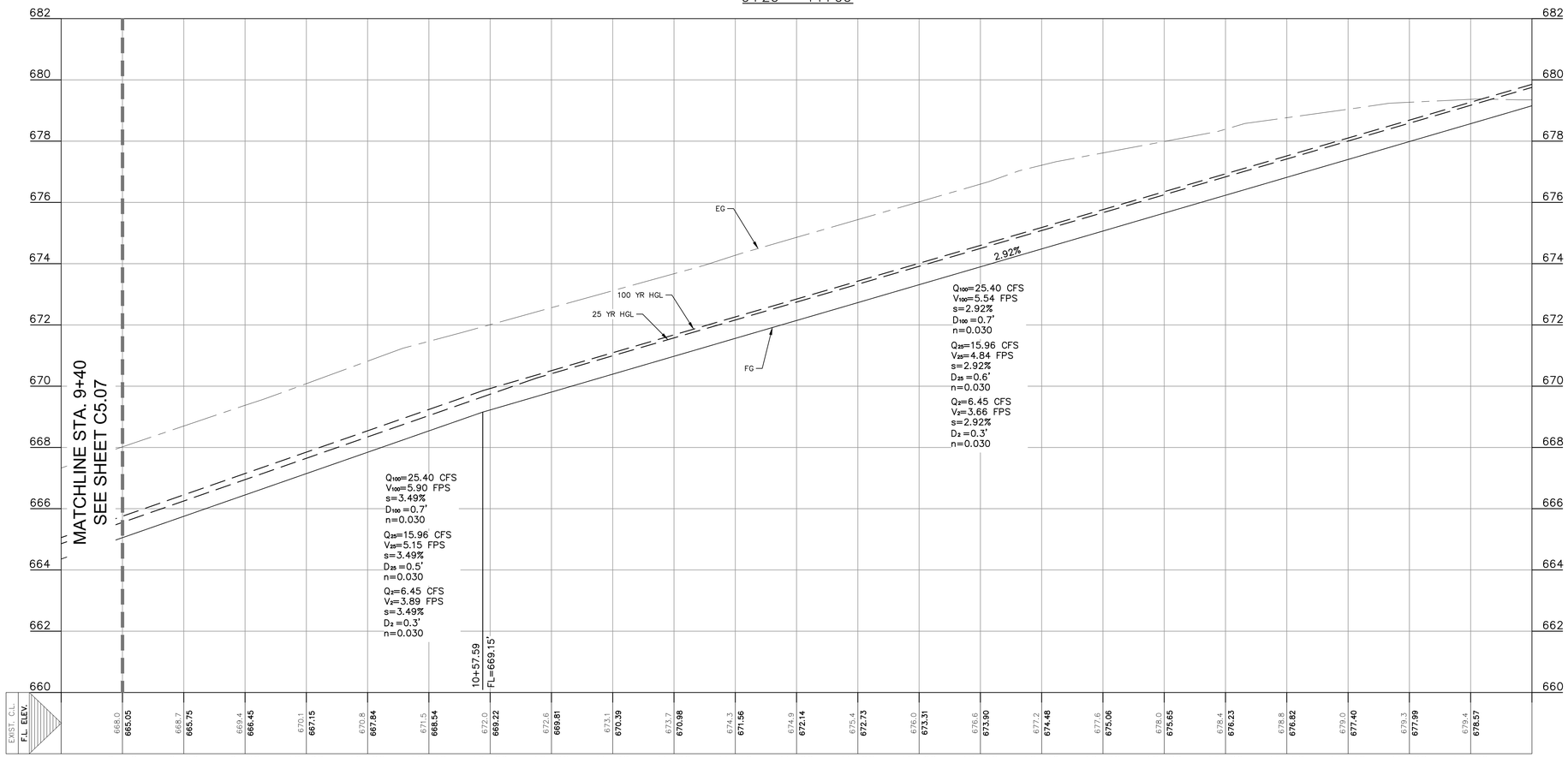
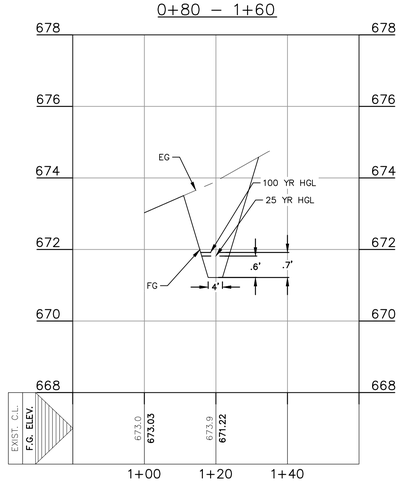
TEMPORARY CHANNEL A (3 OF 3)
9+20 – 14+00



CROSS SECTION – 3
0+80 – 1+60



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03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

TEMPORARY CHANNEL A PLAN & PROFILE (3 OF 3)

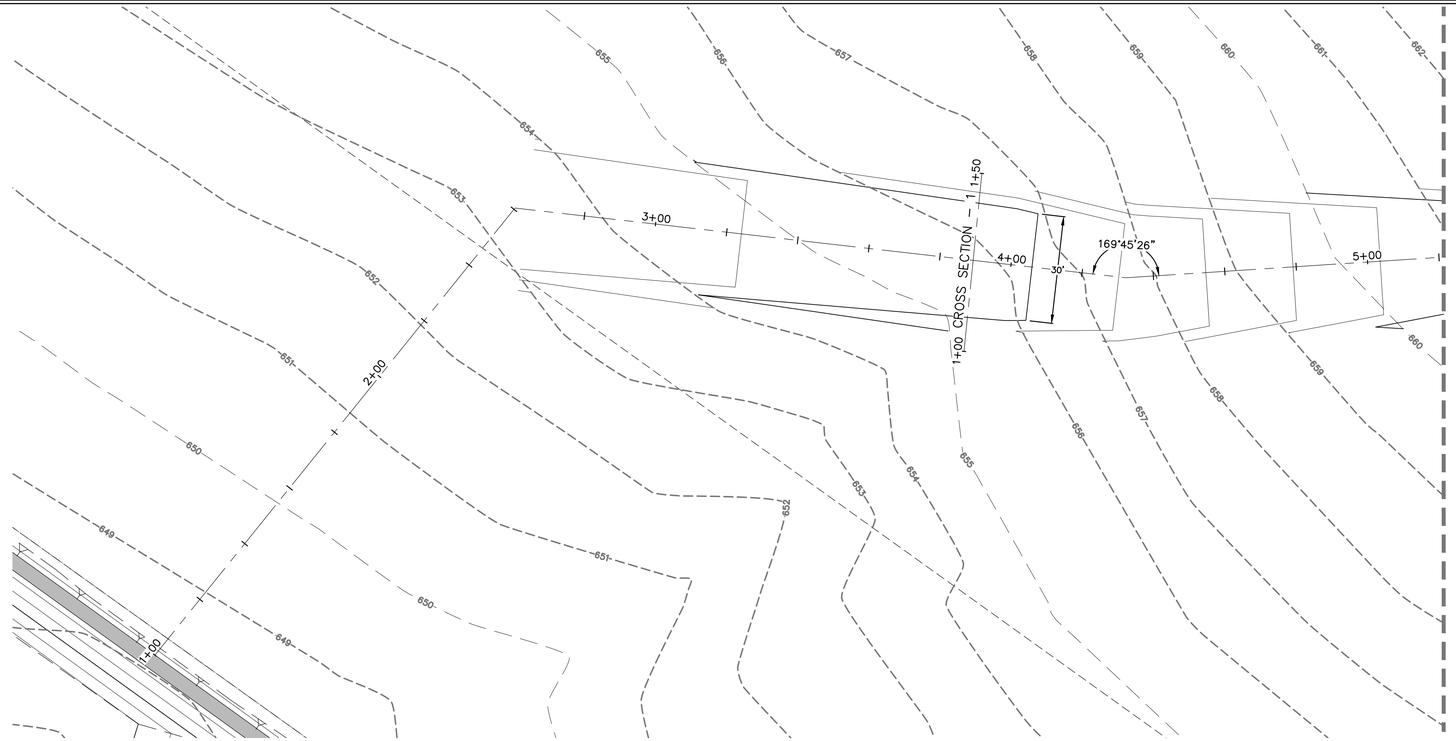
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

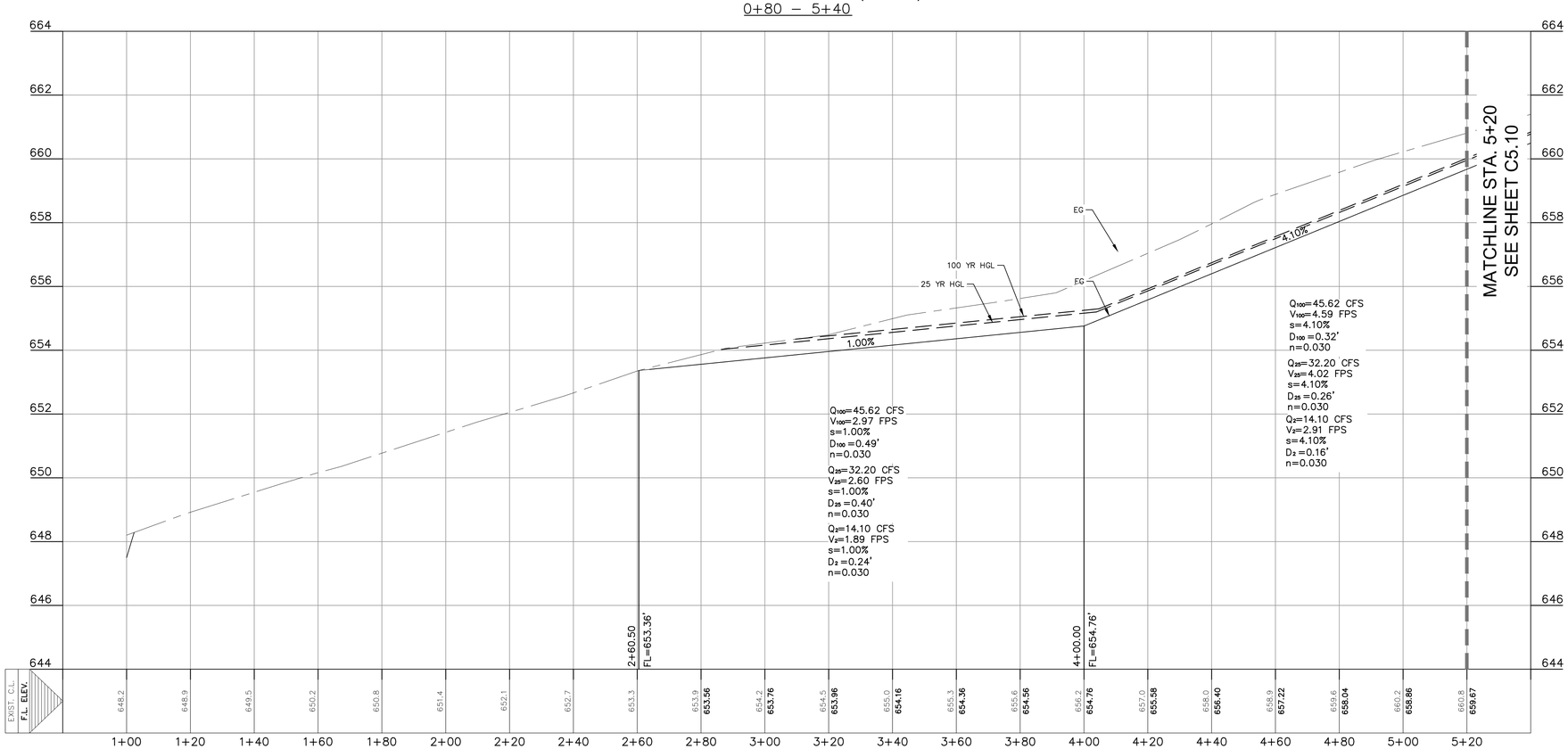
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

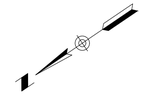
SHEET
C5.08

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (66 Lots)\Cds\337.113_STRM TEMP CHANNEL.dwg User: edwardu Mar 02, 2026 - 11:24am



TEMPORARY CHANNEL B (1 OF 2)
0+80 – 5+40





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 STORM DRAIN LINE
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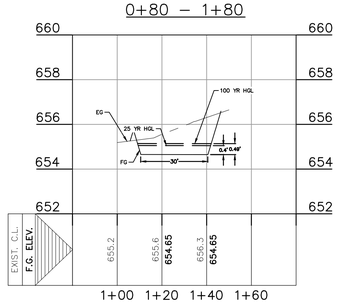
CROSS SECTION – 1
0+80 – 1+80



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TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT ENGINEERING & SURVEYING

TEMPORARY CHANNEL B PLAN & PROFILE (1 OF 2)

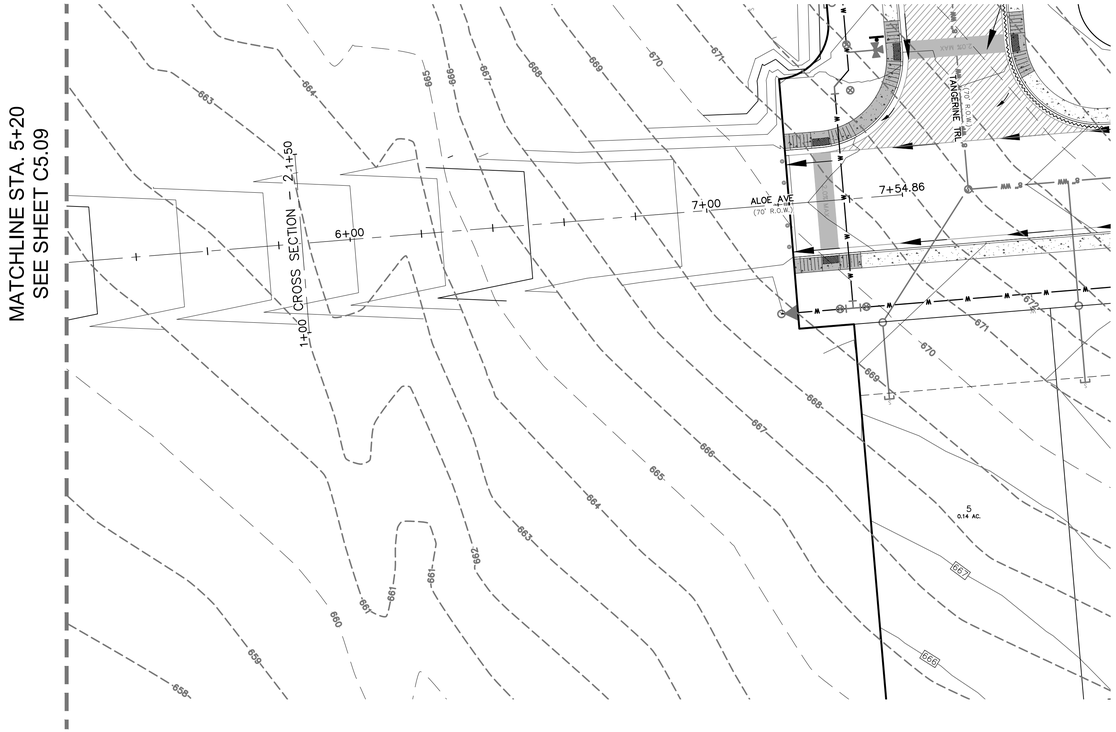
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

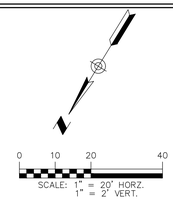
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.09

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_STRM TEMP CHANNEL B.dwg User: edwardu Mar 02, 2026 - 11:25am





LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
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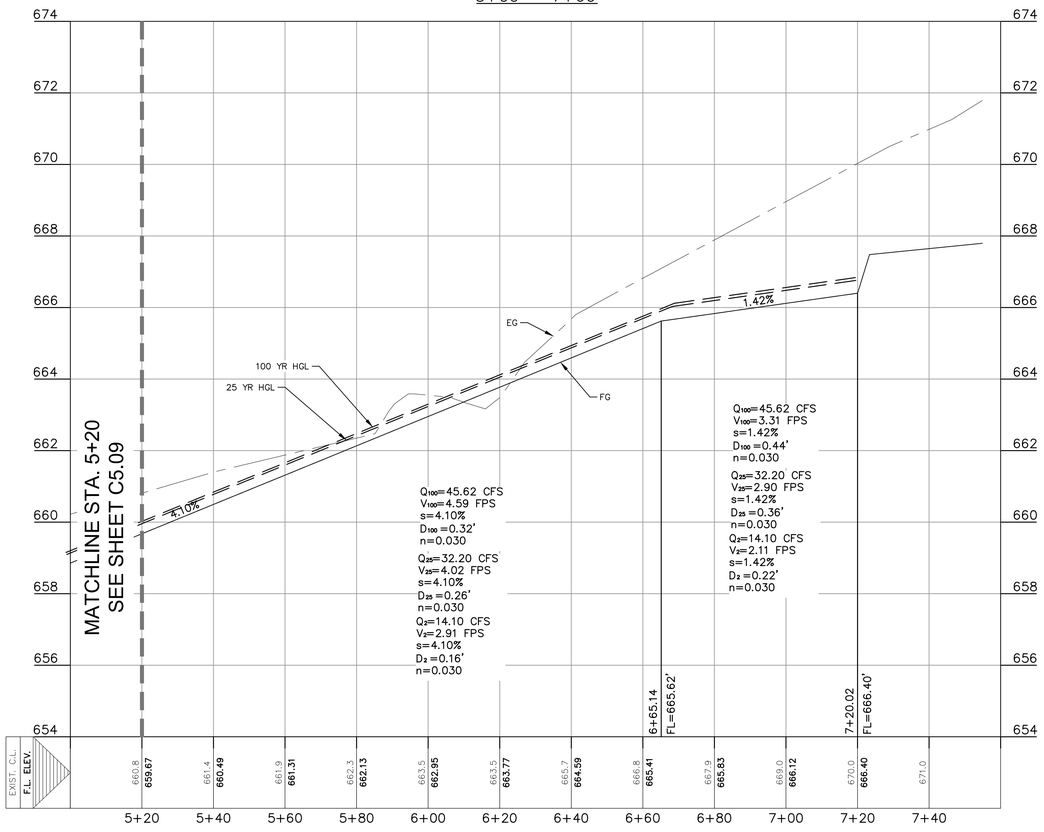
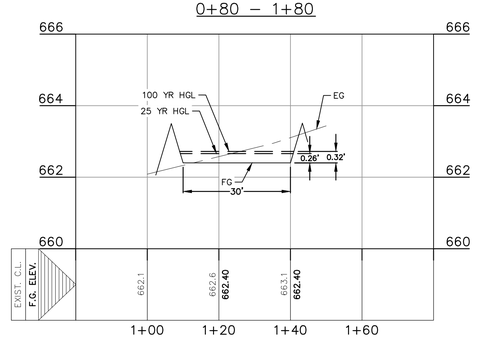
TEMPORARY CHANNEL B (2 OF 2)
5+00 – 7+60



CROSS SECTION – 2
0+80 – 1+80



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TEMPORARY CHANNEL B PLAN & PROFILE (2 OF 2)

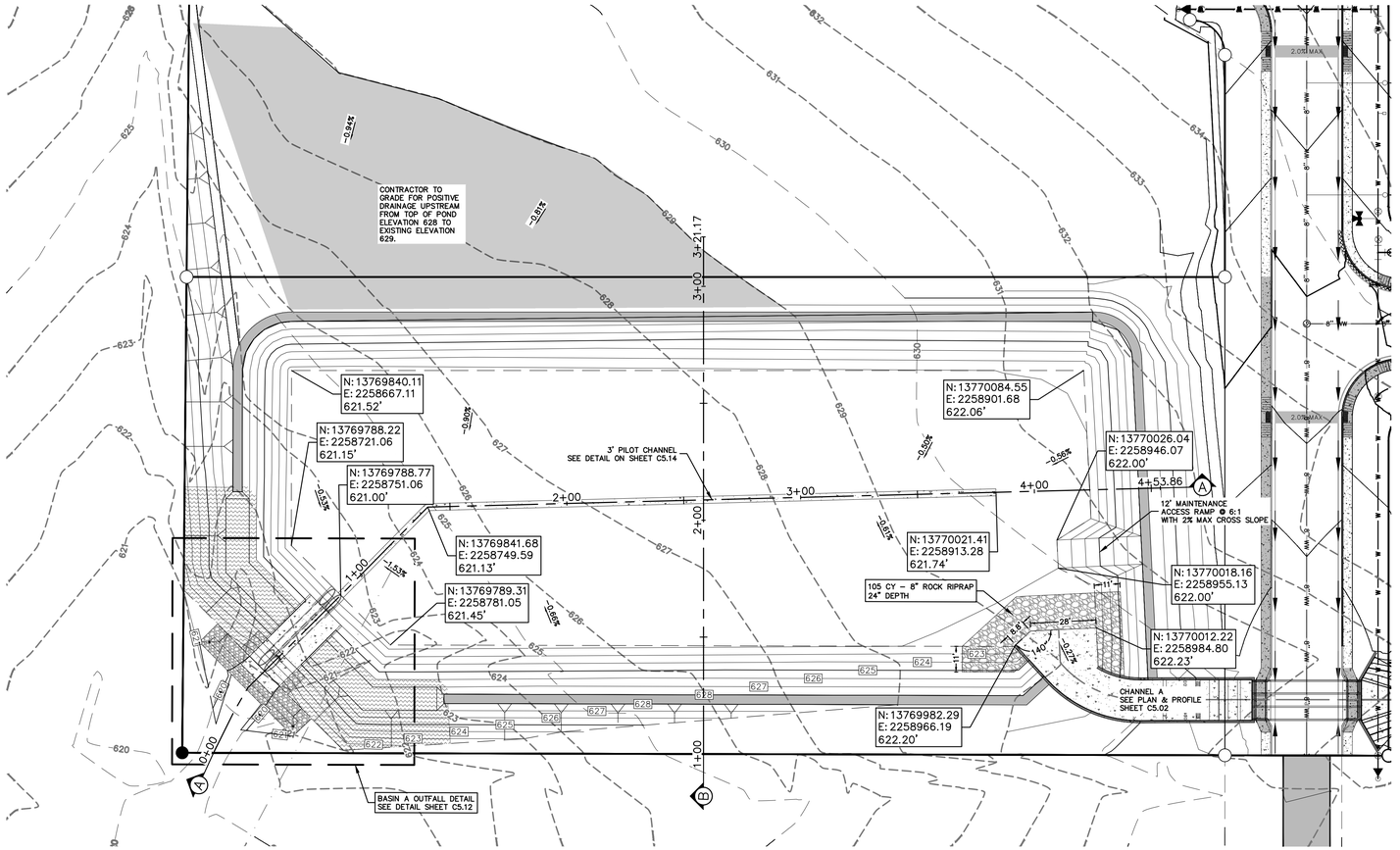
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.10

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STRM TEMP CHANNEL B.dwg User: edwardu Mar 02, 2026 - 11:25am



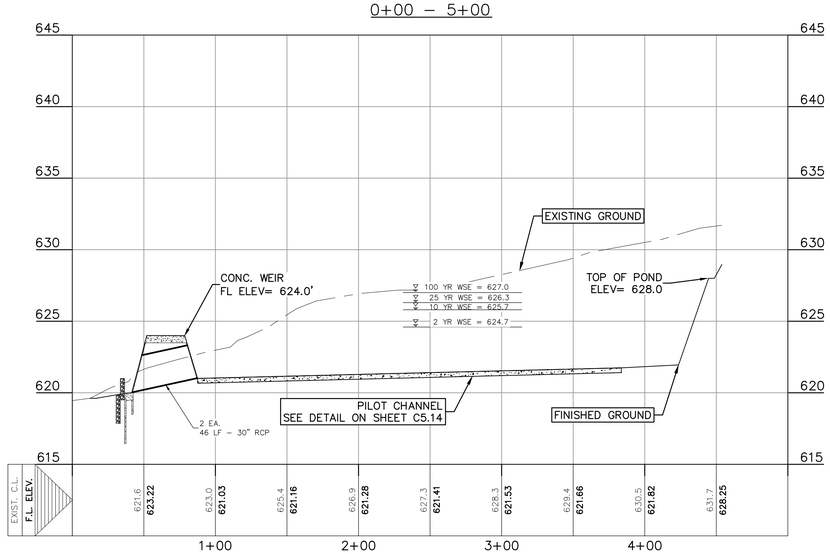
LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
U.E.	UTILITY EASEMENT
R.C.P.	REINFORCED CONCRETE PIPE
	PROPOSED STORM DRAIN LINE

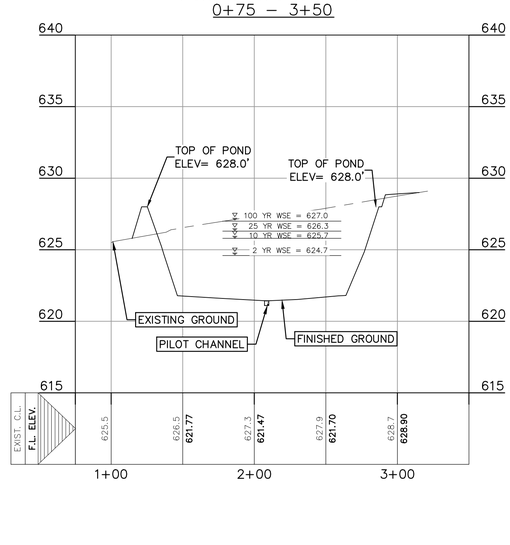
Detention Basin A - Ultimate Conditions

Storm Event	2-yr	10-yr	25-yr	100-yr
Q Existing (Allowable) *(cfs)* Study Point 1	**114.2**	**221.2**	**293.7**	**408.3**
Q Post-Project *(cfs)* Study Point 1	**90.8**	**202.3**	**270.3**	**370.4**
Δ Q Post Project-Existing *(cfs)*	**-23.4**	**-18.9**	**-23.4**	**-37.9**
Pond Out *(cfs)*	90.8	202.3	270.3	370.4
Pond WSE *(ft)*	624.7	625.7	626.3	627.0
Storage *(ac-ft)*	3.1	4.4	5.1	6.0

POND A SECTION A–A
0+00 – 5+00



POND A SECTION B–B
0+75 – 3+50



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.

DETENTION BASIN, POND OUTFALL NOTES:

A. CONTRACTOR SHALL NOTIFY, ENGINEER OF RECORD WHEN OUT–FALL STRUCTURE FORMS HAVE BEEN SET. TO PERFORM A PRE–POUR INSPECTION OF THE FORM WORK.

B. CONTRACTOR SHALL NOTIFY, ENGINEER OF RECORD AT LEAST 24 HOURS BEFORE CONCRETE IS POURED INTO OUT–FALL STRUCTURE.

C. ANY VERTICAL WALL OVER TWO FEET IN HEIGHT SHALL REQUIRE STRUCTURAL ENGINEERING DESIGN. (BY OTHERS)

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

DETENSION BASIN A

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.11

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STRM BASIN.dwg User: edwardu Mar 02, 2026 - 11:29am

LEGEND

700 EXISTING CONTOURS
700 PROPOSED CONTOURS
U.E. UTILITY EASEMENT
R.C.P. REINFORCED CONCRETE PIPE
PROPOSED STORM DRAIN LINE

TRM TO EXTEND 3' DOWN FROM EDGE OF EMERGENCY WEIR

2 CY – 5" CONC. RIPRAP HEADWALL (SEE DETAIL SHEET C5.14)

TRM TO EXTEND 3' DOWN FROM EDGE OF EMERGENCY WEIR

10 CY – 6" CONC. WEIR
12" TOE DOWN UPSTREAM & DOWNSTREAM

231 SY TURF REINFORCED MATTING
SEE ENGINEER'S APPROVED
PRODUCT LIST ON SHEET C5.16

231 SY TURF REINFORCED MATTING
SEE ENGINEER'S APPROVED
PRODUCT LIST ON SHEET C5.16

6 CY – 6" CONC. RIPRAP
12" TOE DOWN UPSTREAM
36" TOE DOWN DOWNSTREAM & SIDES

8 CY – GABION BASKET
ANGULAR AGGREGATE
SIZE 4"–8" DIAM.

(5) 9'LX3'WX1.5'H GABION BASKET TOP ELEV. 621.0

36 CY – 10" ROCK RIPRAP
MIN DEPTH 24"
BOTTOM LINED WTIH
GEOTEXTILE FABRIC

46 LF – 30" RCP

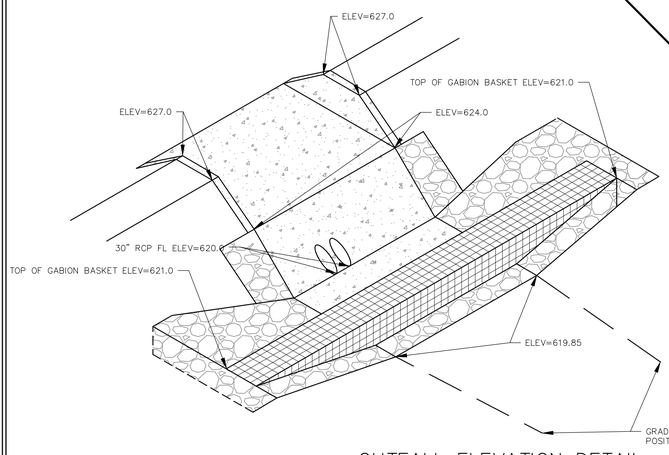
46 LF – 30" RCP

EG=619.77'

EG=619.50'

EG=619.45'

SCALE: 1" = 5'



1 OUTFALL ELEVATION DETAIL
N.T.S.

DETENTION BASIN, POND OUTFALL NOTES:

A. CONTRACTOR SHALL NOTIFY, ENGINEER OF RECORD WHEN OUT–FALL STRUCTURE FORMS HAVE BEEN SET. TO PERFORM A PRE–POUR INSPECTION OF THE FORM WORK.

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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
03/02/2026

DETENSION BASIN A OUTFALL DETAIL

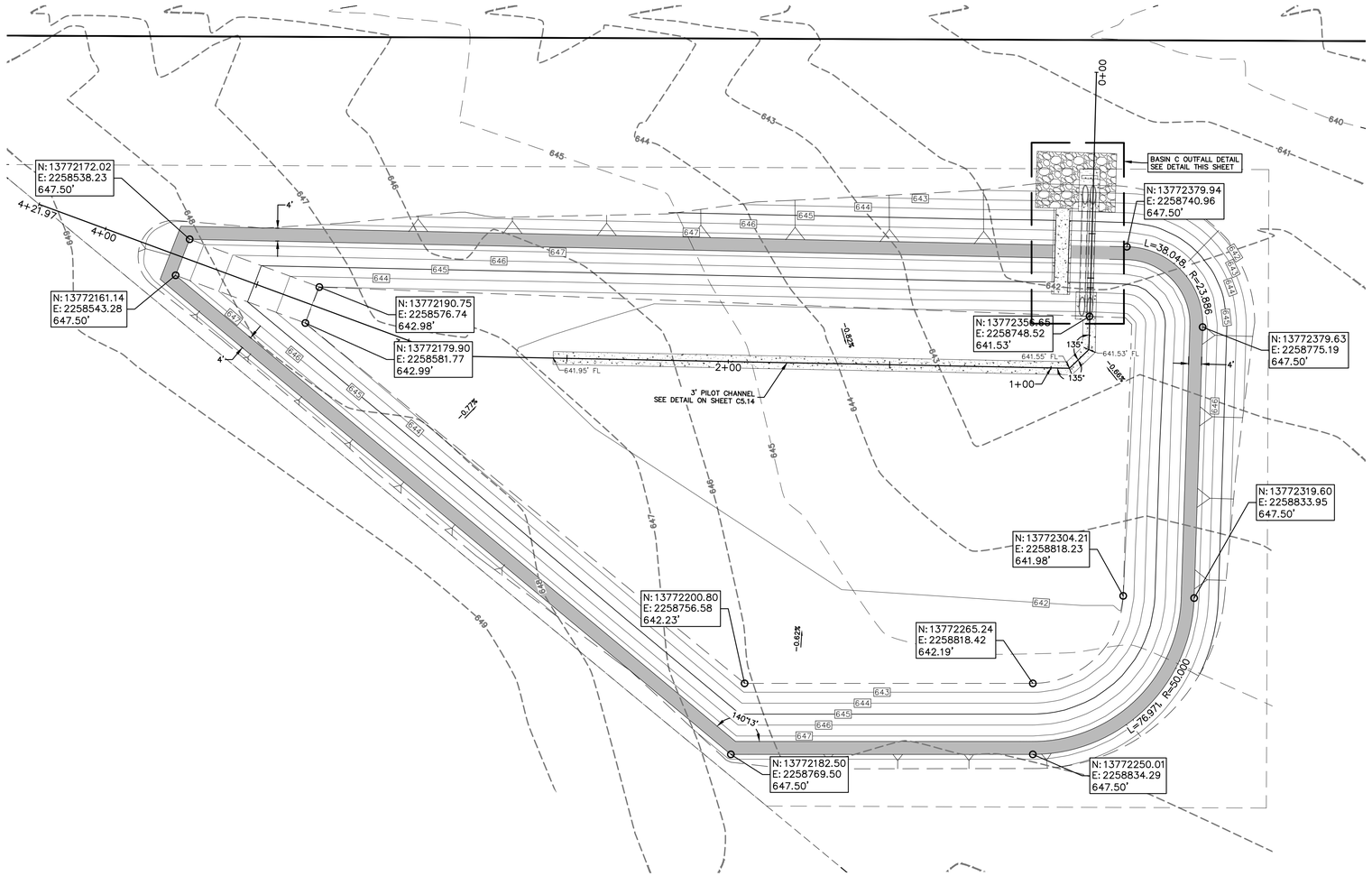
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

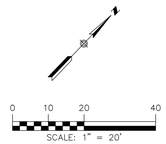
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.12

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\03a\337.113_STRM BASIN.dwg User: edwardo Mar 02, 2026 – 11:29am





LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
U.E.	UTILITY EASEMENT
R.C.P.	REINFORCED CONCRETE PIPE
	PROPOSED STORM DRAIN LINE

Detention Basin C - Ultimate Conditions

Storm Event	2-yr	10-yr	25-yr	100-yr
Q Existing (Allowable) *(cfs)* Study Point 4	**35.5**	**68.7**	**91.2**	**126.8**
Q Post-Project *(cfs)* Study Point 4	**30.1**	**64.4**	**88.3**	**125.6**
Δ Q Post Project-Existing *(cfs)*	**-5.4**	**-4.3**	**-2.9**	**-1.2**
Pond Out *(cfs)*	25.3	54.2	74	105.4
Pond WSE *(ft)*	644.2	645.3	645.9	646.8
Storage *(ac-ft)*	1.2	1.9	2.4	3

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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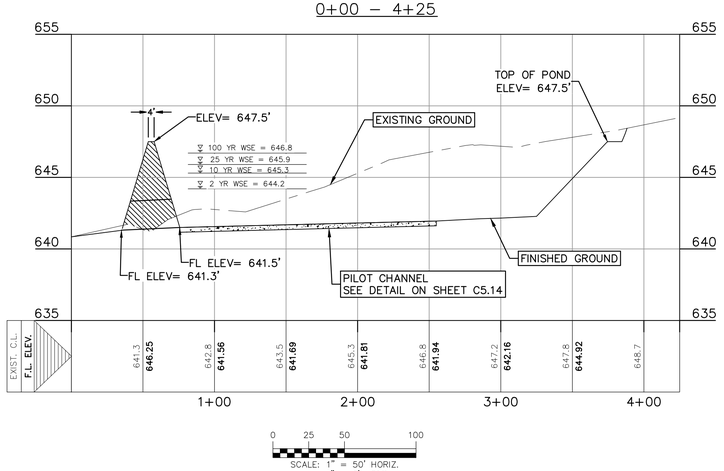
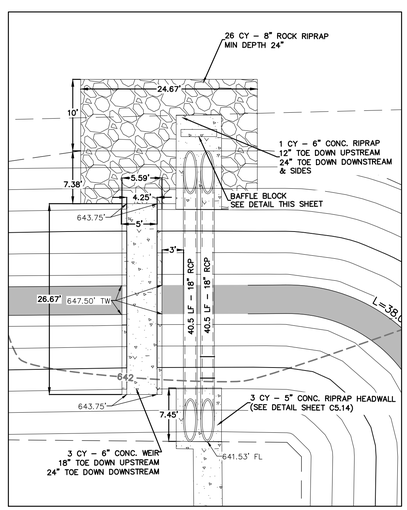
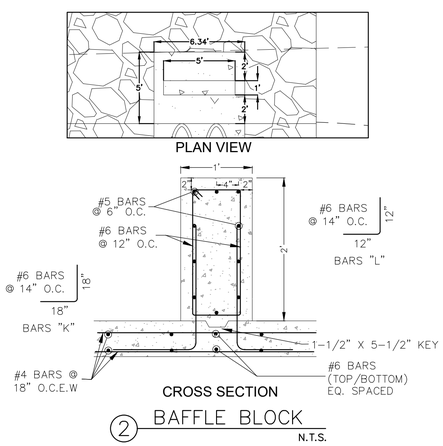
POND C SECTION A-A
0+00 - 4+25





BASIN C OUTFALL DETAIL
SCALE 1:10



2 BAFFLE BLOCK
N.T.S.

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

DETENTION BASIN C

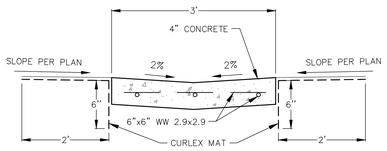
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

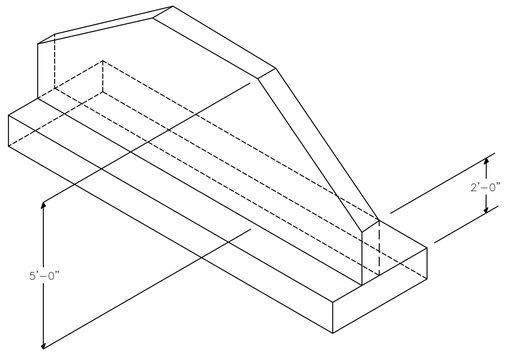
SHEET
C5.13

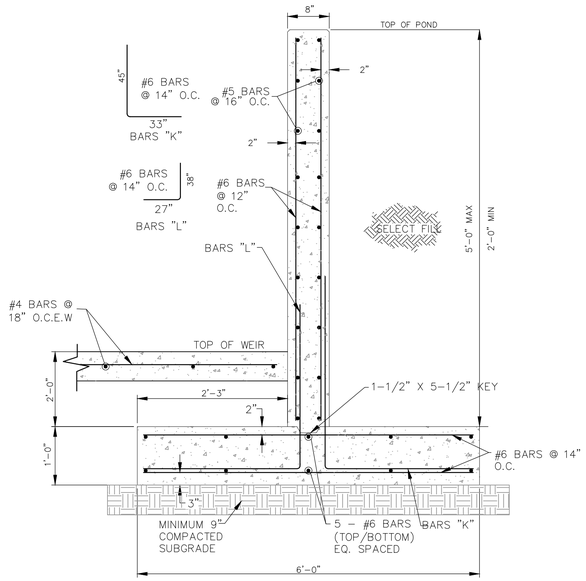
Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Civil\337.113_STRM BASIN.dwg User: edwardu Mar 02, 2026 - 11:29am



1 PILOT CHANNEL

N.T.S.



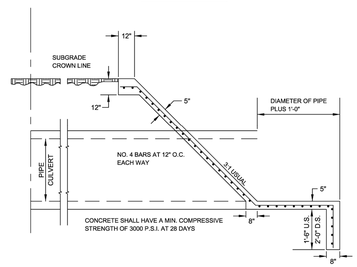


3 WALL/WEIR DETAIL

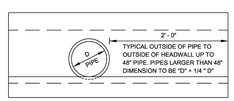
N.T.S.

RIPRAP HEADWALL

HALF SECTION



END VIEW



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

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
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03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
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BASIN DETAILS

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

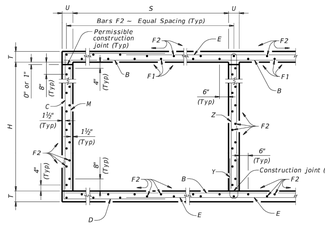
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

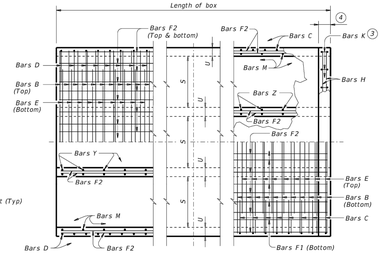
SHEET
C5.14

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\03a\337.113_STRM BASIN.dwg User: edwardu Mar 02, 2026 - 11:29am

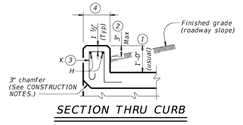
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the completeness of this standard in other formats or for incorrect results or damages resulting from its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



TYPICAL SECTION



BOTTOM SLAB PART PLANS TOP SLAB



SECTION THRU CURB

TABLE OF BAR DIMENSIONS		
H	"X"	"Y"
2'-0"	2'-6 ½"	3'-8 ½"
3'-0"	3'-6 ½"	3'-8 ½"
4'-0"	4'-6 ½"	3'-8 ½"
5'-0"	5'-6 ½"	3'-8 ½"

① 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

② For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

③ For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.

④ 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

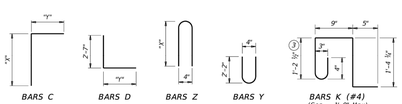
The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR
Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

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

MATERIAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Multiple Box Culverts Cast-In-Place Miscellaneous Detail (MC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

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



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

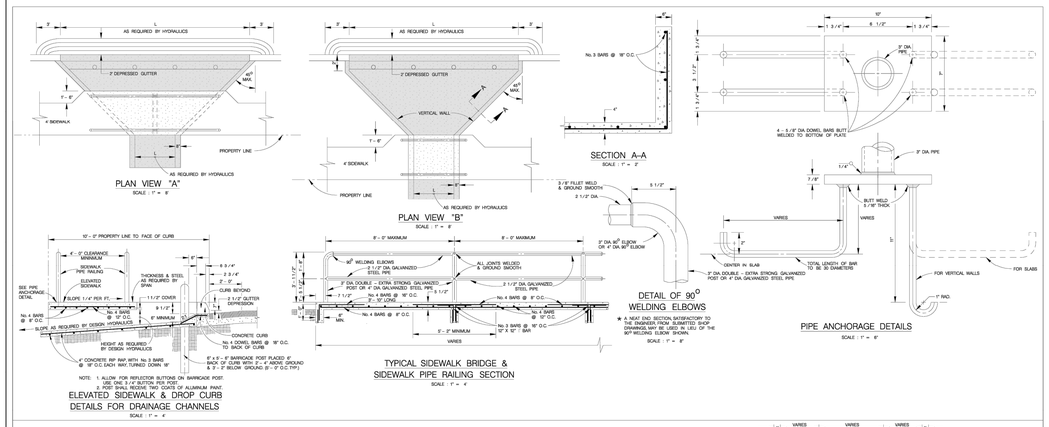
HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE
5'-0" SPAN
0' TO 20' FILL
MC-5-20

FILE: CD-MC520-20.dgn	DN: TBE	CK: BKP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

DATE:
FILE:



JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

ELEVATED SIDEWALK & RETARD STANDARDS

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

SECTION DIMENSIONS					BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																										QUANTITIES				
					Bars B				Bars C & D						Bars E				Bars F1 ~ #4				Bars F2 ~ #4				Bars M ~ #4				Bars Y & Z ~ #4								Bars H 4 ~ #4		Bars K		Per Foot of Barrel		Curb		Total	
NUMBER OF SPANS	S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bars C Length	Bars C Wt	Bars D Length	Bars D Wt	No.	Size	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Bars Y Length	Bars Y Wt	Bars Z Length	Bars Z Wt	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
2	5'-0"	2'-0"	8"	7"	108	#5	9"	11'-6"	1,295	108	#5	9"	6'-3"	704	6'-4"	713	108	#5	9"	8'-8"	976	8	18"	39'-9"	212	38	18"	39'-9"	1,009	108	9"	2'-0"	144	54	9"	4'-7"	165	5'-3"	189	11'-6"	31	26	72	0.710	135.2	0.9	103	29.3	5,510
3	5'-0"	2'-0"	8"	7"	108	#5	9"	17'-1"	1,924	108	#5	9"	6'-3"	704	6'-4"	713	108	#5	9"	14'-3"	1,605	12	18"	39'-9"	319	54	18"	39'-9"	1,434	108	9"	2'-0"	144	108	9"	4'-7"	331	5'-3"	379	17'-1"	46	38	106	1.029	188.8	1.3	152	42.4	7,705
4	5'-0"	2'-0"	8"	7"	108	#5	9"	22'-8"	2,553	108	#5	9"	6'-3"	704	6'-4"	713	108	#5	9"	19'-10"	2,234	16	18"	39'-9"	425	70	18"	39'-9"	1,859	108	9"	2'-0"	144	162	9"	4'-7"	496	5'-3"	568	22'-8"	61	48	134	1.348	242.4	1.7	195	55.6	9,891
5	5'-0"	2'-0"	8"	7"	108	#5	9"	28'-3"	3,182	108	#5	9"	6'-3"	704	6'-4"	713	108	#5	9"	25'-5"	2,863	20	18"	39'-9"	531	86	18"	39'-9"	2,284	108	9"	2'-0"	144	216	9"	4'-7"	661	5'-3"	758	28'-3"	75	60	167	1.667	296.0	2.1	242	68.8	12,082
6	5'-0"	2'-0"	8"	7"	108	#5	9"	33'-10"	3,811	108	#5	9"	6'-3"	704	6'-4"	713	108	#5	9"	31'-0"	3,492	24	18"	39'-9"	637	102	18"	39'-9"	2,708	108	9"	2'-0"	144	270	9"	4'-7"	827	5'-3"	947	33'-10"	90	70	195	1.986	349.6	2.5	285	82.0	14,268
2	5'-0"	3'-0"	8"	7"	108	#6	9"	11'-6"	1,865	108	#5	9"	7'-3"	817	6'-4"	713	108	#5	9"	8'-8"	976	8	18"	39'-9"	212	44	18"	39'-9"	1,168	108	9"	3'-0"	216	54	9"	4'-7"	165	7'-3"	262	11'-6"	31	26	72	0.775	159.9	0.9	103	31.9	6,497
3	5'-0"	3'-0"	8"	7"	108	#6	9"	17'-1"	2,771	108	#5	9"	7'-3"	817	6'-4"	713	108	#5	9"	14'-3"	1,605	12	18"	39'-9"	319	62	18"	39'-9"	1,646	108	9"	3'-0"	216	108	9"	4'-7"	331	7'-3"	523	17'-1"	46	38	106	1.115	223.5	1.3	152	45.9	9,093
4	5'-0"	3'-0"	8"	7"	108	#6	9"	22'-8"	3,677	108	#5	9"	7'-3"	817	6'-4"	713	108	#5	9"	19'-10"	2,234	16	18"	39'-9"	425	80	18"	39'-9"	2,124	108	9"	3'-0"	216	162	9"	4'-7"	496	7'-3"	785	22'-8"	61	48	134	1.456	287.2	1.7	195	59.9	11,682
5	5'-0"	3'-0"	8"	7"	108	#6	9"	28'-3"	4,583	108	#5	9"	7'-3"	817	6'-4"	713	108	#5	9"	25'-5"	2,863	20	18"	39'-9"	531	98	18"	39'-9"	2,602	108	9"	3'-0"	216	216	9"	4'-7"	661	7'-3"	1,046	28'-3"	75	60	167	1.796	350.8	2.1	242	73.9	14,274
6	5'-0"	3'-0"	8"	7"	108	#6	9"	33'-10"	5,488	108	#5	9"	7'-3"	817	6'-4"	713	108	#5	9"	31'-0"	3,492	24	18"	39'-9"	637	116	18"	39'-9"	3,080	108	9"	3'-0"	216	270	9"	4'-7"	827	7'-3"	1,308	33'-10"	90	70	195	2.137	414.5	2.5	285	88.0	16,863
2	5'-0"	4'-0"	8"	7"	108	#6	9"	11'-6"	1,865	108	#5	9"	8'-3"	929	6'-4"	713	108	#5	9"	8'-8"	976	8	18"	39'-9"	212	44	18"	39'-9"	1,168	108	9"	4'-0"	289	54	9"	4'-7"	165	9'-3"	334	11'-6"	31	26	72	0.840	166.3	0.9	103	34.5	6,754
3	5'-0"	4'-0"	8"	7"	108	#6	9"	17'-1"	2,771	108	#5	9"	8'-3"	929	6'-4"	713	108	#5	9"	14'-3"	1,605	12	18"	39'-9"	319	62	18"	39'-9"	1,646	108	9"	4'-0"	289	108	9"	4'-7"	331	9'-3"	667	17'-1"	46	38	106	1.202	231.8	1.3	152	49.4	9,422
4	5'-0"	4'-0"	8"	7"	108	#6	9"	22'-8"	3,677	108	#5	9"	8'-3"	929	6'-4"	713	108	#5	9"	19'-10"	2,234	16	18"	39'-9"	425	80	18"	39'-9"	2,124	108	9"	4'-0"	289	162	9"	4'-7"	496	9'-3"	1,001	22'-8"	61	48	134	1.564	297.2	1.7	195	64.3	12,083
5	5'-0"	4'-0"	8"	7"	108	#6	9"	28'-3"	4,583	108	#5	9"	8'-3"	929	6'-4"	713	108	#5	9"	25'-5"	2,863	20	18"	39'-9"	531	98	18"	39'-9"	2,602	108	9"	4'-0"	289	216	9"	4'-7"	661	9'-3"	1,335	28'-3"	75	60	167	1.926	362.7	2.1	242	79.1	14,748
6	5'-0"	4'-0"	8"	7"	108	#6	9"	33'-10"	5,488	108	#5	9"	8'-3"	929	6'-4"	713	108	#5	9"	31'-0"	3,492	24	18"	39'-9"	637	116	18"	39'-9"	3,080	108	9"	4'-0"	289	270	9"	4'-7"	827	9'-3"	1,668	33'-10"	90	70	195	2.288	428.1	2.5	285	94.0	17,408
2	5'-0"	5'-0"	8"	7"	108	#6	9"	11'-6"	1,865	108	#5	9"	9'-3"	1,042	6'-4"	713	108	#5	9"	8'-8"	976	8	18"	39'-9"	212	50	18"	39'-9"	1,328	108	9"	5'-0"	361	54	9"	4'-7"	165	11'-3"	406	11'-6"	31	26	72	0.904	176.7	0.9	103	37.0	7,171
3	5'-0"	5'-0"	8"	7"	108	#6	9"	17'-1"	2,771	108	#5	9"	9'-3"	1,042	6'-4"	713	108	#5	9"	14'-3"	1,605	12	18"	39'-9"	319	70	18"	39'-9"	1,859	108	9"	5'-0"	361	108	9"	4'-7"	331	11'-3"	812	17'-1"	46	38	106	1.280	245.3	1.3	152	52.8	9,965
4	5'-0"	5'-0"	8"	7"	108	#6	9"	22'-8"	3,677	108	#5	9"	9'-3"	1,042	6'-4"	713	108	#5	9"	19'-10"	2,234	16	18"	39'-9"	425	90	18"	39'-9"	2,390	108	9"	5'-0"	361	162	9"	4'-7"	496	11'-3"	1,217	22'-8"	61	48	134	1.672	313.9	1.7	195	68.6	12,750
5	5'-0"	5'-0"	8"	7"	108	#6	9"	28'-3"	4,583	108	#5	9"	9'-3"	1,042	6'-4"	713	108	#5	9"	25'-5"	2,863	20	18"	39'-9"	531	110	18"	39'-9"	2,921	108	9"	5'-0"	361	216	9"	4'-7"	661	11'-3"	1,623	28'-3"	75	60	167	2.056	382.5	2.1	242	84.3	15,540
6	5'-0"	5'-0"	8"	7"	108	#6	9"	33'-10"	5,488	108	#5	9"	9'-3"	1,042	6'-4"	713	108	#5	9"	31'-0"	3,492	24	18"	39'-9"	637	130	18"	39'-9"	3,452	108	9"	5'-0"	361	270	9"	4'-7"	827	11'-3"	2,029	33'-10"	90	70	195	2.439	451.0	2.5	285	100.1	18,326

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

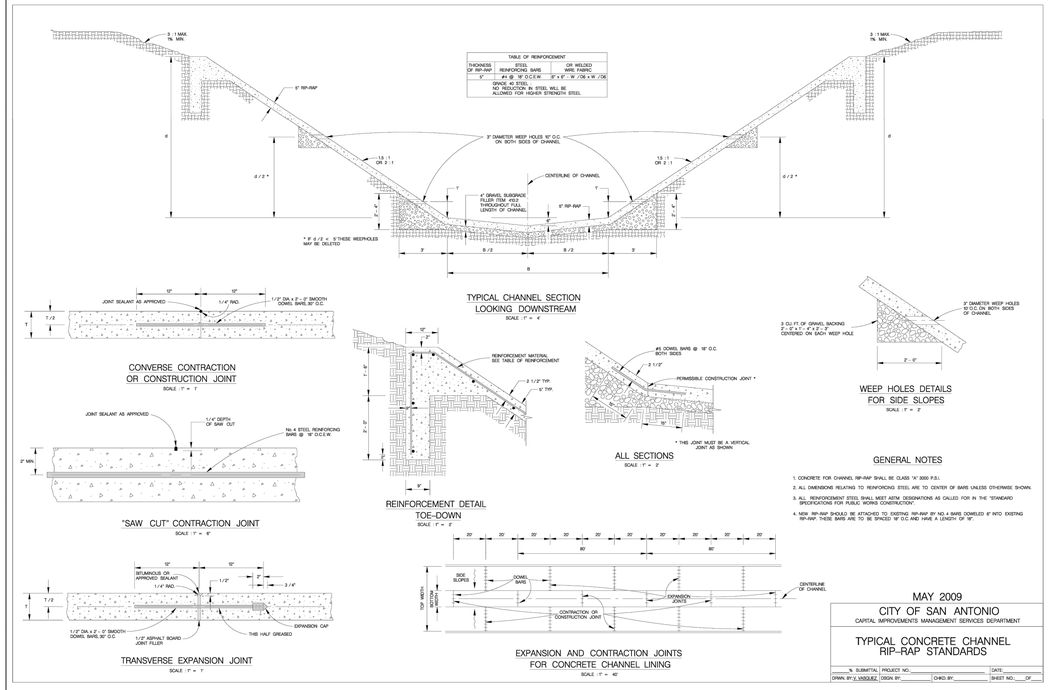
DATE:
FILE:

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE
5'-0" SPAN
0' TO 20' FILL
MC-5-20

FILE: CD-MC520-20.dgn	DN: TBE	CK: BKP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.



GENERAL NOTES

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

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS

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

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

HMT
ENGINEERING & SURVEYING

03/02/2026

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER

Matthew T. Abrahamsen

STORM DETAILS (1 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.15

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (66 Lots)\Civil\337.113_STRM DETAILS.dwg User: edwardu Mar 02, 2026 – 11:29am

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

DATE:
FILE:

TABLE OF DIMENSIONS & REINFORCING STEEL
(Wings for One Structure End)

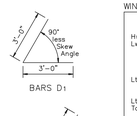
Maximum Wingwall Height Hw	W	X	Y	Z	Variable Reinforcing Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Estimated Quantities per ft of wing (2-Wings) Reinf (Lb/Ft)	Conc (CY/Ft)	Estimated Quantities per ft of Tiewall (1-Tiewall) Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
3'-0"	2'-10"	10"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	49.98	0.444	6.85	0.071
3'-3"	2'-10"	10"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	53.32	0.462	6.85	0.071
3'-6"	2'-10"	10"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'- 2"	1'- 2"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'- 2"	1'- 2"	1'- 0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'- 2"	1'- 2"	1'- 2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'- 9"	1'- 7"	1'- 2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'- 4"	2'- 0"	1'- 4"	7"	#5	1'-0"	#5	1'-0"	82.87	0.730	7.07	0.078
6'-6"	4'- 4"	2'- 0"	1'- 4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'- 0"	2'- 3"	1'- 9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'- 0"	2'- 3"	1'- 9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'- 6"	2'- 8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'- 6"	2'- 8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'- 0"	2'-10"	2'- 2"	9"	#6	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'- 5"	3'- 0"	2'- 5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'- 2"	3'- 6"	2'- 8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'- 8"	3'- 9"	2'-10"	1'- 0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'- 2"	4'- 0"	3'- 2"	1'- 2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'- 5"	3'- 5"	1'- 4"	#8	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'- 6"	4'-10"	3'- 8"	1'- 6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'- 0"	3'-11"	1'- 7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING (2-Wings)

Bar	Size	No.	Spa
Dn	#6	~	1'-0"
D2	#6	~	1'-0"
E1	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'-0"
V	#4	~	1'-0"

TABLE OF TOEWALL REINFORCING

Bar	Size	No	Spa
J 3	#4	~	1'-0"
M2	#4	2	~
E 2	#4	~	1'-0"



WING DIMENSION CALCULATIONS:

Formulas: (All values are in Feet)

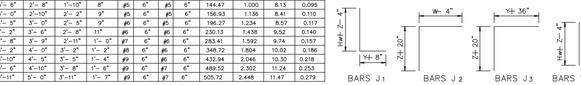
Hw = H + T + C
Lw = (Hw) (SL) Cosine θ for Ty PW-1 = (Hw - 1) (SL) Cosine θ for Ty PW-2 and Hw 4' ≥ = (Hw - 0.5) (SL) Cosine θ for Ty PW-2 and Hw 4' <

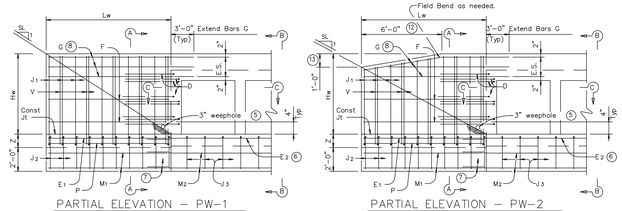
For Cast-in-place culverts:
Ltw = [(N) (S) + (N + 1) (0.5)] Cosine θ —

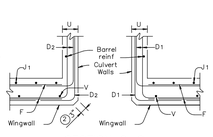
For Precast culverts:
Ltw = [(N) (2 U + S) + (N - 1) (0.5)] Cosine θ —
Total Wingwall Area (Two Wings = SF)
= (2)(Hw)(Lw) for Ty PW-1
= (2)(Hw)(Lw) - 1.5 SF for Ty PW-2 and Hw 4' ≥
= (2)(Hw)(Lw) - 1.5 SF for Ty PW-2 and Hw 4' <

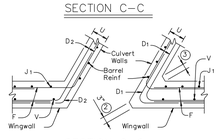
Hw = Height of Wingwall
Lw = Length of Wingwall
Ltw = Culvert Toewall Length
N = Number of Culvert Spans
SL:1 = Channel Slope ratio. (Horizontal: 1 Vertical, Usual value is 2:1)
θ = Culvert Skew

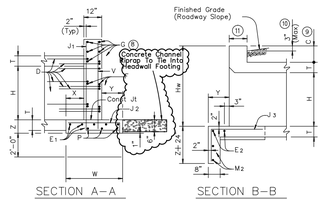
See applicable box culvert standard for S, H, T and U values.

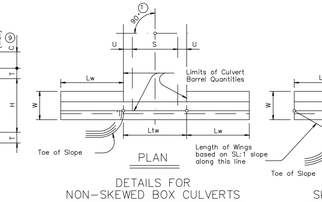


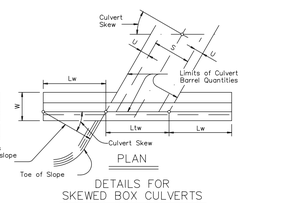












1. Skew Angle = 0°
2. At discharge end, chamfer may be 3/4".
3. For 15° Skew ~ 1".
   For 30° Skew ~ 2".
   For 45° Skew ~ 3".
4. Quantities shown are for two Type PW-1 wings. Adjust concrete volume for Type PW-2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.
5. Provide weepholes for Hw = 5'-0" and greater. Fill around weepholes with coarse gravel.
6. Extend Bars E 1'-6" minimum into the wingwall footing.
7. Lap Bars M 1'-6" minimum with Bars M .
8. Bars G equally spaced at 8" maximum, place as shown. Provide at least two pair Bars G per wing.
9. 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
10. For vehicle safety, the following requirements must be met:
    - For structures without bridge rail, curbs cannot project more than 3" above finished grade.
    - For structures with bridge rail, build curbs flush with finished grade.
    Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
11. 1'-0" typical. 2'-0" typical when RAC standard is referenced elsewhere in the plans.
12. 3'-0" for Hw < 4'.
13. 6" for Hw < 4'.

GENERAL NOTES:
Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Provide Class "C" Concrete (f'c = 3,600 psi Min) and Grade 60 reinforcing steel.
Provide 1 1/4" Min clear cover to reinforcing steel.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See BCS sheet for wingwall type and additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

DESIGNER NOTES:
Type PW-1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
Type PW-2 can only be used for applications without a railing mounted to the wingwall.

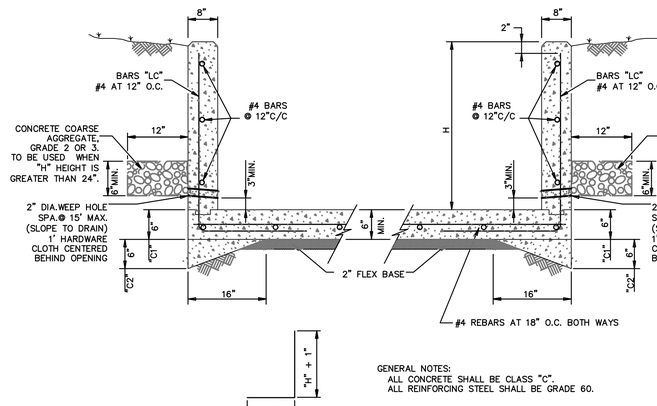
REVISION TO DETAIL

Texas Department of Transportation | Bridge Division Standard

CONCRETE WINGWALLS WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2

PW

FILE:	pw1at8rdlgn	DN: CAT	CK: CAT	DW: TxDOT	CK: CAT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY	
REVISIONS					
5-20 Reinforcing Quantities. 8-20 Part 6, Part 8.	DIST	COUNTY		SHEET NO.	



GENERAL NOTES:
ALL CONCRETE SHALL BE CLASS "C".
ALL REINFORCING STEEL SHALL BE GRADE 60.

CONCRETE CHANNEL DETAIL
C1 – 6" TO 36"
C2 – 36" TO 48"

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
03/02/2026

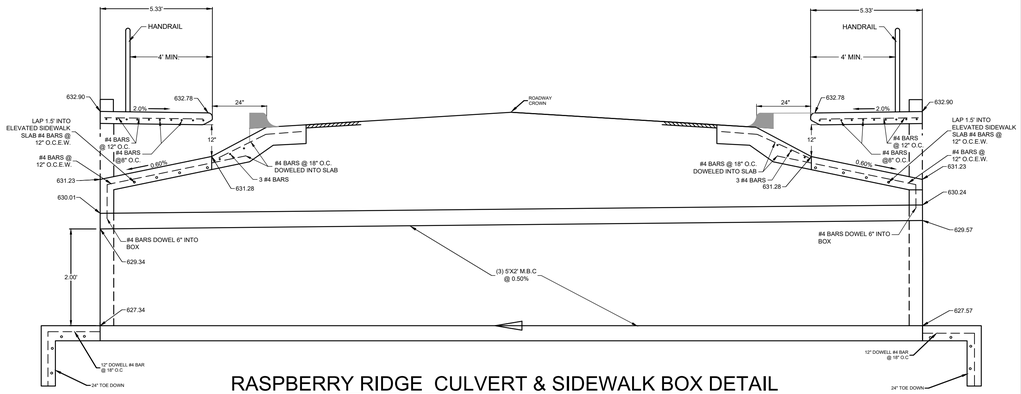
STORM DETAILS (2 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C5.16



RASPBERRY RIDGE CULVERT & SIDEWALK BOX DETAIL

American Excelsior Company®
Earth Science Division

Proud Participant in NTPEP and Proud Member of: AASHTO, ASTM, ECTC, IECA

PRODUCT DATA SHEET
CURLEX® I FIBRENET™

DESCRIPTION

Curlex I FibreNet erosion control blanket (ECB) consists of a specific cut of naturally seed free Great Lakes Aspen curled wood excelsior with 80% six-inch fibers or greater fiber length. It is of consistent thickness with fibers evenly distributed throughout the entire area of the blanket. The top of each blanket is covered with 100% biodegradable jute netting. The product is 100% biodegradable when biodegradable thread is ordered. Curlex I FibreNet is also available as QuickGRASS® (green pigment). Curlex I FibreNet shall be manufactured in the U.S.A.

Curlex I FibreNet has a design soil loss ratio (event-based RUSLE C factor) of .018 and is typically suitable for slopes up to 2H:1V. Curlex I FibreNet is rated for channel flows up to 7.0 ft/s (2.1 m/s) and 1.75 lb/ft² (84 Pa) shear stress.

PHYSICAL PROPERTIES

Curlex I FibreNet measurements at time of manufacturing:

Width	4.0 ft (1.2 m)	8.0 ft (2.4 m)	16.0 ft (4.9 m)
Length	101.25 ft (30.9 m)	101.25 ft (30.9 m)	101.25 ft (30.9 m)
Area	45.0 yd² (37.6 m²)	90.0 yd² (75.3 m²)	180.0 yd² (150.5 m²)
Weight[a]	32.9 lb (14.9 kg)	65.7 lb (29.8 kg)	131.4 lb (59.6 kg)
Fiber Count	≈7,000 per yd² (≈8,400 per m²)	≈7,000 per yd² (≈8,400 per m²)	≈7,000 per yd² (≈8,400 per m²)
Fiber Length (80% min.)	≥6.0 in (≥15.2 cm)	≥6.0 in (≥15.2 cm)	≥6.0 in (≥15.2 cm)
Mass per Unit Area (± 10%)	0.73 lb/yd² (0.40 kg/m²)	0.73 lb/yd² (0.40 kg/m²)	0.73 lb/yd² (0.40 kg/m²)
Net Openings	≈ 0.5 in x 1.0 in (12.7 mm x 25.4 mm)	≈ 0.5 in x 1.0 in (12.7 mm x 25.4 mm)	≈ 0.5 in x 1.0 in (12.7 mm x 25.4 mm)

TYPICAL INDEX VALUES

Index Property	Test Method	Value
Thickness	ASTM D 6525	0.281 in (7.14 mm)
Light Penetration	ASTM D 6567	29.9%
Mass per Unit Area	ASTM D 6475	0.626 lb/yd² (0.340 kg/m²)
MD-Tensile Strength Max.	ASTM D 6818	187.2 lb/ft (2.73 kN/m)
TD-Tensile Strength Max.	ASTM D 6818	81.6 lb/ft (1.19 kN/m)
MD-Elongation	ASTM D 6818	14.8%
TD-Elongation	ASTM D 6818	13.8%
Water Absorption	ASTM D 1117/ECTC	273%
Bench-Scale Rain Splash	ASTM D 7101	SLR = 5.50 @ 2 in/hr [b,c]
Bench-Scale Rain Splash	ASTM D 7101	SLR = 5.83 @ 4 in/hr [b,c]
Bench-Scale Rain Splash	ASTM D 7101	SLR = 6.17 @ 6 in/hr [b,c]
Bench-Scale Shear	ASTM D 7207	2.60 lb/ft² @ 0.5 in soil loss [c]
Germination Improvement	ASTM D 7322	Pass

[a] Weight is based on a dry fiber weight basis at time of manufacture. Baseline moisture content of Great Lakes Aspen excelsior is 22%.

[b] SLR is the Soil Loss Ratio, as reported by NTPEP/AASHTO. [c] Bench-scale index values should not be used for design purposes.

MADE IN THE U.S.A.

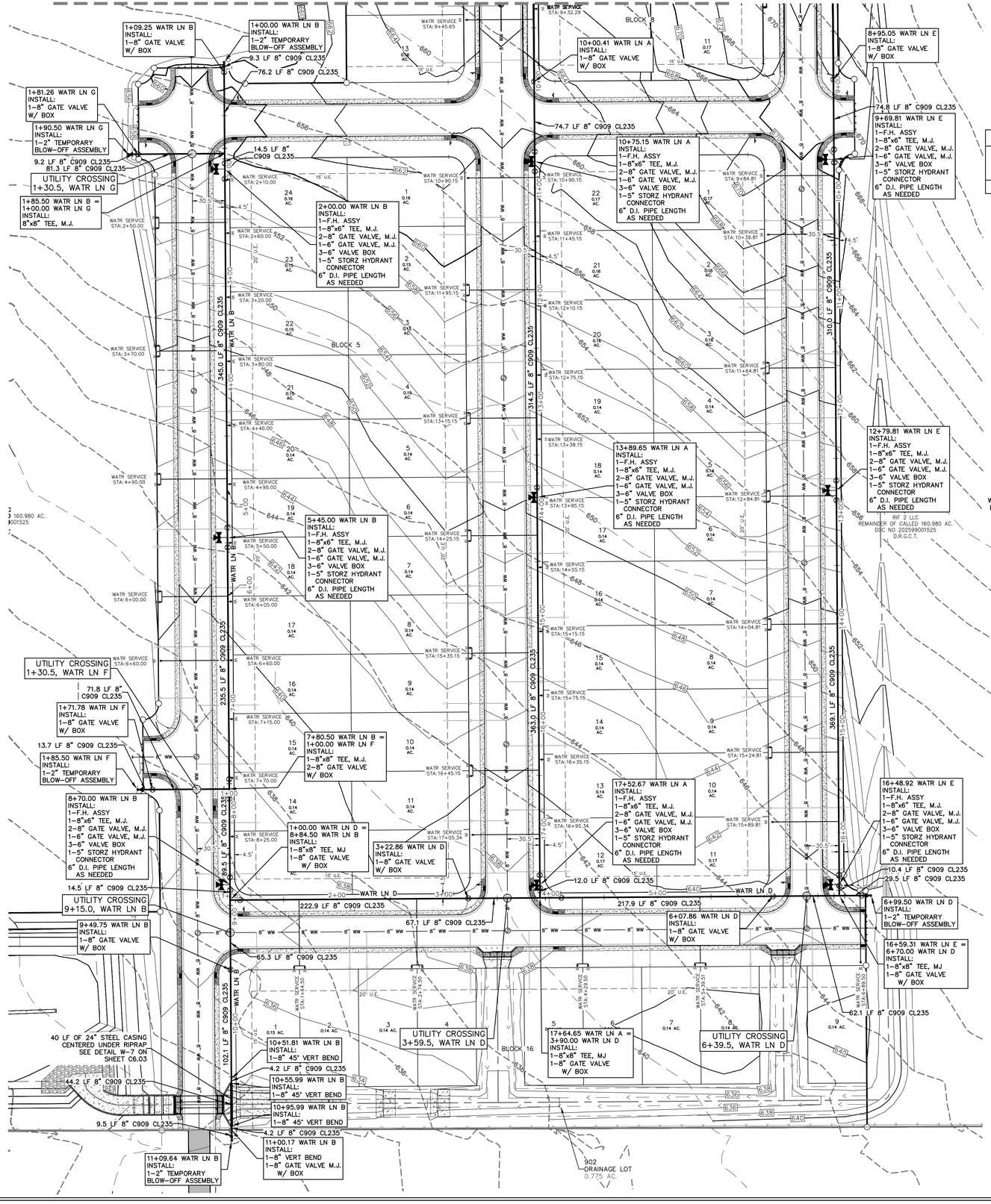
850 Avenue H E | Arlington, Texas 76011
Phone 1-800-777-SOIL | Fax 817-385-3585 | www.Curlex.com

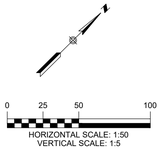
W1022R1024

Permanent Turf Reinforcement Mat	Class	Max Shear (vegitated)	Max Velocity	Manning's N
Landlok 435	1	8	12	0.025
Futerra 7010 Green Armor	1	8	16	.025 - .045
EroNet P300	1	8	16	.020 - .034
Landlok 450	2	10	18	0.025
VMax P350	2	10	20	.012 - .041
VMax P550	2	12	22	.023 - .029
Futerra 7020 Green Armor	3	17	20	.025 - .045
Futerra R45 (HP-TRM)	3	20	30	-

Note: Contractor to select permanent turf reinforcement mat from list above based on class. If an alternate mat is preferred, contact the engineer on record to approve any unlisted erosion control mats. Construction of turf reinforcement mat shall be in accordance with manufacturers specifications

Drawing Name: N:_Projects\337 - Lemar\113 - Botanical Farm Phase 1 (66 Lots)\Civil\337.113_STRM DETAILS.dwg User: edwardu Mar 02, 2026 - 11:30am





LEGEND

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

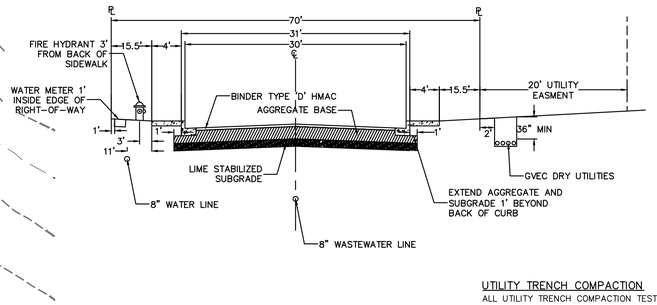
WATER STRUCTURE TOTALS										
PIPE SIZE	C909 CL 235 PIPE LENGTH	8" TEE	8" CROSS	8" 45° BEND	8" 22.5° BEND	8" 11.25° BEND	8" GATE VALVE W/ BOX	DOMESTIC METERS 3/4"	FIRE HYDRANT ASSEMBLY	2" TEMP. BLOW–OFF ASSEMBLY
8	5,403	5	1	2	0	0	45	104	13	7

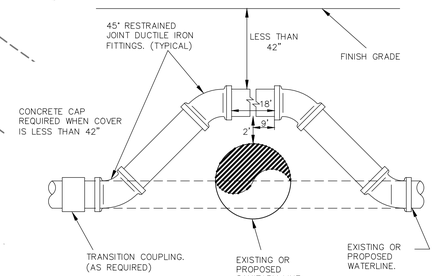
EDU TABLE		
LOTS	SERVICES	EDU
95	104.0	95.0

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 TO 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, TEES, AND CROSSES SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, PAVEMENT, OR DRIVEWAYS. FITTINGS SHOWN ARE NOT TO SCALE.
3. ALL WATER SERVICES ARE TO BE 1–INCH SERVICES AND METERS LOCATED 2–FEET FROM THE PROPERTY LINE.
4. ALL DIMENSIONS ARE FROM FACE OF CURB.
5. REFER TO COVER SHEET FOR BENCHMARK INFORMATION.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREATER THAN 9 FEET FROM THE BACK OF CURB.
7. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM THE BACK OF CURB
8. CONTRACTOR TO COORDINATE WITH GVSUD ON TIMING OF TIE–INS AND ABANDONMENT.
9. CONTRACTOR TO CURB CUT V'S FOR ADJACENT VALVES AND X'S FOR ADJACENT METER BOXES.
10. CONTRACTOR TO VERIFY LOCATION OF EXISTING WATER MAIN A MINIMUM OF 300 LF AHEAD OF NEW MAIN INSTALLATION AT ALL TIE–IN LOCATIONS OR CROSSINGS, AND NOTIFY GVSUD INSPECTOR.
11. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING OR OTHER APPROVED MEANS.
12. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION–VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
13. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
14. MOISTURE DENSITY COMPACTION TESTING FREQUENCY– WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPLETED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
15. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.





A WATERLINE ADJUSTMENT DETAIL
N.T.S

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.

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 150 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.

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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
03/02/2026

OVERALL WATER PLAN (1 OF 2)

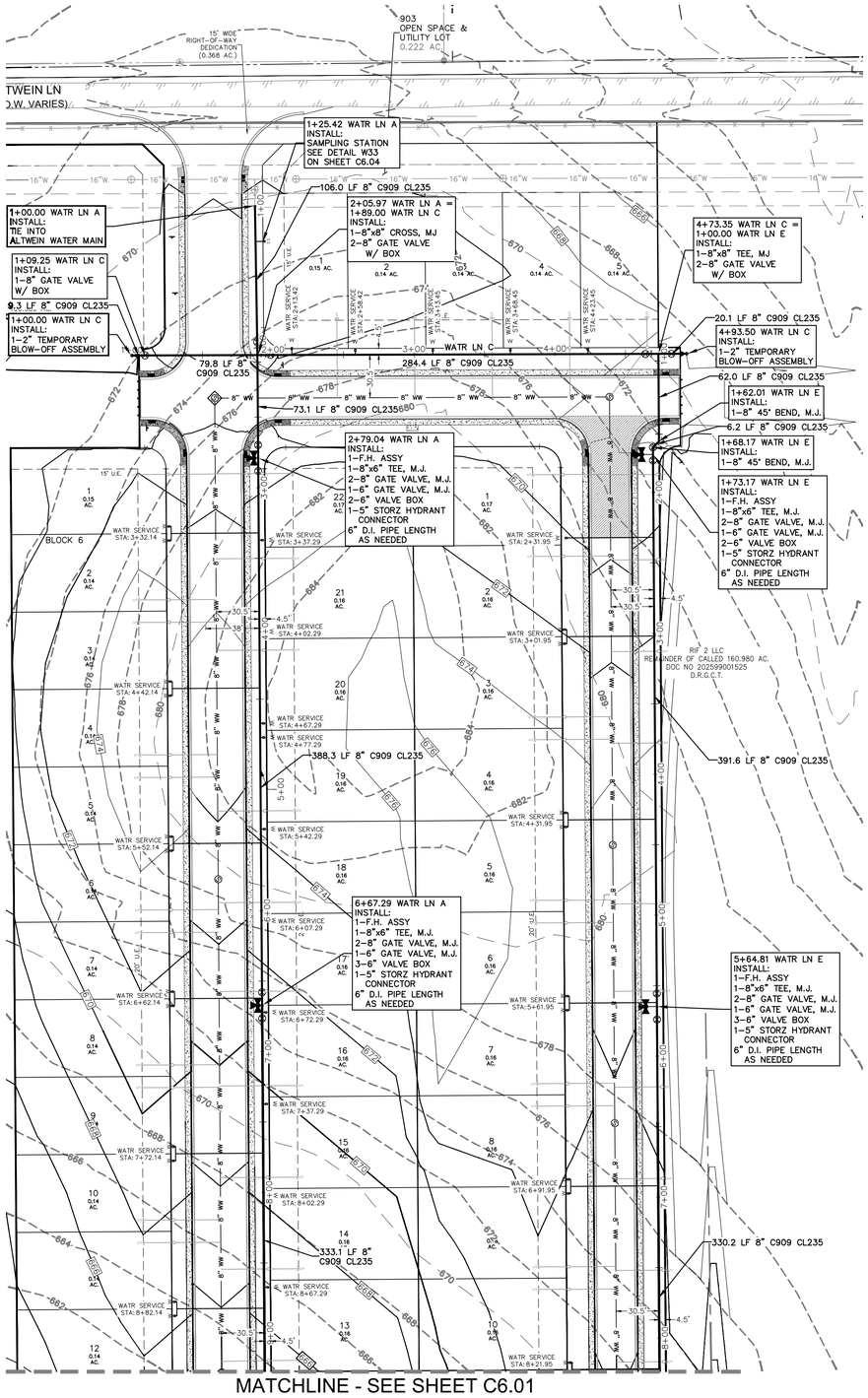
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

SHEET
C6.01

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\03a\337.113_WATR.dwg User: edwardu Mar 02, 2026 – 11:30am



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
- W W PROPOSED WATER LINE
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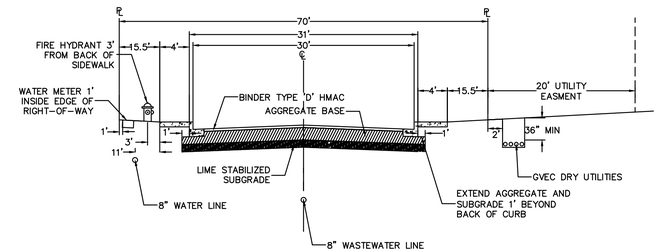

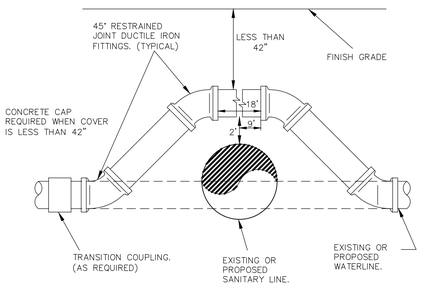

Ⓐ WATERLINE ADJUSTMENT DETAIL
N.T.S

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HMT ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
03/02/2026

Matthew T. Abrahamsen

OVERALL WATER PLAN (2 OF 2)

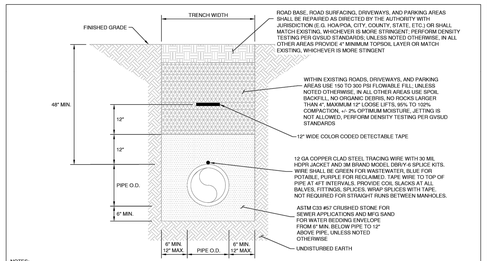
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

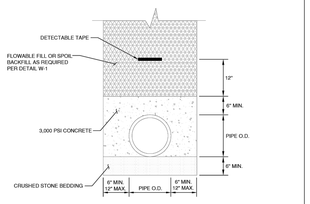
SHEET
C6.02

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\CDs\337.113_WATR.dwg User: edwardu Mar 02, 2026 - 11:30am



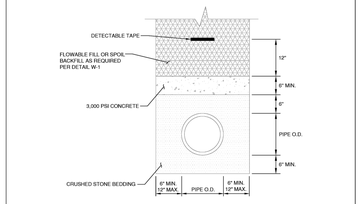
NOTES:
1. TRACING WIRE TEST STATIONS ARE REQUIRED AT ALL FIRE HYDRANTS OR OTHERWISE TO ACHIEVE 500 LF MAX SPACING. TEST STATIONS SHALL BE COLOR CODED COPPERHEAD MODEL RBY-47P. INSTALLWITHIN VALVE BOX CONCRETE COLLARS WITH 6" MINIMUM CONCRETE COVER ON ALL SIDES. LEAVE 12" WIRE SLACK INSIDE TEST STATIONS. NOT REQUIRED FOR STRAIGHT RUNS BETWEEN MANHOLES.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPE TRENCH	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-1	



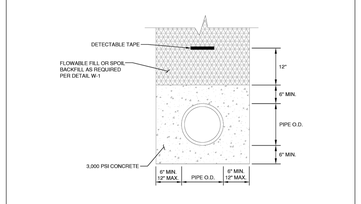
NOTES:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL SECURE PIPE TO MAINTAIN LINE AND GRADE DURING CONCRETE PLACEMENT.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE CONCRETE CAP TYPE 1	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-2	



NOTES:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE CONCRETE CAP TYPE 2	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-3	



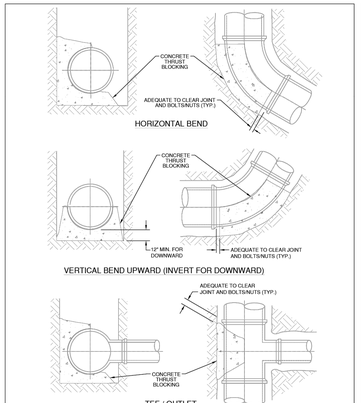
NOTES:
1. REFERENCE DETAIL W-1 FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL SECURE PIPE TO MAINTAIN LINE AND GRADE DURING CONCRETE PLACEMENT.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE CONCRETE ENCASEMENT	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-4	

DESCRIPTION	MINIMUM RESTRAINED LENGTH (FT., EACH WAY)
11 1/4° BENDS	30
22 1/2° BENDS	40
45° BENDS	50
90° BENDS, TEES, REDUCERS, TAPPING SLEEVES	60
VALVES, DEAD ENDS	100

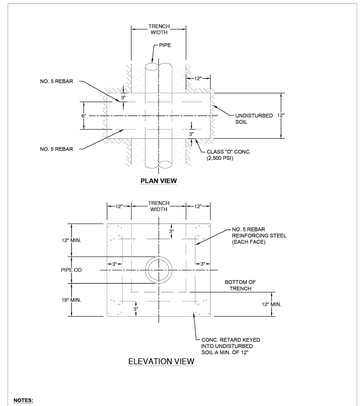
NOTES:
1. THE TABLE ABOVE INDICATES MINIMUM RESTRAINED LENGTH REQUIREMENTS FOR BURIED PRESSURE PIPING SYSTEMS. THE RESTRAINED LENGTHS SHALL BE PROVIDED EACH WAY FROM ALL FITTINGS, VALVES, DEAD ENDS, ETC. THE DESIGN ENGINEER SHALL EVALUATE SOILS AND SYSTEM HYDRAULICS AND DETERMINE IF ANY ADDITIONAL RESTRAINTS ARE REQUIRED.
2. IF THE DESIGN ENGINEER REQUIRES CONCRETE THRUST BLOCKING IN ADDITION TO MECHANICAL RESTRAINTS, THE CONCRETE THRUST BLOCKING MUST BE INSTALLED IN ACCORDANCE WITH DETAIL W-6.
3. REFERENCE GVSUD STANDARDS FOR PIPE, FITTING, AND RESTRAINT MATERIAL REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
RESTRAINED LENGTHS	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-5	



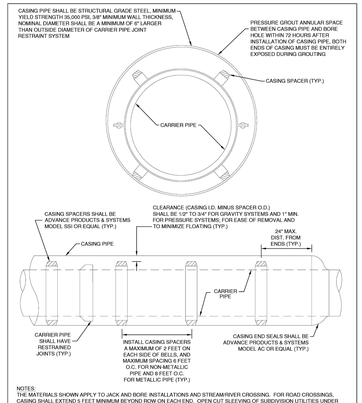
NOTES:
1. THRUST BLOCKING SHALL BE CAST-IN-PLACE CONCRETE AND MUST BE PLACED UPON AND AGAINST UNDISTURBED EARTH.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
THRUST BLOCKING	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-6	



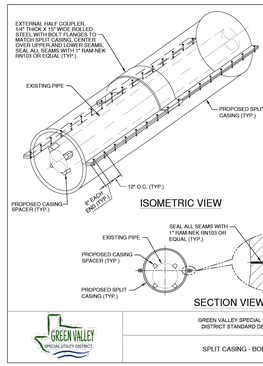
NOTES:
1. TO BE PLACED ON SLOPES GREATER THAN 10% WITH MAXIMUM SPACING OF 20 FEET.
2. WHEN TRENCHING IN ROCK CONDITIONS, WIDTH MAY BE REDUCED FROM 12 INCHES DOWN TO 6 INCHES.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
CONCRETE RETARD	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-7	



NOTES:
THE MATERIALS SHOWN APPLY TO JACK AND BORE INSTALLATIONS AND STREAM/RIVER CROSSING. FOR ROAD CROSSINGS, CASING SHALL EXTEND 5 FEET MINIMUM BEYOND ROW ON EACH END. OPEN CUT SLEEVING OF SUBDIVISION UTILITIES UNDER STORM SEWER MAY BE C900 DR18 CASING (COLOR TO MATCH CARRIER PIPE) AND ADVANCE PRODUCTS & SYSTEMS MODEL CI SPACERS, OR EQUAL, WITH STAINLESS STEEL HARDWARE. REFERENCE GVSUD STANDARDS AND DESIGN GUIDELINES FOR ADDITIONAL SLEEVE REQUIREMENTS. THE CLEARANCE AND DIMENSIONS SHOWN APPLY TO ALL INSTALLATIONS.

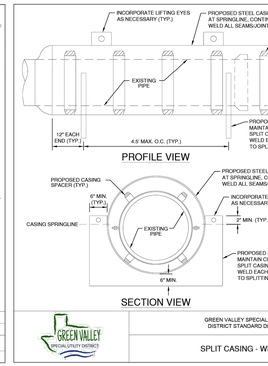
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
CASING AND SPACERS	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-8	



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. CASING SHALL BE SECTIONALIZED FOR EASE OF LIFTING.
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, WRAP WITH THREE LAYERS OF 8 MIL POLY AND TAPE.
5. REFERENCE DETAIL W-8 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 1460 FOR DUCTILE IRON PIPE.

SEQUENCE OF WORK:
1. THE EXISTING PIPELINE SHALL REMAIN PRESSURIZED AND IN SERVICE DURING THIS ENTIRE SEQUENCE OF WORK.
2. POTHOLE AND EXPOSE EACH EXISTING PIPE JOINT THAT WILL BE WITHIN PROPOSED SPLIT CASING.
3. FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING.
4. BACKFILL ALL EXCAVATIONS ASSOCIATED WITH ITEMS 2 AND 3.
5. EXPOSE EXISTING PIPING 20 LF MAXIMUM AT A TIME.
6. INSTALL CASING SPACERS ON EXISTING PIPE.
7. INSTALL SPLIT CASING AROUND RESTRAINTS, SPACERS, AND EXISTING PIPE.
8. INSTALL CRUSHED STONE BEDDING AND BACKFILL IN ACCORDANCE WITH DETAIL W-1.
9. REPEAT ITEMS 5 THRU 8 UNTIL PIPELINE SEGMENT IS COMPLETED.

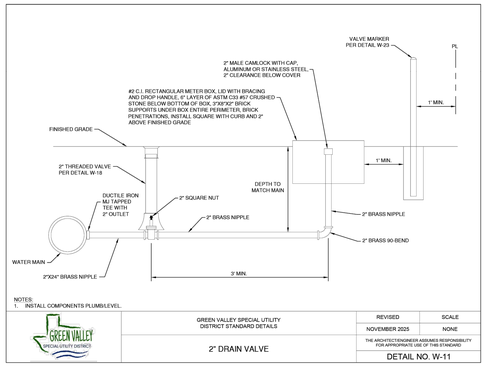
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
SPLIT CASING - BOLTED	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-9	



NOTES:
1. CASING PIPE SHALL BE STRUCTURAL GRADE STEEL WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI AND 3/8" MINIMUM WALL THICKNESS.
2. CASING SPACERS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL SSI OR EQUAL.
3. CASING END SEALS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL AW OR EQUAL, WRAP WITH THREE LAYERS OF 8 MIL POLY AND TAPE.
4. REFERENCE DETAIL W-8 FOR ADDITIONAL REQUIREMENTS (E.G. SIZES, DIMENSIONS, CLEARANCES, ETC.).
5. CONTRACTOR SHALL FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING. THIS WORK SHALL BE SUBSIDIARY TO COST OF SPLIT CASING. RESTRAINTS SHALL BE FORD UNI-FLANGE SERIES 1390 FOR PVC PIPE AND SERIES 1460 FOR DUCTILE IRON PIPE.

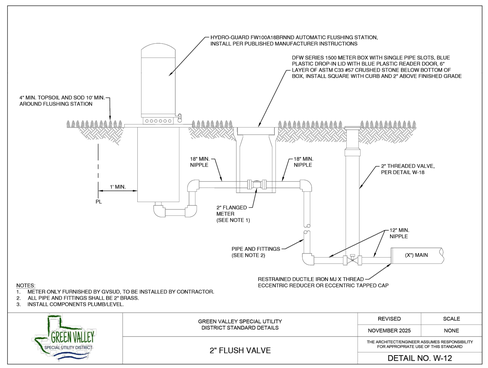
SEQUENCE OF WORK:
1. THE EXISTING PIPELINE SHALL REMAIN PRESSURIZED AND IN SERVICE DURING THIS ENTIRE SEQUENCE OF WORK.
2. POTHOLE AND EXPOSE EACH EXISTING PIPE JOINT THAT WILL BE WITHIN PROPOSED SPLIT CASING.
3. FULLY RESTRAIN ALL EXISTING PIPING THAT WILL BE WITHIN PROPOSED SPLIT CASING.
4. BACKFILL ALL EXCAVATIONS ASSOCIATED WITH ITEMS 2 AND 3.
5. EXPOSE EXISTING PIPING 20 LF MAXIMUM AT A TIME.
6. INSTALL CASING SPACERS ON EXISTING PIPE.
7. INSTALL SPLIT CASING AROUND RESTRAINTS, SPACERS, AND EXISTING PIPE.
8. INSTALL CRUSHED STONE BEDDING AND BACKFILL IN ACCORDANCE WITH DETAIL W-1.
9. REPEAT ITEMS 5 THRU 8 UNTIL PIPELINE SEGMENT IS COMPLETED.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
SPLIT CASING - WELDED	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-10	



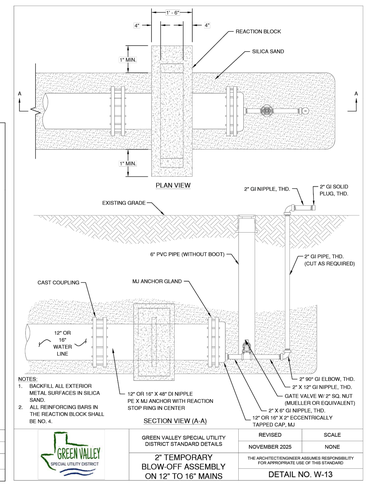
NOTES:
1. INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
2" DRAIN VALVE	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-11	



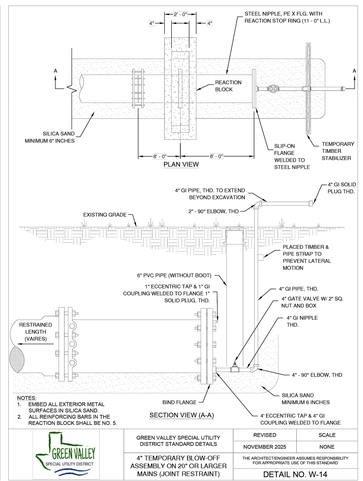
NOTES:
1. METER ONLY FURNISHED BY GVSUD, TO BE INSTALLED BY CONTRACTOR.
2. ALL PIPE AND FITTINGS SHALL BE 2" BRASS.
3. INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
2" FLUSH VALVE	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-12	



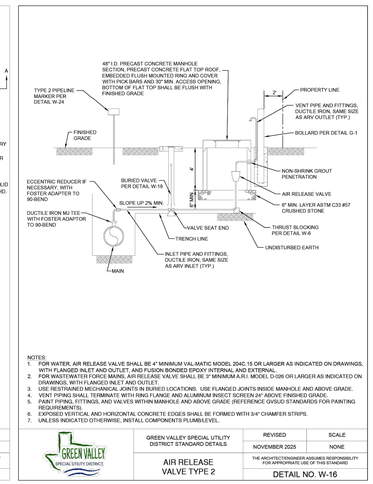
NOTES:
1. BACKFILL ALL EXTERIOR METAL SURFACES IN SILICA SAND.
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 4.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" TO 16" MAINS	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-13	



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

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
4" TEMPORARY BLOW-OFF ASSEMBLY ON 20" OR LARGER MAINS (JOINT RESTRAINT)	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-14	



NOTES:
1. FOR WATER, AIR RELEASE VALVE SHALL BE 4" MINIMUM VAL-MATIC MODEL 204C.15 OR LARGER AS INDICATED ON DRAWINGS, WITH FLANGED INLET AND OUTLET, AND FUSION BONDED EPOXY INTERNAL AND EXTERNAL.
2. FOR WASTEWATER FORCE MAINS, AIR RELEASE VALVE SHALL BE 3" MINIMUM A.R.I. MODEL D-026 OR LARGER AS INDICATED ON DRAWINGS, WITH FLANGED INLET AND OUTLET.
3. USE RESTRAINED MECHANICAL JOINTS IN BURIED LOCATIONS. USE FLANGED JOINTS INSIDE MANHOLE AND ABOVE GRADE.
4. VENT PIPING SHALL TERMINATE WITH RING FLANGE AND ALUMINUM INSECT SCREEN 24" ABOVE FINISHED GRADE.
5. PAINT PIPING, FITTINGS, AND VALVES WITHIN MANHOLE AND ABOVE GRADE (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
6. EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
7. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
AIR RELEASE VALVE TYPE 2	NOVEMBER 2025	NONE
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	
	DETAIL NO. W-16	

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
03/02/2026

WATER DETAILS (1 OF 2)

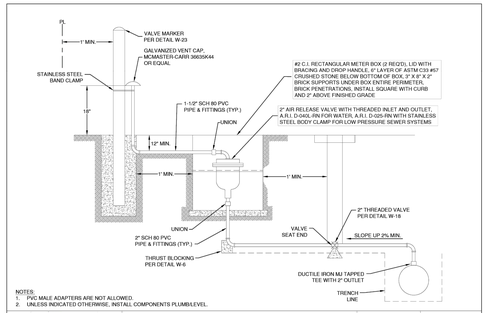
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

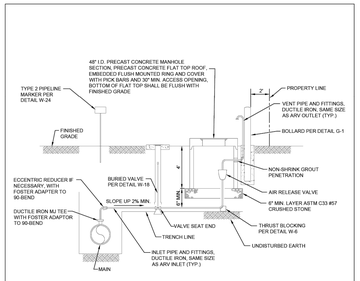
SHEET
C6.03

Drawing Name: N:_Projects\337 - Lemur\113 - Botanical Farm Phase 1 (96 Lots)\Cbd\337.113_WATR-DETAILS.dwg User: edwardu Mar 02, 2026 - 11:30am



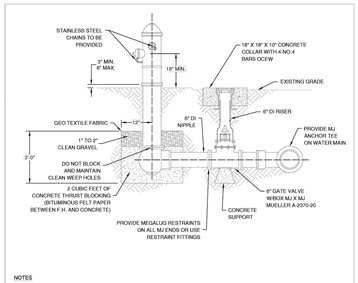
NOTES:
1. PVC MALE ADAPTERS ARE NOT ALLOWED.
2. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
AIR RELEASE VALVE TYPE 1	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-15	



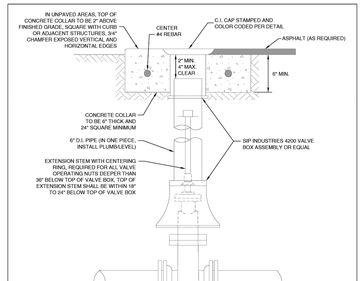
NOTES:
1. FOR WATER, AIR RELEASE VALVE SHALL BE 4" MINIMUM VAL-MATIC MODEL 2045L 10 OR LARGER AS INDICATED ON DRAWINGS, WITH FLANGED INLET AND OUTLET, AND FUSION BONDED EPOXY INTERNAL AND EXTERNAL.
2. FOR WASTEWATER FORCE MAINS, AIR RELEASE VALVE SHALL BE 3" MINIMUM A.R.I. MODEL D-026 OR LARGER AS INDICATED ON DRAWINGS, WITH FLANGED INLET AND OUTLET.
3. USE RESTRAINED MECHANICAL JOINTS IN BURIED LOCATIONS. USE FLANGED JOINTS INSIDE MANHOLE AND ABOVE GRADE.
4. VENT PIPING SHALL TERMINATE WITH RING FLANGE AND ALUMINUM INSECT SCREEN 24" ABOVE FINISHED GRADE.
5. PAINT PIPING, FITTINGS, AND VALVES WITHIN MANHOLE AND ABOVE GRADE (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
6. EXPOSED VENTS, N. AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
7. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
AIR RELEASE VALVE TYPE 2	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-16	



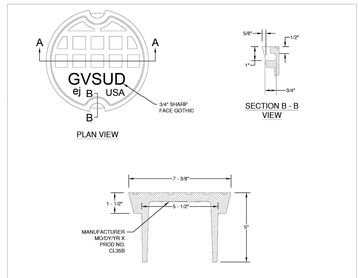
NOTES
1. HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT, VALVE, DIP, DI FITTINGS, ANCHOR RESTRAINERS, AND PIPE TO DISTRIBUTION SYSTEM.
2. FIRE HYDRANTS SHALL HAVE A MINIMUM OF 3 FEET OF CLEARANCE SURROUNDING HYDRANT.
3. HYDRANTS SHALL BE A MINIMUM DISTANCE OF 3 FEET BEHIND THE CURB OR 3 FEET FROM THE R.O.W. UNDER NO CIRCUMSTANCES SHALL VALVES OR HYDRANTS BE PLACED IN A CURB OR SIDEWALK. IN AREAS WITHOUT CURBS HYDRANTS SHALL BE PLACED A MINIMUM OF 3 FEET FROM THE DISTRIBUTION SYSTEM.
4. FOR BURY DEPTH 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 7 FEET MAXIMUM FROM THE BACK OF CURB.
10. FIRE HYDRANT ASSEMBLY 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 #PP66802.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
STANDARD HYDRANT ASSEMBLY INSTALLATION	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-17	



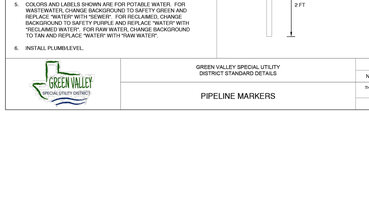
NOTES:
1. ALL VALVES SHALL OPEN LEFT, EXCEPT RECLAIMED SHALL OPEN RIGHT.
2. ALL VALVES SHALL HAVE RESTRAINED MECHANICAL JOINT END CONNECTIONS UNLESS NOTED OTHERWISE.
3. FOR WATER, PROVIDE RESILIENT WEDGE GATE VALVES, AMERICAN FLOW CONTROL SERIES 2500 OR EQUAL.
4. FOR WASTEWATER, PROVIDE EPOXY LINED AND COATED ROUND PORT PLUG VALVES BY CRISPIN, GA, MILLIKEN, OR PRATT. PLUG VALVES SHALL BE HORIZONTAL SHAFT CLOSING DOWNWARD. INSTALL ORIENTATION OF SEAT END ("SE") AS SHOWN ON DRAWINGS OR AS DIRECTED BY GVSUD INSPECTOR.
5. INSTALL ASSEMBLY PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
BURIED VALVE	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-18	



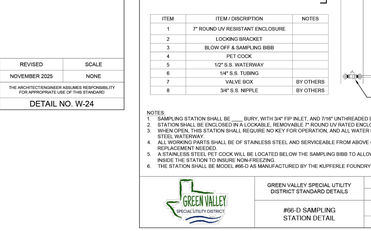
NOTES:
1. VALVE BOX COVER SHALL BE EJ GROUP, INC. $71 VALVE BOX COVER PRODUCT NUMBER 33171011, OR APPROVED EQUIVALENT WITH GVSUD LOGO.
2. TYPICAL FILLET IS 5/16 BEAD RADIUS.
3. LETTERING SHALL BE 3/4 INCH SHARP FACE GOTHIC AND LOCATED AS SHOWN.
4. LID REQUIRES TWO (2) PICK SLOTS.
5. THE MANUFACTURER'S IDENTIFICATION, CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND B/WRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINS AND FLASHING AND PAINT WITH BLACK ASPHALT COATING.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
VALVE BOX CASTING LID	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-19	



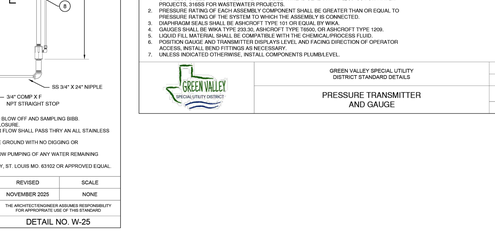
NOTES:
1. SUBMIT PRODUCT DATA FOR ALL MATERIALS AND A DIMENSIONED VAULT AND PIPING LAYOUT DRAWING DEMONSTRATING ALL REQUIRED CLEARANCES AND OBTAIN GVSUD APPROVAL PRIOR TO ORDERING ANY MATERIALS.
2. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
3. PRECAST CONCRETE VAULT AND ALUMINUM HATCH SHALL BE H-20 TRAFFIC RATED. HATCH SHALL BE PER CITY OF AUSTIN SPL-614A WITH PADLOCK STAPLE. INSTALL HATCH LENGTHWISE IN CENTER OF VAULT.
4. TOP OF VAULT SHALL BE 4" ABOVE FINISHED GRADE.
5. VAULT SHALL BE OPEN BOTTOM INSTALLED ON 6" MINIMUM LAYER OF ASTM C33 #57 CRUSHED STONE.
6. PROVIDE 24" CLEARANCE FROM BOTTOM OF PIPE TO BOTTOM OF VAULT. DEPTH OF PIPE SHALL BE IN ACCORDANCE WITH DESIGN PROFILES AND MINIMUM COVER REQUIREMENTS.
7. PROVIDE PRECAST BLOCKOUTS WITH KEYWAY AT WALL PIPE PENETRATIONS. FORM AND FILL WITH NON-SHRINK GROUT.
8. PIPING OUTSIDE VAULT SHALL BE RESTRAINED IN ACCORDANCE WITH GVSUD STANDARDS.
9. ALL PIPING INSIDE VAULT SHALL BE FLANGED DUCTILE IRON.
10. FLANGED GATE VALVES SHALL BE FLANGED ON LOW PRESSURE SIDE ONLY. SMITH BLAIR MODEL 911 OR EQUAL.
11. GATE VALVES SHALL BE FLANGED AMERICAN FLOW CONTROL SERIES 2500 RISING STEM OR EQUAL.
12. PRESSURE REDUCING VALVES (PRV) SHALL BE CLA-VAL MODEL 90-01G (OR EQUAL BY SINGER, WATTS, OR ZURN WILKINS) WITH ANTI-CAVITATION TRIM AND STAINLESS STEEL PILOT SYSTEMS. INSTALL PILOT SYSTEMS AND GAUGES ON SIDE OF PRV ADJACENT TO NEAREST WALL. STRAINERS ARE REQUIRED IF PROCESS FLUID IS NOT POTABLE.
13. PRV 1 SHALL BE SAME NOMINAL SIZE AS MAIN PIPELINE. PRV 2 SHALL BE HALF NOMINAL SIZE OF MAIN PIPELINE.
14. INSTALL A PRESSURE GAUGE ON EACH PRV INLET AND OUTLET PER DETAIL W-26 (TRANSMITTER IS NOT REQUIRED). INSTALL A 45-BEND FITTING BELOW EACH GAUGE SUCH THAT GAUGES ARE LEGIBLE FROM THE HATCH OPENING.
15. INSTALL AN ADJUSTABLE PIPE SUPPORT WITH FLANGE CONNECTION AT EACH LOCATION SHOWN. INSTALL A SQUARE CAST-IN-PLACE REINFORCED CONCRETE BEARING PAD UPON UNDISTURBED EARTH CENTERED UNDER EACH SUPPORT. BEARING PADS SHALL BE SQUARE WITH WALLS AND SHALL EXTEND 6" BEYOND BASE PLATES ON ALL SIDES. TOP OF BEARING PADS SHALL BE 2" ABOVE CRUSHED STONE LAYER.
16. PAINT PIPING, FITTINGS, AND VALVES WITHIN VAULT (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
DUAL PRV VAULT	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-20	



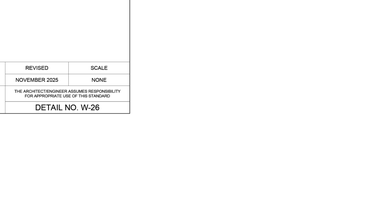
NOTES:
1. INSTALL SEPARATE TAPS AND VAULTS FOR POTABLE AND FIRE SERVICE. REFERENCE GVSUD STANDARDS FOR TAP REQUIREMENTS.
2. SUBMIT PRODUCT DATA FOR ALL MATERIALS AND A DIMENSIONED VAULT AND PIPING LAYOUT DRAWING DEMONSTRATING ALL REQUIRED CLEARANCES AND OBTAIN GVSUD APPROVAL PRIOR TO ORDERING ANY MATERIALS.
3. FURNISH AND INSTALL THE ENTIRE ASSEMBLY AS DETAILED INCLUDING NEPTUNE MACH-10 RING METER.
4. FURNISH AND INSTALL APPROPRIATE BACKFLOW-PREVENTION DEVICES IN SEPARATE VAULTS DOWNSTREAM OF METER VAULTS FOR EACH SERVICE TYPE (REFERENCE TCEQ 290.47 APPENDIX F).
5. BYPASS PIPING SHALL BE SAME SIZE AS METER PIPING.
6. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH 3/4" CHAMFER STRIPS.
7. PRECAST CONCRETE VAULT AND ALUMINUM HATCH SHALL BE H-20 TRAFFIC RATED. HATCH SHALL BE PER CITY OF AUSTIN SPL-614A WITH PADLOCK STAPLE. INSTALL HATCH LENGTHWISE IN CENTER OF VAULT.
8. TOP OF VAULT SHALL BE 4" ABOVE FINISHED GRADE.
9. VAULT SHALL BE OPEN BOTTOM INSTALLED ON 6" MINIMUM LAYER OF ASTM C33 #57 CRUSHED STONE.
10. PROVIDE 24" CLEARANCE FROM BOTTOM OF PIPE TO BOTTOM OF VAULT. DEPTH OF PIPE SHALL BE IN ACCORDANCE WITH DESIGN PROFILES AND MINIMUM COVER REQUIREMENTS.
11. PROVIDE PRECAST BLOCKOUTS WITH KEYWAY AT WALL PIPE PENETRATIONS. FORM AND FILL WITH NON-SHRINK GROUT.
12. PIPING OUTSIDE VAULT SHALL BE RESTRAINED IN ACCORDANCE WITH GVSUD STANDARDS.
13. ALL PIPING INSIDE VAULT SHALL BE FLANGED DUCTILE IRON.
14. GATE VALVES SHALL BE FLANGED AMERICAN FLOW CONTROL SERIES 2500 RISING STEM OR EQUAL.
15. INSTALL AN ADJUSTABLE STANCHION PIPE SUPPORT WITH FLANGE CONNECTION AT EACH LOCATION SHOWN. INSTALL A SQUARE CAST-IN-PLACE REINFORCED CONCRETE BEARING PAD UPON UNDISTURBED EARTH CENTERED UNDER EACH SUPPORT. BEARING PADS SHALL BE SQUARE WITH WALLS AND SHALL EXTEND 6" BEYOND BASE PLATES ON ALL SIDES. TOP OF BEARING PADS SHALL BE 2" ABOVE CRUSHED STONE LAYER.
16. PAINT PIPING, FITTINGS, AND VALVES WITHIN VAULT (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
17. REFERENCE GVSUD STANDARDS FOR INSPECTION REQUIREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
METER WITH BYPASS VAULT	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-21	



NOTES:
1. ALL WATER SERVICES SHALL BE SINGLE SERVICES. DOUBLE WATER SERVICES ARE NOT ALLOWED.
2. UNLESS NOTED OTHERWISE, ALL WATER SERVICES SHALL BE INSTALLED 5 FT FROM THE HIGH LOT CORNER.
3. THE ENTIRE ASSEMBLY AS SHOWN ON THIS DETAIL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. GVSUD WILL FURNISH AND INSTALL THE WATER METER ONLY.
4. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
WATER SERVICE	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-22	



NOTES:
1. VALVE MARKERS ARE REQUIRED AT ALL BURIED VALVES IN UNPAVED AREAS AND AT OTHER LOCATIONS INDICATED ON THE DRAWINGS.
2. VALVE MARKERS SHALL BE PAINTED 3" SCH 40 STEEL PIPE (REFERENCE GVSUD STANDARDS FOR PAINTING REQUIREMENTS).
3. EXACT LOCATION AS DIRECTED BY GVSUD.
4. INSTALL PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
VALVE MARKER	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-23	

TYPE 1 PIPELINE MARKER	TYPE 2 PIPELINE MARKER

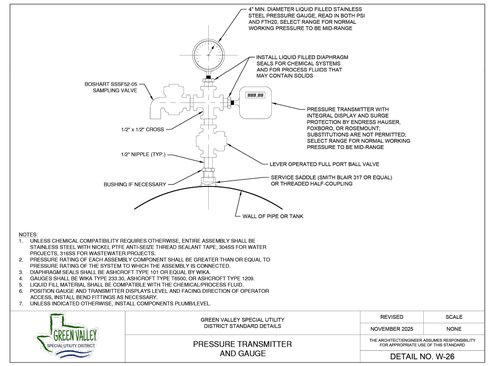
NOTES:
1. MARKERS SHALL BE FABRICATED IN ACCORDANCE WITH TXDOT ITEM 636 TYPE B.
2. INCLUDE "NO DIG" SYMBOL AND "811 CALL OR CLICK" SYMBOL.
3. INSTALL TYPE 1 MARKERS ON PIPE CENTERLINE AT ALL GATE AND FENCE CROSSINGS AND AT ANY OTHER LOCATIONS INDICATED ON THE DRAWINGS AS DIRECTED BY GVSUD.
4. ATTACH 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.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PIPELINE MARKERS	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-24	

ITEM	ITEM / DISCRIPTION	NOTES
1	7" ROUND UV RESISTANT ENCLOSURE	
2	LOCKING BRACKET	
3	BLOW OFF & SAMPLING BIBB	
4	PET COCK	
5	1/2" S.S. WATERWAY	
6	1/4" S.S. TUBING	
7	VALVE BOX	BY OTHERS
8	3/4" S.S. NIPPLE	BY OTHERS

NOTES:
1. SAMPLING STATION SHALL BE _____ BURY, WITH 3/4" FIP INLET, AND 7/16" UNTHREADED BLOW OFF AND SAMPLING BIBB.
2. STATION SHALL BE ENCLOSED IN A LOCKABLE, REMOVABLE 7" ROUND UV RATED ENCLOSURE.
3. WHEN OPEN, THIS STATION SHALL REQUIRE NO KEY FOR OPERATION, AND ALL WATER FLOW SHALL PASS THRY AN ALL STAINLESS STEEL WATERWAY.
4. ALL WORKING PARTS SHALL BE OF STAINLESS STEEL AND SERVICEABLE FROM ABOVE GROUND WITH NO DIGGING OR EXCAVATION NEEDED.
5. A STAINLESS STEEL PET COCK WILL BE LOCATED BELOW THE SAMPLING BIBB TO ALLOW PUMPING OF ANY WATER REMAINING INSIDE THE STATION TO INSURE NON-FREEZING.
6. THE STATION SHALL BE MODEL #66-D AS MANUFACTURED BY THE KUFFERLE FOUNDRY, ST. LOUIS MO. 63102 OR APPROVED EQUAL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
#66-D SAMPLING STATION DETAIL	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-25	



NOTES:
1. UNLESS CHEMICAL COMPATIBILITY REQUIRES OTHERWISE, ENTIRE ASSEMBLY SHALL BE STAINLESS STEEL WITH NICKEL PTFE ANTI-SEIZE THREAD SEALANT TAPE; 304SS FOR WATER PROJECTS, 316SS FOR WASTEWATER PROJECTS.
2. PRESSURE RATING OF EACH ASSEMBLY COMPONENT SHALL BE GREATER THAN OR EQUAL TO PRESSURE RATING OF THE SYSTEM TO WHICH THE ASSEMBLY IS CONNECTED.
3. DIAPHRAGM SEALS SHALL BE ASHCROFT TYPE 101 OR EQUAL BY WIKA.
4. PRESSURE GAUGE SHALL BE ASHCROFT TYPE 1009, OR ASHCROFT TYPE 1009.
5. LIQUID FILL MATERIAL SHALL BE COMPATIBLE WITH THE CHEMICAL/PROCESS FLUID.
6. POSITION GAUGE AND TRANSMITTER DISPLAYS LEVEL AND FACING DIRECTION OF OPERATOR ACCESS, INSTALL BEND FITTINGS AS NECESSARY.
7. UNLESS INDICATED OTHERWISE, INSTALL COMPONENTS PLUMB/LEVEL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REVISED	SCALE
PRESSURE TRANSMITTER AND GAUGE	NOVEMBER 2025	NONE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	DETAIL NO. W-26	

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
03/02/2026
Matthew T. Abrahamsen

NO.	REVISION DESCRIPTION	REVISION DATE

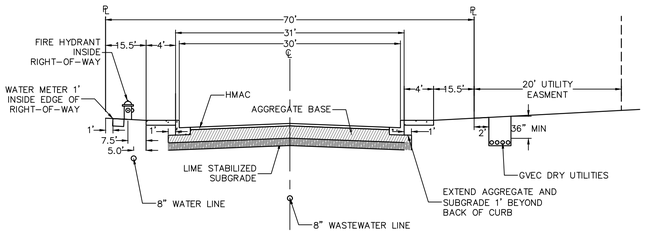
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

WATER DETAILS (2 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

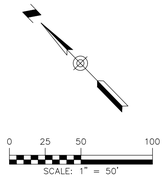
SHEET
C6.04

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\CDs\337113_WATR-DETAILS.dwg User: edwardu Mar 02, 2026 - 11:31am



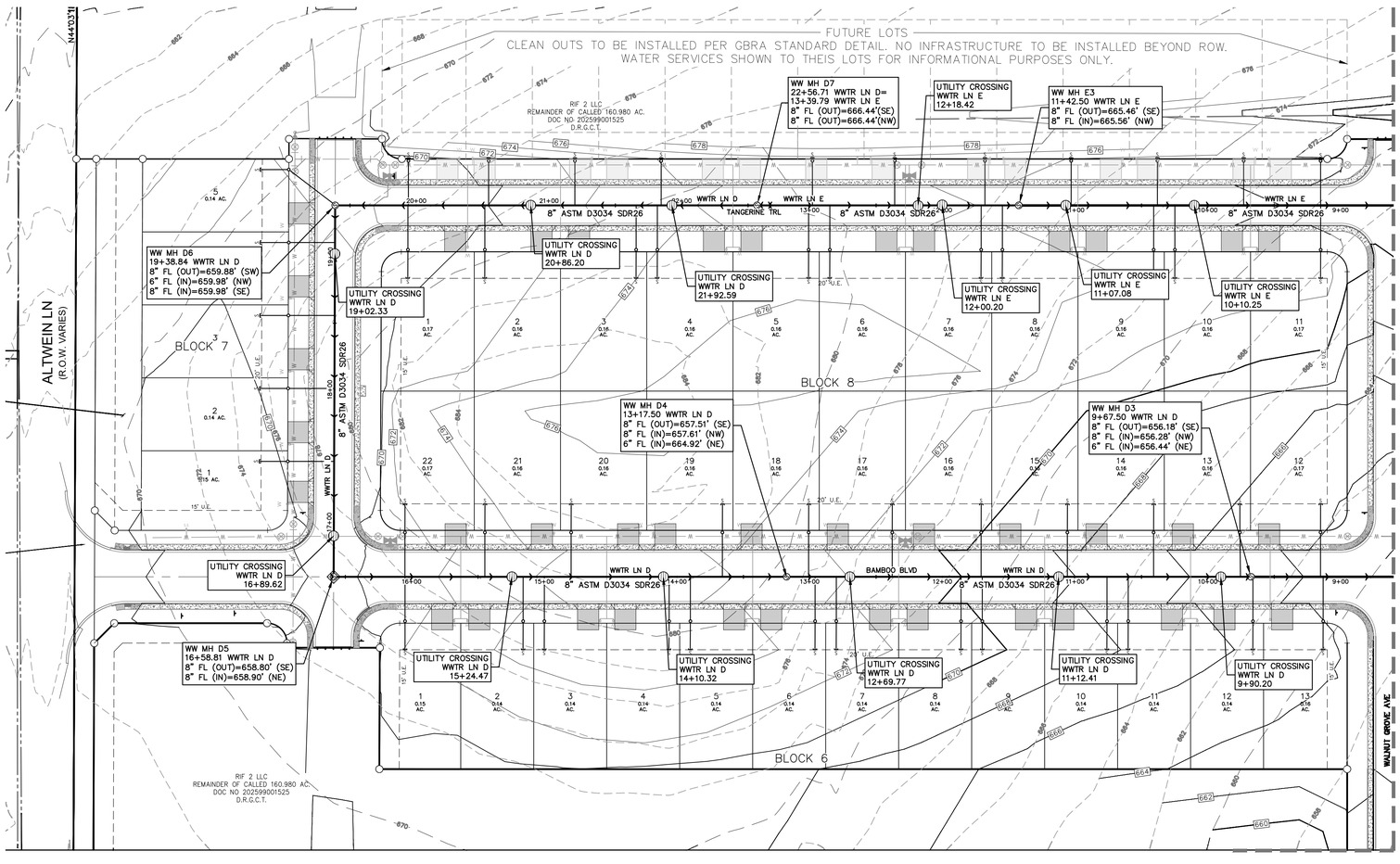
TYPICAL STREET SECTION

NOT TO SCALE



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING
- PROPOSED WATER LINE
- PROPOSED BLOWOFF
- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE
- PROPOSED ELECTRIC LINE
- PROPOSED SECONDARY PEDESTAL
- PROPOSED TRANSFORMER



UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED & TESTED PRIOR TO THE STREETS.
2. ALL SEWER LATERALS TO BE INSTALLED PRIOR TO DRY UTILITIES.
3. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
4. ALL SEWER PIPE ATSM D3034(TYPICAL OF OTHER SHEETS) (115 PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
5. REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.
6. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR 26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS.
7. REFER TO ALL GBRA NOTES ON SHEET C0.02.

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.

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.

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.

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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

OVERALL WASTEWATER PLAN (1 OF 2)

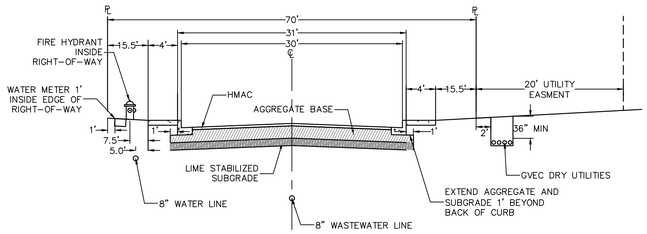
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

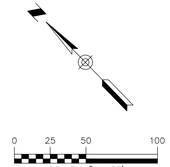
SHEET
C7.01

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\C0s\337.113_WWTR.dwg User: edwardu Mar 02, 2026 - 11:31am



TYPICAL STREET SECTION

NOT TO SCALE



LEGEND

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- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE
- PROPOSED ELECTRIC LINE
- PROPOSED SECONDARY PEDESTAL
- PROPOSED TRANSFORMER

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED & TESTED PRIOR TO THE STREETS.
2. ALL SEWER LATERALS TO BE INSTALLED PRIOR TO DRY UTILITIES.
3. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
4. ALL SEWER PIPE ATSM D3034(TYPICAL OF OTHER SHEETS) (115 PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
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6. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR 26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS.
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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 JOINT 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.

TRENCH EXCAVATION SAFETY PROTECTION

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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.

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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
03/02/2026

OVERALL WASTEWATER PLAN (2 OF 2)

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C7.02

MATCHLINE
SEE SHEET C7.01

FUTURE LOTS
CLEAN OUTS TO BE INSTALLED PER GBRA STANDARD DETAIL. NO INFRASTRUCTURE TO BE INSTALLED BEYOND ROW.
WATER SERVICES SHOWN TO THESE LOTS FOR INFORMATIONAL PURPOSES ONLY.

RIF-2 LLC
REMAINDER OF CALLED 160.980 AC.
DOC.NO 202599001525
D.R.G.C.T.

WW MH E2
7+92.50 WWTR LN E
8" FL (IN)=661.18' (NW)
8" FL (OUT)=661.08' (SE)

WW MH E1
4+42.50 WWTR LN E
8" FL (OUT)=643.74' (SE)
8" FL (IN)=643.84' (NW)

CAP & MARK
44+98.97 WWTR LN A
8" FL (OUT)=628.93' (SW)

8" ASTM D3034 SDR26
WWTR LN E

TANGERINE TRL

WW MH A16
44+33.97 WWTR LN A=
1+00.00 WWTR LN E
8" FL (OUT)=627.60'(SW)
8" FL (IN)=627.70'(NE)
8" FL (IN)=627.70'(NW)

UTILITY CROSSING WWTR LN E 7+12.71
UTILITY CROSSING WWTR LN E 6+08.73
UTILITY CROSSING WWTR LN E 4+02.96
UTILITY CROSSING WWTR LN E 3+03.27
UTILITY CROSSING WWTR LN E 1+98.27
UTILITY CROSSING WWTR LN E 1+30.50

WW MH D2
6+17.50 WWTR LN D
6" FL (IN)=647.18' (NE)
8" FL (IN)=647.06' (NW)
8" FL (OUT)=646.96' (SE)

BLOCK 9

UTILITY CROSSING WWTR LN D 7+15.98
UTILITY CROSSING WWTR LN D 4+36.79
UTILITY CROSSING WWTR LN D 3+02.28
UTILITY CROSSING WWTR LN D 2+04.07
UTILITY CROSSING WWTR LN D 1+30.50

BAMBOO BLVD

UTILITY CROSSING WWTR LN D 8+21.98
UTILITY CROSSING WWTR LN D 6+06.75

WW MH D1
2+74.51 WWTR LN D
8" FL (OUT)=633.43' (SE)
8" FL (IN)=633.53' (NW)

BLOCK 5

WW MH B2
6+07.50 WWTR LN B
8" FL (IN)=638.80' (NW)
8" FL (OUT)=638.70' (SE)

WW MH B1 (DROP)
2+65.00 WWTR LN B=
1+00.00 WWTR LN C
8" FL (OUT)=621.77'(SE)
8" FL (IN)=627.57'(NW)
8" FL (IN)=621.87'(SW)

WALNUT GROVE AVE

UTILITY CROSSING WWTR LN B 8+29.50

CAP & MARK
9+20.00 WWTR LN B
8" FL (OUT)=651.24' (SE)

RASPBERRY RIDGE

UTILITY CROSSING WWTR LN B 7+14.36
UTILITY CROSSING WWTR LN B 6+25.19
UTILITY CROSSING WWTR LN B 5+27.00
UTILITY CROSSING WWTR LN B 4+33.13
UTILITY CROSSING WWTR LN B 2+34.50
UTILITY CROSSING WWTR LN B 2+45.71
UTILITY CROSSING WWTR LN B 1+31.23

CAP & MARK
1+60.00 WWTR LN C
8" FL (OUT)=622.09' (NE)

WW MH A14
38+63.97 WWTR LN A=
1+00.00 WWTR LN B
8" FL (OUT)=621.09' (SE)
8" FL (IN)=621.19'(NE)
8" FL (IN)=621.19'(NW)

WW MH A15 (DROP)
41+53.97 WWTR LN A=
1+00.00 WWTR LN D
8" FL (OUT)=626.33'(SW)
8" FL (IN)=626.43'(NE)
8" FL (IN)=629.25'(NW)

FUCHSIA PATH

902
DRAINAGE LOT
0.775 AC.

BLOCK 16

UTILITY CROSSING WWTR LN A 37+03.20

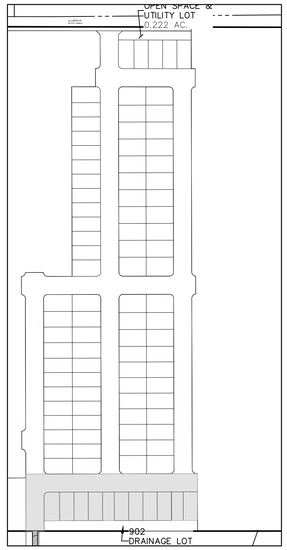
CAP & MARK
36+79.34 WWTR LN A
8" FL (OUT)=620.31' (SE)

UTILITY CROSSING WWTR LN A 38+94.47

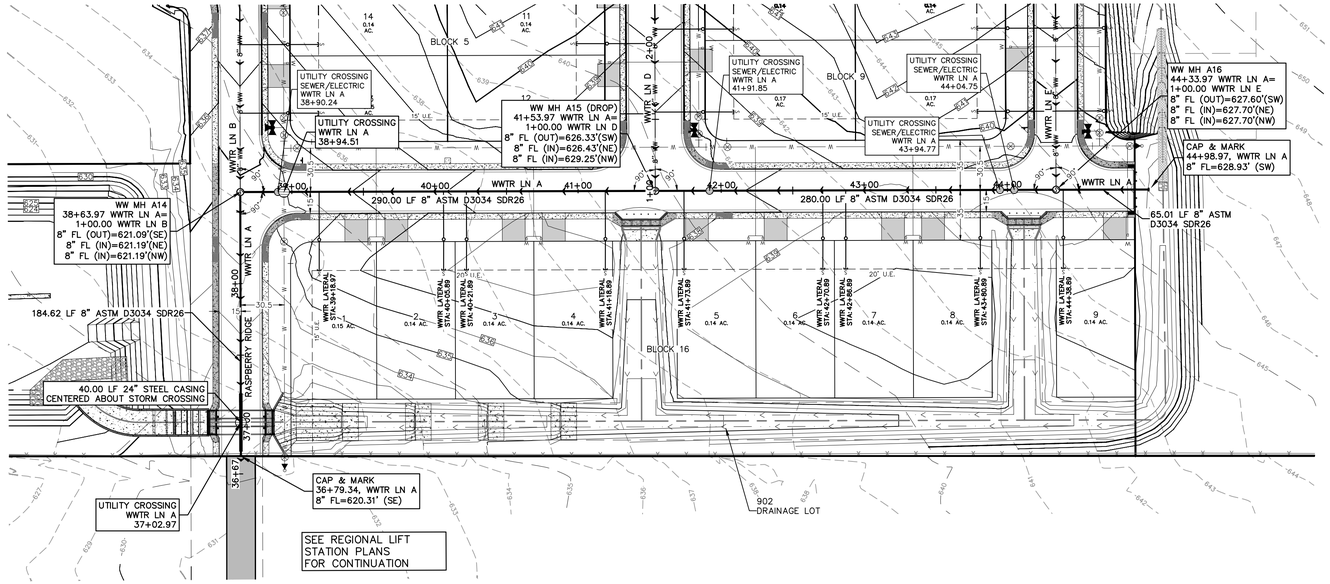
SEE REGIONAL LIFT STATION WASTEWATER IMPROVEMENTS FOR CONTINUATION

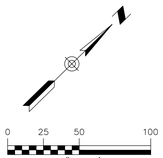
FUTURE LOTS
CLEAN OUTS TO BE INSTALLED PER GBRA STANDARD DETAIL.
NO INFRASTRUCTURE TO BE INSTALLED BEYOND ROW

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (66 Lots)\Cds\337.113_WWTR.dwg User: edwardu Mar 02, 2026 - 11:31am



KEY MAP
N.T.S.





LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
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- PROPOSED GATE VALVE
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UTILITY NOTES:

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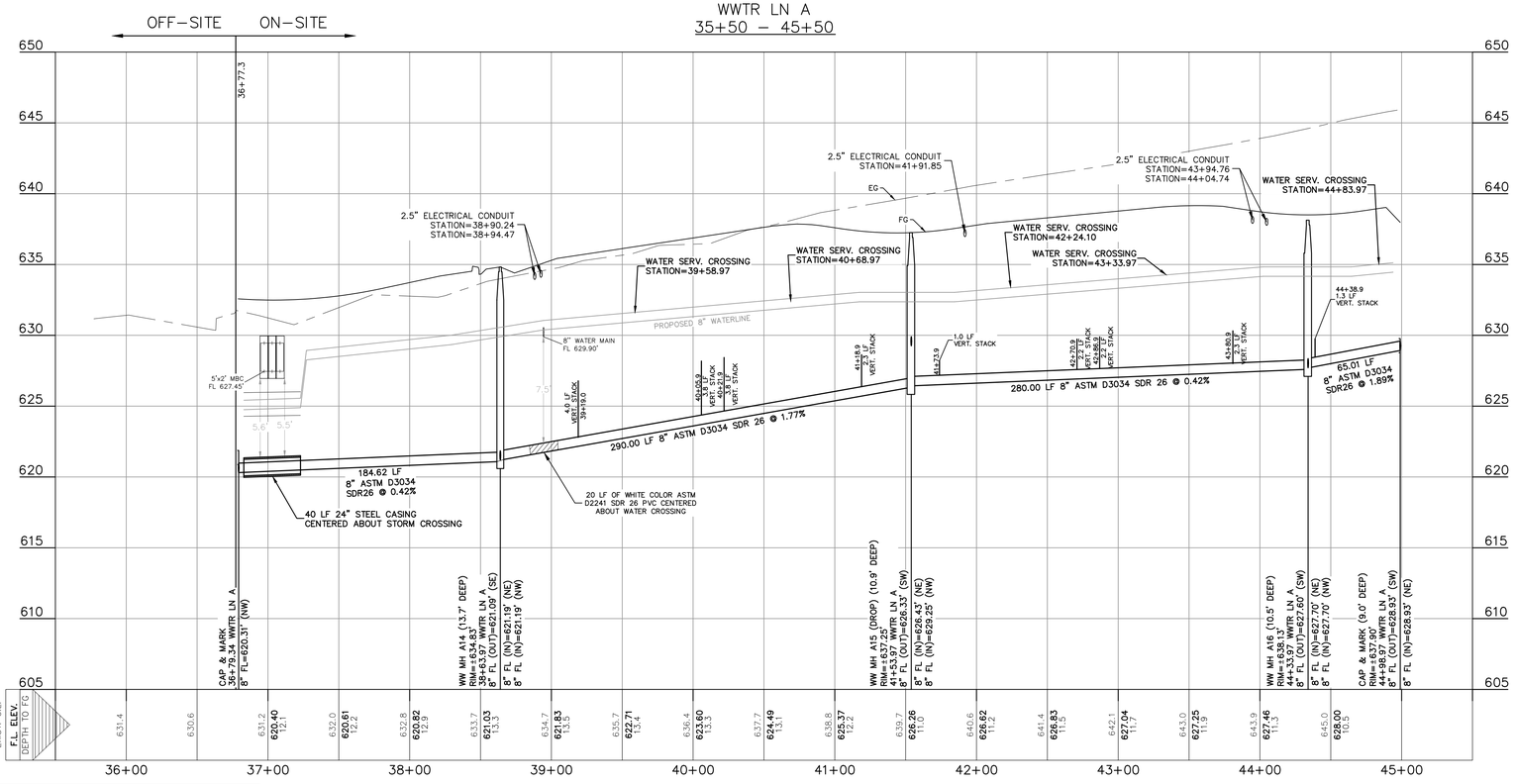
WWTR LN A
35+50 – 45+50



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03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
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LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

WASTEWATER LINE A PLAN & PROFILE

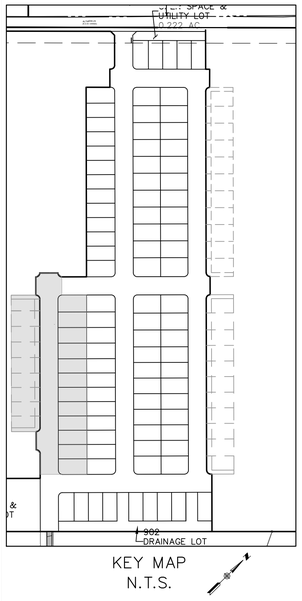
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

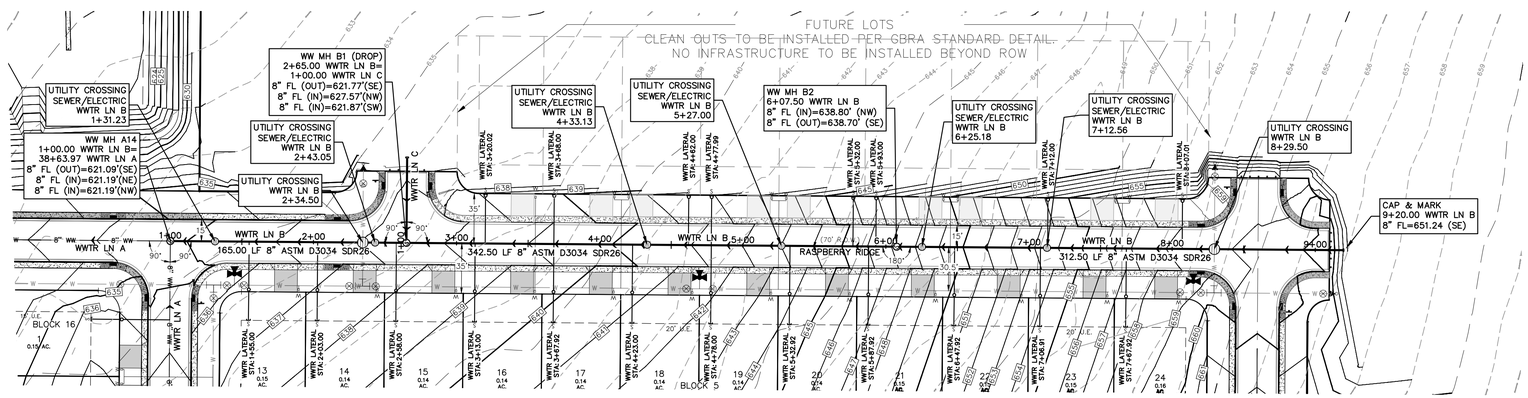
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C7.03

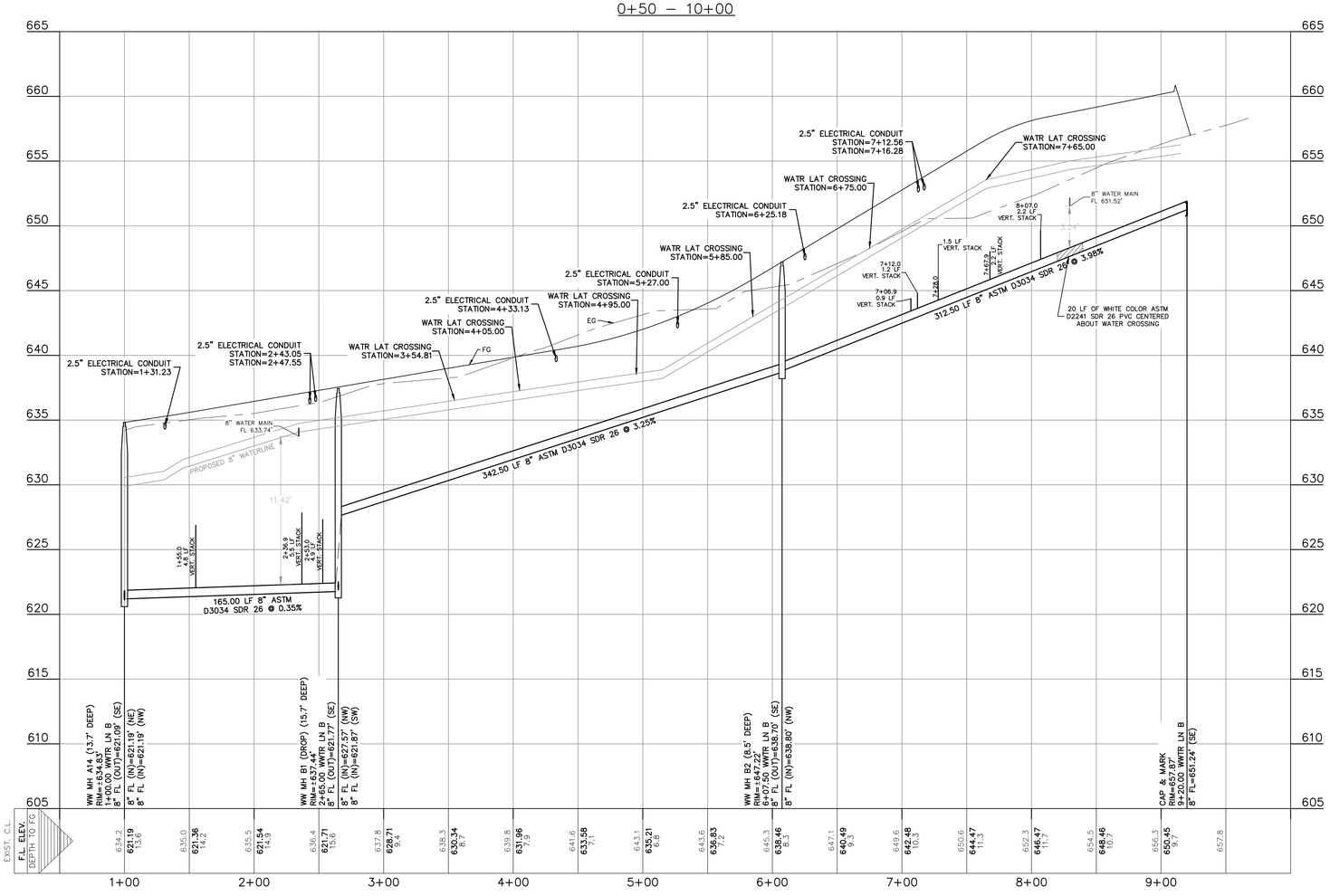
Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\03a\337.113_WWTR LN A PP.dwg User: edwardu Mar 02, 2026 - 11:32am

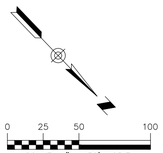


KEY MAP
N.T.S.



WWTR LN B
0+50 – 10+00





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03/02/2026
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LICENSED
PROFESSIONAL ENGINEER
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WASTEWATER LINE B PLAN & PROFILE

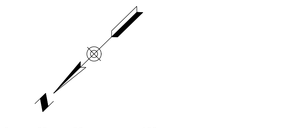
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

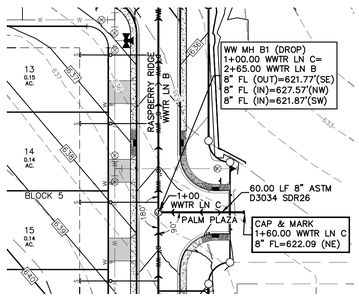
NO.	REVISION DESCRIPTION	REVISION DATE

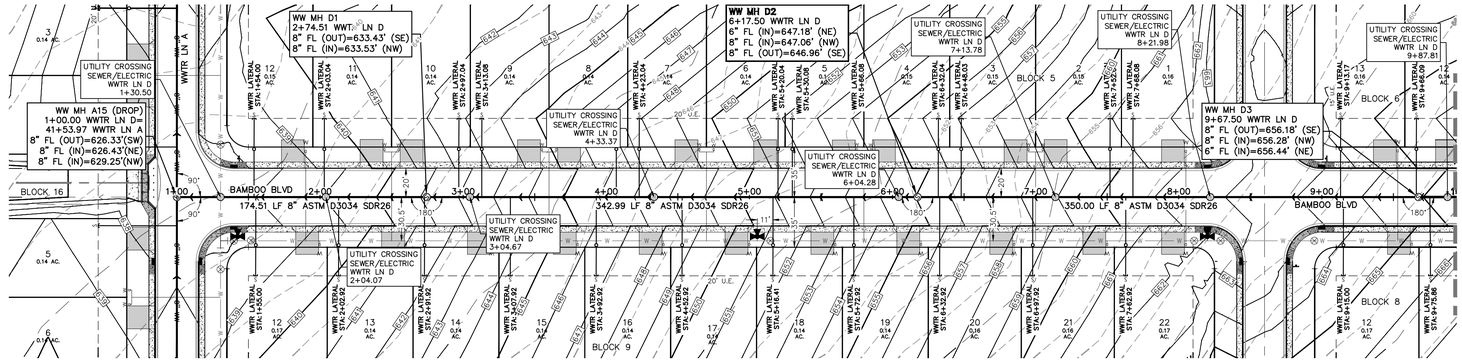
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

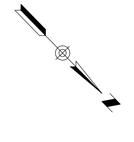
SHEET
C7.04

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (66 Lots)\Civil\337.113_WWTR LN B PP.dwg User: edwardu Mar 02, 2026 - 11:30am







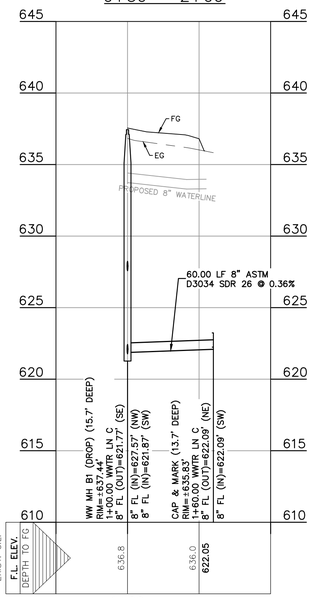


MATCHLINE STA. 10+00
SEE SHEET C7.06

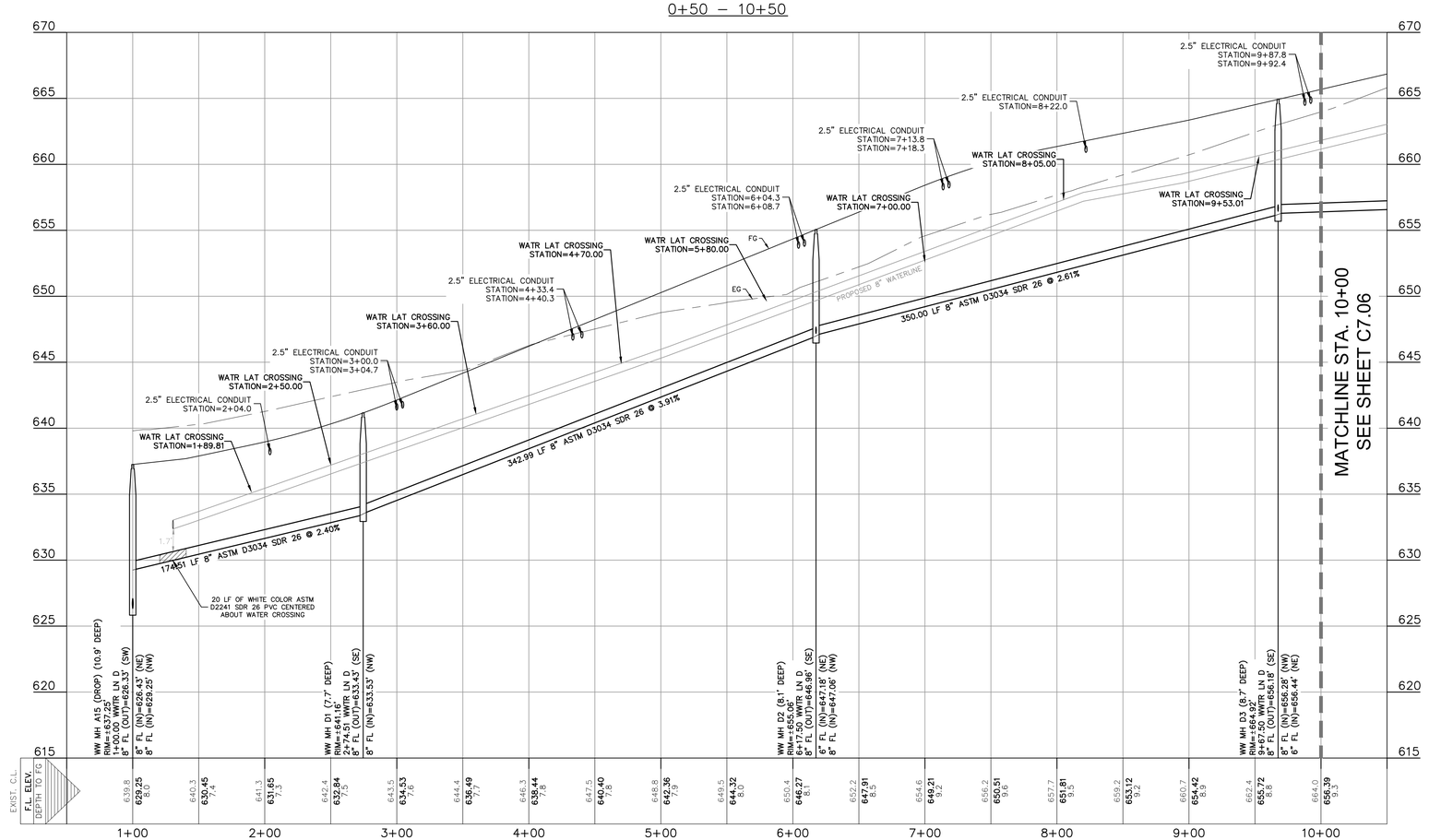
LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING
- PROPOSED WATER LINE
- PROPOSED GATE VALVE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT
- PROPOSED ELECTRIC LINE
- PROPOSED SECONDARY PEDESTAL
- PROPOSED TRANSFORMER

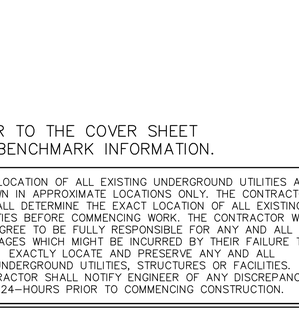
WWTR LN C
0+50 – 2+00



WWTR LN D
0+50 – 10+50



MATCHLINE STA. 10+00
SEE SHEET C7.06



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.

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.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE

IN ACCORDANCE WITH TEST METHODS TEX–113–E, TEX–114–E, TEX–115–E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

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3. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
4. ALL SEWER PIPE ATSM D3034(TYPICAL OF OTHER SHEETS) (115 PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
5. REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.
6. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR 26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS.
7. REFER TO ALL GBRA NOTES ON SHEET C0.02.

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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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

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

WASTEWATER LINE C & D PLAN & PROFILE (1 OF 3)

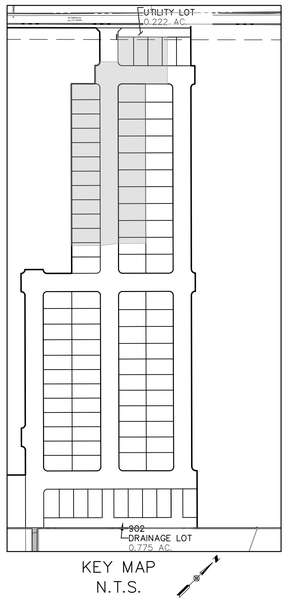
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

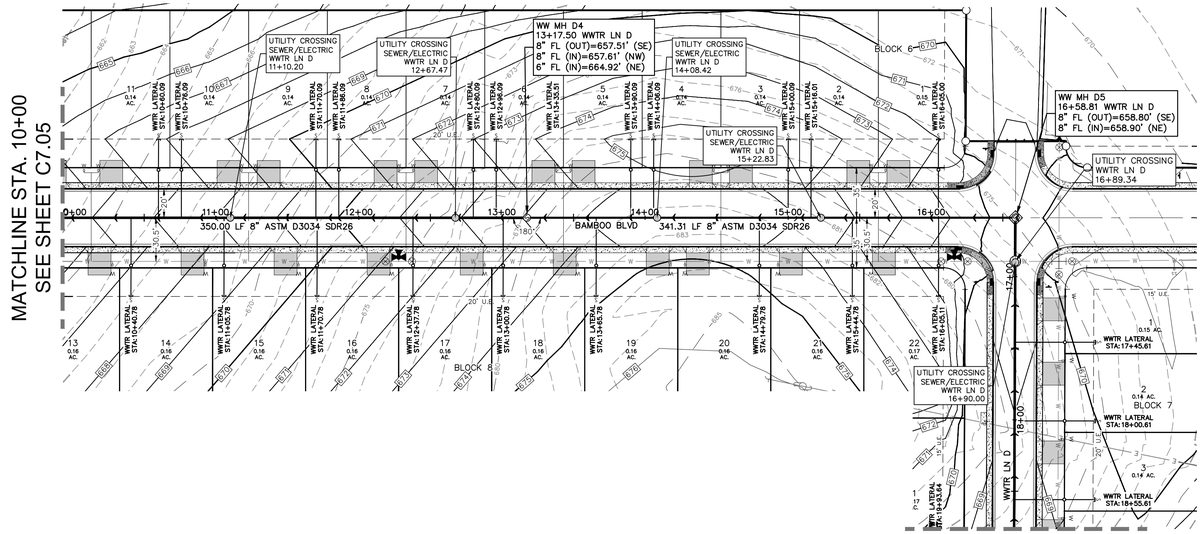
DATE:	MARCH 2026
DRAWN BY:	MK
DESIGNED BY:	MA
REVIEWED BY:	MA
HMT PROJECT NO.:	337.113

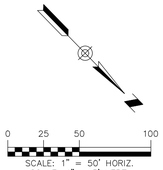
SHEET
C7.05

Drawing Name: N:_Projects\337 – Lennar\113 – Botanical Farm Phase 1 (96 Lots)\CDs\337.113_WWTR LN C-D P9.dwg User: edwardu Mar 02, 2026 – 11:34am



KEY MAP
N.T.S.

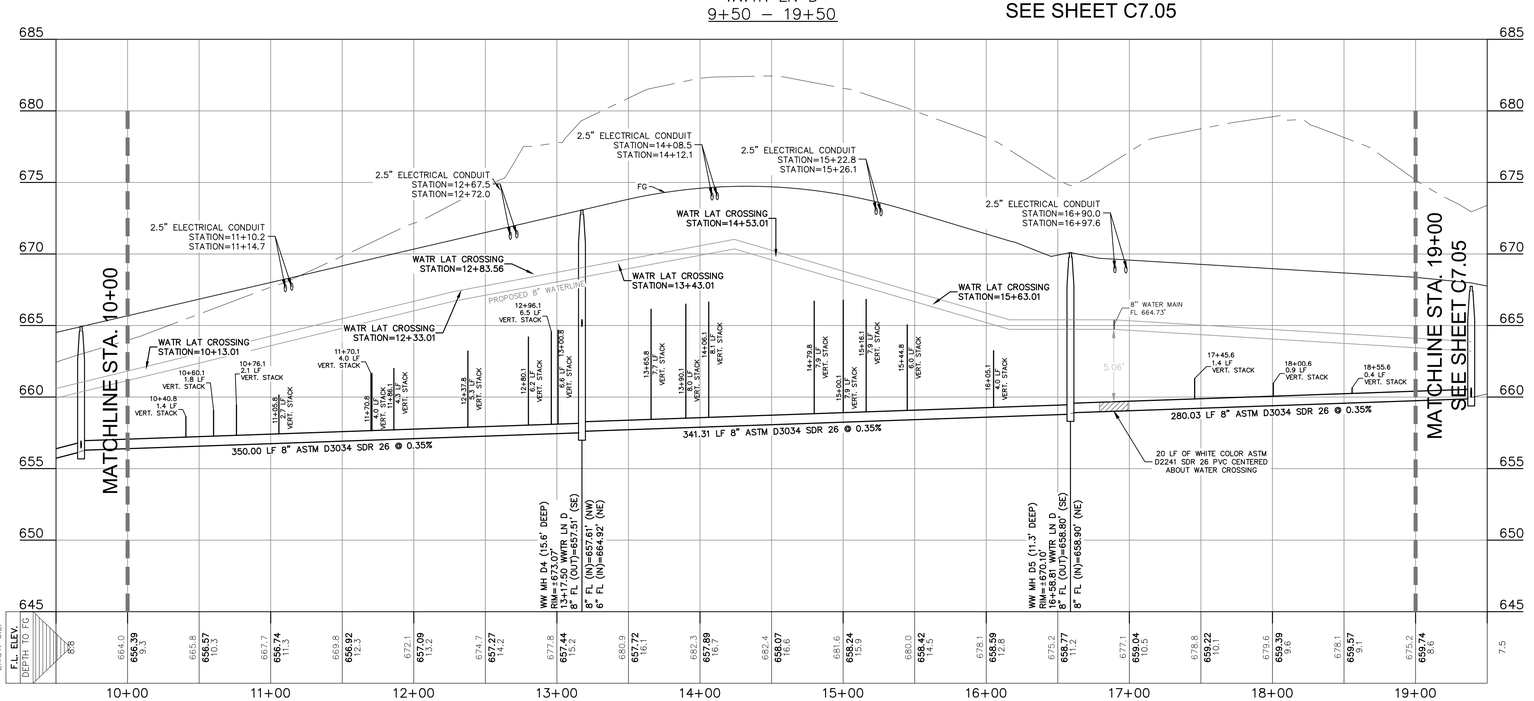




LEGEND

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

WWTR LN D
9+50 – 19+50



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

STATE OF TEXAS
MATTHEW T. ABRAHAMSON
154638
LICENSED
PROFESSIONAL ENGINEER
03/02/2026

WASTEWATER LINE D
PLAN & PROFILE (2 OF 3)

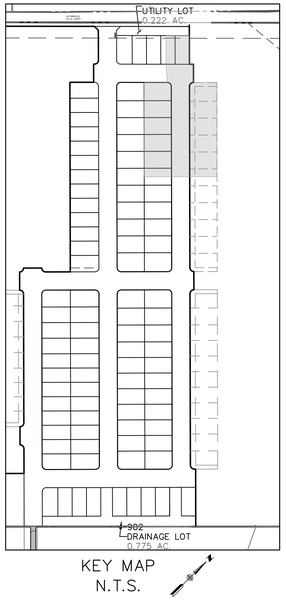
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C7.06

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_WWTR LN C-D PP.dwg User: edwardu Mar 02, 2026 - 11:35am



KEY MAP
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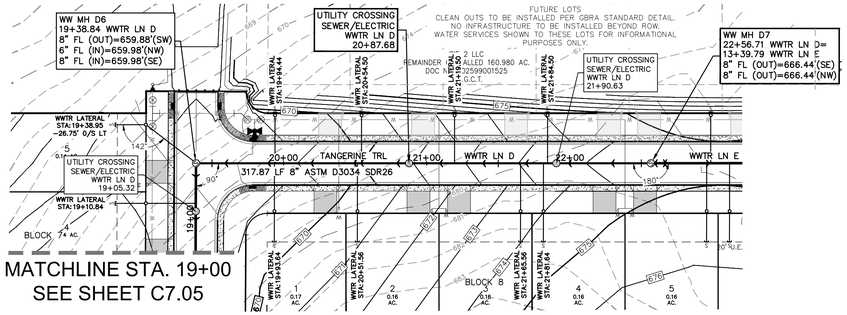
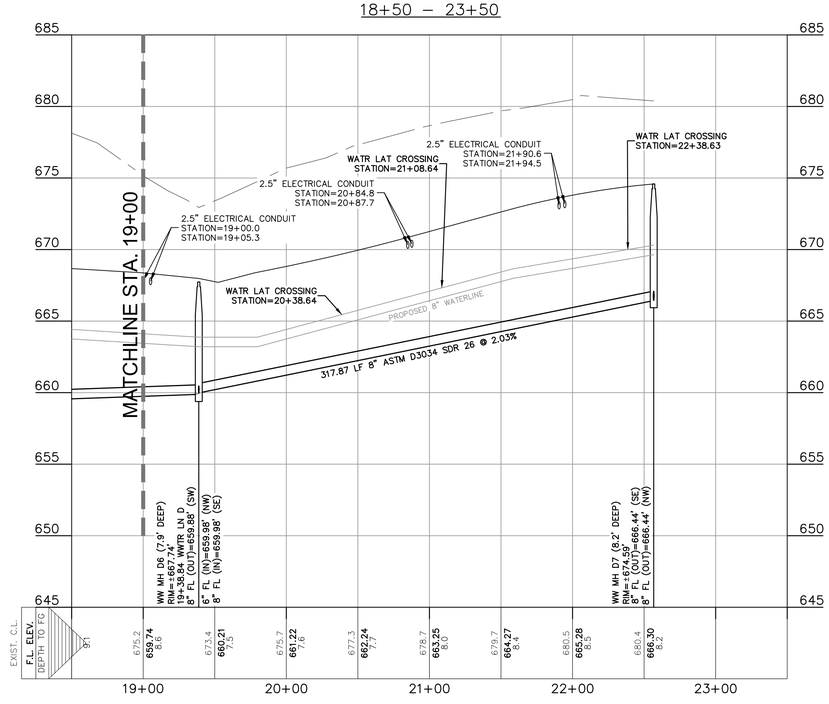


MATCHLINE STA. 19+00
SEE SHEET C7.05

WWTR LN D
18+50 – 23+50



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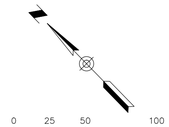

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
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- PROPOSED WASTEWATER MANHOLE
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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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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
03/02/2026

WASTEWATER LINE D
PLAN & PROFILE (3 OF 3)

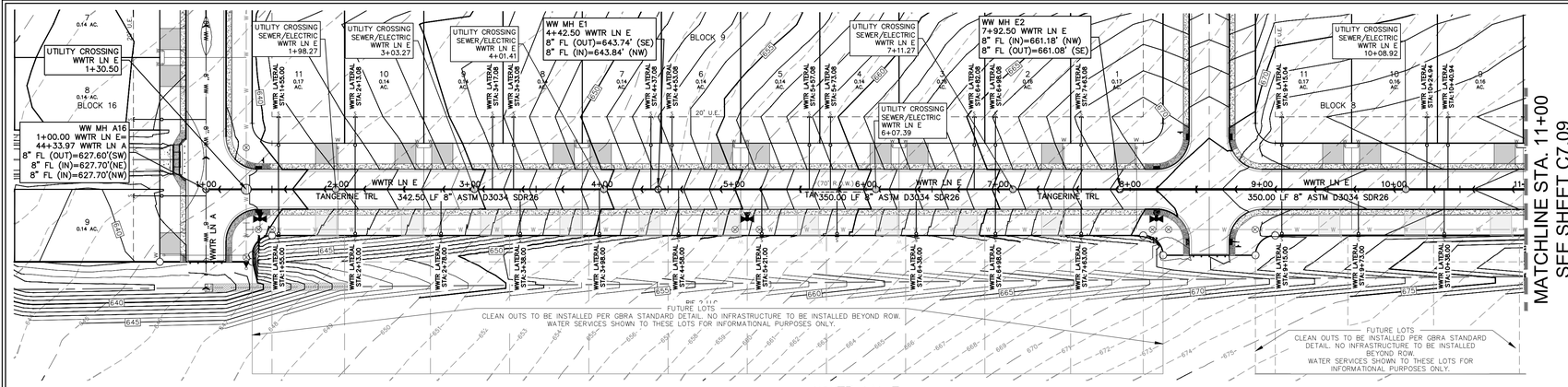
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

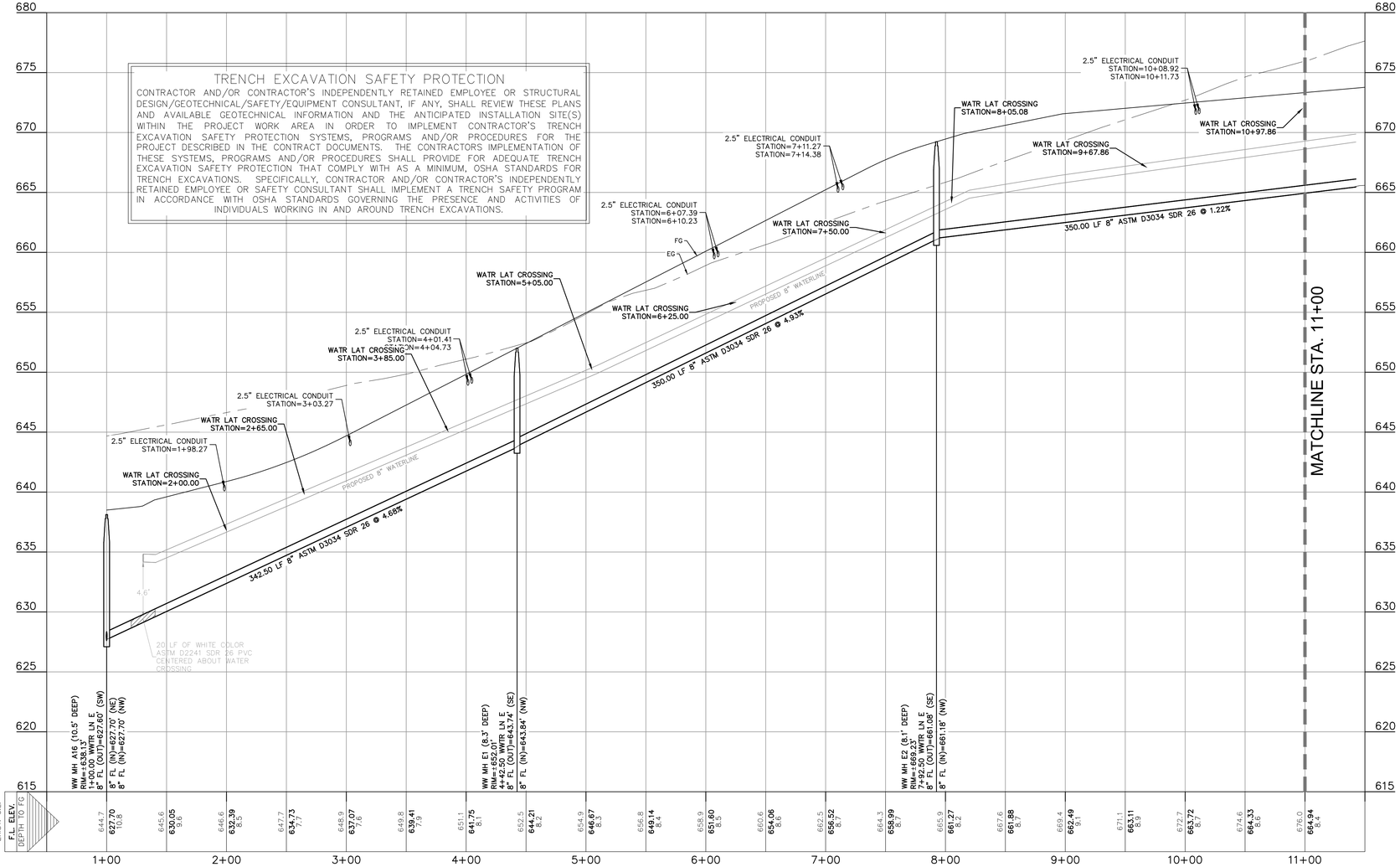
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

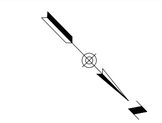
SHEET
C7.07

Drawing Name: M:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\20a\337.113_WWTR LN C-D PP.dwg User: edwardo Mar 02, 2026 - 11:35am



WWTR LN E
0+50 – 11+50





LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING
- PROPOSED WATER LINE
- PROPOSED GATE VALVE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT
- PROPOSED ELECTRIC LINE
- PROPOSED SECONDARY PEDESTAL
- PROPOSED TRANSFORMER

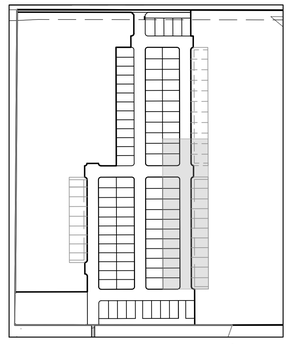
UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED & TESTED PRIOR TO THE STREETS.
2. ALL SEWER LATERALS TO BE INSTALLED PRIOR TO DRY UTILITIES.
3. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
4. ALL SEWER PIPE ATSM D3034(TYPICAL OF OTHER SHEETS) (115 PSI) SDR 26 UNLESS CALLED OUT OTHERWISE.
5. REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.
6. AT WATER CROSSINGS INCLUDING FIRE HYDRANT LEADS, WHITE COLOR GASKETED ASTM D2241 SDR 26 PIPE AND FITTINGS SHALL BE USED FOR MAINS AND LATERALS.
7. REFER TO ALL GBRA NOTES ON SHEET C0.02.

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.



KEY MAP
N.T.S.

UTILITY TRENCH COMPACTION

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TBPELS FIRM F-10961
TBPELS FIRM 10153600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
03/02/2026

WASTEWATER LINE E
PLAN & PROFILE (1 OF 2)

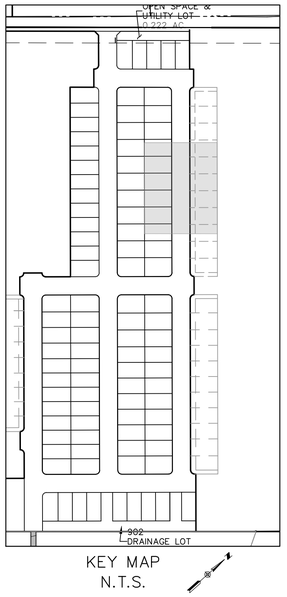
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

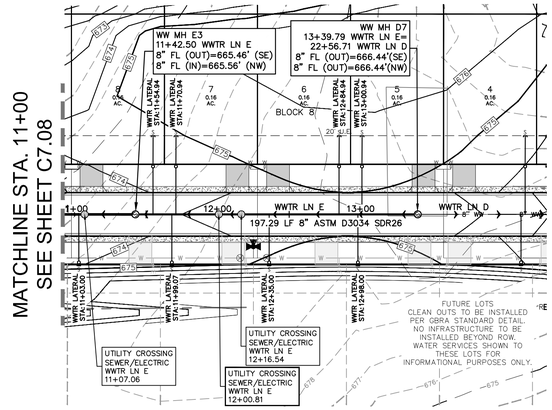
DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C7.08

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\20a\337.113_WWTR LN E PP.dwg User: edwardu Mar 02, 2026 - 11:37am

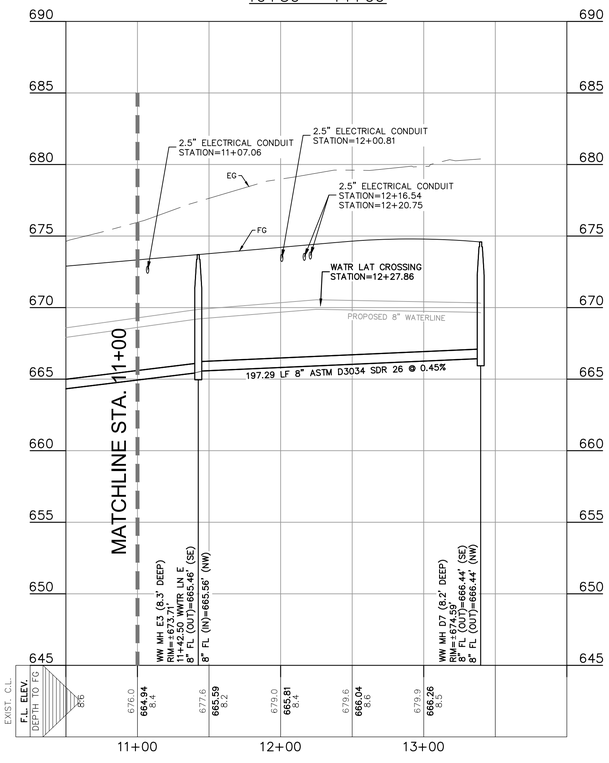


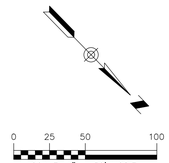
KEY MAP
N.T.S.



MATCHLINE STA. 11+00
SEE SHEET C7.08

WWTR LN E
10+50 – 14+00





LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
WW	EXISTING WASTEWATER LINE
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER LINE
	PROPOSED WASTEWATER SERVICE
	UTILITY CROSSING
W	PROPOSED WATER LINE
	PROPOSED GATE VALVE
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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.

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

HMT
ENGINEERING & SURVEYING

03/02/2026
STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED
PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

WASTEWATER LINE E
PLAN & PROFILE (2 OF 2)

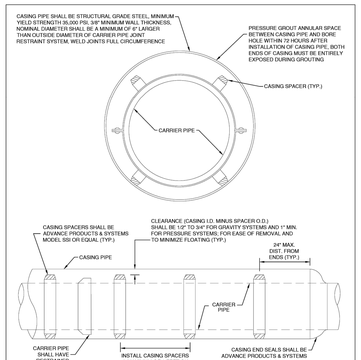
BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C7.09

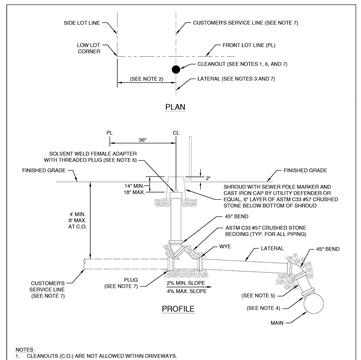
Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (96 Lots)\Cds\337.113_WWTR LN E PP.dwg User: edwardu Mar 02, 2026 - 11:38am



NOTES:
THE MATERIALS SHOWN APPLY TO JACK AND BORE INSTALLATIONS AND STREAM/RIVER CROSSING. FOR ROAD CROSSINGS, CASING SHALL EXTEND 5 FEET MINIMUM BEYOND ROW ON EACH END. OPEN CUT SLEEVING OF SUBDIVISION UTILITIES UNDER STORM SEWER MAY BE C900 DR18 CASING (COLOR TO MATCH CARRIER PIPE) AND ADVANCE PRODUCTS & SYSTEMS MODEL CI SPACERS, OR EQUAL, WITH STAINLESS STEEL HARDWARE. REFERENCE GBRA STANDARDS AND DESIGN GUIDELINES FOR ADDITIONAL SLEEVE REQUIREMENTS. THE CLEARANCE AND DIMENSIONS SHOWN APPLY TO ALL INSTALLATIONS.

GBRA Guadalupe-Blanco River Authority	CASING AND SPACERS	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 230	

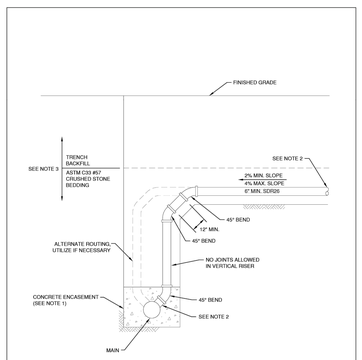
Page 126



NOTES:
1. CLEANOUTS (C.O.) ARE NOT ALLOWED WITHIN DRIVEWAYS.
2. PROVIDE SINGLE WASTEWATER SERVICES 5 FT FROM LOW LOT CORNER (TYPICAL). PROVIDE 8 FT WHERE LOT CORNER IS SHARED WITH DRY UTILITIES AND 10 FT WHERE LOT CORNER IS SHARED WITH A FIRE HYDRANT OR AIR RELEASE VALVE, PIPE AND FITTINGS SHALL BE 6" DIAMETER, GREEN COLOR, GASKETED ASTM D3034 SDR35, UNLESS NOTED OTHERWISE. AT THE CUSTOMER'S DISCRETION, 4" DIAMETER SERVICES MAY BE USED FOR SINGLE RESIDENTIAL CONNECTIONS.
3. UTILIZE SANITARY TEES FOR NEW CONSTRUCTION. UTILIZE TAPPING SADDLES FOR EXISTING MAINS (MARYDO PART 1W308-6R OR EQUAL, ADJUST PART NUMBER FOR SIZE REQUIRED). TAPPING SADDLES ARE NOT ALLOWED FOR NEW CONSTRUCTION.
4. INSTALL PIPE BETWEEN FITTINGS IF NECESSARY. INSTALL PER VERTICAL STACK DETAIL 580 IF NECESSARY OR WHERE SHOWN.
5. 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	

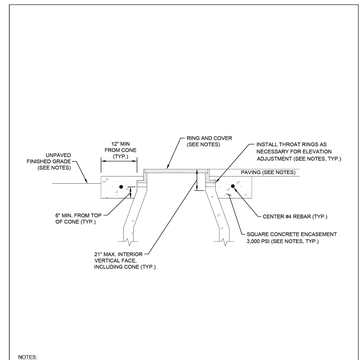
Page 166



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	

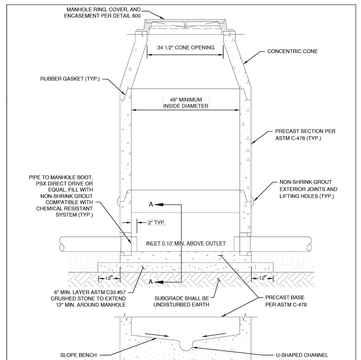
Page 167



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, CONVEX SHALL BE 2" ABOVE TOP OF CONCRETE ENCASEMENT, ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES SHALL BE FINISHED WITH A STEEL TROWEL.
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 42433109W01, 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	

Page 169



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	

Page 171

NOTES:
1. A WASTEWATER COLLECTION SYSTEM PIPE, INCLUDING SERVICE LATERALS, ENTERING A MANHOLE MORE THAN 24" ABOVE THE MANHOLE OUT INVERT MUST HAVE AN EXTERNAL DROP PIPE. INTERNAL DROPS ARE NOT ALLOWED.
2. REFERENCE DETAIL 600 FOR ADDITIONAL REQUIREMENTS.

GBRA Guadalupe-Blanco River Authority	WASTEWATER DROP MANHOLE	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 560	

Page 165

GBRA Guadalupe-Blanco River Authority	PIPE TRENCH	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 420	

Page 151

TYPE 1 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.

TYPE 2 PIPELINE MARKER

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.

..\Logos\GBRA.tif	PIPELINE MARKERS	REVISED	SCALE
		JUL. 28, 2025	NONE
		DETAIL NO. 460	

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
03/02/2026

WASTEWATER DETAILS

BOTANICAL FARM, UNIT 1
GUADALUPE COUNTY, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: MARCH 2026
DRAWN BY: MK
DESIGNED BY: MA
REVIEWED BY: MA
HMT PROJECT NO.: 337.113

SHEET
C7.10

Drawing Name: N:_Projects\337 - Lennar\113 - Botanical Farm Phase 1 (66 Lots)\Cds\337-113_WWR-DETAILS.dwg User: edwardu Mar 02, 2026 - 11:38am